

N54 Twin Turbo Oil Filter Housing Gasket – DIY

This DIY is only for the Cover Gasket and O-rings, NOT the gasket that is between the housing and engine block.

Technical difficulty -> 2

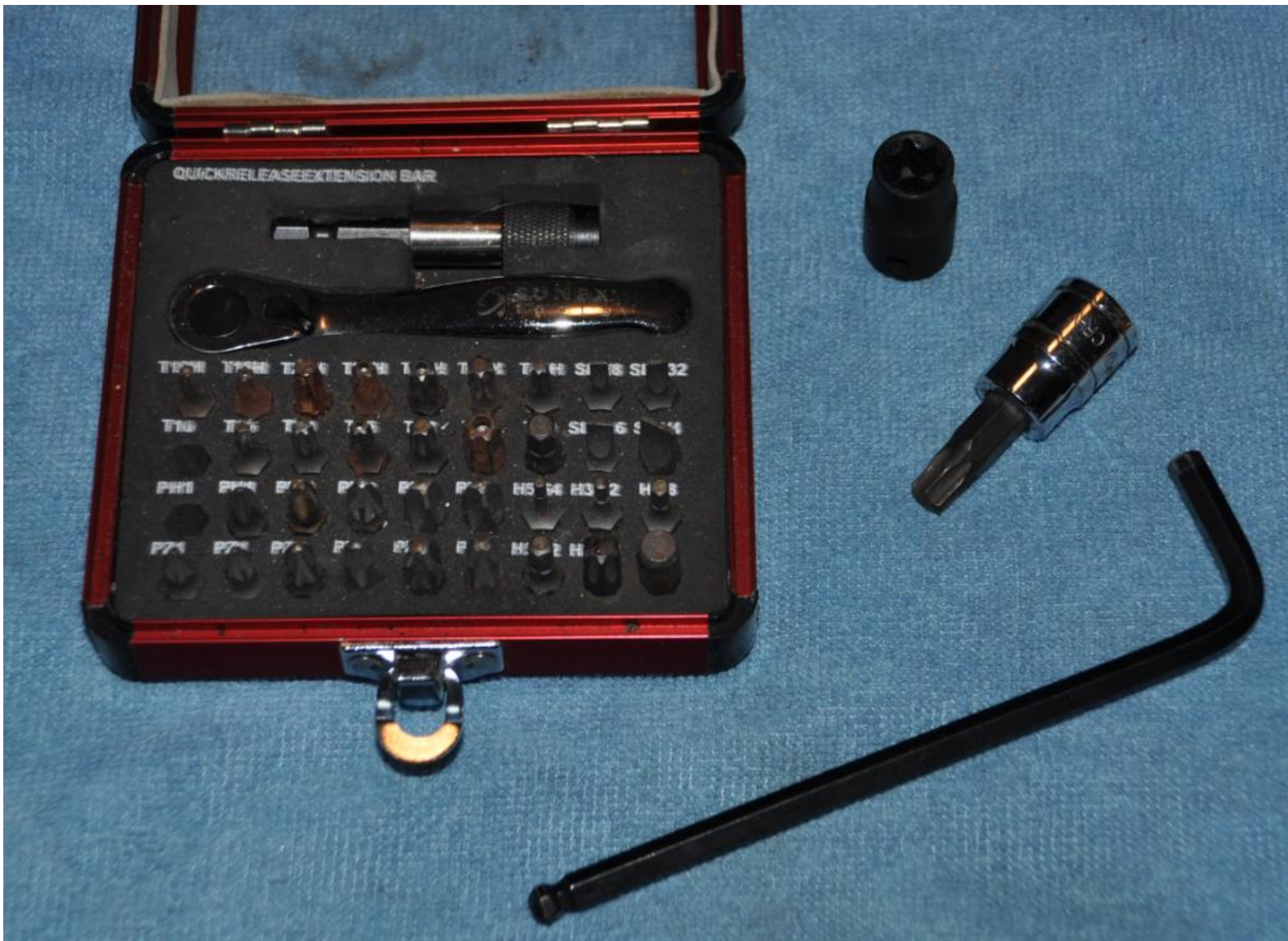
Tools/Items Needed:

- 6 mm hex
- Torx Bit
- Torx Sockets
- 3/8 Ratchet and extensions
- Pick or similar tool to remove old gasket
- Rags and paper towels for cleaning
- Spray cleaner – E.g. Purple power, brake clean... this will allow you to really clean up the old parts.

