

AUTOMOTIVE INDUSTRY STANDARD

**Performance Requirements of
Lighting and Light-Signalling Devices
for Agricultural Tractors**

(Revision 1)

PRINTED BY
THE AUTOMOTIVE RESEARCH ASSOCIATION OF INDIA
P. B. NO. 832, PUNE 411 004

ON BEHALF OF
AUTOMOTIVE INDUSTRY STANDARDS COMMITTEE
UNDER

CENTRAL MOTOR VEHICLES RULES - TECHNICAL STANDING COMMITTEE
SET-UP BY

MINISTRY OF ROAD TRANSPORT & HIGHWAYS
(DEPARTMENT OF ROAD TRANSPORT & HIGHWAYS)
GOVERNMENT OF INDIA

April 2014

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

Sr. No.	Corrige nda.	Amend- ment	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) vide order No. RT-11028/11/97-MVL dated September 15, 1997. The standard 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 has published this document on their Web site.

Performance of lighting and light-signalling devices for Agricultural Tractors is a safety requirement. AIS-062 covering these requirements has been published in 2004 and implemented in October 2005 vide notification GSR 206 (E) dated 1st April 2005.

With a continuous change in European Regulations to cater for new technologies and enhanced safety requirements, it was felt necessary to upgrade this standard to the level of corresponding ECE regulations.

Considerable assistance has been taken from the following ECE Regulations in preparing this standard:

ECE R 48 (Revision 4- Amendment 1- 03 series of amendments) Date of entry in to force: 10 th October 2006	Uniform provisions concerning the approval of vehicles with regard to the installation of lighting and light-signaling devices.
ECE R 86 (supplement 4 to 00 series of amendment Date of entry in to force: 15 th October 2008	Uniform provisions concerning the approval of Agricultural or Forestry tractors with regard to the installation of lighting and light-signalling devices.
ECE R 112, Revision 1, Amendment No. 4, (Supplement 9 to the original version of the Regulation) Date of entry in to force: 15 th October 2008	Uniform provisions concerning the approval of motor vehicle headlamps emitting an asymmetrical passing beam or a driving beam or both and equipped with filament lamps and/or light-emitting diode (LED) modules
ECE R113, Rev. 1, Amendment 3 (Supplement 8 to the original version of regulation) Date of entry in to force: 22 nd July 2009	Uniform provisions concerning the approval of motor vehicle headlamps emitting a symmetrical passing beam or a driving beam or both and equipped with filament, gas-discharge light sources or LED modules

<p>ECE R 19 Rev. 3-Amd. 4 (Supp.9 to 02 Series of Amd.) Date of entry into force: 10th March 2009</p>	<p>Uniform provisions concerning the approval of motor vehicles fog lamps.</p>
<p>ECE R 38 Rev. 1-Amd. 2 (Supp.7 to Org.Ver.) Date of entry into force: 15th October 2008</p>	<p>Uniform provisions concerning the approval of rear fog lamps for power-driven vehicles and their trailers</p>
<p>ECE R 119 Amd.4 Supplement 4 to the original version of the standard Date of entry into force: 22 July 2009</p>	<p>Uniform provisions concerning the approval of cornering lamps for power-driven vehicles</p>
<p>ECE R 1 & 2 Rev. 4 –Amd.5 (02 series of Amd.) Date of entry into force: 8th September 2001</p>	<p>Uniform provisions concerning the approval of motor vehicle headlamps emitting an asymmetrical passing beam and /or a driving beam and equipped with filament lamps of categories R2 and / or HS1</p>
<p>ECE R 4 Revision 2 - Amendment 2 (Supp. 13 to the original version of the Regulation) Date of entry into force: 11th July 2008</p>	<p>Uniform provisions concerning the approval of devices for the illumination of rear registration plates of power-driven vehicles and their trailers</p>
<p>ECE R 6 - Addendum 5 - Revision 4 - Amendment 1- Corrigendum 2 - Supplement 16 to the 01 series of amendments) Date of entry into force: 10th March 2009</p>	<p>Uniform provisions concerning the approval of direction indicators for motor vehicles and their trailers</p>
<p>ECE R 7 Revision 4 – Amendment 2 - Corrigendum 2 (Corrigendum 2 to Supplement 12 to the 02 series of amend.) Date of entry into force: 10th March 2009</p>	<p>Uniform provisions concerning the approval of front and rear position (side) lamps, stop-lamps and end-outline marker lamps for power-driven vehicles and their trailers</p>
<p>ECE R 23 Rev. 1-Amd. 4 (Supp.8 to Org.Ver.) Date of entry into force: 15th October 2008.</p>	<p>Uniform provisions concerning the approval of reversing lamps for power-driven vehicles and their trailers</p>
<p>ECE R 77 Rev. 1-Amd. 1 (Supp.6 to Org.Ver.) Date of entry into force: 15 October 2008</p>	<p>Uniform provisions concerning the approval of parking lamps for power-driven vehicles.</p>

<p>ECE R 91 (Rev. 2, Amd. 1, Suppl. 11 to original version) Date of entry into force: 15 October 2008</p>	<p>Uniform provisions concerning the approval of side marker lamps for motor vehicles and their trailers</p>
<p>ECE-R-3 Rev.2-Amend.2 (Supp.6 to 02 Series Amd.) Date of entry into force: 24th October 2009</p>	<p>Uniform provisions concerning the approval of retro reflecting devices for power-driven vehicles and their trailers</p>
<p>ECE-R-69-Rev. 1 Date of entry into force: 18th February 2009</p>	<p>Uniform provisions concerning the approval of rear marking plates for slow-moving vehicles (by construction) And their trailers</p>

This standard is adopted by CMVR-TSC in its 39th meeting held on 16th May 2013.

