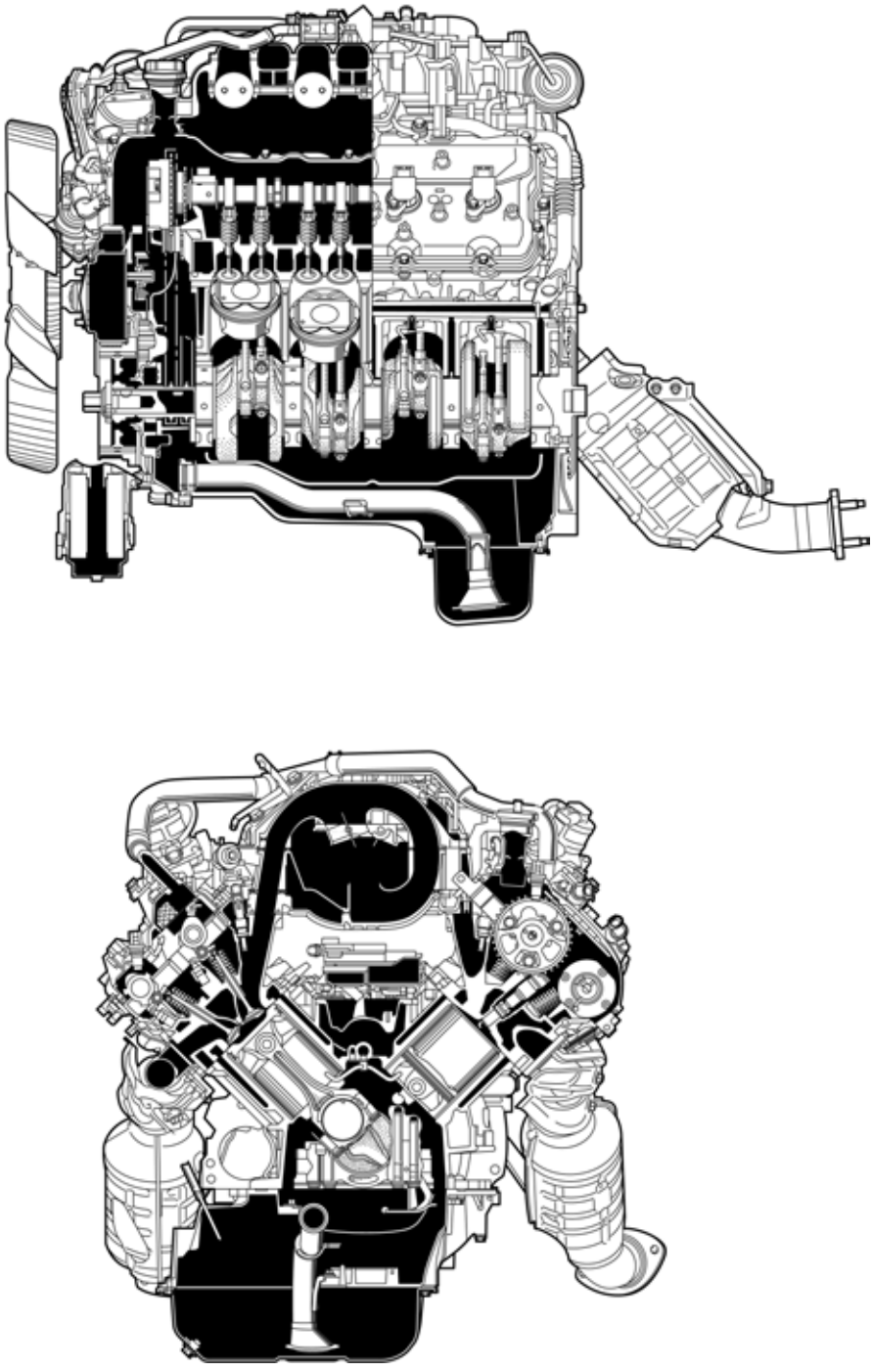
1UR-FE ENGINE

■ DESCRIPTION

The 1UR-FE engine is a 4.6-liter, 32-valve DOHC V8 engine. 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), and air injection system*. These control functions achieve improved engine performance, fuel economy, and clean emissions.

