

28. EFI Diesel

There are two types of EFI diesel systems:

Conventional type EFI diesel

Common-rail type EFI diesel

1. Conventional type EFI diesel

This system uses sensors to detect the accelerator opening and the engine speed, and an ECU to determine the fuel injection volume and timing.

The control mechanism used for the pumping, distribution, and injection processes is based on the mechanical type diesel system.

Parts of Conventional type EFI diesel

ECU (Electronic Control Unit)

Sensors

Fuel tank

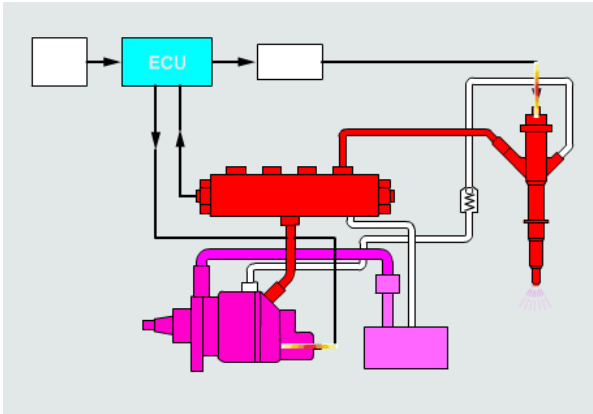
Fuel filter

Injection pump

Injection nozzle

Fuel filter

Check valve



Injection Nozzle

This part receives the high-pressure fuel from the injection pump and injects it into the combustion chamber.

When the pressure of the fuel that is pumped by the injection pump becomes greater than the set load of the pressure spring, its force pushes the nozzle needle upward. This causes the pressure spring to become compressed and the fuel to be injected into the combustion chamber.

The injection pressure can be adjusted by varying the thickness of the adjusting shim, which effectively changes the set load of the spring.

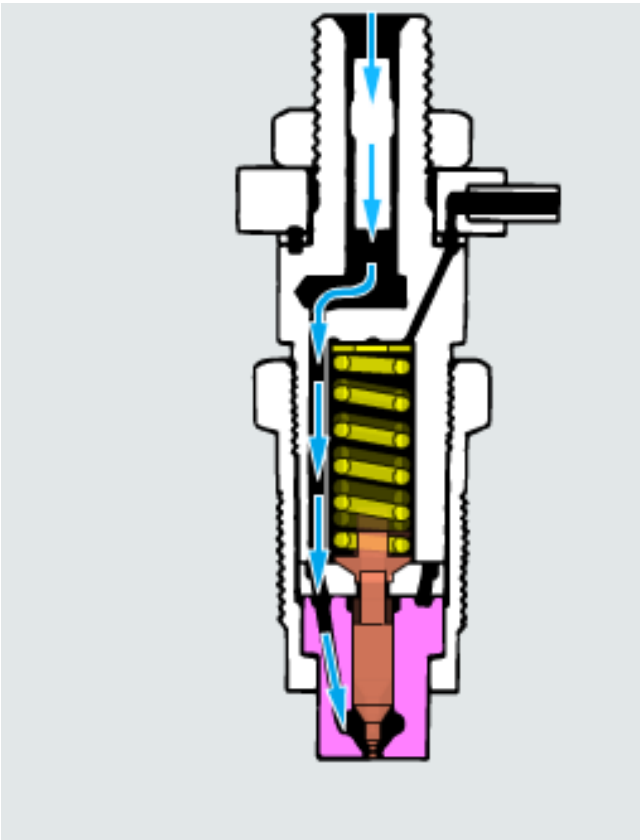
Parts of Injection Nozzle

Pressure spring

Nozzle needle

Nozzle body

Adjusting shim



Preheating System

Sufficient compressed heat cannot be attained during a cold start or a low-temperature operation. The preheating system heats the intake air to enhance the ignitability of the fuel. This system uses battery current to heat the intake air.

There are two types of preheating systems:

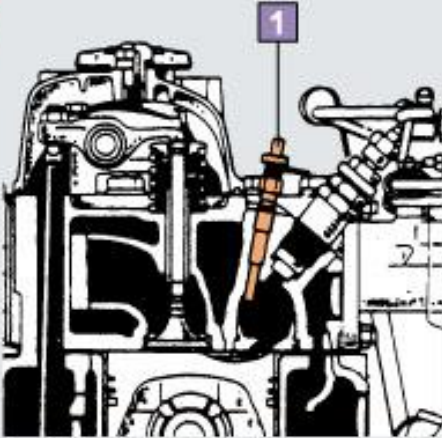
Glow plug type:

Heats the combustion chamber.

Intake heater type:

Heats the intake air

A



B

