## ■MAJOR DIFFERENCES

The following changes have been made to the 2JZ-GE engine.

| System | Features |
|---|---|
| Engine Proper | ● The cylinder head water jacket has been modified to improve the cooling performance around the spark plugs, thus increasing the compression ratio.<br>● The cylinder head intake port has adopted a smaller diameter to improve the intake airflow velocity, thus increasing the torque in the low- to medium-speed range.<br>● The piston and connecting rod are lightweight to reduce the noise and vibration. |
| Valve Mechanism | ● The VVT-i system is used to improve engine performance, fuel economy and reduce exhaust emissions.<br>● The spring tension of the valve springs has been decreased to reduce friction. |
| Cooling System | An electric cooling fan has been adopted. The fan speed is controlled in 3 steps to improve cooling performance and reduce cooling fan noise. |
| Intake and Exhaust System | ● A thermostat is installed in the throttle body in order to restrain the rise in the intake air temperature, thus improving the intake charging efficiency.<br>● A long port exhaust manifold made of stainless steel is used to improve the engine's torque in the low- to medium-speed range.<br>● A long tail muffler is used to ensure quietar operation during idling. |
| Fuel System | ● The injector has been made more compact and the injection nozzle has been modified to improve the atomization of the fuel.<br>● An air assist fuel injection system is used to promote atomizing of the fuel for improved fuel economy.*1<br>● A fuel returnless system has been adopted to reduce evaporative emissions.<br>● A jet pump has been adopted to use the fuel in the fuel tank effectively. |
| Ignition System | The DIS (Direct Ignition System) is used to enhance the reliability of the ignition system. |
| Engine Control System | ● The ETCS-i has been adopted to realize excellent vehicle controllability and comfort.<br>● A 3-step control type fuel pump speed control has been adopted.<br>● M-OBD (Multiplex On-Board Diagnosis) system is adopted.<br>● The cruise control system and the engine immobiliser system have been integrated with the engine ECU.<br>● The engine ECU has been installed in the engine compartment. |
| Emission Control System | ● EGR system has been discontinued.*2<br>● The 2 TWCs (Three-Way Catalytic Converters) have been integrated with the exhaust manifold and the TWC under the floor has been discontinued.*2 |

*1: On the model for Europe, adopted since the previous model.
*2: Only for Europe and Australia model.