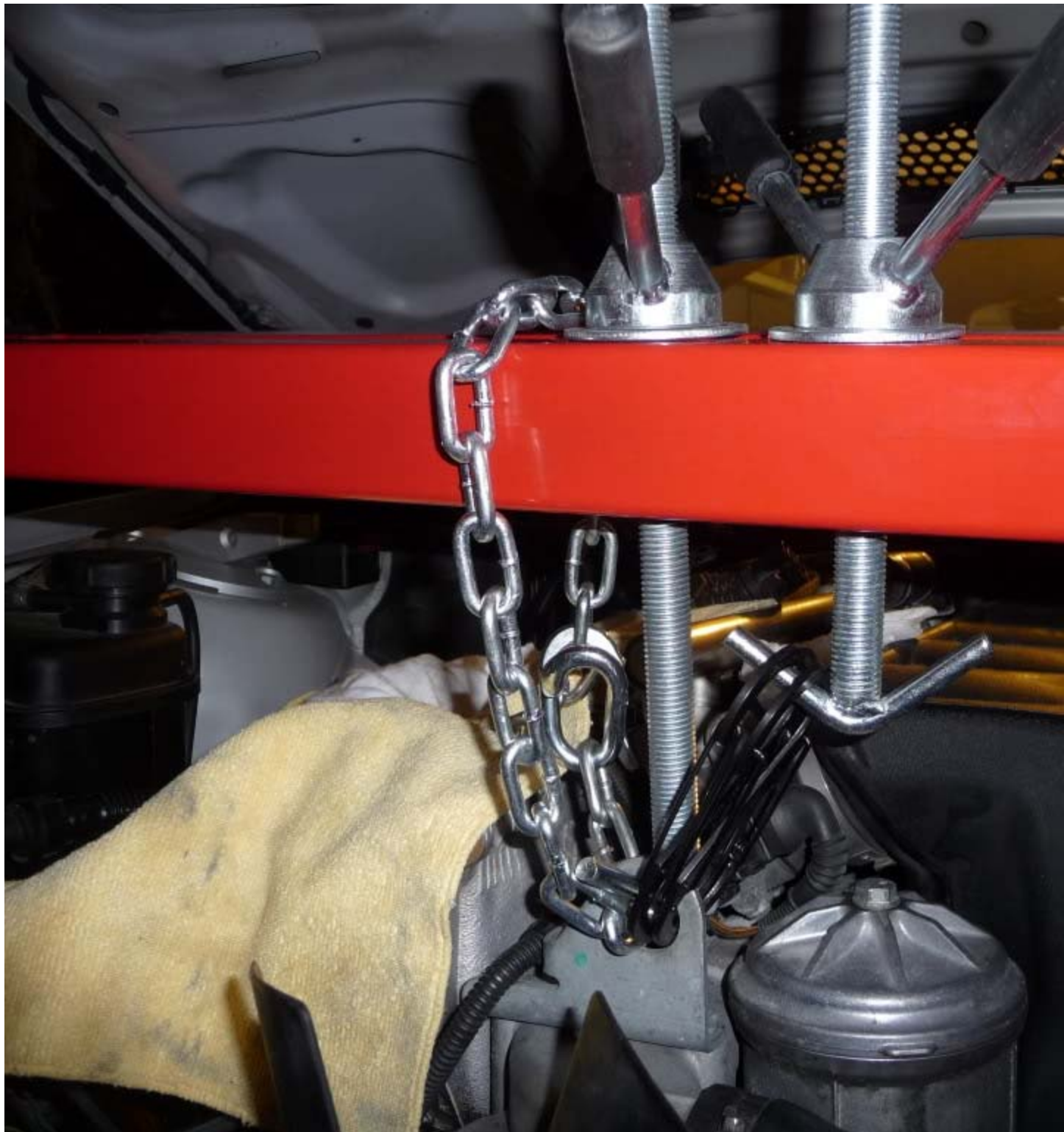




A chain is included in the box. You wrap it around the thermostat or you can insert the hook directly into the thermostat housing
As I don't trust these cheap things very much I attached the second hook for

additional safety





Now, turn the nuts attached to the hooks on the engine so it 'lifts' the engine ever so slightly. Later on we will have to lift it more, I recall around 10mm.

UNBOLT TRANNY BOLTS

There are 3 bolts that go from the tranny to the oil pan. We will remove all of them.







UNBOLT OIL PAN BOLTS HIDDEN BY TRANNY

Here you can see two holes where there are bolts. Remove them. [Ignore the open

part of the oil pan, that isn't necessary]





DISMOUNT STEERING GUIBO/COUPLER

This can be a good time to replace it if it's necessary. This bolt probably has red loctite on it. If it doesn't, when you reinstall make sure to put some on. You do not want to lose steering by accident!

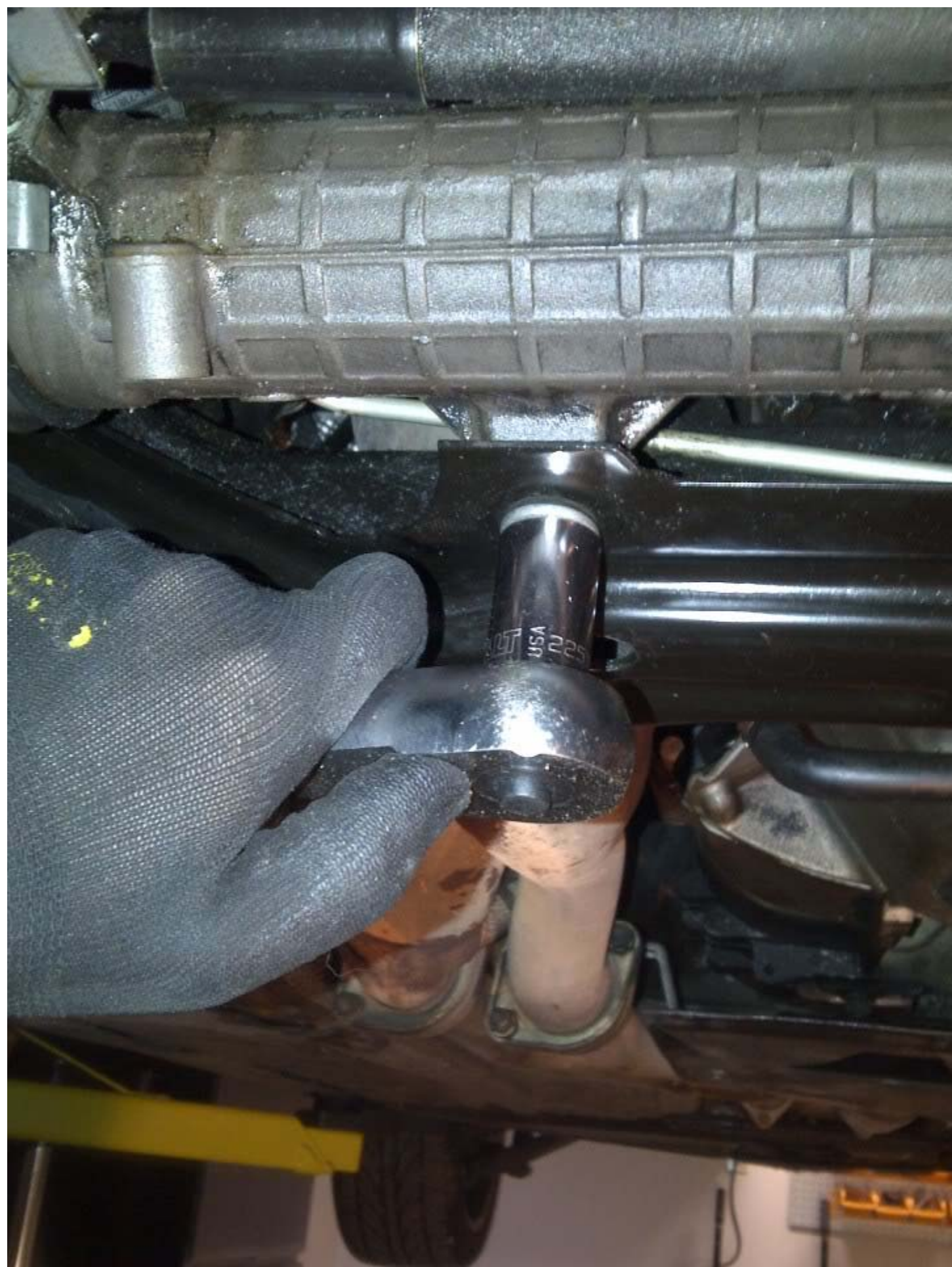
It uses a torx female or you can just use a 8MM socket which also works.

