



Throttle Potentiometer

General

The throttle potentiometer senses the opening angle of the throttle valve. It send the information to the ECU to assist in calculating the correct fuel injection. The throttle potentiometer is fitted at the throttle valve axle.



Function

The throttle potentiometer works as an angle gauge with a characteristic linear curve. It records the opening angle of the throttle valve and change it into a proportional voltage signal. The throttle valve moves a rotor with a sliding contact, connected to the throttle valve spindle, and slide along resistor contact rails by which the throttle position is changed in to a voltage signal relative to its position.

Effects of failure

A faulty throttle potentiometer can cause the following:

- engine is jerky
- bad throttle response
- hard starting
- higher fuel consumption

Causes of failure:

- bad connections at the plug
- internal short circuit
- mechanical damage
- dirty contacts



Diagnostics

For fault recognition consider the following system tests:

- Check throttle potentiometer for damage
- Check electrical lead for correct fitting and contact
- Measurement of the operation voltage from the ECU(wiring diagram needed for pin definition)
measured value: approximately 5V (for vehicle specific measured values watch the Hella-Parts –Catalogue)
- Resistor measurement of the throttle potentiometer(wiring diagram needed for pin definition). Check the resistor with a ohmmeter when the throttle value is closed. Now start to open the throttle value slowly, watch the changing resistor(you can see a interruption of the resistor lines), lastly check the resistor when the throttle value is fully open. The values of the measurements can be found in our Hella-Parts-Catalogue with the part number.