

AUTOMOTIVE INDUSTRY STANDARD

**Automotive Vehicles -
Identification 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

6th February 2019

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

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 improved safety critical parts 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 Standards 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 may publish this document on their web site.

This standard is intended to ensure the identification of vehicle controls, tell-tales, and indicators and to facilitate their selection under daylight and night-time conditions, in order to reduce the safety hazards caused by the diversion of the driver's attention from the driving task and by mistakes in selecting unintended controls.

Requirements for fitment of controls, mandatory or otherwise, are covered in this standard by cross referring, individual subjects notified in CMVR.

While revising this standard following new requirements are added

L5 category: Fuel Level Indicator, Engine coolant temperature, Electrical charging condition State of charge

L7 category: Fuel Level, Engine coolant temperature, Electrical charging condition, State of charge

M and N categories: ABS malfunction, Parking brakes applied, Safety belt non-usage, airbag malfunction, Fuel Level, Engine coolant temperature, Electrical charging condition, State of charge

Agricultural Tractors: Fuel Level, Engine coolant temperature, Engine oil pressure, Battery charging condition

This standard is adopted in 54th meeting of CMVR-TSC held on 8th September 2018.

In preparation of this standard considerable assistance is derived from following national and international standards:

1.	Base EEC Directive 78/316/EEC as amended by directives 93/91/EEC and 94/53/EC	On the approximation of the laws of the Member States relating to Interior Fittings of Motor Vehicles (Identification of Controls, Tell-tales and Indicators)
2.	93/29/EEC as amended by Directive No. 2000/74/EC	On the Identification of Controls, Tell-tales and Indicators for Two – or Three – wheel Motor Vehicles

AIS-071(Part 1) (Rev. 1)

3.	86/415/EEC	On the Installation, Location, Operation and Identification of the Controls of Wheeled Agricultural or Forestry Tractors
4.	UN R 121 Suppl. 1 to 01 series of amendments – Date of entry into force: 22 June 2017)	Uniform provisions concerning the Approval of Vehicles with regard to the Location and Identification of Hand Controls, Tell-tales and Indicators
5.	ISO 2575: 2000 / Amd.1: 2001, Amd 4 : 2001, Draft Amd 5 : 2000	Road Vehicles - Symbols for Controls, Tell-tales and Indicators
6.	Safety Standards No. 12.1	Tell Tale Systems and Controls for all Motor Vehicles other than 3 Wheeled Vehicles upto Engine Capacity 500 cc, 2 Wheeled Vehicles and Tractors
7.	IS 6283 (Part 1) : 2006	Tractors and Machinery for Agriculture and Forestry, Powered Lawn and Garden Equipment - Symbols for Operator Controls and Other Displays Part 1 : Common Symbols

The AISC panel responsible for formulation of this standard is given in Annex VI

The Automotive Industry Standards Committee (AISC) responsible for preparation of this standard is given in Annex VII.

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Automotive Vehicles - Identification of Controls Tell - Tales and Indicators

1.0 SCOPE

1.1 This standard specifies requirements for identification of:

- Controls,
- Tell-tales, their colour and illumination,
- Indicators

used in motor vehicles of category L5, L7, M, N, and A as defined in AIS-053.

1.2 This standard is applicable to identification of the controls, tell-tale and indicators which are fitted on the instrument panel or in the immediate vicinity of the driver

2.0 REFERENCES

- | | | |
|------|-------------------------|---|
| 2.1 | AIS-007
(Revision 5) | Information on Technical Specifications to be submitted by the Vehicle Manufacturer |
| 2.2 | AIS-053 | Automotive Vehicles – Types – Terminology |
| 2.3 | 93/29/EEC | On the Identification of Controls, Tell-tales and Indicators for Two – or Three – wheel Motor Vehicles |
| 2.4 | ISO 6727 | Road vehicles – Motorcycles- Symbols for Controls, Indicators and Tell-tales |
| 2.5 | ISO 2575 | Road Vehicles - Symbols for Controls, Tell-tales and Indicators |
| 2.6 | ISO 3767 | Tractors, Machinery for Agriculture and Forestry, Powered lawn and Garden Equipment – Symbols for Operator Controls and other displays-Part1: Common Symbols. |
| 2.7 | 78/316/EEC | On the approximation of the laws of the Member States relating to Interior Fittings of Motor Vehicles (Identification of Controls, Tell-tales and Indicators) |
| 2.8 | UN R 121 | Uniform provisions concerning the Approval of Vehicles with regard to the Location and Identification of Hand Controls, Tell-tales and Indicators |
| 2.9 | 86/415/EEC | On the Installation, Location, Operation and Identification of the Controls of Wheeled Agricultural or Forestry Tractors |
| 2.10 | AIS-008
(Rev.1) | Installation Requirements of Lighting and Light - Signalling Devices for Motor Vehicle having more than Three Wheels, Trailer and Semi-Trailer excluding Agricultural Tractor and Special Purpose Vehicle |

3.0 DEFINITIONS

- 3.1 “**Vehicle Type**” means motor vehicles, which do not differ in respect of the arrangements, which may affect the identification for controls, tell-tales and indicators.
- 3.2 “**Control**” means that part of a device that enables the driver to bring about a change in the state or functioning of a vehicle or vehicle’s sub-system.
- 3.3 “**Indicator**” means a device, that shows the magnitude of the physical characteristics that the instrument is designed to sense, for example-fluid level.
- 3.4 “**Tell-tale**” means an optical signal that, when alight, indicates the actuation of a device, a correct or defective functioning or condition, or a failure to function.
- 3.5 “**Symbol**” means a diagram identifying a control, a tell-tale or an indicator.
- 3.6 “**Common space**” means an area on which two or more information functions (e.g. symbol) may be displayed but not simultaneously.
- 3.7 “**Adjacent**” means that no control, tell-tale, indicator, or other potential source of distraction appears between the identifying symbol and the tell-tale, indicator, or control which that symbol identifies.
- 3.8 “**Device**” means an element or an assembly of elements used to perform one or more functions.

4.0 REQUIREMENTS

A vehicle fitted with a control, a tell-tale or an indicator, listed in respective Annexes, shall meet the requirements prescribed in this standard.

4.1 Location

- 4.1.1 The tell-tales and indicators, shall be located so that they are visible and recognizable to a driver during night and day. Tell-tales and indicators need not be visible or recognisable when not activated.
- 4.1.2 The identifications of tell-tales, indicators and controls shall be placed on or adjacent to the tell-tales, indicators and controls that they identify. In the case of multifunction control, the identifications need not be immediately adjacent. Nevertheless, they shall be as close as practicable to such multifunction control.
- 4.1.3 If in the mandatory standards notified in CMVR covering the individual functional requirements, audible warning is permitted in place of operating tell-tale, requirements of operating tell-tale as per this standard are not applicable.

4.1.4 Notwithstanding paragraphs 4.1.1, 4.1.2 and 4.1.3 the tell-tale for “passenger air bag off”, if fitted, must be located within the interior of the vehicle and forward of and above the design H-point of both the driver's and the front passenger(s) seat in their forward most seating positions. The tell- tale which alerts front seat occupants that the passenger air bag is switched off must be visible to the driver and front passenger(s) under all driving conditions.

4.2 **Identification**

4.2.1 Where fitted, the controls, tell-tales or indicators, listed in column 1 of respective Annexes, shall be identified by symbols or words or abbreviations designated for them in column 2 of respective Annex. This requirement does not apply to the horn (an audible warning signal) control, when it is activated by a narrow ring-type control or by a lanyard.

4.2.2 If a symbol is used for identifying a control, tell-tale or indicator not listed in respective Annex, it is recommended to use a symbol designated for the purpose given in Table A to N, P and R where one exists for the application concerned.

4.2.3 Manufacturer may use a symbol of his own conception. Such symbol may include internationally recognized alphabetic or numeric indications. All such symbols used shall follow the design principles laid down in paragraph 4 of ISO 2575.

4.2.4 If necessary for clarity, supplementary symbols may be used in conjunction with any symbol specified in table A to N, P and R.

4.2.5 Each additional or supplementary symbol used by the manufacturer shall not cause confusion with any symbol specified in this standard.

4.2.6 Where a control, an indicator or a tell-tale for the same function are combined, one symbol may be used to identify such combination.

4.2.7 Except as provided in paragraph 4.2.8 all identifications of tell-tales, indicators and controls listed in respective Annex shall appear to the driver perceptually upright. In case of rotating control, this paragraph applies to it when such control is in its "off" position.

4.2.8 The identification of the following need not appear to the driver perceptually upright:

4.2.8.1 a horn control,

4.2.8.2 any control, tell-tale or indicator located on the steering control, when the steering control is positioned for the motor vehicle to travel in other than a straight forward direction,

4.2.8.3 any rotating control that does not have an off position, and

4.2.8.4 any control not expected to be operated by the driver from normal seating position.

4.2.9 Each control for the automatic vehicle speed system (cruise control) and each control for heating and air conditioning system(s) shall have identification provided for each function of each such system.

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

If colour coding is used to identify the limits of the adjustment range of a temperature function, the hot limit shall be identified by the colour red and the cold limit by the colour blue. If the status or limit of a function is shown by an indicator separated from and not adjacent to the control for that function, both the control and the indicator shall be independently identified in compliance with paragraph 4.1.2.

4.2.11 Automatic functions may be indicated with the symbol relevant for the corresponding item as referred to in respective annexes, Column 01 with the supplementary letter(s) "A" or "AUTO" positioned on or adjacent to its outline.

4.3 **Illumination**

4.3.1 The identifications of controls for which the word "Yes" is indicated in column 4 of respective Annexes shall be capable of being illuminated whenever the position lamps are activated. This does not apply to controls located on the floor, floor console, steering wheel, or steering column, or in the area of windscreen header, or to controls for a heating and air conditioning system if the system does not direct air directly upon the windscreen.

The indicators and their identifications for which the word "Yes" is indicated in column 4 of respective Annexes shall be illuminated whenever the device which starts and/or stops the engine is in a position which makes it possible for the engine to operate and the position lamps are activated.

4.3.2 The indicators, their identifications and the identifications of controls need not be illuminated when the headlamps are being flashed or operated as daytime running lamps.

4.3.3 At the manufacturer's discretion any control, indicator or their identifications may be capable of being illuminated at any time.

4.3.4 A tell-tale shall not emit light except when identifying the malfunction or vehicle condition for whose indication it is designed or during a bulb check.

4.3.5 **Brightness of Tell-Tale Illumination**

Means shall be provided for making tell-tales and their identification visible and recognisable to the driver under all driving conditions.

4.4 **Colour**

4.4.1 Light of each tell-tale listed in respective Annexes shall be of the colour shown in column 5 of respective Annexes.

4.4.1.1 Nevertheless if already fitted on the vehicle as specified in respective annexes with the colour specification of column 5, each symbol with the footnote 18 may be shown in other colours, in order to convey different meanings, according to the general colour coding as proposed in paragraph 5. of standard ISO 2575:2004.

