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

JT/T 1178.1-2018

**Safety specification for commercial vehicle for cargos
transportation - Part 1: Goods vehicle
(English Translation)**

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1 Scope

This part of JT/T 1178 specifies the safety technical requirements and test methods, for the complete vehicle, braking system, safety protection, load layout identification and securing points, alarms and reminders of goods vehicles.

This part is applicable to goods vehicles of category N1, N2, N3. It is not applicable to towing vehicles and semi-trailers.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

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

GB/T 5922 Motor vehicles and towed vehicles - Pressure test connection for compressed-air pneumatic braking equipment

GB/T 6323-2014 Controllability and stability test procedure for automotive

GB 7258 Safety specifications for power-driven vehicles operating on roads

GB/T 8170 Rules of rounding off for numerical values & expression and judgement of limiting values

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

vehicle

GB 11567 Motor vehicles and trailers-lateral and rear underrun protection requirements

GB/T 12534 Motor vehicles - General rules of road test method

GB 12676 Technical requirements and testing methods for commercial vehicle and trailer braking systems

JT/T 884 Anti-rollover stability test procedure for commercial vehicles -

Steady static circular test procedure

JT/T 1046 Explosion suppression safety technical requirements for road transportation vehicle fuel tank and liquid fuel transportation tank

JT/T 1094-2016 Safety specifications for commercial bus

QC/T 480 Criterion threshold and evaluation of controllability and stability for automobiles

3 Terms and definitions

The terms and definitions as defined in GB/T 3730.1, GB/T 6323, GB/T 15089, GB 26512, as well as the following terms and definitions apply to this document.

3.1

Commercial vehicle for cargos transportation

Vehicles, semi-trailer tractors, towing vehicles, trailers, which are used for commercial cargo transportation.

Note: Rewrite JT/T 719-2016, definition 3.1.

4 Complete vehicle

4.1

The specific power of goods vehicles (except electric vehicles) shall be greater than or equal to 6.0 kW/t.

4.2

Goods vehicles (except tank cars) shall be subjected to the rollover stability bench test, according to the test method specified in GB/T 14172. The rollover stability angle shall meet the following requirements:

- Under no-load and static conditions, the rollover stability angles tilted to the left and right shall be greater than or equal to 35°;
- Under full load and static conditions, the rollover stability angle to the left and right shall be

greater than or equal to 23°. It may also carry out simulated calculations, in accordance with the provisions of Chapter 6 of

GB 28373-2012, under the loading conditions specified by the enterprise.

4.3

The goods vehicles shall undergo a steady-state rotation test, under full load, in accordance with the provisions of Chapter 10 of GB/T 6323-2014. The under-steering degree shall be greater than or equal to 0 °/(m/s²) AND less than or equal to 1.0 °/(m/s²).

5.3 The air cylinder and brake air chamber of the brake system of goods vehicles shall be equipped with a pressure test connector for the pneumatic air brake device. The performance of the pressure test connector shall meet the requirements of GB/T 5922.

5.4 Goods vehicles shall be equipped with anti-lock braking devices AND be equipped with signal devices for alarm, when the anti-lock braking devices fail.

The performance of the anti-lock brake device shall meet the requirements of

GB/T 13594. The electromagnetic compatibility shall meet the level 3 requirements of GB/T 18655 AND the requirements of GB/T 17619.

5.5 The goods vehicles shall be tested in accordance with the method specified in GB 12676. The response time of the pneumatic braking system shall be less than or equal to 0.6 s.

5.6 When a goods vehicle is fully loaded, the vehicle shall remain within the lane, during full braking, at an initial speed of 50 km/h, on a flat arc lane, which has an adhesion coefficient less than or equal to 0.5, a lane centerline radius of 150 m, a width of 3.7 m.

5.7 The performance of the brake linings of the goods vehicle's drum brake

shoe assembly or disc brake shoe assembly, shall meet the following requirements:

a) When tested according to GB/T 22309, the minimum shear strength of drum brake shoe assembly and disc brake shoe assembly is greater than or equal to 2.5 MPa;

b) When tested according to GB/T 22311, the normal temperature compression of the drum brake shoe assembly is less than or equal to 2%;

the compression at 200 °C is less than or equal to 4%;

c) When tested according to GB/T 22311, the normal temperature compression of the disc brake shoe assembly is less than or equal to 2%;

the compression at 400 °C is less than or equal to 5%.

5.8 When a goods vehicle, which has a total mass greater than or equal to

12000 kg, adopts pneumatic braking, the rated working air pressure of the brake system's

air cylinder shall be greater than or equal to 1000 kPa.

5.9 For goods vehicle, which has a total mass greater than or equal to 12000 kg AND a maximum speed greater than 90 km/h, all steering wheels shall be equipped with disc brake. When the disc brake's linings need to be replaced, acoustic or optical alarms shall be used to alarm the driver. The alarm device shall meet the requirements of GB 12676.

5.10 For goods vehicle, which has a total mass greater than or equal to 12000

6.8 Gas-fueled vehicles shall be equipped with automobile static conductive rubber tow belt. The performance of automobile static conductive rubber tow belt shall meet the requirements of JT/T 230.

7 Load layout identification and securing points

7.1

For goods vehicles (except tank cars and dump trucks), they shall be provided with permanently maintained load layout marks, at the easily visible position of the vehicle. The load layout mark's curve shall be drawn according to Appendix D; the marking size shall not be less than 160 mm x 100 mm.

7.2

The load layout mark shall use the simplified vehicle diagram (excluding the bodywork structure) as background. The load distribution curve shall take the position of the goods mass center as the abscissa AND the maximum allowable load mass as the ordinate. It shall also meet the following constraints:

- a) Do not exceed the maximum allowable axle load limit of the front axle;
- b) Do not exceed the maximum allowable axle load limit of the rear axle (group);
- c) Do not exceed the maximum design total mass of the vehicle;
- d) The minimum load of the steering shaft meets the vehicle's design requirements;
- e) The minimum load of the drive shaft (group) meets the vehicle's design requirements.

7.3

For the categories N2 and N3 goods vehicles (except tank cars and dump trucks), the number, installation position, strength of the securing points of cargo box, shall meet the requirements of Appendix E, as well as Appendix C of JT/T 882-2014, respectively.

8 Alarms and reminders

8.1

For goods vehicles, which have a total mass greater than 18000 kg AND a maximum speed