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

GB/T 13751-2019

Replacing GB/T 13751-2008

Earth-moving machinery - Backhoe loaders - Methods of tests

土方机械 挖掘装载机 试验方法

Issued on: August 30, 2019

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Standardization Administration of China**

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1 Scope

Recommended national standard setting out how backhoe loaders are tested, covering both performance testing and reliability testing in a single document. It applies to the wheeled backhoe loaders defined in GB/T 8498, with crawler machines able to use it for reference. Clause 3 fixes the ground rules - technical documentation, machine preparation and test-site conditions - before clause 4 works through the individual performance tests: loader and backhoe tool forces, hydraulic cylinder settlement, travel and gradeability, braking, noise, whole-body vibration, heat balance, fuel consumption and cab environment. Clause 5 then covers reliability testing, including test conditions, procedure, failure classification and assessment. Issued 30 August 2019 and effective from 1 March 2020, it replaces GB/T 13751-2008. It is the companion test-method document to GB/T 10170 on backhoe loader technical specifications.

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 6375 Earth-moving machinery - Method of test for the measurement of drawbar pull ·
GB/T 7586-2018 Earth-moving machinery - Hydraulic excavators - Test methods · GB/T
8419 Earth-moving machinery - Laboratory evaluation of operator seat vibration · 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 10168 Earth-moving
machinery - Backhoe loaders - Terminology and commercial specifications · GB/T 10170
Earth-moving machinery - Backhoe loaders - Technical specifications · GB/T 10175.1
Earth-moving machinery - Loaders and backhoe loaders - Part 1: Calculation of rated
operating capacity and test method for verifying calculated tipping load · GB/T 10175.2
Earth-moving machinery - Loaders and backhoe loaders - Part 2: Test method for
measuring breakout forces and lift capacity to maximum lift height · 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 19933.2 Earth-moving machinery - Cab environment - Part 2: Air filter element test method · GB/T 19933.3 Earth-moving machinery - Cab environment - Part 3: Pressurization 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 19933.6 Earth-moving machinery - Cab environment - Part 6: Determination of solar heating effect · GB/T 20082 Hydraulic fluid power - Fluids - Method for 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

Changes from the 2008 edition

Tests removed: static stability, hydraulic oil temperature rise, degree of contamination of the fuel system, acceleration performance, manoeuvring test, FOPS and ROPS structures, machine sealing and the boom lowering control device.

Tests added: outriggers, solid particle contamination of the transmission oil, backhoe operating position alarm, whole-body vibration, integrated heat balance, specific fuel consumption, air conditioning refrigerant and other safety requirements.

Tests changed: bucket insertion force, hydraulic cylinder settlement, gradeability and slip tests, noise measurement and the loading test.

Structural: the former "industrial test" becomes the reliability test of clause 5, rewritten to cover conditions, procedure, failure classification and assessment; Annexes A and B change from normative to informative.