



### PIERBURG PRODUCTS

- 01 Fuel delivery module (in-tank)
- 02 Fuel level sensor
- 03 Active carbon filter shut-off valve
- 04 Activated carbon filter regeneration valve
- 05 Fuel pump (in-line)
- 06 Fuel filter (Kolbenschmidt)
- 07 Fuel check valve
- 08 Tandem pump, fuel/vacuum
- 09 Fuel pressure regulators

### ON-BOARD DIAGNOSTICS

- 10 Engine control unit
- 11 Malfunction indicator lamp (MIL)
- 12 Diagnostic plug
- 13 OBD data scan tool

# OBD SYSTEM

## FUEL SUPPLY

### FROM PRACTICAL USE



Scorching due to dry running

Rusted pump inlet (water damage)

Blocked sieve filter and new condition

Contact corrosion

### FINDING AND REMEDYING FAULTS

DIAGNOSTIC TROUBLE CODE	P0005/P0006/P0007	P0087	P0172	P0441	P0462/P0463
<b>DISPLAYED FAULTS</b>	<b>Fuel cut-off solenoid valve – open circuit; signal too high/too low</b> <ul style="list-style-type: none"> <li>• Fuel cut-off solenoid valve defective</li> <li>• Plug-in connection defective, cable interrupted</li> </ul>	<b>Fuel rail/system pressure too low</b> <ul style="list-style-type: none"> <li>• Fuel pump/fuel pressure regulator defective</li> <li>• Fuel supply line/fuel filter blocked</li> <li>• Filter on intake side of pump (in case of retrofitting/replacement)</li> </ul>	<b>Mixture too rich</b> <ul style="list-style-type: none"> <li>• Activated carbon filter solenoid valve stuck (permanently open): Fuel-enriched air from the activated carbon filter is drawn into the intake air system</li> <li>• Diaphragm of the pneumatic fuel pressure regulator leaking: Fuel is drawn into the intake air system through the vacuum line</li> <li>• Stuck/carbonised EGR valve is always open</li> </ul>	<b>Fuel vapour collecting system – incorrect flow rate</b> <ul style="list-style-type: none"> <li>• Leakage in activated carbon filter system (ACF system), e.g. hose connections leaking</li> <li>• ACF solenoid valve stuck (permanently open)</li> </ul>	<b>Fuel level sensor – input signal too low/too high</b> <ul style="list-style-type: none"> <li>• Sender unit shows that fuel level is too low</li> <li>• Engine shuts off automatically or does not start</li> </ul>
<b>NEXT STEPS/POSSIBLE REMEDIES</b>	<ul style="list-style-type: none"> <li>• Measure power supply/wiring harness, replace if necessary</li> <li>• Check fuel cut-off solenoid valve, replace if necessary</li> </ul>	<ul style="list-style-type: none"> <li>• Check fuel pump/fuel pressure regulator, replace if necessary</li> <li>• Check fuel supply line/fuel filter, replace if necessary</li> <li>• Remove filter that may be fitted on the intake side of the pump</li> </ul>	<ul style="list-style-type: none"> <li>• Check ACF solenoid valve, replace if necessary</li> <li>• Check fuel pressure regulator, replace if necessary</li> <li>• Check EGR valve:                             <ul style="list-style-type: none"> <li>- If the EGR valve is always open, exhaust gas is recirculated permanently</li> <li>- If the EGR valve is stuck, replace and find out the causes of the sticking</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Examine ACF system for leakage, e.g. by checking hose connections, replace if necessary</li> <li>• Check ACF solenoid valve, replace if necessary</li> </ul>	<ul style="list-style-type: none"> <li>• Check sender unit or module with sender unit, replace if necessary</li> </ul>

