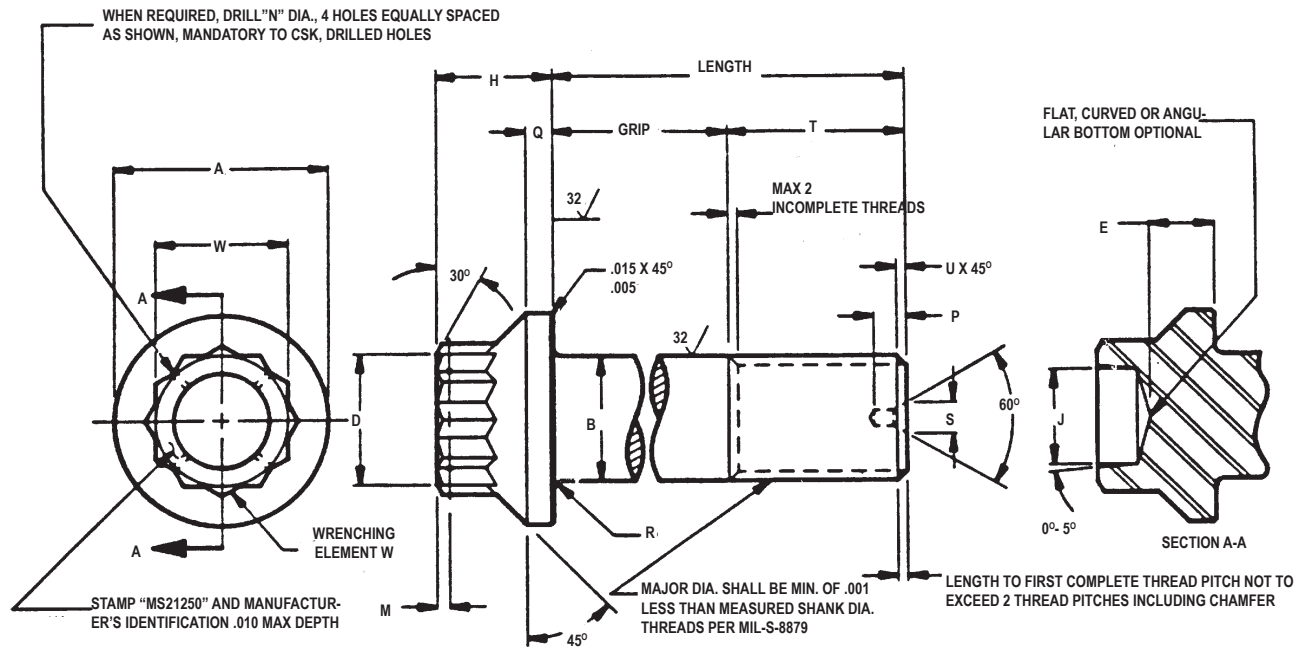


MS21250 Series Specifications

Bolt, Steel, External Wrenching

180,000 PSI Tensile, 450° F, 12 Point



| Dash No. | Thread MIL-S-8879 | A Dia. | B Dia. | Nom Size W | D Dia | E Min | H | J + .010 - .030 | M | N Dia ± .005 | P Max | Q | R | S Max | T Min | U ± .016 |
|----------|-------------------|----------------|----------------|------------|----------------|-------|-------|-----------------|------|--------------|-------|-------|--------------|-------|-------|----------|
| 02 | .1640-32 UNJC-3A | .300 .290 | .1635 .1625 | 0.2188 | .219 .204 | 0.076 | 0.250 | 0.100 | .062 | .037 | - | 0.050 | .041 .031 | - | 0.385 | .031 |
| 03 | .1900-32 UNJF-3A | .350 .340 | .1895 .1885 | 0.250 | .250 .235 | 0.092 | 0.265 | 0.125 | .062 | .037 | - | 0.055 | .041 .031 | - | 0.420 | .031 |
| 04 | .2500-28 UNJF-3A | .438 .428 | .2495 .2485 | 0.3125 | .312 .297 | 0.135 | 0.300 | 0.180 | .062 | .037 | - | 0.069 | .041 .031 | - | 0.492 | .031 |
| 05 | .3125-24 UNJF-3A | .531 .521 | .3120 .3110 | 0.375 | .375 .360 | 0.162 | 0.348 | 0.215 | .070 | .055 | - | 0.082 | .041 .031 | - | 0.579 | .047 |
| 06 | .3750-24 UNJF-3A | .649 .639 | .3745 .3735 | 0.4375 | .437 .422 | 0.197 | 0.388 | 0.260 | .070 | .055 | - | 0.091 | .057 .047 | - | 0.625 | .047 |
| 07 | .4375-20 UNJF-3A | .750 .740 | .4370 .4360 | 0.500 | .500 .485 | 0.228 | 0.435 | 0.320 | .070 | .055 | - | 0.099 | .057 .047 | - | 0.721 | .047 |
