

10mm, 22mm wrench

5mm, 6mm Nut drivers

T25 Torx socket

T30 Torx socket

T45 Torx socket

¼, 3/8, ½ drive ratchets

8mm, 10mm, 11mm, 13mm socket

Collapsible pipe, new valley pan, intake manifold gasket.

I am NOT mechanically inclined, the most I've ever done is change my own oil and brake/rotors. This was scary to me, most important things I can tell you are be very methodical how you pull it apart, take notes, pics before and after so you know the orientation of the valvtronic motors or where the bolts were, whatever. I had a gigantic cardboard box and as I removed it I laid it out in the form of the engine so I knew where it all went. You don't want to get this thing back together and realize you didn't plug something in or have an extra part lying around. Whenever you start to get frustrated, walk away, have a beer, come back later with a relaxed mind, otherwise all that doubt is going to come and get you. Too many times I wondered if I should have paid someone or whether I could even get it back to running again. Believe me, if I can do this, you can too!

1. Disconnect battery, 13mm socket, remove black cable, then red cable
2. Pull off cover, 10mm socket ¼ turn
3. Remove air box, sensor "a", 4 clips, intake circle clamp



a.



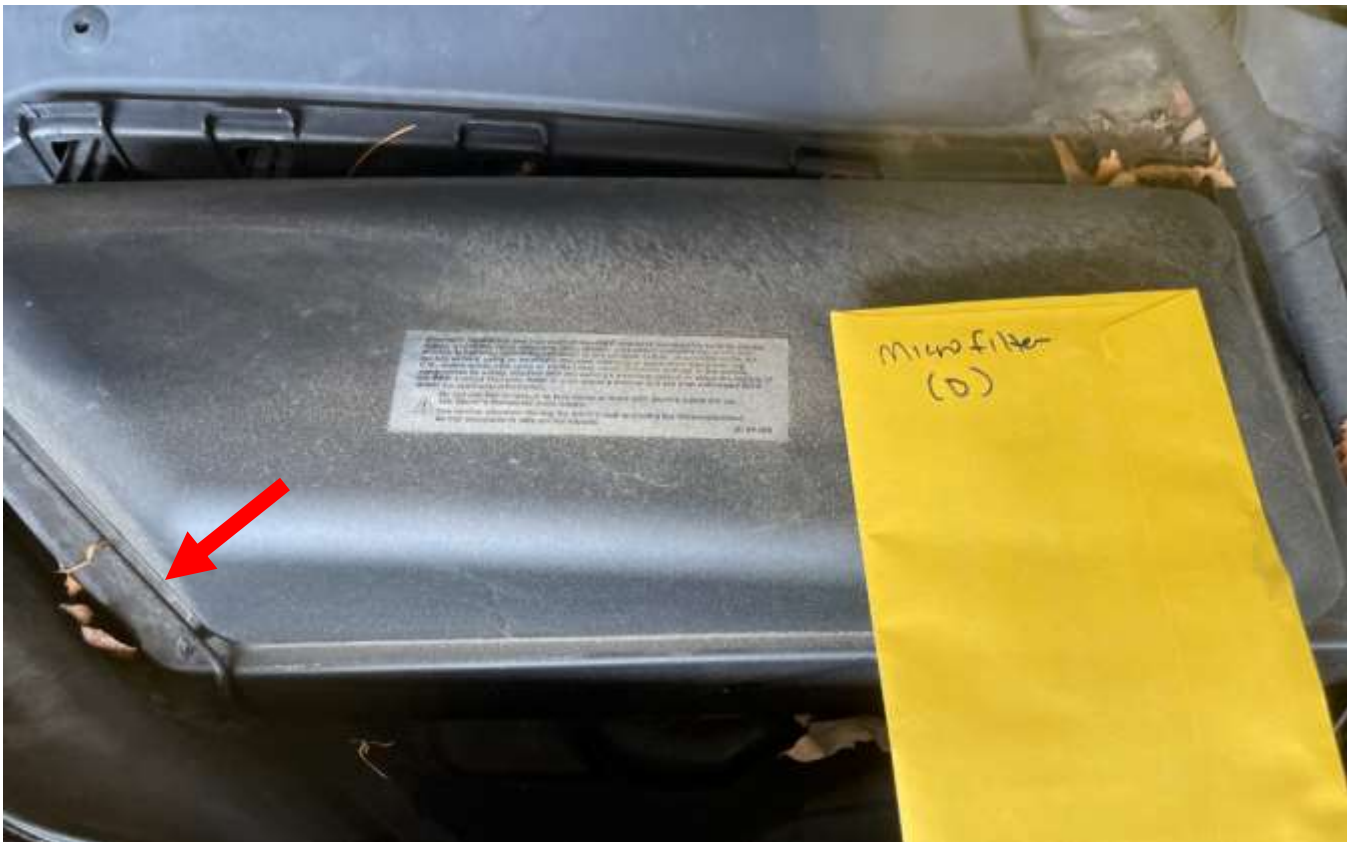
b.

