

Minnesota Attorney General: Administrative Rules Proceedings

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SF-00006-05 (4/86)

STATE OF MINNESOTA

Office Memorandum

DEPARTMENT : ATTORNEY GENERAL

DATE : January 4, 1989

TO : LAURA MATTSON
Special Assistant Attorney General
1100 Bremer Tower

FROM : MARTHA J. CASSERLY
Special Assistant Attorney General
515 Transportation Building

PHONE : 6-6839

SUBJECT : In the Matter of the Adopted Rule Relating to School Buses

The above-referenced rule has been approved as to its legality by the Attorney General on December 27, 1988.

Enclosed is your copy of the approved rule. This office has already filed two copies with the Secretary of State, who will forward one copy to the Revisor of Statutes. The fourth is being retained by this division of the Attorney General's Office for its records.

Also enclosed are any petitions, requests, submissions or comments along with any extra copies of documents which you submitted to the Attorney General.

Your next step is to arrange for publication of the Notice of Adoption in the State Register. In a day or two, you should receive from the Revisor's Office three copies of the notice of adoption of your rule. You should submit two copies of the Notice of Adoption to the State Register for publication. A permanent rule without a hearing does not become effective until five days after a notice of adoption is published in the State Register in accordance with Minn. Stat. § 14.27. An emergency rule becomes effective five working days after approval by the Attorney General; however, the agency must publish a notice in the State Register in accordance with Minn. Stat. § 14.34.

If you have any questions in this regard, please contact me.

MJC:bbl
Enclosures

cc: William Brown, Chief Judge
MaryAnn Hruby

File No. 1550 Docket No. 05-0009-0021

DATE RECEIVED 12/12/88 ADOPTED W/O HEARING 4

REVIEW DATE 12/21/88 EMERGENCY RULE _____

DUE DATE 12/27/88 REVISOR APPROVED X

APPROVED 12-27-88 REVISOR DISAPPROVED _____

DISAPPROVED _____ FILED W/SEC. OF STATE 1/4/89

WITHDRAWN _____ RETURNED TO AGENCY _____

✓ Rule as adopted (4 copies)

_____ ~~Notice to Solicit Outside Information/Opinion (if~~ applicable)

_____ ~~Date published in State Register~~

_____ ~~Comments~~

_____ ~~Petition for Adoption of a Rule (if applicable)~~

✓ Board's Authorizing Resolution

6/17/88 Date adopted

✓ Proposed Rule

Yes Revisor's Certificate

✓ Notice of Intent to Adopt Rule

169.45 Statutory Authority

~~yes~~ Small Business Statement

~~yes~~ Expenditure of public money statement

~~yes~~ Signature

✓ Statement of Need and Reasonableness (if applicable)

~~yes~~ Small Business Statement

~~n/a~~ Fees - § 16A.128

✓ Affidavit of Mailing Notice of Intent to Adopt Rule

9/19/88 Date (30)/25 days before adoption

~~OK~~ Notice attached

_____ ~~Copy of rule or summary attached~~

✓ Publication in State Register

9/26/88 Date (30)/25 days before adoption (also 7/4/88)

_____ 180-day deadline from:

10/26/88 end of comment period (§ 14.26) (rules without hearing)

_____ ~~effective date of statutory authority (§ 14.29) (emergency rules)~~

✓ Resolution Adopting + Certificate of Resolution Adopting

11/15 Date adopted

✓ Findings of Fact, Conclusions & Order Adopting

11/15/88 Date w/ affidavit re comments

_____ ~~Written requests, submissions or comments~~

✓ Declaration of attorney

Laura Mattson Name of SAAG representing agency

✓ Notice of Submission to Atty. Gen. (if applicable)

✓ Aff. of Mailing Notice to Atty. Gen. (if applicable)


RECEIVED
DEC 12. 88
ATTORNEY GENERAL'S OFFICE
515 TRANSPORTATION BLDG.
ST. PAUL, MN 55155

Department of Education

Adopted Permanent Rules Relating to School Buses

Rules as Adopted

3520.0200 APPLICATION AND CLAIM FOR TRANSPORTATION AID.

Subpart 1. **Deadline.** A district making application for aid for transportation or board and lodging under Minnesota Statutes, sections 124.223 and 124.225 shall report to the State Department of Education and all claims submitted shall be postmarked not later than August 15 after the close of the school term for which aid is claimed in order to qualify for final payment at the regular time.

Subp. 2. **Frequency of reports.** For each fiscal year ending June 30, each district shall file a report pursuant to subpart 1. This report and the year-end reports required in subpart 1 shall provide the pupil counts on which the aid will be paid.

3520.0300 AID LIMITATION.

Transportation aid will be paid for the transportation of each eligible resident pupil for one round trip per day to the classified school attended.

3520.0400 TRANSPORTATION DATA REPORTING REQUIREMENTS.

Subpart 1. **Regular category.** An elementary or secondary pupil for which a school district is entitled to transportation aid under Minnesota Statutes, sections 124.223, clauses (1) and (2), must be transported 20 or more days to be eligible for state aid. A kindergarten pupil attending full-day, every-other day classes must be transported ten or more days to be eligible for state aid. A district shall report annual mileage for regular category transportation.

Subp. 2. **Other authorized categories.** A district that transports pupils under Minnesota Statutes, sections 123.223, clauses (1) and (3) to (10), and 275.125, subdivision 5d, must

report the number of pupils transported. Annual mileage must be reported only when separate routes are set up to provide this transportation.

Subp. 3. **Other unauthorized categories.** A district that transports pupils in categories that are not authorized for transportation aid must furnish information on students transported and mileage as requested on the annual transportation report.

Subp. 4. **Other transportation data.** A district shall furnish information on vehicle ownership, fuel consumption, and other data as requested on the annual transportation report.

Subp. 5. **Duplication of pupil counts.** A district must not report a pupil in more than one to-and-from-school category. These categories are: regular, handicapped, secondary one-to-two-miles, traffic hazards, and ineligible.

3520.1000 TRANSPORTATION AND BOARD AND LODGING CONTRACTS.

The school board shall enter into written contracts for the transportation and board and lodging of its resident pupils. (See part 3525.1200)

3520.1200 COMMISSIONER'S RULES, TRANSPORTATION CONTRACTS.

The board of any school district may contract with another district, private contract hauler, or parent for the transportation of its resident pupils.

Transportation contracts should include at least the following specific items: Discretionary

A. the correct names of the contracting parties;

B. date the contract begins and date the contract ends;

C. kind of transportation equipment to be used;

D. total amount to be paid during the school year or base per pupil rate;

E. when and how payments are to be made;

F. minimum number of pupils to be transported; and

G. special terms to be mentioned:

(1) holidays, specific dates;

(2) vacations, beginning and ending dates;

(3) conditions governing bus route changes;

(4) how new and additional pupils will be provided for;

(5) how extracurricular and other special trips are to be provided and paid for;

(6) how adjustments and refunds are to be handled;

(7) kinds and amounts of insurance to be carried and special coverage;

(8) a statement that the local board shall approve any and all school bus routes, drivers, and alternate drivers; and

(9) how contracts may be terminated.

3520.1800 TRANSPORTATION OF NONRESIDENT PUPILS.

A school district may transport nonresident pupils on district-owned and -operated buses or on privately owned and operated buses contracted for by the school board of the district. The equipment must not be required for the transportation of resident pupils. There must be available seating space in the bus for the nonresident pupils.

The routes must be within the area of the secondary school to be served and must be approved by the State Board of Education.

RULES, OPERATION OF SCHOOL BUSES AND PUPIL TRANSPORTATION SAFETY EDUCATION PROGRAM

3520.2400 OPERATION OF TYPE I AND TYPE II SCHOOL BUSES.

Subpart 1. **Application of rules.** The operating rules in parts 3520.2400 to 3520.2900 shall govern the operation of Type I and Type II school buses used for the transportation of school children when owned and operated by a school district or privately owned and operated under a contract with a school district.

Subp. 2. **Transportation of pupils.** Only pupils assigned to the school bus by the school board or designated

administrative officer of the school district shall be transported at district expense.

Pupils are not to be evicted from the bus along the route for a breach of discipline. All breaches of discipline shall be reported by the bus driver to the administrative officer.

The entrance door shall be closed at all times when transporting pupils and the bus is in motion.

All buses shall load and unload in the right lane of the roadway, at pupil stops on bus routes approved by the administrative officer. Loading or unloading in a designated turn lane or in a lane immediately adjacent to a designated turn lane is prohibited.

There shall be no pupils in the bus while the gas tank is being filled. On leaving the vehicle when pupils are in the bus, the driver shall stop the motor, remove the ignition key, set the brakes, and otherwise render the bus immobile.

The administrative officer shall see that no materials, including guns, loaded or unloaded; gasoline cans, empty or full; animals; or any other object of a dangerous or objectionable nature are transported in the school bus when children are being transported.

Subp. 3. **Driving on school grounds.** Buses shall not be run backwards on the school grounds or at any other point if it can be avoided. If it is necessary to run a bus backwards, the driver should have adequate visibility to determine if any moving vehicles are within 500 feet in either direction, when on roadways. When there is a pupil pick-up or unloading at a backing point, the driver shall always load before backing and unload after backing. No pupils should be outside the bus when it is backing.

Subp. 4. **In case of accidents.** In case of an accident or breakdown of the bus the driver shall not leave the bus but send two of the patrol or other responsible pupils to the nearest house to summon help.

Immediate reports of all accidents, however slight, involving the school bus shall be made by the driver to the

administrative officer and to such other authorities as required by law, rule, or regulation. The driver shall prepare and keep all records and reports required by the administrative officer.

3520.3000 OPERATION OF TYPE III SCHOOL BUSES. (INCLUDES AUTOMOBILES, STATION WAGONS, AND OTHER VEHICLES DESIGNED FOR CARRYING NINE OR FEWER.)

Subpart 1. **Application.** The operating rules in parts 3520.3000 to 3520.3200 shall govern the operation of Type III school buses used for the transportation of school children when owned and operated by a school district or privately owned and operated under a contract with a school district.

Subp. 2. **Transportation of pupils.** Only pupils assigned to the vehicle by the school board or designated administrative officer of the school district shall be transported at district expense.

3520.3680 INCORPORATIONS BY REFERENCE.

Part or all of the documents and standards referred to in this part are incorporated by reference in chapter 3520. The documents are subject to frequent change and are conveniently available to the public through the Minitex interlibrary loan system. The latest edition available at the time the amendments to chapter 3520 are proposed is cited. Unless a later rulemaking by the Department of Education specifically restricts application of material incorporated by reference to a specific edition, later editions are incorporated by reference as they are published and made conveniently available to the public.

National Minimum Standards for School Buses and Operations, 1985 Revised Edition, National Safety Council, 444 North Michigan Avenue, Chicago, IL 60611.

SBMI School Bus Design Objectives, January 1985, School Bus Manufacturers Institute, 4907 Cordell Avenue, Bethesda, MD 20814.

Standard for Safety for Dry Chemical Fire Extinguishers ANSI-UL 299-1984, Approved March 2, 1984, American National Standard/Underwriter Laboratories, Inc., 333 Pfingsten

Road, Northbrook, IL 60062.

School Bus Warning Lamps - SAE J887, May 1982, Society of Automotive Engineers Standards, 400 Commonwealth Drive, Warrendale, PA 15096.

Standard Method of Salt Spray (706) Testing - Designation B117-85, American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

Windshield Defrosting Systems Test Procedure - Trucks, Buses, and Multipurpose Vehicles - SAE J381 and SAE J382, June 1984, Society of Automotive Engineers Standards.

Standard for the Storage and Handling of Liquefied Petroleum Gases NFPA58, 1986 Edition, National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

School Bus Stop Arm - Recommended Practice - SAE J1133, April 1984, Society of Automotive Engineers Standards.

Windshield Defrosting Systems Performance Guidelines - Trucks, Buses, and Multipurpose Vehicles - Recommended Practice - SAE J382, October 1984, Society of Automotive Engineers Standards.

Turn Signal Lamps for Use on Motor Vehicles Less Than 2032 MM in Overall Width - SAE J588, November 1984 and SAE J5881, Society of Automotive Engineers Standards.

Manual on Uniform Traffic Control Devices for Streets and Highways, 1987, Federal Highway Administration, 400 7th S.W., Washington, D.C. 20590.

United States Standard Alphabets for Highway Signs, Series B and Series D, Federal Highway Administration.

Federal Specification TT-C-520B, Coating Compound, Bituminous Solvent Type Underbody (for Motor Vehicles), General Services Administration, Specification and Consumer Information, Distribution Center, Washington Navy Yard, Building 197, Washington, D.C. 20407.

Product Standard PS 1-83, Construction and Industrial Plywood, United States Department of Commerce, National Bureau of Standards, Washington, D.C. 20234.

3520.3700 DESIGN OF SCHOOL TRANSPORTATION EQUIPMENT STANDARDS.

Subpart 1. **General.** The design and color of school buses used in the transportation of school children to and from school or to and from school-related activities, whether owned and operated by a school or school district or privately owned and operated under a contract with a school or school district, shall ensure safe and economical transportation of pupils at all times and shall conform to the minimum standards for design of school buses as established by the State Board of Education and shall comply with applicable federal standards. These are minimum standards and may be exceeded if exceeding them does not conflict with federal standards, state laws, or rules.

Subp. 2. [See Repealer.]

Subp. 2a. **Variances.** The commissioner of the Department of Education, after consulting with the commissioner of the Department of Public Safety, may grant a variance to any of the standards to accommodate testing of new equipment related to school buses. The variance must not conflict with Minnesota Statutes, federal laws, or Federal Motor Vehicle Safety Standards.

A variance from the standards must be for the sole purpose of testing and evaluating for increased safety, efficiency, and economy of pupil transportation. The variance expires 12 months from the date of its granting by the commissioner unless the commissioner specifies an earlier expiration date.

The commissioner upon granting a variance must furnish the commissioner of the Department of Public Safety and the requesting operator with a written copy of the variance specifying the conditions imposed on the testing.

The commissioner shall also provide a copy of the variance in writing to all contract operators and school districts.

The commissioner may grant up to one 12-month extension on a variance.

Annually by June 30, the commissioner will review all variances for adoption into the minimum standards.

Subp. 3. [See Repealer.]

3520.3701 VEHICLE DESCRIPTIONS.

Subpart 1. **Type I.** A Type I school bus means a school bus of more than 10,000 pounds gross vehicle weight rating, designed for carrying more than ten persons. A Type I school bus may be either a conventional or forward control bus.

Subp. 2. **Type II.** A Type II school bus is a bus with a gross vehicle weight rating of 10,000 pounds or less, designed for carrying more than ten persons. It must be outwardly equipped and identified as a school bus. It need not comply with Type I standards unless specified in part 3520.5611.

Subp. 3. **Type III.** A Type III school bus is restricted to a passenger car, station wagon, van, or bus with a maximum manufacturer's rated seating capacity of ten persons including the driver, and with a gross vehicle weight rating of 10,000 pounds or less. A "gross vehicle weight rating" or "GVWR" means the value specified by the manufacturer as the loaded weight of a single vehicle. Actual gross vehicle weight must not exceed the manufacturer's gross vehicle weight rating.

A Type III school bus must not in any way be outwardly equipped and identified as a school bus and must not operate as a Type I or Type II bus and need not conform to standards for Type I or Type II buses.

Subp. 4. **Standards are for new buses.** The minimum standards apply to new school buses purchased for use in Minnesota after the effective date of these standards. Buses complying with these standards when purchased new for use in Minnesota need not comply with standards established later except as specifically provided by law.

Subp. 5. **Used buses.** A used school bus purchased for use in Minnesota that has a current or expired Minnesota inspection sticker must conform to the Minnesota minimum standards in effect on the date the vehicle was purchased new. A used school bus that has never been inspected in Minnesota must conform to current Minnesota minimum standards.

Subp. 6. **"MN" designation.** School bus bodies manufactured

after January 1, 1986, and used on the streets and highways in this state must bear the designation "MN" in the body identification number. The manufacturer of the school bus body certifies by the "MN" designation that the bus body has been manufactured to meet the minimum standards required of school bus bodies. A school bus body manufactured before January 1, 1986, that does not bear a current inspection sticker, must not be used on the streets and highways in the state unless its manufacturer recertifies that the school bus body meets the minimum standards required of school bus bodies by law. Recertification must be made on a form provided by the Minnesota Department of Public Safety.

Automobiles, station wagons, and vans manufactured in a single stage are exempt from the requirements of this subpart.

Subp. 7. **Inspection.** Pursuant to Minnesota Statutes, section 169.451, school bus inspection procedures that indicate specific criteria and tolerances for each standard must be promulgated by the state patrol.

Subp. 8. **Interpretation.** The commissioner of the department of education and the commissioner of the department of public safety shall confer on interpretations and clarifications of rules.

Subp. 9. **Restructured defined.** "Restructured" means a vehicle produced by a chassis manufacturer which is converted into a school bus by a second manufacturer and upon completion shall meet or exceed the static load test code for school bus body structure.

Subp. 10. **No depreciation; exception.** A new bus body may be remounted on a chassis that is not more than three years old. Permission must be obtained from the commissioner of education in coordination with the commissioner of public safety before the remounting is done. A used bus body must not be remounted on a new or used chassis.

3520.3801 TYPE I CHASSIS.

The standards in parts 3520.3900 to 3520.4761 apply to Type

I bus chassis.

3520.3802 COMPLIANCE.

Compliance with these standards is the responsibility of the chassis manufacturer.

3520.3900 AIR CLEANER.

The engine intake air cleaner shall be furnished and properly installed by the chassis manufacturer to meet engine specifications.

3520.4001 AXLES.

The front and rear axles, including the suspension assembly, must have a gross weight rating at ground at least equal to that portion of the load imposed by the chassis manufacturer's maximum gross vehicle weight rating.

3520.4100 BATTERY.

Subpart 1. **General requirement.** The storage battery, as established by the manufacturer's rating, must be of sufficient capacity to care for starting, lighting, signal devices, heating, and other electrical equipment in Minnesota.

A. In a bus with a gas-powered chassis, the battery or batteries must provide a minimum of 800 cold cranking amperes.

B. In a bus with a diesel-powered chassis, the battery or batteries must provide a minimum of 1,070 cold cranking amperes.

Subp. 2. **Options.** The following battery systems are optional.

A. A battery providing at least 550 cold cranking amperes may be installed in the engine compartment if used only in combination with a generator or alternator of at least 120 amperes.

B. A bus with a gross vehicle weight rating (GVWR) of more than 10,000 pounds, but not over 15,000 pounds GVWR may be equipped with a battery to provide a minimum of 475 cold cranking amperes (CCA) if used only in combination with an alternator of at least 80 amperes. This option does not apply

to those buses with wheelchair lifts.

Subp. 3. **Mounting of battery.** When a battery is to be mounted on a sliding tray rather than the standard installation provided by the chassis manufacturer, the battery must be temporarily mounted on the chassis frame by the chassis manufacturer. The final location of the battery and the appropriate cable lengths shall agree with the SBMI Design Objectives, January 1985 Edition.

Subp. 4. [See Repealer.]

3520.4201 BRAKES.

Subpart 1. **Adequate to control, stop, and hold.** A school bus must have brakes adequate to control the movement of, and to stop and hold the bus.

Subp. 2. **Federal brake standards.** A school bus must meet federal brake standards in effect at the time of manufacture and must include a service brake, a parking brake, and an emergency brake system.

Subp. 3. **Emergency brake system.** A school bus must have either:

A. emergency features in the service brake system; or

B. a system separate from the service brake system.

Subp. 4. **Control.** A control by which the driver applies the emergency brake system must be located so that the driver can readily operate it while being properly restrained by a seat belt assembly provided for the driver's use. The control for applying the emergency brake system may be combined with either the control for applying the service brake system or the control for applying the parking brake system. All three controls must not be combined.

Subp. 5. **Interconnected systems.** If the brake systems specified in subpart 2 are interconnected, they must be designed, constructed, and maintained so that if part of the operating mechanism of one or more of the systems fails, the vehicle will have operative brakes capable of performing as specified in Federal Motor Vehicle Safety Standard Number 105,

Code of Federal Regulations, title 49, part 571.

Subp. 6. **Brake tubing and hose.** The brake tubing and brake hose must conform to Federal Motor Vehicle Safety Standard Number 106, Code of Federal Regulations, title 49, part 571.

Subp. 7. **Brake lining.** The brake lining on a school bus must be constructed and installed to avoid excessive fading and grabbing. The brake lining must be adequate in thickness, means of attachment, and physical characteristics to provide for safe and reliable stopping of the motor vehicle.

Subp. 8. **Reservoirs required.** A school bus using air or vacuum for braking must be equipped with reserve capacity or a reservoir sufficient to ensure a full service brake application with the engine stopped without depleting the air pressure or vacuum below 70 percent of that pressure or degree of vacuum indicated by the gauge immediately before the brake application is made. For purposes of this subpart, a full service brake application is made when the service brake pedal is pushed to the limit of its travel.

Subp. 9. **Warning devices and gauges.** A school bus must be equipped with a signal that provides a warning to the driver when a failure occurs in the vehicle's brake system.

A. Buses having service brakes activated by hydraulic fluid must be equipped with a warning signal that conforms to Federal Motor Vehicle Safety Standard Number 105, Code of Federal Regulations, title 49, part 571.

B. Buses having service brakes activated by air pressure must be equipped with warning devices that conform with Federal Motor Vehicle Safety Standard Number 121, Code of Federal Regulations, title 49, part 571.

C. Buses having service brakes activated by vacuum must be equipped with a device that provides a readily audible or visible continuous warning to the driver whenever the vacuum in the vehicle's supply reservoir is less than eight inches of mercury and with a vacuum gauge that indicates to the driver the vacuum in inches of mercury available for braking.

Subp. 10. **Air or vacuum applied or assisted.** A bus having

a braking system in which hydraulically activated service brakes are applied or assisted by compressed air or vacuum must be equipped with both a warning signal that conforms to the requirements of subpart 9, item A and a warning device that conforms to the requirements of subpart 9, item B or C.

3520.4301 FRONT BUMPER.

The front bumper must be furnished by the chassis manufacturer as part of the chassis. The front bumper must extend beyond the forwardmost part of the body, grille, hood, and fenders and must extend to the outer edges of the fenders at the bumper top line. The front bumper, except the breakaway bumper ends, must be of sufficient strength to permit pushing a vehicle of equal gross vehicle weight without permanent distortion to the bumper, bumper braces, chassis, or body.

3520.4400 CERTIFICATION.

The chassis distributor or dealer, on request, must certify to the State Department of Education that its product meets minimum standards on items not covered by certification issued under the requirements of the National Traffic and Motor Vehicle Safety Act, United States Code, title 49, section 571.

3520.4500 CLUTCH.

Clutch torque capacity must be at least equal to engine torque output.

3520.4510 COLOR.

Subpart 1. and 2. [See Repealer.]

Subp. 3. **New buses.** The chassis including front bumper and wheels must be painted glossy black, the hood and cowl must be painted National School Bus Yellow, except that the hood may be either lusterless yellow or lusterless black.

Subp. 4. **Color options.** Items A to C list color options for specific parts of a school bus.

A. Front fenders may be painted glossy yellow or glossy black.

B. The following may be other than yellow or black:

wheel rims; chassis grills; mirror backs, rims, and mounting brackets; reflector housings; window frames; accessories and other minor trim items.

C. Silver, black, or yellow retroflective material may be used on the front bumper for increased night visibility.

3520.4531 DRIVE SHAFT.

The drive shaft must be protected by adequate metal guard or guards to prevent it from whipping through the floor or dropping to the ground if broken.

3520.4540 ELECTRICAL SYSTEM.

Subpart 1. **Battery.** See chassis, part 3520.4100; and body, part 3520.4820.

Subp. 2. **Generator.** See chassis, part 3520.4610.

Subp. 3. **Lamp and signals.** See body, parts 3520.5200 to 3520.5230.

Subp. 4. **Wiring.** See body, part 3520.5580.

Subp. 5. **Electrical terminal.** The chassis manufacturer must install a readily accessible electrical terminal so that the body and chassis electrical load may be recorded through a chassis ammeter without dismantling or disassembling the chassis component. The chassis wiring system to the terminal must have a minimum of 100-ampere capacity. The chassis ammeter and wiring must be compatible with the generating capacity, and the ammeter must be capable of recording a continuous draw of 100 amperes.

Subp. 5a. **Option.** A voltmeter may be used in place of an ammeter.

Subp. 6. **Wiring codes, colors, diagram.** All wiring must use a standard color or number coding and each chassis must be delivered with a wiring diagram that coincides with the wiring of the chassis.

3520.4550 EXHAUST SYSTEM.

Subpart 1. **General.** The exhaust pipe muffler and tailpipe must be outside the bus body and attached to the chassis with

adequate hangers of sufficient strength to maintain the position of the exhaust system under all normal operating conditions. The tailpipe must be constructed of seamless or electrically welded tubing of 16-gauge steel or its equivalent and must extend at least five inches beyond the chassis frame but should not go beyond the rear bumper. See body, part 3520.5500. The size of the tailpipe must not be reduced after it leaves the muffler.

Subp. 2. **Exception.** The exhaust system on vehicles designed for the transportation of special education pupils may be routed to the left of the right frame rail to allow for the installation of a lift on the right side of the vehicle.

Subp. 3. **Insulation.** The exhaust system on a gas-powered chassis must be properly insulated from fuel tank and tank connections by a securely attached metal shield at any point where the exhaust system is within 12 inches of the tank or tank connections.

Subp. 4. **Corrosion-resistant.** The muffler must be constructed of corrosion-resistant material.

Subp. 5. **Option; Type I school buses.** Left side exhaust systems are allowed on Type I school buses but must conform to the following requirements:

A. The exhaust system pipe must be of nonflexible, one-piece pipe and be a minimum of 16 gauge steel or its equivalent. Diesel buses may use flex pipe on crossover pipes.

B. The exhaust system pipe must extend a minimum of 18 inches straight rearward from the muffler before a maximum bend of 45 degrees is made in the pipe. More than one bend may be made to attain a 45-degree maximum bend.

C. The exhaust system may extend to a maximum of one inch beyond the body skirt.

D. The end of the exhaust pipe must be cut smooth.

E. An exhaust system that has its exit point behind the rear wheels need not comply with the 45-degree bend requirement.

3520.4560 FENDERS, FRONT.

Subpart 1. **General requirements.** The total spread of the outer edges of the front fenders, measured at the fender line, must exceed the total spread of the front tires when the front wheels are in the straight ahead position. The front fenders must be properly braced.

Subp. 2. **Exception.** The standard in subpart 1 does not apply to forward control buses.

3520.4570 FRAME.

The frame or its equivalent must be designed to correspond at least to standard practice for trucks that have the same general load characteristics and that are used for highway service. Any person or secondary manufacturer that modifies the original chassis frame shall guarantee the performance of workmanship and materials resulting from the modification. Any frame modification must not be for the purpose of extending the wheelbase. Extensions of frame lengths are permissible only when such alterations are behind the rear hanger of the rear spring or in front of the front spring hanger. Holes in top or bottom flanges of the frame side rail must not be permitted except as provided in the original chassis frame. There must be no welding to frame side rails except as provided above. Welding for installation of the trailer hitch is permissible. Frame lengths shall be provided in accordance with School Bus Manufacturers Institute design objectives.

3520.4600 FUEL TANK.

Subpart 1. **Capacity of 30 gallons.** The fuel tank or tanks having a minimum capacity of 30 gallons must be provided by the chassis manufacturer.

The fuel tank must be filled and vented to the outside of the body so that accidental fuel spillage will not drip or drain on any part of the exhaust system.

The portion of the fuel system that is located to the rear of the engine compartment, except the filler tube, must not extend above the top of the chassis frame rail. The fuel lines

must be mounted to obtain maximum possible protection from the chassis frame in conformance with Federal Motor Vehicle Safety Standard 301, Code of Federal Regulations, title 49, part 371.

The fuel filter with a replaceable element must be installed between the fuel tank and the engine.

The fuel tank must meet the national standards that apply for the type of fuel used.

Subp. 2. to 5. [See Repealer.]

Subp. 6. **Rear engine powered buses.** In rear engine powered buses, the fuel system must have the fuel tank or tanks located ahead of the engine compartment.

Subp. 7. **Fuel, liquefied petroleum, compressed and liquefied natural gas.** Liquefied petroleum gas (LPG), or compressed or liquefied natural gas installations on school buses must meet National Fire Protection Association Standard Number 58 for "Installation of LP Gas Systems on Vehicles," as adopted by reference in the Minnesota Uniform Fire Code.

A school bus powered by liquefied petroleum or natural gas, or compressed liquefied natural gas must display markings as required by Minnesota Statutes, section 169.762 and parts 7510.4500 to 7510.4900.

3520.4610 GENERATOR OR ALTERNATOR.

Subpart 1. **Output requirement.** The generator or alternator (negative ground only) with rectifier must have an output of at least 100 amperes (in accordance with Society of Automotive Engineers rating) with a minimum charging of 30 amperes at the manufacturer's recommended engine idle speed (12-volt system) and must be ventilated and voltage-controlled and, if necessary, current-controlled. A matched dual belt drive must be used with the generator or alternator. A single belt, with longitudinal multigrooves, may be used in place of a dual belt drive. A heavy-duty full transistorized regulator must be supplied. A direct-drive generator or alternator may be used in place of a belt drive.

Subp. 2. **More output if small battery.** When a battery or

batteries of less than 800 cold cranking amperes (CCA) is installed in the engine compartment, the generator or alternator must have an output of at least 120 amperes. (See part 3520.4100, subpart 2.)

Subp. 3. and 4. [See Repealer.]

Subp. 5. **Option; some Type I buses.** Type I buses with a gross vehicle weight rating of 15,000 pounds or less may be equipped with a single belt drive alternator.

3520.4620 GOVERNOR.

Subpart 1. **Permissible.** An engine governor is permissible and if used must be set at the manufacturer's recommended maximum engine speed. If it is desired to limit road speed, a road speed governor should be installed.

Subp. 2. **Exception.** If the engine is remotely located from the driver, the governor must be installed to limit engine speed to maximum revolutions per minute recommended by the engine manufacturer, or a tachometer must be installed so engine speed may be known to the driver.

3520.4630 HEATING SYSTEM.

The chassis engine must have plugged openings for the purpose of supplying hot water for the bus heating system. The opening must be suitable for attaching a 3/4-inch pipe thread/hose connector. The engine must be capable of supplying water having a temperature of at least 170 degrees Fahrenheit at a flow rate of 50 pounds per minute at the return end of 30 feet of one inch inside diameter automotive hot water heater hose. See also School Bus Manufacturers Institute Standard Number 001-Standard Code for Testing and Rating Automotive Bus Hot Water Heating and Ventilating Equipment.

3520.4640 HORN.

The bus must be equipped with a horn in good working order and capable of emitting sound audible under normal conditions from a distance of not less than 200 feet.

3520.4650 INSTRUMENTS AND INSTRUMENT PANEL.

Subpart 1. **Requirements.** The chassis must be equipped with the instruments and gauges listed in this part. Lights in place of gauges are not permitted unless indicated.

A. Speedometer.

B. Odometer that will give accrued mileage.

C. An ammeter, vane or shunt type, with graduated charge and discharge. The ammeter and its wiring must be compatible with the generating capacities and capable of handling a continuous current draw of 100 amperes. A voltmeter may be used in place of an ammeter.

D. Oil-pressure gauge.

E. Water-temperature gauge.

F. Fuel gauge.

G. Upper-beam headlamp indicator. A light indicator is permitted.

H. Brake indicator (vacuum or air). A light indicator in place of a gauge is permitted on a vehicle equipped with an hydraulic-over-hydraulic brake system.

I. Turn signal indicator lights.

Subp. 2. **Accessibility, mounting, illumination.** All instruments must be easily accessible for maintenance and repair.

All instruments and gauges must be mounted on the instrument panel so that each is clearly visible to the driver in a normal driving position. The instrument panel must have lamps of sufficient candlepower to illuminate all instruments and gauges and the shift selector indicator for the automatic transmission.

3520.4670 OPENINGS.

All openings in the floorboard or the firewall between the chassis and the passenger-carrying compartments, such as for gearshift lever and auxiliary brake lever, must be sealed unless they are altered by the body manufacturer.

3520.4680 PASSENGER LOAD.

Subpart 1. **Gross vehicle weight, defined.** Average actual gross vehicle weight (GVW) is the sum of actual chassis weight,

plus average body weight, plus 150 pounds for driver's weight, plus total seated pupil weight based on 120 pounds per pupil.

Subp. 2. **Gross vehicle weight (GVW) limit.** The actual gross vehicle weight (GVW) must not be more than the chassis manufacturer's gross vehicle weight rating (GVWR) for the chassis.

3520.4701 SHOCK ABSORBERS.

A school bus must be equipped with front and rear double acting shock absorbers compatible with the manufacturer's rated axle capacity at each wheel location.

3520.4711 SPRINGS.

Capacity of springs or suspension assemblies must be commensurate with the chassis manufacturer's gross vehicle weight rating. If rear springs are used on a chassis of 15,000 pounds and over, they must be of the progressive type.

3520.4720 STEERING.

The steering gear must be approved by the chassis manufacturer and designed to assure safe and accurate performance when the vehicle is operated with maximum load and at maximum speed. The steering mechanism must provide for easy adjustment for lost motion. Changes not approved by the chassis manufacturer must not be made in the steering apparatus. There must be a clearance of at least three inches between the steering wheel and the cowl, instrument panel, windshield, or any other surface. The steering system must be designed to provide for means for lubrication of all wear-points, if wear-points are not permanently lubricated. Power steering is required and must be of the integral type with integral valves.

3520.4731 TIRES AND RIMS.

Tires and rims of proper size and tires with a load rating commensurate with the chassis manufacturer's gross vehicle weight rating must be provided.

Dual rear tires must be provided on Type I school buses.

Tires of different size or ply rating may be used except

that all tires on an axle must be the same size. Radial and bias tires must not be used on the same axle. If a spare tire is carried, it must be suitably mounted in an accessible location outside the passenger compartment.

3520.4741 TRANSMISSION.

An automatic transmission is permissible.

If a manual transmission is used, second gear and higher gears must be synchronized except if to do so would be incompatible with engine power. A minimum of three forward speeds and one reverse speed must be provided. The bus transmission shifting pattern must be permanently displayed in the driver's full view.

3520.4750 UNDERCOATING.

Unless fenders are constructed of a noncorrosion material, the chassis manufacturer must coat undersides of front fenders with a compound to prevent rust. The compound must meet or exceed Federal Specifications TT-C-520B using modified test procedures as defined under "Undercoating" of body standards.

3520.4761 WEIGHT DISTRIBUTION.

Weight distribution of a fully loaded bus on a level surface must not exceed the manufacturer's front gross axle weight rating and rear gross axle weight rating.

3520.4801 TYPE I BODY.

The standards in parts 3520.4811 to 3520.5580 apply to Type I bus bodies.

3520.4811 AISLE.

Minimum clearance of all aisles, including the aisle or passageway between seats leading to the emergency door, must be 12 inches. See part 3520.5010, subpart 2. Aisle supports of seat backs must be slanted away from the aisle sufficiently to give aisle clearance of 15 inches at the top of the seat backs.

3520.4831 BODY SIZES.

RECOMMENDED BODY - CHASSIS SIZES FOR MINNESOTA SCHOOL BUSES

PASSENGER CAPACITY	WHEELBASE	Items to specify to get proper minimum gross vehicle weights.					GVWR 2/
		FRONT AXLE	REAR AXLE	TIRE SIZE	FRONT GAWR 1/	REAR GAWR 1/	
29	151"	5000# Gas 7500# Diesel *	15000#	8.25 x 20 10 ply	5000# 7500#	14200#	19200# 21700#
35	151-170"	5000# Gas 7500# Diesel *	15000#	8.25 x 20 10 ply	5000# 7500#	14200#	19200# 21700#
41 3/	189-193"	7000# Gas 7500# Diesel *	15000#	8.25 x 20 10 ply	7000# 7500#	14200#	21200# 21700#
47 3/	189-193"	6000# Gas 7500# Diesel *	15000#	8.25 x 20 10 ply	6000# 7500#	14200#	20200# 21700#
53	216-218"	7000# Gas 8000# Diesel *	15000#	8.25 x 20 12 ply	7000# 8000#	15000#	22000# 23000#
59	235-237"	7000# Gas 8000# Diesel *	17000#	9.00 x 20 10 ply	7000# 8000#	16160#	23160# 24160#
65	254-255"	7500# Gas 8000# Diesel *	17500#	9.00 x 20 12 ply	7500# 8000#	17500#	25000# 25500#
71	274-276"	9000# Gas 9000# Diesel	19000#	9.00 x 20 14 ply	9000#	19000#	28000#
77	274-276"	9000# Gas 9000# Diesel	20000#	9.00 x 20 14 ply	9000#	20000#	29000#

* Applies to diesel engines larger than 6.9 liter such as 8.2 and 9 liter and larger.

1/ GAWR (Gross Axle Weight Rating) means the weight carrying capacity of the lightest components of the front or rear axle assembly including axle, tires, wheels, springs, frame, etc.

2/ GVWR (Gross Vehicle Weight Rating) means the total maximum carrying capacity of a bus including body weight; chassis weight, passengers, and fuel. Specify Front GAWR - Rear GAWR and Total GVWR in your bid, using the above chart to properly distribute loaded weights.

3/ The shorter 41 passenger body puts more weight on the front axle than the longer 47 passenger.

A. The above recommendations are designed to allow bidding of various body - chassis combinations and staying within federal weight tolerances.

B. Stock bus bids. Due to the fact that the body - chassis dealers know the exact weight of their units built for stock, axles and tire sizes may be less than those listed above and still be within the federal weight tolerances.

C. The following items add considerable weight and may require heavier axles or longer chassis and body: diesel engines; air brakes; luggage compartments; even size bodies such as 54-60-66 passenger. Uneven sizes as 53-59-65 as listed above are recommended over even sizes as they do not require a wasted nine inch space behind the rear seat.

3520.4840 BOOK RACKS.

Subpart 1. **Permitted.** Book racks are permitted only in buses with 72-inch or more headroom.

Subp. 2. **Location.** If book racks are permitted, they must be located above the side windows and must not extend forward of the foremost point of the front seat, across or above the

emergency door and must not exceed 16 inches in width.

Book racks must have only padded, rounded edges on all surfaces exposed to school bus occupants. Padding must be at least one inch thick. There must be an upward extending edge on the aisle side of the rack that extends half the distance to the ceiling of the bus from the bottom of the rack. A minimum of two racks must have full height dividers above every seat to prevent any book or object from sliding front and back. Each rack must be padded on the aisle side.

3520.4850 BUMPER.

Subpart 1. **Front.** See part 3520.4301.

Subp. 2. [See Repealer.]

Subp. 3. **Rear.** Rear bumper must be of pressed steel channel at least 3/16 inch thick and eight inches wide (high) and be of sufficient strength to permit being pushed by another vehicle without permanent distortion to bumper, bumper braces, chassis, or body. It must be wrapped around back corners of the bus. It must extend forward at least 12 inches, measured from rearmost point of body at the floor line. The bumper must be attached to the chassis frame so that it may be easily removed, must be braced to develop full strength of bumper section from rear or side impact, and must be attached to prevent hitching of rides. The rear bumper must extend beyond rearmost part of body surface, excluding lights, at least one inch, measured at floor line.

Subp. 4. [See Repealer.]

3520.4900 COLOR.

Subpart 1. to 5. [See Repealer.]

Subp. 6. **Body.** The body including the hood and the cowl must be painted National School Bus Yellow.

A. Rub rails: a minimum of three must be black.

B. Rear bumper, rubber rear fenders (if used), and lettering must be black.

C. The belt line may be yellow with black lettering or may be black with yellow lettering. Yellow or black

reflectorization may be used.

Subp. 7. **Options.** The following color options may be used.

A. The front fenders may be painted glossy yellow or glossy black.

B. The hood may be lusterless yellow or black.

C. The following may be other than yellow or black: wheel rims; chassis grills; mirror backs, rims, and mounting brackets; reflector housings; window frames; accessories and other minor trim items. See part 3520.4510.

D. The use of yellow or red reflective material may be used on the rear bumper for increased night visibility.

Subp. 8 to 10. [See Repealer.]

3520.4910 CONSTRUCTION.

Construction must be of prime commercial quality steel or other metal or other material with strength at least equivalent to all-steel as certified by the bus body manufacturer and must conform to Federal Motor Vehicle Safety Standard Number 220, Code of Federal Regulations, title 49, part 571.

3520.4930 FLOOR CONSTRUCTION.

Subpart 1. **Requirements.** The floor must be of prime commercial quality steel or other metal of at least 14-gauge. The metal floor must be covered with plywood. The plywood must be five-ply, at least five-eighths inch thick and it must equal or exceed properties of exterior-type softwood plywood, grade C-D, as specified in product standard PS 1-83 issued by the United States Department of Commerce. The floor must be level from front to back and from side to side except in wheel housing, toeboard, and driver's seat platform areas.

Subp. 2. **Option.** The underside of the metal floor may be undercoated with polyurethane floor insulation, foamed in place. The polyurethane floor insulation must be combustible resistant. This option does not replace the plywood required in subpart 1.

3520.4980 OPENINGS.

All openings between chassis and passenger-carrying compartment made due to alterations by body manufacturer must be sealed.

3520.5000 DEFROSTERS.

Defrosters and two auxiliary fans with metal blades and adequate guards shall be of sufficient capacity to keep the windshield, window to left of driver, and glass in entrance door clear of fog, frost, and snow. This may be done by taking the heat directly from an approved heater or auxiliary heaters. Defrosters must conform to Society of Automotive Engineers Standards J-381 and 382.

3520.5010 DOORS.

Subpart 1. **Service door.** The service door must be power or manually operated, under control of the driver, and designed to afford easy release and prevent accidental opening.

The service door must be located on the right side of the bus opposite the driver and within the driver's direct view.

The service door must have a minimum horizontal opening of 24 inches and a minimum vertical opening of 68 inches.

The service door must be of split type, sedan type, or jackknife type. If a split type door is used the front section must open outward.

The lower as well as upper glass panels must be of approved safety glass. See part 3520.5551. The bottom of the lower glass panel must not be more than 35 inches from the ground when the bus is unloaded. The top of the upper glass panel must not be more than six inches from the top of the door.

The vertical closing edges must be equipped with flexible material to protect children's fingers.

There shall be no door to the left of the driver in the front half of the bus.

Subp. 2. **Emergency door and emergency window.** An emergency door must be located in the center of the rear end of the bus or in the rear half of the left side of the bus.

The emergency door must have a minimum horizontal opening

of 24 inches and a minimum vertical opening of 48 inches measured from floor level.

The emergency door must be hinged on the right side if it is in the rear end of the bus and on the front side if it is on the left side of the bus. The door must open outward and must be labeled inside to indicate how it operates.

All the glass in the emergency door must be approved safety glass. The exposed area of the safety glass must be not less than 400 square inches. See part 3520.5551.

There must be no steps leading to the emergency door.

A seat or other object must not be placed in the bus to restrict any part of the passageway leading to the emergency door to an opening smaller than a rectangle 12 inches in width and 48 inches in height, measured from floor level.

The words "EMERGENCY DOOR" or "EMERGENCY EXIT" both inside and outside in letters at least two inches high, must be placed at the top of or directly above the emergency door or on the door in the metal panel above the top glass.

If the emergency door is located on the left side of the bus, it must conform to Federal Motor Vehicle Safety Standard Number 217, Code of Federal Regulations, title 49, part 571, and the window at the rear must be designed as an emergency exit and must be no smaller than 16 inches in height and 54 inches in width on buses 80 inches or more in width; it must be no smaller than 16 inches in height and 49 inches in width on buses less than 80 inches in width. The window must be hinged from the top and devised and operated to ensure against an accidental closing in an emergency.

The emergency window in the rear must be equipped with a latch or latches on the inside connected with an electrical buzzer located in the driver's compartment that will go off when the latch is being released.

The emergency window must also be equipped on the outside with a nondetachable fastening device designed to prevent hitching-to, but to permit opening from the outside.

Paneling is required to cover the space between the top of

the rear divan seat and the inside surface of emergency window at rear.

The words "EMERGENCY EXIT" in letters at least two inches high must be placed directly above the emergency window on the inside and directly below the window on the outside.

The emergency door and emergency window must be designed to be opened from the inside and the outside of the bus and must be equipped with a fastening device that may be quickly released but is designed to offer protection against accidental release. The opening of the emergency door and window must not be controllable from the driver's seat. The providing for opening from the outside must consist of a nondetachable device designed to prevent hitching-to but to permit opening when necessary.

The emergency door must be equipped with a slide-bar cam-operated lock. The slide bar must have a minimum stroke of one inch. The emergency door lock must be equipped with a suitable electric plunger type switch connected with a buzzer located in the driver's compartment. The switch must be enclosed in a metal case, and the wires leading from the switch must be concealed in the bus body. The switch must be installed so that the plunger contacts the farthest edge of the slide bar so that any movement of the slide bar immediately closes the circuit on the switch and sets off the buzzer.

The emergency door lock must be equipped with an interior handle that extends approximately to the center of the emergency door. The handle shall lift up to release the lock.

The service door and the emergency door (side or rear) may be equipped with vandal locks if the locks comply with Federal Motor Vehicle Safety Standard Number 217, Code of Federal Regulations, title 49, part 571.

3520.5111 FIRE EXTINGUISHER.

A minimum of one 2-1/2 pound dry chemical type fire extinguisher, with not less than a 10-B-C rating, is required. It must be approved by Underwriters Laboratories, Inc. or an equivalent testing laboratory.

The extinguisher must be mounted in a bracket, located in the driver's compartment and readily accessible to the driver and passengers. A pressure indicator is required and must be easily read without removing the extinguisher from its mounted position.

3520.5120 FIRST AID KIT.

The bus must carry a removable Grade A metal, or other material of equal strength, dust-proof first aid kit, mounted in full view or in a labeled accessible place in the driver's compartment.

The first aid kit must have the following units and packages per unit:

A. ten units for vehicles of 16 or less capacity;

B. 24 units for buses with passenger capacity in excess of 16 and up to and including 42 passengers; or

C. 36 units for buses of passenger capacity in excess of 42.

D. The table of required items and packages for items A to C:

Unit Size	Item	Required Packages 10 Unit	24 Unit	36 Unit
1	Compress Bandage, 4 inch	2	6	8
1	Compress Bandage, 2 inch	1	3	7
1	Adhesive Compress, 1 inch	2	2	4
1	Triangular Bandage, 40 inch with 2 safety pins	1	2	4
1	Gauze Bandage, 4 inch	-	2	4
1	Absorbant Gauze Compress	-	2	2
1	Gauze Compress, 24 by 72 inches	1	2	2
1	Padded Tongue Blades	1	1	1
2	Adhesive Tape, 1 inch by 2-1/2 yards	2	2	2
1	Wire Splint	-	2	2

3520.5141 FLOOR COVERING.

The floor in the underseat area, including the tops of wheel housings, driver's compartment, and toeboard, must be covered with rubber floor covering or its equivalent having a minimum overall thickness of 0.125 inch.

The floor covering in the aisle must be of aisle-type rubber or its equivalent, nonskid, wear-resistant, and ribbed.

Minimum overall thickness must be 0.187 inch measured from top of ribs.

The floor covering must be permanently bonded to the floor and must not crack if subjected to sudden change in temperature. Bonding or adhesive material must be waterproof and must be of a type recommended by the manufacturer of the floor covering material. All seams must be sealed with waterproof sealer.

