

BOLT LOAD IMPERIAL (MATERIAL B7M)

40% - 99% YIELD



Southwest Texas	West Texas	Main Office	Southeast Texas	Central & East Texas
4802 Baldwin Blvd.	3508 S County Rd 1290	12420 Texaco Rd	2484 W Cardinal #4	7900 Rodeo Trl. #500
Corpus Christi 78408	Odessa, TX 78765	Houston, TX 77013	Beaumont, TX 77705	Mansfield, TX 76063
361-888-5080	432-561-8481	713-453-6677	409-840-9699	682-334-2679

BOLT LOADS

TORQUE GUIDE FOR ASTM A193 GRADE B7M					REQUIRED TORQUE (FtLbs)								
BOLT TENSION BASED ON 40 PERCENT YIELD													
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (IN ²)	MIN YIELD STRENGTH (PSI)	BOLT TENSION (LBS)	LoaDISC TS 801MOLY K=.109	MOLYBDENUM DISULFIDE K=.100	MOLY/LEAD OXIDE/GRAPHITE K=.125	COPPER & GRAPHITE K=.140	NICKEL & GRAPHITE K=.150	API SA2 K=.157	MACHINE OIL K=.200	DRY STEEL K=.440	CUSTOM (INSERT K)
3/4 x 10	1-1/4"	0.334	80,000	10,697	73	67	84	94	100	105	134	201	73
7/8 x 9	1-7/16"	0.461	80,000	14,768	117	108	135	151	162	169	215	323	117
1x 8	1-5/8"	0.605	80,000	19,374	176	161	202	226	242	253	323	484	176
1-1/8 x 8	1-13/16"	0.790	80,000	25,282	258	237	296	332	356	372	474	711	258
1-1/4 x 8	2"	0.999	80,000	31,974	363	333	416	466	500	523	666	999	363
1-3/8 x 8	2-3/16"	1.233	80,000	39,452	493	452	565	633	678	710	904	1,356	493
1-1/2 x 8	2-3/8"	1.491	80,000	47,715	650	596	746	835	895	936	1,193	1,789	650
1-5/8 x 8	2-9/16"	1.774	80,000	56,762	838	769	961	1,076	1,153	1,207	1,537	2,306	838
1-3/4 x 8	2-3/4"	2.081	80,000	66,595	1,059	971	1,214	1,360	1,457	1,525	1,942	2,914	1,059
1-7/8 x 8	2-15/16"	2.413	80,000	77,213	1,315	1,206	1,508	1,689	1,810	1,894	2,413	3,619	1,315
2 x 8	3-1/8"	2.769	80,000	88,615	1,610	1,477	1,846	2,068	2,215	2,319	2,954	4,431	1,610
2-1/8 x 8	3-5/16"	3.150	80,000	100,803	1,946	1,785	2,231	2,499	2,678	2,803	3,570	5,355	1,946
2-1/4 x 8	3-1/2"	3.555	80,000	113,776	2,325	2,133	2,667	2,987	3,200	3,349	4,267	6,400	2,325
2-3/8 x 8	3-11/16"	3.985	80,000	127,533	2,751	2,524	3,155	3,534	3,786	3,963	5,048	7,572	2,751
2-1/2 x 8	3-7/8"	4.440	80,000	142,076	3,226	2,960	3,700	4,144	4,440	4,647	5,920	8,880	3,226

