ELECTRONIC FUEL INJECTION

SERVICE DATA

SS0B4–01

Fuel pressure regulator	Fuel pressure	at no vacuum	265 – 304 kPa (2.7 – 3.1 kgf/cm^2, 38 – 44 psi)
Fuel pump	Resistance	at 20°C (68°F)	0.2 – 3.0 Ω
Injector (1RZ–E:)	Resistance	at 20°C (68°F)	13.4 – 14.2 Ω
	Injection volume		44 – 54 cm^3 (3.3 – 3.4 cu in.) per 15 seconds
	Difference between each cylinder		10 cm^3 (0.3 cu in.) or less
	Fuel leakage		1 drop or less per 3 minutes
Injector (2RZ–FE:)	Resistance	at 20°C (68°F)	13.4 – 14.2 Ω
	Injection volume		64 – 78 cm^3 (4.0 – 4.8 cu in.) per 15 seconds
	Difference between each cylinder		14 cm^3 (0.3 cu in.) or less
	Fuel leakage		1 drop or less per 3 minutes
Injector (3RZ–FE:)	Resistance	at 20°C (68°F)	13.4 – 14.2 Ω
	Injection volume		72 – 86 cm^3 (13.4 – 14.2 cu in.) per 15 seconds
	Difference between each cylinder		14 cm^3 (0.3 cu in.) or less
	Fuel leakage		1 drop or less per 3 minutes
Throttle position sensor (1RZ–E:)	Clearance between stop screw and lever		
	0 mm (0 in.)	VTA–E2	0.2 – 5.7 kΩ
	0.57 mm (0.0022 in.)	IDL–E2	2.3 kΩ or less
	0.74 mm (0.029 in.)	IDL–E2	Infinity
	Throttle valve fully open	VTA–E2	2.0 – 10.2 kΩ
		VC–E2	2.5 – 5.9 kΩ
Throttle position sensor (2RZ–FE:, 3RZ–FE:)	Clearance between stop screw and lever		
	0 mm (0 in.)	VTA–E2	0.2 – 5.7 kΩ
	Throttle valve fully open	VTA–E2	2.0 – 10.2 kΩ
		VC–E2	2.5 – 5.9 kΩ
Throttle body (1RZ–E:)	Throttle body fully closed angle		10°
	Dashpot setting speed		2,000 ± 200 rpm
	Throttle opener setting speed		1,200 – 1,500 rpm
Throttle body (2RZ–FE:, 3RZ–FE:)	Throttle body fully closed angle		6°
	Throttle opener setting speed		1,200 – 1,500 rpm
ISC valve (2RZ–FE:, 3RZ–FE:)	Resistance (+B – RSC or RSO)		
		at cold	17.0 – 24.5 Ω
		at hot	21.5 – 28.5 Ω
Air flow meter (2RZ–FE:, 3RZ–FE:)	–20°C (–4°F)	THA – E2	12.5 – 16.9 kΩ
	20°C (68°F)	THA – E2	2.19 – 1.67 kΩ
	60°C (140°F)	THA – E2	0.5 – 0.68 kΩ
VSV for EGR (2RZ–FE:)	Resistance	at 20°C (68°F)	33 – 39 Ω
VSV for EVAP	Resistance	at 20°C (68°F)	30 – 34 Ω
Water temperature sensor	Resistance	at –20°C (–4°F)	10 – 20 kΩ
		at 0°C (32°F)	4 – 7 kΩ
		at 20°C (68°F)	2 – 3 kΩ
		at 40°C (104°F)	0.9 – 1.3 kΩ
		at 60°C (140°F)	0.4 – 0.7 kΩ
		at 80°C (176°F)	0.2 – 0.4 kΩ

Intake air temperature sensor	Resistance	at –20°C (–4°F) at 0°C (32°F) at 20°C (68°F) at 40°C (104°F) at 60°C (140°F) at 80°C (176°F)	10 – 20 kΩ 4 – 7 kΩ 2 – 3 kΩ 0.9 – 1.3 kΩ 0.4 – 0.7 kΩ 0.2 – 0.4 kΩ
Oxygen sensor (2RZ–FE:)	Heater resistance	20°C (68°F)	11.7 – 14.3 Ω
Variable resistor	Voltage Resistance	VCC–E2	4.5 – 5.5 V 4 – 6 kΩ
Fuel cut RPM (1RZ–E:)	Fuel return rpm		1,200 rpm
Fuel cut RPM (2RZ–FE:)	Fuel return rpm		1,400 rpm
Fuel cut RPM (3RZ–FE:)	Fuel return rpm	M/T A/T	1,200 rpm 1,500 rpm

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TORQUE SPECIFICATION

Part tightened		N·m	kgf·cm	ft·lbf
Fuel line (Flare nut type)	w/ SST	28	285	21
Fuel pump bracket assembly x Fuel tank		4.0	35	40 in.·lbf
Fuel pressure regulator x Delivery pipe	1RZ–E:	8.8	90	78 in.·lbf
	2RZ–FE:, 3RZ–FE:	8.0	80	69 in.·lbf
Delivery pipe x Cylinder head		29	300	22
Pulsation damper x Delivery pipe		21	210	15
Water temperature sensor x Cylinder head		20	200	14
Knock sensor x Cylinder block		44	450	33