*: Models compliant with EURO 4 and EURO 5 emission regulations



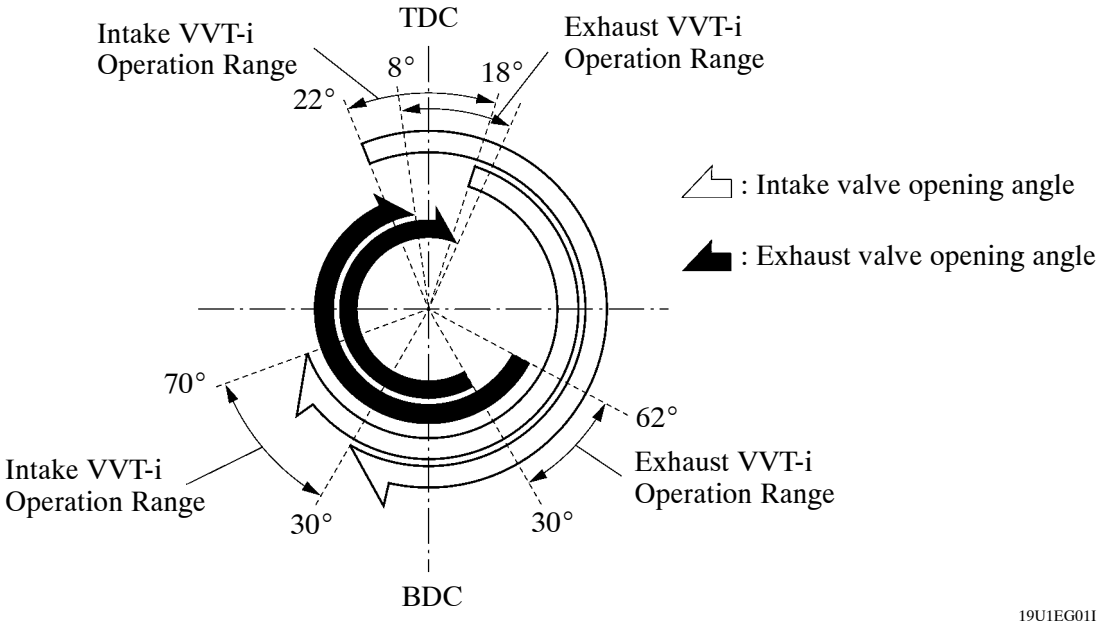
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▶ Engine Specifications ◀

