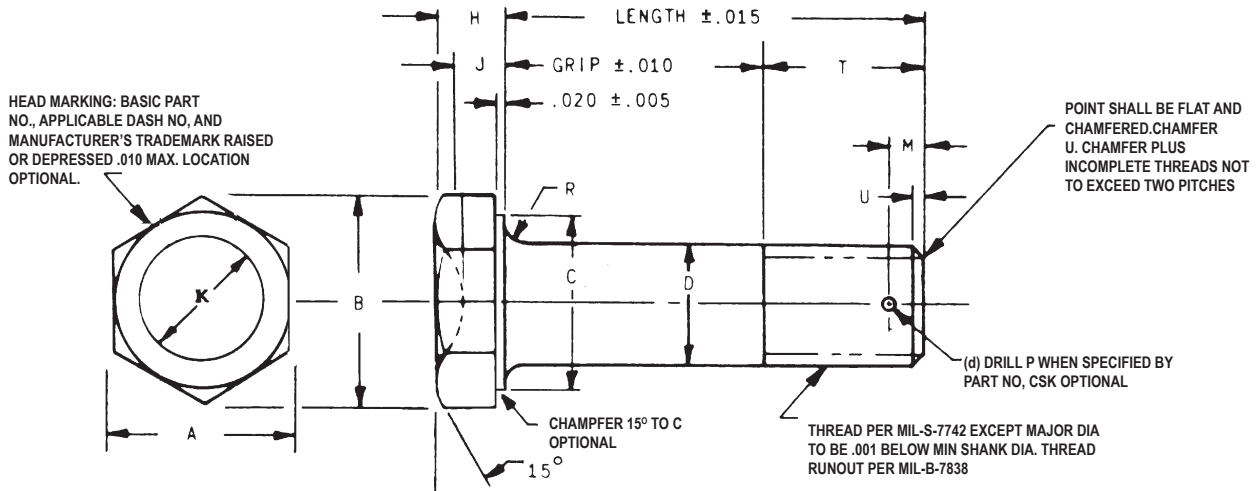


# NAS 1103 - NAS 1116 Series Specifications

**Bolt, Hex Head, Close Tolerance**  
**160,000 PSI Tensile Short Thread**



Basic Series	Thread	A	B REF	C MIN	D Dia		H +.015 -.000	J +.015 -.000	K DIA ±.01	M ±.010	P (d) DIA +.01	R RAD	T REF	U REF
					Before Plate	After Plate								
NAS1103	#10-32 UNF-3A	.376 .367	0.43	0.36	.1887 .1881	.1895 .1885	0.110	0.073	0.19	0.117	0.070	.020 .010	0.28	.016
NAS1104	1/4-28 UNF-3A	.439 .430	0.51	0.42	.2487 .2481	.2495 .2485	0.125	0.083	0.25	0.116	0.076	.020 .010	0.32	.018
NAS1105	5/16-24 UNF-3A	.502 .492	0.58	0.48	.3112 .3106	.3120 .3110	0.156	0.104	0.31	0.119	0.076	.020 .010	0.38	.021
NAS1106	3/8-24 UNF-3A	.564 .553	0.65	0.55	.3745 .3735	.3745 .3735	0.188	0.125	0.38	0.120	0.106	.025 .015	0.39	.021
NAS1107	7/16-20 UNF-3A	.690 .679	0.79	0.67	.4362 .4356	.4370 .4360	0.219	0.146	0.44	0.124	0.106	.025 .015	0.45	.025
NAS1108	1/2-20 UNF-3A	.752 .741	0.87	0.73	.4987 .4981	.4995 .4985	0.250	0.167	0.50	0.123	0.106	.030 .020	0.45	.025
NAS1109	9/16-18 UNF-3A	.877 .865	1.01	0.86	.5607 .5601	.5615 .5605	0.281	0.188	0.56	0.124	0.141	.035 .020	0.51	.028
NAS1110	5/8-18 UNF-3A	.940 .928	1.09	0.92	.6232 .6226	.6240 .6230	0.312	0.208	0.62	0.124	0.141	.040 .025	0.54	.028
NAS1112	3/4-16 UNF-3A	1.064 1.052	1.23	1.05	.7482 .7476	.7490 .7480	0.375	0.250	0.75	0.128	0.141	.045 .030	0.57	.031
NAS1114	7/8-14 UNF-3A	1.252 1.239	1.44	1.23	.8732 .8726	.8740 .8730	0.438	0.292	0.88	0.134	0.141	.050 .035	0.65	.036
NAS1116	1-12 UNF-3A	1.440 1.427	1.66	1.42	.9982 .9976	.9990 .9980	0.500	0.333	1.00	0.139	0.141	.060 .045	0.77	.042

# NAS 1103 - NAS 1116 (Length ± .015)

Note: Use chart on page 29 for NAS 6203 - NAS 6216 length calculations.

