

ICS 53.100  
CCS P 97



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

**GB 7586-1987**

Replacing GB/T 7586-2008

---

**Earth-moving machinery -- Hydraulic excavators -- Test  
methods**

**(English Translation)**

**Issued on: December 28, 2018**

**Implemented on: July 1, 2019**

---

**Issued by: State Administration for Market Regulation, China National  
Standardization Administration**

## Table of Contents

|                        |  |
|------------------------|--|
| Foreword               |  |
| 1 Scope                |  |
| 2 Normative references |  |

### Foreword

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

This standard replaces GB/T 7586-2008 "Test Method for Hydraulic Excavators". This standard is compared with GB/T 7586-2008, except for editing the main technical changes outside the series are as follows.

- Revised the scope of the standard (see Chapter 1, Chapter 1 of the 2008 edition);
- Delete, modify, and add normative references (see Chapter 2, Chapter 2 of the 2008 edition);
- Revised the normative references to the terms and definition references (see Chapter 3, Chapter 3 of the 2008 edition);
- Revised preparations before the test (see Chapter 4, Chapter 4 of the 2008 edition);
- Revised the rules of the test site and summarized them in a clause (see 4.4, Chapter 5, Chapter 6 of the 2008 edition, Chapter 8, Chapter 9, Chapter 20 ~ Chapter 23);
- Removed the provisions of the equipment (see Chapter 5, Chapter 6, Chapter 8, Chapter 9, Chapter 20 ~ Chapter 23 of the 2008 edition);
- Modified the grounding specific pressure of the crawler excavator (see 5.6.1, 5.6.1 of the 2008 edition);
- Revised the test method for climbing ability (see 8.4, 8.4 of 2008 edition);
- Revised the test method for noise measurement (see Chapter 10, Chapter 10 of the 2008 edition);
- Revised the test method for vibration test (see Chapter 11, Chapter 11 of the 2008 edition);
- Removed electrical equipment and system tests (see Chapter 13 of the 2008 edition);
- Modified the determination of exhaust pollutants (see Chapter 13, Chapter 14 of the 2008 edition);

- Increased fuel consumption test and air conditioning refrigerant test provisions (see Chapters 14 and 15);
- Revised the provisions of the cab environment test (see Chapter 21, Chapter 19 of the 2008 edition);
- Adding provisions for testing of other safety requirements (see Chapter 26);
- Change the "industrial test" to "reliability test" and modify the provisions of the test (see Chapter 27, 2008 edition) Chapter 24);
- Change Appendix A from "normative appendix" to "informative appendix", delete Table A.2 and Table A.3, and modify the name of the appendix (See Appendix A, Appendix A of the 2008 edition);
- Change Appendix B from "normative appendix" to "informative appendix", delete Tables B.8, B.19, B.30, B.31 and B.32, modified the climbing ability test record table (see Appendix B, Appendix B of the 2008 edition).

This standard was proposed by the China Machinery Industry Federation.

This standard is under the jurisdiction of the National Earthmoving Machinery Standardization Technical Committee (SAC/TC334).

## 1 Scope

This standard specifies the performance test method and reliability test method for hydraulic excavators.

This standard is applicable to hydraulic excavators (hereinafter referred to as "excavators") with a working quality of not more than 200,000 kg as specified in GB/T 8498.

Other sizes of excavators can be used as reference.

## 2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

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

GB/T 6572 earthmoving machinery hydraulic excavator terminology and commercial specifications  
Laboratory evaluation of GB/T 8419 earth-moving machinery driver seat vibration  
GB/T 8498 earthmoving machinery basic type identification, terminology and definition  
Method for measuring the position of the center of gravity of GB/T 8499 earthmoving machine  
GB/T 8592 Determination of the steering dimensions of earth-moving machinery and tires  
GB/T 8595 earthmoving machinery driver's operating device  
GB/T

9139 earthmoving machinery hydraulic excavator technical conditions GB/T 10913  
earthmoving machine speed measurement GB/T 13331 earthmoving machinery hydraulic  
excavator lifting weight GB/T 13332 Earthmoving machinery hydraulic excavator and  
backhoe loader measuring method GB/T 16937 earth-moving machinery driver vision test  
method and performance criteria GB/T 18826 Industrial 1,1,1,2-tetrafluoroethane  
(HFC-134a) GB/T 19929 Performance requirements and test methods for earth-moving  
machinery crawler type machine brake systems GB/T 19930 Laboratory test and  
performance requirements for earthmoving machinery mini excavator tipping protection  
structure GB/T 19930.2 Laboratory test and performance requirements for protective  
structures for earthmoving machinery - Part 2. Excavators above 6t Rollover protection  
structure (ROPS) GB/T 19932 Laboratory test and performance requirements for driver  
protection devices for earthmoving machinery hydraulic excavators GB/T 19933.2  
Earthmoving machinery cab environment - Part 2. Air filter test method GB/T 19933.4  
Earthmoving machinery cab environment - Part 4. Test methods for heating, ventilation and  
air conditioning (HVAC) performance GB/T 19933.5 Earth-moving machinery cab  
environment - Part 5. Test methods for windshield defrosting systems GB/T 20082  
Hydraulic fluid transmission liquid pollution method using optical microscope to measure  
particle contamination GB/T 20418 earthmoving machinery lighting, signal and sign lights  
and reflectors GB 20891 Diesel engine exhaust pollutant emission limits and measurement  
methods for non-road mobile machinery (China's third and fourth stages) GB/T 21152  
Performance requirements and test methods for earth-moving or high-speed rubber crawler  
type machine brake systems GB/T 21153 Earthwork size, performance and parameters of  
the unit and measurement accuracy GB/T 21154 earthmoving machinery machine and its  
working device and component quality measurement method GB/T 21155 Earth-moving  
machinery driving sound alarm device and front horn test method and performance criteria