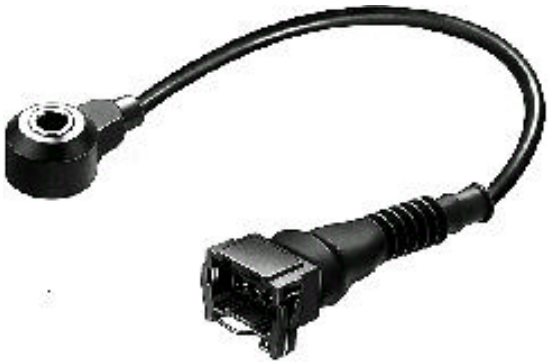
Knock Sensor



General

You can find the knock sensor mounted on the side of the engine block. It recognises knock or pinking under all engine operating conditions to avoid lack of performance.

Function

The knock sensor can “listen” for noise vibration coming from the engine block and changes these into electrical voltage signals. The ECU filters and evaluates the signals. The knock signal can be assigned to the respective cylinder. If there is knock present, the ignition signal will be retarded for the respective cylinder (direct-retardation) until knocking stops. The ignition is then advanced by half the value of the retardation to ensure optimum performance. If knocking occurs again then the process repeats.

Effects of Failure

A faulty sensor can produce the following effects:

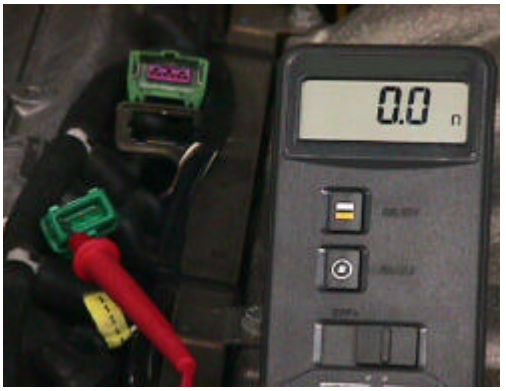
- Engine warning light is illuminated
- Fault code present
- Less engine power
- Higher fuel consumption
- Engine “Knocks” or “Pinks”

Causes of failure:

- Internal short circuit
- Open circuit
- Short circuit
- Mechanical damage
- Faulty fastening
- Corrosion

Diagnostics

- Read out the fault memory
- Check correct fit and torque
- Check the electrical connections of the sensor line,
- The plug and sensor for right connection, break and corrosion



Check the wiring to the ECU by checking every single line to the ECU plug, feed and ground.

Step 1:
Connect the Ohmmeter between the knock sensor plug and the disconnected ECU plug. (Circuit diagram needed for pin definition)
Reading: < 1 Ohm

Step 2:
Check respective pins at the cable connector with Ohmmeter and removed ECU plug with ground.
Set point: > 30 M Ohm
Attention, one pin can serve as shield and show continuity to ground therefore!

Assembly Note:

Make sure the torque setting is correct.