




5.1 GENERAL USE SCREWS, BOLTS AND NUTS



If the tightening torques are not specified for some screws, bolts and nuts in this manual, tighten them according to the table below.

Indication on top of bolt	 No-grade or 4T						 7T						 9T		
Material of bolt	SS400, S20C						S43C, S48C						SCr435, SCM435		
Material of opponent part	Ordinariness			Aluminum			Ordinariness			Aluminum			Ordinariness		
Unit Diameter	Nm	kgf-m	lb-ft	Nm	kgf-m	lb-ft	Nm	kgf-m	lb-ft	Nm	kgf-m	lb-ft	Nm	kgf-m	lb-ft
M6 (6 mm, 0.24 in.)	7.85 ~ 9.31	0.80 ~ 0.95	5.79 ~ 6.87	7.85 ~ 8.82	0.80 ~ 0.90	5.79 ~ 6.50	9.81 ~ 11.2	1.00 ~ 1.15	7.24 ~ 8.31	7.85 ~ 8.82	0.80 ~ 0.90	5.79 ~ 6.50	12.3 ~ 14.2	1.25 ~ 1.45	9.05 ~ 10.4
M8 (8 mm, 0.31 in.)	17.7 ~ 20.5	1.8 ~ 2.1	13.1 ~ 15.1	16.7 ~ 19.6	1.7 ~ 2.0	12.3 ~ 14.4	23.6 ~ 27.4	2.4 ~ 2.8	17.4 ~ 20.2	17.7 ~ 20.5	1.8 ~ 2.1	13.1 ~ 15.1	29.5 ~ 34.3	3.0 ~ 3.5	21.7 ~ 25.3
M10 (10 mm, 0.39 in.)	39.3 ~ 45.1	4.0 ~ 4.6	29.0 ~ 33.2	31.4 ~ 34.3	3.2 ~ 3.5	23.2 ~ 25.3	48.1 ~ 55.8	4.9 ~ 5.7	35.5 ~ 41.2	39.3 ~ 44.1	4.0 ~ 4.5	29.0 ~ 32.5	60.9 ~ 70.6	6.2 ~ 7.2	44.9 ~ 52.0
M12 (12 mm, 0.47 in.)	62.8 ~ 72.5	6.4 ~ 7.4	46.3 ~ 53.5				77.5 ~ 90.2	7.9 ~ 9.2	57.2 ~ 66.5	62.8 ~ 72.5	6.4 ~ 7.4	46.3 ~ 53.5	103 ~ 117	10.5 ~ 12.0	76.0 ~ 86.7
M14 (14 mm, 0.55 in.)	108 ~ 125	11.0 ~ 12.8	79.6 ~ 92.5				124 ~ 147	12.6 ~ 15.0	91.2 ~ 108				167 ~ 704	17.0 ~ 20.0	123 ~ 144
M16 (16 mm, 0.63 in.)	167 ~ 191	17.0 ~ 19.5	123 ~ 141				197 ~ 225	20.0 ~ 23.0	145 ~ 166				260 ~ 304	26.5 ~ 31.0	192 ~ 224
M18 (18 mm, 0.71 in.)	246 ~ 284	25.0 ~ 29.0	181 ~ 209				275 ~ 318	28.0 ~ 32.5	203 ~ 235				344 ~ 402	35.0 ~ 41.0	254 ~ 296
M20 (20 mm, 0.79 in.)	334 ~ 392	34.0 ~ 40.0	246 ~ 289				368 ~ 431	37.5 ~ 44.0	272 ~ 318				491 ~ 568	50.0 ~ 58.0	362 ~ 419

5.2 STUD BOLTS

Material of opponent part	Ordinariness			Aluminum		
Unit Diameter	Nm	kgf-m	lb-ft	Nm	kgf-m	lb-ft
M8 (8 mm, 0.31 in.)	11.8 ~ 15.6	1.2 ~ 1.6	8.68 ~ 11.5	8.82 ~ 11.8	0.90 ~ 1.2	6.51 ~ 8.67
M10 (10 mm, 0.39 in.)	24.6 ~ 31.3	2.5 ~ 3.2	18.1 ~ 23.1	19.7 ~ 25.4	2.0 ~ 2.6	14.5 ~ 18.8
M12 (12 mm, 0.47 in.)	29.5 ~ 49.0	3.0 ~ 5.0	21.7 ~ 36.1	31.4	3.2	23.1

5.3 AMERICAN STANDARD SCREWS, BOLTS AND NUTS WITH UNC OR UNF THREADS

Grade Unit Nominal diameter	SAE GR.5 			SAE GR.8 		
	Nm	kgf-m	lb-ft	Nm	kgf-m	lb-ft
5/16	23.1 ~ 27.8	2.35 ~ 2.84	17.0 ~ 20.5	32.5 ~ 39.3	3.31 ~ 4.01	24.0 ~ 29.0
3/8	47.5 ~ 57.0	4.84 ~ 5.82	35.0 ~ 42.0	61.0 ~ 73.2	6.22 ~ 7.47	45.0 ~ 54.0
1/2	108.5 ~ 130.2	11.07 ~ 13.29	80.0 ~ 96.0	149.2 ~ 179.0	15.22 ~ 18.27	110.0 ~ 132.0
9/16	149.2 ~ 179.0	15.22 ~ 18.27	110.0 ~ 132.0	217.0 ~ 260.4	22.14 ~ 26.57	160.0 ~ 192.0
5/8	203.4 ~ 244.1	20.75 ~ 24.91	150.0 ~ 180.0	298.3 ~ 358.0	30.44 ~ 36.53	220.0 ~ 264.0

GENERAL

ENGINE

CLUTCH

TRANSMISSION

HST

REAR AXLE

BARKE

FRONT AXLE

STEERING

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