■ FUEL SYSTEM

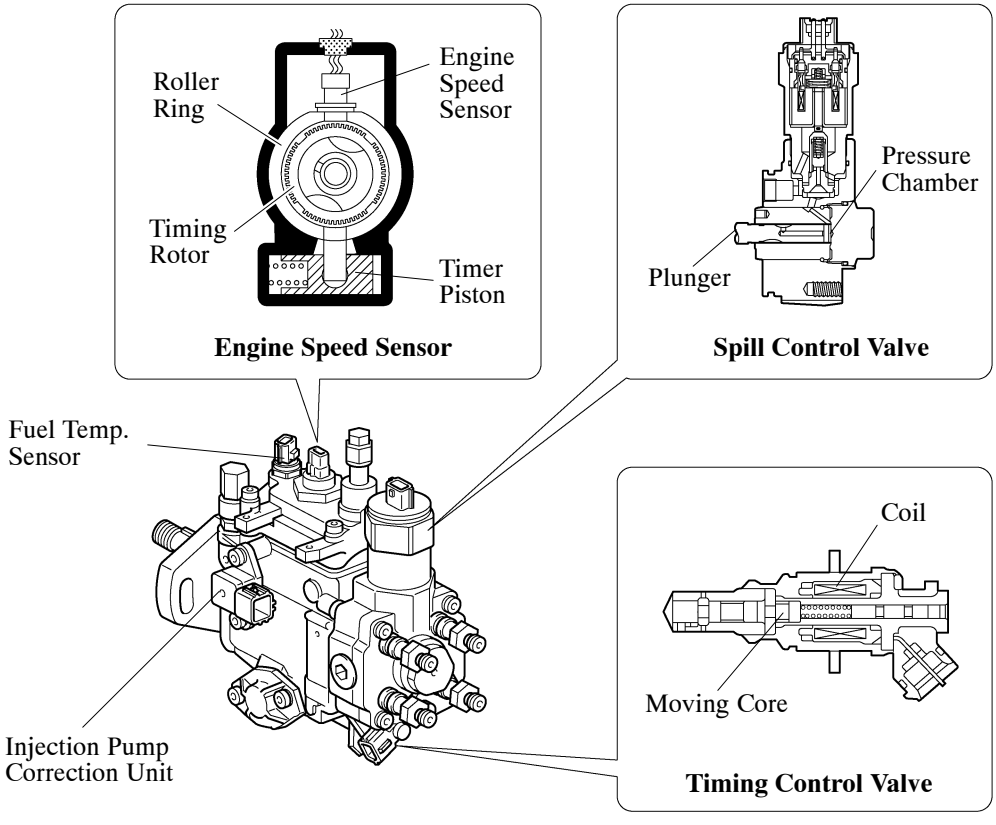
1. General

- The same fuel tank and layout as for the 2KD-FTV engine models are used. For details, see page EG-85 in 2KD-FTV engine.
- A dedicated injection pump is used along with the adoption of the diesel EFI system.
- The same fuel filter and fuel filter warning switch as for the 2KD-FTV engine models are used. For details, see page EG-85 in 2KD-FTV engine.

2. Injection Pump

General

Along with the adoption of the Diesel EFI system, a spill control valve, timing control valve, fuel temperature sensor, engine speed sensor, and injection pump correction unit are used for injection pump.



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Spill Control Valve

The spill control valve is to control the fuel injection volume in accordance with the signals received from the engine ECU. When the current applied to the spill control valve is shut off, the valve in the spill control valve opens by the difference in pressures. Thus, the pressure in the plunger decreases, causing the injection nozzle to stop injecting fuel.

The length of time until the spill control valve is turned OFF becomes the fuel injection time. Thus, the fuel injection volume is controlled by increasing or decreasing the length of time until the spill control valve is turned OFF.

Timing Control Valve

In accordance with the signals from the engine ECU, the timing control valve opens the valve in the fuel passage between the high-pressure chamber and the low-pressure chamber, thus controlling the injection timing. When the current flows to the coil of the timing control valve, the stator core becomes an electromagnet to push and compress the spring. This causes the moving core to retract and open the fuel passage.

Engine Speed Sensor

The engine speed sensor is attached to the roller ring in the injection pump to detect the engine speed. The timing rotor is attached to the drive shaft. Missing 2 teeth at each of the 4 locations, the timing rotor generates a signal every 11.25° (crankshaft angle) with its 56 teeth.

Injection Pump Correction Unit

To compensate for the shift in injection volume and injection timing caused by the variance in the injection pump itself, a correction is made by using the data that is stored in the ROM in the fuel pump correction unit.

Fuel Temperature Sensor

The fuel temperature sensor uses an internal thermistor to detect the fuel temperature.

3. Fuel Filter

For details, see page EG-93 in 2KD-FTV engine.