

ICS 43.040.60

CCS T26



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

GB 11567-2017

**Motor vehicles and trailers-lateral and rear underrun protection
requirements**

汽车及挂车侧面和后下部防护要求

Issued on: September 29, 2017

Implemented on: January 1, 2018

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China;
Standardization Administration of China**

Table of Contents

Foreword...	3
1 Scope...	5
2 Normative references...	5
3 Terms and definitions...	5
4 Technical requirements for lateral protection device...	6
5 Technical requirements for vehicle mounted with lateral protection device...	8
6 Technical requirements for vehicle with lateral protection device...	11
7 Technical requirements for rear underrun protection device...	15
8 Technical requirements for vehicle mounted with rear underrun protection device...	16
9 Technical requirements for vehicle with rear underrun protection...	17
10 Provisions on same type...	19
25 Annex D (normative) Test technique. instruments...	28

1 Scope

China's mandatory national standard for the lateral and rear underrun protection of motor vehicles and trailers. Underrun is the specific way a collision between a car and a lorry becomes fatal: the car's own crash structure is at bumper height and the lorry's load bed is above it, so the car passes underneath and the impact arrives at windscreen level, where there is no structure at all and the occupants are. The guards this standard requires are simple bars, and their whole purpose is to present a barrier at the car's height so that the car's front crumples as it was designed to. The lateral guard does the same job for cyclists and pedestrians, keeping them from going under the trailer and into the rear wheels, which is the commonest fatal urban lorry collision. The standard specifies the strength, the dimensions and the mounting positions of both.

This Standard specifies the technical requirements for lateral and rear underrun protection devices of motor vehicles and trailers as well as the technical requirements for vehicles. This Standard is applicable to N2, N3, O3 and O4 vehicles. This Standard is not applicable to semi-trailer tractor or the vehicles that are designed and manufactured particularly, lateral and rear underrun protection devices cannot be mounted due to objected reasons. The requirements for rear underrun protection are not applicable to special purpose vehicles specially designed and manufactured to handle long staples that cannot be segmented (such as vehicle for timber transport).

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 3730.2, Road vehicle - Masses - Vocabulary and codes

GB/T 15089, Classification of power-driven vehicles and trailers

3 Terms and definitions

For the purposes of this document, the terms and definitions defined in GB/T 3730.2 and GB/T 15089 as well as the followings apply.

3.1 unprotected road users pedestrians, cyclists or motorcyclists who may fall into the side of a vehicle while using the road and are involved in the wheel

3.2 lateral protection device a device consisting of a longitudinal part and a connecting structure that is fixed on the side part of the chassis or on other structural parts of the vehicle, used to prevent unprotected road users falling into the side of the vehicle and getting caught under the wheel; certain parts of the vehicle can be used as lateral protection device

3.3 rear underrun protection device a device consisting of a transverse component and a connecting structure that is fixed to a chassis part or to other structural parts of a vehicle

4 Technical requirements for lateral protection device

4.1 The lateral protection device shall be measured according to the test conditions specified in Annex A.1. The outer surface of lateral protection device shall be smooth and as continuous as possible before and after. Adjacent parts are allowed to overlap. But lapped exposed edges shall be backward or downward.

4.2 The lateral protection device may be a continuous plane or consist of one or more crossbars or be a combination of plane and crossbar. When using the crossbar structure, the crossbar spacing shall not exceed 300 mm, and the section height OF.

4.3 The front edge of the lateral protection device shall have a continuous vertical component throughout its entire height. For N2 and O3 vehicles, the outer side and front face of the vertical component are at least 50 mm rearward, 100 mm inwardly curved, or a minimum radius of 50 mm, at least a quarter arc.

4.6 The lateral protection device can be designed to have different mounting positions when it is at vehicle side. At this moment, there shall be a reliable method to ensure that it is at normal operation position but not moved freely after it is mounted.

