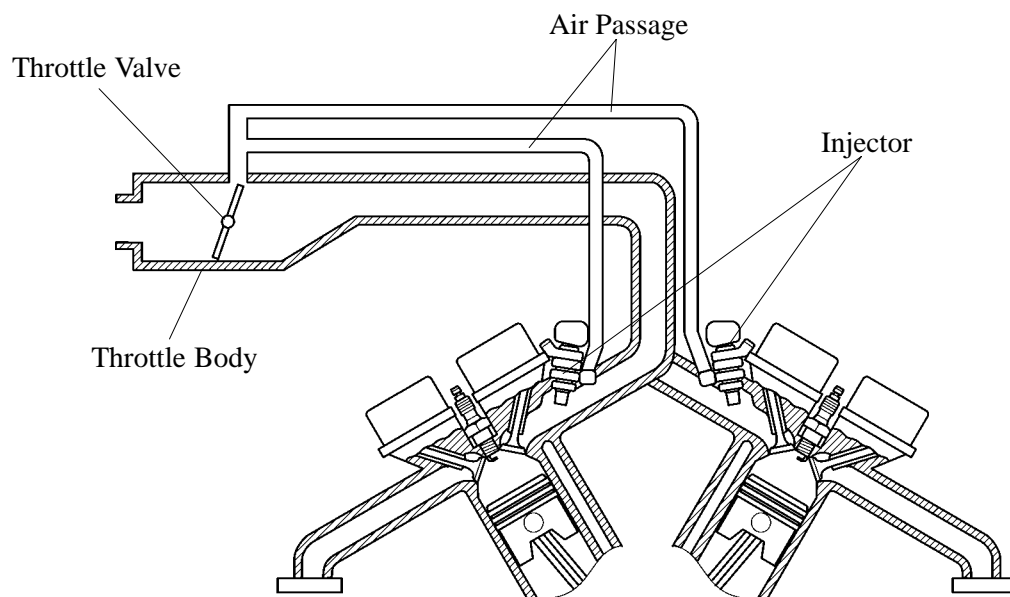


7. Fuel System

Air-Assist System

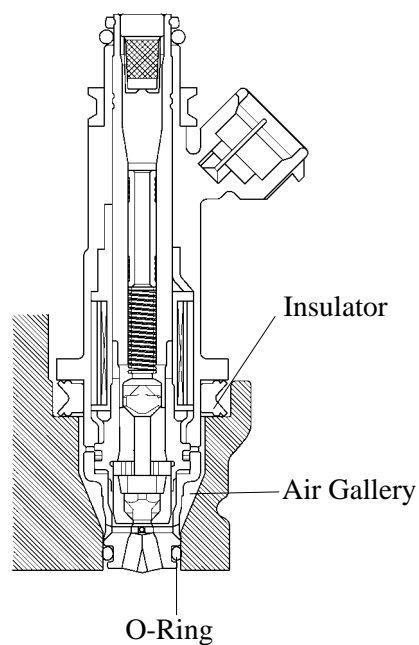
This system is designed to regulate air intake (atmospheric side) using the throttle valve, and direct it to the nozzle of the fuel injector inside the intake manifold (negative pressure side). This promotes atomization of the fuel while reducing emissions and improving fuel economy and idle stability.



151EG35

Fuel Injector

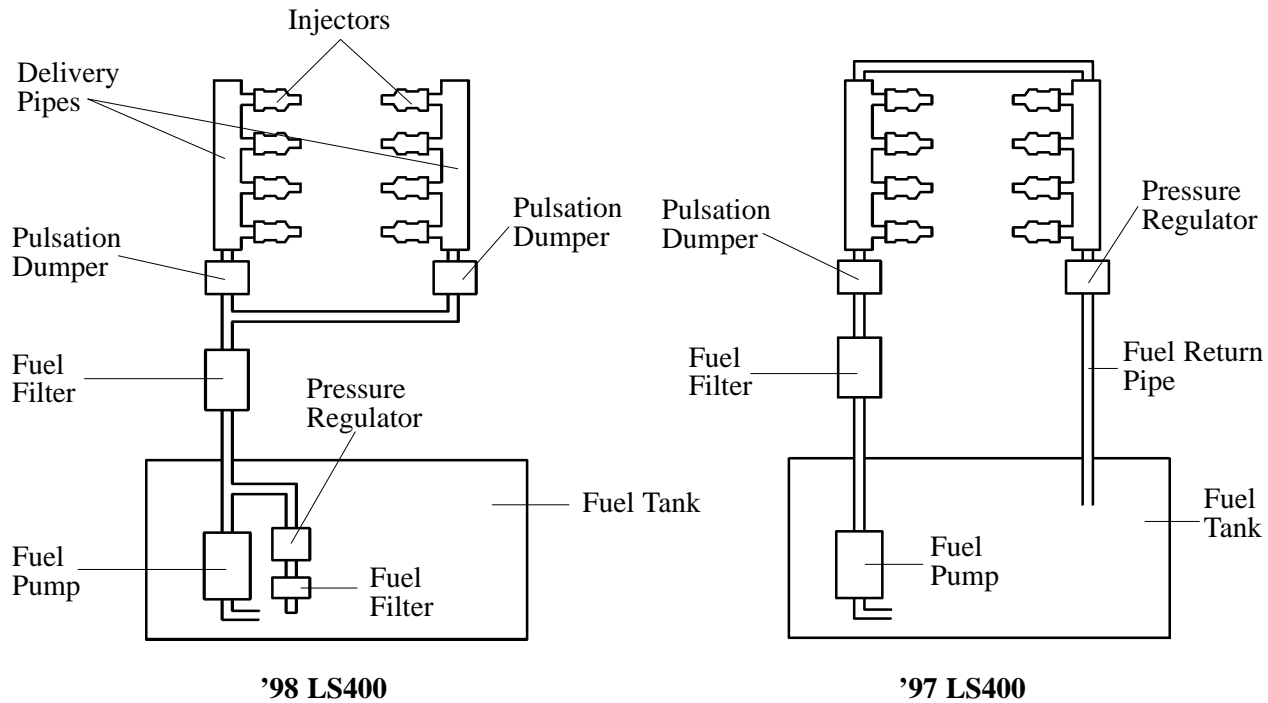
- A compact 4-hole type fuel injector has been adopted.
- Air introduced from the throttle body and air gallery flows through the air chamber formed by the o-ring and insulator under the fuel injector and then is mixed with the fuel. This design promotes atomization of the fuel.



