

MFI AND SFI SYSTEMS (5S-FE)

Specifications

Fuel pressure regulator	Fuel pressure at no vacuum	265 – 304 kPa (2.7 – 3.1 kgf/cm ² , 38 – 44 psi)	
Injector	Resistance Injection volume Difference between each injector Fuel leakage	Approx. 13.8 k Ω 49 – 59 cm ³ (3.0 – 3.6 cu in.)/15 sec. 5 cm ³ (0.31 cu in.) or– less One drop or less per minute	
Throttle position sensor	Clearance between stop screw and lever	Between terminals	Resistance
	0 mm 0 in. 0.50 mm 0.020 in. 0.70 mm 0.028 in. Throttle valve fully open —	VTA – E2 IDL–E2 IDL – E2 VTA – E2 VC–E2	0.2 – 5.7 k Ω 2.3 k Ω or less Infinity 2.0 – 10.2 k Ω 2.5 – 5.9 k Ω
Throttle opener	Setting speed	1,300 – 1,500 rpm	
ISC valve	Resistance +B – ISCC or– ISCO	19.3 – 22.3 Ω	
A/C idle–up VSV	Resistance	30 – 34 Ω	
EGR VSV	Resistance	33–3992	
Water temp. 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 k Ω 4–7 k Ω 2–3 k Ω 0.9 – 1.3 k Ω 0.4 – 0.7 k Ω 0.2 – 0.4 k Ω	
Intake air temp. 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 k Ω 4–7 k Ω 2–3 k Ω 0.9 – 1.3 k Ω 0.4 – 0.7 k Ω 0.2 – 0.4 k Ω	
EGR gas temp. sensor (CALIF. only)	Resistance at 50°C (112°F) at 100°C (212°F) at 1500C (3020F)	69 – 89 k Ω 11–15k Ω 2–4 k Ω	
ECU	HINT: <ul style="list-style-type: none"> Perform all voltage and resistance measurements with the ECU connected. Verify that the battery voltage is 11 V or above with the ignition switch ON. 		
	Voltage		
	Terminals	Condition	STD voltage (V)
	+B – E1 +B1	IG SW ON	10–14

Specifications (Cont'd)

ECU (cont'd)		Voltage (cont'd)	
Terminals	Condition		STD voltage (V)
BATT - E1			10-14
IDL - E2	IG SW ON	Throttle valve open	8-14
VTA - E2		Throttle valve fully closed (Throttle opener must be cancelled first)	0.8-1.2
		Throttle valve fully open	3.2-4.2
PIM - E2	IG SW ON		3.3-3.9
VC - E2			4.5-5.5
No.10 _ E01 No. 20 E02			10-14
THA - E2	IG SW ON	Intake air temp. 20°C (68°F)	1.9-2.9
THW - E2		Coolant temp. 80°C (176°F)	0.1-1.1
STA - E1	Cranking		6-14
IGT - E1	Cranking or idling		0.8-1.2
ISCC _ E1 ISCO	IG SW ON	Engine (& ECT) ECU connectors disconnected	8-14
W - E1	No trouble ("CHECK" engine warning light off) and engine running		10-14
A/C - E 1	IG SW ON	Air conditioning ON	8-14
ACT - E1		Air conditioning ON	4.5-5.5
ACA - E1		Air conditioning ON	2 or less
TE1 - E1		Check connector TE1 - E1 not connected	10-14
NSW - E1		Check connector TE1 - E1 connected	1 or less
		Neutral start switch P or N range	0 - 2
		Ex. neutral start switch P or- N range	6-14
B/K - E1	Stop light SW ON (Brake pedal depressed)		10-14
Resistance			
Terminals	Condition		STD resistance (Ω)
IDL - E2	Throttle valve fully open		Infinity
	Throttle valve fully closed (Throttle opener must be cancelled first)		2,300 or- less
VTA - E2	Throttle valve fully open		2,000 - 10,200
	Throttle valve fully closed (Throttle opener must be cancelled first)		200-5,700

Specifications (Cont'd)

ECU (cont'd)	Resistance (cont'd)		
	Terminals	Condition	STD resistance (Ω)
	VC – E2		2,500 – 5,900
	THA – E2	Intake air temp. 20°C (68°F)	2,000 – 3,000
	THW – E2	Coolant temp. 80°C (176°F)	200–400
	G + – G –	Cold	185–265
	NE + – NE –	Cold	370–530
	ISCC _ +B ISCO +B I		19.3–22.3
Fuel cut	Fuel return rpm		1,500 rpm

Torque Specifications

Part tightened		N·m	kgf-cm	ft-lbf
Fuel line	Union bolt type	29	300	22
	Flare nut type	30	310	22
Fuel pump bracket x Fuel tank		2.9	30	26 in.-lbf
Fuel inlet pipe x Fuel tank		2.9	30	26 in.-lbf
Fuel evaporation bent tube x Fuel tank		1.5	15	13 in.-lbf
Fuel sender gauge x Fuel tank		1.5	15	13 in.-lbf
Fuel breather gauge x Fuel tank		1.5	15	13 in.-lbf
Fuel tank band x Body		39	400	29
Cold start injector x Intake manifold		9.3	95	82 in.-lbf
Cold start injector pipe x Cold start injector		18	180	13
Cold start injector pipe x Delivery pipe		19	195	14
Fuel pressure regulator x Delivery pipe		5.4	55	48 in.-lbf
Fuel return pipe x Fuel pressure regulator		18	180	13
Delivery pipe x Cylinder head		13	130	9
Fuel pulsation damper x Delivery pipe		34	350	25
Throttle body x Intake manifold		19	195	14