

**AUTOMOTIVE INDUSTRY STANDARD**

**Code of Practice for  
Construction and Approval of  
Agricultural Trailers**

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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

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**INTRODUCTION**

0.0 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.

Agricultural tractor-trailers are frequently used for transport of farm produce and ply on the roads having mixed traffic conditions. A large majority of trailers are constructed by units in semi-organized / unorganized manufacturers spread over the country. There is considerable scope to improve the designs of their products. Also, at present there is no procedure under CMVR for approval of agricultural trailers.

This “Code of Practice for Construction and Approval of Agricultural Trailers” is formulated aiming at mandating safety standards related to constructional and performance requirements of agricultural trailers and having uniform approval procedure for the same to ensure their safe operations on the road.

0.1 While preparing this standard considerable assistance is derived from following international and national standards:

EEC Directive 2003/37/EC (Repealing Directive 74/150) Amended by 2005/67/EC	On type-approval of wheeled agricultural or forestry tractors, their trailers and interchangeable towed machinery, together with their systems, components and separate technical units.
IS 8213:2000 (Third Revision)	Agricultural Tractor Trailer - Specification

0.2 The AISC panel and Automotive Industry Standards Committee (AISC) responsible for preparation of this standard are given in Annex IV and Annex V respectively.

**Code of Practice for Construction and  
Approval of Agricultural Trailers**

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## Code of Practice for Construction and Approval of Agricultural Trailers

### 0. SCOPE

This standard lays down the requirements and procedure for type approval of agricultural trailers.

### 1. REFERENCES

The following standards contain provisions, which through reference in this text, constitute provisions of this standard.

1.1	IS 11270:1985	Technical Requirements for Ring-type Hitches for Agricultural Trailers
1.2.	IS 13154:1991	Automotive Vehicles - Tyres for Agricultural Tractors Implements and Power Tillers – Specification
1.3.	IS 10694:1988 (Part 6)	General Requirements for Rims for Automotive Vehicles - Part 6 : Rims for Agricultural Tractors, Tillers and Implements
1.4.	IS 8213:2000	Agricultural Tractor Trailer – Specification
1.5.	IS 1135:1995	Springs - Leaf Springs Assembly for Automobiles – Specification
1.6.	IS 12371:1988	Technical Requirements for Single Acting Telescopic Tipping Cylinders for Agricultural Trailers
1.7.	IS 14812: 2005	Automotive Vehicles - Rear Underrun Protective Device - General Requirements
1.8.	IS 14682: 2004	Automotive Vehicles - Lateral Protection (Side Guards) - Technical Requirements
1.9.	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
1.10.	IS 14683:1999	Agricultural Tractors and Machinery - Lighting Devices for travel on Public Roads
1.11	IS 9895:2004	Road Vehicles - Connectors for the Electrical Connection of Towing and Towed Vehicles - Definitions, Tests and Requirements
1.12.	IS 9942 : 1981 (reaffirmed 2002)	Specification for T-Sign Plate for Trailers
1.13.	AIS-043: 2005	Recommendation of Braking System and Performance requirements for the Combination of Agricultural Tractor and Trailer

1.14	AIS-062:2004	Performance Requirements of Lighting and Light-signalling Devices for Agricultural Tractors
1.15	AIS-057(Rev.1): 2010	Provisions concerning the Approval of Retro-Reflecting Devices for Power Driven Vehicles and their Trailers
1.16	AIS-090	Approval of Retro-Reflective Markings for Heavy and Long Vehicles, their Trailers and Semi-trailers

## 2. DEFINITIONS

- 2.1 **Agricultural Trailer:** A transport vehicle used for carrying agricultural and forestry produce or articles, and which according to its design is suited and intended for being coupled to an agricultural tractor.
- 2.2 **Agricultural Semi-Trailer:** An agricultural trailer which, while in use, transfers a part of its total load on the towing vehicle and carries the rest of the load in its axle(s).
- 2.3 **Agricultural Balanced Trailer :** An agricultural trailer whose total load is supported by its wheels when detached from the towing vehicle. This is a double or multiple axle trailers.
- 2.4 **Fixed Platform Trailer :** An agricultural trailer in which the platform is fixed with the chassis.
- 2.5 **Tipping-Platform Trailer :** An agricultural trailer in which the platform can be tilted.
- 2.6 **Trailer Braking Device :** A combination of parts whose function is to progressively reduce the speed of the trailer or to bring it to a halt or to keep it stationary, if already halted. The device may consist of control, transmission and brakes themselves.
- 2.7 **Service Braking System :** The primary braking system used for stopping and holding the tractors and trailers during normal driving.
- 2.8 **Parking Braking Device :** A system used to hold a stopped tractor and trailer in a stationary position on an incline of at least 7 degrees in the fully laden condition (GCW).
- 2.9 **Tow Eye :** The hitching point of the drawbar of trailer which is attached to the towing vehicle hitch point.
- 2.10 **Categories of Agricultural Trailers:** For the purpose of this standard Agricultural trailers can be classified into the following categories:
- Category R1 :** Single axle trailer whose GVW does not exceed 3.0 tons.
- Category R2 :** Single axle trailer whose GVW exceeds 3.0 tons and does not exceed 6 tons.
- Category R3 :** Any double axle trailer whose GVW does not exceed 10 tons.
- Category R4 :** Any double axle or multi axle trailer whose GVW exceeds 10 tons.

