

BOLT LOAD (IMPERIAL) B7 STUD

40% - 99% YIELD



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

BOLT LOADS

TORQUE GUIDE FOR ASTM A193 GRADE B7 STUD														
BOLT TENSION BASED ON				40	PERCENT YIELD	REQUIRED TORQUE (ft-lb)								
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (in ²)	MIN YIELD STRENGTH (psi)	BOLT LOAD (lb)	TS-801 MOLY Spray 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	105,000	14,040	96	88	110	123	132	138	176	386	96	
7/8 x 9	1-7/16"	0.461	105,000	19,383	154	141	177	198	212	222	283	622	154	
1x8	1-5/8"	0.605	105,000	25,428	231	212	265	297	318	333	424	932	231	
1-1/8 x 8	1-13/16"	0.790	105,000	33,182	339	311	389	436	467	488	622	1,369	339	
1-1/4 x 8	2"	0.999	105,000	41,966	476	437	546	612	656	686	874	1,923	476	
1-3/8 x 8	2-3/16"	1.233	105,000	51,781	647	593	742	831	890	932	1,187	2,611	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	3,444	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	4,439	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	5,609	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	6,967	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	8,529	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	10,309	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	12,320	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	14,577	3,611	
2-1/2 x 8	3-7/8"	4.440	95,000	168,715	3,831	3,515	4,394	4,921	5,272	5,518	7,030	15,466	3,831	
2-3/4 x 8	4-1/4"	5.422	95,000	206,051	5,147	4,722	5,902	6,611	7,083	7,414	9,444	20,777	5,147	
3 x 8	4-5/8"	6.503	95,000	247,115	6,734	6,178	7,722	8,649	9,267	9,699	12,356	27,183	6,734	
3-1/4 x 8	5"	7.682	95,000	291,908	8,617	7,906	9,882	11,068	11,859	12,412	15,812	34,786	8,617	
3-1/2 x 8	5-3/8"	8.959	95,000	340,429	10,823	9,929	12,411	13,901	14,894	15,589	19,858	43,688	10,823	
3-3/4 x 8	5-3/4"	10.334	95,000	392,680	13,376	12,271	15,339	17,180	18,407	19,266	24,542	53,993	13,376	
4 x 8	6-1/8"	11.807	95,000	448,659	16,301	14,955	18,694	20,937	22,433	23,480	29,911	65,803	16,301	
4-1/4 x 8	6-1/2"	13.378	75,000	401,342	15,493	14,214	17,768	19,900	21,321	22,316	28,428	62,543	15,493	
4-1/2 x 8	6-7/8"	15.047	75,000	451,424	18,452	16,928	21,160	23,700	25,393	26,578	33,857	74,485	18,452	
4-3/4 x 8	7-1/4"	16.815	75,000	504,449	21,765	19,968	24,960	27,955	29,952	31,349	39,936	87,858	21,765	
5 x 8	7-5/8"	18.681	75,000	560,418	25,452	23,351	29,188	32,691	35,026	36,661	46,702	102,743	25,452	
5-1/4 x 8	8"	20.644	75,000	619,331	29,534	27,096	33,870	37,934	40,644	42,540	54,191	119,221	29,534	
5-1/2 x 8	8-3/8"	22.706	75,000	681,188	34,031	31,221	39,026	43,710	46,832	49,017	62,442	137,373	34,031	
5-3/4 x 8	8-3/4"	24.866	75,000	745,988	38,962	35,745	44,682	50,043	53,618	56,120	71,491	157,279	38,962	
6 x 8	9-1/8"	27.124	75,000	813,732	44,348	40,687	50,858	56,961	61,030	63,878	81,373	179,021	44,348	