5 Technical requirements for vehicle mounted with lateral protection device

5.1 The test vehicle shall be measured according to the test conditions specified in Annex A.2.

5.2 Structural requirements for front edge of lateral protection device

5.2.1 The front edge position shall comply with the following provisions.

5.2.2 When the front edge of the lateral protection device is located in an open area exceeding 25 mm, the front edge of the lateral protection device shall have a continuous vertical component throughout its entire height.

5.3 The trailing edge of the lateral protection device shall be within 300 mm of the tire closest to its tangent plane. This section is a vertical plane perpendicular to the longitudinal plane of the vehicle. The trailing edge may not require the installation of a continuous vertical component.

5.7 The upper edge of the lateral protection device shall be no larger than 350 mm from the vehicle component on the upper side. This component means a part that is delivered or in contact with a vertical plane cut at the outer side of the tire (excluding the part of the tire that is in contact with the ground), except the followings.

5.8 The lateral protection device shall be securely fixed and not to be loosened by vibration from normal use of the vehicle.

6 Technical requirements for vehicle with lateral protection device

6.1 The vehicle with lateral protection device shall be measured according to the test conditions specified in A.2. The lateral protection device shall not increase the total width of vehicle. The outer surface of the main part of the vehicle is located in the outermost edge (maximum width) within the position of not more than 150 mm.

6.2 The outer surface of lateral protection device shall be smooth and as continuous as possible before and after. Adjacent parts are allowed to overlap. But lapped exposed edges shall be backward or downward.

6.3 The lateral protection device may be a continuous plane or consist of one or more crossbars or be a combination of plane and crossbar.

6.4 The structural requirements for lateral protection device are as follows:

6.8 In the no-load state of the vehicle, the ground clearance at any point on the lower edge of the lateral protection device shall not be more than 550 mm.

6.9 The upper edge of the lateral protection device shall be no larger than 350 mm from the

vehicle component on the upper side. This component means a part that is delivered or in contact with a vertical plane cut at the outer side of the tire (excluding the part of the tire that is in contact with the ground), except the followings.

6.10 The lateral protection device shall have a certain rigidity, fixed firmly (the loosening is not because of vibration). Except the parts described in 4.5, it shall be made of metal or other appropriate material. When a static pressure of 1 kN is applied to a circular pressure head of $220\text{mm} \pm 10\text{mm}$ in diameter perpendicularly to each part of the outer surface of the device, the deformation due to the force shall meet the following requirements.

6.11 The various facilities that are permanently mounted in the vehicle such as spare tire, battery rack, gas cylinder, fuel tank, lamp, reflector, tool box, etc. can be used as part of the lateral protection device.

6.12 Brake components, gas or liquid lines shall not be fitted and secured to the lateral protection device.

6.13 The lateral protection device can be designed to have different mounting positions when it is at vehicle side. At this moment, there shall be a reliable method to ensure that it is at normal operation position but not moved freely after it is mounted. The force that needs to be applied when adjusting its mounting position shall not exceed 400 N.

6.14 The following vehicle types shall be met.

6.15 If the shape and characteristics of the designed and/or equipped components on the side of the vehicle can together meet the requirements of Clause 6, the lateral protection device may be replaced.

7 Technical requirements for rear underrun protection device

7.1 Both ends of transverse component of rear underrun protection device shall not bend toward the rear of the vehicle. There shall be no sharp outside edge. The lateral end of transverse component shall be rounded with a fillet radius not less than

7.2 The rear underrun protection device may be designed with different mounting positions at the rear of the vehicle. At this moment, there shall be a reliable way to ensure that it shall not be freely moved in the mounting position after it is mounted. When adjusting its mounting position, it needs to exert a force not greater than 400 N.

7.3 The rear underrun protection device shall have adequate barrier to rear- end collisions in a direction parallel to the longitudinal axis of the vehicle to prevent a collision. This barrier capability shall be evaluated in accordance with the static loading test of

a) or the mobile barrier crash test of b).

7.4 For vehicles with a tailgate mounted on the rear, the rear underrun protection device can be interrupted. In this case, the following requirements shall be met.