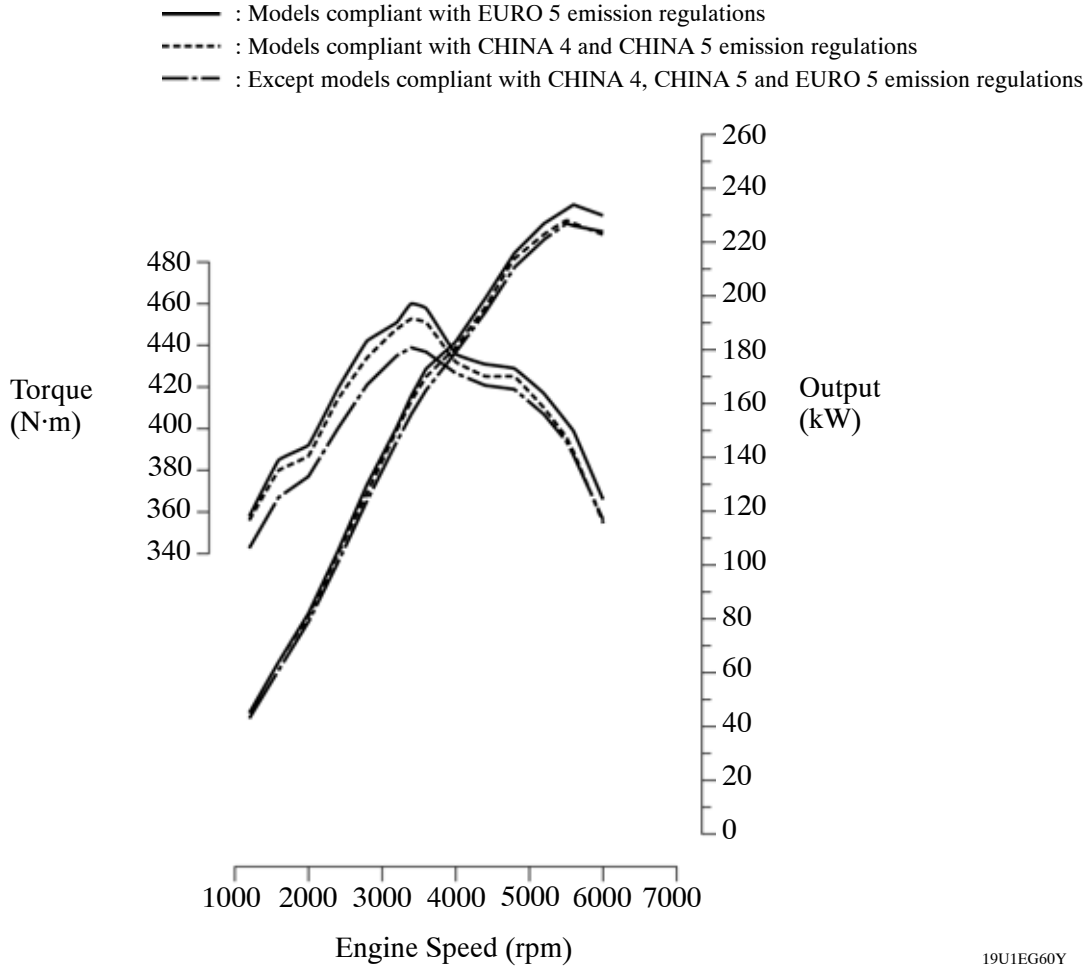
No. of Cyls. & Arrangement			8-cylinder, V Type
Valve Mechanism			32-valve DOHC, Chain Drive (with Dual VVT-i)
Combustion Chamber			Pentroof Type
Manifolds			Cross-flow
Fuel System			EFI
Ignition System			DIS
Displacement cm^3 (cu. in.)			4608 (281.2)
Bore × Stroke mm (in.)			94.0 × 83.0 (3.70 × 3.27)
Compression Ratio			10.2 : 1
Max. Output (ECC)			234 kW @ 5600 rpm*2
			228 kW @ 5500 rpm*3
			227 kW @ 5500 rpm*4
Max. Torque (ECC)			460 N·m @ 3400 rpm*2
			453 N·m @ 3400 rpm*3
			439 N·m @ 3400 rpm*4
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
Research Octane Number (RON)			95 or higher*2
			97 or higher*3
			91 or higher*4
Emission Regulations			EURO 2*5
			EURO 3*6
			EURO 4*7
			EURO 5*8
			CHINA 4*9, CHINA 5*10
Engine Service Mass*1 (Reference) kg (lb)			216 (476.2)

*1: The figure shown is the weight of the part without water and oil.
*2: Models compliant with EURO 5 emission regulations
*3: Models compliant with CHINA 4 and CHINA 5 emission regulations
*4: Except models compliant with CHINA 4, CHINA 5 and EURO 5 emission regulations
*5: Models for G.C.C. Countries and South Africa
*6: Models for General Countries
*7: Models for Australia
*8: Models for Europe
*9: Models for China
*10:Optional equipment on models for China

▶ Valve Timing ◀



▶ Performance Curve ◀



NF