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

LY/T 3166-2019

**Forestry machinery -- Monorail transporter for forestry and
orchard in mountain with combustion-engine as power source
(English Translation)**

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Foreword

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

Please note that some elements of this document may involve patents. The issuer of this document is not responsible for identifying these patents.

This standard is proposed and managed by the National Forestry Machinery Standardization Technical Committee (SAC/TC 61).

1 Scope

This standard specifies the terms and definitions, model preparation methods, basic parameters, and technical requirements of mountain monorail transport vehicles powered

by internal combustion engines.

Refer to test methods, markings, instructions for use, packaging, transportation, and storage.

This standard applies to single-rail self-propelled rail transporters (hereinafter referred to as "transporters") driven by internal combustion engines.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this document.

For undated references, the latest version (including all amendments) applies to this document.

GB/T 191 Packaging, storage and transportation icon GB/T 1147.1 Small and medium power internal combustion engines Part 1. General technical requirements GB/T 1147.2 Small and medium power internal combustion engines Part 2. Test methods GB/T 9480 Rules for the preparation of manuals for agricultural and forestry tractors and machinery, lawn and garden power machinery GB/T 9793 Thermal spray metal and other inorganic coatings zinc, aluminum and their alloys GB 10395.1 Safety of agricultural and forestry machinery-Part 1. General GB 10396 General rules for safety signs and hazard graphics for agricultural and forestry tractors and machinery, lawn and garden power machinery GB/T 13306 signs GB/T 13384 General technical requirements for packaging of electromechanical products GB/T 16955 Acoustics. Simple method for measuring noise at agricultural and forestry tractors and machine operators LY/T 1045 Modeling method of forestry machinery JB/T 5673 General technical requirements for painting of agricultural and forestry tractors and implements

3 Terms and definitions

Monorail transporter in mountain with combustion-engine as power source A kind of agricultural and forestry products and production resources used in the management of forest fruits (bamboo forest, camellia forest, tea garden, nursery and orchard, etc.) for the transportation of materials and other materials, the internal combustion engine drives the trailer to travel slowly on a erected single track.

Driving device

It consists of an internal combustion engine, a transmission mechanism, a transmission mechanism, a brake mechanism, and a steering mechanism, and the like is a power unit that drives the trailer to travel.

Trailer

It is driven by a driving device and is used to carry agricultural and forestry products, production materials and other items.

Stop device

A device that is installed at both ends of the track to limit the operation of the transport aircraft.

4 Modeling method

4.1

The type designation of the transport aircraft shall be carried out in accordance with the provisions of LY/T 1045.

4.2

The main parameter of the transport aircraft is rated load. Its model is composed of category code, group code, characteristic code, main parameter and variant code.

Variant code. represented by letters A, B, C Main parameters. Rated load (kg) Feature code. monorail operation Group Code. Forest Fruit Transportation Machinery Example. YD-300A represents the first modified mountain forest monorail transporter with a rated load of 300 kg.

5 Basic parameters

The basic parameters should include the following.

- a) Rated load, kg;
- b) Maximum operating slope, °;
- c) maximum operating speed, km/h;
- d) minimum turning radius, m;
- e) Engine calibration speed, r/min;
- f) Engine nominal power, kW.

6.1.1 Use environment

The transport aircraft should be able to be used normally under the following environmental conditions.

- a) Ambient temperature. 5 °C ~ 40 °C;
- b) The altitude is less than 1 000 m; after the altitude exceeds 1 000 m, the power is allowed to decrease by 12% for every 1 000 m increase in altitude.

6.1.2 Site conditions

The working site should be able to ensure the basic space requirements for the track laying and transport operations of the conveyor.

Passed normally.

6.1.3 Main instruments and appliances for testing

6.1.3.1

The instruments and appliances used for testing shall be inspected and calibrated by the competent metrology department, and they shall be used within the validity period.

6.1.3.2

The accuracy of the main instruments and appliances used in the test shall meet the following requirements.

- a) Tape measure. ± 1 mm;
- b) Vernier caliper. ± 0.02 mm;
- c) Stopwatch. ± 0.1 s;
- d) Rally meter. $\pm 1\%$;
- e) Tachometer. $\pm 0.5\%$;
- f) Angle ruler. $\pm 1^\circ$;
- g) Sound level meter. ± 0.5 dB;
- h) Thermometer. $\pm 1^\circ\text{C}$;
- i) Bench scale. ± 10 g;
- j) Slope meter. $\pm 1^\circ$;
- k) Radian template with a radius of 4 m. ± 1 cm.

6.2.1 Requirements

The matching engine shall meet the requirements of GB/T 1147.1.

6.2.2 Inspection

The matching engine shall be inspected in accordance with GB/T 1147.2.