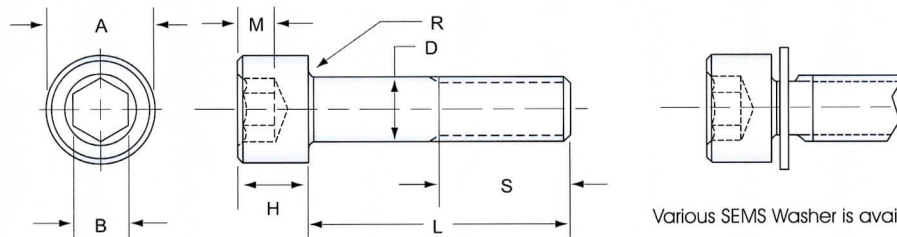


- Dimensions
- Mechanical Properties
- Application Data

ASME B18.3 : Hexagon Socket Head Cap Screws



Dimensions (inch)

Various SEMS Washer is available.

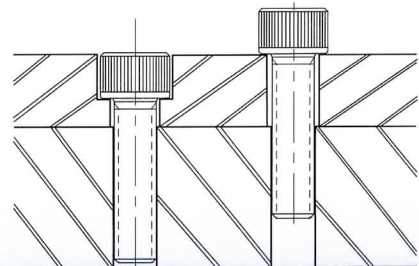
Nom. Size	A	H	D	B nom.	M min.	R min.	S min.	R. S. Torque (in-lb)
#0	0.091 - 0.096	0.057 - 0.060	0.0568 - 0.0600	0.050	0.025	0.002	0.50	2.26
#1	0.112 - 0.118	0.070 - 0.073	0.0695 - 0.0730	1/16 0.062	0.031	0.003	0.62	4.01
#2	0.134 - 0.140	0.083 - 0.086	0.0822 - 0.0860	5/64 0.078	0.038	0.003	0.62	6.65
#3	0.154 - 0.161	0.095 - 0.099	0.0949 - 0.0990	5/64 0.078	0.044	0.004	0.62	10.1
#4	0.176 - 0.183	0.108 - 0.112	0.1075 - 0.1120	3/32 0.094	0.051	0.004	0.75	14.1
#5	0.198 - 0.205	0.121 - 0.125	0.1202 - 0.1250	3/32 0.094	0.057	0.005	0.75	20.8
#6	0.218 - 0.226	0.134 - 0.138	0.1329 - 0.1380	7/64 0.109	0.064	0.005	0.75	26.2
#8	0.262 - 0.270	0.159 - 0.164	0.1585 - 0.1640	9/64 0.141	0.077	0.006	0.88	48.0
#10	0.303 - 0.312	0.185 - 0.190	0.1840 - 0.1900	5/32 0.156	0.090	0.006	0.88	69.5
#12	0.314 - 0.324	0.210 - 0.216	0.2095 - 0.2160	5/32 0.156	0.103	0.007	0.88	109
1/4	0.365 - 0.375	0.244 - 0.250	0.2435 - 0.2500	3/16 0.188	0.120	0.007	1.00	166
5/16	0.457 - 0.469	0.306 - 0.312	0.3053 - 0.3125	1/4 0.250	0.151	0.009	1.12	342
3/8	0.550 - 0.562	0.368 - 0.375	0.3678 - 0.3750	5/16 0.312	0.182	0.012	1.25	608
7/16	0.642 - 0.656	0.430 - 0.438	0.4294 - 0.4375	3/8 0.375	0.213	0.014	1.38	973
1/2	0.735 - 0.750	0.492 - 0.500	0.4919 - 0.5000	3/8 0.375	0.245	0.016	1.50	1484
9/16	0.827 - 0.843	0.554 - 0.562	0.5538 - 0.5625	7/16 0.438	0.276	0.021	1.63	2140
5/8	0.921 - 0.938	0.616 - 0.625	0.6163 - 0.6250	1/2 0.500	0.307	0.021	1.75	2792
3/4	1.107 - 1.125	0.740 - 0.750	0.7406 - 0.7500	5/8 0.625	0.370	0.025	2.00	4952
7/8	1.293 - 1.312	0.864 - 0.875	0.8647 - 0.8750	3/4 0.750	0.432	0.031	2.25	7991
1"	1.479 - 1.500	0.988 - 1.000	0.9886 - 1.0000	3/4 0.750	0.495	0.034	2.50	11979
1-1/8	1.665 - 1.688	1.111 - 1.125	1.1086 - 1.1250	7/8 0.875	0.557	0.039	2.81	16968
1-1/4	1.852 - 1.875	1.236 - 1.250	1.2336 - 1.2500	7/8 0.875	0.620	0.044	3.12	23944
1-3/8	2.038 - 2.062	1.360 - 1.375	1.3568 - 1.3750	1" 1.000	0.682	0.048	3.44	31394
1-1/2	2.224 - 2.250	1.485 - 1.500	1.4818 - 1.5000	1" 1.000	0.745	0.052	3.75	41661

Notes :

1. Thread Class : 3A UNRC and UNRF Series for screw size #0 through 1";
2A UNRC and UNRF Series for screw size over 1".
2. Length Tolerance : See Table 1.
3. R. S. Torque = Recommended Seating Torque.
4. Working Temperature : -50°C ~ + 300°C.

■ Typical Application Fixture

Socket head cap screws are designed to be used with the head protruding or counter bored. They should be used where high strength and ease of installation are required.



Mechanical Properties

Nom. Size, D	D ≤ 1/2	D > 1/2
Hardness (HRC)	39-45	37-45
Tensile Strength (psi)	180,000 min.	170,000 min.
Yield Strength at 0.2% Offset (psi)	153,000 min.	153,000 min.
Elongation (%)	10 min.	10 min.
Decarburization and Carburization (See Page 34)	E = 3/4H1	E = 3/4H1

Table 1 Length Tolerance

Nom. Length	Nom. Size, Tolerances on Length			
	#0 Thru 3/8, incl.	7/16 Thru 3/4, incl.	7/8 Thru 1-1/2, incl.	Over 1-1/2
Up to 1.00, incl.	-0.03	-0.03	-0.05	
Over 1.00 to 2.50, incl.	-0.04	-0.06	-0.10	-0.18
Over 2.50 to 6.00, incl.	-0.06	-0.08	-0.14	-0.20
Over 6.00	-0.12	-0.12	-0.20	-0.24