4.4.2 Indicators and tell-tales and identifications of indicators and controls not listed in respective Annexes may be of any colour chosen by the manufacturer, however, such colour shall not interfere with or mask the identification of any tell-tale, control, or indicator specified in respective Annexes. While selecting the colour to be used, guidelines given in paragraph 4.4.5 shall be followed.

4.4.3 Each symbol used for identification of tell-tale, control or indicator shall stand out clearly against the background.

4.4.4 The dark part of any symbol may be replaced by its outline.

4.4.5 When used for optical tell-tales the following colours listed below have the meanings indicated:

- RED - Danger to person or very serious damage to equipment immediate or imminent, and “hot” in climate control system or temperature indicators.
Example: Brake fluid / air pressure
- YELLOW or AMBER - Caution, vehicle system malfunction, danger in vehicle likely, or other condition which may produce hazard in the longer term. Example: Failure anti-lock braking system.
- GREEN - Safe, normal operation of the vehicle system (except if blue or yellow is required by relevant annex)
Example: Direction indicators lamps (Turn signals)
- BLUE - Main (driving, upper, high) beam tell-tale only, and “Cold” in climate control systems or temperature indicators.
- WHITE or OTHER - Other operations where none of the above colours are appropriate.

4.5 **Common Space for Displaying Multiple Information**

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

4.5.1.1 The tell-tales and indicators in the common space shall provide relevant information at the initiation of any underlying condition.

- 4.5.1.2 When the underlying condition exists for actuation of two or more tell-tales, the information shall be either
 - 4.5.1.2.1 Repeated automatically in sequence, or
 - 4.5.1.2.2 Indicated by visible means and capable of being selected for viewing by the driver.
- 4.5.1.3 The tell-tales for the brake system malfunction, headlamp driving beam, direction indicator and seat belt shall not be shown in the same common space.
- 4.5.1.4 If tell-tale for the brake system malfunction, headlamp driving beam, direction indicator or seat belt is displayed in a common space it shall displace any other symbol in such common space if the underlying condition exists for its activation.
- 4.5.1.5 With the exception of tell-tales for the brake system malfunction, headlamp driving beam, direction indicator or seat belt, the information may be cancellable automatically or by the driver.
- 4.5.1.6 Unless prescribed in a specific standard, the colour requirements regarding tell-tales do not apply when tell-tales appear in a common space.

4.6 Conditions

- 4.6.1 The driver has adapted to the ambient light conditions.
- 4.6.2 The driver is restrained by the installed crash protection system, adjusted in accordance with the manufacturer's instructions, and is free to move within constraints of that system.

5.0 TECHNICAL INFORMATION TO BE SUBMITTED BY THE VEHICLE MANUFACTURER

- 5.1 The technical information with regard to vehicle shall be provided as per respective clauses of AIS-007 updated version.
- 5.2 Drawings or photographs showing the layout of controls and location of tell-tales and indicators in the vehicle shall be provided.

6.0 CHANGES IN THE TECHNICAL SPECIFICATIONS ALREADY TYPE APPROVED

- 6.1 Every modification pertaining to the information declared in accordance with Para 5 shall be intimated by the manufacturer to the certifying agency.
- 6.2 If the changes are in parameters not related to the provisions, no further action need be taken.

If the changes are in parameters related to the provisions, the Testing Agency shall then consider, whether,

- a) the model with the changed specifications still complies with provisions;
or
- b) any further verification is required to establish compliance.

For considering whether any further verification is required or not, guidelines given in Annex IV (Criteria for extension of approval) shall be used.

- 6.3 In case of 6.2 b), verification for only those parameters which are affected by the modifications needs to be carried out
- 6.4 In case of fulfillment of criterion of para 6.2 a) or after results of further verification as per para of 6.2 b) are successful, the approval of compliance shall be extended for the changes carried out.

7.0 CONFORMITY OF PRODUCTION REQUIREMENTS

- 7.1 Whole Vehicle COP procedure, as and when lay down by the Ministry of Road Transport and Highways shall be applicable.
- 7.2 Vehicle approved under this standard shall be so manufactured as to conform to the type approved specifications.

ANNEX I

(See 4.0)

**IDENTIFICATION OF CONTROLS, TELL -TALES AND INDICATORS
-REQUIREMENTS FOR L5 CATEGORY OF MOTOR VEHICLES**

Sr. No.	Column 1	Column 2	Column 3	Column 4	Column 5	Remarks
	Item	Identification Symbol(s) ^{(2) (9)} / Words or Abbreviation	Function	Illumination ⁽¹²⁾	Colour	(Mandatory or Optional for Tell tales)
1	Master lighting switch Tell-tale may not act as the tell-tale for the position (side) lamps.	A.13 ⁽¹⁾ or Lights	Control	No	--	
			Tell-tale ⁽⁷⁾	Yes	Green	
2	Head Lamp Main-beam	A.01 ^{(1) (8) (16)} or Hi	Control	No	--	
			Tell-tale	Yes	Blue	Mandatory as per AIS-009 - 2001 (CMVR rule no. 124 (24))
3	Head Lamp Passing beam	A.02 ^{(5) (8) (16)} or Lo	Control	No	--	
			Tell-tale	Yes (Conditional)	Green	
4	Direction indicator lamp	A.16 ^{(1) (3)} or Turn L-R	Control	No	--	
			Tell-tale	Yes	Green	Mandatory as per AIS-009- 2001 (CMVR rule no. 124 (24))
5	Hazard Warning Lamp	A.19 ⁽¹⁾ or Hazard	Control	No	--	
			Tell-tale ⁽⁴⁾	Yes	Red or same as 4 above ⁽⁴⁾	Mandatory for L5-N category vehicle as per AIS-009- 2001 (CMVR rule no. 124 (24))
6	Front fog lamp	A.05 ⁽¹⁾	Control	No	--	
			Tell-tale	Yes	Green	
7	Rear fog lamp	A.06 ⁽¹⁾	Control	No		
			Tell-tale	Yes	Amber or Yellow	If fitted mandatory

Sr. No.	Column 1	Column 2	Column 3	Column 4	Column 5	Remarks
	Item	Identification Symbol(s) ^{(2) (9)} / Words or Abbreviation	Function	Illumination ⁽¹²⁾	Colour	(Mandatory or Optional for Tell-tales)
8	Fuel level	G.01 or Fuel	Indicator ⁽¹⁵⁾	Yes	--	As and when requirement is mandatory Note - Tell-tale or indicator to be provided
			Tell-tale ⁽¹⁵⁾	Yes	Amber or Yellow	
9	Fuel Shut off valve	G.09 or Off On Res / Reserve	Control	No	--	
10	Engine oil pressure	F.04 or Oil	Indicator	Yes	--	
			Tell-tale	Yes	Red	
11	Engine coolant temperature	F.03 ⁽¹⁶⁾ or Temp.	Indicator	Yes	--	As and when it is Mandatory for water cooled and other than water cooled engine. Note - Tell-tale or indicator to be provided
			Tell-tale	Yes	Red	
12	Electrical charging condition	M.01 or Volts charge or Amp.	Indicator	Yes	--	Mandatory Optional for Kick Start Vehicles (For batteries other than traction batteries)
			Tell-tale	Yes	Red	
13	Windscreen wiping system ⁽¹⁰⁾	C.01 or Wiper or Wipe	Control	No	--	
14	Windscreen washing system ⁽¹⁰⁾	C.03 or Washer or Wash	Control	No	--	

Sr. No.	Column 1	Column 2	Column 3	Column 4	Column 5	Remarks
	Item	Identification Symbol(s) ⁽²⁾ ⁽⁹⁾ / Words or Abbreviation	Function	Illumination ⁽¹²⁾	Colour	(Mandatory or Optional for Tell-tales)
15	Front position lamp, Rear position lamp and Rear registration plate illuminating lamp.	A.09 ⁽¹⁾ ⁽⁵⁾ ⁽¹⁶⁾	Control	No	--	
			Tell-tale ⁽⁷⁾	Yes ⁽⁵⁾	Green	Mandatory as per AIS-009- 2001 (CMVR rule no. 124 (24)) Conditions apply as per foot no 7
16	Speedometer	km/h ⁽¹³⁾	Indicator	Yes	--	Mandatory as per CMVR rule no. 117
17	Odometer	km ⁽¹³⁾	Indicator	Yes	--	
18	Horn	A.20 or Horn	Control	No	--	
19	Manual Choke (cold starting device)	F.11 or Choke	Control	No	--	
20	Electric start / Engine Start	F.24 or F.13 ⁽⁶⁾ Start	Control	No		
21	Ignition cut off	F.14 ⁽⁶⁾ or Ignition or Ign or Stop	Control	No		
22	Neutral Indicator	H.03 or Neutral	Indicator ⁽¹¹⁾	No	--	
			Tell-tale ⁽¹¹⁾	Yes	Green	
23	Compressed Natural Gas only CNG	R.04	Tell Tale	Yes	Yellow	
24	Liquefied Petroleum Gas only LPG	R.05	Tell Tale	Yes	Yellow	
25	State of Charge (SoC)	As per clause 4.4.2 of this standard	Indicator or Tell-tale	Yes		Mandatory for electric vehicles as per AIS-038 (Rev. 1)

(1) Framed areas of the symbol may be solid.

(2) The symbols included in this standard are substantially identical to symbols described in ISO 2575. Proportional dimensional characteristics specified in ISO 2575 shall be maintained.

- (3) The pair of arrows is a single symbol. However, when the controls or tell-tales for left and right turn operate independently, the two arrows may be considered separate symbols and be spaced accordingly.
- (4) Applicable for L5N category three wheeled vehicles. Red colour tell tale is not required when arrows of turn signal tell-tales that otherwise operate independently flash simultaneously as hazard warning tell-tale.
- (5) Separate identification not required if function is combined with master lighting switch.
- (6) Use when engine control is separate from the key locking system.
- (7) Not required if instrument panel lights are lit automatically on activation of the master lighting switch.
- (8) Symbols employing five lines instead of four (and vice versa) may also be used.
- (9) Controls, tell-tales and indicators may alternatively be identified by “words” or “abbreviations” as given in column 2.
- (10) For L5 category three wheeled vehicles.
- (11) In case of AC ignition system vehicles, as an alternate to tell-tales, neutral indicator mark may be provided on control.
- (12) At the manufacturer’s discretion, any control, indicator their identifications where specified as ‘No’ in Column 4, may be capable of being illuminated at any time.
- (13) The required text identification must be displayed in lowercase letters.
- (14) Except serial number 16 & 17, the required text identification can be displayed either in upper or lower case letters.
- (15) Fuel level indicator and tell-tale in gasoline mode is not mandatory for gaseous vehicles fitted with limp home operation.
- (16) Symbol may be shown in other colours than specified in column 5 in order to convey different meanings according to the general colour coding as proposed in paragraph 5 of ISO 2575-2004.

