■ ENGINE SPECIFICATIONS

Engine Type			3MZ -FE
No. of Cyls. & Arrangement			6-Cylinder, V Type
Valve Mechanism			24-Valve DOHC, Belt & Gear Drive (with VVT-i)
Combustion Chamber			Pentroof Type
Flow of Intake and Exhaust Gasses			Cross-Flow
Fuel System			SFI
Ignition System			DIS
Displacement		cm^3 (cu. in.)	3311 (202.1)
Bore × Stroke		mm (in.)	92.0 × 83.0 (3.62 × 3.27)
Compression Ratio			10.8 : 1
Max. Output (SAE-NET)			156*1 kW @ 5600 rpm (208*1 HP @ 5600 rpm)
Max. Torque (SAE-NET)			288*1 N·m @ 4400 rpm (212*1 ft·lbf @ 4400 rpm)
Oil Capacity		Dry	5.5 liters (5.8 US qts, 4.8 Imp. qts)
		With Oil Filter	4.7 liters (5.0 US qts, 4.1 Imp. qts)
		Without Oil Filter	4.5 liters (4.8 US qts, 4.0 Imp. qts)
Oil Grade			ILSAC
Engine Coolant	Type		TOYOTA Genuine Super Long Life Coolant or the Following*2
	Capacity	With Front Heater	10.6 liters (11.2 US qts, 9.3 Imp. qts)
		With Front and Rear Heater	12.8 liters (13.5 US qts, 11.3 Imp. qts)
Spark Plug	Type	DENSO	SK20R11 (Iridium)
		NGK	IFR6A11 (Iridium)
	Plug Gap	mm (in.)	1.0 to 1.1 (0.0394 to 0.0433)
Firing Order			1 – 2 – 3 – 4 – 5 – 6
Fuel Octane Rating			87 or higher
Emission Regulation	Tailpipe	CARB*3	LEVII-SULEV
		EPA*4	Tier2-Bin3
	Evaporative	CARB*3	LEVII-Zero Evapo
		EPA*4	Tier2-Zero Evapo
Engine Service Mass*5 (Reference)		kg (lb)	160 (353)

*1: Maximum output and torque rating is determined using revised SAE J1349 procedure.

*2: Similar high quality ethylene glycol based non-silicate, non-amine, non-nitrite, and non-borate coolant with long-life hybrid organic acid technology. (Coolant with long-life hybrid organic acid technology consists of a combination of low phosphates and organic acids.)

*3: CARB (California Air Resources Board)

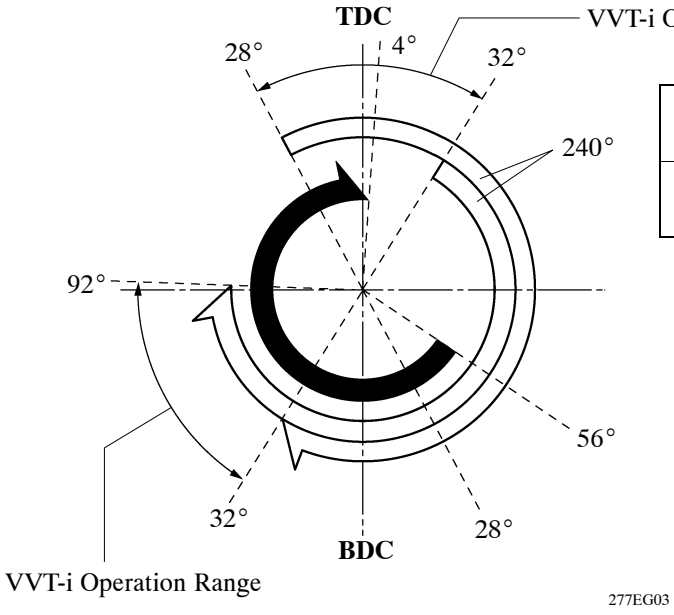
*4: EPA (Environmental Protection Agency)

*5: The figure shown is the weight of the part without coolant and oil.

▶ Valve Timing ◀

: Intake Valve Opening Angle

: Exhaust Valve Opening Angle



Intake	Open	28° BTDC to 32° ATDC
	Close	32° ABDC to 92° ABDC
Exhaust	Open	56° BBDC
	Close	4° ATDC

▶ Performance Curve ◀

