

T-20 & T-25 Torx [Drive](#)

VE12 Torx Socket

8mm and 10mm sockets and drive

Flathead Screwdriver

Needlenose Pliers

Floor Jack and Stand

Ziploc Bag

Basin to catch antifreeze

2 Gallons Antifreeze (It's important to use the correct antifreeze - I used Zerex G-05 Formula Phosphate Free)

For this job I used the following BMW Parts:

11 51 7 586 925 Water Pump

11 53 7 549 476 Thermostat



11 51 0 392 553 Aluminum/Magnesium Screws

Obviously, make sure you are getting the correct parts for your particular model of car by verifying with your dealer.

Now, let me give you the instructions I received for Removing and installing/replacing the Water Pump (N52) because I think they are SO descriptive:

Remove and dispose of coolant

Disconnect Water Hose (1)

Disconnect plug connection (4)

Release Screws (5)

Installation Note: Replace Aluminium Screws.

Assemble Engine

Venting instructions must be observed without fail.

I don't know about you, but that really didn't help me at all. There was a picture of the water pump and

numbers that corresponded to 1, 4 and 5, similar to 1297a, but I didn't even know where the water pump was. And just how in the heck do you remove the coolant? Well, rest easy my friends, hopefully I can answer all those questions and more in the following DIY!

### 1. Remove Coolant.

OK, what they don't tell you is you have to remove the skid plate underneath the car in order to get to the little valve that you unscrew to drain the coolant.

\*Set the parking brake on your car - you don't want it moving.

\*Jack up the car. See Picture 1328a for the jack point if you don't know where it is.

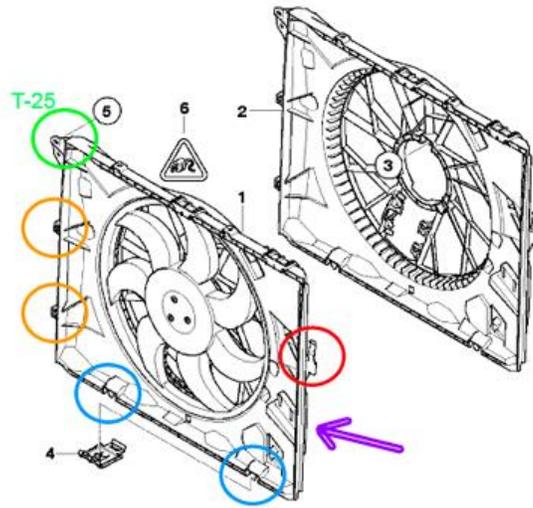
(I jacked it up from the drivers side first, which I found gave me a little more room to slide back and get the skid plate screws in the middle of the car.)

\*Remove 2 skid plates. There is a smaller one in the front, directly under the radiator. Another larger one goes back to about the middle of the car. I took them both off for easy access. You'll need your 8mm socket to remove the screws.

Once you get both the skid plates off, you should see a blue valve on the drivers side of the radiator on the bottom. See picture 1290a.



There is also a metal housing (purple arrow in picture 1298a) you should see above that blue valve. It's held in place with a screw to the fan shroud. (Refer to the purple arrow in the picture



FanHousing for location.) You'll need to remove that screw and put it in your Ziploc bag. You can't remove the fan without first unscrewing this!!

\*Place your coolant catch basin underneath the blue valve, Unscrew the valve and drain coolant. (At this point, I jacked up the other side of the car - it helped the coolant go to the side with the drain and gave me more room where I would be working - the pump is on the other side of the engine.)

Now, something else they don't tell you is you're going to need to remove the fan assembly. It's relatively easy, but of course there are multiple steps.

\*Remove the two screws holding the plastic piece above the radiator with a T-20 Torx drive - they are located where the red circles are in picture 1333a. Place those screws in your Ziploc bag!

\*Push in the tabs on the other end of that piece, there's one tab on each side - see picture 1324a.

\*Remove the bolts that hold down the plastic air filter housing with a 10mm socket -



refer to picture 1327a. This will allow you to get at the hose underneath it a little easier.

Now a little note on the hoses. They are held on in one of two ways - with the good old fashioned hose clamps and all you need is a flathead screwdriver to remove those. The other hoses have nifty plastic fittings held on with a metal clip. Take a look at picture 1332a.



