

Secondary-air system

Afterburning reduces pollutant emissions

PRODUCT
INFORMATION



Secondary-air systems – a successful concept



Afterburning reduces pollutant emissions

Immediately after starting a cold spark-ignition engine and until Lambda control starts to take effect, undesirable quantities of harmful HC and CO are emitted. The use of a secondary-air system can significantly reduce the level of such pollutants in the cold starting phase.

Committed to constant development, PIERBURG is a pioneering system supplier in the field of secondary-air systems.

With the benefit of many years of experience as an OE supplier, PIERBURG can offer a compact and efficient pollution control system.



The secondary-air is injected by a high-speed secondary-air pump.



The future belongs to OBD-monitored solenoid secondary-air valves.

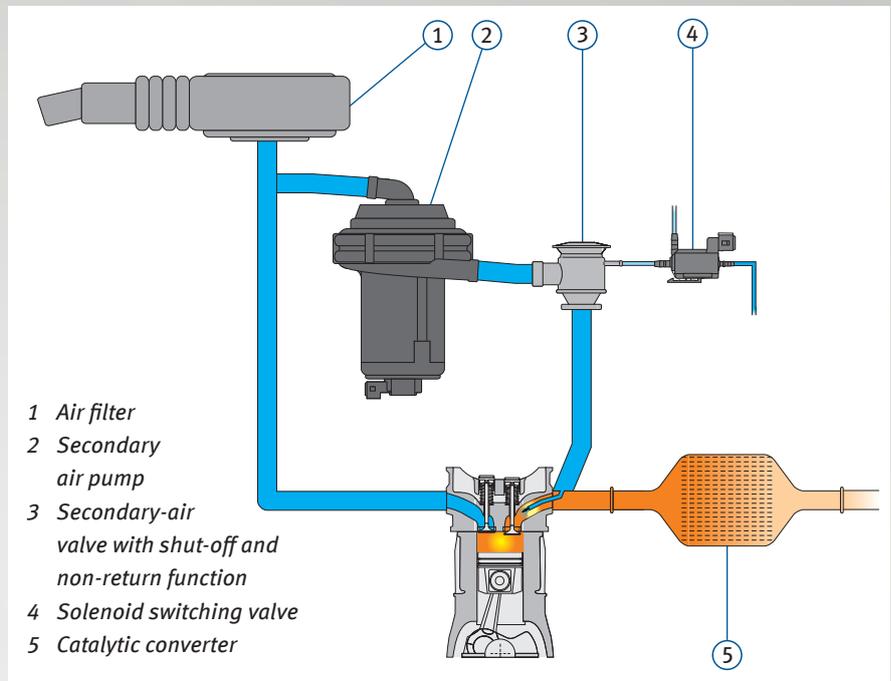


Pneumatic components are easily checked using simple tools.

A „rich mixture“, i.e. a mixture with excess fuel, is required for starting a cold spark-ignition engine.

Due to the fact that the catalytic converter has not yet reached operating temperature at this point, large quantities of carbon monoxide and unburnt hydrocarbons are produced between cold starting and the onset of Lambda control action – even with „clean“ spark-ignition engines.

The injection of ambient air with a high oxygen content into the exhaust manifold („secondary-air“) causes post-oxidation („afterburning“) of the pollutants.



- 1 Air filter
- 2 Secondary air pump
- 3 Secondary-air valve with shut-off and non-return function
- 4 Solenoid switching valve
- 5 Catalytic converter

Block diagram of secondary-air system

Secondary-air valves



The shut-off function ensures that secondary-air is only routed to the exhaust manifold in the cold starting phase. The integrated non-return function stops exhaust gas, condensate or pressure peaks in the exhaust system (e.g. misfiring) causing damage to the secondary-air pump.

Solenoid valves



Solenoid switching valves act as switches for vacuum-controlled components. They are required for opening and closing pneumatic secondary-air valves. The latest generation of secondary-air valves manages without actuation by a solenoid switching valve.

Secondary-air pumps



Secondary-air pumps are high-speed radial blowers. Thanks to their compact, robust design they can be fitted almost anywhere in the vehicle.

For more details, visit www.ms-motorservice.com



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