TORQUE GUIDE FOR ASTM A193 GRADE B7 STUD														
BOLT TENSION BASED ON				50	PERCENT YIELD	REQUIRED TORQUE (ft-lb)								
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (in ²)	MIN YIELD STRENGTH (psi)	BOLT LOAD (lb)	TS-801 MOLY Spray 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	105,000	17,550	120	110	137	154	165	172	219	483	120	
7/8 x 9	1-7/16"	0.461	105,000	24,229	193	177	221	247	265	277	353	777	193	
1x8	1-5/8"	0.605	105,000	31,785	289	265	331	371	397	416	530	1,165	289	
1-1/8 x 8	1-13/16"	0.790	105,000	41,478	424	389	486	544	583	611	778	1,711	424	
1-1/4 x 8	2"	0.999	105,000	52,458	596	546	683	765	820	858	1,093	2,404	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	3,263	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	4,306	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	5,549	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	7,011	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	8,709	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	10,662	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	12,886	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	15,400	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	18,221	4,514	
2-1/2 x 8	3-7/8"	4.440	95,000	210,894	4,789	4,394	5,492	6,151	6,590	6,898	8,787	19,332	4,789	
2-3/4 x 8	4-1/4"	5.422	95,000	257,563	6,434	5,902	7,378	8,263	8,854	9,267	11,805	25,971	6,434	
3 x 8	4-5/8"	6.503	95,000	308,894	8,417	7,722	9,653	10,811	11,584	12,124	15,445	33,978	8,417	
3-1/4 x 8	5"	7.682	95,000	364,885	10,772	9,882	12,353	13,835	14,823	15,515	19,765	43,482	10,772	
3-1/2 x 8	5-3/8"	8.959	95,000	425,537	13,529	12,411	15,514	17,376	18,617	19,486	24,823	54,611	13,529	
3-3/4 x 8	5-3/4"	10.334	95,000	490,850	16,720	15,339	19,174	21,475	23,009	24,082	30,678	67,492	16,720	
4 x 8	6-1/8"	11.807	95,000	560,824	20,377	18,694	23,368	26,172	28,041	29,350	37,388	82,254	20,377	
4-1/4 x 8	6-1/2"	13.378	75,000	501,678	19,367	17,768	22,210	24,875	26,652	27,895	35,536	78,178	19,367	
4-1/2 x 8	6-7/8"	15.047	75,000	564,280	23,065	21,160	26,451	29,625	31,741	33,222	42,321	93,106	23,065	
4-3/4 x 8	7-1/4"	16.815	75,000	630,562	27,206	24,960	31,200	34,944	37,440	39,187	49,919	109,823	27,206	
5 x 8	7-5/8"	18.681	75,000	700,523	31,815	29,188	36,486	40,864	43,783	45,826	58,377	128,429	31,815	
5-1/4 x 8	8"	20.644	75,000	774,164	36,918	33,870	42,337	47,418	50,805	53,175	67,739	149,027	36,918	
5-1/2 x 8	8-3/8"	22.706	75,000	851,485	42,539	39,026	48,783	54,637	58,540	61,271	78,053	171,716	42,539	
5-3/4 x 8	8-3/4"	24.866	75,000	932,485	48,703	44,682	55,852	62,554	67,022	70,150	89,363	196,599	48,703	
6 x 8	9-1/8"	27.124	75,000	1,017,165	55,436	50,858	63,573	71,202	76,287	79,847	101,717	223,776	55,436	

