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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

中华人民共和国国家标准

GB/T 19753-2013
Replace GB/T 19753-2005

Test Methods for Energy Consumption of Light-duty Hybrid Electric Vehicles

轻型混合动力电动汽车能量消耗量试验方法

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Standardization Administration of the People's Republic of

Contents

Foreword

This standard was drafted according to the rules of GB/T1.1—2009.

This standard replaces GB/T 19753—2005 *Test Method for Energy Consumption of Light-duty Hybrid Electric Vehicles*. Compared with GB/T19753—2005, except editorial amendment, main technical changes are as follows:

— For classification methods of Chapter IV conflict with provisions of GB/T 19596, title of Chapter IV has been changed.

— Vehicles to be tested need to take a running-in according to the rules of the manufacturer, and run as least 300 km within seven days before the test. Revision shall be that “it is recommended that the vehicles shall run at least 300 km within seven days before the test” (see 6.1; 6.1 of 2005 edition).

— Add speed tolerance of ±2 km/h in the description of “vehicle speed maintains at 50 km/h until the engine of hybrid electric vehicle starts”. The same revision will be conducted when the same problem appears in each sub-clause (see 7.1.2.1; 7.1.1.1 of 2005 edition).

— Change the fuel consumption c1/2 (L) of the original standard into c1/2 (1/100 km) (see 7.1.2.3.5, 7.1.3.2.4, 7.1.4.1 and 7.2.3.3.5; 7.1.1.3.4, 7.1.2.2.4, 7.2.2.3.5.1 and 7.2.3.2.4 of 2005 edition).

— Add new test method(s) as the option (s) for test method for off-vehicle charging hybrid electric vehicles. New test method (s) includes (include) operating N circulations until energy saving device is in lowest-charge state. This test method can better embody the energy consumption of party of new-type hybrid power control strategies [see 7.2.3.3.4 a) and 7.2.3.3.4 b)].

— In order to better embody the energy consumption of plug-in hybrid electric vehicles, their energy consumption is required to be indicated by both parts of fuel consumption and electricity consumption, because one part of indication may cause confusion (see 7.1.4.3 and 7.2.5.3).

— Add calculation standard to other fuels and indicate that the calculation of other fuels is consistent with the national standard implemented in the same period (see 7.4).

— Change the pretreatment circulation into two completed circulations. And it is required

to measure the fuel and electricity consumption in the pretreatment circulation; and the changes of electricity energy of vehicles' energy storing device shall be less than 5% of the fuel consumption within three test circulations. Otherwise, the test is invalid (see 7.3.1.1 and 7.3.1.2 of 2005 edition).

— Delete Q>0 (discharging), Q<0 (charging) (see 7.3.2.4 of 2005 edition).

— Add the measurement of OVC driving range (see Annex B).

This standard refers to parts of technical contents in the aspect of "test method for energy consumption of hybrid electric vehicles" in ECE R101.revision 2-amendment 2-annex 8 proposed by United Nations Economic Commission for Europe (UNECE) on November 9, 2009.

This standard was proposed by Ministry of Industry and Information of the People's Republic of China.

This standard is under the jurisdiction of State Automobile Standardization Technology Committee (SAC/TC 114).

This standard was drafted by China Automobile Technology Research Center, Chongqing Changan New Energy Automobile Co., Ltd., Dongfeng Electric Vehicle Co., Ltd., Chery Automobile Co, Ltd., China FAW Group Corporation Technology Center, Shenzhen BYD Automobile Co, Ltd., Shanghai Jieneng Automobile Technology Co., Ltd., Wangxiang Electric Vehicle Co., Ltd. and Pan Asia Technical Automotive Center Co., Ltd.

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Test Method for Energy Consumption of Light-duty Hybrid Electric Vehicles

1. Scope

This standard specifies the test method for energy consumption of light-duty hybrid electric vehicles equipped with spark-ignition engine or compression-ignition engine.

This standard is applicable to Class M_1, Class M_2, and Class N_1 hybrid electric vehicles which are equipped with spark-ignition engine or compression-ignition engine and the total maximum weight is not more than 3.5t.

2. Normative References

The articles contained in the following documents have become this document when they are quoted herein. For the dated documents so quoted, all the modifications (Including all corrections) or revisions made thereafter shall be applicable to this document.

GB 18352.3-2005 Limits and measurement methods for emissions from light-duty vehicles

GB/T 19233-2008 Measurement methods of fuel consumption for light-duty vehicles

GB/T 19596 Terminology of electric vehicles

3. Terms & Definitions

For the purposes of this standard, the terms and definitions given in GB/T 19596 and the following apply.

4. Classification of Hybrid Electric Automobile According to the Charging Mode

In this standard, the hybrid electric vehicles are divided into 4 types (see table 1) according to whether energy storing devices need off-vehicle charging and whether vehicles have manual-selection function of driving mode (s).

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