All engines are provided with an enclosed, service-free crankcase breathing system.

A. Function of Crankcase Breathing System

Model 200/8 and 220/8

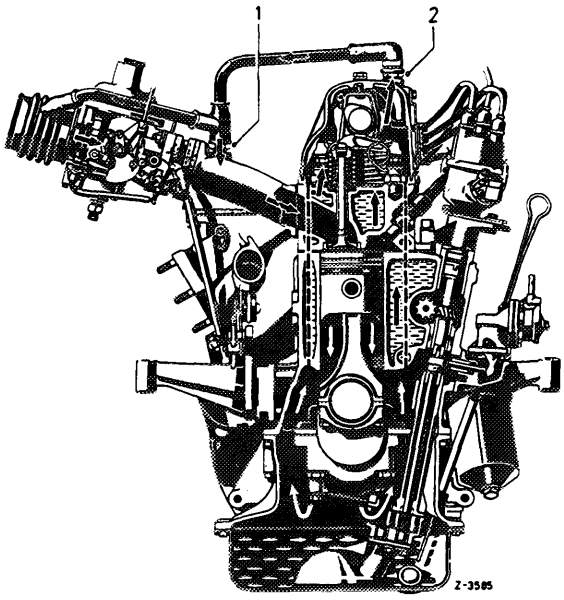


Fig. 01-1/1

1 Bypass nozzle 2 mm dia.
2 Connection, 13 mm ID (first version 11 mm dia.)

Engine blowby gases and cylinder crankcase vapors flow through the connection (2) in the cylinder head cover to the water separator with bypass nozzle (1) on intake manifold behind carburetor (Fig. 01-1/1).

Up to a given quantity gases and vapors or condensate will flow through the water separator and the bypass nozzle into the intake manifold while bypassing the carburetor.

As from a given quantity the bypass nozzle is no longer adequate and the vapors will flow via the branch on the water separator to the rubber sleeve in front of the carburetor and will be sucked from here by the intake air into the combustion chambers.

The condensate created by the cooling effect flows through the bypass nozzle into the intake manifold.

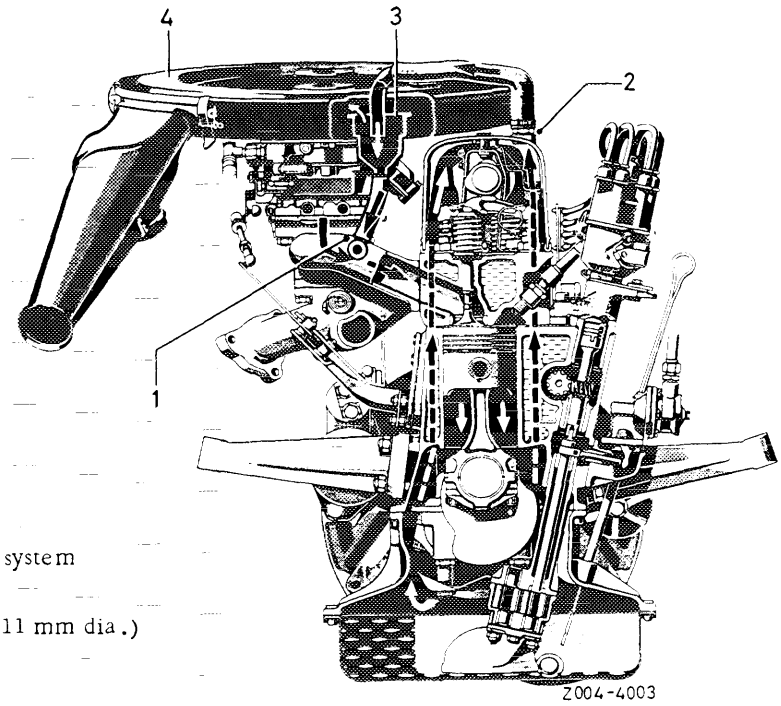


Fig. 01-1/2

Diagram of closed crankcase breathing system

1 Bypass nozzle 2 mm dia.
2 Connection, 13 mm ID (first version 11 mm dia.)
3 Water separator
4 Suction noise damper

The engine blowby gases and the cylinder crankcase vapors will flow through the connection (2) in the cylinder head cover to the water separator (3) which i housed in the suction noise damper (4). In the lower driving ranges the gases and vapors, as well as the condensate are flowing via the bypass nozzle (1) into the intake manifold bypassing the carburetors.

In the upper driving range the intake pipe vacuum is reduced, so that the gases will flow to the clean air end and are sucked from there into the combustion chambers by the intake air.

The condensate keeps flowing to the intake manifold via the bypass nozzle.

In the USA version Model 250/8 "Model Year 70" a flame protection screen (5) is installed in the profilated hose (6) between the cylinder head cover (7) and the suction noise damper (4) (Fig. 01-1/3).

