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

GB/T 3871.5-2022

**Agricultural tractors - Test procedures - Part 5: Turning and
clearance diameters**

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Table of Contents

foreword

Introduction

1 Scope

2 Normative references

3 Terms and Definitions

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 of Standardization Documents" drafted.

This document is part 5 of GB/T 3871 "Test Procedures for Agricultural Tractors". GB/T 3871 has published the following parts.

- Part 1. General requirements;
- Part 2. Measurement of parameters of the whole machine;
- Part 3. Power take-off shaft power test;
- Part 4. Lifting capacity of rear three-point hitch;
- Part 5. Turning circle and passing circle diameter;
- Part 6. Determination of braking performance of agricultural and forestry vehicles;
- Part 7. The driver's field of vision;
- Part 8. Noise measurement;
- Part 9. Traction power test;
- Part 10. Low temperature starting;
- Part 11. High temperature performance test;
- Part 12. Use test;
- Part 13. Measurement of exhaust smoke;
- Part 14. Partial power output power take-off shaft for non-mechanical transmission;
- Part 15. Centroids;

- Part 16.Determination of shaft power;
- Part 17.Engine air filters;
- Part 18.Hydraulic power at the interface between the tractor and the implement;
- Part 19.Wheeled tractor steering performance;
- Part 20.Turbulence test;
- Part 21.Stability.

This document replaces GB/T 3871.5-2006 "Test Procedures for Agricultural Tractors - Part 5.Steering Circle and Diameter of Passing Circle", and

Compared with GB/T 3871.5-2006, in addition to structural adjustment and editorial changes, the main technical changes are as follows.

- Changed the scope (see Chapter 1, Chapter 1 of the.2006 edition);
- Changed the definition of agricultural tractor (see 3.1, 2.1 of the.2006 edition);
- Deleted the content about the gauge [see 3.2, 4.2.2, Chapter 7 f), Appendix A, 2.2, 4.2.2 of the.2006 edition, Chapter 6 f), appendix

Record A];

- Changed the definition of wheelbase (see 3.3, 2.3 of the.2006 edition);
- Deleted the definition of the wheelbase of the tractor with rear track (see 3.3, 2.3 of the.2006 edition);
- Added an alternative test satellite positioning system device (see 4.3);
- Increase the factors affecting the accuracy of the satellite positioning system during measurement of the satellite positioning system, in order to ensure the accuracy of the linear measurement (see

5.1);

- Changed the method for determining the mark point of the turning circle (see 6.1.1.2, 5.1.2 of the.2006 edition);
- Increased the satellite positioning system replacement test method (see 6.1.2);
- Added specific applicable objects, with operability (see 6.3, 6.4, 5.3, 5.4 of the.2006 edition);
- Changed the maximum operating force exerted on the brake pedal (see 6.3, 5.3 of the.2006 edition).

This document is modified and adopted ISO 789-3.2015 "Test Procedures for Agricultural Tractors - Part 3.Turning Circle and Passing Circle Diameter".

This document adds a chapter "Normative References".

The technical differences between this document and ISO 789-3:2015 and their reasons are as follows.

- Changed the scope (see Chapter 1) to meet industry requirements;
- Changed the definition of "agricultural tractor" (see 3.1) to be consistent with the definition of "agricultural tractor" in ISO 12934:2021;
- Deleted the content about the gauge [see ISO 789-3:2015 2.2, 4.2.2, Chapter 6 f), A.2], which is related to the scope of application of the standard meets the;
- Changed the definition of wheelbase (see 3.3) to make the definition more scientific;
- If the text involves GPS, change "GPS" to "Satellite Positioning System", and use letters to identify it as "GNSS" [see 4.3, 5.1, 6.1.2, Figure 5, formula (4), formula (5)], expand the scope of application of satellite positioning systems (such as Beidou, GPS);
- Changed the method for determining the marking point of the turning circle (see 6.1.1.2), and the marking method is more clear;
- Added specific applicable objects (see 6.3, 6.4), with operability;
- Changed the maximum operating force applied on the brake pedal (see 6.3) to make the maximum operating force more maneuverable;
- Changed the symbol definition (see Figure 5), in order to ensure that the symbol definition is consistent with the illustration;
- Changed the nature of Appendix A, from informative to normative, to make the test report format more standardized.

The following editorial changes have been made to this document.

- In order to harmonize with existing standards, the standard name is changed to "Agricultural Tractor Test Procedures Part 5. Turning Circles and Passing Circles Straight path";
- Changed the "Note" in "Terms and Definitions";
- Added references.

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

The test method is an important means to test the performance of the product. Different test methods yield different test results.

The purpose of the standard is to achieve a standard, a test, and industry-wide recognition. As the power source of mobile agricultural machinery, tractors work

The environment is harsh and involves many requirements on personal safety and environmental hygiene, and a series of test methods are required to determine whether its performance meets the requirements.

Check it out. In this regard, my country has established a complete set of tractor tests by studying and referring to international standards and foreign advanced standards.

method standard. GB/T 3871 aims to establish the test procedures for checking the performance indicators of tractors, and 21 parts have been issued.

- Part 1.General requirements;
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