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

GB/T 8190.8-2018

Replacing GB/T 8190.8-2003

**Reciprocating internal combustion engines -- Exhaust emission
measurement -- Part 8: Engine group determination**

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Foreword

GB/T 8190 "Reciprocating Internal Combustion Engine Emissions Measurement" is divided into 11 parts.

- Part 1. Test bench measurements of gas and particulate emissions;
- Part 2. Field measurements of gas and particulate emissions;
- Part 3. Definition and measurement method of exhaust smoke in steady-state conditions;
- Part 4. Steady-state test cycles for engines of different uses;
- Part 5. Test fuel;
- Part 6. Measurement results and test reports;
- Part 7. Determination of the engine family;
- Part 8. Determination of the engine system;
- Part 9. Test cycle and test procedures for test bench measurement of exhaust smoke of transient combustion conditions of compression-ignition engines;
- Part 10. Test cycles and test procedures for on-site measurement of exhaust smoke in transient conditions of compression-ignition engines;
- Part 11. Test bench measurements of gas and particulate emissions under transient conditions of engines for non-road mobile machinery.

This part is the eighth part of GB/T 8190.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB/T 8190.8-2003 "Reciprocating internal combustion engine emission measurement Part 8. Determination of engine system group". versus

Compared with GB/T 8190.8-2003, the main technical changes except editorial changes

are as follows.

- Removed normative references (see Chapter 2 of the.2003 edition);
- Increased the provisions of the combustion cycle "rotor engine and other combustion cycles" (see Chapter 4, Chapter 5 of the.2003 edition);
- Modified fuel type (Chapter 4, see Chapter 5 of the.2003 edition);
- Increased fuel system type "common rail" (Chapter 4, see Chapter 5 of the.2003 edition);
- Modified and added other features (Chapter 4, see Chapter 5 of the.2003 edition);
- Added "Electronic Control Strategy" (Chapter 4, see Chapter 5 of the.2003 edition).

This section uses the translation method equivalent to ISO 8178-8.2015 "Reciprocating internal combustion engine emissions measurement Part 8. Engine system group

Determination."

This part was proposed by the China Machinery Industry Federation.

This part is under the jurisdiction of the National Internal Combustion Engine Standardization Technical Committee (SAC/TC177).

This section is mainly drafted by. Shanghai Internal Combustion Engine Research Institute, Weichai Power Co., Ltd., Xuelong Group Co., Ltd., Shanghai Chai

Oil Machinery Co., Ltd., Shanghai Automotive Group Co., Ltd. Commercial Vehicle Technology Center, Ningbo Xindajie Electric Co., Ltd., Hangzhou Special

Paper Co., Ltd.

1 Scope

This part of GB/T 8190 specifies the parameters used to determine the engine system specifications and select the source of the system.

This section applies to stationary engines and marine auxiliary engines that may need to be modified or adjusted to suit the conditions of use in the field.

2 Terms and definitions

The following terms and definitions apply to this document.

2.1

Engine system group enginegroup

Adjustments or modifications to the test bench are required to ensure that the site (mainly

for marine use) and the baseline condition (mainly for fixed use) are subdivided

Do not meet the emissions and performance requirements of a class of engines.

Note. The engine train is a type of engine that is more restrictive than the engine family specified in ISO 8178-7. The parties concerned agreed on the determination and source of the group

(2.2) choice.

2.2

Source parentengine

An engine that is representative of the engine system (2.1) emission performance agreed upon by the parties concerned.

Note. See Chapter 6.

3 General

Some engines, mainly marine and stationary engines, require modifications or adjustments to suit field conditions. In this situation

In this case, the parties concerned may agree to use a limited set of engines with defined basic characteristics and specifications for limited modifications and adjustments.

The source machine selection procedure should preferably provide the selected engine with features that adversely affect emissions associated with the exhaust components.

On the other hand, the procedures should be adapted to the production volume of the engine manufacturer. Therefore, the source machine can be the first prototype in the product line, or at some

In some cases, it is a test machine related to it.

The determination of the engine system and the selection of the source machine shall be agreed upon by the parties concerned.

4 Determine the parameters of the engine system group

The engine train can be determined by the basic features and specifications common to the various engines in the train.

The engine manufacturer shall be responsible for specifying the engines included in each of its product lines and agreeing with the parties concerned. For identification

Engines belong to the same group and should have the following characteristics and specifications.

a) Combustion cycle.

1) two strokes;

2) four strokes;

3) Rotor engine;

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