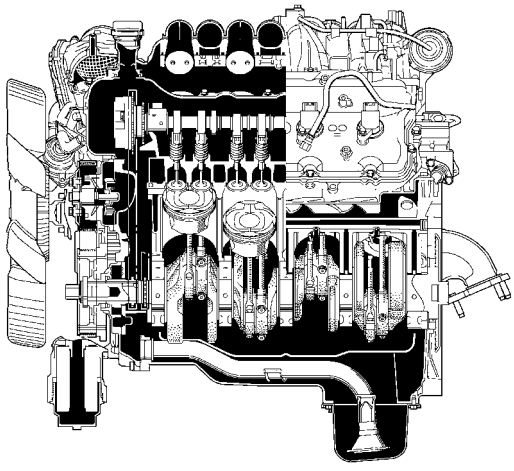
NEW FEATURES

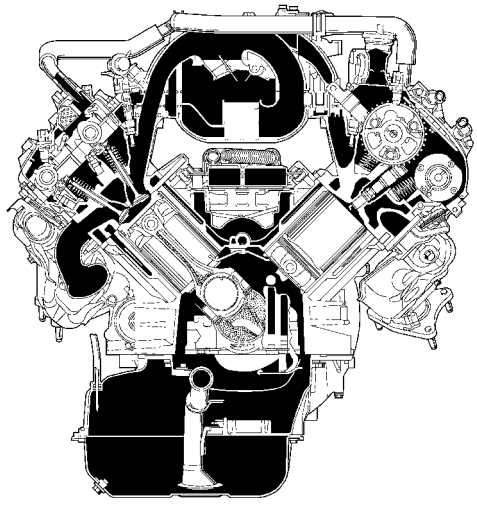
■3UR-FBE ENGINE

1. Description

- The 3UR-FBE engine, which has been developed based on the 3UR-FE engine, can run on gasoline/ethanol mixed fuel from 0% ethanol (E0) up to 85% ethanol (E85).
- The 3UR-FBE engine is a 5.7-liter, 32-valve DOHC V8. This engine uses the Dual VVT-i (Variable Valve Timing-intelligent) system, DIS (Direct Ignition System), ACIS (Acoustic Control Induction System), ETCS-i (Electronic Throttle Control System-intelligent), and air injection system. These control functions improve engine performance, fuel economy, and clean emissions.
- The following has been achieved by using alcohol fuel as an alternative to gasoline for environmental friendliness.
  - CO and soot in emission gas has been reduced.
  - The amount of sulfur accumulated in the catalytic converter has been reduced because alcohol fuel contains a smaller amount of sulfur. As a result, the durability of the catalytic converter has been improved.



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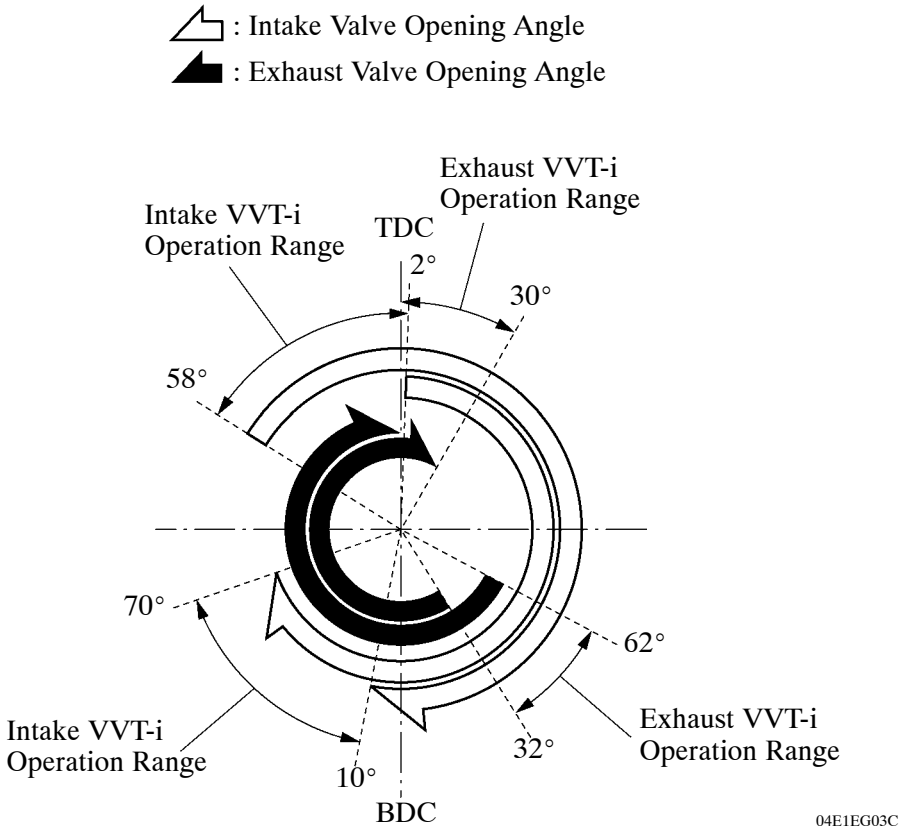
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▶ Engine Specifications ◀

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.)			5663 (345.6)
Bore × Stroke mm (in.)			94.0 × 102.0 (3.70 × 4.02)
Compression Ratio			10.2 : 1
Max. Output (SAE-NET)*1			284 kW @ 5600 rpm (381 HP @ 5600 rpm)
Max. Torque (SAE-NET)*1			544 N·m @ 3600 rpm (401 ft·lbf @ 3600 rpm)
Valve Timing	Intake	Open	– 2° to 58° BTDC
		Close	70° to 10° ABDC
	Exhaust	Open	62° to 32° BBDC
		Close	0° to 30° ATDC
Firing Order			1 – 8 – 7 – 3 – 6 – 5 – 4 – 2
Fuel			Alcohol Fuel*3
Octane Rating			87 or higher
Research Octane Number (RON)			91 or higher
Tailpipe Emission Regulation			Tire 2, Bin 5
Evaporative Emission Regulation			LEV II, ORVR
Engine Service Mass*2 (Reference) kg (lb)			219.3 (483.5)

*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.
*3: Mixed fuel from E0 (0% ethanol) to E85 (85% ethanol) is available.

▶ Valve Timing ◀



▶ Performance Curve ◀

