



| Basic Number | Nom Thread Size | C | D Diameter | | | | E Dia Min | H | J | K Dia | M | N | P | R Rad | T | TD Dia | U Max | W Min |
|--------------|-----------------|----------------|----------------|-----------------------|--------------------------------|--------------------------|-----------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|-------|----------------|-------|-------|
| | | | Un-plated | Before Chrome Plating | Before Cad Plate or Al Coating | After Plating or Coating | | | | | | | | | | | | |
| NAS6303 | .1900-32 | .376 .367 | .1895 .1890 | .1850 .1845 | .1887 .1881 | .1895 .1885 | 0.335 | .125 .110 | .088 .073 | .056 .046 | .174 .154 | .18 .20 | .080 .070 | | 0.323 | .1840 .1810 | 0.039 | 0.41 |
| NAS6304 | .2500-28 | .439 .429 | .2495 .2490 | .2450 .2445 | .2487 .2481 | .2495 .2485 | 0.398 | .140 .125 | .098 .083 | .056 .046 | .180 .160 | .24 .26 | .086 .076 | .020 .010 | 0.37 | .2440 .2410 | 0.045 | 0.48 |
| NAS6305 | .3125-24 | .502 .492 | .3120 .3115 | .3075 .3070 | .3112 .3106 | .3120 .3110 | 0.46 | .171 .156 | .119 .104 | | .192 .172 | .30 .32 | | | 0.438 | .3060 .3020 | 0.052 | 0.552 |
| NAS6306 | .3750-24 | .564 .554 | .3745 .3740 | .3700 .3695 | .3737 .3731 | .3745 .3735 | 0.523 | .203 .188 | .140 .125 | | .193 .173 | .37 .39 | | | 0.454 | .3680 .3640 | | 0.623 |
| NAS6307 | .4375-20 | .690 .678 | .4370 .4365 | .4325 .4320 | .4362 .4356 | .4370 .4360 | 0.648 | .234 .219 | .161 .146 | | .209 .189 | .43 .45 | .116 .106 | .025 .015 | 0.528 | .4310 .4260 | | 0.764 |
| NAS6308 | .5000-20 | .752 .741 | .4995 .4990 | .4950 .4945 | .4987 .4981 | .4995 .4985 | 0.71 | .265 .250 | .182 .167 | .080 .070 | .208 .188 | .49 .51 | | .030 .020 | 0.528 | .4930 .4880 | 0.062 | 0.836 |
| NAS6309 | .5625-18 | .877 .865 | .5615 .5610 | .5570 .5565 | .5607 .5601 | .5615 .5605 | 0.835 | .296 .281 | .203 .188 | | .217 .197 | .55 .57 | | .035 .020 | 0.594 | .5550 .5500 | 0.068 | 0.978 |
| NAS6310 | .6250-18 | .940 .928 | .6240 .6235 | .6195 .6190 | .6232 .6226 | .6240 .6230 | 0.898 | .327 .312 | .223 .208 | | .217 .197 | .61 .63 | .151 .141 | .040 .025 | 0.626 | .6180 .6120 | | 1.05 |
| NAS6312 | .7500-16 | 1.065 1.052 | .7490 .7485 | .7445 .7440 | .7482 .7476 | .7490 .7480 | 1.023 | .390 .375 | .265 .250 | | .232 .212 | .74 .76 | | .045 .030 | 0.666 | .7430 .7370 | 0.078 | 1.191 |
| NAS6314 | .8750-14 | 1.252 1.239 | .8740 .8735 | .8695 .8690 | .8732 .8726 | .8740 .8730 | 1.21 | .453 .438 | .307 .292 | | .251 .231 | .87 .89 | | .050 .035 | 0.759 | .8680 .8610 | 0.089 | 1.405 |
| NAS6316 | 1.000-12 | 1.440 1.427 | .9990 .9985 | .9945 .9940 | .9982 .9976 | .9990 .9980 | 1.398 | .515 .500 | .348 .333 | | .274 .254 | .99 1.01 | | .060 .045 | 0.895 | .9930 .9860 | 0.104 | 1.619 |

MATERIAL: A-286 per AMS 5731 or AMS 5737. Locking element - plastic per MIL-F-18240 and QPL18240.

HEAT TREAT: 160 ksi minimum ultimate tensile, 95 ksi minimum ultimate shear.