3520.5151 HEATERS.

Heaters must be of the hot water or combustion type. If the heater is of the hot water type, the heater system must be equipped with a shutoff valve readily accessible to the driver. If only one heater is used, it must be of fresh air or combination fresh air and recirculating type. If more than one heater is used, the additional heaters may be of recirculating type. Each heater motor must be two speed.

All heaters installed by body manufacturers must bear a name plate that must indicate the heater rating in accordance with SBMI Code 001. The plate must be attached by the heater manufacturer. The attachment certifies that the heater performance is as shown on the plate.

All combustion-type heaters must be approved by the Federal Highway Administration, Motor Carrier Safety Regulations, Code of Federal Regulations, title 49, part 393.77.

If combustion-type heaters are used, they must be installed on new buses by body manufacturers and on buses now in operation by authorized dealers or by authorized garages.

Heaters must be capable of maintaining an inside temperature of 50 degrees Fahrenheit at average minimum January temperatures as established by the United States Department of Commerce, Weather Bureau, for the area in which the heater is required.

Heater lines inside the passenger compartment must be guarded to prevent accidental contact by the driver or passengers.

3520.5160 IDENTIFICATION.

Subpart 1. **Requirements.** The body must bear the words "SCHOOL BUS" in black letters at least eight inches high on both front and rear of the body or on attached signs . The lettering must be placed as high as possible without impairment of its visibility. The lettering must conform to "Series B" of Standard Alphabets for Highway Signs.

Only signs and lettering approved by state law or rule, limited to name of owner or operator and home post office address, city, or town may appear on the sides of the bus, in accordance with Minnesota Statutes, section 221.031, subdivision 6. Any number or symbol necessary for identification may also appear on the sides of the bus.

Subp. 2. **Options.** Symbols or letters may be used on the outside of the bus for student identification. The manufacturer's name or logo may appear on the roof line. A manufacturer's nameplate may be placed on the side of the bus near the entrance door and on the rear.

3520.5171 INSIDE HEIGHT.

Inside body height must provide 72 inches of headroom, measured from the metal floor to the center line of the metal roof.

3520.5180 INSULATION.

Ceiling and walls must be insulated with proper material to deaden sound and to reduce vibrations to a minimum, and must be insulated to a minimum of one-inch fiberglass and installed so that the insulation does not compact or sag. Thermal insulation must be of fire-resistant material of a type approved by Underwriter's Laboratories, Inc.

3520.5190 INTERIOR.

Subpart 1. **Projections.** The interior of the bus must be free of all unnecessary projections likely to cause injury. Ceilings and walls must have an inner lining. If the ceiling is constructed so as to contain lapped joints, the forward panel

must be lapped by the rear panel and exposed edges must be beaded, hemmed, flanged, or otherwise treated to minimize sharp edges.

Subp. 2. **Speakers.** Interior speakers except in the driver's compartment must not protrude more than one-half inch. A two-way speaker in the driver's compartment need not be flush mounted.

Subp. 3. **Flammability.** Flammability standards of interior materials covered by Federal Motor Vehicle Safety Standard Number 302, Code of Federal Regulations, title 49, part 571 must be met.

3520.5200 LAMPS AND SIGNALS FOR NEW BUSES ONLY.

Subpart 1. **Compliance required.** Installation of an eight-lamp alternately flashing warning signal system must comply with this part.

Subp. 2. **Installation.** All lamps on the exterior of the vehicle must conform with and be installed as required by Federal Motor Vehicle Safety Standard Number 108, Code of Federal Regulations, title 49, part 571.

Subp. 3. **Interior lamps.** Interior lamps that adequately illuminate the aisle and the step well must be provided.

Subp. 4. **Red and amber signal lamps.** Each school bus must be equipped with a system consisting of four red signal lamps designed to conform to SAE Standard J887. "School Bus Red Signal Lamps," and four amber signal lamps designed to that standard, except for color, and except that their candlepower must be at least 2-1/2 times that specified for red signal lamps. Both red and amber signal lamps must be installed in accordance with SAE Standard, J887, except that each amber signal lamp must be located near each red signal lamp, at the same level, but closer to the vertical centerline of the bus.

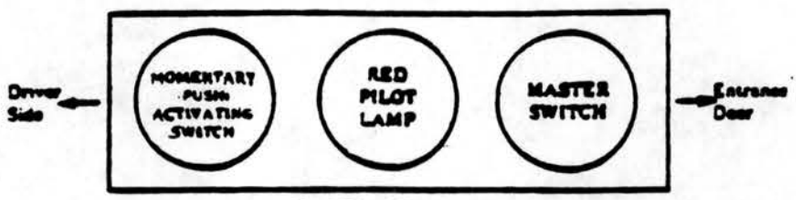
Subp. 4a. **Wiring, flashing.** The system must be wired so that the amber signal lamps are activated only by hand operation, and if activated, are automatically deactivated and red signal lamps are automatically activated when the bus

entrance door is opened. Right and left signal lamps must flash alternately. Each signal lamp must flash not less than 60 nor more than 120 flashes per minute. The "on" period must be long enough to permit bulb filament to come up to full brightness. A brake-operated switch is not permitted.

There must be a red pilot lamp which must go on when the respective amber or red systems are actuated. The pilot must either go out or flash at an altered rate in the event the system is not functioning normally.

Subp. 5. [See Repealer.]

Subp. 6. **Control box for signal lamps.** The signal lamp system must include a closed control box. The box must be as small as practical, easily demounted or partially disassembled to provide simple access for maintenance purposes. The switches and red pilot lamp must be located in conformance with the following diagram.



CONTROL BOX PANEL

The control box must be securely mounted to the right of the steering wheel, in the near proximity of the entrance door control, within easy unobstructed reach of the driver. Switches and pilot lamp must be readily visible to the driver. The activating switch may be self-illuminated (glow type). Other warning devices or lamp controls must not be placed near the light lamp control.

Subp. 7. **System and stop arm.** The signal lamp system and stop arm must operate as follows:

The stop signal arm must be of an automatic type. It must automatically extend and retract in conjunction with the alternately flashing red lights and must be activated and deactivated by the entrance door switch.

With the master switch on and the entrance door closed, depress hand switch. The red pilot lamp and amber signals will

go on.

Open the entrance door. The pilot lamp and amber signal lamps will go off, and the pilot lamp and red signal lamps will go on. The stop arm will automatically extend.

Close the entrance door. The red pilot and signal lamps will go off and the stop arm will automatically retract.

Open the entrance door without depressing the hand switch. The red pilot lamp and red signal lamps will go on. The stop arm will automatically extend.

With the master switch off, depressing the hand switch will not actuate the amber signal system, nor will opening the entrance door actuate the red signal system and stop arm.

Subp. 8. **Installation requirements.** Each alternately flashing signal lamp must be mounted with its axis substantially parallel to the longitudinal axis of the vehicle.

Front and rear alternately flashing signal lamps must be spaced as far apart laterally as practicable.

Alternately flashing signal lamps must be mounted at the front on the same horizontal center line and above the windshield, and at the rear on the same horizontal center line so that the lower edge of the lens is not lower than the top line of the side window.

The vertical and lateral vision of the front and rear alternately flashing warning lamps must not be obstructed by any part of the body or lamp-house insofar as standard bus body construction permits.

The area around the lens of each alternately flashing signal lamp and extending outward approximately three inches must be painted black. In installations where there is no flat vertical portion of body immediately surrounding entire lens of lamp, circular or square band of black approximately three inches wide, immediately below and to both sides of lens, must be painted on body or roof area against which signal lamp is seenfrom distance of 500 feet along axis of vehicle.

A separate fuse or circuit breaker, adequate to prevent damage to the system in the event of a dead short, must be

provided between the power source and the master switch.

All wiring must be a minimum of 14-gauge.

Subp. 9. **Options.** School buses may be equipped with the following safety equipment devices.

A. A driver-activated student control warning system to assist students in crossing roadways. The system must contain one high-intensity flashing red signal, an audible warning signal, and one high-intensity steady amber proceed-with-caution signal lamp. Red and amber signal lamps must be at least four inches in diameter and no larger than 4-1/2 inches in diameter.

The control system unit must be installed in a vertical position, with the red signal on the top and the amber signal on the bottom.

(1) One control system unit must be mounted on the left side of the bus next to the driver and one unit must be mounted on the right side just ahead of the entrance door. The units must be wired to be activated and deactivated in conjunction with the eight-lamp and stop arm, and to be controlled by the entrance door switch.

(2) Amber walk lamps of the units must be on a separate on/off switch controlled by the driver, but deactivated when the entrance door is closed.

B. The use of a crossing guard gate mounted on the front bumper to put students in view of the bus driver.

C. The use of an external public address system to assist students in crossing roadways.

D. The use of a roof mounted white double flash strobe light described in Minnesota Statutes, section 169.64, subdivision 7.

E. The use of electronic sensing devices.

3520.5220 TURN SIGNAL LAMPS AND STOP LAMPS.

Subpart 1. **Turn signal lamps.** The school bus must have turn signal indicators of an automatic type. The bus body must be equipped with amber or red rear turn signal lamps that are at

least seven inches in diameter and meet specifications of the Society of Automotive Engineers (SAE J588). The turn signal lamps must be connected to the chassis hazard warning switch to cause simultaneous flashing of turn signal lamps when needed as a vehicular traffic hazard warning. The turn signal lamps must be placed as wide apart as practical and their center line must be approximately eight inches below the rear windows.

Subp. 2. **Stop lamps.** The school bus must be equipped with red stop lamps. If round, the stop lamps must be seven inches in diameter. If the stop lamps are a shape other than round, they must have a minimum 38 square inches of illuminated area. The stop lamps must be mounted on the rear of the bus just inside the turn signals, at the same height.

The brake lights must be wired to combine stop and tail lights.

Subp. 3. **Federal Motor Vehicle Safety Standard Number 108.** All lamps on the exterior of the vehicle must conform with and be installed as required by Federal Motor Vehicle Safety Standard Number 108, Code of Federal Regulations, title 49, part 571.

3520.5230 WARNING DEVICES.

Subpart 1. **Required.** The school bus must contain at least three reflectorized triangle road warning devices mounted in an accessible place in the driver's compartment. The mounting location is optional.

Subp. 2. **Prohibited equipment.** The school bus must not be equipped with liquid burning "pot type" flares or fuses.

3520.5300 METAL TREATMENT.

Subpart 1. **General requirements.** All ferrous metal less than 12-gauge that is used in the construction of the bus body must be zinc or aluminum coated, mill applied if it is used in structural members, inside and outside panels, floor panels, and floor sills. The metal need not be zinc or aluminum coated, mill applied if it is used in door handles, grab handles, stanchions, interior decorative parts, and other interior plated parts.

Subp. 1a. **Painted parts.** In addition to the requirement in subpart 1, all metal parts to be painted must be chemically cleaned, etched, zinc-phosphate-coated, and zinc-chromate or epoxy-primed or conditioned by an equivalent process.

Subp. 1b. **Particular attention.** In complying with subparts 1 and 2, particular attention must be given to lapped surfaces, welded connections of structural members, cut edges, punches or drilled hole areas in sheet metal, closed or box sections, unvented or undrained areas, and surfaces subjected to abrasion during vehicle operation.

Subp. 2. [See Repealer.]

Subp. 3. **Test standard.** As evidence that the requirements of subparts 1, 1a, and 1b have been met, samples of materials and sections used in the construction of the bus body, when subjected to a 1000-hour salt spray test as provided for in the latest revision of ASTM designation; B-117 "Standard Method of Salt Spray (Fog) Testing" must not lose more than ten percent of material by weight.

3520.5310 MIRRORS.

Subpart 1. **Required equipment.** The interior clear view mirror must be at least 6 by 30 inches overall to afford good view of pupils and roadway to rear. If not metal-backed and framed, the mirror must be of laminated plate safety glass. It must have rounded corners and protected edges.

Two exterior clear-view, rearview mirrors must be provided, one to the left and one to the right of the driver. The area of each mirror must be not less than 70 square inches overall. Each mirror must be firmly supported and adjustable to give the driver a clear view past the left rear and right rear of the bus.

Subp. 2. **Optional equipment.** Small convex mirrors may be used in conjunction with the equipment required under subpart 1.

Subp. 3. **Required convex mirrors.** Four exterior convex mirrors at least 7-1/2 inches in diameter must be located as follows: two on the left and two on the right side of the bus in such a manner that the seated driver may observe, through

their use, areas to front or side of bus where direct observation, as prescribed in Federal Motor Vehicle Safety Standard Number 17, Code of Federal Regulations, title 49, part 571, is not possible. The mirrors must comply with Federal Motor Vehicle Safety Standard Number 111, Code of Federal Regulations, title 49, part 571.

Transit-type buses must have at least three mirrors, two crossover mirrors, one in each corner, and one rearview mirror on the right side.

Subp. 4. **Optional equipment.** Elliptical or hemispherical mirrors may be substituted for the equipment required in subpart 3 on a one-for-one basis if indirect visibility requirements are met.

3520.5330 OVERALL LENGTH.

The overall length of a school bus must not exceed 40 feet.

3520.5340 OVERALL WIDTH.

The overall width of a school bus, excluding mirror brackets and stop arm, must not exceed 96 inches.

3520.5361 RUB RAILS.

There must be one rub rail located on each side of the bus approximately at seat level. The rub rail must extend from the rear side of the entrance door completely around the bus body (except for the emergency door) to the point of curvature near the outside cowl on the left side.

There must be one rub rail located approximately at the floor line which must cover the same longitudinal area as the upper rub rail, except at the wheel housings, and must extend only to the radii of the right and left rear corners.

For buses using a rear luggage or rear engine compartment, the rub rails need not extend around rear corners.

There must be a rub rail at the base of the skirt of the bus.

All rub rails must be attached at each body post and all other upright structural members.

All rub rails must be four inches or more in width, must be of 16-gauge steel, and must be constructed in corrugated or ribbed fashion.

All rub rails must be applied outside the body or outside the body posts.

Pressed-in or snap-on rails do not satisfy this requirement.

3520.5370 SANDERS.

Sanders are not required equipment, but if used, sanders must:

A. be of hopper cartridge-valve type;

B. have a metal hopper with all interior surfaces treated to prevent condensation of moisture;

C. be of at least 100-pound (grit) capacity;

D. have a cover on the filler opening of the hopper that screws into place sealing the unit airtight;

E. have discharge tubes extending to the front of each rear wheel under the fender;

F. have no-clogging discharge tubes with slush-proof, nonfreezing rubber nozzles;

G. be operated by an electric switch with a telltale light mounted on the instrument panel;

H. be exclusively driver controlled; and

I. have a gauge to indicate the hoppers need refilling when they are down to one-quarter full.

3520.5380 SEAT BELT FOR DRIVER.

A seat belt for the driver must be provided. The belt and mounting must comply with Federal Motor Vehicle Safety Standard Numbers 207 to 210, Code of Federal Regulations, title 49, part 571. Each belt section must be booted so as to keep the buckle and latch off the floor and within easy reach of the driver. The belt must be anchored or guided at the seat frame so as to prevent the driver from sliding sideways under the belt.

3520.5401 SEATS AND CRASH BARRIERS.

The school bus seats must be based on 13-inch rump room for

each passenger. All seats must face forward, except that variations may be made to accommodate handicapped students. Seats, seat back cushions, and crash barriers must be covered with a material having 42-ounce finished weight, 54 inches width, and finished vinyl coating of 1.06 broken twill, or other material with equal tensile strength, tear strength, seam strength, adhesion strength, resistance to abrasion, resistance to cold, and flex separation. All seats and crash barriers must conform to Federal Motor Vehicle Safety Standard Number 222, Code of Federal Regulations, title 49, part 571.

3520.5450 STEPS.

Subpart 1. **General requirements.** The first step at the service door must be not less than 12 inches and not more than 18 inches from the ground, based on standard chassis specifications.

The service door entrance may be equipped with two-step or three-step step-well. Risers in each case must be approximately equal. When plywood floor is used on steel, differential may be increased by thickness of plywood used.

Steps must be enclosed to prevent accumulation of ice and snow.

Steps must not protrude beyond side body line.

Grab handle not less than ten inches in length must be provided in unobstructed location inside doorway.

Subp. 2. [See Repealer.]

Subp. 3. **Step treads.** All steps, including the floor line platform area, must be covered with 3/16-inch rubber floor covering or other material equal in wear resistance and abrasion resistance to top grade rubber.

The metal back of the tread must be a minimum of 24-gauge cold roll steel and must be permanently bonded to ribbed rubber. The grooves in the grooved design must run at a 90-degree angle to long dimension of the step tread.

The 3/16-inch ribbed step tread must have a 1-1/2 inch white nosing as an integral piece without any joint.

The rubber portion for the step treads must have the following characteristics:

A. special compounding for good abrasion resistance and a high coefficient of friction;

B. flexibility to be bent around a 1/2-inch mandrel both at 130 degrees Fahrenheit and 20 degrees Fahrenheit without breaking, cracking, or crazing; and

C. show a durometer hardness of 85 to 95.

3520.5461 STIRRUP STEPS.

There must be at least one folding stirrup step or recessed foothold and suitably located handles on each side of the front of the body for easy accessibility for cleaning the windshield and lamps except when the windshield and lamps are easily accessible from the ground. Steps are permitted in or on the front bumper, in place of the stirrup steps, if the windshield and lamps are easily accessible for cleaning from that position.

3520.5471 STOP SIGNAL ARM.

Subpart 1. **The stop signal arm.** The stop signal arm must be installed on the left side of the bus and must be octagonal in shape. It must meet the applicable requirements of the Society of Automotive Engineers J1133. The stop signal arm must be of an automatic type. See part 3520.5200.

It shall display a stop signal on both sides, the word "STOP" in white or silver-white letters at least one-third the height of the signal, and have a red background.

The stop arm must be equipped with two alternately flashing double faced (front and rear) red warning signals and must be activated and deactivated by the entrance door switch. The sign need not be reflectorized.

Subp. 2. **The stop signal.** The stop signal must be of the shape, size, legend, and colors specified by the "Manual on Uniform Traffic Control Devices for Streets and Highways," Federal Highway Administration.

The stop signal may be 18 or 24 inches in height.

discretionary not mandatory

3520.5481 STORAGE COMPARTMENT.

Subpart 1. **Location, cover.** If tools, tire chains, or tow chains are carried on the bus, a container of adequate strength and capacity must be provided for them. The storage container may be located inside or outside the passenger compartment. If inside, it must have a cover capable of being securely latched and must be fastened to the floor convenient to either the service or emergency door. A seat cushion must not be used as the cover.

Subp. 2. **Option.** In place of the container required in subpart 1, an overhead storage compartment may be placed in the front of the cab for storage of emergency equipment and labeled as the location of this equipment. It must be properly secured.

3520.5490 SUNSHIELD.

An interior, adjustable transparent sunshield not less than 6 by 30 inches in size with a finished edge must be installed in a position convenient for use by the driver.

3520.5500 TAILPIPE.

Subpart 1. **Tailpipe.** The tailpipe must extend to the body perimeter and must extend no more than one-half inch beyond the rear bumper. See part 3520.4550.

Subp. 2. **Trailer hitch.** The trailer hitch, if used, must be of a flush mounted type and must not extend beyond the rear bumper when not in use.

3520.5510 UNDERCOATING.

Subpart 1. **Required.** The entire underside of the bus body, including floor sections, cross members, and below floor line side panels, must be coated with a rust-proofing compound for which the compound manufacturer has issued notarized certification of compliance to the bus body builder that the compound meets or exceeds all performance requirements of Federal Specification TT-C-520a using modified test procedures for the following requirements:

A. salt spray resistance - pass test modified to five

percent salt and 1,000 hours;

B. abrasion resistance - pass; and

C. fire resistance - pass.

Subp. 2. **Modified test procedures.** Test panels are to be prepared in accordance with Federal Specification TT-C-520a paragraph 4 6.12 with a modified procedure requiring that tests be made on a 48-hour air cured film at thickness recommended by the compound manufacturer.

The undercoating compound must be applied with suitable airless or conventional spray equipment to recommended film thickness and must show no evidence of voids in cured film.

3520.5520 VENTILATION.

Subpart 1. **General requirement.** The body must be equipped with a suitable, controlled ventilating system of sufficient capacity to maintain proper quantity of air under operating conditions without opening of windows except in extremely warm weather.

If static-type exhaust roof ventilators are desired, they must be installed in a low-pressure area of the roof panel.

Subp. 2. **Option.** In addition to the ventilation equipment required in subpart 1, the body may be equipped with multi-position roof ventilators of sufficient number and capacity to maintain proper quantity of air under normal operating conditions without opening of windows except in extremely warm weather.

Subp. 3. **Exhaust vent.** Roof ventilators may include a leak resistance static-type exhaust vent as an integral part of the design.

Subp. 4. **Rear roof ventilator.** The rear roof ventilator must not be installed beyond the rear axle.

Roof ventilators may also include auxiliary release handles to permit operation as emergency exits in compliance with Federal Motor Vehicle Safety Standard Number 217, Code of Federal Regulations, title 49, part 571.

Exit release handles, if used, must be equipped with an

electric plunger-type switch connected with a buzzer located in the driver's compartment to indicate when the exit is opened.

3520.5531 WHEEL HOUSING.

Wheel house openings must allow for easy tire removal and service.

Wheel housings must be attached to floor sheets so as to prevent any dust, water, or fumes from entering the body.

The wheel housing must be constructed of 16-gauge steel or other material of equal strength.

The inside height of the wheel housings above floor line must not exceed 12 inches.

Wheel housings must provide clearance for dual installation and use of tire chains on dual drive wheels.

No part of a raised wheel housing may extend into the emergency door opening.

3520.5551 WINDSHIELD AND WINDOWS.

Subpart 1. **Glazing.** Laminated or tempered glass is permitted in all side windows. Windshield, entrance, and rear emergency exit doors must be of approved safety glass and be federally approved and marked as provided in Minnesota Statutes, section 169.74.

Subp. 2. **Tint.** The windshield may be of uniform tint throughout or may have a horizontal gradient band starting slightly above the line of the driver's vision and gradually decreasing in light transmission to 20 percent or less at the top of the windshield.

Subp. 3. **Side and rear windows.** The first two sections of the side windows, rear door, and rear windows must be of clear glass. The use of approved tinted glass is permitted on other side windows.

Each full side window must provide an unobstructed emergency opening at least nine inches high and 22 inches wide, obtained by lowering of the window.

3520.5560 WINDSHIELD WASHERS.

A windshield washer system must be provided.

3520.5570 WINDSHIELD WIPERS.

A windshield wiping system, two-speed or more, must be provided.

The wipers must be operated by one or more air or electric motors of sufficient power to operate wipers. If one motor is used, the wipers must work in tandem to give full sweep of the windshield.

3520.5580 WIRING.

Subpart 1. **Standard.** All wiring must conform to the current standards of the Society of Automotive Engineers.

Subp. 2. **Circuits.** Wiring must be arranged in at least eight regular circuits, as follows: head, tail, stop (brake), and instrument panel lamps; clearance lamps; dome and step-well lamps; starter motor; ignition and emergency door signal; turn signal lamps; alternately flashing red signal lamps; and horn.

Any of the circuits may be subdivided into additional independent circuits.

If heaters and defrosters are used, at least one additional circuit must be installed.

If installed, all other electrical functions must be provided with independent and properly protected circuits.

Each body circuit must be coded by number or letter on a diagram of circuits. The diagrams must be furnished with the bus body.

Subp. 2a. **Additional requirements.** If wires pass through metal openings, they must be protected by a grommet.

Wires not enclosed within the body must be fastened securely at intervals of not more than 18 inches. All joints must be soldered or joined by equally effective connectors.

The entire electrical system of the body must be designed for the same voltage as the chassis on which the body is mounted.

All wiring must have an amperage capacity equal to or exceeding the designed load. All wiring splices are to be done at an accessible location and noted as splices on the wiring

diagram.

The body power wire must be attached to the special terminal on the chassis.

Subp. 3. [See Repealer.]

3520.5600 TYPE II SCHOOL BUSES.

The standards in part 3520.5611 apply to Type II school buses.

3520.5611 EQUIPMENT.

Subpart 1. **Standards.** All related equipment provided on Type II school buses must comply with Type I school bus equipment standards except as specified in this part.

Subp. 2. **Age of bus.** Type II buses have no maximum age limit and may continue to transport school children as long as the bus passes inspection.

Subp. 3. **Alternator.** The alternator must be a minimum of 60 amperes (12 volts). When the bus is equipped with a power lift, at least an 80-ampere alternator is required.

Subp. 4. **Battery.** The battery must provide a minimum of 475 cold cranking amperes (CCA).

Subp. 5. **Bumpers.** Bumpers must meet manufacturer's standards.

Subp. 6. **Color.** The color must comply with Type I school bus equipment standards except that only two rub rails must be painted black.

Subp. 7. **Defrosters.** Defrosters of sufficient capacity to clear the windshield, window to the left of the driver, and glass in the entrance door of condensation, ice, and snow must be provided. Defrosters must conform to Society of Automotive Engineers Standards J-381 and 382. Auxiliary fans with metal blades and adequate guards may be used.

Subp. 8. **Door.** The entrance door must be under the control of the driver, and designed to afford easy release and prevent accidental opening. The door opening must provide a minimum opening area of 1,200 square inches.

Subp. 9. **Emergency door.** The emergency door must comply

with Type I school bus equipment standards except that the emergency door may be a double door.

Subp. 10. **Exhaust system.** The exhaust system must meet the manufacturer's standard and is not required to extend out the rear. It must have an exit point behind the rear wheels. The exhaust system on a gas-powered chassis must be properly insulated from fuel tank connections by a securely attached metal shield at any point where it is 12 inches or less from tank or tank connections.

Subp. 11. **First aid kit.** The bus must carry a removable Grade A metal, or other material of equal strength, dust-proof first aid kit, mounted in full view or in a labeled accessible place in the driver's compartment. Required units and required packages per unit first aid kit is to include: ten units for Type II vehicles of 16 or less capacity; and 24 units for Type II buses with passenger capacity in excess of 16.

Subp. 12. **Floor.** The floor must be of prime commercial quality steel or other metal and must be covered with a minimum one-half inch thick exterior type plywood.

Subp. 13. **Fuel tanks.** Tank size and location may be manufacturer's standard and must conform with Federal Motor Vehicle Safety Standard Number 301, Code of Federal Regulations, title 49, part 571.

Subp. 14. **Glazing.** Laminated or tempered glass is permitted in all side windows except that windshield, entrance, and rear emergency exit doors must be of approved safety glass and be federally approved and marked.

The use of approved tinted glass is permitted.

Subp. 15. **Headroom.** The bus must provide at least a minimum 62-inch headroom, measured from metal floor to center line of metal roof.

Subp. 16. **Heater.** The heater must comply with Type I school bus minimum standards except that the opening for supplying hot water must be suitable for attaching a pipe thread/hose connector. The heater shut-off valve does not have to be located in the driver's compartment.

Subp. 17. **Lamps and signals.** An eight-lamp alternately flashing warning signal system must be installed and operate in conformance with Type I buses.

All lamps on the exterior of the vehicle must conform with and be installed as required by Federal Motor Vehicle Safety Standard Number 108, Code of Federal Regulations, title 49, part 571.

Subp. 18. **Metal treatment.** Type II school buses do not have to comply with Type I school bus equipment standards for metal treatment.

Subp. 19. **Mirrors.** The mirrors must comply with Type I school bus equipment standards except that the interior clear view mirror must only be at least six inches by 16 inches overall.

The area of each exterior clear view mirror must be not less than 50 square inches overall.

Subp. 20. **Rub rails.** There must be one rub rail located on each side of the bus approximately at seat level which must extend from the rear side of the entrance door to the rear corner of the bus body.

There must be one rub rail located approximately at the floor line which must cover the same longitudinal area as the upper rub rail, except at the wheel housings, and must extend to the right and left rear corners.

All rub rails must be attached in conformance with federal standards.

All rub rails must be four inches or more in width, must be of 16-gauge steel, and must be constructed in corrugated or ribbed fashion.

Pressed-in or snap-on rails do not satisfy this requirement.

Additional rub rails may be used.

Subp. 21. **Seat belt; driver.** The bus must have a seat belt and shoulder harness for the driver that comply with Federal Motor Vehicle Safety Standard Numbers 208, 209, and 210, Code of Federal Regulations, title 49, part 571.

Subp. 22. **Seats and barriers.** School bus seating provided

must be based on 13-inch rump room for each passenger. All seats must face forward, except variations may be made to accommodate handicapped students. Seats and seat back cushions must be covered with a material having 42-ounce finished weight, 54 inches width, and finished vinyl coating of 1.06 broken twill, or other material with equal tensile strength, tear strength, seam strength, adhesion strength, resistance to abrasion, resistance to cold, and flex separation. All seats and seat belts must conform to Federal Motor Vehicle Safety Standard Number 222, Code of Federal Regulations, title 49, part 571.

A school bus of 10,000 pounds gross vehicle weight or less must be equipped with a barrier or padded stanchion on the right side forward of the foremost seat.

Subp. 23. **Shock absorbers.** Type II school buses must be equipped with front and rear shock absorbers that comply with manufacturer's standard.

Subp. 24. **Steps.** The step or steps must comply with Type I school bus equipment standards except that Type II school buses with cab doors do not have to have the step or steps enclosed. The first step at the service door must not be less than ten inches and not more than 18 inches from the ground.

Subp. 25. **Sunshield.** Type II school buses do not have to comply with Type I school bus equipment standards for sunshields. A standard manufacturer's sunshield must be provided for the driver.

Subp. 26. **Undercoating.** Type II buses, except for the heat shield area, must be undercoated.

Subp. 27. **Ventilation.** If any ventilation is provided, it must comply with Type I school bus equipment standards.

Subp. 28. **Wheel housing.** The wheel housing must meet the manufacturer's standard.

Subp. 29. **Wheels.** Type II school buses may be equipped with either single or dual rear wheels.

Subp. 30. **Windows.** The windows must comply with Type I school bus equipment standards except that all windows may have

approved tinted glass.

3520.5700 TYPE III SCHOOL BUSES.

The standards in part 3520.5710 apply to Type III school buses.

3520.5710 EQUIPMENT.

Subpart 1. **Standards.** All related equipment provided on the vehicle must comply with federal motor vehicle safety standards where applicable. If no federal standard applies, equipment must be manufacturer's standard.

Subp. 1a. **Age of vehicle.** Vehicles ten years or older must not be used as Type III vehicles to transport school children, except those vehicles that are manufactured to meet the structural requirements of Federal Motor Vehicle Safety Standard 222, Code of Federal Regulations, title 49, part 571, for Type II school buses.

Subp. 2. **Color.** Vehicles must be painted a color other than National School Bus Yellow or Minnesota Golden Orange.

Subp. 2a. **Fire extinguisher.** A minimum of one 2-1/2 pound dry chemical type fire extinguisher, with not less than a 10-B-C rating, is required. It must be approved by Underwriters Laboratories, Inc. or an equivalent testing laboratory.

The extinguisher must be mounted in a bracket, and must be located in the driver's compartment and be readily accessible to the driver and passengers. A pressure indicator is required and must be easily read without removing the extinguisher from its mounted position.

Subp. 2b. **First aid kit.** A minimum of a ten unit first aid kit is required. The bus must have a removable, moisture- and dust-proof first aid kit mounted in an accessible place within the driver's compartment and must be marked to indicate its location.

Subp. 3. **Identification.** The vehicle must not have the words "School Bus" in any location on the exterior of the vehicle, or in any interior location visible to a motorist.

The vehicle must display to the rear of the vehicle this

sign: "VEHICLE STOPS AT RR CROSSINGS."

The lettering (except for "AT," which may be one inch smaller) must be a minimum two-inch "Series D" as specified in Standard Alphabets for Highway Signs as specified by the Federal Highway Administration. The printing must be in a color giving a marked contrast with that of the part of the vehicle on which it is placed.

The sign must have provisions for being covered, or be of a removable or fold down type.

Subp. 4. **Lamps and signals.** Installation and use of the eight-lamp warning system is prohibited.

All lamps on the exterior of the vehicle must conform with and be installed as required by Federal Motor Vehicle Safety Standard 108, Code of Federal Regulations, title 49, part 571.

Subp. 5. **Stop signal arm.** Installation and use of a stop signal arm is prohibited.

Subp. 6. **Mirrors.** The interior clear rearview mirror must afford a good view of pupils and roadway to the rear.

Two exterior clear rearview mirrors must be provided, one to the left and one to the right of the driver.

Each mirror must be firmly supported and adjustable to give the driver clear view past the left rear and the right rear of the bus.

Subp. 7. **Warning device.** A Type III bus must contain at least three red reflectorized triangle road warning devices. Fuses may also be used. Liquid burning "pot type" flares are not allowed.

Subp. 8. **Emergency doors.** The doors on Type III buses must remain unlocked when carrying passengers.

Subp. 9. **Option.** Passenger cars and station wagons may carry fire extinguisher, first aid kit, and warning triangles in the trunk or trunk area of the vehicle, if a label in the driver and front passenger area clearly indicates the location of these items.

3520.5900 CONSTRUCTION OF VEHICLES FOR CHILDREN WITH MOBILITY

PROBLEMS.

Subpart 1. **Standards.** The standards in this part apply to vehicles constructed to transport children with mobility problems so severe as to prohibit them from using the regular service door entrance. Vehicles constructed for transporting these children must meet all federal and Minnesota school bus construction standards.

Subp. 2. **Alteration of vehicle.** The interior of the vehicle may be altered if all seats and barriers, component parts, anchorages, wheelchair securement devices, and placement of seats and barriers and wheelchair securement devices comply with federal standards as of the date of manufacture. All equipment must be supplied by the original component equipment manufacturer or authorized dealer, be installed according to the original equipment manufacturer's specification, and must meet state specifications. Alterations that remove all wheelchair securement devices that return the vehicle to conventional passenger seating must also make the power lift and special service door inoperable.

Subp. 3. **Power lift or ramp.** A school bus purchased specifically or partially for the transportation of these children must be equipped with a power lift or ramp located on the right side of the bus body.

Subp. 4. **Seating capacity.** A statement of the actual seating capacity, excluding wheelchairs, following the modification of a vehicle, must be placed above the windshield on the interior of the body.

Subp. 5. **Special service opening.** An enclosed service opening must be located on the right side of the body. The door opening must be not less than 38 inches wide and 52 inches high.

Subp. 6. **Reinforcement.** Door posts, headers, and all floor sections around the special opening must be reinforced to provide strength and support equal to adjacent side wall and floor construction of an unaltered model.

Subp. 7. **Drip mold.** A drip mold must be installed above the opening so as to effectively channel the water away from the

entrance.

Subp. 8. **Header pad.** A header pad, at least three inches wide, extending the width of the special service door, must be placed above the opening on the inside of the bus or on the lift if it has a top cross bar.

Subp. 9. **Special service door enclosure.** The lift may be enclosed by either one or two doors. All doors must open outwardly.

Subp. 10. **Two-panel door.** If the door is made of two panels, the standards in this subpart apply.

A. The forward panel must be provided with an overlapping flange to close the space where the door panels meet, and a weather seal must be provided around the doors or opening to eliminate water leakage or heat loss.

B. Each door must have a safety glass window, set in rubber and aligned with the lower line of the adjacent sash. The window must be, as nearly as practical, of the same size as other bus windows.

C. Each door panel must open outwardly and a positive fastening device must be installed to hold the doors in an open position.

Subp. 11. **One-piece construction door.** If the door is made of one-piece construction, the standards in this subpart apply.

A. The door must open outwardly and a positive fastening device must be installed to securely hold the door in an open position.

B. The door must be equipped with a slide-bar, cam-operated type locking device.

C. Weather stripping must be installed around the entire door or opening to eliminate water leakage or heat loss.

D. The door must have a safety glass window, set in rubber and aligned with the lower line of the adjacent sash. The window must be, as nearly as practical, of the same size as other bus windows.

Subp. 12. **Door equipment.** The door must be equipped with

a device that actuates a flashing visible signal, located in the driver's compartment, when the door is not securely closed, and the emergency brake is not on. An audible signal must not be used.

Subp. 13. **Door construction.** All doors must be constructed to meet the standards in law, in strength and materials for other school bus doors.

Subp. 14. **Power lift.** The power lift must be of at least a 750 pound capacity rating and capable of lifting the wheelchair, occupant, and attendant.

Subp. 15. **Power lift controls.** All power lift controls must be portable and conveniently located on the inside of the bus lift door. A master cut-off switch must be located in the driver's compartment.

Subp. 16. **Power lift platform.** The power lift platform must be covered with skid-resistant material or be so designed so as to prevent slipping. The lift platform must be constructed to permit vision through that portion of the platform covering the window of the special service door when the platform is in the "up" position. The power lift must be designed so that the lift does not operate unless the special service door is opened.

Subp. 17. **Ramp.** A self-adjusting ramp made of steel or equivalent material, if needed, must be attached to the lift platform or to the bus and be of sufficient length to minimize the incline. The ramp must be equipped with skid-resistant surface. The ramp must be in a secured position while the bus is in motion. The ramp must be of sufficient width on the surface to accommodate a standard wheelchair.

Subp. 18. **Barriers.** A padded crash barrier meeting federal manufacturing requirements for school bus seats and crash barriers must be properly installed between the special service door and passenger seats to the rear of the door.

In vehicles of 10,000 pounds gross vehicle weight rating and less, padded stanchions may be used.

Subp. 19. **Elevator-type lift.** In the event that an

elevator-type lift is used with the body floor section serving as lift platform, both the forward and rear sides of the platform must be protected with crash barriers extending from the wall of the body toward the aisle. A covered chain must be fastened to the rear barrier adjacent to the lift platform, and must extend across the platform opening and attach with hook and eye to the forward barrier adjacent to the lift platform.

Subp. 20. **Wheelchair securement devices.** Wheelchair securement devices must be as provided by Minnesota Statutes, section 299A.11.

Subp. 21. **Special student restraining devices.** Special restraining devices such as shoulder harnesses, lap belts, and chest restraint systems may be installed to the seats if the devices do not require the alteration in any form of the seat, seat cushion, framework, or related seat components. The restraints must be for the sole purpose of restraining handicapped students.

Subp. 22. **Seats.** All seats and related components shall comply with applicable federal standards on date of manufacture. Seat frames may be equipped by the school bus body manufacturer with rings or other devices to which passenger restraint systems may be attached if seat anchorages can handle the increased load demands that may occur.

3520.5910 MOTOR COACH USED FOR SCHOOL ACTIVITIES.

Subpart 1. **Definitions.** A motor coach owned by a school district or an area vocational technical institute is a bus that has been designed or used for intercity transit or charter service. The motor coach must have a capacity of 20 or more persons.

A motor coach used for school activities must comply with this part and must have been acquired before March 26, 1986.

A school activity is any activity involving students under the sponsorship of a school district.

Subp. 2. **Standards.** Equipment standards for motor coaches must conform to the Federal Motor Carrier Safety Regulations,

Code of Federal Regulations, title 49.

Relevant standards are in chapter III, subpart D, sections 393.61, 393.62, and 393.63; subpart E, section 393.67; subpart G, sections 393.78, 393.79, 393.80, 393.81, 393.82, 393.83, 393.84, 393.89, 393.90, 393.91, 393.92, and 393.93; and subpart H, section 393.95.

Subp. 3. **Identification.** Motor coaches must not be outwardly equipped and identified as a school bus and must be identified as provided in Minnesota Statutes, section 168.012.

Subp. 4. **Inspection.** Motor coaches must be inspected annually by the Minnesota State Patrol using vehicle standards for motor carriers in Minnesota Statutes, section 221.031, subdivision 1.

Subp. 5. **Certification.** Upon passing an annual inspection, a motor coach will be issued a motor carrier safety sticker.

3520.5920 OPERATION OF MOTOR COACHES USED FOR SCHOOL ACTIVITIES.

Subpart 1. **Comply with this part.** A driver of a motor coach used for school activities must have the qualifications referred to in subpart 2 and follow the rules referred to in subpart 3.

Subp. 2. **Driver qualifications.** The driver of a motor coach operating within Minnesota must have a minimum Class B driver license with a school bus endorsement.

Subp. 3. **Driving rules.** The driver must comply with the rules for driving of motor coaches in chapter III, part 392 of the Federal Motor Carrier Safety Regulations, Code of Federal Regulations, title 49.

Subp. 4. **Operation.** A motor coach must not be used for activities that are eligible for state transportation aid.

A motor coach must not be leased to another entity.

REPEALER. Minnesota Rules, parts 3520.0500; 3520.0700; 3520.0800; 3520.0900; 3520.1100; 3520.1700; 3520.1900; 3520.2000; 3520.2100; 3520.2200; 3520.2300; 3520.3700, subparts

2 and 3; 3520.3800; 3520.4000; 3520.4100, subpart 4; 3520.4200; 3520.4210; 3520.4220; 3520.4230; 3520.4240; 3520.4250; 3520.4260; 3520.4300; 3520.4510, subparts 1 and 2; 3520.4520; 3520.4530; 3520.4580; 3520.4600, subparts 2, 3, 4, and 5; 3520.4610, subparts 3 and 4; 3520.4660; 3520.4690; 3520.4700; 3520.4710; 3520.4730; 3520.4740; 3520.4760; 3520.4770; 3520.4800; 3520.4810; 3520.4820; 3520.4830; 3520.4850, subparts 2 and 4; 3520.4860; 3520.4870; 3520.4900, subparts 1, 2, 3, 4, 5, 8, 9, and 10; 3520.4920; 3520.4940; 3520.4950; 3520.4960; 3520.4970; 3520.4990; 3520.5020; 3520.5100; 3520.5110; 3520.5130; 3520.5140; 3520.5150; 3520.5170; 3520.5200, subpart 5; 3520.5210; 3520.5300, subpart 2; 3520.5320; 3520.5350; 3520.5360; 3520.5400; 3520.5410; 3520.5420; 3520.5430; 3520.5440; 3520.5450, subpart 2; 3520.5460; 3520.5470; 3520.5480; 3520.5530; 3520.5540; 3520.5550; 3520.5580, subpart 3; 3520.5610; and 3520.5800 are repealed.

STATE OF MINNESOTA
DEPARTMENT OF STATE
FILED

JAN 4 1989

Joan Anderson Growe
Secretary of State

2:40 PM

APPROVED AS TO FORM AND LEGALITY
December 27, 1988
HUBERT H. HUMPHREY, III
ATTORNEY GENERAL
BY M J Cassedy
SPECIAL ASSISTANT ATTORNEY GENERAL

Department of Education

Proposed Permanent Rules Relating to School Buses

Rules as Proposed

3520.0200 APPLICATION AND CLAIM FOR TRANSPORTATION AID.

Subpart 1. **Deadline.** A district making application for aid for transportation or board and lodging under Minnesota Statutes, sections ~~124.222 and~~ 124.223 and 124.225 shall report to the State Department of Education and all claims submitted shall be postmarked not later than ~~July 31~~ August 15 after the close of the school term for which aid is claimed in order to qualify for final payment at the regular time.

Subp. 2. **Frequency of reports.** For each fiscal year ending June 30, each district shall file a report pursuant to subpart 1. This report and the year-end reports required in subpart 1 shall provide the pupil counts on which the ~~following September, December, and March payments of 30 percent~~ aid will be paid.

3520.0300 AID LIMITATION.

Transportation aid will be paid for the transportation of each eligible resident pupil for one round trip per day to the classified school attended. ~~Transportation aid for any eligible pupils will be granted on the authority of only one clause of Minnesota Statutes, section 124.223, clauses (1), (2), (4), and (5).~~

3520.0400 ~~ELIGIBLE PUPILS, RESIDENT PUPILS~~ TRANSPORTATION DATA REPORTING REQUIREMENTS.

~~Resident pupils.~~

~~A.~~ Subpart 1. **Regular category.** ~~Any~~ An elementary or secondary pupil for which a school district is entitled to transportation aid under ~~the provisions of~~ Minnesota Statutes, sections 124.223 ~~and 124.32, subdivision 6. Each eligible pupil transported pursuant to Minnesota Statutes, section 124.223,~~

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~~clause (1),~~ ~~to be included for transportation aid, shall reside a walking distance of one mile or more from the school building attended or which could be attended, but in the case of a nonpublic school only to the extent permitted by Minnesota Statutes, sections 123.76 to 123.79 with respect to nonpublic school pupils~~, clauses (1) and (2), must be transported 20 or more days to be eligible for state aid. A kindergarten pupil attending full-day, every-other day classes must be transported ten or more days to be eligible for state aid. A district shall report annual mileage for regular category transportation.

~~B. Any secondary pupil or an area vocational technical school pupil, who is a resident of a district not maintaining a secondary school or area vocational technical school or vocational classes and is transported to a district having a classified secondary or area vocational technical school or vocational classes at the expense of the resident district.~~

~~C. Any pupil transported to and from an instructional community based employment station which is part of an approved occupational experience secondary vocational program, subject to such budget limitations as are imposed by current legislation.~~

~~D. Any pupil enrolled on a shared time basis in an educational program approved by the commissioner, for which transportation is provided from one educational facility to another within the district, subject to such budget limitations as are imposed by current legislation.~~

Subp. 2. **Other authorized categories.** A district that transports pupils under Minnesota Statutes, sections 123.223, clauses (1) and (3) to (10), and 275.125, subdivision 5d, must report the number of pupils transported. Annual mileage must be reported only when separate routes are set up to provide this transportation.

Subp. 3. **Other unauthorized categories.** A district that transports pupils in categories that are not authorized for transportation aid must furnish information on students transported and mileage as requested on the annual

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transportation report.

Subp. 4. **Other transportation data.** A district shall furnish information on vehicle ownership, fuel consumption, and other data as requested on the annual transportation report.

Subp. 5. **Duplication of pupil counts.** A district must not report a pupil in more than one to-and-from-school category. These categories are: regular, handicapped, secondary one-to-two-miles, traffic hazards, and ineligible.

3520.1000 TRANSPORTATION AND BOARD AND LODGING CONTRACTS.

The school board shall enter into written contracts for the transportation ~~and/or~~ and board and lodging of its resident pupils ~~and-such-contracts-shall-be-approved-by-the-commissioner-of-education-within-ten-days-after-the-written-contract-is-negotiated~~. (See part 3525.1200)

3520.1200 COMMISSIONER'S RULES, TRANSPORTATION CONTRACTS.

The board of any school district ~~contracting~~ may contract with another district, private contract hauler, or parent for the transportation of its resident pupils ~~shall-submit-its-written-contract(s)-in-duplicate-to-the-commissioner-of-education-within-ten-days-after-the-written-contract-is-negotiated,-but-not-later-than-the-first-day-of-the-school-period-for-which-the-contract-is-made~~.

Transportation contracts ~~shall~~ should include at least the following specific items:

A. the correct names of the contracting parties;

B. date the contract begins and date the contract ends;

C. kind of transportation equipment to be used;

D. total amount to be paid during the school year or base per pupil rate;

E. when and how payments are to be made;

F. minimum number of pupils to be transported; and

G. special terms to be mentioned:

(1) holidays, specific dates;

(2) vacations, beginning and ending dates;

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(3) conditions governing bus route changes;

(4) how new and additional pupils will be provided for;

(5) how extracurricular and other special trips are to be provided and paid for;

(6) how adjustments and refunds are to be handled;

(7) kinds and amounts of insurance to be carried and special coverage;

(8) a statement that the local board shall approve any and all school bus routes, drivers, and alternate drivers; and

(9) how contracts may be terminated.

