

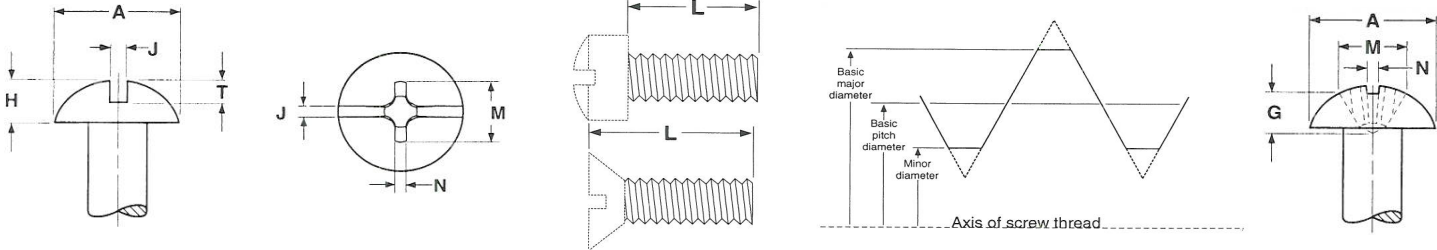


Atlanta, Georgia

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### Round Head Machine Screw



| ASME B 1.1                |        | Series Designation | Allowance  | Major Diameter |       | Pitch Diameter |       |           | Tensile Strength, lb. Min**<br>Carbon Steel | Stress Area Inches² | A    |      | H    |               | J    |      | T             |      | M           |      | G          | N | Phillips Bit Size |
|---------------------------|--------|--------------------|------------|----------------|-------|----------------|-------|-----------|---------------------------------------------|---------------------|------|------|------|---------------|------|------|---------------|------|-------------|------|------------|---|-------------------|
| Size and Threads Per Inch |        |                    |            |                |       |                |       |           |                                             |                     |      |      |      |               |      |      | Head Diameter |      | Head Height |      | Slot Width |   |                   |
|                           |        |                    |            | Min            | Max   | Min            | Max   | Tolerance |                                             |                     | Min  | Max  | Min  | Max           | Min  | Max  | Min           | Max  | Ref         | Ref  | Ref        |   |                   |
|                           |        |                    |            |                |       |                |       |           |                                             |                     |      |      |      |               |      |      |               |      |             |      |            |   |                   |
| 6-32                      | 0.138  | UNC                | .0008      | .1312          | .1372 | .1141          | .1169 | .002820   | 550                                         | 0.00909             | .240 | .260 | .091 | .103          | .039 | .048 | .051          | .068 | .155        | .070 | .045       | 2 |                   |
| 6-40                      | 0.138  | UNF                | .0008      | .1321          | .1372 | .1184          | .1210 | .002614   | 609                                         | 0.01015             | .240 | .260 | .091 | .103          | .039 | .048 | .051          | .068 | .155        | .070 | .045       | 2 |                   |
| 8-32                      | 0.164  | UNC                | .0009      | .1571          | .1631 | .1399          | .1428 | .002916   | 850                                         | 0.0140              | .287 | .309 | .107 | .120          | .045 | .054 | .058          | .077 | .171        | .088 | .064       | 2 |                   |
| 8-36                      | 0.164  | UNF                | .0009      | .1577          | .1632 | .1424          | .1452 | .002804   | 884                                         | 0.01474             | .287 | .309 | .107 | .120          | .045 | .054 | .058          | .077 | .171        | .088 | .064       | 2 |                   |
| 10-24                     | 0.190  | UNC                | .0010      | .1818          | .1890 | .1586          | .1619 | .003319   | 1050                                        | 0.0175              | .334 | .359 | .123 | .137          | .050 | .060 | .065          | .087 | .188        | .106 | .082       | 2 |                   |
| 10-32                     | 0.190  | UNF                | .0009      | .1831          | .1891 | .1658          | .1688 | .003004   | 1200                                        | 0.0200              | .334 | .359 | .123 | .137          | .050 | .060 | .065          | .087 | .188        | .106 | .082       | 2 |                   |
| 12-24                     | 0.216  | UNC                | .0010      | .2078          | .2150 | .1845          | .1879 | .003400   | 1450                                        | 0.0242              | .382 | .408 | .139 | .153          | .056 | .067 | .073          | .096 | n/a         | n/a  | n/a        | 3 |                   |
| 12-28                     | 0.216  | UNF                | .0010      | .2085          | .2150 | .1886          | .1918 | .003224   | 1548                                        | 0.0258              | .382 | .408 | .139 | .153          | .056 | .067 | .073          | .096 | n/a         | n/a  | n/a        | 3 |                   |
| 1/4-20                    | 0.250  | UNC                | .0011      | .2408          | .2489 | .2127          | .2164 | .003731   | 1900                                        | 0.0318              | .443 | .472 | .160 | .175          | .064 | .075 | .082          | .109 | .261        | .134 | .104       | 3 |                   |
| 1/4-28                    | 0.250  | UNF                | .0010      | .2425          | .2490 | .2225          | .2258 | .003322   | 2200                                        | 0.0364              | .443 | .472 | .160 | .175          | .064 | .075 | .082          | .109 | .261        | .134 | .104       | 3 |                   |
| 5/16-18                   | 0.3125 | UNC                | .0012      | .3026          | .3113 | .2712          | .2752 | .004041   | 3150                                        | 0.0524              | .557 | .590 | .198 | .216          | .072 | .084 | .099          | .132 | .301        | .174 | .144       | 3 |                   |
| 5/16-24                   | 0.3125 | UNF                | .0011      | .3042          | .3114 | .2806          | .2843 | .003660   | 3480                                        | 0.0580              | .557 | .590 | .198 | .216          | .072 | .084 | .099          | .132 | .301        | .174 | .144       | 3 |                   |
| 3/8-16                    | 0.375  | UNC                | .0013      | .3643          | .3737 | .3287          | .3331 | .004363   | 4650                                        | 0.0775              | .670 | .708 | .237 | .256          | .081 | .094 | .117          | .155 | .380        | .215 | .182       | 4 |                   |
| 3/8-24                    | 0.375  | UNF                | .0011      | .3667          | .3739 | .3430          | .3468 | .003804   | 5268                                        | 0.0878              | .670 | .708 | .237 | .256          | .081 | .094 | .117          | .155 | .380        | .215 | .182       | 4 |                   |
| Tolerance on Length L     |        |                    | Screw Size | Screw Length   |       |                |       |           |                                             |                     |      |      |      |               |      |      |               |      |             |      |            |   |                   |
|                           |        |                    |            | Up To 1/2"     |       |                |       |           | Over 1/2" to 1"                             |                     |      |      |      | Over 1" to 2" |      |      |               |      | Over 2"     |      |            |   |                   |
|                           |        |                    |            | -0.02          |       |                |       |           | -0.03                                       |                     |      |      |      | -0.06         |      |      |               |      | -0.09       |      |            |   |                   |
|                           |        |                    |            | -0.03          |       |                |       |           | -0.03                                       |                     |      |      |      | -0.06         |      |      |               |      | -0.09       |      |            |   |                   |

