

## ■ 1AZ-FE ENGINE

### 1. Major Difference (from previous 1AZ-FE engine)

Item	Outline	
Destination	Europe & G.C.C. Countries	General Countries*
Intake and Exhaust System (See Page 420)	<ul style="list-style-type: none"> <li>● A throttle body with a built-in throttle control motor has been adopted.</li> <li>● The exhaust system has been revised to optimize exhaust performance. In addition, the 2 TWCs located directly below the exhaust manifold have been integrated into 1 TWC, and a TWC has been added under the floor.</li> <li>● A ultra thin-wall, high-cell density ceramic type TWC has been adopted.</li> </ul>	<ul style="list-style-type: none"> <li>● A throttle body with a built-in throttle control motor has been adopted.</li> <li>● The exhaust system has been revised to optimize exhaust performance. In addition, the 2 TWCs located directly below the exhaust manifold have been integrated into 1 TWC, and a TWC has been added under the floor.</li> <li>● A ultra thin-wall, high-cell density ceramic type TWC has been adopted.</li> </ul>
Valve Mechanism	<ul style="list-style-type: none"> <li>● The cam profile has been changed in conjunction with the change in the valve timing.</li> </ul>	<ul style="list-style-type: none"> <li>● The cam profile has been changed in conjunction with the change in the valve timing.</li> </ul>
Fuel System (See Page 422)	<ul style="list-style-type: none"> <li>● The compact 12-hole type injector with high atomizing performance has been adopted.</li> <li>● Quick connectors have been adopted for joining the fuel tubes.</li> <li>● The shape of the fuel tank has been changed.</li> </ul>	<ul style="list-style-type: none"> <li>● The compact 12-hole type injector with high atomizing performance has been adopted.</li> <li>● Quick connectors have been adopted for joining the fuel tubes.</li> </ul>
Cooling System (See Page 424)	<ul style="list-style-type: none"> <li>● The engine ECU controls the operation of the cooling fan has been adopted.</li> <li>● SLLC (Super Long Life Coolant) has been adopted.</li> </ul>	<ul style="list-style-type: none"> <li>● SLLC (Super Long Life Coolant) has been adopted.</li> </ul>
Charging System (See Page 425)	<ul style="list-style-type: none"> <li>● A segment conductor type alternator has been adopted on the automatic transaxle model.</li> </ul>	<ul style="list-style-type: none"> <li>● A segment conductor type alternator has been adopted on the automatic transaxle model.</li> </ul>
Engine Control System (See Page 427)	<ul style="list-style-type: none"> <li>● The ETCS-i (Electronic Throttle Control System-intelligent) has been adopted.</li> <li>● A planar type air fuel ratio sensor has been adopted.</li> <li>● A flat type knock sensor has been adopted.</li> <li>● A linear type accelerator pedal position sensor has been adopted.</li> <li>● A no-contact type throttle position sensor has been adopted.</li> <li>● The number of the air fuel ratio sensor and the oxygen sensor become one.</li> <li>● The purge flow rate has been changed.</li> </ul>	<ul style="list-style-type: none"> <li>● The ETCS-i (Electronic Throttle Control System-intelligent) has been adopted.</li> <li>● A planar type air fuel ratio sensor has been adopted.</li> <li>● A flat type knock sensor has been adopted.</li> <li>● A linear type accelerator pedal position sensor has been adopted.</li> <li>● The number of the air fuel ratio sensor and the oxygen sensor become one.</li> <li>● A no-contact type throttle position sensor has been adopted.</li> </ul>

\*: Only for Unleaded Gasoline Engine Model

## ► Engine Specifications ◀

Model				New	Previous
No. of Cyli. & Arrangement				4-Cylinder, Inline	←
Valve Mechanism				16-Valve DOHC, Chain Drive	←
Combustion Chamber				Pentroof Type	←
Manifolds				Cross-Flow	←
Fuel System				EFI	←
Ignition System				DIS	←
Displacement                      cm <sup>3</sup> (cu. in.)				1998 (121.9)	←
Bore & Stroke                                      mm (in.)				86.0 × 86.0 (3.39 × 3.39)	←
Compression Ratio		Unleaded Gasoline		9.8 : 1	←
Max. Output (EEC)		Unleaded Gasoline		110 kW @ 6000 rpm	←
Max. Torque (EEC)		Unleaded Gasoline		192 N·m @ 4000 rpm	←
Valve Timing	Intake	Unleaded Gasoline	Open	3 – 43° BTDC	–4° – 46° BTDC
			Close	60° – 20° ATDC	60° – 10° ATDC
	Exhaust		Open	37° BBDC	45° BBDC
			Close	3° ATDC	←
Fuel Octane Number RON		Unleaded Gasoline		95 or More	←
Oil Grade				API SL, EC or ILSAC	API SJ, EC or ILSAC
Emission Regulation				European STEP IV	European STEP III