FINISH: Unplated - Passivated to meet requirements of NAS4003.
Cadmium Plated - Cadmium plate per QQ-P-416, Type II, Class 2. Parts plated to Class 3 may be used until stock depleted. Embrittlement test per QQ-P-416 does not apply.
Chromium Plated - Chromium plate per QQ-C-320, Class 2 on shank only. All other surfaces cadmium plated. No chromium within .020 of line of tangency of head-to-shank fillet. Chromium in thread runout permitted. Chromium plated bolts not available with grip dash number 1 or 2.

PROCUREMENT
SPECIFICATION

NAS4003

TITLE

BOLT, HEX HEAD, CLOSE TOLERANCE
160,000 PSI SHORT THREAD

CLASSIFICATION

STANDARD PART
NAS 6303 THRU 6316

| GRIP | | NAS 6303 THRU 6316, LENGTH ± .015 | | | | | | | | | | |
|----------|-------------|-----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Dash No. | Grip ± .010 | 6303 1900-32 | 6304 2500-28 | 6305 3125-24 | 6306 3750-24 | 6307 4375-20 | 6308 5000-20 | 6309 5625-18 | 6310 6250-18 | 6312 7500-16 | 6314 8750-14 | 6316 1000-12 |
| 1 | .062 | .385 | .432 | .500 | .516 | .590 | .590 | .656 | .688 | .728 | .821 | .957 |
| 2 | .125 | .448 | .495 | .563 | .579 | .653 | .653 | .719 | .751 | .791 | .884 | 1.020 |
| 3 | .188 | .511 | .558 | .626 | .642 | .716 | .716 | .782 | .814 | .854 | .947 | 1.083 |
| 4 | .250 | .573 | .620 | .688 | .704 | .778 | .778 | .844 | .876 | .916 | 1.009 | 1.145 |
| 5 | .312 | .635 | .682 | .750 | .766 | .840 | .840 | .906 | .938 | .978 | 1.071 | 1.207 |
| 6 | .375 | .698 | .745 | .813 | .829 | .903 | .903 | .969 | 1.001 | 1.041 | 1.134 | 1.270 |
| 7 | .438 | .761 | .808 | .876 | .892 | .966 | .966 | 1.032 | 1.064 | 1.104 | 1.197 | 1.333 |
| 8 | .500 | .823 | .870 | .938 | .954 | 1.028 | 1.028 | 1.094 | 1.126 | 1.166 | 1.259 | 1.395 |
| 9 | .562 | .885 | .932 | 1.000 | 1.016 | 1.090 | 1.090 | 1.156 | 1.188 | 1.228 | 1.321 | 1.457 |
| 10 | .625 | .948 | .995 | 1.063 | 1.079 | 1.153 | 1.153 | 1.219 | 1.251 | 1.291 | 1.384 | 1.520 |
| 11 | .688 | 1.011 | 1.058 | 1.126 | 1.142 | 1.216 | 1.216 | 1.282 | 1.314 | 1.354 | 1.447 | 1.583 |
| 12 | .750 | 1.073 | 1.120 | 1.188 | 1.204 | 1.278 | 1.278 | 1.344 | 1.376 | 1.416 | 1.509 | 1.645 |
| 13 | .812 | 1.135 | 1.182 | 1.250 | 1.266 | 1.340 | 1.340 | 1.406 | 1.438 | 1.478 | 1.571 | 1.707 |
| 14 | .875 | 1.198 | 1.245 | 1.313 | 1.329 | 1.403 | 1.403 | 1.469 | 1.501 | 1.541 | 1.634 | 1.770 |
| 15 | .938 | 1.261 | 1.308 | 1.376 | 1.392 | 1.466 | 1.466 | 1.532 | 1.564 | 1.604 | 1.697 | 1.833 |
| 16 | 1.000 | 1.323 | 1.370 | 1.438 | 1.454 | 1.528 | 1.528 | 1.594 | 1.626 | 1.666 | 1.759 | 1.895 |
