

Transmission filter before cleaning. Pump whine, transmission service required codes P1618 and P0740. Delay and slipping in reverse and drive when cold. Pump starved of fluid due to clogged filter.

Transmission mileage and service history; dealer installed remanufactured transmission in 2009 and now with 105K miles of use, 4 drain and refills since installed, magnefine inline filter installed since first installed, changed 3 times. Primary internal filter still clogged as shown. Transmission working fine before signs of filter clogging up, fluid condition excellent since installation of transmission. 2001 V70 T5 200K miles, 2<sup>nd</sup> remanufactured installed at 95K, 1<sup>st</sup> remanufactured installed at 75K, starting whining like pump was clogged at 95K, dealer replaced under warranty



Filter mesh appears to be nylon, particles and film on underside is tough to remove, direct force spray of carb cleaner works well but need high flow and close contact for good cleaning.



Filter mesh after first cleaning with carb cleaner spray through newly added drain hole under inlet port of filter. Area of filter mesh cleaned was just the area easily accessed through the intake port of the filter, approximately  $\frac{1}{4}$  the area of the total filter mesh. Deeper inside the filter not clean as well during first cleaning. Transmission pump and shifting were fine after cleaning this amount of the filter area and no pump wine. Second cleaning planned to clean a larger area of the filter mesh.



Condition of transmission fluid in bottom of trans case. Good condition, red and clear, no obvious signs of a lot of particles. Photos taken with dual camera endoscope. DEPSTECH Dual Lens WiFi Endoscope. It appears almost everything filtered by the filter mesh stays there.





Inner part of filter and after cleaning with bottle brush and carb cleaner with hose extension. Deeper area of filter mesh is out of focus but it is much cleaner than before. I was able to clean out a significant amount of particles from a greater percentage of filter mesh area. Photo from side camera of endoscope looking across bottom side of filter mesh. Although the filter mesh does take a forceful direct spray or brushing to clean well the particles do come off and it appears the mesh is very clean, I didn't see particles still trapped in the mesh.



Another photo of inner part of filter after cleaning with brush and brake cleaner with hose extension. Note the left back area, could not get the brush on the other side of the post so this area wasn't cleaned as well but much better than before. The film on the filter mesh is tough to remove so the brush or direct force of carb spray is needed to clean well.





What I found effective to clean deeper inside the filter. Carb cleaner with the type of nozzle shown where you attach a longer tube (3mm ID) and with a larger inside diameter than the red straw for higher flow. Bottle brushes for cleaning straws, 10 to 12 inches long and bent as shown.





Here's what I was able to clean out with the second cleaning deeper inside the filter and with the bottle brush and brake cleaner with hose extension. Filtered the brake cleaner fluid that drained out of the transmission through a paint filter.



After this second cleaning I'm more confident my transmission has many more miles in it and that the filter won't clog back up for some time. It's seems the internal filter does a good job of filtering, maybe too good because of the premature clogging.

14mm X 1.25 drain plug, used spark plug size tap, finer threads since case is thin. Had problems with a leak because case area around plug is not a machined flat surface. Used 18mm sealing washer and put an o-ring in the gap area between the 14mm plug and sealing ring, which stopped the leak.



Spark plug size threads has the advantage of insert type repair kits if the threads in the case ever strip. Case is very thin in this location, only 3 or 4 threads so care must be taken when tightening drain plug.



14 mm drain plug 18mm ID sealing washer, 2mm X 13mm ID o-ring or 11/16 in. OD x 1/2 in. ID x 3/32 in. wall #10 or #42 o-ring  
18mm ID sealing ring is what's used on primary drain plug.

