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TECHNICAL STANDARDS DOCUMENT

No. 123, Revision 0

Motorcycle Controls and Displays

The text of this document is based on Federal Motor Vehicle Safety Standard No. 123, *Motorcycle Controls and Displays*, as published in the U.S. *Code of Federal Regulations*, Title 49, Part 571, revised as of October 1, 2006.

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**Technical Standards Document
Number 123, Revision 0**

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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, footnotes indicate the amending subsection number.

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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or sections that do not apply under the Act or Regulations, the conversion of imperial to metric units, the deletion of superseded dates, and minor changes of an editorial nature.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

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
and Communities
Ottawa, Ontario

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MOTORCYCLE CONTROLS AND DISPLAYS

The text of this document is based on Federal Motor Vehicle Safety Standard No. 123, *Motorcycle Controls and Displays*, as published in the U.S. *Code of Federal Regulations*, Title 49, Part 571, revised as of October 1, 2006.

S1. Scope

This Technical Standards Document (TSD) standard specifies requirements for the location, operation, identification, and illumination of motorcycle controls and displays, and requirements for motorcycle stands and footrests.

S2. Purpose

The purpose of this TSD standard is to minimize accidents caused by operator error in responding to the motoring environment by standardizing certain motorcycle controls and displays.

S3. Application

[CONTENT DELETED] For applicability, see Schedule III and subsection 123(1) of Schedule IV to the *Motor Vehicle Safety Regulations*.

S4. Definitions

Clockwise and counterclockwise mean opposing directions of rotation around the following axes, as applicable:

- (a) The operational axis of the ignition control, viewed from in front of the ignition lock opening;
- (b) The axis of the right handlebar on which the twist-grip throttle is located, viewed from the end of that handlebar;
- (c) The axis perpendicular to the center of the speedometer, viewed from the operator's normal eye position.

(Sens des aiguilles d'une montre et sens contraire des aiguilles d'une montre)

Scooter means a motorcycle that:

- (1) Has a platform for the operator's feet or has integrated footrests, and
- (2) Has a step-through architecture, meaning that the part of the vehicle forward of the operator's seat and between the legs of an operator seated in the riding position is lower in height than the operator's seat.

(*Scouteur*)

S5. Requirements

S5.1 Each motorcycle shall be equipped with a supplemental engine stop control, located and operable as specified in Table 1.¹

S5.2 Each motorcycle to which this TSD standard applies shall meet the following requirements:

S5.2.1 Control location and operation. If any item of equipment listed in Table 1, Column 1, is provided, the control for such item shall be located as specified in Column 2 and operable as specified in Column 3. Each control located on a right handlebar shall be operable by the operator's right hand throughout its full range without removal of the operator's right hand from the throttle. Each control located on a left handlebar shall be operable by the operator's left hand throughout its full range without removal of the operator's left hand from the handgrip. If a motorcycle with an automatic clutch other than a scooter is equipped with a supplemental rear brake control, the control shall be located on the left handlebar. If a scooter with an automatic clutch is equipped with a supplemental rear brake control, the control shall be on the right side and operable by the operator's right foot. A supplemental control shall provide brake actuation identical to that provided by the required control of Table 1, Item 11, of this TSD Standard. If a motorcycle is equipped with self-proportioning or antilock braking devices utilizing a single control for front and rear brakes, the control shall be located and operable in the same manner as a rear brake control, as specified in Table 1, Item 11, and in this paragraph.

S5.2.2 Display illumination and operation. If an item of equipment listed in Table 2, Column 1, is provided, the display for such item shall be visible to a seated operator under daylight conditions, shall illuminate as specified in Column 2, and shall operate as specified in Column 3.

S5.2.3 Control and display identification. If an item of equipment in Table 3, Column 1, is provided, the item and its operational function shall be identified by:²

- (a) A symbol substantially in the form shown in Column 3; or
- (b) Wording shown in both Column 2 and Column 4; or
- (c) A symbol substantially in the form shown in Column 3 and wording shown in both Column 2 and Column 4.

¹ Please see subsections 123(2) and (3) of the *Motor Vehicle Safety Regulations (MVSR)* for additional requirements.

² Please see subsections 123(5), (6), (8), and (9) of the *MVSR* for additional requirements.

- (d) The abbreviations “MPH”, “km/h”, “r/min.”, “Hi”, “Lo”, “L”, “R”, and “Res.” appearing in Column 2 and Column 4 may be spelled in full. Symbols and words may be provided for equipment items where none are shown in Column 2, Column 3, and Column 4. Any identification provided shall be placed on or adjacent to the control or display position and shall appear upright to the operator.

S5.2.4 Stands. A stand shall fold rearward and upward if it contacts the ground when the motorcycle is moving forward.³

S5.2.5 Footrests. Footrests shall be provided for each designated seating position. Each footrest for a passenger other than an operator shall fold rearward and upward when not in use.⁴

³ Please see subsection 123(13) of the MVSR for additional requirements.