| 17 | 1.062 | 1.385 | 1.432 | 1.500 | 1.516 | 1.590 | 1.590 | 1.656 | 1.688 | 1.728 | 1.821 | 1.957 |
| 18 | 1.125 | 1.448 | 1.495 | 1.563 | 1.579 | 1.653 | 1.653 | 1.719 | 1.751 | 1.791 | 1.884 | 2.020 |
| 19 | 1.188 | 1.511 | 1.558 | 1.626 | 1.642 | 1.716 | 1.716 | 1.782 | 1.814 | 1.854 | 1.947 | 2.083 |
| 20 | 1.250 | 1.573 | 1.620 | 1.688 | 1.704 | 1.778 | 1.778 | 1.844 | 1.876 | 1.916 | 2.009 | 2.145 |
| 21 | 1.312 | 1.635 | 1.682 | 1.750 | 1.766 | 1.840 | 1.840 | 1.906 | 1.938 | 1.978 | 2.071 | 2.207 |
| 22 | 1.375 | 1.698 | 1.745 | 1.813 | 1.829 | 1.903 | 1.903 | 1.969 | 2.001 | 2.041 | 2.134 | 2.270 |
| 23 | 1.438 | 1.761 | 1.808 | 1.876 | 1.892 | 1.966 | 1.966 | 2.032 | 2.064 | 2.104 | 2.197 | 2.333 |
| 24 | 1.500 | 1.823 | 1.870 | 1.938 | 1.954 | 2.028 | 2.028 | 2.094 | 2.126 | 2.166 | 2.259 | 2.395 |
| 25 | 1.562 | 1.885 | 1.932 | 2.000 | 2.016 | 2.090 | 2.090 | 2.156 | 2.188 | 2.228 | 2.321 | 2.457 |
| 26 | 1.625 | 1.948 | 1.995 | 2.063 | 2.079 | 2.153 | 2.153 | 2.219 | 2.251 | 2.291 | 2.384 | 2.520 |
| 27 | 1.688 | 2.011 | 2.058 | 2.126 | 2.142 | 2.216 | 2.216 | 2.282 | 2.314 | 2.354 | 2.447 | 2.583 |
| 28 | 1.750 | 2.073 | 2.120 | 2.188 | 2.204 | 2.278 | 2.278 | 2.344 | 2.376 | 2.416 | 2.509 | 2.645 |
| 29 | 1.812 | 2.135 | 2.182 | 2.250 | 2.266 | 2.340 | 2.340 | 2.406 | 2.438 | 2.478 | 2.571 | 2.707 |
| 30 | 1.875 | 2.198 | 2.245 | 2.313 | 2.329 | 2.403 | 2.403 | 2.469 | 2.501 | 2.541 | 2.634 | 2.770 |
| 31 | 1.938 | 2.261 | 2.308 | 2.376 | 2.392 | 2.466 | 2.466 | 2.532 | 2.564 | 2.604 | 2.697 | 2.833 |
| 32 | 2.000 | 2.323 | 2.370 | 2.438 | 2.454 | 2.528 | 2.528 | 2.594 | 2.626 | 2.666 | 2.759 | 2.895 |
| 34 | 2.125 | 2.448 | 2.495 | 2.563 | 2.579 | 2.653 | 2.653 | 2.719 | 2.751 | 2.791 | 2.884 | 3.020 |
| 36 | 2.250 | 2.573 | 2.620 | 2.688 | 2.704 | 2.778 | 2.778 | 2.844 | 2.876 | 2.916 | 3.009 | 3.145 |
| 38 | 2.375 | 2.698 | 2.745 | 2.813 | 2.829 | 2.903 | 2.903 | 2.969 | 3.001 | 3.041 | 3.134 | 3.270 |
| 40 | 2.500 | 2.823 | 2.870 | 2.938 | 2.954 | 3.028 | 3.028 | 3.094 | 3.126 | 3.166 | 3.259 | 3.395 |
| 42 | 2.625 | 2.948 | 2.995 | 3.063 | 3.079 | 3.153 | 3.153 | 3.219 | 3.251 | 3.291 | 3.384 | 3.520 |
| 44 | 2.750 | 3.073 | 3.120 | 3.188 | 3.204 | 3.278 | 3.278 | 3.344 | 3.376 | 3.416 | 3.509 | 3.645 |
| 46 | 2.875 | 3.198 | 3.245 | 3.313 | 3.329 | 3.403 | 3.403 | 3.469 | 3.501 | 3.541 | 3.634 | 3.770 |
| 48 | 3.000 | 3.323 | 3.370 | 3.438 | 3.454 | 3.528 | 3.528 | 3.594 | 3.626 | 3.666 | 3.759 | 3.895 |
| 50 | 3.125 | 3.448 | 3.495 | 3.563 | 3.579 | 3.653 | 3.653 | 3.719 | 3.751 | 3.791 | 3.884 | 4.020 |
| 52 | 3.250 | 3.573 | 3.620 | 3.688 | 3.704 | 3.778 | 3.778 | 3.844 | 3.876 | 3.916 | 4.009 | 4.145 |
