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TECHNICAL STANDARDS DOCUMENT

NO. 224, Revision 0

Rear Impact Protection

The text of this document is based on the U.S. *Code of Federal Regulations, Title 49, Volume 5, Part 571*, Federal Motor Vehicle Safety Standard No. 224, Rear Impact Protection, revised as of October 1, 2000.

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Technical Standards Document Number 224, Revision 0

Rear Impact Protection

(Ce document est aussi disponible en français.)

Introduction

As defined by section 12 of the *Motor Vehicle Safety Act*, a Technical Standards Document (TSD) is a document that reproduces an enactment of a foreign government (e.g. a Federal Motor Vehicle Safety Standard issued by the U.S. National Highway Traffic Safety Administration). According to the Act, the *Motor Vehicle Safety Regulations* may alter or override some provisions contained in a TSD or specify additional requirements; consequently, it is advisable to read a TSD in conjunction with the Act and its counterpart Regulation. As a guide, where modifications have been made, the corresponding clause number is indicated in the margin of the TSD within parentheses.

TSDs are revised from time to time in order to incorporate amendments made to the reference document, at which time a Notice of Revision is published in the *Canada Gazette* Part I. All TSDs are assigned a revision number, with “Revision 0” designating the original version.

Identification of Changes

In order to facilitate the incorporation of a TSD, certain non-technical changes may be made to the foreign enactment. These may include the deletion of words, phrases, figures, or sections that do not apply under the Act or Regulations, the conversion of imperial to metric units, the deletion of superseded dates, and minor changes of an editorial nature. Additions are underlined, and provisions that do not apply are ~~stroked through~~. Where an entire section has been deleted, it is replaced by: “[CONTENT DELETED]”. Changes are also made where there is a reporting requirement or reference in the foreign enactment that does not apply in Canada. For example, the name and address of the U.S. Department of Transportation are replaced by those of the Department of Transport.

Effective Dates

The original version of a TSD comes into effect on the date that the regulation in which it is first incorporated by reference is published in the *Canada Gazette* Part II. Subsequent revisions of a TSD come into effect on the date of publication of the Notice of Revision in the *Canada Gazette* Part I. The Effective Date is that of the publication of the final amendment or the notice of revision in the *Canada Gazette*. Compliance with the requirements of a newly issued TSD is not mandatory until six months following the effective date, during which time it is permissible to continue to comply with the requirements of the previous Regulation or TSD. Manufacturers and importers must comply with the requirements of a newly issued TSD as of the Mandatory Compliance Date.

Official Version of Technical Standards Documents

Technical Standards Documents may be consulted electronically in both HTML and Portable Document Format (PDF) on the Department of Transport's Web site at www.tc.gc.ca/RoadSafety/mvstm_tsd/index_e.htm. The PDF version is a replica of the TSD as published by the Department and is to be used for the purposes of legal interpretation and application. The HTML version is provided for information purposes only.

Director, Standards Research and Development
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REAR IMPACT PROTECTION

The text of this document is based on the U.S. *Code of Federal Regulations*, Title 49, Volume 5, Part 571, Federal Motor Vehicle Safety Standard No. 224, Rear Impact Protection, revised as of October 1, 2000.

S1. Scope

This Technical Standards Document (TSD) standard establishes requirements for the installation of rear impact guards on trailers and semitrailers with a gross vehicle weight rating (GVWR) of 4,536 kg or more.

S2. Purpose

The purpose of this TSD standard is to reduce the number of deaths and serious injuries occurring when light duty vehicles impact the rear of trailers and semitrailers with a GVWR of 4,536 kg or more.

(2)

S3. Application

[CONTENT DELETED] For applicability, please see section 223 and Schedule III to the *Motor Vehicle Safety Regulations*.

S4. Definitions

Chassis means the load-supporting frame structure of a motor vehicle. (*Châssis*)

* **Horizontal member** ~~means the structural member of the guard that meets the configuration requirements of S5.1 of this section when the guard is installed on the vehicle according to the installation instructions or procedures required by S5.5 of Sec. 571.223, Rear Impact Guards.~~ (*Pièce horizontale*)

Low chassis vehicle means a trailer or semitrailer having a chassis that extends behind the rearmost point of the rearmost tires and a lower rear surface that meets the configuration requirements of S5.1.1 through 5.1.3 of this TSD section. (*Véhicule à châssis surbaissé*)

Outer or Outboard means away from the trailer centerline and toward the side extremities of the trailer. (*Extérieur*)

Pulpwood trailer means a trailer that is designed exclusively for harvesting logs or pulpwood and constructed with a skeletal frame with no means for attachment of a solid bed, body, or container. (*Remorque pour bois à pâte*)

* Please see subsection 223(1) of the *Motor Vehicle Safety Regulations* for the applicable definition.

