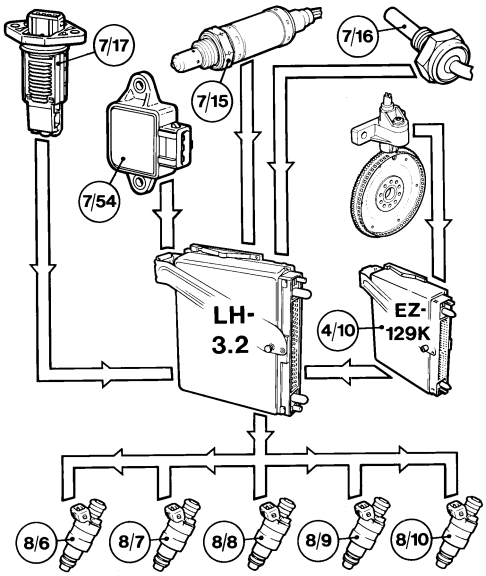
Fuel control and injectors

Control functions



To compute the injector opening period, the MFI module is supplied with information regarding:

* engine load, by MAF sensor (7/17);
* throttle opening and opening rate, for acceleration enrichment, in the form of signals from the TP potentiometer (7/54);
* engine coolant temperature, by the ECT sensor (7/16);
* exhaust gas oxygen content, by the HO2S (7/15);
* engine speed, by the ICM (4/10).

The MFI module compensates for variations in battery voltage, acceleration, full load, fuel cut–off etc.

The module incorporates fueltrim functions, which store information regarding the optimum fuel injection quantity under different driving conditions. The module uses this information to compensate for wear and tolerances in system components, reducing exhaust emissions, maintenance and adjustment.

The MFI module cuts off fuel injection to prevent damage if the engine speed rises excessively. The speed is permitted to reach 6800 rpm for 3 seconds, after which it is reduced to 6300 rpm.

The MFI module also cuts off the fuel supply under engine braking conditions, provided that the speed is above 2000 rpm and the TP potentiometer indicates closed throttle position (CTP). Fuel injection is restored when the engine speed falls below 1500–2000 rpm.

Thus, fuel cut–off takes place as follows:

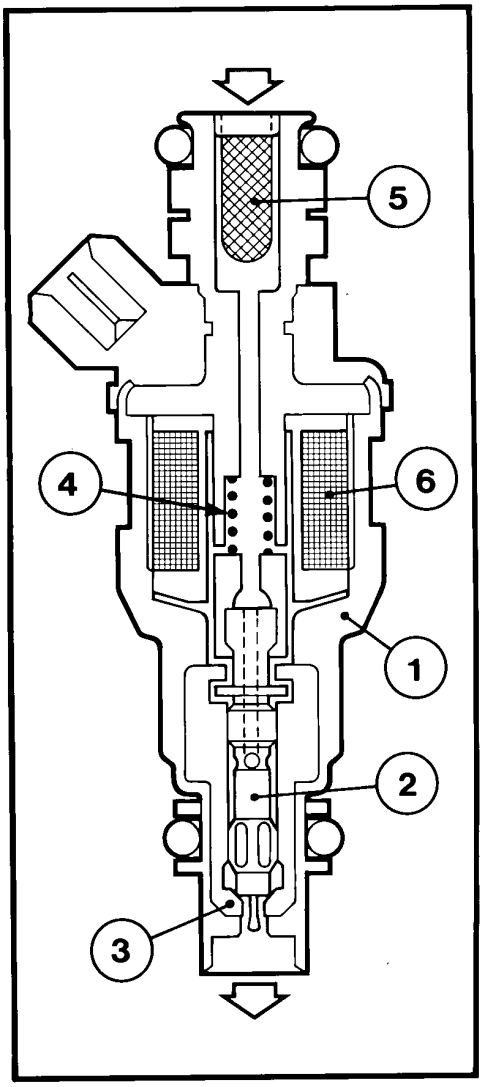
Chassis Nos. –30699: In all gears (on automatics) and in 5th gear (on manuals) if the engine temperature has reached 45 °C (113 ° F).

Chassis Nos. 30700–, and all 5–door: In all gears (on automatics and manuals) if the engine temperature has reached 0 °C (32 °F).

Injector components

- 1 Body
- 2 Needle
- 3 Seat
- 4 Spring

5 Filter



- 5 Filter
- 6 Brass coil

The MFI module opens all five injectors (8/6–8/10) simultaneously once per crankshaft revolution. Since a complete engine working cycle consists of two crank–shaft revolutions, half of the fuel quantity is delivered on each revolution, in the same manner as in a four–cylinder unit.