

■ MAJOR DIFFERENCES

The major differences between the new 3UZ-FE engine on the GS430 and the previous 1UZ-FE engine on the LS400 are the following:

System	Features
Engine Proper	● The water passage outside of the cylinder head bolts has been reduced to improve the flow of the water around the valve seats, thus reducing the temperature of the combustion chamber. ● The cylinder bore has been increased in size, and the thickness of the liner has been decreased. ● The shape of the cylinder head gasket has been changed in conjunction with the increase in the size of the cylinder bore. ● The material of the cylinder head bolts has been changed to increase their axial tension. As a result, the head gaskets tightening has been improved. ● The piston diameter has been increased in size, and its shape has been optimized to achieve weight reduction. ● The material of the inner surface of the bushing in the small end of the connecting rod has been changed from lead bronze alloy to phosphor bronze alloy. ● The material of the sliding surface of the crankshaft bearing has been changed from kelmet to aluminum alloy.
Cooling System	● The shape of the water inlet housing has been optimized to increase the water flow and to achieve weight reduction. ● A pressurized reservoir tank has been adopted.
Intake and Exhaust System	● A resonator and a tuning hole have been provided in the air cleaner inlet to reduce the amount of intake air sound. ● The air cleaner case has been increased in size to reduce the amount of intake air sound, and the construction of the air cleaner element has been optimized to achieve weight reduction. ● A plug-in type air flow meter with a plastic housing has been adopted for weight reduction. ● A stainless steel exhaust manifold with a single-pipe construction has been adopted. As a result, the warm-up performance of the TWC (Three-way Catalytic Converter) has been improved. ● Two TWCs (Three-way Catalytic Converters) have been provided in the front, and one in the center. ● Ultra thin-wall, high-cell ceramic type TWCs have been adopted. ● A link-less type throttle body has been adopted.
Fuel System	The internal construction of the charcoal canister has been optimized to achieve a compact and lightweight configuration.
Ignition System	The construction of the ignition coil has been optimized to achieve a compact and lightweight configuration.
Engine Control System	● Torque activated power train control has been newly adopted for the control of ETCS-i. Also, the fail-safe control has been reconsidered with the adoption of the link-less type throttle body. ● A fuel cut control is adopted to stop the fuel pump when SRS driver's and front passenger's airbags are deployed.