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# General Technical Specification for Multipurpose Goods Vehicle

多用途货车通用技术条件

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# General Technical Specification for Multipurpose Goods Vehicle

## 1 Scope

This document specifies the technical requirements and product instructions for multipurpose goods vehicle.

This document is applicable to two-row-seat multipurpose goods vehicle.

## 2 Normative References

The following documents are indispensable to the application of this document. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB 1495 Limits and Measurement Methods for Noise Emitted by Accelerating Motor Vehicles

GB 1589 Limits of Dimensions, Axle Load and Masses for Motor Vehicles, Trailers and Combination Vehicles

GB/T 3730.1 Motor Vehicles and Trailers - Types - Terms and Definitions

GB/T 3730.2 Road Vehicle - Masses - Vocabulary and Codes

GB/T 4970 Method of Running Test - Automotive Ride Comfort

GB/T 5053.3 Road Vehicles - Connectors for the Electrical Connection of Towing and Towed Vehicles - Definitions, Tests and Requirements

GB 7258 Technical Specifications for Safety of Power-driven Vehicles Operating on Roads

GB 11550 Strength Requirement and Test of Automobile Seats Head Restraints

GB 11551 The Protection of the Occupants in the Event of a Frontal Collision for Motor Vehicle

GB 11552 The Interior Fittings of Passenger Car

GB 11555 Motor Vehicles - Windshield Demisting and Defrosting Systems - Performance Requirements and Test Methods

#### 4.2.5 Roll stability

In the complete vehicle curb mass and the stationary state, the maximum roll stability angle to the left side and the right side shall be not less than 35°. The test method shall comply with the stipulations of GB/T 14172.

#### 4.2.6 Brake

It shall be equipped with an anti-lock braking system in accordance with the stipulations of GB/T 13594. The technical requirements and test methods of the braking system shall comply with the stipulations of GB 12676.

#### 4.2.7 Steep hill climbing capacity

The maximum steep hill climbing capacity shall be not less than 25%. Electric vehicles shall be tested in accordance with the method determined by GB/T 34585; other vehicles shall be tested in accordance with the method determined by GB/T 12539.

#### 4.2.8 Comfort

##### 4.2.8.1 Smoothness

In accordance with the method determined by GB/T 4970, carry out the random working condition test. When the test speed is 90 km/h, the equivalent average value of the front seat ride comfort shall be not greater than 115.0 dB.

##### 4.2.8.2 Heating performance

The requirements and test methods for the heating performance shall comply with the stipulations of GB/T 12782.

##### 4.2.8.3 Performance of air conditioner and refrigerating unit

In accordance with the method determined by QC/T 657 and QC/T 658, carry out the test. The performance of air conditioner and refrigerating unit shall comply with the stipulations of QC/T 656.

### 4.3 Energy Saving and Environmental Protection

#### 4.3.1 Noise

During acceleration, the maximum sound pressure level of the outside noise shall comply with the stipulations of GB 1495. The noise around the driver’s ears shall comply with the stipulations of GB 7258.

#### 4.3.2 Emissions

The limits and measurement methods for pollutant emissions shall comply with the

stipulations of GB 18352.6.

#### 4.3.3 Economical efficiency of fuel

For multipurpose goods vehicles fueled by gasoline or diesel fuel, the limits of fuel consumption shall comply with the stipulations of GB 20997. The fuel consumption of gasoline, diesel, dual-use fuel and dual-fuel vehicles shall be tested in accordance with the method determined by GB/T 19233. The fuel consumption of hybrid electric vehicles shall be tested in accordance with the method determined by GB/T 19753.

#### 4.3.4 In-vehicle air quality

The requirements and test methods for the in-vehicle air quality shall comply with the stipulations of GB/T 27630.

#### 4.3.5 Electromagnetic compatibility

The requirements and test methods for the complete-vehicle electromagnetic compatibility shall comply with the stipulations of GB 34660.

### 4.4 Vehicle Body and Accessories

#### 4.4.1 Collision

The requirements and test methods for the frontal collision performance shall comply with the stipulations of GB 11551. The requirements and test methods for the lateral collision shall comply with the stipulations of GB 20071.

#### 4.4.2 Seats and head restraints

The technical requirements and test methods for the seats and head restraints shall comply with the stipulations of GB 11550 and GB 15083. The technical requirements and test methods for the seats and their anchorages shall comply with the stipulations of GB 15083.

#### 4.4.3 Safety belts, child restraint systems and anchorages

The seats for the driver and passengers shall be equipped with safety belts. The performance and test methods for the safety belts shall comply with the stipulations of GB 14166; the anchorages shall comply with the stipulations of GB 14167. Multi-purpose goods vehicle shall have at least one rear seat equipped with ISOFIX child restraint system anchorages that comply with the stipulations of GB 14167.

