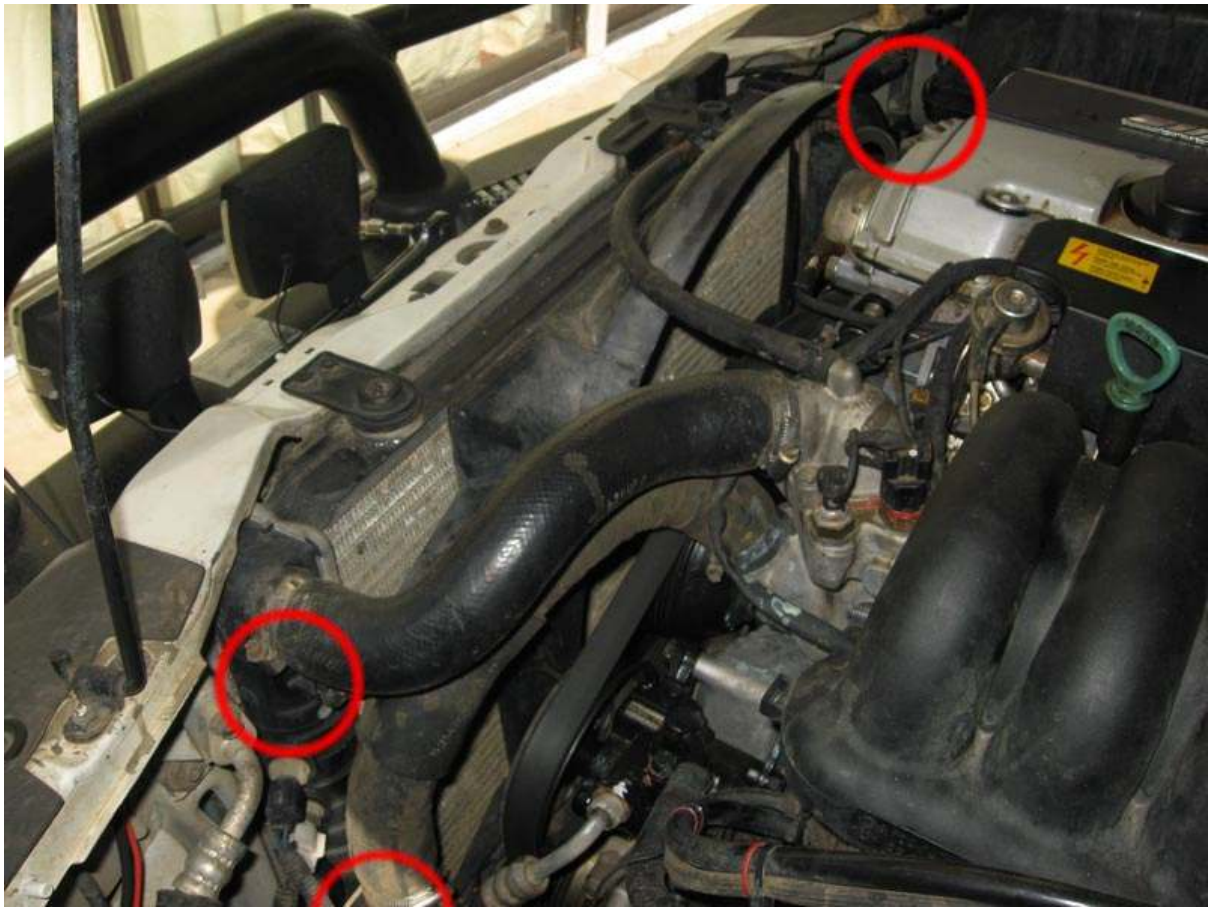
These are images of my recent water pump change on my Musso 3.2. I admit my methods are sometimes not very professional, but after 6 hours in the sun you do what you have to...