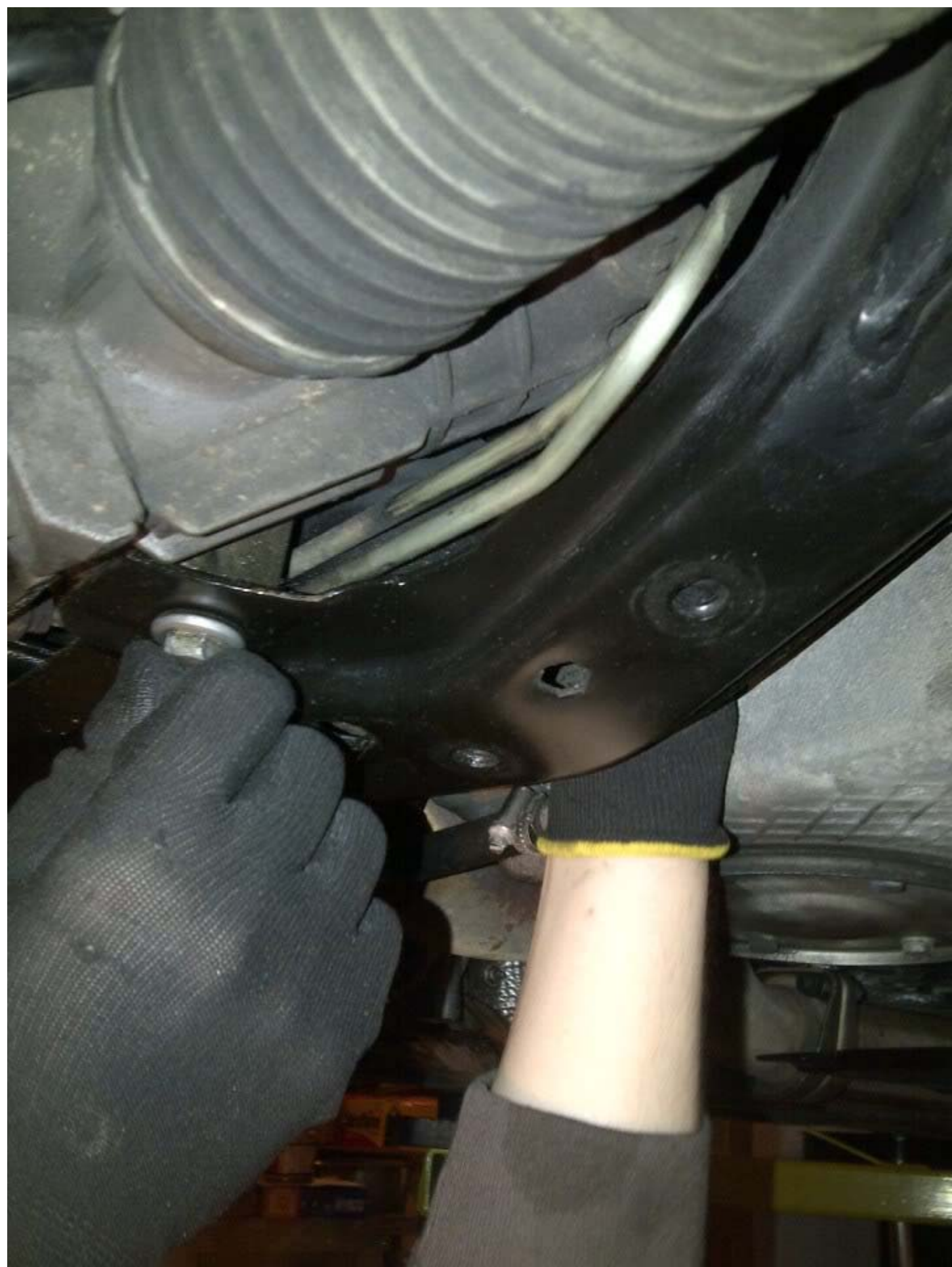


DISMOUNT STEERING RACK - NOT NECESSARY

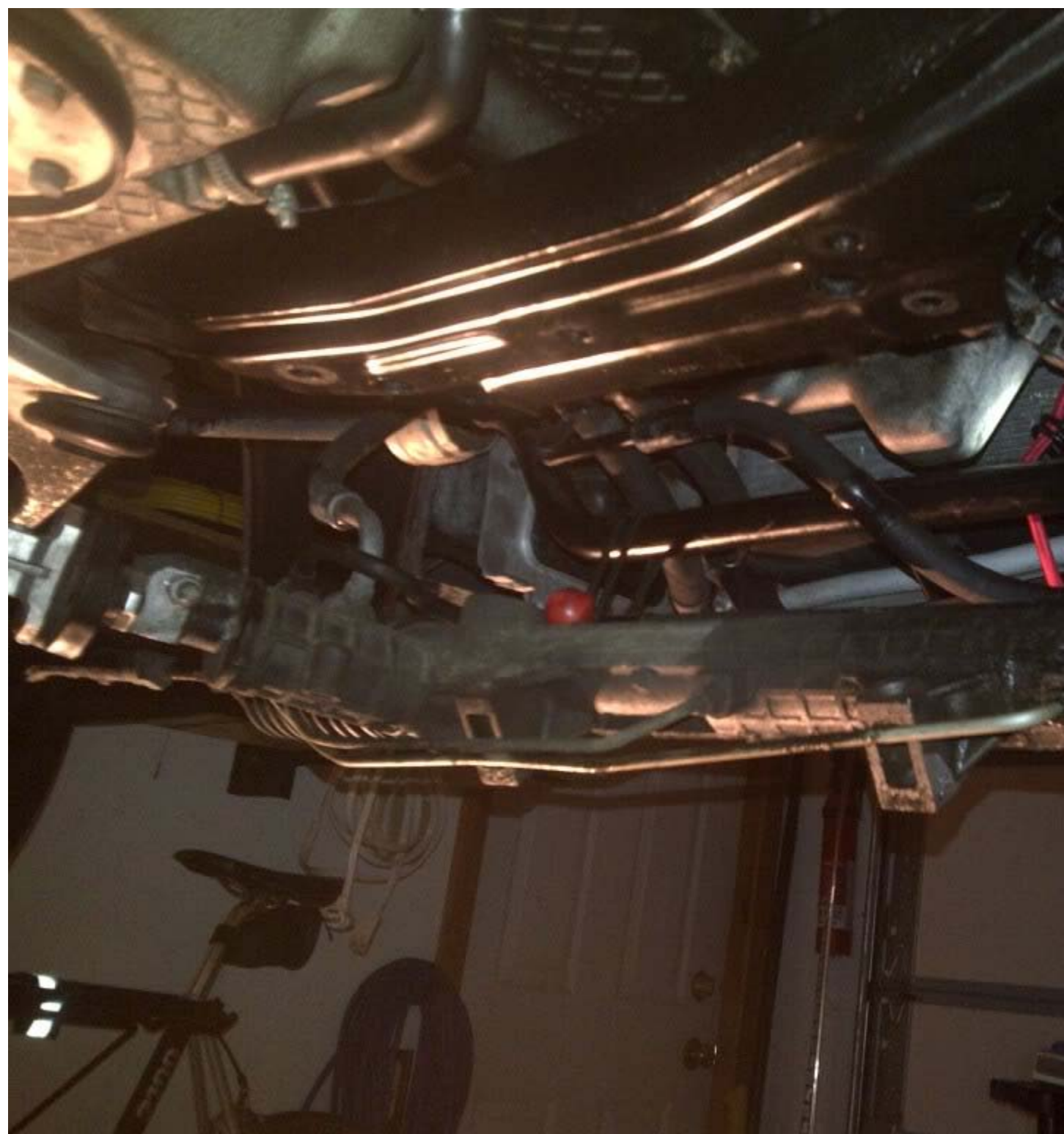
This is held on by two long bolts that you see attached to the subframe brace that go through it and are held on the top by two bolts. You'll need open ended wrenches for the top.

It fits 'inside' the subframe place. Once you remove the bolts you can slide it out.









Once loosened it's still attached to the PS pump and reservoir so it won't just move out of the way happily.

Placing undue pressure on the hoses that connect it to the car will make your steering rack very unhappy. I don't recommend it as those pipes are expensive. Instead, unbolt the various banjo connectors which you see are causing the problem. PS liquid will leak out.

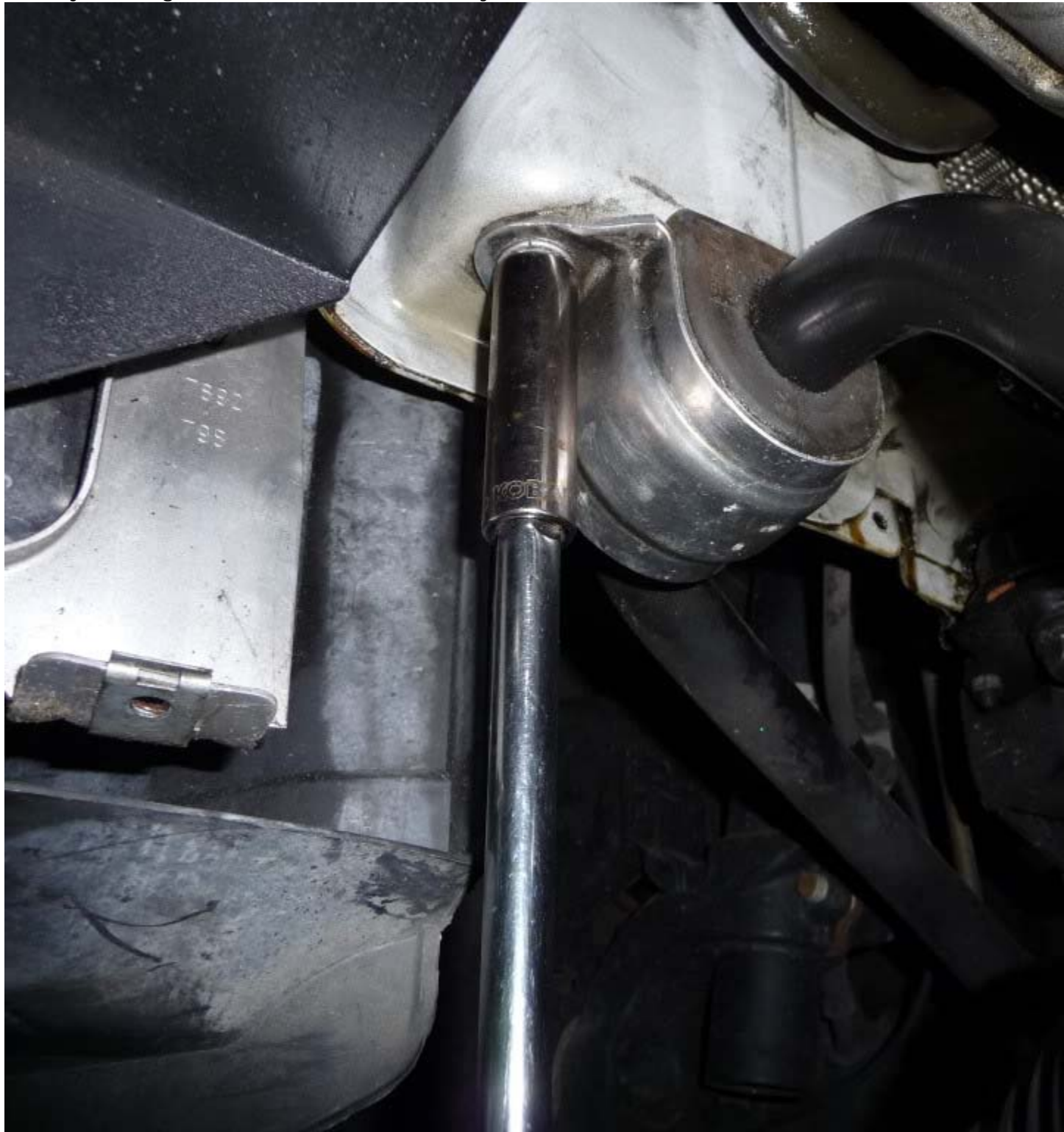


DISMOUNT FRONT SWAY BAR

You don't have to remove the endlinks, just undo the 2 bolts per side that hold it to

