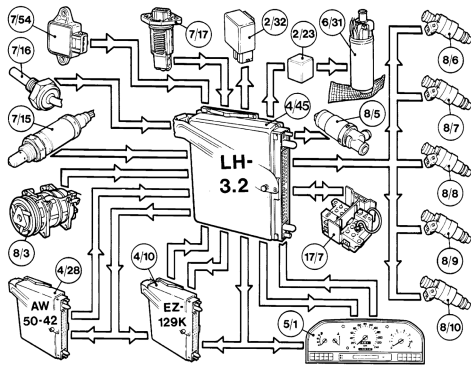


LH 3.2 system – Overview

Input signals



The following sensors and components supply the multiport fuel injection (MFI) module with information:

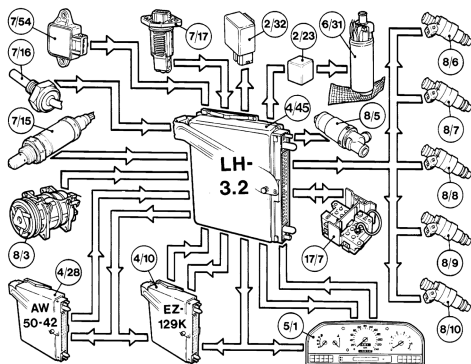
- * Mass air flow (MAF) sensor (7/17)
- * Throttle position (TP) potentiometer (7/54)
- * Engine coolant temperature (ECT) sensor (7/16)
- * Oxygen sensor (HO2S) (7/15)
- * A/C compressor (8/3), when running
- * Ignition control module (ICM) (4/10), The ICM supplies an engine speed (RPM) sensor signal and a signal if the engine cooling fan is running.
- * Speedometer in combined instrument (5/1)
- * AW 50/42 transmission control module (TCM) (4/28) when drive position is selected

Output signals

The MFI module controls the following:

- * Injectors (8/6–8/10)
- * Idle air control (IAC) valve (8/5)
- * Fuel pump (6/31) via fuel pump relay (2/23)
- * Main fuel system relay (2/32), which supplies many of the system components with power
- * HO2S heater element (7/15)
- * Malfunction indicator lamp (MIL) on combined instrument (5/1), in common with ICM

Control functions



The MFI module supplies information to:

- * data link connector (DLC) A (17/7), socket 2, when fault tracing;
- * ECT gauge in combined instrument
- * trip computer in combined instrument, to indicate current fuel consumption;
- * ICM, with signals describing throttle opening, coolant temperature and engine load;
- * TCM, with signals describing throttle opening and engine load.

If certain signals are faulty or absent, the MFI module will adopt fixed 'limp-home' values to enable the car to be driven.

Substitute values may be adopted for the following signals:

- ECT sensor
- TP potentiometer

- MAF sensor
- HO2S

Fuel trim

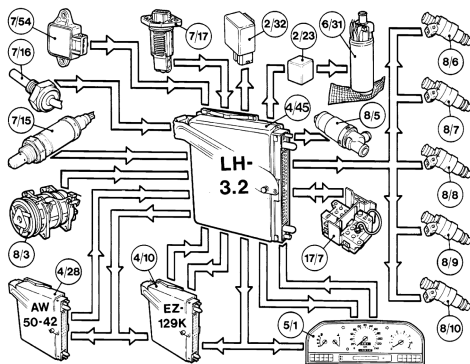
The LH3.2 MFI system features long term fuel trim and idle air trim functions.

These features minimise exhaust emissions and service requirements. Neither CO adjustment nor idling speed adjustment is required.

Diagnostic function

The MFI module incorporates a diagnostic function which records any faults which occur and stores them in the memory for subsequent display by means of the DLC, either manually or with the aid of the Volvo ST. The MIL on the combined instrument lights if the fault affects exhaust emission levels.

The main features which distinguish the LH3.2 MFI system from LH2.4 MFI are:



- * five injectors (8/6–8/10) arranged in parallel (since the system is used on five-cylinder engines);
- * an MFI control module (4/45) equipped with a different type of connector (due to the location of the unit in the control module box in the engine compartment);
- * MAF sensor (7/17);
- * TP potentiometer (7/54), which supplies a linear throttle opening signal. This information is transmitted to the ICM and, in applicable cases, also to the TCM;
- * a circuit which converts the signal from the ECT sensor (7/16) into a digital signal for transmission to other systems;
- * a single, high-capacity fuel pump (6/31) installed in the fuel tank;
- * IAC valve (8/5) of different design, with a 3-pin connector;
- * HO2S with modified heater element wiring;
- * direct communication with the AW 50-42 TCM (4/28) on automatics.