Table 1C Body and Grip Lengths for Socket Head Cap Screws

Nom Size	0		1		2		3		4		5		6		8		10	
Nom Length	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
0.75	0.25	0.19																
0.88	0.25	0.19	0.25	0.17	0.25	0.16	0.25	0.15										
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
3.25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.38	2.22	2.38	2.17
3.50	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.38	2.17
3.75	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.88	2.67
4.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.88	2.67

Nom Size	1/4		5/16		3/8		7/16		1/2		5/8		3/4		7/8		1	
Nom Length	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
3.75	2.50	2.25	2.62	2.35	2.50	2.19	2.12	1.77	2.25	1.86	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
4.25	3.00	2.75	3.12	2.85	3.00	2.69	2.62	2.27	2.25	1.86	2.25	1.80	2.00	1.50	2.00	1.44	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
4.75	3.50	3.25	3.62	3.35	3.50	3.19	3.12	2.77	3.00	2.62	3.00	2.54	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
5.25	...	...	4.12	3.85	4.00	3.69	3.62	3.27	3.75	3.36	3.00	2.54	3.00	2.50	3.00	2.44	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
5.75	...	...	4.62	4.35	4.50	4.19	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
6.25	...	...	5.12	4.85	5.00	4.69	4.62	4.27	4.50	4.12	4.50	4.04	4.00	3.50	4.00	3.44	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
6.75	...	...	...	...	5.50	5.19	5.12	4.77	5.25	4.86	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
7.25	...	...	...	...	6.00	5.69	5.62	5.27	5.25	4.86	5.25	4.80	5.00	4.50	5.00	4.44	4.00	3.38
7.50	...	...	...	...	6.00	5.69	6.12	5.77	6.00	5.62	5.25	4.80	5.00	4.50	5.00	4.44	5.00	4.38
7.75	...	...	...	...	...	...	6.12	5.77	6.00	5.62	6.00	5.54	5.00	4.50	5.00	4.44	5.00	4.38
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
8.50	...	...	...	...	...	...	7.12	6.77	7.00	6.62	6.75	6.30	6.00	5.50	6.00	5.44	6.00	5.38
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
9.50	...	...	...	...	...	...	...	...	8.00	7.62	7.75	7.30	7.00	6.50	7.00	6.44	7.00	6.38
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
13.00	...	...	...	...	...	...	...	...	...	...	...	...	11.00	10.50	10.00	9.44	10.00	9.38
14.00	...	...	...	...	...	...	...	...	...	...	...	...	12.00	11.50	11.00	10.44	11.00	10.38
15.00	...	...	...	...	...	...	...	...	...	...	...	...	13.00	12.50	12.00	11.44	12.00	11.38
16.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13.00	12.44	13.00	12.38
17.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14.00	13.44	14.00	13.38
18.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	15.00	14.44	15.00	14.38
19.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16.00	15.38
20.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17.00	16.38

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NOTES TO TABLE 1C:

1. The tabulated L_G values are maximum and represent the minimum design grip length of the screw. They shall be measured from the bearing surface of the head to the face of a GO thread ring gage, having the thread countersink and/or counterbore removed, which has been assembled by hand as far as the thread will permit. The tabulated L_B values are minimum and represent the minimum body length of the screw. They are equal to L_G minus 5 times the pitch of the UNRC thread for the respective screw size.

2. Screws having nominal lengths falling between those for which L_G and L_B values are tabulated in this table shall have L_G and L_B dimensions conforming with those of the next shorter tabulated nominal length for the respective screw size. For example: for a 1/4 in. size screw, 1.88 in. long, L_G = 0.50 in. and L_B = 0.25 in.

3. For screws of nominal lengths above the heavy line in this table, the complete (full form) threads, measured with a thread ring gage having the thread chamfer and/or counterbore removed, shall extend to within two pitches (threads) of the head for sizes 0 (0.060 in.) through 5/8 in., inclusive; and shall extend as close to the head as is practicable for sizes larger than 5/8 in.

Screws over 1 in. in diameter and of lengths shorter than the minimum thread length L_T plus 5 times the pitch of the UNRC thread for the respective screw size shall have complete (full-form) threads extending as close to the head as practicable. See Note (4) for L_T values.

4. For screws of nominal lengths longer than those for which L_G and L_B values are tabulated in this table and for screws over 1 in. in diameter, the maximum grip gaging length L_G and the minimum body length L_B of the screws shall be determined as shown in Table 1D:

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

where

L = nom length
L_T = min thread length
L_{TT} = max total thread length

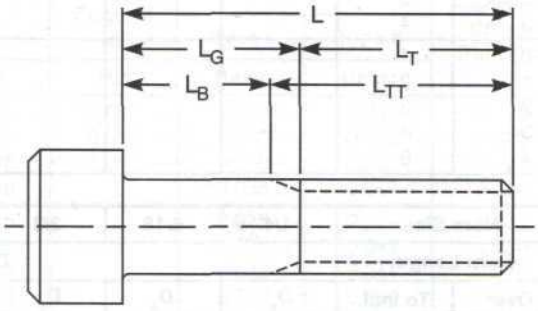

Table 1D Screws Beyond Sizes in Table 1C

Nom Size or Basic Screw Dia		L_T Thread Length Min	L_{TT} Total Thread Length Max	Nom Size or Basic Screw Dia		L_T Thread Length Min	L_{TT} Total Thread Length Max
0	0.0600	0.50	0.62	7/8	0.8750	2.25	3.69
1	0.0730	0.62	0.77	1	1.0000	2.50	4.12
2	0.0860	0.62	0.80	1-1/8	1.1250	2.81	4.65
3	0.0990	0.62	0.83	1-1/4	1.2500	3.12	5.09
4	0.1120	0.75	0.99	1-3/8	1.3750	3.44	5.65
5	0.1250	0.75	1.00	1-1/2	1.5000	3.75	6.08
6	0.1380	0.75	1.05	1-3/4	1.7500	4.38	7.13
8	0.1640	0.88	1.19	2	2.0000	5.00	8.11
10	0.1900	0.88	1.27	2-1/4	2.2500	5.62	8.99
1/4	0.2500	1.00	1.50	2-1/2	2.5000	6.25	10.00
5/16	0.3125	1.12	1.71	2-3/4	2.7500	6.88	10.87
3/8	0.3750	1.25	1.94	3	3.0000	7.50	11.75
7/16	0.4375	1.38	2.17	3-1/4	3.2500	8.12	12.63
1/2	0.5000	1.50	2.38	3-1/2	3.5000	8.75	13.50
5/8	0.6250	1.75	2.82	3-3/4	3.7500	9.38	14.37
3/4	0.7500	2.00	3.25	4	4.0000	10.00	15.25

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