4. Remove weather strip

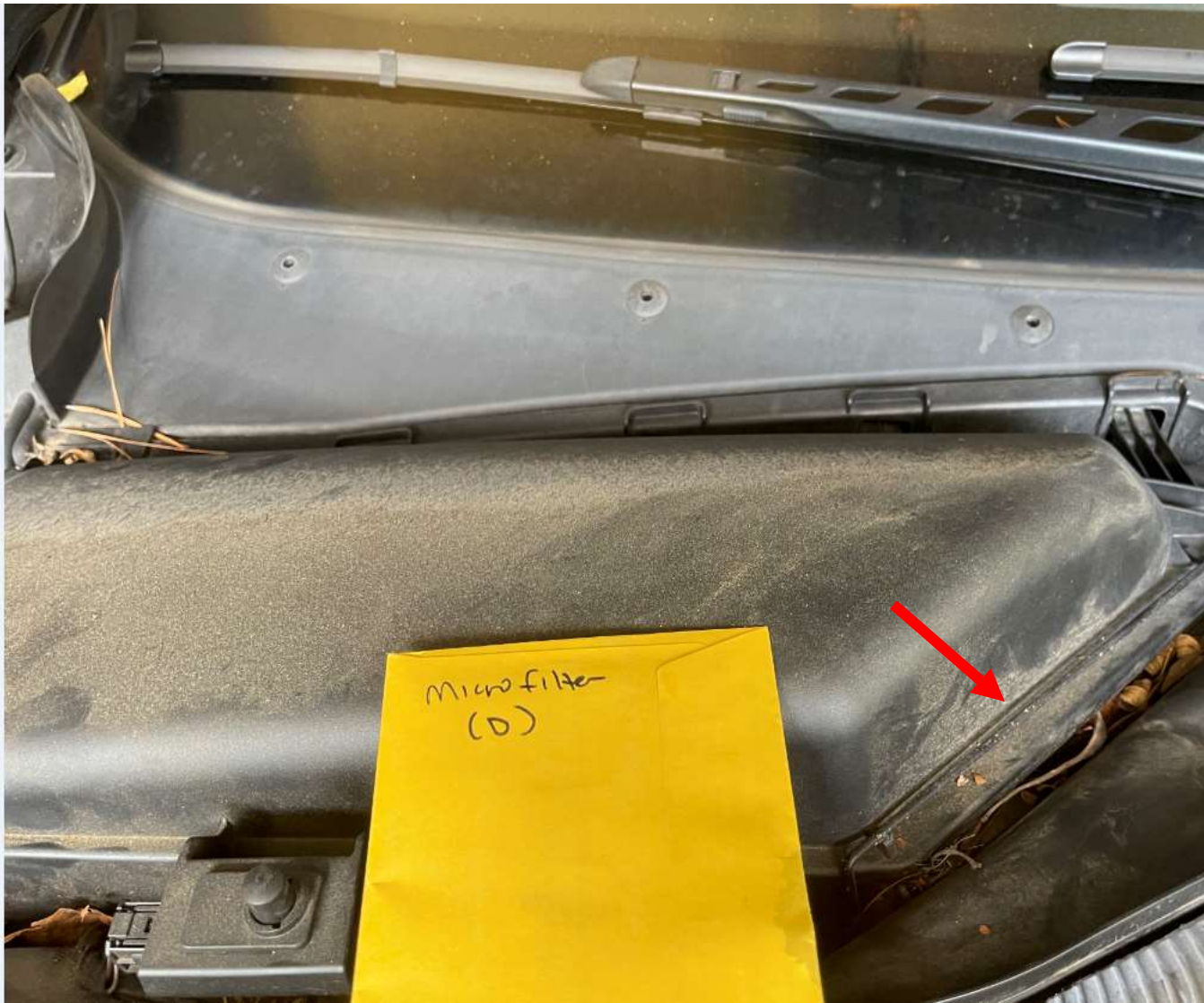


a.