The AISC panel and the Automotive Industry Standard Committee (AISC) responsible for preparation of this standard is given in Annexure 1 and Annexure 2 respectively.

**Performance Requirements of
Lighting and Light-Signalling Devices for Agricultural Tractors**

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Performance Requirements of Lighting and Light-Signalling Devices for Agricultural Tractors

1.0 SCOPE

This standard lays down performance requirements of lighting and light- signalling devices for agricultural tractors.

2.0 REFERENCE

The following standards are necessary adjuncts to this standard.

AIS-030 (Rev.1): 2012	Installation Requirements of Lighting and Light - Signalling Devices for Agricultural Tractors
AIS-008(Rev.1): 2010	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
AIS-010 (Part 1) (Rev.1):2010	Provisions concerning the Approval of Headlamps emitting an Asymmetrical Passing Beam or a Driving Beam or both and equipped with Filament Lamps and/or LED Modules
AIS-010(Part2) (Rev.1):2010	Provisions concerning the Approval of Headlamps emitting a Symmetrical Passing Beam or a Driving Beam or Both and equipped with Filament Lamps or Gas-Discharge Light Sources
AIS-010 (Part 5) (Rev.1):2010	Requirements of Chromaticity Co-ordinates of Colour of Light emitted from Lighting and Light-Signalling Devices
AIS-012(Part 1) (Rev.1): 2011	Performance Requirements for Front Fog Lamps for Motor Vehicles
AIS-012(Part 2) (Rev. 1):2011	Performance Requirements for Rear Fog Lamps for Motor Vehicles
AIS-012 (Part 4) (Rev. 1):2011	Performance Requirements for Rear Registration Plate (mark) Illuminating Lamps Rear Registration Plates for Motor Vehicles
AIS-012 (Part 5) (Rev. 1):2011	Performance Requirements for Direction Indicators for Motor Vehicles

AIS-012 (Part 6) (Rev. 1):2011	Performance Requirements for Front and Rear Position (Side) Lamps, Stop-Lamps and End-outline Marker Lamps for Motor Vehicles
AIS-012 (Part 7) (Rev. 1):2011	Performance Requirements for Reversing Lamps for Motor Vehicles
AIS-012 (Part 8) (Rev. 1):2011	Performance Requirements for Parking Lamps for Motor Vehicles
AIS-012 (Part 9) (Rev. 1):2011	Performance Requirements for Side-Marker Lamps for Motor Vehicles
AIS-057	Performance Requirements for Retro-Reflecting Devices for Power-Driven Vehicles and their Trailers
AIS-088	Performance Requirements of Rear Marking Plates (Rear Warning Triangles) for Automotive Vehicles, Agricultural Tractors their Trailers and Semi-Trailers

3.0 DEFINITIONS

3.1 In addition to following, definitions referred in AIS- 030 Rev.1:2012, AIS- 008 (Rev. 1):2010 and AIS- 012 (Part 1 to 10) (Rev. 1):2011 shall be applicable;

3.1.1 “Work Lamp (Plough lamp) of Different Type” means work lamp (Plough lamp) which differ in such essential respects as:

3.1.1.1. The trade name or mark;

3.1.1.2 The material constituting the lenses and coating if any:

4.0 REQUIREMENTS

Lighting and light-signalling devices fitted on agricultural tractors as specified in 1.0 shall meet the requirements of specified AIS given in Table 1 below:

Table 1

**Requirements for Performance of Lighting and
Light-signalling devices for Agricultural Tractor**

Sr. No.	Lighting and Light-signalling Device	AIS Reference
1	Main-beam headlamp and dipped-beam headlamp equipped with HS1 or H4 category of filament lamps	AIS-010 (Part 1) (Rev.1) : 2010
2	Main-beam headlamp and dipped beam headlamp equipped with S2 category of filament lamp	AIS-010 (Part 2) (Rev.1) : 2010
3	Front fog lamp	AIS-012 (Part 1) (Rev.1) : 2011
4	Rear fog lamp	AIS-012 (Part 2)(Rev.1): 2011
5	Rear registration plate (mark) illuminating lamp	AIS-012 (Part 4) (Rev 1) :2011
6	Front and rear direction indicator lamp and hazard warning lamp	AIS-012 (Part 5)(Rev 1) : 2011
7	Front and rear position lamp, stop lamp, end-outline marker lamp	AIS-012 (Part 6) (Rev 1): 2011
8	Reversing lamp	AIS-012 (Part 7) (Rev 1) : 2011
9	Parking lamp	AIS-012(Part 8) (Rev 1) : 2011
10	Rear and side retro-reflector (non triangular)	AIS-057 (Rev 1) :2010
11	Rear warning triangle	AIS-088 :2005

5.0 TRANSITIONAL PROVISIONS

- 5.1 General guidelines for transitional provisions for this standard shall be as per AIS-000, as amended from time to time, as applicable, unless otherwise stated in this standard.

