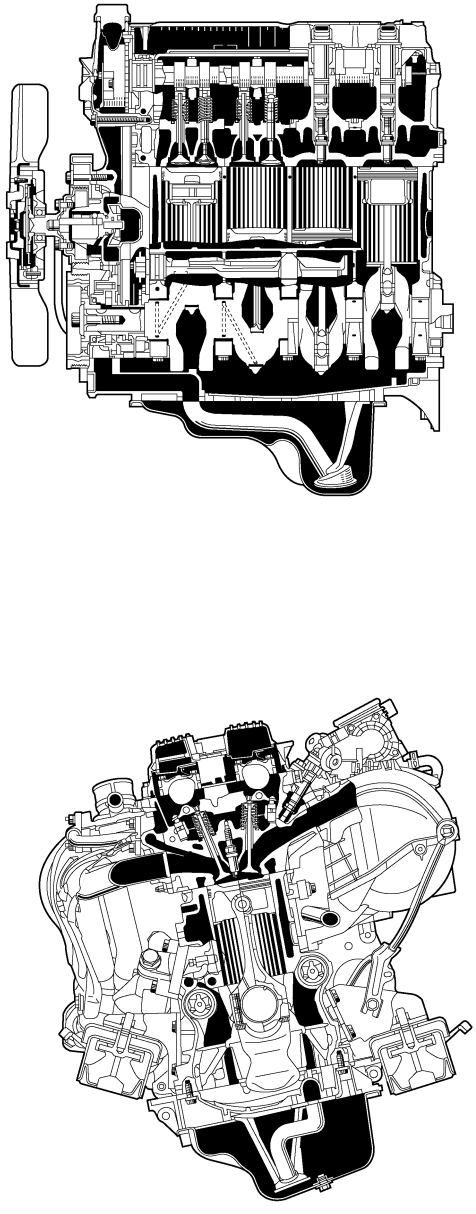
■2TR-FE ENGINE

1. General

- The 2TR-FE engine that has been adopted on the new Land Cruiser Prado is newly developed, inline 4-cylinder, 2.7-liter, 16-valve DOHC engines.
- This engine has been adopted the DIS (Direct Ignition System), ETCS-i (Electronic Throttle Control System-intelligent), VVT-i (Variable Valve Timing-intelligent) system and an Air Injection system*. It has been developed to realize high performance, quietness, fuel economy and clean emission.
- The 2TR-FE engine is available for use with leaded or unleaded gasoline, depending on the destination.

*: The air injection system has been adopted only on the unleaded gasoline model.