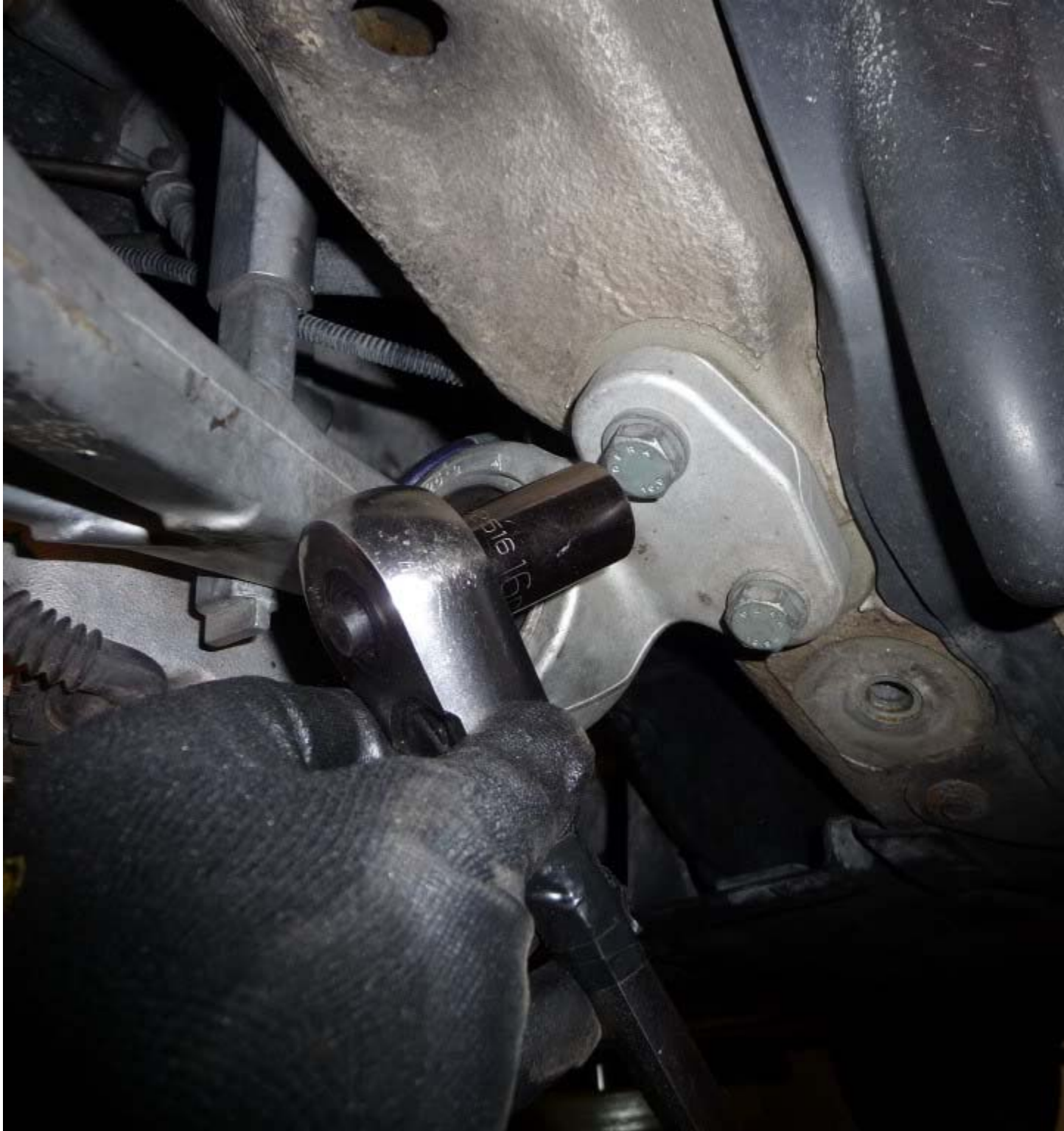
the chassis.

It will just hang lower as it's still attached by endlinks



DISMOUNT FCAs - NOT NECESSARY

It isn't necessary to dismount them fully, just these bolts on each side like if we were replacing bushings. Not a bad time to do this BTW



REMOVE SERPENTINE BELT

Next we remove the serpentine belt that attaches to the PS pump.

To do this, use a torx head to de-tense the tensioner and remove the belt.



There we go



DISMOUNT PS PUMP + ASSOCIATED HARDWARE

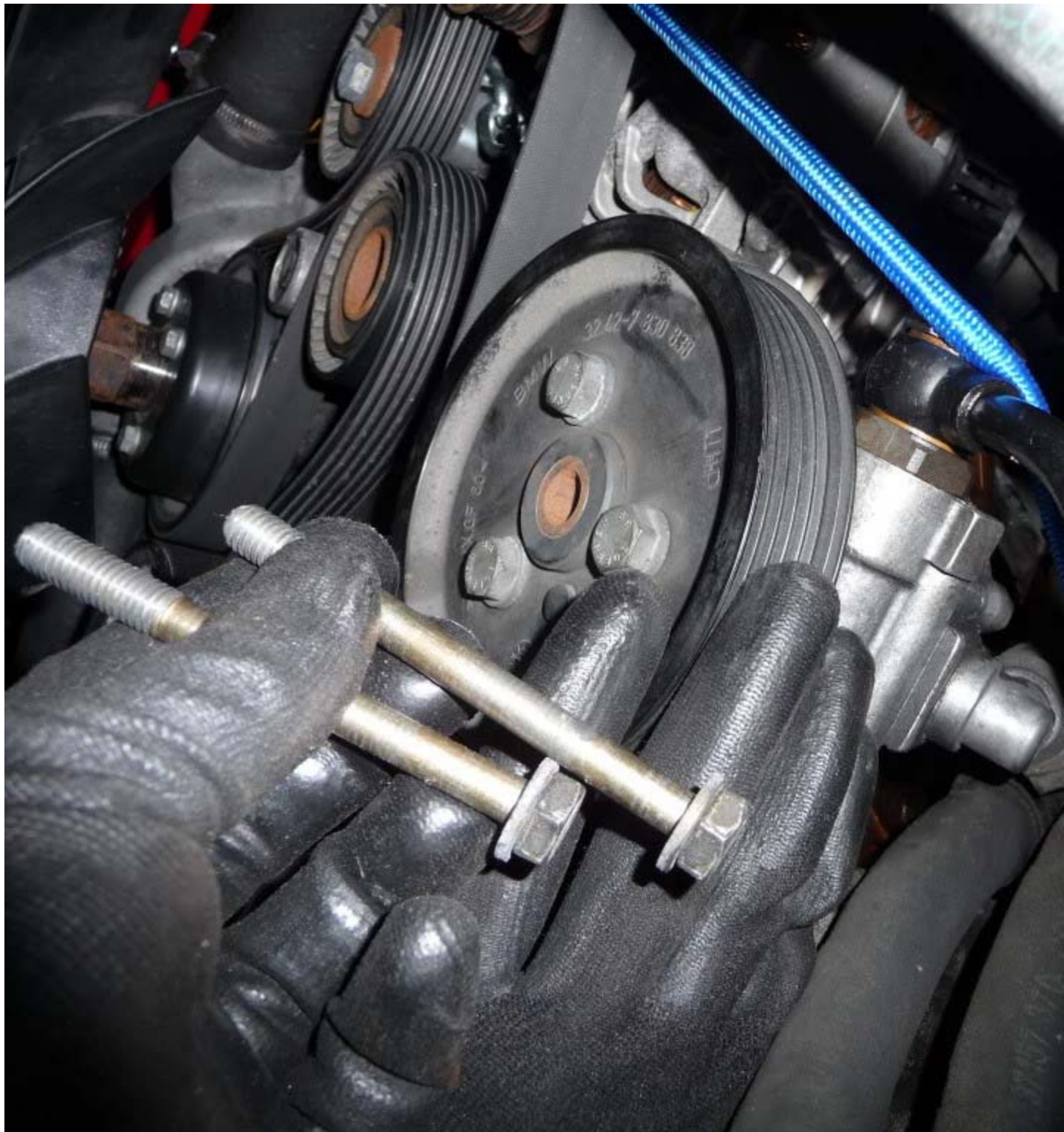
This is necessary as there's an oil pan bolt which can only be accessed once this is removed.

The pump is held on by two bolts which are on its top side. Notice those bolts are 8.8. What does this mean? Don't tighten them like if they were a component of a bridge when reinstalling.