TORQUE GUIDE FOR ASTM A193 GRADE B7 STUD														
BOLT TENSION BASED ON				60	PERCENT YIELD	REQUIRED TORQUE (ft-lb)								
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (in ²)	MIN YIELD STRENGTH (psi)	BOLT LOAD (lb)	TS-801 MOLY Spray 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	105,000	21,060	143	132	165	184	197	207	263	579	143	
7/8 x 9	1-7/16"	0.461	105,000	29,074	231	212	265	297	318	333	424	933	231	
1 x 8	1-5/8"	0.605	105,000	38,143	346	318	397	445	477	499	636	1,399	346	
1-1/8 x 8	1-13/16"	0.790	105,000	49,773	509	467	583	653	700	733	933	2,053	509	
1-1/4 x 8	2"	0.999	105,000	62,949	715	656	820	918	984	1,029	1,311	2,885	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	3,916	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	5,167	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	6,658	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	8,413	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	10,451	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	12,794	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	15,463	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	18,480	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	21,865	5,417	
2-1/2 x 8	3-7/8"	4.440	95,000	253,073	5,747	5,272	6,590	7,381	7,909	8,278	10,545	23,198	5,747	
2-3/4 x 8	4-1/4"	5.422	95,000	309,076	7,720	7,083	8,854	9,916	10,624	11,120	14,166	31,165	7,720	
3 x 8	4-5/8"	6.503	95,000	370,672	10,101	9,267	11,584	12,974	13,900	14,549	18,534	40,774	10,101	
3-1/4 x 8	5"	7.682	95,000	437,862	12,926	11,859	14,823	16,602	17,788	18,618	23,718	52,179	12,926	
3-1/2 x 8	5-3/8"	8.959	95,000	510,644	16,234	14,894	18,617	20,851	22,341	23,383	29,788	65,533	16,234	
3-3/4 x 8	5-3/4"	10.334	95,000	589,020	20,063	18,407	23,009	25,770	27,610	28,899	36,814	80,990	20,063	
4 x 8	6-1/8"	11.807	95,000	672,989	24,452	22,433	28,041	31,406	33,649	35,220	44,866	98,705	24,452	
4-1/4 x 8	6-1/2"	13.378	75,000	602,014	23,240	21,321	26,652	29,850	31,982	33,474	42,643	93,814	23,240	
4-1/2 x 8	6-7/8"	15.047	75,000	677,136	27,678	25,393	31,741	35,550	38,089	39,866	50,785	111,727	27,678	
4-3/4 x 8	7-1/4"	16.815	75,000	756,674	32,647	29,952	37,440	41,932	44,928	47,024	59,903	131,787	32,647	
5 x 8	7-5/8"	18.681	75,000	840,628	38,178	35,026	43,783	49,037	52,539	54,991	70,052	154,115	38,178	
5-1/4 x 8	8"	20.644	75,000	928,997	44,302	40,644	50,805	56,901	60,965	63,810	81,287	178,832	44,302	
5-1/2 x 8	8-3/8"	22.706	75,000	1,021,782	51,047	46,832	58,540	65,564	70,247	73,526	93,663	206,059	51,047	
5-3/4 x 8	8-3/4"	24.866	75,000	1,118,982	58,444	53,618	67,022	75,065	80,427	84,180	107,236	235,919	58,444	
6 x 8	9-1/8"	27.124	75,000	1,220,598	66,523	61,030	76,287	85,442	91,545	95,817	122,060	268,532	66,523	

