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TECHNICAL STANDARDS DOCUMENT

No. 123, Revision 0

Motorcycle Controls and Displays

The text of this document is based on the U.S. *Code of Federal Regulations*, Title 49, Part 571, Federal Motor Vehicle Safety Standard No. 123, Motorcycle Controls and Displays, revised as of October 1, 2004.

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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 modifications have been made, the corresponding clause number is indicated in the margin of the TSD within parentheses.

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sections that do not apply under the Act or Regulations, the conversion of imperial to metric units, the deletion of superseded dates, and minor changes of an editorial nature.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

(Original signed by)

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

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MOTORCYCLE CONTROLS AND DISPLAYS

The text of this document is based on the U.S. *Code of Federal Regulations*, Title 49, Part 571, Federal Motor Vehicle Safety Standard No. 123, Motorcycle Controls and Displays, revised as of October 1, 2004.

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.

(1) **S3. Application**

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

S4. Definition

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)

S5. Requirements

- (2) **S5.1** Each motorcycle shall be equipped with a supplemental engine stop control, located
(3) and operable as specified in Table 1.

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

- (4) **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 is equipped with a supplemental rear brake control, the control shall be located on the left handlebar. 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.
- 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.
- (6) **S5.2.3 Control and display identification.** If an item of equipment in Table 3, Column 1, is
(7) provided, the item and its operational function shall be identified by:
(9)
(10) (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.
(d) The abbreviations "M.P.H.", "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.
- (14) **S5.2.4 Stands.** A stand shall fold rearward and upward if it contacts the ground when the motorcycle is moving forward.
- (15) **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.

Table 1 — Motorcycle Control Location and Operation Requirements




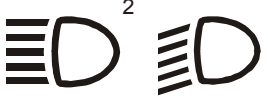



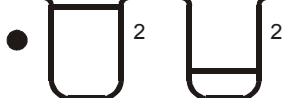
Equipment Control — Column 1	Location — Column 2	Operation — Column 3
1. Manual clutch or integrated clutch and gear change	Left handlebar	Squeeze to disengage clutch.
2. Foot-operated gear change	Left foot control	An upward motion of the operator's toe shifts transmission toward lower numerical gear 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 gear, 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	<u>Left handlebar</u> ∅	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	<u>Right handlebar</u> ∅	
10. Front wheel brake	<u>Right handlebar</u> ∅	Squeeze to engage.
(4) 11. Rear wheel brakes	Right foot control. ¹ Left handlebar permissible for <u>limited-speed motorcycles</u> motor-driven cycles .	Depress 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 Requirements

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

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.

⁴ M.P.H. increase in a clockwise direction. Major graduations and numerals appear at 10-m.p.h. intervals, minor graduations at the 5-m.p.h. intervals.

⁵ If the speedometer is graduated in miles per hour (m.p.h.) and in kilometers per hour (km/h), the identifying words or abbreviation shall be m.p.h. and km/h in any combination of upper or lower case letters.