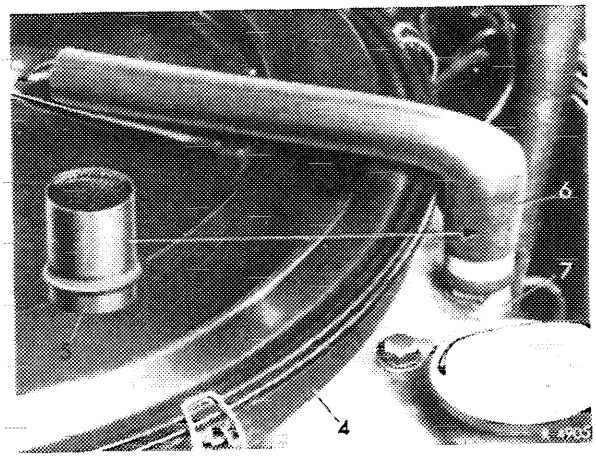


Fig. 01-1/3

4 Suction noise damper
5 Flame protection screen
6 Profilated hose
7 Cylinder head cover

Model 250 E/8

The engine blow-by gases and the cylinder crankcase vapors are flowing through the connection (1) in the cylinder head cover to the venturi control unit (2) in front of the throttle valve (Fig. 01-1/4).

From here, the condensate and the gases flow with the intake air to the combustion chambers.

To prevent freezing of the condensate and the resulting sticking of the throttle valve, the venturi control unit is heated by means of the cooling water system.

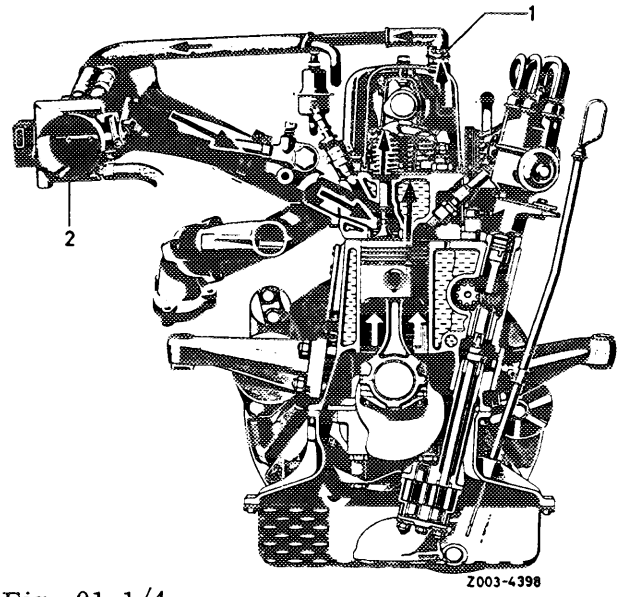


Fig. 01-1/4

1 Connection, 13 mm ID
2 Venturi control unit

B. Modifications on Crankcase Breathing System

Model 220/8 with PDSI Carburetors (USA Version), 230/8 and 250/8

On the above models the connecting line of the crankcase breathing system between the water separator on the suction noise damper and the bypass nozzle on the intake pipe have been changed. Paragraph "a" covers the modifications up to the end of July 1969, subsequent modifications are described in paragraph "b".

a) Crankcase Breathing System up to End of July 1969

During repair and service jobs on engine check seat of crankcase breathing hose with covering fabric layer. If the fabric layer has become loose at the ends or if the hose is sharply bent or kinked, a new hose with rubber cover must be installed (series from March to end of July 1969).

When replacing the crankcase breathing hose the version of the water separator - round (Fig. 01-1/5) or oval (Fig. 01-1/6) - in suction noise damper must be checked.

Depending on the respective version the connection (dimension "a" Fig. 01-1/5 and 6) is of different length and two hose lengths are therefore required:
round water separator
hose length 135 mm
oval water separator
hose length 115 mm

Since the spare parts lists offer only a crankcase breathing hose 135 mm long (Part No. 108 997 02 82) this hose must be shortened by 20 mm to fit the suction noise damper with oval water separator.

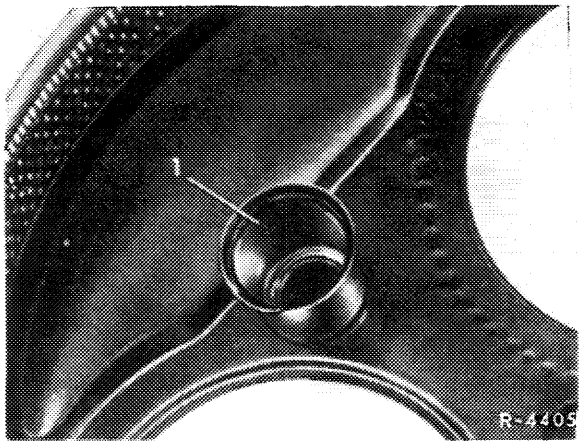
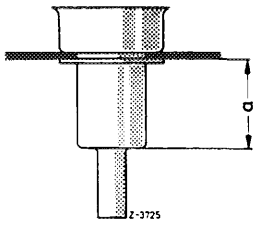


