

P0303

Misfire, cylinder-selective

i NOTE 1

The fault types have special significance for misfires:

- ◆ Fault type "Implausible signal": exhaust-related fault after engine start-up
- ◆ Fault type "Below limit value": exhaust-related during the journey
- ◆ Fault type "Above limit value": fault damaging to catalytic converter

i NOTE 2

◆ The totals error P0300 is always entered in addition to any other misfires. The misfires may have occurred in one or several cylinders.

● The misfire detection function can block the fuel injection for the remainder of the driving cycle after a permanent misfire is detected on the cylinder in question. Misfire detection remains active.

Diagnostic conditions

- Engine running
- Engine load > 4 to 25% depending on engine speed
- Intake air temperature > -30°C (-22 °F)
- No fault in crankshaft sensor
- Testing for misfires while driving: smooth road surface conditions (= no bumpy track)

Possible fault causes

- ◆ If a misfire only occurs on one cylinder:
 - ⇒ Electric fault in control line between DME and ignition coil
 - ⇒ Spark plug connector faulty
 - ⇒ Ignition coil faulty
 - ⇒ Spark plug faulty
 - ⇒ Secondary air

- ⇒ Mechanical or electrical fault in injection valve
- ⇒ Valve seat or valve faulty
- ⇒ Valve lift control faulty
- ⇒ Exhaust system blocked/narrowed
- ⇒ Foreign bodies in intake tract, this can lead to sporadic misfires on changing cylinders.

◆ When misfires occur on the banks:

- ⇒ Electric fault or loose contact in the control line to solenoid valve of camshaft adjustment

- ⇒ Solenoid valve of camshaft adjustment electrically/mechanically faulty or clogged

- ⇒ Hall sender rotor (sensor wheel) faulty/kinked

- ⇒ Secondary air

- ⇒ Intake camshaft adjustment too slow

- ⇒ Intake camshaft timing incorrect

- ⇒ Exhaust camshaft timing incorrect

- ⇒ Fault in the valve lift control

- ⇒ Oxygen sensor faulty (also: loose contact in wiring harness) ^

- ⇒ Exhaust system blocked/narrowed

- ⇒ Foreign bodies in intake tract, this can lead to sporadic misfires on changing cylinders.

◆ When misfires occur on both banks:

- ⇒ Incorrect/low-grade fuel

- ⇒ Tank empty

- ⇒ An engine-block heater is used

- ⇒ Secondary air

- ⇒ Exhaust system blocked/narrowed

- ⇒ Foreign bodies in intake tract, this can lead to sporadic misfires on changing cylinders.