



## Idle speed control valve

### General

The idle speed control valve is bypass valve. Example, as shown, is for Opel. It is made of a cast housing with a magnetic valve servo unit. A jet stem is fitted to the servo unit. Through the movement of the servo unit the jet stem provides different air cross sections to control the air flow when the throttle valve is closed.

### Function

The idle speed control valve regulate the engine speed during the complete idle speed cycle of the engine management system. If in idle the load condition of the engine is suddenly changes (switch on the A/C, driving in idle speed, put on a additional electrical consumer) it is necessary, to prevent the engine from stalling, to increase up the fuel injection and air flow. In this case the engine speed drops under a critical value, stored as a constant value in the ECU. To balance the speed difference the magnet valve is activated to increase up the air flow simultaneously the ECU increases the injection time to meet the demand of the engine.



### Effects of failure

A faulty idle stabilizer can cause the following:

- idle speed to high
- engine stalls in idle
- engine stalls in idle when an additional consumer is activated
- engine warning light illumination

Causes of failure:

- strong soiling/resin deposits
- coil short circuit
- drive mechanism stuck
- no ECU supply voltage to component



## Diagnostics

For fault recognition consider the following system tests:

1. Check the supply voltage from the ECU, measured value: 11...14V
2. Measure of the coil resistor between the contact pins, measured value: 9.6 ohm +/-15% (Opel) otherwise note manufacture's data
3. Check coil for short circuit, measurement between the contact pins, measured value: the same as before
4. Check coil for short circuit to earth, measurement between each contact pin and component housing, measured value:>30 Mohm
5. Mechanical check: screw off the servo unit from the housing, visual inspection whether the bypass opens and closes when the valve lifter is operated.
6. Read out fault/trouble codes

## Directions for fitting

**A flange seal is necessary. The torque setting for the mounting screws is 12 - 15 Nm.**