ENGINE MANAGEMENT COMPONENTS GUIDE

A quick reference guide to our most popular engine management components, their function and how to spot common faults.

**CRANKSHAFT/CAMSHAFT SENSOR**

The Camshaft Sensor monitors the positions of the camshaft to allow for correct ignition timing. The Crankshaft Sensor detects the position of the crankshaft allowing the ECU to calculate its position in relation to the pistons in the engine.

A weak signal from a faulty sensor results in loss of engine power or misfires. If the sensor has no output then the car will fail to start.

**KNOCK SENSOR**

The Knock Sensor is mounted on the engine block and acts like a microphone, transforming the vibrations caused by the sound waves from knocking into a voltage signal that can be read by the ECU. Knocking is continually monitored and ignition timing is retarded when required to prevent possible engine damage.

A faulty Knock Sensor can result in poor acceleration and reduced fuel economy.

**IDLE AIR CONTROL VALVE**

The Idle Air Control Valve is fitted onto the throttle body to bypass air around the throttle valve, controlling the speed of the engine at idle. The ECU controls the idle valve and lets more air in without the accelerator being pressed, warming the engine. This is useful for cold starts.

Symptoms of failure include erratic revving when idling, misfiring or stalling.

**MAP SENSOR**

The Manifold Absolute Pressure Sensor (MAP Sensor) determines the correct air/fuel ratio in vehicles which do not have an Air Mass Meter. They use air temperature and engine speed to determine air density and in some vehicles, measure EGR valve performance or monitor air pressure in turbo applications.

A faulty sensor could result in irregular engine RPM due to incorrect readings or turbo failure.