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

GB/T 4759-2009

Replacing GB/T 4759-1995

**Exhaust silencers for internal combustion engines --
Measurement procedure
(English Translation)**

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Foreword

This standard is GB/T 4759-1995 "engine exhaust muffler measurement methods" amendments.

This standard and GB/T 4759-1995 The main difference is.

- Modify the scope;
- Modify the terms and definitions;
- Increased acoustic measurement 90 ° direction;
- Exhaust noise increases the surface sound pressure level and sound power level is calculated;
- Increasing the exhaust back pressure measurement;
- Modify the test report.

Since the implementation of this standard, instead of the GB/T 4759-1995.

Appendix A of this standard is an informative annex.

The standard proposed by China Machinery Industry Federation.

The standard internal combustion engine by the National Standardization Technical Committee (SAC/TC177) centralized.

This standard was drafted. Shanghai Internal Combustion Engine Research Institute, Shanghai Automotive Group Co., Ltd. Technical Center.

1 Scope

This standard specifies the measurement side engine exhaust muffler (hereinafter referred to as the muffler) acoustic and aerodynamic performance (gas dynamics) properties law. Also given on measuring instruments, measurement conditions and measurement requirements of the position, and exhaust noise surface sound pressure level and sound

power level is calculated method. The standard engineering methods can be used for acceptance testing.

The standard acoustic measurements aimed at obtaining Grade 2 accuracy rating (engineering method) measurements. Such as background noise correction value is greater than 1.3dB but less than or equal to 3dB, and/or environmental conditions can not meet the requirements of this standard engineering methods, the level of accuracy obtained Level 3 (simple method) Measurement results.

This standard applies to GB/T 6072.1 Scope of medium and small power internal combustion engine muffler trials, there is no appropriate national standards can Muffler used for other purposes (including intake silencer) may also refer to use.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 3241 octave and fractional octave filters (GB/T 3241-1998, eqv IEC 61260:1995)
GB/T 3785-1983 electric sound level meter, acoustic performance and test methods GB/T 3947 Acoustics Terminology GB/T 6072.1 reciprocating internal combustion engine performance - Part 1. Power, calibration and test methods of fuel consumption and lubricating oil consumption Additional requirements for engines for general use (GB/T 6072.1-2008, ISO 3046-1:2002, IDT) GB/T 6072.3 reciprocating internal combustion engine performance - Part 3. Test measurements (GB/T 6072.3-2008, ISO 3046-3.

2006, IDT)

JJG176 acoustic calibrator verification procedures

3 Terms and Definitions

GB/T 3947 and established the following terms and definitions apply to this standard.

Has a sound-absorbing lining or special form structure can effectively reduce the airflow duct noise.

Note: The engine exhaust muffler generally include the entire muffler assembly from the air inlet muffler beginning, excluding the internal combustion engine exhaust manifold and exhaust pipe.

Front and rear muffler device, a sound source of sound power levels of radiated noise difference outwardly through the exhaust port. Symbol. D; Unit. dB.

When the exhaust pipe outlet location, size, shape and sound field distribution remains

unchanged, then the insertion loss is equal to the given measurement point means muffler the difference between before and after excitation radiation sound pressure level noise outside through the exhaust port.

Condition before and after the calibration of the internal combustion engine, the muffler device with a power ratio of the difference between the power value when no silencer installed, with a percentage Shown. Symbol. γ .