\*\*Tensile strength is based off of 60,000 psi. and only apply to carbon steel screws. Hex and Hex Washer Head machine screws of adequate length may be wedge tensile tested. Other head styles can be axial tensile tested.

| ANSI B18.6.3     |  | Steel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | SAE Stainless 18-8                | Stainless 316                     | Stainless 410                |
|------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------|------------------------------|
| Material         |  | AISI 1006 - 1022 or equivalent Steel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Stainless SAE 18-8                | Stainless SAE 316                 | Stainless SAE 410 Passivated |
| Hardness         |  | Rockwell B70 - B100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Rockwell B85 - B95 (approximate)* | Rockwell B85 - B95 (approximate)* | Rockwell C34 (approximate)*  |
| Tensile Strength |  | Steel machine screws which have a nominal diameter smaller than #4 are not subject to tensile testing. No. 4 and No. 5 machine screws which are shorter than 1/2" are not subject to tensile testing. Steel machine screws of diameters No. 6 to 1/2" inclusive, which are shorter than either 1/2" or 3D (where D is the nominal screw size in inches) are not subject to tensile testing. Such steel machine screws of a size to be tested shall meet the tensile load requirements listed above. **Tensile strength values for stainless screws are offered as approximations only. There is no single standard for the performance requirements of stainless machine screws. |                                   |                                   |                              |

\* Hardness and tensile strength standards are offered as guides only for stainless machine screws. There is currently no national standard for these performance requirements for stainless machine screws.

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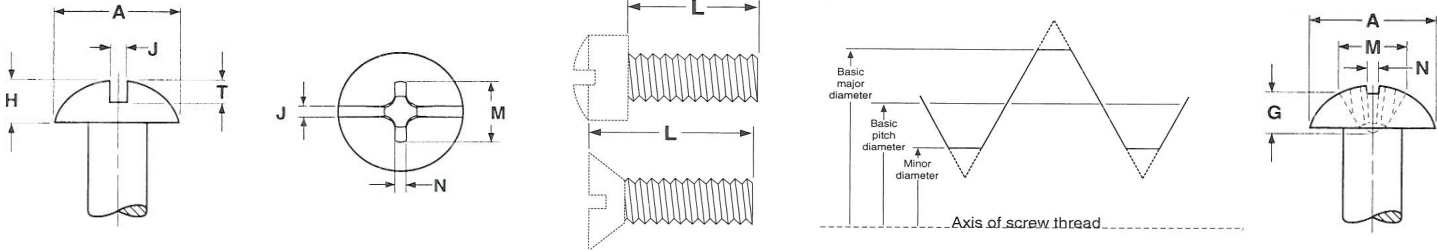


