■SPECIFICATIONS

1. Engine Specifications

Engine Type			1GR-FE
No. of Cyls. & Arrangement			6-Cylinder, V Type
Valve Mechanism			24-Valve DOHC, Chain Drive (with VVT-i)
Combustion Chamber			Pentroof Type
Flow of Intake and Exhaust Gasses			Cross-flow
Fuel System			EFI
Ignition System			DIS
Displacement cm^3 (cu. in.)			3956 (241.4)
Bore × Stroke mm (in.)			94.0 × 95.0 (3.70 × 3.74)
Compression Ratio			10.0 : 1
Max. Output (EEC-NET)			179 kW @ 5200 rpm
Max. Torque (EEC-NET)			376 N·m @ 3800 rpm
Oil Capacity	Dry		6.0 liters (6.3 US qts, 5.3 Imp. qts)
	With Oil Filter		5.2 liters (5.5 US qts, 4.6 Imp. qts)
	Without Oil Filter		4.9 liters (5.2 US qts, 4.3 Imp. qts)
Oil Grade			API grade SL “Energy-Conserving”, SM “Energy-Conserving” or ILSAC
Engine Coolant	Type		TOYOTA Genuine Super Long Life Coolant or the following*1
	Capacity	M/T	9.4 liters (9.9 US qts, 8.3 Imp. qts)
		A/T	9.8 liters (10.4 US qts, 8.6 Imp. qts)
Spark Plug	Type	DENSO	K20HR-U11 (Nickel)
		NGK	LFR6C11 (Nickel)
	Plug Gap mm (in.)		1.0 to 1.1 (0.0394 to 0.0433)
Firing Order			1 - 2 - 3 - 4 - 5 - 6
Research Octane Number (RON)			95 or higher
Emission Regulation	Models for Beijing		EURO IV
	Except Models for Beijing		EURO III
Engine Service Mass*2 (Reference) kg (lb)			166 (366)

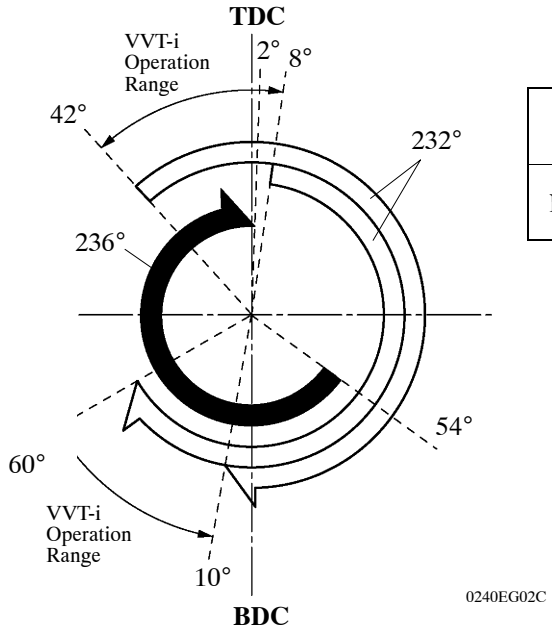
*1: Similar high quality ethylene glycol based non-silicate, non-amine, non-nitrite, and non-borate coolant with long-life hybrid organic acid technology. (Coolant with long-life hybrid organic acid technology consists of a combination of low phosphates and organic acids.)

*2: The figure shown is the weight of the part including the coolant and oil.

2. Valve Timing Specifications

: Intake Valve Opening Angle

: Exhaust Valve Opening Angle



Intake	Open	8° ATDC to 42° BTDC
	Close	60° to 10° ABDC
Exhaust	Open	54° BBDC
	Close	2° ATDC

3. Performance Curve

