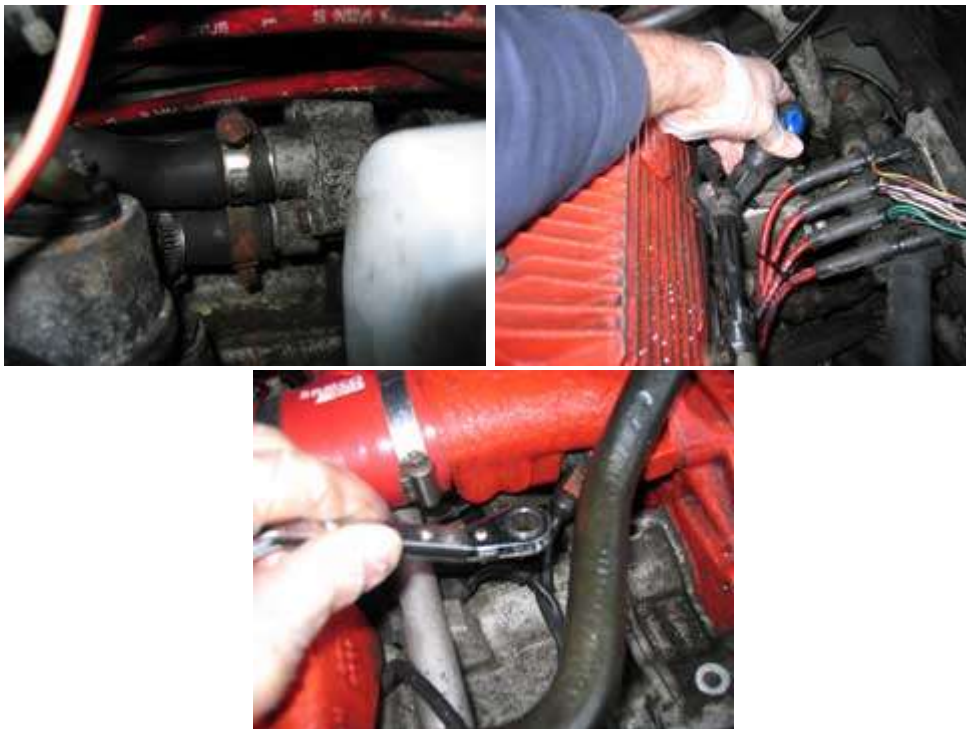
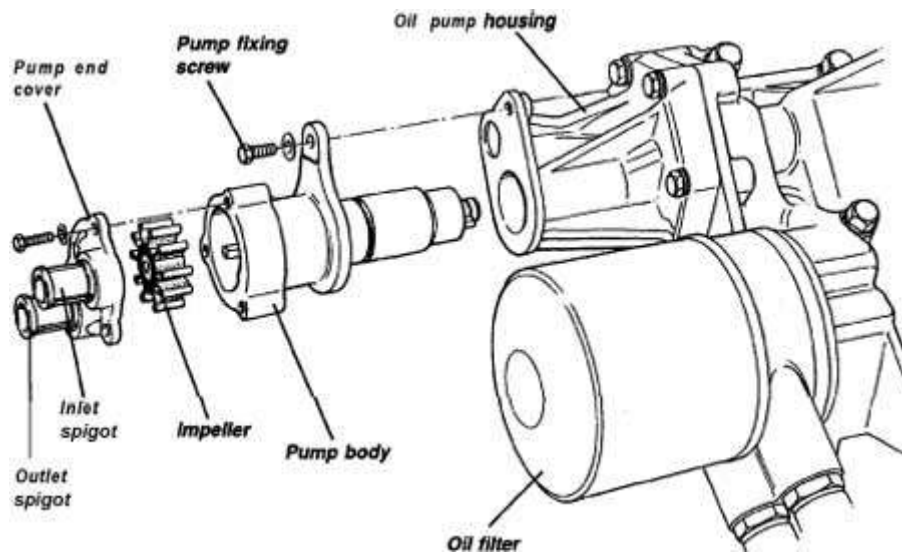