| 54 | 3.375 | 3.698 | 3.745 | 3.813 | 3.829 | 3.903 | 3.903 | 3.969 | 4.001 | 4.041 | 4.134 | 4.270 |
| 56 | 3.500 | 3.823 | 3.870 | 3.938 | 3.954 | 4.028 | 4.028 | 4.094 | 4.126 | 4.166 | 4.259 | 4.395 |
| 58 | 3.625 | 3.948 | 3.995 | 4.063 | 4.079 | 4.153 | 4.153 | 4.219 | 4.251 | 4.291 | 4.384 | 4.520 |
| 60 | 3.750 | 4.073 | 4.120 | 4.188 | 4.204 | 4.278 | 4.278 | 4.344 | 4.376 | 4.416 | 4.509 | 4.645 |
| 62 | 3.875 | 4.198 | 4.245 | 4.313 | 4.329 | 4.403 | 4.403 | 4.469 | 4.501 | 4.541 | 4.634 | 4.770 |
| 64 | 4.000 | 4.323 | 4.370 | 4.438 | 4.454 | 4.528 | 4.528 | 4.594 | 4.626 | 4.666 | 4.759 | 4.895 |
| 66 | 4.125 | 4.448 | 4.495 | 4.563 | 4.579 | 4.653 | 4.653 | 4.719 | 4.751 | 4.791 | 4.884 | 5.020 |
| 68 | 4.250 | 4.573 | 4.620 | 4.688 | 4.704 | 4.778 | 4.778 | 4.844 | 4.876 | 4.916 | 5.009 | 5.145 |
| 70 | 4.375 | 4.698 | 4.745 | 4.813 | 4.829 | 4.903 | 4.903 | 4.969 | 5.001 | 5.041 | 5.134 | 5.270 |
| 72 | 4.500 | 4.823 | 4.870 | 4.938 | 4.954 | 5.028 | 5.028 | 5.094 | 5.126 | 5.166 | 5.259 | 5.395 |
| 74 | 4.625 | 4.948 | 4.995 | 5.063 | 5.079 | 5.153 | 5.153 | 5.219 | 5.251 | 5.291 | 5.384 | 5.520 |
| 76 | 4.750 | 5.073 | 5.120 | 5.188 | 5.204 | 5.278 | 5.278 | 5.344 | 5.376 | 5.416 | 5.509 | 5.645 |
| 78 | 4.875 | 5.198 | 5.245 | 5.313 | 5.329 | 5.403 | 5.403 | 5.469 | 5.501 | 5.541 | 5.634 | 5.770 |
| 80 | 5.000 | 5.323 | 5.370 | 5.438 | 5.454 | 5.528 | 5.528 | 5.594 | 5.626 | 5.666 | 5.759 | 5.895 |
| 82 | 5.125 | 5.448 | 5.495 | 5.563 | 5.579 | 5.653 | 5.653 | 5.719 | 5.751 | 5.791 | 5.884 | 6.020 |
| 84 | 5.250 | 5.573 | 5.620 | 5.688 | 5.704 | 5.778 | 5.778 | 5.844 | 5.876 | 5.916 | 6.009 | 6.145 |
| 86 | 5.375 | 5.698 | 5.745 | 5.813 | 5.829 | 5.903 | 5.903 | 5.969 | 6.001 | 6.041 | 6.134 | 6.270 |
| 88 | 5.500 | 5.823 | 5.870 | 5.938 | 5.954 | 6.028 | 6.028 | 6.094 | 6.126 | 6.166 | 6.259 | 6.395 |
| 90 | 5.625 | 5.948 | 5.995 | 6.063 | 6.079 | 6.153 | 6.153 | 6.219 | 6.251 | 6.291 | 6.384 | 6.520 |
| 92 | 5.750 | 6.073 | 6.120 | 6.188 | 6.204 | 6.278 | 6.278 | 6.344 | 6.376 | 6.416 | 6.509 | 6.645 |
| 94 | 5.875 | 6.198 | 6.245 | 6.313 | 6.329 | 6.403 | 6.403 | 6.469 | 6.501 | 6.541 | 6.634 | 6.770 |
| 96 | 6.000 | 6.323 | 6.370 | 6.438 | 6.454 | 6.528 | 6.528 | 6.594 | 6.626 | 6.666 | 6.759 | 6.895 |

NOTE: ABOVE CHART MAY ALSO BE USED FOR NAS 6203 THRU 6216 LENGTH CALCULATIONS.

Intermediate and longer lengths maybe specified by use of whole grip dash numbers only. Nominal grip dimension equals grip dash number times 0.0625 (rounded to three decimal places). Nominal length equals nominal grip plus "T".