### 3. GENERAL REQUIREMENTS

- 3.1 The overall width of the trailer (see Dimension 'A' in Fig. 1 and Fig. 2) measured between the extreme points shall not exceed 2.5 m.
- 3.2 The overall length of the platform (see Dimension 'B' in Fig. 1 and Fig. 2) shall not exceed the following:
- 3.2.1 5 m for trailers up to 6 tonnes capacity, and
- 3.2.2 6.7 m for trailers above 6 tonnes capacity.
- 3.3 The height of the trailer, with tyres inflated at the pressure recommended by trailer manufacturer, when measured from the level supporting surface to the top of the platform (see Dimension 'C' in Fig.1 and Fig. 2) shall be not more than 1.5 m in un-laden condition.
- 3.4 The height of the trailer, with tyres inflated at the pressure recommended by trailer manufacturer, when measured from the level supporting surface to the top of the sideboard (see Dimension 'D' in Fig.1 and Fig. 2) shall be not more than 2.2 m in Un-laden condition.
- 3.5 In case of the balanced trailer, the distance from the edge of the platform to the centre of front wheel (see Dimensions 'E' in Fig. 1) and from rear edge of the platform to the centre of rear wheel (see Dimension 'F' in Fig. 1) shall be not more than 0.8 m.
- 3.6 In case of semi-trailer, the load transfer from the trailer to the tow eye of the trailer shall not be more than 20 percent of the trailer capacity. Assuming that the trailer is loaded uniformly to the entire length of platform and the centre of gravity lies in the lateral vertical plane at half the length of platform from rear edge, the value of G (see Fig. 2) can be derived from the following formula:

$$G = \frac{\frac{W \cdot B}{2} - R_t(H + B)}{(W - R_t)}$$

Where

H = See H in Fig-1 and 2

W = gross load of the trailer; and

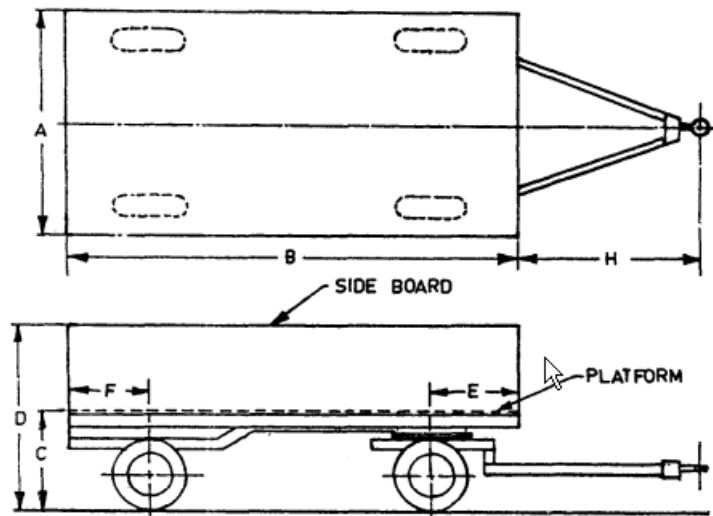
R<sub>t</sub> = load transfer on tow eye, percent.

