

## Installation instructions for the B16 filter adapter ...

Congratulations on your purchase, we thank you, and your Volvo will thank you for its new, cleaner, oil with longer engine life!

**Step 1** - Remove the battery cables! You will be working in close proximity to the starter solenoid and it is easy to ground out the hot post with a tool or part.

**Step 2** - The installation is best achieved by removing the carburetors on the B16b engines; this greatly enhances access and working room. The 'A' series engines with a single carburetor is a close call, our opinion is that it is best to remove the intake manifold and carb.

At this point a general cleaning of the area is a good idea, this is to insure there are a minimum of dirt and grit issues with the installation.

**Step 3** - Remove the old filter/ canister and set them aside. You may encounter a thin steel part (see fig. 1 below for a graphic of this part) with a central hole and another hole in the perimeter marked "up". You will no longer need this part, it should be pried off, it was a late B16 production part meant to address the "drain back" problem with the old filters. When prying off the part be careful not to mar the machined surfaces. Going around the outside of it with a small, flat screwdriver works well. Remove the old gasket from the block. Again, a very small flat blade screwdriver or an awl works well for this.

Clean the interior of the canister area in the block.

**Step 4** - Insert the dual threaded adapter part in the block. It should be firmly seated on the countersunk area leading into the internal threads in the block. There are a series of holes at the bottom of the large threads on the adapter, when fully screwed in these should not be above the machined surface more than .15" (slightly over 1/8" or 4mm).

Your installation should now look like this...



As you can see in the photo on the left  
The holes are well down in the 'well' cast into the block. This area is where the clean oil is routed to the galleries and from there, to the rest of the working parts of the engine. Be sure at this point there are no metal fragments, dirt or grit etc. in this area, as it will be sealed in the next step of the installation.

**Step 5** - The next step in the installation is to screw the cap down on the 'well' area and seal this off from any unfiltered oil. This part of the adapter is 2" in diameter with a large, central, threaded hole. Be careful not to cross thread this part onto the large threads of the adapter screw! The cap should screw on easily by hand until the O-ring on the bottom begins to contact the machined surface of the block. Using an "F" head type spanner with a 2" range of adjustment is recommended for tightening the cap, also some spin-on filter wrenches can be used. In a pinch you can use channel lock pliers though you may mar the part with these. The cap should be tightened down enough so that the O-ring is compressed against the block; this takes around ¼ to ½ of a turn after initial contact of the O-ring and the surface.

Your installation should now look like this...



**Step 6** - The next and final step is to insert the cover. This is done by first installing the furnished gasket in the outer O-ring groove in the block, use motor oil or grease to lubricate the gasket on installation. You can use the old canister housing as a tool to “seat” this gasket if necessary. Next, lubricate the contact edge of the cover and thread it onto the adapter. Beware of cross threading!

The cap should screw down easily by hand until it contacts the O-ring in its groove. Once contact is made, snug the cover by hand, then tighten using a spin-on filter wrench. Torque the cap a bit more firmly than you would to tighten a spin-on filter. A ‘pin’ type spanner with ¼ “ pin diameters is also a good tool for tightening the cap.

Your installation should now look like this...



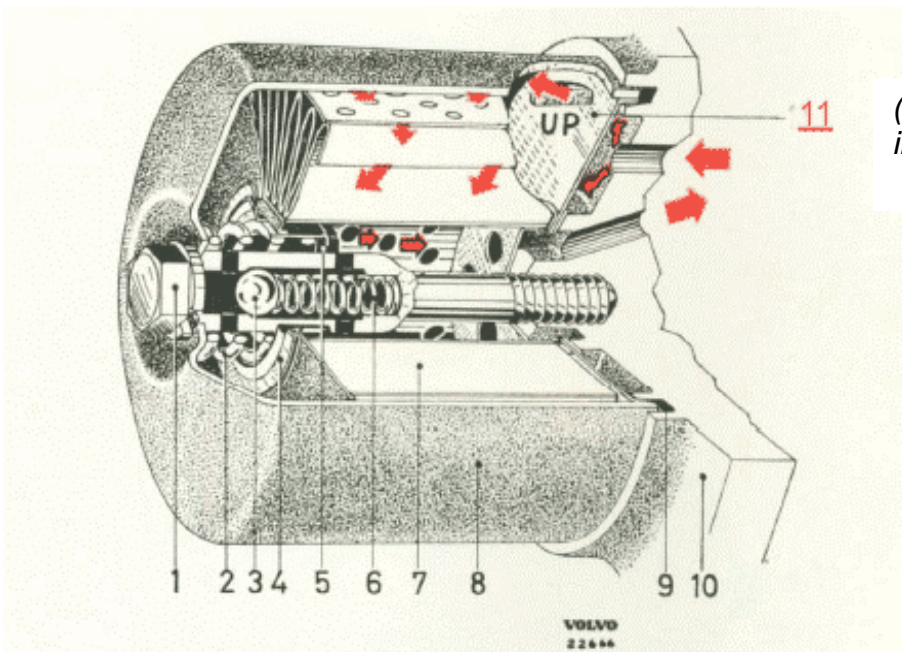
Clean the upper surface of the cap, lubricate the seal of your spin on filter (Genuine Volvo or Mann filters are very good as are Wix, Puralator and Bosch – Use the same type spin on filters that fit the Volvo B18/20 series engines, *see fig 2* ). Install the Spin-on filter of your choice.

We highly recommend changing the oil at this point without starting or warming up the engine. Why make your new filter catch large

particles when you can get rid of the majority of them by draining the old oil?

We also recommend that you remove the plugs and “spin up” the engine with the starter after the oil change. This will pump oil into the new filter and passages and test the installation at the same time!

Re-install the plugs, start the engine and let it reach normal operating temperature while checking for any leaks.



**Fig. 7. Oil cleaner, Mann and Fram types.**

- |   |  |
|---|--|
| 1. Bolt with washer   | 7. Element   |
| 2. Spring   | 8. Cleaner housing   |
| 3. Valve ball   | 9. Gasket  |
| 4. Sealing sleeve   | 10. Cylinder block   |
| 5. Washer (MANN). (On Fram oil cleaners there is only a lock ring inside the sealing sleeve.) | <b>11</b> Intermediary plate, fitted on late production units (independent of make). |
| 6. Valve spring   |  |

(Fig. 1- plate is marked number 11 in orange at the left)

(Fig. 2)

Oil filter recommendations\*

- Mann W917
- Bosch 3402
- Puralator FL-300
- Wix 51307
- Puralator PL14670
- Volvo OEM filter
- Puralator FL-1A

\* Purely subjective-in order of "bang for the buck".