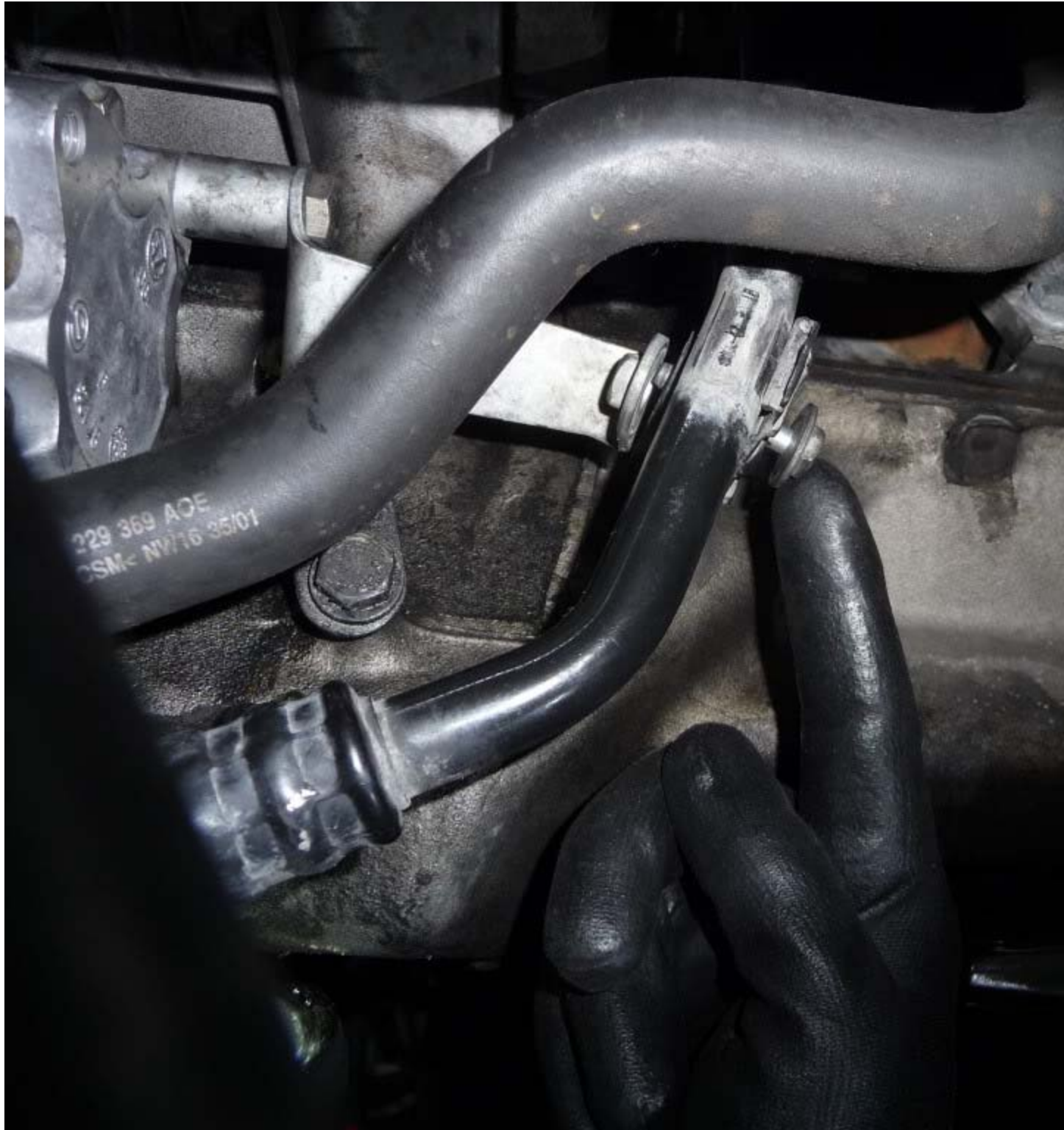




When you remove both bolts it will fall down and place undue stress on the pipes.
Disconnect the banjo bolts to avoid destroying your PS system.
I also held it up using an octopus which I attached to the top of the radiator



You can also dismount the this part, which holds one of the PS lines in place and also conveniently blocks access to a couple bolts on the engine pan.



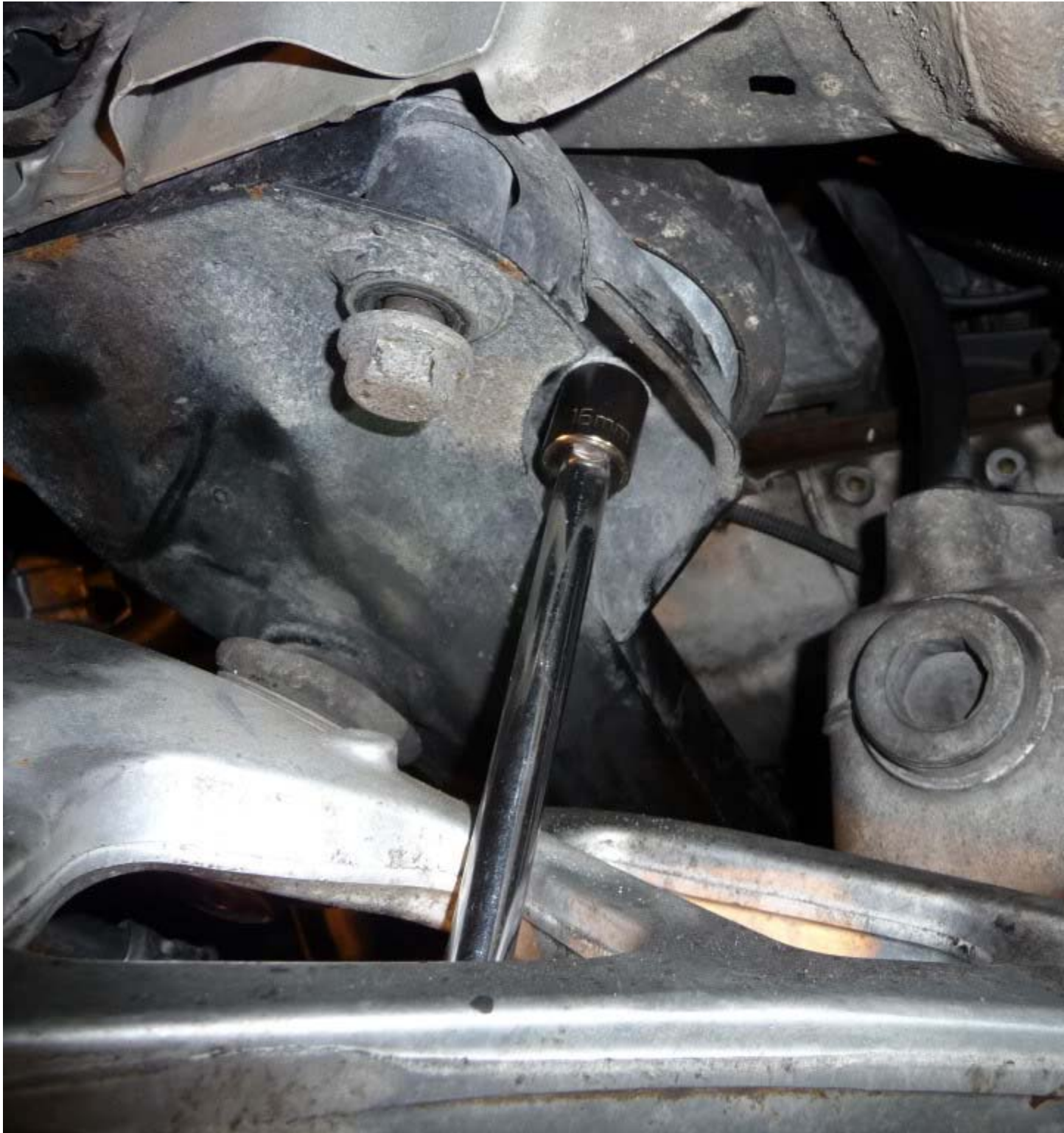
DISMOUNT SUBFRAME BRACE

This is why you need the engine support. Once this part is out the engine would be