TORQUE GUIDE FOR ASTM A193 GRADE B7M					REQUIRED TORQUE (FtLbs)								
BOLT TENSION BASED ON 50 PERCENT YIELD													
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (IN ²)	MIN YIELD STRENGTH (PSI)	BOLT TENSION (LBS)	LoaDISC TS 801MOLY K=.109	MOLYBDENUM DISULFIDE K=.100	MOLY/LEAD OXIDE/GRAPHITE K=.125	COPPER & GRAPHITE K=.140	NICKEL & GRAPHITE K=.150	API SA2 K=.157	MACHINE OIL K=.200	DRY STEEL K=.440	CUSTOM (INSERT K)
3/4 x 10	1-1/4"	0.334	80,000	13,372	91	84	104	117	125	131	167	251	91
7/8 x 9	1-7/16"	0.461	80,000	18,460	147	135	168	188	202	211	269	404	147
1x 8	1-5/8"	0.605	80,000	24,217	220	202	252	283	303	317	404	605	220
1-1/8 x 8	1-13/16"	0.790	80,000	31,602	323	296	370	415	444	465	593	889	323
1-1/4 x 8	2"	0.999	80,000	39,968	454	416	520	583	624	654	833	1,249	454
1-3/8 x 8	2-3/16"	1.233	80,000	49,315	616	565	706	791	848	887	1,130	1,695	616
1-1/2 x 8	2-3/8"	1.491	80,000	59,643	813	746	932	1,044	1,118	1,171	1,491	2,237	813
1-5/8 x 8	2-9/16"	1.774	80,000	70,953	1,047	961	1,201	1,345	1,441	1,508	1,922	2,882	1,047
1-3/4 x 8	2-3/4"	2.081	80,000	83,244	1,323	1,214	1,517	1,700	1,821	1,906	2,428	3,642	1,323
1-7/8 x 8	2-15/16"	2.413	80,000	96,516	1,644	1,508	1,885	2,111	2,262	2,368	3,016	4,524	1,644
2 x 8	3-1/8"	2.769	80,000	110,769	2,012	1,846	2,308	2,585	2,769	2,898	3,692	5,538	2,012
2-1/8 x 8	3-5/16"	3.150	80,000	126,004	2,432	2,231	2,789	3,124	3,347	3,503	4,463	6,694	2,432
2-1/4 x 8	3-1/2"	3.555	80,000	142,220	2,907	2,667	3,333	3,733	4,000	4,187	5,333	8,000	2,907
2-3/8 x 8	3-11/16"	3.985	80,000	159,417	3,439	3,155	3,944	4,417	4,733	4,954	6,310	9,465	3,439
2-1/2 x 8	3-7/8"	4.440	80,000	177,595	4,033	3,700	4,625	5,180	5,550	5,809	7,400	11,100	4,033

TORQUE GUIDE FOR ASTM A193 GRADE B7M					REQUIRED TORQUE (FtLbs)								
BOLT TENSION BASED ON 60 PERCENT YIELD													
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (IN ²)	MIN YIELD STRENGTH (PSI)	BOLT TENSION (LBS)	LoaDISC TS 801MOLY K=.109	MOLYBDENUM DISULFIDE K=.100	MOLY/LEAD OXIDE/GRAPHITE K=.125	COPPER & GRAPHITE K=.140	NICKEL & GRAPHITE K=.150	API SA2 K=.157	MACHINE OIL K=.200	DRY STEEL K=.440	CUSTOM (INSERT K)
3/4 x 10	1-1/4"	0.334	80,000	16,046	109	100	125	140	150	157	201	301	0.109
7/8 x 9	1-7/16"	0.461	80,000	22,152	176	162	202	226	242	254	323	485	176
1x 8	1-5/8"	0.605	80,000	29,061	264	242	303	339	363	380	484	727	264
1-1/8 x 8	1-13/16"	0.790	80,000	37,922	388	356	444	498	533	558	711	1,067	388
1-1/4 x 8	2"	0.999	80,000	47,961	545	500	624	699	749	784	999	1,499	545
1-3/8 x 8	2-3/16"	1.233	80,000	59,178	739	678	848	949	1,017	1,065	1,356	2,034	739
1-1/2 x 8	2-3/8"	1.491	80,000	71,572	975	895	1,118	1,253	1,342	1,405	1,789	2,684	975
1-5/8 x 8	2-9/16"	1.774	80,000	85,144	1,257	1,153	1,441	1,614	1,729	1,810	2,306	3,459	1,257
1-3/4 x 8	2-3/4"	2.081	80,000	99,893	1,588	1,457	1,821	2,039	2,185	2,287	2,914	4,370	1,588
1-7/8 x 8	2-15/16"	2.413	80,000	115,819	1,973	1,810	2,262	2,534	2,715	2,841	3,619	5,429	1,973
2 x 8	3-1/8"	2.769	80,000	132,923	2,415	2,215	2,769	3,102	3,323	3,478	4,431	6,646	2,415
2-1/8 x 8	3-5/16"	3.150	80,000	151,205	2,919	2,678	3,347	3,749	4,016	4,204	5,355	8,033	2,919
2-1/4 x 8	3-1/2"	3.555	80,000	170,664	3,488	3,200	4,000	4,480	4,800	5,024	6,400	9,600	3,488
2-3/8 x 8	3-11/16"	3.985	80,000	191,300	4,127	3,786	4,733	5,301	5,679	5,944	7,572	11,358	4,127
2-1/2 x 8	3-7/8"	4.440	80,000	213,114	4,839	4,440	5,550	6,216	6,660	6,971	8,880	13,320	4,839