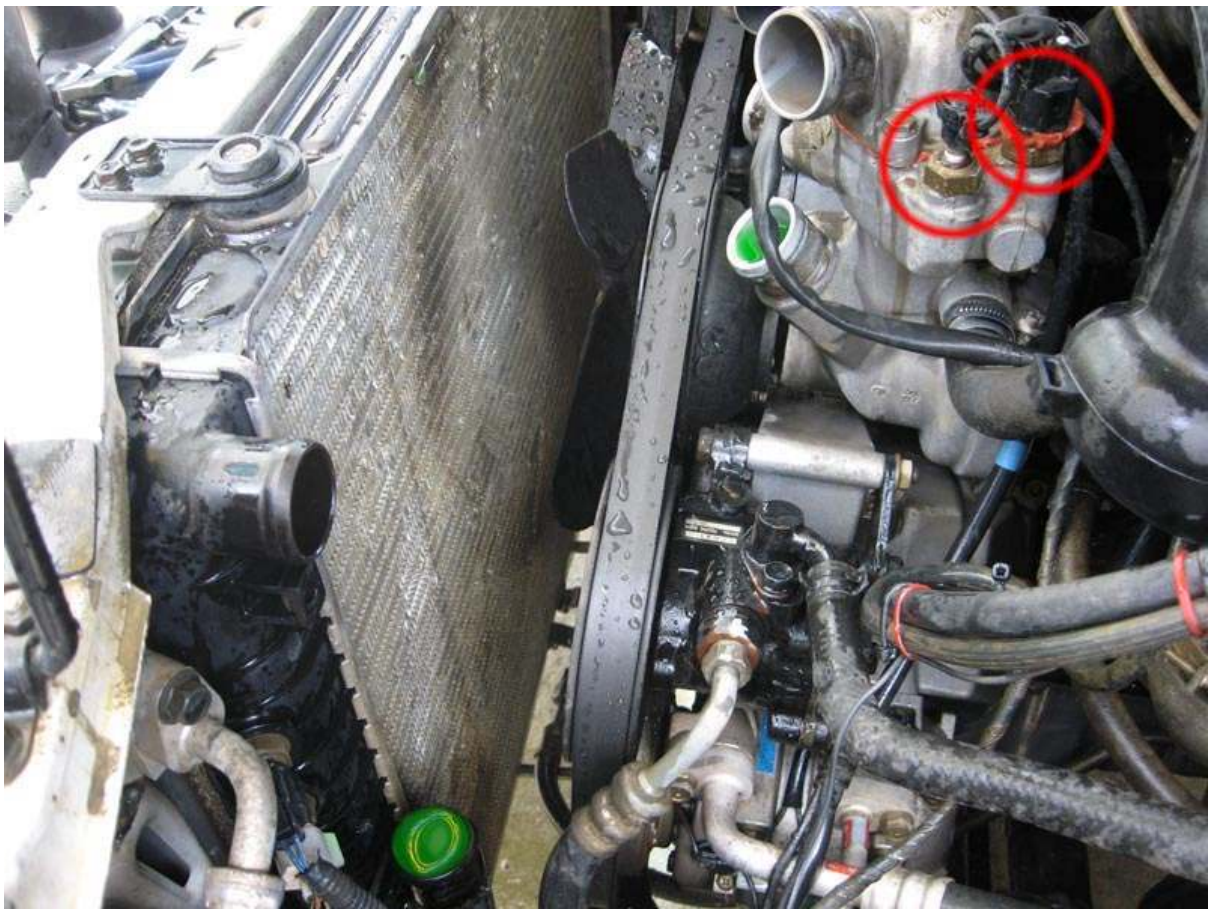
The first step, in my opinion, is to remove your bash plate. Simply because every tool/bolt/etc that you drop in the engine bay seems to get caught in it. With it gone they usually drop happily to the ground below.

Second step is to remove the fan shroud. There are 4 bolts holding this on. It should just fit between the fan and the radiator (just). Be very careful not to whack your radiator.