NOTE: The Sunex 9726 works really well to gain access to the PITA 6 mm bolt under the oil lines. This little tool kit is one of my all time favorites!

Sunex 9726 Mini Ratchet and Bit Set, 38-Piece on Amazon.

http://www.amazon.com/Sunex-9726-Mini-Ratchet-38-Piece/dp/B000XW4C8Q/ref=sr_1_2?ie=UTF8&qid=1389617411&sr=8-2&keywords=sunex+tools



Common problem of oil standing at the base of the filter housing.

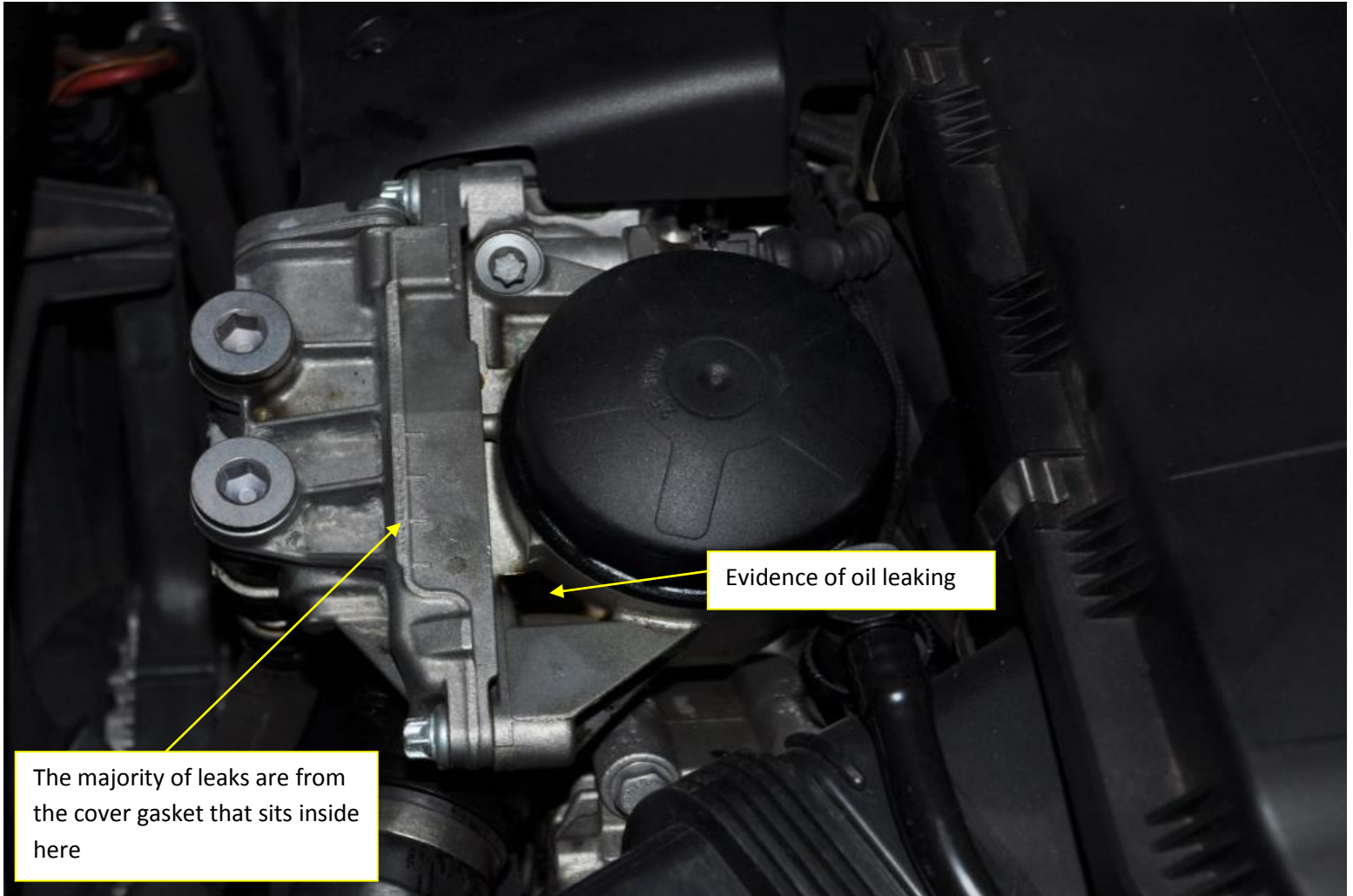
PART NUMBERS: I intentionally left the part numbers off the DIY just in case there are any difference between the year models. I recommend that you go to your dealer and they can pull using your VIN.