TORQUE GUIDE FOR ASTM A193 GRADE B7M					REQUIRED TORQUE (FtLbs)								
BOLT TENSION BASED ON 70 PERCENT YIELD													
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (IN ²)	MIN YIELD STRENGTH (PSI)	BOLT TENSION (LBS)	LoaDISC TS 801MOLY K=.109	MOLYBDENUM DISULFIDE K=.100	MOLY/LEAD OXIDE/GRAPHITE K=.125	COPPER & GRAPHITE K=.140	NICKEL & GRAPHITE K=.150	API SA2 K=.157	MACHINE OIL K=.200	DRY STEEL K=.440	CUSTOM (INSERT K)
3/4 x 10	1-1/4"	0.334	80,000	18,720	128	117	146	164	176	184	234	351	0.109
7/8 x 9	1-7/16"	0.461	80,000	25,844	205	188	236	264	283	296	377	565	205
1x 8	1-5/8"	0.605	80,000	33,904	308	283	353	396	424	444	565	848	308
1-1/8 x 8	1-13/16"	0.790	80,000	44,243	452	415	518	581	622	651	830	1,244	452
1-1/4 x 8	2"	0.999	80,000	55,955	635	583	729	816	874	915	1,166	1,749	635
1-3/8 x 8	2-3/16"	1.233	80,000	69,041	862	791	989	1,108	1,187	1,242	1,582	2,373	862
1-1/2 x 8	2-3/8"	1.491	80,000	83,501	1,138	1,044	1,305	1,461	1,566	1,639	2,088	3,131	1,138
1-5/8 x 8	2-9/16"	1.774	80,000	99,334	1,466	1,345	1,681	1,883	2,018	2,112	2,690	4,035	1,466
1-3/4 x 8	2-3/4"	2.081	80,000	116,541	1,853	1,700	2,124	2,379	2,549	2,668	3,399	5,099	1,853
1-7/8 x 8	2-15/16"	2.413	80,000	135,122	2,301	2,111	2,639	2,956	3,167	3,315	4,223	6,334	2,301
2 x 8	3-1/8"	2.769	80,000	155,077	2,817	2,585	3,231	3,618	3,877	4,058	5,169	7,754	2,817
2-1/8 x 8	3-5/16"	3.150	80,000	176,405	3,405	3,124	3,905	4,373	4,686	4,904	6,248	9,372	3,405
2-1/4 x 8	3-1/2"	3.555	80,000	199,108	4,069	3,733	4,667	5,227	5,600	5,861	7,467	11,200	4,069
2-3/8 x 8	3-11/16"	3.985	80,000	223,183	4,815	4,417	5,521	6,184	6,626	6,935	8,834	13,252	4,815
2-1/2 x 8	3-7/8"	4.440	80,000	248,633	5,646	5,180	6,475	7,252	7,770	8,132	10,360	15,540	5,646

