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

GB/T 7586-2018

Replacing GB/T 7586-2008

Earth-moving machinery - Hydraulic excavators - Test methods

土方机械 液压挖掘机 试验方法

Issued on: December 28, 2018

Implemented on: July 1, 2019

**Issued by: State Administration for Market Regulation;
Standardization Administration of China**

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1 Scope

Recommended national standard covering how hydraulic excavators are tested, both for performance and for reliability. It applies to the machines defined in GB/T 8498 with an operating mass up to 200,000 kg; larger machines may use it for reference. Clause 4 fixes the preparation and test-site conditions, then twenty-two clauses work through the individual tests: machine set-up, tipping moment, digging force, travel and slewing performance, noise, vibration, mass, exhaust emissions, fuel consumption, air conditioning refrigerant, lighting and audible alarms, mirrors and monitoring devices, operator protective guards, TOPS and ROPS structures, cab environment, working operation, structural strength, dry running and hydraulic system. Clause 26 covers the remaining safety requirements and clause 27 the reliability test. Issued 28 December 2018 and effective from 1 July 2019, it replaces GB/T 7586-2008 and absorbs GB/T 10675-1989 on excavator reliability testing.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document, including any amendments, applies.

GB/T 6572 Earth-moving machinery - Hydraulic excavators - Terminology and commercial specifications · GB/T 8419 Earth-moving machinery - Laboratory evaluation of operator seat vibration · GB/T 8498 Earth-moving machinery - Basic types - Identification, terms and definitions · GB/T 8499 Earth-moving machinery - Method for locating the centre of gravity · GB/T 8592 Earth-moving machinery - Determination of turning dimensions of wheeled machines · GB/T 8595 Earth-moving machinery - Operator's controls · GB/T 9139 Earth-moving machinery - Hydraulic excavators - Technical specifications · GB/T 10913 Earth-moving machinery - Determination of ground speed · GB/T 13331 Earth-moving machinery - Hydraulic excavators - Lift capacity · GB/T 13332 Earth-moving machinery - Hydraulic excavators and backhoe loaders - Methods of determining tool forces · GB/T 16937 Earth-moving machinery - Operator's field of view - Test method and performance criteria · GB/T 18826 1,1,1,2-tetrafluoroethane (HFC-134a) for industrial use · GB/T 19929 Earth-moving machinery - Braking systems of crawler machines - Performance requirements and test procedures · GB/T 19930 Earth-moving machinery - Mini excavators - TOPS - Laboratory tests and performance requirements · GB/T 19930.2 Earth-moving

machinery - Protective structures - Part 2: ROPS for excavators over 6 t · GB/T 19932
Earth-moving machinery - Hydraulic excavators - Operator protective guards - Laboratory tests and performance requirements · GB/T 19933.2 Earth-moving machinery - Cab environment - Part 2: Air filter element test method · GB/T 19933.4 Earth-moving machinery - Cab environment - Part 4: HVAC performance test methods · GB/T 19933.5 Earth-moving machinery - Cab environment - Part 5: Windscreen defrosting system test method · GB/T 20082 Hydraulic fluid power - Fluids - Coding the level of contamination by solid particles (optical microscope) · GB/T 20418 Earth-moving machinery - Lighting, signalling and marking lights, and reflex-reflector devices · GB 20891 Limits and measurement methods for exhaust pollutants from diesel engines of non-road mobile machinery (China III, IV) · GB/T 21152 Earth-moving machinery - Braking systems of rubber-tyred machines - Performance requirements and test procedures · GB/T 21153 Earth-moving machinery - Units for dimensions, performance and capacities, and their measurement accuracies · GB/T 21154 Earth-moving machinery - Methods of measuring the masses of whole machines, their equipment and components · GB/T 21155 Earth-moving machinery - Machine-mounted forward and reverse audible warning alarm - Test methods and performance criteria

27 Reliability test

The reliability test is part of this document, in clause 27; it is inherited from GB/T 10675-1989, which this standard absorbs. The former "industrial test" of the 2008 edition was reworked into it.

Changes from the 2008 edition

Added: the fuel consumption test (clause 14), the air conditioning refrigerant test (clause 15) and the test of the other safety requirements (clause 26).

Removed: the equipment provisions, which the 2008 edition spread over clauses 5, 6, 8, 9 and 20 to 23, and the test of electrical equipment and systems, clause 13 of the 2008 edition.

Changed: the ground pressure of crawler excavators, the gradeability test, the noise measurement, the vibration test, the determination of exhaust pollutants and the cab environment.

Structural: the test-site rules, previously scattered over six clauses, are consolidated in 4.4; Annexes A and B change from normative to informative.