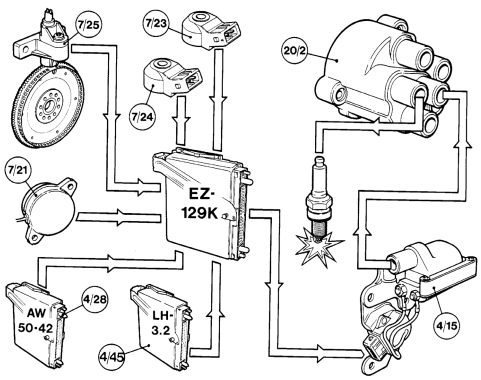
Ignition control

Control functions



The ICM computes the correct timing of each ignition pulse in response to signals from:

* RPM sensor (7/25), which supplies information on engine speed and crankshaft position;
* CMP sensor (7/21), which assists the ICM to determine the rate of combustion in the different cylinders;
* KS (7/23 and 7/24), which supply signals indicating the occurrence of engine knock;
* MFI module (4/45), which supplies information on throttle opening, engine load and coolant temperature;
* AW 50–42 TCM (4/28), which supplies signals indicating the reduction in torque required immediately prior to gear–changing. The ICM responds by retarding the timing for a maximum of 1 second.

High voltage is developed by the ignition coil and conducted to the appropriate spark plug by the distributor (20/2).

The ICM monitors the KS signals to determine if the engine is knocking. In that event, the timing is retarded in the cylinder affected until knock is eliminated. The timing is then restored to the normal value.

The max. speed is limited by the MFI module.

Power stage and ignition coil – design

Comprising a unit, the power stage and ignition coil (4/15) are mounted on a bracket in the engine compartment. The unitary construction prevents interference due to electromagnetic disturbances.

The ignition coil supplies a constant high voltage of approximately 35 kV, regardless of engine speed or battery voltage.