

BOLT LOAD IMPERIAL (GRADE L7)

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 A320 GRADE L7					REQUIRED TORQUE (FtLbs)								
BOLT TENSION BASED ON													
40 PERCENT YIELD													
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA	MIN YIELD STRENGTH (PSI)	BOLT TENSION (LBS)	LoaDISC TS 801MOLY K=.109	MOLYBDENU M DISULFIDE	MOLY/LEAD OXIDE/GRAPHIT E K=.125	COPPER & GRAPHITE K=.140	NICKEL & GRAPHIT E	API SA2	MACHINE OIL K=.200	DRY STEEL K=.440	CUSTOM (INSERT K)
3/4 x 10	1-1/4"	0.334	105,000	14,040	96	88	110	123	132	138	176	263	96
7/8 x 9	1-7/16"	0.461	105,000	19,383	154	141	177	198	212	222	283	424	154
1 x 8	1-5/8"	0.605	105,000	25,428	231	212	265	297	318	333	424	636	231
1-1/8 x 8	1-13/16"	0.790	105,000	33,182	339	311	389	436	467	488	622	933	339
1-1/4 x 8	2"	0.999	105,000	41,966	476	437	546	612	656	686	874	1,311	476
1-3/8 x 8	2-3/16"	1.233	105,000	51,781	647	593	742	831	890	932	1,187	1,780	647
1-1/2 x 8	2-3/8"	1.491	105,000	62,626	853	783	979	1,096	1,174	1,229	1,566	2,348	853
1-5/8 x 8	2-9/16"	1.774	105,000	74,501	1,100	1,009	1,261	1,412	1,513	1,584	2,018	3,027	1,100
1-3/4 x 8	2-3/4"	2.081	105,000	87,406	1,389	1,275	1,593	1,785	1,912	2,001	2,549	3,824	1,389
1-7/8 x 8	2-15/16"	2.413	105,000	101,342	1,726	1,583	1,979	2,217	2,375	2,486	3,167	4,750	1,726
2 x 8	3-1/8"	2.769	105,000	116,308	2,113	1,938	2,423	2,714	2,908	3,043	3,877	5,815	2,113
2-1/8 x 8	3-5/16"	3.150	105,000	132,304	2,554	2,343	2,929	3,280	3,514	3,678	4,686	7,029	2,554
2-1/4 x 8	3-1/2"	3.555	105,000	149,331	3,052	2,800	3,500	3,920	4,200	4,396	5,600	8,400	3,052
2-3/8 x 8	3-11/16"	3.985	105,000	167,388	3,611	3,313	4,141	4,638	4,969	5,201	6,626	9,939	3,611
2-1/2 x 8	3-7/8"	4.440	105,000	186,475	4,235	3,885	4,856	5,439	5,827	6,099	7,770	11,655	4,235

TORQUE GUIDE FOR ASTM A320 GRADE L7					REQUIRED TORQUE (FtLbs)								
BOLT TENSION BASED ON													
50 PERCENT YIELD													
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA	MIN YIELD STRENGTH (PSI)	BOLT TENSION (LBS)	LoaDISC TS 801MOLY K=.109	MOLYBDENU M DISULFIDE	MOLY/LEAD OXIDE/GRAPHIT E K=.125	COPPER & GRAPHITE K=.140	NICKEL & GRAPHIT E	API SA2	MACHINE OIL K=.200	DRY STEEL K=.440	CUSTOM (INSERT K)
3/4 x 10	1-1/4"	0.334	105,000	17,550	120	110	137	154	165	172	219	329	120
7/8 x 9	1-7/16"	0.461	105,000	24,229	193	177	221	247	265	277	353	530	193
1 x 8	1-5/8"	0.605	105,000	31,785	289	265	331	371	397	416	530	795	289
1-1/8 x 8	1-13/16"	0.790	105,000	41,478	424	389	486	544	583	611	778	1,167	424
