INTERNATIONAL STANDARD

ISO 6534

Second edition
1992-05-15

Portable chain-saws — Hand-guards — Mechanical strength

Scies à chaîne portatives — Protections des mains — Résistance mécanique

Reference number
ISO 6534:1992(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 6534 was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Sub-Committee SC 17, *Manually portable forest machinery*.

This second edition cancels and replaces the first edition (ISO 6534:1985). The test of the rear hand-guard has been added.

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Portable chain-saws — Hand-guards — Mechanical strength

1 Scope

This International Standard specifies the mechanical strength requirements relating to the front and rear hand-guards of portable hand-held combustion engine chain-saws for use primarily in forestry. It also gives the corresponding test methods.

NOTE 1 Terminology used in this International Standard is in accordance with ISO 6531:1982, *Machinery for forestry — Portable chain saws — Vocabulary*.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard 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 6533:1983, *Forestry machinery — Portable chain saws — Front hand guard — Dimensions*.

3 Requirements

The front and rear hand-guards shall not break or crack when tested in accordance with clause 4. The guards shall not deflect as far as to allow the pendulum to swing past.

Before and after the test, the dimensions of the front hand-guard shall comply with the specifications of ISO 6533.

4 Test procedure

4.1 General

The test shall be carried out with the chain-saw rigidly held in the upright position for the front hand-guard test, and mounted upside down, rigidly held by the bar pad, for the rear hand-guard test (see figures 2 and 3). If the front hand-guard also serves as the activating device for the chain-brake, it shall be in the braking position.

The impact on the guard shall be generated by a blow from a pendulum with a steel hammer in accordance with figure 1, and an arm with a length giving 700 mm ± 5 mm distance between the swivel point and the centre of the head. The arm shall be as light as possible. The pendulum system shall cause an impact force of 10 J ± 0,3 J from a drop height of 400 mm, and of 5 J ± 0,2 J from a drop height of 200 mm.

4.2 Dynamic tests

These tests shall be carried out at temperatures of + 40 °C ± 2 °C and − 25 °C ± 3 °C, measured at the front hand-guard and its mounting.

4.2.1 Dynamic test for front hand-guard

Raise the hammer to a height of 400 mm above the guard and allow it to fall so that it strikes the upper part of the guard at the centre-point of the effective guard length (the midpoint of B as described in ISO 6533) along a line of action forming an angle of 45° ± 5° forward and downward from the axis guide-bar (see figure 2).

4.2.2 Dynamic test for rear hand-guard

Allow the hammer to fall from a height of 400 mm above the hand-guard so that it strikes the upper part of the hand-guard along a line of action forming an angle of 45° ± 5° [see figure 3a)].

The impact point shall be on the intersection of the centreline of the guide-bar and the plane perpendicular to the guide-bar plane at an equal distance from the rear end of the throttle trigger and the inner far end of the handle [see figure 3b)].

4.3 Durability test for front and rear hand-guards

This test shall be carried out at the standard reference temperature of + 20 °C ± 5 °C.

Raise the hammer to a height of 200 mm above the guard and allow it to fall so that it strikes the upper part of the guard at the centre-point of the effective guard length along a line of action forming an angle of 45° ± 5° forward and downward from the guide-bar centreline.

Repeat this test to a total of 25 blows.