Rear extremity means the rearmost point on a vehicle that is above a horizontal plane located 560 mm above the ground and below a horizontal plane located 1,900 mm above the ground when the vehicle is configured as specified in S5.1 of this TSD section and when the vehicle's cargo doors, tailgate, or other permanent structures are positioned as they normally are when the vehicle is in motion. Nonstructural protrusions such as taillights, rubber bumpers, hinges, and latches are excluded from the determination of the rearmost point. (*Extrémité arrière*)

Rounded corner means a guard's outermost end that curves upward or forward toward the front of the vehicle, or both. (*Coins arrondis*)

Side extremity means the outermost point on a vehicle's side that is located above a horizontal plane 560 mm above the ground, below a horizontal plane located 190 cm above the ground, and between a transverse vertical plane tangent to the rear extremity of the vehicle and a transverse vertical plane located 305 mm forward of that plane when the vehicle is configured as specified in S5.1 of this TSD section. Non-structural protrusions such as taillights, hinges, rubber bumpers, and latches are excluded from the determination of the outermost point. (*Extrémité latérale*)

Special purpose vehicle means a trailer or semitrailer having work-performing equipment that, while the vehicle is in transit, resides in or moves through the area that could be occupied by the horizontal member of the rear underride guard, as defined by S5.1.1 through S5.1.3. (*Véhicule spécialisé*)

Wheels back vehicle means a trailer or semitrailer whose rearmost axle is permanently fixed and is located such that the rearmost surface of tires of the size recommended by the vehicle manufacturer for the vehicle on that axle is not more than 305 mm forward of the transverse vertical plane tangent to the rear extremity of the vehicle. (*Véhicule à roues arrière reculées*)

S5. Requirements

S5.1 Installation: Vehicle Configuration

Each vehicle shall be equipped with a rear impact guard certified as meeting Federal Motor Vehicle Safety Standard No. 223, Rear Impact Guards (Sec. 571.223) of the Code of Federal Regulations of the United States. When the vehicle to which the guard is attached is resting on level ground, unloaded, with its full capacity of fuel, and with its tires inflated and air suspension, if so equipped, pressurized in accordance with the manufacturer's recommendations, the guard shall comply with the requirements of S5.1.1 through S5.1.3 of this TSD section. See Figure 1 of this TSD section.

S5.1.1 Guard width. The outermost surfaces of the horizontal member of the guard shall extend outboard to within 100 mm of the longitudinal vertical planes that are tangent to the side extremities of the vehicle, but shall not extend outboard of those planes. See Figure 1 of this TSD section.

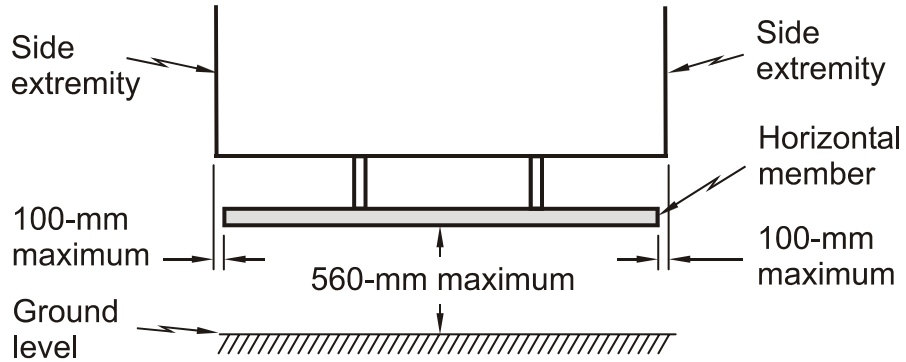
S5.1.2 Guard height. The vertical distance between the bottom edge of the horizontal member of the guard and the ground shall not exceed 560 mm at any point across the full width of the member. Notwithstanding this requirement, guards with rounded corners may curve upward within 255 mm of the longitudinal vertical planes that are tangent to the side extremities of the vehicle. See Figure 1 of this TSD section.

S5.1.3 Guard rear surface. At any height 560 mm or more above the ground, the rearmost surface of the horizontal member of the guard shall be located as close as practical to a transverse vertical plane tangent to the rear extremity of the vehicle, but no more than 305 mm forward of that plane. Notwithstanding this requirement, the horizontal member may extend rearward of the plane, and guards with rounded corners may curve forward within 255 mm of the longitudinal vertical planes that are tangent to the side extremities of the vehicle.

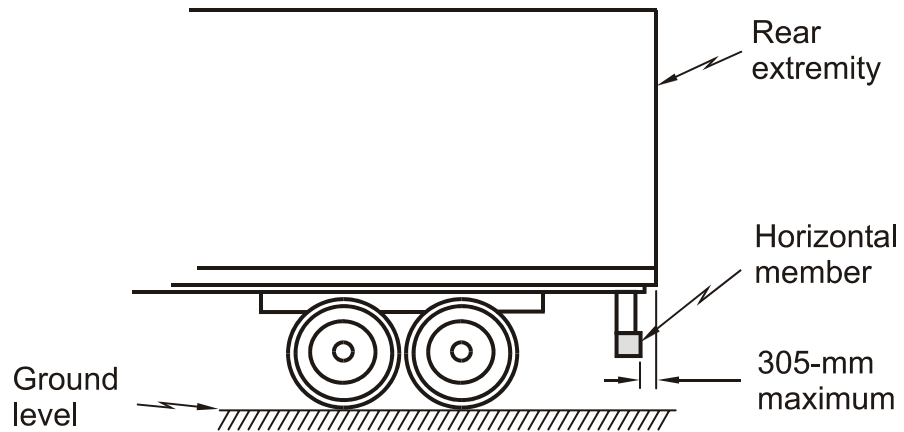
S5.2 Installation Requirements

Guards shall be attached to the vehicle's chassis by the vehicle manufacturer in accordance with the installation instructions or procedures provided pursuant to S5.5 of Standard No. 223, Rear Impact Guards (Sec. 571.223) of the U.S. Code of Federal Regulations. The vehicle must be of a type identified in the installation instructions as appropriate for the guard.

Rear view of trailer



Side view of trailer



Note:
Drawings not to scale

Figure 1: Configuration Requirements