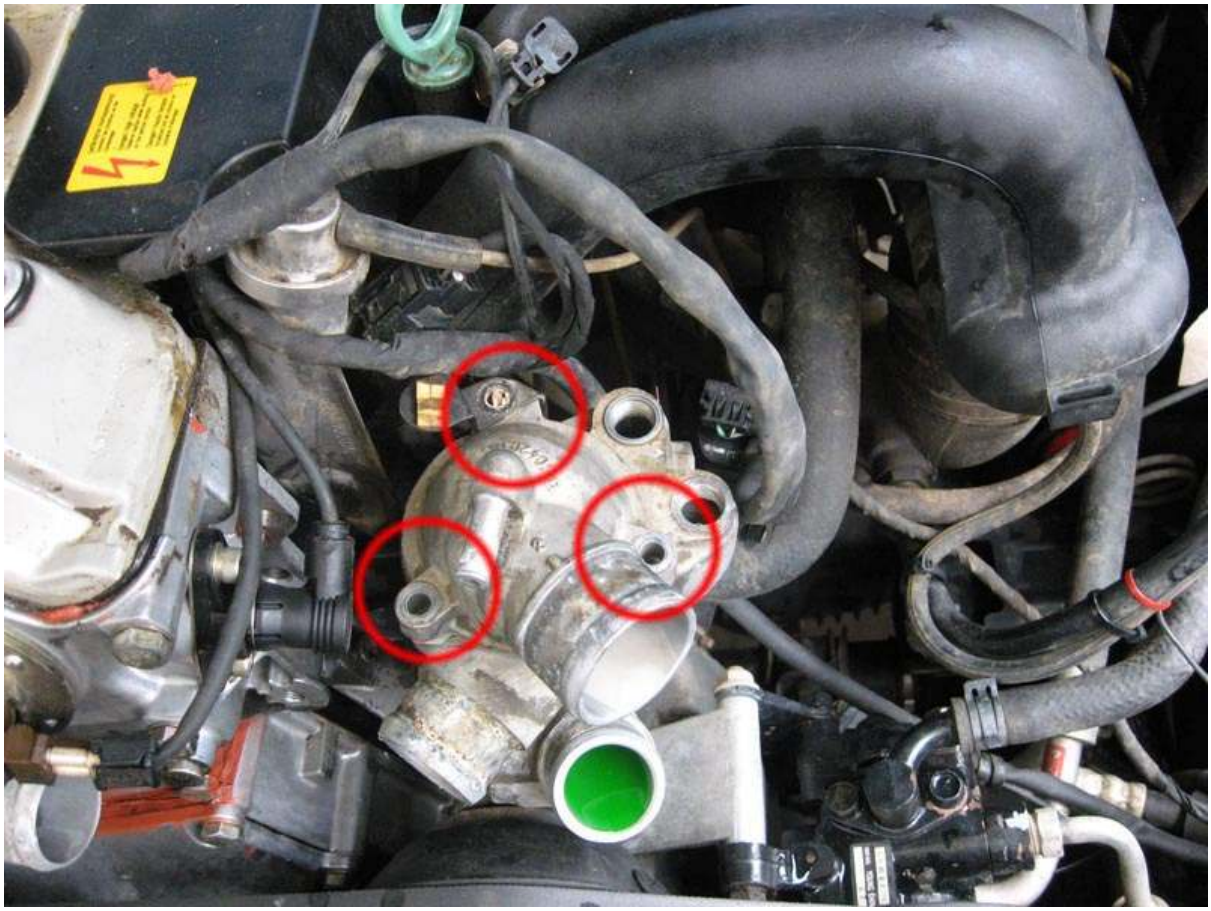


Next start removing all the radiator/water pump hoses that you can see. Please make sure your engine is cool before doing this. If you want to flush your system, I guess now would be the time.

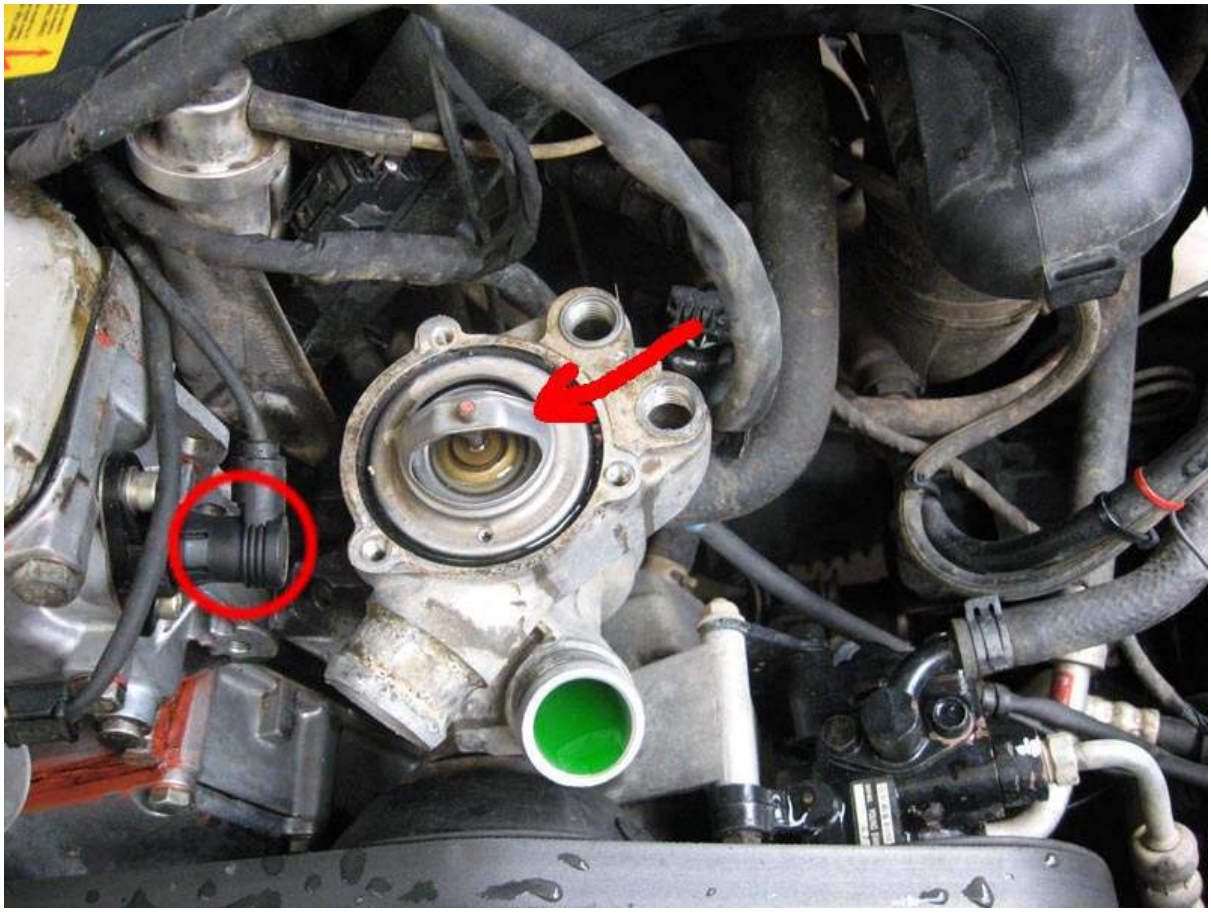
Next take off the two temperature sensors. The smaller one has a nice swivelling head which makes it easy to undo. The larger one has a 4 pin connector. An earlier repair on my car saw me break this connector, so mine is stuck on with some high-temp silicon. If you can get yours off without breaking it, then I take my hat off to you :)



Remove the three bolts holding the thermostat housing on. I have already taken the bolts out in this picture.



