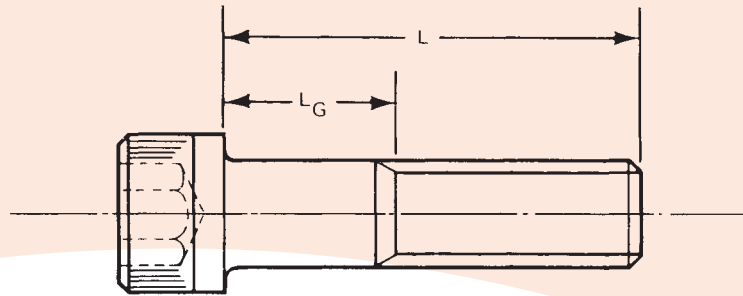




Socket Head Cap Screws - 1936 Series UNC and UNF Threads



Grip Length - UNC and UNF Threads

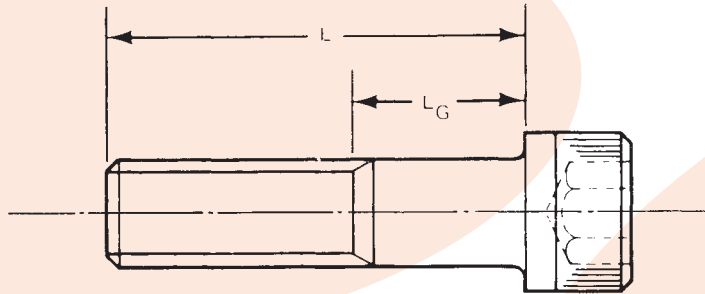
Thread Size	Basic Thread Length See Note 2 (Page 17)	LENGTH 'L'																					
		3/4	7/8	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	4 1/4	4 1/2	4 3/4	5	5 1/4	5 1/2	5 3/4
		GRIP LENGTH 'L _G '																					
No. 0*	.500	.250	.250	.500	.750																		
No. 1*	.625		.250	.250	.625	.875																	
No. 2*	.625		.250	.250	.625	.875	1.125																
No. 3*	.625		.250	.250	.625	.875	1.125	1.375															
No. 4	.750			.250	.250	.750	.750	1.250	1.250														
No. 5	.750			.250	.250	.750	.750	1.250	1.250	1.750													
No. 6	.750				.500	.500	1.000	1.000	1.500	1.500	2.000												
No. 8	.875				.375	.375	.875	.875	1.375	1.375	1.875	1.875	2.375										
No. 10	.875				.375	.375	.875	.875	1.375	1.375	1.875	1.875	2.375	2.375	2.875	2.875							
No. 12	.875				.375	.375	.875	.875	1.375	1.375	1.875	1.875	2.375	2.375	2.875	2.875							
1/4	1.000					.500	.500	1.000	1.000	1.500	1.500	2.000	2.000	2.500	2.500	3.000	3.000	3.500	3.500	4.000			
5/16	1.125						.625	.625	1.125	1.125	1.625	1.625	2.125	2.125	2.625	2.625	3.125	3.125	3.625	3.625	4.125	4.125	4.625
3/8	1.250						.500	.500	1.000	1.000	1.500	1.500	2.000	2.000	2.500	2.500	3.000	3.000	3.500	3.500	4.000	4.000	4.500
7/16	1.375							.625	.625	1.125	1.125	1.625	1.625	2.125	2.125	2.625	2.625	3.125	3.125	3.625	3.625	4.125	4.125
1/2	1.500								.750	.750	.750	1.500	1.500	1.500	2.250	2.250	2.250	2.250	3.000	3.000	3.000	3.750	3.750
9/16	1.625									.875	.875	.875	1.625	1.625	1.625	2.375	2.375	2.375	3.125	3.125	3.125	3.875	3.875
5/8	1.750									.750	.750	.750	1.500	1.500	1.500	2.250	2.250	2.250	3.000	3.000	3.000	3.750	3.750
3/4	2.000											1.000	1.000	1.000	1.000	2.000	2.000	2.000	2.000	2.000	3.000	3.000	
7/8	2.250												1.000	1.000	1.000	1.000	2.000	2.000	2.000	2.000	3.000	3.000	
1	2.500													1.000	1.000	1.000	1.000	2.000	2.000	2.000	2.000	3.000	

