



The refurbished water pump back in place on Sacha's engine



Discoloured raw-water pipes were well past their best

Raw water system overhaul

Stu Davies shows how he serviced and improved the raw water system on *Sacha*, his Bénéteau 381

My boat is fitted with a 12-year-old Volvo Penta MD22 engine and the cooling system was starting to look its age, with discoloured, distorted and stiff

hoses to and from the inlet and raw water pump. It was time for an overhaul.

The pump sits on top of the engine towards the back. Every time the impeller is changed, a small amount of seawater is

deposited on top of the engine, with the result that there was a lot of rust on the block underneath it.

In addition, the pump's awkward position made the impeller cover plate rather tricky to take off – the thought of having to change the

impeller on a rough passage filled me with horror!

The Vetus seawater strainer is bolted to the back of the engine close to the raw water pump, and the O-ring seal under the lid was in bad shape. There is also a Vetus

anti-siphon valve fitted to the bulkhead at the front of the engine, which looked as if it hadn't been touched since the boat was new.

I decided to address all these problems at once by renewing the wire-reinforced hose, fitting a Speedseal to the water pump and a new seal to the water strainer, stripping and cleaning the anti-siphon valve and cleaning away the rust on the engine block.

First steps

The first job was to source all the bits. The Speedseal was easy – and as webmaster for the Bénéteau Owners' Association I qualified for the 10% members' discount. ASAP Supplies came up with a 4m length of 32mm inside diameter hose, and an O-ring for the strainer came from the Vetus dealer in Anglesey.

I did the work while *Sacha* was still afloat, so I had to be aware of the possibility of flooding her. As the water strainer is above the waterline, in theory water won't siphon into the boat when the bits are taken off. All the same, I made sure the seacock was shut before starting work.

The raw water pump impeller is awkward to get at in situ, but the pump itself can be removed relatively easily by undoing the hose clips on the raw water pipes and unscrewing the two set screws that hold its bracket to the engine.

Water pump refurb

Time to fit the Speedseal. The original Volvo cover plate is secured by six set screws. The Speedseal replaces these with four large knurled thumbscrews, two of which are left in place when the cover is removed. The new cover plate sits on top of a PTFE washer, which means the pump can be run dry for a short while without doing too much damage. The original cover plate gasket is replaced by an O-ring, located in a groove in the cover plate, so no more worrying about damaging the gasket when changing the impeller.

All I have to do now to change the impeller is to remove the two top knurled screws, slacken the two bottom ones and slip the cover off.

While the pump was off, I took the opportunity to clean up the rust on the top and back of the engine. After removing any loose material, I painted on some Kurust and then some green enamel to finish the job off nicely.

Hoses and strainer

Hose replacement was easy – just a case of removing the hose clips, removing the old hose and using it

Water pump



1 The original water pump cover is held in place with six set screws



2 The replacement Speedseal cover features a PTFE washer and rubber O-ring seal



3 Impeller vanes must face the right direction when pushed inside the water pump body