

# Installation of a Replacement Bilge Pump to my Mark 1 Shrimper

By Richard Lewis, Shrimper *Pelican* (102) (February 2019)

After a considerable period of time, the original Henderson Chimp pump failed when one of the washer plates fractured and, consequently, the complete pump needed to be replaced as the original pump is no longer made.

Cornish Crabbers supplied me with a “Chimp” style pump made in Taiwan by Osculati Model No. 15.262.20 as a replacement. The pump is advertised as being of versatile design and may be converted to a through-deck/bulkhead model - an essential requirement for a Mark 1 Shrimper. On the face of it, this pump looks very like the original but I found that there were one or two material matters that need to be dealt with before I could successfully install it.

The first problem was that the holes drilled through the pump’s ring did not match up with those of the original, with a result that the holes surrounding the cockpit bulkhead aperture needed to be enlarged slightly, as shown in Fig 1, to enable the external ring to be bolted onto the pump body located inside the cabin. This was achieved using a drill and a fine round file.

The next job was to remove the transverse brass plate in way of the companionway and also the step moulding covering the centreboard winch. This provided greater space to fit the body of the pump in a very cramped position within the cabin. Fig 2 shows the cabin inside with pump removed.

The second problem was the pump’s very short securing bolts, each of which needs to pass through the pump outer ring, the boat cockpit bulkhead, the pump diaphragm and the main body of the pump. When all these parts had been installed the ends of the bolts barely protruded above the retaining nuts, which are tightened within a captive moulding built into the pump’s body. When installing the pump it is vital to ensure that the holes through the diaphragm do not become damaged as the holes would then immediately become out of line as the diaphragm is passed through the cockpit bulkhead aperture. I dealt with this by using a number of 4.5 mm dia x 10 cm long round nails, passing the first nail through the pump body and then picking out the appropriate hole in the diaphragm, thence through the bulkhead and finally through the pump outer ring. I did this using about half a dozen nails, which enabled the body of the pump to then be easily and accurately moved up against the bulkhead in alignment. The nails used were slightly thinner than the securing bolts.

I then removed one of the nails and inserted a longish 4mm stainless steel bolt in its place (i.e. from pump body to cockpit), onto which was tightened a nut where it passed through the pump outer ring. I was now in a position to remove an adjacent nail and replace it, in the reverse direction, with one of the pump’s securing bolts. Once one of these bolts was secure, it was a relatively simple process to deal with the rest of the bolts, holding a Phillips

screwdriver in my left hand on the cockpit side and the index finger of my right hand maintaining pressure on each nut as it was tightened into the pump body in the cabin.

I found the process quite difficult to begin with but, once I had come up with the idea of using the nails, I installed the replacement pump single handed, although, in retrospect, a crew would have been helpful! It was now time to reconnect the inlet and outlet hoses and to test the pump – success!! Figs 3 shows the newly installed pump from inside the cabin with all hoses connected and Fig 4 the pump in position in the cockpit.



**Fig 1 – pump mounting holes enlarged to suit new pump**



**Fig 2 - aft cabin bulkhead with pump removed**



**Fig 3 – New pump installed as seen inside cabin**



**Fig 4 – New pump installed seen from the cockpit**

Finally, other owners may be interested in a practical method of ensuring that large foreign bodies are not drawn up into the pump, rendering it ineffective. Figs 5 & 6 show a strum box I made and fitted over the cockpit bilge pump suction sump. The box is made of stainless steel mesh and a section taken from a 45 degree section of a domestic drain pipe.



**Figs 5 & 6 – Cockpit sump strum box**