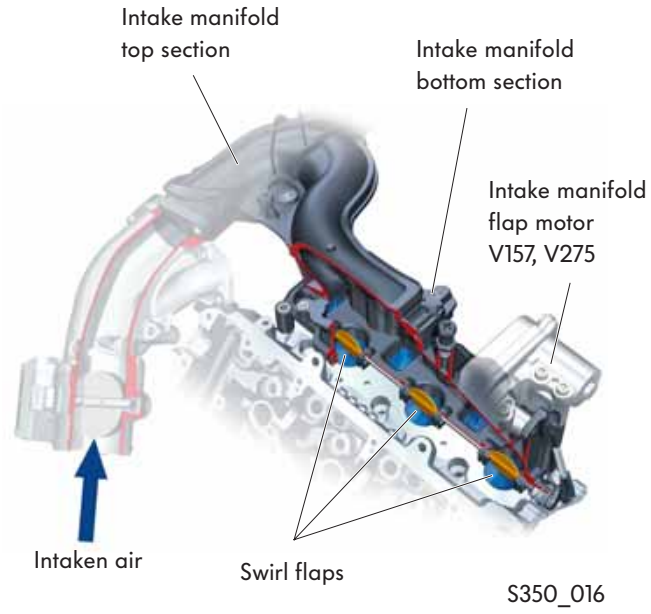
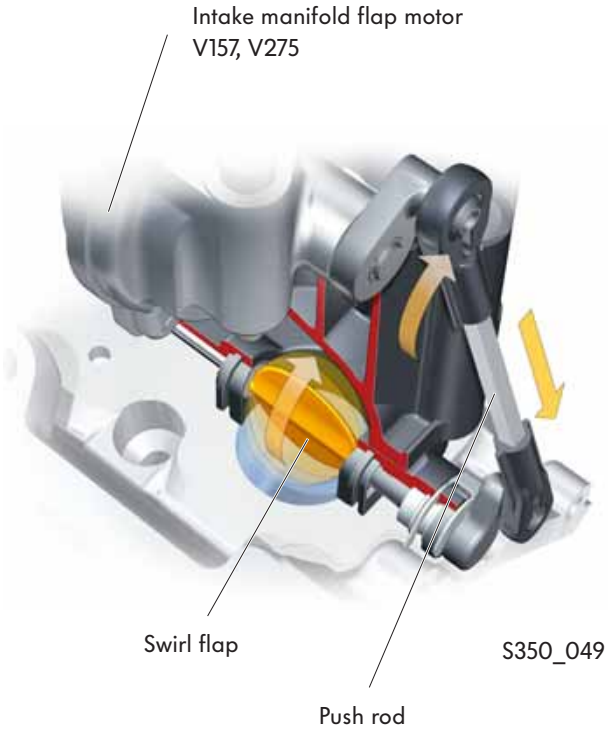
Air intake system

Intake manifolds with swirl flaps

The intake manifolds of both cylinder banks are fitted with continuously variable swirl flaps. Due to the position of the swirl flaps, the intaken air's swirl is adjusted depending on the engine speed and load.



The swirl flaps are moved by the intake manifold flap motor via a push rod. To do this, the positioning motor is actuated by the engine control unit. An integrated sensor serves to feed back the current position of the swirl flaps.



The intake manifold flap motors must only be renewed completely together with the intake manifold lower section. Please observe the notes in the workshop manual!

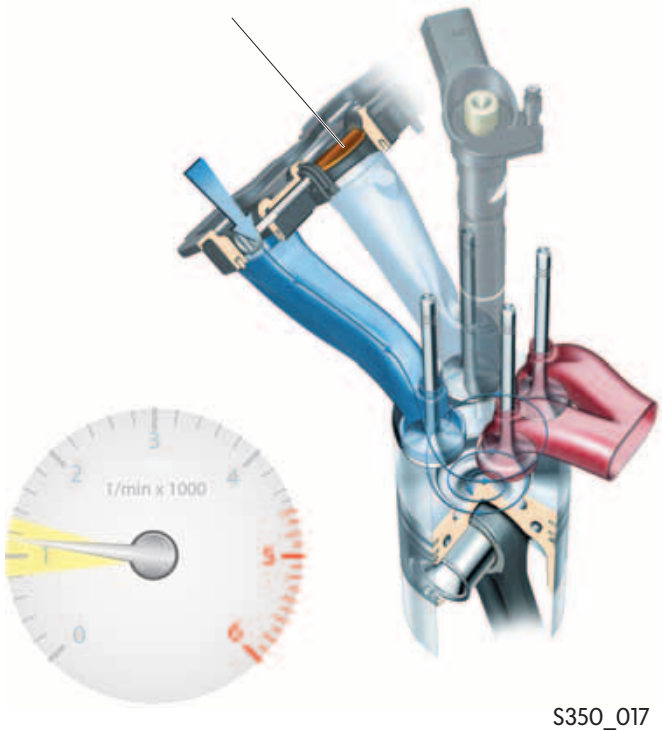
Function of the swirl flaps

Low engine speeds

The swirl flaps are closed when the engine is idling and at low engine speeds. This causes a high level of swirling, which leads to good mixture formation.

The swirl flaps are open when the engine is started, in limp-home mode and at full throttle.

Swirl flap closed



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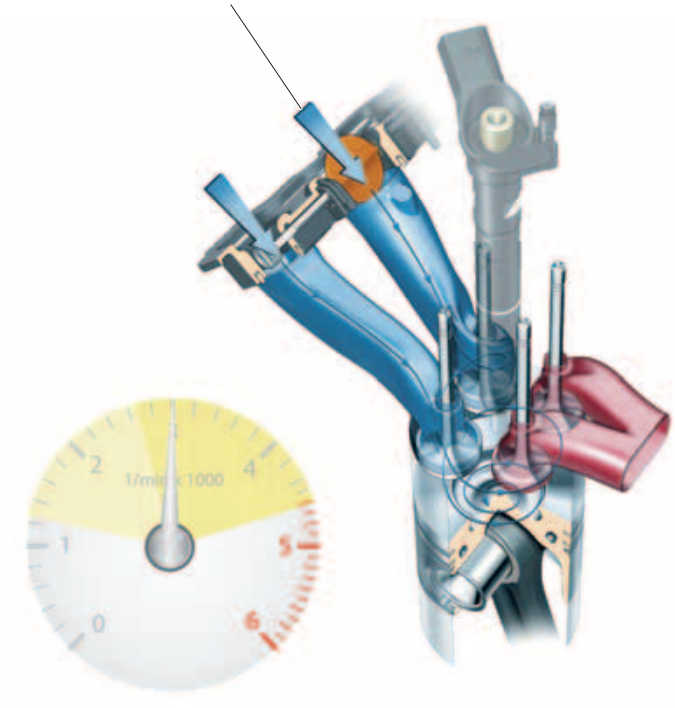
High engine speeds

As of an engine speed of approx. 1250 rpm, the swirl flaps are open continuously. Good combustion chamber filling is achieved thanks to the increased air throughput.

As of an engine speed of approx. 2750 rpm, the swirl flaps are opened completely.

Swirl flap open



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