



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

GB/T 39517.2-2020

Agricultural and forestry tractors and machinery. Agricultural positioning and navigation system test procedures - Part 2: Test of satellite automatic navigation system under straight and horizontal operation

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Foreword

GB/T 39517 "Agricultural Tractor and Machinery Agricultural Positioning and Navigation System Test Regulations" is divided into the following two parts.

---Part 1. Dynamic test of satellite positioning device;

---Part 2. Testing of the satellite automatic navigation system in straight and horizontal operation.

This part is Part 2 of GB/T 39517.

This section was drafted in accordance with the rules given in GB/T 1.1-2009.

The translation method used in this section is equivalent to ISO 12188-2:2012 "Agricultural Tractor and Machinery Agricultural Positioning and Navigation System Test Regulations"

The second part of the process. the test of the satellite automatic navigation system in the straight and horizontal operation state.

This part was proposed by China Machinery Industry Federation.

This part is under the jurisdiction of the National Agricultural Machinery Standardization

Technical Committee (SAC/TC201).

Drafting organizations of this section. Chinese Academy of Agricultural Mechanization Science, Shanghai Lianshi Navigation Technology Co., Ltd., Debang Dawei (Wuhu) Agricultural Machinery

Co., Ltd., Henan University of Science and Technology, Qianxun Location Network (Zhejiang) Co., Ltd., Shandong Shifeng (Group) Co., Ltd., Shanghai Sinan Satellite Navigation Technology Co., Ltd.

1 Scope

This part of GB/T 39517 specifies that in the automatic steering mode, an automatic navigation satellite system (GNSS)-based automatic navigation system is installed.

The evaluation and reporting process of the agricultural machinery performance of the Aviation System (AGS).

This section specifies the lateral deviation of the reference point on agricultural machinery from its expected trajectory. This part contains all components related to the navigation system

Uncertainties related to energy include positioning devices, automatic steering components, machinery and dynamics, etc.

This section applies to the steady-state tracking performance test of the automatic navigation system when driving straight on a horizontal surface.

2 Terms and definitions

The following terms and definitions apply to this document.

2.1 General terms

2.1.1

Positioning means

A device that uses wireless satellite navigation signals to determine and report the position of the receiving antenna center in the geographic coordinate system in real time.

2.1.2

Differential correction

The calculation method of real-time prediction positioning error.

2.1.3

Automatic navigation equipment system

Agricultural machinery equipment equipped with AGS (Automatic Navigation System).

2.1.4

Reference point

A fixed point used to indicate the position of AGVS on agricultural equipment or supporting equipment.

2.1.5

Test route

A repeatable route consisting of one or more test sections of typical field operations.

2.1.6

Test section

Continuous sections on the test route used to analyze AGVS trajectory errors.

2.1.7

Tracking sensor

The accuracy of the instrument or instrument system that measures the horizontal distance and calculates the measurement error is at least ten times the accuracy of the measured AGVS.