CHAPTER 7450
DEPARTMENT OF PUBLIC SAFETY
WHEELCHAIR SAFETY DEVICES

7450.0100 DEFINITIONS.

Subpart 1. **Scope.** The terms used in parts 7450.0100 to 7450.0800 have the meanings given them in this part.

Subp. 2. **Anchorage.** "Anchorage" means the provision for transferring wheelchair securement loads to the vehicle structure.

Subp. 3. **Commissioner.** "Commissioner" means the commissioner of public safety or an authorized agent.

Subp. 3a. **FMVSS.** "FMVSS" means federal motor vehicle safety standard No. 209 or No. 210, found in Code of Federal Regulations, title 49, section 571.209 or 571.210, respectively, as amended through December 31, 1991.

Subp. 3b. **Gross vehicle weight rating.** "Gross vehicle weight rating" means the value specified by the vehicle manufacturer as the maximum loaded weight of the vehicle.

Subp. 4. **Interior paneling.** "Interior paneling" means the material used to finish the interior of a vehicle, not including the floor.

Subp. 5. **Occupant restraint.** "Occupant restraint" means a seat belt assembly and/or upper torso restraint intended to hold the occupant of a wheelchair in a generally seated position during transportation by motor vehicle.

Subp. 6. **Operator.** "Operator" has the meaning given in Minnesota Statutes, section 299A.11, paragraph (b).

Subp. 6a. **Transit vehicle.** "Transit vehicle" means a bus with a gross vehicle weight rating greater than 15,000 pounds. Transit vehicle does not include a school bus as defined in Minnesota Statutes, section 169.01, subdivision 6.

Subp. 7. **Wheelchair.** "Wheelchair" means a mobility aid belonging to any class of three- or four-wheeled devices and that are usable indoors and designed for and used by individuals with mobility impairments, whether operated manually or powered.

Subp. 8. **Wheelchair securement device; securement device.** "Wheelchair securement device" or "securement device" has the meaning given in Minnesota Statutes, section 299A.11, paragraph (a).

Statutory Authority: *MS s 299A.01; 299A.12; 299A.18*

History: *16 SR 2246*

7450.0200 PURPOSE, AUTHORITY, AND SCOPE.

Subpart 1. **Purpose.** The purpose of parts 7450.0100 to 7450.0800 is to establish minimum standards for approval of wheelchair securement devices in vehicles and approval of seat belt assemblies and anchorages used to protect persons in wheelchairs while transported in vehicles.

Subp. 2. **Authority.** Parts 7450.0100 to 7450.0800 are adopted pursuant to the authority granted by Minnesota Statutes, sections 299A.01, subdivision 6; 299A.12, subdivision 4; and 299A.18.

Subp. 3. **Scope.** Parts 7450.0100 to 7450.0800 apply to the transportation by motor vehicle of a disabled person while occupying a wheelchair. This transportation is offered or provided by an operator to the public, to its employees, or in connection with any other service offered by the operator including schooling or nursing homes and convalescent or child care services.

Subp. 4. **Exception.** Parts 7450.0100 to 7450.0800 do not apply to a school bus manufactured before January 1, 1988, and subject to regular school bus inspection under Minnesota Statutes, section 169.451, nor do they apply to incidental transportation of an occupied wheelchair under circumstances other than as provided in subpart 3.

Statutory Authority: *MS s 299A.01; 299A.12; 299A.18*

History: *16 SR 2246*

7450.0250 TYPE OF SECUREMENT REQUIRED.

Subpart 1. **Transit vehicle.** An occupied wheelchair transported in a transit vehicle must be secured with an approved securement device that is either:

A. a frame-attached device that meets the requirements of parts 7450.0300 and 7450.0400; or

B. a user-friendly device that meets the requirements of parts 7450.0430 and 7450.0460.

Subp. 2. **Vehicle other than transit vehicle.** An occupied wheelchair transported in a vehicle other than a transit vehicle must be secured with an approved frame-attached securement device that meets the requirements of parts 7450.0300 and 7450.0400.

Statutory Authority: *MS s 299A.01; 299A.12; 299A.18*

History: *16 SR 2246*

7450.0300 FRAME-ATTACHED WHEELCHAIR SECUREMENT.

Subpart 1. **Sufficient strength.** A frame-attached securement device must be of sufficient strength to prevent forward, backward, lateral, or vertical movement of the wheelchair when the device is engaged and the vehicle is in motion, accelerating, or braking.

