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Indian Standard

FARM TRANSPORT EQUIPMENT— CONVENTIONAL ANIMAL DRAWN VEHICLE—SPECIFICATION

PART 1 CATTLE, DONKEY AND MULE

भारतीय मानक

फार्म परिवहन उपस्कर — परम्परागत पशु द्वारा खींची जाने वाली गाड़ी भाग । गवा, खच्चर

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BUREAU OF INDIAN STANDARDS MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG NEW DELHI 110002

October 1990 Price Group 2

AMENDMENT NO. 1 FEBRUARY 1992 TO

IS 12917 (Part 1): 1990 FARM TRANSPORT EQUIPMENT — CONVENTIONAL ANIMAL DRAWN VEHICLE — SPECIFICATION

PART 1 CATTLE, DONKEY AND MULE

(Page 1, clause 5.1, first sentence) — Substitute '5.1.1 to 5.1.7' for '4.1.1 to 4.1.7'.

(FADC 37)

Reprography Umi, BIS, New Delhi, India

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards on 19 March 1990, after the draft finalized by the Farm Transport Equipment Sectional Committee had been approved by the Food and Agriculture Division Council.

The carts drawn by the use of animal power are still the major means of transport. They are mainly used for transporting farm produce but often they are also popular especially in the rural areas as the means of passenger transport. Although initially such carts were assembled by village craftsmen, lately the production of such carts is fast getting organized and the assembly of the same is taken care of by technically trained manpower. A need, therefore, was felt to formulate an Indian Standard for such carts mainly with a view to reduce variety, achieve rationalization and promote interchangeability.

In the preparation of this standard, assistance has been obtained from Central Institute of Agricultural Engineering, Bhopal

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: 2-1960 'Rules for rounding off numerical values (revised)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard

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PART 1 CATTLE, DONKEY AND MULE

1 SCOPE

1.1 This standard specifies material, constructional and other requirement of two wheel conventional animal drawn vehicle fitted with wooden/steel wheels drawn by cattle, donkey and mule

2 REFERENCES

2.1 IS 11269: 1985 Specification for axle assembly for conventional animal drawn vehicles is necessary adjunct to this standard.

3 MATERIAL

3.1 The material for axle assembly including wheel shall be as given in IS 11269: 1985. The materials for some of the components shall be as given in col 3 of Table 1

Table 1 Material Requirements for Components of Animal Drawn Vehicle

\$1 N	o. Component	Material
(1)	(2)	(3)
1)	Chasus	Hardwood/steel section
iı)	Cross members	Hardwood/steel section
ni)	Drawn arrangement	Hardwood/mild steel pipe
ıv)	Platform Body	Soft or hardwood
v)	Sides	Soft or hardwood
$v_1)$	Axle support	Hardwood/steel section
vii)	Side pillars	Hardwood/steel section
viai)	Yoke	Hardwood
ıx)	Wheel	Hardwood/mild steel/wood with steel rim/wheel with rubber covered rim

4 CAPACITY

4.1 The load carrying capacity of the vehicle shall be up to 1.5 tone. The declared capacity shall not vary by +5 percent.

5 DIMENSIONS

5.1 The dimensions given under 4.1.1 to 4.1.7 shall not in any way infringe the rules and regulations of the local transport authority.

- **5.1.1** The overall width of the vehicle measured between the extreme point shall not exceed 16 m (see A in Fig. 1, 2 and 3).
- 5.1.2 The overall length of the platform (see B in Fig. 1, 2 and 3) shall not exceed 2.5 m.
- 5.1.3 The height of the cart (see C in Fig. 1 and 2), when measured from the level supporting surface to the platform shall be not more than 1.00 m.
- 5.1.4 The height of the cart, when measured from the level supporting surface to the top of the side boards (see D in Fig. 1, 2 and 3) shall be not more than 1.5 m.
- 5.1.5 The distance from the front edge of the platform to the centre of the yoke or the drawn attachment (see G in Fig. 1, 2 and 3) shall be not more than 2.4 m.
- 5.1.6 The axle position should be fixed by keeping the ratio of the height of the yoke from the ground (see K in Fig. 1, 2 and 3) to the horizontal distance between the yoke and the centre of the axle (see H and Fig. 1, 2 and 3) as 0.4.
- 5.1.7 Ground clearance shall not be less than 400 mm.