Dash No.	Grip ± .010	NAS1103	NAS1104	NAS1105	NAS1106	NAS1107	NAS1108	NAS1109	NAS1110	NAS1112	NAS1114	NAS1116
1	.062	.338	.378	.437	.453	.515	.515	.573	.605	.634	.714	.832
2	.125	.401	.441	.500	.516	.578	.578	.636	.668	.697	.777	.895
3	.188	.464	.504	.563	.579	.641	.641	.699	.731	.760	.840	.958
4	.250	.526	.566	.625	.641	.703	.703	.761	.793	.822	.902	1.020
5	.312	.588	.628	.687	.703	.765	.765	.823	.855	.884	.964	1.082
6	.375	.651	.691	.750	.766	.828	.828	.886	.918	.947	1.027	1.145
7	.438	.714	.754	.813	.829	.891	.891	.949	.981	1.010	1.090	1.208
8	.500	.776	.816	.875	.891	.953	.953	1.011	1.043	1.072	1.152	1.270
9	.562	.838	.878	.937	.953	1.015	1.015	1.073	1.105	1.134	1.214	1.332
10	.625	.901	.941	1.000	1.016	1.078	1.078	1.136	1.168	1.197	1.277	1.395
11	.688	.964	1.004	1.063	1.079	1.141	1.141	1.199	1.231	1.260	1.340	1.458
12	.750	1.026	1.066	1.125	1.141	1.203	1.203	1.261	1.291	1.322	1.402	1.520
13	.812	1.088	1.128	1.187	1.203	1.265	1.265	1.323	1.355	1.384	1.464	1.582
14	.875	1.151	1.191	1.250	1.266	1.328	1.328	1.386	1.418	1.447	1.527	1.645
15	.938	1.214	1.254	1.313	1.329	1.391	1.391	1.449	1.481	1.510	1.590	1.708
16	1.000	1.276	1.316	1.375	1.391	1.453	1.453	1.511	1.543	1.572	1.652	1.770
17	1.062	1.338	1.378	1.437	1.453	1.515	1.515	1.573	1.605	1.634	1.714	1.832
18	1.125	1.401	1.441	1.500	1.516	1.578	1.578	1.636	1.668	1.697	1.777	1.895
19	1.188	1.464	1.504	1.563	1.579	1.641	1.641	1.699	1.731	1.760	1.840	1.958
20	1.250	1.526	1.566	1.625	1.641	1.703	1.703	1.761	1.793	1.822	1.902	2.020
21	1.312	1.588	1.628	1.687	1.703	1.765	1.765	1.823	1.855	1.884	1.964	2.082
22	1.375	1.651	1.691	1.750	1.766	1.828	1.828	1.886	1.918	1.947	2.027	2.145
23	1.438	1.714	1.754	1.813	1.829	1.891	1.891	1.949	1.981	2.010	2.090	2.208
24	1.500	1.776	1.816	1.875	1.891	1.953	1.953	2.011	2.043	2.072	2.152	2.270
25	1.562	1.838	1.878	1.937	1.953	2.015	2.015	2.073	2.105	2.134	2.214	2.332
26	1.625	1.901	1.941	2.000	2.016	2.078	2.078	2.136	2.168	2.197	2.277	2.395
27	1.688	1.964	2.004	2.063	2.079	2.141	2.141	2.199	2.231	2.260	2.340	2.458
28	1.750	2.026	2.066	2.125	2.141	2.203	2.203	2.261	2.291	2.322	2.402	2.520
29	1.812	2.088	2.128	2.187	2.203	2.265	2.265	2.323	2.355	2.384	2.464	2.582
30	1.875	2.151	2.191	2.250	2.266	2.328	2.328	2.386	2.418	2.447	2.527	2.645
31	1.938	2.214	2.254	2.313	2.329	2.391	2.391	2.449	2.481	2.510	2.590	2.708
32	2.000	2.276	2.316	2.375	2.391	2.453	2.453	2.511	2.543	2.572	2.652	2.770
