

STARTING & CHARGING

SERVICE DATA

030F2-03

2AZ-FE:

Starter assy Specified current		90 A or less at 11.5 V
Starter relay Specified condition	3 – 5	10 k Ω or higher
	3 – 5	Below 1 Ω (when battery voltage is applied to terminals 1 and 2)
Starter armature assy Depth	Standard	3.1 mm (0.122 in.)
	Maximum	3.8 mm (0.150 in.)
Starter commutator end frame assy Brush length	Standard	9.0 mm (0.354 in.)
	Minimum	4.0 mm (0.158 in.)
Magnetic switch resistance	Terminal 50 – C	Below 1 Ω
	Terminal 50 – Switch body	Below 2 Ω
Starter armature resistance	Segments	Below 1 Ω
	Commutator – Coil core	10 k Ω or higher
Voltage regulator	Regulating voltage	13.2 to 14.8 V
	Standard amperage	10 A or less
Generator brush holder assy Brush length	Standard	10.5 mm (0.413 in.)
	Minimum	4.5 mm (0.177 in.)
Generator rotor assy Open circuit Slip ring diameter	Resistance	2.3 to 2.7 Ω at 20°C (68°F)
	Standard	14.2 to 14.4 mm (0.559 to 0.567 in.)
	Minimum	14.0 mm (0.551 in.)

1MZ-FE/3MZ-FE:

Starter assy Specified current		90 A or less at 11.5 V
Starter relay Specified condition	3 – 5	10 k Ω or higher
	3 – 5	Below 1 Ω (when battery voltage is applied to terminals 1 and 2)
Starter armature assy Depth	Standard	3.1 mm (0.122 in.)
	Maximum	3.8 mm (0.150 in.)
Starter commutator end frame assy Brush length	Standard	9.0 mm (0.354 in.)
	Minimum	4.0 mm (0.158 in.)
Magnetic switch resistance	Terminal 50 – C	Below 1 Ω
	Terminal 50 – Switch body	Below 2 Ω
Starter armature resistance	Segments	Below 1 Ω
	Commutator – Coil core	10 k Ω or higher
Voltage regulator	Regulating voltage	13.2 to 14.8 V
	Standard amperage	10 A or less
Generator brush holder assy Brush length	Standard	10.5 mm (0.413 in.)
	Minimum	4.5 mm (0.177 in.)
Generator rotor assy Open circuit Slip ring diameter	Resistance	2.3 to 2.7 Ω at 20°C (68°F)
	Standard	14.2 to 14.4 mm (0.559 to 0.567 in.)
	Minimum	14.0 mm (0.551 in.)