1-1/4 x 8	2"	0.999	105,000	52,458	596	546	683	765	820	858	1,093	1,639	596
1-3/8 x 8	2-3/16"	1.233	105,000	64,726	808	742	927	1,038	1,112	1,164	1,483	2,225	808
1-1/2 x 8	2-3/8"	1.491	105,000	78,282	1,067	979	1,223	1,370	1,468	1,536	1,957	2,936	1,067
1-5/8 x 8	2-9/16"	1.774	105,000	93,126	1,375	1,261	1,576	1,766	1,892	1,980	2,522	3,783	1,375
1-3/4 x 8	2-3/4"	2.081	105,000	109,257	1,737	1,593	1,992	2,231	2,390	2,502	3,187	4,780	1,737
1-7/8 x 8	2-15/16"	2.413	105,000	126,677	2,157	1,979	2,474	2,771	2,969	3,108	3,959	5,938	2,157
2 x 8	3-1/8"	2.769	105,000	145,385	2,641	2,423	3,029	3,392	3,635	3,804	4,846	7,269	2,641
2-1/8 x 8	3-5/16"	3.150	105,000	165,380	3,192	2,929	3,661	4,100	4,393	4,598	5,857	8,786	3,192
2-1/4 x 8	3-1/2"	3.555	105,000	186,663	3,815	3,500	4,375	4,900	5,250	5,495	7,000	10,500	3,815
2-3/8 x 8	3-11/16"	3.985	105,000	209,234	4,514	4,141	5,176	5,798	6,212	6,502	8,282	12,423	4,514
2-1/2 x 8	3-7/8"	4.440	105,000	233,094	5,293	4,856	6,070	6,799	7,284	7,624	9,712	14,568	5,293

TORQUE GUIDE FOR ASTM A320 GRADE L7					REQUIRED TORQUE (FtLbs)										
BOLT TENSION BASED ON					60	PERCENT YIELD									
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA	MIN YIELD STRENGTH (PSI)	BOLT TENSIO N (LBS)	LoaDISC TS 801MOLY K=.109	MOLYBDENU M DISULFIDE	MOLY/LEAD OXIDE/GRAPHIT E K=.125	COPPER & GRAPHITE K=.140	NICKEL& GRAPHIT E	API SA2	MACHINE OIL K=.200	DRY STEEL K=.440	CUSTOM (INSERT K)		
3/4 x 10	1-1/4"	0.334	105,000	21,060	143	132	165	184	197	207	263	395	0.109		
7/8 x 9	1-7/16"	0.461	105,000	29,074	231	212	265	297	318	333	424	636	231		
1x 8	1-5/8"	0.605	105,000	38,143	346	318	397	445	477	499	636	954	346		
1-1/8 x 8	1-13/16"	0.790	105,000	49,773	509	467	583	653	700	733	933	1,400	509		
1-1/4 x 8	2"	0.999	105,000	62,949	715	656	820	918	984	1,029	1,311	1,967	715		
1-3/8 x 8	2-3/16"	1.233	105,000	77,671	970	890	1,112	1,246	1,335	1,397	1,780	2,670	970		
1-1/2 x 8	2-3/8"	1.491	105,000	93,938	1,280	1,174	1,468	1,644	1,761	1,844	2,348	3,523	1,280		
1-5/8 x 8	2-9/16"	1.774	105,000	111,751	1,649	1,513	1,892	2,119	2,270	2,376	3,027	4,540	1,649		
1-3/4 x 8	2-3/4"	2.081	105,000	131,109	2,084	1,912	2,390	2,677	2,868	3,002	3,824	5,736	2,084		
1-7/8 x 8	2-15/16"	2.413	105,000	152,013	2,589	2,375	2,969	3,325	3,563	3,729	4,750	7,126	2,589		
2 x 8	3-1/8"	2.769	105,000	174,462	3,169	2,908	3,635	4,071	4,362	4,565	5,815	8,723	3,169		
2-1/8 x 8	3-5/16"	3.150	105,000	198,456	3,831	3,514	4,393	4,920	5,271	5,517	7,029	10,543	3,831		