TORQUE GUIDE FOR ASTM A193 GRADE B7 STUD														
BOLT TENSION BASED ON				70	PERCENT YIELD	REQUIRED TORQUE (ft-lb)								
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (in ²)	MIN YIELD STRENGTH (psi)	BOLT LOAD (lb)	TS-801 MOLY Spray 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	105,000	24,570	167	154	192	215	230	241	307	676	167	
7/8 x 9	1-7/16"	0.461	105,000	33,920	270	247	309	346	371	388	495	1,088	270	
1 x 8	1-5/8"	0.605	105,000	44,500	404	371	464	519	556	582	742	1,632	404	
1-1/8 x 8	1-13/16"	0.790	105,000	58,069	593	544	680	762	817	855	1,089	2,395	593	
1-1/4 x 8	2"	0.999	105,000	73,441	834	765	956	1,071	1,148	1,201	1,530	3,366	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	4,569	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	6,028	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	7,768	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	9,815	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	12,193	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	14,926	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	18,040	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	21,560	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	25,509	6,319	
2-1/2 x 8	3-7/8"	4.440	95,000	295,252	6,705	6,151	7,689	8,612	9,227	9,657	12,302	27,065	6,705	
2-3/4 x 8	4-1/4"	5.422	95,000	360,589	9,007	8,263	10,329	11,569	12,395	12,974	16,527	36,359	9,007	
3 x 8	4-5/8"	6.503	95,000	432,451	11,784	10,811	13,514	15,136	16,217	16,974	21,623	47,570	11,784	
3-1/4 x 8	5"	7.682	95,000	510,839	15,080	13,835	17,294	19,369	20,753	21,721	27,670	60,875	15,080	
3-1/2 x 8	5-3/8"	8.959	95,000	595,752	18,940	17,376	21,720	24,327	26,064	27,280	34,752	76,455	18,940	
3-3/4 x 8	5-3/4"	10.334	95,000	687,190	23,407	21,475	26,843	30,065	32,212	33,715	42,949	94,489	23,407	
4 x 8	6-1/8"	11.807	95,000	785,153	28,527	26,172	32,715	36,640	39,258	41,090	52,344	115,156	28,527	
4-1/4 x 8	6-1/2"	13.378	75,000	702,349	27,114	24,875	31,094	34,825	37,312	39,054	49,750	109,449	27,114	
4-1/2 x 8	6-7/8"	15.047	75,000	789,992	32,291	29,625	37,031	41,475	44,437	46,511	59,249	130,349	32,291	
4-3/4 x 8	7-1/4"	16.815	75,000	882,786	38,089	34,944	43,680	48,921	52,415	54,861	69,887	153,752	38,089	
5 x 8	7-5/8"	18.681	75,000	980,732	44,542	40,864	51,080	57,209	61,296	64,156	81,728	179,801	44,542	
5-1/4 x 8	8"	20.644	75,000	1,083,830	51,685	47,418	59,272	66,385	71,126	74,446	94,835	208,637	51,685	
5-1/2 x 8	8-3/8"	22.706	75,000	1,192,079	59,554	54,637	68,296	76,492	81,955	85,780	109,274	240,403	59,554	
5-3/4 x 8	8-3/4"	24.866	75,000	1,305,479	68,184	62,554	78,193	87,576	93,831	98,210	125,108	275,239	68,184	
6 x 8	9-1/8"	27.124	75,000	1,424,031	77,610	71,202	89,002	99,682	106,802	111,786	142,403	313,287	77,610	

TORQUE GUIDE FOR ASTM A193 GRADE B7 STUD														
BOLT TENSION BASED ON				80	PERCENT YIELD	REQUIRED TORQUE (ft-lb)								
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (in ²)	MIN YIELD STRENGTH (psi)	BOLT LOAD (lb)	TS-801 MOLY Spray 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	105,000	28,080	191	176	219	246	263	276	351	772	191	
7/8 x 9	1-7/16"	0.461	105,000	38,766	308	283	353	396	424	444	565	1,244	308	
1 x 8	1-5/8"	0.605	105,000	50,857	462	424	530	593	636	665	848	1,865	462	
1-1/8 x 8	1-13/16"	0.790	105,000	66,364	678	622	778	871	933	977	1,244	2,738	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	3,847	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	5,221	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	6,889	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	8,878	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	11,217	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	13,934	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	17,058	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	20,617	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	24,640	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	29,153	7,222	
2-1/2 x 8	3-7/8"	4.440	95,000	337,431	7,662	7,030	8,787	9,842	10,545	11,037	14,060	30,931	7,662	
2-3/4 x 8	4-1/4"	5.422	95,000	412,102	10,294	9,444	11,805	13,222	14,166	14,827	18,888	41,554	10,294	
3 x 8	4-5/8"	6.503	95,000	494,230	13,468	12,356	15,445	17,298	18,534	19,399	24,711	54,365	13,468	
3-1/4 x 8	5"	7.682	95,000	583,816	17,235	15,812	19,765	22,136	23,718	24,824	31,623	69,571	17,235	
3-1/2 x 8	5-3/8"	8.959	95,000	680,859	21,646	19,858	24,823	27,802	29,788	31,178	39,717	87,377	21,646	
3-3/4 x 8	5-3/4"	10.334	95,000	785,360	26,751	24,542	30,678	34,359	36,814	38,532	49,085	107,987	26,751	
4 x 8	6-1/8"	11.807	95,000	897,318	32,603	29,911	37,388	41,875	44,866	46,960	59,821	131,607	32,603	
4-1/4 x 8	6-1/2"	13.378	75,000	802,685	30,987	28,428	35,536	39,800	42,643	44,633	56,857	125,085	30,987	
4-1/2 x 8	6-7/8"	15.047	75,000	902,848	36,904	33,857	42,321	47,400	50,785	53,155	67,714	148,970	36,904	
4-3/4 x 8	7-1/4"	16.815	75,000	1,008,899	43,530	39,936	49,919	55,910	59,903	62,699	79,871	175,716	43,530	
5 x 8	7-5/8"	18.681	75,000	1,120,837	50,905	46,702	58,377	65,382	70,052	73,321	93,403	205,487	50,905	
5-1/4 x 8	8"	20.644	75,000	1,238,662	59,069	54,191	67,739	75,868	81,287	85,081	108,383	238,443	59,069	
5-1/2 x 8	8-3/8"	22.706	75,000	1,362,375	68,062	62,442	78,053	87,419	93,663	98,034	124,884	274,746	68,062	
5-3/4 x 8	8-3/4"	24.866	75,000	1,491,976	77,925	71,491	89,363	100,087	107,236	112,240	142,981	314,558	77,925	
6 x 8	9-1/8"	27.124	75,000	1,627,464	88,697	81,373	101,717	113,923	122,060	127,756	162,746	358,042	88,697	