- 3.6.1 On the basis of 20 percent load transfer from the trailer to the tow eye, the above formula can be written as follows:

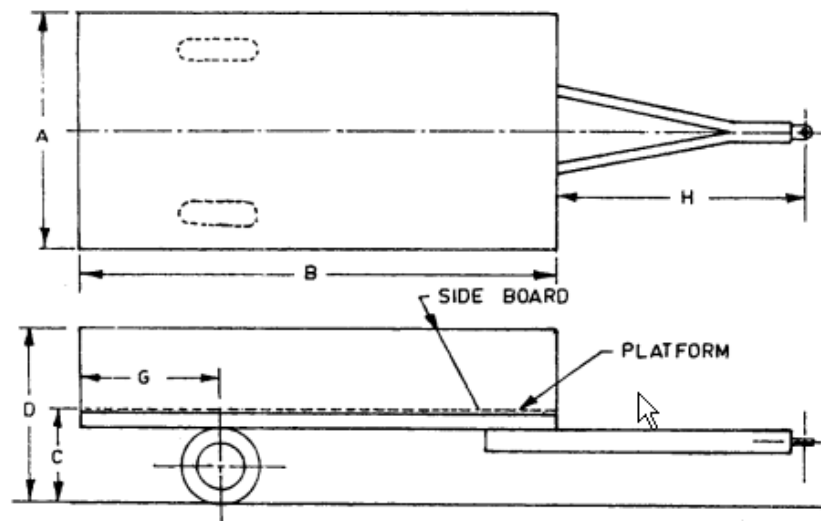
$$G = (3B - 2H)/8$$

- 3.7 Ground clearance shall not be less than 300 mm.

- 3.8 The semi-trailer shall be provided with suitable arrangement in the front for keeping the trailer in a levelled position when detached from the towing tractor.



**Figure 1**  
**Balanced Trailer**



**Figure 2**  
**Semi-trailer**

- 3.9 When the trailer is loaded uniformly with 25 percent additional payload and operated at an average speed of 25 km/h to 30 km/h for 50 hours. It shall not show any sign of breakage or deformation in any part. This test shall be conducted on metallic / surface road
- 3.10 No trailer shall be painted in olive green colour except those belonging to defense department. For better night visibility manufacturer may give preference to red or orange colour.



#### 4. CONSTRUCTIONAL REQUIREMENTS

- 4.1 The loading platform may be plain or provided with hinged or fixed sideboards. If trailer is provided with sideboards, some kind of locking provision shall be provided to keep it vertical. This can be met by giving a latching system at the top of the vertical posts fitted to the platform. The hinges by which sideboards are fixed shall be provided with split pins to restrict its lateral motion.
- 4.2 The trailers shall be provided with lashing hooks for tying down the load.
- 4.3 For single-axle trailer, tow eye of the drawbar or hitch of the trailer, when fully loaded may be parallel to the level surface after hitching with towing tractor, for balanced trailer drawbar or hitch of the trailer shall be of hinged type so that load from trailer is not transferred to the towing tractor. In the towing hitch, a suitable shock absorbing device shall be provided. The hitch height of trailer should always be below rear axle height of the tractor.
- 4.4 Tow eye of the trailer shall be capable of rotating at 360° angle to take on even rigid trailer hook of the towing tractor. Ring type hitches shall conform to IS-11270:1985 as amended time to time.
- 4.5 For balanced trailers, the front axle shall have the capability to swivel to a maximum of 120° (60° on either side) about the vertical axis. Stopper should be provided to restrict the swivel movement as mentioned.
- 4.6 The trailer shall be fitted with pneumatic tyres and rims conforming to IS 13154:1991 or IS 15636: 2005 and IS 10694:1988 (Part 6) as amended time to time respectively.
- 4.7 The axle(s) shall conform to requirements specified in Annex A of IS-8213:2000 as amended time to time.
- 4.8 The trailer shall be provided with suitable spring suspension as per IS-1135:1995 for recommended load carrying capacity. However, this requirement is optional for R1 category trailer.
- 4.9 In case of tipping type trailer, provisions shall be made for tilting the platform without disturbing the trailer.
- 4.10 Single telescopic tipping cylinder shall meet the requirements specified in IS 12371:1988
- 4.11 Hydraulic ram of suitable capacity compatible with tractor hydraulic shall be provided in case of tipping type. The ram may be used in single or tandem as per need and the operating pressure shall not exceed 13.8 MPa.
- 4.12 Tipping angle of the body, in case of tipping type, shall be 42° to 50°.
- 4.13 Trailers shall be fitted with Rear Under run Protective Device (RUPD) conforming to IS 14812: 2005

- 4.14 Trailers shall be provided with Lateral Protection (Side Gaurd) conforming to IS 14682: 2004.
- 4.14.1 The device may consist of a continuous flat surface, or of one or more horizontal rails, or a combination of surface and rails. When rails are used, they shall not be more than 300 mm apart and not less than:
- 50 mm high in the case of category R1, R2 and
  - 100 mm high and essentially flat in the case of R3 and R4 Trailer.

## 5. BRAKING REQUIREMENTS

Trailers shall have service and parking brakes conforming to requirements as specified in AIS-043.

