

Specification for

Combination wrenches

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Machine, Engineers and Hand Tools Standards Policy Committee (MTE/-) to Technical Committee MTE/15, upon which the following bodies were represented:

- British Coal Corporation
- British Telecommunications plc
- Consumer Policy Committee of BSI
- Electricity Supply Industry in United Kingdom
- Federation of British Engineers' Tool Manufacturers
- Federation of British Hand Tool Manufacturers
- Handle Manufacturers' Association
- Institute of Carpenters
- Institute of Trading Standards Administration
- Institution of Production Engineers
- Ministry of Defence
- Society of Motor Manufacturers and Traders Ltd.

This British Standard, having been prepared under the direction of the Machine, Engineers and Hand Tools Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 15 November 1992

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The following BSI references relate to the work on this standard:
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Foreword

This British Standard has been prepared under the direction of the Machine, Engineers and Hand Tool Standards Policy Committee.

In this standard account has been taken of the current International Organization for Standardization (ISO) agreements on sizes and tolerances whilst due account has been taken of current production trends in British industry.

Metric units of measurement are used throughout this standard for all dimensions and tolerances excluding the designating and nominal sizes of unified wrenches.

Tolerances on combination wrenches in this standard are taken from ISO 691.

The shapes of combination wrenches given in Figure 1 are representative only.

For guidance purposes notes on the safe usage of combination wrenches are given in Annex B.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 12, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This British Standard specifies dimensions, testing, and other requirements for combination wrenches in the following series:

Metric (A/F) 3.2 mm to 60 mm

Unified (A/F) $\frac{3}{16}$ in to $2\frac{3}{8}$ in

2 References

2.1 Normative references

This British Standard incorporates, by reference, provisions from specific editions of other publications. These normative references are cited at the appropriate points in the text and the publications are listed on the inside back cover. Subsequent amendments to, or revisions of, any of these publications apply to this British Standard only when incorporated in it by updating or revision.

2.2 Informative references

This British Standard refers to other publications that provide information or guidance. Editions of these publications current at the time of issue of this standard are listed on the inside back cover, but reference should be made to the latest editions.

3 Definition

For the purposes of this British Standard the following definition applies.

combination wrench

a shank having an open jaw head at one end and a ring head at the other end

4 Form and dimensions

4.1 Overall dimensions shall be in accordance with Table 1 and Table 2.

4.2 Ring head dimensions shall be in accordance with Table 3 and Table 4.

4.3 Open jaw head dimensions shall be in accordance with Table 5 and Table 6.

NOTE Mathematical formulae from which dimensions are derived are given in Table 7, Table 8 and Table 9.

Data for any intermediate size not included in the standard can be determined from the designating size by use of the mathematical formulae provided.

Table 1 — Overall length (metric sizes)

Designating size	Nominal size across flats <i>s</i>	Overall length <i>l</i> (max.)
mm	mm	mm
3.2	3.2	100
3.5	3.5	100
4.0	4.0	100
4.5	4.5	100
5.0	5.0	100
5.5	5.5	102
6.0	6.0	108
7.0	7.0	121
8.0	8.0	134
9.0	9.0	147
10.0	10.0	160
11.0	11.0	173
12.0	12.0	186
13.0	13.0	199
14.0	14.0	212
15.0	15.0	225
16.0	16.0	238
17.0	17.0	251
18.0	18.0	264
19.0	19.0	277
20.0	20.0	290
21.0	21.0	303
22.0	22.0	316
23.0	23.0	329
24.0	24.0	342
25.0	25.0	355
26.0	26.0	368
27.0	27.0	381
28.0	28.0	394
29.0	29.0	407
30.0	30.0	420
31.0	31.0	433
32.0	32.0	446
34.0	34.0	472
35.0	35.0	485
36.0	36.0	498
41.0	41.0	563
46.0	46.0	628
50.0	50.0	680
55.0	55.0	745
60.0	60.0	810

Table 2 — Overall length (unified sizes)

Designating size in	Nominal size across flats <i>s</i> in	Overall length <i>l</i> (max.) mm
$\frac{3}{16}$	0.188	100
$\frac{1}{4}$	0.250	113
$\frac{9}{32}$	0.281	123
$\frac{5}{16}$	0.313	133
$\frac{11}{32}$	0.344	144
$\frac{3}{8}$	0.375	154
$\frac{7}{16}$	0.438	174
$\frac{15}{32}$	0.469	185
$\frac{1}{2}$	0.500	195
$\frac{9}{16}$	0.563	216
$\frac{19}{32}$	0.594	226
$\frac{5}{8}$	0.625	236
$\frac{11}{16}$	0.688	257
$\frac{3}{4}$	0.750	278
$\frac{13}{16}$	0.813	298
$\frac{7}{8}$	0.875	319
$\frac{15}{16}$	0.938	340
1	1.000	360
$1\frac{1}{16}$	1.063	381
$1\frac{1}{8}$	1.125	401
$1\frac{3}{16}$	1.188	422
$1\frac{1}{4}$	1.250	443
$1\frac{5}{16}$	1.313	463
$1\frac{3}{8}$	1.375	484
$1\frac{7}{16}$	1.438	505
$1\frac{1}{2}$	1.500	525
$1\frac{5}{8}$	1.625	567
$1\frac{11}{16}$	1.688	587
$1\frac{13}{16}$	1.813	628
$1\frac{7}{8}$	1.875	649
2	2.000	690
$2\frac{1}{16}$	2.063	711
$2\frac{3}{16}$	2.188	752
$2\frac{1}{4}$	2.250	773
$2\frac{3}{8}$	2.375	814