

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 VC-E2 THA – E2 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)	200 – 600 Ω (Measuring plate fully closed) 20 – 1,200 Ω (Measuring plate fully open) 200 – 400 Ω 10,– 20,kΩ 4–7 kΩ 2–3 Ω 0.9 – 1.3 kΩ 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. Throttle valve fully open	IDL – E2 VTA – E 2 VC-E2	Infinity 3.1 – 12.1 kΩ 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		

Specifications (Cont'd)

Cold start injector time switch	Resistance STA – STJ below 10°C (50°F) above 25°C (77°F) STA – Ground	30 – 50Ω 70 – 90Ω 30 – 90Ω		
Solenoid resistor	Resistance +B – No.10, No.20, No.30 or No.40	4 – 6Ω		
Fuel pump resistor	Resistance	Approx. 0.73Ω		
T-VIS VSV	Resistance	33–39 Ω		
Turbocharging pressure VSV	Resistance	24 – 30 Ω		
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 – 7 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 100°C (212°F) at 150°C (302°F)	69 – 89 kΩ 11–15kΩ 2–4 kΩ		
Oxygen sensor heater	Resistance	5.1 – 6.3 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 +B 1	IG SW ON	10–14	
	BATT – E1		10–14	
	IDL – E2	IG SW ON	Throttle valve open	4.5–5.5
	VTA – E2		Throttle valve fully closed (Throttle opener must be cancelled first)	0.1 – 1.0
			Throttle valve fully open	3.2–4.2
	VC – E2			4.5–5.5
	VS – e2		Measuring plate fully closed	3.7–4.3
Measuring plate fully open			0.2–0.5	
	Idling	1.6 – 4.1		
	3,000 rpm	1.0–2.0		

Specifications (Cont'd)

ECU (cont'd)	Voltage (cont'd)		
	Terminals	Condition	STD voltage (V)
No.1 No.2 _ E01 No.3 E02 No.4	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)	0.1-1.1
STA - E1	Cranking		6-14
IGT - E1	Cranking or idling		0.8-1.2
RSC _ RSO	IG SW ON	Engine ECU connectors disconnected	8-14
W - E1	No trouble ("CHECK" engine warning light off) and engine running		10-14
PIM - E2	IG SW ON		2.5-4.5
AC - E1	IG SW ON	Air conditioning ON	8-14
ACT - E1		Air conditioning ON	4-6
w/ Regular unleaded gasoline TVIS - E1		Throttle valve fully closed	2.0 or less
		Throttle valve open	10-14
w/ Premium unleaded gasoline TVIS - E1	Idling		2.0 or less
	4,200 rpm or more		10-14
TE1 - E1	IG SW ON	Check connector TE1 - E1 not connected	10-14
		Check connector TE1 - E1 connected	0.5 or less
Resistance			
	Terminals	Condition	STD resistance (Ω)
IDL - E2	Throttle valve fully open		Infinity
	Throttle valve fully closed		2,300 or less
VTA - E2	Throttle valve fully open		3,100 - 12,100
	Throttle valve fully closed		470-6,100
VC - E2	—		390-9,000
VS - e2	Measuring plate fully closed		200-600
	Measuring plate fully open		20-1,200
THA - E2	Intake air temp. 20°C (68°F)		2,000 - 3,000
THW - E2	Coolant temp. 80°C (176°F)		200-400

Specifications (Cont'd)

ECU (cont'd)	Resistance (cont'd)		
	Terminals	Condition	STD resistance (Ω)
	G1 _ G2 G (-)	Cold	125–190
	NE – G (-)	Cold	155–240
	RSC _ +B RSO +B1		19.3–22.3
	Fuel cut	Fuel return rpm	1,600 rpm

Torque Specifications

Part tightened	N-m	kgf-cm	ft-lbf	
Fuel line	Union bolt type	29	300	22
		Flare nut type	30	310
Fuel pump x Fuel tank	2.9		30	26 in.-lbf
Fuel sender gauge x Fuel tank	1.5	15	13 in.-lbf	
Fuel evaporator bent tube x Fuel tank	1.5	15	13 in.-lbf	
Fuel inlet pipe x Fuel tank	2.9	30	26 in.-lbf	
Fuel tank band x Body	22	220	16	
Cold start injector x Intake manifold	5.9	60	52 in.-lbf	
Cold start injector pipe x Cold start injector	12	125	9	
Cold start injector pipe x Delivery pipe	12	125	9	
Fuel pressure regulator x Delivery pipe	29	300	22	
Injector cover x Delivery pipe	7.8	80	69 in.-lbf	
Fuel inlet hose x Delivery pipe	Bolt	7.8	80	69 in.-lbf
	Union bolt	29	300	22
Delivery pipe x Cylinder head	19	195	14	
Fuel inlet hose x Fuel filter	29	300	22	
Throttle body x Intake manifold	19	195	14	
Intake air connector stay x Throttle body	19	195	14	
Intake air connector stay x Cylinder head	7.8	80	69 in.-lbf	
Intake air connector x Throttle body	19	195	14	