Subp. 2. **Attached to frame.** A frame-attached wheelchair securement device must attach to the frame of the wheelchair without damaging the frame. "Damage" includes effects harmful to the strength, integrity, or serviceableness of the wheelchair, but does not include minor dents, scratches, or other cosmetic blemishes not materially affecting serviceableness.

Subp. 3. **Limitation.** A frame-attached wheelchair securement device must not be attached to a wheel of a wheelchair.

Statutory Authority: *MS s 299A.01; 299A.12; 299A.18*

History: *16 SR 2246*

7450.0400 MINIMUM STANDARDS FOR FRAME-ATTACHED DEVICES.

Each frame-attached wheelchair securement device must meet the requirements of items A to G.

A. It must attach to the wheelchair frame on at least three points. The three points of contact must be spaced to provide effective securement. Alternatively, a securement device meeting all other requirements of this chapter may attach to two widely spaced points on the wheelchair frame if the wheel tires or the wheelchair frame abuts an unyielding surface in a manner that meets the approval requirements of part 7450.0500.

B. It must consist of at least two webbing-type belts described in subitem (1) or at least two all-metal devices described in subitem (2) or one or more of each type of device.

(1) Webbing-type devices must be assemblies that meet or exceed Type 2 pelvic restraint seat belt requirements as specified in S4.2(b) of FMVSS No. 209, or be certified by the manufacturer that the device meets or exceeds assembly strength of 5,000 pounds in loop fashion or 2,500 pounds on each anchorage leg.

(a) Certification may be the specification listed in catalogs or publications by the manufacturer.

(b) New construction of these securement devices and repairs to webbing must conform with standards established by the manufacturer of the webbing.

(2) All-metal securement devices must be designed and constructed to provide wheelchair securement strength that is at least equal to the strength of a webbing-type device comprised of three separate attachments and anchorages.

C. It must be free of sharp edges, corners, and jagged projections to minimize injury to persons in the event of unintentional contact.

D. It must be capable of retraction, and be readily removable or otherwise suitably storable when not in use.

E. It must be anchored to the vehicle at not less than two separate points with bolts, nuts, and lock washers or self-locking nuts.

(1) Bolts used must be not less than 3/8-inch in diameter and of National Fine Thread SAE grade 5 designation or equivalent.

(2) Where anchorage bolts do not pierce the vehicle frame, subframe, body post, or equivalent metal structure, a metal reinforcement plate or washer 1/16-inch thick and not less than four square inches or 2-1/4 inches in diameter respectively, is required.

(3) Interior paneling may not be used to constitute anchorage for a point of securement.

(4) A metal track, rail, or similar device permitting attachment of the securement device at optional points on it may be used to anchor the securement device, only if:

(a) the track, rail, or other device is secured to the vehicle in compliance with anchorage requirements of this part; and

(b) the attachment of the securement device to the anchor point is by means of a positive attachment metal fitting.

F. The method or device that provides attachment of the securement device to the wheelchair frame and the method or device locking the securement device in the load-holding mode must each be of a strength and design that will ensure performance of their intended function until the securement device is intentionally released.

G. Buckles, anchorage fittings, and other components essential to the functioning of the securement device must be integrated into the securement device in accordance with recognized practices and in a manner that preserves the overall strength of the securement device.

Statutory Authority: *MS s 299A.01; 299A.12; 299A.18*

History: *16 SR 2246*

7450.0430 USER-FRIENDLY WHEELCHAIR SECUREMENT.

Subpart 1. **Nominal movement.** A user-friendly securement device must limit movement of an occupied wheelchair when the vehicle is in normal operation. An occupied wheelchair loaded with a restrained weight of 250 pounds may not move more than two inches in any direction at any point of contact with the floor when the vehicle is being operated under the following conditions:

A. full-throttle acceleration on dry pavement from a standstill to a speed of 25 miles per hour with the vehicle at its curb weight plus one occupied wheelchair;

B. maximum braking from a speed of 22 miles per hour to a standstill on dry pavement with the vehicle at its curb weight plus one occupied wheelchair; and

C. driving both clockwise and counterclockwise with the outer, front wheel around one of the following:

(1) a 50-foot diameter circle at a minimum steady speed of 12 miles per hour;

(2) a 75-foot diameter circle at a minimum steady speed of 14 miles per hour; or

(3) a 100-foot diameter circle at a minimum steady speed of 16 miles per hour.