Here we can see the old thermostat. Hopefully your new water pump came with one. They are generally good for around 200,000km's. Also, remove this sensor that goes into the block - you don't have to, I just found it easier to move around without worrying about breaking another sensor.

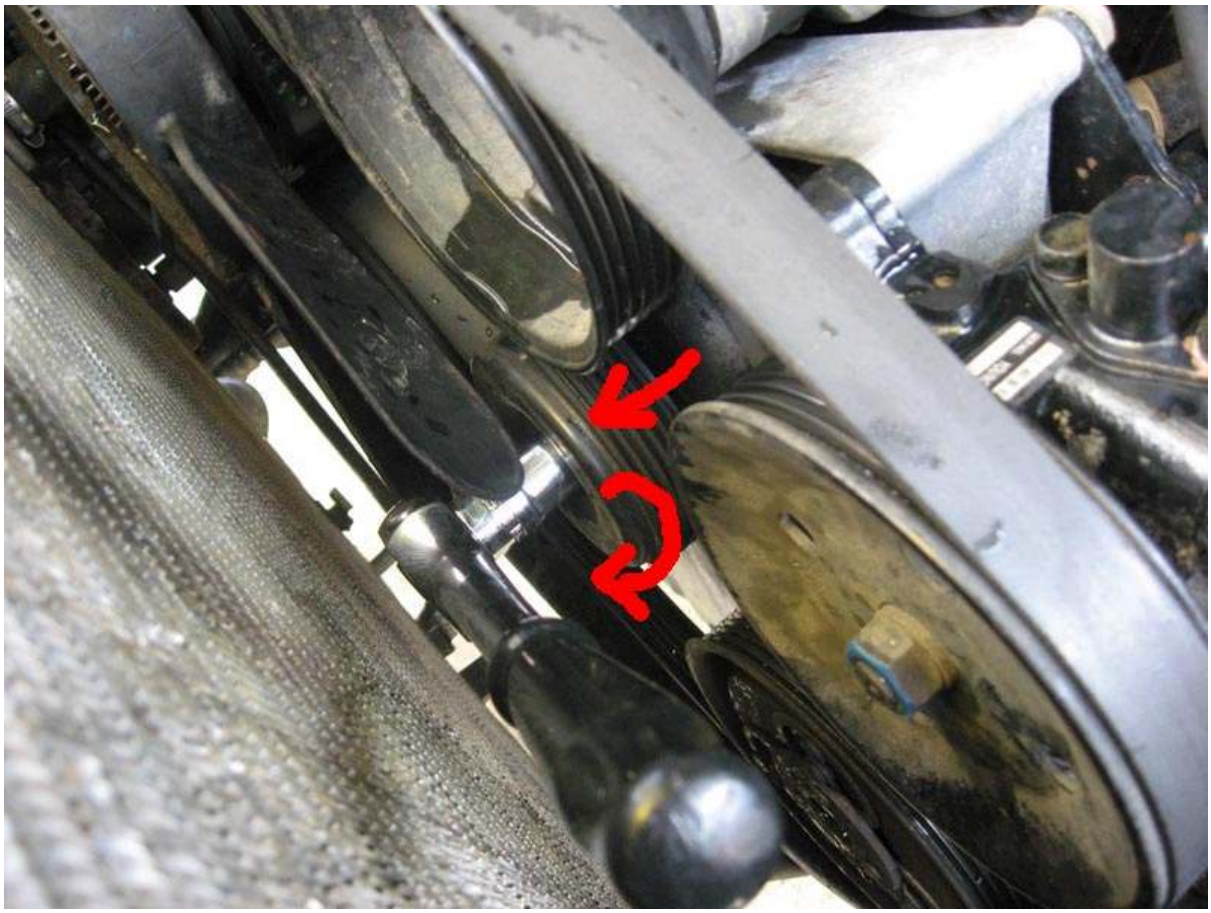


Here is my old Thermostat. "Made in Germany"

