

ICS 43.100



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

GB/T 43401.1-2023

**Road vehicles - Stabilizing devices for caravans and light
trailers - Part 1: Integrated stabilizers**

道路车辆 旅居挂车和轻型挂车稳定装置 第1部分：集成式

(English Translation)

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Foreword

This document was drafted in accordance with the rules provided in GB/T 1.1-2020 Directives for Standardization - Part 1: Rules for the Structure and Drafting of Standardizing Documents.

This document is Part 1 of GB/T 43401 Road Vehicles - Stabilizing Devices for Caravans and Light Trailers. GB/T 43401 has issued the following part:

---Part 1: Integrated Stabilizers.

This document identically adopts ISO 11555-1:2003 Road Vehicles - Stabilizing Devices for Caravans and Light Trailers.

Please be noted that certain content of this document may involve patents. The institution issuing this document does not undertake the responsibility of identifying these patents.

1 Scope

This document specifies the technical requirements, test methods, installation instructions and markings for the integrated stabilizers.

This document is applicable to the integrated stabilizers used in combination with traction hitches that comply with the requirements of ISO 3853 on center-axle trailers (single-axle or dual-axle) with a maximum total mass not exceeding 3.5 t.

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2 Normative References

The contents of the following documents constitute indispensable clauses of this document through the normative references in the text. 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.

ISO 3853 Road Vehicles - Towing Vehicle Coupling Device to Tow Caravans or Light Trailers
- Mechanical Strength Test

NOTE: GB/T 25988-2010 Road Vehicles - Towing Vehicle Coupling Device to Tow Caravans or Light Trailers - Mechanical Strength Test (ISO 3853:1994, IDT)

3 Terms and Definitions

The following terms and definitions are applicable to this document.

3.1 Stabilizing device

An integrated or additional device installed between the towing vehicle and the center-axle trailer in order to reduce or prevent the swing around the articulated axle and reduce the roll and pitch of the trailer.

4 Technical Requirements

4.1

The movement of the integrated stabilizers in all directions shall be uniform and continuous.

For an integrated stabilizer that is damped by mechanical friction on both sides of the vehicle's driving direction, install it on the test bench, slowly increase the force on the integrated reduction in strength of the traction components.

4.9

The installation of the integrated stabilizers shall comply with the following requirements:

- The assembly only requires bolts;
- No drilling or welding is required for installation;

---The connection between the traction hitch and the trailer is not affected.

5.1 General Principle

The tests involved in this Chapter only test the functions of the integrated stabilizer and do not involve the strength of the integrated stabilizer.

A new integrated stabilizer shall be used for each test required in 5.2 ~ 5.4, and after a single test, the reduction in damping moment of the integrated stabilizer shall not be greater than 15%.

5.2 Articulated Axle Swing Test

The integrated stabilizer swings through the hinge point around an axis perpendicular to the horizontal plane.

The swing frequency is (0.6 0.2) Hz and the swing amplitude is 5. The test steps are as follows:

---After 250 and 50,000 cycle tests, respectively measure the damping moment;

---Calculate the damping moment reduction.

5.3 Pitch Swing Test

The integrated stabilizer swings around a horizontal axis perpendicular to the vehicle's driving direction.

The swing frequency is (0.6 0.2) Hz and the swing amplitude is 5. The test steps are as follows:

---After 1,000 and 25,000 cycle tests, respectively measure the damping moment;

---Calculate the damping moment reduction.

5.4 Roll Swing Test

The integrated stabilizer rotates around its central axis of symmetry in the vehicle's driving direction.
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