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TECHNICAL STANDARDS DOCUMENT

No. 120, Revision 0

Tire Selection and Rims for Motor Vehicles With a GVWR of More Than 4,536 kg

The text of this document is based on Federal Motor Vehicle Safety Standard No. 120, *Tire Selection and Rims for Motor Vehicles With a GVWR of More Than 4,536 Kilograms (10,000 Pounds)*, as published in the U.S. *Code of Federal Regulations*, Title 49, Part 571, revised as of October 1, 2007.

Effective Date and Mandatory Compliance Date: September 17, 2008

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Road Safety and Motor Vehicle Regulation Directorate
TRANSPORT CANADA
Ottawa, Ontario
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Technical Standards Document
Number 120, Revision 0

Tire Selection and Rims for Motor Vehicles With a GVWR of More Than 4,536 kg

(Ce document est aussi disponible en français.)

Introduction

As defined by section 12 of the *Motor Vehicle Safety Act* (the 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 the corresponding Regulation contains additional requirements, footnotes indicate the amending subsection number.

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or sections that do not apply under the Act or Regulations, the conversion of imperial to metric units, the deletion of superseded dates, and minor changes of an editorial nature.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 <u>underlined</u>, 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 Date and Mandatory Compliance Date

The effective date of a TSD is the date of publication of its incorporating regulation or of the notice of revision in the *Canada Gazette*, and the date as of which voluntary compliance is permitted. The mandatory compliance date is the date upon which compliance with the requirements of the TSD is obligatory. If the effective date and mandatory compliance date are different, manufacturers may follow the requirements that were in force before the effective date, or those of this TSD, until the mandatory compliance date.

In the case of an initial TSD, or when a TSD is revised and incorporated by reference by an amendment to the Regulations, the mandatory compliance date is as specified in the Regulations, and it may be the same as the effective date. When a TSD is revised with no

corresponding changes to the incorporating Regulations, the mandatory compliance date is six months after the effective 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.

(Original signed by)

Director, Standards Research and Development
for the Minister of Transport, Infrastructure
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Ottawa, Ontario

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S1. Scope

This Technical Standards Document (TSD) ~~standard~~ specifies tire and rim selection requirements and rim marking requirements.

S2. Purpose

The purpose of this TSD ~~standard~~ is to provide safe operational performance by ensuring that the vehicles to which it applies are equipped with tires of adequate size and load rating[1] and with rims of appropriate size and type designation.

S3. Application

[CONTENT DELETED] For applicability, see Schedule III and subsection 120(1) of Schedule IV to the *Motor Vehicle Safety Regulations*.

S4. Definitions

~~All terms defined in the Act and the rules and standards issued under its authority are used as defined therein.~~

Rim base means the portion of a rim remaining after removal of all split or continuous rim flanges, side rings, and locking rings that can be detached from the rim. *(Base de jante)*

[2] **Rim diameter** ~~means nominal diameter of the bead seat.~~ *(Diamètre de jante)*

Rim size designation means rim diameter and width. *(Désignation des dimensions de jante)*

Rim type designation means the industry or manufacturer's designation for a rim by style or code. *(Désignation du type de jante)*

Rim width means nominal distance between rim flanges. *(Largeur de jante)*

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[1] Please see subsection 120(5) of the *Motor Vehicle Safety Regulations* (MVSR) for the applicable definition.

[2] Please see subsection 2(1) of the MVSR for the applicable definition.

Weather side means the surface area of the rim not covered by the inflated tire. *(Surface exposée aux intempéries)*

S5. Requirements

S5.1 Tire and Rim Selection

S5.1.1 Except as specified in S5.1.3, each vehicle equipped with pneumatic tires for highway service shall be equipped with tires that meet the requirements of subsections 5(2) or 6(2) and sections 8 and 9 or 10 of the *Motor Vehicle Tire Safety Regulations, 1995* (MVTSR) ~~section 571.109, section 571.119, or section 571.139~~, and rims that are listed by the manufacturer of the tires as suitable for use with those tires, in accordance with section 7 of the MVTSR ~~S4.4 of section 571.109 or S5.1 of section 571.119, as applicable, except that vehicles may be equipped with a non-pneumatic spare tire assembly that meets the requirements of section 571.129, *New non-pneumatic tires for passenger cars*, and S8 of this standard. Vehicles equipped with such an assembly shall meet the requirements of S5.3.3, S7, and S9 of this standard~~.