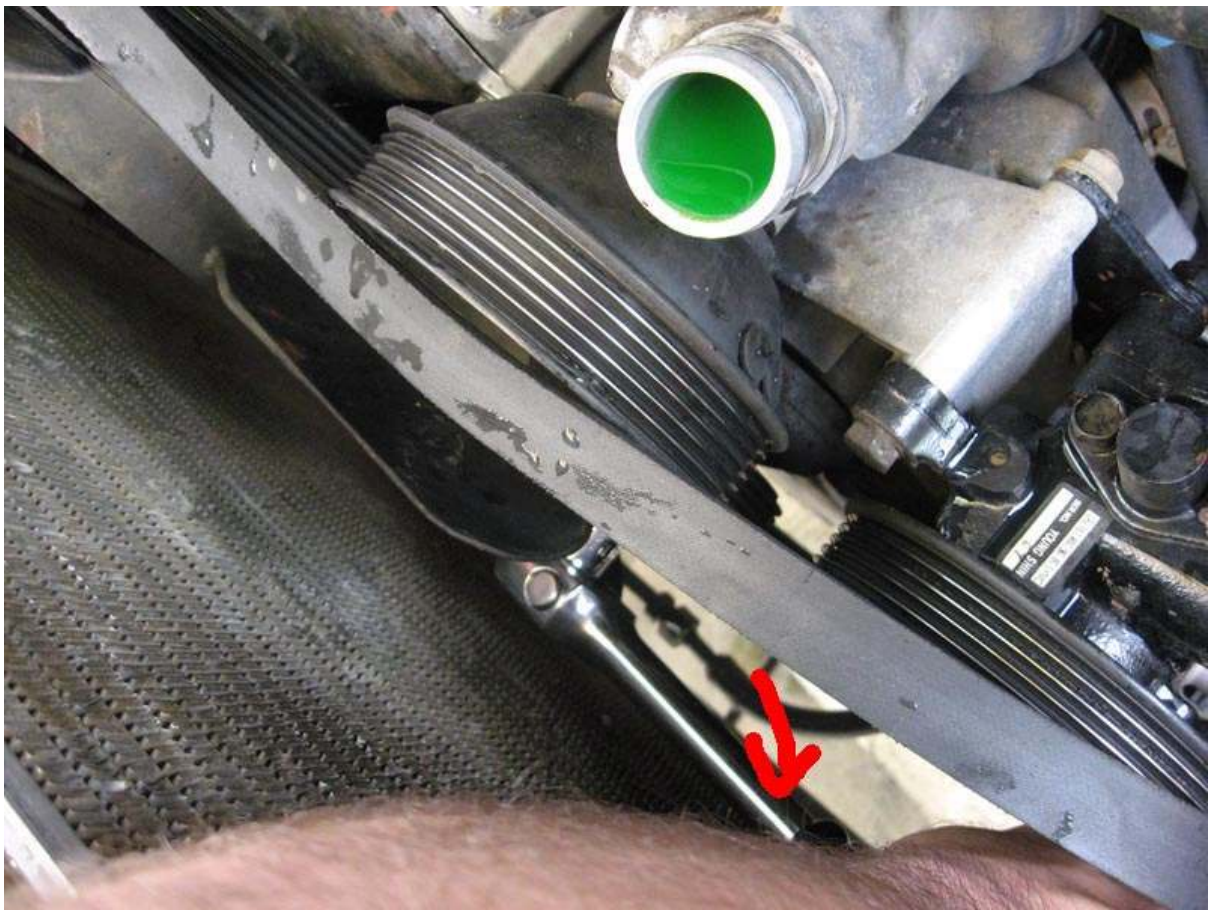
Here is a view with the thermostat removed.

Next you need to remove the fan belt from over the water pump pulley. I suggest loosening the three bolts on the water pump pulley, otherwise it is a bit hard to get them loose after the belt tension is gone.

Locate the tensioner pulley as indicated in this image. It is spring loaded, so when you turn it to the right (clockwise), you will need to hold it there or it will just spring back in place. A normal socket wrench will do the job.



Here I am holding the tensioner in position. As soon as it moves you will notice the belt go loose. Unhook it from the water pump pulley. It might be worthy to take note of its path in case it slips off everything. Once it is off, you can remove the pulley from the front of the water pump. It is held on by three normal bolts. It will take a bit of wiggling to get the thing off, but maybe a bit of lube and a few wiggles and it's free.



This is what I used to get the bolts out. I am not sure of the exact name of this piece, but it works a treat allowing you to turn bolts around bends where you cant usually fit your wrench. When using it I recommend holding it near the bending part if you can, to help it stay on (or in) the bolt.

The other arrow in this pic points to a hex head socket that I picked up from a auto store.

Unfortunately for me, ~none~ of the hex heads they sold at the auto store fitted into my bolt. I made the mistake of trying one that was just a bit too small, and turned my bolt into a lovely circle shape.

So I grabbed a slightly larger one in my vice grips, and filed each side a bit until it fit snugly into my hex head bolts that hold my water pump on.

Here is a shot of one of the bolts. If you look at your new water pump you will get an idea where the 4 bolt holes are located. I was able to remove the upper right and the lower left using my hex tool.

There is just enough space to get the bit in without having to remove any of your power steering pump or mounts. ~Just enough, I say~

