
**Assembly tools for screws and nuts —
Technical specifications —**

**Part 1:
Hand-operated wrenches and sockets**

*Outils de manoeuvre pour vis et écrous — Spécifications techniques —
Partie 1: Clés de serrage et douilles à main*



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

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 29, *Small tools*, Subcommittee SC 10, *Assembly tools for screws and nuts, pliers and nippers*.

This fourth edition cancels and replaces the third edition (ISO 1711-1:2015), which has been technically revised with the following changes:

- in 6.2, the angle chamfer α of the test mandrel in Figure 1 has been changed from 30° max to $15^\circ \leq \alpha \leq 30^\circ$;
- revision of sizes for width across flats covered in Table 3; Sizes 3,5, 4,5, 26 and 28 have been deleted; Size 5,5 has been added.

A list of all parts in the ISO 1711 series can be found on the ISO website.

Assembly tools for screws and nuts — Technical specifications —

Part 1: Hand-operated wrenches and sockets

1 Scope

This document specifies minimum values for Rockwell hardness and torsional strength for hand-operated wrenches and sockets.

It covers the following three series of torsion torques:

— Series A: usual box wrenches and socket wrenches;

EXAMPLE 1 Reference nos. 1 1 02 01 0; 1 1 02 02 0 and 1 1 02 02 1; 1 1 02 03 0; 1 1 02 04 0; 1 1 02 05 0; 1 1 02 06 0; 1 1 02 09 0; 1 1 02 10 0; 1 1 02 11 0; 1 1 02 12 0; 1 1 02 13 0 and 1 1 02 13 1; 1 1 02 14 0; 1 1 02 15 0; 1 1 08 01 0; 1 1 08 02 0.

— Series C: open end wrenches;

EXAMPLE 2 Reference nos. 1 1 01 01 0; 1 1 01 01 1; 1 1 01 02 0; 1 1 01 03 0; 1 1 01 04 0.

— Series E: hand-operated square drive sockets.

EXAMPLE 3 Reference nos. 2 1 02 01 0 and 2 1 02 01 1.

NOTE The wrenches and sockets mentioned above are listed under their respective reference numbers in ISO 1703.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 6508-1, *Metallic materials — Rockwell hardness test — Part 1: Test method*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 Test torsion torques

The empiric formulae giving minimum test torsion torques, M , in newton metres, as a function of width across flats, s , in millimetres, are given for information in [Table 1](#).

The minimum test torsion torques to be applied are given in [Table 3](#).