3520.1800 TRANSPORTATION OF NONRESIDENT PUPILS.

~~Each~~ A school district ~~wishing to~~ may transport nonresident pupils on district-owned and -operated buses ~~and~~ or on privately owned and operated buses contracted for by the school board of the district ~~shall make written application to the State Board of Education for permission to do so. Permission to transport nonresident pupils may be granted to school districts by the State Board of Education provided:~~

~~A.~~ ~~that.~~ The equipment ~~is~~ must not be required for the transportation of resident pupils ~~and that.~~ There ~~is~~ must be available seating space in the bus ~~to accommodate~~ for the nonresident pupils~~; and~~.

~~B.~~ ~~that~~ The routes ~~are~~ must be within the area of the secondary school to be served and ~~are~~ must be approved by the State Board of Education.

RULES, OPERATION OF SCHOOL BUSES AND PUPIL TRANSPORTATION SAFETY EDUCATION PROGRAM

3520.2400 OPERATION OF TYPE I AND TYPE II SCHOOL BUSES ~~CARRYING MORE THAN 16 PUPIL PASSENGERS~~.

Subpart 1. **Application of rules.** The operating rules ~~stated~~ in parts 3520.2400 to 3520.2900 shall govern the operation of Type I and Type II school buses used for the transportation of school children when owned and operated by a

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school district or privately owned and operated under a contract with a school district.

Subp. 2. **Transportation of pupils.** Only pupils assigned to the school bus by the school board or designated administrative officer of the school district shall be transported at district expense.

Pupils are not to be evicted from the bus along the route for a breach of discipline. All breaches of discipline shall be reported by the bus driver to the administrative officer.

The entrance door shall be closed at all times when transporting pupils and the bus is in motion.

All buses shall load and unload in the right lane of the roadway, at ~~pupil's~~ pupil stops on bus routes approved by the administrative officer. Loading or unloading in a designated turn lane or in a lane immediately adjacent to a designated turn lane is prohibited.

There shall be no pupils in the bus while the gas tank is being filled. On leaving the vehicle when pupils are in the bus, the driver shall stop the motor, remove the ignition key, set the brakes, and otherwise render the bus immobile.

The administrative officer shall see that no materials, including guns, loaded or unloaded; gasoline cans, empty or full; animals; or any other object of a dangerous or objectionable nature are transported in the school bus when children are being transported.

~~No school bus shall pull any trailer when children are being transported to or from school or on extracurricular trips.~~

Subp. 3. **Driving on school grounds.** Buses shall not be run backwards on the school grounds or at any other point if it can be avoided. If it is necessary to run a bus backwards, the driver ~~shall~~ should have ~~another responsible person act as a guard or flagman in back of the bus to keep other persons out of the path and to issue warnings to the drivers of approaching vehicles~~ adequate visibility to determine if any moving vehicles are within 500 feet in either direction, when on roadways. When there is a pupil pick-up or unloading at a backing point, the

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driver shall always load before backing and unload after backing. No pupils should be outside the bus when it is backing.

Subp. 4. **In case of accidents.** In case of an accident or breakdown of the bus the driver shall not leave the bus but send two of the patrol or other responsible pupils to the nearest house to summon help.

Immediate reports of all accidents, however slight, involving the school bus shall be made by the driver to the administrative officer and to such other authorities as required by law, rule, or regulation. The driver shall prepare and keep all records and reports required by the administrative officer.

3520.3000 OPERATION OF TYPE III SCHOOL BUSES ~~CARRYING 16 OR LESS PUPIL PASSENGERS~~. (INCLUDES AUTOMOBILES, STATION WAGONS, AND OTHER VEHICLES DESIGNED FOR CARRYING NINE OR ~~LESS~~ FEWER.)

Subpart 1. **Application.** The operating rules ~~stated~~ in parts 3520.3000 to 3520.3200 shall govern the operation of Type III school buses used for the transportation of school children when owned and operated by a school district or privately owned and operated under a contract with a school district.

Subp. 2. **Transportation of pupils.** Only pupils assigned to the vehicle by the school board or designated administrative officer of the school district shall be transported at district expense.

3520.3680 INCORPORATIONS BY REFERENCE.

Part or all of the documents and standards referred to in this part are incorporated by reference in chapter 3520. The documents are subject to frequent change and are conveniently available to the public through the Minitex interlibrary loan system. The latest edition available at the time the amendments to chapter 3520 are proposed is cited. Unless a later rulemaking by the Department of Education specifically restricts application of material incorporated by reference to a specific edition, later editions are incorporated by reference as they are published and made conveniently available to the public.

National Minimum Standards for School Buses and

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Operations, 1985 Revised Edition, National Safety Council, 444 North Michigan Avenue, Chicago, IL 60611.

SBMI School Bus Design Objectives, January 1985, School Bus Manufacturers Institute, 4907 Cordell Avenue, Bethesda, MD 20814.

Standard for Safety for Dry Chemical Fire Extinguishers ANSI-UL 299-1984, Approved March 2, 1984, American National Standard/Underwriter Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL 60062.

School Bus Warning Lamps - SAE J887, May 1982, Society of Automotive Engineers Standards, 400 Commonwealth Drive, Warrendale, PA 15096.

Standard Method of Salt Spray (706) Testing - Designation B117-85, American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

Windshield Defrosting Systems Test Procedure - Trucks, Buses, and Multipurpose Vehicles - SAE J381 and SAE J382, June 1984, Society of Automotive Engineers Standards.

Standard for the Storage and Handling of Liquefied Petroleum Gases NFPA58, 1986 Edition, National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

School Bus Stop Arm - Recommended Practice - SAE J1133, April 1984, Society of Automotive Engineers Standards.

Windshield Defrosting Systems Performance Guidelines - Trucks, Buses, and Multipurpose Vehicles - Recommended Practice - SAE J382, October 1984, Society of Automotive Engineers Standards.

Turn Signal Lamps for Use on Motor Vehicles Less Than 2032 MM in Overall Width - SAE J588, November 1984 and SAE J5881, Society of Automotive Engineers Standards.

Manual on Uniform Traffic Control Devices for Streets and Highways, 1987, Federal Highway Administration, 400 7th S.W., Washington, D.C. 20590.

United States Standard Alphabets for Highway Signs, Series B and Series D, Federal Highway Administration.

Federal Specification TT-C-520B, Coating Compound,

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Bituminous Solvent Type Underbody (for Motor Vehicles), General Services Administration, Specification and Consumer Information, Distribution Center, Washington Navy Yard, Building 197, Washington, D.C. 20407.

Product Standard PS 1-83, Construction and Industrial Plywood, United States Department of Commerce, National Bureau of Standards, Washington, D.C. 20234.

3520.3700 DESIGN OF SCHOOL TRANSPORTATION EQUIPMENT STANDARDS.

Subpart 1. **General.** The design and color of school buses~~, and all other vehicles~~ used in the transportation of ~~public~~ school children to and from school or to and from school-related activities, whether owned and operated by a school or school district or privately owned and operated under a contract with a school or school district, shall ensure safe and economical transportation of pupils at all times and shall ~~reasonably~~ conform to the minimum standards for design of school buses as established by the State Board of Education and ~~as stated in the following rules~~ shall comply with applicable federal standards. These are minimum standards and may be exceeded if exceeding them does not conflict with federal standards, state laws, or rules.

Subp. 2. [See Repealer.]

Subp. 2a. **Variances.** The commissioner of the Department of Education, after consulting with the commissioner of the Department of Public Safety, may grant a variance to any of the standards to accommodate testing of new equipment related to school buses. The variance must not conflict with Minnesota Statutes, federal laws, or Federal Motor Vehicle Safety Standards.

A variance from the standards must be for the sole purpose of testing and evaluating for increased safety, efficiency, and economy of pupil transportation. The variance expires 12 months from the date of its granting by the commissioner unless the commissioner specifies an earlier expiration date.

The commissioner upon granting a variance must furnish the

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commissioner of the Department of Public Safety and the requesting operator with a written copy of the variance specifying the conditions imposed on the testing.

The commissioner shall also provide a copy of the variance in writing to all contract operators and school districts.

The commissioner may grant up to one 12-month extension on a variance.

Annually by June 30, the commissioner will review all variances for adoption into the minimum standards.

Subp. 3. [See Repealer.]

3520.3701 VEHICLE DESCRIPTIONS.

Subpart 1. **Type I.** A Type I school bus means a school bus of more than 10,000 pounds gross vehicle weight rating, designed for carrying more than ten persons. A Type I school bus may be either a conventional or forward control bus.

Subp. 2. **Type II.** A Type II school bus is a bus with a gross vehicle weight rating of 10,000 pounds or less, designed for carrying more than ten persons. It must be outwardly equipped and identified as a school bus. It need not comply with Type I standards unless specified in part 3520.5611.

Subp. 3. **Type III.** A Type III school bus is restricted to a passenger car, station wagon, van, or bus with a maximum manufacturer's rated seating capacity of ten persons including the driver, and with a gross vehicle weight rating of 10,000 pounds or less. A "gross vehicle weight rating" or "GVWR" means the value specified by the manufacturer as the loaded weight of a single vehicle. Actual gross vehicle weight must not exceed the manufacturer's gross vehicle weight rating.

A Type III school bus must not in any way be outwardly equipped and identified as a school bus and must not operate as a Type I or Type II bus and need not conform to standards for Type I or Type II buses.

Subp. 4. **Standards are for new buses.** The minimum standards apply to new school buses purchased for use in Minnesota after the effective date of these standards. Buses

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complying with these standards when purchased new for use in Minnesota need not comply with standards established later except as specifically provided by law.

Subp. 5. **Used buses.** A used school bus purchased for use in Minnesota that has a current or expired Minnesota inspection sticker must conform to the Minnesota minimum standards in effect on the date the vehicle was purchased new. A used school bus that has never been inspected in Minnesota must conform to current Minnesota minimum standards.

Subp. 6. **"MN" designation.** School bus bodies manufactured after January 1, 1986, and used on the streets and highways in this state must bear the designation "MN" in the body identification number. The manufacturer of the school bus body certifies by the "MN" designation that the bus body has been manufactured to meet the minimum standards required of school bus bodies. A school bus body manufactured before January 1, 1986, that does not bear a current inspection sticker, must not be used on the streets and highways in the state unless its manufacturer recertifies that the school bus body meets the minimum standards required of school bus bodies by law. Recertification must be made on a form provided by the Minnesota Department of Public Safety.

Automobiles, station wagons, and vans manufactured in a single stage are exempt from the requirements of this subpart.

Subp. 7. **Inspection.** Pursuant to Minnesota Statutes, section 169.451, school bus inspection procedures that indicate specific criteria and tolerances for each standard must be promulgated by the state patrol.

Subp. 8. **Interpretation.** The commissioner of the department of education and the commissioner of the department of public safety shall confer on interpretations and clarifications of rules.

Subp. 9. **Restructured defined.** "Restructured" means a vehicle produced by a chassis manufacturer which is converted into a school bus by a second manufacturer and upon completion shall meet or exceed the static load test code for school bus

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body structure.

Subp. 10. **No depreciation; exception.** A new bus body may be remounted on a chassis that is not more than three years old. Permission must be obtained from the commissioner of education in coordination with the commissioner of public safety before the remounting is done. A used bus body must not be remounted on a new or used chassis.

3520.3801 TYPE I CHASSIS.

The standards in parts 3520.3900 to 3520.4761 apply to Type I bus chassis.

3520.3802 COMPLIANCE.

Compliance with these standards is the responsibility of the chassis manufacturer.

3520.3900 AIR CLEANER.

~~Bus shall be equipped with adequate oil bath or dry element type air cleaner mounted outside passenger compartment~~ The engine intake air cleaner shall be furnished and properly installed by the chassis manufacturer to meet engine specifications.

3520.4001 AXLES.

The front and rear axles, including the suspension assembly, must have a gross weight rating at ground at least equal to that portion of the load imposed by the chassis manufacturer's maximum gross vehicle weight rating.

3520.4100 BATTERY.

Subpart 1. **General requirement.** The storage battery, as established by the manufacturer's rating, ~~shall~~ must be of sufficient capacity to care for starting, lighting, signal devices, heating, and other electrical equipment in Minnesota. ~~No bus shall be equipped with a battery system of less than 150 ampere hours at 12 volts, measured at 20 hour rate. (Negative ground system only.)~~

A. In a bus with a gas-powered chassis, the battery

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or batteries must provide a minimum of 800 cold cranking amperes.

B. In a bus with a diesel-powered chassis, the battery or batteries must provide a minimum of 1,070 cold cranking amperes.

Subp. 2. ~~Option~~ **Options.** The following battery systems are optional.

A. A battery ~~system of~~ providing at least ~~90 ampere hours~~ 550 cold cranking amperes may be installed in the engine compartment ~~and shall be~~ if used only in combination with a generator or alternator of at least 120 amperes. ~~(See chassis, part 3520.4610, subpart 2.)~~

B. A bus with a gross vehicle weight rating (GVWR) of more than 10,000 pounds, but not over 15,000 pounds GVWR may be equipped with a battery to provide a minimum of 475 cold cranking amperes (CCA) if used only in combination with an alternator of at least 80 amperes. This option does not apply to those buses with wheelchair lifts.

Subp. 3. **Mounting of battery.** When a battery is to be mounted ~~outside of engine compartment, it may be temporarily mounted to chassis. Body company will permanently mount battery~~ on a sliding tray ~~located so that center line of battery is 52 inches back of cowl. One piece, one gauge battery cables shall be~~ rather than the standard installation provided by the chassis manufacturer, ~~such cables to be at least 36 inches longer than normally required, to accommodate battery when located 52 inches to rear of cowl~~ the battery must be temporarily mounted on the chassis frame by the chassis manufacturer. The final location of the battery and the appropriate cable lengths shall agree with the SBMI Design Objectives, January 1985 Edition.

Subp. 4. [See Repealer.]

3520.4201 BRAKES.

Subpart 1. **Adequate to control, stop, and hold.** A school bus must have brakes adequate to control the movement of, and to stop and hold the bus.

Subp. 2. **Federal brake standards.** A school bus must meet

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federal brake standards in effect at the time of manufacture and must include a service brake, a parking brake, and an emergency brake system.

Subp. 3. **Emergency brake system.** A school bus must have either:

A. emergency features in the service brake system; or

B. a system separate from the service brake system.

Subp. 4. **Control.** A control by which the driver applies the emergency brake system must be located so that the driver can readily operate it while being properly restrained by a seat belt assembly provided for the driver's use. The control for applying the emergency brake system may be combined with either the control for applying the service brake system or the control for applying the parking brake system. All three controls must not be combined.

Subp. 5. **Interconnected systems.** If the brake systems specified in subpart 2 are interconnected, they must be designed, constructed, and maintained so that if part of the operating mechanism of one or more of the systems fails, the vehicle will have operative brakes capable of performing as specified in Federal Motor Vehicle Safety Standard Number 105, Code of Federal Regulations, title 49, part 571.

Subp. 6. **Brake tubing and hose.** The brake tubing and brake hose must conform to Federal Motor Vehicle Safety Standard Number 106, Code of Federal Regulations, title 49, part 571.

Subp. 7. **Brake lining.** The brake lining on a school bus must be constructed and installed to avoid excessive fading and grabbing. The brake lining must be adequate in thickness, means of attachment, and physical characteristics to provide for safe and reliable stopping of the motor vehicle.

Subp. 8. **Reservoirs required.** A school bus using air or vacuum for braking must be equipped with reserve capacity or a reservoir sufficient to ensure a full service brake application with the engine stopped without depleting the air pressure or vacuum below 70 percent of that pressure or degree of vacuum indicated by the gauge immediately before the brake application

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is made. For purposes of this subpart, a full service brake application is made when the service brake pedal is pushed to the limit of its travel.

Subp. 9. **Warning devices and gauges.** A school bus must be equipped with a signal that provides a warning to the driver when a failure occurs in the vehicle's brake system.

A. Buses having service brakes activated by hydraulic fluid must be equipped with a warning signal that conforms to Federal Motor Vehicle Safety Standard Number 105, Code of Federal Regulations, title 49, part 571.

B. Buses having service brakes activated by air pressure must be equipped with warning devices that conform with Federal Motor Vehicle Safety Standard Number 121, Code of Federal Regulations, title 49, part 571.

C. Buses having service brakes activated by vacuum must be equipped with a device that provides a readily audible or visible continuous warning to the driver whenever the vacuum in the vehicle's supply reservoir is less than eight inches of mercury and with a vacuum gauge that indicates to the driver the vacuum in inches of mercury available for braking.

Subp. 10. **Air or vacuum applied or assisted.** A bus having a braking system in which hydraulically activated service brakes are applied or assisted by compressed air or vacuum must be equipped with both a warning signal that conforms to the requirements of subpart 9, item A and a warning device that conforms to the requirements of subpart 9, item B or C.

3520.4301 FRONT BUMPER.

The front bumper must be furnished by the chassis manufacturer as part of the chassis. The front bumper must extend beyond the forwardmost part of the body, grille, hood, and fenders and must extend to the outer edges of the fenders at the bumper top line. The front bumper, except the breakaway bumper ends, must be of sufficient strength to permit pushing a vehicle of equal gross vehicle weight without permanent distortion to the bumper, bumper braces, chassis, or body.

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3520.4400 CERTIFICATION.

The chassis ~~manufacturer shall~~ distributor or dealer, on request, must certify to the State Department of Education that ~~their~~ its product meets minimum ~~standard on the following items: --axles, -brakes, -exhaust system noise level, -horn, -power and gradeability, -springs, -complete electrical system~~ standards on items not covered by certification issued under the requirements of the National Traffic and Motor Vehicle Safety Act, United States Code, title 49, section 571.

3520.4500 CLUTCH.

~~All chassis of 48 to 60 pupil capacity having mechanical type transmission shall be equipped with clutch of 12 inch minimum diameter. --Chassis of 66 and greater pupil capacity having mechanical type transmission shall be equipped with clutch of 13 inch minimum diameter or clutch of equivalent performance~~ Clutch torque capacity must be at least equal to engine torque output.

3520.4510 COLOR.

Subpart 1. and 2. [See Repealer.]

Subp. 3. **New buses.** ~~(Manufactured after June 1, 1973. See Minnesota Statutes, section 169.44, subdivision 7.)~~ The chassis including front bumper and wheels ~~shall~~ must be painted glossy black, ~~color 17038,~~ the hood and cowl ~~shall~~ must be painted National School Bus ~~Glossy~~ Yellow, ~~color 13432,~~ except that the hood ~~shall~~ may be either ~~that color~~ lusterless yellow or lusterless black, ~~color 37038~~.

Subp. 4. ~~Option on new buses~~ Color options. ~~Options:~~ Items A to C list color options for specific parts of a school bus.

A. Front fenders may be painted glossy yellow or glossy black.

B. The following may be other than yellow or black: wheel rims; chassis grills; mirror backs, rims, and mounting brackets; reflector housings; window frames; accessories and

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other minor trim items. ~~See body, part 3520.4900.~~

C. ~~The use of~~ Silver, black, or yellow retroflective material may be used on the front bumper for increased night visibility.

3520.4531 DRIVE SHAFT.

The drive shaft must be protected by adequate metal guard or guards to prevent it from whipping through the floor or dropping to the ground if broken.

3520.4540 ELECTRICAL SYSTEM.

Subpart 1. **Battery.** ~~Battery:~~ See chassis, part 3520.4100; and body, part 3520.4820.

Subp. 2. **Generator.** ~~Generator or alternator:~~ See chassis, part 3520.4610.

Subp. 3. **Lamp and signals.** ~~Lamp and signals:~~ See body, parts 3520.5200 to 3520.5230.

Subp. 4. **Wiring.** ~~Wiring:~~ See body, part 3520.5580.

Subp. 5. **Electrical terminal.** The chassis manufacturer ~~shall~~ must install a readily accessible electrical terminal so that the body and chassis electrical load ~~can~~ may be recorded through a chassis ammeter without dismantling or disassembling the chassis component. The chassis wiring system to the terminal ~~shall~~ must have a minimum of 100-ampere capacity. The chassis ammeter and wiring ~~shall~~ must be compatible with the generating capacity, and the ammeter ~~shall~~ must be capable of recording a continuous draw of 100 amperes.

Subp. 5a. **Option.** A voltmeter may be used in place of an ammeter.

Subp. 6. **Wiring codes, colors, diagram.** ~~A complete and readable wiring diagram shall be furnished with each bus~~ All wiring must use a standard color or number coding and each chassis must be delivered with a wiring diagram that coincides with the wiring of the chassis.

3520.4550 EXHAUST SYSTEM.

Subpart 1. **General.** The exhaust pipe muffler and tailpipe

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~~shall~~ must be outside the bus body and attached to the chassis with adequate hangers of sufficient strength to maintain the position of the exhaust system under all normal operating conditions. The tailpipe ~~shall~~ must be constructed of seamless or electrically welded tubing of 16-gauge steel or its equivalent and ~~shall~~ must extend at least five inches beyond the chassis frame ~~(~~but should not go beyond the rear bumper~~)~~. See body, part 3520.5500. The size of the tailpipe ~~shall~~ must not be reduced after it leaves the muffler.

Subp. 2. **Exception.** The exhaust system on vehicles designed for the transportation of special education pupils may be routed to the left of the right frame rail to allow for the installation of a lift on the right side of the vehicle.

Subp. 3. **Insulation.** The exhaust system ~~shall~~ on a gas-powered chassis must be properly insulated from fuel tank and tank connections by a securely attached metal shield at any point where ~~it~~ the exhaust system is within 12 inches ~~or less from~~ of the tank or tank connections. ~~Noise level shall not exceed 125 sones as measured by Beranek Armour ATA Equivalent Tone Method.~~

Subp. 4. **Corrosion-resistant.** The muffler ~~shall~~ must be constructed of corrosion-resistant material.

Subp. 5. **Option; Type I school buses.** Left side exhaust systems are allowed on Type I school buses but must conform to the following requirements:

A. The exhaust system pipe must be of nonflexible, one-piece pipe and be a minimum of 16 gauge steel or its equivalent. Diesel buses may use flex pipe on crossover pipes.

B. The exhaust system pipe must extend a minimum of 18 inches straight rearward from the muffler before a maximum bend of 45 degrees is made in the pipe. More than one bend may be made to attain a 45-degree maximum bend.

C. The exhaust system may extend to a maximum of one inch beyond the body skirt.

D. The end of the exhaust pipe must be cut smooth.

E. An exhaust system that has its exit point behind

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the rear wheels need not comply with the 45-degree bend requirement.

3520.4560 FENDERS, FRONT.

Subpart 1. **General requirements.** The total spread of the outer edges of the front fenders, measured at the fender line, ~~shall~~ must exceed the total spread of the front tires when the front wheels are in the straight ahead position. The front fenders ~~shall~~ must be properly braced ~~and free from any body attachment~~.

~~Chassis sheet metal shall not extend beyond rear face of cowl.~~

Subp. 2. **Exception ~~for transit and metropolitan vehicles~~.** The standard in subpart 1 does not apply to forward control buses.

3520.4570 FRAME.

The frame or its equivalent ~~shall~~ must be ~~of such design~~ as designed to correspond at least to standard practice for trucks ~~of~~ that have the same general load characteristics ~~which~~ and that are used for ~~severe~~ highway service. ~~When frame side members are used they shall be of one piece construction. If frame side members are extended, such extension shall be designed and furnished by chassis or body manufacturer with his guarantee, and installation shall be made by either chassis or body manufacturer and guaranteed by company making installation~~ Any person or secondary manufacturer that modifies the original chassis frame shall guarantee the performance of workmanship and materials resulting from the modification. Any frame modification must not be for the purpose of extending the wheelbase. Extensions of frame lengths are permissible only when such alterations are behind the rear hanger of the rear spring ~~and shall not be for purpose of extending wheelbase~~ or in front of the front spring hanger. Holes in top or bottom flanges of the frame side rail ~~shall~~ must not be permitted except as provided in the original chassis frame. There ~~shall~~ must be no welding to frame side rails except ~~by chassis or body~~

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manufacturer as provided above. Welding for installation of the trailer hitch is permissible. Frame lengths shall be provided in accordance with School Bus Manufacturers Institute design objectives.

3520.4600 FUEL TANK.

Subpart 1. **Capacity of 30 gallons.** The fuel tank ~~shall have~~ or tanks having a minimum capacity of 30 gallons, must be ~~made of 16 gauge terneplate or equivalent, and be mounted directly on right side of chassis frame entirely outside body~~ provided by the chassis manufacturer.

~~Flexible gasoline and oil proof connection shall be provided at engine end of fuel feed line.~~

~~Tank shall be equipped with adequate baffles.~~

~~Engine supply line shall be taken from top of tank.~~

~~Drain plug of at least one fourth inch diameter shall be located in center of bottom of tank.~~

~~Fill pipe cap shall be of such design as to minimize spillage of fuel when bus turns corners in either direction. If venting of fuel tank is done other than through fill pipe cap, cap shall be nonvented type~~ The fuel tank must be filled and vented to the outside of the body so that accidental fuel spillage will not drip or drain on any part of the exhaust system.

The portion of the fuel system that is located to the rear of the engine compartment, except the filler tube, must not extend above the top of the chassis frame rail. The fuel lines must be mounted to obtain maximum possible protection from the chassis frame in conformance with Federal Motor Vehicle Safety Standard 301, Code of Federal Regulations, title 49, part 371.

The fuel filter with a replaceable element ~~shall~~ must be installed between the fuel tank and ~~carburetor~~ the engine.

The fuel tank, ~~fittings, or lines shall not extend above top of chassis frame rail~~ must meet the national standards that apply for the type of fuel used.

Subp. 2. to 5. [See Repealer.]

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Subp. 6. **Rear engine powered buses.** In rear engine powered buses, the fuel system must have the fuel tank or tanks located ahead of the engine compartment.

Subp. 7. **Fuel, liquefied petroleum, compressed and liquefied natural gas.** Liquefied petroleum gas (LPG), or compressed or liquefied natural gas installations on school buses must meet National Fire Protection Association Standard Number 58 for "Installation of LP Gas Systems on Vehicles," as adopted by reference in the Minnesota Uniform Fire Code.

A school bus powered by liquefied petroleum or natural gas, or compressed liquefied natural gas must display markings as required by Minnesota Statutes, section 169.762 and parts 7510.4500 to 7510.4900.

3520.4610 GENERATOR OR ALTERNATOR.

Subpart 1. **Output requirement.** The generator or alternator (negative ground only) with rectifier ~~shall~~ must have an output of at least 100 amperes (in accordance with Society of Automotive Engineers rating) with a minimum charging of 30 amperes at the manufacturer's recommended engine idle speed (12-volt system) and ~~shall~~ must be ventilated and voltage-controlled and, if necessary, current-controlled. A matched dual belt drive ~~shall~~ must be used with the generator or alternator. A single belt, with longitudinal multigrooves, may be used in place of a dual belt drive. A heavy-duty full transistorized regulator ~~with adjustable voltage shall~~ must be supplied. A direct-drive generator or alternator may be used in place of a belt drive.

Subp. 2. ~~**Option**~~ **More output if small battery.** When a battery or batteries of less than ~~150 ampere-hours~~ 800 cold cranking amperes (CCA) is installed in the engine compartment, the generator or alternator ~~shall~~ must have an output of at least 120 amperes. (See ~~chassis,~~ part 3520.4100, subpart 2.)

Subp. 3. and 4. [See Repealer.]

Subp. 5. **Option; some Type I buses.** Type I buses with a gross vehicle weight rating of 15,000 pounds or less may be

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equipped with a single belt drive alternator.

3520.4620 GOVERNOR.

Subpart 1. **Permissible.** An engine governor is permissible and ~~where~~ if used ~~shall~~ must be set at the manufacturer's recommended maximum engine speed. ~~When~~ If it is desired to limit road speed, a road speed governor should be installed.

Subp. 2. **Exception ~~for transit and metropolitan vehicles.~~** ~~When~~ If the engine is remotely located from the driver, the governor ~~shall~~ must be installed to limit engine speed to maximum revolutions per minute recommended by the engine manufacturer, or a tachometer ~~shall~~ must be installed so engine speed may be known to the driver.

3520.4630 HEATING SYSTEM.

The chassis engine ~~shall provide inlet and outlet holes in accessible locations for attachment of bus heating system water lines. Also see body, part 3520.5150~~ must have plugged openings for the purpose of supplying hot water for the bus heating system. The opening must be suitable for attaching a 3/4-inch pipe thread/hose connector. The engine must be capable of supplying water having a temperature of at least 170 degrees Fahrenheit at a flow rate of 50 pounds per minute at the return end of 30 feet of one inch inside diameter automotive hot water heater hose. See also School Bus Manufacturers Institute Standard Number 001-Standard Code for Testing and Rating Automotive Bus Hot Water Heating and Ventilating Equipment.

3520.4640 HORN.

~~Bus shall be equipped with dual horns of standard make, each horn capable of producing complex sound in band of audio frequencies between approximately 250 and 2,000 cycles per second and each having a total sound level of 110 decibels within these frequency limits when measured at point on axis of horn three feet from exit of horn.~~

~~Sound level measurements shall be made with meter that complies with American Standard Z24.3 1944, or current revision~~

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~~thereof,-as-promulgated-by-American-Standards-Association,-Inc.~~ ~~Measurement-shall-be-made-with-meter-set-to-flat-response-(C weighting-network).~~

~~Sound-level-measurements-shall-be-made-with-horn-or-horns installed-on-bus.--There-shall-be-no-reflecting-walls-or obstacles-other-than-ground-and-vehicle-closer-than-100-feet from-horn-during-sound-level-measurement~~ The bus must be equipped with a horn in good working order and capable of emitting sound audible under normal conditions from a distance of not less than 200 feet.

3520.4650 INSTRUMENTS AND INSTRUMENT PANEL.

Subpart 1. **Requirements.** The chassis ~~shall~~ must be equipped with ~~following~~ the instruments and gauges ~~(~~listed in this part. Lights in ~~lieu~~ place of gauges are not ~~acceptable).~~ permitted unless indicated.

A. Speedometer.

B. Odometer ~~which~~ that will give accrued mileage ~~including-tenths-of-miles~~.

C. An ammeter ~~shall-be~~, vane or shunt type, with graduated charge and discharge~~,-both~~. The ammeter and its wiring ~~to~~ must be compatible with the generating capacities and capable of handling a continuous current draw of 100 amperes. A voltmeter may be used in place of an ammeter.

~~D. Voltmeter-with-graduated-scale-(optional-item).~~

~~E.~~ Oil-pressure gauge.

~~F.~~ E. Water-temperature gauge.

~~G.~~ F. Fuel gauge.

~~H.~~ G. Upper-beam headlamp indicator. A light indicator is permitted.

H. Brake indicator (vacuum or air). A light indicator in place of a gauge is permitted on a vehicle equipped with an hydraulic-over-hydraulic brake system.

~~I. Air-pressure-or-vacuum-gauge,-where-air-or-vacuum brakes-are-used,-and-audible-or-visible-low-pressure-indicator to-warn-driver-if-air-pressure-in-air-brake-system-falls-below~~

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~~600-pounds-per-square-inch.--See-chassis,-parts-3520.4200-to 3520.4230,-3520.4240-to-3520.4260.~~

~~J.--Tachometer-(optional)~~ Turn signal indicator lights.

Subp. 2. **Accessibility, mounting, illumination.** All instruments ~~shall~~ must be easily accessible for maintenance and repair.

All instruments and gauges ~~shall~~ must be mounted on the instrument panel ~~in-such-manner~~ so that each is clearly visible to the driver in a normal driving position. The instrument panel ~~shall~~ must have lamps of sufficient candlepower to illuminate all instruments and gauges and the shift selector indicator for the automatic transmission.

3520.4670 OPENINGS.

All openings in the floorboard or the firewall between the chassis and the passenger-carrying compartments, such as for gearshift lever and auxiliary brake lever, ~~shall~~ must be sealed unless they are altered by the body manufacturer. ~~See-parts 3520.4980-and-3520.4990.~~

3520.4680 PASSENGER LOAD ~~FOR-NEW-BUSES-MANUFACTURED-AFTER JANUARY-1,-1975~~.

Subpart 1. **Gross vehicle weight, defined.** Average actual ~~GVW-(gross~~ vehicle weight~~)~~ (GVW) is the sum of ~~average~~ actual chassis weight, plus average body weight, plus 150 pounds for driver's weight, plus total seated pupil weight ~~(based~~ on 120 pounds per pupil~~)~~.

~~Recommended-chassis-manufacturer's-rated-GVW-(gross-vehicle weight)-is-weight-assigned-to-complete-vehicle.--(Weights assigned-for-each-pupil-capacity-classification-are-shown-in table-for-next-topic.--Power-and-gradeability.)~~

~~Manufacturer's-gross-vehicle-weight-rating-shall-be furnished-in-duplicate-(unless-more-copies-are-requested-by State-Department-of-Education)-by-manufacturer-to-the-State Department-of-Education.--State-Department-of-Education-shall, in-turn,-transmit-such-rating-to-each-other-state-agency~~

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~~responsible for development or enforcement of state standards for school buses.~~

Subp. 2. **Gross vehicle weight (GVW) limit.** The actual gross vehicle weight (GVW) must not be more than the chassis manufacturer's gross vehicle weight rating (GVWR) for the chassis.

3520.4701 SHOCK ABSORBERS.

A school bus must be equipped with front and rear double acting shock absorbers compatible with the manufacturer's rated axle capacity at each wheel location.

3520.4711 SPRINGS.

Capacity of springs or suspension assemblies must be commensurate with the chassis manufacturer's gross vehicle weight rating. If rear springs are used on a chassis of 15,000 pounds and over, they must be of the progressive type.

3520.4720 STEERING ~~GEAR~~.

The steering gear ~~shall~~ must be approved by the chassis manufacturer and designed to assure safe and accurate performance when the vehicle is operated with maximum load and at maximum speed. The steering mechanism ~~shall~~ must provide for easy adjustment for lost motion. ~~No~~ Changes ~~shall~~ not approved by the chassis manufacturer must not be made in the steering apparatus ~~which are not approved by chassis manufacturer~~. There ~~shall~~ must be a clearance of at least three inches between the steering wheel and the cowl, instrument panel, windshield, or any other surface. ~~Power steering is permissible if approved by chassis manufacturer~~ The steering system must be designed to provide for means for lubrication of all wear-points, if wear-points are not permanently lubricated. Power steering is required and must be of the integral type with integral valves.

3520.4731 TIRES AND RIMS.

Tires and rims of proper size and tires with a load rating commensurate with the chassis manufacturer's gross vehicle weight rating must be provided.

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Dual rear tires must be provided on Type I school buses.

Tires of different size or ply rating may be used except that all tires on an axle must be the same size. Radial and bias tires must not be used on the same axle. If a spare tire is carried, it must be suitably mounted in an accessible location outside the passenger compartment.

3520.4741 TRANSMISSION.

An automatic transmission is permissible.

If a manual transmission is used, second gear and higher gears must be synchronized except if to do so would be incompatible with engine power. A minimum of three forward speeds and one reverse speed must be provided. The bus transmission shifting pattern must be permanently displayed in the driver's full view.

3520.4750 UNDERCOATING ~~AND/OR RUSTPROOFING~~.

Unless fenders are constructed of a noncorrosion material, the chassis manufacturer ~~shall~~ must coat undersides of front fenders with ~~fire-resistant asphalt base, rubber base, and/or rustproofing, or other undercoating material, applied by spray method, in order to seal, to deaden sound, to insulate, and to prevent oxidation. See also, body, part 3520.5510~~ a compound to prevent rust. The compound must meet or exceed Federal Specifications TT-C-520B using modified test procedures as defined under "Undercoating" of body standards.

3520.4761 WEIGHT DISTRIBUTION.

Weight distribution of a fully loaded bus on a level surface must not exceed the manufacturer's front gross axle weight rating and rear gross axle weight rating.

3520.4801 TYPE I BODY.

The standards in parts 3520.4811 to 3520.5580 apply to Type I bus bodies.

3520.4811 AISLE.

Minimum clearance of all aisles, including the aisle or

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passageway between seats leading to the emergency door, must be 12 inches. See part 3520.5010, subpart 2. Aisle supports of seat backs must be slanted away from the aisle sufficiently to give aisle clearance of 15 inches at the top of the seat backs.

3520.4831 BODY SIZES.

WATCH YOUR WEIGHT

RECOMMENDED BODY - CHASSIS SIZES FOR MINNESOTA SCHOOL BUSES

PASSENGER CAPACITY	WHEELBASE	Items to specify to get proper minimum gross vehicle weights.					GVWR 2/
		FRONT AXLE	REAR AXLE	TIRE SIZE	FRONT GAWR 1/	REAR GAWR 1/	
29	151"	5000# Gas 7500# Diesel *	15000#	8.25 X 20 10 ply	5000# 7500#	14200#	19200# 21700#
35	151-170"	5000# Gas 7500# Diesel *	15000#	8.25 X 20 10 ply	5000# 7500#	14200#	19200# 21700#
41 3/	189-193"	7000# Gas 7500# Diesel *	15000#	8.25 X 20 10 ply	7000# 7500#	14200#	21200# 21700#
47 3/	189-193"	6000# Gas 7500# Diesel *	15000#	8.25 X 20 10 ply	6000# 7500#	14200#	20200# 21700#
53	216-218"	7000# Gas 8000# Diesel *	15000#	8.25 X 20 12 ply	7000# 8000#	15000#	22000# 23000#
59	235-237"	7000# Gas 8000# Diesel *	17000#	9.00 X 20 10 ply	7000# 8000#	16160#	23160# 24160#
65	254-255"	7500# Gas 8000# Diesel *	17500#	9.00 X 20 12 ply	7500# 8000#	17500#	25000# 25500#
71	274-276"	9000# Gas 9000# Diesel	19000#	9.00 X 20 14 ply	9000#	19000#	28000#
77	274-276"	9000# Gas 9000# Diesel	20000#	9.00 X 20 14 ply	9000#	20000#	29000#

* Applies to diesel engines larger than 6.9 liter such as 8.2 and 9 liter and larger.

1/ GAWR (Gross Axle Weight Rating) means the weight carrying capacity of the lightest components of the front or rear axle assembly including axle, tires, wheels, springs, frame, etc.

2/ GVWR (Gross Vehicle Weight Rating) means the total maximum carrying capacity of a bus including body weight; chassis weight, passengers, and fuel. Specify Front GAWR - Rear GAWR and Total GVWR in your bid, using the above chart to properly distribute loaded weights.

3/ The shorter 41 passenger body puts more weight on the front axle than the longer 47 passenger.

A. The above recommendations are designed to allow bidding of various body - chassis combinations and staying within federal weight tolerances.

B. Stock bus bids. Due to the fact that the body - chassis dealers know the exact weight of their units built for stock, axles and tire sizes may be less than those listed above and still be within the federal weight tolerances.

C. The following items add considerable weight and may require heavier axles or longer chassis and body: diesel engines; air brakes; luggage compartments; even size bodies such as 54-60-66 passenger. Uneven sizes as 53-59-65 as listed above are recommended over even sizes as they do not require a wasted nine inch space behind the rear seat.

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3520.4840 BOOK RACKS.

Subpart 1. **Permitted.** Book racks ~~or shelves of any type~~ are ~~prohibited on interior of bus body~~ permitted only in buses with 72-inch or more headroom.

Subp. 2. **Location.** If book racks are permitted, they must be located above the side windows and must not extend forward of the foremost point of the front seat, across or above the emergency door and must not exceed 16 inches in width.

Book racks must have only padded, rounded edges on all surfaces exposed to school bus occupants. Padding must be at least one inch thick. There must be an upward extending edge on the aisle side of the rack that extends half the distance to the ceiling of the bus from the bottom of the rack. A minimum of two racks must have full height dividers above every seat to prevent any book or object from sliding front and back. Each rack must be padded on the aisle side.

3520.4850 BUMPER.

Subpart 1. ~~Chassis~~ Front. See part ~~3520.4300, subpart 1~~ 3520.4301.

Subp. 2. [See Repealer.]

Subp. 3. **Rear.** Rear bumper ~~shall~~ must be of pressed steel channel at least 3/16 inch thick and eight inches wide (high) and be of sufficient strength to permit being pushed by another vehicle without permanent distortion to bumper, bumper braces, chassis, or body. ~~The center point of such bumper shall be not more than 20, nor less than 14 inches from ground when the vehicle is unloaded (Minnesota Statutes, section 169.73).~~ It ~~shall~~ must be wrapped around back corners of the bus. It ~~shall~~ must extend forward at least 12 inches, measured from rearmost point of body at the floor line. The bumper ~~shall~~ must be attached to the chassis frame ~~in such manner~~ so that it may be easily removed, ~~shall~~ must be ~~so~~ braced ~~as~~ to develop full strength of bumper section from rear or side impact, and ~~shall~~ must be ~~so~~ attached ~~as~~ to prevent hitching of rides. The rear bumper ~~shall~~ must extend beyond rearmost part of body surface,

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excluding lights, at least one inch, measured at floor line.

Subp. 4. [See Repealer.]

3520.4900 COLOR.

Subpart 1. to 5. [See Repealer.]

Subp. 6. ~~New buses manufactured after June 1, 1973~~ Body. ~~See Minnesota Statutes, section 169.44, subdivision 7.~~ The body including the hood and the cowl ~~shall~~ must be painted National School Bus ~~Glossy~~ Yellow, ~~color 13432, except that the hood shall be either that color or lusterless black, color 37038.~~

A. Rub rails: a minimum of three ~~shall~~ must be black.

B. Rear bumper, rubber rear fenders (if used), and lettering ~~shall~~ must be black.

C. The belt line may be yellow with black lettering or may be black with yellow lettering. Yellow or black reflectorization may be used.

~~See part 3520.5160 and Minnesota Statutes, section 169.44, subdivision 3.~~

Subp. 7. ~~Option~~ Options. The following color options may be used.

~~Belt line may be yellow with black lettering or may be black with yellow lettering. See part 3520.5160 and Minnesota Statutes, section 169.44, subdivision 3.~~

A. The front fenders may be painted glossy yellow or glossy black.

B. The hood may be lusterless yellow or black.

C. The following may be other than yellow or black: wheel rims; chassis grills; mirror backs, rims, and mounting brackets; reflector housings; window frames; accessories and other minor trim items. See part 3520.4510.

D. The use of yellow or red reflective material may be used on the rear bumper for increased night visibility.

Subp. 8 to 10. [See Repealer.]

3520.4910 CONSTRUCTION.

Construction ~~shall~~ must be of prime commercial quality

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steel or other metal or other material with strength at least equivalent to all-steel as certified by the bus body manufacturer and must conform to Federal Motor Vehicle Safety Standard Number 220, Code of Federal Regulations, title 49, part 571. ~~All such construction materials shall be fire resistant. Construction shall provide reasonably dustproof and watertight unit.~~

3520.4930 FLOOR CONSTRUCTION.

Subpart 1. **Requirements.** The floor ~~shall~~ must be of prime commercial quality steel or other metal of at least 14-gauge ~~or other metal and such~~. The metal floor ~~shall~~ must be covered with plywood. The plywood ~~shall~~ must be five-ply, at least five-eighths inch thick and it ~~shall~~ must equal or exceed properties of exterior-type ~~Douglas fir~~ softwood plywood, grade ~~C-C~~ C-D, as specified in product standard PS 1-83 issued by ~~U.S.~~ the United States Department of Commerce. The floor ~~shall~~ must be level from front to back and from side to side except in wheel housing, toeboard, and driver's seat platform areas.

Subp. 2. **Option.** The underside of the metal floor may be undercoated with polyurethane floor insulation, foamed in place. The polyurethane floor insulation must be combustible resistant. This option does not replace the plywood required in subpart 1.

3520.4980 OPENINGS.

All openings between chassis and passenger-carrying compartment made due to alterations by body manufacturer must be sealed. ~~See part 3520.4670.~~

3520.5000 DEFROSTERS.

Defrosters and two ~~all metal defroster~~ auxiliary fans with metal blades and adequate guards shall be of sufficient capacity to keep the windshield, window to left of driver, and glass in entrance door clear of fog, frost, and snow. This may be done by taking the heat directly from an approved heater or auxiliary heaters. Defrosters must conform to Society of Automotive

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Engineers Standards J-381 and 382.

3520.5010 DOORS.

Subpart 1. **Service door.** The service door ~~shall~~ must be power or manually operated, under control of the driver, and ~~so~~ designed ~~as~~ to afford easy release and prevent accidental opening. ~~When-hand-lever-is-used,-no-parts-shall-come-together so-as-to-shear-or-crush-fingers.~~

The service door ~~shall~~ must be located on the right side of the bus opposite the driver and within ~~his~~ the driver's direct view.

The service door ~~shall~~ must have a minimum horizontal opening of 24 inches and a minimum vertical opening of 68 inches.

The service door ~~shall~~ must be of split type, sedan type, or jackknife type. If a split type door is used the front section ~~shall~~ must open outward.

The lower as well as upper glass panels ~~shall~~ must be of approved safety glass. See part ~~3520.5550~~ 3520.5551. The bottom of the lower glass panel ~~shall~~ must not be more than ~~12~~ 35 inches from ~~bottom of~~ the ~~door~~ ground when the bus is unloaded. The top of the upper glass panel ~~shall~~ must not be more than six inches from the top of the door.

The vertical closing edges ~~shall~~ must be equipped with flexible material to protect children's fingers.

There shall be no door to the left of the driver in the front half of the bus. ~~(This shall not be interpreted to conflict with subpart 2.)~~

Subp. 2. **Emergency door and emergency window.** An emergency door ~~shall~~ must be located in the center of the rear end of the bus or in the rear half of the left side of the bus.

The emergency door ~~shall~~ must have a minimum horizontal opening of 24 inches and a minimum vertical opening of 48 inches measured from floor level.

The emergency door ~~shall~~ must be hinged on the right side if it is in the rear end of the bus and on the front side if it is on the left side of the bus. The door ~~shall~~ must open

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outward and ~~shall~~ must be labeled inside to indicate how it operates.

~~Upper portion of~~ All the glass in the emergency door ~~shall~~ must be ~~equipped with~~ approved safety glass~~,~~. The exposed area of ~~which shall~~ the safety glass must be not less than 400 square inches. See part ~~3520.5550~~ 3520.5551.

There ~~shall~~ must be no steps leading to the emergency door.

~~No~~ A seat or other object ~~shall~~ must not be ~~so~~ placed in the bus to restrict any part of the passageway leading to ~~either rear or left side~~ the emergency door to an opening smaller than a rectangle ~~of~~ 12 inches in width and 48 inches in height, measured from floor level.

The words "EMERGENCY DOOR" or "EMERGENCY EXIT" both inside and outside in letters at least two inches high, ~~shall~~ must be placed at the top of or directly above ~~upper window on~~ the emergency door or on the door in the metal panel above the top glass. ~~New buses purchased after September 1, 1973, words "EMERGENCY EXIT" may be substituted.~~

If the emergency door is located on the left side of the bus~~.~~, it must conform to Federal Motor Vehicle Safety Standard Number 217, Code of Federal Regulations, title 49, part 571, and the window at the rear ~~shall~~ must be designed as an emergency exit and ~~shall~~ must be no smaller than 16 inches in height and 54 inches in width on buses 80 inches or more in width; it ~~shall~~ must be no smaller than 16 inches in height and 49 inches in width on buses less than 80 inches in width. The window ~~shall~~ must be hinged from the top and devised and operated to ensure against an accidental closing in an emergency.

The emergency window in the rear must be equipped with a latch or latches on the inside connected with an electrical buzzer located in the driver's compartment that will go off when the latch is being released.

