

■ FEATURES OF 1GR-FE ENGINE

The 1GR-FE engine has been able to achieve the following performance through the adoption 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)
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.	○	○			○
	The water inlet pipe made of plastic is used.			○		
Valve Mechanism	The shim-less type valve lifters are used.	○		○		
	The VVT-i system is used.	○				○
Intake and Exhaust System	The intake air chamber made of plastic is used.			○		
	The link-less type throttle body has been adopted.			○	○	
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	The long-reach type spark plugs have been adopted.	○				
Starting System	PS (Planetary reduction-Segment conductor motor) type starter is used.	○		○		
Engine Control System	The ETCS-i is used.	○				○
	The ACIS is used.	○				○
	The DIS (Direct Ignition System) makes ignition timing adjustment unnecessary.	○			○	○
	Cranking hold function has been adopted.	○				
	The no-contact sensor has been adopted in the throttle position sensor.	○				
	The no-contact sensor has been adopted in the accelerator pedal position sensor.	○				
	The planar type air fuel ratio sensor and oxygen sensor have been adopted.					○
Evaporative Emission System	A service port has been provided for inspecting the evaporating emission control system.				○	