

METRIC

Bolt Diameter (mm)	Head/Wrench Size (mm)			Recommended Torque Spec (N.m)		Recommended Torque Spec (Ft.lb)		Recommended Torque Spec (Inch pounds)	
	ANSI/ISO	DIN	JIS	Class 8.8	Class 10.9	Class 8.8	Class 10.9	Class 8.8	Class 10.9
5	8	8	8	7	9	5	7	62	80
6	10	10	10	12	16	9	12	106	142
8	13	13	12	30	40	22	29	266	354
10	16	17	14	55	75	41	55	487	664
12	18	19	17	100	135	74	100	885	1195
14	21	22	19	160	215	118	159	1416	1903
16	24	24	22	245	335	181	247	2168	2965
20	30	30	-	480	650	354	479	4248	5753

Bolt Diameter (mm)	Head/Wrench Size (mm)			Recommended Torque Spec (N.m Anti-seize .7 factor)		Recommended Torque Spec (Ft.lb Anti-seize .7 factor)		Recommended Torque Spec (Inch pounds Anti-seize .7 factor)	
	ANSI/ISO	DIN	JIS	Class 8.8	Class 10.9	Class 8.8	Class 10.9	Class 8.8	Class 10.9
5	8	8	8	4.9	6.3	4	5	43	56
6	10	10	10	8.4	11.2	6	8	74	99
8	13	13	12	21	28	15	21	186	248
10	16	17	14	38.5	52.5	28	39	341	465
12	18	19	17	70	94.5	52	70	620	836
14	21	22	19	112	150.5	83	111	991	1332
16	24	24	22	171.5	234.5	126	173	1518	2075
20	30	30	-	336	455	248	336	2974	4027

SAE

Bolt Diameter	Head and Wrench Size		Recommended Torque (Ft.lb)			Recommended Torque (N.m)			Recommended Torque (Inch Pounds)		
	Hex Bolt - Lag Bolt - Square Bolt	Heavy Hex Bolt	Grade 2	Grade 5	Grade 8	Grade 2	Grade 5	Grade 8	Grade 2	Grade 5	Grade 8
	1/4"	7/16" or 3/8"	-	4	6.3	9	5	9	12	48	76
5/16"	1/2"	-	8	13	18	11	18	24	96	156	216
3/8"	9/16"	-	15	23	33	20	31	45	180	276	396
7/16"	5/8"	-	24	37	52	33	50	71	288	444	624
1/2"	3/4"	7/8"	37	57	80	50	77	108	444	684	960
9/16"	13/16"	-	53	82	115	72	111	156	636	984	1380
5/8"	15/16"	1-1/16"	73	112	159	99	152	216	876	1344	1908
3/4"	1-1/8"	1-1/4"	125	200	282	170	271	382	1500	2400	3384
7/8"	1-5/16"	1-7/16"	129	322	454	175	437	616	1548	3865	5449
1"	1-1/2"	1-5/8"	188	483	682	255	655	925	2256	5797	8185

Bolt Diameter	Head and Wrench Size		Recommended Torque (Ft.lb Anti-seize .7 factor)			Recommended Torque (N.m Anti-seize .7 factor)			Recommended Torque (Inch Pounds Anti-seize .7 factor)		
	Hex Bolt - Lag Bolt - Square Bolt	Heavy Hex Bolt	Grade 2	Grade 5	Grade 8	Grade 2	Grade 5	Grade 8	Grade 2	Grade 5	Grade 8
	1/4"	7/16" or 3/8"	-	3	4	6	4	6	9	34	53
5/16"	1/2"	-	6	9	13	8	12	17	67	109	151
3/8"	9/16"	-	11	16	23	14	22	31	126	193	277
7/16"	5/8"	-	17	26	36	23	35	49	202	311	437
1/2"	3/4"	7/8"	26	40	56	35	54	76	311	479	672
9/16"	13/16"	-	37	57	81	50	78	109	445	689	966
5/8"	15/16"	1-1/16"	51	78	111	69	106	151	613	941	1336
3/4"	1-1/8"	1-1/4"	88	140	197	119	190	268	1050	1680	2369
7/8"	1-5/16"	1-7/16"	90	225	318	122	306	431	1084	2705	3814
1"	1-1/2"	1-5/8"	132	338	477	178	458	647	1579	4058	5730



Grade 2



Grade 5



Grade 8



Grade L9 (R)