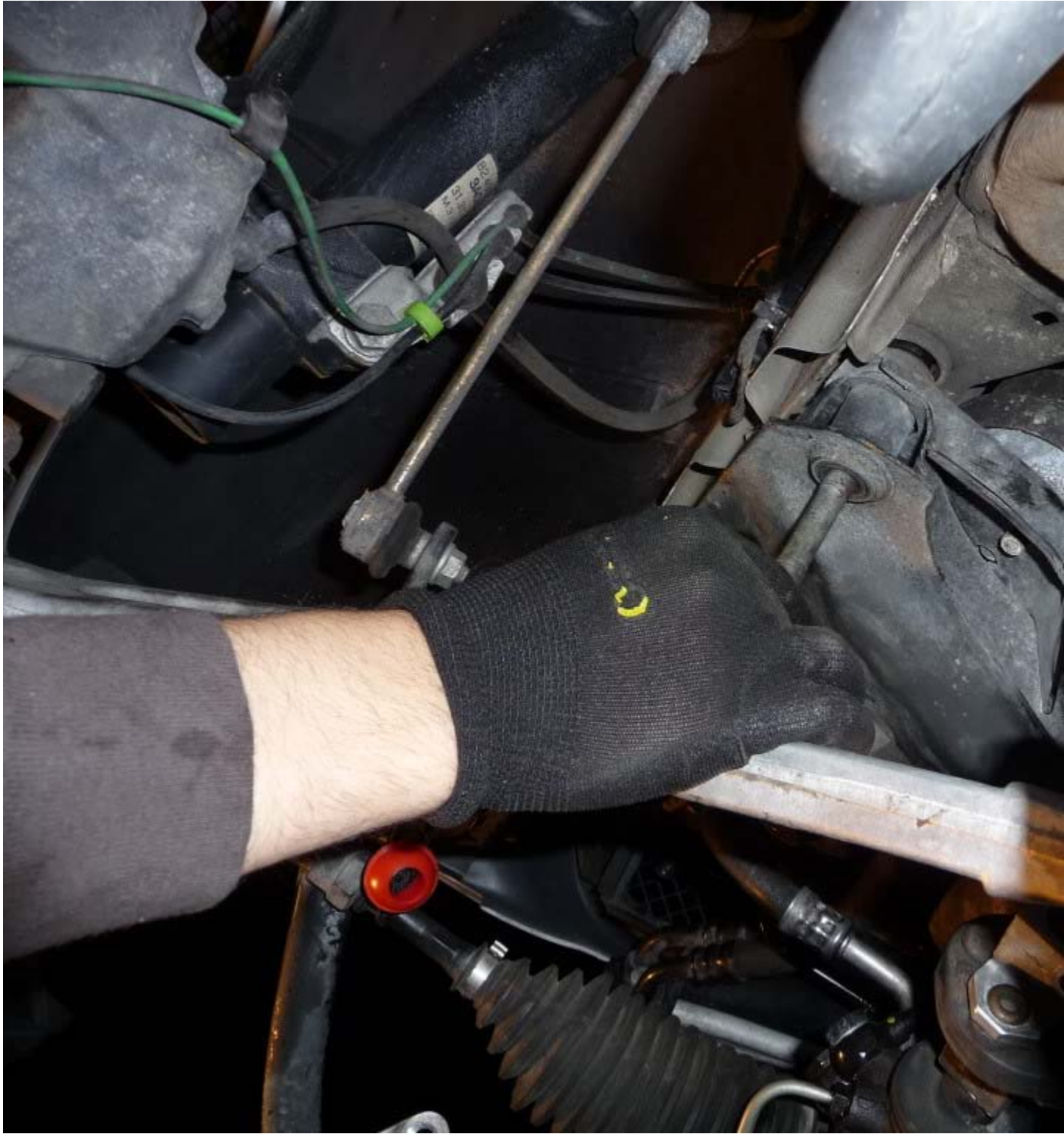
relatively free to drop to the floor. I say relatively because it's still partially attached to the tranny.
It's held on by two really fat bolts per side.



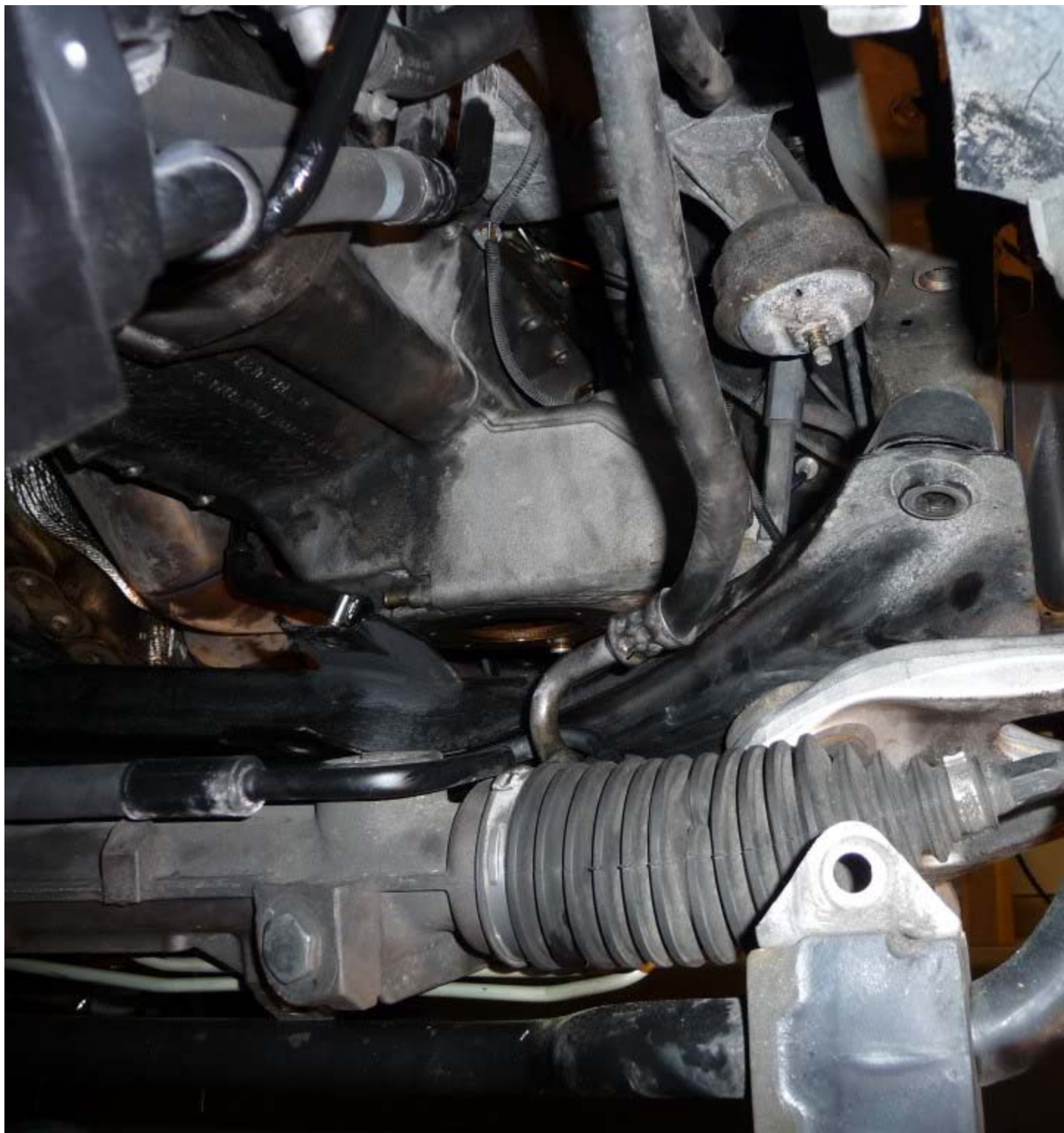
Additionally, there's another smaller nut on each side which connects to your engine mounts. Remove them. This way the engine mounts will stay connected to the chassis.



Once the small nut is removed, completely remove the two big bolts on each side

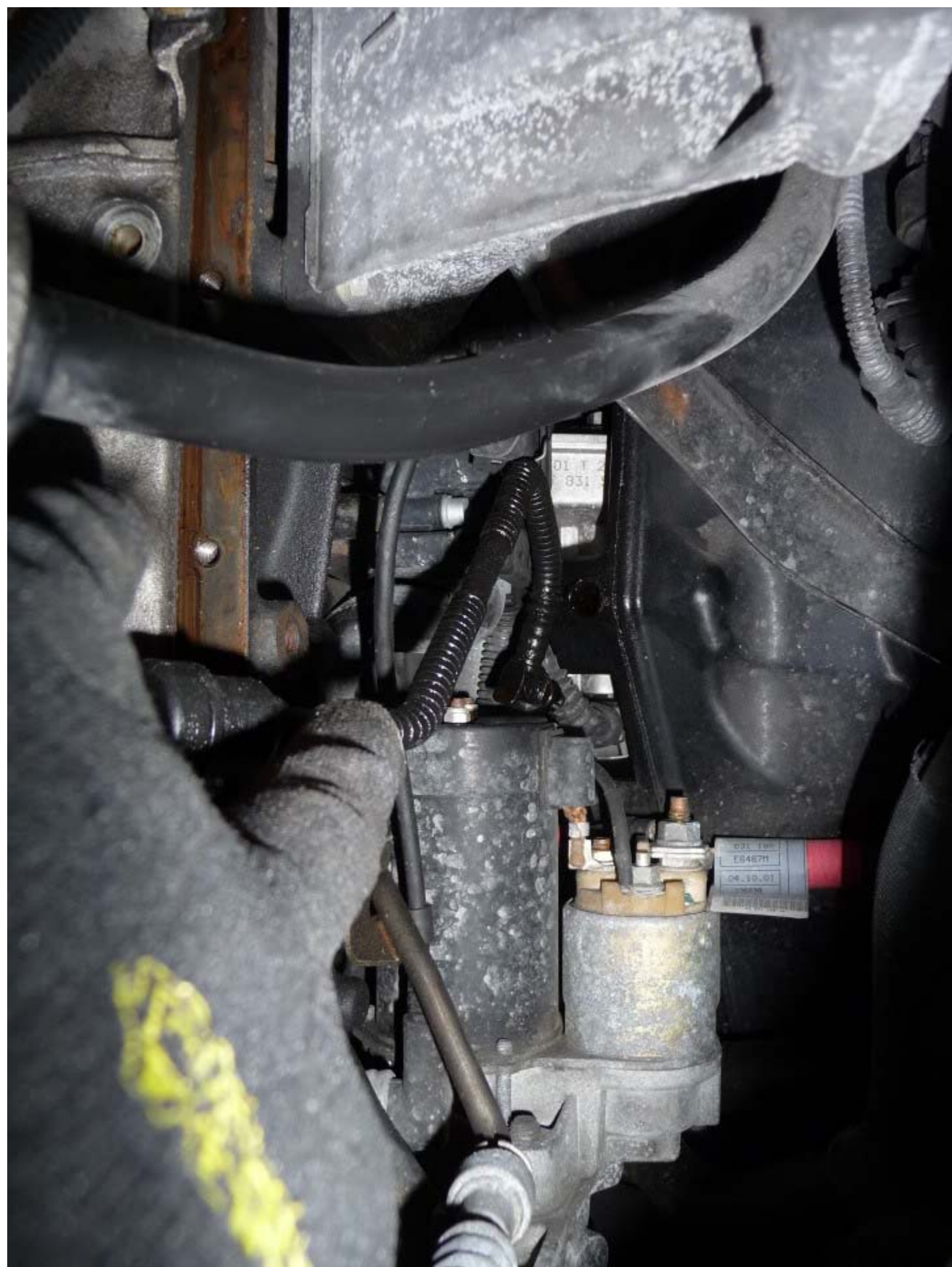


The subframe will come right down



DISMOUNT OIL BREATHER (AKA pipe that goes from the manifold to the oil pan)
You just pop this off both sides. Mine looked like it wasn't happy, so I bought a new

one.