6.0 ESTABLISHING COMPLIANCE OF “E”/“e” APPROVED LIGHTING AND LIGHT SIGNALLING DEVICES TO THIS STANDARDS

- 6.1 As an exception to 7.4 of AIS-037, (or related administrative decisions) for certifying compliance of “E”/“e” approved Lighting and Light Signaling devices to this standard, the test as per relevant clause of the relevant standard shall be carried out by testing agency

7.0 AMENDMENTS TO ECE REGULATIONS AFTER THE LEVEL DESCRIBED IN INTRODUCTION

- 7.1 Acceptance of changes in ECE regulations after the level described in para 0.3 of introduction shall be as per AIS-000, as amended from time to time, as applicable, unless otherwise stated in this standard.

ANNEXURE 1

(See introduction)

**COMPOSITION OF AISC PANEL ON
LIGHTING AND LIGHT-SIGNALLING DEVICES FOR
AGRICULTURAL TRACTOR***

Convener	
Mr. R. M. Kanitkar	Force Motors Ltd., (SIAM)
Members	Representing
Mr A.S.Bhale/ Mr. B.V.Shamsundara/ Ms. Jyoti Kirve	The Automotive Research Association of India (ARAI)
Mr. D. P. Saste / Mr. V. D. Chavan	Central Institute of Road Transport (CIRT)
Dr. Madhusudan Joshi	International Centre for Automotive Technology (ICAT)
Director	Central Farm Machinery Training and Testing Institute (CFMT&TI)
Mr. G.R.M. Rao	Vehicle Research & Dev. Estt. (VRDE)
Director	Central Institute of Road Transport (CIRT)
Dr. N. Karuppaiah	National Automotive Testing and R&D Infrastructure Project (NATRIP)
Mr. T.C. Gopalan,	Tractor Manufacturers Association (TMA)
Mr. K. Rajeswar	Mahindra & Mahindra Ltd., FES-Tractor Division (TMA)
Mr. R. P. Vasudevan	SAME DEUTZ-FAHR INDIA (P) LTD(TMA)
Mr. S. K. Garg	Escorts R&D Centre (TMA)
Mr. S. Gopal	TAFE Motors and Tractors Ltd(TMA)
Mr. Philip Koshy	John Deere Equipment Pvt. Ltd(TMA)
Mr. V. K. Taneja	New Holland Fiat (India) Pvt. Ltd(TMA)
Mr. K. K. Gandhi	Society of Indian Automobile Manufacturers (SIAM)
Mr. T. M. Balaraman/ Mr. Harsh Agrawal	Hero MotoCorp Ltd. (SIAM)
Mr. G. K. Binani	Tata Motors Ltd. (SIAM)
Mr. P. K. Banerjee	Tata Motors Ltd. (SIAM)
Mr. Sanjay Tank	Mahindra and Mahindra Ltd. (SIAM)
Mr. Nagendra H. V.	Toyota Kirloskar Motor Pvt. Ltd. (SIAM)
Mr. Jitendra Malhotra Mr. Sumit Sharma	Maruti Suzuki India Ltd. (SIAM)

Mr. V. M. Manel	Mahindra Two Wheelers Limited.(SIAM)
Mr. S Ramiah	TVS Motor Company Limited (SIAM)
Mr. Arun Sivasubrahmaniyan	Ashok Leyland Ltd. (SIAM)
Mr. R. Narasimhan	Bajaj Auto Limited (SIAM)
Mr. Uday Harite	Automotive Component Manufacturers Association (ACMA)
Mr. G. V. George	FIEM Industries Ltd. (ACMA)
Mr. Virendra Sachdev/ Mr. Rajesh Bhatt	Lumax Industries Ltd. (ACMA)
Mr. Gaurav Bhatia	Rinder India Pvt. Ltd.
Mr. P. C. Joshi	Bureau of Indian Standards (BIS)
Mr. M.K. Sinha	M/s. J S Lamp Industry (All India Auto & Miniature Bulbs & Component Mfrs. Association)
Mr. J.K. Sethia	All India Auto & Miniature Bulbs & Component Mfrs. Association
Mr. Rajiv Agarwal	GBPL Industries (All India Auto & Miniature Bulbs & Component Mfrs. Association)
Mr. C. K. Choudhari	All India Auto & Miniature Bulbs & Component Mfrs. Association
Mr. Mukesh Patodia	Jitesh Enterprises Manufacturers of Optima Auto Lamps
Mr. P. N. Bhagwan	Patodia Glass Ltd

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

ANNEXURE 2
(See Introduction)
COMMITTEE COMPOSITION *
Automotive Industry Standards Committee

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

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

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