Note: Symbols permitted by the latest revision of 93/29/EEC or ISO 6727 or ISO 2575 and applicable at the time of type approval are also acceptable in place of those detailed above

ANNEX II

(See 4.0)

**IDENTIFICATION OF CONTROLS, TELL-TALES AND INDICATORS -
REQUIREMENTS FOR L7, M & N CATEGORY OF VEHICLES**

S. No	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6 (See disclaimer below)
	Item	Identification symbol(s) ^{(2) (9) / Words or Abbreviations}	Function	Illumination ⁽¹⁰⁾	Color	Remarks (Mandatory or Optional for Tell tales)
1	Head lamp Main Beam	A.01 ^{(1) (8) (18)} or Lights	Control	No	--	
			Tell tale	Yes	Blue	Mandatory as per AIS-008 (Rev. 1) (CMVR rule no. 124)
2	Head lamp Dipped Beam	A.02 ^{(1) (6) (8) (18)} Or Lights	Control	No	--	
			Tell tale	Yes	Green	Conditionally Optional as per AIS-008 (Rev. 1) (CMVR rule no. 124)
3	Head lamp cleaning device (with separate operating control)	A.03 ⁽⁸⁾	Control	No	--	
4	Head lamp levelling device	A.04	Control	No	--	
5	Front fog lamp	A.05 ⁽¹⁾	Control	No	--	
			Tell tale	Yes	Green	Mandatory, if fog lamp is fitted, as per AIS-008 (Rev. 1) (CMVR rule no. 124)
6	Rear fog lamp	A.06 ⁽¹⁾	Control	No	--	
			Tell tale	Yes	Yellow	Mandatory, if rear fog lamp is fitted, as per AIS-008 (Rev. 1) (CMVR rule no. 124)
7	Parking lamp	A.08	Control	No	--	
			Tell tale	Yes	Green	

S. No	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6 (See disclaimer below)
	Item	Identification symbol(s) ^{(2) (9) / Words or Abbreviations}	Function	Illumination ⁽¹⁰⁾	Color	Remarks (Mandatory or Optional for Tell tales)
8	Position lamp, Side marker lamp / or End outline marker lamp	A.09 ^{(1) (18)} or Position lamps. Side marker lamp. End –outline marker lamp	Control ⁽⁶⁾	No	--	
			Tell tale ⁽⁷⁾	Yes	Green	As per AIS-008 (Rev. 1) (CMVR rule no. 124) Conditionally optional for positional lamps
9	Master lighting switch Tell-tale may not act as the tell-tale for the position (side) lamps.	A.13 ⁽¹⁾	Control	No	--	
			Tell tale ⁽⁷⁾	Yes	Green	
10	Direction Indicator	A.16 ^{(1) (3)}	Control	No	--	
			Tell tale	Yes	Green	Mandatory as per AIS-008 (Rev. 1); (CMVR rule no. 124)
11	Hazard warning signal	A.19 ⁽¹⁾ or Hazard	Control	No	--	
			Tell tale ⁽⁴⁾	Yes	Red	Mandatory as per AIS-008 (Rev. 1) (CMVR rule no. 124)
12	Horn	A.20 or Horn	Control	No	--	
13	Brake failure	B.01 ⁽¹¹⁾	Tell tale	Yes	Refer brake standard	Mandatory as per IS 11852 (CMVR rule no. 96) IS 15986, as and when notified
14	Parking brake applied	B.02 ⁽¹²⁾	Tell tale ⁽¹⁴⁾	Yes	Refer brake standard	Mandatory for M1 & N1 category vehicles from the date of implementation of IS 15986
15	Antilock brake system malfunction	B05	Tell tale	Yes	Refer brake standard	Mandatory, if ABS is fitted as per IS 11852; (CMVR rule no. 96 (9)) IS 15986, as and when notified
16	Windscreen wiping system (continuous)	C. 01 or Wiper or Wipe	Control	No	--	

S. No	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6 (See disclaimer below)
	Item	Identification symbol(s) ^{(2) (9)} / Words or Abbreviations	Function	Illumination ⁽¹⁰⁾	Color	Remarks (Mandatory or Optional for Tell tales)
17	Wind screen washing system	C. 03 or Washer or Wash	Control	No	--	
18	Wind screen washing & wiping system	C.04 or Wash Wipe	Control	No	--	
19	Wind screen defrosting and demisting system (with separate operating control)	C.06 or Defrost Demist or Def.	Control	No	--	
			Tell tale	Yes	Yellow	
20	Air Conditioning system	D.01 or A/C	Control	No	--	
21	Heating and / or air conditioning fan	D.02 ⁽¹⁾ or Fan	Control	No	--	
22	Engine coolant temperature	F.03 ^{(5) (18)} or Temp	Tell tale	Yes	Red	For water cooled and other than water cooled engine: As and when it is mandatory. Note - Tell-tale or indicator to be provided
			Indicator	No	--	
23	Diesel Pre-heat	F.10	Tell tale	Yes	Yellow	
24	Manual choke	F.11 or Choke	Control	No	--	
			--	--	--	
25	Fuel level	G.01	Tell tale	Yes	Yellow	As and when it is mandatory Note : Tell-tale or indicator to be provided
			Indicator	No	--	
26	Safety belt Non-usage	K.01 ⁽¹⁶⁾	Tell tale	Yes	Red	Mandatory for M1 category vehicles as per AIS-145;
27	Airbag malfunction	K.02	Tell tale	Yes	Yellow and / or Red	Mandatory for M1 category vehicles for Driver airbag as and when AIS-145 is mandatory.

S. No	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6 (See disclaimer below)
	Item	Identification symbol(s) ⁽²⁾ ⁽⁹⁾ / Words or Abbreviations	Function	Illumination ⁽¹⁰⁾	Color	Remarks (Mandatory or Optional for Tell tales)
28	Electrical charging condition (For batteries other than traction batteries)	M.01 or Volts or Charge or Amp	Tell tale	Yes	Red	Mandatory for representing malfunctioning of electrical charging Circuit
			Indicator	No	--	
29	Speedometer	km/h ⁽¹³⁾	Indicator	Yes	--	Mandatory as per IS 11827:2008 CMVR rule no. 117
30	Odometer	km ⁽¹³⁾	Indicator	Yes	--	
31	State of Charge (SoC)	As per clause 4.4.2 of this standard	Indicator or tell-tale	Yes	--	Mandatory for electric vehicles as per AIS-038 (Rev. 1)
32	Engine Onboard Diagnostic / Engine Malfunction	F.01	Tell tale	Yes	Yellow / Amber	Mandatory as per the TAP document CMVR/TAP/115-116 or AIS-137 (CMV rule 115).
33	Automatic Transmission	H.01 to H.04 ⁽¹⁹⁾	Indicator	Yes	--	
34	Low tyre pressure (including malfunction)	K.10 ⁽²⁰⁾	Tell-tale	Yes	Yellow	
35	Low tyre pressure (including malfunction) that identifies affected tyre	K.13 ⁽²⁰⁾ ⁽²¹⁾	Tell-tale	Yes	Yellow	
36	Electronic stability control	J.12 ⁽²¹⁾ Or ESC	Tell-tale	Yes	Yellow	
37	Electronic stability control system "OFF"	J.13 ⁽²¹⁾ ⁽²²⁾ or ESC OFF	Control	Yes		
			Tell-tale	Yes	Yellow	
38	Daytime Running Lamp	A.27	Tell-tale	Yes	Green	

- (1) Framed areas of the symbol may be solid.
- (2) The symbols included in this standard are substantially identical to symbols described in ISO 2575. Proportional dimensional characteristics specified in ISO 2575 shall be maintained.
- (3) The pair of arrows is a single symbol. However, when the controls or tell-tales for left and right turn operate independently, the two arrows may be considered separate symbols and be spaced accordingly.
- (4) Not required when arrows of turn signal tell-tales that otherwise operate independently flash simultaneously as hazard warning tell-tale.
- (5) Combination of the engine oil pressure symbol and the engine coolant temperature symbol in a single tell-tale is permitted.
- (6) Separate identification not required if function is combined with master lighting switch.
- (7) Not required if instrument panel lights are lit automatically on activation of the master lighting switch.
- (8) Symbols employing five lines instead of four (and vice versa) may also be used.
- (9) Controls, tell-tales and indicators may alternatively be identified by “words” or “abbreviations” as given in column 2.
- (10) At the manufacturer’s discretion, any control, indicator their identifications where specified as ‘No’ in Column 4, may be capable of being illuminated at any time.
- (11) Where a single tell-tale indicates more than one brake system condition, except anti-lock system failure the symbol for brake failure shown in B 01 shall be used.
- (12) If a single tell-tale is used to indicate more than one brake system condition, the brake system malfunction symbol must be used.
- (13) The required text identification must be displayed in lowercase letters.
- (14) Applicable when IS 15986 gets implemented.
- (15) Except serial number 29 & 30, the required text identification can be displayed either in upper or lower case letters.
- (16) Applicable when AIS-145 gets implemented.
- (17) In case of automatic levelling device or device meets the requirements without levelling devices, separate control may not be required.
- (18) Symbol may be shown in other colours than specified in column 5 in order to convey different meanings according to the general colour coding as proposed in paragraph 5 of ISO 2575-2004.
- (19) Letter "D" may be replaced or supplemented by other alphanumeric character(s) or symbol(s) chosen by the manufacturer to indicate additional selection modes
- (20) Additionally, either of the low tyre pressure tell-tales may be used to indicate a tyre pressure monitoring system (TPMS) malfunction.
- (21) The vehicle outline shown is not intended to be restrictive, but is the recommended outline. Alternative vehicle outlines may be used in order to better represent the actual outline of a given vehicle.
- (22) The supplementary letters "OFF" may be positioned on or adjacent to the outline of the symbol of item No. 37. The font of the letters "OFF" or "ESC OFF" is not intended to be restrictive (Note: the letters "OFF" and "ESC OFF" shall be kept in English and shall not be translated).
- (23) For driver warning system / reagent Indication for vehicles that use reagent for exhaust after treatment system: a tell-tale or warning code or warning message may be optionally provided at the discretion of the manufacturer.

NOTE: Symbols permitted by the latest revision of 78/316/EEC or ECE R 121 or ISO 2575 applicable at the time of type approval are also acceptable in place of those detailed above.

DISCLAIMER (see column 6 in table above):

The applicability indicated in column (6) are for reference purposes only. The actual applicability shall be as per the relevant standards requiring the tell tales & indicators.

In case of any discrepancy in Column 6 provision under CMVR shall be referred for further updates.