TORQUE GUIDE FOR ASTM A193 GRADE B7 STUD														
BOLT TENSION BASED ON				90	PERCENT YIELD	REQUIRED TORQUE (ft-lb)								
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (in ²)	MIN YIELD STRENGTH (psi)	BOLT LOAD (lb)	TS-801 MOLY Spray 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	105,000	31,590	215	197	247	276	296	310	395	869	215	
7/8 x 9	1-7/16"	0.461	105,000	43,612	347	318	398	445	477	499	636	1,399	347	
1 x 8	1-5/8"	0.605	105,000	57,214	520	477	596	667	715	749	954	2,098	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	3,080	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	4,328	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	5,874	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	7,750	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	9,988	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	12,619	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	15,676	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	19,191	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	23,195	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	27,720	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	32,798	8,125	
2-1/2 x 8	3-7/8"	4.440	95,000	379,610	8,620	7,909	9,886	11,072	11,863	12,416	15,817	34,798	8,620	
2-3/4 x 8	4-1/4"	5.422	95,000	463,614	11,581	10,624	13,281	14,874	15,937	16,680	21,249	46,748	11,581	
3 x 8	4-5/8"	6.503	95,000	556,009	15,151	13,900	17,375	19,460	20,850	21,823	27,800	61,161	15,151	
3-1/4 x 8	5"	7.682	95,000	656,793	19,389	17,788	22,235	24,903	26,682	27,927	35,576	78,268	19,389	
3-1/2 x 8	5-3/8"	8.959	95,000	765,966	24,351	22,341	27,926	31,277	33,511	35,075	44,681	98,299	24,351	
3-3/4 x 8	5-3/4"	10.334	95,000	883,530	30,095	27,610	34,513	38,654	41,415	43,348	55,221	121,485	30,095	
4 x 8	6-1/8"	11.807	95,000	1,009,483	36,678	33,649	42,062	47,109	50,474	52,830	67,299	148,057	36,678	
4-1/4 x 8	6-1/2"	13.378	75,000	903,020	34,860	31,982	39,977	44,775	47,973	50,212	63,964	140,721	34,860	
4-1/2 x 8	6-7/8"	15.047	75,000	1,015,704	41,517	38,089	47,611	53,324	57,133	59,800	76,178	167,591	41,517	
4-3/4 x 8	7-1/4"	16.815	75,000	1,135,011	48,971	44,928	56,159	62,899	67,391	70,536	89,855	197,681	48,971	
5 x 8	7-5/8"	18.681	75,000	1,260,941	57,268	52,539	65,674	73,555	78,809	82,487	105,078	231,173	57,268	
5-1/4 x 8	8"	20.644	75,000	1,393,495	66,452	60,965	76,207	85,352	91,448	95,716	121,931	268,248	66,452	
5-1/2 x 8	8-3/8"	22.706	75,000	1,532,672	76,570	70,247	87,809	98,346	105,371	110,289	140,495	309,089	76,570	
5-3/4 x 8	8-3/4"	24.866	75,000	1,678,473	87,665	80,427	100,534	112,598	120,640	126,270	160,854	353,878	87,665	
6 x 8	9-1/8"	27.124	75,000	1,830,897	99,784	91,545	114,431	128,163	137,317	143,725	183,090	402,797	99,784	

