

## Unclean combustion and carbonisation the main causes for premature failure of intake manifold modules.



Source: Mercedes-IG.de

The issue of unclean combustion in engines is a continuous nuisance in garages everywhere – and the cause of many apparent failures of parts.

The service life of all parts involved in exhaust gas recirculation such as EGR valves or even of the entire intake manifold module can suffer as a result. The unclean combustion quickly leads to carbonisation made recognisable through the formation of soot.

Causes for this may include:

- Defective injectors or a leaky boost pressure system
- Frequent short-distance operation
- Oily intake air due to worn-out valve stem seals
- Faulty engine ventilation
- Loss of oil in the cylinder head or turbo charger area
- Worn-out piston rings
- Overfilled oil

In addition, since the introduction of EURO-5 fuels, garages have reported an increased rate of carbonisation on EGR valves.

Due to the carbonisation, the tumble valves can tend to stick, which can lead to increased wear of the coupling rod and actuator.

**Attention: Due to constructional issues, defects occur more frequently in the left module of AIC item 54438 (OE reference No. 059 129 711CK) than on the right one (AIC item 54439, OE reference No. 059 129 712BC).**



### INSPECTION INSTRUCTIONS

Check whether the actuator is defective prior to exchanging any components. Do this by first finding out if the stops are reached with the actuator test. If this is not the case the test must be repeated with released rods. Should the end position now be reached, only the intake manifold module then needs to be replaced, otherwise the actuator is also to be replaced.



### NOTES FOR INSTALLATION

In case of necessary repair, please observe the vehicle manufacturer's instructions.

Following the exchange of one component, the entire system must be retrained again (actuator incl. the parts being controlled)