6 CONSTRUCTIONAL REQUIREMENTS

- 6.1 The loading platform may be provided with removable or fixed side boards.
- 6.2 The cart shall be provided with lashing hooks for tying down the load.
- 6.3 The drawn attachment should be fitted with such an angle according to the height of the animal so that the platform remains parallel to the level surface and the load is not transferred to the animals. Inclination of the draw bars (θ) depending upon the height of the yoke (see K in Fig. 3), the wheel diameter (N) and the hotizontal distance between the yoke and centre of axle (see H in Fig. 3) shall be calculated on the basis of following formula:

Tan
$$\theta$$
 $\frac{K-(N/2+L)}{H}$

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- 6.4 The axles shall conform to IS 11269: 1985.
- 6.5 The cart may be provided with foot operated brakes. For use in hilly areas, brakes shall be fitted.
- **6.6** Yoke shall be provided with suitable padding material which would give comfort to the animal.

7 OTHER REQUIREMENTS

- 7.1 The cart shall be fitted with two red coloured reflectors at rear sides and two red coloured reflectors on the front sides at a distance not more than 150 mm from extreme ends to the centre of reflectors. The reflectors may be round or rectangular with not less than 30 cm² area.
- 7.2 The cart shall be provided with suitable arrangement in the front and rear for keeping the cart levelled position when detached from the animal.
- 7.3 All the parts requiring lubrication shall be provided with suitable arrangement which should be easily accessible

8 WORKMANSHIP AND FINISH

- 8.1 All sharp edges and corners shall be rounded off.
- 8.2 All wooden and metal surfaces shall be covered with a coat of suitable preservatives. The metal parts should be derusted, treated with anticorrosive material and an appropriate primer before painting.

9 MARKING

- **9.1** The cart shall be marked with the following particulars:
 - a) Indication of the source of manufacture;
 - b) Unladden mass;
 - c) Capacity; and
 - d) Batch or code number.
- 9.1.1 The carts may also be marked with Standard Mark, details for which may be obtained from Bureau of Indian Standards.

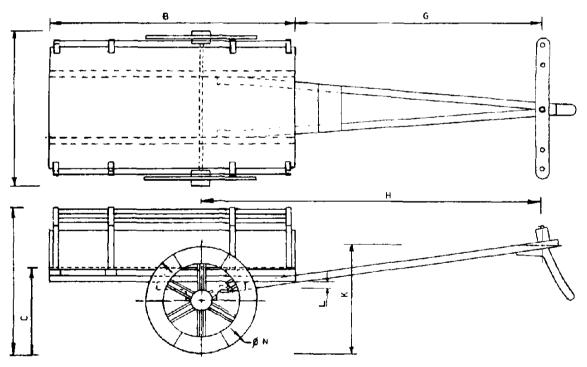


Fig. 1 Bullock Cart with Solid Wheels (Platform Type) (Two Animals Drawn)

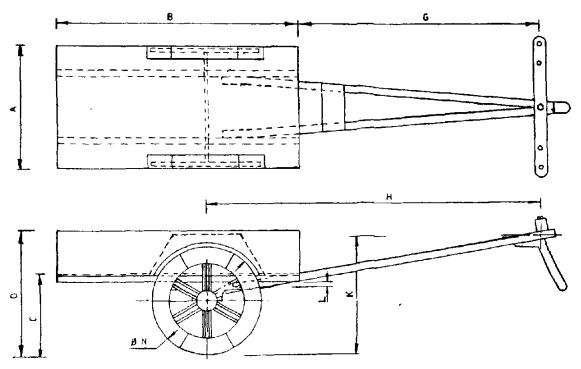
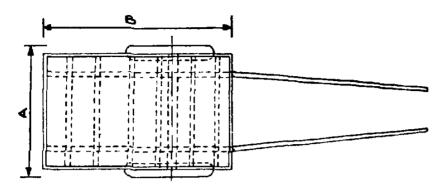


Fig. 2 Bullock Cart with Solid Wheels (Box Type) (Two Animals Drawn)

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PLAN

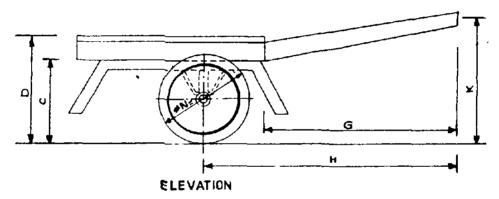


Fig. 3 Donkey Cart

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BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shab Zafar Marg, New Delhi 110002 Telephones: 331 01 31, 331 13 75	Ţ

Felegrams: Manaksanstha (Common to all Offices)

Regional Offices:	
Central: Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110002	$\left\{ \begin{array}{l} 331 \ 01 \ 31 \\ 331 \ 13 \ 75 \end{array} \right.$
Eastern: 1/14 C.I.T. Scheme VII M, V.I.P. Road, Maniktola CALCUTTA 700054	37 86 62
Northern: SCO 445-446, Sector 35-C, CHANDIGARH 160036	2 18 43
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