TORQUE GUIDE FOR ASTM A193 GRADE B7M					REQUIRED TORQUE (FtLbs)								
BOLT TENSION BASED ON 80 PERCENT YIELD													
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (IN ²)	MIN YIELD STRENGTH (PSI)	BOLT TENSION (LBS)	LoaDISC TS 801MOLY K=.109	MOLYBDENUM DISULFIDE K=.100	MOLY/LEAD OXIDE/GRAPHITE K=.125	COPPER & GRAPHITE K=.140	NICKEL & GRAPHITE K=.150	API SA2 K=.157	MACHINE OIL K=.200	DRY STEEL K=.440	CUSTOM (INSERT K)
3/4 x 10	1-1/4"	0.334	80,000	21,395	146	134	167	187	201	210	267	401	0.109
7/8 x 9	1-7/16"	0.461	80,000	29,536	235	215	269	302	323	338	431	646	235
1x 8	1-5/8"	0.605	80,000	38,748	352	323	404	452	484	507	646	969	352
1-1/8 x 8	1-13/16"	0.790	80,000	50,563	517	474	593	664	711	744	948	1,422	517
1-1/4 x 8	2"	0.999	80,000	63,949	726	666	833	933	999	1,046	1,332	1,998	726
1-3/8 x 8	2-3/16"	1.233	80,000	78,904	985	904	1,130	1,266	1,356	1,419	1,808	2,712	985
1-1/2 x 8	2-3/8"	1.491	80,000	95,429	1,300	1,193	1,491	1,670	1,789	1,873	2,386	3,579	1,300
1-5/8 x 8	2-9/16"	1.774	80,000	113,525	1,676	1,537	1,922	2,152	2,306	2,414	3,075	4,612	1,676
1-3/4 x 8	2-3/4"	2.081	80,000	133,190	2,117	1,942	2,428	2,719	2,914	3,049	3,885	5,827	2,117
1-7/8 x 8	2-15/16"	2.413	80,000	154,425	2,630	2,413	3,016	3,378	3,619	3,788	4,826	7,239	2,630
2 x 8	3-1/8"	2.769	80,000	177,231	3,220	2,954	3,692	4,135	4,431	4,638	5,908	8,862	3,220
2-1/8 x 8	3-5/16"	3.150	80,000	201,606	3,891	3,570	4,463	4,998	5,355	5,605	7,140	10,710	3,891
2-1/4 x 8	3-1/2"	3.555	80,000	227,551	4,651	4,267	5,333	5,973	6,400	6,699	8,533	12,800	4,651
2-3/8 x 8	3-11/16"	3.985	80,000	255,067	5,503	5,048	6,310	7,067	7,572	7,926	10,096	15,145	5,503
2-1/2 x 8	3-7/8"	4.440	80,000	284,152	6,453	5,920	7,400	8,288	8,880	9,294	11,840	17,760	6,453

TORQUE GUIDE FOR ASTM A193 GRADE B7M					REQUIRED TORQUE (FtLbs)								
BOLT TENSION BASED ON 90 PERCENT YIELD													
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (IN ²)	MIN YIELD STRENGTH (PSI)	BOLT TENSION (LBS)	LoaDISC TS 801MOLY K=.109	MOLYBDENUM DISULFIDE K=.100	MOLY/LEAD OXIDE/GRAPHITE K=.125	COPPER & GRAPHITE K=.140	NICKEL & GRAPHITE K=.150	API SA2 K=.157	MACHINE OIL K=.200	DRY STEEL K=.440	CUSTOM (INSERT K)
													0.109
3/4 x 10	1-1/4"	0.334	80,000	24,069	164	150	188	211	226	236	301	451	164
7/8 x 9	1-7/16"	0.461	80,000	33,228	264	242	303	339	363	380	485	727	264
1x 8	1-5/8"	0.605	80,000	43,591	396	363	454	509	545	570	727	1,090	396
1-1/8 x 8	1-13/16"	0.790	80,000	56,884	581	533	667	747	800	837	1,067	1,600	581
1-1/4 x 8	2"	0.999	80,000	71,942	817	749	937	1,049	1,124	1,177	1,499	2,248	817
1-3/8 x 8	2-3/16"	1.233	80,000	88,767	1,109	1,017	1,271	1,424	1,526	1,597	2,034	3,051	1,109
1-1/2 x 8	2-3/8"	1.491	80,000	107,358	1,463	1,342	1,677	1,879	2,013	2,107	2,684	4,026	1,463
1-5/8 x 8	2-9/16"	1.774	80,000	127,715	1,885	1,729	2,162	2,421	2,594	2,715	3,459	5,188	1,885
1-3/4 x 8	2-3/4"	2.081	80,000	149,839	2,382	2,185	2,731	3,059	3,278	3,431	4,370	6,555	2,382
1-7/8 x 8	2-15/16"	2.413	80,000	173,729	2,959	2,715	3,393	3,800	4,072	4,262	5,429	8,144	2,959
2 x 8	3-1/8"	2.769	80,000	199,385	3,622	3,323	4,154	4,652	4,985	5,217	6,646	9,969	3,622
2-1/8 x 8	3-5/16"	3.150	80,000	226,807	4,378	4,016	5,020	5,623	6,025	6,306	8,033	12,049	4,378
2-1/4 x 8	3-1/2"	3.555	80,000	255,995	5,232	4,800	6,000	6,720	7,200	7,536	9,600	14,400	5,232
2-3/8 x 8	3-11/16"	3.985	80,000	286,950	6,190	5,679	7,099	7,951	8,519	8,916	11,358	17,038	6,190
2-1/2 x 8	3-7/8"	4.440	80,000	319,671	7,259	6,660	8,325	9,324	9,990	10,456	13,320	19,979	7,259

