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

GB 1495-2002

**Limits and measurement methods for noise emitted by
accelerating motor vehicles**

汽车加速行驶车外噪声限值及测量方法

(English Translation)

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Foreword

This Standard was formulated in accordance with Law of the People's Republic of China on Prevention and Control of Pollution from Environmental Noise.

This Standard referred to United Nations Economic Commission for Europe Regulation ECE Reg. No. 51 "Uniform provisions concerning the approval of motor vehicles having at least four wheels with regard to their noise emissions" and was based on the actual situation of China's automotive products.

The noise limit of this Standard replaces the car noise limit in GB 1495-79.

On the noise measurement methods, in technical contents, this Standard referred to Annex 3 of United Nations Economic Commission for Europe Regulation ECE Reg. No. 51/02 (1997) "Uniform provisions concerning the approval of motor vehicles having at least four wheels with regard to their noise emissions" and corresponding content in the International standard ISO

362.1998 "Acoustics -- Measurement of noise emitted by accelerating road vehicles -- Engineering method".

The requirements for test road in this Standard equivalently adopted ISO

10844.1994 "Acoustics -- Specification of test tracks for the purpose of measuring noise emitted by road vehicles". It shall be implemented since January 1, 2005.

This Standard shall be implemented in two time periods according to the auto exit-factory date.

This Standard was proposed by State Environmental Protection Administration, Science and Technology Standard Department.

The drafting organizations of this Standard. Beijing Labor Protection Science Research Institute, China Automotive Technology and Research Center.

This Standard was approved by State Environmental Protection Administration on November 22, 2001.

This Standard shall be interpreted by State Environmental Protection Administration.

Limits and measurement methods for noise emitted by accelerating motor vehicles

1 Scope

This Standard specifies the limits for noise emitted by accelerating new produced motor vehicles.

This Standard specifies the measurement methods for noise emitted by accelerating new produced motor vehicles.

This Standard is applicable to Category-M and Category-N1 motor vehicles.

2 Normative references

The following standards contain the provisions which, through reference in this Standard, constitute the provisions of this Standard. For dated references, subsequent amendments (excluding corrections) or revisions do not apply to this Standard. However, the parties who enter into agreement based on this Standard are encouraged to investigate whether the latest versions of these documents are applicable.

GB 3785-83, Electroacoustics - Sound level meters

GB/T 15173-94, Sound calibrators

GB/T 12534-90, Motor vehicles - General rules of road test method

ISO 10844-1994, Acoustics - Specification of test tracks for the purpose of measuring noise emitted by road vehicles 2

ISO 10534 1996, Acoustics - Determination of sound absorption coefficient and impedance in impedance tubes - Part 1. Method using standing wave ratio 3

GB/T 17692-1999, Measurement methods of net power for automotive engines

3 Definitions

For the purposes of this document, the following definitions apply.

3.1 Motor vehicle's category

In terms of noise outside the motor vehicle, a category of motor vehicle refers to a category of motor vehicles that have no difference in the following main aspects.

3.1.1 Body shape or structural material (especially the engine compartment and its sound insulation material).

3.2 Noise reduction system

Noise reduction system refers to the complete set of components necessary to limit the motor vehicle and its exhaust noise. When the noise reduction component's designations or trademarks in the system are different, or the size and shape of the components, material properties, assembly, working principle are different, or the number of intake/exhaust mufflers is different, the system shall be regarded as different types of noise reduction systems.

3.3 Noise reduction system components

The noise reduction system component refers to one of the individual components that constitute the noise reduction system, such as the exhaust pipe, the expansion chamber, the muffler, etc. It is considered a component of the noise reduction system when the presence of the air filter is essential to

ensure that the specified noise limits are met.

4 Noise limit

When the vehicle accelerates, the maximum noise level outside the vehicle shall not exceed the limits specified in Table 1.

5 Measurement methods

The measurements for noise emitted by accelerating motor vehicles shall be performed according to Annex A.

Annex A

(Normative)

Measurement methods for noise emitted by accelerating motor vehicles

A.1 Measuring instruments

A.1.1 Acoustic measurement

A.1.2 Measurements of rotating speed, vehicle speed

An engine tachometer or vehicle speed measuring instrument with an accuracy better than $\pm 2\%$ must be used to monitor the rotating speed or vehicle speed.

Do not use the same type of instrument on the vehicle.

A.1.3 Meteorological parameter measurement

The accuracy of the thermometer shall be within $\pm 1^\circ\text{C}$. The accuracy of the anemometer shall be within $\pm 1.0\text{ m/s}$.

A.1.4 All measuring instruments shall be periodically inspected in accordance with the relevant national standards for measuring instruments.

A.2 Measuring conditions

A.2.1 Measuring site

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