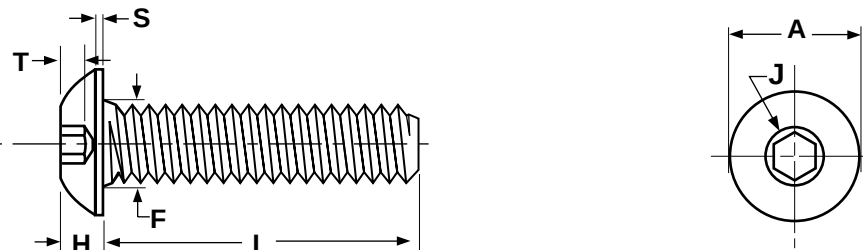


**Alloy
Steel**

Button Head Socket Cap Screws

Sockets



Socket Button Head Cap Screws - Alloy Steel											ASME B18.3-1998, Blue Devil®			
Nominal Size	A		H		S	J	T	F		L	Tensile Test Load	Single Shear Strength of Body	Seating Torques in./lbs.	
	Head Diameter		Head Height		Head Side Height	Hex Socket Size	Key Engage- ment	Fillet Transition Diameter		Max Standard Length	Lb.	Lbs., Min.	Coarse Thread	Fine Thread
	Max	Min	Max	Min	Ref	Nom	Min	Max	Min	Nom				
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	Rockwell C38 - 44
Tensile Strength	180,000 psi. minimum (material only)
Yield Strength	160,000 psi. minimum (material only)
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.