Cover Gasket (1) ~ \$15.00

Oil Line O-rings (2) ~ \$2.00

Housing to Engine Block Gasket (1) – This is not included in this DIY but if you need to replace it, it seemed strait forward.

I recommend that you confirm your o-ring gasket and oil cap first. Just to make sure there are no cracks in the cap or damage to the o-ring which could leave you with a similar result.



Remove the ECM Cover and Oil Cap/Filter

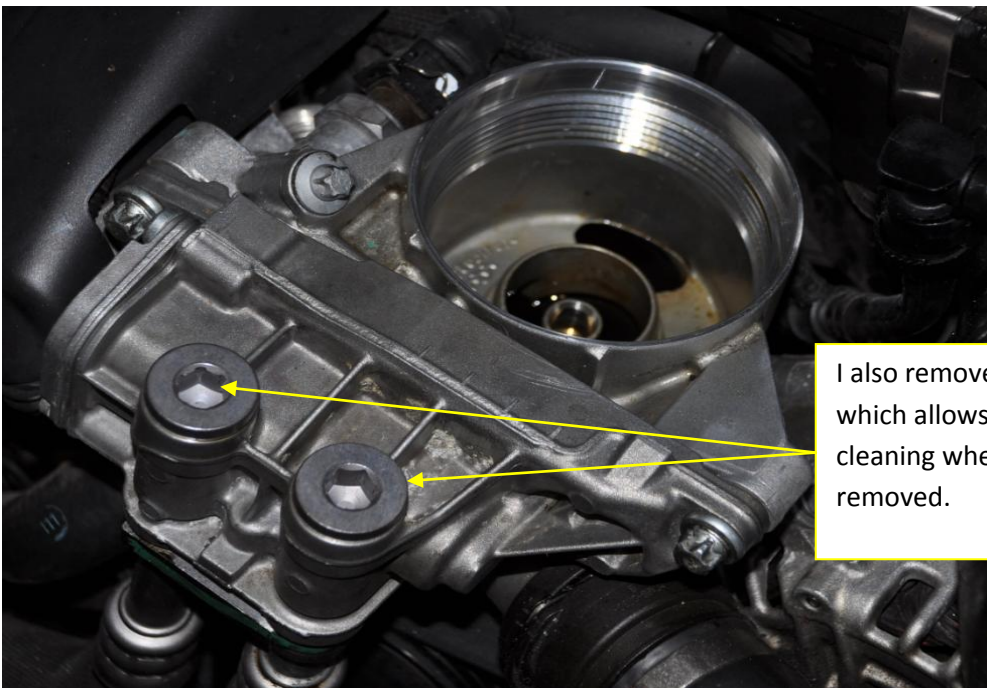
Remove 10 Torx bolts as circled below that secure the ECM cover to the body. There is no need to remove any others bolts or the hood locking mechanism.

Note: All you will be doing here is removing the mounting bolts and moving the cover out of the way a little by sliding it back. This will allow for better access.



Remove the oil filter cap and filter and set aside or place in a plastic bag to prevent contamination.

Clean out the oil inside the housing and wipe everything down. You can use a suction device such as a syringe or even rags to do this.



