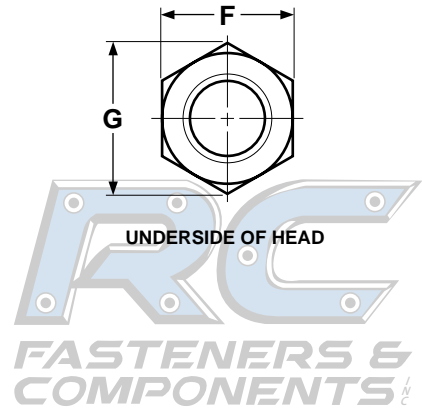
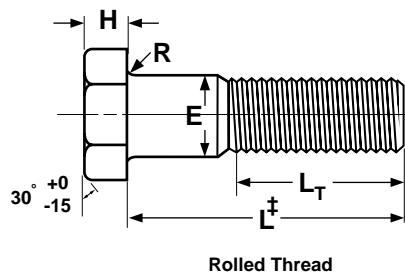
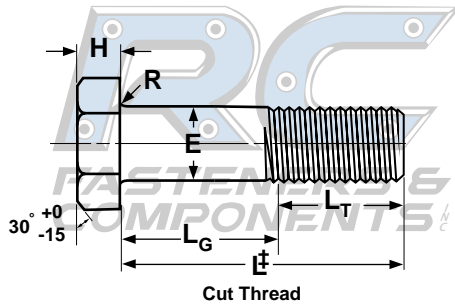


Cap Screws & Bolts

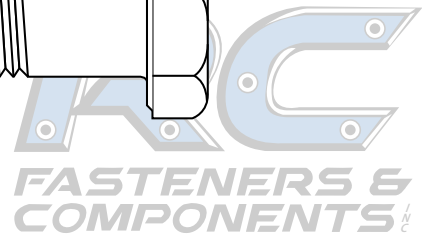
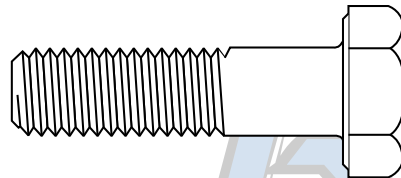
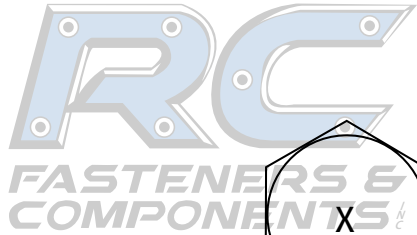
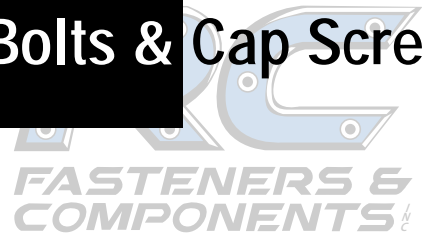
Hot Dip Galvanized

Hex Machine Bolts



‡Length of a machine bolt is measured from the underhead bearing surface to the extreme end of the bolt.