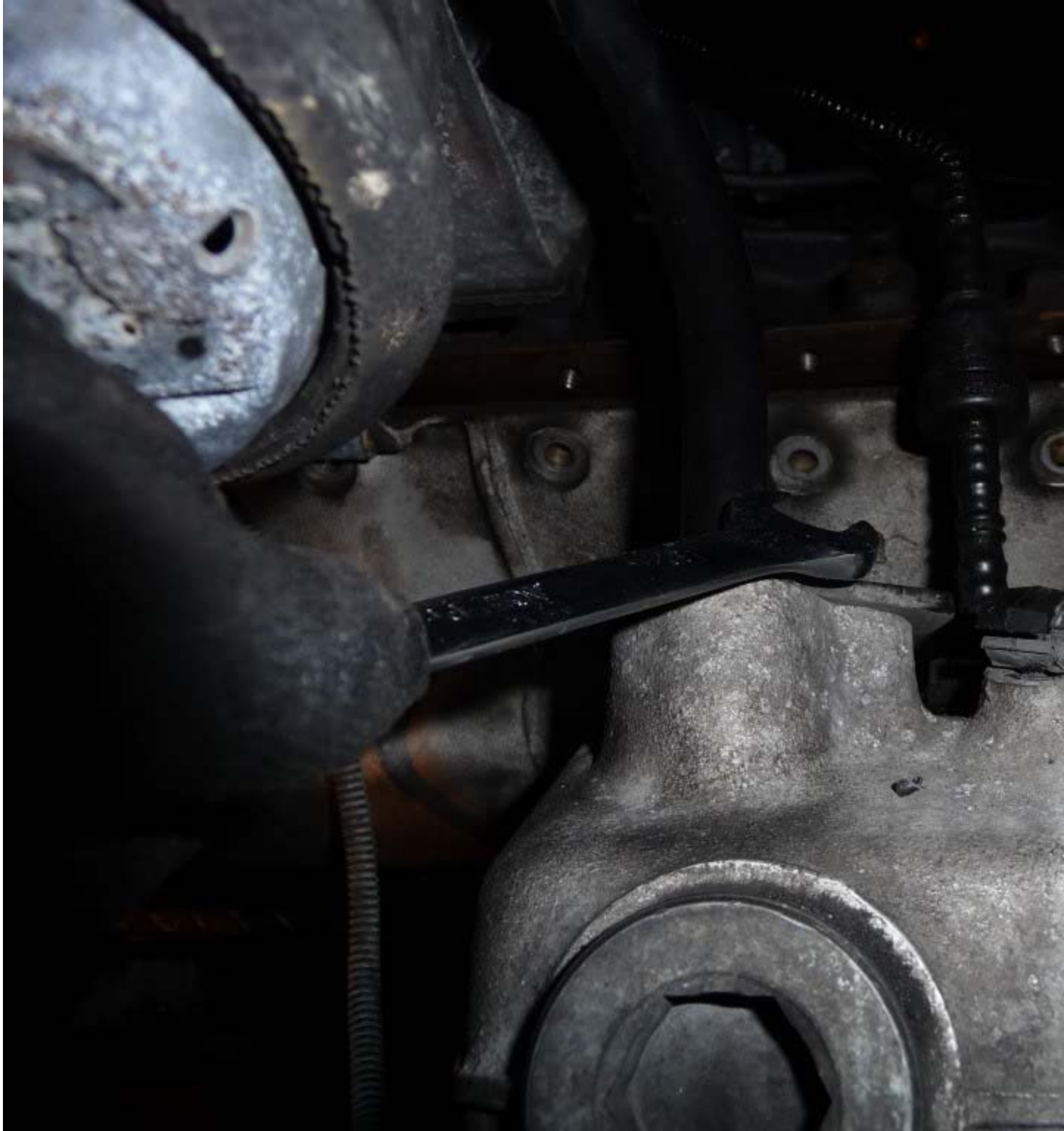


DISMOUNT DIPSTICK TUBE

Only on the bottom of the engine. You can dismount the entire thing as it will be easier to reinstall the oil pan like that.

The dipstick's entrance to the oil pan is supported by a single nut. Remove it and you should be able to remove the dipstick tube.

By the way, this is a possible source of water entering the engine. It's not 100% sealed so be careful with those puddles!



REMOVE OIL LEVEL SENSOR CONNECTOR

Here you also see how you'd replace it if it's faulty: just undo those 3 bolts and it

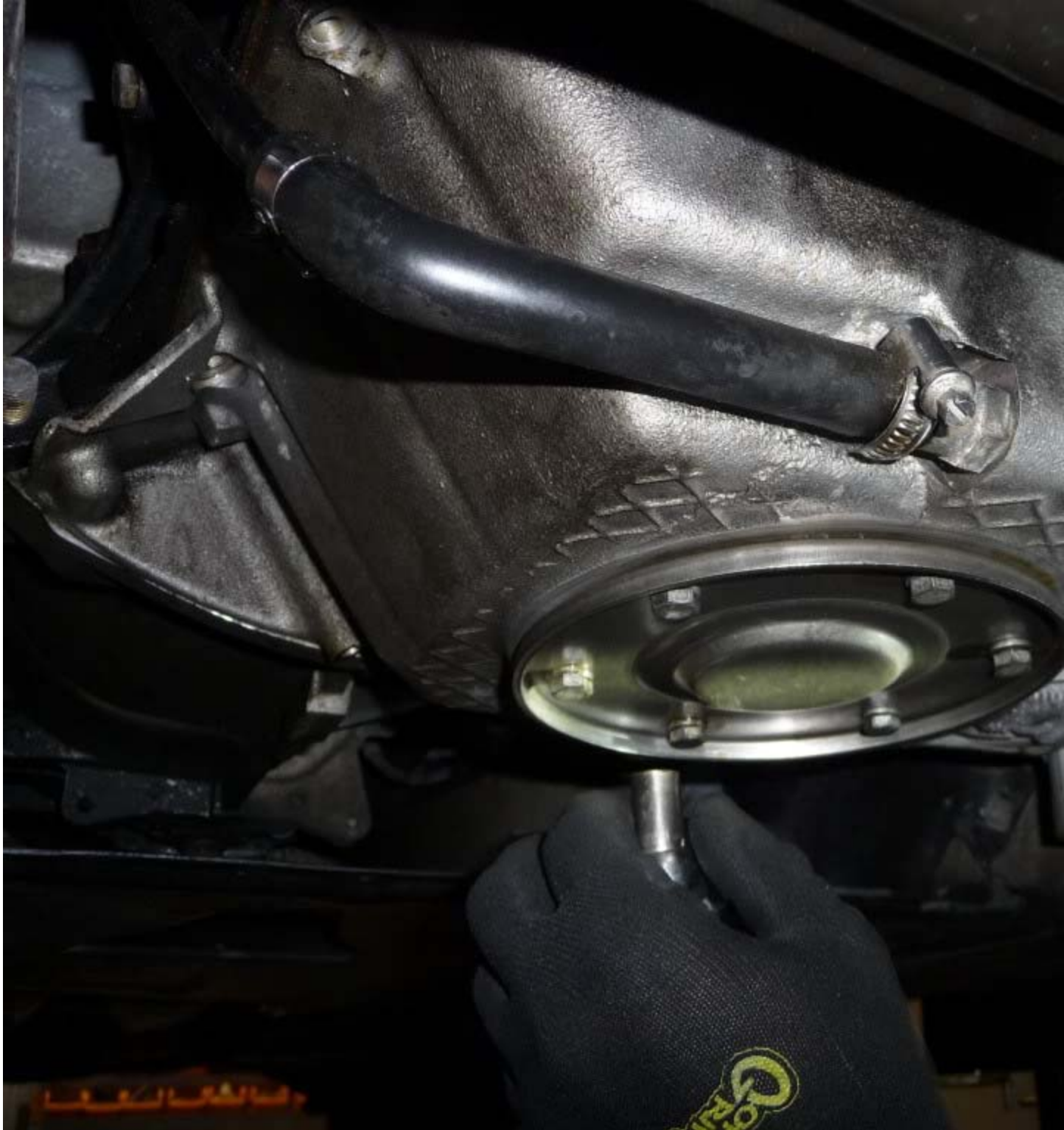
comes right out. Again, ignore that center part that's dismounted as it isn't necessary.



DISMOUNT ENGINE OIL RETURN LINE

This is that hateful banjo bolt you have to dismount when you take out the valve cover. It's on the passenger side of the engine.

All you have to do is loosen the crimp-style connector you see in the pic. Later on you can reuse it.



REMOVE ALL OIL PAN BOLTS

There are 20 if I remember correctly. Remove them and note which long ones go

where. There are two which are much longer, but just in the little ones there are two different lengths.



Once you've dismantled them all the oil pan should come off. If it doesn't, you've

forgotten a bolt. Don't go apesh!t trying to pull it off, those 8.8 POS bolts will rip out

Now you should be able to easily fish out whatever you dropped in here in the first place.

A note of caution: the oil pan design changed sometime during the M3 run. This means that if you break it you need to update other parts too, with a cost approaching \$1000.