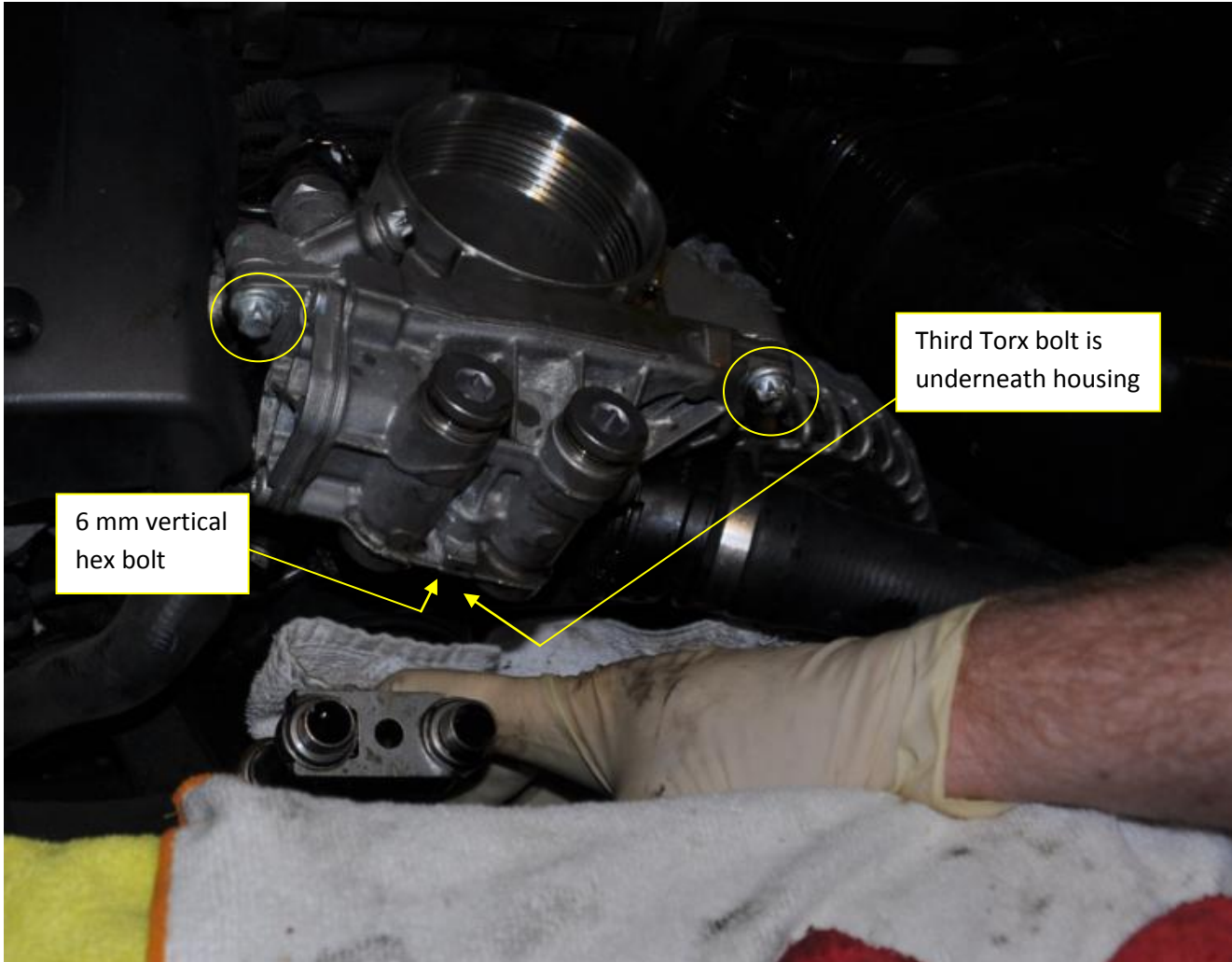
I also removed these two caps which allows for better cleaning when the cover is removed.

Remove the Oil Lines and Cover Plate

First of all, place some rags around the lower side of the housing as shown to catch any oil runoff.

Using a 6 MM hex wrench from underneath the housing and between the oil lines (bottom side) remove the hex bolt and pull down on the oil lines to get them out of the way.

Remove the three housing cover Torx bolts. The top two are circled and the third one is located behind where the oil lines were sitting.



