STARTING & CHARGING

SERVICE DATA

031EM–07

Starter assy (2.2 kw)		
Starter armature assy		
Circle runout	Maximum	0.05 mm (0.0020 in.)
Commutator diameter	Standard	35.0 mm (1.378 in.)
	Minimum	34.0 mm (1.339 in.)
Undercut depth	Standard	0.7 mm (0.028 in.)
	Minimum	0.2 mm (0.008 in.)
Brush		
Brush length	Standard	16.5 mm (0.650 in.)
	Minimum	9.0 mm (0.354 in.)
Starter brush holder assy		
Brush spring load	Standard	26.5 to 32.3 N (2.7 to 3.3 kgf, 5.9 to 7.3 lbf)
	Minimum	17.6 N (1.8 kgf, 4.0 lbf)
Starter assy (2.7 kw)		
Starter armature assy		
Circle runout	Maximum	0.05 mm (0.0020 in.)
Commutator diameter	Standard	36.0 mm (1.417 in.)
	Minimum	35.0 mm (1.378 in.)
Undercut depth	Standard	0.7 mm (0.028 in.)
	Minimum	0.2 mm (0.008 in.)
Brush		
Brush length	Standard	20.5 mm (0.807 in.)
	Minimum	11.0 mm (0.433 in.)
Starter brush holder assy		
Brush spring load	Standard	34.3 to 42.1 N (3.5 to 4.3 kgf, 7.7 to 9.5 lbf)
	Minimum	18.6 N (1.9 kgf, 4.2 lbf)
Starter assy (3.0 kw)		
Starter armature assy		
Circle runout	Maximum	0.05 mm (0.0020 in.)
Commutator diameter	Standard	43.0 mm (1.692 in.)
	Minimum	42.0 mm (1.654 in.)
Undercut depth	Standard	0.7 mm (0.028 in.)
	Minimum	0.2 mm (0.008 in.)
Brush		
Brush length	Standard	21.0 mm (0.828 in.)
	Minimum	12.0 mm (0.472 in.)
Starter brush holder assy		
Brush spring load	Standard	27.5 to 37.3 N (2.8 to 3.8 kgf, 6.1 to 8.3 lbf)
	Minimum	14.7 N (1.5 kgf, 3.3 lbf)
Generator assy (80 A)		
Generator rotor assy		
Coil resistance	at 20°C (68°F)	1.7 to 2.1 Ω
Slip ring diameter	Standard	14.2 to 14.4 mm (0.559 to 0.567 in.)
	Minimum	12.8 mm (0.504 in.)
Generator brush holder assy		
Exposed brush length	Standard	9.5 to 11.5 mm (0.374 to 0.453 in.)
	Minimum	1.5 mm (0.059 in.)
Generator assy (100 A)		
Generator rotor assy		
Coil resistance	at 20°C (68°F)	2.3 to 2.7 Ω
Slip ring diameter	Standard	14.2 to 14.4 mm (0.559 to 0.567 in.)
	Minimum	14.0 mm (0.551 in.)
Generator brush holder assy		
Exposed brush length	Standard	10.5 mm (0.413 in.)
	Minimum	4.5 mm (0.177 in.)

Generator assy (130 A)		
Generator rotor assy		
Coil resistance	at 20°C (68°F)	2.3 to 2.7 Ω
Slip ring diameter	Standard	14.2 to 14.4 mm (0.559 to 0.567 in.)
	Minimum	14.0 mm (0.551 in.)
Generator brush holder assy		
Exposed brush length	Standard	10.5 mm (0.413 in.)
	Minimum	4.5 mm (0.177 in.)