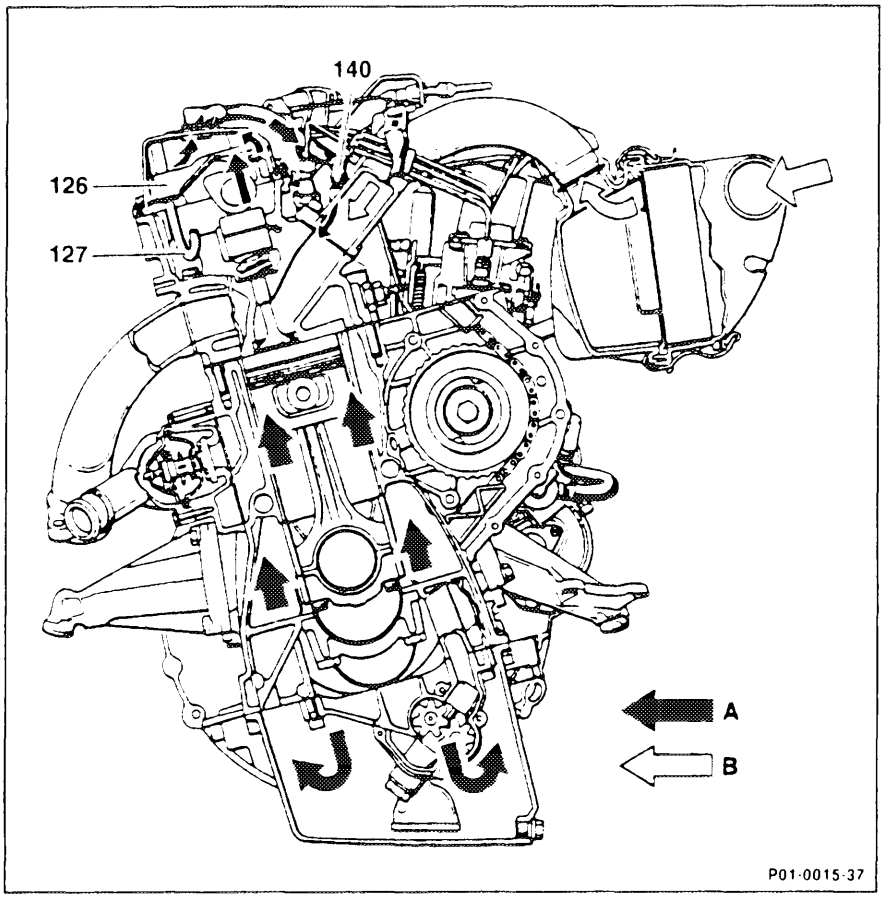
A. Standard version



Crankcase ventilation, naturally aspirated engine, standard version
Engine 602

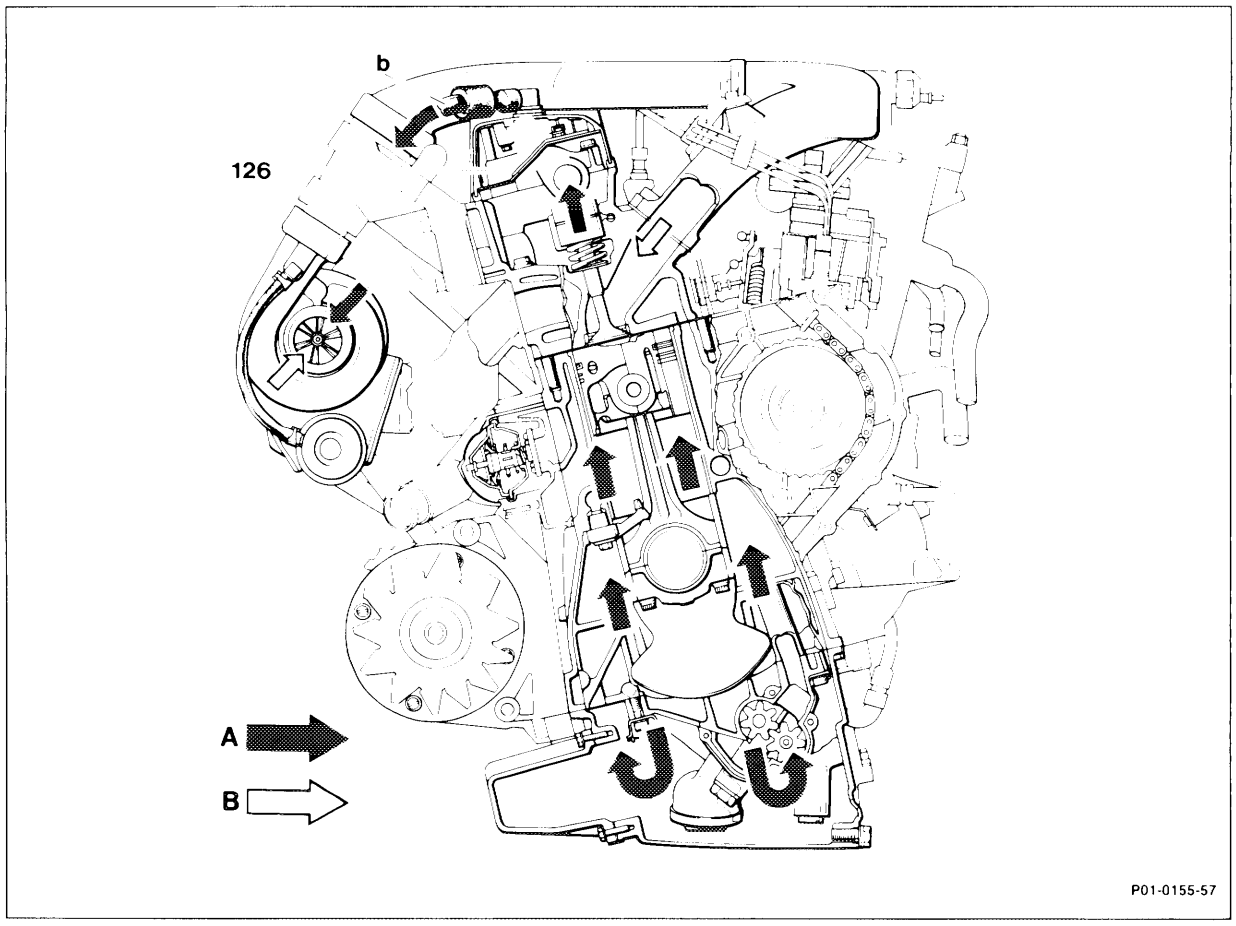
126	Oil separator
127	Return pipe
140	Distribution pipe
A	Blow-by gasses
B	Fresh air

The crankcase ventilation on standard version naturally aspirated engines is a closed, maintenance-free system.

The blow-by gasses from the crankcase flow through the oil separator (126) into the cylinder head cover and a hose to the distribution pipe (140) on the intake manifold depending on the intake manifold vacuum.

These gasses are distributed uniformly to all cylinders by the intake manifold and drawn into the combustion chambers together with the intake air.

The oil deposited in the oil separator runs back to the cylinder head through the return pipe (127).



