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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB 11557-2026

Replacing GB 11557-2011

Provisions for protecting drivers from injury by the steering mechanism of motor vehicles

防止汽车转向机构对驾驶员伤害的规定

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1 Scope

GB 11557-2026 is the Chinese national standard covering the collapsible steering column - the rearward displacement of the column allowed in a barrier impact and the force the body block may exert on it, which is the requirement that stopped steering columns from impaling drivers. A mandatory standard. It replaces GB 11557-2011 and takes effect on 1 January 2027. It was issued on 30 April 2026 and takes effect on 1 January 2027, replacing GB 11557-2011. The document is under the responsibility of the Ministry of Industry and Information Technology. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the general requirements, technical requirements, test methods, criteria for the determination of "same type" regarding the prevention of injury to the driver caused by the vehicle steering mechanism during a frontal collision. This document is applicable to M1 and N1 category vehicles, as well as multi-purpose goods vehicles.

2 Normative references

The provisions in following documents become the provisions of this Standard through reference in this Standard. For dated references, only the edition cited applies to this document; for undated references, the latest edition (including any amendments) applies to this document.

GB 11551 The protection of the occupants in the event of a frontal collision for passenger

car

GB 11552 The interior fittings of passenger car

GB/T 20913 The protection of the occupants in the event of an off-set frontal collision for passenger car

GB/T 31498 Post crash safety requirement for electric vehicle

ISO 6487 Road vehicles - Measurement techniques in impact tests - Instrumentation

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Steering wheel device The component used by the driver to change and maintain the direction of travel of [Source: GB 20072-2024, 3.2]

3.14 Voltage class B electric circuits Electrical components or circuits, which have a maximum working voltage greater than 30 V a.c. (rms) and less than or equal to 1000 V a.c. (rms), or greater than 60 V d.c. and less than or equal to 1500 V d.c. [Source: GB/T 19596-2017, 3.1.3.2.19]

3.15 Rechargeable electrical energy storage system (REESS) An energy storage system that is rechargeable and capable of providing electrical energy.

Note. This excludes energy storage systems used solely to power the engine starter, lighting, or other vehicle auxiliary systems. [Source: GB 18384-2020, 3.1, modified]

4 General requirements

4.1 The parts of the steering wheel device facing the driver that can be contacted by a sphere with a diameter of 165 mm shall be smooth; the radius of curvature for any sharp edges or protruding parts shall be no less than

2.5 mm. For steering wheel devices equipped with a safety airbag, compliance with this requirement shall be deemed satisfied if no part contacted by a sphere with a diameter of 165 mm presents a sharp edge as defined in GB 11552.

4.2 The steering wheel device, including its control buttons and other accessories, shall not interfere with the driver's normal operation of the vehicle during normal driving (including the risk of snagging on clothing or accessories).

5 Technical requirements

5.1 When tested in accordance with 6.1, the rearward displacement of the upper end of the steering control support system, which is measured horizontally parallel to the vehicle's longitudinal centerline relative to a point within the vehicle interior unaffected by the

collision, shall not exceed 127 mm. The upward displacement of the upper end of the steering control support system, which is measured vertically relative to a point within the vehicle interior unaffected by the collision, shall not exceed 127 mm. If a vehicle equipped with a steering mechanism, having been tested in accordance with GB/T 20913, satisfies the requirements specified in GB/T 20913 regarding the steering wheel displacement measured at the center of the steering column, then the said steering mechanism shall be deemed to comply with the requirements of this clause.

5.2 For pure electric vehicles and hybrid electric vehicles equipped with voltage class B electric circuits, following a collision test conducted in accordance with the test methods specified in

6.1 or GB/T 20913, the vehicle's high-voltage propulsion system (including the REESS) and all high-voltage components electrically connected thereto shall comply with the requirements for protection against electric shock, electrolyte leakage, REESS integrity as specified in GB/T 31498.

5.3 When tested in accordance with 6.2, the horizontal force exerted by the steering wheel device upon the human body module shall not exceed 11110 N. Steering wheel devices equipped with safety airbags shall not generate hard projectiles (metal or plastic fragments) directed toward the driver or passengers during the safety airbag deployment process. If a vehicle equipped with a steering wheel device featuring a safety airbag satisfies the requirements specified in GB/T 20913 regarding the driver's chest compression and chest viscous criteria, then the said steering mechanism shall be deemed to comply with the requirements of this clause.

5.4 When tested in accordance with 6.3, the cumulative duration during which the deceleration acting upon the head impactor exceeds 80 g shall not exceed 3 ms; the maximum deceleration shall not exceed 120 g. For steering wheel devices equipped with safety airbags, no hard fragments (metal or plastic parts) that project toward the driver or occupants shall be generated during the airbag deployment process.

5.5 Following the tests conducted in accordance with

6.2 and 6.3, the surface of the steering wheel device facing the driver shall be free of hazardous sharp points, edges, or similar features that could cause or exacerbate injury to the driver; minor surface fractures and cracks are excluded from this requirement. For protrusions mounted on a rigid support, if the surface material hardness does not exceed Shore hardness 50 HA, only the rigid support component is required to comply with the provisions of this clause.

5.6 When the steering wheel device is tested in isolation in accordance with 6.2.2.1.3 and 6.3.2.2.3, the steering wheel device shall comply with the requirements specified in 5.3 ~ 5.5.

6.1 Frontal fixed barrier impact test

6.1.1 Test site The test site shall comply with the provisions of GB 11551.

6.1.2 Barrier The barrier shall comply with the provisions of GB 11551.

6.1.3 Barrier positioning The positioning of the barrier shall comply with the provisions of GB 11551.

6.1.4 Vehicle propulsion The propulsion of the vehicle shall comply with the provisions of GB 11551.

6.1.5 Vehicle condition

6.1.5.1 The test vehicle shall be equipped with all components that may influence the test results and shall be in normal operating condition. Tire pressures shall be adjusted to the values specified by the vehicle manufacturer.

6.1.5.2 For M1 category vehicles, the test vehicle mass shall be the kerb mass. For N1 category vehicles and multi-purpose trucks, the test vehicle mass shall be the kerb mass plus a ballast of 136 kg or the vehicle's rated payload (whichever is smaller); this ballast shall be securely installed within the vehicle's cargo area.

6.1.5.3 The fuel tank (if present) shall be drained and then filled with water or a non-flammable liquid, which has a density and viscosity similar to those of the fuel normally used. The mass of the water or non-flammable liquid filled shall be at least 90% of the full fuel capacity specified by the manufacturer. All other systems (braking system, lubrication system, cooling system, etc.) may be drained; reduction in mass resulting from such draining shall be compensated for.

6.1.5.4 For externally chargeable REESS devices, the REESS shall be charged to its maximum state of charge in accordance with the manufacturer's specifications. The collision test shall be conducted within 24 hours of the completion of charging.

6.1.5.5 At the manufacturer's request, the tests prescribed in this document may be conducted using a single test vehicle shared with other tests.

6.1.5.6 If the steering wheel device is adjustable, it shall be adjusted to the position specified by the manufacturer; if no position is specified by the manufacturer, it shall be adjusted to the midpoint of its adjustment range. At the end of the acceleration phase, the steering wheel device shall be in a free state and positioned as specified by the manufacturer for straight-line driving.

6.1.6 Test speed At the moment of impact, the vehicle speed shall be 49 km/h ~ 51 km/h. Furthermore, this speed shall remain stable for at least 1 meter prior to impact. If the test is conducted at a higher impact speed, meanwhile the vehicle meets the requirements of