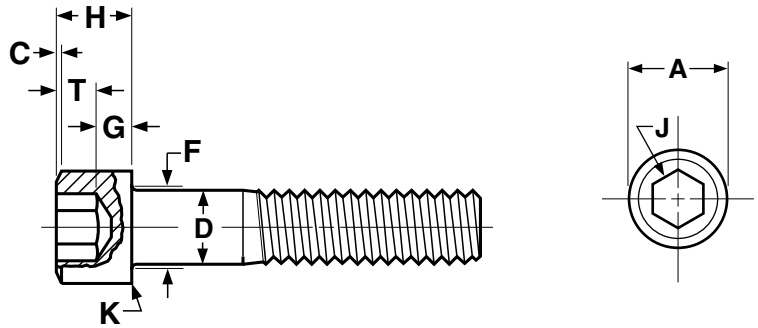


Socket Products

Socket Head Cap Screws



Screw Diam.	D		A		H		C	J	F		T	G	K
	Body Diameter		Head Diameter		Head Height		Top Chamfer or Radius	Hex Socket Size	Fillet Transition Diameter		Key Engagement	Wall Thickness	Bottom Chamfer or Radius
	Max	Min	Max	Min	Max	Min	Max	Nom	Max	Min	Min	Min	Max
0	0.0600	0.0568	0.096	0.091	0.060	0.057	0.004	0.050	0.074	0.063	0.025	0.020	0.007
1	0.0730	0.0695	0.118	0.112	0.073	0.070	0.005	1/16	0.087	0.076	0.031	0.025	0.007
2	0.0860	0.0822	0.140	0.134	0.086	0.083	0.008	5/64	0.102	0.090	0.038	0.029	0.007
3	0.0990	0.0949	0.161	0.154	0.099	0.095	0.008	5/64	0.115	0.103	0.044	0.034	0.007
4	0.1120	0.1075	0.183	0.176	0.112	0.108	0.009	3/32	0.130	0.118	0.051	0.038	0.008
5	0.1250	0.1202	0.205	0.198	0.125	0.121	0.012	3/32	0.145	0.132	0.057	0.043	0.008
6	0.1380	0.1329	0.226	0.218	0.138	0.134	0.013	7/64	0.158	0.145	0.064	0.047	0.008
8	0.1640	0.1585	0.270	0.262	0.164	0.159	0.014	9/64	0.188	0.173	0.077	0.056	0.008
10	0.1900	0.1840	0.312	0.303	0.190	0.185	0.018	5/32	0.218	0.202	0.090	0.065	0.008
1/4	0.2500	0.2435	0.375	0.365	0.250	0.244	0.025	3/16	0.278	0.262	0.120	0.095	0.010
5/16	0.3125	0.3053	0.469	0.457	0.312	0.306	0.033	1/4	0.347	0.329	0.151	0.119	0.010
3/8	0.3750	0.3678	0.562	0.550	0.375	0.368	0.040	5/16	0.415	0.398	0.182	0.143	0.010
7/16	0.4375	0.4294	0.656	0.642	0.438	0.430	0.047	3/8	0.484	0.465	0.213	0.166	0.015
1/2	0.5000	0.4919	0.750	0.735	0.500	0.492	0.055	3/8	0.552	0.532	0.245	0.190	0.015
5/8	0.6250	0.6163	0.938	0.921	0.625	0.616	0.070	1/2	0.689	0.664	0.307	0.238	0.015
3/4	0.7500	0.7406	1.125	1.107	0.750	0.740	0.085	5/8	0.828	0.801	0.370	0.285	0.015
7/8	0.8750	0.8647	1.312	1.293	0.875	0.864	0.100	3/4	0.963	0.933	0.432	0.333	0.020
1	1.0000	0.9886	1.500	1.479	1.000	0.988	0.114	3/4	1.100	1.069	0.495	0.380	0.020
1 1/4	1.2500	1.2336	1.875	1.852	1.250	1.236	0.144	7/8	1.370	1.334	0.620	0.475	0.020
1 1/2	1.5000	1.4818	2.250	2.224	1.500	1.485	0.176	1	1.640	1.602	0.745	0.570	0.020
Tolerance on Length	Nominal Screw Size		Nominal Screw Length										
			Up to 1 in., Incl.	Over 1 in. to 2-1/2 in., Incl.	Over 2-1/2 to 6 in., Incl.	Over 6 in.							
	0 thru 3/8, Incl.		-0.03	-0.04	-0.06	-0.12							
	7/16 thru 3/4, Incl.		-0.03	-0.06	-0.08	-0.12							
7/8 thru 1-1/2, Incl.		-0.05	-0.10	-0.14	-0.20								