Remove Oil Housing Cover and old Seal

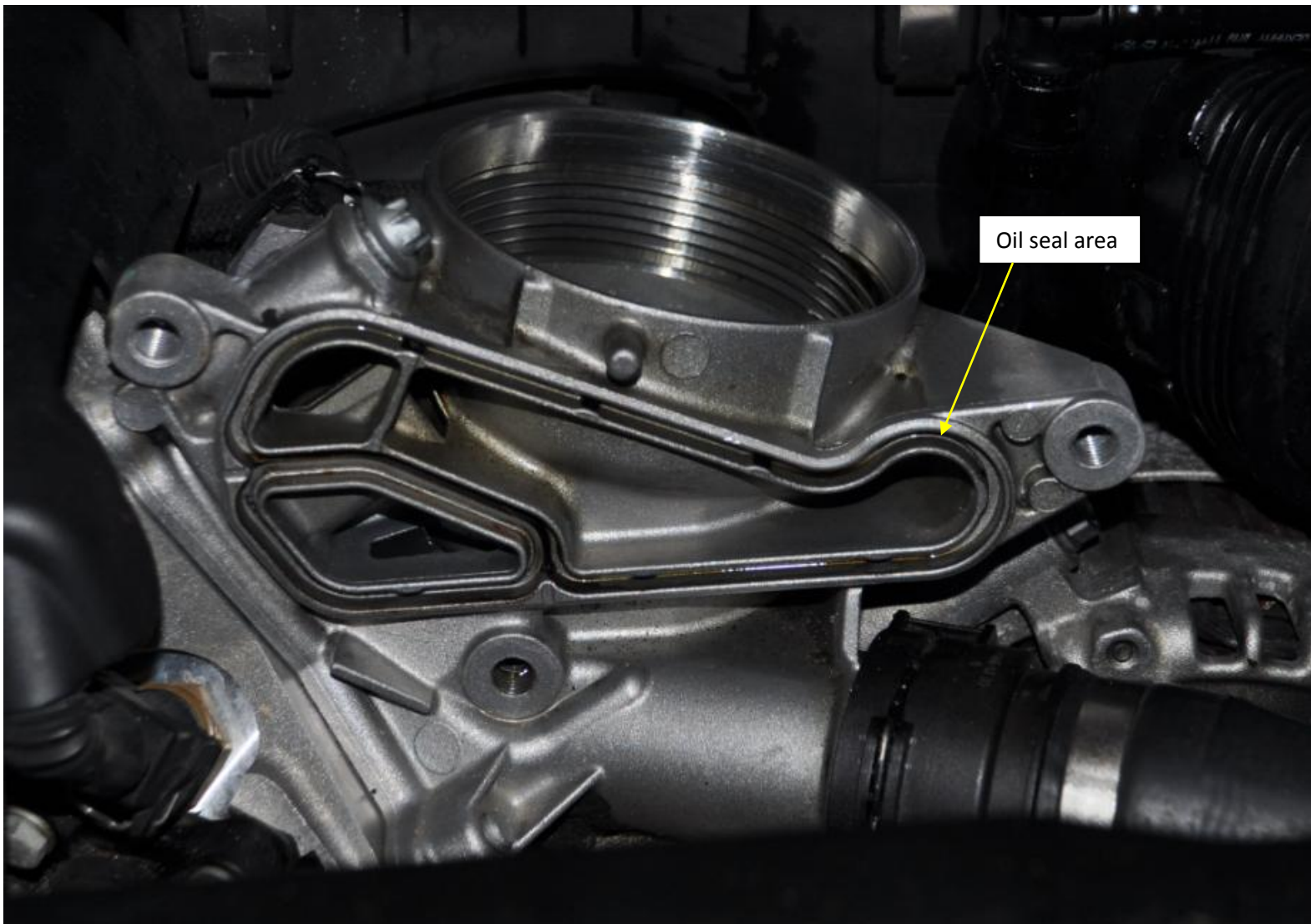
Once the three Torx bolts are removed you can use a flat screw driver or similar device to separate the cover from the housing. Take it easy here and don't cause any damage! With a few light taps the housing should separate.

Remove old seal with a pick and again, be careful not to damage the sealing surface. The old seal will most likely be hard and not so easily removed. Once you get a piece of it out, you can pull or work the rest out with your fingers.

Clean the cover plate and remove all the residual oil. Look inside the two oil line ports of the housing that you removed for the old O-Rings and discard them. If not there, they are probably still on the oil lines, these will be replaced with new ones.

Clean the oil housing mating surface and install the new seal.

Position the oil cover in place and install the three cover Torx bolts. I did not torque these; I only tightened symmetrically and snugged them up well.



Replace the two O-Rings on the oil lines.

Install two new O-Rings on the inlet oil lines.

Gently bring the lines into position and install them in the underside ports.

While holding in place, secure the 6mm hex bolt finger tight or use a device to secure and finish tightening.



Install the new O-rings on the inlet tubes and position down at the bottom of the tube.

Reinstall New Oil Filter and O-Ring for Cap



I reused my old filter and cap o-ring because I will change the oil in the next month. There is a risk of creating another leak at the cap by reusing this. However, I did not get a leak. Just make sure to clean well and lubricate with oil on the ring and inside the housing

Do one last check to make sure everything is tight and in order.

Reinstall ECM Cover



Start engine and check for any leaks. If you have leaks you will need to go back and evaluate your process and determine the source of the leak. I had none!!!