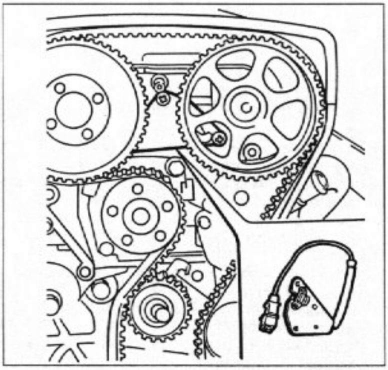
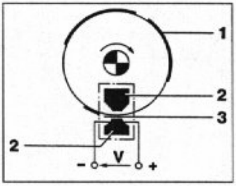


P3N19CJ01



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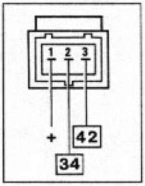


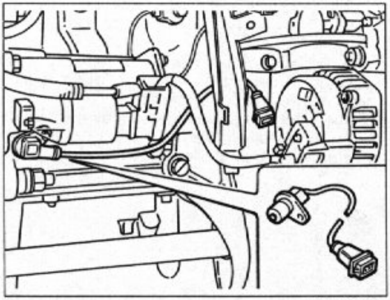
P3N19CJ03

ENGINE TIMING SENSOR

Principle of operation

A semi-conducting layer with current flowing through it is placed in a normal magnetic field (force lines at right angles to current direction). A potential difference known as a Hall voltage is set up at its terminals.
If current intensity remains constant, the voltage generated depends only on magnetic field intensity. Intensity only needs to alter at intervals to obtain a modulated electrical signal with frequency proportional to speed with which magnetic field changes.
To achieve this change, the sensor is crossed by a metal ring (internal part of pulley) with ~~an~~ three opening. The moving metal part of the ring covers the sensor and blocks the magnetic field to produce a low output signal. The sensor generates a high signal when aligned with the opening, i.e. with magnetic field present.
The alternation of signals is therefore dependent on the succession of openings (see chapter on "signal management").

1. Deflector
2. Magnetic material
3. Gap



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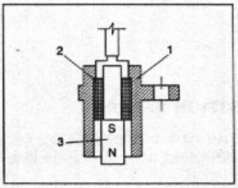

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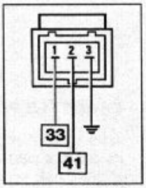

P3N19CJ06

RPM SENSOR

Principle of operation

The sensor consists of a tubular case (1) containing a permanent magnet (3) and an electrical winding (2):
The magnetic flux set up by magnet (3) undergoes oscillations as the teeth pass the phonic wheel due to changes in the gap.
These oscillations set up an electromotive force in winding (2) and the voltage set up at the terminals is alternatively positive (teeth facing sensor) or negative (gap facing sensor: see paragraph on "signal management").
Peak sensor output voltage depends (all other factors being equal) on the distance between sensor and tooth (gap).

Sensor resistance may be measured by disconnecting the connector and connecting an ohmmeter across the sensor terminals.

Resistance: 570 ± 57 ohm at 20°C