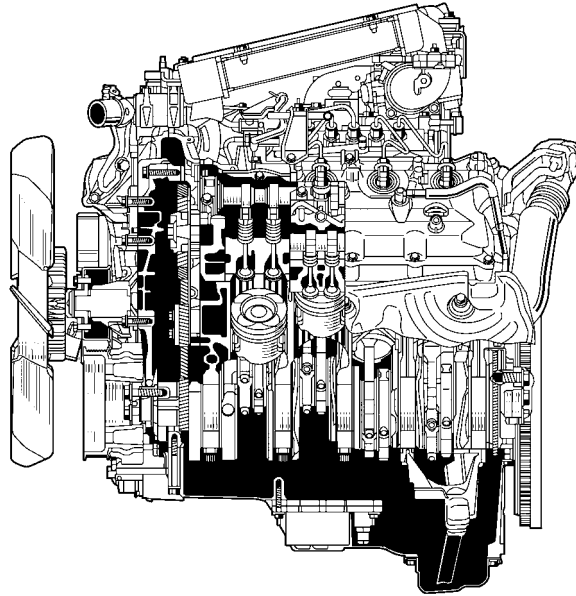


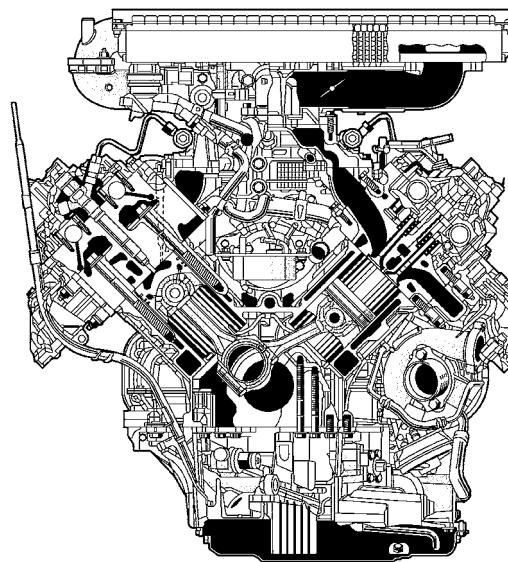
1VD-FTV ENGINE

■ DESCRIPTION

The 1VD-FTV engine is newly provided. The 1VD-FTV TOYOTA D-4D (Direct injection 4 stroke common-rail Diesel engine) is V8 4.5 liter, 32-valve DOHC, turbocharged diesel engine with intercooler. This engine uses direct injection system and common-rail system to realize high performance, clean emission, low noise and low vibration.



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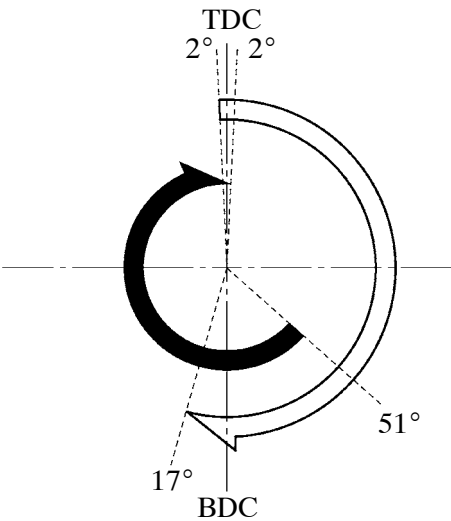
► Engine Specifications ◀

Engine Type			1VD-FTV
No. of Cyls. & Arrangement			8-cylinder, V type
Valve Mechanism			32-valves, DOHC, Chain & Gear Drive
Combustion Chamber			Direct Injection Type
Manifolds			Cross-flow
Fuel System			Common-rail Type
Displacement		cm ³ (cu. in.)	4461 (272.2)
Bore x Stroke		mm (in.)	86.0 x 96.0 (3.39 x 3.78)
Compression Ratio			16.8 : 1
Max. Output		(EEC)	151 kW @ 3400 rpm
Max. Torque		(EEC)	430 N·m @ 1200 – 3200 rpm
Valve Timing	Intake	Open	2° BTDC
		Close	17° ABDC
	Exhaust	Open	51° BBDC
		Close	2° ATDC
Firing Order			1 – 2 – 7 – 3 – 4 – 5 – 6 – 8
Fuel Cetane Number			50 (Cetane Index 45) or higher
Emission Regulation			EURO IV
Oil Grade			API: CF-4, CF, G-DLD-1 or ACEA B1
Engine Service Mass* (Reference)		Kg (lb)	357 (787)

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

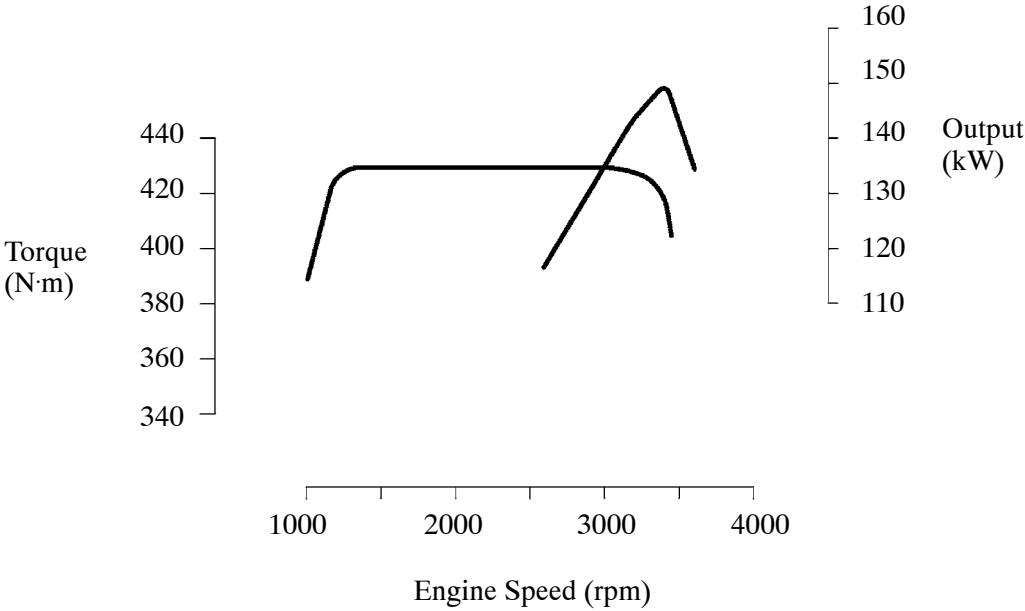
► Valve Timing ◀

 : Intake Valve Opening Angle
 : Exhaust Valve Opening Angle



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► Performance Curve ◀



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