

# STARTING & CHARGING

## SERVICE DATA

0320Y-01

### 1AZ-FE:

Starter assy Specified current		90 A or less at 11.5 V
Starter relay Specified condition	3 – 5	10 k $\Omega$ or higher
	3 – 5	Below 1 $\Omega$ (Apply battery voltage terminals 1 and 2)
Battery Voltage		at 20 °C (68 °F) 12.5 to 12.9 V
Except maintenance-free battery	Standard specific gravity	1.27 to 1.29 V at 20 °C (68 °F)
Charging circuit without load	Standard amperage	10 A or less
Voltage regulator	Regulating voltage	13.2 to 14.8 V
Charging circuit with load	Standard amperage	30 A or more

### 2AZ-FE:

Starter assy Specified current		90 A or less at 11.5 V
Starter relay Specified condition	3 – 5	10 k $\Omega$ or higher
	3 – 5	Below 1 $\Omega$ (Apply battery voltage terminals 1 and 2)
Battery Voltage		at 20 °C (68 °F) 12.5 to 12.9 V
Except maintenance-free battery	Standard specific gravity	1.25 to 1.29 V at 20 °C (68 °F)
Charging circuit without load	Standard amperage	10 A or less
Voltage regulator	Regulating voltage	13.2 to 14.8 V
Charging circuit with load	Standard amperage	30 A or more
Battery current sensor Resistance		3 (VC5) – 2 (E2) 3.0 to 6.0 k $\Omega$ 2 (E2) – 3 (VC5) 0.7 to 8.0 k $\Omega$ 3 (VC5) – 1 (IB) 0.2 to 0.3 k $\Omega$ 1 (IB) – 3 (VC5) 0.2 to 3.0 k $\Omega$ 2 (E2) – 1 (IB) 1.5 to 8.0 k $\Omega$ 1 (IB) – 2 (E2) 3.0 to 6.0 k $\Omega$
Battery thermometer sensor Resistance		at 25 °C (77 °F) 1.98 to 2.02 k $\Omega$