Subp. 2. **Attachment.** A user-friendly securement device must attach to the wheelchair without damaging it during normal vehicle operations. "Damage" includes effects harmful to the strength, integrity, or serviceableness of the wheelchair but does not include minor dents, scratches, or other cosmetic blemishes not materially affecting serviceableness. A bent wheel or broken spoke for example is "damage."

Subp. 3. **Release.** A user-friendly securement device must be designed so as to prevent an unintended mechanical release.

Subp. 4. **User-friendly.** A user-friendly securement device must be designed so that it can be readily engaged and released by the user, or remotely by the vehicle driver, subject to the following conditions:

A. The manual operating control for the user must be located within the upper 33 inches of a 48-inch cube occupied by the secured wheelchair.

B. The force required by the user to engage and release may not exceed five pounds force and may not require tight grasping, pinching, or twisting of the wrist.

C. When a device is manually engaged, the reach, force, and dexterity required to manually release the device may not exceed that required to manually engage it.

D. The device may be automatically engaged by the wheelchair or remotely by the vehicle driver, but a manual release must be available that meets the specifications of items A and B. A device that may be remotely engaged or released by the driver must have an indicator light to inform the driver that the device has engaged or released the wheelchair.

E. A user-friendly device does not need to be able to secure all types of wheelchairs. A user-friendly device must secure all types of wheelchairs for which it is approved by the commissioner.

Statutory Authority: *MS s 299A.01; 299A.12; 299A.18*

History: *16 SR 2246*

7450.0460 MINIMUM STANDARDS FOR USER-FRIENDLY DEVICES.

Subpart 1. **Force to be restrained.** A user-friendly securement device must be able to restrain force as follows:

A. A user-friendly securement device and its attachments used on a vehicle with a gross vehicle weight rating of 30,000 pounds or more must withstand a force in a forward longitudinal direction of up to 2,000 pounds per securement leg or clamping mechanism and a minimum of 4,000 pounds total for each wheelchair.

B. A user-friendly securement device and its attachments used on a vehicle with a gross vehicle weight rating of over 15,000 pounds but less than 30,000 pounds must withstand a force in a forward longitudinal direction of up to 2,500 pounds per securement leg or clamping mechanism and a minimum of 5,000 pounds total for each wheelchair.

Subp. 2. **Attachment to vehicle.** A user-friendly securement device must be attached to a part of the vehicle that can, when attached, withstand the forces specified in subpart 1. The device must be installed according to the manufacturer's installation instructions approved under part 7450.0500.

Subp. 3. **Damage to device.** After the test modes in subpart 1 have been removed, a user-friendly securement device must be operable to the extent that it will release a wheelchair, as specified in part 7450.0430, subpart 4.

Statutory Authority: *MS s 299A.01; 299A.12; 299A.18*

History: *16 SR 2246*

7450.0500 APPROVAL PROCEDURE.

Subpart 1. **Application.** Application for approval of a wheelchair securement device must be made in writing to the commissioner and must be accompanied by the manufacturer's actual or proposed written installation and use instructions and photographs or drawings clearly depicting the construction of the device and its physical characteristics, including all mounting hardware. The application must also include the labeling used for identifying the manufacturer and the model designation. An application for approval of a user-friendly securement device must also include a test report or engineering document certifying that the device and it's attachment to the vehicle can withstand the forces specified in part 7450.0460, or the manufacturer's specifications to the same effect listed in catalogs or publications by the manufacturer.

Subp. 2. **Demonstration of frame-attached securement device.** When requested by the commissioner, an applicant for approval of a frame-attached securement device shall provide a vehicle with the securement device installed in it, and demonstrate the device by attaching it to a wheelchair provided by the applicant. The commissioner may load the wheelchair to 140 pounds and require that the vehicle be accelerated, driven around corners, and subjected to hard braking at speeds of 30 miles per hour or less. Movement of the wheelchair more than one inch in any direction, including vertically, during the test is grounds for refusing approval. Measurement of movement must be at the points where wheelchair wheels contact the floor. Damage to the wheelchair or other property or injury to a person during the test is the responsibility of the applicant.

