AUTOMOTIVE INDUSTRY STANDARD

Two Wheeled Motor Vehicles - Location, Identification and Operation of Controls Tell-tales and Indicators

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ON BEHALF OF
AUTOMOTIVE INDUSTRY STANDARDS COMMITTEE

UNDER
CENTRAL MOTOR VEHICLE RULES – TECHNICAL STANDING COMMITTEE

SET-UP BY
MINISTRY OF ROAD TRANSPORT & HIGHWAYS
(DEPARTMENT OF ROAD TRANSPORT & HIGHWAYS)
GOVERNMENT OF INDIA

November 2014

Status chart of the standard to be used by the purchaser for updating the record

Sr. No.	Corrigenda.	Amendment	Revision	Date	Remark	Misc.
General remarks :						

INTRODUCTION

0.1 The Government of India felt the need for a permanent agency to expedite the publication of standards and development of test facilities in parallel when the work on the preparation of the standards is going on, as the development of critical parts for improved safety can be undertaken only after the publication of the standard and commissioning of test facilities. To this end, the erstwhile Ministry of Surface Transport (MOST) has constituted a permanent Automotive Industry Standard Committee (AISC) vide order No. RT-11028/11/97-MVL dated September 15, 1997. The standards prepared by AISC will be approved by the permanent CMVR Technical Standing Committee (CTSC). After approval, the Automotive Research Association of India, (ARAI), Pune, being the secretariat of the AIS Committee, has published this standard. For better dissemination of this information ARAI will publish this document on their Web site.

AIS-071 (Part 1 and 2) revising the requirements regarding location, identification and operation of motorcycle controls, tell-tales and indicators, (upgrading the then notified IS 14413-1996) was published in 2009 and is notified for implementation.

0.2 In the meanwhile, a Global Technical Regulation (GTR) No 12 concerning the Location, Identification and Operation of Motorcycle Controls, Tell-tales and Indicators was established in WP-29 committee of UNECE under 1998 agreement for harmonization of vehicle regulations. India being signatory to this agreement has voted for this GTR and has obligation to adopt this in its regulatory framework.

This GTR specifies requirements for the location, identification, illumination and operation of motorcycle controls, tell-tales and indicators, if fitted. This global technical regulation also harmonizes a set of symbols for controls, tell-tales and indicators.

The purpose of this GTR is to ensure the accessibility, visibility, and recognition of motorcycle controls, tell-tales, and indicators and to facilitate the proper selection of controls under daylight and night-time conditions. The intention of the GTR is also to reduce the safety hazards caused by the diversion of the rider's attention from the driving task by mistakes in selecting controls.

0.3 This Automotive Industry Standard is technically equivalent to GTR12 ECE/trans/180 add.12 established in UN Global registry on 30 April 2012 as amended till informal document no ECE/TRANS/WP.29/GRSG/2012/21.

0.4 The AISC panel and the Automotive Industry Standard Committee (AISC) responsible for preparation of this standard is given in Annex B and C respectively.

0.5 This standard is adopted by CMVR-TSC in its 41st meeting held on 3rd April 2014.

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1 SCOPE

This standard applies to power-driven vehicles of category L1 and L2 as defined in AIS-053.

2 REFERENCES

2.1 AIS-053 - Automotive Vehicles -Types - Terminology.

2.2 AIS-009 (Rev 1):2011-Installation requirements of lighting and light signalling devices for L category vehicles.

3 DEFINITIONS

For the purposes of this standard, the following definitions apply.

3.1 "**Adjacent**", with respect to a symbol identifying a control, tell-tale or indicator, means that the symbol is in close proximity to the control, tell-tale or indicator and no other control, tell-tale, indicator, identification symbol or source of illumination appears between an identification symbol and the control, tell-tale, or indicator which that symbol identifies.

3.2 "**Common space**" means an area on which more than one tell-tale, indicator, identification symbol, or other message may be displayed but not simultaneously.

3.3 "**Control**" means any part of the vehicle or a device directly actuated by the driver which changes the state or functioning of the vehicle or any part thereof.

3.4 "**Device**" means an element or an assembly of elements used to perform one or more functions.

3.5 "**Handlebars**" means any part of the bar or bars connected to the head of the forks (steering head) by means of which the vehicle is steered.