| 08 | .5000-20 UNJF-3A | .828 .818 | .4995 .4985 | 0.5625 | .562 .547 | 0.254 | 0.504 | 0.380 | .094 | .055 | - | 0.123 | .057 .047 | - | 0.768 | .047 |
| 09 | .5625-18 UNJF-3A | .938 .928 | .5615 .5605 | 0.625 | .625 .610 | 0.287 | 0.557 | 0.440 | .094 | .055 | - | 0.133 | .057 .047 | - | 0.852 | .062 |
| 10 | .6250-18 UNJF-3A | 1.050 1.040 | .6240 .6230 | 0.6875 | .687 .672 | 0.327 | 0.618 | 0.500 | .094 | .055 | - | 0.150 | .073 .063 | - | 0.899 | .062 |
| 12 | .7500-16 UNJF-3A | 1.230 1.220 | .7490 .7480 | 0.8125 | .812 .797 | 0.380 | 0.711 | 0.570 | .094 | .055 | .200 | 0.178 | .073 .063 | .187 | 1.036 | .062 |
| 14 | .8750-14 UNJF-3A | 1.438 1.428 | .8740 .8730 | 0.9375 | .937 .922 | 0.438 | 0.808 | 0.650 | .125 | .055 | .260 | 0.198 | .073 .063 | .187 | 1.244 | .078 |
| 16 | 1.000-12 UNJF-3A | 1.625 1.615 | .9990 .9980 | 1.0625 | 1.062 1.047 | 0.493 | 0.923 | 0.740 | .125 | .055 | .260 | 0.222 | .073 .063 | .250 | 1.479 | .078 |

MS21250-xxyy

Overall (underhead) length ($\pm .015"$) in each diameter is read at the intersection of diameter and grip length, e.g. MS21250-07040 = 3.241

| | | |
|--|--|--|
| HOW TO READ THE PART NUMBER: MS21250-xxyy For example: MS21250-07040 | * "xx" indicates Diameter; MS21250-07040 = 7/16" Diameter | ** "yy" indicates Grip Length MS21250-07040 = 40/16" = 2.5" Grip Length |
|--|--|--|

GRIP LENGTH of bolts shall be measured from underside of head to the end of full cylindrical portion of the shank. DASH NO. indicates preferred lengths in 0.125" increments.