Dimensions in millimetres

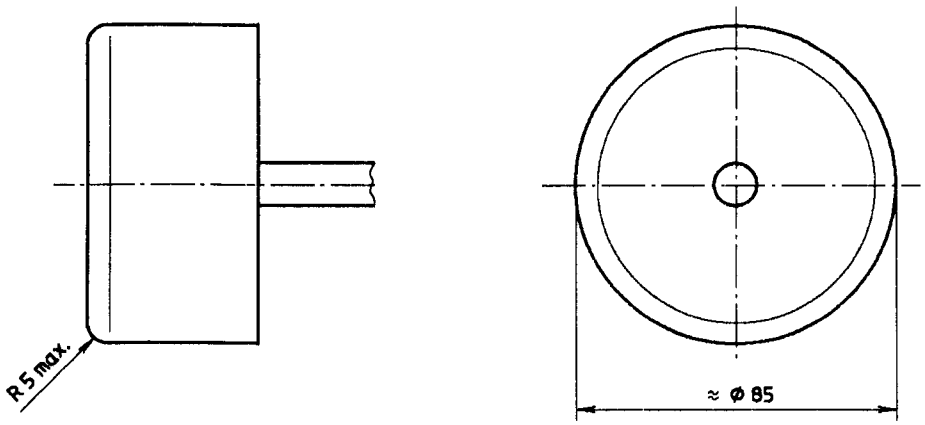


Figure 1 — Dimensions of hammer

Dimensions in millimetres

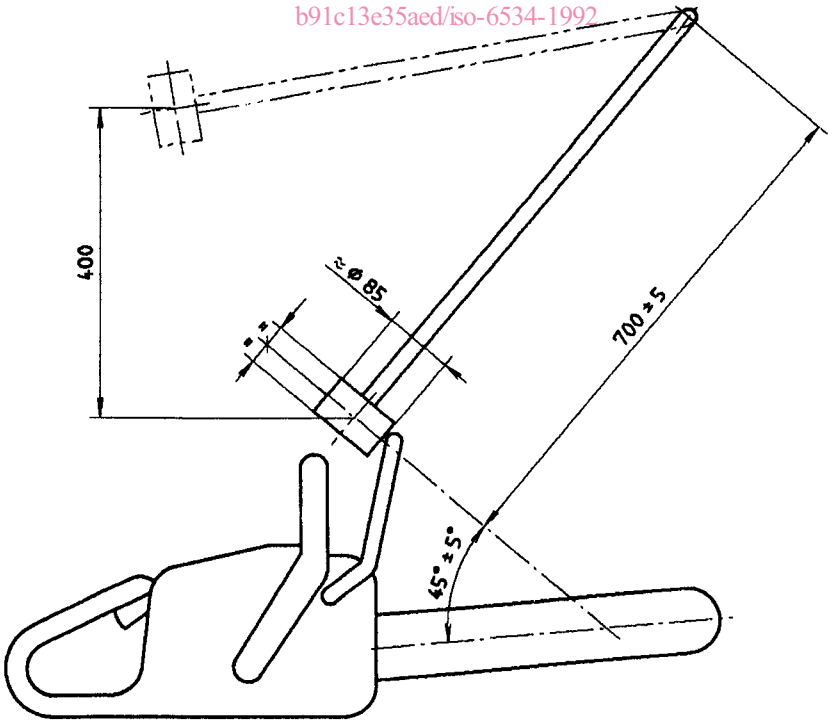
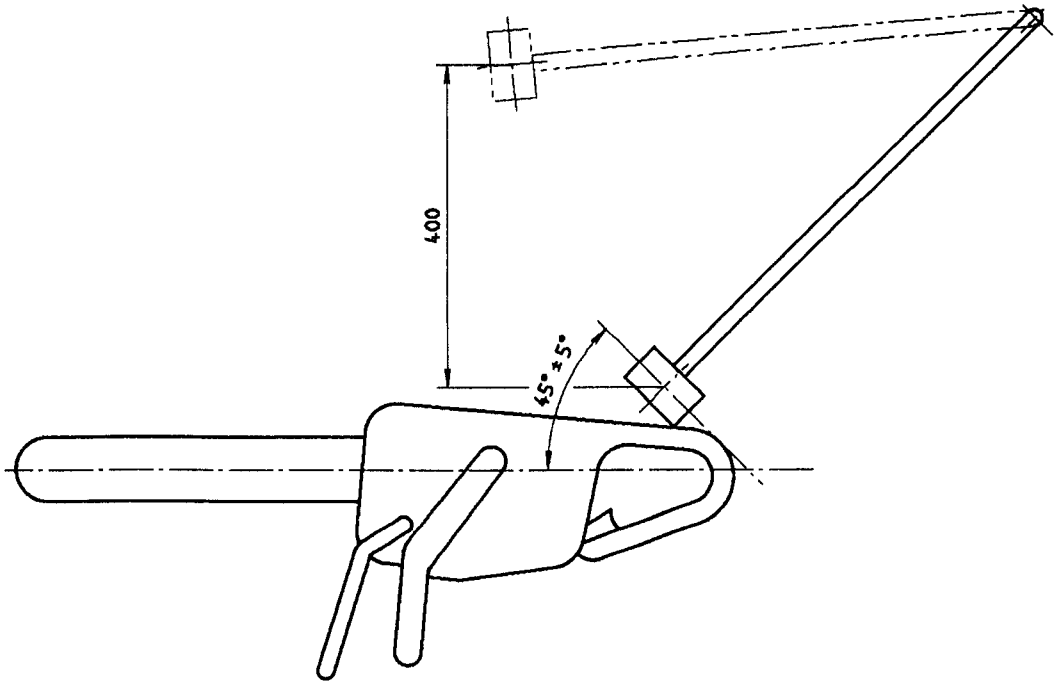
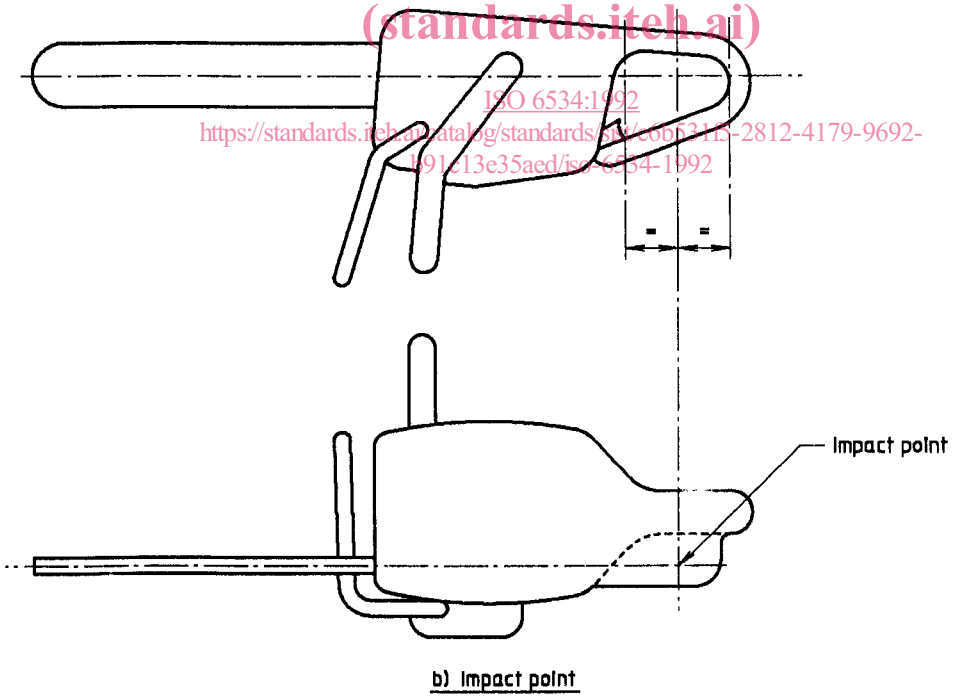


Figure 2 — Dynamic test of front hand-guard

Dimensions in millimetres



a) Principle



b) Impact point

Figure 3 — Dynamic test of rear hand-guard

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Descriptors: forest equipment, portable equipment, saws, chain saws, accident prevention, operator protection, screens (protectors), tests, impact tests, determination, mechanical strength.

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