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|---------------------------|--------|--------------------|------------|----------------|-------|----------------|-------|-----------|------------------------------------------|---------------------|---------------------|------|------|---------------|------|------|---------------|------|-------------|------|------------|-----|-------------------|------------|-----|----------|-------|-------|
| Size and Threads Per Inch |        |                    |            |                |       |                |       |           |                                          |                     | Dimension of Recess |      |      |               |      |      | Head Diameter |      | Head Height |      | Slot Width |     |                   | Slot Depth |     | Diameter | Depth | Width |
|                           |        |                    |            | Min            | Max   | Min            | Max   | Tolerance |                                          |                     |                     |      |      |               |      |      | Min           | Max  | Min         | Max  | Min        | Max |                   | Min        | Max | Ref      | Ref   | Ref   |
|                           |        |                    |            |                |       |                |       |           |                                          |                     |                     |      |      |               |      |      |               |      |             |      |            |     |                   |            |     |          |       |       |
| 6-32                      | 0.138  | UNC                | .0008      | .1312          | .1372 | .1141          | .1169 | .002820   | 550                                      | 0.00909             | .240                | .260 | .091 | .103          | .039 | .048 | .051          | .068 | .155        | .070 | .045       | 2   |                   |            |     |          |       |       |
| 6-40                      | 0.138  | UNF                | .0008      | .1321          | .1372 | .1184          | .1210 | .002614   | 609                                      | 0.01015             | .240                | .260 | .091 | .103          | .039 | .048 | .051          | .068 | .155        | .070 | .045       | 2   |                   |            |     |          |       |       |
| 8-32                      | 0.164  | UNC                | .0009      | .1571          | .1631 | .1399          | .1428 | .002916   | 850                                      | 0.0140              | .287                | .309 | .107 | .120          | .045 | .054 | .058          | .077 | .171        | .088 | .064       | 2   |                   |            |     |          |       |       |
| 8-36                      | 0.164  | UNF                | .0009      | .1577          | .1632 | .1424          | .1452 | .002804   | 884                                      | 0.01474             | .287                | .309 | .107 | .120          | .045 | .054 | .058          | .077 | .171        | .088 | .064       | 2   |                   |            |     |          |       |       |
| 10-24                     | 0.190  | UNC                | .0010      | .1818          | .1890 | .1586          | .1619 | .003319   | 1050                                     | 0.0175              | .334                | .359 | .123 | .137          | .050 | .060 | .065          | .087 | .188        | .106 | .082       | 2   |                   |            |     |          |       |       |
| 10-32                     | 0.190  | UNF                | .0009      | .1831          | .1891 | .1658          | .1688 | .003004   | 1200                                     | 0.0200              | .334                | .359 | .123 | .137          | .050 | .060 | .065          | .087 | .188        | .106 | .082       | 2   |                   |            |     |          |       |       |
| 12-24                     | 0.216  | UNC                | .0010      | .2078          | .2150 | .1845          | .1879 | .003400   | 1450                                     | 0.0242              | .382                | .408 | .139 | .153          | .056 | .067 | .073          | .096 | n/a         | n/a  | n/a        | 3   |                   |            |     |          |       |       |
| 12-28                     | 0.216  | UNF                | .0010      | .2085          | .2150 | .1886          | .1918 | .003224   | 1548                                     | 0.0258              | .382                | .408 | .139 | .153          | .056 | .067 | .073          | .096 | n/a         | n/a  | n/a        | 3   |                   |            |     |          |       |       |
| 1/4-20                    | 0.250  | UNC                | .0011      | .2408          | .2489 | .2127          | .2164 | .003731   | 1900                                     | 0.0318              | .443                | .472 | .160 | .175          | .064 | .075 | .082          | .109 | .261        | .134 | .104       | 3   |                   |            |     |          |       |       |
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| 5/16-18                   | 0.3125 | UNC                | .0012      | .3026          | .3113 | .2712          | .2752 | .004041   | 3150                                     | 0.0524              | .557                | .590 | .198 | .216          | .072 | .084 | .099          | .132 | .301        | .174 | .144       | 3   |                   |            |     |          |       |       |
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| Tolerance on Length L     |        |                    | Screw Size | Screw Length   |       |                |       |           |                                          |                     |                     |      |      |               |      |      |               |      |             |      |            |     |                   |            |     |          |       |       |
|                           |        |                    |            | Up To 1/2"     |       |                |       |           | Over 1/2" to 1"                          |                     |                     |      |      | Over 1" to 2" |      |      |               |      | Over 2"     |      |            |     |                   |            |     |          |       |       |
|                           |        |                    |            | -0.02          |       |                |       |           | -0.03                                    |                     |                     |      |      | -0.06         |      |      |               |      | -0.09       |      |            |     |                   |            |     |          |       |       |
|                           |        |                    |            | 1/4 - 3/8      |       |                |       |           | -0.03                                    |                     |                     |      |      | -0.06         |      |      |               |      | -0.09       |      |            |     |                   |            |     |          |       |       |

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