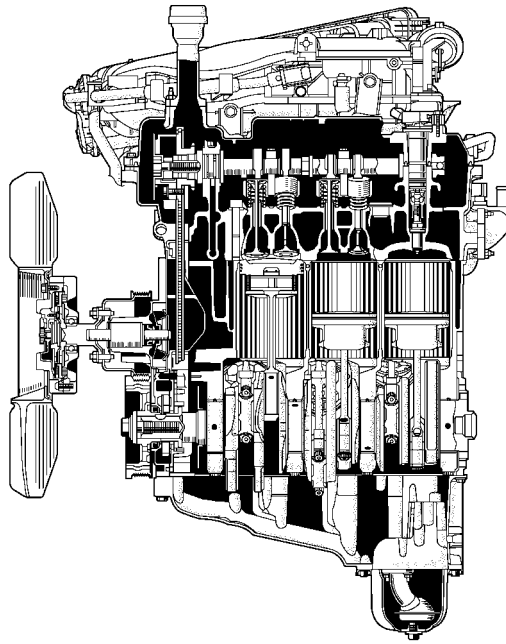


## NEW FEATURES

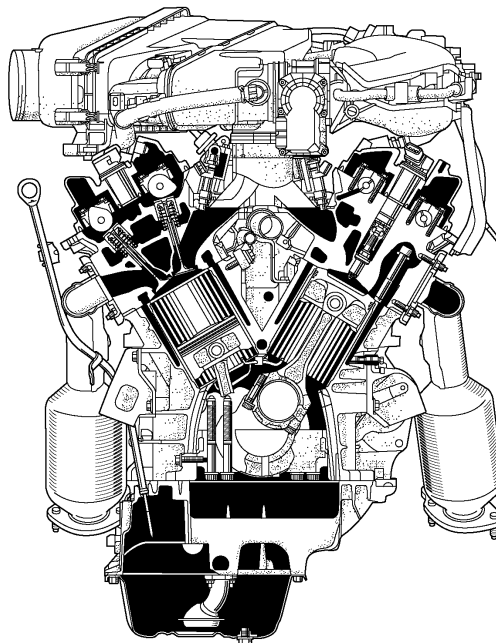
### 1GR-FE ENGINE

#### ■ DESCRIPTION

- A newly developed V-type, 6-cylinder, 4.0-liter, 24-valve DOHC 1GR-FE engine has been adopted on the current Land Cruiser/Land Cruiser Prado. In addition, the VVT-i (Variable Valve Timing-intelligent) system, ACIS (Acoustic Control Induction System), and the ETCS-i (Electronic Throttle Control System-intelligent) have been adopted on this engine. Their control functions have been optimized to further improve engine performance, fuel economy, and reduce exhaust emissions.
- This engine has been made compact and lightweight through the adoption of an aluminum cylinder block and plastic type of intake air chamber, fuel delivery pipe, and water inlet pipe.



