

# BOLT LOAD (IMPERIAL) GR8 STUD

## 40% - 99% YIELD



<b>Southwest Texas</b>	<b>West Texas</b>	<b>Main Office</b>	<b>Southeast Texas</b>	<b>Central &amp; East Texas</b>
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 SAE GRADE J429 GR 8 STUD**

BOLT TENSION BASED ON				40	PERCENT YIELD	REQUIRED TORQUE (ft-lb)								
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (in <sup>2</sup> )	MIN YIELD STRENGTH (psi)	BOLT TENSION (lb)	TS-801 MolySpray 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	130,000	17,383	118	109	136	152	163	171	217	478	0.109	
7/8 x 9	1-7/16"	0.461	130,000	23,998	191	175	219	245	262	275	350	770	118	
1 x 8	1-5/8"	0.605	130,000	31,483	286	262	328	367	394	412	525	1,154	191	
1-1/8 x 8	1-13/16"	0.790	130,000	41,083	420	385	481	539	578	605	770	1,695	286	
1-1/4 x 8	2"	0.999	130,000	51,958	590	541	677	758	812	850	1,082	2,381	420	
1-3/8 x 8	2-3/16"	1.233	130,000	64,110	801	735	918	1,028	1,102	1,153	1,469	3,232	590	
1-1/2 x 8	2-3/8"	1.491	130,000	77,536	1,056	969	1,212	1,357	1,454	1,522	1,938	4,264	801	
1-5/8 x 8	2-9/16"	1.774	130,000	92,239	1,361	1,249	1,561	1,749	1,874	1,961	2,498	5,496	1,056	
1-3/4 x 8	2-3/4"	2.081	130,000	108,217	1,720	1,578	1,973	2,209	2,367	2,478	3,156	6,944	1,361	
1-7/8 x 8	2-15/16"	2.413	130,000	125,471	2,137	1,960	2,451	2,745	2,941	3,078	3,921	8,626	1,720	
2 x 8	3-1/8"	2.769	130,000	144,000	2,616	2,400	3,000	3,360	3,600	3,768	4,800	10,560	2,137	
2-1/8 x 8	3-5/16"	3.150	130,000	163,805	3,162	2,901	3,626	4,061	4,351	4,554	5,801	12,763	2,616	
2-1/4 x 8	3-1/2"	3.555	130,000	184,886	3,779	3,467	4,333	4,853	5,200	5,443	6,933	15,253	3,162	
2-3/8 x 8	3-11/16"	3.985	130,000	207,242	4,471	4,102	5,127	5,742	6,152	6,440	8,203	18,047	3,779	
2-1/2 x 8	3-7/8"	4.440	130,000	230,874	5,243	4,810	6,012	6,734	7,215	7,551	9,620	21,163	4,471	

**TORQUE GUIDE FOR SAE GRADE J429 GR 8 STUD**

BOLT TENSION BASED ON				50	PERCENT YIELD	REQUIRED TORQUE (ft-lb)								
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (in <sup>2</sup> )	MIN YIELD STRENGTH (psi)	BOLT TENSION (lb)	TS-801 MolySpray 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	130,000	21,729	148	136	170	190	204	213	272	598	0.109	
7/8 x 9	1-7/16"	0.461	130,000	29,997	238	219	273	306	328	343	437	962	148	
1 x 8	1-5/8"	0.605	130,000	39,353	357	328	410	459	492	515	656	1,443	238	
1-1/8 x 8	1-13/16"	0.790	130,000	51,353	525	481	602	674	722	756	963	2,118	357	
1-1/4 x 8	2"	0.999	130,000	64,948	737	677	846	947	1,015	1,062	1,353	2,977	525	
1-3/8 x 8	2-3/16"	1.233	130,000	80,137	1,001	918	1,148	1,286	1,377	1,442	1,836	4,040	737	
1-1/2 x 8	2-3/8"	1.491	130,000	96,920	1,321	1,212	1,514	1,696	1,817	1,902	2,423	5,331	1,001	
1-5/8 x 8	2-9/16"	1.774	130,000	115,299	1,702	1,561	1,952	2,186	2,342	2,451	3,123	6,870	1,321	
1-3/4 x 8	2-3/4"	2.081	130,000	135,271	2,150	1,973	2,466	2,762	2,959	3,097	3,945	8,680	1,702	
1-7/8 x 8	2-15/16"	2.413	130,000	156,838	2,671	2,451	3,063	3,431	3,676	3,847	4,901	10,783	2,150	
2 x 8	3-1/8"	2.769	130,000	180,000	3,270	3,000	3,750	4,200	4,500	4,710	6,000	13,200	2,671	
2-1/8 x 8	3-5/16"	3.150	130,000	204,756	3,952	3,626	4,532	5,076	5,439	5,693	7,252	15,954	3,270	
2-1/4 x 8	3-1/2"	3.555	130,000	231,107	4,723	4,333	5,417	6,067	6,500	6,803	8,667	19,066	3,952	
2-3/8 x 8	3-11/16"	3.985	130,000	259,052	5,589	5,127	6,409	7,178	7,691	8,050	10,254	22,559	4,723	
2-1/2 x 8	3-7/8"	4.440	130,000	288,592	6,553	6,012	7,515	8,417	9,019	9,439	12,025	26,454	5,589	