The emergency window must also be equipped on the outside with a nondetachable fastening device designed to prevent hitching-to, but to permit opening from the outside.

Paneling is required to cover the space between the top of

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the rear divan seat and the inside surface of emergency window at rear.

The words "EMERGENCY EXIT" in letters at least two inches high ~~shall~~ must be placed directly above the emergency window on the inside and directly below ~~it~~ the window on the outside.

The emergency door and emergency window ~~shall~~ must be designed to be opened from the inside and the outside of the bus and ~~shall~~ must be equipped with a fastening device ~~which~~ that may be quickly released but is designed to offer protection against accidental release. ~~Control~~ The opening of the emergency door and window must not be controllable from the driver's seat ~~shall not be permitted~~. ~~Provision~~ The providing for opening from the outside ~~shall~~ must consist of a nondetachable device ~~so~~ designed ~~as~~ to prevent hitching-to but to permit opening when necessary.

The emergency door ~~shall~~ must be equipped with a slide-bar cam-operated lock. The slide bar ~~shall~~ must have a minimum stroke of one inch. The emergency door lock ~~shall~~ must be equipped with a suitable electric plunger type switch connected with a buzzer located in the driver's compartment. The switch ~~shall~~ must be enclosed in a metal case, and the wires leading from the switch ~~shall~~ must be concealed in the bus body. The switch ~~shall~~ must be ~~so~~ installed so that the plunger contacts the farthest edge of the slide bar ~~in such manner that any~~ so that any movement of the slide bar ~~will~~ immediately ~~close~~ closes the circuit on the switch and ~~activate~~ sets off the buzzer.

The emergency door lock ~~shall~~ must be equipped with an interior handle that extends approximately to the center of the emergency door. ~~It~~ The handle shall lift up to release the lock.

~~Emergency window in rear shall be equipped with latch or latches on inside connected with electrical buzzer located in driver's area that will actuate when latch is being released.~~

~~It shall also be equipped on outside with nondetachable fastening device so designed as to prevent hitching to, but permit opening from the outside~~ The service door and the

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emergency door (side or rear) may be equipped with vandal locks if the locks comply with Federal Motor Vehicle Safety Standard Number 217, Code of Federal Regulations, title 49, part 571.

3520.5111 FIRE EXTINGUISHER.

A minimum of one 2-1/2 pound dry chemical type fire extinguisher, with not less than a 10-B-C rating, is required. It must be approved by Underwriters Laboratories, Inc. or an equivalent testing laboratory.

The extinguisher must be mounted in a bracket, located in the driver's compartment and readily accessible to the driver and passengers. A pressure indicator is required and must be easily read without removing the extinguisher from its mounted position.

3520.5120 FIRST AID KIT.

The bus ~~shall~~ must carry a removable Grade A metal, or other material of equal strength, dust-proof first aid kit, mounted in full view or in a labeled accessible place in the driver's compartment.

~~Required~~ The first aid kit must have the following units and ~~required~~ packages per unit ~~first-aid-kit-is-to-have~~:

A. ten units for ~~Type-II-and-Type-III~~ vehicles of 16 or less capacity;

B. 24 units for ~~Type-I~~ buses with passenger capacity in excess of 16 and up to and including 42 passengers; or

C. 36 units for ~~Type-I~~ buses of passenger capacity in excess of 42.

D. The table of required items and packages for items A to C:

Unit Size	Item	Required Packages 10 Unit	24 Unit	36 Unit
1	Compress Bandage, 4 inch	2	6	8
1	Compress Bandage, 2 inch	1	3	7
1	Adhesive Compress, 1 inch	2	2	4
1	Triangular Bandage, 40 inch with 2 safety pins	1	2	4
1	Gauze Bandage, 4 inch	-	2	4
1	Absorbant Gauze Compress	-	2	2
1	Gauze Compress, 24 by 72			

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		inches	1	2	2
	1	Padded Tongue Blades	1	1	1
	2	Adhesive Tape, 1 inch by 2-1/2 yards	± 2	± 2	± 2
	1	Wire Splint	-	2	2

3520.5141 FLOOR COVERING.

The floor in the underseat area, including the tops of wheel housings, driver's compartment, and toeboard, must be covered with rubber floor covering or its equivalent having a minimum overall thickness of 0.125 inch.

The floor covering in the aisle must be of aisle-type rubber or its equivalent, nonskid, wear-resistant, and ribbed. Minimum overall thickness must be 0.187 inch measured from top of ribs.

The floor covering must be permanently bonded to the floor and must not crack if subjected to sudden change in temperature. Bonding or adhesive material must be waterproof and must be of a type recommended by the manufacturer of the floor covering material. All seams must be sealed with waterproof sealer.

3520.5151 HEATERS.

Heaters must be of the hot water or combustion type. If the heater is of the hot water type, the heater system must be equipped with a shutoff valve readily accessible to the driver. If only one heater is used, it must be of fresh air or combination fresh air and recirculating type. If more than one heater is used, the additional heaters may be of recirculating type. Each heater motor must be two speed.

All heaters installed by body manufacturers must bear a name plate that must indicate the heater rating in accordance with SBMI Code 001. The plate must be attached by the heater manufacturer. The attachment certifies that the heater performance is as shown on the plate.

All combustion-type heaters must be approved by the Federal Highway Administration, Motor Carrier Safety Regulations, Code of Federal Regulations, title 49, part 393.77.

If combustion-type heaters are used, they must be installed

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on new buses by body manufacturers and on buses now in operation by authorized dealers or by authorized garages.

Heaters must be capable of maintaining an inside temperature of 50 degrees Fahrenheit at average minimum January temperatures as established by the United States Department of Commerce, Weather Bureau, for the area in which the heater is required.

Heater lines inside the passenger compartment must be guarded to prevent accidental contact by the driver or passengers.

3520.5160 IDENTIFICATION.

Subpart 1. **Requirements.** The body ~~shall~~ must bear the words "SCHOOL BUS" in black letters at least eight inches high on both front and rear of the body or on ~~signs~~ attached signs ~~thereto~~. The lettering ~~shall~~ must be placed as high as possible without impairment of its visibility. The lettering ~~shall~~ must conform to "Series B" of Standard Alphabets for Highway Signs.

Only signs and lettering approved by state law or rule, limited to name of owner or operator and ~~any number necessary for identification shall~~ home post office address, city, or town may appear on the sides of the bus, in accordance with Minnesota Statutes, section 221.031, subdivision 6. ~~See Minnesota Statutes, section 169.44, subdivision 3~~ Any number or symbol necessary for identification may also appear on the sides of the bus.

Subp. 2. **Options.** Symbols or letters may be used on the outside of the bus for student identification. The manufacturer's name or logo may appear on the roof line. A manufacturer's nameplate may be placed on the side of the bus near the entrance door and on the rear.

3520.5171 INSIDE HEIGHT.

Inside body height must provide 72 inches of headroom, measured from the metal floor to the center line of the metal roof.

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3520.5180 INSULATION.

Ceiling and walls ~~shall~~ must be insulated with proper material to deaden sound and to reduce vibrations to a minimum, and ~~shall~~ must be insulated to a minimum of one-inch fiberglass and installed ~~in such a manner~~ so that the insulation does not compact or sag. Thermal insulation ~~shall~~ must be of fire-resistant material of a type approved by Underwriter's Laboratories, Inc.

3520.5190 INTERIOR.

Subpart 1. **Projections.** The interior of the bus ~~shall~~ must be free of all unnecessary projections likely to cause injury. ~~This standard requires~~ Ceilings and walls must have an inner lining ~~on ceilings and walls. Ceilings over aisle shall be free of all projections~~ If the ceiling is constructed so as to contain lapped joints, the forward panel must be lapped by the rear panel and exposed edges must be beaded, hemmed, flanged, or otherwise treated to minimize sharp edges.

Subp. 2. **Speakers.** Interior speakers except in the driver's compartment must not protrude more than one-half inch. A two-way speaker in the driver's compartment need not be flush mounted.

Subp. 3. **Flammability.** Flammability standards of interior materials covered by Federal Motor Vehicle Safety Standard Number 302, Code of Federal Regulations, title 49, part 571 must be met.

3520.5200 LAMPS AND SIGNALS FOR NEW BUSES ONLY.

Subpart 1. ~~**Factory installation**~~ **Compliance required.** ~~Factory~~ Installation of an eight-lamp alternately flashing warning signal system ~~manufactured after the effective date of these rules shall~~ must comply with ~~the following~~ this part.

Subp. 2. **Installation.** All lamps on the exterior of the vehicle ~~shall~~ must conform with and be installed as required by Federal Motor Vehicle Safety Standard Number 108~~; Minnesota Statutes, sections 169.49 to 169.70; and current Minnesota approved motor vehicle equipment (Department of Public Safety)~~,

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Code of Federal Regulations, title 49, part 571.

Subp. 3. **Interior lamps.** Interior lamps ~~shall~~ that adequately illuminate the aisle and the step well must be provided ~~which adequately illuminate aisle and step well~~.

Subp. 4. **Red and amber signal lamps.** ~~School bus alternately flashing signal lamps mounted at same horizontal level, intended to identify vehicle as school bus and to inform other users of highway that such vehicle is about to stop or is stopped on roadway to take on or discharge school children.~~ Each school bus ~~shall~~ must be equipped with a system consisting of four red signal lamps designed to conform to SAE Standard J887. "School Bus Red Signal Lamps," and four amber signal lamps designed to that standard, except for color, and except that their candlepower ~~shall~~ must be at least 2-1/2 times that specified for red signal lamps. Both red and amber signal lamps ~~shall~~ must be installed in accordance with SAE Standard, J887, except that each amber signal lamp ~~shall~~ must be located near each red signal lamp, at the same level, but closer to the vertical centerline of the bus.

Subp. 4a. **Wiring, flashing.** The system ~~shall~~ must be wired so that the amber signal lamps are activated only by hand operation, and if activated, are automatically deactivated and red signal lamps are automatically activated when the bus entrance door is opened. Right and left signal lamps ~~shall~~ must flash alternately. Each signal lamp ~~shall~~ must flash not less than 60 nor more than 120 flashes per minute. The "on" period ~~shall~~ must be long enough to permit bulb filament to come up to full brightness. ~~No~~ A brake-operated switch ~~shall be~~ is not permitted.

There ~~shall~~ must be a red pilot lamp which ~~shall~~ must go on when the respective amber or red systems are actuated. The pilot ~~shall~~ must either go out or flash at an altered rate in the event the system is not functioning normally.

Subp. 5. [See Repealer.]

Subp. 6. **Control box for signal lamps.** The signal lamp system ~~shall~~ must include a ~~separate~~ closed control box. The

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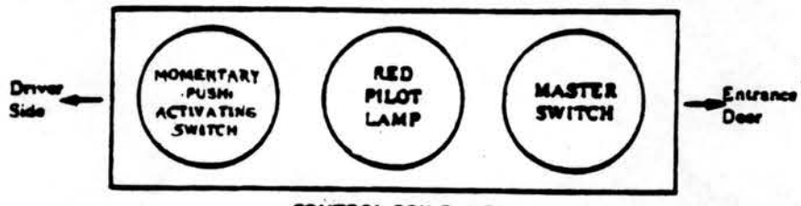
box ~~shall~~ must be ~~constructed~~ as small as practical, easily demounted or partially disassembled to provide simple access for maintenance purposes. The switches and red pilot lamp ~~shall~~ must be located in conformance with the following diagram.



CONTROL BOX PANEL

The control box ~~shall~~ must be securely mounted to the right of the steering wheel, in the near proximity of the entrance door control, within easy unobstructed reach of the driver. Switches and pilot lamp ~~shall~~ must be readily visible to the driver. The activating switch may be self-illuminated (glow type). ~~Buses equipped with an eight lamp system prior to the effective date of these rules shall be exempt from subparts 4, last paragraph, 5, and 6~~ Other warning devices or lamp controls must not be placed near the light lamp control.

Subp. 7. **System and stop arm.** The signal lamp system and stop arm ~~shall~~ must operate as follows:

The stop signal arm ~~shall~~ must be of an automatic type. It ~~shall~~ must automatically extend and retract in conjunction with the alternately flashing red lights and ~~shall~~ must be activated and deactivated by the entrance door switch.

With the master switch on~~,~~ and the entrance door closed, depress hand switch. The red pilot lamp and amber signals ~~shall~~ will go on.

Open the entrance door. The pilot lamp and amber signal lamps ~~shall~~ will go off, and the pilot lamp and red signal lamps ~~shall~~ will go on. The stop arm ~~shall~~ will automatically extend.

Close the entrance door. The red pilot and signal lamps ~~shall~~ will go off and the stop arm ~~shall~~ will automatically retract.

Open the entrance door without depressing the hand switch. The red pilot lamp and red signal lamps ~~shall~~ will go on. The

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stop arm ~~shall~~ will automatically extend.

With the master switch off, depressing the hand switch ~~shall~~ will not actuate the amber signal system, nor will opening the entrance door actuate the red signal system and stop arm.

Subp. 8. **Installation requirements.** Each alternately flashing signal lamp ~~shall~~ must be mounted with its axis substantially parallel to the longitudinal axis of the vehicle.

Front and rear alternately flashing signal lamps ~~shall~~ must be spaced as far apart laterally as practicable.

Alternately flashing signal lamps ~~shall~~ must be mounted at the front on the same horizontal center line and above the windshield, and at the rear on the same horizontal center line so that the lower edge of the lens is not lower than the top line of the side window.

The vertical and lateral vision of the front and rear alternately flashing warning lamps ~~shall~~ must not be obstructed by any part of the body or lamp-house insofar as standard bus body construction ~~will permit~~ permits.

The area around the lens of each alternately flashing signal lamp and extending outward approximately three inches ~~shall~~ must be painted black. In installations where there is no flat vertical portion of body immediately surrounding entire lens of lamp, circular or square band of black approximately three inches wide, immediately below and to both sides of lens, ~~shall~~ must be painted on body or roof area against which signal lamp is seen ~~(from distance of 500 feet along axis of vehicle)~~.

A separate fuse or circuit breaker, adequate to prevent damage to the system in the event of a dead short, ~~shall~~ must be provided between the power source and the master switch.

All wiring ~~from alternately flashing signal lamps to the door switch shall be at least ten gauge. All other wire~~ ~~shall~~ must be a minimum of 14-gauge.

Subp. 9. **Options.** School buses may be equipped with the following safety equipment devices.

A. A driver-activated student control warning system to assist students in crossing roadways. The system must

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contain one high-intensity flashing red signal, an audible warning signal, and one high-intensity steady amber proceed-with-caution signal lamp. Red and amber signal lamps must be at least four inches in diameter and no larger than 4-1/2 inches in diameter.

The control system unit must be installed in a vertical position, with the red signal on the top and the amber signal on the bottom.

(1) One control system unit must be mounted on the left side of the bus next to the driver and one unit must be mounted on the right side just ahead of the entrance door. The units must be wired to be activated and deactivated in conjunction with the eight-lamp and stop arm, and to be controlled by the entrance door switch.

(2) Amber walk lamps of the units must be on a separate on/off switch controlled by the driver, but deactivated when the entrance door is closed.

B. The use of a crossing guard gate mounted on the front bumper to put students in view of the bus driver.

C. The use of an external public address system to assist students in crossing roadways.

D. The use of a roof mounted white double flash strobe light described in Minnesota Statutes, section 169.64, subdivision 7.

E. The use of electronic sensing devices.

3520.5220 TURN SIGNAL LAMPS AND STOP LAMPS.

Subpart 1. **Turn signal lamps.** The school bus ~~**shall be equipped with Class A**~~ must have turn signal ~~**lamps that**~~ indicators of an automatic type. The bus body must be equipped with amber or red rear turn signal lamps that are at least seven inches in diameter and meet ~~**current**~~ specifications of the Society of Automotive Engineers (SAE J588). ~~**These signals**~~ The turn signal lamps must be ~~**independent units and shall be equipped with four-way**~~ connected to the chassis hazard warning switch to cause simultaneous flashing of turn signal lamps when

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needed as a vehicular traffic hazard warning. The turn signal lamps must be placed as wide apart as practical and their center line must be approximately eight inches below the rear windows.

Subp. 2. **Stop lamps.** The school bus must be equipped with red stop lamps. If round, the stop lamps must be seven inches in diameter. If the stop lamps are a shape other than round, they must have a minimum 38 square inches of illuminated area. The stop lamps must be mounted on the rear of the bus just inside the turn signals, at the same height.

The brake lights must be wired to combine stop and tail lights.

Subp. 3. **Federal Motor Vehicle Safety Standard Number 108.** All lamps on the exterior of the vehicle must conform with and be installed as required by Federal Motor Vehicle Safety Standard Number 108, Code of Federal Regulations, title 49, part 571.

3520.5230 ~~FLAGS AND FLARES~~ WARNING DEVICES.

Subpart 1. **Required.** The school bus ~~shall carry at all times at least three red, yellow, or orange flags not less than 12 inches square and means for mounting for use in warning traffic in event of breakdown on the highway.~~

~~Bus shall carry at least three red electric lanterns or at least three emergency reflectors, to be displayed according to state law in event of breakdown on the highway.~~

~~Fuses may also be used (not required). Liquid burning "pot type" flares not allowed.~~

~~Mounted reflectors. See Minnesota Statutes, sections 169.50 and 169.75~~ must contain at least three reflectorized triangle road warning devices mounted in an accessible place in the driver's compartment. The mounting location is optional.

Subp. 2. **Prohibited equipment.** The school bus must not be equipped with liquid burning "pot type" flares or fuses.

3520.5300 METAL TREATMENT.

Subpart 1. **General requirements.** All ferrous metal less than 12-gauge that is used in the construction of the bus body

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~~shall~~ must be zinc or aluminum coated, mill applied~~.--Included are such items as~~ if it is used in structural members, inside and outside panels, floor panels, and floor sills~~;--excluded are~~. The metal need not be zinc or aluminum coated, mill applied if it is used in door handles, grab handles, stanchions, interior decorative parts, and other interior plated parts.

Subp. 1a. **Painted parts.** In addition to the requirement in subpart 1, all metal parts ~~that will~~ to be painted **~~shall~~** must be ~~(in addition to these requirements)~~ chemically cleaned, etched, zinc-phosphate-coated, and zinc-chromate or epoxy-primed or conditioned by an equivalent process.

Subp. 1b. **Particular attention.** In ~~providing for these requirements~~ complying with subparts 1 and 2, particular attention **~~shall~~** must be given to lapped surfaces, welded connections of structural members, cut edges, punches or drilled hole areas in sheet metal, closed or box sections, unvented or undrained areas, and surfaces subjected to abrasion during vehicle operation.

Subp. 2. [See Repealer.]

Subp. 3. **Test standard.** As evidence that the requirements of subparts 1, 1a, and 1b have been met, samples of materials and sections used in the construction of the bus body, when subjected to a 1000-hour salt spray test as provided for in the latest revision of ASTM designation; B-117 "Standard Method of Salt Spray (Fog) Testing" must not lose more than ten percent of material by weight.

3520.5310 MIRRORS.

Subpart 1. **Required equipment.** The interior clear view mirror **~~shall~~** must be at least 6 by 30 inches overall to afford good view of pupils and roadway to rear. If not metal-backed and framed, the mirror **~~shall~~** must be of laminated plate safety glass. It **~~shall~~** must have rounded corners and protected edges.

Two exterior clear-view, rearview mirrors **~~shall~~** must be provided, one to the left and one to the right of the driver. The area of each mirror **~~shall~~** must be not less than ~~50~~ 70

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square inches overall. Each mirror ~~shall~~ must be firmly supported and adjustable to give the driver a clear view past the left rear and right rear of the bus.

~~Option:~~ Subp. 2. **Optional equipment.** Small convex mirrors may be used in conjunction with ~~above~~ the equipment required under subpart 1.

Subp. 3. **Required convex mirrors.** Four exterior convex ~~mirror~~ mirrors at least 7-1/2 inches in diameter ~~shall~~ must be located ~~either~~ as follows: two on the left ~~or~~ and two on the right side of the bus in such a manner that the seated driver may observe, through ~~its~~ their use, areas to front or side of bus where direct observation, as prescribed in Federal Motor Vehicle Safety Standard Number 17, Code of Federal Regulations, title 49, part 571, is not possible. The mirrors must comply with Federal Motor Vehicle Safety Standard Number 111, Code of Federal Regulations, title 49, part 571.

Transit-type buses must have at least three mirrors, two crossover mirrors, one in each corner, and one rearview mirror on the right side.

Subp. 4. **Optional equipment.** Elliptical or hemispherical mirrors may be substituted for the equipment required in subpart 3 on a one-for-one basis if indirect visibility requirements are met.

3520.5330 OVERALL LENGTH.

The overall length of a school bus ~~shall~~ must not exceed 40 feet.

3520.5340 OVERALL WIDTH.

The overall width of a school bus ~~shall~~, excluding mirror brackets and stop arm, must not exceed 96 inches.

3520.5361 RUB RAILS.

There must be one rub rail located on each side of the bus approximately at seat level. The rub rail must extend from the rear side of the entrance door completely around the bus body (except for the emergency door) to the point of curvature near

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the outside cowl on the left side.

There must be one rub rail located approximately at the floor line which must cover the same longitudinal area as the upper rub rail, except at the wheel housings, and must extend only to the radii of the right and left rear corners.

For buses using a rear luggage or rear engine compartment, the rub rails need not extend around rear corners.

There must be a rub rail at the base of the skirt of the bus.

All rub rails must be attached at each body post and all other upright structural members.

All rub rails must be four inches or more in width, must be of 16-gauge steel, and must be constructed in corrugated or ribbed fashion.

All rub rails must be applied outside the body or outside the body posts.

Pressed-in or snap-on rails do not satisfy this requirement.

3520.5370 SANDERS.

~~Where required or~~ Sanders are not required equipment, but if used, sanders ~~shall~~ must:

A. be of hopper cartridge-valve type;

B. have a metal hopper with all interior surfaces treated to prevent condensation of moisture;

C. be of at least 100-pound (grit) capacity;

D. have a cover on the filler opening of the hopper~~,~~ ~~which~~ that screws into place~~,~~ sealing the unit airtight;

E. have discharge tubes extending to the front of each rear wheel under the fender;

F. have no-clogging discharge tubes with slush-proof, nonfreezing rubber nozzles;

G. be operated by an electric switch with a telltale light mounted on the instrument panel;

H. be exclusively driver controlled; and

I. have a gauge to indicate the hoppers need refilling when they are down to one-quarter full.

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3520.5380 SEAT BELT FOR DRIVER.

A seat belt for the driver ~~shall~~ must be provided~~,~~. The belt ~~to~~ and mounting must comply with ~~current specifications and recommended practices of Society of Automotive Engineers except that belt shall be fastened to bus floor immediately behind driver's seat when adjusted to rearmost position. Retractable seat belt to stop at seat level~~ Federal Motor Vehicle Safety Standard Numbers 207 to 210, Code of Federal Regulations, title 49, part 571. Each belt section must be booted so as to keep the buckle and latch off the floor and within easy reach of the driver. The belt must be anchored or guided at the seat frame so as to prevent the driver from sliding sideways under the belt.

3520.5401 SEATS AND CRASH BARRIERS.

The school bus seats must be based on 13-inch rump room for each passenger. All seats must face forward, except that variations may be made to accommodate handicapped students. Seats, seat back cushions, and crash barriers must be covered with a material having 42-ounce finished weight, 54 inches width, and finished vinyl coating of 1.06 broken twill, or other material with equal tensile strength, tear strength, seam strength, adhesion strength, resistance to abrasion, resistance to cold, and flex separation. All seats and crash barriers must conform to Federal Motor Vehicle Safety Standard Number 222, Code of Federal Regulations, title 49, part 571.

3520.5450 STEPS.

Subpart 1. **General requirements.** The first step at the service door ~~shall~~ must be not less than 12 inches and not more than ~~17~~ 18 inches from the ground, based on standard chassis specifications.

The service door entrance may be equipped with two-step or three-step step-well. Risers in each case ~~shall~~ must be approximately equal. When plywood floor is used on steel, differential may be increased by thickness of plywood used.

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Steps ~~shall~~ must be enclosed to prevent accumulation of ice and snow.

Steps ~~shall~~ must not protrude beyond side body line.

Grab handle not less than ten inches in length ~~shall~~ must be provided in unobstructed location inside doorway.

~~Surface of steps shall be of nonskid material.~~

Subp. 2. [See Repealer.]

Subp. 3. **Step treads.** All steps, including the floor line platform area, must be covered with 3/16-inch rubber floor covering or other material equal in wear resistance and abrasion resistance to top grade rubber.

The metal back of the tread must be a minimum of 24-gauge cold roll steel and must be permanently bonded to ribbed rubber. The grooves in the grooved design must run at a 90-degree angle to long dimension of the step tread.

The 3/16-inch ribbed step tread must have a 1-1/2 inch white nosing as an integral piece without any joint.

The rubber portion for the step treads must have the following characteristics:

A. special compounding for good abrasion resistance and a high coefficient of friction;

B. flexibility to be bent around a 1/2-inch mandrel both at 130 degrees Fahrenheit and 20 degrees Fahrenheit without breaking, cracking, or crazing; and

C. show a durometer hardness of 85 to 95.

3520.5461 STIRRUP STEPS.

There must be at least one folding stirrup step or recessed foothold and suitably located handles on each side of the front of the body for easy accessibility for cleaning the windshield and lamps except when the windshield and lamps are easily accessible from the ground. Steps are permitted in or on the front bumper, in place of the stirrup steps, if the windshield and lamps are easily accessible for cleaning from that position.

3520.5471 STOP SIGNAL ARM.

Subpart 1. **The stop signal arm.** The stop signal arm must

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be installed on the left side of the bus and must be octagonal in shape. It must meet the applicable requirements of the Society of Automotive Engineers J1133. The stop signal arm must be of an automatic type. See part 3520.5200.

It shall display a stop signal on both sides, the word "STOP" in white or silver-white letters at least one-third the height of the signal, and have a red background.

The stop arm must be equipped with two alternately flashing double faced (front and rear) red warning signals and must be activated and deactivated by the entrance door switch. The sign need not be reflectorized.

Subp. 2. **The stop signal.** The stop signal must be of the shape, size, legend, and colors specified by the "Manual on Uniform Traffic Control Devices for Streets and Highways," Federal Highway Administration.

The stop signal may be 18 or 24 inches in height.

3520.5481 STORAGE COMPARTMENT.

Subpart 1. **Location, cover.** If tools, tire chains, or tow chains are carried on the bus, a container of adequate strength and capacity must be provided for them. The storage container may be located inside or outside the passenger compartment. If inside, it must have a cover capable of being securely latched and must be fastened to the floor convenient to either the service or emergency door. A seat cushion must not be used as the cover.

Subp. 2. **Option.** In place of the container required in subpart 1, an overhead storage compartment may be placed in the front of the cab for storage of emergency equipment and labeled as the location of this equipment. It must be properly secured.

3520.5490 SUNSHIELD.

An interior, adjustable transparent sunshield not less than 6 by ~~16~~ 30 inches in size ~~shall~~ with a finished edge must be installed ~~above windshield, driver's side, with mounting of double bracketed type~~ in a position convenient for use by the driver.

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3520.5500 TAILPIPE.

Subpart 1. **Tailpipe.** The tailpipe ~~shall not~~ must extend to the body perimeter and must extend no more than one-half inch beyond the rear bumper. See part 3520.4550.

Subp. 2. **Trailer hitch.** The trailer hitch, if used, must be of a flush mounted type and must not extend beyond the rear bumper when not in use.

3520.5510 UNDERCOATING ~~AND RUSTPROOFING~~.

Subpart 1. **Required.** The entire underside of the bus body, including floor ~~members~~ sections, cross members, and below floor line side panels ~~below floor level shall be coated with fire resistant, asphalt base, rubber base, or other undercoating material, applied by spray method, in order to seal, to deaden sound, to insulate, and to prevent oxidation. Undercoating shall be applied after assembly of the body has been completed,~~ must be coated with a rust-proofing compound for which the compound manufacturer has issued notarized certification of compliance to the bus body builder that the compound meets or exceeds all performance requirements of Federal Specification TT-C-520a using modified test procedures for the following requirements:

A. salt spray resistance - pass test modified to five percent salt and 1,000 hours;

B. abrasion resistance - pass; and

C. fire resistance - pass.

Subp. 2. **Modified test procedures.** Test panels are to be prepared in accordance with Federal Specification TT-C-520a paragraph 4 6.12 with a modified procedure requiring that tests be made on a 48-hour air cured film at thickness recommended by the compound manufacturer.

The undercoating compound must be applied with suitable airless or conventional spray equipment to recommended film thickness and must show no evidence of voids in cured film.

3520.5520 VENTILATION.

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Subpart 1. **General requirement.** The body ~~shall~~ must be equipped with a suitable, controlled ventilating system of sufficient capacity to maintain proper quantity of air under operating conditions without opening of windows except in extremely warm weather.

If static-type exhaust roof ventilators are desired, they ~~shall~~ must be installed in a low-pressure area of the roof panel.

Subp. 2. ~~**Exception for small vehicles**~~ **Option.** ~~**Standard does not apply to small vehicles not manufactured specifically as school buses**~~ In addition to the ventilation equipment required in subpart 1, the body may be equipped with multi-position roof ventilators of sufficient number and capacity to maintain proper quantity of air under normal operating conditions without opening of windows except in extremely warm weather.

Subp. 3. **Exhaust vent.** Roof ventilators may include a leak resistance static-type exhaust vent as an integral part of the design.

Subp. 4. **Rear roof ventilator.** The rear roof ventilator must not be installed beyond the rear axle.

Roof ventilators may also include auxiliary release handles to permit operation as emergency exits in compliance with Federal Motor Vehicle Safety Standard Number 217, Code of Federal Regulations, title 49, part 571.

Exit release handles, if used, must be equipped with an electric plunger-type switch connected with a buzzer located in the driver's compartment to indicate when the exit is opened.

3520.5531 WHEEL HOUSING.

Wheel house openings must allow for easy tire removal and service.

Wheel housings must be attached to floor sheets so as to prevent any dust, water, or fumes from entering the body.

The wheel housing must be constructed of 16-gauge steel or other material of equal strength.

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The inside height of the wheel housings above floor line must not exceed 12 inches.

Wheel housings must provide clearance for dual installation and use of tire chains on dual drive wheels.

No part of a raised wheel housing may extend into the emergency door opening.

3520.5551 WINDSHIELD AND WINDOWS.

Subpart 1. **Glazing.** Laminated or tempered glass is permitted in all side windows. Windshield, entrance, and rear emergency exit doors must be of approved safety glass and be federally approved and marked as provided in Minnesota Statutes, section 169.74.

Subp. 2. **Tint.** The windshield may be of uniform tint throughout or may have a horizontal gradient band starting slightly above the line of the driver's vision and gradually decreasing in light transmission to 20 percent or less at the top of the windshield.

Subp. 3. **Side and rear windows.** The first two sections of the side windows, rear door, and rear windows must be of clear glass. The use of approved tinted glass is permitted on other side windows.

Each full side window must provide an unobstructed emergency opening at least nine inches high and 22 inches wide, obtained by lowering of the window.

3520.5560 WINDSHIELD WASHERS.

A windshield ~~washers shall~~ washer system must be ~~optional but, where required, they shall conform to body manufacturer's recommendations as to type and size for bus on which they are to be used~~ provided.

3520.5570 WINDSHIELD WIPERS.

~~Bus shall be equipped with two positive action variable speed, heavy duty bus type, windshield wipers of air or electric type. Wiper blades shall be at least 14 inches long and shall be of the replaceable blade type~~ A windshield wiping

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system, two-speed or more, must be provided.

The wipers must be operated by one or more air or electric motors of sufficient power to operate wipers. If one motor is used, the wipers must work in tandem to give full sweep of the windshield.

3520.5580 WIRING.

Subpart 1. **Standard.** All wiring ~~shall~~ must conform to the current standards of the Society of Automotive Engineers.

Subp. 2. **Circuits.** Wiring ~~shall~~ must be arranged in at least eight regular circuits, as follows: head, tail, stop (brake), and instrument panel lamps; clearance lamps; dome and step-well lamps; starter motor; ignition and emergency door signal; turn signal lamps; alternately flashing red signal lamps; and horn.

Any of the ~~subpart 2 combination~~ circuits may be subdivided into additional independent circuits.

~~Whenever~~ If heaters and defrosters are used, at least one additional circuit ~~shall~~ must be installed.

~~When~~ If installed, all other electrical functions ~~shall~~ must be provided with independent and properly protected circuits.

Each body circuit ~~shall~~ must be ~~individually color~~ coded ~~and~~ by number or letter on a diagram of ~~the~~ circuits ~~shall~~. The diagrams must be ~~attached to the body in a readily accessible location, preferably on cover of fuse panel~~ furnished with the bus body.

~~A separate fuse or circuit breaker shall be provided for each circuit except starter motor and ignition circuits. The fuse panel shall be located next to the circuit switch panel and color coded.~~

~~All wires within body shall be insulated and protected by covering of fibrous loom or approved equal 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 appropriate type of insert shall be~~

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~~provided.~~

Subp. 2a. **Additional requirements.** If wires pass through metal openings, they must be protected by a grommet.

Wires not enclosed within the body ~~shall~~ must be fastened securely at intervals of not more ~~that 24~~ than 18 inches. All joints ~~shall~~ must be soldered or joined by equally effective connectors.

The entire electrical system of the body must be designed for the same voltage as the chassis on which the body is mounted.

All wiring must have an amperage capacity equal to or exceeding the designed load. All wiring splices are to be done at an accessible location and noted as splices on the wiring diagram.

The body power wire must be attached to the special terminal on the chassis.

Subp. 3. [See Repealer.]

3520.5600 TYPE II SCHOOL BUSES.

~~Type II buses carrying 16 or less pupil passengers shall be painted National School Bus Glossy Yellow, identified as a school bus, equipped with eight lamp warning system and stop signal arm, and shall operate as a Type I bus. See Type I, Operating Rules, parts 3520.2400 to 3520.2900.~~

~~Type II vehicles are restricted in size and shall not exceed 16 passengers (rated manufacturer's capacity).~~

~~Automobiles, station wagons, and other vehicles designed for carrying nine or less pupil passengers are Type III buses, and their use is prohibited as a Type I or Type II bus~~ The standards in part 3520.5611 apply to Type II school buses.

3520.5611 EQUIPMENT.

Subpart 1. **Standards.** All related equipment provided on Type II school buses must comply with Type I school bus equipment standards except as specified in this part.

Subp. 2. **Age of bus.** Type II buses have no maximum age limit and may continue to transport school children as long as the bus passes inspection.

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Subp. 3. **Alternator.** The alternator must be a minimum of 60 amperes (12 volts). When the bus is equipped with a power lift, at least an 80-ampere alternator is required.

Subp. 4. **Battery.** The battery must provide a minimum of 475 cold cranking amperes (CCA).

Subp. 5. **Bumpers.** Bumpers must meet manufacturer's standards.

Subp. 6. **Color.** The color must comply with Type I school bus equipment standards except that only two rub rails must be painted black.

Subp. 7. **Defrosters.** Defrosters of sufficient capacity to clear the windshield, window to the left of the driver, and glass in the entrance door of condensation, ice, and snow must be provided. Defrosters must conform to Society of Automotive Engineers Standards J-381 and 382. Auxiliary fans with metal blades and adequate guards may be used.

Subp. 8. **Door.** The entrance door must be under the control of the driver, and designed to afford easy release and prevent accidental opening. The door opening must provide a minimum opening area of 1,200 square inches.

Subp. 9. **Emergency door.** The emergency door must comply with Type I school bus equipment standards except that the emergency door may be a double door.

Subp. 10. **Exhaust system.** The exhaust system must meet the manufacturer's standard and is not required to extend out the rear. It must have an exit point behind the rear wheels. The exhaust system on a gas-powered chassis must be properly insulated from fuel tank connections by a securely attached metal shield at any point where it is 12 inches or less from tank or tank connections.

Subp. 11. **First aid kit.** The bus must carry a removable Grade A metal, or other material of equal strength, dust-proof first aid kit, mounted in full view or in a labeled accessible place in the driver's compartment. Required units and required packages per unit first aid kit is to include: ten units for Type II vehicles of 16 or less capacity; and 24 units for Type

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II buses with passenger capacity in excess of 16.

Subp. 12. **Floor.** The floor must be of prime commercial quality steel or other metal and must be covered with a minimum one-half inch thick exterior type plywood.

Subp. 13. **Fuel tanks.** Tank size and location may be manufacturer's standard and must conform with Federal Motor Vehicle Safety Standard Number 301, Code of Federal Regulations, title 49, part 571.

Subp. 14. **Glazing.** Laminated or tempered glass is permitted in all side windows except that windshield, entrance, and rear emergency exit doors must be of approved safety glass and be federally approved and marked.

The use of approved tinted glass is permitted.

Subp. 15. **Headroom.** The bus must provide at least a minimum 62-inch headroom, measured from metal floor to center line of metal roof.

Subp. 16. **Heater.** The heater must comply with Type I school bus minimum standards except that the opening for supplying hot water must be suitable for attaching a pipe thread/hose connector. The heater shut-off valve does not have to be located in the driver's compartment.

Subp. 17. **Lamps and signals.** An eight-lamp alternately flashing warning signal system must be installed and operate in conformance with Type I buses.

All lamps on the exterior of the vehicle must conform with and be installed as required by Federal Motor Vehicle Safety Standard Number 108, Code of Federal Regulations, title 49, part 571.

Subp. 18. **Metal treatment.** Type II school buses do not have to comply with Type I school bus equipment standards for metal treatment.

Subp. 19. **Mirrors.** The mirrors must comply with Type I school bus equipment standards except that the interior clear view mirror must only be at least six inches by 16 inches overall.

The area of each exterior clear view mirror must be not

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less than 50 square inches overall.

Subp. 20. **Rub rails.** There must be one rub rail located on each side of the bus approximately at seat level which must extend from the rear side of the entrance door to the rear corner of the bus body.

There must be one rub rail located approximately at the floor line which must cover the same longitudinal area as the upper rub rail, except at the wheel housings, and must extend to the right and left rear corners.

All rub rails must be attached in conformance with federal standards.

All rub rails must be four inches or more in width, must be of 16-gauge steel, and must be constructed in corrugated or ribbed fashion.

Pressed-in or snap-on rails do not satisfy this requirement.

Additional rub rails may be used.

Subp. 21. **Seat belt; driver.** The bus must have a seat belt and shoulder harness for the driver that comply with Federal Motor Vehicle Safety Standard Numbers 208, 209, and 210, Code of Federal Regulations, title 49, part 571.

Subp. 22. **Seats and barriers.** School bus seating provided must be based on 13-inch rump room for each passenger. All seats must face forward, except variations may be made to accommodate handicapped students. Seats and seat back cushions must be covered with a material having 42-ounce finished weight, 54 inches width, and finished vinyl coating of 1.06 broken twill, or other material with equal tensile strength, tear strength, seam strength, adhesion strength, resistance to abrasion, resistance to cold, and flex separation. All seats and seat belts must conform to Federal Motor Vehicle Safety Standard Number 222, Code of Federal Regulations, title 49, part 571.

A school bus of 10,000 pounds gross vehicle weight or less must be equipped with a barrier or padded stanchion on the right side forward of the foremost seat.

Subp. 23. **Shock absorbers.** Type II school buses must be

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equipped with front and rear shock absorbers that comply with manufacturer's standard.

Subp. 24. **Steps.** The step or steps must comply with Type I school bus equipment standards except that Type II school buses with cab doors do not have to have the step or steps enclosed. The first step at the service door must not be less than ten inches and not more than 18 inches from the ground.

Subp. 25. **Sunshield.** Type II school buses do not have to comply with Type I school bus equipment standards for sunshields. A standard manufacturer's sunshield must be provided for the driver.

Subp. 26. **Undercoating.** Type II buses, except for the heat shield area, must be undercoated.

Subp. 27. **Ventilation.** If any ventilation is provided, it must comply with Type I school bus equipment standards.

Subp. 28. **Wheel housing.** The wheel housing must meet the manufacturer's standard.

Subp. 29. **Wheels.** Type II school buses may be equipped with either single or dual rear wheels.

Subp. 30. **Windows.** The windows must comply with Type I school bus equipment standards except that all windows may have approved tinted glass.

3520.5700 TYPE III SCHOOL BUSES.

~~Type III buses carrying 16 or less pupil passengers (including automobiles, station wagons, and other vehicles designed for carrying nine or less), shall not be painted school bus color, bear the words "SCHOOL BUS," have the eight lamp warning system or stop signal arm, and shall not operate as a Type I or Type II bus. See Type III buses, parts 3520.3000 to 3520.3200.~~

~~Type III vehicles are restricted in size and shall not exceed 16 passengers (rated manufacturer's capacity)~~ The standards in part 3520.5710 apply to Type III school buses.

3520.5710 EQUIPMENT.

Subpart 1. **Standards.** All related equipment provided on

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the vehicle must comply with federal motor vehicle safety standards where applicable. If no federal standard applies, equipment must be manufacturer's standard.

Subp. 1a. **Age of ~~the bus~~ vehicle.** ~~No Type III vehicle used to transport school children shall be more than ten years old. Every Type III vehicle shall comply with the requirements for Type II buses, parts 3520.5600 and 3520.5610, except for the following~~ Vehicles ten years or older must not be used as Type III vehicles to transport school children, except those vehicles that are manufactured to meet the structural requirements of Federal Motor Vehicle Safety Standard 222, Code of Federal Regulations, title 49, part 571, for Type II school buses.

Subp. 2. **Color.** ~~Shall~~ Vehicles must be painted a color other than National School Bus ~~Glossy~~ Yellow or Minnesota Golden Orange.

~~Exception: Vehicles purchased prior to the effective date of this rule.~~

Subp. 2a. **Fire extinguisher.** A minimum of one 2-1/2 pound dry chemical type fire extinguisher, with not less than a 10-B-C rating, is required. It must be approved by Underwriters Laboratories, Inc. or an equivalent testing laboratory.

The extinguisher must be mounted in a bracket, and must be located in the driver's compartment and be readily accessible to the driver and passengers. A pressure indicator is required and must be easily read without removing the extinguisher from its mounted position.

Subp. 2b. **First aid kit.** A minimum of a ten unit first aid kit is required. The bus must have a removable, moisture- and dust-proof first aid kit mounted in an accessible place within the driver's compartment and must be marked to indicate its location.

Subp. 3. **Identification.** ~~Shall~~ The vehicle must not have the words, "School Bus" in any location on the exterior of the vehicle, or in any interior location visible to a motorist.

~~Shall~~ The vehicle must display to the rear of the vehicle a this sign: "VEHICLE STOPS AT RR CROSSINGS."

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The lettering (except for "AT," which may be one inch smaller) ~~shall~~ must be a minimum two-inch "Series D" as specified in Standard Alphabets for Highway Signs as specified by the Federal Highway Administration. The printing must be in a color giving a marked contrast with that of the part of the vehicle on which it is placed.

The sign ~~shall~~ must have provisions for being covered, or be of a removable or fold down type.

Subp. 4. **Lamps and signals.** Installation and use of the eight-lamp warning system is prohibited.

All lamps on the exterior of the vehicle ~~shall~~ must conform with and be installed as required by Federal Motor Vehicle Safety Standard 108, Code of Federal Regulations, title 49, part 571.

Subp. 5. **Stop signal arm.** Installation and use of a stop signal arm is prohibited.

Subp. 6. **Mirrors.** The interior clear rearview mirror must afford a good view of pupils and roadway to the rear.

Two exterior clear rearview mirrors must be provided, one to the left and one to the right of the driver.

Each mirror must be firmly supported and adjustable to give the driver clear view past the left rear and the right rear of the bus.

Subp. 7. **Warning device.** A Type III bus must contain at least three red reflectorized triangle road warning devices. Fuses may also be used. Liquid burning "pot type" flares are not allowed.

Subp. 8. **Emergency doors.** The doors on Type III buses must remain unlocked when carrying passengers.

Subp. 9. **Option.** Passenger cars and station wagons may carry fire extinguisher, first aid kit, and warning triangles in the trunk or trunk area of the vehicle, if a label in the driver and front passenger area clearly indicates the location of these items.

3520.5900 CONSTRUCTION OF VEHICLES FOR CHILDREN WITH MOBILITY

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PROBLEMS.

Subpart 1. **Standards.** The standards in this part apply to vehicles constructed to transport children with mobility problems so severe as to prohibit them from using the regular service door entrance. Vehicles constructed for transporting these children must meet all federal and Minnesota school bus construction standards.

Subp. 2. **Alteration of vehicle.** The interior of the vehicle may be altered if all seats and barriers, component parts, anchorages, wheelchair securement devices, and placement of seats and barriers and wheelchair securement devices comply with federal standards as of the date of manufacture. All equipment must be supplied by the original component equipment manufacturer or authorized dealer, be installed according to the original equipment manufacturer's specification, and must meet state specifications. Alterations that remove all wheelchair securement devices that return the vehicle to conventional passenger seating must also make the power lift and special service door inoperable.

Subp. 3. **Power lift or ramp.** A school bus purchased specifically or partially for the transportation of these children must be equipped with a power lift or ramp located on the right side of the bus body.

Subp. 4. **Seating capacity.** A statement of the actual seating capacity, excluding wheelchairs, following the modification of a vehicle, must be placed above the windshield on the interior of the body.

Subp. 5. **Special service opening.** An enclosed service opening must be located on the right side of the body. The door opening must be not less than 38 inches wide and 52 inches high.

Subp. 6. **Reinforcement.** Door posts, headers, and all floor sections around the special opening must be reinforced to provide strength and support equal to adjacent side wall and floor construction of an unaltered model.

Subp. 7. **Drip mold.** A drip mold must be installed above the opening so as to effectively channel the water away from the

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entrance.

Subp. 8. **Header pad.** A header pad, at least three inches wide, extending the width of the special service door, must be placed above the opening on the inside of the bus or on the lift if it has a top cross bar.

Subp. 9. **Special service door enclosure.** The lift may be enclosed by either one or two doors. All doors must open outwardly.

Subp. 10. **Two-panel door.** If the door is made of two panels, the standards in this subpart apply.

A. The forward panel must be provided with an overlapping flange to close the space where the door panels meet, and a weather seal must be provided around the doors or opening to eliminate water leakage or heat loss.

B. Each door must have a safety glass window, set in rubber and aligned with the lower line of the adjacent sash. The window must be, as nearly as practical, of the same size as other bus windows.

C. Each door panel must open outwardly and a positive fastening device must be installed to hold the doors in an open position.

Subp. 11. **One-piece construction door.** If the door is made of one-piece construction, the standards in this subpart apply.

A. The door must open outwardly and a positive fastening device must be installed to securely hold the door in an open position.

B. The door must be equipped with a slide-bar, cam-operated type locking device.

C. Weather stripping must be installed around the entire door or opening to eliminate water leakage or heat loss.

D. The door must have a safety glass window, set in rubber and aligned with the lower line of the adjacent sash. The window must be, as nearly as practical, of the same size as other bus windows.

Subp. 12. **Door equipment.** The door must be equipped with

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a device that actuates a flashing visible signal, located in the driver's compartment, when the door is not securely closed, and the emergency brake is not on. An audible signal must not be used.

Subp. 13. **Door construction.** All doors must be constructed to meet the standards in law, in strength and materials for other school bus doors.

Subp. 14. **Power lift.** The power lift must be of at least a 750 pound capacity rating and capable of lifting the wheelchair, occupant, and attendant.

Subp. 15. **Power lift controls.** All power lift controls must be portable and conveniently located on the inside of the bus lift door. A master cut-off switch must be located in the driver's compartment.

