ACE Hardware Zimbabwe

Bolt, Spanner & Hex Key Size Chart

Which spanner or hex key fits which bolt: metric, unified and Whitworth, plus inch/metric spanner equivalents.

Workshop Reference Charts
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Metric fasteners

Metric - spanner and hex key sizes, mm

Thread	Hex head / nut (ISO)	Old DIN 931/934	Socket cap (ISO 4762)	Button head (ISO 7380)	Countersunk (ISO 10642)	Grub screw (ISO 4026)
M3	5.5	same	2.5	2	2	1.5
M4	7	same	3	2.5	2.5	2
M5	8	same	4	3	3	2.5
M6	10	same	5	4	4	3
M8	13	same	6	5	5	4
M10	16	17	8	6	6	5
M12	18	19	10	8	8	6
M14	21	22	12	-	-	-
M16	24	same	14	10	10	8
M18	27	same	14	-	-	-
M20	30	same	17	-	12	10
M22	34	32	17	-	-	-
M24	36	same	19	-	-	-
M27	41	same	19	-	-	-
M30	46	same	22	-	-	-
M33	50	same	-	-	-	-
M36	55	same	27	-	-	-
M42	65	same	-	-	-	-
M48	75	same	-	-	-	-

Since ISO replaced DIN, four sizes changed across-flats: M10 17 → 16, M12 19 → 18, M14 22 → 21 and M22 32 → 34 mm. Older machines may still use the DIN sizes, so keep both spanners.

Inch fasteners

Unified (UNC/UNF) - spanner and hex key sizes

Bolt	Hex A/F	A/F inch	A/F mm	Socket cap hex key
#4"	-	-	-	3/32"
#6"	-	-	-	7/64"
#8"	-	-	-	9/64"
#10"	-	-	-	5/32"
1/4"	7/16"	0.4375	11.1	3/16"
5/16"	1/2"	0.5000	12.7	1/4"
3/8"	9/16"	0.5625	14.3	5/16"
7/16"	5/8"	0.6250	15.9	3/8"
1/2"	3/4"	0.7500	19.0	3/8"
9/16"	13/16"	0.8125	20.6	-
5/8"	15/16"	0.9375	23.8	1/2"
3/4"	1-1/8"	1.1250	28.6	5/8"
7/8"	1-5/16"	1.3125	33.3	3/4"
1"	1-1/2"	1.5000	38.1	3/4"

Whitworth (BSW) spanners

Whitworth spanner	A/F inch	A/F mm
1/4" BSW	0.445	11.3
5/16" BSW	0.525	13.3
3/8" BSW	0.600	15.2
7/16" BSW	0.710	18.0
1/2" BSW	0.820	20.8
5/8" BSW	1.010	25.7
3/4" BSW	1.200	30.5
7/8" BSW	1.300	33.0
1" BSW	1.480	37.6

Whitworth spanners are marked with the **bolt** size, not the across-flats size, and older BSF spanners are marked one size smaller than the BSW spanner that fits the same head.

Spanner equivalents

Inch spanner sizes and the metric spanner that fits

Inch A/F	= mm	Smallest metric that fits	Play mm	Use metric spanner?
1/4"	6.35	7	0.65	No - use inch spanner
5/16"	7.94	8	0.06	Yes - close fit
11/32"	8.73	9	0.27	Only if loose nut - may round it
3/8"	9.52	10	0.48	Only if loose nut - may round it
7/16"	11.11	12	0.89	No - use inch spanner
1/2"	12.70	13	0.30	Only if loose nut - may round it
9/16"	14.29	15	0.71	No - use inch spanner
5/8"	15.88	16	0.12	Yes - close fit
11/16"	17.46	18	0.54	No - use inch spanner
3/4"	19.05	20	0.95	No - use inch spanner
13/16"	20.64	21	0.36	Only if loose nut - may round it
7/8"	22.22	23	0.78	No - use inch spanner
15/16"	23.81	24	0.19	Yes - close fit
1"	25.40	26	0.60	No - use inch spanner
1-1/16"	26.99	27	0.01	Yes - close fit
1-1/8"	28.57	29	0.43	Only if loose nut - may round it
1-1/4"	31.75	32	0.25	Only if loose nut - may round it
1-5/16"	33.34	34	0.66	No - use inch spanner
1-3/8"	34.92	35	0.08	Yes - close fit
1-7/16"	36.51	37	0.49	Only if loose nut - may round it
1-1/2"	38.10	39	0.90	No - use inch spanner
1-5/8"	41.27	42	0.73	No - use inch spanner
1-11/16"	42.86	43	0.14	Yes - close fit
1-3/4"	44.45	45	0.55	No - use inch spanner
1-7/8"	47.62	48	0.38	Only if loose nut - may round it
2"	50.80	51	0.20	Only if loose nut - may round it

Only use a metric spanner on an inch nut (or the reverse) when the difference is very small. A loose spanner bears on the corners and rounds the nut, especially when it's tight or rusted.

Guide values for general workshop use. Always follow the equipment or fastener maker's figure where one is given, and check critical work against the relevant standard.

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