TORQUE GUIDE FOR SAE GRADE J429 GR 8 STUD														
BOLT TENSION BASED ON				60	PERCENT YIELD	REQUIRED TORQUE (ft-lb)								
BOLT SIZE DIA. X TPI	HEX NUT ACROSS FLAT	STRESS AREA (in <sup>2</sup> )	MIN YIELD STRENGTH (psi)	BOLT TENSION (lb)	TS-801 MolySpray 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	130,000	26,075	178	163	204	228	244	256	326	717	178	
7/8 x 9	1-7/16"	0.461	130,000	35,997	286	262	328	367	394	412	525	1,155	286	
1 x 8	1-5/8"	0.605	130,000	47,224	429	394	492	551	590	618	787	1,732	429	
1-1/8 x 8	1-13/16"	0.790	130,000	61,624	630	578	722	809	867	907	1,155	2,542	630	
1-1/4 x 8	2"	0.999	130,000	77,937	885	812	1,015	1,137	1,218	1,275	1,624	3,572	885	
1-3/8 x 8	2-3/16"	1.233	130,000	96,164	1,201	1,102	1,377	1,543	1,653	1,730	2,204	4,848	1,201	
1-1/2 x 8	2-3/8"	1.491	130,000	116,305	1,585	1,454	1,817	2,035	2,181	2,282	2,908	6,397	1,585	
1-5/8 x 8	2-9/16"	1.774	130,000	138,358	2,042	1,874	2,342	2,623	2,810	2,942	3,747	8,244	2,042	
1-3/4 x 8	2-3/4"	2.081	130,000	162,325	2,580	2,367	2,959	3,314	3,551	3,717	4,734	10,416	2,580	
1-7/8 x 8	2-15/16"	2.413	130,000	188,206	3,205	2,941	3,676	4,117	4,411	4,617	5,881	12,939	3,205	
2 x 8	3-1/8"	2.769	130,000	216,000	3,924	3,600	4,500	5,040	5,400	5,652	7,200	15,840	3,924	
2-1/8 x 8	3-5/16"	3.150	130,000	245,707	4,743	4,351	5,439	6,091	6,527	6,831	8,702	19,145	4,743	
2-1/4 x 8	3-1/2"	3.555	130,000	277,328	5,668	5,200	6,500	7,280	7,800	8,164	10,400	22,880	5,668	
2-3/8 x 8	3-11/16"	3.985	130,000	310,863	6,706	6,152	7,691	8,613	9,229	9,659	12,305	27,071	6,706	
2-1/2 x 8	3-7/8"	4.440	130,000	346,310	7,864	7,215	9,019	10,101	10,822	11,327	14,430	31,745	7,864	