ALL DIMENSIONS IN INCHES

*Available in 1960 Series only

UNC and UNF Thread Lengths of Large Diameter Screws

Thread Size	Length 'L'							
	3	3 1/2	4	4 1/2	5	5 1/2	6	6 1/2 and over
Thread Length								
1 1/8 UNF		2.812						
1 1/8 UNC			2.812					
1 1/4 UNF			3.125					
1 1/4 UNC			3.125					
1 3/8 UNF			3.437					
1 3/8 UNC				3.437				
1 1/2 UNF				3.750				
1 1/2 UNC					3.750			
1 3/4 UNC						4.375		
2 UNC								5.000



6	6 1/4	6 1/2	6 3/4	7	7 1/4	7 1/2	7 3/4	8	8 1/2	9	9 1/2	10	11	12	13	14	15	16	17	18	19	20
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For sizes longer than shown between heavy lines see Note 2.																						
4.625	5.125																					
4.500	5.000	5.000	5.500	5.500	6.000	6.000																
4.625	4.625	5.125	5.125	5.625	5.625	6.125	6.125	6.625	7.125	7.625												
4.500	4.500	4.500	5.250	5.250	5.250	6.000	6.000	6.000	7.000	7.000	8.000	8.000										
3.875	4.625	4.625	4.625	5.375	5.375	5.375	6.125	6.125	6.875	6.875	7.875	7.875										
3.750	4.500	4.500	4.500	5.250	5.250	5.250	6.000	6.000	6.750	6.750	7.750	7.750	9.250	10.250								
4.000	4.000	4.000	4.000	5.000	5.000	5.000	5.000	6.000	6.000	7.000	7.000	8.000	9.000	10.000	11.000	12.000	13.000					
3.000	4.000	4.000	4.000	4.000	5.000	5.000	5.000	5.000	6.000	6.000	7.000	7.000	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000		
3.000	3.000	4.000	4.000	4.000	4.000	5.000	5.000	5.000	6.000	6.000	7.000	7.000	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000

1936 SERIES-

Length 'L' Tolerance		
Screws Over	Up to and Including	Tolerance
-	1"	±.016"
1"	6"	±.031"
6"	16"	±.062"
16"	-	±.125"

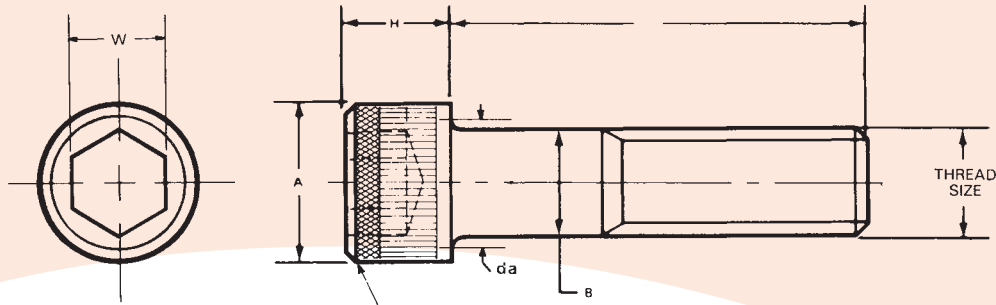
1960 SERIES-

Thread Size	Length 'L' Tolerance			
	Length			
	Up to 1" Incl.	Over 1" to 2 1/2"	Over 2 1/2" to 6"	Over 6"
No. 0-3/8"	-0.030"	-0.040"	-0.060"	-0.120"
7/16" - 3/4"	-0.030"	-0.060"	-0.080"	-0.120"
7/8" - 1 1/2"	-0.050"	-0.100"	-0.140"	-0.200"
Over 1 1/2"	-	-0.180"	-0.200"	-0.240"

- Notes: 1. Sizes longer than those between the heavy lines shall have a grip length calculated thus - L_G = L - Basic Thread Length.
 2. Tolerance on the grip length shall be +0 - 2 1/2 pitches.
 3. Tolerance on the thread length shall be +2 1/2 pitches -0.
 4. Screws up to and including 1" dia. ordered to an intermediate length between the heavy lines shall have a grip length equal to that of the screw of the next shorter length.



Socket Head Cap Screws -1960 Series UNC and UNF Threads



DIAMOND KNURL IDENTIFICATION for 1/4" up to 1" dia.