ANNEX III

(See 4.0)

IDENTIFICATION OF CONTROLS, TELL-TALES AND INDICATORS -
REQUIREMENTS FOR AGRICULTURAL TRACTOR

Sr. No.	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6 (See disclaimer below)
	Item	Identification Symbol(s) ⁽²⁾⁽¹⁰⁾ /Words or Abbreviation	Function	Illumination of Control / Indicators ⁽¹¹⁾	Illumination / Colour of Tell tale	Remarks (Mandatory or Optional for Tell tales)
1	Head Lamp Main-beam / Driving Beam	A.01 ⁽¹⁾⁽⁹⁾ or Lights	Control	No	--	
			Tell-tale	--	Yes /Steady Blue	If lamps fitted, Tell Tell Mandatory as per AIS 030 , Clause 6.1.1
2	Head Lamp - Dipped-beam / Passing Lamps	A.02 ⁽¹⁾⁽⁵⁾⁽⁸⁾⁽⁹⁾ or Lights	Control	No	--	
			Tell-tale ⁽⁸⁾	--	Yes / Green	Optional as per AIS 030 , Clause 6.2.10
3	Position lamps (or) Parking lamps	A.08 (or) A.09 ⁽¹⁾⁽⁵⁾ or Position Lamps (or) Parking lamps	Control	No	--	
			Tell-tale ⁽⁸⁾	--	Yes /Green	Mandatory (8). This tell-tale shall be non-flashing. It shall not be required if the instrument panel lighting can only be turned on simultaneously with the front position (side) lamps. AIS 030, Clause 6.8.10.
4	Master switch Electrical Tell-tale may not act as the tell-tale for the position (side) lamps.	A.13 ⁽¹⁾	Control	No	--	
			Tell Tale ⁽⁸⁾	--	Yes /Green	
5	Direction indicator lamp	A.16, A.17, A.18 ⁽¹⁾⁽³⁾	Control	No	--	
			Tell-tale	--	Yes /Green	Mandatory, for all direction-indicator lamps not directly visible to the driver. It may be optical or auditory or both. Refer AIS 030 Clause 6.5.10

Sr. No.	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6 (See disclaimer below)
	Item	Identification Symbol(s) ⁽²⁾ ⁽¹⁰⁾ / Words or Abbreviation	Function	Illumination of Control / Indicators ⁽¹¹⁾	Illumination / Colour of Tell tale	Remarks (Mandatory or Optional for Tell tales)
6	Hazard Warning signal	A.19 ⁽¹⁾ or Hazard	Control	No	--	
			Tell-tale ⁽⁴⁾	--	Yes /Red or Green	Mandatory 1- As per AIS 030, Clause 6.6.10: - Flashing warning light, which can operate in conjunction with the Direction indicator lamp. 2- Not required when arrows of turn signal tell-tales that otherwise operate independently flash
7	Horn	A.20 or Horn	Control	No	--	
8	Parking Brake Lever	B.02 ⁽⁶⁾ Or B.17	Control	No	--	
			Tell-tale	--	Red	
9	Engine coolant temperature	F.03 or Temp or Water or Coolant or Water Temp	Indicator (8)	Yes	--	Note: Tell-tale or indicator to be provided
			Tell-tale	--	Yes /Red	
10	Engine oil pressure	F.04 or Oil	Indicator (8)	Yes	--	Note: Tell-tale or indicator to be provided
			Tell-tale	--	Yes /Red	
11	Engine Start/ Ignition	F.13 ⁽⁷⁾ or start	Control	No	--	
12	Fuel Shut off or engine shut off.	F.14 ⁽⁷⁾ (or) G.08 Or Stop (or) Pull-to-Stop	Control	No	--	
13	Hour meter	F.22 or hr	Indicator (8)	Yes	--	Mandatory

Sr. No.	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6 (See disclaimer below)
	Item	Identification Symbol(s) ⁽²⁾ ⁽¹⁰⁾ / Words or Abbreviation	Function	Illumination of Control / Indicators ⁽¹¹⁾	Illumination / Colour of Tell tale	Remarks (Mandatory or Optional for Tell tales)
14	Fuel level	G.01 or Fuel	Indicator (8)	Yes	--	Note: Tell-tale or indicator to be provided
			Tell-tale	--	Yes /Yellow	
15	Automatic Transmission lever	H.01, H.02, H.03, H.04 (as applicable)	Control	No	--	--
16	HI-Low /Range / Module / Gear Shift lever	H.12, H.13, H.15, H.16 (as applicable) or HIGH/LOW or FAST/SLOW or A, B, C. (I/II/III/IV etc.)	Control	No	--	
17	Manual Transmission shift Lever	H.14, H.18, H.19, H.20, H.21,(I/II/III/IV etc)(as applicable)	Control	No	--	
18	Forward-Reverse Direction Selection lever	H.17, H.21	Control	No	--	
19	Hydraulic Control levers (Mechanical or Electrically actuated)	Words as per Manufacturer's Option , or N.05,N.06,N.07,N.08,N.09,N.10,N.11,N.12, N.13.N.14,N.15,N.16,N.17(As applicable)	Control	No	--	
20	PTO On/off Lever	I.23, I.24 or PTO ON/OFF	Control	No	--	
21	Differential Lock Pedal	I.25	Control	No	--	

Sr. No.	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6 (See disclaimer below)
	Item	Identification Symbol(s) ⁽²⁾ ⁽¹⁰⁾ / Words or Abbreviation	Function	Illumination of Control / Indicators ⁽¹¹⁾	Illumination/ Colour of Tell tale	Remarks (Mandatory or Optional for Tell tales)
22	Battery charging condition	M.01 or Volts, Charge or Amp	Indicator (8)	Yes	--	Note: Tell-tale or indicator to be provided
			Tell-tale	--	Yes /Red	
23	Compressed Natural Gas only CNG	R.04	Tell Tale	Yes	Yellow	
24	Liquefied Petroleum Gas only LPG	R.05	Tell Tale	Yes	Yellow	
25	Engine Speed (or rpm cum hour meter)	RPM (or) rpm (or) RPM x 100 (or) rpm x 100	Indicator (8)	Yes	--	

- (1) Framed areas of the symbol may be solid.
- (2) The symbols included in this standard are substantially identical to symbols described in ISO 3767-2016. Proportional dimensional characteristics specified in ISO 3767-2016 shall be maintained.
- (3) The pair of arrows is a single symbol. However, when the controls or tell-tales for left and right turn operate independently, the two arrows may be considered separate symbols and be spaced accordingly.
- (4) Not required when arrows of turn signal tell-tales that otherwise operate independently flash simultaneously as hazard warning tell-tale.
- (5) Separate identification not required if function is combined with master lighting switch.
- (6) If a single tell-tale is used to indicate more than one brake system condition, the brake system malfunction symbol must be used.
- (7) Use when engine control is separate from the key locking system.
- (8) Not required if instrument panel lights are lit automatically on activation of the master lighting switch.
- (9) Symbols employing five lines instead of four (and vice versa) may also be used.
- (10) Controls, tell-tales and indicators may alternatively be identified by “words” or “abbreviations” as given in column 2.
- (11) At the manufacturer’s discretion, any control, indicator their identifications where specified as ‘No’ in Column 4, may be capable of being illuminated at any time.

Note: Symbols permitted by the latest revision of 86/415/EEC or ISO 3767-2016 or ISO 7000 & Table B /Table F / Table H & Table M applicable at the time of type approval are also acceptable in place of those detailed above.

DISCLAIMER (see column 6 in table above):

The applicability indicated in column (6) are for reference purposes only. The actual applicability shall be as per the relevant standards requiring the tell tales & indicators.

In case of any discrepancy in Column 6 provision under CMVR shall be referred for further updates.

ANNEX IV

(See 6.2 b)

CRITERIA FOR EXTENSION OF APPROVAL



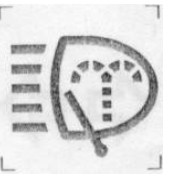



Sr. No.	Parameter	Remark
1	Addition of variant if no change in identification compare to approved base model if change in identification compare to approved base model	Document check Check required
2	Tell tale colour change	Check required
3	Addition of identification of controls, tell tales and indicators	Check required
4	Deletion of identification of controls, tell tales and indicators	Document check
5	Use of alternate symbol for the approved symbol	Check required





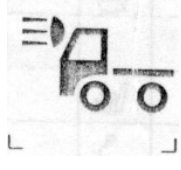
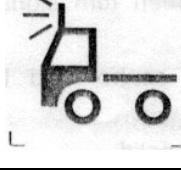
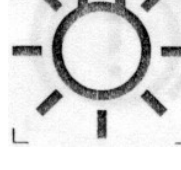

Note:- Test agency may follow appropriate extension methodology based on change content & undertaking / Drawings / installations submitted by the manufacturer.

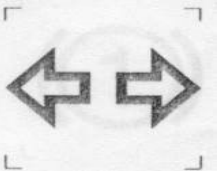





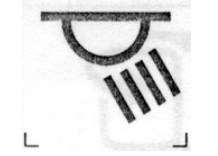
Table A

(See 4.2.2)

Lighting and signaling devices

Symbol Number	Symbols form / shape	Symbol description / application
A.01		<p>Main - beam head lamp / Driving Beam Steady blue tell-tale.</p> <p>The control operating alternately the main beam and the dipped beam may include two symbols, one for each of the positions: main beam, dipped beam.</p>
A.02		<p>Dipped- beam head lamp / Passing Lamps Green tell-tale.</p> <p>The control operating alternately the main beam and the dipped beam may include two symbols, one for each of the positions: main beam, dipped beam.</p>
A.03		<p>Headlamp cleaner. This symbol may also be used on the filter cap of the fluid container.</p>
A.04		<p>Headlamp leveling devices. Or As per AIS- 008(Rev. 1)</p>
A.05		<p>Front fog lamp. Green tell-tale. If one symbol is used for both front and rear fog lamps, this symbol shall be used.</p>
A.06		<p>Rear fog lamp. Yellow tell-tale. If one symbol is used for both, front and rear fog lamps, the symbol for front fog lamp (A.05) shall be used.</p>

Symbol Number	Symbols form / shape	Symbol description / application
A.07		Long - range lamp.
A.08		Parking lamps. Green tell-tale.
A.09		Position lamps. Green tell-tale.
A.10		Loading lamp.
A.11		Elevated headlamps. Loading platform and rear axle may be omitted if not needed.
A.12		Roof sign illumination. Loading platform and rear axle may be omitted if not needed.
A.13		Master lighting switch.
A.14		Exterior bulb failure. Yellow tell-taleA.14

Symbol Number	Symbols form / shape	Symbol description / application
A.16		<p>Direction indicator lamp (Turn signal) Flashing green tell-tales. It is permissible to separate the left and right arrows.</p>
A.17		<p>Direction indicator lamp (Turn signal), first trailer Flashing green tell-tales. For A category vehicle</p>
A.18		<p>Direction indicator lamp (Turn signal). Second trailer. Flashing green tell-tales. Framed areas of this symbol may be solid. For A category vehicle</p>
A.19		<p>Hazard warning signal Either separate red tell-tale or Simultaneous operation of both arrows of turn signal tell-tale This symbol applies only to the control and to the separate red tell – tale.</p>
A.20		<p>Horn</p>
A.21		<p>Interior compartment illumination</p>
A.22		<p>Interior directed illumination (reading/map lamp) Symbol allows for mirror image.</p>

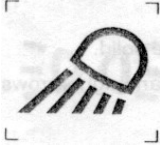


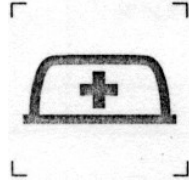
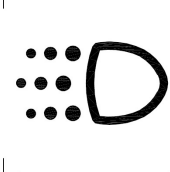





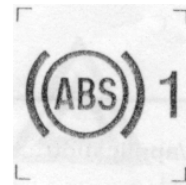






Symbol Number	Symbols form / shape	Symbol description / application
A.23		Working lamp
A.24		Beacon
A.25		Taxi sign lamp.
A.26		Medical assistance sign lamp.
A.27		Daytime Running Lamp

Table B

(See 4.2.2)

Braking systems

Symbol Number	Symbols form / shape	Symbol description / application
B.01		Malfunctioning / Failure in brake system.
B.02		Parking brake Red tell-tale In the case where a single tell-tale indicates more than one brake system condition, the symbol for brake failure (B.01) shall be used.
B.03		Braking system failure, first trailer Red tell-tale In the case where a single tell-tale indicates more than one brake system condition, the symbol for brake failure (B.01) shall be used.
B.04		Braking system failure, second trailer Red tell-tale In the case where a single tell-tale indicates more than one brake system condition, the symbol for brake failure (B.01) shall be used.
B.05		Malfunctioning in anti-lock braking system. Yellow tell-tale. The letters "ABS" may match the type style used throughout the instrument panel.
B.06		Malfunctioning in Anti-lock braking system first trailer The letters "ABS" may match the type style used throughout the instrument panel.