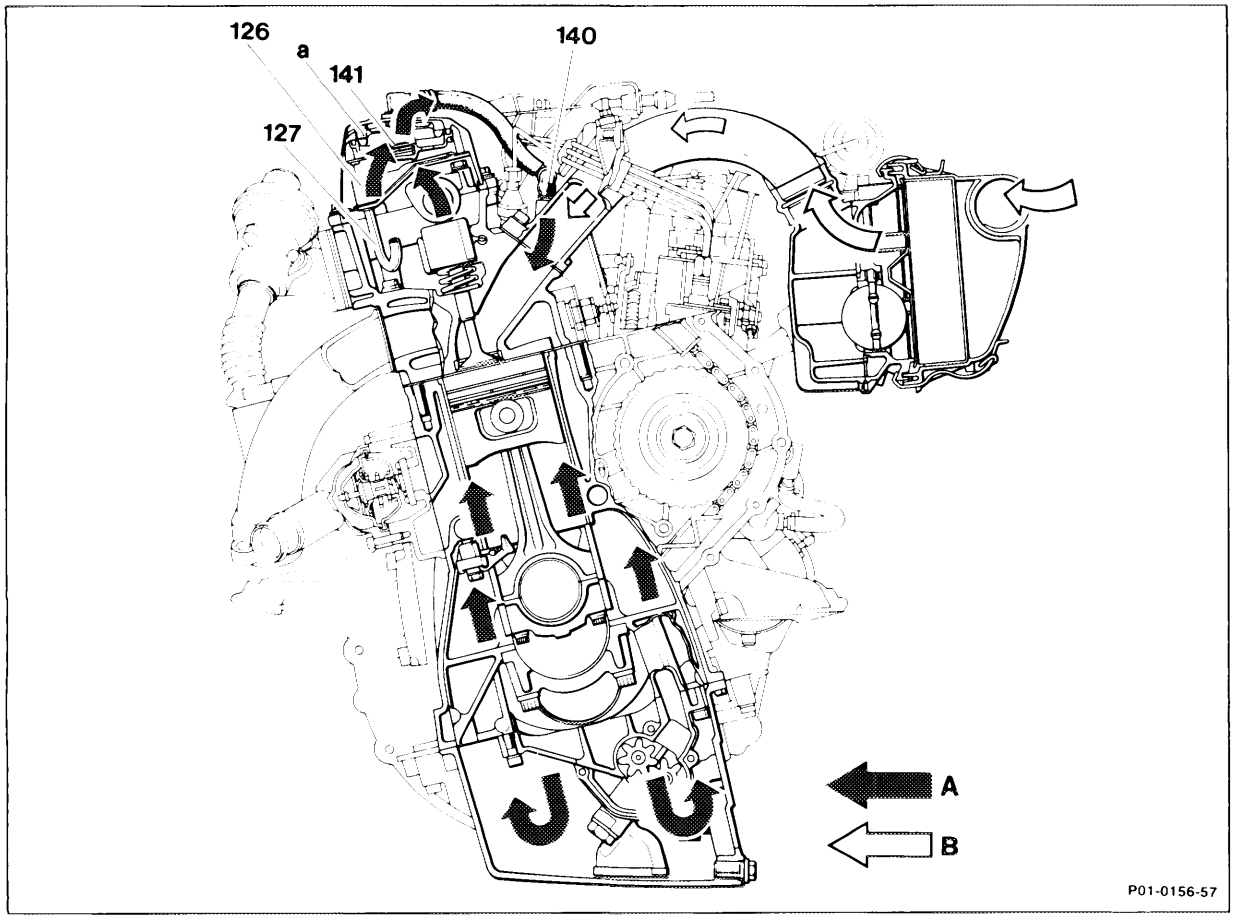
Crankcase ventilation, standard version turbo-engines
Engines 602.96, 603.96, 603.97

126	Oil separator
b	To air cleaner housing
A	Blow-by gasses
B	Fresh air

The crankcase ventilation for the standard version turbo-engines corresponds to that of the naturally aspirated engine.

However on the turbo-engines, after removal of the engine oil, the blow-by gasses flow from the cylinder head cover to the intake hose.