Removing Old Pump



Now to get the old pump out. First we removed the piping from the pump. These are held on with jubilee clips. Remove these with a screwdriver. You'll lose some fluid at this point, so don't be alarmed. Pull the pipes away from the pump to give better access. You won't be able to see and work, so you'll be working by feel most of the time. As you can see from the diagram above, there's one bolt holding the pump. We finally found a use for our ratchet spanners, as we could get good access with them from above. You can use a socket, but you won't get to much of a turn. Be careful **not** to start undoing the bolts for the **oil pump housing**, as we did!!!!



Once the bolt is removed, you should be able to pull the old pump straight out. Ours was stiff and needed some encouragement. You can now see the old mechanical pump along side its electrical replacement with the plug and bracket to fill the hole left behind.



Unfortunately we couldn't get any pictures of fitting the plug, needed to fill the hole where the old pump came out from. This hole must be filled. We used the WC plug we ordered at the same time as the pump. Basically the piece attached to the bolt you removed is replaced by the new bracket (see above right). This fits in the recess of the plug and stops it coming out. Push the plug into the hole, then line up the bracket in the recess on the plug, use the bolt to screw back in to hold the bracket and in turn stopping the plug from falling out under pressure.

Flushing & bleeding system



Now to flush the system, refill with some anti-freeze and bleed before putting everything back together. You should have pipe ends that were taken off the old pump. One goes to the chargecooler carrying cold water from the pump, the other comes from the radiators via the chargecooler. You can flush the system by attaching a garden hose to one end and putting the other in a bucket. Turning on the hose will flush the system out. You only needed a flow of water, so don't go turning the tap full on!



The pump was then fitted and we primed the system with clean water from the hose (no airlocks of course). Then using small plastic bucket fitted as low as poss. and a length of hose to connect to the

new pump inlet, I stood this bucket on top of the CC and with the inlet pipe (return from rad) extended to return to the bucket, switch on and we have a system running by passing the 'cooler, perfect , let it run for a few minutes to check the flow and switch off.

Next step is to reconnect the inlet pipe to the cooler and fit a pipe to outlet from cooler into a second bucket in the boot, switch on and check the flow watching the level of clear water in the bucket on top of the CC. Before you run this bucket dry, stop and fill with antifreeze mix, start pump again and when the coloured antifreeze starts to run into lower bucket stop and connect the CC outlet to the new pump inlet.



Take the top plug out of the CC and top up, run the pump topping up the CC and there you have it. You can now connect the switch wire that you had connected directly to the battery up to the correct wires to complete the system.

Option 2 Flushing & bleeding system

Flushing the System

Connect a garden hose-pipe to one of the pipes and force water through the system. When the water is clear, switch off the pipe and blow down the hose until the system is empty again. Refill with the hose-pipe once again. If the water is discoloured, repeat the above procedure.

Bleeding the System

What an awful, time consuming job this is. The pump needs a head of pressure allow it to work, the standard arrangement of filling is just not good enough,.

I suggest that you cut the bottom of a plastic bottle and, via various pieces of hose, make an adapter to allow you to make a water-tight seal with the charge-cooler's fill point.



Remove both large hoses from the charge-cooler and blow through one of them to empty it. Refit the hoses.

Fill the plastic bottle full with neat anti-freeze. Massage the charge-cooler circuit's hoses until no air can be seen bubbling up into the bottle. Remember to keep the bottle topped up with anti-freeze.

Temporarily connect the pump up to the battery and let it run for 10 minutes. You should hear the pump working against the water in the system. This will be accompanied by bubbles appearing in the plastic bottle.

Again, massage the hoses to assist in removal of air in the system.

You must understand that, apart from the expansion hose, there is no connection to the engine's cooling system; the two water circuits are completely separate.

Bleeding the system will take about an hour. It may help if you start the engine as the higher temperature and vibration will force more air out.