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

GB 15742-2019

Replacing GB 15742-2001

**Performance requirements and test methods of horns for motor
vehicles**

机动车用喇叭的性能要求及试验方法

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Foreword

All technical contents of this Standard except

3.1.2.4 are mandatory. This Standard is drafted in accordance with the rules given in GB/T 1.1-2009. This Standard replaces GB 15742-2001 "Performance requirements and test methods of horn for motor vehicles". As compared with GB 15742-2001, the main technical changes of this Standard are as follows: - In the Scope, the type L1 and L2 mopeds are added to the applicable vehicle types (see Clause 1); - In the Normative references, IEC 651 is changed to GB/T 3785.1; and IEC 225 is changed to GB/T 3241, to facilitate the use of the standard (see Clause 2; Clause 2 of the 2001 edition); - ADD sound pressure level limits for mopeds (see 3.1.2); - In accordance with the national conditions, the previous

3.1.2.3 spectrum and sound pressure level provisions are adjusted (see 3.1.2.3;

3.1.2.3 of the 2001 edition); - CHANGE the durability test method. "In the test, it is allowed to adjust the horn once" is changed to "In the test, it is not allowed to adjust the horn" (see 3.2.7;

3.2.7.2 of the 2001 edition); - For type M and N automobiles and the motorcycles with a power greater than 7 kW, the lowest sound pressure level of the whole vehicle is adjusted

from 93 dB(A) to 87 dB(A) [see

1 Scope

GB 15742 sets what a vehicle horn must sound like and how it is measured: the sound pressure level at the specified distance and its permitted range, the frequency spectrum, the response time, and the durability over a defined number of operations, together with the performance once fitted to the vehicle. Annex A defines the acoustic environment in which the measurement is valid - a hemi-anechoic room or an open field to a specified layout - because outside it the figures mean nothing. It is mandatory for vehicles sold in China. Issued on 4 April 2019, in force since 1 January 2020, replacing GB 15742-2001. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the edition it replaces are taken from there. The clause text, the tables and the numeric limits are not reproduced on this page - they are in the document itself, which is delivered in full in English translation.

This Standard specifies the performance requirements, test methods of electric horn and air horn for motor vehicles and loading performance requirements and test methods of the horn. This Standard applies to type M, N, L motor vehicles.

Note. Type L motor vehicles include type L1 and L2 mopeds.

2 Normative references

The following documents are indispensable for the application of this document. For the dated references, only the editions with the dates indicated are applicable to this document. For the undated references, the latest edition (including all the amendments) are applicable to this document.

GB/T 3241 Electroacoustics - Octave-band and fractional-octave-band filters

GB/T 3785.1 Electroacoustics - Sound level meters - Part

3.1 Performance requirements

3.1.1 General requirements The horn shall emit a continuous and uniform sound. For pneumatic and electro-pneumatic horns, the time FROM the moment the horn has just been pushed TO the sound pressure level specified in

3.1.2 shall not exceed

0.2 s.

3.1.2 Sound pressure level

3.1.2.1 Under the conditions specified in 3.2.3.1, the A-weighted sound pressure level at 2

m from the horn shall satisfy.

3.1.2.2 Under the conditions specified in 3.2.3.2, the A-weighted sound pressure level of pneumatic and electro-pneumatic horns at 2 m from the horn shall not exceed 125 dB(A).

3.1.3 Durability

3.1.3.1 The horn for mopeds and motorcycles with a power of no more than 7 kW is 10000 times.

3.1.3.2 The horn for type M and N automobiles and motorcycles with a power of more than 7 kW is 50000 times.

3.1.3.3 After the durability test, the horn shall comply with the provisions of 3.1.1, 3.1.2.2, and 3.1.2.3. It is allowed that the sound pressure level is reduced by 5 dB(A) than that before the test.

3.2.1 Test environment

3.2.1.1 The test of horn is carried out in the anechoic chamber; and is also allowed in the semi-anechoic chamber or on the open area (see Appendix A). When testing on open area, the background noise and wind noise shall be at least 10 dB(A) lower than the sound pressure level of the horn being measured. The test shall be carried out in good weather. Unless otherwise specified, during the test, the ambient temperature shall be $23\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$.

3.2.2 Test instruments

3.2.2.1 The sound pressure level shall be measured using a sound level meter which meets the first-class accuracy specified in GB/T 3785.1. During the measurement, the fast time constant "F" shall be used. The total sound pressure level is measured using the "A" metering gear. The reference sound pressure is $20\text{ }\mu\text{Pa}$.

3.2.3 Test conditions

3.2.3.1 The test conditions for the electric horn are.

3.2.4 Installation of horn during the test

3.2.4.1 The horn shall, according to the installation mode specified by the manufacturer, be firmly mounted on the metal base frame. The mass of the base frame shall be at least 10 times that of the horn and not less than 30 kg.

3.2.6 Test of sound pressure level Under the conditions specified in 3.2.1~3.2.4, CHECK the sound pressure level of the horn. It shall comply with the provisions of 3.1.2.

3.2.7 Durability test

3.2.7.1 Test conditions The horn test shall be carried out under the following conditions.

4.1 Performance requirements

4.1.1 The horn installed on motor vehicles shall comply with the performance requirements and test methods of the horn of Clause 3.

4.1.2 The horn shall be mounted in the front of motor vehicles. Its sound pressure level shall satisfy.

4.1.2

b) of the 2001 edition]; - Modify the textual formulation of Appendix A. This Standard was proposed by and shall be under the jurisdiction of Ministry of Industry and Information Technology of the PRC. Drafting organizations of this Standard. Shanghai SIIC Transportation Electric Co., Ltd., Changsha Automobile Electric Appliance Research Institute, Hubei Tri-ring Auto-Electric Appliance Co., Ltd., Harbin Goodtime Electronics Co., Ltd., Zhejiang Gujiu Auto Electrical Appliance Co., Ltd., Tianjin Motorcycle Technical Center. Main drafters of this Standard. Li Jinming, Song Xiaojuan, Xu Guangzhen, Zhao Minglun, Hu Mengjiao, Li Weiyang, Weng Zezhong, Sun Quanying, Yan Zhifeng, Dai Xianghong, Yuan Kezhong. This Standard is first published in November 1995; and first revised in January 2001. This is the second revision. Performance requirements and test methods of horn for motor vehicles

4.2 Test methods

4.2.1 Test environment and test instruments The test environment and test instruments shall comply with the relevant provisions of 3.2.

4.2.2 Installation of the instruments The microphone of the measuring instrument shall be placed close to the longitudinal plane of the center of the vehicle. The effects of the following factors on the measurement results shall be considered.

4.2.3 Measuring conditions of sound pressure level The measurement of sound pressure level shall meet the following conditions.