| HEX MACHINE BOLTS | | | | | | | | | | | | | | | ASME B18.2.1-1996 | |
|--------------------------------|--------------------|-------|-------------------------|--------------------------------|--------------------------------|----------------------------|-------------------|------------------|-------|-------|-----------------------|------|--|------------|-------------------|--|
| Nominal Size Or Basic Diameter | E Body Diameter | | F Width Across Flats | | | G Width Across Corners | | H Head Height | | | R Radius of Fillet | | L _T Thread Length For Bolt Lengths | | | |
| | Max. | Min. | Basic | Max. | Min. | Max. | Min. | Basic | Max. | Min. | Max. | Min. | Basic | over 6 in. | | |
| | | | | | | | | | | | | | | | | |
| 1/4 0.2500 | 0.260 | 0.237 | 7/16 | 0.438 | 0.425 | 0.505 | 0.484 | 11/64 | 0.188 | 0.150 | 0.03 | 0.01 | 0.750 | 1.000 | | |
| 5/16 0.3125 | 0.324 | 0.298 | 1/2 | 0.500 | 0.484 | 0.577 | 0.552 | 7/32 | 0.235 | 0.195 | 0.03 | 0.01 | 0.875 | 1.125 | | |
| 3/8 0.3750 | 0.388 | 0.360 | 9/16 | 0.562 | 0.544 | 0.650 | 0.620 | 1/4 | 0.268 | 0.226 | 0.03 | 0.01 | 1.000 | 1.250 | | |
| 1/2 0.5000 | 0.515 | 0.482 | 3/4 | 0.750 | 0.725 | 0.866 | 0.826 | 11/32 | 0.364 | 0.302 | 0.03 | 0.01 | 1.250 | 1.500 | | |
| 5/8 0.6250 | 0.642 | 0.605 | 15/16 | 0.938 | 0.906 | 1.083 | 1.033 | 27/64 | 0.444 | 0.378 | 0.06 | 0.02 | 1.500 | 1.750 | | |
| 3/4 0.7500 | 0.768 | 0.729 | 1-1/8 | 1.125 | 1.088 | 1.299 | 1.240 | 1/2 | 0.524 | 0.455 | 0.06 | 0.02 | 1.750 | 2.000 | | |
| 7/8 0.8750 | 0.895 | 0.852 | 1-5/16 | 1.312 | 1.269 | 1.516 | 1.447 | 37/64 | 0.604 | 0.531 | 0.06 | 0.02 | 2.000 | 2.250 | | |
| 1 1.0000 | 1.022 | 0.976 | 1-1/2 | 1.500 | 1.450 | 1.732 | 1.653 | 43/64 | 0.700 | 0.591 | 0.09 | 0.03 | 2.250 | 2.500 | | |
| Tolerance on Length | Nominal Screw Size | | Nominal Screw Length | | | | | | | | | | | | | |
| | | | Up to 1 in., incl. | Over 1 in. to 2-1/2 in., incl. | Over 2-1/2 in. to 4 in., incl. | Over 4 in. to 6 in., incl. | Longer than 6 in. | | | | | | | | | |
| | 1/4 to 3/8 | | +0.02, -0.03 | +0.02, -0.04 | +0.04, -0.06 | +0.06, -0.10 | +0.10, -0.18 | | | | | | | | | |
| | 7/16 and 1/2 | | +0.02, -0.03 | +0.04, -0.06 | +0.06, -0.08 | +0.08, -0.10 | +0.12, -0.18 | | | | | | | | | |
| | 9/16 to 3/4 | | +0.02, -0.03 | +0.06, -0.08 | +0.08, -0.10 | +0.10, -0.10 | +0.14, -0.18 | | | | | | | | | |
| 7/8 and 1 | | ... | +0.08, -0.10 | +0.10, -0.14 | +0.12, -0.16 | +0.16, -0.20 | | | | | | | | | | |



| | |
|-------------------------------------|--|
| Description | A low or medium carbon steel, externally threaded mechanical device, 1/4 inch in diameter or larger, with a trimmed hex head and a hot-dip galvanized coating. A hex bolt does not have a washer face on its bearing surface as does a hex cap screw, nor does it have a machined point. Its body tolerances are not as close as those of a cap screw. |
| Applications/ Advantages | Designed to be used in highly corrosive environments (ie. coastal locales and heavily polluted atmospheres). May be inserted into an oversized hole and should be assembled with a nut. |
| Material | Machine bolts shall be manufactured from steel which conforms to the following chemical composition requirements: <i>Phosphorus: 0.06% maximum; Sulfur: 0.15% maximum.</i> |
| Hardness | Bolts of a length < 3X nominal diameter: Rockwell B69 - B100. Bolts of a length => 3X nominal diameter: Rockwell B100 maximum. |
| Tensile Strength | 60,000 psi. minimum. |
| Elongation* | 18% minimum (all diameters) |
| Plating | See Appendix-A for plating information. |



*These properties are tested only on machined specimens when the testing machine cannot provide for full testing of the parts.

**Product standards require the manufacturer's head marking to appear on the top of all bolts 1/4" diameter and larger. "X" represents one location such a marking may appear.