3.6 "**Handlebars*:* right side**" means any part of the handlebars which, when facing the direction of forward movement, lies on the right side of the longitudinal median plane of the vehicle.

3.7 "**Handlebars*:* left side**" means any part of the handlebars which, when facing the direction of forward movement, lies on the left side of the longitudinal median plane of the vehicle.

3.8 "**Handlebars: forward**" means any part of the handlebars lying on the side furthest from the driver when seated in a driving position.

3.9 "**Handgrip**" means that part of the handlebars, furthest from the centre, by which the handlebars are held by the driver of the vehicle.

3.10 "**Rotating handgrip**" means a handgrip, operating some functional mechanism of the vehicle, which is free to rotate around the handlebar when so turned by the driver of the vehicle.

3.11 "**Frame**" means any part of the frame, chassis or cradle of the vehicle, to which is attached the engine and/or transmission unit, and/or the engine and transmission unit itself.

3.12 "**Frame: left side**" means any part of the frame which, when facing the direction of forward movement, lies on the left side of the longitudinal median plane of the vehicle.

3.13 "**Frame: right side**": means any part of the frame which, when facing the direction of forward movement, lies on the right side of the longitudinal median plane of the vehicle.

3.14 "**Lever**" means any device consisting of an arm turning on a fulcrum, by means of which some functional mechanism of the vehicle is operated.

3.15 "**Hand lever**" means a lever operated by the hand of the driver;

Note: - Unless otherwise stated, a hand lever is operated by compression, (that is, movement of the apex of the lever towards the supporting structure), e.g. to engage a brake mechanism or to disengage the clutch mechanism.

3.16 "**Foot lever**" means a lever operated by contact between the foot of the driver and a spur projecting from the arm of the lever.

3.17 "**Pedal**" means a lever operated by contact between the foot of the driver and a pad on the lever, so placed as to allow pressure to be applied to the arm of the lever.

Note: - Unless otherwise stated, a pedal is operated by depression, for example to engage a brake mechanism.

3.18 "**Rocker arm**" means a lever, pivoted at or near its centre and having a pad or spur at each end, operated by contact between the foot of the driver and the said pads or spurs.

3.19 "**Clockwise**" means the direction of rotation around the axis of the part considered, following the motion of the hands of a clock when viewed from the upper or the outer side of the part considered.

3.20 "**Anti-clockwise**" has the inverse meaning of **"Clockwise".**

3.21 "**Combined brake**" means a system of operation (by hydraulic action or mechanical linkage, or both) whereby both the front and the rear brakes of the vehicle are brought into operation at least partially by the use of only one control.

3.22 "**Indicator**" means a device which presents information on the functioning or situation of a system or a part of a system, for example a fluid level.

3.23 "**Tell-tale**" means an optical signal which indicates the actuation of a device, correct or defective functioning or condition, or failure to function.

3.24 "**Symbol**" means a diagram from which to identify a control, a tell-tale or an indicator.

3.25 "**Optical Warning Device**" means a headlamp where the beam can be flashed to give signals to the oncoming or preceding traffic, e.g., when a vehicle is about to overtake a slower preceding vehicle.

3.26 "**Master Lighting Switch**" means a switch connecting or cutting off supply of current to circuits of lighting devices referred to in 5.10 and 5.11 of AIS-009 (Rev 01)-2011.

4 REQUIREMENTS

4.1 **General: -** A vehicle, if fitted with a control, tell-tale or indicator identified in Table 1, shall comply with the requirements of this standard with respect to the location, identification, operation, illumination, and colour of that control, tell-tale or indicator.

For functions for which no symbol is available in Table 1, the manufacturer may use a symbol following the appropriate standards. Where no symbol is available, the manufacturer may use a symbol of its own conception. Such a

symbol shall not cause confusion with any symbol specified in Table 1.

4.2 **Location**

4.2.1 The controls, listed in Table 1, shall be located so that they are operable and within reach of the driver when seated in the driving position. However, the controls for Manual Choke and Manual Fuel Tank Shutoff Valve shall be so located that they are operable and within reach of the driver when seated.

4.2.2 The tell-tales and indicators listed in Table 1, and their identification symbols shall be located so that they are visible to a driver when seated in the driving position, during daylight and night-time driving. Tell-tales, indicators and their identification symbols need not be visible when not activated.