S5.1.2 Except in the case of a vehicle which has a speed attainable in 3.2 kilometers of 80 kilometers per hour or less, the sum of the maximum load ratings[3] of the tires fitted to an axle shall be not less than the gross axle weight rating (GAWR) of the axle system as specified on the vehicle's compliance ~~certification~~ label required by section 6 of the *Motor Vehicle Safety Regulations* (MVSR) ~~49 CFR part 567~~. Except in the case of a vehicle which has a speed attainable in 2 miles of 50 mph or less, the sum of the maximum load ratings of the tires fitted to an axle shall be not less than the GAWR of the axle system as specified on the vehicle's compliance ~~certification~~ label required by section 6 of the MVSR ~~49 CFR part 567~~. If the compliance ~~certification~~ label shows more than one GAWR for the axle system, the sum shall be not less than the GAWR corresponding to the size designation of the tires fitted to the axle. If the size designation of the tires fitted to the axle does not appear on the compliance ~~certification~~ label, the sum shall be not less than the lowest GAWR appearing on the label. When a passenger car tire is installed on a multi-purpose passenger vehicle, truck, bus, or trailer, the tire's load rating shall be reduced by dividing by 1.10 before calculating the sum (i.e., the sum of the load ratings of the tires on each axle, when the tires' load carrying capacity at the recommended tire cold inflation pressure is reduced by dividing by 1.10, must be appropriate for the GAWR).

S5.1.3 In place of tires that meet the requirements of section 10 and Schedule V to the MVTSR ~~Standard No. 119~~, a truck, bus, or trailer may, at the request of a purchaser, be equipped at the place of manufacture of the vehicle with retreaded or used tires owned or leased by the purchaser, if the sum of the maximum load ratings meets the requirements of S5.1.2. Used tires employed under this provision must have been originally manufactured to comply with section 10 and Schedule V to the MVTSR ~~Standard No. 119, as evidenced by the DOT symbol~~.[4]

[3] Please see subsection 120(5) of the MVSR for the applicable definition.

[4] Please see subsection 120(2) of the MVSR for additional requirements.

S5.2 Rim Marking

Each rim or, at the option of the manufacturer in the case of a single-piece wheel, wheel disc shall be marked with the information listed in paragraphs (a) through (e) of this paragraph, in lettering not less than 3 millimeters high, impressed to a depth or, at the option of the manufacturer, embossed to a height of not less than 0.125 millimeters. The information listed in paragraphs (a) through (c) of this paragraph shall appear on the weather side. In the case of rims of multi-piece construction, the information listed in paragraphs (a) through (e) of this paragraph shall appear on the rim base and the information listed in paragraphs (b) and (d) of this paragraph shall also appear on each other part of the rim.

(a) A designation which indicates the source of the rim's published nominal dimensions, as follows:

(1) "T" indicates The Tire and Rim Association.

(2) "E" indicates The European Tyre and Rim Technical Organisation.

(3) "J" indicates Japan Automobile Tire Manufacturers' Association, Inc.

(4) "D" indicates Deutsche Industrie Norm.

(5) "B" indicates British Standards Institution.

(6) "S" indicates Scandinavian Tire and Rim Organization.

(7) "A" indicates The Tyre and Rim Association of Australia.

(8) "N" indicates an independent listing pursuant to subsection 7(1) of the MVTSR ~~S4.4.1(a) of Standard No. 109 or S5.1(a) of Standard No. 119~~.

(b) The rim size designation, and in the case of multi-piece rims, the rim type designation. For example: 20 x 5.50 or 20 x 5.5.

(c) ~~The symbol DOT, constituting a certification by the manufacturer of the rim that the rim complies with all applicable motor vehicle safety standards.~~

(d) A designation that identifies the manufacturer of the rim by name, trademark, or symbol.