151EG36

Fuel Returnless System

- The new LS400 has adopted a fuel returnless system to reduce evaporative emissions. With the pressure regulator housed inside the fuel tank, this system eliminates the return of fuel from the engine area.
- 2 pulsation dampers are used to realize a quieter operation.



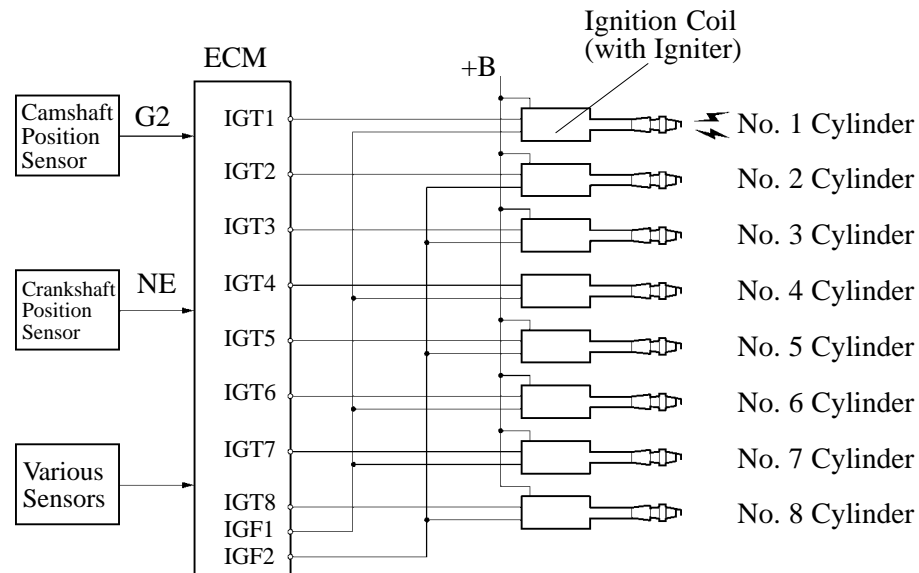
151EG37

8. Ignition System

General

A DIS (Direct Ignition System) has been adopted in the 1UZ-FE engine. The DIS improves the ignition timing accuracy, reduces high-voltage loss, and enhances the overall reliability of the ignition system by eliminating the distributor.

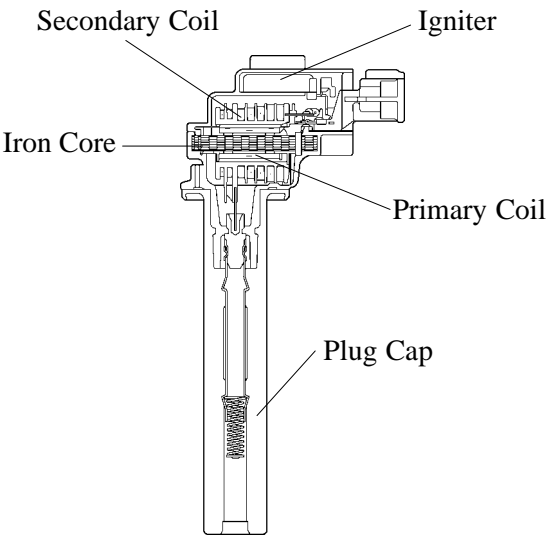
The DIS in 1UZ-FE engine is an independent ignition system which has one ignition coil for each cylinder.



151EG05

Ignition Coil

The DIS provides 8 ignition coils, one for each cylinder. The spark plug caps, which provide contact to the spark plugs, are integrated with an ignition coil. Also, an igniter is enclosed to simplify the system.

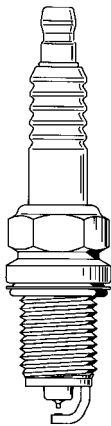


Ignition Coil Cross Section

151EG38

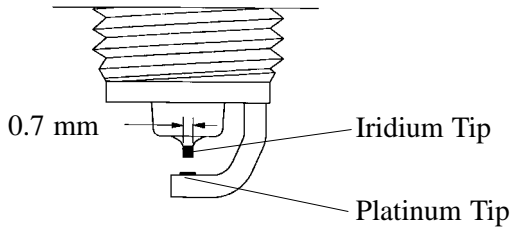
Spark Plug

Iridium-tipped spark plugs have been adopted. Their center electrode is made of iridium, which excels in wear resistance. As a result, the center electrode is made with a smaller diameter and improved the ignition performance.



► Recommended Spark Plugs ◀

DENSO	SK20R11
NGK	IFR6A11
Plug Gap	1.0 – 1.1 mm (0.0394 – 0.043 in.)



151EG39