4.2.3 The identification symbols for controls, tell-tales, and indicators shall be placed on or adjacent to the controls, tell-tales or indicators that they identify except as provided in 4.2.5.

4.2.4 Controls for hazard warning lamps, passing and driving beam headlamps, direction indicators, supplemental engine stop, audible warning device, brakes and clutch shall be always accessible to the driver as primary function of the corresponding control without the removal of the driver's hands from the respective handgrips.

4.2.5 Requirement of 4.2.3. does not apply to multi-function controls, if the control is associated with a multi-task display that:

4.2.5.1 is visible to the driver; and

4.2.5.2 identifies the control with which it is associated; and

4.2.5.3 identifies all of the vehicle systems for which control is possible from the multi-function control. Sub-functions of those systems need not be shown on the top-most layer of the multi-task display, and

4.2.5.4 does not display tell-tales listed in Table 1.

4.3 **Identification**

4.3.1 Each control, tell-tale and indicator listed in Table 1, shall be identified by the relevant specified symbol.

4.3.2 Supplementary symbols, words or abbreviations may be used at the manufacturer's discretion in conjunction with any symbol, word or abbreviation specified in Table 1.

4.3.3 Each additional or supplementary symbol, word or abbreviation used by the manufacturer shall not cause confusion with any symbol specified in this global technical regulation.

4.3.4 If the control, indicator or tell-tale for the same function are combined, one symbol may be used to identify that combination.

4.3.5 All identification symbols for the tell-tales, indicators and controls provided on handle bar or instrument cluster shall be positioned so as to appear to the driver to be perceptually upright except the symbol for an audible warning device control. For rotating controls that have an "off" position, this requirement applies to the control in the "off" position.

4.3.6 When fitted, each control that regulates a system function over a continuous range shall have identification provided for the limits of the adjustment range.

4.4 **Illumination**

4.4.1 At the manufacturer's option, any control, indicator and their respective identification symbols may be capable of being illuminated.

4.4.2 A tell-tale shall emit light when the malfunction or vehicle condition it is meant to indicate occurs. It shall not emit light at any other time, except during a bulb check.

4.5 **Colour**

4.5.1 The light of each tell-tale shall be of the colour as specified in Table 1.

4.5.2 The colour of tell-tales not listed in Table 1 can be selected by the manufacturer in accordance with 4.5.3. The colour selected shall not mask or interfere with the identification of any tell-tale, control or indicator specified in Table 1.

4.5.3 Colours are recommended in accordance with the following colour code:

4.5.3.1 **Red**: danger to persons or very serious damage to equipment is immediate or imminent;

4.5.3.2 **Amber (yellow)**: caution, outside normal operating limits, vehicle system malfunction, damage to vehicle likely, or other condition which may produce hazard in the longer term;

4.5.3.3 **Green**: safe, normal operating condition (except if blue or amber is required by Table 1).

4.5.4 Each symbol used for the identification of a tell-tale, control or indicator shall be in a colour that stands out clearly against the background.

4.5.5 The filled-in part of any symbol may be replaced by its outline and the outline of any symbol may be filled in.

4.6 Common space for displaying multiple messages

A common space may be used to show information from any source, subject to the following requirements:

4.6.1 The tell-tales and indicators displayed in the common space shall meet the requirements of 4.3, 4.4 and 4.5 and shall illuminate at the initiation of the condition they are designed to identify.

4.6.2 The tell-tale and indicators that are listed in Table 1 and are shown in the common space shall illuminate at the initiation of any underlying condition.

4.6.3 Except as provided in 4.6.4, 4.6.5 and 4.6.6, when the condition exists for actuation of two or more tell-tales, the information shall be either

a) repeated automatically in sequence, or
b) indicated by visible means and capable of being selected by the driver when seated in the driving position.

4.6.4 The tell-tales for the brake system malfunction, headlamp driving beam and direction indicator shall not be shown in the same common space.

4.6.5 If condition of activation exists for the following tell-tales: brake system malfunction, headlamp driving beam and direction indicator are displayed on a common space with other tell-tale, they shall have priority over anything else in the common space.

