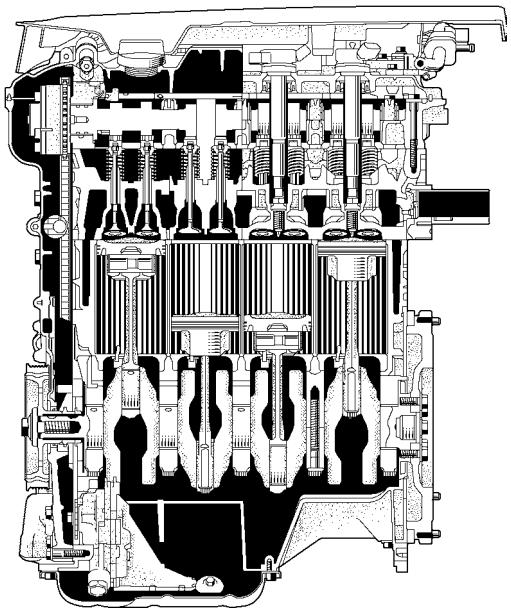
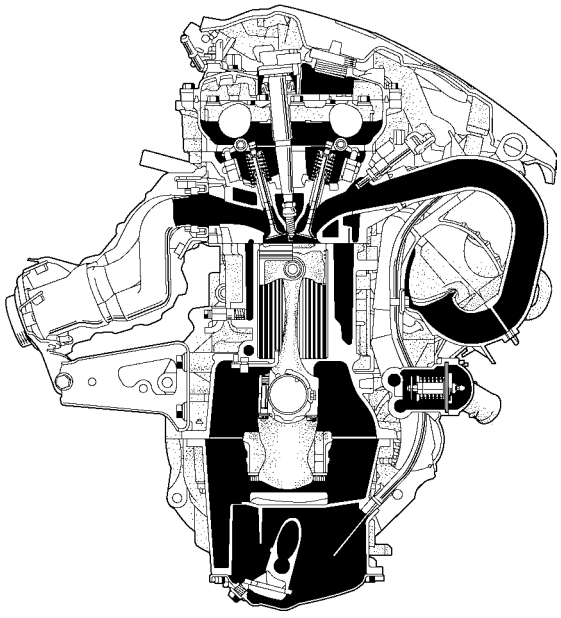
2ZR-FE ENGINE

■DESCRIPTION

- The newly developed 2ZR-FE engine is an in-line 4-cylinder, 1.8-liters, 16-valve DOHC engine.
- This engine uses the Dual VVT-i (Variable Valve Timing-intelligent) system, DIS (Direct Ignition System) and ETCS-i (Electronic Throttle Control System-intelligent). They have been developed to realize high performance and fuel economy, and reduce exhaust emission.
- This engine complies with EURO IV emission regulation.



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▶ Engine Specifications ◀

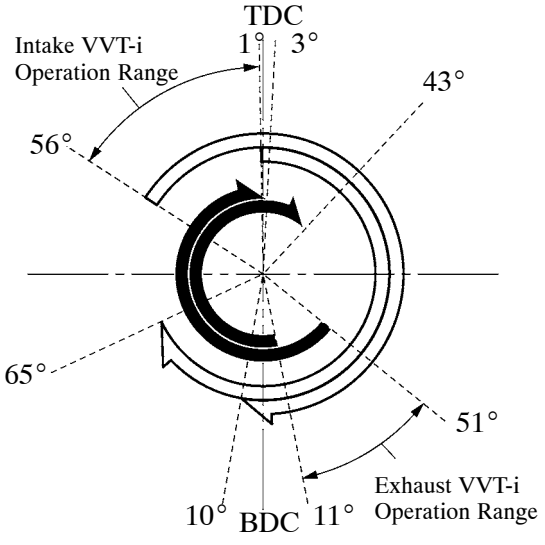
No. of Cyls. & Arrangement			4-cylinder, In-line
Valve Mechanism			16-valve DOHC, Chain Drive (With Dual VVT-i)
Combustion Chamber			Pentroof Type
Manifolds			Cross-flow
Fuel System			EFI
Displacement cm^3 (cu. in.)			1798 (109.7)
Bore x Stroke mm (in.)			80.5 x 88.3 (3.17 x 3.48)
Compression Ratio			10.0 : 1
Max. Output [EEC]			97 kW @ 6000 rpm
Max. Torque [EEC]			173 N·m @ 4400 rpm
Valve Timing	Intake	Open	1° – 56° BTDC
		Close	65° – 10° ABDC
	Exhaust	Open	51° – 11° BBDC
		Close	3° – 43° ATDC
Firing Order			1 – 3 – 4 – 2
Research Octane Number			95 or higher*1
Oil Grade			API SL, SM or ILSAC
Emission Regulation			EURO IV
Engine Service Mass*2 (Reference)			117 kg (257.9 lb)

*1: Premium unleaded gasoline with a Research Octane Number 95 or higher required for optimum engine performance. If 95 octane cannot be obtained, you may use unleaded gasoline with a Research Octane Number as low as 91. Use of unleaded fuel with a Research Octane Number lower than 95 may result in engine knocking and significantly reduced performance. Persistent knocking can lead to engine damage and should be corrected by refueling with higher octane unleaded gasoline.

*2: Weight shows the figure with oil and water fully filled.

▶ Valve Timing ◀

: Intake Valve Opening Angle
: Exhaust Valve Opening Angle



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