Symbol Number	Symbols form / shape	Symbol description / application
B07		<p>Anti-lock braking system second trailer</p> <p>The letters “ABS” may match the type style used throughout the instrument panel.</p>
B.08		<p>Anti-lock braking system first trailer not equipped</p> <p>The letters “ABS” may match the type style used throughout the instrument panel.</p>
B.09		<p>Anti-lock braking system second trailer</p> <p>The letters “ABS” may match the type style used throughout the instrument panel.</p>
B.10		<p>Worn brake linings. Yellow tell-tale.</p>
B.11	 <p style="text-align: center;">OR</p> 	<p>Brake temperature Preferred version for road vehicle use</p>

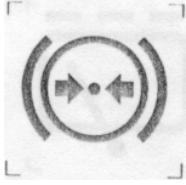
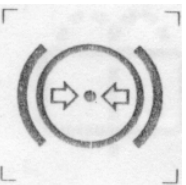
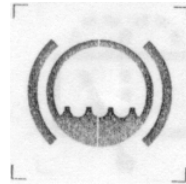
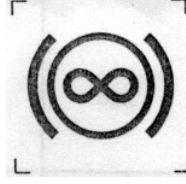
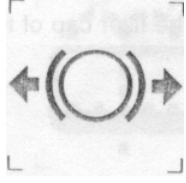


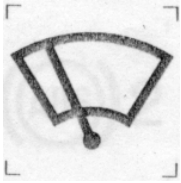

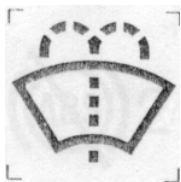


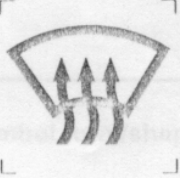


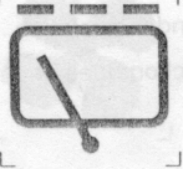
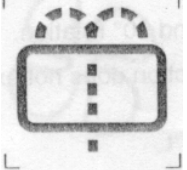

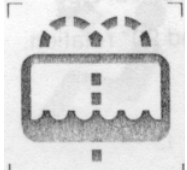
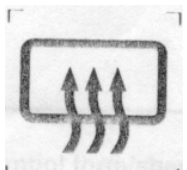

Symbol Number	Symbols form / shape	Symbol description / application
B.12		Braking System Pressure
	<p style="text-align: center;">OR</p> 	
B.13		<p>Brake fluid level</p> <p>This symbol may also be used on the filler cap of the fluid container.</p>
B.14		Retarder
B.15		Spring brake release.
B.16		<p>Secondary Brake: Hand brake (In case of Agricultural Tractor)</p> <p>To identify the control for the secondary brake or hand brake. To indicate the operational status of the secondary brake or hand brake. Use this symbol only when differentiation is required between the park brake and separate secondary or hand brake. When such differentiation is not required use symbol in clause B.02</p>
B.17		<p>Transmission, Park (In case of Agricultural Tractor)</p> <p>To identify the control position that places the transmission in park To indicate that the transmission is in park.</p>

Table C
(See 4.2.2)
Visibility

Symbol Number	Symbols form / shape	Symbol description / application
C.01		Windscreen wiping system
C.02		Wind screen wiping system - intermittent
C.03		Windscreen washing system
C.04		Windshield Washing & Wiping Combined
C.05		Wind screen washer fluid level This symbol may also be used on the filler cap of the fluid container.
C.06		Windscreens Demisting and Defrosting System Yellow tell-tale.
C.07		Windscreen, electrically heated.

Symbol Number	Symbols form / shape	Symbol description / application
C.08		Rear window wiping system
C.09		Rear window wiping system – intermittent
C.10		Rear window washing system.
C.11		Rear window washing and wiping system.
C.12		Level of rear window washer fluid This symbol may also be used on the cap of the fluid container.
C.13		Rear window demisting and defrosting system. Yellow tell-tale.
C.14		Side window demisting and defrosting system

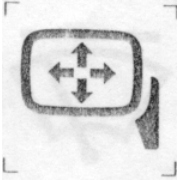
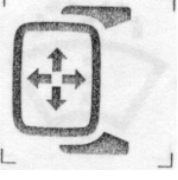
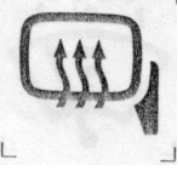
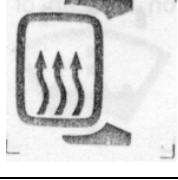



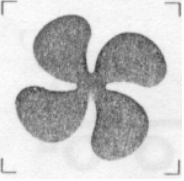
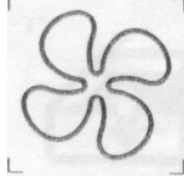
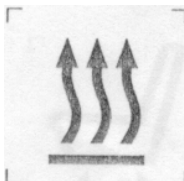
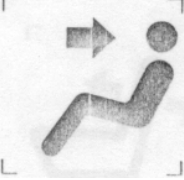

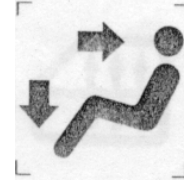


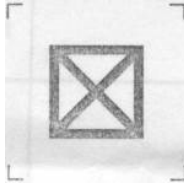
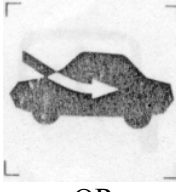
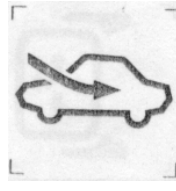
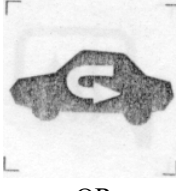
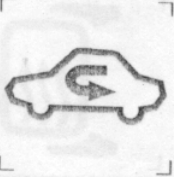
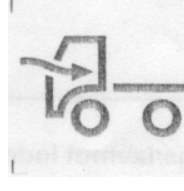
Symbol Number	Symbols form / shape	Symbol description / application
C.15		<p>Exterior rear view mirror adjustment, horizontal type</p> <p>Symbol allows for mirror image 90⁰ rotation.</p> <p>Arrows may be omitted, if that function does no exists.</p>
C.16		<p>Exterior rear view mirror adjustment, Vertical type</p> <p>Symbol allows for mirror image 90⁰ rotation.</p> <p>Arrows may be omitted, if that function does no exists.</p>
C.17		<p>Exterior rear view mirror heating, Horizontal type</p> <p>Symbol allows for mirror image 90⁰ rotation.</p> <p>Arrows may be omitted, if that function does no exists.</p>
C.18		<p>Exterior rear view mirror heating, Vertical type</p> <p>Symbol allows for mirror image 90⁰ rotation.</p> <p>Arrows may be omitted, if that function does no exists.</p>
C.19		<p>Power folding exterior mirror adjustment, Horizontal type</p>
C.20		<p>Power folding exterior mirror adjustment, Vertical type</p>





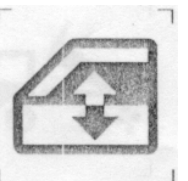


Table D



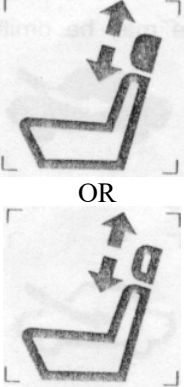
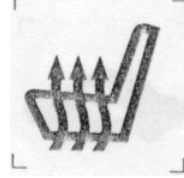
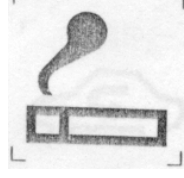

(See 4.2.2)

Cab environment and comfort

Symbol Number	Symbols form / shape	Symbol description / application
D.01		Heating and Air Conditioning System
D.02	 OR 	Ventilating fan (warm/cold air) or Air conditioning Fan
D.03		Interior heating
D.04		Upper air outlet Arrow may be colored blue to denote cool air or red to denote heated air
D.05		Lower air outlet Arrow may be colored blue to denote cool air or red to denote heated air
D.06		Upper air outlet and lower air outlet Arrow may be colored blue to denote cool air or red to denote heated air. Use the symbol as applicable. Other combinations of the arrows may be used as needed.

Symbol Number	Symbols form / shape	Symbol description / application
D.07		Defrost and lower air outlet.
D.08		Road vehicle passenger compartment air filter.
D.10		Ventilation closed.
D.11	 OR 	Fresh air.
D.12	 OR 	Recirculated air.
D.13		Fresh air, truck Loading platform and rear axle may be omitted if not needed.

Symbol Number	Symbols form / shape	Symbol description / application
D.14		<p>Recirculated air, truck</p> <p>Loading platform and rear axle may be omitted if not needed.</p>
D.15		<p>Roof ventilation, truck</p> <p>Loading platform and rear axle may be omitted if not needed.</p>
D.16		<p>Sun shade.</p>
D.18		<p>Rear window lift – power operated.</p>
D.19		<p>Window lift - power-operated.</p>
D.20		<p>Seat adjustment - Longitudinal</p>
D.21		<p>Seat – back recline adjustment</p>

Symbol Number	Symbols form / shape	Symbol description / application
D.23		Seat Height adjustment – cushion front.
D.24		Seat Height adjustment – cushion rear.
D.25		Head rest height adjustment.
D.27		Heated seat.
D.28		Lighter.
D.30		Ventilated seat.