238EG01



238EG02

## ► Engine Specifications ◀

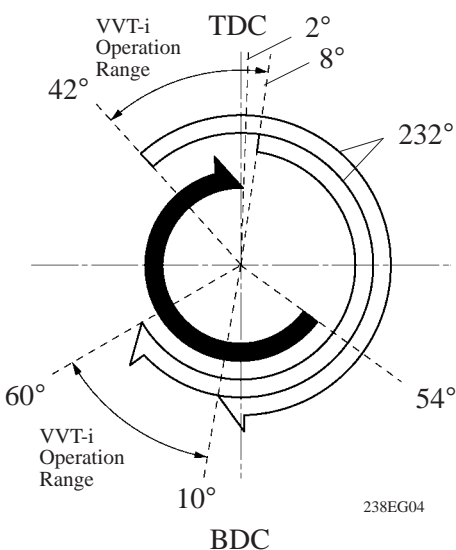
Engine Type				1GR-FE
No. of Cyls. & Arrangement				6-Cylinder, V Type
Valve Mechanism				24-Valve DOHC, Chain Drive (with VVT-i)
Combustion Chamber				Pentroof Type
Manifolds				Cross-Flow
Fuel System				EFI
Ignition System				DIS
Displacement			cm <sup>3</sup> (cu.in.)	3956 (241.4)
Bore × Stroke			mm (in.)	94.0 × 95.0 (3.70 × 3.74)
Compression Ratio				10.0 : 1
Max. Output	Europe Model	EEC-NET		183 kW @ 5200 rpm
	G.C.C Countries Model	SAE-GROSS (ECE-NET)		195 kW @ 5200 rpm (179 kW @ 5200 rpm)
	Australia and General Country Model	ECE-NET		179 kW @ 5200 rpm
Max. Torque	Europe Model	A/T	EEC-NET	380 N·m @ 3800 rpm
	G.C.C. Countries	M/T	SAE-GROSS (ECE-NET)	373 N·m @ 4800 rpm (343 N·m @ 2400 ~ 4800 rpm)
		A/T	SAE-GROSS (ECE-NET)	395 N·m @ 3800 rpm (376 N·m @ 3800 rpm)
	Australia and General Countries Model	M/T	ECE-NET	343 N·m @ 2400 ~ 4800 rpm
		A/T	ECE-NET	376 N·m @ 3800 rpm
	Valve Timing		Intake	Open
Close				60° ~ 10° ABDC
Exhaust			Open	54° BBDC
			Close	2° ATDC
Firing Order				1- 2 - 3 - 4 - 5 - 6
Research Octane Number				95 or more
Octane Rating				91 or more
Engine Service Mass* (Reference)			kg (lb)	Approx. 166 (366)
Oil Grade				API SL, EC or ILSAC
Tailpipe Emission Regulation				European STEP III
Evaporative Emission Regulation				European STEP III

\*: Weight shows the figure with the oil and water fully filled.

