

भारतीय मानक प्रारूप

टोइंग वाहनों तथा ट्रेलर के बीच यांत्रिक संयोजनों के लिए कर्षदण्ड छेद - विशिष्टि

Draft Indian Standard

**DRAWBAR EYES FOR MECHANICAL CONNECTIONS BETWEEN TOWING
VEHICLES AND TRAILERS — SPECIFICATION**

ICS: 43.040.70

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is 18.9.2023

Transport Tractors, Trailers and Industrial Trucks Sectional Committee, TED 22

FOREWORD

(Formal clause will be added later on)

This standard was first published in 1989. In this revision, following are the major changes:

- i) References and ICS No. have been updated;
- ii) Other editorial changes have been done to bring the standard in the latest style and format of Indian Standards; and
- iii) Test for strength (clause 4.3) has been added.

In order to achieve international co-ordination on the subject, this standard is based on the following specifications:

- a) ISO/DIS 8755 Commercial road vehicles — Mechanical connections between towing vehicles and trailers - 40 mm drawbar coupling; and
- b) ISO/DIS 1102 Commercial road vehicles — Mechanical connections between towing vehicles and trailers - 50 mm drawbar coupling

The composition of the Committee responsible for the formulation of this standard is given at **Annex A (Will be added later)**.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of test or analysis, shall be rounded off in accordance with IS 2: 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

DRAWBAR EYES FOR MECHANICAL CONNECTIONS BETWEEN TOWING VEHICLES AND TRAILERS — SPECIFICATION

1 SCOPE

1.1 This Indian Standard specifies the essential dimensional characteristics of 40 mm and 50 mm drawbar eyes to permit interchangeability between towing vehicles and trailers equipped with these connections.

1.2 These mechanical connections are not interchangeable with each other.

1.3 This standard applies to mechanical connections designed for commercial vehicles and trailers operating on/off highways, the maximum total weight of which is above 3.5 t.

2 REFERENCES

The standards given below contain provisions which, through reference in this text, constitute provision of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards.

<i>IS No.</i>	<i>Title</i>
IS 12604: 1989	Dimensions for mounting of mechanical coupling devices on trucks
IS 13284: 1992	Automotive vehicles - Drawbar couplings and eyes for hinged drawbars - Method of test for strength