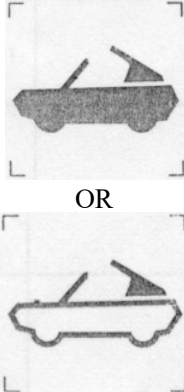



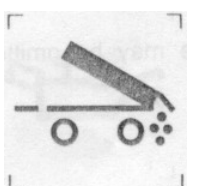

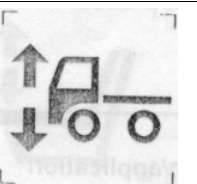
Symbol Number	Symbols form / shape	Symbol description / application
D.31		Secondary interior heating.
D.32		Convertible top.

Table E

(See 4.2.2)

Maintenance and load functions

Symbol Number	Symbols form / shape	Symbol description / application
E.01		Load tipping. Red tell-tale indicates a hazard warning.
E.02		Load tipping, trailer. Red tell-tale indicates a hazard warning. Front axle may be omitted in case of semi-trailer.
E.03		Diverging flap release
E.04		Diverging flap release, trailer Front axle may be omitted in case of semi-trailer.
E.05		Height control, truck
E.06		Rear height control, truck

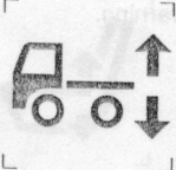

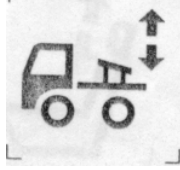
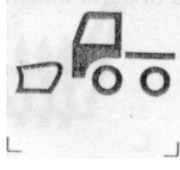

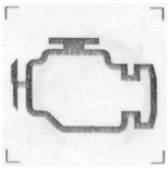


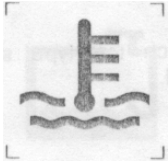

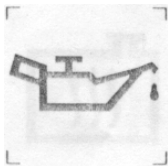


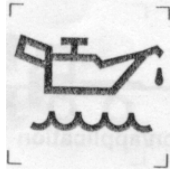
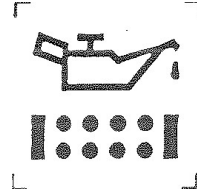
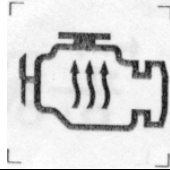
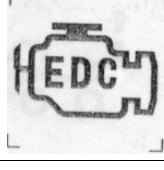
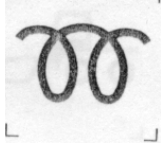
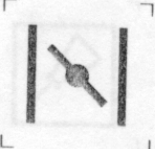
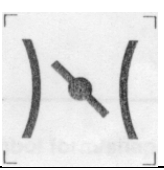
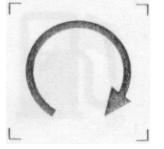



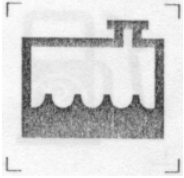
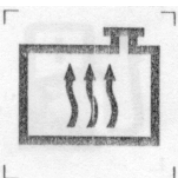
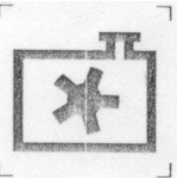
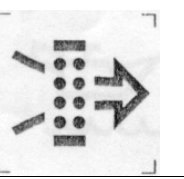
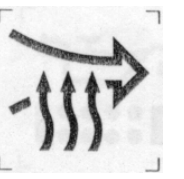

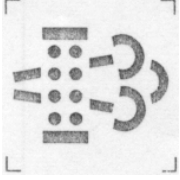
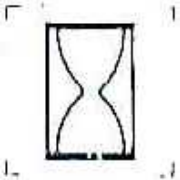




Symbol Number	Symbols form / shape	Symbol description / application
E.07		Front height control, truck
E.08		Rear height control, truck
E.09		Fifth wheel height adjustment
E.10		Snow plough. Loading platform and rear axle may be omitted if not needed.
E.11		Central lubrication.

Table F
(See 4.2.2)
Engine

Symbol Number	Symbols form / shape	Symbol description / application
F.01		Engine on-board diagnostic or engine malfunction Yellow tell-tale (For M & N category vehicles)
		A category vehicles
F.02		Engine Failure.
F.03		Engine coolant temperature. Red tell-tale.
	OR 	Optional for A category vehicles
F.04		Engine oil pressure Red tell-tale.
	OR 	Optional for A category vehicles
F.05		Engine oil temperature.

Symbol Number	Symbols form / shape	Symbol description / application
F.06		Engine oil level This symbol may also be used on the filler cap of the engine oil.
F.07		Engine oil filter
F.08		Engine heating
F.09		Electronic diesel control. The letters "EDC" may match the type style used throughout the instrument panel.
F.10		Diesel pre-heat. Yellow tell-tale.
F.11		Manual choke
F.12		Hand throttle
F.13		Engine start
	OR 	Optional for A category vehicles

Symbol Number	Symbols form / shape	Symbol description / application
F.14		Engine shut - off/ Engine stop
	<p style="text-align: center;">OR</p> 	Optional for A category vehicles
F.15		<p>Engine coolant level</p> <p>This symbol may also be used on the filler cap of the engine coolant</p>
F.16		Engine coolant heater.
F.17		Engine coolant fan
F.18		Engine inlet air filter.
F.19		Engine inlet air pre-heater.
F.20		Turbo

Symbol Number	Symbols form / shape	Symbol description / application
F.21		Road exhaust filter.
F.22		<p>Hour Meter /elapsed Operating hours.</p> <p>For A category vehicle</p>
F.23		<p>Engine Rotational speed / Frequency</p> <p>For A category vehicle</p>
F.24		<p>Electric Start</p> <p>For L category vehicles</p>
F.25		<p>Engine emissions system (In case of Agricultural Tractor)</p> <p>To identify the engine emissions system. To indicate the operational status of the engine emissions system.</p>
F.26		<p>Engine emissions system temperature; diesel Particulate filter, regeneration underway (In case of Agricultural Tractor)</p> <p>To indicate that the engine emissions system Temperature may be high or falls outside of normal or specified operating parameters. To indicate the engine emissions system temperature. To indicate that active regeneration of the diesel particulate filter is underway and elevated emission system temperatures are possible; engine operation can be affected.</p> <p>NOTE either symbol may be used in order to coordinate with other symbols on the machine.</p>

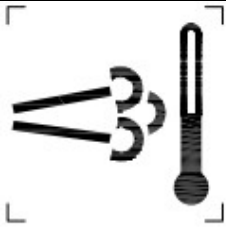


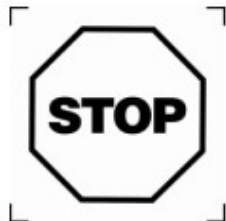
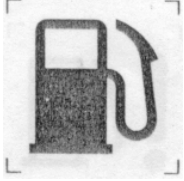
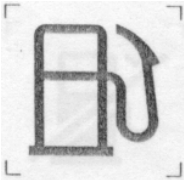
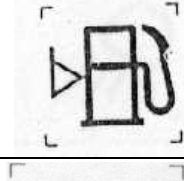

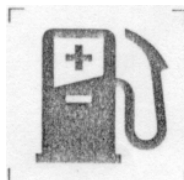

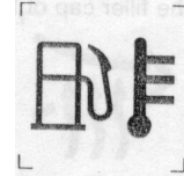

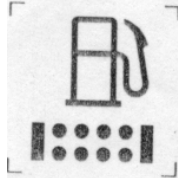
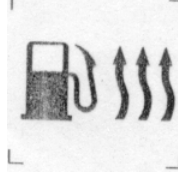



		
F.27		<p>Engine emissions system filter, regeneration, Disable (inhibit); diesel particulate filter, Regeneration, disable (inhibit) (In case of Agricultural Tractor)</p> <p>To identify the control that disables or prevents (Inhibits) active regeneration of the engine emissions system filter (diesel particulate filter). To indicate that regeneration of the diesel particulate filter is disabled (inhibited).</p>
F.28		<p>Diesel exhaust fluid; selective catalytic reduction (SCR) fluid (In case of Agricultural Tractor)</p> <p>To identify the fluid used to reduce emissions from operation of the diesel engine. To identify the container or fill point for diesel exhaust fluid. To indicate that diesel exhaust fluid is being injected into the exhaust system.</p> <p>NOTE this symbol may be combined with the specific name of the fluid or reduction agent.</p>
F.29		<p>Engine, urgent stop; engine, emergency stop (In case of Agricultural Tractor)</p> <p>To instruct the operator to stop the engine as soon as possible.</p>

Table G

(See 4.2.2)

Fuel system

Symbol Number	Symbols form / shape	Symbol description / application
G.01	 <p>OR</p>  <p>OR</p> 	<p>Fuel level</p> <p>This symbol may also be used on the filler cap of the fuel tank.</p>
		<p>Optional for A category vehicles</p>
G.02		<p>Unleaded petrol</p>
G.03		<p>Fuel economy</p>
G.04	 <p>OR</p> 	<p>Fuel temperature</p>
		<p>Optional for A category vehicles</p>

Symbol Number	Symbols form / shape	Symbol description / application
G.05	 <p style="text-align: center;">OR</p>	Fuel filter.
		Optional for A category vehicles
G.06	 <p style="text-align: center;">OR</p> 	Fuel heating.
G.07	 <p style="text-align: center;">OR</p> 	Fuel system failure.






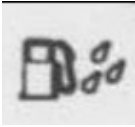



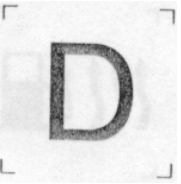
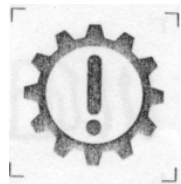
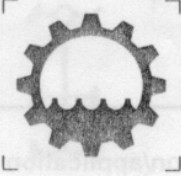


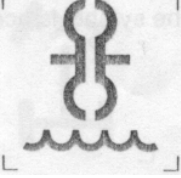
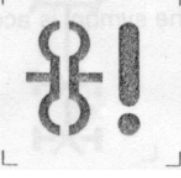
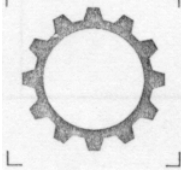
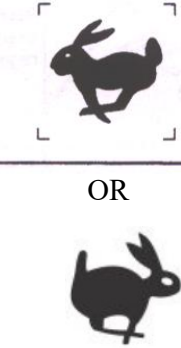
Symbol Number	Symbols form / shape	Symbol description / application
G.08	 OR	Fuel shut-off
		For A category vehicle
G.09	 OFF	Fuel tank shut off valve For L category vehicles
	 ON	
	 Res / Reserve	
G.10		Moisture in fuel system Yellow/Amber











Table H

(See 4.2.2)

Transmission

Symbol Number	Symbols form / shape	Symbol description / application
H.01		Park (Automatic transmission) May match the type style used through out the instrument panel.
H.02		Reverse (Automatic transmission) May match the type style used through out the instrument panel.
H.03		Neutral (Automatic transmission) May match the type style used through out the instrument panel.
H.04		Drive (Automatic transmission) May match the type style used through out the instrument panel.
H.05		Transmission failure
H.06		Transmission oil level. This symbol may also be used on the filler cap.