5. Remove microfilter assembly ("D" x 2), just pops up



a.



- b. unclip air ducts, Pull up and slide right) "C"
- c. 13mm socket, quarter turn (7)



- i.
- d. Unclip sensors, 2 x passenger side
- e. T25 Torx removal each side

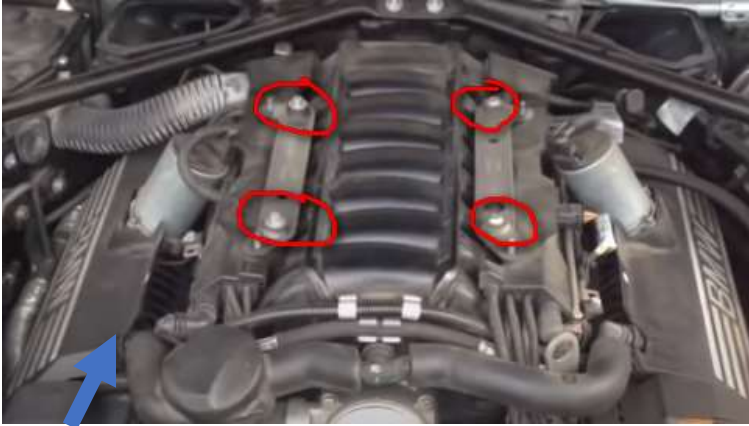


- f.
6. Remove cross bar (T45, #4)

7. Remove these plate things

- a. T30 x 4, passenger side ones have nipples

b. Right side has two plates, note the order for reassembly.... Engine, then electronic box, small plate with 2 T30 bolts, then final plate on top with cover bracket