| | Dash No. | Grip $\pm .010$ | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 12 | 14 | 16 |
|---------|----------|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| **xx → | 004 | 0.250 | 0.655 | 0.690 | 0.762 | 0.849 | 0.895 | 0.991 | 1.038 | - | - | - | - | - |
| **yyy ↓ | 006 | 0.375 | 0.780 | 0.815 | 0.887 | 0.974 | 1.020 | 1.116 | 1.163 | 1.247 | 1.294 | 1.431 | - | - |
| | 008 | 0.500 | 0.905 | 0.940 | 1.012 | 1.099 | 1.145 | 1.241 | 1.288 | 1.372 | 1.419 | 1.556 | 1.764 | 1.999 |
| | 010 | 0.625 | 1.030 | 1.065 | 1.137 | 1.224 | 1.270 | 1.366 | 1.413 | 1.497 | 1.544 | 1.681 | 1.889 | 2.124 |
| | 012 | 0.750 | 1.155 | 1.190 | 1.262 | 1.349 | 1.395 | 1.491 | 1.538 | 1.622 | 1.669 | 1.806 | 2.014 | 2.249 |
| | 014 | 0.875 | 1.280 | 1.315 | 1.387 | 1.474 | 1.520 | 1.616 | 1.663 | 1.747 | 1.794 | 1.931 | 2.139 | 2.374 |
| | 016 | 1.000 | 1.405 | 1.440 | 1.512 | 1.599 | 1.645 | 1.741 | 1.788 | 1.872 | 1.919 | 2.056 | 2.264 | 2.499 |
| | 018 | 1.125 | 1.530 | 1.565 | 1.637 | 1.724 | 1.770 | 1.866 | 1.913 | 1.997 | 2.044 | 2.181 | 2.389 | 2.624 |
| | 020 | 1.250 | 1.655 | 1.690 | 1.762 | 1.849 | 1.895 | 1.991 | 2.038 | 2.122 | 2.169 | 2.306 | 2.514 | 2.749 |
| | 022 | 1.375 | 1.780 | 1.815 | 1.887 | 1.974 | 2.020 | 2.116 | 2.163 | 2.247 | 2.294 | 2.431 | 2.639 | 2.874 |
| | 024 | 1.500 | 1.905 | 1.940 | 2.012 | 2.099 | 2.145 | 2.241 | 2.288 | 2.372 | 2.419 | 2.556 | 2.764 | 2.999 |
| | 026 | 1.625 | 2.030 | 2.065 | 2.137 | 2.224 | 2.270 | 2.366 | 2.413 | 2.497 | 2.544 | 2.681 | 2.889 | 3.124 |
| | 028 | 1.750 | 2.155 | 2.190 | 2.262 | 2.349 | 2.395 | 2.491 | 2.538 | 2.622 | 2.669 | 2.806 | 3.014 | 3.249 |
| | 030 | 1.875 | 2.280 | 2.315 | 2.387 | 2.474 | 2.520 | 2.616 | 2.663 | 2.747 | 2.794 | 2.931 | 3.139 | 3.374 |
| | 032 | 2.000 | 2.405 | 2.440 | 2.512 | 2.599 | 2.645 | 2.741 | 2.788 | 2.872 | 2.919 | 3.056 | 3.264 | 3.499 |
| | 034 | 2.125 | 2.530 | 2.565 | 2.637 | 2.724 | 2.770 | 2.866 | 2.913 | 2.997 | 3.044 | 3.181 | 3.389 | 3.624 |
| | 036 | 2.250 | 2.655 | 2.690 | 2.762 | 2.849 | 2.895 | 2.991 | 3.038 | 3.122 | 3.169 | 3.306 | 3.514 | 3.749 |
| | 038 | 2.375 | 2.780 | 2.815 | 2.887 | 2.974 | 3.020 | 3.116 | 3.163 | 3.247 | 3.294 | 3.431 | 3.639 | 3.874 |
| | 040 | 2.500 | 2.905 | 2.940 | 3.012 | 3.099 | 3.145 | 3.241 | 3.288 | 3.372 | 3.419 | 3.556 | 3.764 | 3.999 |
| | 042 | 2.625 | 3.030 | 3.065 | 3.137 | 3.224 | 3.270 | 3.366 | 3.413 | 3.497 | 3.544 | 3.681 | 3.889 | 4.124 |
| | 044 | 2.750 | 3.155 | 3.190 | 3.262 | 3.349 | 3.395 | 3.491 | 3.538 | 3.622 | 3.669 | 3.806 | 4.014 | 4.249 |
| | 046 | 2.875 | 3.280 | 3.315 | 3.387 | 3.474 | 3.520 | 3.616 | 3.663 | 3.747 | 3.794 | 3.931 | 4.139 | 4.374 |
| | 048 | 3.000 | 3.405 | 3.440 | 3.512 | 3.599 | 3.645 | 3.741 | 3.788 | 3.872 | 3.919 | 4.056 | 4.264 | 4.499 |
