BUREAU OF INDIAN STANDARDS

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भारतीय मानक मसौदा

कृषि ट्रैक्टरों के लिए ड्रॉबार - लिंक टाइप - विशिष्टता
(*आईएस 12953 का पहला पुनरीक्षण*)

*Draft **Indian Standard***
DRAWBAR FOR AGRICULTURAL
TRACTORS — LINK TYPE — SPECIFICATION

(*first revision of IS 12953*)

ICS 65.060.10

Agricultural Machinery and Equipment Sectional Committee, FAD 11	Last date for Comments: 14 April 2024

FOREWORD
Formal clause will be added later

Link type drawbars are used in lower links of three-point linkage of agricultural wheeled tractors for pulling the implements and trailers. The dimensions and other characteristics of this type of drawbar differ considerably, due to which, the users of tractors experience difficulty in securing their implements.

This standard was first published in 1990 with a view to regulate the uniformity and the quality of indigenous production of the drawbars and ensure interchangeability. This standard superseded IS 9545 (Part 1): 1980 'Drawbar for agricultural tractors: Part 1 Link type', and the requirements were aligned with IS 4468 : 1986 'Dimensions for three-point linkage of agricultural wheeled tractors (*second revision*)'

Subsequently, IS with IS 17231 : 2019/ISO 730 : 2009 'Agricultural Wheeled Tractors — Rear-mounted three-point linkage — Categories 1N, 1, 2N, 2, 3N, 3, 4N and 4' was published which superseded IS 4468. Accordingly, the first revision of this standard has been undertaken to align the requirements of link type drawbar with IS 17231 : 2019/ISO 730 : 2009.

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 a 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.

Draft **Indian Standard**

**DRAWBAR FOR AGRICULTURAL
TRACTORS — LINK TYPE — SPECIFICATION**

(*First Revision*)

1 SCOPE

This standard specifies material, dimensions and other requirements for link type drawbar for agricultural wheeled tractors.

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 the standards indicated below:

IS No.		*Title*
1500 (Part 1) : 2019/ISO 6506-1 : 2014	:	Metallic materials – Brinell hardness test: Part 1 test method (*fifth revision*)
IS 2062 : 2011		Hot rolled medium and high tensile structural steel - Specification (Seventh Revision)
7201 (Part 1) : 1987		Methods of sampling for agricultural machinery and equipment: Part 1 Hand-tools and hand-operated / animal drawn equipment (*first revision*)

3 MATERIAL

Mild steel should be used for manufacturing of drawbar conforming to IS 2062 with minimum tensile strength of 685 MN/m^2 (70 kgf/mm^2). However, any other raw material may be used for manufacturing of drawbar, provided it shall have minimum tensile strength of 685 MN/m^2 (70 kgf/mm^2)

4 HARDNESS

The hardness of the material shall be minimum 212 HB when tested as per IS 1500 (Part 1).

5 DIMENSIONS

5.1 All the dimensions mentioned in Fig. 1, shall conform to Table 1 for various categories of three-point linkage.

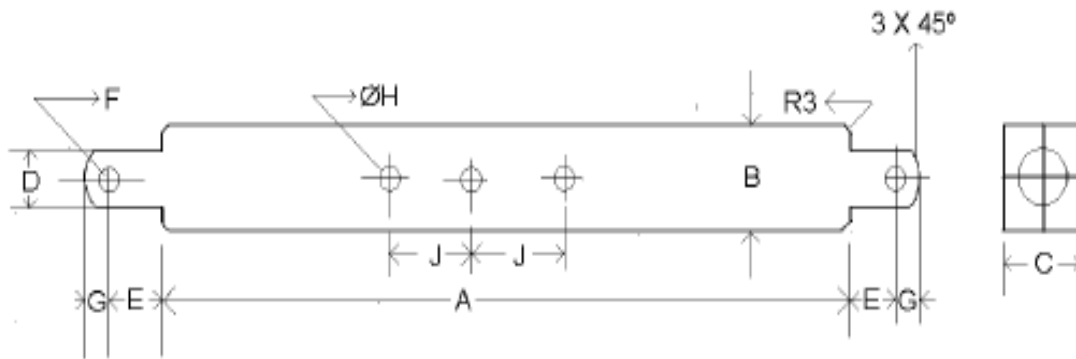**5.2** The minimum value of chamfer (*see* R in Fig. 1) shall be 3 mm.

Fig. 1 Link Type Drawbar

Table 1 Dimensions of Link Type Linkage Drawbar Parameters
(All dimensions in millimetres)
(*Clause* 5.1)

Notation	Category of Three-point Linkages							
	Cat 1N	Cat 1	Cat 2N	Cat 2	Cat 3N	Cat 3	Cat 4N	Cat 4
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A	400 ± 1.5	683 ± 1.5	683 ± 1.5	825 ± 1.5	825 ± 1.5	965 ± 1.5	952 ± 1.5	1166.5 ± 1.5
B	75 (-2)	75 (-2)	75 (-2)	75 (-2)	80 (-2)	80 (-2)	85 (-2)	85 (-2)
C	30 (-1.5)	30 (-1.5)	30 (-1.5)	30 (-1.5)	32 (-1.5)	32 (-1.5)	34 (-1.5)	34 (-1.5)
D ϕ	21.79 to 22.0	21.79 to 22.0	27.79 to 28.0	27.79 to 28.0	36.39 to 36.6	36.39 to 36.6	49.7 to 50.8	49.7 to 50.8
E	39.0 (min)	39.0 (min)	49.0 (min)	49.0 (min)	52.0 (min)	52.0 (min)	68.0 (min)	68.0 (min)
F ϕ	12.0 (min)	12.0 (min)	12.0 (min)	12.0 (min)	12.0 (min)	12.0 (min)	17.0 (min)	17.0 (min)
G	15.0 (min)	15.0 (min)	15.0 (min)	15.0 (min)	20.0 (min)	20.0 (min)	25.0 (min)	25.0 (min)
H ϕ	25 ± 1	25 ± 1	25 ± 1	25 ± 1	33 ± 1	33 ± 1	33.0 (min)	33.0 (min)
J	80 ± 1.5	80 ± 1.5	80 ± 1.5	80 ± 1.5	80 ± 1.5	80 ± 1.5	80 ± 1.5	80 ± 1.5
No. of holes	5	7	7	9	9	11	10 (min)	10 (min)
NOTE — For B & C, value higher than mentioned in Table 1 shall also be acceptable considering special implements.								

6 WORKMANSHIP AND FINISH

6.1 The surface of the drawbar shall be smooth and free from cracks, pits, burrs and other visual defects. Sharp corners shall be avoided.

7 MARKING AND PACKING

7.1 Marking — The drawbar shall be marked with following particulars:

a) Manufacturer's name or recognized trademark, if any;
b) Batch or code number, and
c) Category of Three-point linkage.

7.2 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the Bureau of Indian Standards Act, 2016 and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

7.3 Packing

The drawbar shall be packed as agreed to between the purchaser and the supplier.

8 SAMPLING FOR LOT ACCEPTANCE

8.1 Unless otherwise agreed to between the purchaser and the supplier, the sampling of drawbar for lot acceptance shall be done in accordance with IS 7201 (Part 1).

8.2 The classification of different requirements for the purpose of testing given below for guidance for lot acceptance is:

a) Dimensional and visual requirements – *see* **5**, **6** and **7**.

b) Other than dimensional and visual requirements - *see* **3** and **4**.