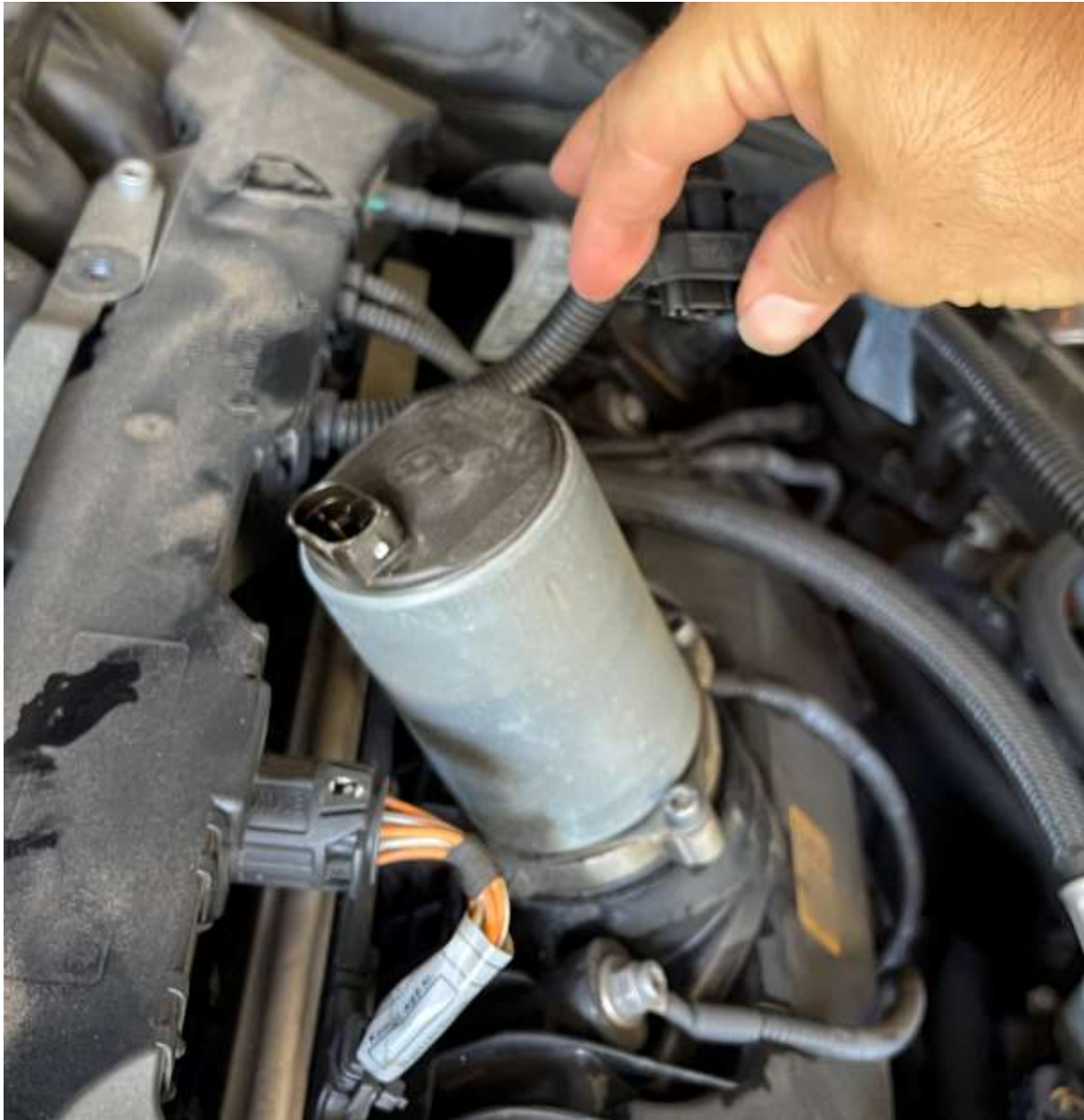


c.



d.

8. Unplug valvetronic motors both sides



9. Remove sensors (3). These have covers on top... don't lose