4.6.6 Information displayed in the common space may be capable of being cancelled automatically or by the driver, except the tell-tales for brake system malfunction, headlamp driving beam, direction indicator and those for which the colour red is required by Table 1 shall not be capable of being cancelled if the condition exists for their activation.

5 TYPE APPROVAL

5.1 The manufacturer shall submit following for type approval of a vehicle.

(a) Application for type approval.

(b) Technical specification of the vehicle which shall include at least the details given in Annex A. As an alternate to information in Annex A, the manufacturer may submit a drawing or information in tabular format, indicating these details.

(c) Prototype of vehicle for verification.

5.2 Modifications/changes in technical specification

5.2.1 Every functional modification in technical specifications pertaining to controls, tell-tales and indicators declared in accordance with 5.1(b) shall be intimated to the testing agency. Testing agency may then consider, whether,

5.2.1.1 Vehicle with modifications complies with specified requirements, or,

5.2.1.2 any verification is required.

5.2.2 For considering whether verification is required or not, guidelines given in Table 2 shall be followed.

Table 2

Sr. No.	Parameter and change	Verification to be conducted
1	Addition of a variant having no additional control, tell-tale or indicator and no change in the location, identification or operation of any control, tell-tale or indicator with respect to the base model.	No verification required, if manufacturer declares so.
2	Addition of a variant having additional control, tell-tale or indicator.	Verification is required only for additional control, tell-tale or indicator.
3	Addition of a variant having change in location, identification or operation of control, tell-tale or indicator with respect to the base model.	Verification is required only for changed location, identification or operation of control, tell-tale or indicator.
4	Addition of control, tell-tale or indicator in approved model / variant (s).	Verification is required only for additional control, tell-tale or indicator.
5	Change in location, identification or operation of control, tell-tale or indicator in approved model / variant (s).	Verification is required only for Changed location, identification or operation of control, tell-tale or indicator.
6	Deletion of control, tell-tale or indicator in above cases.	To verify whether the requirements of standard are complied after that deletion.

Note: - Changes other than those listed in Table 2 are considered to have no adverse effect on the requirements of this standard.

5.2.3 In case of 5.2.1.2, verification for those parameters which are affected by the modifications only need to be carried out.

5.2.4 In the event of 5.2.1.1 or in the case of 5.2.1.2 after successful compliance to requirements, the certificate of compliance shall be validated for the modified version.

6 EXTENSION OF TYPE APPROVAL

The details of selection of model / variant (s) for verification and verifications to be done in case of change in Technical Specifications of approved model / variant (s) are given in Table 2.

7 CONFORMITY OF PRODUCTION

Conformity of Production procedure as and when mandated by the Ministry of Road Transport and Highways (MoRTH) shall be applicable.

8 TRANSITIONAL PROVISIONS

8.1 At the request of the applicant, type approvals for compliance to AIS-126:2014 shall be granted by test agencies from 3rd April 2014 (date of adoption of this standard in CMVR-TSC). Such type approvals shall be deemed to be compliance to AIS-071 (Part 1 and 2): 2009.

8.2 At the request of applicant, type approval to the compliance to AIS-071 (Part 1 and 2) of June 2009 shall be granted up to the notified date of implementation of AIS-126:2014.

8.3 All the requirements AIS-126:2014 shall be verified for establishing compliance to this standard.

8.4 Extension of Approvals for engineering and administrative changes:

8.4.1 In the case of 8.1, extensions shall be granted subject to the conditions of AIS-126:2014. Such extensions shall be deemed to be compliance to AIS-071(Part 1 and 2): 2009.

8.4.2 In the case of 8.2, extensions shall be granted subject to conditions of AIS-126:2014 till its notified date of implementation.

9.0 ACCEPTANCE OF CHANGES IN UN GTR 12

Acceptance of changes in UN GTR 12 after the level described in 0.3 of introduction shall be as per AIS-000, as amended form time to time, as applicable, unless otherwise stated in this standard.

