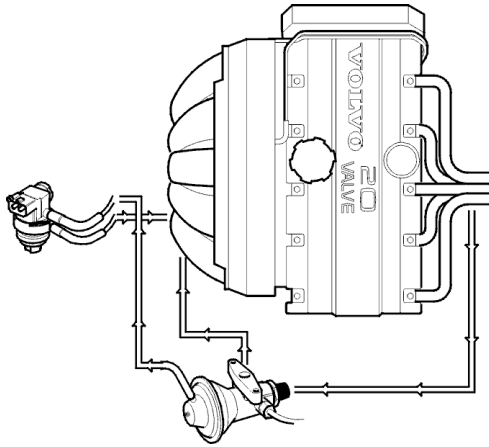


EGR (Exhaust Gas Recirculation)

Control functions



A proportion of the exhaust gases is recirculated to the intake manifold to reduce emissions of nitrogen oxides (NO_x), which are produced by combustion at high temperature and at high engine loads.

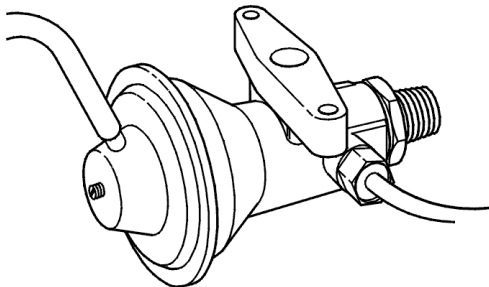
Recirculation of a proportion of the exhaust gases at high loads lowers the combustion temperature and, as a result, reduces the NO_x level.

The system is not operative when the engine is cold or idling, to avoid interference with idle running.

The recirculation flow is regulated by the vacuum-actuated EGR valve which, in turn, is controlled by the EGR controller. The ICM supplies the controller with a signal based on a combination of engine speed, load and temperature. The ICM, ambient air pressure and intake manifold pressure signals are converted to a vacuum control signal, which operates the EGR valve through a vacuum hose.

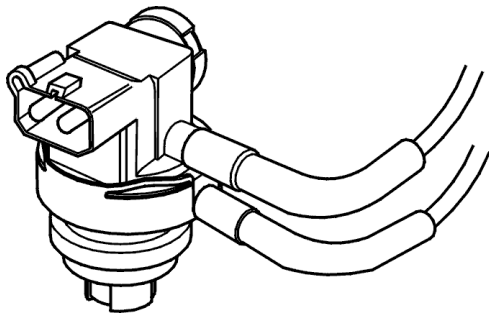
The EGR system is equipped with an NTC (Negative Temperature Coefficient) temperature sensor.

EGR valve



The EGR valve controls the flow of gas from the exhaust manifold to the intake manifold. The valve is controlled by the vacuum in the line connected to the EGR controller. The EGR valve is located underneath the intake manifold.

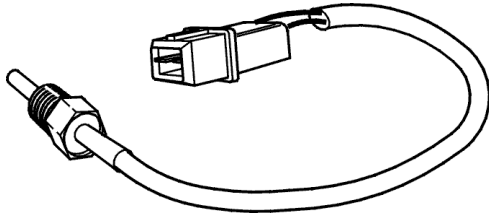
EGR controller



The EGR valve is supplied with a vacuum control signal from one compartment in the controller. Vacuum from the intake manifold is supplied to another compartment. The controller stabilises the intake manifold signal and converts the ICM signal into a modified vacuum signal for operation of the EGR valve. The controller is mounted on the underside of the relay shelf, above the engine cooling fan.

EGR temperature sensor

The temperature sensor measures the temperature of the recirculated gases. The



ICM monitors the operation of the EGR system by sensing the variations in temperature. The sensor is of the NTC (Negative Temperature Co-efficient) type, which means that its resistance decreases with increasing temperature.

The sensor is installed in the EGR valve.

EGR pipe

The EGR pipe conveys the recirculated gases from the EGR valve to the intake manifold.