Subp. 2a. **Demonstration of user-friendly securement device.** When requested by the commissioner, an applicant for approval of a user-friendly securement device shall provide a vehicle with a wheelchair and with the securement device installed in the vehicle and demonstrate compliance of the device to the requirements of parts 7450.0430 and 7450.0460. Damage to the wheelchair or other property or injury to a person during the test is the responsibility of the applicant.

Subp. 3. **Approval.** On determining that the securement device meets the requirements of this chapter, the commissioner shall issue a certificate of approval authorizing use of the device. If a user-friendly device does not secure all types of wheelchairs, the certificate must state the types of wheelchairs for which the device is approved.

Subp. 4. **Denial and revocation.** The commissioner shall deny or revoke an approval upon a showing that the securement device does not meet a requirement of parts 7450.0100 to 7450.0800. The commissioner shall notify the applicant in writing of a denial or revocation of approval.

Subp. 5. **Label.** Each wheelchair securement device must be permanently labeled with the name, initials, or trademark of the manufacturer and the model designation of the device. The label must be readily visible and legible from the outside of the device when it is properly mounted to the vehicle and in use.

Statutory Authority: *MS s 299A.01; 299A.12; 299A.18*

History: *16 SR 2246*

7450.0600 OCCUPANT RESTRAINT.

Subpart 1. **Seat belt assembly.** Each vehicle equipped with a wheelchair securement device must be equipped with a Type 2 seat belt assembly with a detachable upper torso portion at each wheelchair position in the vehicle or, in the alternative, must be equipped with a Type 1 pelvic restraint assembly and a length of Type 1 or Type 2 seat belt webbing, with buckle, adequate to encircle the chest of the wheelchair occupant and the backrest of the wheelchair.

Subp. 2. **Standard.** Type 1 and Type 2 seat belt assemblies must meet the requirements of S1 to S4.4 of FMVSS No. 209.

Subp. 3. **Installation and anchorage.** Type 1 and Type 2 seat belt assemblies and the detachable upper torso restraint, if a detachable upper torso restraint is installed instead of using a length of seat belt webbing to encircle the chest of the occupant and the backrest of the wheelchair, must be installed and anchored in accordance with S1 to S4.3.2 of FMVSS No. 210.

Statutory Authority: *MS s 299A.01; 299A.12; 299A.18*

History: *16 SR 2246*

7450.0700 USE OF SECUREMENT DEVICE.

The driver of a vehicle equipped with a wheelchair securement device has the following duties:

A. The driver or a person designated by the driver shall ensure that an occupied wheelchair is properly secured before the driver sets the vehicle in motion.

B. When requested by the wheelchair user, when the wheelchair user is unable to communicate, when seat belt usage is required of all passengers in the vehicle, or when the vehicle is a school bus, the driver or a person designated by the driver shall ensure that the seat belt assembly, and upper torso restraint if so equipped, is fastened around the wheelchair user, before the driver sets the vehicle in motion. The seat belt assembly or the upper torso restraint must not be fastened, however, if the wheelchair user or other responsible person advises the driver that to do so would aggravate a physical condition of the wheelchair user. If the physical condition would be aggravated by the use of but one of the devices, the device that would have no adverse effect on the physical condition must be fastened in the required manner.

C. The driver or a person designated by the driver shall ensure that securement devices and seat belt assemblies are retracted, removed, or otherwise stored when not in use to prevent tripping of persons and damage to devices.

Statutory Authority: *MS s 299A.01; 299A.12; 299A.18*

History: *16 SR 2246*

7450.0800 INSPECTION, REMOVAL, AND CORRECTION.

Subpart 1. **Inspection.** Annual inspections of securement devices must be performed in accordance with Minnesota Statutes, section 299A.14.

Subp. 2. **Removal, correction.** The commissioner shall order the removal or correction of a securement device upon determining that the device, without regard to date of installation:

A. is not capable of sustaining loads imposed on it in restraining an occupied wheelchair;

B. permits excessive movement of an occupied wheelchair; or

C. does not meet the requirements of parts 7450.0100 to 7450.0800.

Statutory Authority: *MS s 299A.01; 299A.12; 299A.18*

History: *16 SR 2246*

7450.0900 [Repealed, 16 SR 2246]