

# INTERNATIONAL STANDARD

**ISO**  
**11102-1**

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## **Reciprocating internal combustion engines — Handle starting equipment —**

### **Part 1: Safety requirements and tests**

*Moteurs alternatifs à combustion interne — Dispositifs de démarrage à la manivelle —*

*Partie 1: Exigences de sécurité et essais*



Reference number  
ISO 11102-1:1997(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 11102-1 was prepared by Technical Committee ISO/TC 70, *Internal combustion engines*.

ISO 11102 consists of the following parts, under the general title *Reciprocating internal combustion engines — Handle starting equipment*:

- *Part 1: Safety requirements and tests*
- *Part 2: Method of testing the angle of disengagement*

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# Reciprocating internal combustion engines — Handle starting equipment

## Part 1: Safety requirements and tests

### 1 Scope

This part of ISO 11102 specifies requirements for handle starting equipment used on reciprocating internal combustion engines for land, rail and marine use, excluding engines used to propel road vehicles and aircraft. It may be applied to engines used to propel road construction, earth moving machines and for other applications where no suitable International Standards exist.

In addition to the technical safety requirements, this part of ISO 11102 describes procedures for checking adherence to these requirements.

### 2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this part of ISO 11102. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this part of ISO 11102 are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 11102-2:1997, *Reciprocating internal combustion engines — Handle starting equipment — Part 2: Method of testing the angle of disengagement*.

### 3 Definitions

For the purposes of this part of ISO 11102 the following definitions apply.

#### 3.1 handle starting system

starting system using a crank handle to rotate the engine up to the required firing speed

#### 3.2 automatic disengagement device

device which automatically interrupts the connection between the engine and the starting handle once the engine is running, thus preventing the handle from being turned by the engine

#### 3.3 guide

that part of the handle starting system which guides the starting handle during starting and prevents its being thrown out after disengagement