## 6. OTHER REQUIREMENTS

- 6.1 All the parts requiring lubrication shall be provided with suitable arrangement which should be easily accessible and indicated with symbols as per IS-6283 (Part 1):2006 as amended time to time.
- 6.2 A suitable unobstructed location shall be made available on the trailer chassis for fixing a lift jack for carrying out necessary repairs to the trailers.
- 6.3 **Lighting and Light-signalling Devices Requirements**

**Note:** After installation of Lighting and light-signalling devices on the trailer, any part of the devices shall not be hidden by any further parts of the vehicle such that the light emitted by lamps when in operation shall be clearly visible from rear of the vehicle. All the lighting and light-signalling devices fitted on the trailer shall meet the performance requirements as per AIS-062, retro-reflectors shall meet the requirements of AIS-057 (Rev. 1) and retro-reflective markings (tapes) shall meet the requirements as per AIS-090.

Cl. Nos.	Lighting and Light-signalling Devices	Presence	Number/ Orientation / Colour	Position / Arrangement
6.3.1	Retro-reflector	Mandatory	2 / Rear / Red 2/ Front/ White	<ol style="list-style-type: none"> <li>1) The point on the illuminating surface farthest from the median longitudinal plane of trailer shall be not more than 500 mm from the extreme outer edge of the vehicle. In case of front retro-reflector, it shall not be more than 150 mm.</li> <li>2) The distance between the inner edge of the two illuminating surface shall be not less than 500 mm. This distance may be reduced to 400 mm, where the overall width of the trailer is less than 1300 mm.</li> <li>3) <b>In height:</b> above the ground, not less than 250 mm nor more than 2100 mm.</li> <li>4) Reflecting area shall not less than 28 cm<sup>2</sup>.</li> <li>5) Rear retro-reflector may have parts in common with any other lamp situated at the rear.</li> </ol>
6.3.2	Rear Position lamp ( Tail lamp)	Mandatory	2/ Rear/ Red	<ol style="list-style-type: none"> <li>1) The point on the illuminating surface farthest from the median longitudinal plane of trailer shall be not more than 500 mm from the extreme outer edge of the vehicle</li> <li>2) The distance between the inner edge of the two illuminating surface shall be not less than 500 mm. This distance may be reduced to 400 mm, where the overall width of the trailer is less than 1300 mm</li> <li>3) <b>In height:</b> above the ground, not less than 250 mm nor more than 2100 mm.</li> <li>4) Rear Position lamp may have parts in common with any other lamp situated at the rear.</li> </ol>
6.3.3	Reversing lamp	Optional	2/ Rear/ White	<ol style="list-style-type: none"> <li>1) <b>In height:</b> above the ground, not less than 250 mm nor more than 2100 mm</li> <li>2) They shall be such that the lamp can light up only if the reverse gear is engaged.</li> <li>3) Reverse lamp may have parts in common with any other lamp situated at the rear.</li> </ol>

Cl. Nos.	Lighting and Light-signalling Devices	Presence	Number/ Orientation / Colour	Position / Arrangement
6.3.4	Direction indicators	Mandatory	2/ Rear/ Amber	<ol style="list-style-type: none"> <li>1) The point on the illuminating surface farthest from the median longitudinal plane of trailer shall be not more than 500 mm from the extreme outer edge of the vehicle</li> <li>2) The distance between the inner edge of the two illuminating surface shall be not less than 500 mm. This distance may be reduced to 400 mm, where the overall width of the trailer is less than 1300 mm.</li> <li>3) In height: above the ground, not less than 250 mm nor more than 2100.</li> <li>4) Rear direction indicator may have parts in common with any other lamp situated at the rear.</li> <li>5) The direction indicator flash in unison at a rate of 60 to 120 flashes per minute.</li> <li>6) The direction indicator shall be so designed and fitted that the tractor operator is aware that it is operating correctly (tell-tail).</li> </ol>
6.3.5	Stop lamp (Brake lamp)	Mandatory	2/ Rear/ Red	<ol style="list-style-type: none"> <li>1) The point on the illuminating surface farthest from the median longitudinal plane of trailer shall be not more than 500 mm from the extreme outer edge of the vehicle</li> <li>2) The distance between the inner edge of the two illuminating surface shall be not less than 500 mm. This distance may be reduced to 400 mm, where the overall width of the trailer is less than 1300 mm.  In height: above the ground, not less than 250 mm nor more than 2100 mm.</li> <li>3) Stop lamp may have parts in common with any other lamp situated at the rear.</li> <li>4) All stop lamps shall light up simultaneously when the braking system operates.</li> </ol>
6.3.6	Rear registration plate illumination lamp	Mandatory	1 / Rear/white	Device illuminates the site of the registration plate. Plate size is 200 mm x 100 mm.
6.3.7	Rear warning triangle	Mandatory	1 / Rear/Colour-Refer Fig.3.	<ol style="list-style-type: none"> <li>1) The size of the triangle is as per the Figure -3.</li> <li>2) Point of the triangle to be pointed upwards.</li> </ol>

