Computers and Control Systems: Diagnostic Trouble Code Tests and Associated Procedures P0172

P0172

Oxygen Sensing Adaptation, Idle Range, Bank 1 - Below Limit

Diagnosis conditions
- Oxygen sensing system active
- Time elapsed after engine start-up: **250 to 350 seconds** (USA)
- Time elapsed after engine start-up: **302 to 402 seconds** (RoW)
- Engine temperature greater than **60 degree C**

Possible fault cause
- Incorrect signal from MAF sensor
- Fuel pressure too high
- Fuel injector leaking
- EVAP canister purge valve open

Affected terminals

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Diagnosis/Troubleshooting

NOTE:
- If DTC P0445 (fuel tank vent valve - short to ground) is stored, correct this fault first. An open EVAP canister purge valve can lead to the lean threshold being reached.
- For vehicles in the USA, the upper load range will probably not be reached. The only case in which a fault could be stored is during driving while towing a trailer or caravan on a hill.
- Contrary adaptation values in connection with misfiring point to incorrectly adjusted control times. Refer to check control times and adjust if necessary.
- If the fuel tank reserve light is switched on, no fault is entered.

Work instruction			Display OK	If not OK
1	Check signal from MAF sensor.	♦ Connect special tool 9637. ♦ Measure voltage at pin III/23 and ground ♦ Switch on the ignition.	0.9 to 1.1 V.	Replace MAF sensor
		♦ Start the engine.	Approx. 1.4 V	
2	Check fuel pressure			

Work Instruction 1 - 2

Work instruction			Display OK	If not OK
3	Check fuel pressure regulator, vacuum connection and fuel return line	♦ Remove vacuum hose from fuel pressure regulator ♦ Connect special tool 9103/2 to vacuum hose ♦ Start the engine. ♦	0.4 - 0.6 bar	Check the intake air system for leaks and check vacuum line to fuel pressure regulator for restrictions.
		♦ Check housing of fuel pressure regulator for damage and deformation		Replace the fuel pressure regulator if it is damaged with the result that the spring pre-tensioning is increased
4	Check EVAP canister purge valve	♦ Disconnect hose from EVAP canister purge valve to intake system at EVAP canister purge valve ♦ Remove connector of EVAP canister purge valve ♦ Connect special tool 9160/1 to EVAP canister purge valve ♦ Generate vacuum of approx. 0.7 bar	The vacuum must not fall below 0.5 bar after 10 minutes	
5	Check fuel injectors for leaks			