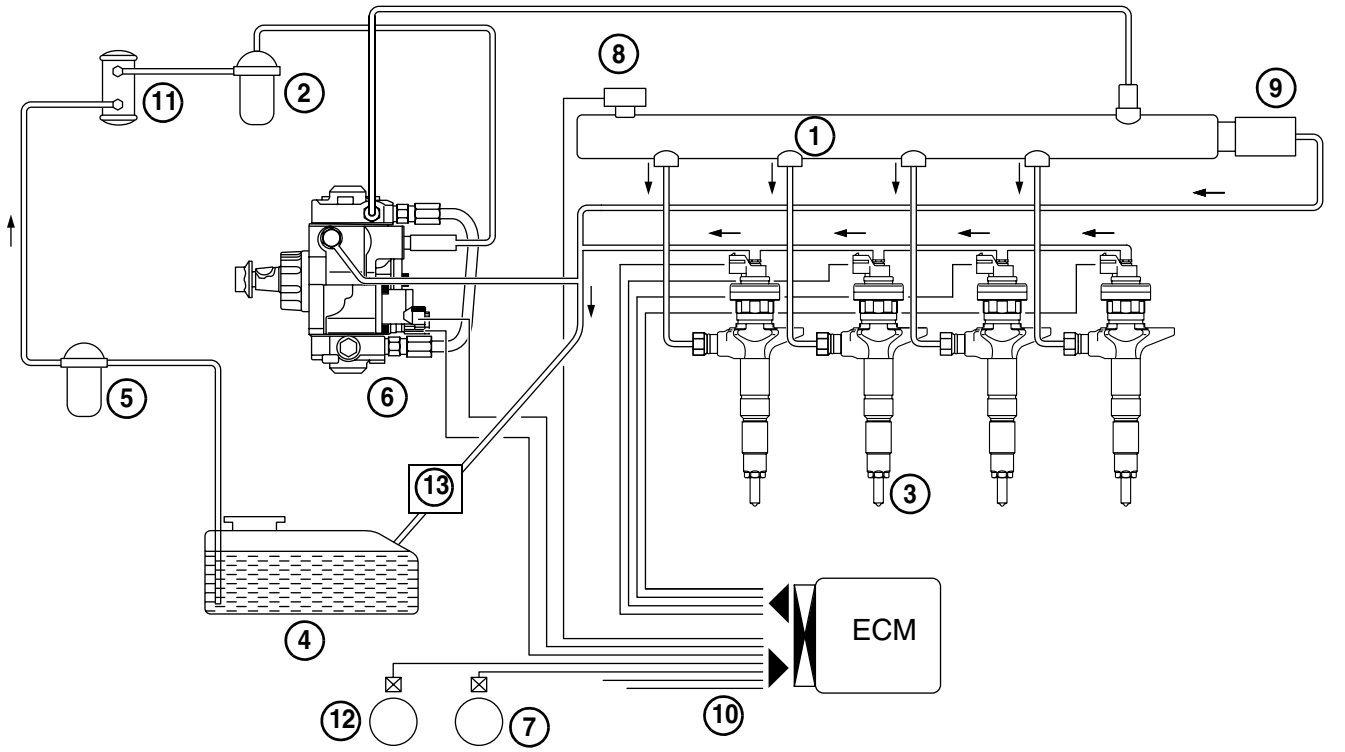
2. Fuel System Diagram

1) System schematic diagram (4JJ1)

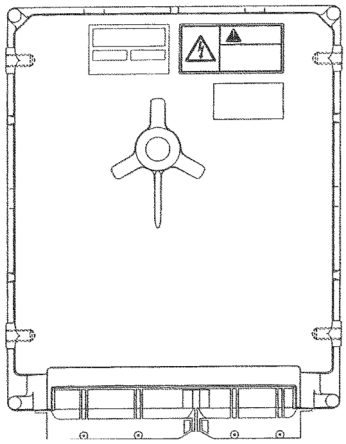


TSJJ0102

1. Common rail
2. Fuel filter
3. Injector
4. Fuel tank
5. Pre-filter
6. Supply pump
7. CKP sensor
8. Common rail pressure sensor
9. Pressure limiter
10. Each sensor
11. Electromagnetic pump
12. CMP sensor
13. Fuel cooler

3. Detailed Part

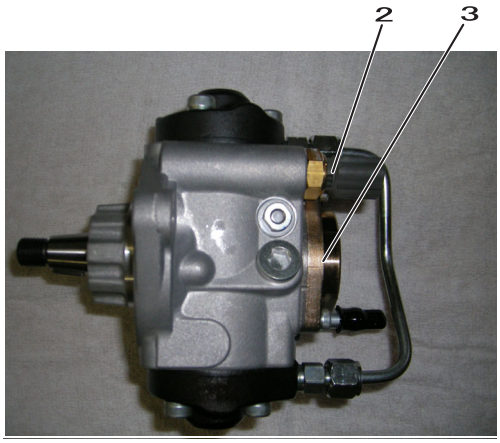
1) ECM (Engine Control Module)

