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**NATIONAL STANDARD OF THE  
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Replacing GB/T 17692-1999

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**Measurement methods of net power for automotive engines  
and drive motor**

汽车发动机及驱动电机净功率测试方法

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### 1 Scope

GB/T 17692-2024 is the Chinese national standard on measurement methods of net power for automotive engines and drive motor, in the field of road vehicles engineering. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 29 June 2024 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 January 2025. Classification: ICS 43.060.01, CCS T 11. 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 issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document describes the method for conducting net power test and maximum 30 min power test of drive motor systems for engines and drive motor systems for M and N category vehicles, based on the net power versus speed curve proposed by the manufacturer. This document applies to reciprocating piston engines (spark ignition or compression ignition) or rotary engines (spark ignition or compression ignition), but not to free piston engines. This document applies to drive motor systems.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the version corresponding to that date is applicable to this document; for undated references, the latest version (including all amendments) is applicable to this document.

GB 17691-2018, Limits and measurement methods for emissions from diesel fueled heavy-duty vehicles (CHINA VI)

GB 18352.6-2016, Limits and measurement methods for emissions from light-duty vehicles (CHINA 6)

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in GB 17691-2018 and GB 18352.6-2016 as well as the following apply.

3.1 net power The power measured at the corresponding speed at the engine crankshaft end (or the shaft end of the drive motor system) or its equivalent end on the test bench according to the prescribed test method.

3.2 maximum 30 min power The average value of the maximum net power continuously output by the drive motor system within 30 minutes according to the specified test method.

3.3 drive motor system A system installed on electric vehicle to provide driving force for the vehicle and realize the mutual conversion between mechanical energy and electrical energy.

3.4 hybrid electric vehicle A vehicle capable of obtaining power from at least two of the following types of on-board stored energy devices.

3.5 dual-fuel engine An engine that can be fueled by diesel and one other fuel at the same time.

3.6 dual-fuel model A normal operation mode under which the dual-fuel engine uses diesel and one other fuel simultaneously, under certain operating conditions.

### 4.1 Product certification

4.1.1 Engines or drive motor systems submitted for certification in accordance with the requirements of Chapter 5 (the main characteristics and test-related information shall be in accordance with the provisions of Appendix A or Appendix B) shall undergo product certification tests in accordance with the provisions of Appendix C or Appendix D.

4.1.2 The product certification test results shall comply with the provisions of 6.1.

## 4.2 Production consistency

4.2.1 In order to verify that the engine or drive motor system produced after product certification meets the quality requirements, a sample shall be selected for testing in accordance with the provisions of Appendix C or Appendix D, and the test results shall comply with the provisions of 6.2.

## 5.1 Basic requirements

5.1.1 Parts that affect the power of the engine or drive motor system shall meet the technical standards of the manufacturer during the design, manufacturing and assembly process to ensure that the engine or drive motor system can operate normally and stably.

## 5.2 Test requirements for net power for engine

5.2.1 Carry out the net power test of the engine in accordance with the requirements of Appendix C. The accessories installed during the test shall meet the requirements of Table C.1.

5.2.2 Except for the following cases, the fuel used in the engine test shall be commercially available fuel. In case of dispute, the benchmark fuels in Appendix E shall be used.

## 5.3 Test requirements for net power and maximum 30 min power for drive motor system

5.3.1 Carry out the net power and maximum 30 min power test of the drive motor system according to the requirements of Appendix D; the accessories installed during the test shall meet the requirements of Table D.1.

5.3.2 Control the drive motor system to perform the maximum 30 min power test at rated speed.

## 6.1 Product certification test results

6.1.1 The engine product is based on the manufacturer's declared curve. If the net power value on the declared curve corresponds to a single speed, the test is conducted within the deviation of the speed corresponding to each declared value within  $\pm 1.5\%$ ; if the declared value corresponds to the speed range ( $X1 \sim X2$ ), the test is conducted within the speed range corresponding to each declared value from  $(X1 + 1.5\% X1)$  r/min to  $(X2 - 1.5\% X2)$  r/min ( $X1 < X2$ ).

6.1.2 The net power and maximum 30 min power measured values of the drive motor system shall not be lower than those specified in the product technical documents.

6.1.3 For dual-fuel engines, the net power declared by the manufacturer refers to the value in dual-fuel model.