The problem: Replacing a mass air flow sensor (MAF)

When replacing a mass air flow (MAF) sensor, there are several factors which have to be considered.

Considerations

Why is the MAF sensor being replaced? Is it as a result of a stored fault code which activates the engine management light?

1. If so, just because the engine control unit is reporting a MAF fault code, this does not necessarily mean that the unit is at fault. Unmetered air entering the engine from a split intake hose, crank case ventilation breather pipe or even a sticking EGR (Exhaust Gas Recirculation) valve can all trigger a MAF fault code.

2. MAF and lambda information is used by the ECU to check and adjust fuelling. Therefore contaminated, faulty and lazy lambda sensors can also trigger MAF fault codes.

3. Another common occurrence after the replacement of a faulty MAF sensor is the vehicle not idling correctly or a flat spot on acceleration, leading to the sensor being incorrectly blamed again. It is not uncommon for an engine to run a little rough and not idle properly initially after replacement. A road test is often needed for other actuators and sensors on the engine to re-calibrate and adjust. In some cases the base idle or other parameters may need to be reset using the relevant diagnostic equipment.

All of the above can lead to the MAF sensor being misdiagnosed, replaced and the fault not being cured. Therefore it is essential to check all aspects of the air intake system, lambda readings, switching speeds and to carry out the necessary calibration procedures before replacing the MAF sensor.

Don’t forget...

When replacing a mass air flow sensor it is good practice to replace the air filter at the same time.

Keeping all these factors in mind when working with MAF sensors, it helps to fix the fault first time, reducing the number of rejected warranty claims and keep your customers on the road.