2-1/4 x 8	3-1/2"	3.555	105,000	223,996	4,578	4,200	5,250	5,880	6,300	6,594	8,400	12,600	4,578		
2-3/8 x 8	3-11/16"	3.985	105,000	251,081	5,417	4,969	6,212	6,957	7,454	7,802	9,939	14,908	5,417		
2-1/2 x 8	3-7/8"	4.440	105,000	279,712	6,352	5,827	7,284	8,158	8,741	9,149	11,655	17,482	6,352		

TORQUE GUIDE FOR ASTM A320 GRADE L7					REQUIRED TORQUE (FtLbs)										
BOLT TENSION BASED ON					70	PERCENT YIELD									
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA	MIN YIELD STRENGTH (PSI)	BOLT TENSIO N (LBS)	LoaDISC TS 801MOLY K=.109	MOLYBDENU M DISULFIDE	MOLY/LEAD OXIDE/GRAPHIT E K=.125	COPPER & GRAPHITE K=.140	NICKEL& GRAPHIT E	API SA2	MACHINE OIL K=.200	DRY STEEL K=.440	CUSTOM (INSERT K)		
3/4 x 10	1-1/4"	0.334	105,000	24,570	167	154	192	215	230	241	307	461	0.109		
7/8 x 9	1-7/16"	0.461	105,000	33,920	270	247	309	346	371	388	495	742	270		
1x 8	1-5/8"	0.605	105,000	44,500	404	371	464	519	556	582	742	1,112	404		
1-1/8 x 8	1-13/16"	0.790	105,000	58,069	593	544	680	762	817	855	1,089	1,633	593		
1-1/4 x 8	2"	0.999	105,000	73,441	834	765	956	1,071	1,148	1,201	1,530	2,295	834		
1-3/8 x 8	2-3/16"	1.233	105,000	90,616	1,132	1,038	1,298	1,454	1,557	1,630	2,077	3,115	1,132		
1-1/2 x 8	2-3/8"	1.491	105,000	109,595	1,493	1,370	1,712	1,918	2,055	2,151	2,740	4,110	1,493		
1-5/8 x 8	2-9/16"	1.774	105,000	130,376	1,924	1,766	2,207	2,472	2,648	2,772	3,531	5,297	1,924		
1-3/4 x 8	2-3/4"	2.081	105,000	152,960	2,431	2,231	2,788	3,123	3,346	3,502	4,461	6,692	2,431		
1-7/8 x 8	2-15/16"	2.413	105,000	177,348	3,020	2,771	3,464	3,879	4,157	4,351	5,542	8,313	3,020		
2 x 8	3-1/8"	2.769	105,000	203,538	3,698	3,392	4,240	4,749	5,088	5,326	6,785	10,177	3,698		
2-1/8 x 8	3-5/16"	3.150	105,000	231,532	4,469	4,100	5,125	5,740	6,150	6,437	8,200	12,300	4,469		
2-1/4 x 8	3-1/2"	3.555	105,000	261,329	5,341	4,900	6,125	6,860	7,350	7,693	9,800	14,700	5,341		
2-3/8 x 8	3-11/16"	3.985	105,000	292,928	6,319	5,798	7,247	8,117	8,696	9,102	11,595	17,393	6,319		
2-1/2 x 8	3-7/8"	4.440	105,000	326,331	7,410	6,799	8,498	9,518	10,198	10,674	13,597	20,396	7,410		

TORQUE GUIDE FOR ASTM A320 GRADE L7					REQUIRED TORQUE (FtLbs)										
BOLT TENSION BASED ON					80	PERCENT YIELD									
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA	MIN YIELD STRENGTH (PSI)	BOLT TENSIO N (LBS)	LoaDISC TS 801MOLY K=.109	MOLYBDENU M DISULFIDE	MOLY/LEAD OXIDE/GRAPHIT E K=.125	COPPER & GRAPHITE K=.140	NICKEL& GRAPHIT E	API SA2	MACHINE OIL K=.200	DRY STEEL K=.440	CUSTOM (INSERT K)		