3 TERMINOLOGY

3.1 For the purpose of this standard, the terms relating to drawbar eyes, shall be as illustrated in Fig. 1 to 3.

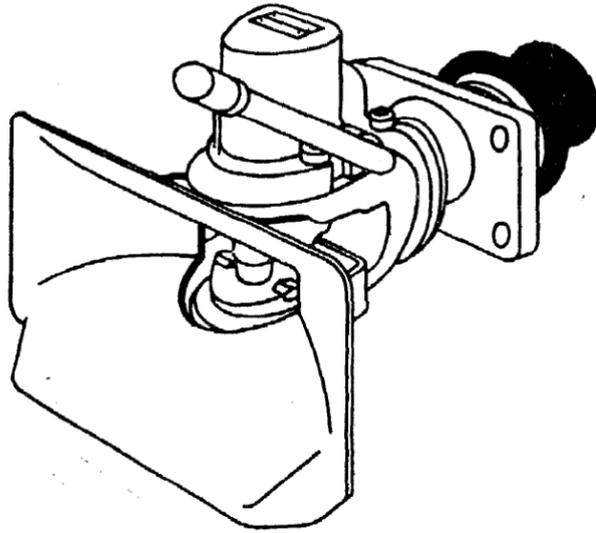


Fig. 1 Drawbar Coupling

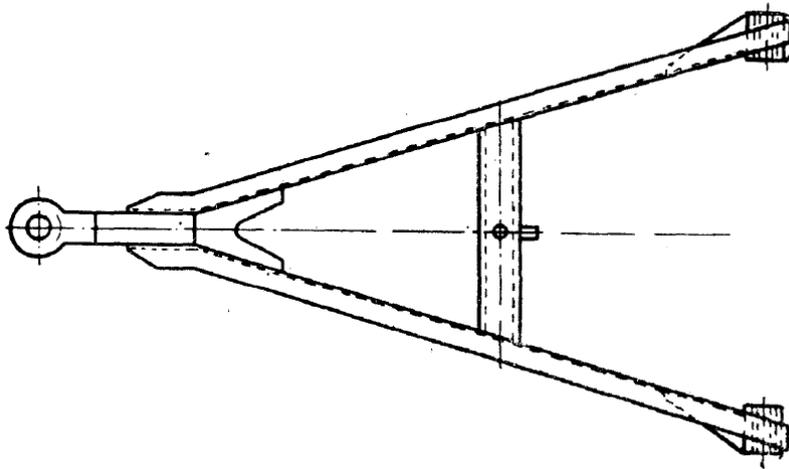


Fig. 2 Drawbar

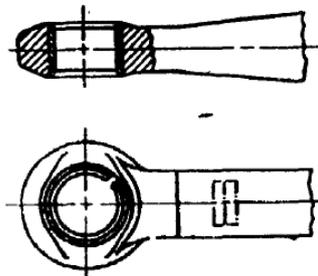


Fig. 3 Drawbar Eye

4 DIMENSIONS

The following specifications are set to ensure interchangeability between towing vehicles and trailers:

- a) Drawbar eye (*see 4.1*); and
- b) Travel angles of the drawbar coupling (*see 4.2*)

NOTE — The dimensions for mounting of drawbar coupling are covered in IS 12604: 1989.

4.1 Drawbar Eye

4.1.1 The dimensions of the drawbar eyes ensuring interchangeability between towing vehicles and trailers are given in Fig. 4.

NOTE — Details not specified are left to the manufacturer's choice.

4.1.2 The sleeve shall be used to minimize damage to the inside of the eye, the sleeve being easily replaced when worn out.

4.1.3 The dimensions of the fitted sleeve are specified in Fig. 5. Installation of a non-slotted sleeve shall be such that it does not work loose during service.

NOTE — Slotted sleeves shall be such inserted that the slot is to the rear, at 45° to the drawbar longitudinal axis.

4.2 Travel Angles of the Drawbar Coupling

The drawbar eye tested separately that is not mounted on the towing vehicles shall be so designed that it allows for the travel angles specified in Fig. 6 to 8, when the drawbar is fixed to the drawbar eye.

