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

GB/T 6072.6-2025

Replacing GB/T 6072.6-2000

**Reciprocating internal combustion engines - Performance - Part
6: Overspeed protection**

往复式内燃机 性能 第6部分：超速保护

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 6 of GB/T 6072 "Performance of Reciprocating Internal Combustion Engines". GB/T 6072 has already published the following parts.

---Part 1: Calibration and Test Methods for Power, Fuel Consumption and Oil Consumption - Additional Requirements for General Engines;

---Part 3: Experimental Measurements;

---Part 4: Speed Adjustment;

---Part 5: Torsional Vibrations;

---Part 6: Overspeed protection.

This document replaces GB/T 6072.6-2000 "Performance of Reciprocating Internal Combustion Engines - Part 6: Overspeed Protection", and is consistent with GB/T 6072.6-Compared to 2000, aside from structural adjustments and editorial changes, the main technical changes are as follows.

---The scope of application has been changed (see Chapter 1, Chapter 1 of the 2000 edition);

---Added some terms and definitions (see 3.1, 3.6);

---Added mechanical safety requirements for overspeed limiters (see 4.2);

---Added safety requirements for the electronic control system of the overspeed limiter (see 4.3).

This document is equivalent to ISO 3046-6:2020 "Reciprocating internal combustion engines - Performance - Part 6: Overspeed protection".

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Internal Combustion Engines (SAC/TC177).

Introduction

GB/T 6072 "Performance of Reciprocating Internal Combustion Engines" is a standard for the performance of reciprocating internal combustion engines, equivalent to ISO 3046, and consists of 5 parts.

Composition.

---Part 1: Calibration and Test Methods for Power, Fuel Consumption, and Oil Consumption - Additional Requirements for General Engines. The purpose is to...

Establish calibration and test methods for engine power, fuel consumption, and oil consumption for specific applications. This section covers engine power measurement.

A "satellite" standard within a quantitative standard system can only be effective when used in conjunction with the "core" standard GB/T 21404 (ISO 15550).

Comprehensive requirements for engines designed for specific purposes.

---Part 3: Experimental Measurements. The aim is to establish a universal measurement technique for the main performance parameters of reciprocating internal combustion engines to ensure that they meet the requirements.

The necessary measurement accuracy ensures that the measured values are comparable to those specified by the engine manufacturer.

---Part 4: Speed Regulation. The purpose is to establish the classification of requirements and parameters for the speed regulation system of a reciprocating internal combustion engine, as well as the typical engine speed...

Terms and definitions for speed.

---Part 5: Torsional Vibration. The aim is to establish general requirements for the torsional vibration of shaft systems in reciprocating internal combustion engine-driven units and... definition.

---Part 6: Overspeed Protection. The purpose is to establish a standard for overspeed limiters used to protect reciprocating internal combustion engines and their drive mechanisms.

General requirements.

Reciprocating internal combustion engine performance Part 6: Overspeed Protection

1 Scope

This document specifies the general requirements for overspeed limiters used to protect reciprocating internal combustion engines and their driving machinery.

This document applies to reciprocating internal combustion engines for land, rail, and marine applications, but excludes engines for road vehicles and aircraft.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

Performance-Part 4: Speedgoverning) Note. GB/T 6072.4-2012 Reciprocating internal combustion engines - Performance - Part 4: Speed regulation (ISO 3046-4:2009, IDT) ISO 12100 Safety of machinery design - Risk assessment and risk reduction Note. GB/T 15706-2012 General principles for safety design of machinery - Risk assessment and risk reduction (ISO 12100:2010, IDT) IEC 60204-1 Safety of machinery - Electrical equipment for machines - Part 1: General technical conditions Note. GB/T 5226.1-2019 Electrical Safety of Machinery - Electrical Equipment of Machinery - Part 1: General Technical Conditions (IEC 60204-1:2016)

3 Terms and Definitions

The following terms and definitions apply to this document.

overspeed

This situation occurs when the engine load suddenly drops, and the speed control system is unable to respond in time or malfunctions, causing the engine to exceed the predetermined speed.

When the engine exceeds a predetermined speed, the speed sensor controls the engine's fuel supply, intake, load, and/or ignition system.

A device consisting of braking elements and/or an electronic control system.

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The starting speed of the overspeed limiter (3.2).

Note: See Figure 1.

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