TABLE 1
(See 4.1)

No	Item	Symbol	Function	Location	Colour	Definition	Operation
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Supplemental engine stop control (OFF)		Control	**Located on handle bar: Right side.**			As a means of stopping the engine, alternative to the main switch or a decompression valve control, the vehicle may be equipped with an engine electrical power supply cut-out (Supplemental engine stop).
2	Supplemental engine stop control (RUN)						
3	Ignition Switch		Control			The device that enables the engine to run, and may also allow operation of other electrical systems on a vehicle.	In the case of a rotary switch, the direction of motion shall be clockwise from the ignition "off" position to the ignition "on" position.
4	Electric Starter		Control				
5	Manual Choke		Control	The control need not be visible from the rider's position			
			Tell-tale		**Amber**		
6	Neutral – (Gearbox Selection)		Tell-tale		Green		The tell-tale is illuminated when the gear selector is in neutral position.
7	Manual Fuel Tank Shutoff Valve (OFF)		Control	The control need not be visible from the rider's position.			The control shall have separate positive positions for "OFF", "ON" and "RESERVE" (where a reserve supply is provided). The control shall be in the ON position when it is in the direction downstream of the flow of fuel from the tank to the engine: in the OFF position when it is
8	Manual Fuel Tank Shutoff Valve (ON)						
9	Manual Fuel Tank Shutoff Valve (RES)						

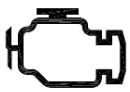
							in a direction perpendicular to the flow of fuel, and in the RESERVE position (where applicable) when it is in the direction upstream of the flow of fuel. In case of a system in which the fuel flow is stopped when the engine is switched off, and if equipped with a control, the symbols and control positions shall be the same as identified for Manual Fuel Shut-Off Control.
10	Speedometer		Indicator				The display shall be illuminated whenever the position lamp (if available) or headlamp is activated.
11	Audible warning device (Horn)		Control	On handlebars: Left side for vehicles with a gear selection control operated independently of a hand operated clutch or for vehicles without gear selection control. Alternatively, on handlebars : right side for vehicles with gear selection located on handlebars: left side and operated in conjunction with the hand operated clutch.			Push to activate
12	Driving beam (Main, high or upper beam), (Hi)		Control	On handlebars: left side for vehicles with a gear selection control operated independently of a hand operated clutch			

				or for vehicles without gear selection control. Alternatively, on handlebars: right side for vehicles with gear selection located on handlebars : left side and operated in conjunction with the hand operated clutch.			
			Tell-tale		Blue		
13	Passing Beam (Dipped, low or lower Beam) - (Lo)		Control	On handlebars: left side for vehicles with a gear selection control operated independently of a hand operated clutch or for vehicles without gear selection control. Alternatively, on handlebars: right side for vehicles with gear selection located on handlebars; left side and operated in conjunction with the hand operated clutch.			
			Tell-tale		Green		
14	Optical warning device		Control	Adjacent to the Driving Beam / Passing Beam Control			May be an additional function of the Driving Beam /Passing Beam Control When control is released, the beam shall go back to the previous state.
15	Fog Lamps - Front		Control				
			Tell-tale		Green		

16	Fog Lamps - Rear		Control				
			Tell-tale		Amber		
17	Direction indicators		Control	Control(s) is/are to be located on the handlebar in clear view from the operator's seat and shall be marked clearly.			The control shall be so designed that, when viewed from the rider's seat, operation of the left hand portion or movement to the left of the control actuates the left side indicators and vice versa for the right side indicators.
			Tell-tale		Green		The pair of arrows is a single symbol. When the controls or telltales for left and right turn operate independently, however, the two arrows may be considered separate symbols and be spaced accordingly.
18	Hazard warning signal						
			Control			Represented by either the direction indicator tell-tale(s) flashing (simultaneously), or by the given triangle symbol.	
			Tell-tale		Red		
							
			Tell-tale		Green		
19	Position Lamp		Control			Represented by the given symbols for position lamps, master lamp control and parking lamp but if all lamps are automatically lit when vehicle is in operation, no position or master lamp control	In the case of a rotary switch, operation of the switch in a clockwise direction shall engage, progressively, the vehicle's position lights and then the vehicle's main lights. This shall not prevent the inclusion of additional switch positions provided that they are clearly indicated. The light
			Tell-tale		Green		
20	Master lamp		Control				
			Tell-tale		Green		
21	Parking Lamp		Control				
			Tell-tale		Green		

						symbol need appear. The tell-tale function may be provided by means of instrument cluster illumination. If the Parking Lamp function is incorporated in the ignition switch, identification is optional.	control switch may be combined with the ignition switch if so desired.
22	Fuel Indicator		Indicator				
			Tell-tale		Amber		
23	Engine coolant temperature		Indicator				
			Tell-tale		Red		
24	Electrical Charging		Indicator				
			Tell-tale		Red		
25	Engine Oil		Indicator				
			Tell-tale		Red		
26	Engine speed control		Control	On handlebars : right side			Hand operated control. Rotating Handgrip Anti-clockwise rotation increases speed. The control shall be self closing to idle in a clockwise direction after release of the hand unless a vehicle speed control device is activated.
27	Front wheel brake		Control	On handlebars : right side, forward			Hand lever. The front wheel brake may operate with the rear wheel brake in the case of a combined brake system.

28	Foot rear wheel brakes control		Control	On the frame : right side			Pedal. The rear wheel brake may operate with the front wheel brake in the case of a combined brake system.
29	Hand rear wheel brake control		Control	On handlebars : left side, forward			Hand lever Not allowed for vehicles with hand operated clutch. The rear wheel brake may operate with the front wheel brake in the case of a combined brake system.
30	Parking brake		Control				Hand lever or pedal.
31	Clutch		Control	On handlebars: left side			Hand lever. Squeeze to disengage clutch. Shall not prohibit the use of devices on the left side of the vehicle that combine operations of a clutch and gear selector.
32	Foot selector Manual gear shift Control		Control	On the frame: left side			Foot lever or rocker arm. Moving the forward part of the foot lever or rocker arm shall progressively select the gears: upward movement of the forward part for shifting to a higher gear position and downward movement for shifting to a lower gear position. If a separate, positive "neutral" position is provided, it shall be in either the first or second position in the gear selection order (i.e: 1-N-2-3-4-…. or N-1-2-3-4-….). However, for vehicles with an engine capacity of less than 200 cm^3, transmissions with the following shift patterns may be

							fitted: 1) Rotary pattern (i.e: N-1-2-3-4-5-N-1.) 2) Reverse pattern, where moving the forward part of the foot lever or rocker arm shall progressively select the gears: a) upward movement of the forward part for shifting to a lower gear position, and b) downward movement for shifting to a higher gear position.
33	Hand Selector Manual gear shift Control		Control	On handlebars : left side			If the operation of the control is through rotation of the handgrip, the Anti-clockwise rotation shall progressively select gears giving an increased forward speed and conversely for a reduced forward speed. If a separate, positive "neutral" position is provided it shall be either in the first position or in the second position in the gear selection order (i.e.: N-1-2-3-4-… or 1-N-2-3-4…).
34	Anti-lock Brake System Malfunction		Tell-tale		Amber		
35	Malfunction Indicator Lamp		Tell-tale		Amber	Shall be used to convey power-train related failures which may affect emissions.	

ANNEX A
(See 5.1)

TECHNICAL INFORMATION TO BE SUBMITTED BY VEHICLE MANUFACTURER

Sr. No.	Parameter	Description
A.1	Name of vehicle manufacturer / importer	
A.2	Address of vehicle manufacturer / importer	
A.3	Vehicle model	
A.4	Variant (s)	
A.5	Control Locations and Identification (Please specify location, operation and symbol if provided, as applicable)	
A.5.1	Supplemental engine stop	
A.5.2	Ignition Switch	
A.5.3	Electric Starter	
A.5.4	Manual Choke	
A.5.5	Fuel Tank Shutoff Valve	
A.5.6	Audible warning device	
A.5.7	Head lamp Driving / Passing beam	
A.5.8	Optical warning device	
A.5.9	Fog Lamps - Front	
A.5.10	Fog Lamps - Rear	
A.5.11	Direction indicators	
A.5.12	Hazard warning signal	
A.5.13	Position Lamp	
A.5.14	Master lamp	
A.5.15	Parking Lamp	
A.5.16	Engine speed control	
A.5.17	Front wheel brake	
A.5.18	Foot rear wheel brakes control	
A.5.19	Hand rear wheel brake control	
A.5.20	Parking brake	
A.5.21	Clutch	
A.5.22	Foot selector Manual gear shift Control	
A.5.23	Hand Selector Manual gear shift Control	
A.5.24	Any other control	
A.5.3	Tell-tales	
A.5.3.1	Manual Choke	
A.5.3.2	Neutral – (Gearbox Selection)	
A.5.3.3	Head lamp Driving beam	
A.5.3.4	Head lamp Passing beam	
A.5.3.5	Fog Lamps - Front	
A.5.3.6	Fog Lamps - Rear	
A.5.3.7	Direction indicators	
A.5.3.8	Hazard warning signal	