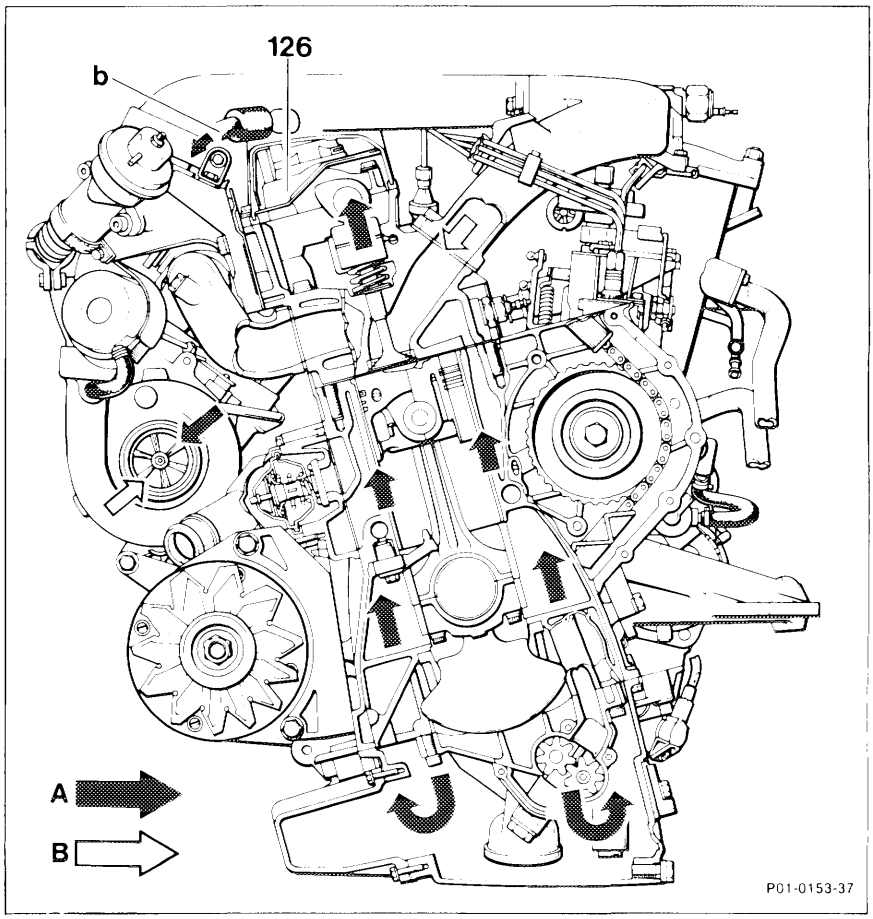
B. Naturally aspirated and turbo-engines with exhaust gas recirculation



Crankcase ventilation on engines with exhaust gas recirculation
Engine 602.91

126	Oil separator
127	Return pipe
140	Distribution pipe
141	Pressure control valve
a	Vent hole, dia. 3 mm
A	Blow-by gasses
B	Fresh air

Crankcase ventilation on engines with exhaust gas recirculation
Engines 602.96, 603.96 97



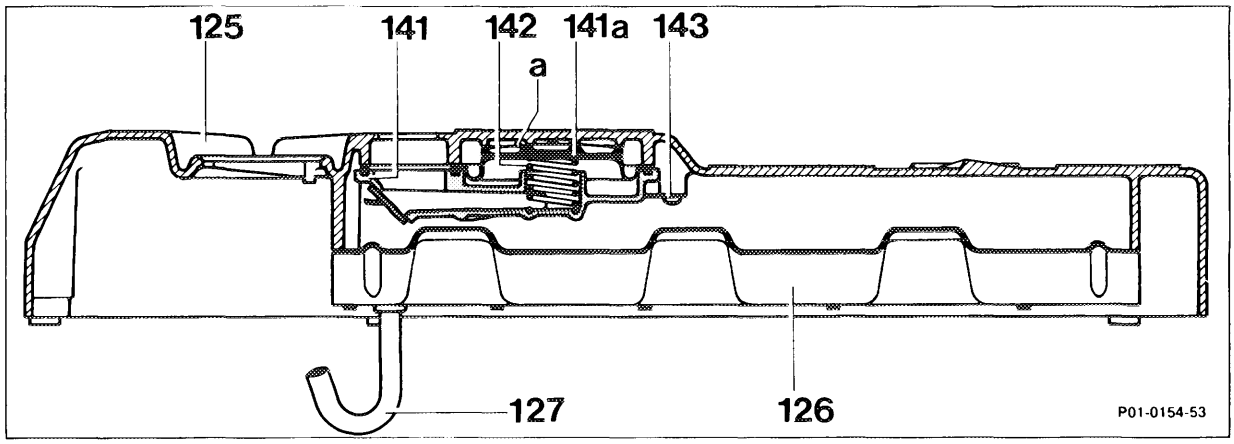
126 Oil separator
b To air cleaner housing
A Blow-by gasses
B Fresh air

The crankcase ventilation on naturally aspirated engines with exhaust gas recirculation differs from that of the standard version by addition of a built-in pressure control valve (141).

The pressure control valve is required because on engines with exhaust gas recirculation an additional throttle valve installed in the intake system results in significantly higher vacuums.

If the vacuum were too high, the engine oil would be sucked out of the crankcase.

The pressure control valve prevents this by keeping the vacuum constant above a certain value.

