

2AZ-FE ENGINE CONTROL SYSTEM

SERVICE DATA

Camshaft timing oil control valve : Standard resistance (1 (+B) - 2 (GND))	6.9 to 7.9 kΩ at 20 °C (68°F)
Camshaft position sensor : Standard resistance (1 (G+) - 2 (G-))	835 to 1,400 Ω at cold 1,060 to 1,645 Ω at hot
Crankshaft position sensor : Standard resistance (1 (Ne+) - 2 (Ne-))	985 to 1,600 Ω at cold 1,265 to 1,890 Ω at hot
Engine coolant temperature sensor : Standard resistance (1 (E2) - 2 (THW))	2.32 to 2.59 kΩ at 20 °C (68°F) 0.310 to 0.326 kΩ at 80°C (176°F)
Throttle body : Standard resistance (1 (M-) - 2 (M+))	0.3 to 100 kΩ at 20 °C (68°F)
Knock sensor : Standard resistance (1 (Ground) - 2 (Output))	120 to 280 kΩ at 20 °C (68°F)
Accelerator pedal (ACCEL POS #1) : Standard voltage	0.5 to 1.1 V (accelerator pedal released) 2.5 to 4.5 V (accelerator pedal depressed)
Accelerator pedal (ACCEL POS #2) : Standard voltage	1.2 to 2.0 V (accelerator pedal released) 3.4 to 5.0 V (accelerator pedal depressed)

TORQUE SPECIFICATIONS

Part Tightened	N*m	kgf*cm	ft.*lbf
Camshaft timing oil control valve x Timing chain cover	9.0	92	80 in.*lbf
Engine coolant temperature sensor x Cylinder head	19.6	200	14
Camshaft position sensor x Cylinder head	9.0	92	80 in.*lbf
Crankshaft position sensor x Timing chain cover	9.0	92	80 in.*lbf
Throttle body x Intake manifold	30	305	22
No. 1 engine cover x Cylinder head cover	7.0	71	62 in.*lbf
Knock sensor x Cylinder block	20	205	15
Intake manifold x Cylinder head	30	305	22
No. 2 ECM bracket x ECM	3.0	30	27 in.*lbf
No. 1 ECM bracket x ECM	3.0	30	27 in.*lbf
ECM with bracket x Body	6.5	66	57 in.*lbf
Air cleaner case x Body	5.0	51	44 in.*lbf
Accelerator pedal x Body	5.4	55	48 in.*lbf

SS