3/4 x 10	1-1/4"	0.334	105,000	28,080	191	176	219	246	263	276	351	527	0.109		
7/8 x 9	1-7/16"	0.461	105,000	38,766	308	283	353	396	424	444	565	848	308		
1x 8	1-5/8"	0.605	105,000	50,857	462	424	530	593	636	665	848	1,271	462		
1-1/8 x 8	1-13/16"	0.790	105,000	66,364	678	622	778	871	933	977	1,244	1,866	678		
1-1/4 x 8	2"	0.999	105,000	83,933	953	874	1,093	1,224	1,311	1,373	1,749	2,623	953		
1-3/8 x 8	2-3/16"	1.233	105,000	103,562	1,293	1,187	1,483	1,661	1,780	1,863	2,373	3,560	1,293		
1-1/2 x 8	2-3/8"	1.491	105,000	125,251	1,707	1,566	1,957	2,192	2,348	2,458	3,131	4,697	1,707		
1-5/8 x 8	2-9/16"	1.774	105,000	149,001	2,199	2,018	2,522	2,825	3,027	3,168	4,035	6,053	2,199		
1-3/4 x 8	2-3/4"	2.081	105,000	174,812	2,779	2,549	3,187	3,569	3,824	4,002	5,099	7,648	2,779		
1-7/8 x 8	2-15/16"	2.413	105,000	202,683	3,452	3,167	3,959	4,434	4,750	4,972	6,334	9,501	3,452		
2 x 8	3-1/8"	2.769	105,000	232,615	4,226	3,877	4,846	5,428	5,815	6,087	7,754	11,631	4,226		
2-1/8 x 8	3-5/16"	3.150	105,000	264,608	5,107	4,686	5,857	6,560	7,029	7,357	9,372	14,057	5,107		
2-1/4 x 8	3-1/2"	3.555	105,000	298,661	6,104	5,600	7,000	7,840	8,400	8,792	11,200	16,800	6,104		
2-3/8 x 8	3-11/16"	3.985	105,000	334,775	7,222	6,626	8,282	9,276	9,939	10,402	13,252	19,877	7,222		
2-1/2 x 8	3-7/8"	4.440	105,000	372,950	8,469	7,770	9,712	10,878	11,655	12,199	15,540	23,309	8,469		

TORQUE GUIDE FOR ASTM A320 GRADE L7					REQUIRED TORQUE (FtLbs)								
BOLT TENSION BASED ON 90 PERCENT YIELD													
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA	MIN YIELD STRENGTH (PSI)	BOLT TENSION (LBS)	LoaDISC TS 801MOLY K=.109	MOLYBDENU M DISULFIDE	MOLY/LEAD OXIDE/GRAPHIT E K=.125	COPPER & GRAPHITE K=.140	NICKEL & GRAPHIT E	API SA2	MACHINE OIL K=.200	DRY STEEL K=.440	CUSTOM (INSERT K) 0.109
3/4 x 10	1-1/4"	0.334	105,000	31,590	215	197	247	276	296	310	395	592	215
7/8 x 9	1-7/16"	0.461	105,000	43,612	347	318	398	445	477	499	636	954	347
1x 8	1-5/8"	0.605	105,000	57,214	520	477	596	667	715	749	954	1,430	520
1-1/8 x 8	1-13/16"	0.790	105,000	74,660	763	700	875	980	1,050	1,099	1,400	2,100	763
1-1/4 x 8	2"	0.999	105,000	94,424	1,072	984	1,229	1,377	1,475	1,544	1,967	2,951	1,072
1-3/8 x 8	2-3/16"	1.233	105,000	116,507	1,455	1,335	1,669	1,869	2,002	2,096	2,670	4,005	1,455
1-1/2 x 8	2-3/8"	1.491	105,000	140,907	1,920	1,761	2,202	2,466	2,642	2,765	3,523	5,284	1,920
1-5/8 x 8	2-9/16"	1.774	105,000	167,626	2,474	2,270	2,837	3,178	3,405	3,564	4,540	6,810	2,474
