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## TECHNICAL STANDARDS DOCUMENT No. 500, Revision 1R

### Low-Speed Vehicles

The text of this document is based on Federal Motor Vehicle Safety Standard No. 500, *Low Speed Vehicles*, as published in the U.S. *Code of Federal Regulations*, Title 49, Part 571, revised as of October 1, 2005.

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*(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 the corresponding Regulation contains additional requirements, a footnote indicates 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or sections that do not apply under the Act or Regulations, the conversion of imperial to metric units, the deletion of superseded dates, and minor changes of an editorial nature.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 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 Date and Mandatory Compliance Date

Compliance with the requirements of a TSD that is being introduced for the first time is not mandatory until six months after publication in the *Canada Gazette* Part II of the Regulations that incorporate the TSD. In the case of a revision, compliance becomes mandatory six months after publication of the Notice of revision in the *Canada Gazette* Part I, as long as the requirements of the previous version continue to be met. Voluntary compliance is permitted as of the Effective Date of the TSD.

## **Official Version of Technical Standards Documents**

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.

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## S1. Scope

This Technical Standards Document (TSD) standard specifies requirements for low-speed vehicles.

## S2. Purpose

The purpose of this TSD standard is to ensure that low-speed vehicles operated on the public streets and roads, ~~and highways~~ are equipped with the minimum motor vehicle equipment appropriate for motor vehicle safety.

## S3. Applicability

[CONTENT DELETED] For applicability, see Schedule III and subsection 500(1) of Schedule IV to the [Motor Vehicle Safety Regulations](#).

## S4. [Reserved]

## S5. Requirements

- a) When tested in accordance with test conditions in S6 and test procedures in S7, the maximum speed attainable in 1.6 km (1 mile) by each low-speed vehicle shall not be more than 40 kilometers per hour (25 miles per hour).
- b) Each low-speed vehicle shall be equipped with:
  - (1) Headlamps,
  - (2) Front and rear turn signal lamps,
  - (3) Tail lamps,
  - (4) Stop lamps,
  - (5) Reflex reflectors: one red on each side as far to the rear as practicable and one red on the rear,
  - (6) An exterior mirror mounted on the driver's side of the vehicle and either an exterior mirror mounted on the passenger's side of the vehicle or an interior mirror,
  - (7) A parking brake,
  - (8) A windshield that conforms to section 205, Glazing Materials, of Schedule IV to the [Motor Vehicle Safety Regulations \(MVSR\)](#) ~~the Federal motor vehicle safety standard on glazing materials (49 CFR 571.205).~~
  - (9) A VIN that conforms to the requirements of section 115, Vehicle Identification Number, of Schedule IV to the MVSR ~~part 565 *Vehicle Identification Number* of this chapter,~~ and

- (10) A Type 1 or Type 2 seat belt assembly conforming to section 209, Seat Belt Assemblies, of Schedule IV to the MVSR Sec. 571.209 of this part, Federal Motor Vehicle Safety Standard No. 209, Seat belt assemblies, installed at each designated seating position.

## S6. General test conditions

Each vehicle must meet the performance limit specified in S5(a) under the following test conditions.

### S6.1 Ambient conditions

**S6.1.1 Ambient temperature.** The ambient temperature is any temperature between 0°C (32°F) and 40°C (104°F).

**S6.1.2 Wind speed.** The wind speed is not greater than 5 m/s (11.2 mph).

### S6.2 Road test surface

**S6.2.1 Pavement friction.** Unless otherwise specified, the road test surface produces a peak friction coefficient (PFC) of 0.9 when measured using a standard reference test tire that meets the specifications of American Society for Testing and Materials (ASTM) E-1136, *Standard Specification for a Radial Standard Reference Test Tire*, in accordance with ASTM Method E-1337-90, *Standard Test Method for Determining Longitudinal Peak Braking Coefficient of Paved Surfaces Using a Standard Reference Test Tire*, at a speed of 64.4 km/h (40.0 mph), without water delivery (~~incorporated by reference; see 49 CFR 571.5~~).

**S6.2.2 Gradient.** The test surface has not more than a 1-percent gradient in the direction of testing and not more than a 2-percent gradient perpendicular to the direction of testing.

**S6.2.3 Lane width.** The lane width is not less than 3.5 m (11.5 ft).

### S6.3 Vehicle conditions

**S6.3.1** The test weight for maximum speed is unloaded vehicle weight plus a mass of 78 kg (170 pounds), including driver and instrumentation.

**S6.3.2** No adjustment, repair, or replacement of any component is allowed after the start of the first performance test.

**S6.3.3 Tire inflation pressure.** Cold inflation pressure is not more than the maximum permissible pressure molded on the tire sidewall.

**S6.3.4 Break-in.** The vehicle completes the manufacturer's recommended break-in agenda as a minimum condition prior to beginning the performance tests.

**S6.3.5 Vehicle openings.** All vehicle openings (doors, windows, hood, trunk, convertible top, cargo doors, etc.) are closed except as required for instrumentation purposes.

**S6.3.6 Battery powered vehicles.** Prior to beginning the performance tests, propulsion batteries are at the state of charge recommended by the manufacturer or, if the manufacturer has made no recommendation, at a state of charge of not less than 95 percent. No further charging of any propulsion battery is permissible.

## **S7. Test procedure**

Each vehicle must meet the performance limit specified in S5(a) under the following test procedure. The maximum speed performance is determined by measuring the maximum attainable vehicle speed at any point in a distance of 1.6 km (1.0 mile) from a standing start and repeated in the opposite direction within 30 minutes.