Subp. 16. **Power lift platform.** The power lift platform must be covered with skid-resistant material or be so designed so as to prevent slipping. The lift platform must be constructed to permit vision through that portion of the platform covering the window of the special service door when the platform is in the "up" position. The power lift must be designed so that the lift does not operate unless the special service door is opened.

Subp. 17. **Ramp.** A self-adjusting ramp made of steel or equivalent material, if needed, must be attached to the lift platform or to the bus and be of sufficient length to minimize the incline. The ramp must be equipped with skid-resistant surface. The ramp must be in a secured position while the bus is in motion. The ramp must be of sufficient width on the surface to accommodate a standard wheelchair.

Subp. 18. **Barriers.** A padded crash barrier meeting federal manufacturing requirements for school bus seats and crash barriers must be properly installed between the special service door and passenger seats to the rear of the door.

In vehicles of 10,000 pounds gross vehicle weight rating and less, padded stanchions may be used.

Subp. 19. **Elevator-type lift.** In the event that an

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elevator-type lift is used with the body floor section serving as lift platform, both the forward and rear sides of the platform must be protected with crash barriers extending from the wall of the body toward the aisle. A covered chain must be fastened to the rear barrier adjacent to the lift platform, and must extend across the platform opening and attach with hook and eye to the forward barrier adjacent to the lift platform.

Subp. 20. **Wheelchair securement devices.** Wheelchair securement devices must be as provided by Minnesota Statutes, section 299A.11.

Subp. 21. **Special student restraining devices.** Special restraining devices such as shoulder harnesses, lap belts, and chest restraint systems may be installed to the seats if the devices do not require the alteration in any form of the seat, seat cushion, framework, or related seat components. The restraints must be for the sole purpose of restraining handicapped students.

Subp. 22. **Seats.** All seats and related components shall comply with applicable federal standards on date of manufacture. Seat frames may be equipped by the school bus body manufacturer with rings or other devices to which passenger restraint systems may be attached if seat anchorages can handle the increased load demands that may occur.

3520.5910 MOTOR COACH USED FOR SCHOOL ACTIVITIES.

Subpart 1. **Definitions.** A motor coach owned by a school district or an area vocational technical institute is a bus that has been designed or used for intercity transit or charter service. The motor coach must have a capacity of 20 or more persons.

A motor coach used for school activities must comply with this part and must have been acquired before March 26, 1986.

A school activity is any activity involving students under the sponsorship of a school district.

Subp. 2. **Standards.** Equipment standards for motor coaches must conform to the Federal Motor Carrier Safety Regulations,

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Code of Federal Regulations, title 49.

Relevant standards are in chapter III, subpart D, sections 393.61, 393.62, and 393.63; subpart E, section 393.67; subpart G, sections 393.78, 393.79, 393.80, 393.81, 393.82, 393.83, 393.84, 393.89, 393.90, 393.91, 393.92, and 393.93; and subpart H, section 393.95.

Subp. 3. **Identification.** Motor coaches must not be outwardly equipped and identified as a school bus and must be identified as provided in Minnesota Statutes, section 168.012.

Subp. 4. **Inspection.** Motor coaches must be inspected annually by the Minnesota State Patrol using vehicle standards for motor carriers in Minnesota Statutes, section 221.031, subdivision 1.

Subp. 5. **Certification.** Upon passing an annual inspection, a motor coach will be issued a motor carrier safety sticker.

3520.5920 OPERATION OF MOTOR COACHES USED FOR SCHOOL ACTIVITIES.

Subpart 1. **Comply with this part.** A driver of a motor coach used for school activities must have the qualifications referred to in subpart 2 and follow the rules referred to in subpart 3.

Subp. 2. **Driver qualifications.** The driver of a motor coach operating within Minnesota must have a minimum Class B driver license with a school bus endorsement.

Subp. 3. **Driving rules.** The driver must comply with the rules for driving of motor coaches in chapter III, part 392 of the Federal Motor Carrier Safety Regulations, Code of Federal Regulations, title 49.

Subp. 4. **Operation.** A motor coach must not be used for activities that are eligible for state transportation aid.

A motor coach must not be leased to another entity.

REPEALER. Minnesota Rules, parts 3520.0500; 3520.0700; 3520.0800; 3520.0900; 3520.1100; 3520.1700; 3520.1900; 3520.2000; 3520.2100; 3520.2200; 3520.2300; 3520.3700, subparts

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2 and 3; 3520.3800; 3520.4000; 3520.4100, subpart 4; 3520.4200; 3520.4210; 3520.4220; 3520.4230; 3520.4240; 3520.4250; 3520.4260; 3520.4300; 3520.4510, subparts 1 and 2; 3520.4520; 3520.4530; 3520.4580; 3520.4600, subparts 2, 3, 4, and 5; 3520.4610, subparts 3 and 4; 3520.4660; 3520.4690; 3520.4700; 3520.4710; 3520.4730; 3520.4740; 3520.4760; 3520.4770; 3520.4800; 3520.4810; 3520.4820; 3520.4830; 3520.4850, subparts 2 and 4; 3520.4860; 3520.4870; 3520.4900, subparts 1, 2, 3, 4, 5, 8, 9, and 10; 3520.4920; 3520.4940; 3520.4950; 3520.4960; 3520.4970; 3520.4990; 3520.5020; 3520.5100; 3520.5110; 3520.5130; 3520.5140; 3520.5150; 3520.5170; 3520.5200, subpart 5; 3520.5210; 3520.5300, subpart 2; 3520.5320; 3520.5350; 3520.5360; 3520.5400; 3520.5410; 3520.5420; 3520.5430; 3520.5440; 3520.5450, subpart 2; 3520.5460; 3520.5470; 3520.5480; 3520.5530; 3520.5540; 3520.5550; 3520.5580, subpart 3; 3520.5610; and 3520.5800 are repealed.

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Office of the Revisor of Statutes

Administrative Rules

TITLE: Proposed Permanent Rules Relating to School Buses

AGENCY: Department of Education

MINNESOTA RULES: Chapter 3520

INCORPORATIONS BY REFERENCE:

Rule Number: Part 3520.3680 Material Incorporated:

National Minimum Standards for School Buses and Operations, 1985 Revised Edition, National Safety Council, 444 North Michigan Avenue, Chicago, IL 60611; SBMI School Bus Design Objectives, January 1985, School Bus Manufacturers Institute, 4907 Cordell Avenue, Bethesda, MD 20814; Standard for Safety for Dry Chemical Fire Extinguishers ANSI-UL 299-1984, Approved March 2, 1984, American National Standard/Underwriter Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL 60062; School Bus Warning Lamps - SAE J887, May 1982, Society of Automotive Engineers Standards, 400 Commonwealth Drive, Warrendale, PA 15096; Standard Method of Salt Spray (706) Testing - Designation B117-85, American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103; Windshield Defrosting Systems Test Procedure - Trucks, Buses, and Multipurpose Vehicles - SAE J381 and SAE J382, June 1984, Society of Automotive Engineers Standards; Standard for the Storage and Handling of Liquefied Petroleum Gases NFPA58, 1986 Edition, National Fire Protection Association, Batterymarch Park, Quincy, MA 02269; School Bus Stop Arm - Recommended Practice - SAE J1133, April 1984, Society of Automotive Engineers Standards; Windshield Defrosting Systems Performance Guidelines - Trucks, Buses, and Multipurpose Vehicles - Recommended Practice - SAE J382, October 1984, Society of Automotive Engineers Standards; Turn Signal Lamps for Use on Motor Vehicles Less Than 2032 MM in Overall Width - SAE J588, November 1984 and SAE J588l, Society of Automotive Engineers Standards; Manual on Uniform Traffic Control Devices for Streets and Highways, 1987, Federal Highway Administration, 400 7th S.W., Washington, D.C. 20590; United States Standard Alphabets for Highway Signs, Series B and Series D, Federal Highway Administration; Federal Specification TT-C-520B, Coating Compound, Bituminous Solvent Type Underbody (for Motor Vehicles), General Services Administration, Specification and Consumer Information, Distribution Center, Washington Navy Yard, Building 197, Washington, D.C. 20407; Product Standard PS 1-83, Construction and Industrial Plywood, United States Department of Commerce, National Bureau of Standards, Washington, D.C. 20234.

The attached rules are approved for publication
in the State Register

Richard J. Sands
Senior Assistant Revisor

Minnesota Department of Education

Capitol Square 550 Cedar Street Saint Paul, Minnesota 55101 Phone:

CERTIFICATE OF THE STATE BOARD
OF EDUCATION'S AUTHORIZING RESOLUTION

I, Ruth E. Randall, do hereby certify that I am the secretary of the State Board of Education, a board duly authorized under the laws of the State of Minnesota, and that the following is a true, complete, and correct copy of a resolution adopted at a meeting of the State Board of Education duly and properly called and held on the 14th day of June, 1988, that a quorum was present, and that a majority of those present voted for the resolution which has not been rescinded or modified.

"RESOLVED, that Ruth E. Randall, secretary of the State Board of Education, is hereby granted the authority and directed to sign the Notice of the Board's Intent to Adopt a Rule Without a Public Hearing governing 1) Standards for Aid, 2) Operation of School Buses, 3) Pupil Transportation Safety Education Program, and 4) Design of School Transportation Equipment Standards, to all persons who have registered their names with the Board for that purpose and publish the Notice and rule in the State Register, and to perform any and all acts incidental thereto."

IN WITNESS WHEREOF, I have hereunto subscribed my name this 17 day of June, 1988.

Ruth E. Randall

Ruth E. Randall
Secretary, State Board of Education

Marjorie Johnson

Attest by one Board Member

Minnesota Department of Education

Capitol Square 550 Cedar Street Saint Paul, Minnesota 55101 Phone:

NOTICE OF INTENT TO ADOPT A RULE WITHOUT A PUBLIC HEARING

State Board of Education
Department of Education

In the Matter of the Proposed Adoption of the Rule of the State Board of Education Governing the 1) Standards for Aid, 2) Operation of School Buses, 3) Pupil Transportation Safety Education Program, and 4) Design of School Transportation Equipment Standards.

NOTICE OF INTENT TO ADOPT A RULE WITHOUT A PUBLIC HEARING

Notice is hereby given that the State Board of Education intends to adopt the above-entitled rule without a public hearing following the procedures set forth in the Administrative Procedure Act for adopting rules without a public hearing in Minnesota Statutes, sections 14.22 to 14.28. The statutory authority to adopt the rule is Minnesota Statute 169.45.

All persons have 30 days in which to submit comment in support of or in opposition to the proposed rule or any part or subpart of the rule. Comment is encouraged. Each comment should identify the portion of the proposed rule addressed, the reason for the comment, and any change proposed.

Any person may make a written request for a public hearing on the rule within the 30-day comment period. If 25 or more persons submit a written

request for a public hearing within the 30-day comment period, a public hearing will be held unless a sufficient number withdraw their request in writing. Any person requesting a public hearing should state his or her name and address, and is encouraged to identify the portion of the proposed rule addressed, the reason for the request, and any change proposed. If a public hearing is required, the agency will proceed pursuant to Minnesota Statutes, section 14.131 to 14.20.

Comments or written requests for a public hearing must be submitted to:

Len Nachman
Department of Education
942 Capitol Square Building
550 Cedar Street
St. Paul, MN 55101

The proposed rule may be modified if the modifications are supported by data and views submitted to the agency and do not result in a substantial change in the proposed rule as noticed.

A copy of the proposed rule is attached to this notice.

A Statement of Need and Reasonableness that describes the need for and reasonableness of each provision of the proposed rule and identifies the data and information relied upon to support the proposed rule has been prepared and is available from Len Nachman upon request.

The State Board of Education estimates that there will be no cost to small

business or to local school districts in the state in order to implement the proposed rule.

The following rules have been repealed: 3520.0500, 3520.0700, 3520.0800, 3520.0900, 3520.1100, 3520.1700, 3520.1900, 3520.2000, 3520.2100, 3520.2200, 3520.2300, 3520.3800, 3520.4000, 3520.4200, 3520.4210, 3520.4220, 3520.4230, 3520.4240, 3520.4250, 3520.4260, 3520.4300, 3520.4520, 3520.4530, 3520.4580, 3520.4660, 3520.4690, 3520.4700, 3520.4710, 3520.4730, 3520.4740, 3520.4760, 3520.4770, 3520.4800, 3520.4810, 3520.4820, 3520.4830, 3520.4860, 3520.4870, 3520.4920, 3520.4940, 3520.4950, 3520.4960, 3520.4970, 3520.4990, 3520.5020, 3520.5100, 3520.5110, 3520.5130, 3520.5140, 3520.5150, 3520.5170, 3520.5210, 3520.5320, 3520.5350, 3520.5360, 3520.5400, 3520.5410, 3520.5420, 3520.5430, 3520.5440, 3520.5460, 3520.5470, 3520.5480, 3520.5530, 3520.5540, 3520.5550, 3520.5610 and 3520.5800.

If no hearing is required, upon adoption of the rule, the rule and the required supporting documents will be submitted to the Attorney General for review as to legality and form to the extent the form relates to legality. Any person may request notification of the date of submission to the Attorney General. Persons who wish to be advised of the submission of this material to the Attorney General, or who wish to receive a copy of the adopted rule, must submit a written request to Len Nachman.

State of Minnesota
State Board of Education

6-17-88
Date

Ruth E. Randall
Ruth E. Randall
Secretary, State Board of Education

STATEMENT OF NEED AND REASONABLENESS
FOR PROPOSED MINNESOTA RULES, PART 3520.0200
THROUGH PART 3520.5920
RELATING TO SCHOOL BUSES

Background

Rules relating to pupil transportation aid and school buses were last revised in 1974 and 1977 respectively. Since that time, additional state laws have been enacted, related Federal safety standards regularly updated, and national minimum standards for school buses and operations continually revised. Further improvement in school bus equipment, new technology, the need to safely transport severely handicapped children, and enhanced adaptations for Minnesota climatic conditions also contribute to the need to revise and update school bus rules.

Minor language changes have been made throughout the proposed rules; in other instances, where more extensive changes have been made, new parts or subparts have been inserted and the existing repealed.

The process of updating the school bus rules was formally begun in May of 1985. Numerous representatives of the Minnesota Association for Pupil Transportation, Minnesota School Bus Operators' Association, and school bus distributors, as well as Minnesota Department of Public Safety and Minnesota Department of Education personnel have been involved in a series of discussion meetings regarding needed changes in the rules, and have repeatedly reviewed and reacted to drafts of the proposed rules.

The changes in the rules, as reviewed below, are necessary for several reasons. First, much of the old material is obsolete. It has been more than a decade since these rules were last revised. There have been changes in state laws and Federal standards which needed to be incorporated in the rules. Over the same period, school bus manufacturers have developed or adopted new technology which is designed to improve vehicle performance. In some cases, the old rules would not permit the use of the newer technology. An example would be the single, longitudinal multi-grooved belt drive for the alternator. The proposed rules are regrouped for better organization. Under the old rules, changes were sometimes added as "exceptions" to Type I requirements. These "exceptions" have now been pulled together and listed under either Type II or Type III rules, as appropriate.

Throughout the balance of this document, the term "clean-up changes" appears with some frequency. This term refers to changes in wording or style that are required by the Revisor of statutes but that do not change the meaning of the rule. Examples would be changing "shall" to "should" or "must" and inserting "the" at appropriate places in sentences.

The proposed rules are reasonable in light of the many changes that were needed. They are now up-to-date with current state statutes and Federal Motor Vehicle Safety Standards. Section 3520.3680 incorporates by reference a number of standards, guidelines, and documents which are widely recognized and

accepted by the school bus industry. This is a reasonable means for incorporating the content of these standards, guidelines and documents into the rules without repeating them. The proposed rules have been updated to accept appropriate new technology in vehicle manufacturing. Attempts were made to word the new rules so that improved vehicle technology would be accepted without the need to further amend the rules. The regrouping of many former "exceptions" under sections for Type II and Type III vehicles is a reasonable change. With these proposed changes, all rules specific to a Type II or Type III school bus will be logically and conveniently found together. A final justification for the reasonableness of the proposed rules is the industry involvement in their development. A number of meetings were held to work out these changes. At these meetings, there were representatives of: the school district transportation supervisors, school bus contract operators, school bus manufacturers, school bus body distributors, school bus parts suppliers, the Department of Public Safety, and the Department of Education. Every proposed change was thoroughly scrutinized and discussed. Changes were made only after there was agreement from all persons involved. The participants in these meetings represented all the groups most knowledgeable about pupil transportation.

Standards for Aid

3520.0200-3520.2300 Proposed changes in these rules are necessary to conform to changes in Minnesota statutes affecting standards for transportation aids.

Sections 3520.0200-3520.0400 were amended to update statutory references and eliminate outmoded language. Some sections of the changes involve reorganization of certain rules to provide greater clarity. For example, the rule that students can only be claimed in one to-and-from school category was moved from Section 3520.0300 Aid Limitation to 3520.0400 Transportation Data Reporting Requirements, where it is now found, in modified form, as Subp. 5.

Section 3520.0500 Full-time Equivalent Pupil Units was deleted because current transportation aid formulas do not require that information.

Section 3520.0700 Determination of Transportation Costs was also deleted because it is obsolete. Present rules relating to costs, amount of aid and payment schedule are no longer appropriate.

Section 3520.0800 Transportation Aid Other Than School to Home has been repealed. The main purpose for these rules was to require prior application from school districts providing these types of transportation. The 1988 Legislature deleted the prior approval requirements from the statutes. Applications for these programs will no longer be required.

Section 3520.0900 Transportation Aids for Handicapped Children was repealed because it is covered in statute.

Sections 3520.1000 and 3520.1200 were amended to remove the requirement that transportation contracts be submitted to, and in some cases, approved by, the commissioner. It is the responsibility of the school districts to assure that any contract they sign is legal.

Section 3520.1100 Bus Rental Contracts was repealed. This section merely required districts to submit copies of their bus rental contracts to the commissioner. The districts have the responsibility to approve only legal contracts.

Section 3520.1700 Depreciated Aid is repealed. The current aid formula does not contain a separate depreciation aid payment, so this section is obsolete.

Section 3520.1800 Transportation of Nonresident Pupils is amended to delete the requirement for a written application. Some minor amendments help to clarify remaining language.

Sections 3520.1900 to 3520.2300 are repealed. These sections covered qualifications, tests, physical examinations, background checks, and requirements for driver license renewal and school bus endorsements. All these items are, by law, the responsibility of the Department of Public Safety. They are repealed from Department of Education rules to eliminate the necessity of the Department of Education amending its rules every time Public Safety makes a change.

In summary, Rules 3520.0200-3520.2300 were repealed or amended to bring them into compliance with current state laws relating to standards for aid. The changes are reasonable in the fact they comply with applicable laws and, in some cases, have eliminated unnecessary reporting requirements for school districts.

Rules, Operation of School Buses and Pupil Transportation Safety Education Program

Section 3520.2400 Operation of Type I and Type II School Buses. This section was amended to include Type II with the operation of Type I buses since their operation is identical. A sentence on pulling trailers with school buses was deleted as it is covered in statute. The rule governing the backing of a school bus has been expanded for greater clarification and to increase the level of safety for students.

These changes were necessary to consolidate operating rules for vehicles outwardly equipped and identified as school buses (Types I and II). They are reasonable in the fact that they consolidate like operating rules for two classes of vehicles. They also clarify certain backing rules and increase the safety of students.

3520.3000 Operation of Type III School Buses. (Includes Automobiles, Station Wagons, and Other Vehicles Designed for Carrying Nine or Fewer.) The title of this section was changed to lower the maximum size of Type III vehicles from 16 to 9 pupil passengers. When Type III buses were first incorporated into the rules (1974), some school districts and private contractors owned the larger sized vehicles and they were allowed to continue to operate such vehicles. The maximum age limitation of 10 years for Type III vehicles now makes the vehicles of over 9 pupil passenger capacity illegal.

These changes were necessary to bring the Type III school buses into compliance with current laws. They are reasonable in the fact they fulfill this need and eliminate certain types of Type III school buses which are no longer legal.

Section 3520.3680 Incorporation By Reference is an all new section. Many of the items required on school buses are subject to compliance with standards which are developed by other governmental agencies, professional groups, and other entities. These generally recognized and accepted standards are subject to frequent change and such changes would necessitate frequent revision of these subject rules. Through incorporation by reference, applicable amendments to the incorporated standard become a part of the Department of Education standards as they are adopted and made conveniently available to the public.

This incorporation by reference is necessary to keep these standards current with the changing state-of-the-art in the various areas. This method was chosen as the most reasonable means of keeping these standards continuously in line with progressive development and new technology affecting school bus construction.

Design of School Transportation Equipment Standards

Section 3520.3700 Design of school transportation equipment standards was changed in several ways. Subpart 1 was amended to clarify some existing language which describes the conditions under which school bus design rules will apply. Language was added to clarify that these standards are minimum standards and that the standard can be exceeded if there is no conflict with federal standards, state laws, or rules.

Subparts 2 and 3 were repealed. These subparts explained the different conditions which applied to new and used school buses. Such requirements are not pertinent to a section on design. The differing treatment of new and used school buses is now found under Section 3520.3701 Vehicle Descriptions. A new Subpart 2a Variances has been added. This section gives the commissioner the authority to grant variances to existing standards in Parts 3520.3700 to 3520.5710.

The rapid advancement of technology has effected school bus construction as it has effected almost all areas of our lives. There is a real need for the Department of Education to be able to test improved technology for possible incorporation into the rules. The ability to grant variances to existing rules will enable the Department to test the new technology and to determine its feasibility before submitting it to the entire rule making process.

This subpart contains restraints to the Department's authority. It allows for flexibility but does not give the Department unlimited power. This is the most reasonable method of responding to these concerns.

Section 3520.3701 Vehicle Descriptions is shown as all new material. In fact, it is in large part a gathering together of previously existing material which was scattered in many locations. For example, Subparts 4 and 5 were located in Section 3520.3700, Subparts 2 and 3.

There was a need to place all vehicle descriptions together under one heading. Prior to this time, the descriptions have been located in widely scattered parts of the rules. This change is reasonable in the fact that it will provide for greater convenience for persons using the rules.

Section 3520.3800 repealed. This section was merely a listing of the subjects covered in following sections.

Section 3520.3801 Type I Chassis is new material. However, it is an updating of the repealed 3520.3800 to restrict its application to Type I school buses. This change is necessary because of the many differences in specifications for various components of different sizes or types of vehicles that are used as school buses. It is reasonable to group the specifications for the various types of vehicles in separate sections.

Section 3520.3802 Compliance is new material. It is necessary to clearly establish that the chassis manufacturer is responsible for compliance. This is also reasonable in that the manufacturer must comply with many Federal Motor Vehicle Safety Standards and is the only reasonable entity to accept responsibility.

Section 3520.3900 Air cleaner is amended to require an air cleaner that meets engine specifications. This change is needed as some of the stricken language was very outdated. It is reasonable to expect the air cleaner to meet the engine specifications.

Section 3520.4000 is repealed, but replaced by a new Section 3520.4001 Axles. This change simplifies the structure of the section on axles. It incorporates new technology such as gross weight rating and gross vehicle weight rating which are now standard in school bus manufacturing.

This change was needed because the old language is outdated and no longer generally used. The change is reasonable in that it incorporates current state-of-the-art technology and terminology.

Section 3520.4100 Battery is amended in part with one subpart repealed. Subparts 1 to 3 are amended by replacing older terminology with current terminology commonly accepted in the battery manufacturing industry. The content of old Subpart 4 is relocated as paragraph B under Subpart 2 Options.

These changes were needed to incorporate current battery rating terminology into the standards. The old ampere hours has been replaced with cold cranking amperes. This change is reasonable in that the new terminology is far more common and much more easily understood than the former terminology.

Sections 3520.4200-3520.4260 are repealed and are now grouped together under new Section 3520.4201 Brakes. Under this new section, all requirements for brakes on Type I school bus chassis are regrouped and reworded to bring them into compliance with current standards. Many of the brake requirements are dictated by Federal Motor Vehicle Safety Standards 105, 106, and 121.

These changes were needed to bring the brake requirements into compliance with commonly acceptable standards. The changes are reasonable in that they now incorporate Federal Motor Vehicle Safety Standards and National Minimum Standards as they apply to brake systems.

Section 3520.4300 is repealed and reintroduced as Section 3520.4301 Front Bumper. The old Subpart 1 is retained with slight modifications. Old

Subparts 2-4 are dropped. The subjects of these subparts are either covered in state law or in other sections of these rules. There was no need to retain them in Section 3520.4301.

Section 3520.4400 Certification is amended to require a chassis distributor or dealer, rather than the manufacturer, to certify that its products meet all minimum standards that are not covered by Federal standards.

This change is needed to put the responsibility for certification at the level where variations might take place. The chassis manufacturer will still be certifying to compliance with Federal Motor Vehicle Safety Standards. The change is reasonable in that the party responsible for variations will be certifying their compliance.

Section 3520.4500 Clutch is amended to greatly simplify the language and relate the clutch standard to torque capacity rather than physical size. The clutch must be compatible with engine output.

This change is necessary because mere physical size of the clutch will not ensure its compatibility with the various engines available. Linking clutch torque capacity to engine torque output will ensure compatibility of clutch to engine. This in the most reasonable method of achieving compatibility.

Section 3520.4510 Color is amended in part and repealed in part. Subparts 1 and 2 are repealed. Subparts 3 and 4 are amended. These amendments provide basically clean-up changes to help clarify the rule.

Old Subparts 1 and 2 are obsolete and needed to be deleted. This was the most reasonable method of updating the color section because it involves only cosmetic changes.

Section 3520.4520 Fan-Radiator Cooling System is repealed. This section is not needed as chassis and/or engine manufacturers will not install an inadequate cooling system because they would have to make costly engine replacements under warranty if damage results from overheating. The National Minimum Standards, 1985, do not contain a section on Fan-Radiator cooling system.

Section 3520.4530 is repealed and replaced by Section 3520.4531 Drive Shaft. Under the new section, the drive shaft for Type I vehicles is retained with only very minor, clean-up changes.

Section 3520.4540 Electrical System is amended. Most of the amendments are of a clean-up nature. A Subpart 5a was added to allow for the substitution of a voltmeter in place of the required ammeter. Subpart 6 is amended to require color or number coding of the wiring and the wiring diagram provided is now required to coincide with the actual wiring of the chassis.

Some bus operators prefer the use of a voltmeter over an ammeter because they believe it provides more useful information. The former rule did not require the wiring diagram to coincide with the actual wiring of the chassis. It was assumed that it would. The language change now leaves no doubt that the

diagram provided must coincide with the chassis wiring. These changes are reasonable in that the first provides an option preferred by some operators, and the second clarifies the requirement for a wiring diagram that is meaningful.

Section 3520.4550 Exhaust System is amended. This section is greatly expanded with the addition of Subparts 2-5. Much of this material is what has been commonly accepted in the school bus industry. The incorporation in this section merely gives it legitimacy.

It is necessary to incorporate the changes in order to legitimize current practices. It is reasonable to legitimize practices that are in common usage and readily acceptable by the industry as a whole.

Section 3520.4560 Fenders, Front is amended. These amendments are basically of a cosmetic or clean-up nature.

Section 3520.4570 Frame is amended. Many of the amendments are to clean up old language. Welding of the frame to allow for the installation of trailer hitches is now permitted.

There are two significant changes in this Section. In the first, modifications to the original chassis frame have to be covered by guarantee from the modifier. In the second, welding to install a trailer hitch is permitted. Both of these changes were needed to permit greater utilization of the vehicles. The first is reasonable in the fact that it provides a safeguard by virtue of a guarantee of performance and materials. The second is reasonable in that welding to attach a trailer hitch will not weaken the frame so as to create a hazard.

Section 3520.4580 is repealed. The standard for frame lengths is now contained in Section 3520.4570.

Section 3520.4600 Fuel Tank. Subpart 1 is amended. Subparts 2-5 are repealed. Subparts 6 and 7 are added. The repealed Subpart 2 consisted of standards for fuel tanks larger than 30 gallon capacity. These standards are now combined with Subpart 1 which includes all sizes of 30 gallons or more. The repealed Subparts 3-5 contained exceptions applicable to several classes of vehicles. Those that applied to other than Type I vehicles will be found in the appropriate sections for those vehicles. Subpart 4, which applied to Type I vehicles is now included in Subpart 1. Subpart 6 adds fuel tank rules for buses with rear engine power. Subpart 7 covers those vehicles which are fueled by liquefied petroleum or by compressed or liquefied natural gas. It requires that they meet applicable standards of the Minnesota Uniform Fire Code. School buses powered by these types of fuels must comply with state laws and rules requiring display of appropriate markings.

These changes are needed to bring the rules into compliance with federal standards. They are reasonable because they refer to federal or state standards when appropriate and use commonly acceptable practices when other standards do not apply.

Section 3520.4610 Generator or Alternator. Subparts 1 and 2 are amended. Subparts 3 and 4 are repealed. A new Subpart 5 is added. In addition to some

clean-up changes, Subpart 1 was amended to permit single longitudinal multi-groove belt drive or direct drive for generators or alternators. These two drive methods represent state-of-the-art technology and will become increasingly more common in the future. Subpart 2 was amended to substitute the newer term cold cranking amps for the outmoded ampere hours terminology. The newly added Subpart 5 allows the use of a single belt drive, without requiring that it be the longitudinal multi-grooved type, for Type I vehicles under 15,000 pounds GVWR.

These changes are needed to incorporate new technology and terminology. The changes are reasonable in that they eliminate outmoded terminology and replace it with state-of-the-art.

Section 3520.4620 Governor is amended with clean-up changes.

Section 3520.4630 Heating system is amended by expanding the wording for greater specificity of the capacity of the system.

These changes are necessary to provide measurable standards. The old standard merely required inlet and outlet holes for attaching heater system water lines. The new language is reasonable in that it is specific, measurable, and referenced to the applicable standard of the School Bus Manufacturer's Institute.

Section 3520.4640 Horn is amended by deleting very detailed criteria with the basic requirement that the horn will be audible from at least 200 feet.

The changes are needed because the existing rule is unnecessarily detailed and required instrumentation to determine compliance. The revised rule merely states that the horn should be audible from at least 200 feet. This is a reasonable change in that it is much more easily understood and measured.

Section 3520.4650 Instruments and Instrument Panel is amended. In Subpart 1, some minor and clean-up changes were made. Item D was incorporated into Item C and Items E through I were realigned to maintain unbroken alphabetical order. Item J, Tachometer was changed to turn signal indicator lights and realigned to become Item I. In Items G, H and I, indicator lights can be used in place of gauges. Some of the existing wording was given a new heading as Subpart 2 Accessibility, mounting, illumination. A requirement for illumination of the shift selector indicator for automatic transmissions was added.

The changes incorporated are needed to provide greater clarification such as allowing the use of indicator lights for certain functions. These changes are reasonable in that they now incorporate commonly acceptable instruments and indicator lights.

Section 3520.4660 Oil filter is repealed. This section is not needed as the engine manufacturer will not install an engine without an oil filter. If they did, they might have to replace damaged engines under warranty.

Section 3520.4670 Openings is amended with only clean-up changes.

Section 3520.4680 Passenger Load is amended. This section is divided into 2 subparts. Subpart 1 is drawn from the previously existing rule and defines the term gross vehicle weight. The previous requirement that the gross vehicle weight rating be furnished by the manufacturer to the Department of Education was stricken. Subpart 2 has been added to clarify that the actual gross vehicle weight must not exceed the gross vehicle weight rating of the chassis manufacturer.

It is necessary to define gross vehicle weight (GVW) in terms of actual weights of components rather than average weights as in the existing rules. This change will result in a GVW specific to each vehicle. This is a reasonable method for determining GVW because one merely has to weigh the vehicle and then add the calculated weight of occupants. The other major change requires that the GVW does not exceed the gross vehicle weight rating (GVWR) for the chassis. This is a reasonable change in that it complies with Federal standards.

Section 3520.4690 is repealed. This section becomes unnecessary because of the changes in Section 3520.4680, above.

Section 3520.4700 is repealed and replaced by Section 3520.4701 Shock Absorbers. The recoding left the former Subpart 1 basically intact. The former Subpart 2 was deleted as it did not apply to Type I vehicles.

Section 3520.4701 is repealed and replaced by Section 3520.4711 Springs. The rule for springs is simplified as the spring capacities are required to be compatible with the gross vehicle weight rating. The former Subpart 2 was deleted as it did not apply to Type I vehicles.

The changes were necessary to tie vehicle spring capacity to gross vehicle weight rating of the chassis. This is a reasonable change that will prevent unsafe conditions created by mounting a school bus body on a chassis which undersized or weak springs.

Section 3520.4720 Steering is amended to provide for lubrication of the steering system. An additional amendment requires that buses be equipped with power steering. Under the old rules, power steering was permitted, but not required.

The first change is needed to provide for lubrication to avoid excessive wear which might cause steering problems or failures. The second change is necessary as modern buses are larger and heavier than in the past.

3520.4730 is repealed and replaced with Section 3520.4731 Tires and Rims. With the revised wording, tires and rim sizes and load ratings are tied in with the buses gross vehicle weight rating. The new section permits the use of different size and ply rated tires on the same bus with certain restrictions.

The changes are necessary to tie the tire size and rating with the GVWR. This is a reasonable way to relate tire requirements to a known reference point, or standard that serves as a basis for many chassis components.

Section 3520.4740 is repealed and replaced with Section 3520.4741 Transmission. The old material is reorganized and expanded in the new section. Requirements for small vehicles are removed. A minor change in the existing rule is that a three speed transmission is now acceptable where a four speed was required. The transmission shifting pattern must now be displayed where the driver can easily see it.

The change from a four speed transmission to a three speed requirement is necessary to conform to the concept of "minimum" standards. Under certain conditions, a three speed transmission is adequate. Because of the variety of transmission shifting patterns available, it becomes necessary to require that the shifting pattern be displayed. This will make it much easier for drivers who are unfamiliar with a particular vehicle to begin efficient operation without having to experiment with the shifting pattern. These changes are reasonable in that they will provide for more efficient and safer operation of buses.

Section 3520.4750 Undercoating is amended. The amendments provide that fenders made of noncorrosion materials are not required to be undercoated. The undercoating material must now meet or exceed applicable Federal specifications.

Exempting noncorrosive materials from the undercoating requirement is necessary to avoid waste. Since the purpose of undercoating is to prevent corrosion, it is a waste of resources to require they be rust proofed. Requiring any undercoating material used to comply with applicable Federal specifications is both necessary and reasonable.

Section 3520.4760 is repealed and replaced with Section 3520.4761 Weight Distribution. The weight distribution standard is now tied in with the gross axle weight ratings of both front and rear axles.

This change is necessary to assure that gross axle weight ratings are not exceeded. It is reasonable in that it ties this requirement to components of known capacity.

3520.4770 Wheels is repealed. This section is repealed because the subject is now covered in Section 3520.4731.

Section 3520.4800 is repealed and replaced with Section 3520.4801. The repealed Section 3520.4800 was a listing of the subjects in Sections 3520.4810-3520.5580 pertaining to Type I school bus bodies. The replacement Section 3520.4801 more clearly explains that the standards now found in Sections 3520.4811 to 3520.5580 apply to Type I school bus bodies.

Section 3520.4810 is repealed and replaced with Section 3520.4811 Aisle. This newly numbered section contains only minor clean up changes in language from the older Section 3520.4810.

Section 3520.4820 Battery is repealed. This subject is adequately covered in the chassis portion of these rules under Section 3520.4100.

Section 3520.4830 is repealed and replaced with Section 3520.4831 Body Sizes. The replacement section contains an updated table for body sizes. The new table is much more comprehensive in that it contains information on wheel bases, tire sizes, gross axle weight ratings (GAWR) and gross vehicle weight ratings (GVWR). These new standards are consistent with current Federal Motor Vehicle Safety Standards with which manufacturers must comply.

This changes are needed to bring the body size chart up to current practice and to relate it to current acceptable standards. The changes are reasonable in that they incorporate commonly acceptable standards which are frequently used in other sections of these rules.

Section 3520.4840 Book Racks is amended. Book racks are now permitted in school buses which have 72 or more inches of headroom. The size, location and construction of book racks are defined. Some school districts have expressed interest in once again installing book racks. Quite a few years back, before the NHTSA issued standards for school buses, book racks were permitted. With the advent of school bus standards, they were prohibited because buses so equipped could not meet the standards for head impact zone. These current amendments limit the installation of book racks to school buses with headroom of 72 or more inches. This and the requirement for proper padding of the book racks will allow the school bus to meet the Federal standard.

These changes are necessary because state laws were amended to allow book racks. They are reasonable in that they provide for book racks without violating Federal Motor Vehicle Safety Standards.

Section 3520.4850 Bumper. Subparts 1 and 3 are amended. Subparts 2 and 4 are repealed. Subpart 1 was amended so that it more clearly referred to the front bumper and the reference was changed to reflect the numbering of the referenced section. The amendments to Subpart 3 are generally of a clean up nature. The bumper height wording was deleted as it is covered in statute. Subparts 2 and 4 were repealed because they had no bearing on Type I school buses.

Sections 3520.4860 and 3520.4870 are repealed. Both of these sections merely referred the reader to the content of other sections and are unnecessary.

Section 3520.4900 Color. Subparts 1-5 are repealed. These sections referred to buses purchased prior to June 2, 1973. Most of these buses are no longer in service. The few that might be operating are grandfathered. Subparts 6 and 7 are amended. The amendments are basically a reorganization of existing requirements. The general color requirements are grouped in Subpart 6 and the options are grouped in Subpart 7. Subparts 8-10 are repealed. These subparts contained color options which are now incorporated in Subparts 6 and 7.

These changes are needed to eliminate unnecessary material and to reorganize the material retained for greater clarity. The changes are reasonable in that they fully comply with Federal standards for school bus color.

Section 3520.4910 Construction is amended to reference it to Federal Motor Vehicle Safety Standard Number 220.

Section 3520.4920 Construction of the Bus Body is repealed. This section dealt with requirements that are now covered by Federal Motor Vehicle Safety Standard Number 220. This Section is no longer appropriate.

Section 3520.4930 Floor Construction is amended. The amendments allow for a greater choice in the selection of materials to meet the requirement. The plywood quality is related more specifically to the product standard PS 1-83 of the U.S. Department of Commerce. A Subpart 2 was added which permits the application of approved insulation to the underside of the metal floor.

The first changes is needed to relate the plywood quality to a specific standard for plywood quality. It is reasonable in that the standard cited is widely recognized and readily available. The second change, the option for insulation under the floor is needed for those school districts and contractors who want to provide a higher level of comfort in their buses. It is reasonable in that it is optional and that the product specified will help to prevent corrosion of the metal floor.

Sections 3520.4940-3520.4970 are repealed. These sections covered roof, side, corner and floor sills. All these components are now covered by Federal Motor Vehicle Safety Standards and are incorporated by reference in Section 3520.3680.

Section 3520.4980 Openings is amended by deleting the reference to Section 3520.4970 which was repealed.

Section 3520.4990 Exceptions is repealed. This section contained exceptions for small vehicles which are not Type I school buses and an exception for transit type vehicles to a repealed section.

Section 3520.5000 Defrosters is amended. Existing section is amended with clean up language. Additional wording is added to require defrosters to meet SAE standards relating to defrosters.

The addition of the reference to SAE Standards is necessary to relate this rule to a more specific set of criteria. It is reasonable in that the SAE Standards are widely known and accepted in the transportation industry.

Section 3520.5010 Doors is amended. The amendments include clean up language, the incorporation of references to Federal Motor Vehicle Safety Standard Number 217 and changes in the order of several paragraphs. All of these amendments were included for greater clarification and organization of the section.

The references to FMVSS 217 are necessary to relate the rule to a Federal standard with which all school buses must comply. The changes are reasonable in that they provide better organization of the material and clear reference to an applicable Federal Motor Vehicle Safety Standard.

Section 3520.5020 and 3520.5100 are repealed. Section 3520.5020 contained exceptions for small vehicles and is not appropriate in a unit for Type I school buses. Section 3520.5100 was merely a cross-reference to Section 3520.5010.

Section 3520.5110 is repealed and replaced with Section 3520.5111 Fire Extinguishers. The newly numbered section is a rewording and relocating of the repealed section. The changes take into account the improved technology of fire extinguisher manufacturing which has developed since the rules were last revised.

The most significant change is that the basic requirement went from a 5 pound, 8-B:C rating to a 2 1/2 pound, 10-B:C rating. While this might appear to be a lowering of the standards, it is actually an improvement. The new requirement will handle a fire of 10 square feet while the old requirement was for 8 square feet capacity. This change was needed to provide a greater level of safety for students. The change is reasonable in that it provides more safety while being more economical at the same time.

Section 3520.5120 First Aid Kit is amended with minor changes for greater clarification and only slight changes in required contents of the first aid kit.

Section 3520.5130 Floor is repealed. This section was only a cross-reference to other sections which contained the actual requirements. It was redundant.

Section 3520.5140 is repealed and replaced with Section 3520.5141 Floor Covering. The replacement section is basically the same as the previously numbered section. A reference to a Federal specification was deleted because it is obsolete. Subpart 2 was deleted because it applied to small vehicles and is not appropriate for this unit on Type I school buses.

Section 3520.5150 is repealed and replaced with Section 3520.5151 Heaters. The replacement section contains much of the same wording as the repealed section with clean up changes. Several somewhat more significant changes are included, however. In the first, the requirement for a plate bearing the heater rating was extended to all heaters. Under the repealed section, it was only required on hot water heaters. Secondly, combustion type heaters must now be approved by Motor Carrier Safety Regulations of the Code of Federal Regulations. Under the repealed section, such approval was by the Underwriter's Laboratories, Inc. The Motor Carrier Safety Regulations supersede the UL approval.

These changes are needed to ensure that the heaters are adequate and that they meet safety requirements. The changes are reasonable in that all heaters will now display their ratings and combustion type heaters will meet the most current approval criteria.

Section 3520.5160 Identification is amended. The requirement for name of owner or operator has been expanded to include home post office address and city or town. The reference cited with this requirement has been changed to M.S. 221.031, subd. 6. Optional lettering, such as manufacturer's name or logo, is now included and its location is specified.

The change in information required on side of bus is necessary for compliance with M.S. 221.031, Subd. 6. The options allowed are necessary to provide for specific identification of individual buses by students and others. Accommodation has been made for the logo or nameplates of manufacturers.

These logos and nameplates have been in use for many years and the Department of Education believes it is necessary to recognize and regulate them. These changes are reasonable in that they will provide better identification for individual buses and legitimize the use of logos and nameplates of manufacturers.

Section 3520.5170 is repealed and replaced with Section 3520.5171 Inside Height. The renumbered section contains basically the same requirements as the repealed section. Language is simplified for clarity and an exception for small vehicles is deleted.

Section 3520.5180 Insulation is amended to clean up language.

Section 3520.5190 Interior is amended. The existing section is amended to clean up language and is now contained in Subpart 1. Language is added to Subpart 1 to cover the methods for treating lapped joints in ceiling panels. This added language is taken from the National Minimum Standards For School Buses, 1985. Two subparts are added to cover speakers and flammability of interior materials. Speakers, except in driver's compartment, cannot protrude more than 1/2 inch. Interior materials must now meet flammability standards of Federal Motor Vehicle Safety Standard Number 302.

All the changes made in this section are needed to insure greater safety for students. The changes are reasonable in that they either use language from the National Minimum Standards or they are referred to Federal Motor Vehicle Safety Standards where applicable.

Section 3520.5200 Lamps and Signals for New Buses Only is amended. Subparts 1 through 4 are amended with clean up changes. A new Subpart 4a is added. This is merely a renumbering, with clean up changes, of an already existing part of old Subpart 4. Subpart 5 Option is repealed. This subpart made reference to a specific brand of light control unit which could be used as an option. Any unit used must meet all requirements, so such option is unnecessary. Subparts 6 through 8 are amended with clean up changes. A new Subpart 9 Options is added. This subpart includes options for a student control warning system, a crossing guard gate, an external public address system, a roof mounted strobe light and electronic sensing devices.

All of these options are needed to provide a greater level of safety to the students transported, especially while they are boarding and leaving the school bus at student stops. The changes are reasonable in that they relate specific sections to applicable Federal standards and permit, as options, the use of several types of safety devices.

Section 3520.5210 Lamps and Signals for Buses Now In Service is repealed. This section became effective in August of 1974 and applied to buses which were already in service at that time. Most of these buses are no longer in service. Those that are still in service have had nearly 14 years to demonstrate their compliance. This section has outlived its usefulness.

Section 3520.5220 Turn Signal Lamps and Stop Lamps has been amended. The existing section on turn signal lamps was renumbered as Subpart 1. The amendments include some clean up changes and the addition of new language to

define the location of the turn signal lamps. Two new subparts were added. Subpart 2 Stop Lamps details the requirements for shape, size, location and operation of stop lamps. Subpart 3 Federal Motor Vehicle Safety Standard Number 108 requires that all exterior lamps must conform to the standard cited.

These changes were needed to bring the stop lamp requirement up to current standards and to incorporate stop lamps into the rule. The changes are reasonable in that they bring the signal and stop lamp requirements up to current specifications and they require all exterior lamps to conform to the applicable Federal Motor Vehicle Safety Standard.

Section 3520.5230 Warning Devices is amended. The first amendment was a change in the section's title from Flags and Flares to Warning Devices. For many years, the term flags and flares has been used. Newer methods of giving warnings are now far more common. Some of the devices formerly approved are now considered too dangerous (i.e., fuses). The existing section was renumbered as Subpart 1 and extensively amended. Colored flags are no longer required. The requirement for red electric lanterns or emergency reflectors is deleted. The option to use fuses (railroad type flares) is deleted. In place of the above requirements and option, there is now a requirement for three reflectorized triangle road warning devices. These devices are commonly recognized as the acceptable standard for warning devices. A Subpart 2 Prohibited Equipment was added to clearly identify that liquid burning "pot type" flares and fuses are not allowed. They are considered too dangerous because of the open flame.

The changes are needed to bring the Warning Devices up to currently acceptable standards and to eliminate dangerous devices. The changes are reasonable in that the old, outmoded and dangerous devices are deleted from the rule and are replaced with reflectorized triangles, the industry standard.

Section 3520.5300 Metal Treatment is amended. The old Subpart 1 is amended with clean up changes and the second and third paragraphs are renumbered as Subparts 1a and 1b, respectively. Subpart 2 is repealed as it did not apply to Type I school buses. A Subpart 3 Test Standard is added. This is the corrosion test commonly accepted by the school bus industry. It is taken, almost verbatim, from National Minimum Standards for School Buses, 1985.

Section 3520.5310 Mirrors is amended. The existing section is divided into three (3) subparts and a fourth subpart is added. Subparts 1 and 2 contain only clean up changes. Subpart 3 Required Convex Mirrors is substantially amended. Four convex mirrors are now required on conventional school buses. This increase in the number of mirrors is tied in with the requirements of Federal Motor Vehicle Safety Standards Numbers 17 and 111. Transit type buses must have at least three mirrors. The newly added Subpart 4 allows the substitution of elliptical or hemispherical mirrors for the required convex mirrors as an option.

The changes are necessary to provide the driver with a mirror system that will virtually eliminate all blind spots at the front and sides of the bus. This is a very important factor for the safety of students outside the bus. The

mirror system must comply with applicable Federal Motor Vehicle Safety Standards. These changes are reasonable in that they provide the highest known level of safety for students in the bus loading zone.