these like I did, BMW cannot replace them individually. I covered with HVAC tape for weather protection



a.



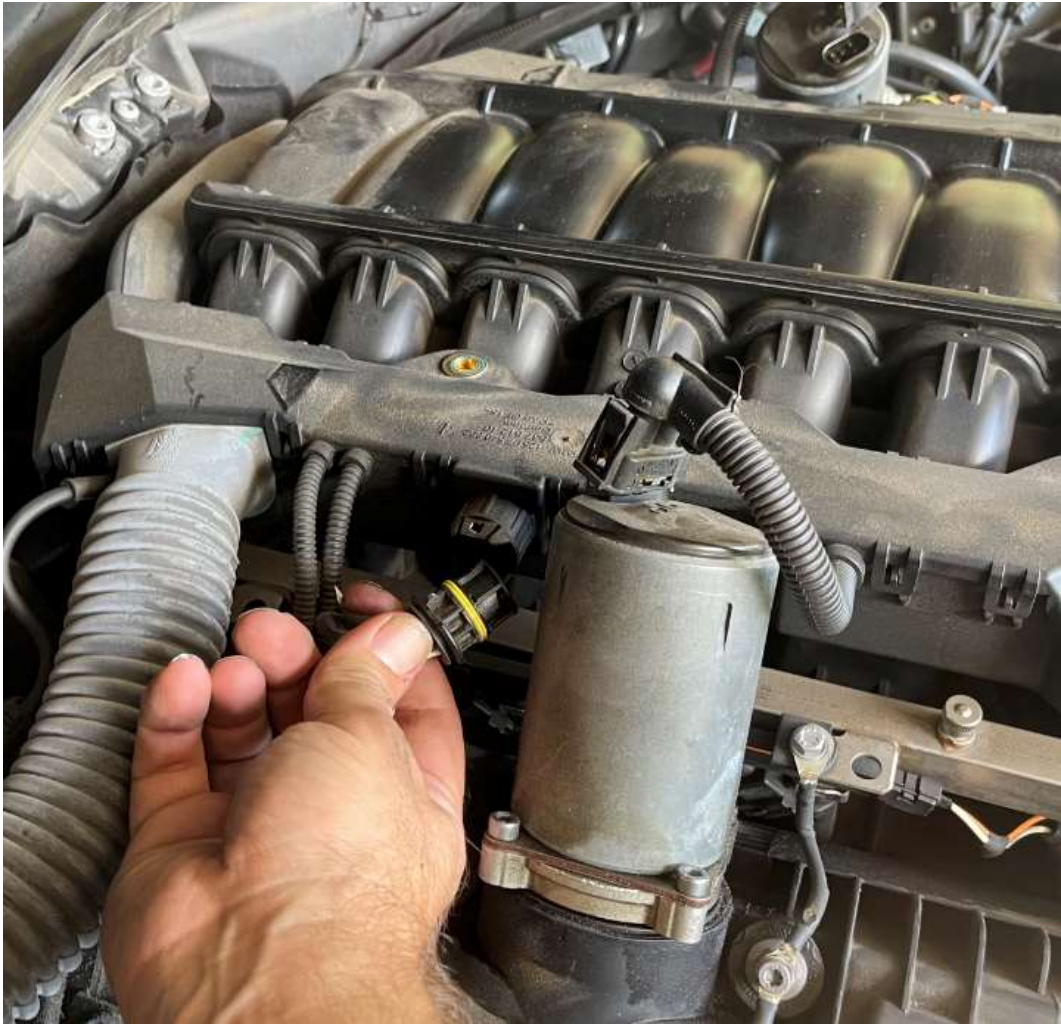
b.