The yellow circle shows the plastic fitting connected with the metal clip - shaped like a horseshoe. If you look in what would be the middle of the "U" you'll notice it is sticking up a little bit for you to grab it with some pliers. You could slide a screwdriver under there too, but I like the pliers in case it gets away from me. Remove the clip and the hose should slide off of it's mate. Another cool thing you should notice is there are little notches in the hose fitting and alignment ribs on the mate, so you can't put it on wrong. Nice German engineering there. Once you get the hose off, I like to put the clip back in its groove so it doesn't get lost. Make sure the end is hooked in its notch and the other end should snap into place.

\*Remove the hose



refer to yellow circle in picture 1298 for location. Leave the other end connected, it shouldn't be in the way.

\*Disconnect the power from the fan.



(Top right side of fan - refer to picture 1326a.)

\*Unclip the hose running along the top of the radiator.



(Left side of clip is in picture 1331)

Now take a look at the FanHousing picture. There is a T-25 screw (green circle) and two tabs underneath the housing (blue circles) that will need to be released first. (If you look at picture 1321, that's what you'll see from underneath the car.)



From the top, look down the right side of the housing. You will see a tab (red circle in FanHousing picture). Push the top of that tab towards the front of the car to release it and you should be able to slide the whole fan unit straight up. There are two guide tabs on the left (orange circles) you will need to make sure they slide into the guides when you are replacing the fan.

\*Remove Screw

\*Release tabs underneath housing

\*Press tab on right of fan housing to release and slide the whole unit straight up.

OK, now is a good time to take out your brand new water pump and thermostat. Let's take a look at the Thermostat first, since that's what I removed next.

Refer to picture 1301a.



The thermostat is held in place with two 10mm bolts that are screwed in through mounts on the water pump. In pictures 1297a and 1301a they are both marked with #3. In picture 1320



you will see the bolts going through the water pump mounts and into the water pump, shot from underneath the car. Zoom out a little and you see picture 1316a with those bolts removed (3).



The water pump and thermostat are connected via a hose that plugs into port (1a). The electrical sensor plugs into (6).

#### REMOVE THERMOSTAT

\*Release hose clamp at (1a) & (2) and detach coolant hose.

(Be careful, there will be coolant in these hoses that will drip on you. Slide that basin over! If your clamps were put on by the same Nazi that put mine on, they will be almost impossible to get at with any size or shape of screwdriver. This is where swearing seems to help a great [deal](#). Go through all of them until you find the one that helps you get the clamps removed.)

\*Remove clip and detach coolant hose at (4) & (5).



(Remember to snap those clips back on so you don't lose them!)

\*Disconnect plug connection at (6)

\*Remove bolts at (3)

Before removing the Water Pump from your car, refer to picture 1297a.



The Water Pump is electronic. I had trouble finding it because I thought it was belt driven and couldn't find it behind any of the pulleys. This is also why it comes in the space-age electrostatic bag! Our water pump is held in place with those three fancy Aluminum/Magnesium (picture 1303) screws you bought replacements for - marked with (5). Two of them are relatively accessible from underneath (refer to picture 1316a & 1318a). The third one you can get to from the front - good thing you took that fan off, huh? These are all removed with a VE12 Torx socket -



See picture 1337. There is an electrical plug (4) , also seen in picture 1318a. Port 1a connects with port 1a on the Thermostat. More on port 1b in a minute.

#### REMOVE WATER PUMP

- \*Release Hose Clamp at (1a) & (1b) and detach coolant hose (picture 1319a)
- \*Disconnect plug connection at (4) (pictures 1318a & 1297a)

\*Release 3 screws (5) (pictures 1316a, 1318a and 1297a) Don't forget the one at the front, sorry no picture for that one.

Great, you've got everything off! This was the 4 hour point for me. Now time to put it back. Make sure you have your hose clamps in place and clips in their grooves BEFORE you slide hoses back on!! And for God's sake, situate the hose clamp screws so they are easy to access - not like they undoubtedly were when you were taking them off! Get the water pump into place and slide



(1b in picture 1313a)

into the short little hose. I made the mistake of getting the pump in place and bolting it down before connecting this hose. It was trapped in between the opening and something else and I didn't have space or leverage to get it out. I made the mistake so you don't have to. Slide that hose on and THEN get the super light Aluminum Magnesium screws in place.

Now just go back and hit all the \* in reverse order. The nice thing about the hoses with the clips is you know they are on all the way when you hear the clip \*click\* into place.

Don't forget to ADD COOLANT.

Start your engine and check for leaks.

Hopefully this will save someone else some time and money! Good luck!!