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Socket Products

Body and Grip Lengths of Socket Head Cap Screws

Nom. Size D	0	1	2	3	4	5	6	8	10
Basic Thread Length L _T	0.500	0.625	0.625	0.625	0.750	0.750	0.750	0.875	0.875
Nominal Length L	L _G L _B	L _G L _B	L _G L _B	L _G L _B	L _G L _B	L _G L _B	L _G L _B	L _G L _B	L _G L _B
1.00	0.50 0.44	0.25 0.17	0.25 0.16	0.25 0.15	0.25 0.12	0.25 0.12			
1.25	0.75 0.69	0.62 0.55	0.62 0.54	0.62 0.52	0.25 0.12	0.25 0.12	0.50 0.34	0.38 0.22	0.38 0.17
1.50		0.88 0.80	0.88 0.79	0.88 0.77	0.75 0.62	0.75 0.62	0.50 0.34	0.38 0.22	0.38 0.17
1.75			1.12 1.04	1.12 1.02	0.75 0.62	0.75 0.62	1.00 0.84	0.88 0.72	0.88 0.67
2.00				1.38 1.27	1.25 1.12	1.25 1.12	1.00 0.84	0.88 0.72	0.88 0.67
2.25					1.25 1.12	1.25 1.12	1.50 1.34	1.38 1.22	1.38 1.17
2.50						1.75 1.62	1.50 1.34	1.38 1.22	1.38 1.17
2.75							2.00 1.84	1.88 1.72	1.88 1.67
3.00								1.88 1.72	1.88 1.67
3.50									2.38 2.17

Nom. Size D	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1
Basic Thread Length L _T	1.000	1.125	1.250	1.375	1.500	1.750	2.000	2.250	2.500
Nominal Length L	L _G L _B	L _G L _B	L _G L _B	L _G L _B	L _G L _B	L _G L _B	L _G L _B	L _G L _B	L _G L _B
1.50	0.50 0.25								
1.75	0.50 0.25	0.62 0.35	0.50 0.19						
2.00	1.00 0.75	0.62 0.35	0.50 0.19	0.62 0.27					
2.25	1.00 0.75	1.12 0.85	1.00 0.69	0.62 0.27	0.75 0.36				
2.50	1.50 1.25	1.12 0.85	1.00 0.69	1.12 0.77	0.75 0.36	0.75 0.30			
2.75	1.50 1.25	1.62 1.35	1.50 1.19	1.12 0.77	0.75 0.36	0.75 0.30			
3.00	2.00 1.75	1.62 1.35	1.50 1.19	1.62 1.27	1.50 1.12	0.75 0.30	1.00 0.50		
3.25	2.00 1.75	2.12 1.85	2.00 1.69	1.62 1.27	1.50 1.12	1.50 1.04	1.00 0.50	1.00 0.44	
3.50	2.50 2.25	2.12 1.85	2.00 1.69	2.12 1.77	1.50 1.12	1.50 1.04	1.00 0.50	1.00 0.44	1.00 0.38
4.00	3.00 2.75	2.62 2.35	2.50 2.19	2.62 2.27	2.25 1.86	2.25 1.80	2.00 1.50	1.00 0.44	1.00 0.38
4.50	3.50 3.25	3.12 2.85	3.00 2.69	3.12 2.77	3.00 2.62	2.25 1.80	2.00 1.50	2.00 1.44	2.00 1.38
5.00	4.00 3.75	3.62 3.35	3.50 3.19	3.62 3.27	3.00 2.62	3.00 2.54	3.00 2.50	2.00 1.44	2.00 1.38
5.50		4.12 3.85	4.00 3.69	4.12 3.77	3.75 3.36	3.75 3.30	3.00 2.50	3.00 2.44	3.00 2.38
6.00		4.62 4.35	4.50 4.19	4.62 4.27	4.50 4.12	3.75 3.30	4.00 3.50	3.00 2.44	3.00 2.38
6.50			5.00 4.69	5.12 4.77	4.50 4.12	4.50 4.04	4.00 3.50	4.00 3.44	4.00 3.38
7.00			5.50 5.19	5.62 5.27	5.25 4.86	5.25 4.80	5.00 4.50	4.00 3.44	4.00 3.38
8.00				6.62 6.27	6.00 5.62	6.00 5.54	6.00 5.50	5.00 4.44	5.00 4.38
9.00				7.62 7.27	7.00 6.62	6.75 6.30	7.00 6.50	6.00 5.44	6.00 5.38
10.00					8.00 7.62	7.75 7.30	8.00 7.50	7.00 6.44	7.00 6.38
11.00						9.25 8.80	9.00 8.50	8.00 7.44	8.00 7.38
12.00						10.25 9.80	10.00 9.50	9.00 8.44	9.00 8.38

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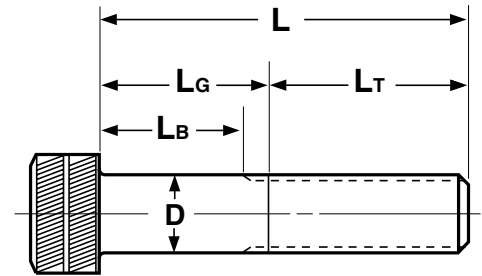
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Socket Products

Socket Head Cap Screws



Notes Regarding the Thread Length of Socket Head Cap Screws

- The basic thread lengths (L_T) listed directly below the nominal sizes in the table on page 176 represents the nominal length up to which all screws of that diameter shall be fully threaded.
- To determine the threaded portion of the screws with a nominal length greater than L_T , subtract the minimum design grip length (L_G) from the nominal length (L).
- For screws over 1 in. in diameter and of nominal lengths longer than L_T , the maximum grip gaging length (L_G) and the minimum body length (L_B) of the screws shall be determined as follows:

$$L_G = L - L_T$$

$$L_B = L - L_{TT}$$

- Where: L = Nominal length
- L_T = Minimum thread length tabulated below
- L_{TT} = Maximum total thread length tabulated below

Nominal Size	Min Thread Length (L_T)	Max Total Thread Length (L_{TT})
1-1/4	3.12	5.09
1-1/2	3.75	6.08

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