Symbol Number	Symbols form / shape	Symbol description / application
H.07		Transmission temperature.
H.08		Transmission converter temperature.
H.09		Transmission converter fluid level. This symbol may also be used on the filler cap.
H.10		Transmission converter failure.
H.11		Transmission + may be added to indicate upshift. - may be added to indicate downshift.
H.12		Fast For A category vehicle

H.13		Slow For A category vehicle
	OR 	
H.14		Neutral
H.15		High
H.16		Low
H.17		Forward
H.18		First Gear
H.19		Second Gear
H.20		Third Gear (Other Numbers May Be used until The Maximum numbers of Forward gears is reached)
H.21		Reverse

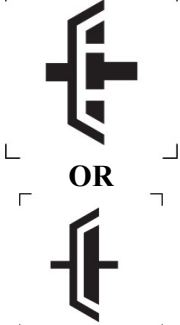
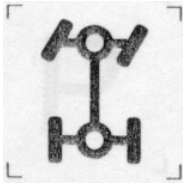
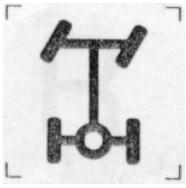
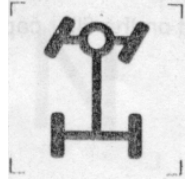
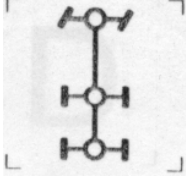
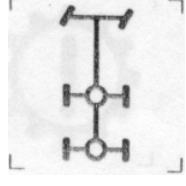
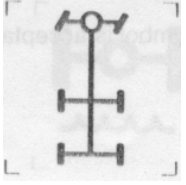
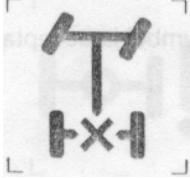
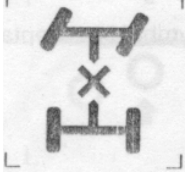
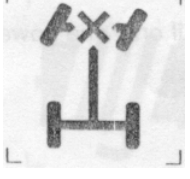
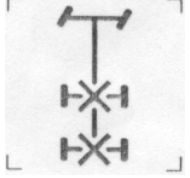
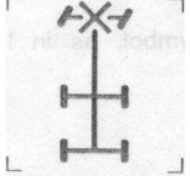
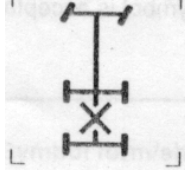
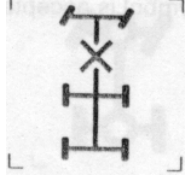
<p>H.22</p>	 <p>The image shows two hydraulic symbols. The top symbol is a clutch override symbol, consisting of a vertical line with a horizontal bar across it, and a curved line on the right side. The bottom symbol is a shaft connection symbol, consisting of a vertical line with a horizontal bar across it, and a curved line on the left side. The two symbols are separated by the word 'OR' in the center. There are small corner brackets around the symbols.</p>	<p>Clutch Override / To indicate that the clutch is worn beyond a specified limit (For agricultural Tractor)</p> <p>To identify the equipment that connects two shafts so that they can either be locked together and spin at the same speed or decoupled and spin at different speeds</p>
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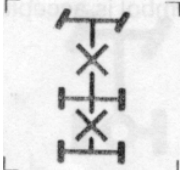
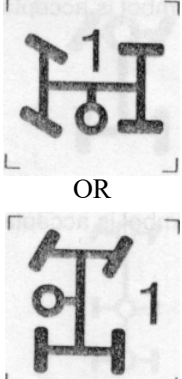

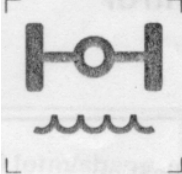
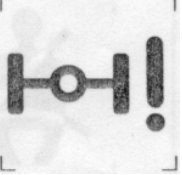
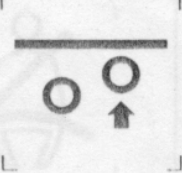

Table I

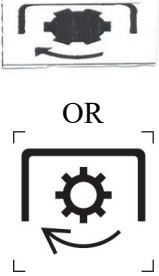
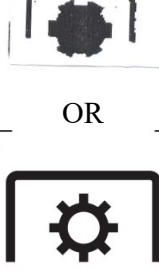
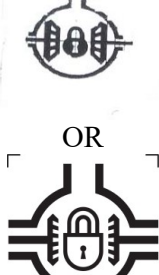


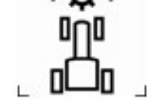

(See 4.2.2)

Power drive

Symbol Number	Symbols form / shape	Symbol description / application
I.01		All wheel drive 4 X 4 90° anti-clockwise rotation of the symbol is acceptable.
I.02		Rear axle drive 4 X 2 90° anti-clockwise rotation of the symbol is acceptable.
I.03		Front axle drive 4 X 2 90° anti-clockwise rotation of the symbol is acceptable.
I.04		All wheel drive 6 X 6 90° anti-clockwise rotation of the symbol is acceptable.
I.05		Rear axles drive 6 X 4 90° anti-clockwise rotation of the symbol is acceptable.
I.06		Front axle drive 6 X 2 90° anti-clockwise rotation of the symbol is acceptable.

Symbol Number	Symbols form / shape	Symbol description / application
I.08		Differential lock, rear axle 4 X 4 90 ⁰ anti-clockwise rotation of the symbol is acceptable.
I.09		Differential lock, transfer case 4 X 4 90 ⁰ anti-clockwise rotation of the symbol is acceptable.
I.10		Differential lock, front axle 4 X 4 90 ⁰ anti-clockwise rotation of the symbol is acceptable.
I.12		Differential lock, rear axle 6 X 6 90 ⁰ anti-clockwise rotation of the symbol is acceptable.
I.13		Differential lock, front axle 6 X 6 90 ⁰ anti-clockwise rotation of the symbol is acceptable.
I.14		Differential lock, bogie 6 X 6 90 ⁰ anti-clockwise rotation of the symbol is acceptable.
I.15		Differential lock, transfer case 6 X 6 90 ⁰ anti-clockwise rotation of the symbol is acceptable.

Symbol Number	Symbols form / shape	Symbol description / application
I.16		<p>Differential lock, transfer case and bogie 6 X 6</p> <p>90⁰ anti-clockwise rotation of the symbol is acceptable.</p>
I.17	 <p style="text-align: center;">OR</p>	<p>Power take-off, number 1</p> <p>The number “1” should be omitted if only one power take-off is available on a vehicle.</p>
I.18		<p>Power take-off, number 2</p> <p>90⁰ clockwise rotation of the symbol, as in 1.17, is acceptable.</p>
I.19		<p>Axle fluid level</p> <p>This symbol may also be used on the filler cap.</p>
I.20		<p>Axle failure</p>
I.21		<p>Axle fitting.</p>
I.22		<p>Winch.</p>

Symbol Number	Symbols form / shape	Symbol description / application
I. 23		Power take-off (On Position) (In case of Agricultural Tractor)
I. 24		Power take-off (Off Position) (In case of Agricultural Tractor)
I. 25		Differential lock control (In case of Agricultural Tractor)
I.26		Tractor with front PTO (side view) (In case of Agricultural Tractor)
I.27		Tractor with rear PTO (side view) (In case of Agricultural Tractor)
I.28		Tractor with front PTO (overhead view) (In case of Agricultural Tractor)
I.29		Tractor with rear PTO (overhead view) (In case of Agricultural Tractor)




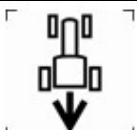




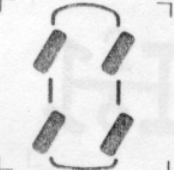

I.30		<p>Tractor, forward movement (side view) (In case of Agricultural Tractor)</p>
I.31		<p>Tractor, rearward movement (side view) (In case of Agricultural Tractor)</p>
I.32		<p>Tractor, forward movement (overhead view) (In case of Agricultural Tractor)</p>
I.33		<p>Tractor, rearward movement (overhead view) (In case of Agricultural Tractor)</p>

Table J

(See 4.2.2)

Vehicle handling and cruise control

Symbol Number	Symbols form / shape	Symbol description / application
J.01		Steering circuit number 1
J.02		Steering circuit number 2
J.03		Steering fluid level This symbol may also be used on the filler cap of the fluid container.
J.04		Steering failure.
J.05		4-wheel steer Use the symbol as applicable. Other orientations of the wheels and/or additional axles may be used as needed.
J.06		Traction control


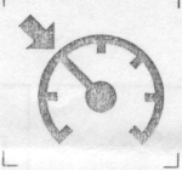
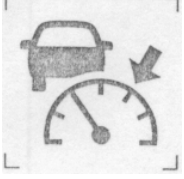
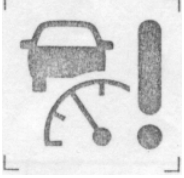



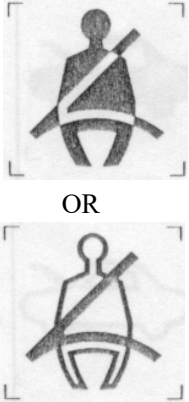





Symbol Number	Symbols form / shape	Symbol description / application
J.07		Traction control off or not available
J.08		Cruise control Green (active)
J.09		Adaptive cruise control
J.10		Adaptive cruise control failure.
J.11		Parking aid
J.12		ESC (Electronic Stability Control) (Yellow/Amber)
J.13		ESC (Electronic Stability Control) (Yellow/Amber)

Table K

(See 4.2.2)

Active and passive safety systems

Symbol Number	Symbols form / shape	Symbol description / application
K.01		Safety belt Red tell-tale
K.02		Airbag
K.03		Driver airbag off or not available.
K.04		Passenger airbag
K.05		Passenger airbag off or not available
K.06		Side impact airbag Symbol allows for mirror image.