| | 050 | 3.125 | 3.530 | 3.565 | 3.637 | 3.724 | 3.770 | 3.866 | 3.913 | 3.997 | 4.044 | 4.181 | 4.389 | 4.624 |
| | 052 | 3.250 | 3.655 | 3.690 | 3.762 | 3.849 | 3.895 | 3.991 | 4.038 | 4.122 | 4.169 | 4.306 | 4.514 | 4.749 |
| | 054 | 3.375 | 3.780 | 3.815 | 3.887 | 3.974 | 4.020 | 4.116 | 4.163 | 4.247 | 4.294 | 4.431 | 4.639 | 4.874 |
| | 056 | 3.500 | 3.905 | 3.940 | 4.012 | 4.099 | 4.145 | 4.241 | 4.288 | 4.372 | 4.419 | 4.556 | 4.764 | 4.999 |
| | 058 | 3.625 | 4.030 | 4.065 | 4.137 | 4.224 | 4.270 | 4.366 | 4.413 | 4.497 | 4.544 | 4.681 | 4.889 | 5.124 |
| | 060 | 3.750 | 4.155 | 4.190 | 4.262 | 4.349 | 4.395 | 4.491 | 4.538 | 4.622 | 4.669 | 4.806 | 5.014 | 5.249 |
| | 062 | 3.875 | 4.280 | 4.315 | 4.387 | 4.474 | 4.520 | 4.616 | 4.663 | 4.747 | 4.794 | 4.931 | 5.139 | 5.374 |
| | 064 | 4.000 | 4.405 | 4.440 | 4.512 | 4.599 | 4.645 | 4.741 | 4.788 | 4.872 | 4.919 | 5.056 | 5.264 | 5.499 |
| | 066 | 4.125 | 4.530 | 4.565 | 4.637 | 4.724 | 4.770 | 4.866 | 4.913 | 4.997 | 5.044 | 5.181 | 5.389 | 5.624 |
| | 068 | 4.250 | 4.655 | 4.690 | 4.762 | 4.849 | 4.895 | 4.991 | 5.038 | 5.122 | 5.169 | 5.306 | 5.514 | 5.749 |
| | 070 | 4.375 | 4.780 | 4.815 | 4.887 | 4.974 | 5.020 | 5.116 | 5.163 | 5.247 | 5.294 | 5.431 | 5.639 | 5.874 |
| | 072 | 4.500 | 4.905 | 4.940 | 5.012 | 5.099 | 5.145 | 5.241 | 5.288 | 5.372 | 5.419 | 5.556 | 5.764 | 5.999 |
| | 074 | 4.625 | 5.030 | 5.065 | 5.137 | 5.224 | 5.270 | 5.366 | 5.413 | 5.497 | 5.544 | 5.681 | 5.889 | 6.124 |
| | 076 | 4.750 | 5.155 | 5.190 | 5.262 | 5.349 | 5.395 | 5.491 | 5.538 | 5.622 | 5.669 | 5.806 | 6.014 | 6.249 |
| | 078 | 4.875 | 5.280 | 5.315 | 5.387 | 5.474 | 5.520 | 5.616 | 5.663 | 5.747 | 5.794 | 5.931 | 6.139 | 6.374 |
| | 080 | 5.000 | 5.405 | 5.440 | 5.512 | 5.599 | 5.645 | 5.741 | 5.788 | 5.872 | 5.919 | 6.056 | 6.264 | 6.499 |
| | 082 | 5.125 | 5.530 | 5.565 | 5.637 | 5.724 | 5.770 | 5.866 | 5.913 | 5.997 | 6.044 | 6.181 | 6.389 | 6.624 |
| | 084 | 5.250 | 5.655 | 5.690 | 5.762 | 5.849 | 5.895 | 5.991 | 6.038 | 6.122 | 6.169 | 6.306 | 6.514 | 6.749 |
| | 086 | 5.375 | 5.780 | 5.815 | 5.887 | 5.974 | 6.020 | 6.116 | 6.163 | 6.247 | 6.294 | 6.431 | 6.639 | 6.874 |
| | 088 | 5.500 | 5.905 | 5.940 | 6.012 | 6.099 | 6.145 | 6.241 | 6.288 | 6.372 | 6.419 | 6.556 | 6.764 | 6.999 |
| | 090 | 5.625 | 6.030 | 6.065 | 6.137 | 6.224 | 6.270 | 6.366 | 6.413 | 6.497 | 6.544 | 6.681 | 6.889 | 7.124 |
| | 092 | 5.750 | 6.155 | 6.190 | 6.262 | 6.349 | 6.395 | 6.491 | 6.538 | 6.622 | 6.669 | 6.806 | 7.014 | 7.249 |
| | 094 | 5.875 | 6.280 | 6.315 | 6.387 | 6.474 | 6.520 | 6.616 | 6.663 | 6.747 | 6.794 | 6.931 | 7.139 | 7.374 |
| | 096 | 6.000 | 6.405 | 6.440 | 6.512 | 6.599 | 6.645 | 6.741 | 6.788 | 6.872 | 6.919 | 7.056 | 7.264 | 7.499 |