1-3/4 x 8	2-3/4"	2.081	105,000	196,663	3,126	2,868	3,585	4,015	4,302	4,503	5,736	8,604	3,126
1-7/8 x 8	2-15/16"	2.413	105,000	228,019	3,883	3,563	4,453	4,988	5,344	5,594	7,126	10,688	3,883
2 x 8	3-1/8"	2.769	105,000	261,692	4,754	4,362	5,452	6,106	6,542	6,848	8,723	13,085	4,754
2-1/8 x 8	3-5/16"	3.150	105,000	297,684	5,746	5,271	6,589	7,380	7,907	8,276	10,543	15,814	5,746
2-1/4 x 8	3-1/2"	3.555	105,000	335,994	6,867	6,300	7,875	8,820	9,450	9,891	12,600	18,900	6,867
2-3/8 x 8	3-11/16"	3.985	105,000	376,622	8,125	7,454	9,317	10,436	11,181	11,703	14,908	22,362	8,125
2-1/2 x 8	3-7/8"	4.440	105,000	419,568	9,528	8,741	10,926	12,237	13,112	13,723	17,482	26,223	9,528

TORQUE GUIDE FOR ASTM A320 GRADE L7					REQUIRED TORQUE (FtLbs)								
BOLT TENSION BASED ON 99 PERCENT YIELD													
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA	MIN YIELD STRENGTH (PSI)	BOLT TENSION (LBS)	LoaDISC TS 801MOLY K=.109	MOLYBDENU M DISULFIDE	MOLY/LEAD OXIDE/GRAPHIT E K=.125	COPPER & GRAPHITE K=.140	NICKEL & GRAPHIT E	API SA2	MACHINE OIL K=.200	DRY STEEL K=.440	CUSTOM (INSERT K) 0.109
3/4 x 10	1-1/4"	0.334	105,000	34,749	237	217	271	304	326	341	434	652	237
7/8 x 9	1-7/16"	0.461	105,000	47,973	381	350	437	490	525	549	700	1,049	381
1x 8	1-5/8"	0.605	105,000	62,935	572	524	656	734	787	823	1,049	1,573	572
1-1/8 x 8	1-13/16"	0.790	105,000	82,126	839	770	962	1,078	1,155	1,209	1,540	2,310	839
1-1/4 x 8	2"	0.999	105,000	103,867	1,179	1,082	1,352	1,515	1,623	1,699	2,164	3,246	1,179
1-3/8 x 8	2-3/16"	1.233	105,000	128,157	1,601	1,468	1,836	2,056	2,203	2,305	2,937	4,405	1,601
1-1/2 x 8	2-3/8"	1.491	105,000	154,998	2,112	1,937	2,422	2,712	2,906	3,042	3,875	5,812	2,112
1-5/8 x 8	2-9/16"	1.774	105,000	184,389	2,722	2,497	3,121	3,496	3,745	3,920	4,994	7,491	2,722
1-3/4 x 8	2-3/4"	2.081	105,000	216,330	3,439	3,155	3,944	4,417	4,732	4,953	6,310	9,464	3,439
1-7/8 x 8	2-15/16"	2.413	105,000	250,821	4,272	3,919	4,899	5,487	5,879	6,153	7,838	11,757	4,272
2 x 8	3-1/8"	2.769	105,000	287,862	5,229	4,798	5,997	6,717	7,197	7,532	9,595	14,393	5,229
2-1/8 x 8	3-5/16"	3.150	105,000	327,452	6,321	5,799	7,248	8,118	8,698	9,104	11,597	17,396	6,321
2-1/4 x 8	3-1/2"	3.555	105,000	369,593	7,554	6,930	8,662	9,702	10,395	10,880	13,860	20,790	7,554
2-3/8 x 8	3-11/16"	3.985	105,000	414,284	8,937	8,199	10,249	11,479	12,299	12,873	16,399	24,598	8,937
2-1/2 x 8	3-7/8"	4.440	105,000	461,525	10,480	9,615	12,019	13,461	14,423	15,096	19,230	28,845	10,480