TORQUE GUIDE FOR ASTM A193 GRADE B7 STUD														
BOLT TENSION BASED ON				99	PERCENT YIELD	REQUIRED TORQUE (ft-lb)								
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (in ²)	MIN YIELD STRENGTH (psi)	BOLT LOAD (lb)	TS-801 MOLY Spray 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	105,000	34,749	237	217	271	304	326	341	434	956	237	
7/8 x 9	1-7/16"	0.461	105,000	47,973	381	350	437	490	525	549	700	1,539	381	
1 x 8	1-5/8"	0.605	105,000	62,935	572	524	656	734	787	823	1,049	2,308	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	3,388	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	4,761	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	6,461	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	8,525	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	10,987	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	13,881	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	17,244	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	21,110	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	25,514	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	30,491	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	36,077	8,937	
2-1/2 x 8	3-7/8"	4.440	95,000	417,570	9,482	8,699	10,874	12,179	13,049	13,658	17,399	38,277	9,482	
2-3/4 x 8	4-1/4"	5.422	95,000	509,976	12,739	11,687	14,609	16,362	17,530	18,348	23,374	51,423	12,739	
3 x 8	4-5/8"	6.503	95,000	611,609	16,666	15,290	19,113	21,406	22,935	24,006	30,580	67,277	16,666	
3-1/4 x 8	5"	7.682	95,000	722,472	21,328	19,567	24,459	27,394	29,350	30,720	39,134	86,095	21,328	
3-1/2 x 8	5-3/8"	8.959	95,000	842,563	26,786	24,575	30,718	34,405	36,862	38,582	49,150	108,129	26,786	
3-3/4 x 8	5-3/4"	10.334	95,000	971,883	33,105	30,371	37,964	42,520	45,557	47,683	60,743	133,634	33,105	
4 x 8	6-1/8"	11.807	95,000	1,110,431	40,346	37,014	46,268	51,820	55,522	58,113	74,029	162,863	40,346	
4-1/4 x 8	6-1/2"	13.378	75,000	993,322	38,346	35,180	43,975	49,252	52,770	55,233	70,360	154,793	38,346	
4-1/2 x 8	6-7/8"	15.047	75,000	1,117,274	45,669	41,898	52,372	58,657	62,847	65,780	83,796	184,350	45,669	
4-3/4 x 8	7-1/4"	16.815	75,000	1,248,512	53,868	49,420	61,775	69,188	74,130	77,590	98,841	217,449	53,868	
5 x 8	7-5/8"	18.681	75,000	1,387,035	62,995	57,793	72,241	80,910	86,690	90,735	115,586	254,290	62,995	
5-1/4 x 8	8"	20.644	75,000	1,532,845	73,098	67,062	83,827	93,887	100,593	105,287	134,124	295,073	73,098	
5-1/2 x 8	8-3/8"	22.706	75,000	1,685,940	84,227	77,272	96,590	108,181	115,908	121,317	154,544	339,998	84,227	
5-3/4 x 8	8-3/4"	24.866	75,000	1,846,320	96,432	88,470	110,587	123,857	132,704	138,897	176,939	389,266	96,432	
6 x 8	9-1/8"	27.124	75,000	2,013,987	109,762	100,699	125,874	140,979	151,049	158,098	201,399	443,077	109,762	