Cl. Nos.	Lighting and Light-signalling Devices	Presence	Number/ Orientation / Colour	Position / Arrangement
6.3.8	Electrical coupling	Mandatory	1	The circuit designations of Seven Pin Socket provided between the tractor and trailer shall be as per Table 1 of IS: 14683 – 1999 (Agricultural Tractors and Machinery – Lighting Devices for travel on Public Roads), as amended from time to time.”
6.3.9	Retro-Reflective Markings (tapes)	Mandatory	--/Front/ White --/Rear/ Red -- /Side/Yellow	1) Retro-reflective tape shall be affixed at the front and rear running across the width and at the side running across the length of body, covering at least 80% of width and length and having width not less than 50 mm  2) In height it shall be affixed at above the ground, not less than 250 mm nor more than 2100 mm

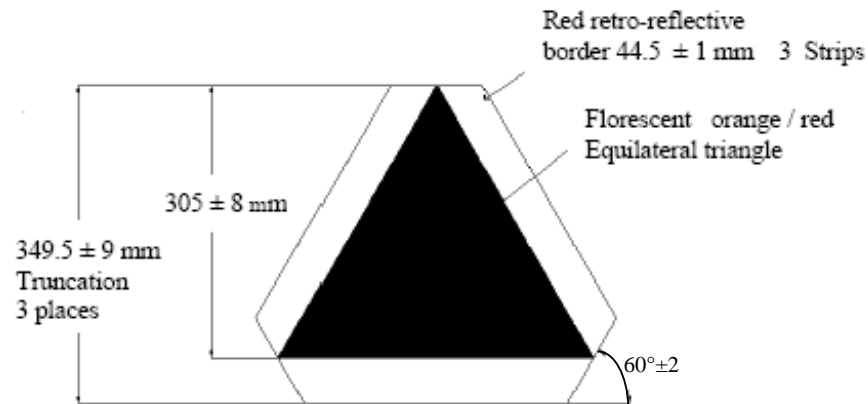


Figure 3

### Rear Warning Triangle

- 6.4 The turning circle diameter and turning clearance circle diameter of every agricultural tractor-trailer combination shall be tested as per IS 11859:2004 as amended from time to time with tractor brakes released condition. The measured values of turning clearance circle diameter shall not be more than 25 meter.

## 7. MARKING

- 7.1 The trailer shall be marked with the following information on identification plate which shall be welded or riveted to the body:
  - 7.1.1 Manufacturer's name and registered trademark, if any;
  - 7.1.2 Model name, if any
  - 7.1.3 Unladen mass;
  - 7.1.4 Gross load; and
- 7.2 T-sign at the rear as per IS- 9942: 1981 (reaffirmed 2002)
- 7.3 A trailer identification number shall be punched or itched on chassis or on permanently welded plate at suitable location preferably on the left side of the trailer clearly legible as shown in Annex III.

## 8. TYPE APPROVAL

- 8.1 The type approval procedure specified in this code is applicable to agricultural trailers as defined in 2.1 of this standard.
- 8.2 **Procedure for Type Approval :**
  - 8.2.1 The trailer manufacturers may follow their own design complying with the provisions of this code.
  - 8.2.2 **Prototype Type Approval Trailer Manufacturer** shall submit application for type approval of prototype built as per this code.
- 8.3 **Application for Type Approval**
  - 8.3.1 The application for type approval of the trailer shall be submitted to the Testing Agency by the trailer manufacturer along with Technical Specification as per Annex I.
- 8.4 **Methods of Establishing Compliance**
  - 8.4.1. Depending upon the provision, the compliance can be established either by comparison of the values declared in the Technical Specifications with those in the code, or checking the fitment of part(s) on the trailer by testing, as applicable.
- 8.5 **Certificate of Compliance for Type Approval :**
  - 8.5.1 After compliance is established for all the provisions as described in code, a certificate of compliance shall be issued by the testing agency. The Technical Specifications as declared by the manufacturer shall be counter signed by the testing agency and shall be attached to the certificate of compliance.