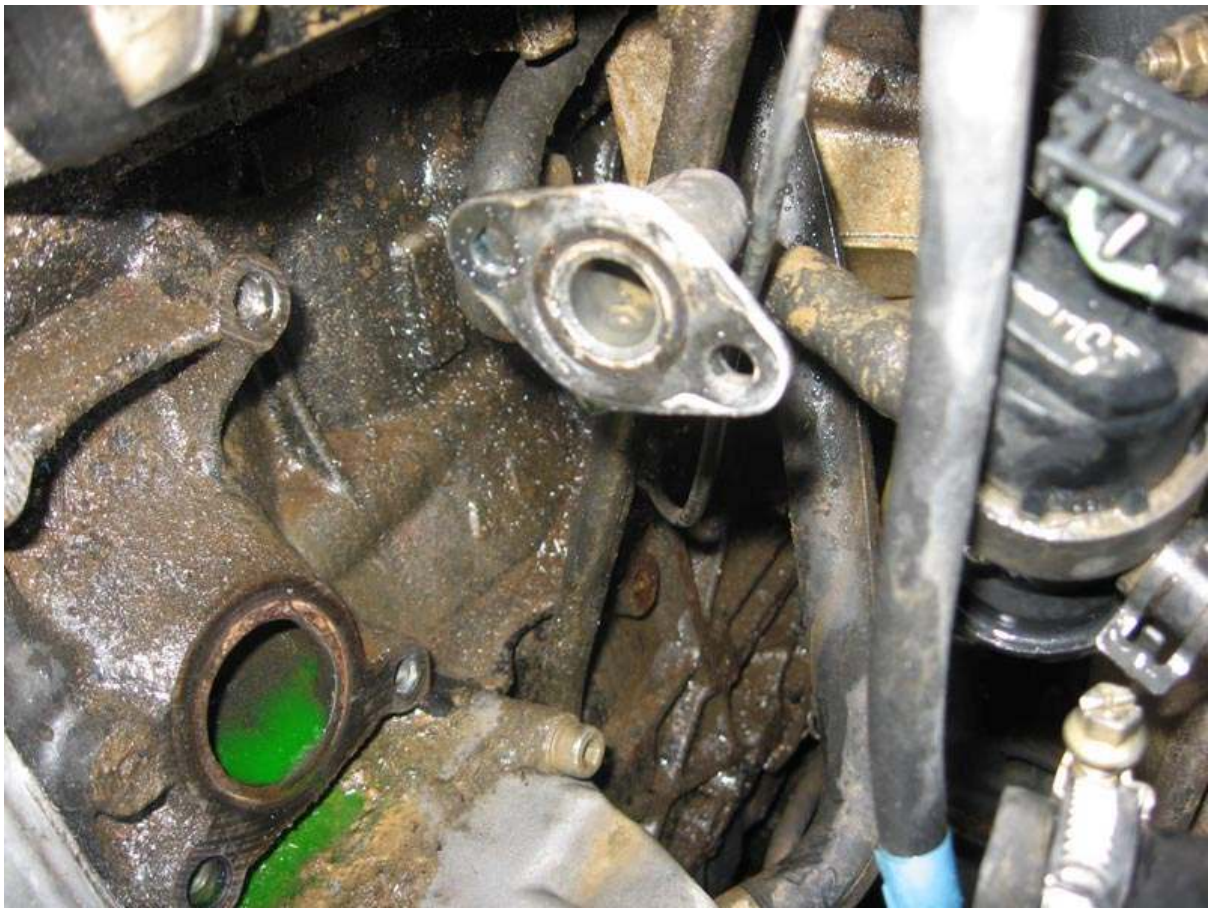
I have to give an honourable mention to this magnetic pickup tool. I always manage to drop my spanners and bolts into strange unreachable positions, and this tool saves my sanity often.

This is a shot of the lower right hex bolt right before I threaded it. It was simply too stubborn to move with my tools. You may have better fortune in this regard. At this stage, I decided that as the water pump was going to be thrown away, it wouldn't matter if I damaged it.

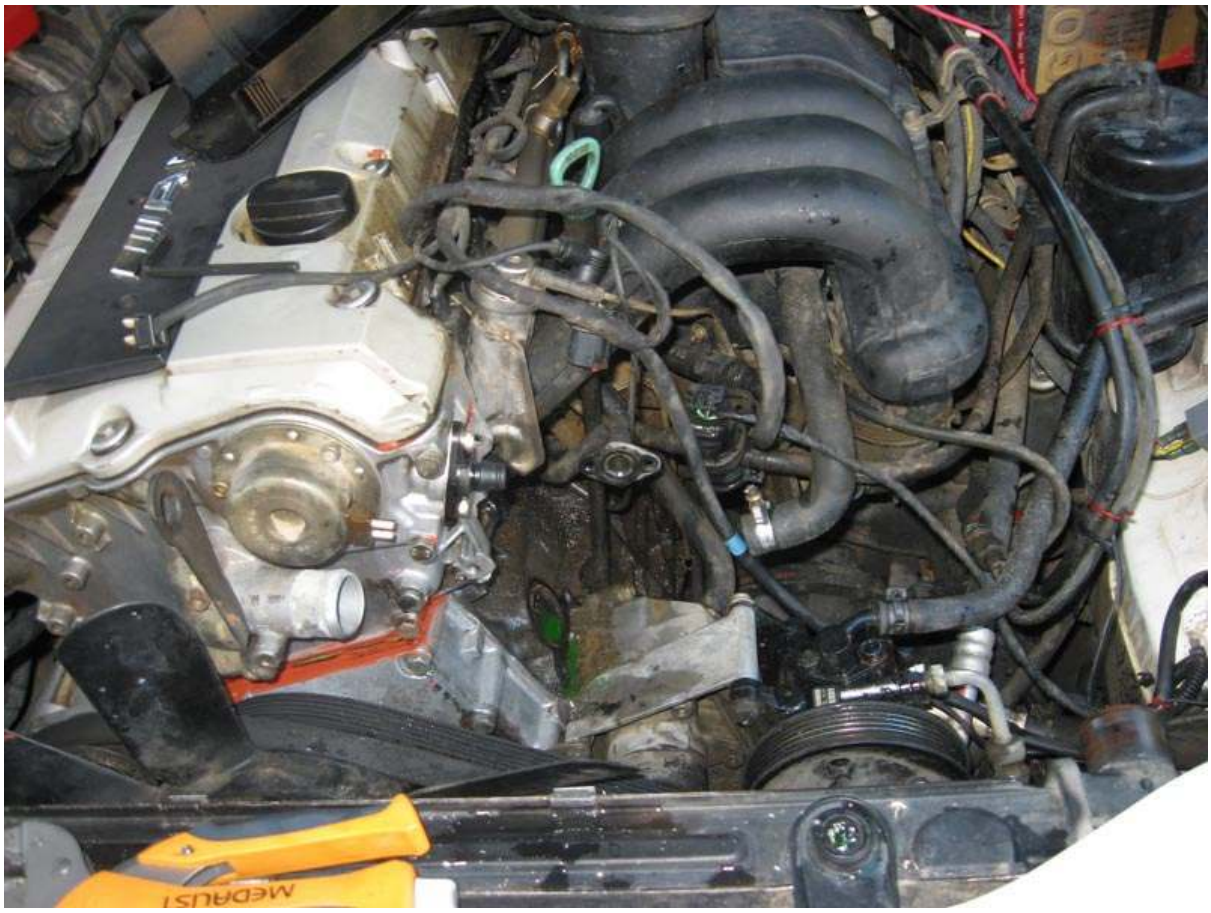
Very carefully I used a cutting wheel on my drill and cut around the upper left bolt. The steel of the water pump cuts rather easily. I was going to try and get the drill in to cut around the lower right, but considering the steel is some drop forged type that does not bend, I decided to use my jimmy-bar to just pry it until the weaker metal gave way. I do not recommend this method to anyone else. But it worked for me.

