

Translated English of Chinese Standard: HJ439-2008

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HJ

National Environmental Protection Standard
of the People's Republic of China

HJ 439-2008

**In-service conformity of compression ignition and gas
fuelled positive ignition engines of vehicles**

车用压燃式、气体燃料点燃式发动机与汽车在用符合性技术要求

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In-service conformity of compression ignition and gas fuelled positive ignition engines of vehicles

1 Application scope

The standard specifies the in-service vehicle / engine conformity requirements of automobile equipped with compression ignition engine and its compression ignition engine, the spark ignition engine automobile and its spark ignition engine with NG or LPG as fuel.

This standard applies to the in-service vehicle / engine conformity inspection of M₂, M₃, N₁, N₂ and N₃ classes of vehicles whose designing speed are larger than 25km/h; and M₁ class vehicle equipped with compression ignition engines (including gas fuelled positive ignition type) and its automobile whose total mass is larger than 3500kg.

If the N₁ and M₂ classes of vehicles equipped with compression ignition engines (including gas fuelled positive ignition type) engine have been conducted the conformity inspection of in-service vehicle according to the standards of GB 18352.3-2005 *Limits and Measurement Methods for Light Car Pollutant Emission (China III, IV stage)*, it doesn't have to perform this standard.

2 Normative references

The articles contained in the following documents have become part of this standard when they are quoted herein. For the undated documents so quoted, the latest editions shall be applicable to this standard.

GB 17691 Limits and measurement methods for exhaust pollutants from compression ignition and gas fuelled positive ignition engines of vehicles (III IV V)

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

HJ 437-2008 Technical specification for on-board diagnostic (OBD) system of compression ignition and gas fuelled positive ignition engines of vehicles

HJ 438-2008 Durability of Emission Control Systems of compression ignition and gas fuelled positive ignition engines of vehicles

5.2.3 If the engine number of the engine family involved in this report is too little, manufacturing enterprise can request that the engine / vehicle number used on in-service conformity inspection to be less than the number stipulated on provision g) of Article A.11.5 of Annex A. However, it shall obtain the approval from the type approval agency in advance.

5.2.4 On the basis of checking the report, type approval agency shall make a judgment:

- a) If the type approval agency is satisfied with the in-service vehicle conformity of the engine type or engine family, the further inspection shall not be conducted;
- b) If the information provided by the manufacturing enterprise is not enough and the decision cannot be made, the type approval agency shall request the manufacturing enterprise to provide further information and (or) data;
- c) If the type approval agency is not satisfied with the in-service vehicle conformity of engine type or engine family, the verification test shall be conducted to the model machine of engine family according to the requirement on Article 5.4.

5.2.5 When the manufacturing enterprise adopts remedial action, it shall combine the decisions of type approval agency and details of remedial plan; and submit the report to the type approval agency. The report shall describe the engine / vehicle set involved in the plan; and explain the series of activities which will be adopted in the plan (see provisions on Article 5.5).

5.3 Emission test

5.3.1 The engine selected from the engine family shall adopt ESC and ETC tests stipulated on Annex B of GB 17691 to loop-measure the gaseous pollutants and particulate matters. And adopt ELR test stipulated on Annex B of GB 17691 to loop-measure the smoke intensity. Representative engine used for test shall be from the normal-use vehicle. The acquisition, inspection and maintenance of the vehicle shall be conducted according to the provisions of Article 5.2, and be recorded for filing. The engine shall be maintained according to the maintenance plan in HJ 438-2008.

5.3.2 Experimental fuel: All tests shall use the qualified commercially available fuel (applicable to IV/V stage of GB 17691). Under the request of manufacturing enterprise, the standard fuel described on Annex C of GB 17691 can be adopted.

5.3.3 The significant digit after the decimal point of loop-measured pollutant emission value shall be 1 digit more than the limiting value stipulated on GB 17691 according to ESC, ETC and ELR tests.

5.4 Verification test

5.4.1 The purpose of conducting verification test is to confirm the emission performance in actual use of engine family.

situations to the type approval agency.

5.5.6 The remedial action plan shall include all the contents stipulated in Article 5.5.6.1 to 5.5.6.11. The manufacturing enterprise shall appoint a sole identification name or number for the remedial action plan.

5.5.6.1 The remedial action plan shall include the description of each related engine type.

5.5.6.2 It shall include the abstract of supporting data and technical research – the description of adopting special improvement, replacement, repair, correction, adjustment, and other alterations for the purpose of making the vehicle to satisfy the standard; and the special rectification measures adopted and decided by the manufacturing enterprise to the unqualified engines.

5.5.6.3 It shall include the methodological description of manufacturing enterprise informing the remedial action plan to the vehicle owner.

5.5.6.4 If the manufacturing enterprise sets the “correct-maintenance” or “correct-usage” as the conditions for repair in the remedial action plan, the manufacturing enterprise shall describe the correct-maintenance or correct-usage contents. And the manufacturing enterprise is required to explain the reasons of adopting these conditions. It is not allowed to impose any maintenance or usage conditions, unless it can be proved that it has correlation with inconformity and remedial measures.

5.5.6.5 In order to correct the unqualified vehicle, the procedure that vehicle owner needs to comply shall include: The start date of possible adopted remedial action, repair factory location, and the time needed to complete the repair.

5.5.6.6 The copy of message that is sent to the vehicle owner.

5.5.6.7 In order to complete the remedial action, the method of how the manufacturing enterprise can fully supply parts or system. In order to start this action, it shall explain when to supply the parts or system.

5.5.6.8 Copy of guiding document that is sent to the repairman.

5.5.6.9 The discharge, fuel consumption, driving performance, and safety influence of the remedial action to each vehicle type. It includes the data, technical study etc. to support these conclusions.

5.5.6.10 Any other information, report and data needed by type approval agency for the evaluation of remedial action.

5.5.6.11 If the remedial action plan includes recall, it shall submit the description of recording repair method to the type approval agency. If the record list is adopted, the sample piece of record list shall be submitted.

5.5.7 It can require the manufacturing enterprise to conduct reasonable design and

Annex A

(Normative)

In-service vehicle / engine conformity report requirements

The in-service vehicle / engine conformity report of manufacturing enterprise shall be based on the in-service vehicle / engine conformity test. The in-service vehicle / engine conformity report shall include (but not limited to) the following contents:

A.1 Name and address of the manufacturing enterprise.

A.2 The name, address, phone, fax and E-mail address of legal representative of the manufacturing enterprise.

A.3 All the engine models included in the manufacturing enterprise information.

A.4 All the engine models' contents (if applicable) included in the manufacturing enterprise information, namely, the post-processing system family of the engine.

A.5 The vehicle identification number of automobile equipped with the inspected engine. (VIN).

A.6 The approval certificate number of the entire engine model within the in-service vehicle family. If applicable, it also includes all the model approval extension number and current repair / recall number.

A.7 The details on engine model approval extension and current repair / recall involved in the manufacturing enterprise information (such as requirement of type approval agency).

A.8 Time range of manufacturing enterprise collecting information.

A.9 Production time range of engine in the manufacturing enterprise information (For example: Engine produced in 2008).

A.10 In-service vehicle / engine conformity inspection regulation of manufacturing enterprise, which includes:

A.10.1 The method of confirming the location of automobile;

A.10.2 Selection and rejection principle of automobile or engine;

A.10.3 The adopted test type and regulation;

A.10.4 the selection / rejection principle adopted by the manufacturing enterprise to

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