EXHAUST SYSTEM

Part tightened	N–m	kgf–cm	ft– lbf
Front exhaust pipe x Exhaust manifold (4A–FE)	62	630	46
Front exhaust pipe x Catalytic converter (4A–FE)	43	440	32
Front exhaust pipe x Catalytic converter (3S–GTE and 5S–FE)	62	630	46
Center exhaust pipe x Catalytic converter (4A–FE)	43	440	32
Front exhaust pipe x Center exhaust pipe (3S–GTE and 5S–FE)	43	440	32
Center exhaust pipe x Tailpipe (4A–FE and 3S–GTE)	43	440	32
Center exhaust pipe x Tailpipe (5S–FE)	21	210	15

TURBOCHARGER SYSTEM

Specifications

Turbocharger	Turbocharging pressure	49 – 81 kPa (0.50 – 0.83 kgf/cm ^{2}, 7.1 –11.8 psi)
	Impeller wheel axial play	0.13 mm (0.0051 in.) or less
	Impeller wheel radial play	0.18 mm (0.0071 in.) or less

Torque Specifications

Part tightened		N·m	kgf–cm	ft–lbf
Turbine outlet elbow x Turbocharger		64	650	47
Side bearing housing plate x Turbocharger		11	120	9
Turbo water pipe x Turbocharger		11	120	9
Turbocharger x Exhaust manifold		64	650	47
Turbo oil pipe x Turbocharger		17	175	13
Turbo oil pipe x Cylinder block	Bolt	43	440	32
	Union bolt	51	525	38
Turbocharger stay x Turbocharger		69	705	51
Turbocharger stay x Cylinder block		59	600	43
Oxygen sensor x Turbine outlet elbow		44	450	33

MFI AND SFI SYSTEMS (4A–FE)

Specifications

Fuel pressure regulator	Fuel pressure at no vacuum	2655 – 304 kPa (2.7 – 3.1 kgf/cm^2, 38 – 44 psi)
Injector	Resistance	Approx. 13.8 kΩ
	Injection volume	40 – 50 cm^3 (2.4 – 3.1 cu in.)/15 sec.
	Difference between each injector	5 cm^3 (0.31 cu in.) or less
	Fuel leakage	One drop or less per minute
Throttle body	Throttle body fully closed angle	6°

Specifications (Cont'd)

Throttle position sensor	Throttle opening angle (from vertical)		Clearance between stop screw and lever	IDL – E2	PSW – E2
	— — Throttle valve fully open 63° 69° 7.5° or less		0.60 mm 0.024 in. 0.80 m m 0.032 in. — — — —	Continuity No continuity No continuity No continuity No continuity Continuity	No continuity No continuity Continuity No continuity Continuity No continuity
Dash pot	Setting speed	M/T Afr	1,800 rpm 2,200 rpm		
ACV valve	Resistance		27–33Ω		
EGR VSV	Resistance		33–39Ω		
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 kΩ 4–7 kΩ 2–3 kΩ 0.9 – 1.3 kΩ 0.4 – 0.7 kΩ 0.2 – 0.4 kΩ		
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 kΩ 4–7 kΩ 2–3 kΩ 0.9 – 1.3 kΩ 0.4 – 0.7 kΩ 0.2 – 0.4 kΩ		
EGR gas temp. sensor (CALIF. only)	Resistance	at 500C (112°F) at 1001C 1212°F) at 1501C (302°F)	69 – 89 Ω 11–15kΩ 2–4 kΩ		
Oxygen sensor heater (Ex. CALIF.)	Resistance		5.1 –6.3Ω		
ECU	HINT: • Perform all voltage and resistance measurements with the ECU connected. • Verity that the battery voltage is 11 V or above with the ignition switch ON.				
	Voltage				
	Terminals	Condition		STD voltage (V)	
	+B _ E1 +B1	!G SW ON		10–14	
	BATT – E1			10–14	
	IDL – E2	IG SW ON	Throttle valve open	10–14	
	PSW – E2		Throttle valve fully closed	10–14	
	PIM – E2	IG SW ON		3.3–3.9	
	VCC – E2			4.5–5.5	

