Transport Canada
Motor Vehicle Safety

Transports Canada
Sécurité des véhicules automobiles

TECHNICAL STANDARDS DOCUMENT No. 123, Revision 1R

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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(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.

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sections that do not apply under the Act or Regulations, the conversion of imperial to metric units, the deletion of superseded dates, and minor changes of an editorial nature.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

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

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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List of Tables

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 English or French wording shown in both Column 2 and Column 4.

(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

[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.

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]

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.

[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.

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 limited-speed motorcycle ~~motor-driven cycle~~ 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.

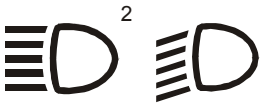
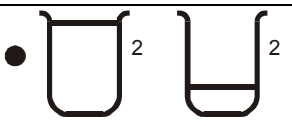
Table 2 — Motorcycle Display Illumination and Operation Requirements

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
	Equipment	***Control and Display Identification Word***	***Control and Display Identification Symbol***	***Identification at Appropriate Position of Control and Display***
1	Ignition	Ignition or Contact	_____	Off or Arrêt
2	Supplemental Engine Stop (Off, Run)	Engine Stop and Arrêt du moteur		Off and Arrêt, Run and Marche
3	Manual Choke or Mixture Enrichment	Choke and Étrangleur or Enrichener and Enrichissement		_____

[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	Electric Starter	_____		Start and Démarreur[1]
5	Headlamp Upper-Lower Beam Control	Lights and Phares	 [2]	Hi and Route, Lo and Code
6	Horn	Horn and Avertisseur		_____
7	Turn Signal	Turn and Clignotant	 [2] [3]	L and G, R and D
8	Speedometer	MPH or MPH and km/h[5]	_____	MPH[4] MPH, km/h[5]
9	Neutral Indicator	Neutral and Mort		_____
10	Upper Beam Indicator	High Beam and Faisceau-route	 [2]	_____
11	Tachometer	R.P.M. or r/min. or Tr/min.	_____	_____
12	Fuel Tank Shutoff Valve (Off, On, Res.)	Fuel or Carburant	 [2] [2]	Off or Fermé, On or Ouvert, Res. or 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] 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.