



## *Butterfly Handrail Replacement*

The handrail bolts are screwed into threaded aluminum backing plates, that are bedded in a polyester putty. See photo (it is the deck half of the boat, upside down, looking at one side of the cockpit - and in this photo, the handrail bolts have already been removed).

You should be able to turn the bolts out, but it may take some effort if the boat is really old due to oxidation around the stainless bolts and aluminum plates. But be careful to **TURN** hard, not **PUSH** hard, on the screwdriver. If you **PUSH** hard the backing plate can break out of the putty and the bolt will turn without coming out. If this happens, you have to drill a small hole next to the spacer block and insert something like a #8 or #10 pan head self-tapping screw, 3/4" long, into the backing plate to hold it in position while you try once again to turn the bolt out. If this is needed, the small screw comes out when you are done, and the hole filled with something like 5-minute epoxy. If you can find a plastic syringe used for fine epoxy work, you could even inject some epoxy into the hole to try to rebond the backing plate.

One trick to try to break the bolt loose if it is really stubborn is to heat the screwdriver with a torch, then hold it on the bolt head for a few seconds (so the bolt get hot) then try to turn it.

The good news is that the bolts really have turned out 99% of the time. The 1% that have failed have required using a hacksaw to cut through the wood spacer AND the bolt, then filing down the bolt flush with the cockpit. Now the handrails have to be re-positioned, its generally best to go down, by drilling new holes just below the old bolts and then using a tap from a tap & die set to tap new threads into the aluminum plate, and finally using new bolts to reassemble everything. For this trick, you would need new bolts and new spacers (we do have both) - but hopefully it doesn't come to this!

