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

GB/T 18388-2005

Replacing GB/T 18388-2001

Electric vehicles - Engineering approval evaluation program

电动汽车 定型试验规程

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Foreword

This Standard replaces GB/T 18388-2001 Electric vehicles - Engineering approval evaluation program. Compared with GB/T 18388-2001, the main changes of this Standard are as follows: - Add the provision - referring to GB 1495-2002 Limits and measurement methods for noise emitted by accelerating motor vehicles, when carrying out noise test emitted by accelerating motor vehicles. (See 4.1.1) - Add the provision - referring to GB 11555-1994 Passenger cars - Windshield demisters - Performance requirements, when carrying out performance test of windshield demisters. (See 4.1.2) - Add the provision - referring to GB 11556-1994 Passenger cars - Windshield defrosters - Performance requirements, when carrying out performance test of windshield defrosters. (See 4.1.3) - Change the driving test content in 4.3. Rearrange the driving mileage. Total driving mileage of reliability driving test is 50% of the total driving mileage of reliability driving that corresponds to engineering approval evaluation program of diesel vehicle. If the total driving mileage is lower than 5000km, perform it as 5000km. In mileage distribution, 35% is bad-road, 65% is flat-road and highway. Annex A of this Standard is normative. This Standard was proposed by National Technical Committee on Road Vehicles of Standardization Administration of China. This Standard shall be under the jurisdiction of National Technical Committee on Road Vehicles of Standardization Administration of China. Drafting organization of this Standard. China Automotive Technology and Research Center. Main drafters of this Standard. Liu Guibin, Chen Song, He Yuntang, and Zhao Ziliang. The previous edition replaced by this Standard. GB/T 18388-2001. Electric Vehicles - Engineering Approval Evaluation Program This standard specifies the implementing conditions, test items, test methods, basis of evaluation, and test reports of new product design and approval evaluation test of pure electric vehicles. This standard is applicable to pure electric vehicles.

1 On-board energy storage

China's national programme of tests an electric vehicle must pass to obtain engineering approval - the type approval test schedule for a new model. It specifies the conditions for carrying out the tests, the test items, the test methods and the basis for evaluation, the test procedure and the test report, with a normative annex listing the mandatory standards that apply. The document is short because it is a schedule rather than a method: its function is to assemble, in one list and one order, every test a new electric vehicle model has to pass and to name the standard that governs each. That is worth having as a separate document because the tests come from three different families. There are the tests every vehicle must pass regardless of how it is powered - braking, lighting, steering, crashworthiness, noise. There are the tests peculiar to electric vehicles: the safety specifications for the on-board energy storage system, the functional means and protection against failure, and the protection of persons against electrical hazard. And there are the performance tests that only mean anything for an electric vehicle: power performance, and reference energy consumption and range, which is the number the market reads and the one most susceptible to being measured in a flattering way. The standard fixes the conditions under which the whole programme is run, the sequence in which the items are taken - which matters, because tests that damage or discharge the vehicle constrain what can follow - and the form of the report. Issued on 23 May 2005 and in force since 1 October 2005, it replaces GB/T 18388-2001.

GB/T 18384.2 Electric vehicles - Safety specification - Part

2.Functional means and protection against failures

GB/T 18384.3 Electric vehicles - Safety specification - Part

2 Normative References

The articles contained in the following documents have become part of this Standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB/T 18384.1 Electric vehicles - Safety specification - Part

3 Implementing Conditions

3.1 The following documents shall be provided before the evaluation.

3.2 The vehicle for evaluation shall conform to requirements of the design drawing and technical documents.

3.3 Quantity of vehicle sample for the engineering approval evaluation. 1.

3.4 After having the above conditions, the manufacturer can apply to relevant department for the engineering approval evaluation.

3.5 During the test process, relevant personnel shall operate and maintain according to provisions specified in the instruction manual.

3.6 After the test is completed, the test organization shall provide the test report according to the contents specified in Chapter 5.

4 Test Items, Test Methods and Basis for Evaluation

The test item consists of 3 parts - compulsive standard test, vehicle performance test, and vehicle reliability driving test at test field.

4.1 Compulsive standard test The items of compulsive standard test are shown in Annex A. In which, the 3 test methods - vehicle external noise, windscreen defrosting, and windscreen demisting are shown in Clause 4.1.1 ~ 4.1.3.

4.1.1 The external noise test of electric vehicle shall be carried out under the electric mode. And the test methods shall be reference to GB 1495-2002 Vehicle Acceleration Running External Noise Limit and Measuring Method. At the same time, make the changes as follows:

4.1.2 When conducting the test of windscreen demisting system of electric vehicle, the test shall be reference to GB 11555-1994 Performance Requirements and Test methods of Vehicle Windscreen Demisting System. It only requires to turn on the main circuit switch. The power motor is not required to run.

4.2 Vehicle performance test Vehicle performance test of electric vehicle shall be performed at the test field authorized by the State. The test items will be evaluated according to the product technical specifications.

4.2.2 Special performance test of electric vehicle

4.3 Reliability driving test The Reliability driving test of electric vehicle shall be carried out at the test field authorized by the State.

4.3.1 Total driving mileage of reliability driving test is 50% of the total driving mileage that corresponds to approval evaluation program of diesel vehicle. If the total driving mileage is lower than 5000km, perform it as 5000km.

4.3.2 The mileage distribution of vehicle is that 35% is bad-road; 65% is flat-road and highway.

5 Test Procedure

5.1 Receive the sample vehicles for inspection and test. Register the sample vehicles.

5.2 Run-in the vehicle in according to the manufacturer's specifications.

5.4 Compile the test report.

6 Test Report

Test report shall include following contents.

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