Note 1: I will reuse a lot of pics of the previous DIYs as there's no point in reinventing the wheel.
As practice makes perfect, some steps from the oil pan's DIY will be labeled NOT NECESSARY. You may follow these steps if you so wish, but they are not needed to drop the oil pan and access/replace the rod bearings.

Note 2: The instructions differ whether the car was built before or after 12/13/2002. When appropriate I will include both sets of instructions.

Note 3: Fun fact! This car has fractured connecting rods. Basically the rod was one forged part, then it was split in two in a single blow.
This means the mating surfaces are rugged and only mate with each other.
This also means you must maintain rod/cap association and also reinstall in the same direction you removed them.
If you forget, just remember the part of the cap with the serial numbers faces the passenger's side.

Note 4: You will want assembly lube or TWS oil. I used assembly lube.

Note 5: You need a torque angle tool. I got the BMW one. It's available for rent along with the rest of my speciality tools.

Note 6: You will need 6.5L of engine oil afterwards. You're removing much more than the std oil change amount.

Note 7: Part numbers
Update from Bimmerfan08:
BMW discontinued the original rod bearing kit but FCP Euro has pieced together and sells their own copy of the kit for those interested.

Part number: 11410395192

The kit is available here
https://www.fcpeuro.com/products/bmw...-11410395192kt

And here from a forum sponsor!
http://www.getbmwparts.com/partlocat...45&startrow=26

Here from another forum sponsor!
http://www.ecstuning.com/BMW-E46-M3-...aign=postreply

Angle tool: 90886009120
Rod bolts (only needed on post 12/13/2002 build): 11247834310
Connecting rod bearings kit: 11410395192

This kit has a couple extra goodies in it. Highly recommended vs purchasing spare bearings separately. It appears the kit is VIN-specific, so it will come with the right bearings for your engine - so double-check that before you run out and buy a kit just like mine In theory adding your VIN to the kit order you should be all set, but look into that.
Oil pan gasket: 11131437237

Note 8: I'd buy a couple extra rod bolts in case you screw up the tightening procedure if you have a post 12/13/2002 M3.

Note 9: I used OEM bearings. They've lasted 130k. There can be infinite discussions around aftermarket bearings. I was certain I did not want VAC coated ones as those reduce the already laughable clearance the S54 has.
The BW ones are an option, but it's hard to justify $600 on that when the OEMs are under $200.

