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

GB/T 10170-2021

Replacing GB/T 10170-2010

**Earth-moving machinery - Backhoe loader - Technical
specifications**

土方机械 挖掘装载机 技术条件

Issued on: December 31, 2021

Implemented on: July 1, 2022

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

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1 Scope

Recommended national standard setting the product requirements for backhoe loaders - the classification, the technical requirements, the test methods, the inspection rules and the provisions for marking, packaging, transport and storage. It applies to the self-propelled wheeled backhoe loaders defined in GB/T 8498, with crawler machines able to use it for reference. Requirements are grouped into general (operating envelope, assembly and paint quality, fuel autonomy), performance (bucket capacity, rated operating capacity, hydraulic system cleanliness and cylinder settlement), safety (visibility, alarms, outrigger interlocks, safety glazing, working-device locking) and environmental and comfort (engine emissions, fuel consumption, noise, refrigerant, seat vibration, cab environment). Testing is carried out entirely under GB/T 13751. Issued 31 December 2021 and effective from 1 July 2022, it replaces GB/T 10170-2010 and its 2014 amendment.

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 3766 Hydraulic fluid power - General rules and safety requirements for systems and their components · GB/T 6375 Earth-moving machinery - Method of test for the measurement of drawbar pull · GB/T 7586 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

Clause 2 lists five documents only. A further twenty-two are cited in the body of the standard: GB/T 8498 for the machine type; GB/T 10168, GB/T 25602 and GB/T 25604 for terminology; GB/T 10175.1 and GB/T 10175.2 for rated operating capacity and breakout force; JB/T 9725 for the product model; JB/T 5945 and JB/T 5946 for assembly and paint quality; GB/T 25622 for the operator's manual; GB/T 21941 and GB/T 21942 for bucket capacity; GB/T 14039-2002 for particulate contamination; GB 20178 for safety labels; GB/T 16937 for the operator's field of view; GB/T 25685.2 for mirrors and monitoring devices; GB/T 21155 for the audible alarm; GB 25684.4 for machine safety; GB 20891 for non-road diesel emissions; GB/T 28239 for fuel consumption; GB 16710 for noise; GB/T 18826 for

the refrigerant; GB/T 19933.2, .4 and .5 for the cab environment; GB/T 13751 for the whole of clause 6; GB/T 25606 for the product identification number; JB/T 5947 for packaging; and GB/T 22358 for storage and protection.

5 Requirements - key values

Operating envelope: -15 degrees Celsius to +40 degrees Celsius, at an altitude of not more than 2 000 m.

Fuel autonomy: the tank shall allow not less than 8 h of continuous operation.

Hydraulic cylinder settlement, backhoe boom and loader: not more than 25 mm in 10 min.

Contamination of the torque converter and transmission fluid: not worse than -/20/17 to GB/T 14039-2002.

Digging position alarm: not less than 93 dB(A) at 7 m from the centre of slewing.

Outriggers: an audible and visible alarm where they are not in the travelling position.

Accompanying documentation is compulsory: packing list, certificate of conformity, operator's manual and spare parts catalogue.

7 Inspection rules

In the type inspection, critical items shall conform in full and important items admit not more than two nonconformities.