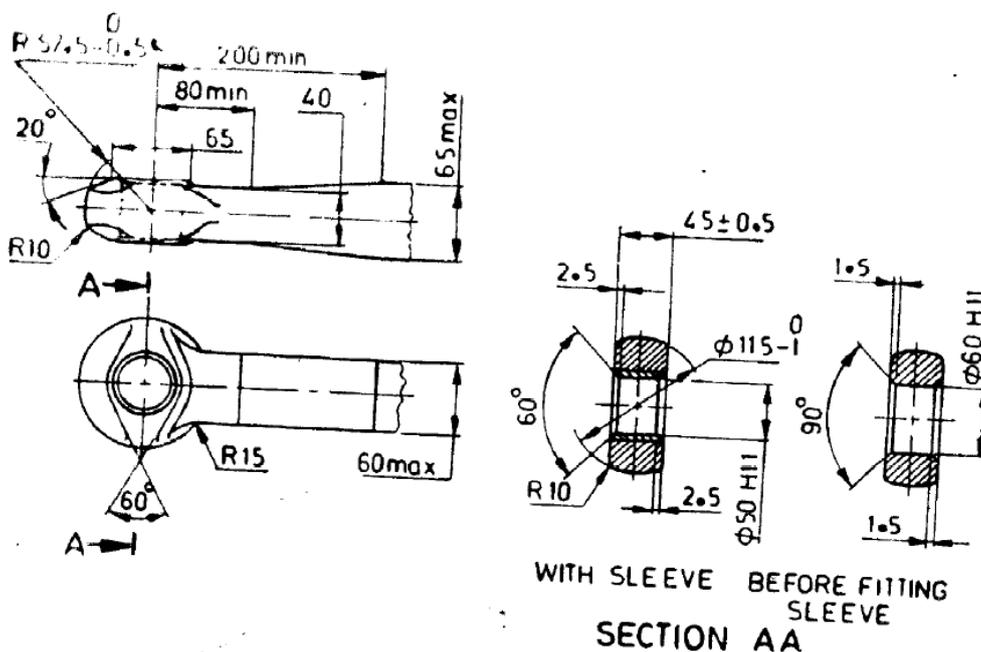


Fig. 4A - 50 mm Drawbar Eye

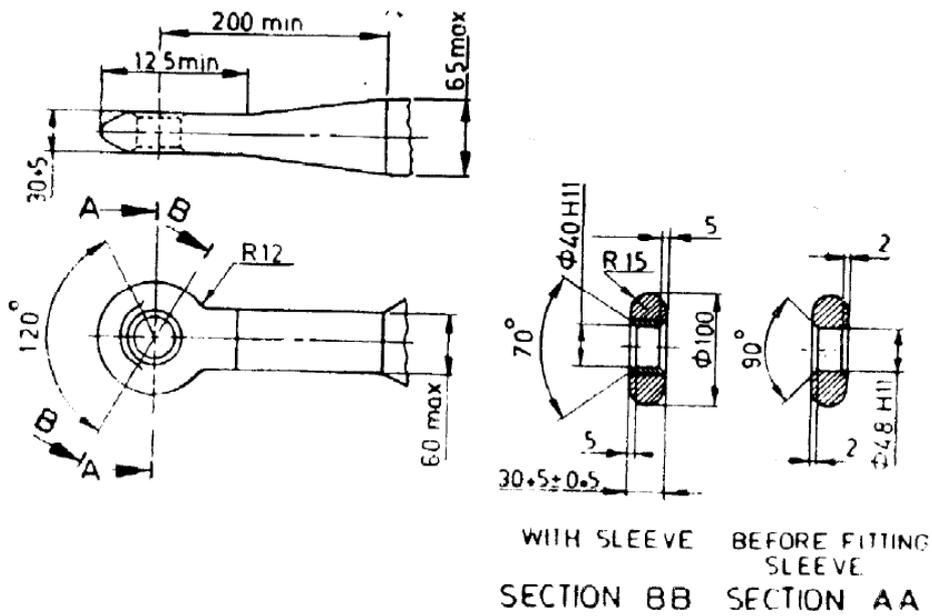


Fig. 4B - 40 mm Drawbar Eye
All dimensions in millimeters.

