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МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Road vehicles — Testing of fuel injectors for compression-ignition engines —

Part 2 :
Test procedures

Véhicules routiers — Essais des injecteurs de combustible pour moteurs à allumage par compression —

Partie 2 : Méthodes d'essai

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8984-2 was prepared by Technical Committee ISO/TC 22, *Road vehicles.*

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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Road vehicles — Testing of fuel injectors for compression-ignition engines —

Part 2 : Test procedures

1 Scope

This part of ISO 8984 specifies tests which can be performed on fuel injectors for compression-ignition engines for road vehicles, using a hand-lever-operated testing and setting apparatus, as specified in ISO 8984-1.

These tests are

- nozzle opening pressure;
- chatter (atomization);
- spray pattern;
- seat leakage;
- back-leakage.

2 Field of application

2.1 This part of ISO 8984 primarily applies to testing the injectors of fuel injection equipment for road vehicle compression-ignition engines requiring fuel delivery of up to 300 mm^3/injection/cylinder at full load.

2.2 It is up to the injector manufacturer to specify which tests in this part of ISO 8984 are to be performed on a particular injector, together with the acceptable performance limits.

2.3 It is also up to the injector manufacturer to specify the adaptor which connects the injector to the apparatus (see 4.4), and any specific requirements not covered by this part of ISO 8984.

3 References

ISO 4008-3, *Road vehicles — Fuel injection pump testing — Part 3 : Application and test procedure.*

ISO 4113, *Road vehicles — Calibration fluid for diesel injection equipment.*

ISO 7440-1, *Road vehicles — Fuel injection equipment testing — Part 1 : Calibrating nozzle and holder assemblies.*

ISO 8984-1, *Road vehicles — Testing of fuel injectors for compression-ignition engines — Part 1 : Hand-lever-operated testing and setting apparatus.*

4 Operating conditions

4.1 The testing and setting apparatus shall conform to ISO 8984-1.

4.2 Calibration fluid conforming to ISO 4113 shall be used.

4.3 The test conditions defined in this part of ISO 8984 apply for fluid operating temperatures of 23 ± 5 °C. If operating temperatures outside this range are unavoidable, advice and special instructions should be sought from the injector manufacturer.

4.4 The injector shall be connected to the test apparatus with an adaptor specified by the injector manufacturer for the particular injector under test. In most cases, this adaptor will be a high-pressure pipe assembly of specific dimensions.

5 Test procedures

If detailed diagnostic work is required, it shall precede the following preparation and test procedures.

5.1 Preparation

Stabilize the temperature of the injector to within the operating range defined in 4.3 prior to testing. Connect the injector to the apparatus with the adaptor (see 4.4). Isolate the pressure gauge and flush the injector with several rapid pumping strokes. Ensure that there are no leaks from the adaptor connections, or the injector, other than back-leakage where applicable.

Prior to performing the tests in 5.3, 5.4, 5.5 and 5.6, the nozzle opening pressure shall be checked; it should be within the specified limits for the appropriate injector application.