



**SI 1013**  
For technical personnel only!  
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# SERVICE INFORMATION

## INTAKE MANIFOLD PRESSURE ERRORS WHEN IDLING

### TROUBLESHOOTING IN VEHICLES WITH MAP SENSORS

#### POTENTIAL COMPLAINTS:

- Fluctuating idle speed
- Loss of power
- Jerking on acceleration
- Malfunction indicator lamp lights up
- Diagnostic trouble code P0105 – P0109



#### SITUATION

Error messages relating to the intake manifold pressure often appear in petrol engines that have intake manifold pressure measurement via a MAP sensor (MAP = Manifold Absolute Pressure). Deviation from the set-point values does not, however, lead to the diagnostic trouble code being stored in all operating states.

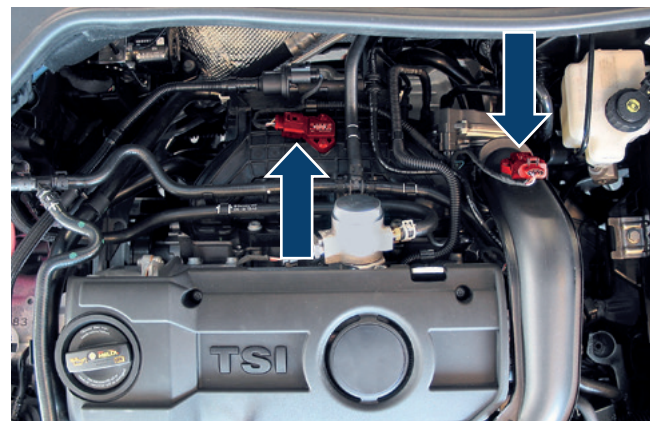
#### DETERMINING THE SOURCE

A scan tool can be used to compare the actual values with the set-point values. If the intake manifold pressure measured by the system deviates from the set-point value, the actual value must be checked using a separate vacuum pressure gauge.

- If the measured intake manifold pressure is within the set-point values, the MAP sensor and the electrical lines must be checked.
- If the measured intake manifold pressure is outside of the set-point values, the reason for the loss of pressure in the engine must be established (see test instruction below).



Intake manifold pressure sensor/MAP sensor



Intake manifold pressure sensors (red) in a VW Golf IV

All content including pictures and diagrams is subject to change. For assignment and replacement, refer to the current catalogues or systems based on TecAlliance.

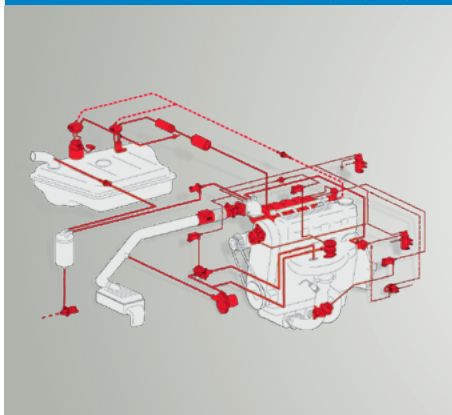


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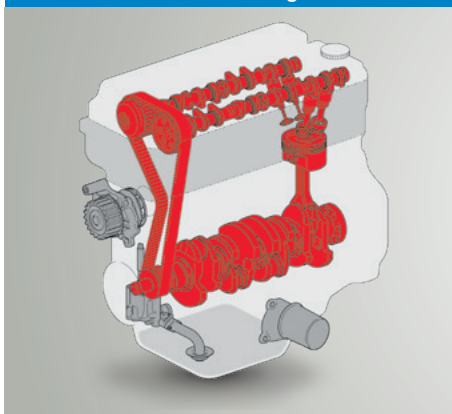
### Possible fault sources in the engine periphery



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|--|
| Leaking intake manifolds downstream of the throttle valve (e.g. due to defective intake manifold gaskets, hoses, etc.) |
| Defective engine exhaust valves/hoses  |
| Leaking brake boosters   |
| Leakages in the vacuum system (e.g. vacuum-operated actuators, brake boosters, lines, etc.)                            |
| Defective EGR valves (permanently open)  |
| Defective idler valves   |
| Idling status of the engine is not recognised by the control unit (defective throttle potentiometer, throttle switch)  |
| Defective or dirty throttle valves   |
| Incorrect or faulty air filter inserts   |
| Carbon deposits or other blockages in the intake manifold  |

If the problem is not found in the engine periphery, it must be assumed that there is a mechanical problem with the engine.

### Possible fault sources in the engine mechanics



|   |
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| Piston ring wear or piston damage (piston seizure, fusion and similar damage) – a further sign of this is high blow-by gas emission during idling with the oil filler cap open. |
| Leaking intake and exhaust valves   |
| Insufficient valve clearance  |
| Worn valve seat inserts (especially in engines with gas conversion)   |
| Malfunction of the hydraulic valve clearance compensating elements (hydraulic tappets)  |
| Incorrectly set valve timing or skipped toothed belt  |
| Leaking cylinder head gaskets   |
| Incorrect or worn camshafts   |



#### INSPECTIONS TO BE CARRIED OUT

- Valve clearance
- Valve timing check
- Compression test
- Cylinder compression test