⁴ Please see subsection 123(14) of the MVSR for an additional requirement.

Table 1 — Motorcycle Control Location and Operation Requirements




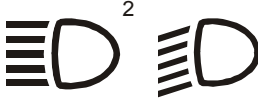




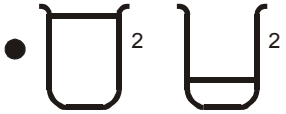
Equipment Control — Column 1	Location — Column 2	Operation — Column 3
1. Manual clutch or integrated clutch and gear change	Left handlebar	Squeeze to disengage clutch.
2. Foot-operated gear change	Left foot control	An upward motion of the operator's toe shifts transmission toward lower numerical gear ratios (commonly referred to as "higher gears"), and a downward motion toward higher numerical gear ratios (commonly referred to as "lower gears"). If three or more gears are provided, it shall not be possible to shift from the highest gear directly to the lowest, or vice versa.
3. Headlamp upper-lower beam control	Left handlebar	Up for upper beam, down for lower beam. If combined with the headlight on-off switch, means shall be provided to prevent inadvertent actuation of the "off" function.
4. Horn	Left handlebar	Push to activate.
5. Turn signal lamps	Handlebars	
6. Ignition		"Off"— counterclockwise from other positions.
7. Manual fuel shutoff control		Rotate to operate. "On" and "Off" are separated by 90 degrees of rotation. "Off" and "Reserve" (if provided) are separated by 90 degrees of rotation. Sequence order: "On"—"Off"—"Reserve".
8. Twist-grip throttle	Right handlebar	Self-closing to idle in a clockwise direction after release of hand.
9. Supplemental engine stop	Right handlebar	
10. Front wheel brake	Right handlebar	Squeeze to engage.
11. Rear wheel brakes	Right foot control. ¹ Left handlebar for a <u>limited-speed motorcycle motor-driven cycle</u> and for a scooter with an automatic clutch.	Depress to engage. Squeeze to engage.

¹ See S5.2.1 for requirements for vehicles with a single control for front and rear brakes and with a supplemental rear brake control.

Table 2 — Motorcycle Display Illumination and Operation Requirements

Display — Column 1	Illumination — Column 2	Operation — Column 3
1. Speedometer	Yes	The display is illuminated whenever the headlamp is activated.
2. Neutral indication	Green display lamp	The display lamp illuminates when the gear selector is in neutral position.

Table 3 — Motorcycle Control and Display Identification Requirements⁵

No.	Column 1	Column 2	Column 3	Column 4
	<i>Equipment</i>	<i>Control and Display Identification Word</i>	<i>Control and Display Identification Symbol</i>	<i>Identification at Appropriate Position of Control and Display</i>
1	Ignition	Ignition or <u>Contact</u>	_____	Off or <u>Arrêt</u>
2	Supplemental Engine Stop (Off, Run)	Engine Stop <u>and Arrêt du moteur</u>		Off <u>and Arrêt</u> , Run <u>and Marche</u>
3	Manual Choke or Mixture Enrichment	Choke <u>and Étrangleur</u> or Enrichener <u>and Enrichissement</u>		_____
4	Electric Starter	_____		Start <u>and Démarreur</u> ¹
5	Headlamp Upper-Lower Beam Control	Lights <u>and Phares</u>		Hi <u>and Route</u> , Lo <u>and Code</u>
6	Horn	Horn <u>and Avertisseur</u>		_____
7	Turn Signal	Turn <u>and Clignotant</u>		L <u>and G</u> , R <u>and D</u>
8	Speedometer	MPH or MPH and km/h ⁵	_____	MPH ⁴ MPH, km/h ⁵
9	Neutral Indicator	Neutral <u>and Mort</u>		_____
10	Upper Beam Indicator	High Beam <u>and Faisceau-route</u>		_____
11	Tachometer	R.P.M. or r/min. or <u>Tr/min.</u>	_____	_____
12	Fuel Tank Shutoff Valve (Off, On, Res.)	Fuel <u>or Carburant</u>		Off or <u>Fermé</u> , On or <u>Ouvert</u> , Res. or <u>Aux.</u>

¹ Required only if electric starter is separate from ignition switch.

² Framed areas may be filled.

³ The pair of arrows is a single symbol. When the indicators for left and right turn operate independently, however, the two arrows will be considered separate symbols and may be spaced accordingly.

⁵ Please see subsections 123(4), (5), (6), (8), (9), (10), (11), (12), and (15) of the MVSR for additional requirements to the items in this Table and to footnote 4 to the Table.

- ⁴ MPH increase in a clockwise direction. Major graduations and numerals appear at 10-mph intervals, minor graduations at the 5-mph intervals.
- ⁵ If the speedometer is graduated in miles per hour (MPH) and in kilometers per hour (km/h), the identifying words or abbreviation shall be “MPH” and “km/h” in any combination of upper or lower case letters.