Applicable Specifications: ANSI B18.3

Dimensions and Tightening Torques - UNC and UNF Threads

Thread Size	Threads Per Inch		A Max.	B Max.	da Max.	H Max.	W	Maximum Tightening Torques lbf. in.				Induced Load lb.f.	
	UNC	UNF						Unplated		Plated		UNC	UNF
								UNC	UNF	UNC	UNF		
No. 0	—	80	0.096	0.060	0.074	0.060	0.050	—	2.1	—	1.6	—	190
No. 1	64	72	0.118	0.073	0.087	0.073	1/16	3.7	3.9	2.7	2.9	280	300
No. 2	56	64	0.140	0.0860	0.1020	0.086	5/64	6.2	6.7	4.6	5.0	400	430
No. 3	48	56	0.161	0.0990	0.1150	0.099	5/64	9.3	10.2	7.0	7.6	520	580
No. 4	40	48	0.183	0.1120	0.1300	0.112	3/32	13.2	14.5	9.9	10.9	640	720
No. 5	40	44	0.205	0.1250	0.1450	0.125	3/32	19.6	20.5	14.7	15.4	860	920
No. 6	32	40	0.226	0.1380	0.1580	0.138	7/64	24.5	27.6	18.4	20.7	960	1120
No. 8	32	36	0.270	0.1640	0.1880	0.164	9/64	45.5	48.0	34.1	36.0	1540	1640
No. 10	24	32	0.312	0.1900	0.2180	0.190	5/32	65.4	75.5	49.1	56.6	1880	2240
No. 12	24	28	0.343	0.2160	0.2440	0.216	5/32	102.0	109.0	76.5	81.8	2650	2890
1/4	20	28	0.375	0.2500	0.2780	0.250	3/16	153.0	176.0	115.0	132.0	3470	4150
lbf. ft.													
5/16	18	24	0.468	0.3125	0.3465	0.312	1/4	26.3	29.3	19.7	22.0	5830	6680
3/8	16	24	0.562	0.3750	0.4150	0.375	5/16	46.8	53.2	35.1	39.9	8700	10300
7/16	14	20	0.656	0.4375	0.4835	0.437	3/8	75.0	84.0	56.3	63.0	12000	13900
1/2	13	20	0.750	0.5000	0.5520	0.500	3/8	115.0	129.0	86.3	96.8	16100	18800
9/16	12	18	0.843	0.5625	0.6225	0.562	7/16	165.0	185.0	124.0	139.0	20800	23900
5/8	11	18	0.937	0.6250	0.6890	0.625	1/2	228.0	258.0	171.0	194.0	25800	30400
3/4	10	16	1.125	0.7500	0.8280	0.750	5/8	363.0	405.0	273.0	304.0	34600	39900
7/8	9	14	1.312	0.8750	0.9630	0.875	3/4	586.0	646.0	440.0	485.0	48000	54600
1	8	12	1.500	1.0000	1.1000	1.000	3/4	879.0	962.0	660.0	722.0	63100	71000
1 1/8	7	12	1.687	1.1250	1.2350	1.125	7/8	1250.0	1400.0	938.0	1050.0	79500	92200
1 1/4	7	12	1.875	1.2500	1.3700	1.250	7/8	1760.0	1825.0	1320.0	1460.0	102000	109000
1 3/8	6	12	2.062	1.3750	1.5050	1.375	1	2300.0	2620.0	1730.0	1970.0	120000	143000
1 1/2	6	12	2.250	1.5000	1.6400	1.500	1	2730.0	2730.0	2300.0	2580.0	132000	137000
1 3/4	5	12	2.625	1.7500	1.9100	1.750	1 1/4	4490.0	4490.0	3630.0	4155.0	186000	194000
2	4 1/2	12	3.000	2.0000	2.1800	2.000	1 1/2	7270.0	7750.0	5450.0	6270.0	264000	295000

ALL DIMENSIONS IN INCHES
MECHANICAL PROPERTIES

Material Unbrako High Grade Alloy Steel
Heat Treatment Rc 38-43
Screw Size < 0.625 > 0.625
Tensile Strength 190,000 lbf/in² 180,000 lbf/in²
Yield Strength 170,000 lbf/in² 162,000 lbf/in²
Shear Strength 114,000 lbf/in² 108,000 lbf/in²
Min. Elongation 9% 9%

NOTES:

1. Thread Class: #0 through to 1" dia. —3A; over 1" dia. —2A.
2. da — Transition diameter.
3. Working Temperature — -50°C. +300°C.
4. Torques calculated in accordance with VDI 2230 "Systematic calculation of high duty bolted joints" with σ 0.2 = 155 K.S.I. and μ = 0.125 for plain finish and μ = 0.094 for plated. Above 0.625" dia. σ 0.2 = 140 K.S.I.