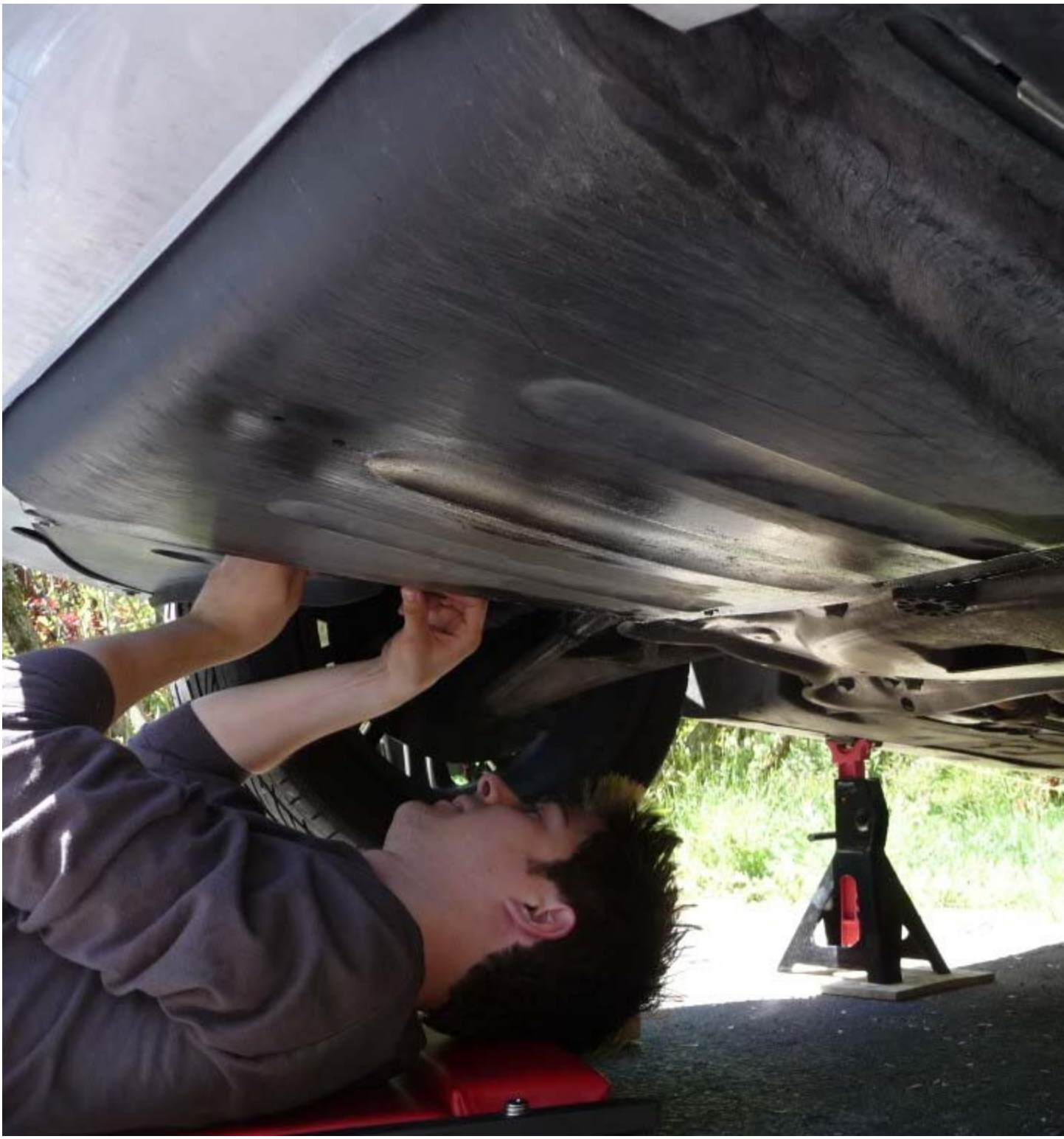
Note 10: This procedure will require breaking the engine in again. 1200 miles of soft driving followed by an oil change.

Note 11: I had initially purchased plastigauge to measure clearances, but as this BMW connecting rod kit doesn't allow you to choose clearances I decided against it.

Note 12: This can be done in a single weekend if you're motivated. It took us two, but we spent a lot of time snapping pics and doing things not related to this M

Note 13: Drrwise added this to the DIY:
/In researching bearing swaps I've found at least two examples that discovered M10 bolts on pre Dec 12 2002 build date vehicles./
In other words, be careful if your car is close to the cutoff date as you may have either type of bolt.

In this first pic we see the center jacking point again



REMOVING FAN SHROUD + FAN + OIL COOLER
You'll notice the fan shroud gets in your way constantly. After removing it here I