TORQUE GUIDE FOR SAE GRADE J429 GR 8 STUD														
BOLT TENSION BASED ON				70	PERCENT YIELD	REQUIRED TORQUE (ft-lb)								
BOLT SIZE DIA. X TPI	HEX NUT ACROSS FLAT	STRESS AREA (in <sup>2</sup> )	MIN YIELD STRENGTH (psi)	BOLT TENSION (lb)	TS-801 MolySpray 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	130,000	30,420	207	190	238	266	285	299	380	837	207	
7/8 x 9	1-7/16"	0.461	130,000	41,996	334	306	383	429	459	481	612	1,347	334	
1 x 8	1-5/8"	0.605	130,000	55,095	500	459	574	643	689	721	918	2,020	500	
1-1/8 x 8	1-13/16"	0.790	130,000	71,895	735	674	843	944	1,011	1,058	1,348	2,966	735	
1-1/4 x 8	2"	0.999	130,000	90,927	1,032	947	1,184	1,326	1,421	1,487	1,894	4,167	1,032	
1-3/8 x 8	2-3/16"	1.233	130,000	112,192	1,401	1,286	1,607	1,800	1,928	2,018	2,571	5,656	1,401	
1-1/2 x 8	2-3/8"	1.491	130,000	135,689	1,849	1,696	2,120	2,375	2,544	2,663	3,392	7,463	1,849	
1-5/8 x 8	2-9/16"	1.774	130,000	161,418	2,383	2,186	2,732	3,060	3,279	3,432	4,372	9,618	2,383	
1-3/4 x 8	2-3/4"	2.081	130,000	189,380	3,010	2,762	3,452	3,867	4,143	4,336	5,524	12,152	3,010	
1-7/8 x 8	2-15/16"	2.413	130,000	219,574	3,740	3,431	4,289	4,803	5,146	5,386	6,862	15,096	3,740	
2 x 8	3-1/8"	2.769	130,000	252,000	4,578	4,200	5,250	5,880	6,300	6,594	8,400	18,480	4,578	
2-1/8 x 8	3-5/16"	3.150	130,000	286,659	5,533	5,076	6,345	7,107	7,614	7,970	10,152	22,335	5,533	
2-1/4 x 8	3-1/2"	3.555	130,000	323,550	6,613	6,067	7,583	8,493	9,100	9,524	12,133	26,693	6,613	
2-3/8 x 8	3-11/16"	3.985	130,000	362,673	7,824	7,178	8,972	10,049	10,767	11,269	14,356	31,583	7,824	
2-1/2 x 8	3-7/8"	4.440	130,000	404,029	9,175	8,417	10,522	11,784	12,626	13,215	16,835	37,036	9,175	

TORQUE GUIDE FOR SAE GRADE J429 GR 8 STUD														
BOLT TENSION BASED ON				80	PERCENT YIELD	REQUIRED TORQUE (ft-lb)								
BOLT SIZE DIA. X TPI	HEX NUT ACROSS FLAT	STRESS AREA (in <sup>2</sup> )	MIN YIELD STRENGTH (psi)	BOLT TENSION (lb)	TS-801 MolySpray 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	130,000	34,766	237	217	272	304	326	341	435	956	237	
7/8 x 9	1-7/16"	0.461	130,000	47,996	381	350	437	490	525	549	700	1,540	381	
1 x 8	1-5/8"	0.605	130,000	62,965	572	525	656	735	787	824	1,049	2,309	572	
1-1/8 x 8	1-13/16"	0.790	130,000	82,165	840	770	963	1,078	1,155	1,209	1,541	3,389	840	
1-1/4 x 8	2"	0.999	130,000	103,917	1,180	1,082	1,353	1,515	1,624	1,699	2,165	4,763	1,180	
1-3/8 x 8	2-3/16"	1.233	130,000	128,219	1,601	1,469	1,836	2,057	2,204	2,307	2,938	6,464	1,601	
1-1/2 x 8	2-3/8"	1.491	130,000	155,073	2,113	1,938	2,423	2,714	2,908	3,043	3,877	8,529	2,113	
1-5/8 x 8	2-9/16"	1.774	130,000	184,478	2,723	2,498	3,123	3,497	3,747	3,922	4,996	10,992	2,723	
1-3/4 x 8	2-3/4"	2.081	130,000	216,434	3,440	3,156	3,945	4,419	4,734	4,955	6,313	13,888	3,440	
1-7/8 x 8	2-15/16"	2.413	130,000	250,941	4,274	3,921	4,901	5,489	5,881	6,156	7,842	17,252	4,274	
2 x 8	3-1/8"	2.769	130,000	288,000	5,232	4,800	6,000	6,720	7,200	7,536	9,600	21,120	5,232	
2-1/8 x 8	3-5/16"	3.150	130,000	327,610	6,324	5,801	7,252	8,122	8,702	9,108	11,603	25,526	6,324	
2-1/4 x 8	3-1/2"	3.555	130,000	369,771	7,557	6,933	8,667	9,706	10,400	10,885	13,866	30,506	7,557	
2-3/8 x 8	3-11/16"	3.985	130,000	414,484	8,942	8,203	10,254	11,485	12,305	12,879	16,407	36,095	8,942	
2-1/2 x 8	3-7/8"	4.440	130,000	461,747	10,486	9,620	12,025	13,468	14,430	15,103	19,239	42,327	10,486	

