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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 25980-2010

**Road vehicles -- Coupling balls for caravans and light trailers --
Dimensions
(English Translation)**

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1 Scope

This standard specifies the dimensions of the mechanical connection device, BETWEEN the caravans and the light trailer AND the tractor, using the coupling ball towing. The clear space, around the coupling ball, shall be able to guarantee the operational safety, when connecting and disconnecting the tractor, AND when connecting and disconnecting the mechanical device.

This standard is applicable to the coupling balls for the connection of categories M and N vehicles to caravans and light-duty trailers (categories O1, O2); it is not applicable to the connection between special vehicles and special trailers.

2 Normative references

The provisions in following documents become the provisions of this Standard through reference in this Standard. For the dated references, the subsequent amendments (excluding corrections) or revisions do not apply to this Standard; however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

GB/T 1031 Surface roughness - Parameters and their values (GB/T 1031-2001, idt ISO 468:1982)

GB/T 3730.2-1996 Road vehicle - Masses - Vocabulary and codes (idt ISO 1176:1990)

GB 11551-2003 The protection of the occupant in the event of a frontal collision for passenger car

GB 11566 External projections for passenger car

GB/T 25988 Road vehicles - Towing vehicle coupling device to tow caravans or light trailers
- Mechanical strength test (GB/T 25988-2010, ISO 3853:1994, IDT)

ECE R55:2001 Uniform provisions concerning the approval of mechanical coupling components of combinations of vehicles

Load conditions and load distribution shall comply with the provisions of Appendix 1 of Annex 7 of ECE R55:2001.

For vehicles of category M1, when measuring the position of the coupling ball, the vehicle mass shall be the maximum allowable mass, which is allocated between the axles, as determined by the tractor manufacturer, OR the kerb mass as specified in 3.4, plus:

a) Two masses of 68 kg, each are placed in the outer seating positions of each row of seats, where the normal driving and riding positions of the seats shall be the final adjusted positions. Determination of positions of other masses:

- For the original equipment, connection devices, parts, which are provided by the tractor manufacturer, can be 100 mm before the "R" point for the adjustable seat, OR 50 mm before the "R" point for other seats. The "R" point is determined according to the provisions of Appendix C of GB 11551-2003;

- The connecting devices and parts, which are provided by the manufacturer for maintenance and replacement, can be placed in the occupant seating position.

b) In addition to the mass of 68 kg per person, it shall also add the mass of luggage of 7 kg per person, which shall be distributed evenly in the luggage area of the vehicle.

For category N1 vehicles, the mass of the tractor shall be the maximum allowable mass, which is allocated between the axles, as determined by the tractor manufacturer, when measuring the height of the coupling ball.

4.2.1 General

The dimensions of the coupling ball shall comply with the provisions of Figure 1 and

4.2.2 and 4.2.3, including the relevant conditions of use.

4.2.2 Connection surfaces

The connecting surface, which connects the spherical surface and the cylindrical surface of the coupling ball, shall be tangent to the cylindrical surface and the horizontal lower surface of the sphere.

When the coupling ball consists of two parts, the spherical surface as defined in 3.2 can be a circular ring.

4.2.3 Ball neck

The diameter of the ball neck, below the horizontal plane at a position not lower than 32 mm below the center of the ball, shall be 27 mm ~ 29 mm.

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