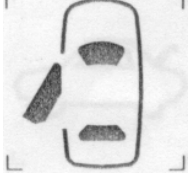

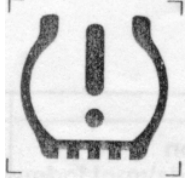
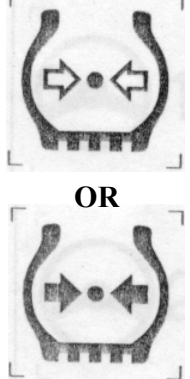
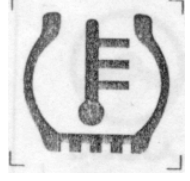
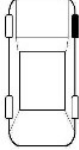
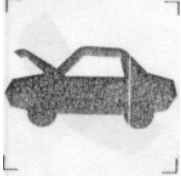

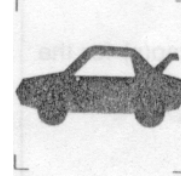
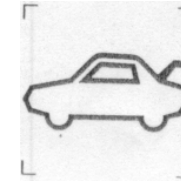



Symbol Number	Symbols form / shape	Symbol description / application
K.07		Child seat.
K.08		<p>Door(s) ajar</p> <p>This symbol may be used to indicate one or more doors are ajar. Alternatively, other doors may be shown as needed.</p>
K.09		<p>Cab lock</p> <p>Red tell-tale indicates unlocked position.</p> <p>Loading platform and rear axle may be omitted if not needed.</p>
K.10		<p>Tyre failure</p> <p>Or Low Tyre Pressure</p> <p>Yellow tell-tale.</p>
K.11		Tyre pressure.
K.12		Tyre temperature.
K.13		<p>Low tyre pressure (including malfunction) that identifies affected tyre</p>

Table L
 (See 4.2.2)
Security

Symbol Number	Symbols form / shape	Symbol description / application
L.01	 <p style="text-align: center;">OR</p> 	Bonnet (front hood)
L.02	 <p style="text-align: center;">OR</p> 	Boot (rear trunk)
L.03		Door lock control
L.04		Lock
L.05		Unlock




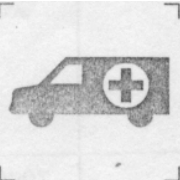


Symbol Number	Symbols form / shape	Symbol description / application
L.06		Power window lock
L.07		Motion sensor
L.08		Motion sensor off or not available
L.09		Emergency first aid vehicle
L.10		Tow truck
L.11		Immobilizer/theft prevention Red

Table M

(See 4.2.2)

Electrical functions in general and electric or hybrid electric road vehicles

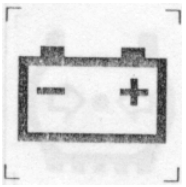
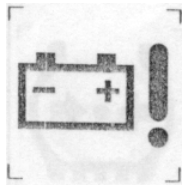
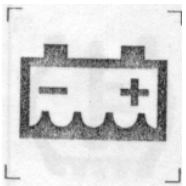
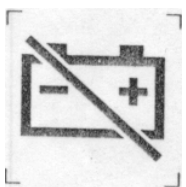
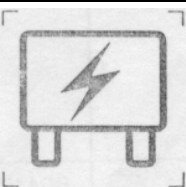

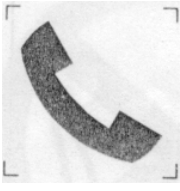


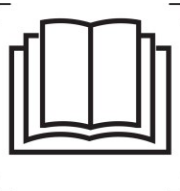






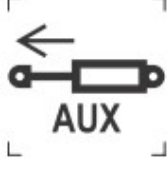


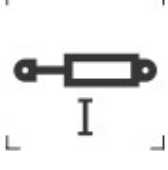

Symbol Number	Symbols form / shape	Symbol description / application
M.01		Electrical charging condition. Red tell-tale.
M.02		Battery failure.
M.03		Battery fluid level. This symbol may also be used on the filler cap(s) for the battery fluid.
M.04		Battery shut-off.
M.05		Fuse box access
M.06		High voltage warning/risk of electric shock.

Table N

(See 4.2.2)

Information and communication

Symbol Number	Symbols form / shape	Symbol description / application
N.01		Telephone May be shown in other orientations.
N.02		Speak / voice activation. Symbol allows for mirror image.
N.03		Operators manual/operation instruction
N.04		Read operator's manual To indicate that the operator's manual or card should be read before continuing the operation (FOR AGRICULTURAL TRACTORS)
N.05		Rockshaft, up; rockshaft, raise (In case of Agricultural Tractor)
N.06		Rockshaft, down; rockshaft, lower (In case of Agricultural Tractor)
N.07		Rockshaft, float (In case of Agricultural Tractor)

Symbol Number	Symbols form / shape	Symbol description / application
N.08		Hydraulic cylinder, extend (In case of Agricultural Tractor)
N.09		Hydraulic cylinder, retract (In case of Agricultural Tractor)
N.10		Hydraulic cylinder, float (In case of Agricultural Tractor)
N.11		Auxiliary hydraulic cylinder, extend; auxiliary hydraulic cylinder, open (In case of Agricultural Tractor)
N.12		Auxiliary hydraulic cylinder, retract; auxiliary hydraulic cylinder, closed (In case of Agricultural Tractor)
N.13		Auxiliary hydraulic cylinder, float (In case of Agricultural Tractor)
N.14		Selective control valve (SCV) – Number 1 (In case of Agricultural Tractor)
N.15		Selective control valve (SCV) – Number 2 (In case of Agricultural Tractor)



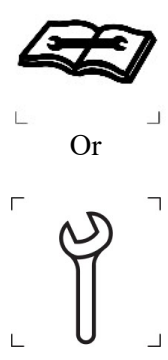
Symbol Number	Symbols form / shape	Symbol description / application
N.16		Selective control valve (SCV) – Number 3 (In case of Agricultural Tractor)
N.17		Selective control valve (SCV) – Number 4 (In case of Agricultural Tractor)
N.18		Service indicator; read technical manual (In case of Agricultural Tractor) To indicate that a machine or equipment requires service. To indicate that the technical manual shall be consulted. To identify the location where the technical manual is stored. To indicate that the assistance of a servicing engineer should be obtained before further operation of the machine is attempted.

Table P
(See 4.2.2)

Miscellaneous





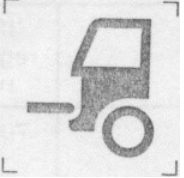

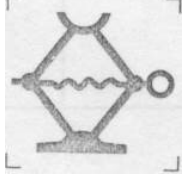







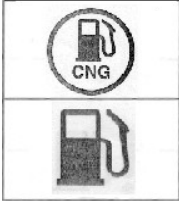
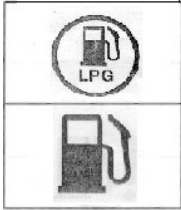
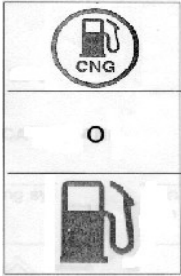
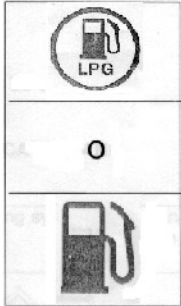
Symbol Number	Symbols form / shape	Symbol description / application
P.01		Power on-off
P.02	 OR 	Passenger car
P.03		Truck/bus front view
P.04		Front externally open step, platform, or lid
P.05		Side externally open step, platform, or lid
P.06		Jack

Table R

(See 4.2.2)

Special signs

Symbol Number	Symbols form / shape	Symbol description / application
R.01		<p>Child seat position. Passenger seat positions, front or rear, protected by an air bag shall be marked with this sign, unless the air bag is automatically deactivated by the child seat. The sign may be mirror imaged for left side application. The circular ring and diagonal line shall be red; the other sign elements shall be black on a white background. The recommended outer diagram is 50 mm</p>
R.02		<p>Recommended minimum octane number The number 91 is an example and shall be replaced by the actual recommended octane number. The use of a plus (+) sign after the octane number is optional</p>
R.03		<p>Diesel fuel only.</p>
R.04		<p>Compressed natural gas only. Yellow tell-tale. The word “CNG” may be written optionally in the manner as the word “DIESEL” in R.03</p>
R.05		<p>Liquefied petroleum gas only. Yellow tell-tale. The word “LPG” may be written optionally in the manner as the word “DIESEL” in R.03</p>
R.06		<p>Child seat lower anchorage/attachment The text “ISOFIX” shall be omitted if not applicable. Sign may be mirror imaged. Sign should have a green background with white symbols. Minimum height of the sign shall be 35 mm</p>

Symbol Number	Symbols form / shape	Symbol description / application
R.07		Child seat upper tether anchor.
R. 08		Fuel selector switch In case of Bi-fuel vehicles: a) For vehicles fitted with electronic fuel injection (Two position switch) a1) Vehicles running on CNG
R. 09		a2) Vehicles running on LPG
R.10		b) For all other vehicles (Three position switch) b1) Vehicles running on CNG
R. 11		b2) Vehicles running on LPG

ANNEX VI
PANEL COMPOSITION*

(See Introduction)

Chairman	
Shri P. D. Betgeri	ARAI
Members	Representing
Shri V. P. Rawal	ARAI
Shri M. A. Kulkarni	ARAI
Shri S. N. Dhole	CIRT
Shri D.H. Pendhorkar	CIRT
Ms. Suchismita	SIAM (Ashok Leyland Ltd.)
Shri Prashant Jadhav	SIAM (Bajaj Auto Ltd.)
Shri V. G. Kulkarni	SIAM (Mahindra & Mahindra Ltd.)
Shri Shailesh Kulkarni	SIAM (Mahindra & Mahindra Ltd.)
Shri Sumit Kumar	SIAM (Maruti Suzuki India Ltd.)
Shri Nikhil Desai	SIAM (Mercedes Benz India Ltd.)
Shri Uday Salunkhe	SIAM (Tata Motors Ltd.)
Ms. Namrata Deb	SIAM (Tata Motors Ltd.)
Shri Thangaraj Karuppasamy	SIAM (Toyota Kirloskar Motor Pvt. Ltd.)
Shri Dinesh G. M	SIAM (Toyota Kirloskar Motor Pvt. Ltd.)
Shri Vikrant Lokhande	SIAM (Volvo Trucks)
Shri Arpit Farkya	SIAM (V. E. Commercial Vehicles)
Shri Milind K. Jagtap	SIAM (Volkswagen India Pvt. Ltd.)
Shri Mansingh Jagdale	TMA (John Deere Equip. Pvt. Ltd.)
Shri Mohit Kumar	TMA (Escort Ltd.)
Shri Uday Harite	ACMA

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

ANNEX VII
(See Introduction)

COMMITTEE COMPOSITION *

Automotive Industry Standards Committee

Chairperson	
Mrs. Rashmi Urdhwareshe	Director The Automotive Research Association of India, Pune
Members	Representing
Representative from	Ministry of Road Transport and Highways (Dept. of Road Transport and Highways), New Delhi
Representative from	Ministry of Heavy Industries and Public Enterprises (Department of Heavy Industry), New Delhi
Shri S. M. Ahuja	Office of the Development Commissioner, MSME, Ministry of Micro, Small and Medium Enterprises, New Delhi
Shri Shrikant R. Marathe	Former Chairman, AISC
Shri R.R. Singh	Bureau of Indian Standards, New Delhi
Director	Central Institute of Road Transport, Pune
Director	Global Automotive Research Centre
Director	International Centre for Automotive Technology, Manesar
Director	Indian Institute of Petroleum, Dehra Dun
Director	Indian Rubber Manufacturers Research Association
Director	Vehicles Research and Development Establishment, Ahmednagar
Representatives from	Society of Indian Automobile Manufacturers
Shri R. P. Vasudevan	Tractor Manufacturers Association, New Delhi
Shri Uday Harite	Automotive Components Manufacturers Association of India, New Delhi

Member Secretary
Shri Vikram Tandon
Dy. General Manager
The Automotive Research Association of India, Pune

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