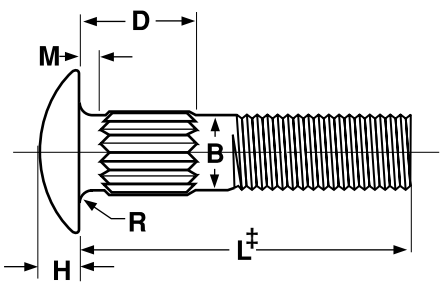


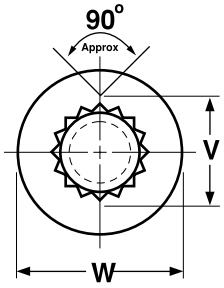


## Carriage Bolts, Ribbed Neck

ASME B18.5-1998

| Nominal Size or Basic Bolt Diameter | | B | | W | | H | | M | | Number of Ribs | V | D | | | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Body Diameter | | Head Diameter | | Head Height | | Head to Ribs For Lengths of | | | Diameter Over Ribs | Depth Over Ribs For Lengths of | | | Fillet Radius |
| | | | | | | | | 7/8 and Shorter | 1 in. and Longer | | | 7/8 and Shorter | 1 in. and 1-1/8 | 1-1/4 and Longer | |
| | | Max | Min | Max | Min | Max | Min | ± 0.031* | | Approx | Min | ±0.031 | | | Max |
| No. 10 | 0.1900 | 0.199 | 0.182 | 0.469 | 0.438 | 0.114 | 0.094 | 0.031 | 0.063 | 9 | 0.210 | 0.250 | 0.407 | 0.594 | 0.031 |
| 1/4 | 0.2500 | 0.260 | 0.237 | 0.594 | 0.563 | 0.145 | 0.125 | 0.031 | 0.063 | 10 | 0.274 | 0.250 | 0.407 | 0.594 | 0.031 |
| 5/16 | 0.3125 | 0.324 | 0.298 | 0.719 | 0.688 | 0.176 | 0.156 | 0.031 | 0.063 | 12 | 0.340 | 0.250 | 0.407 | 0.594 | 0.031 |
| 3/8 | 0.3750 | 0.388 | 0.360 | 0.844 | 0.782 | 0.208 | 0.188 | 0.031 | 0.063 | 12 | 0.405 | 0.250 | 0.407 | 0.594 | 0.031 |
| 7/16 | 0.4375 | 0.452 | 0.421 | 0.969 | 0.907 | 0.239 | 0.219 | 0.031 | 0.063 | 14 | 0.470 | 0.250 | 0.407 | 0.594 | 0.031 |
| 1/2 | 0.5000 | 0.515 | 0.483 | 1.094 | 1.032 | 0.270 | 0.250 | 0.031 | 0.063 | 16 | 0.534 | 0.250 | 0.407 | 0.594 | 0.031 |
| 5/8 | 0.6250 | 0.642 | 0.605 | 1.344 | 1.219 | 0.344 | 0.313 | 0.094 | 0.094 | 19 | 0.660 | 0.313 | 0.438 | 0.625 | 0.062 |
| 3/4 | 0.7500 | 0.768 | 0.729 | 1.594 | 1.469 | 0.406 | 0.375 | 0.094 | 0.094 | 22 | 0.785 | 0.313 | 0.438 | 0.625 | 0.062 |

| 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. | | Over 6 in. | |
| | No. 10 thru 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 | -0.05 | +0.06 | -0.08 | +0.08 | -0.10 | +0.12 | -0.18 |
| | 9/16 thru 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 |
| | 1-1/8 thru 1-1/2 | .... | .... | +0.12 | -0.12 | +0.16 | -0.16 | +0.18 | -0.18 | +0.22 | -0.22 |

‡Length of a carriage bolt is measured from the underhead bearing surface to the extreme end of the bolt.
*Tolerance on #10 through 1/2" sizes for nominal lengths of 7/8" and shorter shall be +0.031 and -0.000.

| | |
|---|---|
| **Description** | A round head bolt with a ribbed or serrated shoulder made from low carbon steel. |
| **Applications/ Advantages** | For use in soft, ductile metals, wood and plastics to keep the bolt from turning when nut is being tightened. |
| **Material** | Bolts shall be made from a carbon steel which conforms to the following chemical composition requirements-- *Carbon:* 0.55% maximum; *Phosphorus:* 0.048% maximum; *Sulfur:* 0.058% maximum |
| **Hardness** | Rockwell B70 - 100 |
| **Tensile Strength** | 60,000 psi. minimum |
| **Yield Strength** | 36,000 psi. minimum |
| **Elongation** | 18% minimum |
| **Reduction of Area** | 35% minimum |
| **Plating** | See Appendix-A for plating information. |