SERVICE SPECIFICATIONS

SERVICE DATA

Fuel pressure regulator	Fuel pressure	at no vacuum	265 – 304 kPa (2.7 – 3.1 kgf/cm², 38 – 44 psi)
Cold start injector	Resistance		2 – 4 Ω
	Fuel leakage		One drop or less per minute
Injector	Resistance		13.4 – 14.2 Ω
	Injection volume		45 – 55 cm³ (2.7 – 3.4 cu in.) per 15 sec.
	Difference between each cylinder		6 cm³ (0.4 cu in.) or less
	Fuel leakage		One drop or less per minute
Volume air flow meter		Terminals	Resistance
		VS – E2	200 – 600 Ω (Measuring plate fully closed)
		VS – E2	20 – 1,200 Ω (Measuring plate fully open)
		VC – E2	200 – 400 Ω
		FC – E1	Infinity
		THA – E2	10 – 20 kΩ at −20°C (−4°F)
		THA – E2	4 – 7 kΩ at 0°C (32°F)
		THA – E2	2 – 3 kΩ at 20°C (68°F)
		THA – E2	0.9 – 1.3 kΩ at 40°C (104°F)
		THA – E2	0.4 – 0.7 kΩ at 60°C (140°F)
Throttle body	Throttle body fully closed angle		6°
	Dashpot setting speed		2,000 ± 200 rpm
	Throttle opener setting speed		900 – 1,800 rpm
Throttle	Clearance between stop screw and lever	Terminals	Resistance
position sensor	0 mm (0 in.)	VTA – E2	0.47 – 6.1 kΩ
	0.50 mm (0.020 in.)	IDL – E2	2.3 kΩ or less
	0.80 mm (0.031 in.)	IDL – E2	Infinity
	Throttle valve fully open	VTA – E2	3.1 – 12.1 kΩ
	–	VC – E2	3.9 – 9.0 kΩ
Cold start injector time switch	Resistance	STA – STJ	30 – 50 Ω below 10°C (50°F)
		STA – STJ	70 – 90 Ω above 25°C (77°F)
		STA – Ground	30 – 90 Ω
Engine coolant temp. sensor	Resistance		10 – 20 kΩ at −20°C (−4°F)
			4 – 7 kΩ at 0°C (32°F)
			2 – 3 kΩ at 20°C (68°F)
			0.9 – 1.3 kΩ at 40°C (104°F)
			0.4 – 0.7 kΩ at 60°C (140°F)
			0.2 – 0.4 kΩ at 80°C (176°F)
VSV (Fuel pressure control)	Resistance		30 – 50 Ω at 20°C (68°F)
EGR gas temp. sensor	Resistance		64 – 97 kΩ at 50°C (122°F)
			11 – 16 kΩ at 100°C (212°F)
			2 – 4 kΩ at 150°C (302°F)
Heated oxygen sensor	Heater coil resistance		5 – 7 Ω at 20°C (68°F)
Sub heated oxygen sensor	Heater coil resistance		11 – 16 Ω at 20°C (68°F)

ECM	Condition	Terminals	Voltage
	IG SW ON	+B–E1	9 – 14 V
	IG SW ON	+B1 – E1	9 – 14 V
	–	BATT – E1	9 – 14 V
	IG SW ON – Throttle valve open	IDL – E2 (E21)	9 – 14 V
	IG SW ON – Throttle valve fully closed (Throttle opener must be cancelled first)	VTA – E2 (E21)	0.3 – 0.8 V
	IG SW ON – Throttle valve fully open	VTA – E2 (E21)	3.2 – 4.9 V
	IG SW ON	VC – E2 (E21)	4.5 – 5.5 V
	IG SW ON – Measuring plate fully closed	VS – E2 (E21)	4.0 – 5.5 V
	IG SW ON – Measuring plate fully open	VS – E2 (E21)	0.2 – 0.5 V
	Idling	VS – E2 (E21)	2.3 – 2.8 V
	3,000 rpm	VS – E2 (E21)	0.3 – 1.0 V
	IG SW ON	10 or 20 – E01	9 – 14 V
	IG SW ON	10 or 20 – E02	9 – 14 V
	IG SW ON – Intake air temp. 20°C (68°F)	THA – E2 (E21)	0.5 – 3.4 V
	IG SW ON – Engine coolant temp. 80°C (176°F)	THW – E2 (E21)	0.2 – 1.0 V
	Cranking	STA – E1	6 V or more
	Idling	IGT – E1	Pulse generation
	No trouble (Malfunction Indicator Lamp off) and engine running	W – E1	9 – 14 V
	Cranking – Engine coolant temp. 80°C (176°F)	STJ – E1	6 V or more
	Stop light switch ON	STP	7.5 – 14 V

ECM	Condition	Terminals	Resistance
	Throttle valve open	IDL – E2 (E21)	Infinity
	Throttle valve fully closed		
	(Throttle opener must be cancelled first)		
		IDL – E2 (E21)	2,300 Ω or less
	Throttle valve fully open	VTA – E2 (E21)	3,100 – 12,100 Ω
	Throttle valve fully closed		
	(Throttle opener must be cancelled first)		
		VTA – E2 (E21)	470 – 6,100 Ω
		VC – E2 (E21)	3,900 – 9,000 Ω
	Measuring plate fully closed	VS – E2 (E21)	200 – 600 Ω
	Measuring plate fully open	VS – E2 (E21)	20 – 1,200 Ω
	Intake sir temp. 20° C (68°F)	THA – E2 (E21)	2,000 – 3,000 Ω
	Coolant temp. 80° C (176° F)	THW – E2 (E21)	200 – 400 Ω
	Cold (–10°C (14°F) to 50°C (122°F))		
		G1 or G2 – G⊖	125 – 200 Ω
	Hot (50°C (122°F) to 100°C (212°F))		
		G1 or G2 – G⊖	160 – 235 Ω
	Cold (–10°C (14°F) to 50°C (122°F))	NE – G⊖	155 – 250 Ω
	Hot (50°C (122°F) to 100°C (212°F))	NE – G⊖	190 – 290 Ω
Fuel cut rpm	Fuel return rpm	M/T	1,300 rpm
		A/T	1,500 rpm

TORQUE SPECIFICATIONS

Part tightened	N·m	kgf·cm	ft·lbf
Cold start injector x Air intake chamber	7.8	80	69 in.·lbf
Delivery pipe x Pulsation damper	29	300	22
Delivery pipe x Fuel pressure regulator	29	300	22
Delivery pipe x Cold start injector tube	15	150	11
Delivery pipe x No.3 fuel pipe	34	350	25
Delivery pipe x No.2 fuel pipe	34	350	25
Delivery pipe x Intake manifold	13	130	9
Fuel line	30	310	22
Fuel pump	3.9	40	35 in.·lbf
Fuel drain plug	6.4	65	56 in.·lbf