TORQUE GUIDE FOR SAE GRADE J429 GR 8 STUD													
BOLT TENSION BASED ON		90	PERCENT YIELD	REQUIRED TORQUE (ft-lb)									
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (in <sup>2</sup> )	MIN YIELD STRENGTH (psi)	BOLT TENSION (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	130,000	39,112	266	244	306	342	367	384	489	1,076	266
7/8 x 9	1-7/16"	0.461	130,000	53,995	429	394	492	551	591	618	787	1,732	429
1x 8	1-5/8"	0.605	130,000	70,836	643	590	738	826	885	927	1,181	2,597	643
1-1/8 x 8	1-13/16"	0.790	130,000	92,436	945	867	1,083	1,213	1,300	1,361	1,733	3,813	945
1-1/4 x 8	2"	0.999	130,000	116,906	1,327	1,218	1,522	1,705	1,827	1,912	2,436	5,358	1,327
1-3/8 x 8	2-3/16"	1.233	130,000	144,246	1,802	1,653	2,066	2,314	2,479	2,595	3,306	7,272	1,802
1-1/2 x 8	2-3/8"	1.491	130,000	174,457	2,377	2,181	2,726	3,053	3,271	3,424	4,361	9,595	2,377
1-5/8 x 8	2-9/16"	1.774	130,000	207,537	3,063	2,810	3,513	3,935	4,216	4,412	5,621	12,366	3,063
1-3/4 x 8	2-3/4"	2.081	130,000	243,488	3,870	3,551	4,439	4,971	5,326	5,575	7,102	15,624	3,870
1-7/8 x 8	2-15/16"	2.413	130,000	282,309	4,808	4,411	5,514	6,176	6,617	6,925	8,822	19,409	4,808
2 x 8	3-1/8"	2.769	130,000	324,000	5,886	5,400	6,750	7,560	8,100	8,478	10,800	23,760	5,886
2-1/8 x 8	3-5/16"	3.150	130,000	368,561	7,114	6,527	8,158	9,137	9,790	10,247	13,053	28,717	7,114
2-1/4 x 8	3-1/2"	3.555	130,000	415,992	8,502	7,800	9,750	10,920	11,700	12,246	15,600	34,319	8,502
2-3/8 x 8	3-11/16"	3.985	130,000	466,294	10,059	9,229	11,536	12,920	13,843	14,489	18,457	40,606	10,059
2-1/2 x 8	3-7/8"	4.440	130,000	519,466	11,796	10,822	13,528	15,151	16,233	16,991	21,644	47,618	11,796

TORQUE GUIDE FOR SAE GRADE J429 GR 8 STUD													
BOLT TENSION BASED ON		99	PERCENT YIELD	REQUIRED TORQUE (ft-lb)									
BOLT SIZE DIA. x TPI	HEX NUT ACROSS FLAT	STRESS AREA (in <sup>2</sup> )	MIN YIELD STRENGTH (psi)	BOLT TENSION (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	130,000	43,023	293	269	336	376	403	422	538	1,183	293
7/8 x 9	1-7/16"	0.461	130,000	59,395	472	433	541	606	650	680	866	1,906	472
1x 8	1-5/8"	0.605	130,000	77,920	708	649	812	909	974	1,019	1,299	2,857	708
1-1/8 x 8	1-13/16"	0.790	130,000	101,680	1,039	953	1,192	1,335	1,430	1,497	1,906	4,194	1,039
1-1/4 x 8	2"	0.999	130,000	128,597	1,460	1,340	1,674	1,875	2,009	2,103	2,679	5,894	1,460
1-3/8 x 8	2-3/16"	1.233	130,000	158,671	1,982	1,818	2,273	2,545	2,727	2,854	3,636	8,000	1,982
1-1/2 x 8	2-3/8"	1.491	130,000	191,902	2,615	2,399	2,998	3,358	3,598	3,766	4,798	10,555	2,615
1-5/8 x 8	2-9/16"	1.774	130,000	228,291	3,370	3,091	3,864	4,328	4,637	4,854	6,183	13,602	3,370
1-3/4 x 8	2-3/4"	2.081	130,000	267,837	4,257	3,906	4,882	5,468	5,859	6,132	7,812	17,186	4,257
1-7/8 x 8	2-15/16"	2.413	130,000	310,540	5,289	4,852	6,065	6,793	7,278	7,618	9,704	21,350	5,289
2 x 8	3-1/8"	2.769	130,000	356,400	6,475	5,940	7,425	8,316	8,910	9,326	11,880	26,136	6,475
2-1/8 x 8	3-5/16"	3.150	130,000	405,417	7,825	7,179	8,974	10,051	10,769	11,271	14,359	31,589	7,825
2-1/4 x 8	3-1/2"	3.555	130,000	457,592	9,352	8,580	10,725	12,012	12,870	13,470	17,160	37,751	9,352
2-3/8 x 8	3-11/16"	3.985	130,000	512,923	11,065	10,152	12,690	14,212	15,227	15,938	20,303	44,667	11,065
2-1/2 x 8	3-7/8"	4.440	130,000	571,412	12,976	11,904	14,881	16,666	17,857	18,690	23,809	52,379	12,976