SERVICE SPECIFICATIONS

SERVICE DATA

ST015-1Q

Starter (1.2 kW, 1.4 kW type)	Rated voltage and output power			12 V 1.2 kW, 1.4 kW
	No-load characteristics		Current	90 A or less at 11.5 V
			rpm	3,000 rpm or more
	Brush length		STD	15.5 mm (0.610 in.)
			Minimum	10.0 mm (0.394 in.)
	Spring installed load	STD	1.2 kW type	13.7 – 19.6 N (1.4 – 2.0 kgf, 3.1 – 4.4 lbf)
			1.4 kW type	17.6 – 23.5 N (1.8 – 2.4 kgf, 4.0 – 5.3 lbf)
		Minimum	1.2 kW type	9.8 N (1.0 kgf, 2.2 lbf)
			1.4 kW type	11.8 N (1.2 kgf, 2.6 lbf)
	Commutator			
	Diameter		STD	30 mm (1.18 in.)
			Minimum	29 mm (1.14 in.)
	Undercut depth		STD	0.6 mm (0.024 in.)
			Minimum	0.2 mm (0.008 in.)
	Circle runout		Maximum	0.05 mm (0.0020 in.)
	Magnetic switch			
	Contact plate for wear		Maximum	0.9 mm (0.035 in.)
Starter (2.0 kW type)	Rated voltage and output power			12 V 2.0 kW
	No-load characteristics		Current	100 A or less at 11.5 V
			rpm	2000 rpm or more
	Brush length		STD	15.0 mm (0.591 in.)
			Minimum	9.0 mm (0.354 in.)
	Spring installed load		STD	21.5 – 27.5 N (2.20 – 2.80 kgf, 4.9 – 6.2 lbf)
			Minimum	12.7 N (1.30 kgf, 2.7 lbf)
	Commutator			
	Diameter		STD	35.0 mm (1.378 in.)
			Minimum	34.0 mm (1.339 in.)
	Undercut depth		STD	0.7 mm (0.028 in.)
			Minimum	0.2 mm (0.008 in.)
	Circle runout		Maximum	0.05 mm (0.0020 in.)
	Magnetic switch			
	Contact plate for wear		Maximum	0.9 mm (0.035 in.)

ST016-1G

TORQUE SPECIFICATIONS

Part tightened		N·m	kgf-cm	ft-lbf
Field frame x Armature	1.2 kW, 1.4 kW type	5.9	60	52 in.-lbf
	2.0 kW type	9.3	93	82 in.-lbf
Starter housing x Clutch assembly	1.2 kW, 1.4 kW type	5.9	60	52 in.-lbf
	2.0 kW type	9.3	93	82 in.-lbf
End cover x Field frame	1.2 kW, 1.4 kW type	1.5	15	13 in.-lbf
	2.0 kW type	3.8	38	34 in.-lbf
Lead wire x Terminal C		5.9	60	52 in.-lbf
Terminal nut x Terminal 30 of starter, Terminal C of starter		17	170	12
Magnetic switch end cover x Magnetic switch	1.2 kW, 1.4 kW type	2.5	26	23 in.-lbf
	2.0 kW type	3.6	37	32 in.-lbf