## ANNEX I

(See 8.3)

**TECHNICAL SPECIFICATIONS TO BE SUBMITTED BY  
THE AGRICULTURAL TRAILER MANUFACTURER**

<b>1.0</b>	<b>General description about manufacturer/ applicant :</b>	
1.1	Details of Trailer Manufacturer:	
1.2	Name and Address of Manufacturer	
1.3	Telephone Number (s)	
1.4	Fax Number (s)	
1.5	E-mail Address	
1.6	Website	
1.7	Contact person	
1.8	Plant address	
<b>2.0</b>	<b>Details of applicant, if other than manufacturer</b>	
2.1	Address of applicant	
2.2	Telephone Number (s)	
2.3	Fax Number (s)	
2.4	E mail Address	
2.5	Website	
2.6	Contact person	
<b>3.0</b>	<b>Trailer platform:</b> Long member size: -LxWxH No. of long members Cross member size: -LxWxH No. of cross members Type of Platform – Flat Bed / Special Platform	
<b>4.0</b>	<b>Hitch frame</b> Type Shape Length from end of trading platform to eye of trailer (Ref 'H' fig 2)	

<b>5.0</b>	<b>Hitch:</b> - Type - Size of bar, (mm) - Whether rotating possible by 360 deg, (Yes/No) - Whether any shock absorbing device provided (Yes/ No) - If yes state the type and size - State whether active while pulling or when pushing	
<b>6.0</b>	<b>Dimensions (mm)</b>	
6.1	Length	
6.1.1	With draw bar (for independent trailer)	
6.1.2	Without draw bar (for independent trailer)	
6.1.3	Length (in case of semi trailer)	
6.1.4	Total length (for articulated/combination vehicles)	
6.2	Width	
6.3	Height (Unladen)	
6.3.1	Height of floor from ground at rear	
6.3.2	Height of draw bar (hinge point on trailer)	
6.3.3	Overall height	
6.4	Minimum ground clearance	
6.5	Wheel base (from fifth wheel king pin in case of semi trailer)	
6.6	Number of axles	
6.6.1	Type	
6.6.2	Axle spacing in case of multi axle vehicles.	
6.7	Wheel track	
6.7.1	Front	
6.7.2	Rear	
6.8	Body overhang	
6.8.1	Front (from fifth wheel in case of semi trailer)	
6.8.2	Rear (from the rearmost axle)	



6.9	Frame overhang mm (in case of vehicles without complete body)	
6.9.1	Front	
6.9.2	Rear	
6.10	Inner dimensions of room or platform (For goods carriage vehicles only)	
6.10.1	Length	
6.10.2	Width	
6.10.3	Height	
6.11	Lateral projection (from outer most tyre outer side)	
<b>7.0</b>	<b>No. of side boards</b> Left Right Rear	
<b>8.0</b>	<b>No. of hooks:</b>	
<b>9.0</b>	<b>Suspension:</b>	
9.1	Spring - Leaf /Rated load and camber	
9.1.1	No. of Springs	
9.1.2	Dimensions (flat length, width, Thickness)	
9.2	Shock absorbers (type and locations)	
<b>10.0</b>	<b>Wheel equipment and tyres :</b>	
10.1	<b>Front :</b>	
10.1.1	Make	
10.1.2	Tyre size and Ply Rating	
10.1.3	Recommended tyre pressure for road work, kPa (kgf/cm <sup>2</sup> )	
10.1.4	Max. loading capacity of tyre at road pressure (kgf)	
10.2	<b>Rear :</b>	
10.2.1	Make	
10.2.2	Tyre size and Ply Rating	
10.2.3	Recommended tyre pressure for road work, kPa (kgf/cm <sup>2</sup> )	
10.2.4	Max. loading capacity of tyre at road pressure (kgf)	

<b>11.0</b>	<b>Weights :</b>	
11.1	Trailer kerb weight kg	
11.1.1	Front axle	
11.1.2	Rear axle	
11.1.3	Total	
11.2	Gross trailer weight kg	
11.2.1	Maximum permissible front axle weights (kg)	
11.2.2	Maximum permissible rear axle weights (kg)	
11.2.3	Gross trailer weight (kg)	
<b>12.0</b>	<b>Rear underrun protective device :</b>	
12.1	Height of lower edge of the device from the ground (mm).	
12.2	Width of the device (mm).	
12.3	Location of points P1 and P2	
12.4	Overall width of rear axle	
12.5	Drawing of the rear under-run protective device with dimensions.	
12.6	Installation drawing showing rear extremity of trailer, chassis rear overhang, chassis cross section details etc.	
12.7	Material	
<b>13.0</b>	<b>Lateral Protection (Side Guards) :</b>	
13.1	Height of the lower edge of the Side Guard.	
13.2	Sectional height of gaurd	
13.3	Drawing of the lateral protection device with dimensions.	
13.4	Installation drawing of the lateral protective device with dimensions.	
13.5	Material	
<b>14.0</b>	<b>Towing devices :</b>	
14.1	Type	
14.2	Make	
14.3	Capacity	

