

INTERNATIONAL STANDARD

ISO
8984-1

Second edition
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Diesel engines — Testing of fuel injectors —

Part 1:

Hand-lever-operated testing and setting
apparatus

*Moteurs diesels — Essais des porte-injecteurs de combustible
complets —*

Partie 1: Appareillage d'essai et de réglage à levier de commande manuel



Reference number
ISO 8984-1:1993(E)

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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 8984-1 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 7, *Injection equipment and filters for use on road vehicles*.

This second edition cancels and replaces the first edition (ISO 8984-1:1987), subclause 3.2.4 of which has been technically revised.

ISO 8984 consists of the following parts, under the general title *Diesel engines — Testing of fuel injectors*:

- *Part 1: Hand-lever-operated testing and setting apparatus*
- *Part 2: Test methods*

Annexes A and B of this part of ISO 8984 are for information only.

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Introduction

An assessment of the functional performance of individual fuel injectors has proved necessary. A form of hand-lever-operated testing and/or setting equipment for injectors has evolved over the years; it has been found in principle effective and adequate to perform the test. Differences in certain physical values between equipment from different manufacturers and of different designs have however resulted in lack of correlation of results. This International Standard consists of two parts (apparatus and method respectively), which together specify the relevant requirements to establish common test conditions.

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Diesel engines — Testing of fuel injectors —

Part 1:

Hand-lever-operated testing and setting apparatus

1 Scope

1.1 This part of ISO 8984 specifies minimum requirements for hand-lever-operated testing and setting apparatus to perform certain tests on fuel injectors for diesel (compression-ignition) engines. These tests are detailed in ISO 8984-2 and are

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

This International Standard concerns fuel injectors having a spring-loaded nozzle valve actuated by fuel pressure. It is intended that the specifications form a standard basis. The injector is connected to the apparatus by an adaptor specified by the injector manufacturer.

1.2 This part of ISO 8984 primarily applies to apparatus for testing the injectors of fuel injection equipment for diesel (compression-ignition) engines requiring fuel delivery of up to 300 mm³/(injection × cylinder) at full load.

1.3 No distinction is made between apparatus used in different locations, e.g. laboratories, factories or service stations.

1.4 It is up to the injector manufacturer to specify which tests are to be selected from those listed in 1.1, together with any additional requirements for a particular injector.

NOTE 1 The terms used in this part of ISO 8984 are in accordance with ISO 7876-2 [6].

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 8984. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 8984 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 2974:1990, *Road vehicles — High-pressure fuel injection pipe end-connections with 60 degree female cone*.

ISO 4010:1977, *Road vehicles — Calibrating nozzle, delay pintle type*.

ISO 4020-1:1979, *Road vehicles — Fuel filters for automotive compression ignition engines — Part 1: Test methods*.

ISO 4113:1988, *Road vehicles — Calibration fluid for diesel injection equipment*.