

ICS 65.060.80
CCS B 95



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

GB/T 5395-2025

Replacing GB/T 5395-2014

**Vibration test code for portable hand-held forestry and
gardening machinery with internal combustion engine -
Vibration at the handles**

以内燃机为动力的便携式手持操作林业及园林机械振动测定规范 手把振动
(English Translation)

Issued on: October 31, 2025

Implemented on: May 1, 2026

Issued by: State Administration for Market Regulation

Table of Contents

Preface
1 Scope
2 Normative References
3 Terms and Definitions
4 Vibration quantity to be measured
5 Measuring instruments
6 Measure position and direction
7 Machine testing and operating conditions
8 Measurement and Calculation
9 Test Report 5.
10 Marking and Inspection of Vibration Values
Appendix A (Normative) Chainsaw
Appendix B (Normative) Brush cutters, lawn mowers, and handheld trimmers
Appendix C (Normative) Pole-type Power Pruning Saw
Appendix D (Normative) Hedge Trimmer
Appendix E (Normative) Garden Hair Dryer/Vacuum Fan
Appendix F (Informative). Summary of multiple interlaboratory trials of chainsaws, brush cutters, and lawnmowers in 2007-2008
References

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 replaces GB/T 5395-2014 "Vibration Measurement of Portable Hand-Operated Forestry and Garden Machinery Powered by Internal Combustion Engines".

The "Specification for Handle Vibration" has undergone the following major technical changes compared to GB/T 5395-2014, in addition to structural adjustments and editorial modifications.

a) The phrase "must also comply with the regulatory conditions and health and safety

requirements of the country of origin" in the "Warning" has been removed (see "Warning", 2014).

(The 2018 edition of the "Warning")

- b) The scope has been revised to include handheld trimmers (see Chapter 1, Chapter 1 of the 2014 edition);
- c) The content of "Terms and Definitions" has been changed (see Chapter 3, Chapter 3 of the 2014 edition);
- d) The content regarding "Measurement of Position and Orientation" has been changed (see Chapter 6, Chapter 6 of the 2014 edition);
- e) The engine speed requirements in "Testing and Operating Conditions of the Machine" have been changed (see Chapter 7, Chapter 7 of the 2014 edition);
- f) The content regarding "Measuring Instruments" in the test report has been changed [see Chapter 9c), Chapter 9c) of the 2014 edition];
- g) The engine speed requirements under full load conditions have been changed (see A.3.3, 2014 version of A.3.3);
- h) A vibration measurement specification for handheld trimming machines has been added (see Appendix B);
- i) The mounting position and measurement direction diagram of the accelerometer on the rod-type dynamic pruning saw were changed (see Figure C.1, Figure C.1 in the 2014 version);
- j) The description of the installation location of the hedge trimmer accelerometer has been changed (see D.1, 2014 edition of D.1);
- k) The installation position and measurement direction of the accelerometer on the pole-mounted powered hedge trimmer have been changed (see Figure D.3, 2014 version).

This document is equivalent to ISO 22867:2021 "Vibration of portable hand-operated forestry and garden machinery powered by internal combustion engines." Measurement of standard handle vibration.

The following minimal editorial changes have been made to this document.

---To align with existing standards, the standard title has been changed to "Vibration of Portable Hand-Operated Forestry and Garden Machinery Powered by Internal Combustion Engines".

Measurement Standard for Handle Vibration;

---The normative references and ISO 20643:2008 in Chapter 3 are adopted by Chinese documents that are equivalent to ISO 20643:2005.

GB/T 25631-2010 is used as a replacement because ISO 20643 currently does not have a.2008 version; the currently valid version is the 2005 version.

---For ease of use of the standard, the unit of rotational speed in the entire text of ISO 22867:2021 has been converted from "s-1" to "r/min".

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 how to effectively determine the handlebars of portable, hand-operated forestry and garden machinery powered by internal combustion engines under standardized conditions.

Vibration measurement standards include chainsaws, brush cutters, lawnmowers, trimmers, lever power pruning saws, hedge trimmers, and blowers/vacuum blowers.

Although the measurement methods specified in this document are based on data obtained under simulated actual machine operation conditions, these data represent the actual performance of the machine.

Characteristics in actual working conditions.

The vibration testing specifications described in this document enable manufacturers to verify the effectiveness of their low-vibration designs.

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 14790.2-2014 Mechanical Vibration - Measurement and Assessment of Human Exposure to Hand-Transmitted Vibrations - Part 2: Workplace Measurement Practical Guide (ISO 5349-2:2001, IDT) GB/T 15706-2012 General principles for safety design of machinery. risk assessment and risk reduction (ISO 12100:2010, IDT) GB/T 18960-2023 Portable Chainsaw Terminology (ISO 6531.20171, IDT)

- 1) ISO 6531:2017 was updated to ISO 6531:2024 in 2024.
- 2) ISO 7293:1997 was updated to ISO 7293:2021 in 2021, and ISO 7293:2021 was replaced by ISO 20599:2024.
- 3) ISO 8893:1997 was updated to ISO 8893:2021 in 2021, and ISO 8893:2021 was replaced by ISO 20599:2024.

GB/T 18961-2023 Vocabulary of Portable Brush Cutter and Lawn Mower (ISO 7112:2018, IDT) GB/T 20485.1-2008 Calibration methods for vibration and shock sensors - Part 1: Fundamental concepts (ISO 16063-1:1998, IDT) GB/T 25631-2010 Vibration of Handheld and Hand-Guided Machinery - Evaluation Rules (ISO 20643:2005, IDT) LY/T 1593-2001 Portable chainsaw engine performance and fuel consumption (ISO 7293:1997), eqv) Note. There are no technical differences between the content referenced in LY/T 1593-2001 and the content referenced in ISO 7293:1997.

LY/T 3165-2019 Performance and fuel consumption of engines for portable brush cutters and lawn mowers in forestry machinery (ISO 8893.

19973), IDT)

ISO 8041-1:2017 Instruments for measuring human response to vibration - Part 1: General instruments

3 Terms and Definitions

Terms defined in GB/T 18960-2023, GB/T 18961-2023, GB/T 15706-2012 and GB/T 25631-2010 the definitions apply to this document.