

■ 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