<b>15.0</b>	<b>Coupling devices (for trailers) :</b>	
15.1	Make	
15.2	Identification mark	
15.3	Type of coupling device for mechanical	
15.4	Type of coupling device for electrical	
15.5	Type of coupling device for brake	
15.6	Dia. of king pin (mm)	
<b>16.0</b>	<b>Brakes :</b>	
16.1	<b>Service Brakes</b>	
16.1.1	Make	
16.1.2	Type (Mechanical/hydraulic/air/air assisted/vacuum assisted/others)	
16.1.3	Location	
16.1.4	Method of operation	
16.2	<b>Parking Brake</b>	
16.2.1	Make	
16.2.2	Type (Mechanical / hydraulic/air/air assisted / vacuum assisted/others)	
16.2.3	Location	
16.2.4	Method of operation	
<b>17.0</b>	<b>Electrical Parts :</b>	
17.1	<b>Electrical system of trailer</b>	
17.1.1	System voltage,( V)	
17.1.2	Terminal earthed	
17.1.3	<b>Battery</b>	
17.1.3.1	Type	
17.1.3.2	Number(s)	
17.1.3.3	Capacity and rating	:
17.1.4	<b>Rear Position Lamp ( Tail lamp)</b>	
	Make	
	Number(s)	
	Wattage of bulbs (W)	
	Location	
	Colour	

17.1.5	<b>Direction Indicator Lamp(s)</b>	
	Make	
	Number(s)	
	Wattage of bulbs (W)	
	Location	
	Colour	
17.1.6	<b>Stop Lamp (Brake Lamp)</b>	
	Make	
	Number(s)	
	Wattage of bulbs (W)	
	Location	
	Colour	
17.1.7	<b>Reversing Lamp</b>	
	Make	
	Number(s)	
	Wattage of bulbs (W)	
	Location	
	Colour	
17.1.8	<b>Rear Registration Plate Illumination Lamp</b>	
	Make	
	Number(s)	
	Wattage of bulbs (W)	
	Location	
	Colour	
17.1.9	<b>Retro-reflector(s)</b>	
	<b>Front :</b>	
	Shape	
	No.(s)	
	Location	
	Colour	
	Area--- cm <sup>2</sup>	
	<b>Rear :</b>	
	Shape	
	No.(s)	

	Location	
	Colour	
	Area--- cm <sup>2</sup>	
17.1.10	<b>Rear Warning Traiangle</b>	
	shape	
	Number(s)	
	Location	
	Colour	

## ANNEX II

**GUIDELINES FOR TESTS TO BE CONDUCTED FOR TYPE  
APPROVAL OF AGRICULTURAL TRAILER**

<b>Sl. No.</b>	<b>Test Description</b>	<b>Only Trailer</b>	<b>Tractor-Trailer Combination</b>
<b>I</b>	<b>GENERAL REQUIREMENTS (See 3.)</b>		
	a) Width (See 3.1)	YES	NO
1	b) Length (See 3.2)	YES	NO
	c) Height (See 3.3 and 3.4)	YES	NO
	d) Ground clearance (See 3.7)	YES	NO
	e) Endurance (Loading and testing at 25 km/h)	NO	YES
	f) Painting	YES	NO
2	<b>CONSTRUCTIONAL REQUIREMENTS (See clause 4)</b>		
	a) Sideboard fitment (See 4.1)	YES	NO
	b) Lash hook (See 4.2)	YES	NO
	c) Hitch height of trailer (See 4.3)	YES	NO
	d) Tow eye rotation	YES	YES
	e) Stopper for swivel restriction (See 4.5)	YES	NO
	f) Stability during trailer tipping (See 4.9)	NO	YES
	g) Hydraulic ram (See 4.11)	YES	YES
	h) Tipping angle (See 4.12)	NO	YES
<b>II.</b>	<b>PERFORMANCE TESTS</b>		
1.	Brakes (See 5.)	NO	YES
2.	Verification of lighting and light-signalling devices (See 6.3)	YES	YES
3.	TCD and TCCD	NO	YES
<b>III.</b>	<b>OTHER REQUIREMENTS</b>		
1.	Lubrication (See 6.1)	YES	NO
2.	Jack location (See 6.2)	YES	NO