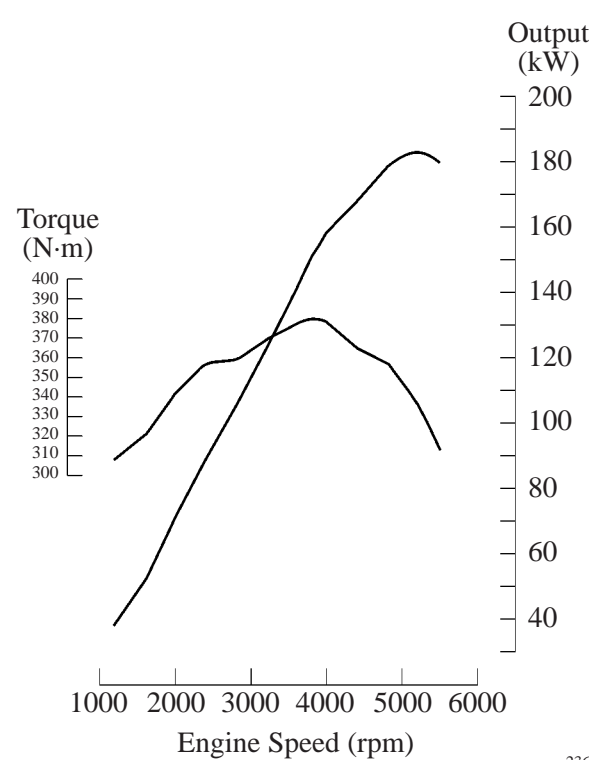
## ► Valve Timing ◀

◁ : Intake Valve Opening Angle

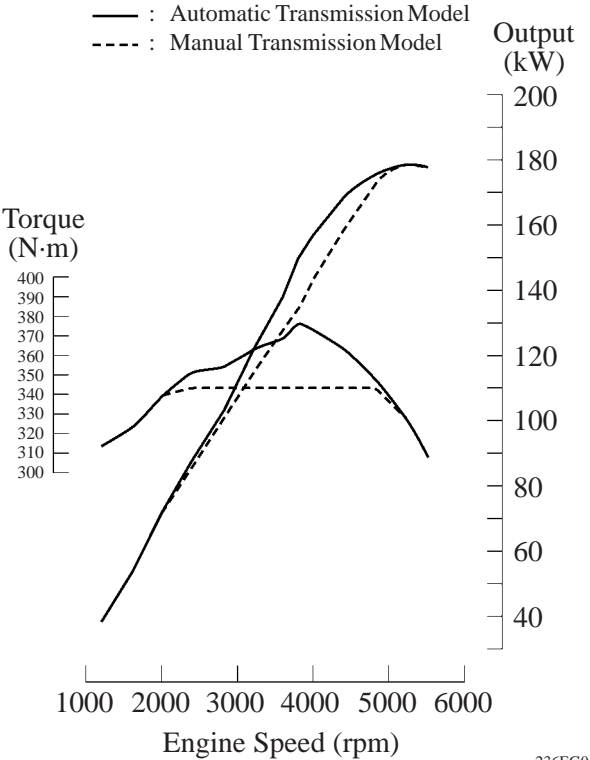
▴ : Exhaust Valve Opening Angle



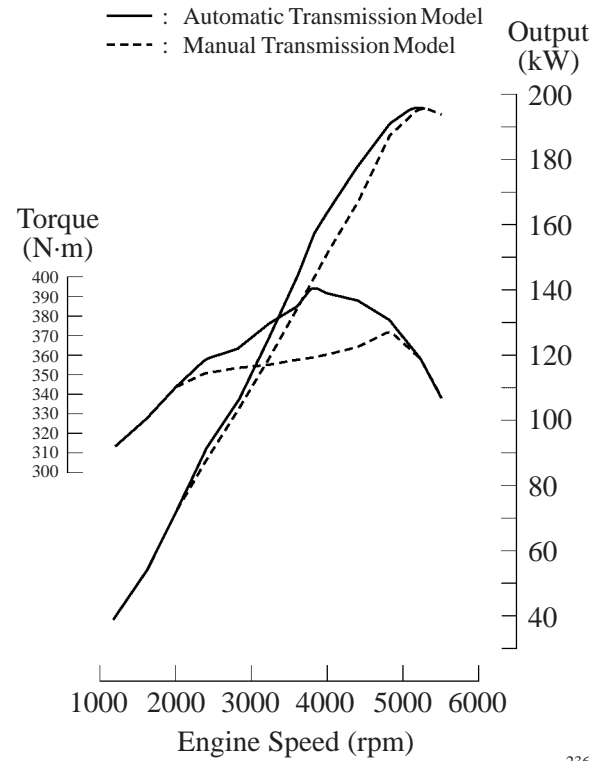
► Performance Curve ◀



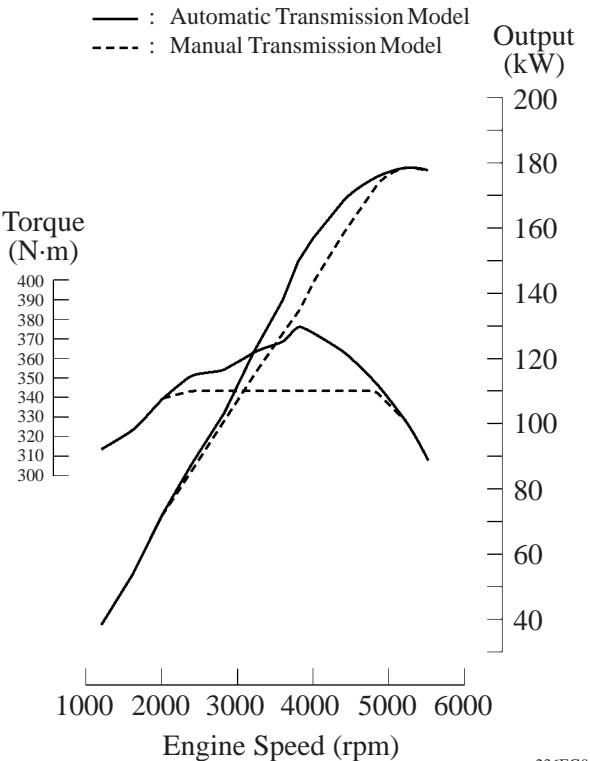
Europe Model (EEC-NET)



Australia, General Counties Model (ECE-NET)



G.C.C. Countries Model (SAS-GROSS)



G.C.C. Countries Model (ECE-NET)