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

GB 17691-2018

Replacing GB 17691-2005

**Limits and measurement methods for emissions from diesel
fuelled heavy-duty vehicles (China VI)**

重型柴油车污染物排放限值及测量方法（中国第六阶段）

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Table of Contents

1	Scope
2	Normative references
3	Terms and definitions
4	Pollution control requirements
4.1	Type test
4.1.1	General requirements
4.2	Environmental production consistency and in-use compliance
5	Signage of engine (vehicle)
6	Technical requirements and tests
6.1	General requirements
6.1.2.1	The measures as described in
6.2	Type test items
7	Installation on vehicles
7.1	Requirements for installation of engine on the vehicle
8	Family and parent engine
8.1	Engine family
8.1.3	Expansion of engine family
9	Up-to-standard requirements and inspection of new
9.1	General requirements
10	Requirements and inspection of in-use compliance
10.1	General requirements
10.2.1	Self-inspection of manufacturer
11	Implementation of standard

1 Scope

GB 17691 is China VI, the emission standard for heavy-duty diesel vehicles, and at roughly 185,000 words of translation it is one of the largest regulatory documents in the Chinese system. It sets the limits and the measurement methods for pollutants from heavy-duty compression-ignition and gas-fuelled engines and the vehicles they are fitted to, covering type approval, conformity of production, in-service conformity and the on-board diagnostic and remote monitoring requirements that separate China VI from what came before. The version offered here includes the 2026 amendment. For a manufacturer or an importer of

trucks, buses or engines this is the text that decides market access; for a testing house it is the protocol every certification test follows.

This standard specifies the emission limits and test methods for gaseous and particulate pollutants as emitted by the vehicles equipped with compression ignition engine and its engines, as well as the emission limits and test methods for gaseous pollutants emitted from the ignition engine vehicles and its engine which use natural gas (NG) or liquefied petroleum gas (LPG) as fuel. This standard is applicable to the type test, production consistency inspection, supervisory inspection of emission from new produced vehicle, compliance inspection of in-use vehicle of the category M2, M3, N1, N2, N3 which is equipped with compression ignition and gas-fueled ignition engines as well as the category M1 vehicles which have a total mass of more than 3500 kg. The type test of whole vehicle according to this standard may be extended to variants and modified vehicles which have a reference mass exceeding 2380 kg. If the category M1, M2, N1, N2 vehicles which are equipped with compression ignition and gas-fueled ignition engines have been type-tested according to GB 18352.6-2016, they may be exempted from the type test of this standard.

2 Normative references

This standard refers to the following documents or their terms. For undated references, the latest edition applies to this standard.

GB/T 2624 Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full (IDT ISO 5176)

GB/T 3730.2 Road vehicle - Masses - Vocabulary and codes

GB/T 8190.1 Reciprocating internal combustion engines - Exhaust emission measurement - Part

3 Terms and definitions

The following terms and definitions apply to this standard.

4.1.1 General requirements

4.1.3 Change of product type Any modification to the type-tested engine model or vehicle model shall not adversely affect the discharge of pollutants, and still meet the requirements of this standard. If the change item belongs to the public information, the vehicle manufacturer shall disclose the information on product change. If the change item may affect the emission performance, it shall conduct the corresponding test, disclose the content of product change and the test results.

4.2 Environmental production consistency and in-use compliance

4.2.1 Vehicle and engine manufacturers shall ensure the environmental production consistency of mass-produced vehicles and engines according to the provisions of this standard, provide relevant production guarantee materials according to the requirements of Appendix I of this standard. Vehicle manufacturer shall ensure that the discharge of new produced vehicles meets the standards according to the provisions of this standard, provide relevant materials for the self-inspection of new produced vehicle's emission to the competent ecological environment department under the State Council according to the requirements of Chapter 9 of this standard. The competent department of ecological environment may press the conduct supervisory sampling inspection of the new produced vehicles according to the provisions of chapter 9.

4.2.2 Vehicle and engine manufacturers shall ensure the in-use compliance of vehicles and engines according to the provisions of this standard, provide self- inspection plans for compliance according to the requirements of Appendix J. The vehicle manufacturer shall ensure that the vehicle's emission meets the standards in actual normal use according to the provisions of this standard, provide the self-inspection report on compliance according to the provisions of Chapter 10 to the competent department of ecological environment under the State Council. The competent department of ecological environment may follow Chapter 10 of this standard to conduct sampling inspection for in-use compliance.

4.3 Disclosure of information Vehicles covered by this standard shall be subject to information disclosure by the vehicle manufacturer according to the requirements of Appendix A and Appendix B of this standard. Relevant content related to corporate secrets may be disclosed after technical processing.

5 Signage of engine (vehicle)

5.1 General requirements The engine's signage may be in the form of text and numbers, or in the form of a two-dimensional code. The signage must be concise and clear, its text, numbers or graphics shall be clear, obvious, readable, not erased. The fixing method of the signage must be firm throughout the life of the engine and must not be removed.

5.2 Location of engine signage The installation position of the signage on the engine shall not hinder the normal operation of the engine. In the service life of engine, it generally requires no position change. In addition, when all the accessories required for engine operation are installed, the signage shall be located where it is easy for normal people to see. The signage shall be close to or incorporated on the nameplate of the manufacturer.

5.3 Contents of engine signage The engine's signage shall contain at least the following.

a) Engine model;

6.1 General requirements

6.1.1 The components that affect the emission of pollutants from the engine shall be

designed, manufactured, assembled to meet the requirements of this standard and its implementation measures when the engine is in normal use.

6.1.2 The manufacturer shall adopt technical measures to ensure that the vehicle can effectively control the emission of exhaust pollutants during the full life of the vehicle under normal use conditions.

6.1.2.1 The measures as described in

6.1.2 shall ensure the safety of the hoses, joints, their connections used in the emission control system according to the original design drawings.

6.1.2.2 The engine (vehicle) shall be subjected to an emission test under the test conditions specified in this standard, the results shall comply with the corresponding limits specified in this standard.

6.1.2.3 The design, manufacture, installation of any engine system and components that affect emissions shall be such that the engine complies with the requirements of this standard under normal conditions of use. The manufacturer shall ensure to meet the non-standard cyclic emission requirements of

6.4 and Appendix E, to enable the vehicle to effectively control the emission of pollutants within the range of possible operating environmental conditions and operating conditions that may be encountered.

6.1.2.4 Vehicles equipped with vanadium-based SCR catalysts shall not leak vanadium-containing compounds into the atmosphere during the full life. Meanwhile during the type test, submit relevant information (such as temperature control strategies and related test reports), to prove that under any operating conditions during vehicle use, the SCR inlet temperature is below 550 degrees.

6.1.2.5 It is forbidden to use a defeat strategy that reduces the effectiveness of the emission control device. All tampering for pollution control devices will cause the emissions to fail to reach standard.

6.1.2.6 The safety of the electronic control system shall meet the requirements of F.4.8.

6.1.3 The manufacturer shall organize the information of the emission control strategy of the model into a package and meet the requirements of A.3.5.

6.1.4 The tailpipe of the vehicle shall not be oriented to the right and directly below, its design shall be convenient for emission detection, visible from the outside. It is encouraged to be higher than the vehicle. If the exhaust port of a dangerous goods transport vehicle and a special operation vehicle cannot meet the requirements due to the structural limitation of the vehicle, it shall be reported to the competent department of ecological environment under the State Council.