

ICS 43.100



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

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**Road vehicles - Trailers up to 3.5 t - Requirements for jockey
wheels and drawbar supports**

道路车辆 3.5t以下挂车 支撑轮和升降装置要求

(English Translation)

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1 Scope

This document specifies the technical requirements, test methods, marking, installation, operation and maintenance instructions for jockey wheels and support devices.

This document applies to the design, manufacture, installation and use of jockey wheels and support devices on single-axle (center-axle) rigid drawbar trailers with a total mass not exceeding 3.5 t.

2 Normative references

This document has no normative references.

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

jockey wheel

A device installed at the front of the trailer to support the weight of the front of the trailer and adjust the height of the drawbar when the trailer is disconnected from the towing vehicle.

NOTE: When the trailer is disconnected from the towing vehicle, the device supports the trailer to move stably in any direction on the ground.

3.2

drawbar support device

A mechanical device connected to the trailer's drawbar, which has a height adjustment function to ensure that the trailer remains level when it is disconnected from the towing vehicle.

NOTE 1: It consists of a vertical tubular support and a manual height adjustment mechanism with a locking and/or clamping system.

NOTE 2: The device is assembled as a lifting system and the shaft of the connecting ball can be separated from the connecting ball.

3.10

drawbar eyes

With a hole matching the 50 mm diameter pin, it is installed on the trailer's drawbar to connect the mechanical part of the automatic drawbar connector.

3.11

load lifting capacity

The maximum vertical mass that can be lifted by a jockey wheel or a drawbar support device with a lifting function.

NOTE: The unit is kilogram (kg).

4.1 Bench test requirements

After testing according to 5.3, the jockey wheels or the drawbar support device shall not move (slide).

After the test load is stopped being applied, the jockey wheels shall have no visible damage or deformation, function normally, and their load lifting capacity shall not be lower than the test load.

4.2 Static vehicle test requirements

During the test according to 5.4, there shall be no movement (slippage) of the jockey wheels or the drawbar support device.

After the test load is stopped being applied, there shall be no visible damage or deformation of the strut and components.

4.3 The operating force requirements for the jockey wheel operating handle and

T-bolt in the working state (the trailer is disconnected from the towing vehicle)

The operating force of the jockey wheel operating handle and T-bolt shall not be greater than 250 N, and the strut shall be securely locked under the nose weight condition.

4.4 Installation protection requirements in a non-working state (trailer connected to towing vehicle)

4.4.1

When the jockey wheels and support devices are in the retracted state, protective devices shall be installed to prevent them from being accidentally released and parts from loosening or falling.

4.4.2

The movable handles and other parts used when the jockey wheels and support device are in a working state shall be securely fastened when they are retracted to prevent them from falling off and being lost.

4.4.3

When the jockey wheels and support device are extended, the parts shall not separate abnormally; the design of the safety protection device shall ensure that the handle operating force can still function at 250 N.

4.4.4

When the trailer is in the horizontal connection state, the minimum ground clearance of the jockey wheels and/or clamping system shall not be less than 150 mm.

4.4.5

When the trailer is in motion, the adjustment mechanism with functions such as the lifting and lowering or up and down swinging of the screw shall not move due to vibration.

4.5 Design requirements

4.5.1

The drawbar support device shall be designed and installed with a protective device to prevent the strut locking tool from being lost or falling off due to the vibration of the trailer during driving, thereby causing scratches on the ground.

4.5.2

The drawbar support device with a lifting system shall have relevant mechanisms to prevent the inner and outer casings from accidentally separating.

4.5.3

After the drawbar support device is installed, the ground clearance of the trailer in the horizontal non-connected state shall be no less than 150 mm.

4.5.4

The operating handle and other moving parts shall be securely fixed and shall not become loose or fall off when not in operation.

5.1 Test load

The jockey wheels and support device shall be able to withstand twice the static vertical allowable load lifting capacity in the vertical direction. The test load calculation formula is shown in formula (1).

Where.

PT -- the test load, in kilograms (kg);

PS -- the static vertical allowable load lifting capacity, in kilograms (kg).

5.3 Bench test procedure

The bench test is carried out in the following steps.

- a) Fix it stably to the test bench with a threaded plate or clamping locator;
- b) Use the clamping accessory to ensure that the jockey wheel is firmly clamped and the main casing is in a vertical state;
- c) With the main casing in a vertical position, turn the handle to adjust the height of the jockey wheel to the highest position specified by the manufacturer;
- d) Determine the test position of the jockey wheel, which is located at the front end of the clamping accessory or the fastening plate;
- e) Apply the test load determined in 5.1 and maintain it for 5 min.

5.4 Static vehicle test procedure

Static vehicle testing is carried out in the following steps.

- a) Place the trailer on a flat, level ground;
- b) Check the drawbar support device to ensure that the trailer coupling head has an adjustable height of 550 mm from the ground (the drawbar support device uses the lifting function);
- c) Check the drawbar support device to ensure the ability to adjust the height of the trailer coupling head from the ground (the drawbar support device does not use the lifting function);
- d) Make the jockey wheel installation position bear a vertical static load of twice the lifting force;