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

GB 25682.1-2010

**Belt-drive tractors -- Transmission efficient limitation and
determination method -- Part 1: Wheeled tractor**
(English Translation)

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Table of Contents

Foreword
1 Scope
2 Normative references
3 Tractor efficiency limits
4 Determination
4.1 Preparation before the test
4.2 Test Procedure
4.3 Traction efficiency

Foreword

This standard is mandatory text.

GB 25682 "belt drive tractor efficiency limits and determination method" is divided into two parts.

--- Part 1. wheeled tractors;

--- Part 2. walking tractor.

This section is part of the 1 GB 25682.

This part is proposed by China Machinery Industry Federation.

This part of the National Standardization Technical Committee under the jurisdiction of the tractor.

This section is drafted. Luoyang Tractor Research Institute.

1 Scope

This section GB 25682 specifies the belt-drive wheeled tractor efficiency limits and determination methods.

This section applies to the belt-drive wheeled tractors (hereinafter referred to as tractors).

2 Normative references

The following documents contain provisions which, through reference in this Part of GB 25682, constitute provisions of this part. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this

section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 3871.9-2006 Agricultural tractors - Test procedures - Part 9. Power tests (ISO 789-9:1990, MOD) JB/T 7282 tractor oil varieties, specifications selection

3 Tractor efficiency limits

Tractor efficiency should not be less than 68%.

4.1.1 Requirements Prototype

Tractor test method shall be specified in the instructions comply with the manufacturer's technical specifications, according to the test specified by the manufacturer.

The test shall be calibrated before the tractor engine speed, preheating under full throttle condition.

If the driver in normal operation, according to the manual, do not use tools to be able to disengage the auxiliary device (such as a hydraulic pump or air Compressor) should be placed in the disengaged position. Otherwise, it should be operated at the minimum load.

Tractor factory counterweight subject to confirmation for agricultural purposes.

Each tire to withstand static load (including liquid weight and place of the driver within the tire of 75kg of weight) and tire pressure should be in Within the limits specified by the manufacturer of the tire. Tire valve should be located in the lowest position when measuring pressure.

When the tractor test, the engine fuel used shall comply with JB/T 7282's.

Tractor lubricant used should be consistent with the type and viscosity of the lubricant level or the manufacturer JB/T 7282 regulations. If you use other products Seed oil, with details of where they are (such as the use of the engine, drive train, etc.) should be given explicitly.

Before the start of each measurement conditions, tractor should reach a stable operating condition.

4.1.2 Units and tolerance measurement

When the unit of measurement to determine the traction efficiency and allow the measurement error shall GB/T 3871.9-2006 requirements.

4.1.3 Test environment condition

The measured value of the power of the state of the environment without any amendments or other factors aspects. Atmospheric pressure shall not be less than 96.6kPa. Such as by Altitude conditions can not meet the requirements of the atmospheric pressure, allowing the adjustment of fuel pumps, the details should be recorded in the test report.

4.1.4 Fuel consumption

Adjusting the fuel measuring device, so that the oil pressure in the injection pump at the equivalent of half the fuel tank when the tractor has a hydraulic. Fuel Temperature shall be equal to the tank outlet after 2h tractor full load operation of the fuel temperature during the test should be limited to changes in the oil temperature. Measurement of fuel consumption when the rate of consumption, the tractor should be continued with a straight line distance of at least 20m 20s or maintain a distance (whichever is longer).

By consuming fuel volume measurement, density of a fuel temperature shall be calculated fuel mass units of power. Typically when the fuel by 15 °C Density calculated volume value.

Measuring the mass of fuel consuming method with fuel density at 15 °C calculated volume value.

4.2.1 General requirements

Tractor efficiency measurement should be carried out on the road to one of the following roads.

- a) clean, level, dry, joints should be as few concrete pavement or tarmac;
- b) test results moving pavement (drum or chassis dynamometer) and should be on results obtained on said road surface comparable.

The test report shall record the type of test pavement. If you use a drum, drum diameter should be recorded.

Tractors forward speed exceeds the safety limit of the test equipment does not block times tested.

Traction should be in the horizontal direction. Drawbar height with respect to the tractor should remain unchanged and should enable the tractor during the whole test yet to control. Using Equation (1) to calculate the height of traction.

$$H_{\max} = 0.8 \times W \times ZF$$

Where.

W --- front wheel static load acting on the ground, in Newtons (N);

The Z --- wheelbase in millimeters (mm);

--- F. Traction Newtons (the N);

Static height Hmax --- traction from the ground, in millimeters (mm).

Traction start of the test, as measured at the centerline of the tire tread of the tire height should be at least 65% of a new tire. Should the method GB/T 3871.9-2006 prescribed in Appendix B and the measuring equipment tread high.

Tractor test at ambient temperature shall be $20\text{ }^{\circ}\text{C} \pm 15\text{ }^{\circ}\text{C}$.

Drive transfer rate Skating formula (2) to determine.

$\delta = 100$

$(N_1 - N_0)$

Where.

δ --- slip ratio;

N_1 --- total number of turns in a given distance of the drive wheels turn;

N_0 --- no tractor pulling a load to/h speed of about 3.5km with a given number of turns of the total distance of the drive wheels turn.

Tire slip ratio can not exceed 15%.

4.2.2.1 General

Maximum traction power should at least be able to play the tractor maximum traction, measured the slip rate does not exceed 15% of each gear, find the maximum power, but speed does not exceed 16km/h stopper. Measurements include traction power, traction, speed, slip rate, fuel consumption and Environmental conditions. Any significant tire runout and the corresponding slip rate shall be recorded in the test report.

4.2.2.2 Tractor without counterweight

This test measures the tractor without counterweight within a certain range of each block in the gear lever provide effective traction power. The test shall be at least Than the tractor can be issued maximum traction power gear to a high gear ratio can maximize traction in low gear a gear between each block Bit.

4.2.2.3 Tractor counterweight

This test measures the weight of a tractor with traction power tests, the weight should be consistent with the technical parameters specified in the factory to provide the test Gear should be covered from the lowest gear ratio to realize the full power of a higher gear gear