2AD-FTV ENGINE

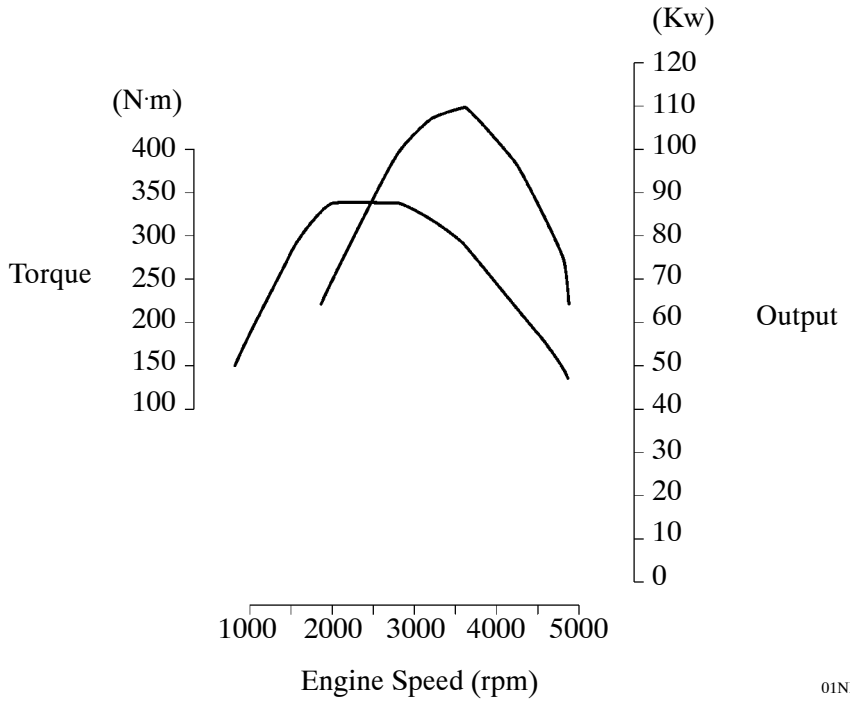
■ DESCRIPTION

- The 2AD-FTV TOYOTA Direct injection 4 stroke common-rail Diesel engine (D-4D) is in-line 4-cylinder, 2.2-liter, 16-valve DOHC turbocharged with intercooler diesel engine.
- This engine uses direct injection system and common-rail system to realize higher performance, clean emission, low noise and low vibration.
- This engine comes in 2 models. One is the oxidation catalyst model that uses only an oxidation catalyst. The other is the Diesel Particulate Filter (DPF) catalyst model that uses an oxidation catalyst and a DPF catalyst.

▶ Engine Specification ◀

Model			Oxidation Catalyst Model	DPF Catalyst Model
No. of Cyls. & Arrangement			4-cylinder, In-line	←
Valve Mechanism			16-valve DOHC, Chain and Gear Drive	←
Combustion Chamber			Direction Injection Type	←
Manifold			Cross-flow	←
Fuel System			Common-rail Type	←
Displacement			2231 cm^3 (136.1 cu. in.)	←
Bore × Stroke			86.0 mm × 96.0 mm (3.39 in. × 3.78 in.)	←
Compression Ratio			15.7 : 1	←
Max. Output [EEC]			110 kW @ 3600 rpm	←
Max. Torque [EEC]			340 N·m @ 2000 – 2800 rpm	←
Valve Timing	Intake	Open	2° BTDC	←
		Closed	31° ABDC	←
	Exhaust	Open	51° BBDC	←
		Closed	2° ATDC	←
Firing Order			1 – 3 – 4 – 2	←
Fuel Cetane Number			48 or higher	←
Emission Regulation			EURO IV	EURO V
Engine Service Mass (Reference)			197 kg (434 lb)	196 kg (432 lb)

▶ Performance Curve ◀



■ ENGINE PROPER

1. Cylinder Block

Air passage holes are provided on bulkheads of the cylinder block and cylinder block lower case. As a result, the air at the bottom of the cylinder flows smoother, and pumping loss (back pressure at the bottom of the piston generated by the piston's reciprocating movement) has been reduced to improve the engine's output.

