

A. General

The air filter has the task of cleaning the intake air of the engine. Different types of wet air filters and oil bath air filters with and without air intake silencer are used depending on the intended use of the engines.

The types of air filters used for vehicle engines:

- a) wet air filter with air intake silencer
- b) oil bath air filter with air intake silencer

Wet air filters and oil bath air filters with and without air intake silencer are selected by the consumers and installed in the built-in engines.

Proper maintenance of the air filter is of special importance for the performance and the operating life of the engine.

A very soiled oil filter causes:

- a) increased wear of pistons and cylinder bores
- b) loss of engine output (in some cases additional exhaust smoking) induced by the following two injection pump governing systems.

1. Injection Pumps with Pneumatic Governor

The increased resistance of the filter decreases the air charge of the engine but at the same time increases the vacuum controlling the injection rate adjustment to the effect that the engine no longer reaches its max. full load speed and/or output.

2. Injection Pump with Centrifugal Governor

The increased resistance of the filter decreases the air charge of the engine, the mechanically controlled injection rate, however, remains unchanged to the effect that the lack of air causes reduction of output, exhaust smoking and increased fuel consumption.

Clean and oil the wet-type air filter as soon as the filter surface is covered with a clearly visible dust layer. Heavily dirty and dust-covered throttle butterflies are an indication of inadequate maintenance of the filter element.

Depending on the operating conditions and contamination, oil the wet-type air filter, generally, once a week. With vehicle engines latest after 3000 km, with built-in engines latest after 50-100 hours of operation: clean and oil.

If the **air filter is subject to extraordinary contamination**, e. g. with combines, continuous operation on dusty roads or in tropical countries, **additionally check or clean and oil the air filter** between the routine service jobs.

On principle, clean the oil bath air filter and replace the oil as soon as the oil becomes dark and thick because of the dust absorbed.

With vehicles operating exclusively on dusty roads, this condition may occur after weeks or even after some days. In order to ensure oil change in due time, it is recommended to **check the oil bath daily if operating the engine under dusty conditions**, under more favourable conditions a weekly check is sufficient.

Caution: Never top up oil bath, always renew the oil otherwise the contaminated oil could possibly be carried off into the engine.

Properly maintained oil bath-air filters do not loose oil. Topping-up is therefore not necessary. The oil level should not be checked immediately after stopping the warm engine but approx. one hour later. Only then the oil will have left the filter element to accumulate in the oil bath container thus making possible a proper checking of the oil level.

During assembly of the different filters check for proper seating of the gaskets in the top and bottom part. Swelled or distorted gaskets must always be renewed.

B. Cleaning wet-type air filter

Depending on the design, loosen the clamping screw and remove the filter bowl from the throttle duct or after loosening of the tension locks or after unscrewing of the wing nut, remove the filter upper part with filter element (1) from the filter lower part (see Figure 09-8/1).

Wash the element of the wet-type air filter or that part, into which the filling is installed in benzine, Tri or P 3, petroleum or Diesel fuel and then blow with compressed air.

Then **uniformly soak** the filter element or that filter part into which the filling is installed with at least 50 grams, i.e. approx. 60 cm³, of motor oil by spraying, pouring or dipping, to ensure that the filter layer is completely covered with a thin oil film. Before screwing on the filter upper part with element or filter part with the filling, wait until the oil completely has penetrated into the filter filling. Also wash and rub the filter lower part (if applicable). Now, fit the filter upper part with element (1) on the filter lower part and fix with the tension locks or with a wing nut on the filter lower part (see Figure 09-8/1). With cylindrically shaped wet-type air filter and clamping connection, place the filter head on the throttle duct and tighten the clamping screw.

Note: The flap oiler in the wing nut on the upper part of the filter of the OM 636 serves for spraying gasoline in case of starting difficulties (in recent designs no longer installed).

To prevent confusions, the air filter of the OM 636 has a plain upper part (1) compared to the cover of the OM 621 which is provided with six reinforcement ribs. The filter upper part of the OM 636 may by mistake be mounted on the lower part of the OM 621; this may, however, result in a fracture of the web in the lower part of the filter because of bad contact. If the filter upper part of the OM 621 is placed on the lower part of the OM 636, a humming of the filter will be the consequence, because the filter is not tight then (see Figure 09-8/1).

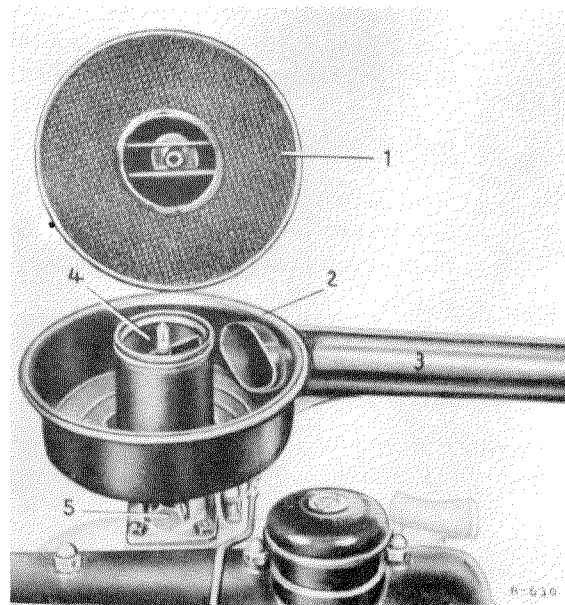


Figure 09-8/1

Wet-type air filter with intake noise damper

- 1 Filter upper part with filter element
- 2 Rubber seal ring
- 3 Fresh air intake pipe on filter bowl
- 4 Air duct with connection nipple to intake pipe
- 5 Mounting screw for the air filter