(e) The month, day, and year or the month and year of manufacture, expressed either numerically or by use of a symbol, at the option of the manufacturer. For example:

"September 4, 1976" may be expressed numerically as: $90476, \frac{904}{76}$, or $\frac{76}{904}$

"September 1976" may be expressed as: $976, \frac{9}{76}$, or $\frac{76}{9}$

(1) Any manufacturer that elects to express the date of manufacture by means of a symbol shall notify Transport Canada ~~NHTSA~~ in writing of the full names and addresses of all manufacturers and brand name owners utilizing that symbol and the name and address of the trademark owner of that symbol, if any. The notification shall describe in narrative form and in detail how the month, day, and year or the month and year are depicted by the symbol. Such description shall include an actual size graphic depiction of the symbol, showing and/or explaining the interrelationship of the component parts of the symbol as they will appear on the rim or single-piece wheel disc, including dimensional specifications, and where the symbol will be located on the rim or single-piece wheel disc. The notification shall be received by Transport Canada ~~NHTSA~~ at least 60 calendar days prior to first use of the symbol. The notification shall be sent ~~mailed~~ to the Minister of Transport, Infrastructure and Communities, 275 Slater Street, Ottawa, Ontario, Canada, K1A 0N5 ~~Office of Vehicle Safety Compliance, National Highway Traffic Safety Administration, 400 Seventh Street SW., Washington, DC 20590. All information provided to NHTSA under this paragraph will be placed in the public docket~~.

(2) Each manufacturer of wheels shall provide an explanation of its date of manufacture symbol to any person upon request.

S5.3 Label Information

Each vehicle shall show the information specified in S5.3.1 and S5.3.2 ~~and, in the case of a vehicle equipped with a non-pneumatic spare tire, the information specified in S5.3.3,~~ in the English and French languages,[5] lettered in block capitals and numerals not less than 2.4 millimeters high and in the format set forth following this paragraph. This information shall appear either:

(a) After each GAWR listed on the compliance ~~certification~~ label required by section 6 of the MVSR ~~section 567.4 or section 567.5 of this chapter~~; or ~~at the option of the manufacturer,~~

(b) At the option of the manufacturer, on the tire information label affixed to the vehicle in the manner, location, and form described in sections 6 and 7 of the MVSR, ~~section 567.4(b) through (f) of this chapter~~ as appropriate for each GVWR-GAWR combination listed on the compliance ~~certification~~ label.

S5.3.1 Tires. The size designation (not necessarily for the tires on the vehicle) and the recommended cold inflation pressure for those tires, such that the sum of the load ratings of the tires on each axle (when the tires' load carrying capacity at the specified pressure is reduced by dividing by 1.10, in the case of a tire subject to Schedule IV to the MVTSR ~~FMVSS No. 109~~), is appropriate for the GAWR as calculated in accordance with S5.1.2.[6]

[5] Please see subsections 120(3) of the MVSR for an additional requirement.
[6] Please see subsection 120(4) of the MVSR for an additional requirement.

S5.3.2 Rims. The size designation and, if applicable, the type designation of rims (not necessarily those on the vehicle) appropriate for those tires.

Truck Example—Suitable Tire-Rim Choice

GVWR: 7,840 KG (17,289 LB)

GAWR: FRONT—2,850 KG (6,280 LB) WITH 7.50-20(D) TIRES, 20 x 6.00 RIMS, AT 520 KPA (75 PSI) COLD SINGLE

GAWR: REAR—4,990 KG (11,000 LB) WITH 7.50-20(D) TIRES, 20 x 6.00 RIMS, AT 450 KPA (65 PSI) COLD DUAL

GVWR: 13,280 KG (29,279 LB)

GAWR: FRONT—4,826 KG (10,640 LB) WITH 10.00-20(F) TIRES, 20 x 7.50 RIMS, AT 620 KPA (90 PSI) COLD SINGLE

GAWR: REAR—8,454 KG (18,639 LB) WITH 10.00-20(F) TIRES, 20 x 7.50 RIMS, AT 550 KPA (80 PSI) COLD DUAL

~~**S5.3.3** The non-pneumatic tire identification code, with which that assembly is labeled pursuant to S4.3(a) of section 571.129.~~

S6. Load Limits for Non-Pneumatic Spare Tires

[CONTENT DELETED]

S7. Labeling Requirements for Non-Pneumatic Spare Tires or Tire Assemblies

[CONTENT DELETED]

S8. Requirements for Vehicles Equipped with Non-Pneumatic Spare Tire Assemblies

[CONTENT DELETED]

S9. Non-Pneumatic Rims and Wheel Center Members

[CONTENT DELETED]