Engine (03.00)

Emission Control (03.08)

System Description

To prevent pollution, the crankcase gases (blow-by) go into the engine intake system. All poisonous fumes will be burned when the engine operates.

There is a part-load (1) and a full-load (2) breather system that vents the engine correctly during all conditions of operation.

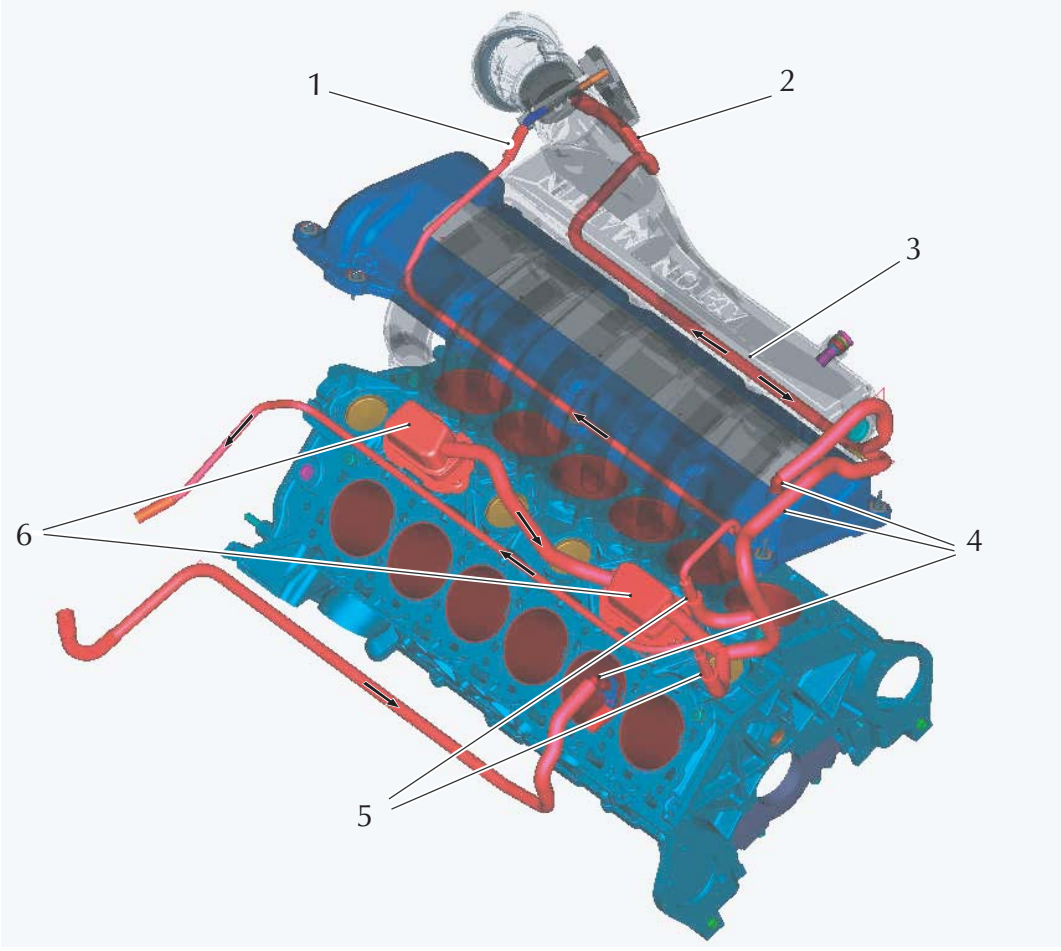
The crankcase gases are released through channels in the walls of the cylinder block. The gases then go into oil-separators (6) to remove the oil. At part-load, the gases from the oil-separators (6) go into the intake manifold. At full-load, the gases go into the intake system.

In part-load conditions, the system is controlled by the PCV (Positive Crankcase Ventilation) valve (5), which supplies a constant flow of vent gases. The flow through the PCV valve (5) is balanced by the ‘make-up air’ pipes (3) to the cam covers. The PCV valve (5) is operated by the pressure difference across the ends of the 'make-up air' pipes (3).

At full-load, the gases flow through a 1-way valve to the right inlet system (before the throttle) only.

The diameter of the pipes in the system is important for the control of the full-load and part-load operation.

Vacuum Pipework Layout



1. Part-load Breather Pipe - After the throttle body.
2. Full-load Breather Pipe - Before the throttle body.
3. Make-up-air.
4. One-way Valves
5. PCV Valve
6. Oil Separators