



## 2001 BMW X5 4.4i



### Fuel Filter Replacement



#### **Symptoms for Replacement:**

OBDII code P0171, Lean Bank1, which could be a bad or dirty MAF sensor  
Sluggish engine performance including hesitation with Wide Open Throttle (WOT).

#### **PARTS Required:**

Fuel Filter housing with built-in pressure regulator  
3 fuel line clamps

#### **Tools Required/Recommended:**

8 mm box wrench/socket  
10 mm box wrench/socket  
14 mm box wrench/socket  
Extra long Socket extension (12")  
Socket Wrench  
Pliers (to remove fuel line crimp clamps)  
Safety Glasses (keeps dirt and gasoline out of your eyes)  
Gloves

#### **Pre-Procedure:**

1. Fuel Pressure: Although I didn't do it, you may find a way to relieve the fuel pressure which is sometimes done by removing power to the fuel pump and cranking the car over. Unfortunately since these cars will crank over automatically until they drain the battery, I decide not to bother.
2. I did this procedure without jacking it up, but you may find it easier to do with the rear end lifted or putting the rear wheels on ramps.

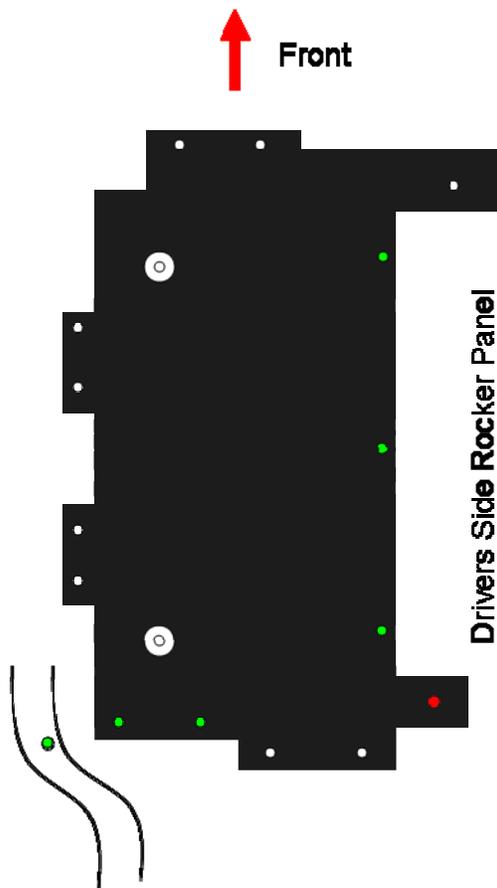
**Disclaimer: Read this procedure completely before proceeding. I am not a fuel filter replacement expert nor do I purport to be one. Please note that you are doing all of the following work at your own risk, of your own free will. The author will not be held liable for errors or omissions in the procedure or any issues that might arise from this repair. If you don't feel comfortable following this procedure, take your SAV to a qualified shop. This procedure is not affiliated in any way with BMW North America.**

---

## PROCEDURE: PART1 Removing the GIGANTIC plastic cover

The toughest part of this job is removing the gigantic and bulky cover that covers up the fuel tank, fuel filter, and I believe the carbon canister. In order to remove it, you first need to remove 10 large bolt and 2 nuts as noted by the white dots below. The red dot denotes a bolt that is hidden underneath the wheel well splash guard. You will have to remove 3 10mm headed screws as noted by the **green** dots near the rocker panel and 3 near the red dot tab to remove the heat shield. Note that one is slightly hidden by the exhaust pipe.

To begin, remove as many of the larger bolts per the diagram below then the rocker panel screws, followed by the heat shield.



Then remove three 8mm screws on the splash guard nearest the **red** dot to get access to the large bolt. This area can be found by finding the tab of the wheel well splash that fits into the slot of the large gigantic cover.

Here is a picture of the splash cover including the tab with 2 of the 3 screws removed. The third screw is higher up near the tire.



After wrestling with the cover and unclipping the emergency brake line that is attached at one of the corners, I was finally able to drop the cover onto the floor. I couldn't completely remove it so I twisted it a bit out of the way to make room to work on the filter.



Note that the stamped flange you see reflecting is riveted to the gigantic plastic cover nearest the driveshaft. It takes some wiggling of the cover to get this flange to drop without removing the exhaust/driveshaft.

---

### **PROCEDURE: PART2 Replacing the Fuel Filter**

Now we can get to the real job here. First make sure you have 3 new fuel line clamps if they did not come with the filter. Mine didn't so I used some nice Japanese-made stainless steel clamps that have a smooth inner wall. Don't use the corner auto parts store standard hose clamps that will chew up the fuel line and risk a fuel leak.



If you notice in the next picture, the blue fuel lines are non-metallic with a crimped rubber end on the hoses to connect to the fuel filter. If you ruin the rubber section, you can't just replace it with new fuel line.



There is one outlet hose on the side with the pressure regulator and 2 inlets since I believe there are 2 fuel pump/sender units on the fuel tank. There is also a black plastic hose with a rubber end that connects to the vacuum line on the fuel pressure regulator (FPR). Here is a picture of the opposite end with the two fuel source input lines.



As you can see from the picture above, the fuel lines come from the factory with crimped clamps to hold the fuel lines in place. I used a pair of pliers to gently pry them open. I then used the tried and tested method of first twisting the lines to “break” the seal and then wiggling them off. If you simply try to pull them off, you run the risk of tearing them.

Since I did not relieve the fuel pressure, I moved out of the way, pinched the outlet line with my fingers while holding the new filter next to it to quickly swap the line over. Using this method will limit the amount of fuel you spill to a few drops. I then connected the vacuum line to the FPR.

Next remove the 2 Phillips head screws as noted with the yellow-marked screws below that hold the old filter in place and loosely install the new one.



I oriented the filter with the vacuum line pointing to the front of the car. This makes it easier to connect all the lines back up.



Next removed the crimped clamps on the opposite end of the old filter and connect them in the same locations one at a time on the new one.



Next tighten all of the hose clamps and finally tighten the 2 screws holding the filter housing. Make sure you reconnected the vacuum line to the FPR. I then turned the key to the ON position without starting to pressurize the filter with fuel. I did this 3 or 4 times. I then started the car (of course after opening the garage door) and let it run for about 15 seconds. I then looked at the hose clamps to make sure I didn't have any fuel leaks.

If you have any signs of leaking, make sure you tighten and re-test. You don't want to be a victim of a Car-B-Q on the side of the freeway later.

If all is well, go ahead and start the painful process of getting the gigantic cover back on. After some time and a few foul words, I buttoned it up, re-clipped the e-brake line and got the heat and splash shields screwed back in place. I then went out for a spin. Not sure if it was the placebo effect, but the engine seemed a bit more responsive and the WOT hesitation was gone.