On the back of the unit is another pipe coming in. This is held on by two normal bolts. This is a solid pipe, and cannot be bent. A spanner can remove these bolts - not much room to move, but it gets there in the end.

Here is a shot of the pipe that was at the rear. It has its own mounting face attached.

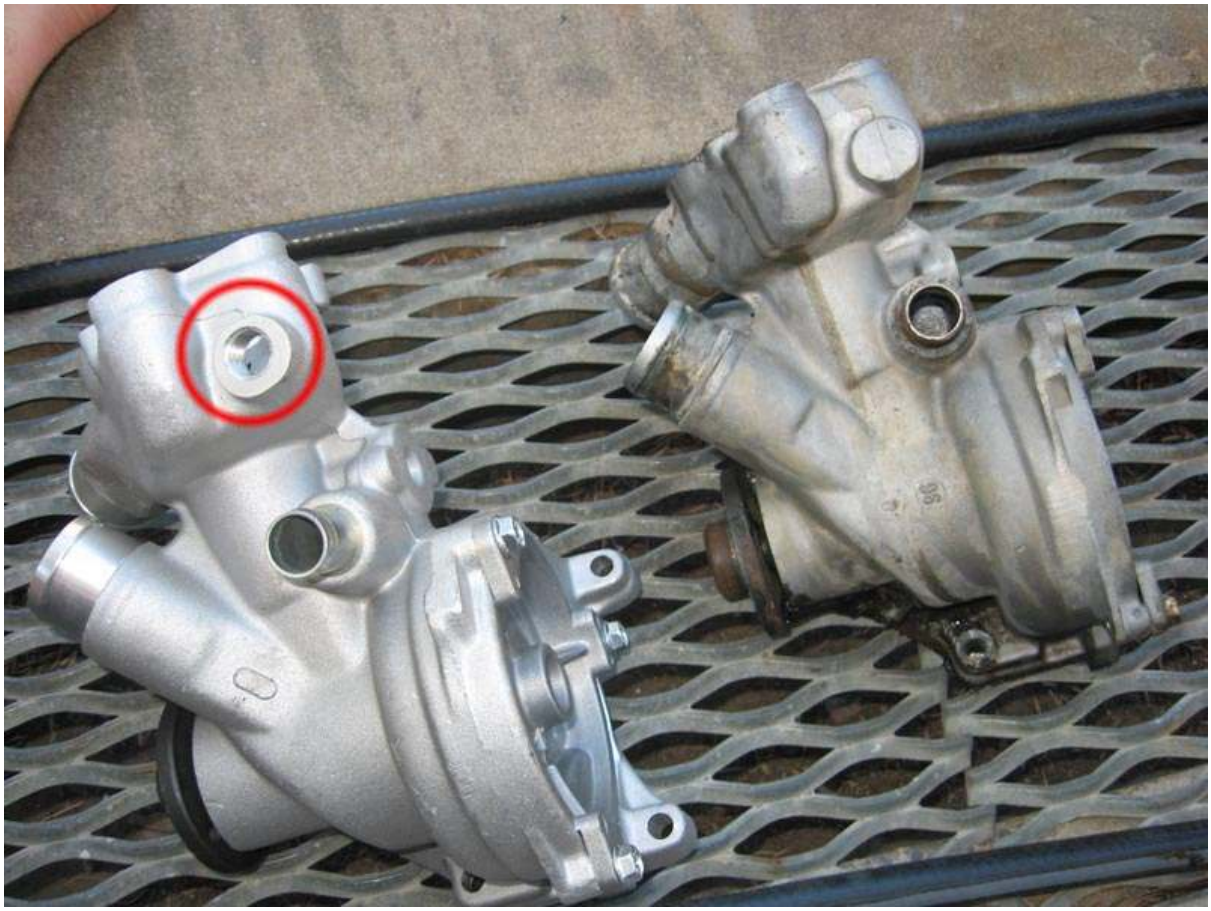


A shot of the engine bay with the water pump removed.