Section 3520.5320 Mounting is repealed. The mounting of body to chassis is covered in Federal Motor Vehicle Safety Standards and there is no need to include it in these rules.

Section 3520.5330 Overall Length is amended with clean up language. No basic change.

Section 3520.5340 Overall Width is amended with clean up language. No basic change.

Section 3520.5350 Posts is repealed. This section was referenced to other sections which are amended or repealed. This subject is covered by Federal Motor Vehicle Safety Standard. There is no need to retain it in these rules.

Section 3520.5360 is repealed and replaced with Section 3520.5361 Rub Rails. The existing section contained two subparts. The new section is the old Subpart 1 with clean up changes. Subpart 2 is eliminated as it contained an exception for small vehicles.

Section 3520.5370 Sanders is amended. All amendments are for clean up of existing language.

Section 3520.5380 Seat Belt for Driver is amended. The amendments require the seat belt and its mounting to comply with Federal Motor Vehicle Safety Standards Numbers 207 to 210.

These changes are needed to provide the most up-to-date standards for seat belts and installation. Incorporation of these changes will insure that the driver is held in position so that he/she can maintain control of the bus under extreme conditions. The changes are reasonable because they incorporate the best system available for holding the driver in the driving position.

Sections 3520.5400-3520.5430 are replaced with Section 3520.5401 Seats and Crash Barriers. Much of the language of the repealed sections was outdated because of Federal Motor Vehicle Safety Standard Number 222 which covers this subject. The replacement section incorporates Federal Motor Vehicle Safety Standard Number 222. In a few instances, language from the repealed sections is retained to cover some conditions not covered by Standard 222.

The changes are necessary to bring our bus seating into compliance with the Federal Motor Vehicle Safety Standard which is applicable to all new buses. Incorporating the FMVSS is the only reasonable thing to do since this standard is mandatory.

Sections 3520.5440 Steering Wheel is repealed. The repealed section was merely a reference to other sections. It is not needed.

Section 3520-5450 Steps is amended. Subpart 1 is amended with clean up changes. Subpart 2 is repealed. It contained an exception for small vehicles and did not apply to Type I school buses. A Subpart 3 Step Treads is added.

This is a new addition to the rules. It is needed to give more specific requirements for the materials used. The change is reasonable because the language is taken, almost verbatim, from the National Minimum Standards for School Buses, 1985.

Section 3520.5460 is repealed and replaced with Section 3520.5461 Stirrup Steps. The replacement section is taken from the National Minimum Standards For School Buses, 1985. Expanded wording takes into account the different needs of transit type school buses in that the steps can be incorporated in or on the front bumper.

These changes are needed to accommodate the different types of buses. They are reasonable in that they are taken from the National Minimum Standards.

Section 3520.5470 is repealed and replaced with Section 3520.5471 Stop Signal Arm. Much of the content of the repealed section is retained with clean up changes in the replacement section. New language now requires that the stop arm is equipped with flashing red lights visible from both front and rear. The flashing red lights should make the stop arm more visible and provide greater safety for school children.

The change which requires a lighted stop arm is needed to provide greater visibility and safety. Stop arm violations are still occurring much too frequently. This change is a reasonable way do draw more attention to the stop arm.

Section 3520.5480 is repealed and replaced with Section 3520.5481 Storage Compartment. The replacement section, Subpart 1, is taken from the National Minimum Standards for School Buses, 1985. Subpart 2 is an option for Minnesota school buses. It permits an overhead storage compartment in the front of the cab. Such optional storage area must provide for proper security.

The changes are needed to provide a safe way to transport items such as tools, tire chains and emergency equipment. The changes are reasonable in that they are taken from the National Minimum Standard, or in the case of Subpart 2, provide an option to accomplish the same result.

Section 3520.5490 Sunshield is amended. The amendments increase the minimum width of the sunshield from 16 to 30 inches. The sunshield must now be transparent and have a finished edge. It must be installed in a position where it will be convenient for the driver's use. These changes are necessary to provide better visibility for the driver and, therefore, greater safety for the pupil passengers. The changes are reasonable because the type and mounting of the sunshield is now in line with the industry standard.

Section 3520.5500 Tailpipe is amended. The existing language, with clean up changes, is renumbered as Subpart 1. A new Subpart 2 Trailer Hitch is added. The new subpart requires that optional trailer hitches must be flush mounted and they cannot extend beyond the rear bumper. This type of requirement is necessary to avoid projections which could contribute to increased injuries under certain conditions. It is reasonable because it allows the use of trailer hitches while it still protects the safety of students and others who might use the bus.

Section 3520.5510 Undercoating is amended. The undercoating requirement is taken from National Minimum Standards for School Buses, 1985. This incorporates specific references to Federal Specification TT-C-520a which contains performance requirements and test procedures for undercoating materials.

It is necessary, for both safety and economy, to require undercoating of buses. The proposed rules are reasonable in that they incorporate commonly recognized and acceptable standards.

Section 3520.5520 Ventilation is amended. The old Subpart 1 is amended with clean up changes. Subpart 2 is amended to eliminate the exception for small vehicles and replace it with an option for roof ventilators. Subparts 3 and 4 are added. Subpart 3 allows the incorporation of static-type exhaust vents into the design of the bus. Subpart 4 permits the use of emergency exit type roof ventilators, but requires that they must meet Federal Motor Vehicle Safety Standard Number 217, if used. The subpart also requires that a warning buzzer be included for such emergency exits.

The proposed changes are needed to give school districts and contractors options for meeting the ventilation requirement. Combination ventilator/ emergency exit units may be used if they meet applicable Federal Motor Vehicle Safety Standards. These changes provide options which will meet the ventilation requirement while improving safety. The changes are reasonable in that they contribute to safety and meet Federal standards where applicable.

Section 3520.5530 is repealed and replaced with Section 3520.5531 Wheel Housing. The replacement section retains much of the content of the repealed section with only clean up changes. Some new language, taken from the National Minimum Standards for School Buses, 1985, is added.

Section 3520.5540 Width is repealed. This subject is adequately addressed in Section 3520.5340.

Section 3520.5550 is repealed and replaced with Section 3520.5551 Windshield and Windows. The replacement section contains basically the same material as the repealed section. However, it is now better organized with the use of three subparts.

Section 3520.5560 Windshield Washer is amended to require windshield washers.

This change is necessary to ensure that the school bus driver has the greatest degree of visibility possible. It is reasonable in the fact that nearly all vehicles are equipped with windshield washers and drivers have come to depend on them to guarantee good visibility.

Section 3520.5570 Windshield Wipers is amended by incorporating the language found in National Minimum Standards for School Buses, 1985. Basically, the result is only minor, clean-up type changes.

Section 3520.5580 Wiring is amended. Subparts 1 and 2 are amended with clean up changes. A Subpart 2a Additional Requirements is added. Subpart 2a is taken from the National Minimum Standards for School Buses, 1985. Subpart 3 is repealed as it applied only to small vehicles.

Subpart 2a is necessary so that the wiring rule will be complete. It is reasonable because it is taken from the National Minimum Standards for School Buses.

Section 3520.5600 Type II School Bus is amended. The definition for a Type II school bus was stricken as it is available in Section 3520.3701 Vehicle Descriptions. New wording states that Section 3520.5611 Equipment applies to Type II school busses.

Section 3520.5610 is repealed and replaced with Section 3520.5611 Equipment. The repealed section contained 15 subparts. Many other Type II standards were scattered throughout the old rules as "exceptions" to Type I standards. Under Section 3520.5611 all of these standards for Type II buses are assembled and reorganized under a single section. With this regrouping, references to those standards which are incorporated by reference in Section 3520.3680 are included whenever appropriate. There are now 29 subparts to this section.

These changes were necessary to provide better organization, under a single heading, for Type II school bus equipment. This rule is reasonable because it has not made significant changes to existing rules, but merely reorganizes them for greater convenience.

Section 3520.5700 Type III School Buses is amended. The definition for a Type III school bus was stricken as it is available in Section 3520.3701 Vehicle Descriptions. New wording states that Section 3520.5710 Equipment applies to Type III school buses.

Section 3520.5710 Equipment is amended. A new Subpart 1 is added, the old Subpart 1 is renumbered Subpart 1a. Under the newly added Subpart 1, a general statement is made that, where applicable, equipment must comply with Federal Motor Vehicle Safety Standards. The manufacturer's standard will apply to equipment items not covered by Federal Motor Vehicle Safety Standards. Subpart 1a is amended to clarify wording on maximum age of Type III vehicles. New language is added to permit an exception for vehicles which meet Federal Motor Vehicle Safety Standard 222. This standard covers structural requirements and assures that complying vehicles will be much sturdier than non-complying vehicles. They will also have a longer life expectancy and should therefore be exempt from the 10 year age limit of most Type III vehicles.

Subparts 2, 3, 4, and 5 are amended with clean-up changes. Subparts 2a, 2b, and 6-8 are added to this section. These subparts are collected here under Type III school buses where they apply. In the old rules the same basic requirements for fire extinguishers, first aid kit, mirrors, warning devices, and emergency doors were scattered throughout the Type I rules as "exceptions." Subpart 9 is an option which allows passenger cars and station wagons to carry the required fire extinguisher, first aid kit, and warning triangles in the trunk or trunk area of the vehicle if a label is installed in the driver's area indicating their location. This is a necessary option as many automobiles and station wagons do not have room in the passenger compartment for this emergency equipment.

These changes are necessary to provide better organization for Type III school bus equipment. This rule is reasonable because it has not made significant changes to existing rules, but merely reorganizes them for greater convenience.

Section 3520.5800 Inspection of School Transportation Equipment is repealed. This section is not needed in Department of Education rules as it is covered in statute and in the rules of the Department of Public Safety, the agency responsible for school bus inspections.

Section 3520.5900 Construction of Vehicles for Children with Mobility Problems is all new. Transportation of children with mobility problems has increased significantly over the years. Additional growth is expected in this area of pupil transportation as schooling is extended to lower age groups.

Subpart 1 Standards outlines the types of service to which this section applies. Subpart 2 permits the alteration of vehicles to accommodate the needs of children with mobility problems. The vehicle must still comply with all federal standards. Equipment must be installed according to the manufacturer's specification. Reconversion of the vehicle to conventional passenger seating must make the power lift and special service door inoperable. Subpart 3 Power Lift or Ramp requires that either of these devices must be installed to provide access to the vehicle. Subpart 4 Seating Capacity requires that a sticker or label be installed to show the actual seating capacity of the vehicle, excluding wheel chairs, after modification. Subpart 5 Special Service Opening requires a special service opening on the right side of the vehicle and specifies a minimum size for the opening. Subpart 6 Reinforcement requires that the special opening (Subpart 5) be reinforced to provide the strength of an unattended vehicle. Subpart 7 Drip Mold requires weather protection over the service opening. Subpart 8 Header Pad requires that a pad be placed above the service opening to protect students, drivers, and aides from injury. Subpart 9 Special Service Door Enclosure permits the use of either single or double doors. Door must open outward. Subpart 10 Two-Panel Door gives requirements for double door installations. Subpart 11 One-Piece Construction Door gives requirements for single panel door. Subpart 12 Door Equipment requires a signal device which warns when the service door is not secured and the emergency brake is not on. Subpart 13 Door Construction requires that the special service doors meet the standards of other school bus doors. Subpart 14 Power Lift requires that any power lift installed must have a minimum capacity of 750 pounds. Subpart 15 Power Lift Controls requires that the lift controls be portable and be located on the inside of the lift door. A master cut-off switch is required to be located in the driver compartment. Subpart 16 Power Lift Platforms requires a non-skid surface of the lift. It also requires that vision shall be possible through the service door window even with the lift in the "up" position. Subpart 17 Ramp gives requirements for self-adjustment, material, length, skid resistance, width, and securement of a ramp. Subpart 18 Barriers requires a padded barrier or stanchion to be placed in front of any passenger seat located behind the special service door. Subpart 19 Elevator-Type Lift requires that crash barriers be installed on the front and rear sides of the lift area and a covered chain must connect the two crash barriers. Subpart 20 Wheelchair Securement Devices requires that installations comply with M.S. 299A.11. Subpart 21 Special Student Restraining Devices allows for the

installation of restraining devices if there are no alterations to any seat component. Subpart 22 Seats requires that seats meet federal standards. It also permits attachment devices for passenger restraint systems if seat manufacturers will provide such devices.

Rule 3520.5900 is necessary to provide transportation of school children with mobility problems as safely as possible. This rule is reasonable in that it includes the best thinking of school district personnel and school bus contractors who have been actively involved in providing services to these students for many years. This is an area of concern that is generally not covered by Federal standards at this time and reliance was placed on common sense and experience to provide reasonable rules.

Section 3520.5910 Motor Coach Used for School Activities is all new material. This section was added to comply with the requirements of M.S. 169.44, Subd. 18. Subpart 1 Definitions defines motor coaches and school activities. Subpart 2 Standards requires that equipment for motor coaches must conform to Federal Motor Carrier Safety Regulations and lists relevant standards numbers. Subpart 3 Identification prohibits motor coaches from being outwardly identified as a school bus and requires that it meet the identification requirements of M.S. 168.012. Subpart 4 Inspection requires annual inspection of motor coaches using motor carrier standards found in M.S. 221.031, Subd. 1. Subpart 5 Certification confirms that upon passing the annual inspection, a motor coach will receive a motor carrier safety sticker.

This section is reasonable in that it includes the requirement of M.S. 169.44, Subd. 18 regarding definition, identification, inspection and certification of motor coaches. Basically, the rule requires that motor coaches comply with those portions of state and Federal laws and regulation which are applicable to this type of vehicle.

3520.5920 Operation of Motor Coaches Used for School Activities is all new material as required by M.S. 169.44, Subd. 18. Subpart 1 Comply With This Part requires that drivers of motor coaches used for school activities must comply with Subparts 2 and 3. Subpart 2 Driver Qualifications requires that drivers of motor coaches used for school activities have at least a [Class B license with a school bus endorsement. Subpart 3 Driving Rules requires drivers of motor coaches used for school activities to comply the driving rules of Federal Motor Carrier Safety Regulations, Chapter III, part 392. Subpart 4 Operation prohibits the use of motor coaches for transportation services that are eligible for state aid. This subpart also provides that school districts cannot lease their motor coaches for any use.

This section is reasonable in that it includes the requirement of M.S. 169.44, Subd. 18 regarding driver qualifications and operation of motor coaches used for school activities. Basically, the rule requires driver qualifications and operation of these vehicles to comply with state and Federal laws and rules applicable to that type of operation.

The Department of Education has considered the possible impact of these proposed rule changes on both local public bodies and small businesses. Representatives of local school district transportation supervisors, school bus contract operators, school bus manufacturers, school bus body distributors, school bus part suppliers and the Departments of Public Safety and Education were involved in developing the proposed rule changes. The consensus of this group was that there would be no additional financial burden imposed on local public bodies or small businesses by the adoption of the proposed rules.

RF:S335aDEC
05/27/88

Minnesota Department of Education

Capitol Square 550 Cedar Street Saint Paul, Minnesota 55101 TTY/TDD Number: (612) 297-2094
Phone:

In the Matter of the Proposed Adoption of the Rule of the State Board of Education Governing the 1) Standards for Aid, 2) Operation of School Buses, 3) Pupil Transportation Safety Education Program, and 4) Design of School Transportation Equipment Standards.

AFFIDAVIT OF MAILING THE NOTICE OF INTENT TO ADOPT A RULE WITHOUT A PUBLIC HEARING AND CERTIFICATE OF MAILING LIST

STATE OF MINNESOTA)
) ss.
COUNTY OF RAMSEY)

Ted Suss, being sworn says:

I hereby certify that the list of persons and associations who have requested, pursuant to Minnesota Statutes, section 14.14, subdivison 1a and 14.22 or 14.30, that their names be placed on the state board of education rulemaking list is accurate, complete, and current as of this 19 day of September, 1988.

That on the 19 day of September, 1988, at the City of St. Paul, County of Ramsey, State of Minnesota, I mailed the attached Notice of Intent to Adopt A Rule without a Public Hearing by depositing in the United States Mail, a copy thereof, with postage prepaid, to all persons and associations on the aforementioned mailing list.

Ted Suss
Administrator to the Board

Subscribed and sworn to before me
this 31 day of October, 1988.

Hollis Dee Britz-Mitchell

HOLLIS DEE BRITZ - MITCHELL
NOTARY PUBLIC-MINNESOTA
CHISAGO COUNTY
MY COMMISSION EXPIRES OCTOBER 24, 1992

B. the name and address of the association or branch office to be acquired or chartered;

C. the date that the application was filed with the department;

D. the notice that public comment addressed to the name and address of the commissioner will be accepted for a period of at least 30 days from the date of publication;

E. that the application to acquire or charter a savings and loan association or branch office by an interstate bank holding company must establish certain statutory criteria for approval under Minnesota statutes;

F. that the application, before being approved, must demonstrate that the acquisition of the savings and loan association or branch office:

(1) will not result in undue concentration of resources or substantial lessening of competition in the locality; and

(2) will bring net new funds into Minnesota;

G. that the application, subject to any limitations imposed by federal or state statutes, is available to members of the public by contacting the commissioner of the Department of Commerce at 500 Metro Square Building, Saint Paul, MN, 55101; and

H. any other information that the commissioner considers relevant to a proper disclosure surrounding the facts and circumstances of the acquisition.

Subp. 5. **Format.** The publication required in this part shall be typeset in a format acceptable for the publication of a savings and loan association charter application.

Department of Education

Proposed Permanent Rules Relating to School Buses

Notice of Intent to Adopt a Rule Without a Public Hearing

NOTICE IS HEREBY GIVEN that the State Board of Education intends to adopt the above-entitled rule without a public hearing following the procedures set forth in the Administrative Procedure Act for adopting rules without a public hearing in *Minnesota Statutes,* sections 14.22 to 14.28. The statutory authority to adopt the rule is *Minnesota Statute* 169.45.

All persons have 30 days in which to submit comment in support of or in opposition to the proposed rule or any part or subpart of the rule. Comment is encouraged. Each comment should identify the portion of the proposed rule addressed, the reason for the comment, and any change proposed.

Any person may make a written request for a public hearing on the rule within the 30-day comment period. If 25 or more persons submit a written request for a public hearing within the 30-day comment period, a public hearing will be held unless a sufficient number withdraw their request in writing. Any person requesting a public hearing should state his or her name and address, and is encouraged to identify the portion of the proposed rule addressed, the reason for the request, and any change proposed. If a public hearing is required, the agency will proceed pursuant to *Minnesota Statutes,* section 14.131 to 14.20.

Comments or written requests for a public hearing must be submitted to:

Len Nachman
Department of Education
942 Capitol Square Building
550 Cedar Street
St. Paul, MN 55101

The proposed rule may be modified if the modifications are supported by data and views submitted to the agency and do not result in a substantial change in the proposed rule as noticed.

A copy of the proposed rule is attached to this notice.

A Statement of Need and Reasonableness that describes the need for and reasonableness of each provision of the proposed rule and identifies the data and information relied upon to support the proposed rule has been prepared and is available from Len Nachman upon request.

KEY: PROPOSED RULES SECTION — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material." ADOPTED RULES SECTION — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language.

The State Board of Education estimates that there will be no cost to small business or to local school districts in the state in order to implement the proposed rule.

The following rules have been repealed: 3520.0500, 3520.0700, 3520.0800, 3520.0900, 3520.1100, 3520.1700, 3520.1900, 3520.2000, 3520.2100, 3520.2200, 3520.2300, 3520.3800, 3520.4000, 3520.4200, 3520.4210, 3520.4220, 3520.4230, 3520.4240, 3520.4250, 3520.4260, 3520.4300, 3520.4520, 3520.4530, 3520.4580, 3520.4660, 3520.4690, 3520.4700, 3520.4710, 3520.4730, 3520.4740, 3520.4760, 3520.4770, 3520.4800, 3520.4810, 3520.4820, 3520.4830, 3520.4860, 3520.4870, 3520.4920, 3520.4940, 3520.4950, 3520.4960, 3520.4970, 3520.4990, 3520.5020, 3520.5100, 3520.5110, 3520.5130, 3520.5140, 3520.5150, 3520.5170, 3520.5210, 3520.5320, 3520.5350, 3520.5360, 3520.5400, 3520.5410, 3520.5420, 3520.5430, 3520.5440, 3520.5460, 3520.5470, 3520.5480, 3520.5530, 3520.5540, 3520.5550, 3520.5610 and 3520.5800.

If no hearing is required, upon adoption of the rule, the rule and the required supporting documents will be submitted to the Attorney General for review as to legality and form to the extent the form relates to legality. Any person may request notification of the date of submission to the Attorney General. Persons who wish to be advised of the submission of this material to the Attorney General, or who wish to receive a copy of the adopted rule, must submit a written request to Len Nachman.

Dated: 17 June 1988

Ruth E. Randall
Secretary, State Board of Education

Rules as Proposed

For a copy of the proposed rules, refer to the July 4, 1988 *State Register,* Volume 13, Number 1, pages 6-33.

Department of Health

Proposed Permanent Rules Relating to Food and Beverage Establishments

EXPLANATION OF ALTERNATIVE NOTICES

The Minnesota Department of Health (hereinafter "Department") is hereby giving notice of its intent to adopt a rule without a public hearing under the noncontroversial rulemaking procedure of *Minnesota Statutes* §§ 14.22 to 14.28 (1986). However, in case 25 or more persons request a hearing, thus necessitating that one be held pursuant to *Minnesota Statutes* § 14.25 (1986), and in order to expedite the rulemaking process should that occur, the Department is at the same time hereby giving notice of the hearing on the proposed rule pursuant to *Minnesota Statutes* §§ 14.131 to 14.20 (1986). The hearing will, of course, be cancelled if 25 or more people do not request that one be held. With the comment period closing on October 26, 1988, there will be 12 days before the scheduled hearing date. This 12-day period will give interested persons ample time to contact the Department to find out whether the hearing will be cancelled and to plan accordingly.

NOTICE OF INTENT TO ADOPT A RULE WITHOUT A PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the Minnesota Department of Health (hereinafter "Department") proposes to adopt the above-captioned rule without a public hearing unless 25 or more persons submit written requests for a public hearing. The Department has determined that the proposed changes will be noncontroversial in nature and has elected to follow the procedures set forth in *Minnesota Statutes* §§ 14.22 to 14.28 (1986).

Interested persons shall have 30 days from the date this notice is published in the *State Register* to submit comments in support of or in opposition to the proposed rule. The 30 days will expire on October 26, 1988. Comment is encouraged. Each comment should identify the portion of the proposed rule being addressed, the reason for the comment, and any change proposed to the rule by the comment. The proposed rule may be modified if the modifications are supported by the data and views submitted to the Department and do not result in a substantial change in the proposed language.

In addition to submitting comments, interested persons may request in writing during the 30-day comment period that a hearing be held on the proposed rule. Any person requesting a hearing should state his or her name, address, and telephone number and is encouraged to identify the portion of the proposed rule addressed, the reason for the request, and any changes they want made to the proposed rule. If a person desires that a hearing be held on only a portion of the proposed rule, it is requested that the Department be informed of the specific amendments on which a hearing is being requested at the time that the hearing request is made. This will enable the Department to limit the hearing, if one is held, to the specific issues of concern. A public hearing will be held only if 25 or more persons submit in writing requests for a hearing on the proposed rule or a portion thereof by October 26, 1988. If a hearing is required, it will be held in accordance with the provisions of *Minnesota Statutes* §§ 14.131 to 14.20 (1986) and the hearing notice provided below.

Proposed Rules

Pursuant to Minn. Stat. of 1982, §§ 14.22, an agency may propose to adopt, amend, suspend or repeal rules without first holding a public hearing, as long as the agency determines that the rules will be noncontroversial in nature. The agency must first publish a notice of intent to adopt rules without a public hearing, together with the proposed rules, in the *State Register*. The notice must advise the public:

1. that they have 30 days in which to submit comment on the proposed rules;
2. that no public hearing will be held unless 25 or more persons make a written request for a hearing within the 30-day comment period;
3. of the manner in which persons shall request a hearing on the proposed rules; and
4. that the rule may be modified if the modifications are supported by the data and views submitted.

If, during the 30-day comment period, 25 or more persons submit to the agency a written request for a hearing of the proposed rules, the agency must proceed under the provisions of §§ 14.14-14.20, which state that if an agency decides to hold a public hearing, it must publish a notice of intent in the *State Register*.

Pursuant to Minn. Stat. §§ 14.29 and 14.30, agencies may propose emergency rules under certain circumstances. Proposed emergency rules are published in the *State Register* and, for at least 25 days thereafter, interested persons may submit data and views in writing to the proposing agency.

Department of Education

Proposed Permanent Rules Relating to School Buses

Notice of Intent to Adopt a Rule Without a Public Hearing

Notice is hereby given that the State Board of Education intends to adopt the above-entitled rule without a public hearing following the procedures set forth in the Administrative Procedure Act for adopting rules without a public hearing in *Minnesota Statutes,* sections 14.22 to 14.28. The statutory authority to adopt the rule is *Minnesota Statute* 169.45.

All persons have 30 days in which to submit comment in support of or in opposition to the proposed rule or any part or subpart of the rule. Comment is encouraged. Each comment should identify the portion of the proposed rule addressed, the reason for the comment, and any change proposed.

Any person may make a written request for a public hearing on the rule within the 30-day comment period. If 25 or more persons submit a written request for a public hearing within the 30-day comment period, a public hearing will be held unless a sufficient number withdraw their request in writing. Any person requesting a public hearing should state his or her name and address, and is encouraged to identify the portion of the proposed rule addressed, the reason for the request, and any change proposed. If a public hearing is required, the agency will proceed pursuant to *Minnesota Statutes,* section 14.131 to 14.20.

Comments or written requests for a public hearing must be submitted to:

Len Nachman
Department of Education
942 Capitol Square Building
550 Cedar Street
St. Paul, MN 55101

The proposed rule may be modified if the modifications are supported by data and views submitted to the agency and do not result in a substantial change in the proposed rule as noticed.

A copy of the proposed rule is attached to this notice.

A Statement of Need and Reasonableness that describes the need for and reasonableness of each provision of the proposed rule and identifies the data and information relied upon to support the proposed rule has been prepared and is available from Len Nachman upon request.

The State Board of Education estimates that there will be no cost to small business or to local school districts in the state in order to implement the proposed rule.

The following rules have been repealed: 3520.0500, 3520.0700, 3520.0800, 3520.0900, 3520.1100, 3520.1700, 3520.1900, 3520.2000, 3520.2100; 3520.2200, 3520.2300, 3520.3800, 3520.4000, 3520.4200, 3520.4210, 3520.4220, 3520.4230, 3520.4240, 3520.4250, 3520.4260, 3520.4300, 3520.4520, 3520.4530, 3520.4580, 3520.4660, 3520.4690, 3520.4700, 3520.4710, 3520.4730,

KEY: PROPOSED RULES SECTION — Underlining indicates additions to existing rule language. ~~Strike outs~~ indicate deletions from existing rule language. If a proposed rule is totally new, it is designated "all new material." ADOPTED RULES SECTION — Underlining indicates additions to proposed rule language. ~~Strike outs~~ indicate deletions from proposed rule language.

3520.4740, 3520.4760, 3520.4770, 3520.4800, 3520.4810, 3520.4820, 3520.4830, 3520.4860, 3520.4870, 3520.4920, 3520.4940, 3520.4950, 3520.4960, 3520.4970, 3520.4990, 3520.5020, 3520.5100, 3520.5110, 3520.5130, 3520.5140, 3520.5150, 3520.5170, 3520.5210, 3520.5320, 3520.5350, 3520.5360, 3520.5400, 3520.5410, 3520.5420, 3520.5430, 3520.5440, 3520.5460, 3520.5470, 3520.5480, 3520.5530, 3520.5540, 3520.5550, 3520.5610 and 3520.5800.

If no hearing is required, upon adoption of the rule, the rule and the required supporting documents will be submitted to the Attorney General for review as to legality and form to the extent the form relates to legality. Any person may request notification of the date of submission to the Attorney General. Persons who wish to be advised of the submission of this material to the Attorney General, or who wish to receive a copy of the adopted rule, must submit a written request to Len Nachman.

Dated: 17 June 1988

Ruth E. Randall, Secretary
State Board of Education

Rules as Proposed

3520.0200 APPLICATION AND CLAIM FOR TRANSPORTATION AID.

Subpart 1. **Deadline.** A district making application for aid for transportation or board and lodging under Minnesota Statutes, sections ~~124.222 and~~ 124.223 and 124.225 shall report to the State Department of Education and all claims submitted shall be postmarked not later than ~~July 31~~ August 15 after the close of the school term for which aid is claimed in order to qualify for final payment at the regular time.

Subp. 2. **Frequency of reports.** For each fiscal year ending June 30, each district shall file a report pursuant to subpart 1. This report and the year-end reports required in subpart 1 shall provide the pupil counts on which the ~~following September, December, and March payments of 30 percent~~ aid will be paid.

3520.0300 AID LIMITATION.

Transportation aid will be paid for the transportation of each eligible resident pupil for one round trip per day to the classified school attended. ~~Transportation aid for any eligible pupils will be granted on the authority of only one clause of Minnesota Statutes, section 124.223, clauses (1), (2), (4), and (5).~~

3520.0400 ~~ELIGIBLE PUPILS, RESIDENT PUPILS~~ TRANSPORTATION DATA REPORTING REQUIREMENTS.

~~Resident pupils:~~

~~A.~~ Subpart 1. **Regular category.** ~~Any~~ An elementary or secondary pupil for which a school district is entitled to transportation aid under ~~the provisions of~~ Minnesota Statutes, sections 124.223 ~~and 124.32, subdivision 6. Each eligible pupil transported pursuant to Minnesota Statutes, section 124.223, clause (1), to be included for transportation aid, shall reside a walking distance of one mile or more from the school building attended or which could be attended, but in the case of a nonpublic school only to the extent permitted by Minnesota Statutes, sections 123.76 to 123.79 with respect to nonpublic school pupils,~~ clauses (1) and (2), must be transported 20 or more days to be eligible for state aid. A kindergarten pupil attending full-day, every-other day classes must be transported ten or more days to be eligible for state aid. A district shall report annual mileage for regular category transportation.

~~B. Any secondary pupil or an area vocational-technical school pupil, who is a resident of a district not maintaining a secondary school or area vocational-technical school or vocational classes and is transported to a district having a classified secondary or area vocational-technical school or vocational classes at the expense of the resident district.~~

~~C. Any pupil transported to and from an instructional community-based employment station which is part of an approved occupational experience secondary vocational program, subject to such budget limitations as are imposed by current legislation.~~

~~D. Any pupil enrolled on a shared time basis in an educational program approved by the commissioner, for which transportation is provided from one educational facility to another within the district, subject to such budget limitations as are imposed by current legislation.~~

Subp. 2. **Other authorized categories.** A district that transports pupils under Minnesota Statutes, sections 123.223, clauses (1) and (3) to (10), and 275.125, subdivision 5d, must report the number of pupils transported. Annual mileage must be reported only when separate routes are set up to provide this transportation.

Subp. 3. **Other unauthorized categories.** A district that transports pupils in categories that are not authorized for transportation aid must furnish information on students transported and mileage as requested on the annual transportation report.

Subp. 4. **Other transportation data.** A district shall furnish information on vehicle ownership, fuel consumption, and other data as requested on the annual transportation report.

Subp. 5. **Duplication of pupil counts.** A district must not report a pupil in more than one to-and-from-school category. These categories are: regular, handicapped, secondary one-to-two-miles, traffic hazards, and ineligible.

3520.1000 TRANSPORTATION AND BOARD AND LODGING CONTRACTS.

The school board shall enter into written contracts for the transportation ~~and/or~~ and board and lodging of its resident pupils ~~and such contracts shall be approved by the commissioner of education within ten days after the written contract is negotiated~~. (See part 3525.1200)

3520.1200 COMMISSIONER'S RULES, TRANSPORTATION CONTRACTS.

The board of any school district ~~contracting~~ may contract with another district, private contract hauler, or parent for the transportation of its resident pupils ~~shall submit its written contract(s) in duplicate to the commissioner of education within ten days after the written contract is negotiated, but not later than the first day of the school period for which the contract is made~~.

Transportation contracts ~~shall~~ should include at least the following specific items:

A. the correct names of the contracting parties;

B. date the contract begins and date the contract ends;

C. kind of transportation equipment to be used;

D. total amount to be paid during the school year or base per pupil rate;

E. when and how payments are to be made;

F. minimum number of pupils to be transported; and

G. special terms to be mentioned:

(1) holidays, specific dates;

(2) vacations, beginning and ending dates;

(3) conditions governing bus route changes;

(4) how new and additional pupils will be provided for;

(5) how extracurricular and other special trips are to be provided and paid for;

(6) how adjustments and refunds are to be handled;

(7) kinds and amounts of insurance to be carried and special coverage;

(8) a statement that the local board shall approve any and all school bus routes, drivers, and alternate drivers; and

(9) how contracts may be terminated.

3520.1800 TRANSPORTATION OF NONRESIDENT PUPILS.

~~Each~~ A school district ~~wishing to~~ may transport nonresident pupils on district-owned and -operated buses ~~and~~ or on privately owned and operated buses contracted for by the school board of the district ~~shall make written application to the State Board of Education for permission to do so. Permission to transport nonresident pupils may be granted to school districts by the State Board of Education provided:~~

~~A. that~~. The equipment ~~is~~ must not be required for the transportation of resident pupils ~~and that~~. There ~~is~~ must be available seating space in the bus ~~to accommodate~~ for the nonresident pupils~~; and~~.

~~B. that~~ The routes ~~are~~ must be within the area of the secondary school to be served and ~~are~~ must be approved by the State Board of Education.

RULES, OPERATION OF SCHOOL BUSES AND PUPIL TRANSPORTATION SAFETY EDUCATION PROGRAM

3520.2400 OPERATION OF TYPE I AND TYPE II SCHOOL BUSES ~~CARRYING MORE THAN 16 PUPIL PASSENGERS~~.

Subpart 1. **Application of rules.** The operating rules ~~stated~~ in parts 3520.2400 to 3520.2900 shall govern the operation of Type I and Type II school buses used for the transportation of school children when owned and operated by a school district or privately owned and operated under a contract with a school district.

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Subp. 2. **Transportation of pupils.** Only pupils assigned to the school bus by the school board or designated administrative officer of the school district shall be transported at district expense.

Pupils are not to be evicted from the bus along the route for a breach of discipline. All breaches of discipline shall be reported by the bus driver to the administrative officer.

The entrance door shall be closed at all times when transporting pupils and the bus is in motion.

All buses shall load and unload in the right lane of the roadway, at ~~pupil's~~ pupil stops on bus routes approved by the administrative officer. Loading or unloading in a designated turn lane or in a lane immediately adjacent to a designated turn lane is prohibited.

There shall be no pupils in the bus while the gas tank is being filled. On leaving the vehicle when pupils are in the bus, the driver shall stop the motor, remove the ignition key, set the brakes, and otherwise render the bus immobile.

The administrative officer shall see that no materials, including guns, loaded or unloaded; gasoline cans, empty or full; animals; or any other object of a dangerous or objectionable nature are transported in the school bus when children are being transported.

~~No school bus shall pull any trailer when children are being transported to or from school or on extracurricular trips.~~

Subp. 3. **Driving on school grounds.** Buses shall not be run backwards on the school grounds or at any other point if it can be avoided. If it is necessary to run a bus backwards, the driver ~~shall~~ should have ~~another responsible person act as a guard or flagman in back of the bus to keep other persons out of the path and to issue warnings to the drivers of approaching vehicles~~ adequate visibility to determine if any moving vehicles are within 500 feet in either direction, when on roadways. When there is a pupil pick-up or unloading at a backing point, the driver shall always load before backing and unload after backing. No pupils should be outside the bus when it is backing.

Subp. 4. **In case of accidents.** In case of an accident or breakdown of the bus the driver shall not leave the bus but send two of the patrol or other responsible pupils to the nearest house to summon help.

Immediate reports of all accidents, however slight, involving the school bus shall be made by the driver to the administrative officer and to such other authorities as required by law, rule, or regulation. The driver shall prepare and keep all records and reports required by the administrative officer.

3520.3000 OPERATION OF TYPE III SCHOOL BUSES ~~CARRYING 16 OR LESS PUPIL PASSENGERS~~. (INCLUDES AUTOMOBILES, STATION WAGONS, AND OTHER VEHICLES DESIGNED FOR CARRYING NINE OR ~~LESS~~ FEWER.)

Subpart 1. **Application.** The operating rules ~~stated~~ in parts 3520.3000 to 3520.3200 shall govern the operation of Type III school buses used for the transportation of school children when owned and operated by a school district or privately owned and operated under a contract with a school district.

Subp. 2. **Transportation of pupils.** Only pupils assigned to the vehicle by the school board or designated administrative officer of the school district shall be transported at district expense.

3520.3680 INCORPORATIONS BY REFERENCE.

Part or all of the documents and standards referred to in this part are incorporated by reference in chapter 3520. The documents are subject to frequent change and are conveniently available to the public through the Minitex interlibrary loan system. The latest edition available at the time the amendments to chapter 3520 are proposed is cited. Unless a later rulemaking by the Department of Education specifically restricts application of material incorporated by reference to a specific edition, later editions are incorporated by reference as they are published and made conveniently available to the public.

National Minimum Standards for School Buses and Operations, 1985 Revised Edition, National Safety Council, 444 North Michigan Avenue, Chicago, IL 60611.

SBMI School Bus Design Objectives, January 1985, School Bus Manufacturers Institute, 4907 Cordell Avenue, Bethesda, MD 20814.

Standard for Safety for Dry Chemical Fire Extinguishers ANSI-UL 299-1984, Approved March 2, 1984, American National Standard/Underwriter Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL 60062.

School Bus Warning Lamps - SAE J887, May 1982, Society of Automotive Engineers Standards, 400 Commonwealth Drive, Warrendale, PA 15096.

Standard Method of Salt Spray (706) Testing - Designation B117-85, American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

Windshield Defrosting Systems Test Procedure - Trucks, Buses, and Multipurpose Vehicles - SAE J381 and SAE J382, June 1984, Society of Automotive Engineers Standards.

Standard for the Storage and Handling of Liquefied Petroleum Gases NFPA58, 1986 Edition, National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

School Bus Stop Arm - Recommended Practice - SAE J1133, April 1984, Society of Automotive Engineers Standards.

Windshield Defrosting Systems Performance Guidelines - Trucks, Buses, and Multipurpose Vehicles - Recommended Practice - SAE J382, October 1984, Society of Automotive Engineers Standards.

Turn Signal Lamps for Use on Motor Vehicles Less Than 2032 MM in Overall Width - SAE J588, November 1984 and SAE J588l, Society of Automotive Engineers Standards.

Manual on Uniform Traffic Control Devices for Streets and Highways, 1987, Federal Highway Administration, 400 7th S.W., Washington, D.C. 20590.

United States Standard Alphabets for Highway Signs, Series B and Series D, Federal Highway Administration.

Federal Specification TT-C-520B, Coating Compound, Bituminous Solvent Type Underbody (for Motor Vehicles), General Services Administration, Specification and Consumer Information, Distribution Center, Washington Navy Yard, Building 197, Washington, D.C. 20407.

Product Standard PS 1-83, Construction and Industrial Plywood, United States Department of Commerce, National Bureau of Standards, Washington, D.C. 20234.

3520.3700 DESIGN OF SCHOOL TRANSPORTATION EQUIPMENT STANDARDS.

Subpart 1. **General.** The design and color of school buses~~, and all other vehicles~~ used in the transportation of ~~public~~ school children to and from school or to and from school-related activities, whether owned and operated by a school or school district or privately owned and operated under a contract with a school or school district, shall ensure safe and economical transportation of pupils at all times and shall ~~reasonably~~ conform to the minimum standards for design of school buses as established by the State Board of Education and ~~as stated in the following rules~~ shall comply with applicable federal standards. These are minimum standards and may be exceeded if exceeding them does not conflict with federal standards, state laws, or rules.

Subp. 2. [See Repealer.]

Subp. 2a. **Variances.** The commissioner of the Department of Education, after consulting with the commissioner of the Department of Public Safety, may grant a variance to any of the standards to accommodate testing of new equipment related to school buses. The variance must not conflict with Minnesota Statutes, federal laws, or Federal Motor Vehicle Safety Standards.

A variance from the standards must be for the sole purpose of testing and evaluating for increased safety, efficiency, and economy of pupil transportation. The variance expires 12 months from the date of its granting by the commissioner unless the commissioner specifies an earlier expiration date.

The commissioner upon granting a variance must furnish the commissioner of the Department of Public Safety and the requesting operator with a written copy of the variance specifying the conditions imposed on the testing.

The commissioner shall also provide a copy of the variance in writing to all contract operators and school districts.

The commissioner may grant up to one 12-month extension on a variance.

Annually by June 30, the commissioner will review all variances for adoption into the minimum standards.

Subp. 3. [See Repealer.]

3520.3701 VEHICLE DESCRIPTIONS.

Subpart 1. **Type I.** A Type I school bus means a school bus of more than 10,000 pounds gross vehicle weight rating, designed for carrying more than ten persons. A Type I school bus may be either a conventional or forward control bus.

Subp. 2. **Type II.** A Type II school bus is a bus with a gross vehicle weight rating of 10,000 pounds or less, designed for carrying more than ten persons. It must be outwardly equipped and identified as a school bus. It need not comply with Type I standards unless specified in part 3520.5611.

Subp. 3. **Type III.** A Type III school bus is restricted to a passenger car, station wagon, van, or bus with a maximum manufacturer's rated seating capacity of ten persons including the driver, and with a gross vehicle weight rating of 10,000 pounds or less. A "gross vehicle weight rating" or "GVWR" means the value specified by the manufacturer as the loaded weight of a single vehicle. Actual gross vehicle weight must not exceed the manufacturer's gross vehicle weight rating.

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A Type III school bus must not in any way be outwardly equipped and identified as a school bus and must not operate as a Type I or Type II bus and need not conform to standards for Type I or Type II buses.

Subp. 4. **Standards are for new buses.** The minimum standards apply to new school buses purchased for use in Minnesota after the effective date of these standards. Buses complying with these standards when purchased new for use in Minnesota need not comply with standards established later except as specifically provided by law.

Subp. 5. **Used buses.** A used school bus purchased for use in Minnesota that has a current or expired Minnesota inspection sticker must conform to the Minnesota minimum standards in effect on the date the vehicle was purchased new. A used school bus that has never been inspected in Minnesota must conform to current Minnesota minimum standards.

Subp. 6. **"MN" designation.** School bus bodies manufactured after January 1, 1986, and used on the streets and highways in this state must bear the designation "MN" in the body identification number. The manufacturer of the school bus body certifies by the "MN" designation that the bus body has been manufactured to meet the minimum standards required of school bus bodies. A school bus body manufactured before January 1, 1986, that does not bear a current inspection sticker, must not be used on the streets and highways in the state unless its manufacturer recertifies that the school bus body meets the minimum standards required of school bus bodies by law. Recertification must be made on a form provided by the Minnesota Department of Public Safety.

Automobiles, station wagons, and vans manufactured in a single stage are exempt from the requirements of this subpart.

Subp. 7. **Inspection.** Pursuant to Minnesota Statutes, section 169.451, school bus inspection procedures that indicate specific criteria and tolerances for each standard must be promulgated by the state patrol.

Subp. 8. **Interpretation.** The commissioner of the department of education and the commissioner of the department of public safety shall confer on interpretations and clarifications of rules.

Subp. 9. **Restructured defined.** "Restructured" means a vehicle produced by a chassis manufacturer which is converted into a school bus by a second manufacturer and upon completion shall meet or exceed the static load test code for school bus body structure.

Subp. 10. **No depreciation; exception.** A new bus body may be remounted on a chassis that is not more than three years old. Permission must be obtained from the commissioner of education in coordination with the commissioner of public safety before the remounting is done. A used bus body must not be remounted on a new or used chassis.

3520.3801 TYPE I CHASSIS.

The standards in parts 3520.3900 to 3520.4761 apply to Type I bus chassis.

3520.3802 COMPLIANCE.

Compliance with these standards is the responsibility of the chassis manufacturer.

3520.3900 AIR CLEANER.

~~Bus shall be equipped with adequate oil bath or dry element type air cleaner mounted outside passenger compartment~~ The engine intake air cleaner shall be furnished and properly installed by the chassis manufacturer to meet engine specifications.

3520.4001 AXLES.

The front and rear axles, including the suspension assembly, must have a gross weight rating at ground at least equal to that portion of the load imposed by the chassis manufacturer's maximum gross vehicle weight rating.

3520.4100 BATTERY.

Subpart 1. **General requirement.** The storage battery, as established by the manufacturer's rating, ~~shall~~ must be of sufficient capacity to care for starting, lighting, signal devices, heating, and other electrical equipment in Minnesota. ~~No bus shall be equipped with a battery system of less than 150 ampere hours at 12 volts, measured at 20-hour rate. (Negative ground system only.)~~

A. In a bus with a gas-powered chassis, the battery or batteries must provide a minimum of 800 cold cranking amperes.

B. In a bus with a diesel-powered chassis, the battery or batteries must provide a minimum of 1,070 cold cranking amperes.

Subp. 2. ~~**Option**~~ **Options.** The following battery systems are optional.

A. A battery ~~system of~~ providing at least ~~90 ampere hours~~ 550 cold cranking amperes may be installed in the engine compartment ~~and shall be~~ if used only in combination with a generator or alternator of at least 120 amperes. ~~(See chassis, part 3520.4610, subpart 2.)~~

B. A bus with a gross vehicle weight rating (GVWR) of more than 10,000 pounds, but not over 15,000 pounds GVWR may be equipped with a battery to provide a minimum of 475 cold cranking amperes (CCA) if used only in combination with an alternator of at least 80 amperes. This option does not apply to those buses with wheelchair lifts.

Subp. 3. **Mounting of battery.** When a battery is to be mounted ~~outside of engine compartment, it may be temporarily mounted to chassis. Body company will permanently mount battery~~ on a sliding tray ~~located so that center line of battery is 52 inches back of cowl. One-piece, one gauge battery cables shall be~~ rather than the standard installation provided by the chassis manufacturer, ~~such cables to be at least 36 inches longer than normally required, to accommodate battery when located 52 inches to rear of cowl~~ the battery must be temporarily mounted on the chassis frame by the chassis manufacturer. The final location of the battery and the appropriate cable lengths shall agree with the SBMI Design Objectives, January 1985 Edition.

Subp. 4. [See Repealer.]

3520.4201 BRAKES.

Subpart 1. **Adequate to control, stop, and hold.** A school bus must have brakes adequate to control the movement of, and to stop and hold the bus.

Subp. 2. **Federal brake standards.** A school bus must meet federal brake standards in effect at the time of manufacture and must include a service brake, a parking brake, and an emergency brake system.

Subp. 3. **Emergency brake system.** A school bus must have either:

A. emergency features in the service brake system; or

B. a system separate from the service brake system.

Subp. 4. **Control.** A control by which the driver applies the emergency brake system must be located so that the driver can readily operate it while being properly restrained by a seat belt assembly provided for the driver's use. The control for applying the emergency brake system may be combined with either the control for applying the service brake system or the control for applying the parking brake system. All three controls must not be combined.

Subp. 5. **Interconnected systems.** If the brake systems specified in subpart 2 are interconnected, they must be designed, constructed, and maintained so that if part of the operating mechanism of one or more of the systems fails, the vehicle will have operative brakes capable of performing as specified in Federal Motor Vehicle Safety Standard Number 105, Code of Federal Regulations, title 49, part 571.