Fig. 4 Dimensions for Drawbar Eye

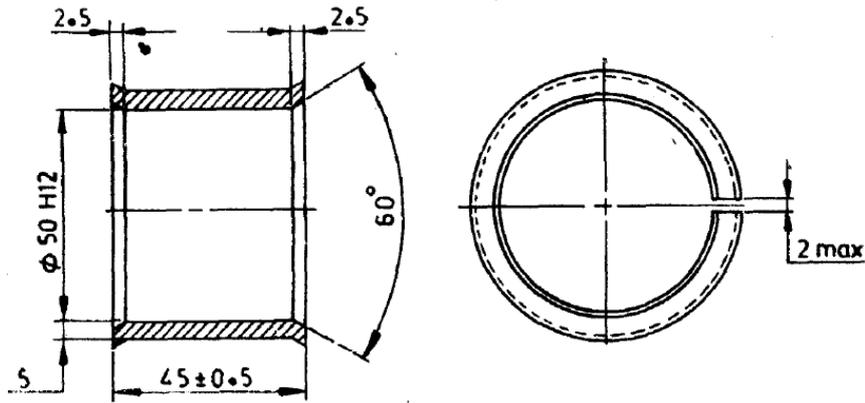


Fig. 5A - 50 mm Sleeve

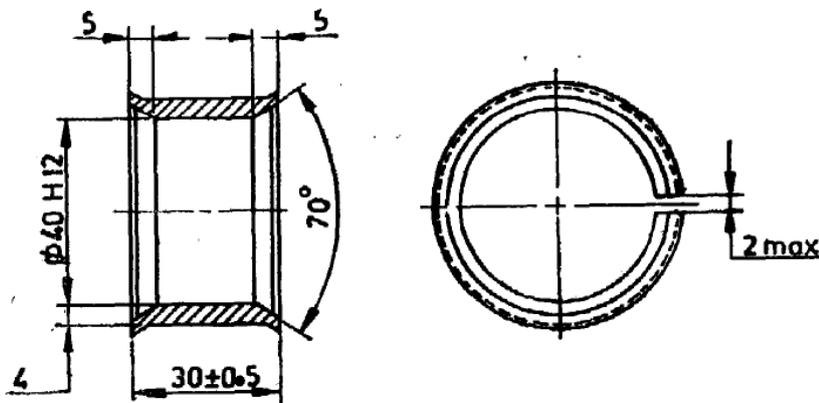


Fig. 5B - 40 mm Sleeve
All dimensions in millimeters.

Fig. 5 Dimensions for Sleeve

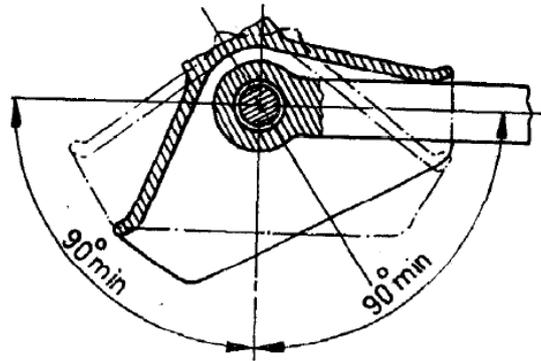


Fig. 6 Horizontal Angle

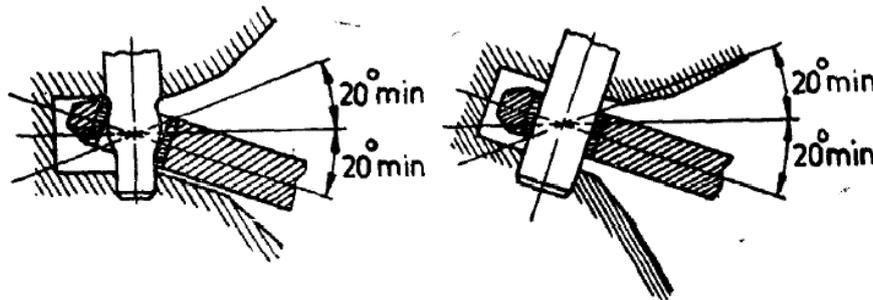


Fig. 7 Vertical Angle

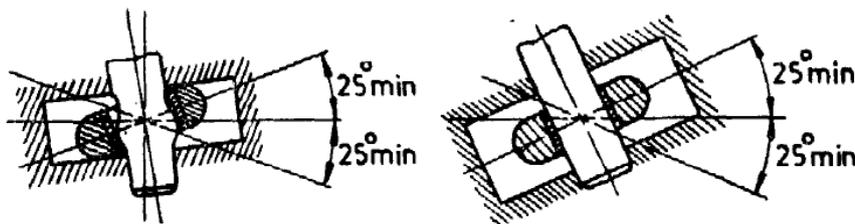


Fig. 8 Rotation Angle

4.3 Test for Strength

Strength of Drawbar eye is an essential aspect as it is used as a solid coupling between a hauling vehicle and its hauled load. The test conditions and strength requirements to be met by 40 mm and 50 mm drawbar couplings, and the corresponding drawbar eyes for hinged drawbars shall be determined in accordance with IS 13284:1992.

5 BIS CERTIFICATION MARKING

5.1 Each drawbar eyes may also be marked with the Standard Mark.

5.2 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations made thereunder. The details of conditions under which the license for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

ANNEX A
(Foreword)

COMMITTEE COMPOSITION

TRANSPORT TRACTORS, TRAILERS AND INDUSTRIAL TRUCKS SECTIONAL
COMMITTEE, TED 22

Will be added later