

Item		Thread Dia. (mm) and pitch (length)	Torque values		
			N · m	kgf · m	lbf · ft
• ENGINE					
Crankcase bolt	*1	M10 x 1.25	25	2.5	18
	*3		44	4.5	33
		M8 x 1.25	26	2.7	20
Oil filter		M22 x 1.5	22	2.2	16
Cylinder head bolt		M10 x 1.25	69	7.0	51
		M8 x 1.25	26	2.7	20
Connecting rod nut		M8 x 0.75	31	3.2	23
	*4	M8 x 0.75	33	3.3	24
Valve adjusting lock nut		M7 x 0.75	23	2.3	17
Oil drain plug		M12 x 1.5	23	2.3	17
Oil strainer nut		M10 x 1.25	39	4.0	29
Flywheel bolt		M12 x 1.0	103	10.5	76
Oil pump bolt		M8 x 1.25	26	2.7	20
		M6 x 1.0	12	1.2	9
18mm sealing bolt		M18 x 1.5	39	4.0	29
Starter pulley bolt		M6 x 1.0	12	1.2	9
Alternator rotor bolt	*2	M14 x 1.25	20	2.0	14
	*3		181	18.5	134
Timing belt driven pulley bolt		M10 x 1.25	56	5.7	41
Timing belt tensioner bolt		M10 x 1.25	44	4.5	33
Timing belt adjusting spring bolt		M6 x 1.0	12	1.2	9
Throttle cam bolt		M6 x 1.0	12	1.2	9
Choke arm bolt		M6 x 1.0	12	1.2	9
Choke solenoid bracket bolt					
(Remote control type only)		M6 x 1.0	9	0.9	6.5
Engine mount bolt, nut		M10 x 1.25	39	4.0	29
Intake manifold bolt, nut		M8 x 1.25	26	2.7	20
Carburetor bolt		M6 x 1.0	10	1.0	7
Diaphragm torx. bolt		M6 x 1.0	9	0.9	6.5
Fuel pump bolt		M6 x 1.0	9	0.9	6.5
Thermoswitch		M16 x 1.5	12	1.2	9
Oil pressure switch		PT1/8	9	0.9	6.5
Starter magnetic switch nut		M6 x 1.0	5	0.5	3.6
CDI unit bolt		M6 x 1.0	5	0.5	3.6
Starter motor bolt		M10 x 1.25	39	4.0	29
Rear bracket bolt		M5 x 0.8	5	0.5	3.6
Starter solenoid screw		M6 x 1.0	6	0.6	4.3
	nut	M8 x 1.25	10	1.0	7

*1 : Tighten the crankcase bolts to 25N · m (2.5 kgf · m, 18 lbf · ft) first, then tighten them an additional 40° (Snag torque [Angle method]).

*2 : Tighten the alternator rotor bolts to 20N · m (2.0 kgf · m, 14 lbf · ft) first, then tighten them an additional 90° (Snag torque [Angle method]).

*3 : Tighten to the specified torque (Torque method).

*4 : Engine serial number listed below and the subsequent numbers

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• GEAR CASE					
Propeller shaft nut		M18 x 1.5	75	7.6	55
Propeller shaft holder nut		M8 x 1.25	30	3.1	22
Gear case bolt		M10 x 1.25	34	3.5	25
nut (UL type only)		M10 x 1.25	34	3.5	25
Extension separator stud bolt (UL type only)		M10 x 1.25	15	1.5	11
Oil drain bolt		M8 x 1.25	7	0.7	5.1
Oil level screw		M8 x 1.25	7	0.7	5.1
Vent screw		M8 x 1.25	7	0.7	5.1
Trim tab bolt		7/16 – 14 UNC	29.8	3.0	22
Anode metal nut		M6 x 1.0	7	0.7	5.1
Seal holder bolt		M6 x 1.0	7	0.7	5.1
Pinion gear nut		5/8 – 18 UNF	95	9.7	70
Impeller housing bolt		M6 x 1.0	7	0.7	5.1
Water pump housing bolt		M6 x 1.0	7	0.7	5.1
• EXTENSION/MOUNT					
Lower rubber motor mount nut		M12 x 1.25	83	8.5	61
Lower rubber motor mount housing bolt		M8 x 1.25	22	2.2	16
Extension case bolt		M10 x 1.25	34	3.5	25
Under cover bolt		M6 x 1.0	6.4	0.65	4.7
Upper rubber mount nut		M12 x 1.25	83	8.5	61
• STERN BRACKET					
Stern bracket nut		M25 x 2.0	17	1.7	12
		7/8 – 14 UNC	17	1.7	12
		M10 x 1.25	34	3.5	25
• POWER TRIM/TILT ASSEMBLY					
Cylinder cap		_____	162	16.5	119
Rod guide comp.		_____	78	8.0	58
Manual valve		M14 x 1.5	3.5	0.35	2.5
Socket bolt A/B		_____	8.3	0.85	6.1
Power tilt motor assembly bolt		1/4 – 20 UNC	5	0.5	3.6
Oil tank bolt		_____	5	0.5	3.6
Oil tank cap		_____	2.5	0.25	1.8
• GAS ASSISTED ASSEMBLY					
Tilt lever nut		M6 x 1.0	10	1.0	7
• FRAME / ELECTRICAL					
Separate top cover bolt		M6 x 1.0 (Flange)	12	1.2	9
		(Hex.)	10	1.0	7
Steering rod bolt/nut (Remote control type only)		3/8 – 24 UNF	22	2.2	16
Remote control lever bolt (Panel-mount/ single top-mount/dual top-mount remote control type only)		_____	17	1.7	12
Shoulder bolt (Panel-mount/single top- mount/dual top-mount remote control type only)		_____	4	0.4	2.9
Tiller handle bolt/nut (Tiller handle type only)		M10 x 1.25	35	3.6	26
		M8 x 1.25	22	2.2	16

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• FRAME / ELECTRICAL				
Steering bracket nut (Tiller handle type only)	M12 X 1.25	31	3.2	23
Shift link cover screw (Tiller handle type only)	M6 x 1.0	3	0.3	2.2
Tilt handle nut	M6 x 1.0	6.4	0.65	4.7
Ignition switch nut	M22 x 1.0	4.8	0.49	3.5
Emergency stop switch nut	M16 x 1.0	1.5	0.15	1.1
Neutral switch nut	M20 x 1.0	2.5	0.25	1.8
Grease fitting	M6 x 1.0	3	0.3	2.2

NOTE : Use standard torque values for fasteners that the are not listed in this table.

STANDARD TORQUE VALUES

Item	Thread Dia. (mm) and pitch (length)	Torque values		
		N · m	kgf · m	lbf · ft
Bolt and nut	5 mm	5.2	0.52	3.8
	6 mm	10	1.0	7
	8 mm	21.5	2.15	15.6
	10 mm	34	3.5	25
	12 mm	54	5.5	40
Flange bolt and nut	6 mm (SH Flange bolt)	9	0.9	6.5
	6 mm	12	1.2	9
	8 mm	26	2.7	20
	10 mm	39	4.0	29
Screw	5 mm	4.2	0.42	3.0
	6 mm	9	0.9	6.5