Subp. 6. **Brake tubing and hose.** The brake tubing and brake hose must conform to Federal Motor Vehicle Safety Standard Number 106, Code of Federal Regulations, title 49, part 571.

Subp. 7. **Brake lining.** The brake lining on a school bus must be constructed and installed to avoid excessive fading and grabbing. The brake lining must be adequate in thickness, means of attachment, and physical characteristics to provide for safe and reliable stopping of the motor vehicle.

Subp. 8. **Reservoirs required.** A school bus using air or vacuum for braking must be equipped with reserve capacity or a reservoir sufficient to ensure a full service brake application with the engine stopped without depleting the air pressure or vacuum below 70 percent of that pressure or degree of vacuum indicated by the gauge immediately before the brake application is made. For purposes of this subpart, a full service brake application is made when the service brake pedal is pushed to the limit of its travel.

Subp. 9. **Warning devices and gauges.** A school bus must be equipped with a signal that provides a warning to the driver when a failure occurs in the vehicle's brake system.

A. Buses having service brakes activated by hydraulic fluid must be equipped with a warning signal that conforms to Federal Motor Vehicle Safety Standard Number 105, Code of Federal Regulations, title 49, part 571.

B. Buses having service brakes activated by air pressure must be equipped with warning devices that conform with Federal Motor Vehicle Safety Standard Number 121, Code of Federal Regulations, title 49, part 571.

C. Buses having service brakes activated by vacuum must be equipped with a device that provides a readily audible or visible continuous warning to the driver whenever the vacuum in the vehicle's supply reservoir is less than eight inches of mercury and with a vacuum gauge that indicates to the driver the vacuum in inches of mercury available for braking.

Subp. 10. **Air or vacuum applied or assisted.** A bus having a braking system in which hydraulically activated service brakes are applied or assisted by compressed air or vacuum must be equipped with both a warning signal that conforms to the requirements of subpart 9, item A and a warning device that conforms to the requirements of subpart 9, item B or C.

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3520.4301 FRONT BUMPER.

The front bumper must be furnished by the chassis manufacturer as part of the chassis. The front bumper must extend beyond the forwardmost part of the body, grille, hood, and fenders and must extend to the outer edges of the fenders at the bumper top line. The front bumper, except the breakaway bumper ends, must be of sufficient strength to permit pushing a vehicle of equal gross vehicle weight without permanent distortion to the bumper, bumper braces, chassis, or body.

3520.4400 CERTIFICATION.

The chassis ~~manufacturer shall~~ distributor or dealer, on request, must certify to the State Department of Education that ~~their~~ its product meets minimum ~~standard on the following items: axles; brakes; exhaust system noise level; horn; power and gradeability; springs; complete electrical system~~ standards on items not covered by certification issued under the requirements of the National Traffic and Motor Vehicle Safety Act, United States Code, title 49, section 571.

3520.4500 CLUTCH.

~~All chassis of 48 to 60 pupil capacity having mechanical type transmission shall be equipped with clutch of 12-inch minimum diameter. Chassis of 66 and greater pupil capacity having mechanical type transmission shall be equipped with clutch of 13-inch minimum diameter or clutch of equivalent performance~~ Clutch torque capacity must be at least equal to engine torque output.

3520.4510 COLOR.

Subpart 1. and 2. [See Repealer.]

Subp. 3. **New buses.** ~~(Manufactured after June 1, 1973. See Minnesota Statutes, section 169.44, subdivision 7.)~~ The chassis including front bumper and wheels ~~shall~~ must be painted glossy black, ~~color 17038;~~ the hood and cowl ~~shall~~ must be painted National School Bus ~~Glossy~~ Yellow, ~~color 13432,~~ except that the hood ~~shall~~ may be either ~~that color~~ lusterless yellow or lusterless black~~, color 37038~~.

Subp. 4. **Option on new buses Color options.** ~~Options:~~ Items A to C list color options for specific parts of a school bus.

A. Front fenders may be painted glossy yellow or glossy black.

B. The following may be other than yellow or black: wheel rims; chassis grills; mirror backs, rims, and mounting brackets; reflector housings; window frames; accessories and other minor trim items. ~~See body, part 3520.4900.~~

C. ~~The use of~~ Silver, black, or yellow retroflective material may be used on the front bumper for increased night visibility.

3520.4531 DRIVE SHAFT.

The drive shaft must be protected by adequate metal guard or guards to prevent it from whipping through the floor or dropping to the ground if broken.

3520.4540 ELECTRICAL SYSTEM.

Subpart 1. **Battery.** ~~Battery:~~ See chassis, part 3520.4100; and body, part 3520.4820.

Subp. 2. **Generator.** ~~Generator or alternator:~~ See chassis, part 3520.4610.

Subp. 3. **Lamp and signals.** ~~Lamp and signals:~~ See body, parts 3520.5200 to 3520.5230.

Subp. 4. **Wiring.** ~~Wiring:~~ See body, part 3520.5580.

Subp. 5. **Electrical terminal.** The chassis manufacturer ~~shall~~ must install a readily accessible electrical terminal so that the body and chassis electrical load ~~can~~ may be recorded through a chassis ammeter without dismantling or disassembling the chassis component. The chassis wiring system to the terminal ~~shall~~ must have a minimum of 100-ampere capacity. The chassis ammeter and wiring ~~shall~~ must be compatible with the generating capacity, and the ammeter ~~shall~~ must be capable of recording a continuous draw of 100 amperes.

Subp. 5a. **Option.** A voltmeter may be used in place of an ammeter.

Subp. 6. **Wiring codes, colors, diagram.** ~~A complete and readable wiring diagram shall be furnished with each bus~~ All wiring must use a standard color or number coding and each chassis must be delivered with a wiring diagram that coincides with the wiring of the chassis.

3520.4550 EXHAUST SYSTEM.

Subpart 1. **General.** The exhaust pipe muffler and tailpipe ~~shall~~ must be outside the bus body and attached to the chassis with adequate hangers of sufficient strength to maintain the position of the exhaust system under all normal operating conditions. The tailpipe ~~shall~~ must be constructed of seamless or electrically welded tubing of 16-gauge steel or its equivalent and ~~shall~~ must extend at least five inches beyond the chassis frame ~~(~~but should not go beyond the rear bumper~~)~~. See body, part 3520.5500. The size of the tailpipe ~~shall~~ must not be reduced after it leaves the muffler.

Subp. 2. **Exception.** The exhaust system on vehicles designed for the transportation of special education pupils may be routed to the left of the right frame rail to allow for the installation of a lift on the right side of the vehicle.

Subp. 3. **Insulation.** The exhaust system ~~shall~~ on a gas-powered chassis must be properly insulated from ~~fuel~~ tank and tank connections by a securely attached metal shield at any point where ~~it~~ the exhaust system is within 12 inches ~~or less from~~ of the tank or tank connections. ~~Noise level shall not exceed 125 sones as measured by Beranek Armour ATA Equivalent Tone Method.~~

Subp. 4. **Corrosion-resistant.** The muffler ~~shall~~ must be constructed of corrosion-resistant material.

Subp. 5. **Option; Type I school buses.** Left side exhaust systems are allowed on Type I school buses but must conform to the following requirements:

A. The exhaust system pipe must be of nonflexible, one-piece pipe and be a minimum of 16 gauge steel or its equivalent. Diesel buses may use flex pipe on crossover pipes.

B. The exhaust system pipe must extend a minimum of 18 inches straight rearward from the muffler before a maximum bend of 45 degrees is made in the pipe. More than one bend may be made to attain a 45-degree maximum bend.

C. The exhaust system may extend to a maximum of one inch beyond the body skirt.

D. The end of the exhaust pipe must be cut smooth.

E. An exhaust system that has its exit point behind the rear wheels need not comply with the 45-degree bend requirement.

3520.4560 FENDERS, FRONT.

Subpart 1. **General requirements.** The total spread of the outer edges of the front fenders, measured at the fender line, ~~shall~~ must exceed the total spread of the front tires when the front wheels are in the straight ahead position. The front fenders ~~shall~~ must be properly braced ~~and free from any body attachment~~.

~~Chassis sheet metal shall not extend beyond rear face of cowl.~~

Subp. 2. **Exception ~~for transit and metropolitan vehicles.~~** The standard in subpart 1 does not apply to forward control buses.

3520.4570 FRAME.

The frame or its equivalent ~~shall~~ must be ~~of such design as~~ designed to correspond at least to standard practice for trucks ~~of~~ that have the same general load characteristics ~~which~~ and that are used for ~~severe~~ highway service. ~~When frame side members are used they shall be of one-piece construction. If frame side members are extended, such extension shall be designed and furnished by chassis or body manufacturer with his guarantee, and installation shall be made by either chassis or body manufacturer and guaranteed by company making installation~~ Any person or secondary manufacturer that modifies the original chassis frame shall guarantee the performance of workmanship and materials resulting from the modification. Any frame modification must not be for the purpose of extending the wheelbase. Extensions of frame lengths are permissible only when such alterations are behind the rear hanger of the rear spring ~~and shall not be for purpose of extending wheelbase~~ or in front of the front spring hanger. Holes in top or bottom flanges of the frame side rail ~~shall~~ must not be permitted except as provided in the original chassis frame. There ~~shall~~ must be no welding to frame side rails except ~~by chassis or body manufacturer~~ as provided above. Welding for installation of the trailer hitch is permissible. Frame lengths shall be provided in accordance with School Bus Manufacturers Institute design objectives.

3520.4600 FUEL TANK.

Subpart 1. **Capacity of 30 gallons.** The fuel tank ~~shall have~~ or tanks having a minimum capacity of 30 gallons~~,~~ must be ~~made of 16 gauge terneplate or equivalent, and be mounted directly on right side of chassis frame entirely outside body~~ provided by the chassis manufacturer.

~~Flexible gasoline and oil proof connection shall be provided at engine end of fuel feed line.~~

~~Tank shall be equipped with adequate baffles.~~

~~Engine supply line shall be taken from top of tank.~~

~~Drain plug of at least one fourth inch diameter shall be located in center of bottom of tank.~~

~~Fill pipe cap shall be of such design as to minimize spillage of fuel when bus turns corners in either direction. If venting of fuel tank is done other than through fill pipe cap, cap shall be nonvented type~~ The fuel tank must be filled and vented to the outside of the body so that accidental fuel spillage will not drip or drain on any part of the exhaust system.

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The portion of the fuel system that is located to the rear of the engine compartment, except the filler tube, must not extend above the top of the chassis frame rail. The fuel lines must be mounted to obtain maximum possible protection from the chassis frame in conformance with Federal Motor Vehicle Safety Standard 301, Code of Federal Regulations, title 49, part 371.

The fuel filter with a replaceable element ~~shall~~ must be installed between the fuel tank and ~~carburetor~~ the engine.

The fuel tank~~, fittings, or lines shall not extend above top of chassis frame rail~~ must meet the national standards that apply for the type of fuel used.

Subp. 2. to 5. [See Repealer.]

Subp. 6. **Rear engine powered buses.** In rear engine powered buses, the fuel system must have the fuel tank or tanks located ahead of the engine compartment.

Subp. 7. **Fuel, liquefied petroleum, compressed and liquefied natural gas.** Liquefied petroleum gas (LPG), or compressed or liquefied natural gas installations on school buses must meet National Fire Protection Association Standard Number 58 for "Installation of LP Gas Systems on Vehicles," as adopted by reference in the Minnesota Uniform Fire Code.

A school bus powered by liquefied petroleum or natural gas, or compressed liquefied natural gas must display markings as required by Minnesota Statutes, section 169.762 and parts 7510.4500 to 7510.4900.

3520.4610 GENERATOR OR ALTERNATOR.

Subpart 1. **Output requirement.** The generator or alternator (negative ground only) with rectifier ~~shall~~ must have an output of at least 100 amperes (in accordance with Society of Automotive Engineers rating) with a minimum charging of 30 amperes at the manufacturer's recommended engine idle speed (12-volt system) and ~~shall~~ must be ventilated and voltage-controlled and, if necessary, current-controlled. A matched dual belt drive ~~shall~~ must be used with the generator or alternator. A single belt, with longitudinal multigrooves, may be used in place of a dual belt drive. A heavy-duty full transistorized regulator ~~with adjustable voltage shall~~ must be supplied. A direct-drive generator or alternator may be used in place of a belt drive.

Subp. 2. ~~**Option**~~ **More output if small battery.** When a battery or batteries of less than ~~150 ampere hours~~ 800 cold cranking amperes (CCA) is installed in the engine compartment, the generator or alternator ~~shall~~ must have an output of at least 120 amperes. (See ~~chassis,~~ part 3520.4100, subpart 2.)

Subp. 3. and 4. [See Repealer.]

Subp. 5. **Option; some Type I buses.** Type I buses with a gross vehicle weight rating of 15,000 pounds or less may be equipped with a single belt drive alternator.

3520.4620 GOVERNOR.

Subpart 1. **Permissible.** An engine governor is permissible and ~~where~~ if used ~~shall~~ must be set at the manufacturer's recommended maximum engine speed. ~~When~~ If it is desired to limit road speed, a road speed governor should be installed.

Subp. 2. **Exception ~~for transit and metropolitan vehicles.~~** ~~When~~ If the engine is remotely located from the driver, the governor ~~shall~~ must be installed to limit engine speed to maximum revolutions per minute recommended by the engine manufacturer, or a tachometer ~~shall~~ must be installed so engine speed may be known to the driver.

3520.4630 HEATING SYSTEM.

The chassis engine ~~shall provide inlet and outlet holes in accessible locations for attachment of bus heating system water lines. Also see body, part 3520.5150~~ must have plugged openings for the purpose of supplying hot water for the bus heating system. The opening must be suitable for attaching a 3/4-inch pipe thread/hose connector. The engine must be capable of supplying water having a temperature of at least 170 degrees Fahrenheit at a flow rate of 50 pounds per minute at the return end of 30 feet of one inch inside diameter automotive hot water heater hose. See also School Bus Manufacturers Institute Standard Number 001-Standard Code for Testing and Rating Automotive Bus Hot Water Heating and Ventilating Equipment.

3520.4640 HORN.

~~Bus shall be equipped with dual horns of standard make, each horn capable of producing complex sound in band of audio frequencies between approximately 250 and 2,000 cycles per second and each having a total sound level of 110 decibels within these frequency limits when measured at point on axis of horn three feet from exit of horn.~~

~~Sound level measurements shall be made with meter that complies with American Standard Z24.3-1944, or current revision thereof, as promulgated by American Standards Association, Inc. Measurement shall be made with meter set to flat response (C weighting network).~~

~~Sound level measurements shall be made with horn or horns installed on bus. There shall be no reflecting walls or obstacles other than ground and vehicle closer than 100 feet from horn during sound level measurement~~ The bus must be equipped with a horn in good working order and capable of emitting sound audible under normal conditions from a distance of not less than 200 feet.

3520.4650 INSTRUMENTS AND INSTRUMENT PANEL.

Subpart 1. **Requirements.** The chassis ~~shall~~ must be equipped with ~~following~~ the instruments and gauges ~~(~~listed in this part. Lights in ~~lieu~~ place of gauges are not ~~acceptable):~~ permitted unless indicated.

A. Speedometer.

B. Odometer ~~which~~ that will give accrued mileage ~~including tenths of miles~~.

C. An ammeter ~~shall be,~~ vane or shunt type, with graduated charge and discharge~~, both~~. The ammeter and its wiring ~~to~~ must be compatible with the generating capacities and capable of handling a continuous current draw of 100 amperes. A voltmeter may be used in place of an ammeter.

D. ~~Voltmeter with graduated scale (optional item).~~

~~E.~~ Oil-pressure gauge.

~~F.~~ E. Water-temperature gauge.

~~G.~~ F. Fuel gauge.

~~H.~~ G. Upper-beam headlamp indicator. A light indicator is permitted.

H. Brake indicator (vacuum or air). A light indicator in place of a gauge is permitted on a vehicle equipped with an hydraulic-over-hydraulic brake system.

I. ~~Air pressure or vacuum gauge, where air or vacuum brakes are used, and audible or visible low-pressure indicator to warn driver if air pressure in air-brake system falls below 600 pounds per square inch. See chassis, parts 3520.4200 to 3520.4230; 3520.4240 to 3520.4260.~~

~~J. Tachometer (optional)~~ Turn signal indicator lights.

Subp. 2. **Accessibility, mounting, illumination.** All instruments ~~shall~~ must be easily accessible for maintenance and repair.

All instruments and gauges ~~shall~~ must be mounted on the instrument panel ~~in such manner~~ so that each is clearly visible to the driver in a normal driving position. The instrument panel ~~shall~~ must have lamps of sufficient candlepower to illuminate all instruments and gauges and the shift selector indicator for the automatic transmission.

3520.4670 OPENINGS.

All openings in the floorboard or the firewall between the chassis and the passenger-carrying compartments, such as for gearshift lever and auxiliary brake lever, ~~shall~~ must be sealed unless they are altered by the body manufacturer. ~~See parts 3520.4980 and 3520.4990.~~

3520.4680 PASSENGER LOAD ~~FOR NEW BUSES MANUFACTURED AFTER JANUARY 1, 1975~~.

Subpart 1. **Gross vehicle weight, defined.** Average actual ~~GVW~~ ~~(~~gross vehicle weight~~)~~ (GVW) is the sum of ~~average~~ actual chassis weight, plus average body weight, plus 150 pounds for driver's weight, plus total seated pupil weight ~~(~~based on 120 pounds per pupil~~)~~.

~~Recommended chassis manufacturer's rated GVW (gross vehicle weight) is weight assigned to complete vehicle. (Weights assigned for each pupil capacity classification are shown in table for next topic. Power and gradeability.)~~

~~Manufacturer's gross vehicle weight rating shall be furnished in duplicate (unless more copies are requested by State Department of Education) by manufacturer to the State Department of Education. State Department of Education shall, in turn, transmit such rating to each other state agency responsible for development or enforcement of state standards for school buses.~~

Subp. 2. **Gross vehicle weight (GVW) limit.** The actual gross vehicle weight (GVW) must not be more than the chassis manufacturer's gross vehicle weight rating (GVWR) for the chassis.

3520.4701 SHOCK ABSORBERS.

A school bus must be equipped with front and rear double acting shock absorbers compatible with the manufacturer's rated axle capacity at each wheel location.

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3520.4711 SPRINGS.

Capacity of springs or suspension assemblies must be commensurate with the chassis manufacturer's gross vehicle weight rating. If rear springs are used on a chassis of 15,000 pounds and over, they must be of the progressive type.

3520.4720 STEERING ~~GEAR~~.

The steering gear ~~shall~~ must be approved by the chassis manufacturer and designed to assure safe and accurate performance when the vehicle is operated with maximum load and at maximum speed. The steering mechanism ~~shall~~ must provide for easy adjustment for lost motion. ~~No~~ Changes ~~shall~~ not approved by the chassis manufacturer must not be made in the steering apparatus ~~which are not approved by chassis manufacturer~~. There ~~shall~~ must be a clearance of at least three inches between the steering wheel and the cowl, instrument panel, windshield, or any other surface. ~~Power steering is permissible if approved by chassis manufacturer~~ The steering system must be designed to provide for means for lubrication of all wear-points, if wear-points are not permanently lubricated. Power steering is required and must be of the integral type with integral valves.

3520.4731 TIRES AND RIMS.

Tires and rims of proper size and tires with a load rating commensurate with the chassis manufacturer's gross vehicle weight rating must be provided.

Dual rear tires must be provided on Type I school buses.

Tires of different size or ply rating may be used except that all tires on an axle must be the same size. Radial and bias tires must not be used on the same axle. If a spare tire is carried, it must be suitably mounted in an accessible location outside the passenger compartment.

3520.4741 TRANSMISSION.

An automatic transmission is permissible.

If a manual transmission is used, second gear and higher gears must be synchronized except if to do so would be incompatible with engine power. A minimum of three forward speeds and one reverse speed must be provided. The bus transmission shifting pattern must be permanently displayed in the driver's full view.

3520.4750 UNDERCOATING ~~AND/OR RUSTPROOFING~~.

Unless fenders are constructed of a noncorrosion material, the chassis manufacturer ~~shall~~ must coat undersides of front fenders with ~~fire resistant asphalt base, rubber base, and/or rustproofing, or other undercoating material, applied by spray method, in order to seal, to deaden sound, to insulate, and to prevent oxidation. See also, body, part 3520.5510~~ a compound to prevent rust. The compound must meet or exceed Federal Specifications TT-C-520B using modified test procedures as defined under "Undercoating" of body standards.

3520.4761 WEIGHT DISTRIBUTION.

Weight distribution of a fully loaded bus on a level surface must not exceed the manufacturer's front gross axle weight rating and rear gross axle weight rating.

3520.4801 TYPE I BODY.

The standards in parts 3520.4811 to 3520.5580 apply to Type I bus bodies.

3520.4811 AISLE.

Minimum clearance of all aisles, including the aisle or passageway between seats leading to the emergency door, must be 12 inches. See part 3520.5010, subpart 2. Aisle supports of seat backs must be slanted away from the aisle sufficiently to give aisle clearance of 15 inches at the top of the seat backs.

3520.4831 BODY SIZES.

WATCH YOUR WEIGHT
RECOMMENDED BODY - CHASSIS SIZES FOR MINNESOTA SCHOOL BUSES

PASSENGER CAPACITY	WHEELBASE	Items to specify to get proper minimum gross vehicle weights.					GVWR[2]
		FRONG AXLE	REAR AXLE	TIRE SIZE	FRONT GEAR[1]	REAR GEAR[1]	
29	151"	5000# Gas 7500# Diesel*	15000#	8.25 x 20 10 ply	5000# 7500#	14200#	19200# 21700#
35	151-170"	5000# Gas 7500# Diesel*	15000#	8.25 x 20 10 ply	5000# 7500#	14200#	19200# 21700#
41[3]	189-193"	7000# Gas 7500# Diesel*	15000#	8.25 x 20 10 ply	7000# 7500#	14200#	21200# 21700#
47[3]	189-193"	6000# Gas 7500# Diesel*	15000#	8.25 x 20 10 ply	6000# 7500#	14200#	20200# 21700#
53	216-218"	7000# Gas 8000# Diesel*	15000#	8.25 x 20 12 ply	7000# 8000#	15000#	22000# 23000#
59	235-237"	7000# Gas 8000# Diesel*	17000#	9.00 x 20 10 ply	7000# 8000#	16160#	23160# 24160#
65	254-255"	7500# Gas 8000# Diesel*	17500#	9.00 x 20 12 ply	7500# 8000#	17500#	25000# 25500#
71	274-276"	9000# Gas 9000# Diesel*	19000#	9.00 x 20 14 ply	9000#	19000#	28000#
77	274-276"	9000# Gas 9000# Diesel*	20000#	9.00 x 20 14 ply	9000#	20000#	29000#

* Applies to diesel engines larger than 6.9 liter such as 8.2 and 9 liter and larger.
[1] GAWR (Gross Axle Weight Rating) means the weight carrying capacity of the lightest components of the front or rear axle assembly including axle, tires, wheels, springs, frame, etc.
[2] GVWR (Gross Vehicle Weight Rating) means the total maximum carrying capacity of a bus including body weight; chassis weight, passengers, and fuel. Specify Front GAWR—Rear GAWR and Total GVWR in your bid, using the above chart to properly distributeloaded weights.
[3] The shorter 41 passenger body puts more weight on the front axle than the longer 47 passenger.

A. The above recommendations are designed to allow bidding of various body - chassis combinations and staying within federal weight tolerances.

B. Stock bus bids. Due to the fact that the body - chassis dealers know the exact weight of their units built for stock, axles and tire sizes may be less than those listed above and still be within the federal weight tolerances.

C. The following items add considerable weight and may require heavier axles or longer chassis and body: diesel engines; air brakes; luggage compartments; even size bodies such as 54-60-66 passenger. Uneven sizes as 53-59-65 as listed above are recommended over even sizes as they do not require a wasted nine inch space behind the rear seat.

3520.4840 BOOK RACKS.

Subpart 1. **Permitted.** Book racks ~~or shelves of any type~~ are ~~prohibited on interior of bus body~~ permitted only in buses with 72-inch or more headroom.

Subp. 2. **Location.** If book racks are permitted, they must be located above the side windows and must not extend forward of the foremost point of the front seat, across or above the emergency door and must not exceed 16 inches in width.

Book racks must have only padded, rounded edges on all surfaces exposed to school bus occupants. Padding must be at least one inch thick. There must be an upward extending edge on the aisle side of the rack that extends half the distance to the ceiling of the bus from the bottom of the rack. A minimum of two racks must have full height dividers above every seat to prevent any book or object from sliding front and back. Each rack must be padded on the aisle side.

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3520.4850 BUMPER.

Subpart 1. ~~**Chassis**~~ **Front.** See part ~~3520.4300, subpart 1~~ 3520.4301.

Subp. 2. [See Repealer.]

Subp. 3. **Rear.** Rear bumper ~~shall~~ must be of pressed steel channel at least 3/16 inch thick and eight inches wide (high) and be of sufficient strength to permit being pushed by another vehicle without permanent distortion to bumper, bumper braces, chassis, or body. ~~The center point of such bumper shall be not more than 20, nor less than 14 inches from ground when the vehicle is unloaded (Minnesota Statutes, section 169.73).~~ It ~~shall~~ must be wrapped around back corners of the bus. It ~~shall~~ must extend forward at least 12 inches, measured from rearmost point of body at the floor line. The bumper ~~shall~~ must be attached to the chassis frame ~~in such manner~~ so that it may be easily removed, ~~shall~~ must be ~~so~~ braced ~~as~~ to develop full strength of bumper section from rear or side impact, and ~~shall~~ must be ~~so~~ attached ~~as~~ to prevent hitching of rides. The rear bumper ~~shall~~ must extend beyond rearmost part of body surface, excluding lights, at least one inch, measured at floor line.

Subp. 4. [See Repealer.]

3520.4900 COLOR.

Subpart 1. to 5. [See Repealer.]

Subp. 6. ~~**New buses manufactured after June 1, 1973**~~ **Body.** ~~See Minnesota Statutes, section 169.44, subdivision 7.~~ The body including the hood and the cowl ~~shall~~ must be painted National School Bus ~~Glossy~~ Yellow~~, color 13432, except that the hood shall be either that color or lusterless black, color 37038~~.

A. Rub rails: a minimum of three ~~shall~~ must be black.

B. Rear bumper, rubber rear fenders (if used), and lettering ~~shall~~ must be black.

C. The belt line may be yellow with black lettering or may be black with yellow lettering. Yellow or black reflectorization may be used.

~~See part 3520.5160 and Minnesota Statutes, section 169.44, subdivision 3.~~

Subp. 7. ~~**Option**~~ **Options.** The following color options may be used.

~~Belt line may be yellow with black lettering or may be black with yellow lettering. See part 3520.5160 and Minnesota Statutes, section 169.44, subdivision 3.~~

A. The front fenders may be painted glossy yellow or glossy black.

B. The hood may be lusterless yellow or black.

C. The following may be other than yellow or black: wheel rims; chassis grills; mirror backs, rims, and mounting brackets; reflector housings; window frames; accessories and other minor trim items. See part 3520.4510.

D. The use of yellow or red reflective material may be used on the rear bumper for increased night visibility.

Subp. 8 to 10. [See Repealer.]

3520.4910 CONSTRUCTION.

Construction ~~shall~~ must be of prime commercial quality steel or other metal or other material with strength at least equivalent to all-steel as certified by the bus body manufacturer and must conform to Federal Motor Vehicle Safety Standard Number 220, Code of Federal Regulations, title 49, part 571. ~~All such construction materials shall be fire-resistant. Construction shall provide reasonably dustproof and watertight unit.~~

3520.4930 FLOOR CONSTRUCTION.

Subpart 1. **Requirements.** The floor ~~shall~~ must be of prime commercial quality steel or other metal of at least 14-gauge ~~or other metal and such~~. The metal floor ~~shall~~ must be covered with plywood. The plywood ~~shall~~ must be five-ply, at least five-eighths inch thick and it ~~shall~~ must equal or exceed properties of exterior-type ~~Douglas fir~~ softwood plywood, grade ~~C-C~~ C-D, as specified in product standard PS 1-83 issued by ~~U.S.~~ the United States Department of Commerce. The floor ~~shall~~ must be level from front to back and from side to side except in wheel housing, toeboard, and driver's seat platform areas.

Subp. 2. **Option.** The underside of the metal floor may be undercoated with polyurethane floor insulation, foamed in place. The polyurethane floor insulation must be combustible resistant. This option does not replace the plywood required in subpart 1.

3520.4980 OPENINGS.

All openings between chassis and passenger-carrying compartment made due to alterations by body manufacturer must be sealed. ~~See part 3520.4670.~~

3520.5000 DEFROSTERS.

Defrosters and two ~~all metal defroster~~ auxiliary fans with metal blades and adequate guards shall be of sufficient capacity to keep the windshield, window to left of driver, and glass in entrance door clear of fog, frost, and snow. This may be done by taking the heat directly from an approved heater or auxiliary heaters. Defrosters must conform to Society of Automotive Engineers Standards J-381 and 382.

3520.5010 DOORS.

Subpart 1. **Service door.** The service door ~~shall~~ must be power or manually operated, under control of the driver, and ~~so~~ designed ~~as~~ to afford easy release and prevent accidental opening. ~~When hand lever is used, no parts shall come together so as to shear or crush fingers~~.

The service door ~~shall~~ must be located on the right side of the bus opposite the driver and within ~~his~~ the driver's direct view.

The service door ~~shall~~ must have a minimum horizontal opening of 24 inches and a minimum vertical opening of 68 inches.

The service door ~~shall~~ must be of split type, sedan type, or jackknife type. If a split type door is used the front section ~~shall~~ must open outward.

The lower as well as upper glass panels ~~shall~~ must be of approved safety glass. See part ~~3520.5550~~ 3520.5551. The bottom of the lower glass panel ~~shall~~ must not be more than ~~12~~ 35 inches from ~~bottom of~~ the ~~door~~ ground when the bus is unloaded. The top of the upper glass panel ~~shall~~ must not be more than six inches from the top of the door.

The vertical closing edges ~~shall~~ must be equipped with flexible material to protect children's fingers.

There shall be no door to the left of the driver in the front half of the bus. ~~(This shall not be interpreted to conflict with subpart 2.)~~

Subp. 2. **Emergency door and emergency window.** An emergency door ~~shall~~ must be located in the center of the rear end of the bus or in the rear half of the left side of the bus.

The emergency door ~~shall~~ must have a minimum horizontal opening of 24 inches and a minimum vertical opening of 48 inches measured from floor level.

The emergency door ~~shall~~ must be hinged on the right side if it is in the rear end of the bus and on the front side if it is on the left side of the bus. The door ~~shall~~ must open outward and ~~shall~~ must be labeled inside to indicate how it operates.

~~Upper portion of~~ All the glass in the emergency door ~~shall~~ must be ~~equipped with~~ approved safety glass~~.~~. The exposed area of ~~which shall~~ the safety glass must be not less than 400 square inches. See part ~~3520.5550~~ 3520.5551.

There ~~shall~~ must be no steps leading to the emergency door.

~~No~~ A seat or other object ~~shall~~ must not be ~~so~~ placed in the bus to restrict any part of the passageway leading to ~~either rear or left side~~ the emergency door to an opening smaller than a rectangle ~~of~~ 12 inches in width and 48 inches in height, measured from floor level.

The words "EMERGENCY DOOR" or "EMERGENCY EXIT" both inside and outside in letters at least two inches high, ~~shall~~ must be placed at the top of or directly above ~~upper window on~~ the emergency door or on the door in the metal panel above the top glass. ~~New buses purchased after September 1, 1973, words "EMERGENCY EXIT" may be substituted.~~

If the emergency door is located on the left side of the bus, it must conform to Federal Motor Vehicle Safety Standard Number 217, Code of Federal Regulations, title 49, part 571, and the window at the rear ~~shall~~ must be designed as an emergency exit and ~~shall~~ must be no smaller than 16 inches in height and 54 inches in width on buses 80 inches or more in width; it ~~shall~~ must be no smaller than 16 inches in height and 49 inches in width on buses less than 80 inches in width. The window ~~shall~~ must be hinged from the top and devised and operated to ensure against an accidental closing in an emergency.

The emergency window in the rear must be equipped with a latch or latches on the inside connected with an electrical buzzer located in the driver's compartment that will go off when the latch is being released.

The emergency window must also be equipped on the outside with a nondetachable fastening device designed to prevent hitching-to, but to permit opening from the outside.

Paneling is required to cover the space between [illegible] the rear divan seat and the inside surface of emergency window at rear.

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The words "EMERGENCY EXIT" in letters at least two inches high ~~shall~~ must be placed directly above the emergency window on the inside and directly below ~~it~~ the window on the outside.

The emergency door and emergency window ~~shall~~ must be designed to be opened from the inside and the outside of the bus and ~~shall~~ must be equipped with a fastening device ~~which~~ that may be quickly released but is designed to offer protection against accidental release. ~~Control~~ The opening of the emergency door and window must not be controllable from the driver's seat ~~shall not be permitted~~. ~~Provision~~ The providing for opening from the outside ~~shall~~ must consist of a nondetachable device ~~so~~ designed ~~as~~ to prevent hitching-to but to permit opening when necessary.

The emergency door ~~shall~~ must be equipped with a slide-bar cam-operated lock. The slide bar ~~shall~~ must have a minimum stroke of one inch. The emergency door lock ~~shall~~ must be equipped with a suitable electric plunger type switch connected with a buzzer located in the driver's compartment. The switch ~~shall~~ must be enclosed in a metal case, and the wires leading from the switch ~~shall~~ must be concealed in the bus body. The switch ~~shall~~ must be ~~so~~ installed so that the plunger contacts the farthest edge of the slide bar ~~in such manner that any~~ so that any movement of the slide bar ~~will~~ immediately ~~close~~ closes the circuit on the switch and ~~activate~~ sets off the buzzer.

The emergency door lock ~~shall~~ must be equipped with an interior handle that extends approximately to the center of the emergency door. ~~It~~ The handle shall lift up to release the lock.

~~Emergency window in rear shall be equipped with latch or latches on inside connected with electrical buzzer located in driver's area that will actuate when latch is being released.~~

~~It shall also be equipped on outside with nondetachable fastening device so designed as to prevent hitching-to, but permit opening from the outside~~ The service door and the emergency door (side or rear) may be equipped with vandal locks if the locks comply with Federal Motor Vehicle Safety Standard Number 217, Code of Federal Regulations, title 49, part 571.

3520.5111 FIRE EXTINGUISHER.

A minimum of one 2-1/2 pound dry chemical type fire extinguisher, with not less than a 10-B-C rating, is required. It must be approved by Underwriters Laboratories, Inc. or an equivalent testing laboratory.

The extinguisher must be mounted in a bracket, located in the driver's compartment and readily accessible to the driver and passengers. A pressure indicator is required and must be easily read without removing the extinguisher from its mounted position.

3520.5120 FIRST AID KIT.

The bus ~~shall~~ must carry a removable Grade A metal, or other material of equal strength, dust-proof first aid kit, mounted in full view or in a labeled accessible place in the driver's compartment.

~~Required~~ The first aid kit must have the following units and ~~required~~ packages per unit ~~first aid kit is to have~~:

A. ten units for ~~Type II and Type III~~ vehicles of 16 or less capacity;

B. 24 units for ~~Type I~~ buses with passenger capacity in excess of 16 and up to and including 42 passengers; or

C. 36 units for ~~Type I~~ buses of passenger capacity in excess of 42.

D. The table of required items and packages for items A to C:

Unit Size	Item	Required Packages 10 Unit	24 Unit	36 Unit
1	Compress Bandage, 4 inch	2	6	8
1	Compress Bandage, 2 inch	1	3	7
1	Adhesive Compress, 1 inch	2	2	4
1	Triangular Bandage, 40 inch with 2 safety pins	1	2	4
1	Gauze Bandage, 4 inch	-	2	4
1	Absorbant Gauze Compress	-	2	2
1	Gauze Compress, 24 by 72 inches	1	2	2
1	Padded Tongue Blades	1	1	1
2	Adhesive Tape, 1 inch by 2-1/2 yards	~~+~~ 2	~~+~~ 2	~~+~~ 2
1	Wire Splint	-	2	2

3520.5141 FLOOR COVERING.

The floor in the underseat area, including the tops of wheel housings, driver's compartment, and toeboard, must be covered with rubber floor covering or its equivalent having a minimum overall thickness of 0.125 inch.

The floor covering in the aisle must be of aisle-type rubber or its equivalent, nonskid, wear-resistant, and ribbed. Minimum overall thickness must be 0.187 inch measured from top of ribs.

The floor covering must be permanently bonded to the floor and must not crack if subjected to sudden change in temperature. Bonding or adhesive material must be waterproof and must be of a type recommended by the manufacturer of the floor covering material. All seams must be sealed with waterproof sealer.

3520.5151 HEATERS.

Heaters must be of the hot water or combustion type. If the heater is of the hot water type, the heater system must be equipped with a shutoff valve readily accessible to the driver. If only one heater is used, it must be of fresh air or combination fresh air and recirculating type. If more than one heater is used, the additional heaters may be of recirculating type. Each heater motor must be two speed.

All heaters installed by body manufacturers must bear a name plate that must indicate the heater rating in accordance with SBMI Code 001. The plate must be attached by the heater manufacturer. The attachment certifies that the heater performance is as shown on the plate.

All combustion-type heaters must be approved by the Federal Highway Administration, Motor Carrier Safety Regulations, Code of Federal Regulations, title 49, part 393.77.

If combustion-type heaters are used, they must be installed on new buses by body manufacturers and on buses now in operation by authorized dealers or by authorized garages.

Heaters must be capable of maintaining an inside temperature of 50 degrees Fahrenheit at average minimum January temperatures as established by the United States Department of Commerce, Weather Bureau, for the area in which the heater is required.

Heater lines inside the passenger compartment must be guarded to prevent accidental contact by the driver or passengers.

3520.5160 IDENTIFICATION.

Subpart 1. **Requirements.** The body ~~shall~~ must bear the words "SCHOOL BUS" in black letters at least eight inches high on both front and rear of the body or on ~~signs~~ attached signs ~~thereto~~. The lettering ~~shall~~ must be placed as high as possible without impairment of its visibility. The lettering ~~shall~~ must conform to "Series B" of Standard Alphabets for Highway Signs.

Only signs and lettering approved by state law or rule, limited to name of owner or operator and ~~any number necessary for identification shall~~ home post office address, city, or town may appear on the sides of the bus, in accordance with Minnesota Statutes, section 221.031, subdivision 6. ~~See Minnesota Statutes, section 169.44, subdivision 3~~ Any number or symbol necessary for identification may also appear on the sides of the bus.

Subp. 2. **Options.** Symbols or letters may be used on the outside of the bus for student identification. The manufacturer's name or logo may appear on the roof line. A manufacturer's nameplate may be placed on the side of the bus near the entrance door and on the rear.

3520.5171 INSIDE HEIGHT.

Inside body height must provide 72 inches of headroom, measured from the metal floor to the center line of the metal roof.

3520.5180 INSULATION.

Ceiling and walls ~~shall~~ must be insulated with proper material to deaden sound and to reduce vibrations to a minimum, and ~~shall~~ must be insulated to a minimum of one-inch fiberglass and installed ~~in such a manner~~ so that the insulation does not compact or sag. Thermal insulation ~~shall~~ must be of fire-resistant material of a type approved by Underwriter's Laboratories, Inc.

3520.5190 INTERIOR.

Subpart 1. **Projections.** The interior of the bus ~~shall~~ must be free of all unnecessary projections likely to cause injury. ~~This standard requires~~ Ceilings and walls must have an inner lining ~~on ceilings and walls~~. ~~Ceilings over aisle shall be free of all projections~~

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

Subp. 2. **Speakers.** Interior speakers except in the driver's compartment must not protrude more than one-half inch. A two-way speaker in the driver's compartment need not be flush mounted.

Subp. 3. **Flammability.** Flammability standards of interior materials covered by Federal Motor Vehicle Safety Standard Number 302, Code of Federal Regulations, title 49, part 571 must be met.

3520.5200 LAMPS AND SIGNALS FOR NEW BUSES ONLY.

Subpart 1. **~~Factory installation~~ Compliance required.** ~~Factory~~ Installation of an eight-lamp alternately flashing warning signal system ~~manufactured after the effective date of these rules shall~~ must comply with ~~the following~~ this part.

Subp. 2. **Installation.** All lamps on the exterior of the vehicle ~~shall~~ must conform with and be installed as required by Federal Motor Vehicle Safety Standard Number 108; ~~Minnesota Statutes, sections 169.49 to 169.70; and current Minnesota approved motor vehicle equipment (Department of Public Safety),~~ Code of Federal Regulations, title 49, part 571.

Subp. 3. **Interior lamps.** Interior lamps ~~shall~~ that adequately illuminate the aisle and the step well must be provided ~~which adequately illuminate aisle and step well~~.

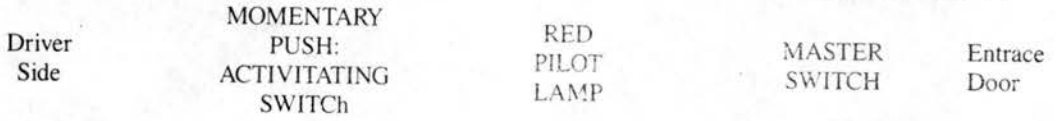
Subp. 4. **Red and amber signal lamps.** ~~School bus alternately flashing signal lamps mounted at same horizontal level, intended to identify vehicle as school bus and to inform other users of highway that such vehicle is about to stop or is stopped on roadway to take on or discharge school children.~~ Each school bus ~~shall~~ must be equipped with a system consisting of four red signal lamps designed to conform to SAE Standard J887, "School Bus Red Signal Lamps," and four amber signal lamps designed to that standard, except for color, and except that their candlepower ~~shall~~ must be at least 2-1/2 times that specified for red signal lamps. Both red and amber signal lamps ~~shall~~ must be installed in accordance with SAE Standard, J887, except that each amber signal lamp ~~shall~~ must be located near each red signal lamp, at the same level, but closer to the vertical centerline of the bus.

Subp. 4a. **Wiring, flashing.** The system ~~shall~~ must be wired so that the amber signal lamps are activated only by hand operation, and if activated, are automatically deactivated and red signal lamps are automatically activated when the bus entrance door is opened. Right and left signal lamps ~~shall~~ must flash alternately. Each signal lamp ~~shall~~ must flash not less than 60 nor more than 120 flashes per minute. The "on" period ~~shall~~ must be long enough to permit bulb filament to come up to full brightness. ~~No~~ A brake-operated switch ~~shall be~~ is not permitted.

There ~~shall~~ must be a red pilot lamp which ~~shall~~ must go on when the respective amber or red systems are actuated. The pilot ~~shall~~ must either go out or flash at an altered rate in the event the system is not functioning normally.

Subp. 5. [See Repealer.]

Subp. 6. **Control box for signal lamps.** The signal lamp system ~~shall~~ must include a ~~separate~~ closed control box. The box ~~shall~~ must be ~~constructed~~ as small as practical, easily demounted or partially disassembled to provide simple access for maintenance purposes. The switches and red pilot lamp ~~shall~~ must be located in conformance with the following diagram.



CONTROL BOX PANEL

The control box ~~shall~~ must be securely mounted to the right of the steering wheel, in the near proximity of the entrance door control, within easy unobstructed reach of the driver. Switches and pilot lamp ~~shall~~ must be readily visible to the driver. The activating switch may be self-illuminated (glow type). ~~Buses equipped with an eight-lamp system prior to the effective date of these rules shall be exempt from subparts 4, last paragraph, 5, and 6~~ Other warning devices or lamp controls must not be placed near the light lamp control.

Subp. 7. **System and stop arm.** The signal lamp system and stop arm ~~shall~~ must operate as follows:

The stop signal arm ~~shall~~ must be of an automatic type. It ~~shall~~ must automatically extend and retract in conjunction with the alternately flashing red lights and ~~shall~~ must be activated and deactivated by the entrance door switch.

With the master switch on~~,~~ and the entrance door closed, depress hand switch. The red pilot lamp and amber signals ~~shall~~ will go on.

Open the entrance door. The pilot lamp and amber signal lamps ~~shall~~ will go off, and the pilot lamp and red signal lamps ~~shell~~ will go on. The stop arm ~~shall~~ will automatically extend.

Close the entrance door. The red pilot and signal lamps ~~shall~~ will go off and the stop arm ~~shall~~ will automatically retract.

Open the entrance door without depressing the hand switch. The red pilot lamp and red signal lamps ~~shall~~ will go on. The stop arm ~~shall~~ will automatically extend.

With the master switch off, depressing the hand switch ~~shall~~ will not actuate the amber signal system, nor will opening the entrance door actuate the red signal system and stop arm.

Subp. 8. **Installation requirements.** Each alternately flashing signal lamp ~~shall~~ must be mounted with its axis substantially parallel to the longitudinal axis of the vehicle.

Front and rear alternately flashing signal lamps ~~shall~~ must be spaced as far apart laterally as practicable.

Alternately flashing signal lamps ~~shall~~ must be mounted at the front on the same horizontal center line and above the windshield, and at the rear on the same horizontal center line so that the lower edge of the lens is not lower than the top line of the side window.

The vertical and lateral vision of the front and rear alternately flashing warning lamps ~~shall~~ must not be obstructed by any part of the body or lamp-house insofar as standard bus body construction ~~will permit~~ permits.

The area around the lens of each alternately flashing signal lamp and extending outward approximately three inches ~~shall~~ must be painted black. In installations where there is no flat vertical portion of body immediately surrounding entire lens of lamp, circular or square band of black approximately three inches wide, immediately below and to both sides of lens, ~~shall~~ must be painted on body or roof area against which signal lamp is seen ~~(~~from distance of 500 feet along axis of vehicle~~)~~.

A separate fuse or circuit breaker, adequate to prevent damage to the system in the event of a dead short, ~~shall~~ must be provided between the power source and the master switch.

All wiring ~~from alternately flashing signal lamps to the door switch shall be at least ten-gauge. All other wire shall~~ must be a minimum of 14-gauge.

Subp. 9. **Options.** School buses may be equipped with the following safety equipment devices.

A. A driver-activated student control warning system to assist students in crossing roadways. The system must contain one high-intensity flashing red signal, an audible warning signal, and one high-intensity steady amber proceed-with-caution signal lamp. Red and amber signal lamps must be at least four inches in diameter and no larger than 4-1/2 inches in diameter.

The control system unit must be installed in a vertical position, with the red signal on the top and the amber signal on the bottom.

(1) One control system unit must be mounted on the left side of the bus next to the driver and one unit must be mounted on the right side just ahead of the entrance door. The units must be wired to be activated and deactivated in conjunction with the eight-lamp and stop arm, and to be controlled by the entrance door switch.

(2) Amber walk lamps of the units must be on a separate on/off switch controlled by the driver, but deactivated when the entrance door is closed.

B. The use of a crossing guard gate mounted on the front bumper to put students in view of the bus driver.

C. The use of an external public address system to assist students in crossing roadways.

D. The use of a roof mounted white double flash strobe light described in Minnesota Statutes, section 169.64, subdivision 7.

