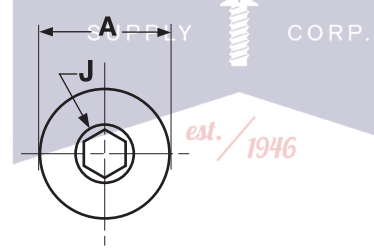
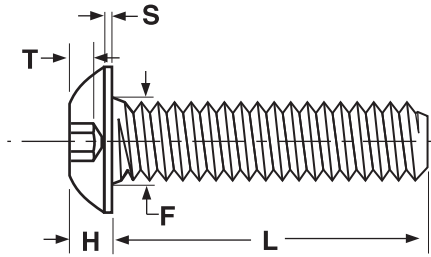


Alloy Steel

Button Head Socket Cap Screws

Sockets
FITTING



SOCKET BUTTON HEAD CAP SCREWS - ALLOY STEEL

ASME
B18.3-2003,
Blue Devil®

Nominal Size	A Head Diameter		H Head Height		S Head Side Height	J Hex Socket Size	T Key Engagement	F Fillet Transition Diameter		L Max Standard Length	Tensile Test Load	Single Shear Strength of Body	Seating Torques in./lbs.	
	Max	Min	Max	Min	Ref	Nom	Min	Max	Min	Nom	Lb.	Lbs., Min.	Coarse Thread	Fine Thread
4	0.213	0.201	0.059	0.051	0.015	1/16	0.035	0.132	0.122	0.50	840	950	7.0	8.
6	0.262	0.250	0.073	0.063	0.015	5/64	0.044	0.158	0.148	0.63	1,260	1,400	13.	15.
8	0.312	0.298	0.087	0.077	0.015	3/32	0.052	0.194	0.184	0.75	1,940	2,000	25.	26.
10	0.361	0.347	0.101	0.091	0.020	1/8	0.070	0.220	0.210	1.00	2,440	2,700	45.	48.
1/4	0.437	0.419	0.132	0.122	0.031	5/32	0.087	0.290	0.280	1.00	4,430	4,700	95.	110.
5/16	0.547	0.527	0.166	0.152	0.031	3/16	0.105	0.353	0.343	1.00	7,300	7,300	190.	210.
3/8	0.656	0.636	0.199	0.185	0.031	7/32	0.122	0.415	0.405	1.25	10,800	10,600	300.	300.
1/2	0.875	0.851	0.265	0.245	0.046	5/16	0.175	0.560	0.540	2.00	19,800	18,800	900.	960.
5/8	1.000	0.970	0.331	0.311	0.062	3/8	0.210	0.685	0.665	2.00	31,500	29,400	1,700.	1,900.

Tolerance on Length	Nominal Screw Size		Nominal Screw Length	
			Up to 1 in., Inclusive	Over 1 in. to 2-1/2 in., Inclusive
	0 thru 3/8, Inclusive		-0.03	-0.04
1/2 and 5/8, Inclusive		-0.03	-0.06	

Description	Has a similar thread design as a socket cap screw. The dome-shaped head is wider and has a lower profile than a socket cap screw.
Applications/Advantages	Used when a wider bearing surface or a smoother, more finished appearance is desired. Button head cap screws do not afford the strength of socket head cap screws and are designed for light fastening applications. They are not recommended for critical, high-strength applications.
Material	Screws shall be made from an alloy steel which conforms to the following chemical composition requirements (per product analysis)- Carbon: 0.28 to 0.50%; Phosphorus: 0.045% maximum; Sulfur: 0.035% maximum. Also, one or more of the following elements shall be present in sufficient quantity to meet the performance requirements listed below: chromium, nickel, molybdenum or vanadium.
Heat Treatment	Screws shall be heat treated by oil quenching from above the transformation temperature and then tempered at a temperature not lower than 650°F.
Hardness	<i>Thru 1/2" diam.:</i> Rockwell C39 - 44; <i>Over 1/2" diam.:</i> Rockwell C37 - 44
Tensile Strength*	<i>Thru 1/2" diam.:</i> 145,000 psi. minimum; <i>Over 1/2" diam.:</i> 135,000 psi. minimum
Elongation	8% minimum (applies to machined specimens of length at least 4D where D equals the nominal diameter of the screw)
Reduction of Area	35% minimum (applies to machined specimens)
Finish	Screws are supplied with a thermal black finish.

* Screws must be of a length equal to or greater than 3 diameters to be subject to tensile testing.

Blue Devil® is a registered trademark of the Safety Socket Screw Corporation.