c.

10. Unplug injectors



a.



b.

11. Pull hoses. Squeeze and pull... these are kinda stupid



a.



b.



c.

d. Move these



e.

12. unplug lines/sensors



13.

14. Move wire bundle out of their retaining clips





15. Unplug thermostat and water pump connections



16. Remove valvetronic motors (4mm allen)
 - a. Snap sound is okay, just the cam closing? When replacing these, I screwed in until they sat slush and then locked in



b.

17. Remove Ground lines (both sides)



a.

18. Remove fuel line, Remove plastic gray lock



a. Push in thumb, pull out



19. Pop up this wire harness for some wiggle room



a.

- b. Remove supports for hood to allow it to raise higher

20. Some videos recommend tracing the wire harness lines and removing all those sensors from difficult to reach areas. I agree this would make the job easier, but I couldn't figure out how to reach/remove them. I instead removed the fuel rail

on passenger side only, 2 bolts. This gave me all the wiggle room I needed.



21. Remove manifold flange nuts, 5 each side (11mm). Be careful not to lose them



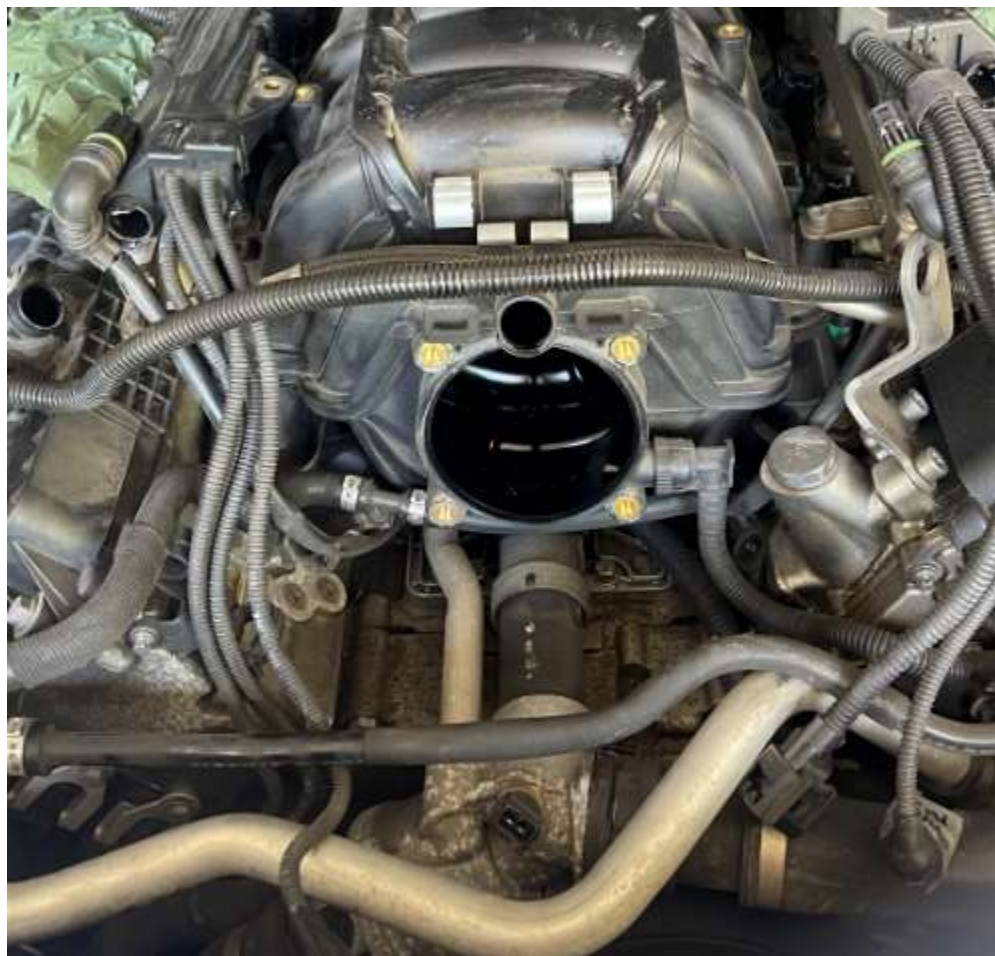
a.



