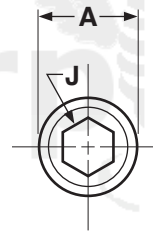
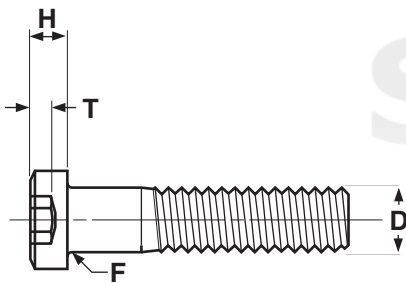


# SOCKETS

## LOW HEAD CAP SCREWS

Alloy Steel



### LOW HEAD SOCKET CAP SCREWS - ALLOY STEEL

ASME B18.3 2012  
Blue Devil®

Nominal Size	D	F		A		H		J	T	Tensile Strength Pounds Min.		Tightening Torque Inch Pounds
	Basic Screw Diameter	Body Diameter		Head Diameter		Head Height		Hex Socket Size	Key Engagement			
		Max	Min	Max	Min	Max	Min			UNRC	UNRF	
8	0.1640	.1640	.1585	.270	.265	.085	.079	.078	.060	2,310	2,440	19.4
10	0.1900	.1900	.1840	.312	.307	.098	.092	.094	.072	2,890	3,300	33.5
1/4	0.2500	.2500	.2435	.375	.369	.127	.121	.125	.094	5,250	6,000	77.9
5/16	0.3125	.3125	.3053	.437	.431	.158	.152	.156	.110	8,650	9,550	156.0
3/8	0.3750	.3750	.3678	.562	.556	.192	.182	.188	.115	12,800	14,450	273.0
1/2	0.5000	.5000	.4919	.750	.743	.254	.244	.250	.151	23,400	26,350	615.0

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

<b>Description</b>	Similar to a standard alloy socket cap screw except the head height is 50% of the standard's and the socket size is smaller. The low-head style is supplied only in plain steel.
<b>Applications/ Advantages</b>	Used in applications where the limited clearance would not accommodate the head height of a standard socket cap screw. Also used in counterbored holes of material too thin for a regular socket cap screw. However, because of their design, they cannot withstand the same preloads as a standard socket head.
<b>Material</b>	Cap screws shall be made from an alloy steel which conforms to the following chemical composition requirements (per product analysis)-- <b>Carbon:</b> 0.31% minimum; <b>Phosphorus:</b> 0.040% maximum; <b>Sulfur:</b> 0.045% 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.
<b>Heat Treatment</b>	Cap screws shall be heat treated by oil quenching from above the transformation temperature and then tempered at a temperature not lower than 650°F.
<b>Hardness</b>	Rockwell C38 minimum
<b>Tensile Strength</b>	170,000 psi. minimum
<b>Yield Strength</b>	150,000 psi. minimum
<b>Elongation</b>	10% minimum (applies to machined specimens of lengths at least 4D where D equals the nominal diameter of the screw)
<b>Reduction of Area</b>	33% minimum (applies to machined specimens)