

## V70XC Bevel Gear (aka Angle Gear) Oil Change

### **1997-2000**

The bevel gear (#8601587) is a very expensive part of the AWD-system of the 1<sup>st</sup> generation of the Volvo V70XC. I immediately began looking for information concerning the maintenance of the bevel gear assembly and found very little about maintenance, but a wealth of information about people having to replace the bevel gear. I then decided that I should at least change the gear oil in the housing which the bevel gear assembly rides. Unfortunately, no drain plug is provided! After a conversation with a Volvo service manager, who told me that they always install a drain plug in the housing (by drilling and tapping the aluminum case) at the 60K service (and change oil every 60K thereafter), I decided that it must be done on my car *but without the drilling and tapping for a drain plug*. What follows is the method I used.

**This method seems to work perfectly, but your mileage may vary!**

### **Parts needed**

- 1 - Volvo Transmission Fluid (1 liter – Part No. 1161648)
- 1 – optional Volvo gasket #11998 (copper crush washer)
- 1 - Empty soda jug or equivalent (for old gear oil)
- 1 - Mityvac vacuum pump or equivalent
- a couple of small rags

### **Step #1**

Raise the front-end of the car up on ramps or jack stands...



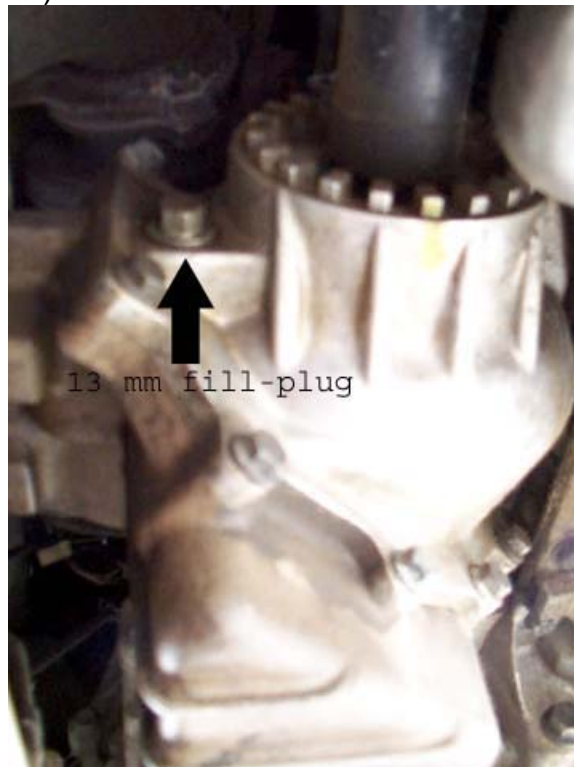
## Step #2

Set the parking brake...unless you like to live dangerously!



## Step #3

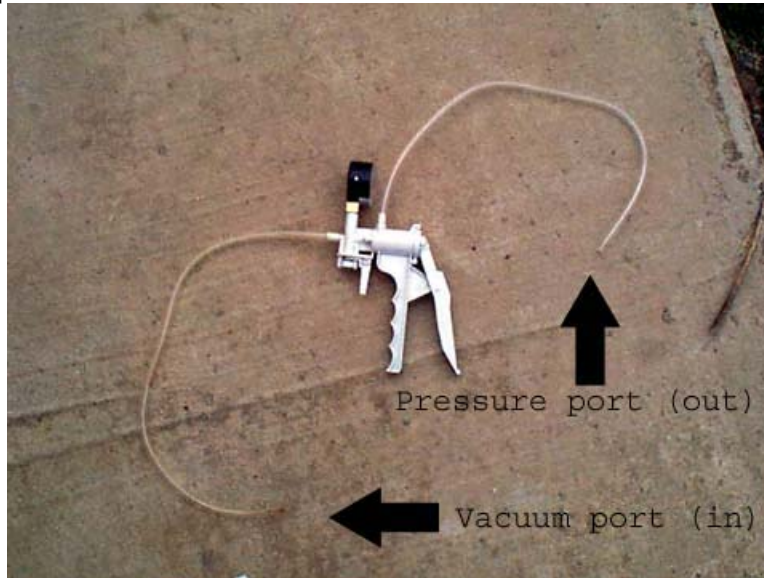
From the front of the car look at the back of the engine block and find the bevel gear housing and the 13mm fill-hole. The fill-hole plug will be on the side of the housing *facing* the passenger side drive shaft (black shaft coming out of housing at top of picture below ).



With rag handy (gear oil will dribble out of fill-hole) remove 13mm fill-plug from bevel gear housing and don't lose the crush washer (Volvo #11998) unless you bought a new one. Plug fill-hole with rag to prevent dripping.

#### Step #4

Hook hoses to mityvac vacuum pump. The hoses are part of the kit which comes with the pump.



## Step #5

Insert the hose from the vacuum port (in) on the mityvac into the fill-hole of the bevel gear housing. Wiggle the hose as you insert it so that you are sure the hose has reached the bottom of the bevel gear housing. Place the pressure port (out) hose into the soda jug or any container capable of holding at least 0.75 liter.

Begin pumping the old gear oil out of the housing and collecting it in the soda bottle. I prefer the soda bottle for two reasons: 1) I can see the old oil going into the bottle and it is easy to see that 0.75 liter of used oil has gone into the bottle and 2) it is easy to cap and take to recycling.



## Step #6

After removing all of the old gear clean out the mityvac pump and hoses by pumping the handle a few times. This will get most of the old gear oil out of the unit and the hoses. I took the hoses off and blew compressed air through the lines; though very little gear oil came out. Now place the pressure port (out) hose into the fill-hole of the bevel gear housing and the vacuum port (in) hose into the bottle of Volvo Transmission Oil.



Pump the handle on the mityvac and the new gear oil will be drawn out of the bottle and pumped into the bevel gear housing. Continue pumping until gear oil begins to dribble out of the fill hole of the housing. Immediately replace fill plug (don't forget the crush washer on the plug). Check the bottle of Volvo Transmission Oil to make sure it has about 0.25 liter left in it (this is just a check to make sure that, in fact, you have filled the housing with the correct amount). Replace and **torque the fill-plug to 35Nm (25-26 lb ft)**. Volvo recommends that the oil just come to the lower threads of the fill-plug. You might want to check the level on flat ground. When I checked mine it was perfect!