b.

22. Remove 3 connectors behind the manifold

23. Remove throttle body (4 bolts, 10mm)

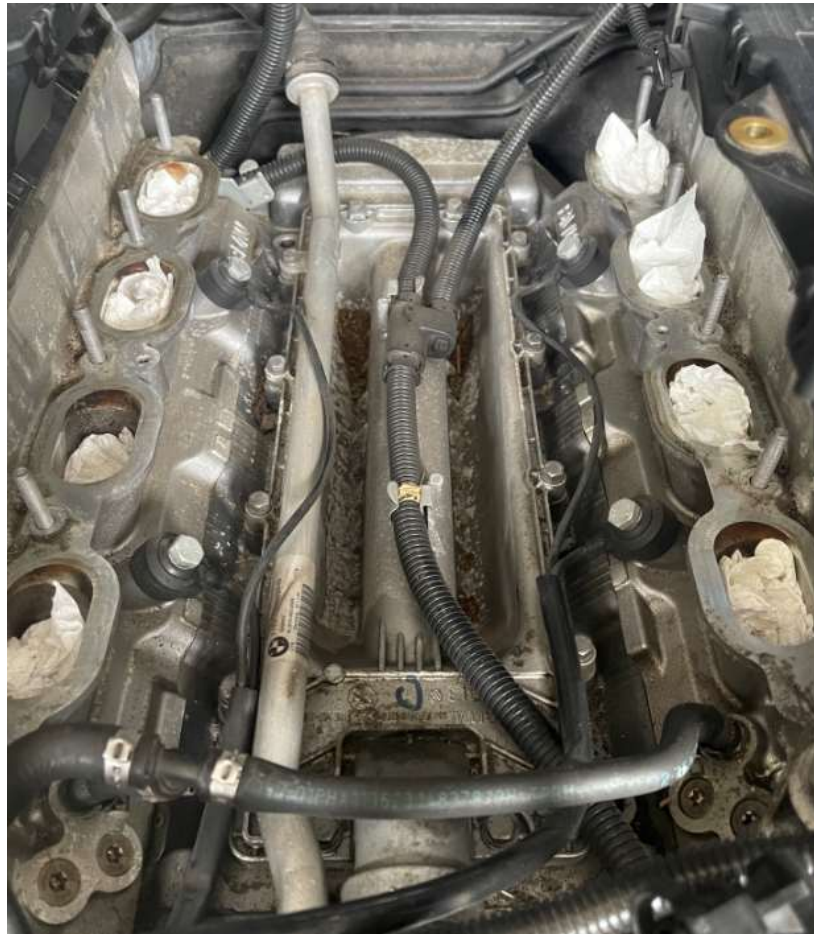


24. Unplug purge valve

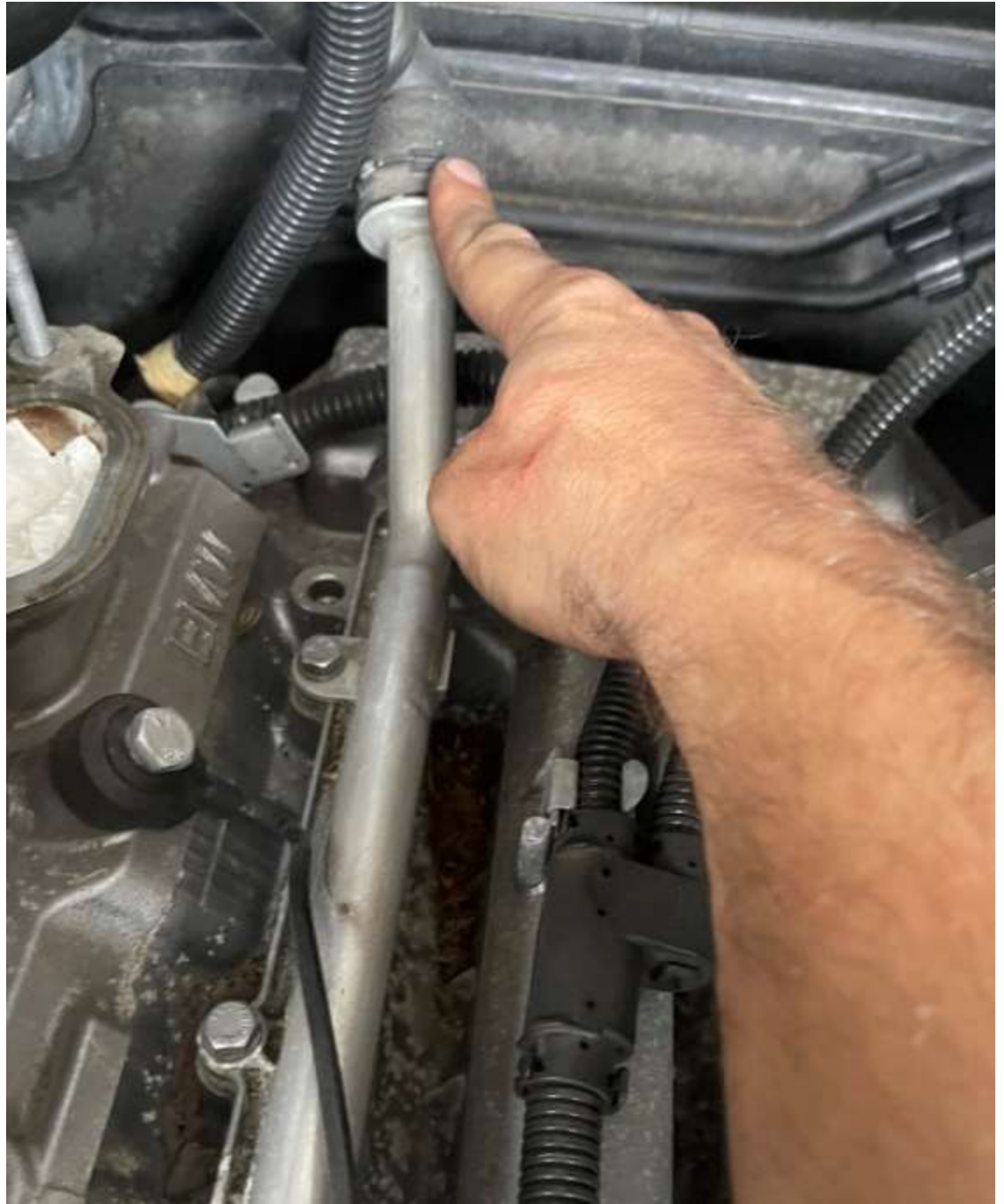


a.

