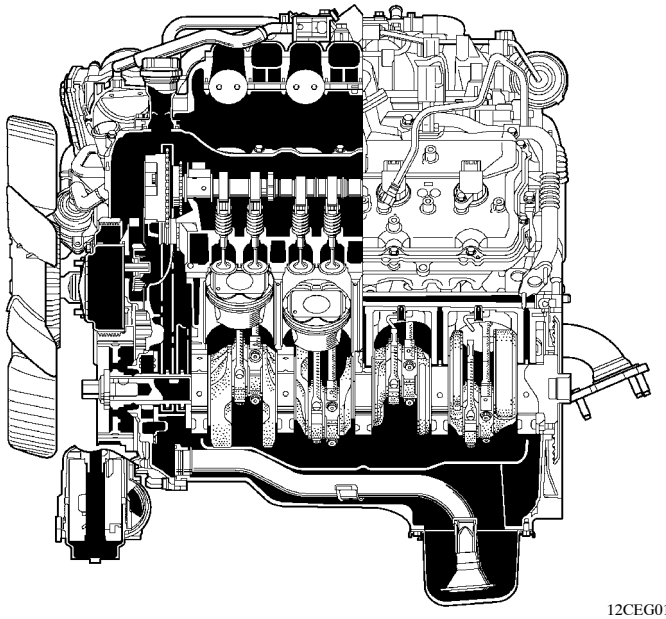
NEW FEATURES

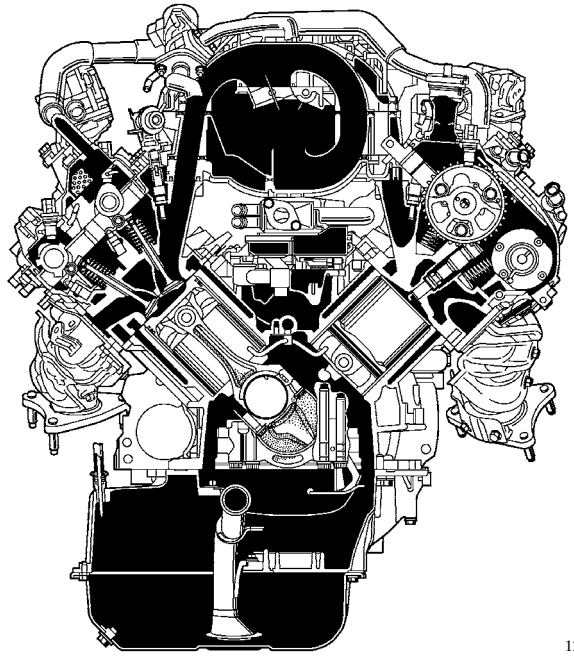
■1UR-FE ENGINE

1. Description

The 1UR-FE engine is a 4.6-liter, 32-valve DOHC V8. This engine uses the Dual Variable Valve Timing-intelligent (Dual VVT-i) system, Direct Ignition System (DIS), Acoustic Control Induction System (ACIS), Electronic Throttle Control System-intelligent (ETCS-i), air injection system and Exhaust Gas Recirculation (EGR) control. These control functions achieve improved engine performance, fuel economy, and clean emissions.



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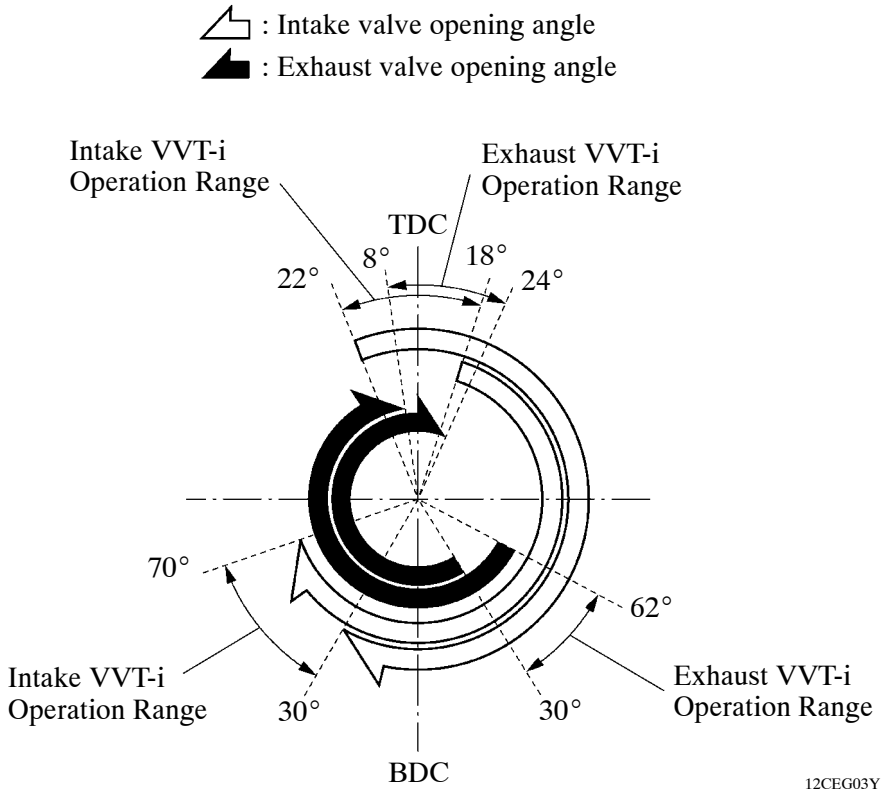
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▶ Engine Specifications ◀

No. of Cyls. & Arrangement			8-cylinder, V Type
Valve Mechanism			32-valve DOHC, Chain Drive (with Dual VVT-i)
Combustion Chamber			Pentroof Type
Manifolds			Cross-flow
Fuel System			SFI
Ignition System			DIS
Displacement cm^3 (cu. in.)			4608 (281.2)
Bore × Stroke mm (in.)			94.0 × 83.0 (3.70 × 3.27)
Compression Ratio			10.2 : 1
Max. Output (SAE-NET)*1			231 kW @ 5600 rpm (310 HP @ 5600 rpm)
Max. Torque (SAE-NET)*1			443 N·m @ 3400 rpm (327 ft·lbf @ 3400 rpm)
Valve Timing	Intake	Open	–18° to 22° BTDC
		Closed	70° to 30° ABDC
	Exhaust	Open	62° to 30° BBDC
		Closed	–8° to 24° ATDC
Firing Order			1 – 8 – 7 – 3 – 6 – 5 – 4 – 2
Octane Rating			87 or higher
Research Octane Number (RON)			91 or higher
Tailpipe Emission Regulation			LEVII-ULEV, SFTP
Evaporative Emission Regulation			LEVII, ORVR
Engine Service Mass*2 (Reference) kg (lb)			216.1 (476.5)

*1: Maximum output and torque ratings are determined by revised SAE J1349 standard.
*2: The figure shown is the weight of the part without coolant and oil.

▶ Valve Timing ◀



▶ Performance Curve ◀

