

ICS 65.060.80
CCS B 95



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

GB/T 19387-2025

Replacing GB/T 19387-2012

Portable chain-saws - Chain brake performance test methods

便携式链锯 锯链制动器性能试验方法

(English Translation)

Issued on: October 31, 2025

Implemented on: May 1, 2026

Issued by: State Administration for Market Regulation

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document supersedes GB/T 19387-2012 "Performance Test Method for Portable Chain Saw Brakes" and is consistent with GB/T 19387-2012.

In comparison, aside from structural adjustments and editorial changes, the main technical changes are as follows.

- a) The definition of the term "braking time" in "Terms and Definitions" has been changed (see 3.1, 2012 edition 3.1);
- b) The precision requirements for the timer have been changed (see 5.2, 2012 version 5.2);
- c) The requirements for the impact pendulum have been changed (see 5.6, 2012 version of 5.6);
- d) A 3-minute preheating time was added to the chainsaw preparation work before the test; the weight of the suspended load when tensioning the chainsaw chain was changed. The requirement has been expanded to include "applying a moderate pulling force, the saw chain should be able to move freely on the guide plate" (see Chapter 6, 2012 edition). Chapter 6);
- e) Increased accuracy requirements for the maximum no-load speed (see Chapter 7);
- f) The requirements for "Release Force (Static Test)" have been changed (see 7.1, 7.2 in the 2012 edition);
- g) The criteria for determining whether the saw chain is braked during the saw chain braking test have been changed (see note 7.2.1, 3.1 in the 2012 version);

- h) The test procedure for braking time has been changed (see 7.2, 7.1 in the 2012 edition);
- i) The requirements for recording and calculating braking time in the "Test Report" have been changed (see 8.1, 2012 version 8.1);
- j) The requirement to "record the type of saw chain lubricant used during the test" has been added (see 8.3).

This document is modified to adopt ISO 6535:2015 "Performance of brakes for portable chainsaw chains".

The technical differences between this document and ISO 6535:2015, and the reasons therefor, are as follows.

---The scope has been expanded to include applicable limits (see Chapter 1) to adapt to my country's technological conditions and increase operability;

---ISO 6531 has been replaced with the normatively referenced GB/T 18960 (see Chapter 3) to adapt to my country's technical conditions and increase operability.

Actual nature;

---ISO 6533:2012 (see Chapter 7) has been replaced with the normatively referenced GB/T 46640-2025 to adapt to my country's technical requirements.

Add components and increase operability.

The following editorial changes have been made to this document.

---To align with existing standards, the standard name has been changed to "Test Method for Performance of Portable Chain Saw Chain Brakes";

---Change "rpm" to "r/min" (see Chapter 7).

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the National Forestry and Grassland Administration.

This document is under the jurisdiction of the National Forestry Machinery Standardization Technical Committee (SAC/TC61).

1 Scope

This document describes the test methods for the braking time and release force of the manual chain brake on a portable handheld chainsaw.

This document applies to the determination of braking time and release force of manual saw chain brakes.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 18960 Portable Chainsaw Terminology (GB/T 18960-2023, ISO 6531:2017, IDT)
GB/T 46649-20251) Dimensions and clearances of hand guards for portable chainsaws (ISO 6533:2020, IDT)

1) ISO 6533:2012 has been superseded by ISO 6533:2020, and there are technical differences in the referenced 7.1.

3 Terms and Definitions

The terms and definitions defined in GB/T 18960 apply to this document.

Braking time

The time interval from the moment the impact pendulum strikes the handguard to when the saw chain is considered to have stopped.

4 Test subjects

The test should be conducted on three new chainsaws of the same model, with the test chainsaws configured with the manufacturer's recommended guide plates and chainsaws, and the largest diameter drive.

Drive sprocket.

5 Experimental Instruments

5.1

Tachometer, with an accuracy of $\pm 2.5\%$ of the indicated value.

5.2

Timer, including sensor, with an accuracy of $\pm 2.5\text{ms}$.

5.3

Data acquisition device to record brake arm triggering.

5.4

Data acquisition device to record the movement of the saw chain.

5.5

Force gauge, with an accuracy of $\pm 1\text{N}$.

5.6

Impact pendulum, the impact surface of the impact pendulum is a plane with a diameter of $50\text{mm} \pm 1\text{mm}$, and the length of the pendulum arm refers to the distance from the center of rotation of the pendulum arm to the impact point.

The distance between the center lines of the pendulums, with a length of $700\text{mm} \pm 5\text{mm}$, should minimize the weight of the pendulum arm. When the impact pendulum falls to a height...

When the angle is $200\text{mm} \pm 5\text{mm}$ (see Figure 1), it should be able to generate an impact energy of $1.4\text{J} \pm 0.2\text{J}$. The sharp edges of the impact pendulum should be chamfered.