TORQUE GUIDE FOR ASTM A193 GRADE B7M					REQUIRED TORQUE (FtLbs)								
BOLT TENSION BASED ON 99 PERCENT YIELD													
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (IN ²)	MIN YIELD STRENGTH (PSI)	BOLT TENSION (LBS)	LoaDISC TS 801MOLY K=.109	MOLYBDENUM DISULFIDE K=.100	MOLY/LEAD OXIDE/GRAPHITE K=.125	COPPER & GRAPHITE K=.140	NICKEL & GRAPHITE K=.150	API SA2 K=.157	MACHINE OIL K=.200	DRY STEEL K=.440	CUSTOM (INSERT K)
													0.109
3/4 x 10	1-1/4"	0.334	80,000	26,476	180	165	207	232	248	260	331	496	180
7/8 x 9	1-7/16"	0.461	80,000	36,551	291	267	333	373	400	418	533	800	291
1x 8	1-5/8"	0.605	80,000	47,951	436	400	499	559	599	627	799	1,199	436
1-1/8 x 8	1-13/16"	0.790	80,000	62,572	639	587	733	821	880	921	1,173	1,760	639
1-1/4 x 8	2"	0.999	80,000	79,136	899	824	1,030	1,154	1,237	1,294	1,649	2,473	899
1-3/8 x 8	2-3/16"	1.233	80,000	97,644	1,220	1,119	1,399	1,566	1,678	1,757	2,238	3,357	1,220
1-1/2 x 8	2-3/8"	1.491	80,000	118,094	1,609	1,476	1,845	2,067	2,214	2,318	2,952	4,429	1,609
1-5/8 x 8	2-9/16"	1.774	80,000	140,487	2,074	1,902	2,378	2,663	2,854	2,987	3,805	5,707	2,074
1-3/4 x 8	2-3/4"	2.081	80,000	164,823	2,620	2,404	3,005	3,365	3,605	3,774	4,807	7,211	2,620
1-7/8 x 8	2-15/16"	2.413	80,000	191,101	3,255	2,986	3,732	4,180	4,479	4,688	5,972	8,958	3,255
2 x 8	3-1/8"	2.769	80,000	219,323	3,984	3,655	4,569	5,118	5,483	5,739	7,311	10,966	3,984
2-1/8 x 8	3-5/16"	3.150	80,000	249,488	4,816	4,418	5,523	6,185	6,627	6,936	8,836	13,254	4,816
2-1/4 x 8	3-1/2"	3.555	80,000	281,595	5,755	5,280	6,600	7,392	7,920	8,289	10,560	15,840	5,755
2-3/8 x 8	3-11/16"	3.985	80,000	315,645	6,809	6,247	7,809	8,746	9,371	9,808	12,494	18,741	6,809
2-1/2 x 8	3-7/8"	4.440	80,000	351,638	7,985	7,326	9,157	10,256	10,989	11,502	14,652	21,977	7,985