

## Clogging in EGR valves (Exhaust Gas Recirculation)

The (Exhaust Gas Recirculation) EGR valve is an element used to lessen unsafe NOx gases in the exhaust by reducing the combustion temperature in the cylinders. This is done by recirculating oxygen deprived exhaust gas back into the engine under certain driving conditions.

EGR valves can be controlled two ways, by vacuum or electronically. Both are at risk to sticking or not seating properly due to an accumulation of soot, carbon and even oil around the valve seat or spool.

This can be caused by original engine issues which can prematurely block the EGR valve, causing the EML (Engine Management Light) to light up and EGR fault codes to be stored in the ECU (Electronic Control Unit).

When carbon and soot deposits build up around the valve seat, the valve is not able to fully close. As a result, when in its rest position, the EGR valve lets the flow of exhaust gas back into the cylinders when it's not necessary.

More and more EGR valves now have important position sensors which direct valve position data to the ECU. If an unexpected valve position is registered due to it not seating properly, the engine management light will illuminate.



If the valve is becoming obstructed over a short period of time, therefore preventing correct seating or sticking, the cause for this needs to be identified so that the cause can be fixed before replacement of the EGR valve:

Engine issues such as worn or damaged piston rings or leaky turbo seals can let oil into the intake system

Rich running engines due to MAF errors

Defective injectors or lazy lambda sensors

These can all be reasons for sooty and oily deposits that will cause the EGR valve to become blocked and stick.

If an EGR valve is blocked up, it's also worth bearing in mind that the intake manifold could also be clogged, preventive the flow of exhaust gas through the EGR port to cause a fault code.

Therefore all connected mechanisms need to be examined before replacement. Some applications need EGR adaption with appropriate investigative software.

