■FEATURES OF 1GR-FE ENGINE

The 1GR-FE engine has 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	An upright intake port is used.	○		○		
	A taper squish shape is used for combustion chamber.	○				○
	A steel-laminate type cylinder head gasket is used.	○				
	A cylinder block made of aluminum alloy is used.			○		
	An oil pan No. 1 made of aluminum alloy is used.		○	○		
	The skirt portion of the piston is applied with resin plating to reduce friction.	○	○			○
	A water inlet pipe made of plastic is used.			○		
Valve Mechanism	Shim-less type valve lifters are used.	○		○		
	The VVT-i (Variable Valve Timing-intelligent) system is used.	○				○
Intake and Exhaust System	An intake air chamber made of plastic is used.			○		
	A linkless-type throttle body is used.			○	○	
	TWCs (Three-Way Catalytic converters) are used.					○
Fuel System	12-hole type fuel injectors are used to improve the atomization of fuel.	○				○
	The fuel delivery pipe made of plastic is used.			○		
Ignition System	Long-reach type spark plugs is used.	○				
Starting System	A PS (Planetary reduction-Segment conductor motor) type starter is used.	○		○		
Engine Control System	The ETCS-i (Electronic Throttle Control System-intelligent) is used.	○				○
	The ACIS (Acoustic Control Induction System) is used.	○				○
	The DIS (Direct Ignition System) makes ignition timing adjustment unnecessary.	○			○	○
	A non-contact sensor is used in the throttle position sensor.	○				
	A non-contact sensor is used in the accelerator pedal position sensor.	○				
	A planar type air-fuel ratio sensor is used.					○