



Simple Fault Causes are often Missed

OBD error due to inadequate vacuum

System	Product
Vacuum system	Vacuum pump, EGR valve, secondary air valve, electro-pneumatic valves



Possible complaints:

- Engine stuttering under partial load
- Motorboating engine
- Emergency operation
- Decreasing brake performance
- Inadequate power at full load

During troubleshooting one likes to rely on the OBD error memory while disregarding simple fault causes.

One possible fault cause can be a fault in the vacuum system of the vehicle.

In many vehicles, a vacuum is used as an auxiliary source of energy.

Every component in the vacuum system may exhibit a leak, through which the vacuum escapes.

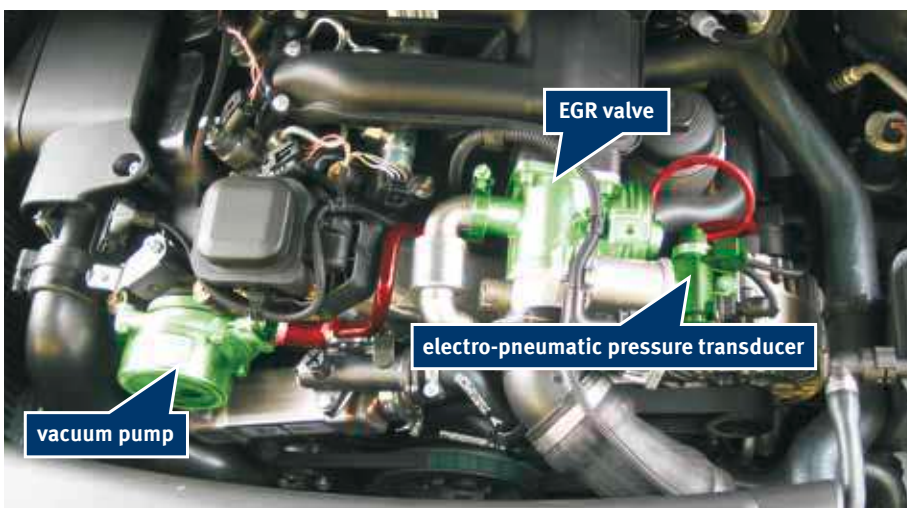
Particularly note the following:

- Defective hoses (porous, marten bites, leaky connectors)
- Electro-pneumatic valves (boost control valve, for example)
- Leaky non-return valves/vacuum reservoirs
- Defective/porous diaphragms or gaskets at pneumatic actuators

Moreover, the following malfunctions can also be indicative of faults within the vacuum supply:

- Components of the exhaust gas return system and in the secondary air system (in the case of petrol engines) fail. Since these malfunctions are related to the emission of pollutants which are monitored by the OBD system, the vehicle can revert to emergency operation.
- Brake performance decreases markedly when rapidly braking several times after each other (when driving downhill).
- Turbocharger controller and Diesel regulating throttle are not operative. This can give rise to complaints relating to a “motorboating engine” or “engine dropouts”.
- Convenience facilities fail partly or completely.
- Reduced performance due to a failed a length or valve adjustment failure within the intake manifold

In the event of a malfunction, check the leak tightness of all components in the vacuum system and replace the failed part.



Example BMW 118d (E87), (emphasised in green: components in the vacuum system, Emphasised in red: vacuum hoses)

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