This is what the evil oil pan looks like once dismounted



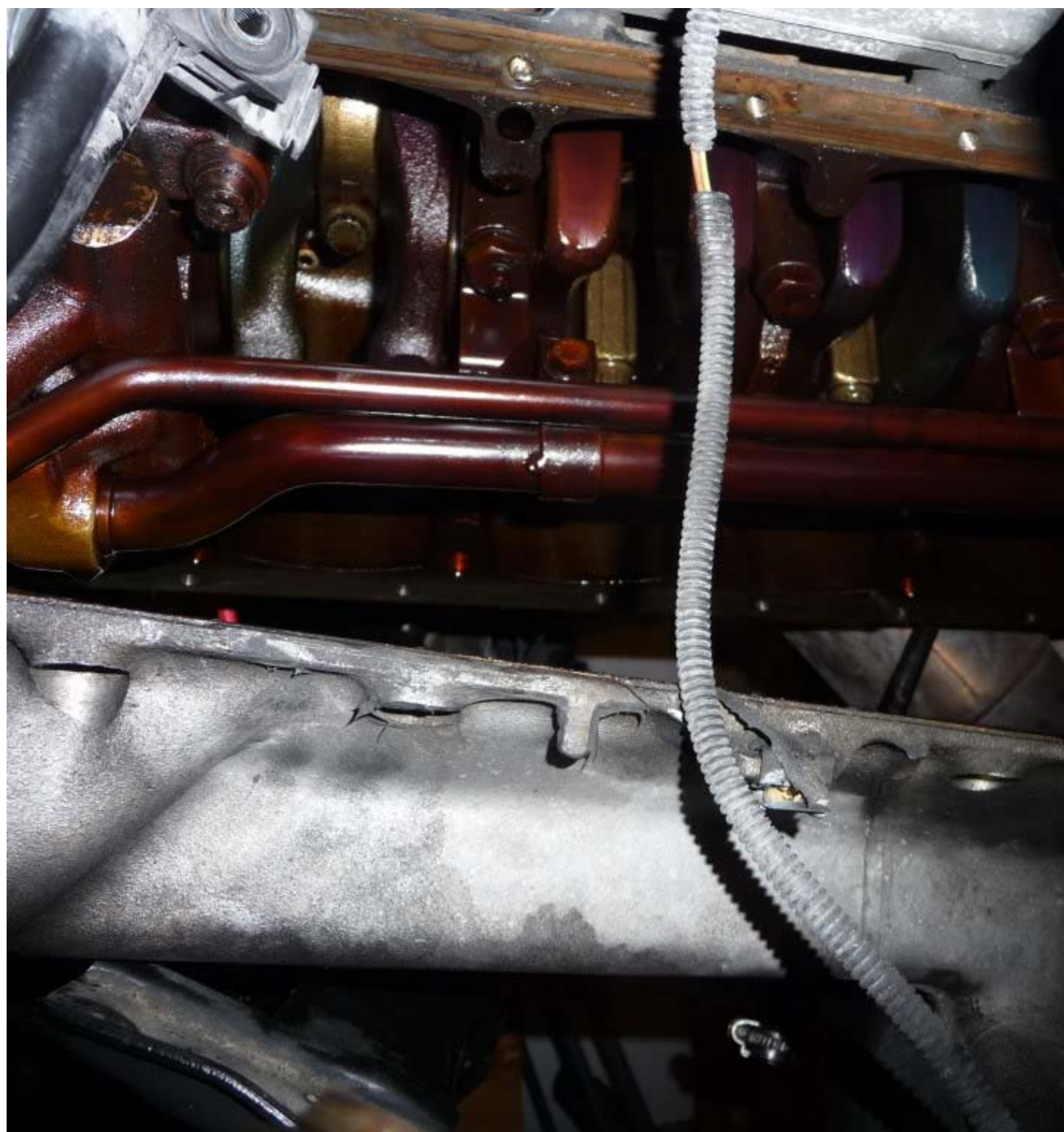


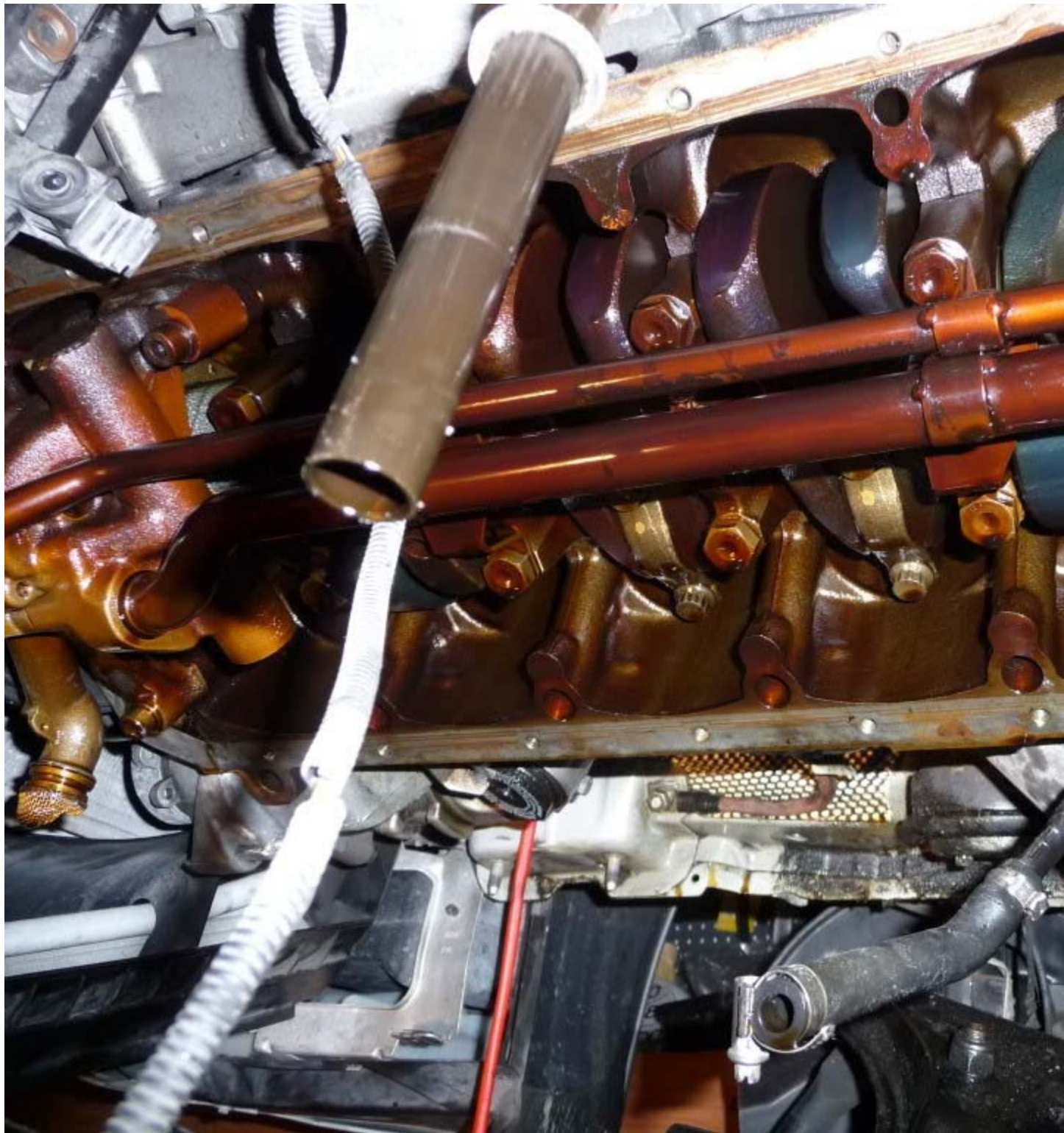
Here is a pic of the oil pan bolts and how they go around the oil pan



PICS OF THE ENGINE'S BOTTOM END

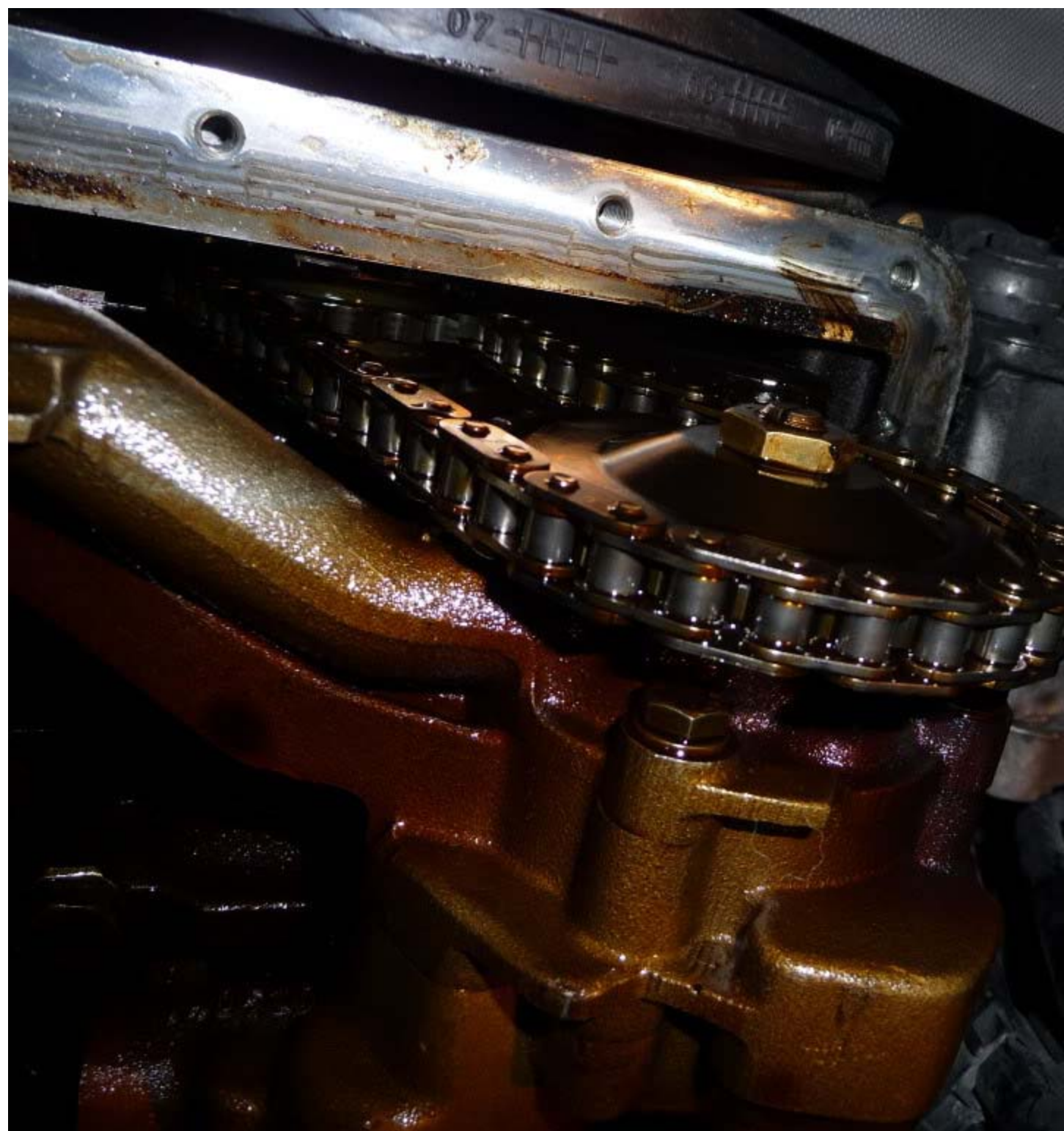
Once here you can see the bottom end of the engine.





