

ICS 65.060.50

CCS B 91



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

GB/T 20790-2024

Replacing GB/T 20790-2006

Head-feed combine harvesters - Technical requirements

半喂入联合收割机 技术条件

Issued on: April 25, 2024

Implemented on: November 1, 2024

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

Table of Contents

- 1 Scope
- 2 Normative references
- 3 Terms and definitions

Foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting: This document replaces GB/T 20790-2006 "Technical Specifications for Semi-feed Combine Harvesters": Compared with GB/T 20790-2006, In addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) Added "Product Model" (see Chapter 4);
- b) The noise requirements for combine harvesters have been changed (see 5:7, 3:6 of the:2006 edition), and the requirements for cab safety glass have been added (see 5:8);
- c) The indicators of productivity, total loss rate and impurity rate of operating performance have been changed (see Table 1, Table 1 of the:2006 edition);
- d) The indicators of support performance, minimum ground clearance and reliability have been changed (see 6:5, 6:3, 6:2, 4:2, 4:3, 4:4 of the:2006 edition), and Added whole machine emission requirements (see 6:4);
- e) Added the requirements for the automatic unloading time of the unloading screw and the diesel engine emission requirements (see 7:1:5 and 7:2:4:2), and changed the coating thickness requirements: Requirements, diesel engine starting temperature requirements, hydraulic oil solid contamination limit (see 7:1:8, 7:2:4:3, 7:2:5:4, 5:2:9,:2006 edition 5:3:4:2, 5:3:5:4), added the license plate holder requirements (see 7:2:7);
- f) The determination method of average ground pressure has been changed (see 8:3:1, 6:3:1 of the:2006 edition);
- g) Added the inspection item classification table (see Table 2);
- h) Added sampling and judgment scheme (see Table 3);
- i) The labeling, packaging, transportation and storage have been changed (see Chapter 10, Chapter 8 of the:2006 edition): Please note that some of the contents of this document may involve patents: The issuing organization of this document does not assume the responsibility for identifying patents: This document was proposed by the China Machinery

Industry Federation: This document is under the jurisdiction of the National Agricultural Machinery Standardization Technical Committee (SAC/TC201): This document was drafted by: China Agricultural Mechanization Research Institute Group Co., Ltd., Yanmar Agricultural Machinery (China) Co., Ltd., Kubota Agricultural Machinery Industrial Machinery (Suzhou) Co., Ltd., Xingguang Agricultural Machinery Co., Ltd., Shandong Shuangli Modern Agricultural Equipment Co., Ltd., Jiufang Taihe International Heavy Industry (Qingdao) Co., Ltd., Xuchang Vocational and Technical College, and National Agricultural Machinery Quality Inspection and Testing Center: The main drafters of this document are: Han Zengde, Chen Junbao, Zhang Zhongjie, Chen Jue, Gu Wei, Gong Zengmin, Ren Jianhua, Yao Ruiyang, Hou Chong, and Yang Yating: This document was first published in:2006 and this is the first revision: Technical requirements for semi-feed combine harvesters

1 Scope

China's national technical requirements for head-feed combine harvesters. It specifies the product models, the safety requirements, the main performance indicators, the technical requirements, the inspection rules and the marking, packaging, transport and storage, and describes the corresponding test methods. It applies to head-feed combines harvesting rice, or harvesting mainly rice and also wheat. The head-feed machine is the design that suits Asian rice farming, and it differs fundamentally from the whole-crop combine used for wheat on large fields. A whole-crop machine cuts the plant and feeds the entire stem and head into the threshing drum, then separates grain from a large volume of straw. A head-feed machine grips the cut stems by a chain conveyor and feeds only the heads into the threshing section, leaving the straw held and delivered whole. That has three consequences that decide where each design is used. Far less material passes through the threshing and separation section, so the machine can be much smaller and lighter, which matters on the soft, wet, small and terraced paddy fields where a heavy machine sinks or cannot turn. The grain suffers less damage and stays cleaner, which matters when the rice is to be sold as whole grain rather than milled to flour. And the straw comes out unbroken, which has real value where it is used for fodder, for mushroom growing or for craft. The standard sets the performance the machine must reach - the grain loss rate, the breakage rate, the impurity content and the productivity - together with the safety requirements, the reliability, and the inspection and test regime. Issued on 25 April 2024 and in force since 1 November 2024, it replaces GB/T 20790-2006.

HJ1014 Technical requirements for pollutant emission control of non-road diesel mobile machinery

NY/T 2188 Technical requirements for the installation of license plate holders for combine harvesters

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document: For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document:

GB/T 1209 (all parts) Agricultural machinery cutters GB/T 6979:

1 Harvesting machinery Combine harvesters and functional components Part 1: Vocabulary

GB/T 8097 Test methods for harvesting machinery - Combine harvesters

GB/T 9480 Rules for writing instructions for agricultural and forestry tractors and machinery, lawn and gardening power machinery

GB 9656 Technical Specification for Safety of Motor Vehicle Glass GB/T 10395:

GB 10396 General rules for safety signs and hazard symbols for agricultural and forestry tractors and machinery, lawn and gardening power machinery GB/T 13306 Labels

GB/T 14039-2002 Code for solid particle contamination level of hydraulic transmission oil

GB/T 14248 Method for determination of braking performance of harvesting machinery

GB 20891 Emission limits and measurement methods for exhaust pollutants from diesel engines for non-road mobile machinery (China Phase III and IV)

GB/T 30965 Earth-moving machinery - Determination of the average ground pressure of tracked machines

JB/T 5243 Method for determination of cleanliness of transmission box of harvesting machinery

JB/T 6268 Self-propelled harvesting machinery noise determination method

JB/T 6287 Test method for reliability assessment of grain combine harvesters

JB/T 7316 Test methods for hydraulic systems of grain combine harvesters

JB/T 8574 Rules for the compilation of agricultural machinery product models

3 Terms and definitions

The terms and definitions defined in GB/T 6979:1 and the following apply to this document: 3:

1 Alongcut The combine harvester is engaged in harvesting operations in which the direction of movement of the harvester is consistent with the direction of crop lodging: