■FEATURES OF 3UR-FE ENGINE

The 3UR-FE 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 emissions and fuel economy

Item		(1)	(2)	(3)	(4)	(5)
Engine Proper	A steel laminate type cylinder head gasket is used.	○				○
	A taper squish shape is used for the combustion chamber.	○				○
	A cylinder block made of aluminum alloy is used.			○		
	Water jacket spacers are used.	○				
	The skirt portion of the pistons have a resin coating applied to reduce friction.	○	○			○
	An oil pan (oil pan No.1) made of aluminum alloy is used.		○	○		
Valve Mechanism	A Dual VVT-i (Variable Valve Timing-intelligent) system is used.	○				○
	Hydraulic lash adjusters are used.	○	○			○
	Timing chains and chain tensioners are used.	○	○	○		
	Roller rocker arms are used.	○				○
Lubrication System	An oil filter with a replaceable element is used.				○	
	A water-cooled type engine oil cooler is used for the towing package.	○				
Cooling System	The engine coolant that is used is the TOYOTA Genuine SLLC (Super Long Life Coolant).				○	
Intake and Exhaust System	A carbon filter is used in the air cleaner cap.					○
	A cable-less type throttle body is used.			○	○	
	An intake manifold made of plastic is used.	○		○		
	Stainless steel exhaust manifolds are used.			○		
Fuel System	12-hole type fuel injectors are used to improve the atomization of fuel.	○				○
	A fuel delivery pipe with an integrated pulsation damper function is used.			○		
Ignition System	The DIS (Direct Ignition System) makes ignition timing adjustment unnecessary.	○			○	○
	Long-reach type iridium-tipped spark plugs are used.	○			○	○
Charging System	A segment conductor type generator is used.	○		○		
Starting System	A planetary reduction type starter is used.			○		
Serpentine Belt Drive System	A serpentine belt drive system is used.			○	○	

(Continued)

Item		(1)	(2)	(3)	(4)	(5)
Blowby Gas Ventilation System	To separate the oil from the blowby gas, a separator case is provided between the cylinder block and the intake manifold.			○		○
Engine Control System	MRE (Magnetic Resistance Element) type crankshaft position, camshaft position, and VVT sensors are used.	○				
	The ETCS-i (Electronic Throttle Control System-intelligent) is used.	○				○
	An ACIS (Acoustic Control Induction System) is used.	○				○
	An air injection system is used.					○
	The cranking hold function is used.	○				
	An evaporative emission control system is used.					○