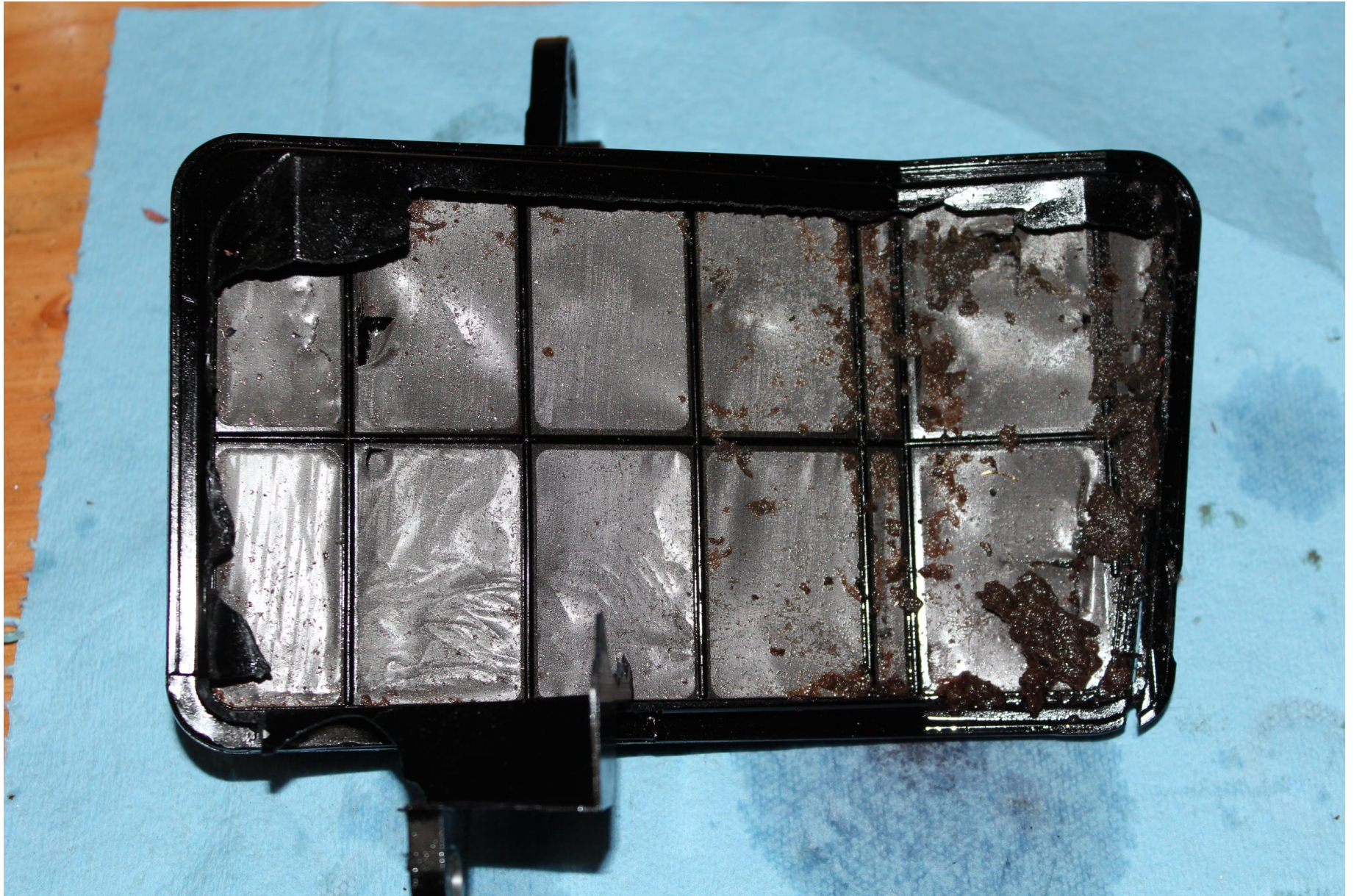


Some thoughts on the type of filter mesh, either nylon or stainless steel. I bought a replacement filter to see how if I could route the bottle brushes through it and it has a stainless steel mesh while the filter in my car's transmission is a nylon mesh.

The filter in my car is clogged and it's a well maintained transmission and has always had an inline filter installed. The previous transmission in my car that was also a Volvo dealer installed transmission had a pump that began to whine after ~20K miles, which indicates another filter clogging early. I don't know what type of filter mesh type was in that 1<sup>st</sup> replacement transmission but since both transmissions were Volvo remanufactured and installed transmissions and both had filter clogging problems I can't help but think the quality of the filter or other parts in remanufacturing process may be questionable.

Just speculating but I'm wondering if the nylon mesh filter may have some type of swelling problem that would reduce the size of the openings in the mesh or some type of electrostatic charge that creates the tough, sealing type film on the filter. I just didn't see enough particles that should clog a filter up like it did in my car. With what's happened to the previous two transmission I would at least say that a high quality stainless steel filter mesh may be a better choice, all just speculation though.

I found it interesting and disappointing that the inline filter didn't help more in preventing the primary filter from clogging up. It seems as though the primary internal filter filtered everything out and everything filtered stayed firmly stuck to the bottom of the filter mesh so the drain and refills of the fluid didn't help remove clutch material particles either.



I did eventually rebuild the transmission and this is what the filter looked after cleaning with the brush and brake cleaner through the added drain hole. Overall the cleaning was better than expected, the right side above where there is still build-up is a very narrow part of the filter where brush didn't get to. The holes in the filter mesh wasn't from the cleaning, I punctured it tearing the plastic apart.