The oil pump!



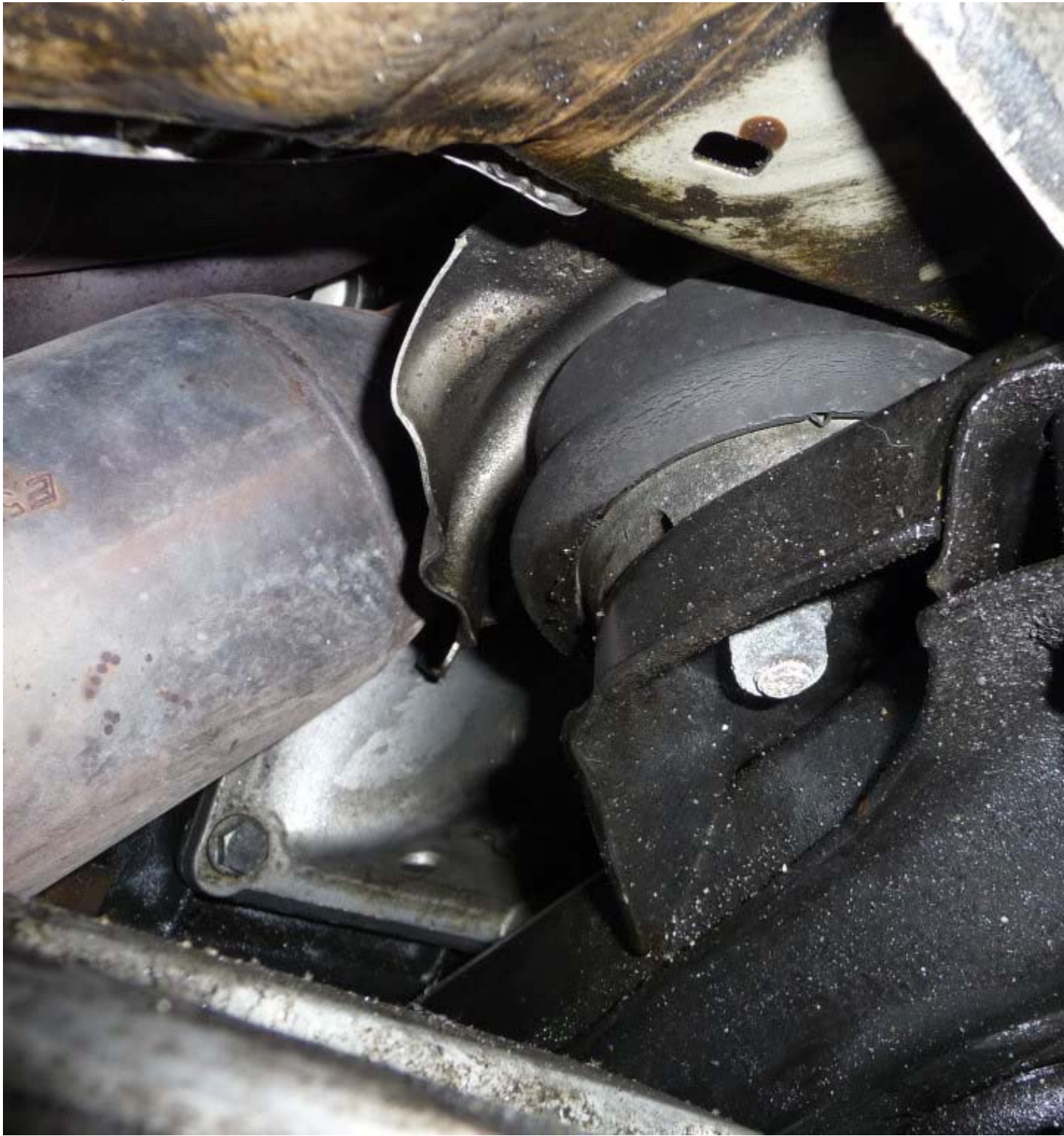




ENGINE MOUNTS

I hadn't planned to do this, but I had previously observed that my engine mounts

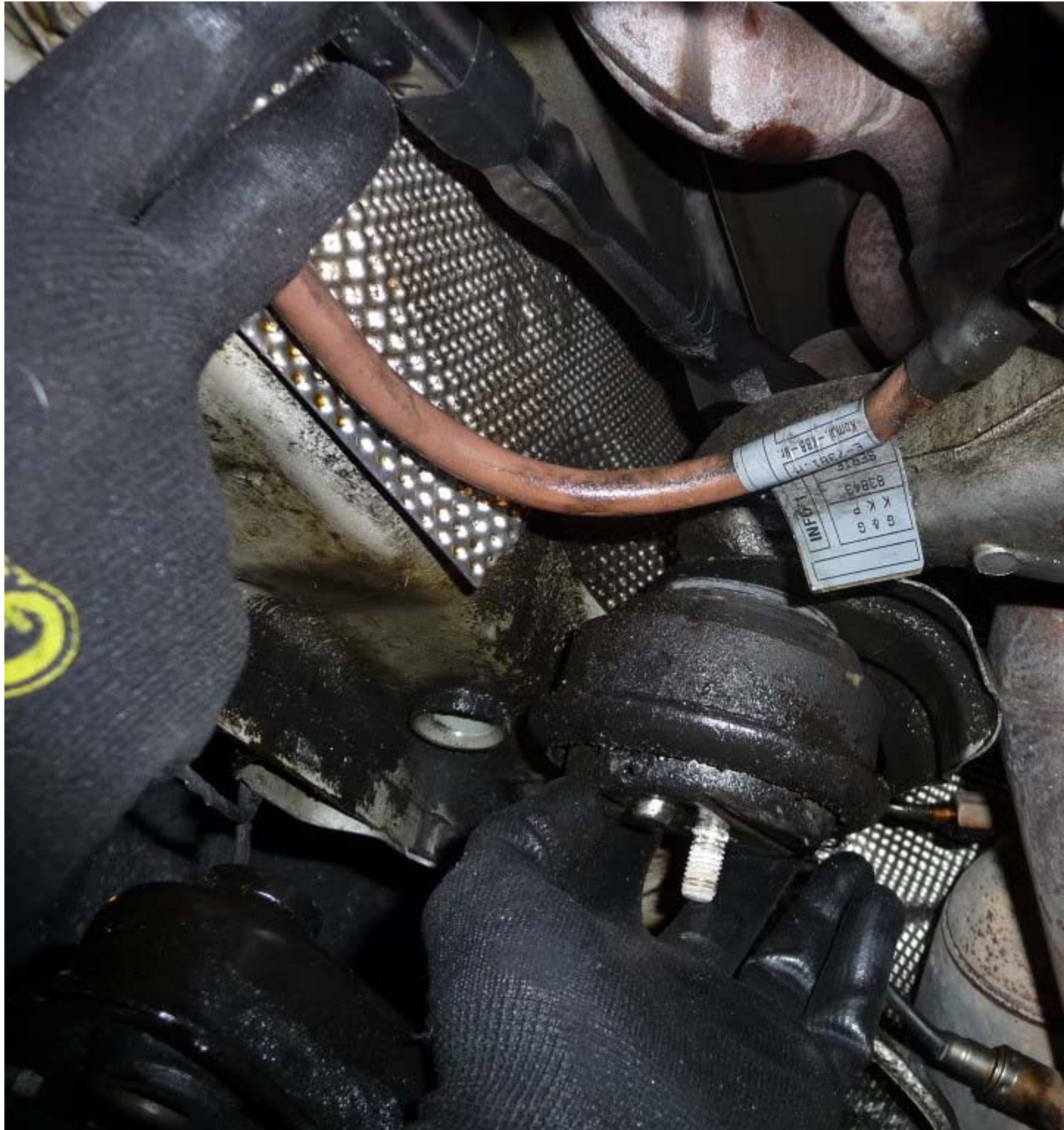
were 'not quite 100%'.



I considered the RE ones, but they told me they'd drive me nuts if used on a DD so I went back to OEM.

You may (and probably will) have to raise the engine a bit so these fit. You can do it through trial and error, just raise a bit, see if the subframe will fit on, if it doesn't raise a bit more. Remember, we're replacing old, smashed up engine mounts and they new ones are thicker.

Once you remove the front subframe brace as explained above you can see the engine mounts hanging around





The mounts are held on by a single bolt each. You can access it with your hands and with a socket wrench.



A quick comparison to the new ones shows they really were on their way out. This is a 2002 M3 with 103k.