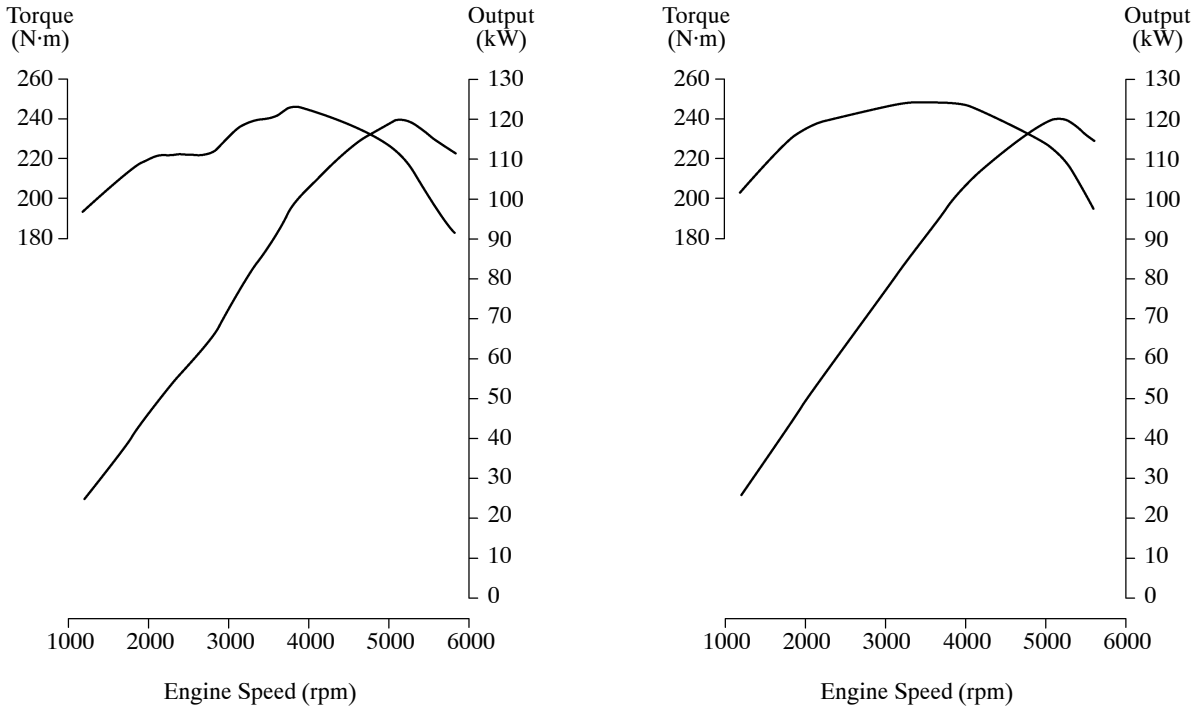
276PD07

▶ Engine Specifications ◀

Model			New Land Cruiser Prado		Previous Land Cruiser Prado	
Engine Type			2TR-FE (Unleaded Gasoline Model)	2TR-FE (Leaded Gasoline Model)	3RZ-FE (Unleaded Gasoline Model)	3RZ-FE (Leaded Gasoline Model)
No. of Cyls. & Arrangement			4-Cylinder, In-line	←	←	←
Valve Mechanism			16-Valve DOHC, Chain Drive (with VVT-i)	←	16-Valve DOHC, Chain Drive (without VVT-i)	←
Combustion Chamber			Pentroof Type	←	←	←
Manifolds			Cross-flow	←	←	←
Fuel System			EFI	←	←	←
Ignition System			DIS	←	←	←
Displacement cm^3 (cu. in.)			2,694 (164.4)	←	←	←
Bore × Stroke mm (in.)			95.0 × 95.0 (3.74 × 3.74)	←	←	←
Compression Ratio			9.6 : 1	←	9.5 : 1	←
Max. Output [SAE-NET]			120 kw @ 5200 rpm	←	112 kw @ 4800 rpm	108 kw @ 4800 rpm
Max. Torque [SAE-NET]			246 N·m @ 3800 rpm	←	240 N·m @ 4000 rpm	230 N·m @ 4000 rpm
Valve Timing	Intake	Open	35° BTDC ~ 0° BTDC	←	2° BTDC	←
		Close	29° ABDC ~ 64° ABDC	←	48° ABDC	←
	Exhaust	Open	44° BBDC	←	42° BBDC	←
		Close	8° ATDC	←	2° ATDC	←
Firing Order			1-3-4-2	←	←	←
Fuel			Unleaded Gasoline	Leaded Gasoline	Unleaded Gasoline	Leaded Gasoline
Research Octane Number			95 or higher	←	91 or higher	←
Oil Grade			API SJ, SL, EC or ILSAC	←	←	←
Emission Regulation			EURO III	—	EURO II	—
Engine Service Mass* (Reference) kg (lb)			157 (346)	←	170.5 (376)	←

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

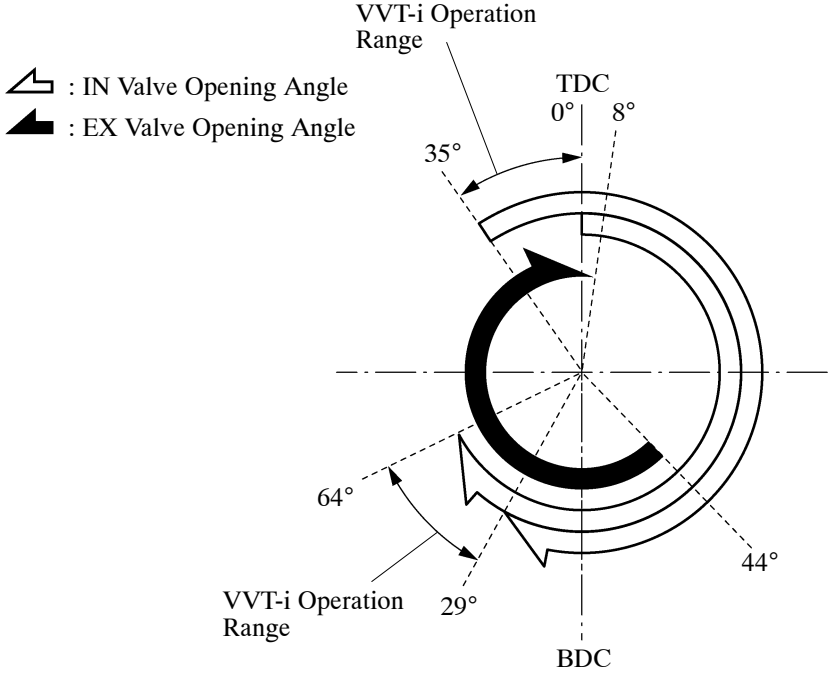
▶ Performance Curve ◀



Unleaded Gasoline Model **Leaded Gasoline Model**

276PD15

▶ Valve Timing ◀



276PD61