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

GB 15083-2019

Replacing GB 15083-2006

**Strength requirements and test methods of automobile seats,
their anchorages and any head restraints**

汽车座椅、座椅固定装置及头枕强度要求和试验方法

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1 Scope

GB 15083 governs the seat as a restraint component: it must hold the occupant in a crash rather than tearing from its rails, and the head restraint behind must stop the head snapping back. The standard sets the strength requirements for the seat, its anchorages and the head restraint, the energy dissipation of the surfaces an occupant can strike, and - the provision that catches manufacturers out - the protection against luggage being thrown forward into the seat back from the boot. Seven annexes carry the test procedures, the measurement geometry and the head restraint dimensions. Issued on 14 October 2019, in force since 1 July 2020, replacing GB 15083-2006. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the edition it replaces are taken from there. The clause text, the tables and the numeric limits are not reproduced on this page - they are in the document itself, which is delivered in full in English translation.

This Standard specifies terms and definitions, technical requirements and test methods for automobile seats, their anchorages and any head restraints. This Standard is applicable to.

- a) Types M1 and N automobile seats, their anchorages and any head restraints;
- b) Types M2 and M3 automobile seats, their anchorages and any head restraints not involved in GB 13057;
- c) Design of seat backrest parts of type M1 automobile as well as design of the device that is to prevent occupant from causing injury due to movement of luggage in frontal collision. This Standard is not applicable to rearward-facing seats as well as the head restraints that are mounted on them.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 3730.1, Motor vehicles and trailers - Types - Terms and definitions

GB 11551-2014, The protection of the occupants in the event of a frontal collision for motor vehicle

GB 11552, The interior fittings of passenger car

GB 13057, Strength of the seats and their anchorages of passenger vehicles

3 Terms and definitions

For the purposes of this document, the terms and definitions defined in GB/T 3730.1, GB/T 15089 as well as the followings apply.

3.1 vehicle type The vehicle category that has no difference in the following main aspects.

3.2 seat A ride facility that is for an adult occupant, that has complete skin and is integrated with or separated from the vehicle structure. It includes a single seat or a place in a bench seat.

3.3 bench seat A ride facility that is for more than one adult occupants, that has complete skin.

3.4 folding seat A backup seat that is designed for an adult occupant to use occasionally, that is easy to operate and be able to self-lock during use. Usually, it is in a folded state.

3.5 walk-in seat A seat that its backrest, cushion or overall is reversible, unloaded; that provides convenience for passenger behind the seat to enter and leave the vehicle or convenience for luggage placement.

3.6 anchorage A device that fixes seat assembly on vehicle structure. It includes the components that are affected on vehicle structure.

3.7 adjustment system A device that can adjust the position of the seat or its components to suit the occupant's seating posture. This device may have (but not limit to) the following functions.

3.8 displacement system The device that is easy for occupants to enter and exit behind the seat and makes the seat or a part of it rotate or/and move. There is no fixation position during the process when the seat or a part of it rotates or/and moves.

3.9 locking system The device that keeps the seat and components in the position of use.

3.10 transverse plane A vertical plane that is orthogonal to the longitudinal center plane of vehicle.

4 Technical requirements

4.1 General requirements M1, N1, M2 (level II, level III and level B), M3 (level II, level III and level B) vehicles with a loading mass that is not exceeding 10t are forbidden to install side-facing seat (excluding particular school buses, ambulances, police vehicles, and civil defense and fire fighting vehicles).

4.2 General requirements for all seats of M1 vehicles

4.2.1 Each adjustment system and displacement system shall have self-locking system. If the seat armrest or other comfort systems do not cause additional damage to the occupants in the event of a collision, it shall be unnecessary to use locking system.

4.2.2 For the displacement system defined in 3.8, its unlocking system shall be located on the outside of the seat near the door. Even the occupants behind the seat shall be easily accessible.

4.2.4 On the surface of seat back component, it is not allowed to have any bumps or sharp edges that may increase occupant injury. If the test is performed according to the conditions specified in 5.1, the radius of curvature of the surface of the seat back component shall not be less than the following provisions.

4.2.5 During the process of the test performed according to the provisions of

5.3 or after the test, the seat skeleton, the anchorage, the adjustment system, the displacement system as well as its locking system shall not fail.

4.3 General requirements for N1, N2, N3 and M2, M3 vehicle seats

4.3.1 The seat and the bench seat shall be firmly fixed on the vehicles.

4.3.2 The movable seat and bench seat shall be able to lock themselves on the positions of use.

4.4 Installation of head restraint

4.4.1 The outer side seats of the front row of M1 vehicle shall be equipped with the head restraints. Other seats as well as the seat head restraints of other types of seats shall be inspected according to this Standard.

4.4.2 The outer side seats of M2 and N1 vehicles of which the maximum total mass does not exceed 3500kg shall be equipped with head restraints. The head restraints that are installed on these vehicles shall meet the requirements of this Standard.

4.8 Clearance

4.8.1 For integrated head restraint, the area that shall be considered is, at the position 540mm from the 'R' point and above the plane that reference lines are perpendicular to each other, within the area enclosed between two longitudinal vertical planes of 85mm on either side of the torso reference line.

4.10 Other requirements for head restraint

4.10.1 When the head restraint and its anchorage are measured by the static test method specified in 5.4.3, the maximum backward displacement X of the head type shall be less than 102mm.

5.1 Test conditions

5.1.1 For adjustable seat backrest, except as otherwise specified by the manufacturer, it shall be locked in the back-tilt position as close as possible to 25° of the three-dimensional H-point system trunk reference line as described in Appendix A of GB 11551-2014 and the vertical direction.

5.2 Strength test of seat backrest and its adjustment system Though stimulating the human pseudo-back model described in Annex A of GB 11551-2014, apply a load of 530Nm to the seat 'R' point in the longitudinal direction of the upper part of the seat back skeleton. For bench seat, if part or all of the supporting skeleton (including the head restraint part) is shared by more than one seat, these seats shall be tested simultaneously.

5.3 Strength test of seat anchorage, adjustment system, locking system and displacement system

5.4 Performance test of head restraint

5.4.1 Description of performance test of adjustable head restraint For the adjustable head restraint, the head restraint shall be at the most unfavorable position within its adjustment range (usually, it is the highest position).