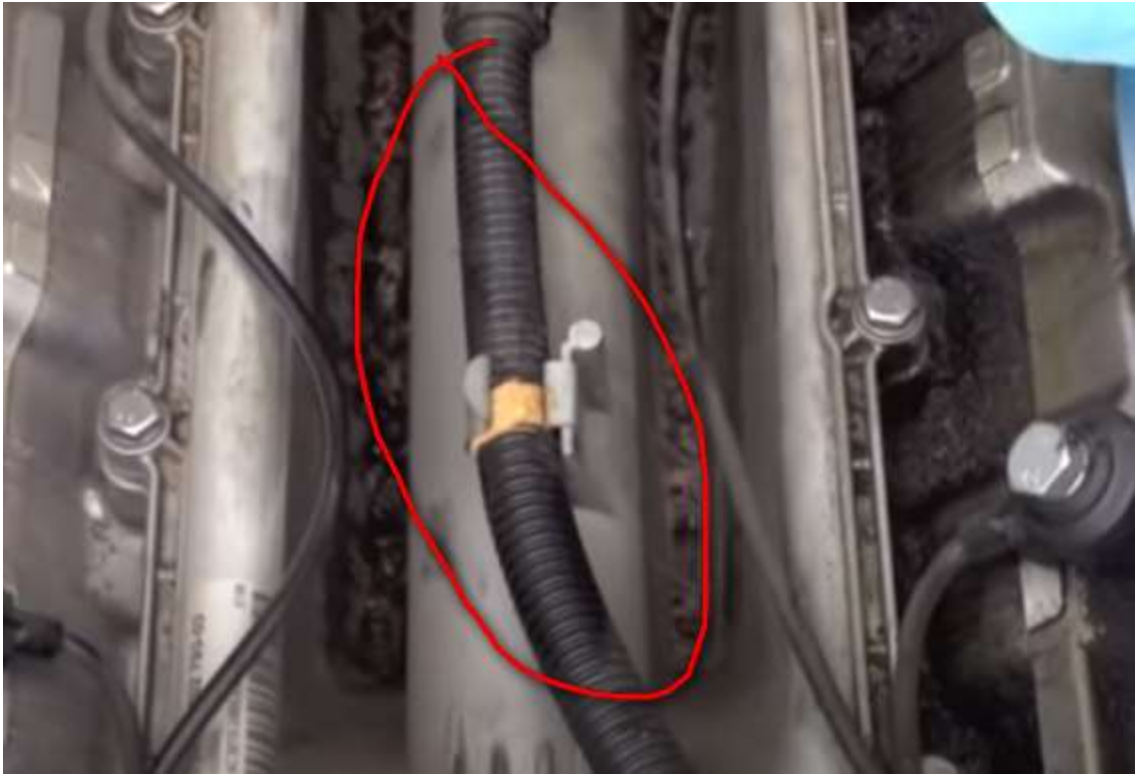
25. Remove 3 sensors behind the intake manifold.... With the fuel rail off I was able to get the manifold up off on the bolts and forward enough to get behind the manifold and remove the 3 sensors. I don't have pics of this, 2 were push in clip and pull, one I think I had to lift the tab. With the intake forward though you can see them and figure this out.
26. Clean area around intake ports and cover up



27. Remove water pump if changing
28. Remove pipe, Simple retention clip, undo with screw driver and disconnect



29. Unclip harness from the valley pan



a.



b.

30. Remove bolts to valley pan (10mm) 12 I believe

31. Lift valley pan and soak up coolant



32.

33. Cut the pipe with metal blade at an angle, not straight. I used a zip saw with a bi-metal blade and a piece of wood to protect all the engine components when it “jumped” out



a.

34. Pull out
35. Clean out old gaskets and clean area well
36. Install new seals.... This one sucked I'm not going to lie. I don't have pics, but follow the directions. Once I scrunched up and got it sorta expanded, I used my pick set to tuck in all the edges of the back of the seal. Then with a marker cap, something very rounded and wont damage the seal, I pushed in the front set
37. Install new pipe. Again, this sucked. What I did do was used about half of the lubricant this section alone, you need this to be super lubricated. I used an online video for how to install. Google "DIY 2002-2008 bmw 745li, 750li coolant transfer pipe replacement, e65, e66, e63, e64, n62 engine" by ZEITEN. This guy talked at a level I could follow.



38. Once in, its just reassembly in reverse order
39. I filled one gallon of distilled water to ensure no leaks. Then started the engine and ran for 2 minutes looking for the same. Then added a gallon of undiluted coolant, ran for 5 minutes and actually took it for a drive around the block to allow all the systems (power steering, etc) to come online and stop giving alarms.
40. When restarting the bimber, you're going to get a lot of alarms initially, don't freak out. There were all kinds of

horrible noises and hesitation starting for the 1st two or three starts while I tested for leaks.

41. Then added 50:50 mix until topped off. The V8 has an auto purge system while running it so this is how you get it topped off.
42. My radiator fan ran on high for like this entire time. I thought for sure my water pump was bad now too, but after taking it for a longer drive (10min) it turned off and is acting normal now. I think it just took time for the pump to get the engine block full of coolant.