



Suggested Torque Values

SAE J429 Grade 8 – ASTM A354 Grade BD

Bolt Size	TPI	Proof Load (lbs)	Clamp Load (lbs)	Tightening Torque (ft lbs)		
				Waxed	Zinc	Dry
1/4	20	3,800	2,850	8.9	10.1	11.9
5/16	18	6,300	4,725	18.5	20.9	24.6
3/8	16	9,300	6,975	32.7	37.1	43.6
7/16	14	12,750	9,563	52.3	59.3	69.7
1/2	13	17,050	12,788	79.9	90.6	106.6
9/16	12	21,850	16,388	115.2	130.6	153.6
5/8	11	27,100	20,325	158.8	180	211.7
3/4	10	40,100	30,075	282	319.5	375.9
7/8	9	55,450	41,588	454.9	515.5	606.5
1	8	72,700	54,525	681.6	772.4	908.8
1 1/8	7	91,550	68,663	965.6	1094.3	1287.4
1 1/4	7	120,000	90,000	1406.3	1593.8	1875
1 3/8	6	138,600	103,950	1786.6	2024.9	2382.2
1 1/2	6	168,600	126,450	2370.9	2687.1	3161.3
1 3/4	5	228,000	171,000	3740.6	4239.4	4987.5
2	4 1/2	300,000	225,000	5625	6375	7500
2 1/4	4 1/2	390,000	292,500	8226.6	9323.4	10968.8
2 1/2	4	480,000	360,000	11250	12750	15000
2 3/4	4	517,650	388,238	13345.7	15125.1	17794.2
3	4	626,850	470,138	17630.2	19980.8	23506.9
3 1/4	4	745,500	559,125	22714.5	25743	30285.9
3 1/2	4	874,650	655,988	28699.5	32526	38265.9
3 3/4	4	1,014,300	760,725	35659	40413.5	47545.3
4	4	1,163,400	872,550	43627.5	49444.5	58170