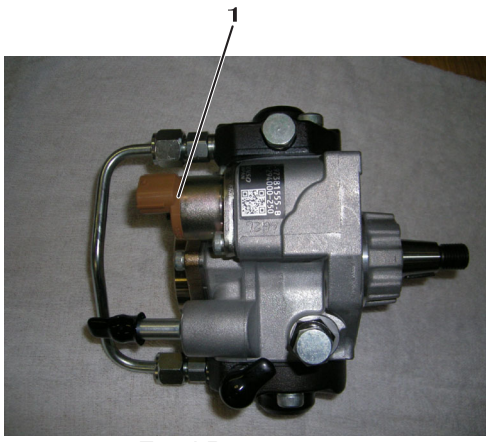


Roles of the ECM

1. The ECM constantly monitors information sent from the various sensors and controls the power train systems.
2. The ECM executes system function diagnosis, detects problems in system operation, issues trouble alarms to warn the operator and stores the diagnostic trouble code into memory.
   The diagnostic trouble code identifies the area in which the problem occurred and supports repair work by the service engineer.
3. The ECM puts out 5 V and other voltages to supply power to the various sensors and switches.
   The ECM controls output circuits by controlling ground or power supply circuits via one device or another.

2) Supply Pump





1. Fuel Temperature sensor
2. SCV (Suction Control Valve)
3. Feed Pump

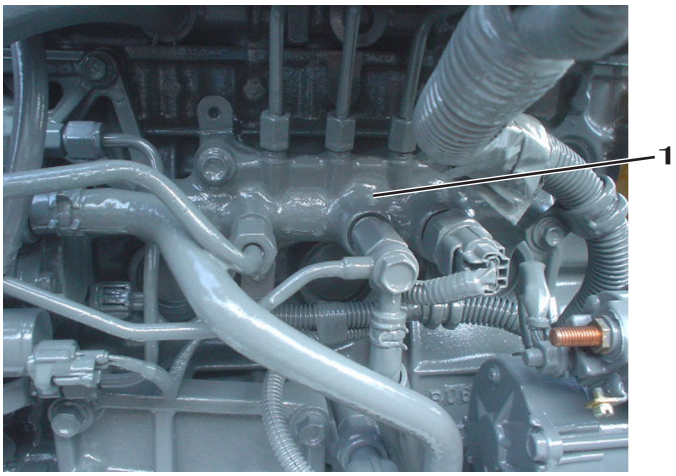
Supply pump

The supply pump uses the force of the engine rotation to raise the fuel pressure and send fuel to the common rail. The SCV, fuel temperature sensor, and feed pump are installed on the supply pump.

SCV (suction control valve)

The SCV is installed on the supply pump and controls the sending of fuel to the common rail (discharge volume). The ECM controls the electrified time to the SCV and controls the fuel discharge volume.

3) Common Rail

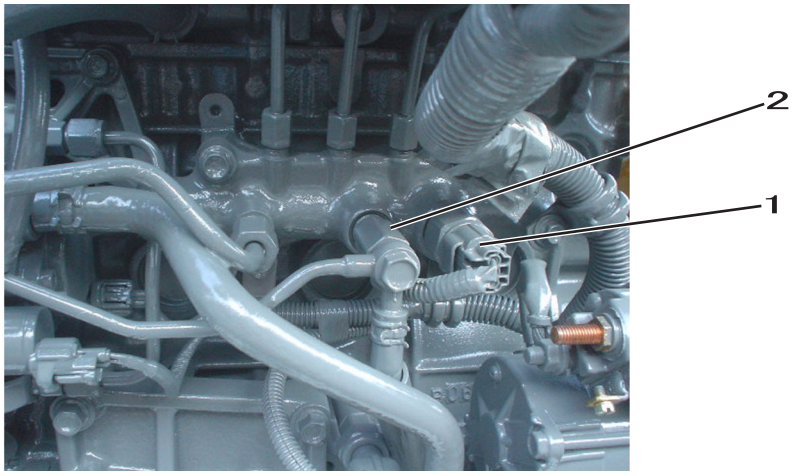


1. Common rail

Common rail

The common rail receives the fuel from the supply pump, holds the common rail (fuel) pressure, and distributes the fuel to each cylinder. The common rail pressure sensor, flow damper, and pressure limiter are installed on the common rail.

4) Common Rail pressure sensor and pressure limiter



1. Common rail pressure sensor
2. Pressure limiter

Common rail pressure sensor

This sensor sends the pressure inside the common rail to the ECM as a voltage signal. From the signal sent, the ECM calculates the actual common rail pressure (fuel pressure) and uses this for fuel injection control.

Pressure limiter

If the pressure in the common rail becomes abnormally high pressure, the pressure limiter relieves the pressure by returning excess fuel to the tank.