A.5.3.9	Position Lamp	
A.5.3.10	Master lamp	
A.5.3.11	Parking Lamp	
A.5.3.12	Fuel indicator	
A.5.3.13	Engine coolant temperature	
A.5.3.14	Electrical Charging	
A.5.3.15	Engine Oil	
A.5.3.16	Anti-lock Brake System Malfunction	
A.5.3.17	Malfunction Indicator Lamp	
A.5.3.18	Any other tell-tale	
A.5.4	Indicators	
A.5.4.1	Speedometer	
A.5.4.2	Fuel Indicator	
A.5.4.3	Engine coolant temperature	
A.5.4.4	Electrical Charging	
A.5.4.5	Engine Oil	
A.5.4.6	Any other Indicator	

ANNEX B

(See introduction)

COMPOSITION OF AISC PANEL ON TWO WHEELER CONTROLS, TELL-TALES AND INDICATORS*

Convener	
Mr. V. M. Manel	Mahindra Two wheelers Limited (SIAM)
Members	**Representing**
Mr. M. S. Kurane	The Automotive Research Association of India (ARAI)
Mr. V. P. Rawal	The Automotive Research Association of India (ARAI)
Mr. D. P. Saste	Central Institute of Road Transport (CIRT)
Representative from	International Centre for Automotive Technology (ICAT)
Mr. Vinod Kumar	Vehicle Research & Dev. Estt. (VRDE)
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Mr. T. M. Balaraman	Society of Indian Automobile Manufacturers (SIAM) (Hero MotoCorp Ltd.)
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Mr. S Ramiah	Society of Indian Automobile Manufacturers (SIAM) (TVS Motor Company Limited)
Mr. P. K. Sehgal,	Society of Indian Automobile Manufacturers (SIAM) India Yamaha Motor Ltd.
Mr. Parag Tyagi	Society of Indian Automobile Manufacturers (SIAM) Harley-Davidson India
Mr. Suraj Agarwal	Society of Indian Automobile Manufacturers (SIAM) Honda Motorcycle & Scooter India Pvt. Ltd.
Mr. Girish S. Kodolikar	Society of Indian Automobile Manufacturers (SIAM) Bajaj Auto Ltd.
Mr. Venu Suresh,	Society of Indian Automobile Manufacturers (SIAM) Bajaj Auto Ltd.
Mr. U. S. Harite	Automotive Component Manufacturers Association (ACMA)
Mr. P. C. Joshi	Bureau of Indian Standards (BIS)

* At the time of approval of this Automotive Industry Standard (AIS)

ANNEX C

(See introduction)

COMMITTEE COMPOSITION *
Automotive Industry Standards Committee

Chairman	
Shri Shrikant R. Marathe	Director, The Automotive Research Association of India, Pune
Members	**Representing**
Representative from	Ministry of Road Transport & Highways (Dept. of Road Transport & Highways), New Delhi
Representative from	Ministry of Heavy Industries & Public Enterprises (Department of Heavy Industry), New Delhi
Shri S. M. Ahuja	Office of the Development Commissioner, MSME, Ministry of Micro, Small & Medium Enterprises, New Delhi
Shri P. C. Joshi	Bureau of Indian Standards, New Delhi
Director/ Shri D. P. Saste (Alternate)	Director , Central Institute of Road Transport, Pune
Director	Indian Institute of Petroleum, Dehra Dun
Director	Vehicles Research & Development Establishment, Ahmednagar
Representatives from	Society of Indian Automobile Manufacturers (SIAM)
Shri T. C. Gopalan	Tractor Manufacturers Association, New Delhi
Shri U. S. Harite	Automotive Components Manufacturers Association of India, New Delhi

Member Secretary
Mrs. Rashmi Urdhwareshe
Sr. Deputy Director
The Automotive Research Association of India, Pune

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