Specifications (Cont'd)

ECU (cont'd)	Voltage (cont'd)			
	Terminals	Condition		STD voltage (V)
	No.10 _ E01 No. 20 E02	IG SW ON		10–14
	THA – E2	IG SW ON	Intake air temp. 20°C (68°F)	1–3
	THW – E2		Coolant temp. 80°C (176°F)	0.1 – 1.0
	STA – E1	Cranking		6–14
	IGT – E1	Cranking or idling		0.7–1.0
	V11 – E1	No trouble ("CHECK" engine warning light o¿¿) and engine running		10–14
	A/C – E i	IG SW ON	Air conditioning ON	8–14
	ACT – E 1		Air conditioning ON	4–6
	T – E1 .		Check connector TE1 – E1 not connected	10–14
			Check connector TE1 – E1 connected	0.5 or less
	NSW – E1		Neutral start switch P or N range	0–2
			Ex. neutral start switch P or N range	6–14
	V–ISC – E1	Cranking for ten seconds after starting		10–14
	Resistance			
	Terminals	Condition		STD resistance (Ω)
	IDL – E2	Throttle valve fully open		Infinity
		Throttle valve fully closed		**0**
	PSW – E2	Throttle valve fully open		**0**
		Throttle valve fully closed		Infinity
	THA – E2	Intake air temp. 20°C (68°F)		2,000 – 3,000
	THW – E2	Coolant temp. 80°C (176°F)		200–400
	G1 _ G (–)	Cold		185–265
Fuel cut	w/ Vehicle speed 0 km/h and coolant and coolant temp. 80°C (176°F) Fuel cut rpm Fuel return rpm			 2,300 rpm 1,700 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 vent tube x Fuel tank		1.5	15	13 in.–lbf
Fuel breather tube x Fuel tank		1.5	15	13 in.–lbf
Fuel tank band x Body		39	400	29
Fuel pressure regulator x Delivery pipe		9.3	95	82 in.–lbf
Delivery pipe x Cylinder head		15	150	11
Throttle body x Intake manifold		22	220	16

MFI AND SFI SYSTEMS (3S–GTE)
Specifications

Fuel pressure regulator	Fuel pressure at no vacuum		226 – 265 kPa (2.3 – 2.7 kgf/cm^2, 33 – 38 psi)
Cold start injector	Resistance Fuel leakage		2–4Ω One drop or less per minute
Injector	Resistance Injection volume Difference between each injector Fuel leakage		2–4Ω 95–120 cm^3 (5.8 – 7.3 cu in.) per 15 sec. 5 cm^3 (0.3 cu in.) or less One drop or less per minute
Air flow meter	Resistance VS – E2		200 – 600 Ω (Measuring plate fully closed 20 – 1,200 Ω (Measuring plate fully open)
	VC–E2		200 – 400 Ω
	THA – E2	at –20°C (–4°F)	10,– 20,kΩ
		at 0°C (32°F)	4–7 kΩ
		at 20°C (68°F)	2–3 Ω
		at 40°C (104°F)	0.9 – 1.3 kΩ
		at 60°C (140°F)	0.4 – 0.7 Ω
Throttle position sensor	Clearance between stop screw and lever	Between terminals	Resistance
	0 mm (0 in.)	VTA – E 2	0.47 – 6.1 kΩ
	0.50 mm (0.020 in.)	IDL – E2	2.3 kΩ or less
	0.70 mm (0.028 in.)	IDL – E2	Infinity
	Throttle valve fully open	VTA – E 2	3.1 – 12.1 kΩ
	—	VC–E2	3.9 – 9.0 kΩ
Throttle opener	Setting speed		900 – 1,900 rpm
ISC valve	Resistance +B – RSC or RSO		19.3 – 22.3 Ω