

3. Features of 1KD-FTV Engine

The 1KD-FTV engine has been able to achieve the following performance through the adoption of the items listed below.

- (1) High performance and fuel economy
- (2) Low noise and vibration
- (3) Lightweight and compact design
- (4) Good serviceability
- (5) Clean emission

Item		(1)	(2)	(3)	(4)	(5)	New Land Cruiser /Land Cruiser Prado	Previous Land Cruiser /Land Cruiser Prado
Engine Proper	Cylinder head cover is made of plastic and cylinder head is made of aluminum alloy.			○			○	○
	Injector is provided in the bore center to improve its air utilization rate.	○				○	○	○
	The passage for the EGR is provided in the cylinder head.					○	○	○
	Piston provided with combustion chamber is used in conjunction with the adoption of direct injection.	○				○	○	○
	Crankshaft pulley uses a torsional damper.		○				○	○
Valve Mechanism	An intake camshaft is driven by a timing belt, and an exhaust camshaft is driven by a gear.		○	○			○	○
	An automatic tensioner is provided for the timing belt.				○		○	○
Cooling System	TOYOTA Genuine SLLC (Super Long Life Coolant) is used.				○		○	○
Intake and Exhaust System	A three-stage switching type swirl control valve is used.	○	○			○	○	—
	A two-stage switching type swirl control valve is used.	○	○			○	—	○
	Oxidation catalytic converter is used.					○	○	○
	Rotary solenoid type throttle control motor is used in the throttle body.	○	○			○	○	—
	Step motor type throttle control motor is used in the throttle body.	○	○			○	—	○
	Variable nozzle vane type turbocharger and high efficiency intercooler are used.	○		○		○	○	○
	EGR is used.					○	○	○
	EGR valve position sensor is used.					○	○	○
	Water-cooled type EGR cooler with a bypass, and a bypass switching valve are used.					○	○	—

(Continued)

Item		(1)	(2)	(3)	(4)	(5)	New Land Cruiser /Land Cruiser Prado	Previous Land Cruiser /Land Cruiser Prado
Fuel System	HP3 type supply pump is used.	○	○	○			○	○
	A common-rail type fuel injection system is used.	○	○			○	○	○
	An injector on which compensation value and QR (Quick Response) code are printed is used.	○				○	○	○
	A fuel filter warning switch that detects the clogging of the fuel filter is used.				○		○	—
Charging System	Segment Conductor type alternator is used.			○			○	○
Serpentine Belt Drive System	A serpentine belt drive system is used.				○		○	○
Engine Control System	Non-contact type throttle position sensor is used.		○			○	○	—
	A pilot injection control system is used.	○	○			○	○	○
	EGR control system is used.					○	○	○
	An oil maintenance management system is used.				○		○	—

4. Cooling System

The thickness and fin pitch of the radiator have been changed, along with the increased power output of the engine.

► Specifications ◀

		New	Previous
Radiator Thickness	A/T	36 mm (1.42 in.)	24 mm (0.945 in.)
	M/T	24 mm (0.945 in.)	←
Radiator Fin Pitch	A/T	3.0 mm (0.118 in.)	←
	M/T	3.5 mm (0.138 in.)	4.0 mm (0.157 in.)