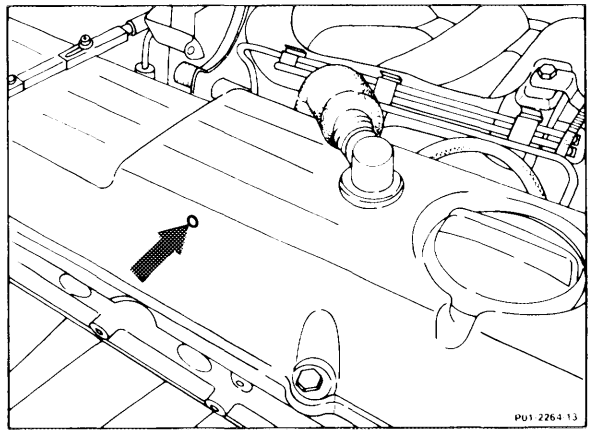


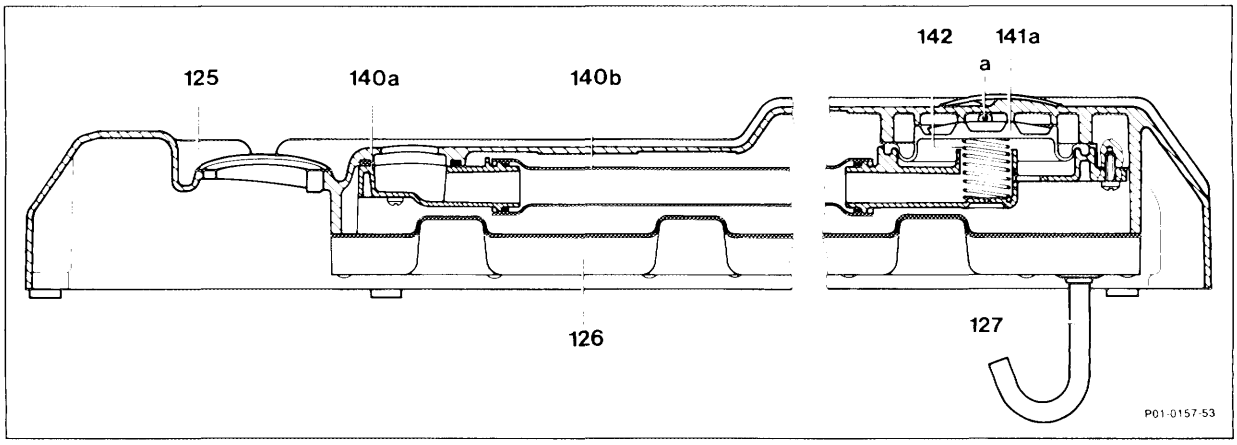
Pressure control valve
Engines 602.91, 603.91

125	Cylinder head cover	141a	Diaphragm
126	Oil separator	142	Spring
127	Return pipe	143	Holder
141	Pressure control valve	a	Vent hole

The pressure control valve is designed as a diaphragm-type valve and built into the oil separator in the cylinder head cover.

A hole is present in the cylinder head cover to vent the diaphragm chamber in the pressure control valve (arrow). This hole must not be plugged by dirt or preservation agents.





Pressure control valve, engines 602.96, 603.96

125	Cylinder head cover	140b	Intermediate section
126	Oil separator	141a	Pressure control valve
127	Return pipe	142	Spring
140a	Angle fitting	a	Vent hole

Turbo-engines with exhaust gas recirculation are also equipped with a pressure control valve (141a). For space reasons this valve is installed in the rear section of the cylinder head cover.

Note

Because of increased pressure difference between the intake manifold and the crankcase, a stronger compression spring (142) with a higher spring rate was used. The following table indicates the vehicle and engine models in which the modified springs were first installed.in addition to engines 602.962 and 603.970 beginning model year 1990.

Production breakpoint: 01/88

Model	Engine	Engine end no.		Vehicle ident. end no.	
		manual transmission	automatic transmission	A	F
124.133 124.193	603.960	–	017932	*	*
124.128	602.962	From Model Year 1990		*	*
126.134 126.135	603.970	From Model Year 1990		*	*
201.126	602.911	073017	014820	*	*

* not available