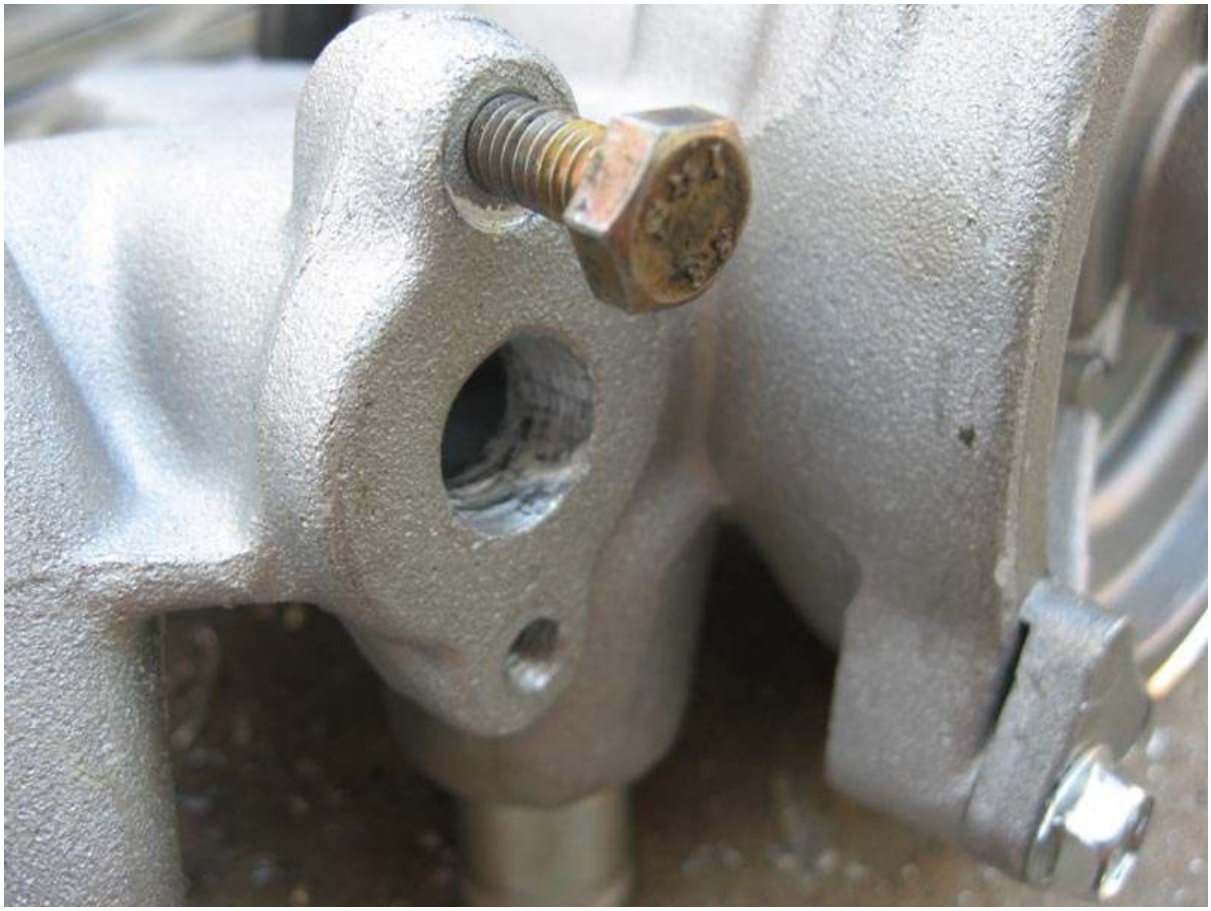


Here is the old pump and the new one. My pump is from a Mercedes parts supplier, and as such needs a hole made here for the rear pipe, as well as two bolt holes.

Again, as this is a Mercedes pump it has a hole for a optional third sensor. It came with two metal threaded plugs to cover any un-needed holes. Yours probably will already have the correct holes.



A few minutes later with a drill and tap&die set, I have made the central hole and two threaded bolt holes. Washed thoroughly to remove metal filings as well.



Metal plug in extra hole.

Here I have slotted the water pump into place, after first putting on the little rubber O-ring, and a bit of high temp silicon gasket maker. I know it is not necessary, but I like to be overly cautious.

New thermostat has gone in, along with the thermostat O-ring. Bit more silicon, and the thermostat housing is good to go on.

Leave to cure for a good 24 hours, before re-tensioning the bolts. After 24 hours, pour a bit of Coolant into the pump to make it full before you reconnect your pipes. Hook everything back up, top up coolant as needed, and off you go. If you have any hints of your own I am more than happy to update this doco...

That's it