■ FEATURES OF 2AD-FHV ENGINE

The 2AD-FHV engine has achieved the following performance 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

Item		(1)	(2)	(3)	(4)	(5)	2AD-FHV	2AD-FTV
Engine Proper	A cylinder head and cylinder block made of aluminum alloy are used.			○			○	○
	A piston provided with combustion chamber is used in conjunction with the adoption of direct injection.	○				○	○	○
	A balance shaft which is directly driven by the crankshaft is used.	○	○				○	○
Valve Mechanism	Hydraulic lash adjusters are used.	○	○		○		○	○
	A timing chain and chain tensioner are used.		○	○	○		○	○
	Roller rocker arms are used.	○				○	○	○
Lubrication System	An oil filter with a replaceable element is used.				○		○	○
	A water-cooled type oil cooler is used.	○					○	○
Cooling System	TOYOTA genuine SLLC (Super Long Life Coolant) is used for engine coolant.				○		○	○
Intake and Exhaust System	An EGR and a catalytic converter are used.					○	○	○
	A rotary solenoid motor type diesel throttle control motor and non-contact type diesel throttle position sensor are used in the throttle body.					○	○	○
	A linear solenoid type EGR valve is used.					○	○	○
	A water-cooled type EGR cooler is used.					○	—	○
	A water-cooled type EGR cooler with a bypass passage is used.					○	○	—
	A variable nozzle vane type turbocharger is used.	○				○	○	○
	An exhaust manifold converter uses NSR and DPNR catalysts.					○	○	—

(Continued)

Item		(1)	(2)	(3)	(4)	(5)	2AD-FHV	2AD-FTV
Fuel System	HP3 type supply pump is used.	○	○	○			○	○
	A common-rail type fuel injection system with pressure discharge valve is used.	○	○			○	○	—
	A common-rail type fuel injection system without pressure discharge valve is used.	○	○			○	—	○
	A solenoid type injector on which compensation value and QR (Quick Response) code are printed is used.	○				○	—	○
	A piezo type injector on which compensation value and QR code are printed is used.	○				○	○	—
	An exhaust fuel addition injector is used.					○	○	—
Charging System	A segment conductor type alternator is used.	○		○			○	○
	An alternator pulley with a one-way clutch is used.				○		○	○
Serpentine Belt Drive System	A serpentine belt drive system is used.			○	○		○	○
Engine Control System	A pilot injection control is used.	○	○				○	○
	A charging control is used.					○	○	○
	A catalyst support control is used.					○	○	—
	A cranking hold function is used. *	○					○	○
	An oil maintenance management system is used.				○		○	○

*: Models with Smart Entry & Start System

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