Fig. 01-1/5



Dimension a = 23-25 mm
Round water separator (up to December 1968)
Required hose length 135 mm

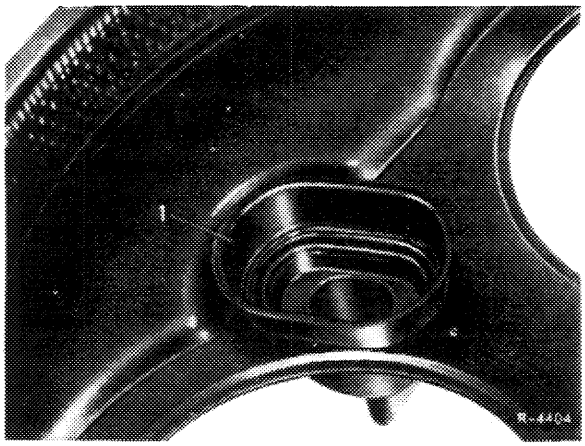
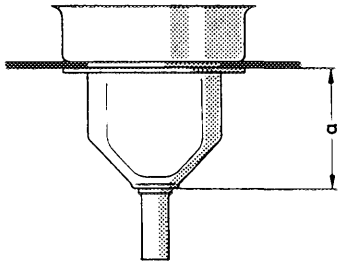


Fig. 01-1/6



Dimension a = 42-45 mm
Oval water separator (as from December 1968)
Required hose length 115 mm

Note: Immerse hose ends in oil to facilitate assembly.

In addition, attach hose to water separator first and then slide on connection with bypass nozzle.

b) Crankcase Breathing System as from End of July 1969

On Models 230/8 and 250/8 a crankcase breathing pipe made of polyamide is installed for standard production vehicles (Fig. 01-1/7).

Application

Model	Chassis End No.
230/8	034 286
250/8	031 650

The new breather pipe facilitates the threading of the water separator and thereby the mounting of the suction noise damper. For assembly, first slide breather pipe with rubber sleeve on connection (5) up to flange and then mount suction noise damper. A conversion of older vehicles to the new version is not possible.

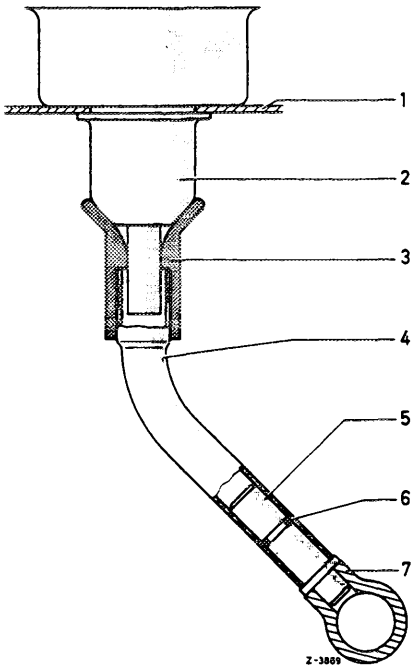


Fig. 01-1/7

1 Suction noise damper
2 Water separator
3 Rubber sleeve
4 Breather pipe
5 Connection with bypass nozzle
6 Sealing ring
7 Connecting pipe between intake pipes

The modified breathing line consists of the following parts:

Number	Designation	MB Part No.
1	Connection with sealing ring	114 140 00 37
1	Breathing pipe	114 094 00 32
1	Sleeve	114 094 01 91
1	Sealing ring	008 997 81 45

Model 200 D/8 and 220 D/8

On these models a closed crankcase breathing system with water separator is installed since November 1968.

When exchanging an engine without water separator against one with water separator, observe the following:

Since the engines are supplied from the spare parts stockroom without the breather pipe (1), subsequent installation is required to obtain perfect breathing.

For this purpose, turn rubber sleeve by approx. 180° (Fig. 01-1/8).

The breather pipe, Part No. 615 016 05 30, can be ordered as usual.

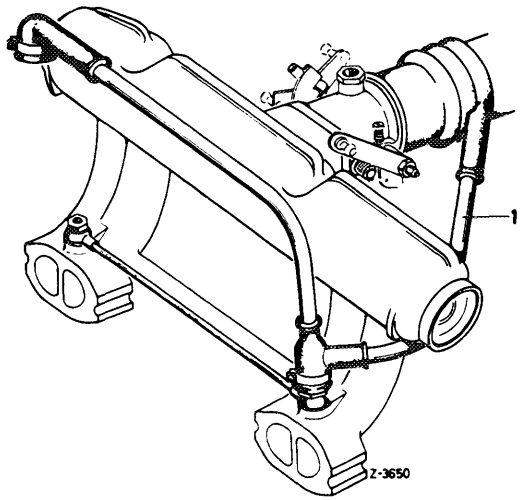


Fig. 01-1/8

1 Breather pipe