



| LOW HEAD SOCKET CAP SCREWS - ALLOY STEEL | | | | | | | | | | | Blue Devil® | |
|--|----------------------|---------------|------|-------------|------|-----------------|----------------|--------|------|------------------------------|-------------|-------------------------------|
| Nominal Size | D | A | | H | | J | T | F | | Tensile Strength Pounds Min. | | Tightening Torque Inch Pounds |
| | Basic Screw Diameter | Head Diameter | | Head Height | | Hex Socket Size | Key Engagement | Fillet | | UNRC | UNRF | |
| | | Max | Min | Max | Min | | | Max | Min | | | |
| 8 | 0.1640 | .270 | .265 | .082 | .079 | .0781 | .060 | .012 | .007 | 2,310 | 2,440 | 19.4 |
| 10 | 0.1900 | .312 | .307 | .095 | .092 | .0938 | .072 | .014 | .009 | 2,890 | 3,300 | 33.5 |
| 1/4 | 0.2500 | .375 | .369 | .125 | .121 | .1250 | .094 | .014 | .009 | 5,250 | 6,000 | 77.9 |
| 5/16 | 0.3125 | .437 | .431 | .156 | .152 | .1562 | .120 | .017 | .012 | 8,650 | 9,550 | 156.0 |
| 3/8 | 0.3750 | .562 | .556 | .187 | .182 | .1875 | .145 | .020 | .015 | 12,800 | 14,450 | 273.0 |
| 1/2 | 0.5000 | .750 | .743 | .250 | .244 | .2500 | .184 | .026 | .020 | 23,400 | 26,350 | 615.0 |

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

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| Description | 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. |
| Applications/ Advantages | 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. |
| Material | Cap screws shall be made from an alloy steel which conforms to the following chemical composition requirements (per product analysis)-- <i>Carbon</i> : 0.31% minimum; <i>Phosphorus</i> : 0.040% maximum; <i>Sulfur</i> : 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. |
| Heat Treatment | 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. |
| Hardness | Rockwell C38 minimum |
| Tensile Strength | 170,000 psi. minimum |
| Yield Strength | 150,000 psi. minimum |
| Elongation | 10% minimum (applies to machined specimens of length at least 4D where D equals the nominal diameter of the screw) |
| Reduction of Area | 33% minimum (applies to machined specimens) |