

E69912

Item	Part Number	Description
A	-	Fuel injector nozzle
B	-	Hydraulic servo system
C	-	Solenoid valve
1	-	Combustion chamber seal
2	-	Electrical connection - solenoid valve
3	-	High-pressure fuel line connection

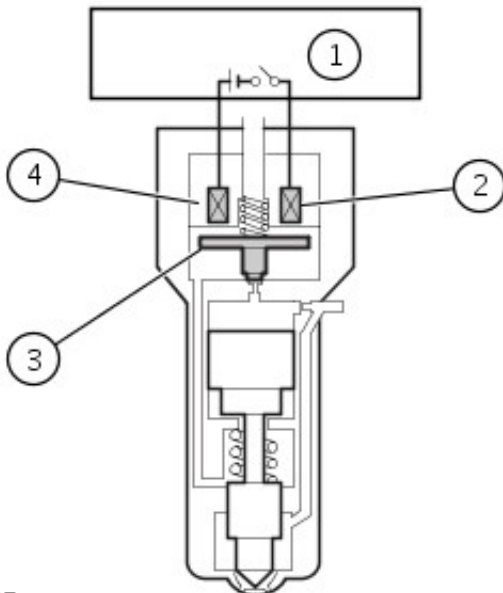
The 4 fuel injectors are located in the cylinder head, between the 4 valves in each cylinder. Each injector is sealed into the cylinder head with a copper washer. Each injector has an electrical connector for power supply and connections to the ECM. The fuel injectors are operated directly by the ECM for fuel metering (start of injection and quantity of fuel injected). The top of each injector is fitted with a fuel return pipe, which allows fuel used in the operation of the injector to return to the tank.

• **NOTE:** The copper washers that seal the injectors in the cylinder head must not be re-used.

Each electronic injector has a solenoid valve, which when energised, allows a ball valve to lift off its seat. This allows pressurised fuel to lift a needle valve in the injector nozzle and spray a finely atomised jet of fuel into the cylinder. Fuel that spills past the ball valve is directed into a return line, which is connected to the fuel return from the high-pressure fuel pump.

Each injector solenoid is controlled separately by the ECM, which provides an earth path to open the injector nozzle at the correct time and for a calculated period to provide a metered injection of fuel into the cylinder. The ECM uses signals from other sensors and a programmed fuelling strategy to ensure that the precise amount of fuel is injected at the correct timing for maximum fuel efficiency and minimum emissions.

#### Fuel Injector Solenoid Valve



E70325

Item	Part Number	Description
1	-	ECM
2	-	Coil
3	-	Solenoid armature
4	-	Solenoid valve

The ECM applies current to the injector solenoid valves in 3 stages:

- 1. 18 amps