E. The use of electronic sensing devices.

3520.5220 TURN SIGNAL LAMPS AND STOP LAMPS.

Subpart 1. **Turn signal lamps.** The school bus ~~shall be equipped with Class A~~ must have turn signal ~~lamps that~~ indicators of an automatic type. The bus body must be equipped with amber or red rear turn signal lamps that are at least seven inches in diameter and meet ~~current~~ specifications of the Society of Automotive Engineers (SAE J588). ~~These signals~~ The turn signal lamps must be ~~independent units and shall be equipped with four-way~~ connected to the chassis hazard warning switch to cause simultaneous flashing of turn signal lamps when needed as a vehicular traffic hazard warning. The turn signal lamps must be placed as wide apart as practical and their center line must be approximately eight inches below the rear windows.

Subp. 2. **Stop lamps.** The school bus must be equipped with red stop lamps. If round, the stop lamps must be seven inches in diameter. If the stop lamps are a shape other than round, they must have a minimum 38 square inches of illuminated area. The stop lamps must be mounted on the rear of the bus just inside the turn signals, at the same height.

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The brake lights must be wired to combine stop and tail lights.

Subp. 3. **Federal Motor Vehicle Safety Standard Number 108.** All lamps on the exterior of the vehicle must conform with and be installed as required by Federal Motor Vehicle Safety Standard Number 108, Code of Federal Regulations, title 49, part 571.

3520.5230 ~~FLAGS AND FLARES~~ WARNING DEVICES.

Subpart 1. **Required.** The school bus ~~shall carry at all times at least three red, yellow, or orange flags not less than 12 inches square and means for mounting for use in warning traffic in event of breakdown on the highway.~~

~~Bus shall carry at least three red electric lanterns or at least three emergency reflectors, to be displayed according to state law in event of breakdown on the highway.~~

~~Fuses may also be used (not required). Liquid burning "pot type" flares not allowed.~~

~~Mounted reflectors: see Minnesota Statutes, sections 169.50 and 169.75~~ must contain at least three reflectorized triangle road warning devices mounted in an accessible place in the driver's compartment. The mounting location is optional.

Subp. 2. **Prohibited equipment.** The school bus must not be equipped with liquid burning "pot type" flares or fuses.

3520.5300 METAL TREATMENT.

Subpart 1. **General requirements.** All ferrous metal less than 12-gauge that is used in the construction of the bus body ~~shall~~ must be zinc or aluminum coated, mill applied~~. Included are such items as~~ if it is used in structural members, inside and outside panels, floor panels, and floor sills~~: excluded are~~. The metal need not be zinc or aluminum coated, mill applied if it is used in door handles, grab handles, stanchions, interior decorative parts, and other interior plated parts.

Subp. 1a. **Painted parts.** In addition to the requirement in subpart 1, all metal parts ~~that will~~ to be painted ~~shall~~ must be ~~(in addition to these requirements)~~ chemically cleaned, etched, zinc-phosphate-coated, and zinc-chromate or epoxy-primed or conditioned by an equivalent process.

Subp. 1b. **Particular attention.** In ~~providing for these requirements~~ complying with subparts 1 and 2, particular attention ~~shall~~ must be given to lapped surfaces, welded connections of structural members, cut edges, punches or drilled hole areas in sheet metal, closed or box sections, unvented or undrained areas, and surfaces subjected to abrasion during vehicle operation.

Subp. 2. [See Repealer.]

Subp. 3. **Test standard.** As evidence that the requirements of subparts 1, 1a, and 1b have been met, samples of materials and sections used in the construction of the bus body, when subjected to a 1000-hour salt spray test as provided for in the latest revision of ASTM designation; B-117 "Standard Method of Salt Spray (Fog) Testing" must not lose more than ten percent of material by weight.

3520.5310 MIRRORS.

Subpart 1. **Required equipment.** The interior clear view mirror ~~shall~~ must be at least 6 by 30 inches overall to afford good view of pupils and roadway to rear. If not metal-backed and framed, the mirror ~~shall~~ must be of laminated plate safety glass. It ~~shall~~ must have rounded corners and protected edges.

Two exterior clear-view, rearview mirrors ~~shall~~ must be provided, one to the left and one to the right of the driver. The area of each mirror ~~shall~~ must be not less than ~~50~~ 70 square inches overall. Each mirror ~~shall~~ must be firmly supported and adjustable to give the driver a clear view past the left rear and right rear of the bus.

~~Option:~~ Subp. 2. **Optional equipment.** Small convex mirrors may be used in conjunction with ~~above~~ the equipment required under subpart 1.

Subp. 3. **Required convex mirrors.** Four exterior convex ~~mirror~~ mirrors at least 7-1/2 inches in diameter ~~shall~~ must be located ~~either~~ as follows: two on the left ~~or~~ and two on the right side of the bus in such a manner that the seated driver may observe, through ~~its~~ their use, areas to front or side of bus where direct observation, as prescribed in Federal Motor Vehicle Safety Standard Number 17, Code of Federal Regulations, title 49, part 571, is not possible. The mirrors must comply with Federal Motor Vehicle Safety Standard Number 111, Code of Federal Regulations, title 49, part 571.

Transit-type buses must have at least three mirrors, two crossover mirrors, one in each corner, and one rearview mirror on the right side.

Subp. 4. **Optional equipment.** Elliptical or hemispherical mirrors may be substituted for the equipment required in subpart 3 on a one-for-one basis if indirect visibility requirements are met.

3520.5330 OVERALL LENGTH.

The overall length of a school bus ~~shall~~ must not exceed 40 feet.

3520.5340 OVERALL WIDTH.

The overall width of a school bus ~~shall~~, excluding mirror brackets and stop arm, must not exceed 96 inches.

3520.5361 RUB RAILS.

There must be one rub rail located on each side of the bus approximately at seat level. The rub rail must extend from the rear side of the entrance door completely around the bus body (except for the emergency door) to the point of curvature near the outside cowl on the left side.

There must be one rub rail located approximately at the floor line which must cover the same longitudinal area as the upper rub rail, except at the wheel housings, and must extend only to the radii of the right and left rear corners.

For buses using a rear luggage or rear engine compartment, the rub rails need not extend around rear corners.

There must be a rub rail at the base of the skirt of the bus.

All rub rails must be attached at each body post and all other upright structural members.

All rub rails must be four inches or more in width, must be of 16-gauge steel, and must be constructed in corrugated or ribbed fashion.

All rub rails must be applied outside the body or outside the body posts.

Pressed-in or snap-on rails do not satisfy this requirement.

3520.5370 SANDERS.

~~Where required or~~ Sanders are not required equipment, but if used, sanders ~~shall~~ must:

A. be of hopper cartridge-valve type;

B. have a metal hopper with all interior surfaces treated to prevent condensation of moisture;

C. be of at least 100-pound (grit) capacity;

D. have a cover on the filler opening of the hopper~~, which~~ that screws into place~~,~~ sealing the unit airtight;

E. have discharge tubes extending to the front of each rear wheel under the fender;

F. have no-clogging discharge tubes with slush-proof, nonfreezing rubber nozzles;

G. be operated by an electric switch with a telltale light mounted on the instrument panel;

H. be exclusively driver controlled; and

I. have a gauge to indicate the hoppers need refilling when they are down to one-quarter full.

3520.5380 SEAT BELT FOR DRIVER.

A seat belt for the driver ~~shall~~ must be provided~~.~~. The belt ~~to~~ and mounting must comply with ~~current specifications and recommended practices of Society of Automotive Engineers except that belt shall be fastened to bus floor immediately behind driver's seat when adjusted to rearmost position. Retractable seat belt to stop at seat level~~ Federal Motor Vehicle Safety Standard Numbers 207 to 210, Code of Federal Regulations, title 49, part 571. Each belt section must be booted so as to keep the buckle and latch off the floor and within easy reach of the driver. The belt must be anchored or guided at the seat frame so as to prevent the driver from sliding sideways under the belt.

3520.5401 SEATS AND CRASH BARRIERS.

The school bus seats must be based on 13-inch rump room for each passenger. All seats must face forward, except that variations may be made to accommodate handicapped students. Seats, seat back cushions, and crash barriers must be covered with a material having 42-ounce finished weight, 54 inches width, and finished vinyl coating of 1.06 broken twill, or other material with equal tensile strength, tear strength, seam strength, adhesion strength, resistance to abrasion, resistance to cold, and flex separation. All seats and crash barriers must conform to Federal Motor Vehicle Safety Standard Number 222, Code of Federal Regulations, title 49, part 571.

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3520.5450 STEPS.

Subpart 1. **General requirements.** The first step at the service door ~~shall~~ must be not less than 12 inches and not more than ~~17~~ 18 inches from the ground, based on standard chassis specifications.

The service door entrance may be equipped with two-step or three-step step-well. Risers in each case ~~shall~~ must be approximately equal. When plywood floor is used on steel, differential may be increased by thickness of plywood used.

Steps ~~shall~~ must be enclosed to prevent accumulation of ice and snow.

Steps ~~shall~~ must not protrude beyond side body line.

Grab handle not less than ten inches in length ~~shall~~ must be provided in unobstructed location inside doorway.

~~Surface of steps shall be of nonskid material.~~

Subp. 2. [See Repealer.]

Subp. 3. **Step treads.** All steps, including the floor line platform area, must be covered with 3/16-inch rubber floor covering or other material equal in wear resistance and abrasion resistance to top grade rubber.

The metal back of the tread must be a minimum of 24-gauge cold roll steel and must be permanently bonded to ribbed rubber. The grooves in the grooved design must run at a 90-degree angle to long dimension of the step tread.

The 3/16-inch ribbed step tread must have a 1-1/2 inch white nosing as an integral piece without any joint.

The rubber portion for the step treads must have the following characteristics:

A. special compounding for good abrasion resistance and a high coefficient of friction;

B. flexibility to be bent around a 1/2-inch mandrel both at 130 degrees Fahrenheit and 20 degrees Fahrenheit without breaking, cracking, or crazing; and

C. show a durometer hardness of 85 to 95.

3520.5461 STIRRUP STEPS.

There must be at least one folding stirrup step or recessed foothold and suitably located handles on each side of the front of the body for easy accessibility for cleaning the windshield and lamps except when the windshield and lamps are easily accessible from the ground. Steps are permitted in or on the front bumper, in place of the stirrup steps, if the windshield and lamps are easily accessible for cleaning from that position.

3520.5471 STOP SIGNAL ARM.

Subpart 1. **The stop signal arm.** The stop signal arm must be installed on the left side of the bus and must be octagonal in shape. It must meet the applicable requirements of the Society of Automotive Engineers J1133. The stop signal arm must be of an automatic type. See part 3520.5200.

It shall display a stop signal on both sides, the word "STOP" in white or silver-white letters at least one-third the height of the signal, and have a red background.

The stop arm must be equipped with two alternately flashing double faced (front and rear) red warning signals and must be activated and deactivated by the entrance door switch. The sign need not be reflectorized.

Subp. 2. **The stop signal.** The stop signal must be of the shape, size, legend, and colors specified by the "Manual on Uniform Traffic Control Devices for Streets and Highways," Federal Highway Administration.

The stop signal may be 18 or 24 inches in height.

3520.5481 STORAGE COMPARTMENT.

Subpart 1. **Location, cover.** If tools, tire chains, or tow chains are carried on the bus, a container of adequate strength and capacity must be provided for them. The storage container may be located inside or outside the passenger compartment. If inside, it must have a cover capable of being securely latched and must be fastened to the floor convenient to either the service or emergency door. A seat cushion must not be used as the cover.

Subp. 2. **Option.** In place of the container required in subpart 1, an overhead storage compartment may be placed in the front of the cab for storage of emergency equipment and labeled as the location of this equipment. It must be properly secured.

3520.5490 SUNSHIELD.

An interior, adjustable transparent sunshield not less than 6 by ~~16~~ 30 inches in size ~~shall~~ with a finished edge must be installed ~~above windshield, driver's side, with mounting of double bracketed type~~ in a position convenient for use by the driver.

3520.5500 TAILPIPE.

Subpart 1. **Tailpipe.** The tailpipe ~~shall not~~ must extend to the body perimeter and must extend no more than one-half inch beyond the rear bumper. See part 3520.4550.

Subp. 2. **Trailer hitch.** The trailer hitch, if used, must be of a flush mounted type and must not extend beyond the rear bumper when not in use.

3520.5510 UNDERCOATING ~~AND RUSTPROOFING~~.

Subpart 1. **Required.** The entire underside of the bus body, including floor ~~members~~ sections, cross members, and below floor line side panels ~~below floor level shall be coated with fire-resistant, asphalt base, rubber base, or other undercoating material, applied by spray method, in order to seal, to deaden sound, to insulate, and to prevent oxidation. Undercoating shall be applied after assembly of the body has been completed~~, must be coated with a rust-proofing compound for which the compound manufacturer has issued notarized certification of compliance to the bus body builder that the compound meets or exceeds all performance requirements of Federal Specification TT-C-520a using modified test procedures for the following requirements:

A. salt spray resistance - pass test modified to five percent salt and 1,000 hours;

B. abrasion resistance - pass; and

C. fire resistance - pass.

Subp. 2. **Modified test procedures.** Test panels are to be prepared in accordance with Federal Specification TT-C-520a paragraph 4 6.12 with a modified procedure requiring that tests be made on a 48-hour air cured film at thickness recommended by the compound manufacturer.

The undercoating compound must be applied with suitable airless or conventional spray equipment to recommended film thickness and must show no evidence of voids in cured film.

3520.5520 VENTILATION.

Subpart 1. **General requirement.** The body ~~shall~~ must be equipped with a suitable, controlled ventilating system of sufficient capacity to maintain proper quantity of air under operating conditions without opening of windows except in extremely warm weather.

If static-type exhaust roof ventilators are desired, they ~~shall~~ must be installed in a low-pressure area of the roof panel.

Subp. 2. ~~**Exception for small vehicles**~~ **Option.** ~~Standard does not apply to small vehicles not manufactured specifically as school buses~~ In addition to the ventilation equipment required in subpart 1, the body may be equipped with multi-position roof ventilators of sufficient number and capacity to maintain proper quantity of air under normal operating conditions without opening of windows except in extremely warm weather.

Subp. 3. **Exhaust vent.** Roof ventilators may include a leak resistance static-type exhaust vent as an integral part of the design.

Subp. 4. **Rear roof ventilator.** The rear roof ventilator must not be installed beyond the rear axle.

Roof ventilators may also include auxiliary release handles to permit operation as emergency exits in compliance with Federal Motor Vehicle Safety Standard Number 217, Code of Federal Regulations, title 49, part 571.

Exit release handles, if used, must be equipped with an electric plunger-type switch connected with a buzzer located in the driver's compartment to indicate when the exit is opened.

3520.5531 WHEEL HOUSING.

Wheel house openings must allow for easy tire removal and service.

Wheel housings must be attached to floor sheets so as to prevent any dust, water, or fumes from entering the body.

The wheel housing must be constructed of 16-gauge steel or other material of equal strength.

The inside height of the wheel housings above floor line must not exceed 12 inches.

Wheel housings must provide clearance for dual installation and use of tire chains on dual drive wheels.

No part of a raised wheel housing may extend into the emergency door opening.

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3520.5551 WINDSHIELD AND WINDOWS.

Subpart 1. **Glazing.** Laminated or tempered glass is permitted in all side windows. Windshield, entrance, and rear emergency exit doors must be of approved safety glass and be federally approved and marked as provided in Minnesota Statutes, section 169.74.

Subp. 2. **Tint.** The windshield may be of uniform tint throughout or may have a horizontal gradient band starting slightly above the line of the driver's vision and gradually decreasing in light transmission to 20 percent or less at the top of the windshield.

Subp. 3. **Side and rear windows.** The first two sections of the side windows, rear door, and rear windows must be of clear glass. The use of approved tinted glass is permitted on other side windows.

Each full side window must provide an unobstructed emergency opening at least nine inches high and 22 inches wide, obtained by lowering of the window.

3520.5560 WINDSHIELD WASHERS.

A windshield ~~washers shall~~ washer system must be ~~optional but, where required, they shall conform to body manufacturer's recommendations as to type and size for bus on which they are to be used~~ provided.

3520.5570 WINDSHIELD WIPERS.

~~Bus shall be equipped with two positive-action variable-speed, heavy duty bus type, windshield wipers of air or electric type. Wiper blades shall be at least 14 inches long and shall be of the replaceable blade type~~ A windshield wiping system, two-speed or more, must be provided.

The wipers must be operated by one or more air or electric motors of sufficient power to operate wipers. If one motor is used, the wipers must work in tandem to give full sweep of the windshield.

3520.5580 WIRING.

Subpart 1. **Standard.** All wiring ~~shall~~ must conform to the current standards of the Society of Automotive Engineers.

Subp. 2. **Circuits.** Wiring ~~shall~~ must be arranged in at least eight regular circuits, as follows: head, tail, stop (brake), and instrument panel lamps; clearance lamps; dome and step-well lamps; starter motor; ignition and emergency door signal; turn signal lamps; alternately flashing red signal lamps; and horn.

Any of the ~~subpart 2 combination~~ circuits may be subdivided into additional independent circuits.

~~Whenever~~ If heaters and defrosters are used, at least one additional circuit ~~shall~~ must be installed.

~~When~~ If installed, all other electrical functions ~~shall~~ must be provided with independent and properly protected circuits.

Each body circuit ~~shall~~ must be ~~individually color~~ coded ~~and~~ by number or letter on a diagram of ~~the~~ circuits ~~shall.~~ The diagrams must be ~~attached to the body in a readily accessible location, preferably on cover of fuse panel~~ furnished with the bus body.

~~A separate fuse or circuit breaker shall be provided for each circuit except starter motor and ignition circuits. The fuse panel shall be located next to the circuit switch panel and color coded.~~

~~All wires within body shall be insulated and protected by covering of fibrous loom or approved equal 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 appropriate type of insert shall be provided.~~

Subp. 2a. **Additional requirements.** If wires pass through metal openings, they must be protected by a grommet.

Wires not enclosed within the body ~~shall~~ must be fastened securely at intervals of not more ~~that 24~~ than 18 inches. All joints ~~shall~~ must be soldered or joined by equally effective connectors.

The entire electrical system of the body must be designed for the same voltage as the chassis on which the body is mounted.

All wiring must have an amperage capacity equal to or exceeding the designed load. All wiring splices are to be done at an accessible location and noted as splices on the wiring diagram.

The body power wire must be attached to the special terminal on the chassis.

Subp. 3. [See Repealer.]

3520.5600 TYPE II SCHOOL BUSES.

~~Type II buses carrying 16 or less pupil passengers shall be painted National School Bus Glossy Yellow, identified as a school bus, equipped with eight-lamp warning system and stop signal arm, and shall operate as a Type I bus. See Type I, Operating Rules, parts 3520.2400 to 3520.2900.~~

~~Type II vehicles are restricted in size and shall not exceed 16 passengers (rated manufacturer's capacity).~~

~~Automobiles, station wagons, and other vehicles designed for carrying nine or less pupil passengers are Type III buses, and their use is prohibited as a Type I or Type II bus~~ The standards in part 3520.5611 apply to Type II school buses.

3520.5611 EQUIPMENT.

Subpart 1. **Standards.** All related equipment provided on Type II school buses must comply with Type I school bus equipment standards except as specified in this part.

Subp. 2. **Age of bus.** Type II buses have no maximum age limit and may continue to transport school children as long as the bus passes inspection.

Subp. 3. **Alternator.** The alternator must be a minimum of 60 amperes (12 volts). When the bus is equipped with a power lift, at least an 80-ampere alternator is required.

Subp. 4. **Battery.** The battery must provide a minimum of 475 cold cranking amperes (CCA).

Subp. 5. **Bumpers.** Bumpers must meet manufacturer's standards.

Subp. 6. **Color.** The color must comply with Type I school bus equipment standards except that only two rub rails must be painted black.

Subp. 7. **Defrosters.** Defrosters of sufficient capacity to clear the windshield, window to the left of the driver, and glass in the entrance door of condensation, ice, and snow must be provided. Defrosters must conform to Society of Automotive Engineers Standards J-381 and 382. Auxiliary fans with metal blades and adequate guards may be used.

Subp. 8. **Door.** The entrance door must be under the control of the driver, and designed to afford easy release and prevent accidental opening. The door opening must provide a minimum opening area of 1,200 square inches.

Subp. 9. **Emergency door.** The emergency door must comply with Type I school bus equipment standards except that the emergency door may be a double door.

Subp. 10. **Exhaust system.** The exhaust system must meet the manufacturer's standard and is not required to extend out the rear. It must have an exit point behind the rear wheels. The exhaust system on a gas-powered chassis must be properly insulated from fuel tank connections by a securely attached metal shield at any point where it is 12 inches or less from tank or tank connections.

Subp. 11. **First aid kit.** The bus must carry a removable Grade A metal, or other material of equal strength, dust-proof first aid kit, mounted in full view or in a labeled accessible place in the driver's compartment. Required units and required packages per unit first aid kit is to include: ten units for Type II vehicles of 16 or less capacity; and 24 units for Type II buses with passenger capacity in excess of 16.

Subp. 12. **Floor.** The floor must be of prime commercial quality steel or other metal and must be covered with a minimum one-half inch thick exterior type plywood.

Subp. 13. **Fuel tanks.** Tank size and location may be manufacturer's standard and must conform with Federal Motor Vehicle Safety Standard Number 301, Code of Federal Regulations, title 49, part 571.

Subp. 14. **Glazing.** Laminated or tempered glass is permitted in all side windows except that windshield, entrance, and rear emergency exit doors must be of approved safety glass and be federally approved and marked.

The use of approved tinted glass is permitted.

Subp. 15. **Headroom.** The bus must provide at least a minimum 62-inch headroom, measured from metal floor to center line of metal roof.

Subp. 16. **Heater.** The heater must comply with Type I school bus minimum standards except that the opening for supplying hot water must be suitable for attaching a pipe thread/hose connector. The heater shut-off valve does not have to be located in the driver's compartment.

Subp. 17. **Lamps and signals.** An eight-lamp alternately flashing warning signal system must be installed and operate in conformance with Type I buses.

All lamps on the exterior of the vehicle must conform with and be installed as required by Federal Motor Vehicle Safety Standard Number 108, Code of Federal Regulations, title 49, part 571.

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Subp. 18. **Metal treatment.** Type II school buses do not have to comply with Type I school bus equipment standards for metal treatment.

Subp. 19. **Mirrors.** The mirrors must comply with Type I school bus equipment standards except that the interior clear view mirror must only be at least six inches by 16 inches overall.

The area of each exterior clear view mirror must be not less than 50 square inches overall.

Subp. 20. **Rub rails.** There must be one rub rail located on each side of the bus approximately at seat level which must extend from the rear side of the entrance door to the rear corner of the bus body.

There must be one rub rail located approximately at the floor line which must cover the same longitudinal area as the upper rub rail, except at the wheel housings, and must extend to the right and left rear corners.

All rub rails must be attached in conformance with federal standards.

All rub rails must be four inches or more in width, must be of 16-gauge steel, and must be constructed in corrugated or ribbed fashion.

Pressed-in or snap-on rails do not satisfy this requirement.

Additional rub rails may be used.

Subp. 21. **Seat belt; driver.** The bus must have a seat belt and shoulder harness for the driver that comply with Federal Motor Vehicle Safety Standard Numbers 208, 209, and 210, Code of Federal Regulations, title 49, part 571.

Subp. 22. **Seats and barriers.** School bus seating provided must be based on 13-inch rump room for each passenger. All seats must face forward, except variations may be made to accommodate handicapped students. Seats and seat back cushions must be covered with a material having 42-ounce finished weight, 54 inches width, and finished vinyl coating of 1.06 broken twill, or other material with equal tensile strength, tear strength, seam strength, adhesion strength, resistance to abrasion, resistance to cold, and flex separation. All seats and seat belts must conform to Federal Motor Vehicle Safety Standard Number 222, Code of Federal Regulations, title 49, part 571.

A school bus of 10,000 pounds gross vehicle weight or less must be equipped with a barrier or padded stanchion on the right side forward of the foremost seat.

Subp. 23. **Shock absorbers.** Type II school buses must be equipped with front and rear shock absorbers that comply with manufacturer's standard.

Subp. 24. **Steps.** The step or steps must comply with Type I school bus equipment standards except that Type II school buses with cab doors do not have to have the step or steps enclosed. The first step at the service door must not be less than ten inches and not more than 18 inches from the ground.

Subp. 25. **Sunshield.** Type II school buses do not have to comply with Type I school bus equipment standards for sunshields. A standard manufacturer's sunshield must be provided for the driver.

Subp. 26. **Undercoating.** Type II buses, except for the heat shield area, must be undercoated.

Subp. 27. **Ventilation.** If any ventilation is provided, it must comply with Type I school bus equipment standards.

Subp. 28. **Wheel housing.** The wheel housing must meet the manufacturer's standard.

Subp. 29. **Wheels.** Type II school buses may be equipped with either single or dual rear wheels.

Subp. 30. **Windows.** The windows must comply with Type I school bus equipment standards except that all windows may have approved tinted glass.

3520.5700 TYPE III SCHOOL BUSES.

~~Type III buses carrying 16 or less pupil passengers (including automobiles, station wagons, and other vehicles designed for carrying nine or less), shall not be painted school bus color, bear the words "SCHOOL BUS," have the eight-lamp warning system or stop signal arm, and shall not operate as a Type I or Type II bus. See Type III buses, parts 3520.3000 to 3520.3200.~~

~~Type III vehicles are restricted in size and shall not exceed 16 passengers (rated manufacturer's capacity)~~ The standards in part 3520.5710 apply to Type III school buses.

3520.5710 EQUIPMENT.

Subpart 1. **Standards.** All related equipment provided on the vehicle must comply with federal motor vehicle safety standards where applicable. If no federal standard applies, equipment must be manufacturer's standard.

Subp. 1a. **Age of ~~the bus~~ vehicle.** ~~No Type III vehicle used to transport school children shall be more than ten years old. Every Type III vehicle shall comply with the requirements for Type II buses, parts 3520.5600 and 3520.5610, except for the following~~

Vehicles ten years or older must not be used as Type III vehicles to transport school children, except those vehicles that are manufactured to meet the structural requirements of Federal Motor Vehicle Safety Standard 222, Code of Federal Regulations, title 49, part 571, for Type II school buses.

Subp. 2. **Color.** ~~Shall~~ Vehicles must be painted a color other than National School Bus ~~Glossy~~ Yellow or Minnesota Golden Orange.

~~Exception: Vehicles purchased prior to the effective date of this rule.~~

Subp. 2a. **Fire extinguisher.** A minimum of one 2-1/2 pound dry chemical type fire extinguisher, with not less than a 10-B-C rating, is required. It must be approved by Underwriters Laboratories, Inc. or an equivalent testing laboratory.

The extinguisher must be mounted in a bracket, and must be located in the driver's compartment and be readily accessible to the driver and passengers. A pressure indicator is required and must be easily read without removing the extinguisher from its mounted position.

Subp. 2b. **First aid kit.** A minimum of a ten unit first aid kit is required. The bus must have a removable, moisture- and dust-proof first aid kit mounted in an accessible place within the driver's compartment and must be marked to indicate its location.

Subp. 3. **Identification.** ~~Shall~~ The vehicle must not have the words~~,~~ "School Bus" in any location on the exterior of the vehicle, or in any interior location visible to a motorist.

~~Shall~~ The vehicle must display to the rear of the vehicle ~~a~~ this sign: "VEHICLE STOPS AT RR CROSSINGS."

The lettering (except for "AT," which may be one inch smaller) ~~shall~~ must be a minimum two-inch "Series D" as specified in Standard Alphabets for Highway Signs as specified by the Federal Highway Administration. The printing must be in a color giving a marked contrast with that of the part of the vehicle on which it is placed.

The sign ~~shall~~ must have provisions for being covered, or be of a removable or fold down type.

Subp. 4. **Lamps and signals.** Installation and use of the eight-lamp warning system is prohibited.

All lamps on the exterior of the vehicle ~~shall~~ must conform with and be installed as required by Federal Motor Vehicle Safety Standard 108, Code of Federal Regulations, title 49, part 571.

Subp. 5. **Stop signal arm.** Installation and use of a stop signal arm is prohibited.

Subp. 6. **Mirrors.** The interior clear rearview mirror must afford a good view of pupils and roadway to the rear.

Two exterior clear rearview mirrors must be provided, one to the left and one to the right of the driver.

Each mirror must be firmly supported and adjustable to give the driver clear view past the left rear and the right rear of the bus.

Subp. 7. **Warning device.** A Type III bus must contain at least three red reflectorized triangle road warning devices. Fuses may also be used. Liquid burning "pot type" flares are not allowed.

Subp. 8. **Emergency doors.** The doors on Type III buses must remain unlocked when carrying passengers.

Subp. 9. **Option.** Passenger cars and station wagons may carry fire extinguisher, first aid kit, and warning triangles in the trunk or trunk area of the vehicle, if a label in the driver and front passenger area clearly indicates the location of these items.

3520.5900 CONSTRUCTION OF VEHICLES FOR CHILDREN WITH MOBILITY PROBLEMS.

Subpart 1. **Standards.** The standards in this part apply to vehicles constructed to transport children with mobility problems so severe as to prohibit them from using the regular service door entrance. Vehicles constructed for transporting these children must meet all federal and Minnesota school bus construction standards.

Subp. 2. **Alteration of vehicle.** The interior of the vehicle may be altered if all seats and barriers, component parts, anchorages, wheelchair securement devices, and placement of seats and barriers and wheelchair securement devices comply with federal standards as of the date of manufacture. All equipment must be supplied by the original component equipment manufacturer or authorized dealer, be installed according to the original equipment manufacturer's specification, and must meet state specifications. Alterations that remove all wheelchair securement devices that return the vehicle to conventional passenger seating must also make the power lift and special service door inoperable.

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Subp. 3. **Power lift or ramp.** A school bus purchased specifically or partially for the transportation of these children must be equipped with a power lift or ramp located on the right side of the bus body.

Subp. 4. **Seating capacity.** A statement of the actual seating capacity, excluding wheelchairs, following the modification of a vehicle, must be placed above the windshield on the interior of the body.

Subp. 5. **Special service opening.** An enclosed service opening must be located on the right side of the body. The door opening must be not less than 38 inches wide and 52 inches high.

Subp. 6. **Reinforcement.** Door posts, headers, and all floor sections around the special opening must be reinforced to provide strength and support equal to adjacent side wall and floor construction of an unaltered model.

Subp. 7. **Drip mold.** A drip mold must be installed above the opening so as to effectively channel the water away from the entrance.

Subp. 8. **Header pad.** A header pad, at least three inches wide, extending the width of the special service door, must be placed above the opening on the inside of the bus or on the lift if it has a top cross bar.

Subp. 9. **Special service door enclosure.** The lift may be enclosed by either one or two doors. All doors must open outwardly.

Subp. 10. **Two-panel door.** If the door is made of two panels, the standards in this subpart apply.

A. The forward panel must be provided with an overlapping flange to close the space where the door panels meet, and a weather seal must be provided around the doors or opening to eliminate water leakage or heat loss.

B. Each door must have a safety glass window, set in rubber and aligned with the lower line of the adjacent sash. The window must be, as nearly as practical, of the same size as other bus windows.

C. Each door panel must open outwardly and a positive fastening device must be installed to hold the doors in an open position.

Subp. 11. **One-piece construction door.** If the door is made of one-piece construction, the standards in this subpart apply.

A. The door must open outwardly and a positive fastening device must be installed to securely hold the door in an open position.

B. The door must be equipped with a slide-bar, cam-operated type locking device.

C. Weather stripping must be installed around the entire door or opening to eliminate water leakage or heat loss.

D. The door must have a safety glass window, set in rubber and aligned with the lower line of the adjacent sash. The window must be, as nearly as practical, of the same size as other bus windows.

Subp. 12. **Door equipment.** The door must be equipped with a device that actuates a flashing visible signal, located in the driver's compartment, when the door is not securely closed, and the emergency brake is not on. An audible signal must not be used.

Subp. 13. **Door construction.** All doors must be constructed to meet the standards in law, in strength and materials for other school bus doors.

Subp. 14. **Power lift.** The power lift must be of at least a 750 pound capacity rating and capable of lifting the wheelchair, occupant, and attendant.

Subp. 15. **Power lift controls.** All power lift controls must be portable and conveniently located on the inside of the bus lift door. A master cut-off switch must be located in the driver's compartment.

Subp. 16. **Power lift platform.** The power lift platform must be covered with skid-resistant material or be so designed so as to prevent slipping. The lift platform must be constructed to permit vision through that portion of the platform covering the window of the special service door when the platform is in the "up" position. The power lift must be designed so that the lift does not operate unless the special service door is opened.

Subp. 17. **Ramp.** A self-adjusting ramp made of steel or equivalent material, if needed, must be attached to the lift platform or to the bus and be of sufficient length to minimize the incline. The ramp must be equipped with skid-resistant surface. The ramp must be in a secured position while the bus is in motion. The ramp must be of sufficient width on the surface to accommodate a standard wheelchair.

Subp. 18. **Barriers.** A padded crash barrier meeting federal manufacturing requirements for school bus seats and crash barriers must be properly installed between the special service door and passenger seats to the rear of the door.

In vehicles of 10,000 pounds gross vehicle weight rating and less, padded stanchions may be used.

Subp. 19. **Elevator-type lift.** In the event that an elevator-type lift is used with the body floor section serving as lift platform, both the forward and rear sides of the platform must be protected with crash barriers extending from the wall of the body toward

the aisle. A covered chain must be fastened to the rear barrier adjacent to the lift platform, and must extend across the platform opening and attach with hook and eye to the forward barrier adjacent to the lift platform.

Subp. 20. **Wheelchair securement devices.** Wheelchair securement devices must be as provided by Minnesota Statutes, section 299A.11.

Subp. 21. **Special student restraining devices.** Special restraining devices such as shoulder harnesses, lap belts, and chest restraint systems may be installed to the seats if the devices do not require the alteration in any form of the seat, seat cushion, framework, or related seat components. The restraints must be for the sole purpose of restraining handicapped students.

Subp. 22. **Seats.** All seats and related components shall comply with applicable federal standards on date of manufacture. Seat frames may be equipped by the school bus body manufacturer with rings or other devices to which passenger restraint systems may be attached if seat anchorages can handle the increased load demands that may occur.

3520.5910 MOTOR COACH USED FOR SCHOOL ACTIVITIES.

Subpart 1. **Definitions.** A motor coach owned by a school district or an area vocational technical institute is a bus that has been designed or used for intercity transit or charter service. The motor coach must have a capacity of 20 or more persons.

A motor coach used for school activities must comply with this part and must have been acquired before March 26, 1986.

A school activity is any activity involving students under the sponsorship of a school district.

Subp. 2. **Standards.** Equipment standards for motor coaches must conform to the Federal Motor Carrier Safety Regulations, Code of Federal Regulations, title 49.

Relevant standards are in chapter III, subpart D, sections 393.61, 393.62, and 393.63; subpart E, section 393.67; subpart G, sections 393.78, 393.79, 393.80, 393.81, 393.82, 393.83, 393.84, 393.89, 393.90, 393.91, 393.92, and 393.93; and subpart H, section 393.95.

Subp. 3. **Identification.** Motor coaches must not be outwardly equipped and identified as a school bus and must be identified as provided in Minnesota Statutes, section 168.012.

Subp. 4. **Inspection.** Motor coaches must be inspected annually by the Minnesota State Patrol using vehicle standards for motor carriers in Minnesota Statutes, section 221.031, subdivision 1.

Subp. 5. **Certification.** Upon passing an annual inspection, a motor coach will be issued a motor carrier safety sticker.

3520.5920 OPERATION OF MOTOR COACHES USED FOR SCHOOL ACTIVITIES.

Subpart 1. **Comply with this part.** A driver of a motor coach used for school activities must have the qualifications referred to in subpart 2 and follow the rules referred to in subpart 3.

Subp. 2. **Driver qualifications.** The driver of a motor coach operating within Minnesota must have a minimum Class B driver license with a school bus endorsement.

Subp. 3. **Driving rules.** The driver must comply with the rules for driving of motor coaches in chapter III, part 392 of the Federal Motor Carrier Safety Regulations, Code of Federal Regulations, title 49.

Subp. 4. **Operation.** A motor coach must not be used for activities that are eligible for state transportation aid.

A motor coach must not be leased to another entity.

REPEALER. Minnesota Rules, parts 3520.0500; 3520.0700; 3520.0800; 3520.0900; 3520.1100; 3520.1700; 3520.1900; 3520.2000; 3520.2100; 3520.2200; 3520.2300; 3520.3700, subparts 2 and 3; 3520.3800; 3520.4000; 3520.4100, subpart 4; 3520.4200; 3520.4210; 3520.4220; 3520.4230; 3520.4240; 3520.4250; 3520.4260; 3520.4300; 3520.4510, subparts 1 and 2; 3520.4520; 3520.4530; 3520.4580; 3520.4600, subparts 2, 3, 4, and 5; 3520.4610, subparts 3 and 4; 3520.4660; 3520.4690; 3520.4700; 3520.4710; 3520.4730; 3520.4740; 3520.4760; 3520.4770; 3520.4800; 3520.4810; 3520.4820; 3520.4830; 3520.4850, subparts 2 and 4; 3520.4860; 3520.4870; 3520.4900, subparts 1, 2, 3, 4, 5, 8, 9, and 10; 3520.4920; 3520.4940; 3520.4950; 3520.4960; 3520.4970; 3520.4990; 3520.5020; 3520.5100; 3520.5110; 3520.5130; 3520.5140; 3520.5150; 3520.5170; 3520.5200, subpart 5; 3520.5210; 3520.5300, subpart 2; 3520.5320; 3520.5350; 3520.5360; 3520.5400; 3520.5410; 3520.5420; 3520.5430; 3520.5440; 3520.5450, subpart 2; 3520.5460; 3520.5470; 3520.5480; 3520.5530; 3520.5540; 3520.5550; 3520.5580, subpart 3; 3520.5610; and 3520.5800 are repealed.

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Minnesota Department of Education

Capitol Square 550 Cedar Street Saint Paul, Minnesota 55101 TTY/TDD Number: (612) 297-2094
Phone:

RESOLUTION ADOPTING RULE

BE IT RESOLVED, that the Minnesota State Board of Education hereby approves and adopts the rules governing 1) Standards for Aid, 2) Operation of School Buses, 3) Pupil Transportation Safety Education Program and 4) Design of School Transportation Equipment Standards pursuant to authority vested in the Board by Minnesota Statutes 121.09 (1987) and 169.45 (1984).

BE IT FURTHER RESOLVED, that prior to publishing the rule as adopted in the State Register, Ruth E. Randall, the secretary of the state board of education, is authorized to make any form changes in the rule that the Revisor of Statutes or the Attorney General requires the Board to make.

BE IT FURTHER RESOLVED, that the Board adopts the attached Findings of Fact, Conclusions and Order Adopting Rule and that Ruth E. Randall, the secretary of the state board of education, is hereby authorized to sign the above-mentioned document on behalf of the Board and to perform the necessary acts to provide that the rule shall have the force and effect of law.

APPROVED THIS 15TH DAY OF NOVEMBER.

Marjorie Johnson

Marj Johnson, President
Minnesota State Board of Education

Minnesota Department of Education

Capitol Square 550 Cedar Street Saint Paul, Minnesota 55101 TTY/TDD Number: (612) 297-2094
Phone:

CERTIFICATE OF RESOLUTION ADOPTING RULE

I, Ruth E. Randall, do hereby certify that I am the secretary of the Minnesota State Board of Education, an agency duly authorized under the laws of the State of Minnesota, and that the following is a true, complete and correct copy of a resolution adopted at a meeting of the Minnesota State Board of Education duly and properly called and held on the 15th day of November, 1988, that a quorum was present at said meeting, that a majority of those present voted for the resolution and that said resolution will be set forth in the minutes of said meeting and has not been rescinded or modified:

BE IT RESOLVED, that the Minnesota State Board of Education hereby approves and adopts the rule governing the 1) Standards for Aid, 2) Operation of School Buses, 3) Pupil Transportation Safety Education Program, and 4) Design of School Transportation Equipment Standards pursuant to the authority vested in the Board by Minnesota Statutes 121.09 (1987) and 169.45 (1984).

BE IT FURTHER RESOLVED, that prior to publishing the rule as adopted in the State Register , Ruth E. Randall, the secretary of the state board of education, is authorized to make any form changes in the rule that the Revisor of Statutes or the Attorney General requires the Board to make.

BE IT FURTHER RESOLVED, that the Board adopts the attached Findings of Fact, Conclusions and Order Adopting Rules and that Ruth E. Randall, the secretary of the state board of education, is hereby authorized to sign the above-mentioned document on behalf of the Board and to perform the necessary acts to provide that the rule shall have the force and effect of law.

IN WITNESS WHEREOF, I have hereunto subscribed my name this 15th day of November, 1988.

Ruth E. Randall
Secretary, State Board of Education

Minnesota Department of Education

Capitol Square 550 Cedar Street Saint Paul, Minnesota 55101 TTY/TDD Number: (612) 297-2094
Phone:

RECOMMENDED FINDINGS OF FACT, CONCLUSIONS, AND ORDER ADOPTING THE RULE WITHOUT PUBLIC HEARING

State Board of Education
Department of Education

In the Matter of the Proposed Adoption of the Rule of the State Board of Education Governing the 1) Standards for Aid, 2) Operation of School Buses, 3) Pupil Transportation Safety Education Program and 4) Design of School Transportation Equipment Standards

FINDINGS OF FACT, CONCLUSIONS, AND ORDER ADOPTING THE RULE WITHOUT PUBLIC HEARING

Notice of the State Board of Education's intent to adopt the above-entitled rule was published in the State Register on September 26, 1988 and was sent by the United States mail to all persons on the list maintained by the agency pursuant to Minnesota Statutes, section 14.14, subdivision 1a and 14.22 on September 19, 1988. The statement of need and reasonableness was prepared before the notice of intent to adopt a rule without a public hearing was mailed to all persons on the rulemaking mailing list and published in the State Register and was available to the public.

All persons were given the opportunity to submit comment on the rule for 30 days after notice of proposed rulemaking. No requests for a public hearing on the rule were received by the agency.

Based on the comments and evidence in the record before the agency, I find the following:

The above-captioned rule is needed and reasonable.

NOW, THEREFORE, IT IS ORDERED that the rule identified as Proposed Rules for School Buses is adopted this 15th day of November 1988, pursuant to authority vested in the State Board of Education by Minnesota Statutes, sections 121.09 and 169.45.

Ruth E. Randall

Ruth E. Randall
Secretary, State Board of Education

Minnesota Department of Education

Capitol Square 550 Cedar Street Saint Paul, Minnesota 55101 TTY/TDD Number: (612) 297-2094
Phone:

STATE OF MINNESOTA
STATE BOARD OF EDUCATION

In the Matter of the Proposed Rules Governing the 1) Standards for Aid, 2) Operation of School Buses, 3) Pupil Transportation Safety Education Program, and 4) Design of School Transportation Equipment Standards.	AFFIDAVIT REGARDING COMMENTS RECEIVED PURSUANT TO NOTICE OF INTENT TO ADOPT RULES WITHOUT A PUBLIC HEARING

Minnesota Rules Parts 3520.0200-3520.5920

STATE OF MINNESOTA)
) ss.
COUNTY OF RAMSEY)

Len Nachman, being duly sworn on oath deposes and says:

1. That Len Nachman is the person named in the Notice of Intent to Adopt Rules Without a Public Hearing (13 S.R., 705, September 26, 1988) as the person to receive comments on the Board's intent to adopt rules concerning the above-entitled subject.

2. That the comment period set forth in the notice terminated at 4:30 p.m. on October 26, 1988.

3. That during the public comment period no comments were received by the Board.

Len Nachman

Len Nachman, Director
District Financial Management and
Transportation Section

Subscribed and sworn to before me
this 7th day of November, 1988.

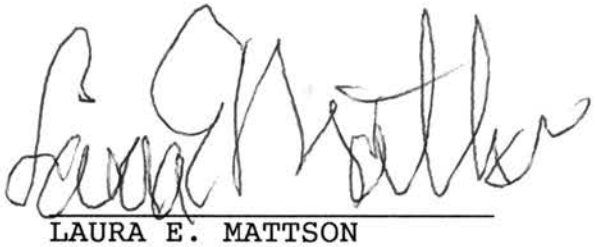
Hollis Dee Britz-Mitchell

HOLLIS DEE BRITZ - MITCHELL
NOTARY PUBLIC-MINNESOTA
CHISAGO COUNTY
MY COMMISSION EXPIRES OCTOBER 4, 1990

In the Matter of the Proposed Adoption of the Rule of the State Board of Education Governing the 1) Standards for Aid, 2) Operation of School Buses, 3) Pupil Transportation Safety Education Program and 4) Design of School Transportation Equipment Standards

DECLARATION OF COUNSEL

I, Laura E. Mattson, Special Assistant Attorney General, do hereby declare that I have examined the above-captioned rule, and the supporting rulemaking record, and that, based on my examination, the Administrative Procedure Act and Minnesota Rules, Chapter 2010 have been followed. Any exceptions are noted below. For Attorney General billing purposes, the four digit docket client code is 0021.



LAURA E. MATTSON
Special Assistant
Attorney General

Minnesota Department of Education

Capitol Square 550 Cedar Street Saint Paul, Minnesota 55101 TTY/TDD Number: (612) 297-2094
Phone:

State Board of Education
Department of Education

In the Matter of the Proposed
Adoption of the Rule of the
State Board of Education
Governing the 1) Standards
for Aid, 2) Operation of School
Buses, 3) Pupil Transportation
Safety Education Program and 4)
Design of School Transportation
Equipment Standards

The Department has not received any requests from persons who wished to be notified when the rule is submitted to the Attorney General.

Len Nachman

Len Nachman
Director, District Financial
Management and Transportation

Dated: 11/30/88

AN EQUAL OPPORTUNITY EMPLOYER

Minnesota Department of Education

Capitol Square 550 Cedar Street Saint Paul, Minnesota 55101 TTY/TDD Number: (612) 297-2094
Phone:

State Board of Education
Department of Education

In the Matter of the Proposed Adoption of the Rule of the State Board of Education Governing the 1) Standards for Aid, 2) Operation of School Buses, 3) Pupil Transportation Safety Education Program and 4) Design of School Transportation Equipment Standards

NOTICE OF SUBMISSION OF RULE ADOPTED WITHOUT PUBLIC HEARING TO THE ATTORNEY GENERAL

Pursuant to your request and in accordance with Minnesota Statutes, section 14.26:

PLEASE TAKE NOTICE that the above-captioned rule as adopted has been submitted to the Office of the Attorney General on the date of this notice, December 1, 1988, for review as to legality and form to the extent form relates to legality. The proposed rule, the rule as adopted, all the notices, the Statement of Need and Reasonableness, all written comments and requests for a hearing received, and other required documents also have been submitted to the Attorney General.

The rule must be approved or disapproved by the Attorney General within 14 calendar days of the date of submission to the attorney general. You may submit written comments to the attorney general on the legality of the rule. Any written comments must be submitted within eight calendar days of the date of submission of the rule to the Attorney General. Your comments must address only the issue of legality of the rule or the legality of the specific parts or subparts of the rule. The attorney general standards for review are set forth in Minnesota Rules, part 2010.1000. You may receive a copy of the attorney general decision upon written request to the attorney general. Your comments or requests for the decision must be directed to:

The Office of the Attorney General
Transportation Division
515 Transportation Building
John Ireland Blvd.
St. Paul, Minnesota 55155

Any written comments submitted to the Attorney General must be submitted simultaneously to:

Len Nachman
Department of Education
943 Capitol Square Building
550 Cedar Street
St. Paul, Minnesota 55101

Ruth E. Randall

Ruth E. Randall
Secretary, State Board of Education

Dated: 12-9-88