■ FEATURES OF 1KD-FTV AND 2KD-FTV ENGINES

The 1KD-FTV and 2KD-FTV engines have achieved the following performance features through the use of the items listed below.

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

Section	Item	(1)	(2)	(3)	(4)	(5)
Engine Proper	A cylinder head cover made of plastic is used.		○	○		
	2 balance shafts are used.*1		○			
	A piston provided with combustion chamber is used.	○	○			○
	A passage for the EGR is provided in the cylinder head.			○		○
Valve Mechanism	A shim-less type valve lifter is used.	○			○	
Cooling System	A pressurized reservoir tank is used.	○			○	
Intake and Exhaust System	An intake shutter valve is used.	○	○			○
	A swirl control valve is used.*2	○	○			○
	A variable nozzle vane type turbocharger is used.*3	○				○
	An air-cooled type turbocharger is used.*4			○		
	An intercooler is used.*5	○				○
	An oxidation catalytic converter is used.*6					○
	EGR cooler with bypass is used.*7					○

(Continued)

*1: Models with 1KD-FTV engine
*2: Models compliant with EURO IV emission regulations and models with variable nozzle vane type turbocharger
*3: Models with 1KD-FTV engine, 4WD and SR grade of PreRunner models for Thailand and 4WD models for Europe
*4: Models with 2KD-FTV and 2KD-FTV High Version engines (except 4WD and SR grade of PreRunner models for Thailand and 4WD models for Europe)
*5: Models compliant with EURO IV emission regulations, models with 1KD-FTV engine, models for Thailand with 2KD-FTV High Version engine and models for Brunei Darussalam with 2KD-FTV High Version engine
*6: Models with 1KD-FTV engine compliant with EURO II, EURO III, EURO IV and Tier 1 emission regulations, models with 2KD-FTV engine compliant with EURO II and EURO III emission regulations, models with 2KD-FTV High Version engine compliant with EURO III, EURO IV and Tier 1 emission regulations and models for high altitude country
*7: Models compliant with EURO IV emission regulations

Section	Item	(1)	(2)	(3)	(4)	(5)
Fuel System	An HP3 type supply pump is used.	○	○	○		
	A common-rail type fuel injection system is used.	○	○			○
	An injector is provided in the bore center.	○	○			○
	Compensation values and QR codes are used.	○	○			○
	A fuel cooler is used.*1	○				
	A fuel filter, in which the fuel filter element alone can be replaced, is used.				○	
	A recirculation type fuel heater is used.*2	○				
	A fuel filter warning switch that detects the clogging of the fuel filter is used.				○	
Engine Control System	An air flow meter is used.*3	○				○
	An EGR control is used.*4					○
	An EGR valve position sensor is used.*5					○
	Non-contact sensors are used as the accelerator pedal position sensor and intake shutter valve position sensor.	○				
	A pilot injection control system is used.	○	○			○

*1: Models with 1KD-FTV engine and models with 2KD-FTV High Version engine with intercooler
*2: Models for Europe
*3: Models with 1KD-FTV engine, and models with 2KD-FTV and 2KD-FTV High Version engines (except models non-compliant with emission regulations)
*4: Except models non-compliant with emission regulations
*5: Models with 1KD-FTV engine compliant with EURO IV emission regulations and models with 2KD-FTV and 2KD-FTV High Version engines with EGR control