#### 4.4.4 Interior fittings

The interior fittings of the cab shall comply with the stipulations of GB 11552. The exterior fittings of the cab shall comply with the stipulations of GB 20182.

allowable towing mass;

b) Apply a lateral thrust load of 0.5 times the maximum allowable towing mass;

c) Apply vertical tensile and compressive loads of 0.5 times the maximum allowable towing mass.

**4.5.2 Electrical connector**

The circuit capacity from the multipurpose goods vehicle to the output end of the trailer shall be not less than 20 A, and shall be equipped with a 12 V 13-pole electrical connector that complies with the stipulations of GB/T 20718.

**4.5.3 Requirements for towing**

**4.5.3.1** When towing a trailer with the maximum allowable total mass, in accordance with the method determined by GB/T 12539, carry out the test. The maximum steep hill climbing capacity of the combination shall be not less than 12%.

**4.5.3.2** When towing a trailer with the maximum allowable total mass, in accordance with the method determined by GB 12676, carry out the test. The parking and braking system of the multipurpose goods vehicle shall be able to maintain the combination stationary on 12% up and down slopes.

**4.5.3.3** When towing a trailer with the electric braking function, the multipurpose goods vehicle shall have the function of synchronous braking control of the trailer.

**4.5.3.4** For all-wheel and rear-wheel driven multipurpose goods vehicles, the ratio of the maximum design total mass of the mid-axle trailer to the curb mass of the multipurpose goods vehicle shall be not greater than 1.5. For front-wheel driven multipurpose goods vehicles, the ratio of the maximum design total mass of the mid-axle trailer to the curb mass of the multipurpose goods vehicle shall be not greater than 1.0.

**4.5.3.5** When towing a trailer without the braking system, the ratio of the maximum design total mass of the mid-axle trailer to the curb mass of the multipurpose goods vehicle shall be not greater than 0.6. The maximum design total mass of the trailer shall be not greater than 750 kg.

**4.5.3.6** When towing a mid-axle trailer, the vertical load acting on the towing device shall be not less than 4% of the actual towing mass and not less than 25 kg. Meanwhile, it shall be not greater than 10% of the maximum allowable towing mass. When towing a trailer, the axle load of the rear axle of the multipurpose goods vehicle shall be not greater than its maximum allowable axle load.

**4.5.3.7** When towing a trailer whose unilateral outreach exceeds the width of the multipurpose goods vehicle by 150 mm, the multipurpose goods vehicle shall be

equipped with Class II main exterior mirrors that comply with the requirements of GB 15084.

**4.5.3.8** When towing a trailer, the connection between the multipurpose goods vehicle and the towing device shall not be disconnected, twisted or failed.

**4.5.3.9** Mounting holes for the fifth wheel shall be reserved on the bottom plate of the compartment. The mounting holes for the fifth wheel shall satisfy the anti-corrosion requirements of the complete vehicle. When towing a semi-trailer, the multipurpose goods vehicle and the semi-trailer shall not interfere with each other.

## 4.6 Compartment

### 4.6.1 Compartment body

**4.6.1.1** The compartment body has the structural strength and vibration reliability required to load the goods and maintain the goods fixed. The compartment shall only be openable and closable at the rear fence of the compartment. When the rear fence is in the form of lateral opening, in the open state, the rear fence shall not exceed the width of the complete vehicle.

**4.6.1.2** If the rear fence of the compartment can maintain in a flatwise placed state, after the rear fence in the flatwise placed state is tested in accordance with Appendix A, the rear fence, pull ropes, hinges and other components shall not be cracked or broken, and the functions shall be normal.

### 4.6.2 Lashing point

The compartment shall be equipped with at least 4 lashing points, which are symmetrically distributed. Each lashing point shall be able to withstand a tensile load of not less than 1,500 N. After carrying out the test in accordance with Appendix B, there shall be no breakage or separation.

### 4.6.3 Compartment cover

**4.6.3.1** The compartment cover shall be a rigid structure. The cover and accessories of the compartment shall have sufficient strength and be firmly installed.

**4.6.3.2** The compartment cover shall have an opening structure or a cover-locking system for the loading and unloading of goods.

## 4.7 Tire

**4.7.1** Tubeless radial tires shall be used; the tires shall be marked with tread wear. If there is a spare tire, and its specifications are different from other tires of the vehicle, a mark that can be permanently maintained shall be set up in a conspicuous position (or other appropriate positions) near the spare tire.

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