<b>IV.</b>	<b>COMPONENT TESTS</b>
1	Draw bar eyes (See 4.3)
2	Ring type hitches (See 4.4)
3	Tyres (See 4.6)
4	Wheel rims (See 4.6)
5	Axle(s) (See 4.7)
6	Spring suspension (See 4.8)
7	Tipping cylinder (See 4.10)
8	Rear Under run Protective Device (RUPD) (See 4.13)
9	Lateral Protection (Side Gaurd) (See 4.14)
10	Electrical coupling (See 6.3)
11	T-signs (See 7.2)

**ANNEX III**

(See 7.3)

**DETAILS OF LOCATION OF TRAILER IDENTIFICATION NUMBER  
AND CODE FOR MONTH AND YEAR OF MANUFACTURE**

Name of the Trailer Manufacturer and Address :	
Name of the basic model :	
Name of Variants, if any :	
Place of Embossing or etching the Trailer Identification Number details by drawing or pictures may be provided if necessary	
Position of the code for month of production in the Trailer Identification Number	
Position of the code for year of production in the Trailer Identification Number	
Height of the Trailer Identification Number – Min. 7 mm	

**AGRICULTURAL TRAILER IDENTIFICATION NUMBER :**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Mfr Name			Trailer model			Trailer type		Month	Year		Serial Number		

EXAMPLE													
T	D	L	X	Y	Z	R	1	K	0	8	1	2	3

**ABBREVIATIONS :**

For Month : A-January ; B-February ; C-March; D - April ; E- May ;  
F - June ; G - July ; H - August; J - September ; K - October ; L - November ;  
M - December.



## ANNEX IV

(See introduction)

**COMPOSITION OF AISC PANEL ON  
AGRICULTURAL TRAILER CODE\***

<b>Convener</b>	
Mr. A. Akbar Badusha	The Automotive Research Association of India (ARAI)
<b>Members</b>	<b>Representing</b>
Mr. U. A. Kulkarni	The Automotive Research Association of India (ARAI)
Mr. M. S. Kurane	The Automotive Research Association of India (ARAI)
Director	Central Institute of Road Transport (CIRT)
Director	Vehicles Research & Development Establishment, Ahmednagar (VRDE)
Director	International Centre for Automotive Technology (ICAT)
Director	Central Farm Machinery Training and Testing Institute (CFMTTI)
Director	Northern Region Farm Machinery Training & Testing Institute
Representatives from	Office of Transport Commissioner – Maharashtra
Mr. T.C. Gopalan	Tractor Manufacturers Association (TMA)
Mr. Rajeswar K. Mr. K. K. Tiwari	TMA (M&M Ltd. FES - Tractor Division)
Mr. R. P. Vasudevan	TMA (SAME DEUTZ-FAHR INDIA (P) LTD)
Mr. S. K. Garg	TMA (Escorts R&D Centre, Agri-machinery Group)
Mr. S . Gopal	TMA (TAFE Motors and Tractors Ltd.)
Mr. Philip Koshy	TMA (John Deere Equipment Pvt. Ltd)
Mr. V. K. Taneja	TMA(New Holland Fiat (India) Pvt. Ltd.)
Mr. B. N. Sonawane and Representatives from	Agricultural Implements Manufacturers Association (AIMA)
Mr. S.P. Awachat	All India Agricultural Trailer Manufacturers Association (AIATMA)
Mr. Arvind Kale	AIATMA (Tejas Polymers &Engineers)
Prof. S. G. Nemade	Veer mata Jijabai Technological Institute (VJTI)
Prof. S. V. Diwan	Veer mata Jijabai Technological Institute (VJTI)

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

**ANNEX V**  
(See introduction)

**COMMITTEE COMPOSITION \***  
**Automotive Industry Standards Committee**

<b>Chairman</b>	
Shri Shrikant R. Marathe	Director The Automotive Research Association of India, Pune
<b>Members</b>	<b>Representing</b>
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 T. V. Singh	Bureau of Indian Standards, New Delhi
Director Shri D. P. Saste (Alternate)	Central Institute of Road Transport, Pune
Dr. M. O. Garg	Indian Institute of Petroleum, Dehra Dun
Shri C. P. Ramnarayanan	Vehicles Research & Development Establishment, Ahmednagar
Representatives from	Society of Indian Automobile Manufacturers
Shri T.C. Gopalan	Tractor Manufacturers Association, New Delhi
Shri K.N.D. Nambudiripad	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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