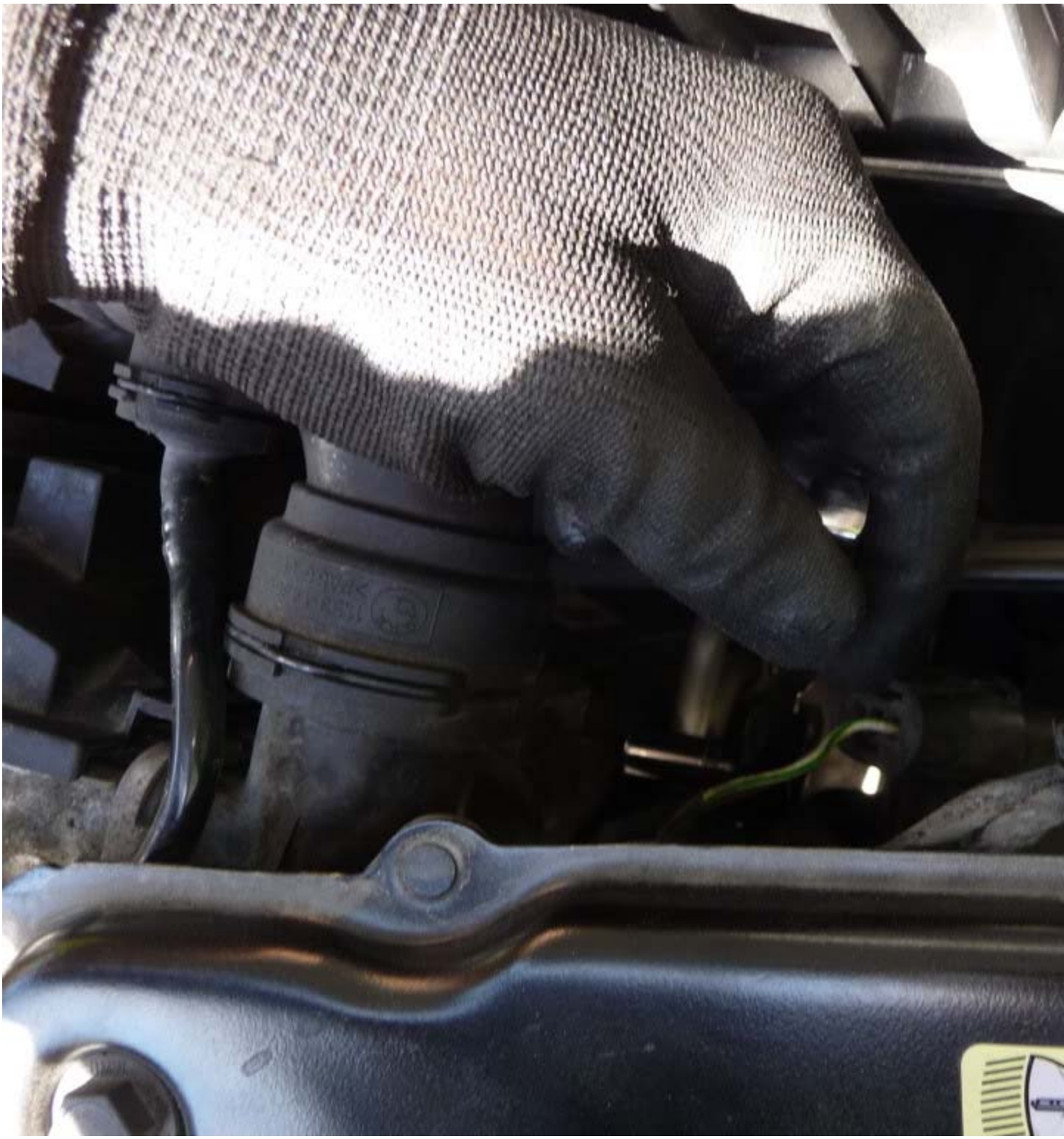
will not reinstall it, it takes way too long to mount/dismount this thing every time I open the Vanos up.
It's held on by 4 torx screws, two in the top, two in the bottom.

The shroud and the fan need to be removed at the same time. You'll notice they interfere in each others ways and are quite annoying. The oil cooler also manages to get in the way, but unlike the other two it's quite simple to remove.

To make our lives more interesting, BMW engineers decided to put a part of the shroud (a small part on the right) in between a cooling tube. This means it can't be removed and just stays there annoying you as you try to remove the fan shroud. I suggest you cut a portion out to be able to install/uninstall at will.

