

Servicing the keels

"Taka Maru" has two cast iron lifting keels which are raised and lowered using screw jacks inside the boat. These give the boat it's ability to navigate shallow waters with the keels raised, and sail on the open seas with the keels lowered. Each keel weighs 450 kilos, and takes about 50 turns of the jack handle to raise or lower. The larger 31ft Atalantas are equipped with hydraulic jacks.

Every 5 years or so the keels need to be removed, and the metal parts which are normally under water inspected and serviced. On this occasion, the keels will be taken away to have the rust removed by grit blasting, and then plated with zinc against future corrosion. The hollow boxes in which the keels sit must also be cleaned and repainted with antifouling paint.

In this picture the starboard keel is partly removed, and you can just make out the steel cable supporting it, and the hole through which the keel bolt fits. The port keel is in the lowered position, as it would be when the boat is sailing.



Photo: Author

Below is the winch that I'm using to lower the keels and remove them from the boat. It's made from a trailer winch bolted to welded steel "legs" so that the 5mm steel support cable passes down inside the keel box.

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Photo: Author

Here's what the keels looked like after resurfacing:



Photo: Author

However, there is a lot more to servicing the keels than dealing with the keels themselves. One of

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the great benefits of the [Atalanta Owners Association](#) [1] is the wealth of experience that has been carefully documented, for example in the paper known as "Donovan on Keels". This paper explains how all the stresses and strains of sailing are borne on the Atalanta's main bulkhead, which supports the mast and sails above, and the keels mounted to a substantial steel structure below.

On removing the keels, we found that the previous owner had chosen to deal with half a century of wear, where the keels bear against the mounting structure, by bolting the inner keel clamping plates through the plywood keel boxes directly to the metal structure, without the original backing plates (you will need to read Donovan to understand this!) On "Taka Maru" we have chosen to leave things as they are, rather than completely rebuild the keel boxes as [this owner](#) [2] has done. If after a season or two's sailing it turns out we made the wrong decision, we know what to do...

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