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Mazdoor Kisan Shakti Sangathan
"The Right to Information, The Right to Live"

"पुराने को छोड़ नये के तरफ"
Jawaharlal Nehru
"Step Out From the Old to the New"

Indian Standard

TERMS AND DEFINITIONS OF WEIGHTS OF TWO WHEELED MOTOR VEHICLES

(First Revision)

ICS 43.140:01.020
FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Automotive Basic Standards Sectional Committee had been approved by the Transport Engineering Division Council.

This standard was first published in 1986 covering the terms and definitions associated with weights of scooters and motorcycles only. In this revision, the terms and definitions of weights of 'Mopeds', which were covered separately under IS 9726 : 1984 'Terms and definitions of weights of mopeds', have also been amalgamated in this standard. Subsequently IS 9726 : 1984 stands withdrawn.

In the preparation of this standard, considerable assistance has been derived from ISO 6726-1988 'Road vehicle — Weights of mopeds and motorcycles with two wheels — Vocabulary', issued by the International Organization for Standardization (ISO).

The composition of the Committee responsible for the formulation of this standard is given in Annex A.
Indian Standard

TERMS AND DEFINITIONS OF WEIGHTS OF TWO WHEELED MOTOR VEHICLES

(First Revision)

1 SCOPE

This standard defines the terms relating to weights of two wheeled motor vehicles. It does not cover the following vehicles:

a) Vehicles with a maximum design speed not exceeding 6 km/h;
b) Vehicles intended for pedestrian control; and
c) Vehicles intended for use by the physically handicapped.

1.1 It does not deal with the methods of measurement, the units used in reporting the results, the accuracy required or the order of the magnitude of the weights defined.

2 GENERAL

2.1 Unless otherwise stated with regard to one or more of the items mentioned below, it shall be understood that:

a) by ‘weight’ or by ‘load’ is meant the force transmitted by the vehicle, or by the part of the vehicle defined, to a horizontal plane of contact, under static conditions;
b) the supporting surface for the vehicle and any surface used on weighing device are horizontal and in the same plane;
c) weight and loads are measured when the vehicle is stationary and the engine is not running; the vehicle and its wheels being in the straight-ahead position;
d) the definition also apply to vehicles which are new from the factory and normally equipped; and

e) the tyres are inflated the pressure corresponding to manufacturer's instructions for condition of the vehicle under which weights are measured.

NOTE — The terms 'weight' and 'load' have been retained in this standard in place of the correct term 'mass' as concession to the continued current use of these terms by certain legislative bodies. When the terms 'weight' or 'load' are used in the sense of mass, the unit kilogram (kg), shall be given; when they are used in the sense of a force, the unit Newton (N), or Kilo Newton (kN) shall be given.

3 TERMS AND DEFINITIONS

3.1 Vehicle Dry Weight

It is the weight of vehicle ready for normal operation and fitted with the following:

a) auxiliary equipment only as necessary for normal operation;
b) full electrical equipment including the lighting and signaling devices supplied by the manufacturer;
c) all instruments and fittings required by any legislation in respect of which a measurement of the vehicle dry weight is being made; and
d) has full complement of liquids to ensure the correct functioning of every part of the vehicle.

NOTE — Fuel and fuel/oil mixture are not included in the measurement but such items as wet battery acid fluid for hydraulic circuits, coolant and engine oil are included.

3.2 Vehicle Kerb Weight (Unladen weight)

The vehicle dry weight (see 3.1) to which is added the weight of the following:

a) fuel tank filled by fuel/fuel — oil mixture or only fuel, as the case may be, to 90 percent of its capacity, specified by the manufacturer and for gaseous fuels such as CNG/LPG, 90 percent by weight; and

b) auxiliary equipment if supplied by the manufacturer along with the vehicle in addition to that necessary for normal operation, such as tool kid/spare wheel carrier(s), windsreen(s), protective equipment, etc.

3.3 Vehicle Weight (Fully Equipped)

The vehicle kerb weight (see 3.2) to which is added the weight of all such items of supplementary or alternative equipment as may be supplied by the manufacturer for fitting to that vehicle.

3.4 Manufacturer's Maximum Total Weight

The weight calculated by the manufacturer for specific operating conditions, taking into account such elements as strength of materials, tyre loading capacity, etc.
NOTE — This terminology is commonly understood as Gross Vehicle Weight (GVW).

3.5 Maximum Authorized Gross Vehicle Weight
Weight specified by the statutory authority for operating conditions laid down by such authorities.

NOTE — This could be less than manufacturer’s maximum total weight (see 3.4).

3.6 Maximum Authorized Payload
The weight obtained by subtracting weight mentioned at 3.2 from that mentioned at 3.5.

3.7 Manufacturer’s Maximum Payload
The weight obtained by subtracting the weight defined in 3.2 from the weight defined in 3.4.

3.8 Manufacturer’s Maximum Axle Weight
The weight determined by the manufacturer in respect of each axle, taking into account the strength of materials, the tyre loading capacity, etc.

3.9 Distributed Weight
Weight attributed to each axle in accordance with manufacturer’s specification.

NOTES
1. Measurements can be made in case of 3.1 to 3.3.
2. Measurements can not be made in case of 3.5 due to reasons of repeatability. In such case, manufacturer’s instructions shall be considered as guidelines.

3.10 Load Ratio
Ratio between the distributed weight (see 3.9) to the total load of the vehicle.

NOTE — The ratio may be significant with respect to any of the vehicle load condition mentioned at 3.1 to 3.3. However, such ratio in case of 3.5 shall be based on manufacturer’s instructions.
ANNEX A

( Foreword )

COMMITTEE COMPOSITION

Automotive Basic Standards Sectional Committee, TED 1

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<th>Organization</th>
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<td>Hindustan Motor Ltd, Distt Hooghly</td>
<td>Shri A. Batra (Alternate)</td>
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<td>Indian Institute of Petroleum, Dehra Dun</td>
<td>Shri B. P. Punder</td>
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<td>Kinetic Engineering Ltd, Pune</td>
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Amendments Issued Since Publication

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