One

Two

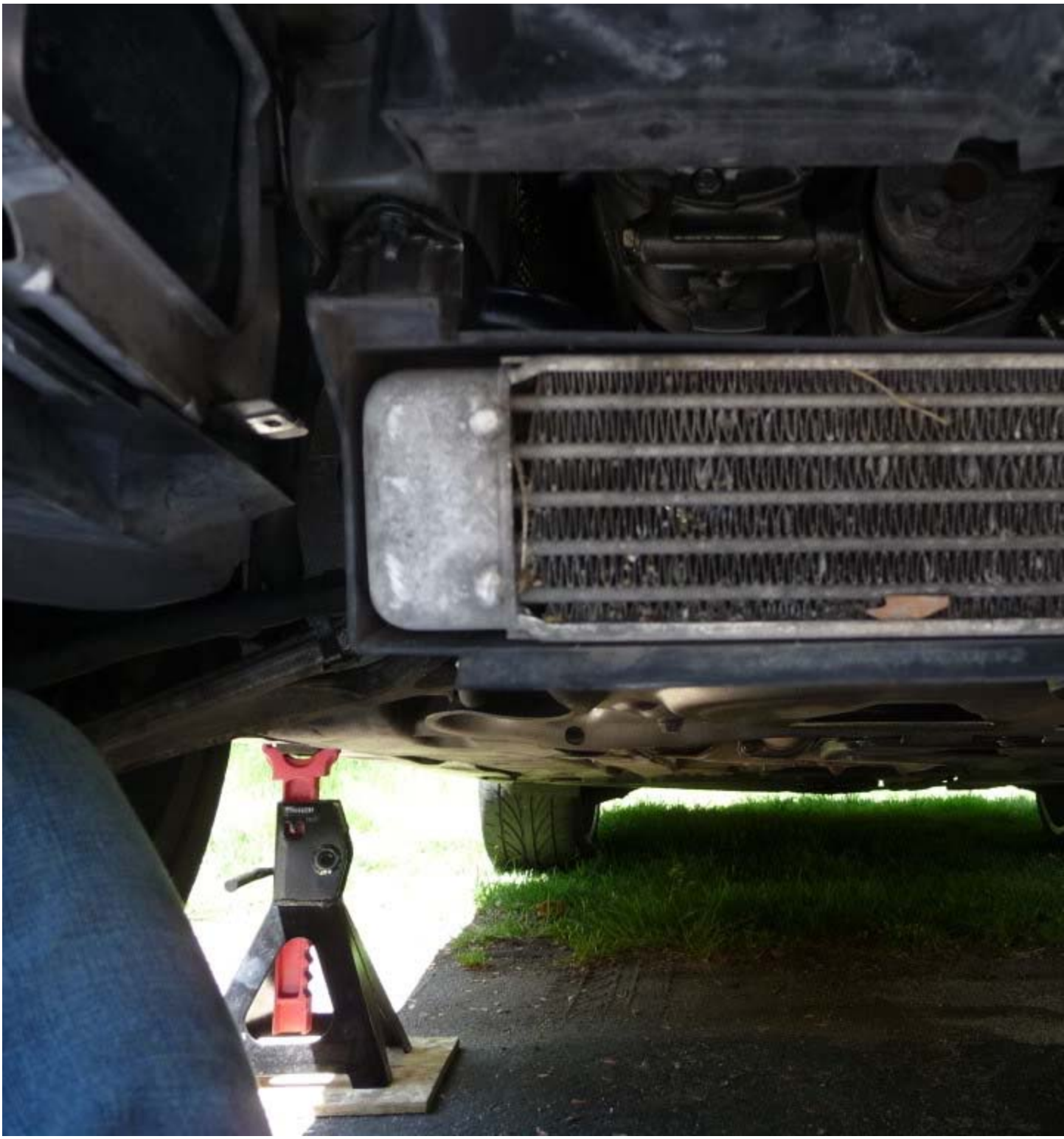


Three

Four

The oil cooler is also held on by four bolts, two per side

Hold the oil cooler onto the car with a cord so it doesn't bend too much



Now the shroud will be loose but it still won't come out as the fan is blocking it.

There's a special tool to remove this but I prefer the following method. Get a 1 1/4 open ended wrench.

Place it on the fan nut

Hammering time! We want to move the wrench clockwise. The pulleys make it hard to move in that direction, so by hammering it we'll get it loose. It usually takes

several whacks and I suggest you first look at the path where you'll be hammering to avoid breaking stuff.