34	2.125	2.401	2.441	2.500	2.516	2.578	2.578	2.636	2.668	2.697	2.777	2.895
36	2.250	2.526	2.566	2.625	2.641	2.703	2.703	2.761	2.793	2.822	2.902	3.020
38	2.375	2.651	2.691	2.750	2.766	2.828	2.828	2.886	2.918	2.947	3.027	3.145
40	2.500	2.776	2.816	2.875	2.891	2.953	2.953	3.011	3.043	3.072	3.152	3.270
42	2.625	2.901	2.941	3.000	3.016	3.078	3.078	3.136	3.168	3.197	3.277	3.395
44	2.750	3.026	3.066	3.125	3.141	3.203	3.203	3.261	3.291	3.322	3.402	3.520
46	2.875	3.151	3.191	3.250	3.266	3.328	3.328	3.386	3.418	3.447	3.527	3.645
48	3.000	3.276	3.316	3.375	3.391	3.453	3.453	3.511	3.543	3.572	3.652	3.770
50	3.125	3.401	3.441	3.500	3.516	3.578	3.578	3.636	3.668	3.697	3.777	3.895
52	3.250	3.526	3.566	3.625	3.641	3.703	3.703	3.761	3.793	3.822	3.902	4.020
54	3.375	3.651	3.691	3.750	3.766	3.828	3.828	3.886	3.918	3.947	4.027	4.145
56	3.500	3.776	3.816	3.875	3.891	3.953	3.953	4.011	4.043	4.072	4.152	4.270
58	3.625	3.901	3.941	4.000	4.016	4.078	4.078	4.136	4.168	4.197	4.277	4.395
60	3.750	4.026	4.066	4.125	4.141	4.203	4.203	4.261	4.291	4.322	4.402	4.520
62	3.875	4.151	4.191	4.250	4.266	4.328	4.328	4.386	4.418	4.447	4.527	4.645
64	4.000	4.276	4.316	4.375	4.391	4.453	4.453	4.511	4.543	4.572	4.652	4.770
66	4.125	4.401	4.441	4.500	4.516	4.578	4.578	4.636	4.668	4.697	4.777	4.895
68	4.250	4.526	4.566	4.625	4.641	4.703	4.703	4.761	4.793	4.822	4.902	5.020
70	4.375	4.651	4.691	4.750	4.766	4.828	4.828	4.886	4.918	4.947	5.027	5.145
72	4.500	4.776	4.816	4.875	4.891	4.953	4.953	5.011	5.043	5.072	5.152	5.270
74	4.625	4.901	4.941	5.000	5.016	5.078	5.078	5.136	5.168	5.197	5.277	5.395
76	4.750	5.026	5.066	5.125	5.141	5.203	5.203	5.261	5.291	5.322	5.402	5.520
78	4.875	5.151	5.191	5.250	5.266	5.328	5.328	5.386	5.418	5.447	5.527	5.645
80	5.000	5.276	5.316	5.375	5.391	5.453	5.453	5.511	5.543	5.572	5.652	5.770
82	5.125	5.401	5.441	5.500	5.516	5.578	5.578	5.636	5.668	5.697	5.777	5.895
84	5.250	5.526	5.566	5.625	5.641	5.703	5.703	5.761	5.793	5.822	5.902	6.020
86	5.375	5.651	5.691	5.750	5.766	5.828	5.828	5.886	5.918	5.947	6.027	6.145
88	5.500	5.776	5.816	5.875	5.891	5.953	5.953	6.011	6.043	6.072	6.152	6.270
90	5.625	5.901	5.941	6.000	6.016	6.078	6.078	6.136	6.168	6.197	6.277	6.395
92	5.750	6.026	6.066	6.125	6.141	6.203	6.203	6.261	6.291	6.322	6.402	6.520
94	5.875	6.151	6.191	6.250	6.266	6.328	6.328	6.386	6.418	6.447	6.527	6.645
96	6.000	6.276	6.316	6.375	6.391	6.453	6.453	6.511	6.543	6.572	6.652	6.770