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

GB/T 4331-2024

Agricultural trailers - Test methods

农用挂车 试验方法

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Foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting: This document replaces GB/T 4331-2003 "Test methods for agricultural trailers": Compared with GB/T 4331-2003, in addition to structural adjustments and In addition to logical changes, the main technical changes are as follows:

- a) The scope has been changed (see Chapter 1, Chapter 1 of the:2003 edition);
- b) The matching requirements of trailers and tractors have been changed (see 4:1:1, 3:1:1 of the:2003 edition);
- c) Added the requirement that the braking action of the trailer rear axle should lag behind the braking action of the tractor by no more than 0.2s (see 4:1:3);
- d) Added the requirement to adjust the test status of trailers and tractors according to the test requirements (see 4:1:4);
- e) Deleted "The test instruments and meters shall meet the measurement accuracy requirements, shall be qualified by verification and within the validity period: Instruments and meters see Appendix A (Informative Appendix)" (see 3:1:3 of the:2003 edition);
- f) The test period requirements have been changed (see 4:1:5, 3:1:4 of the:2003 edition);
- g) The test measurement accuracy requirements have been deleted (see 3:1:6 and Table 1 of the:2003 edition);
- h) Added trailer size parameters, hydraulic parameters for dump trailers when dumping, and site requirements for tangential tension test of full trailer traction links: Request (see 4:2:1);
- i) Added the requirements for the use of floor scales and wheel load meters (see 4:2:2);
- j) Added weather conditions requirements for road tests (see 4:2:3);
- k) The test requirements for trailer braking performance have been changed (see 4:2:4, see 3:2:3 of the:2003 edition);

l) Deleted "During service braking, the brake footprint of the trailer should be larger than that of the tractor" (see 3:2:4 of the:2003 edition);

m) Added requirements for tire inflation pressure (see 4:2:5);

1 Scope

China's national test methods for agricultural trailers. It describes the test conditions, the general item test methods and the performance tests. It is the companion to the trailer specification, and its substance is how the requirements that matter are demonstrated rather than asserted. Braking is the principal one: the test has to establish the deceleration achieved with the trailer laden, from a stated speed, on a defined surface, and with the parking brake holding on a gradient - and it has to do so for the combination of tractor and trailer rather than the trailer alone, because that is what stops. Stability testing addresses the overturning that follows from a high load on a narrow track. Structural testing loads the body to its rated capacity and beyond. And the coupling and drawbar are tested to the loads a real tow imposes, including the vertical and lateral components that a straight pull does not produce.

This document describes the test conditions, general item test methods and reliability test methods for agricultural trailers: This document applies to the parameters of agricultural trailers (referred to as "trailers") or tractor-trailer units (referred to as "units") that are matched with tractors: Routine project tests such as measurement, performance test and reliability test:

2 Normative references

This document has no normative references:

3 Terms and definitions

There are no terms or definitions that require definition in this document:

4 Experimental preparation and conditions

1 Test preparation and requirements 4:1:

1 Select a tractor that is suitable for the trailer model and specifications according to the instruction manual, and the tractor should be in normal technical condition: state: 4:1:

2 The trailer should be adjusted and maintained according to the instructions and the trailer should be in normal technical condition: 4:1:

3 Check the trailer brakes: The time lag between the trailer rear axle brake action and the tractor brake action should not exceed 0.2s: 4:1:

4 Adjust the test status of the trailer and tractor according to the test requirements: When testing the trailer without load, it should be free of load, mud and dirt, and have all accessories: state; When the trailer is fully loaded or overloaded, the load should be evenly distributed in the compartment and securely fixed: 4:1:

5 During the entire test period, except for operation and technical maintenance as specified in the instruction manual, the prototype vehicle should not be adjusted or changed at will: Technical status (such as replacement, repair, etc.): 4:1:

6 All abnormal phenomena occurring during the test should be recorded in detail: 4:

2 Test conditions 4:2:

1 The trailer dimensions, the hydraulic parameters of the dump trailer when dumping and the tangential tension test of the traction link of the full trailer should be carried out on a solid and flat surface: The test shall be carried out on a well-planned site, and the site area should be able to accommodate the shape of the test trailer: 4:2:

2 When using a floor scale and wheel load meter, the floor scale surface area should be able to accommodate all the axles of the trailer being tested, and the floor scale entrance and exit ground should be Keep it at the same level as the table surface; the wheel load meter should ensure that the upper plane of each wheel load meter is in the same horizontal plane: 4:2:

3 During the road test, the relative humidity should be less than 95%, the air temperature should be between 0°C and 40°C, there should be no fog, rain or hail, and the wind should not be strong: The speed is not more than 3m/s: 4:2:

4 The road test should be carried out on a flat, hard, clean, dry cement or asphalt road surface with an adhesion coefficient between the tire and the ground of not less than 0:7: The longitudinal slope of the road surface for the service braking performance test should not be greater than 1%, and the transverse slope should not be greater than 3%: