

Tartan 37 Technical Resources

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Chapter 1: Hull and Deck Structure

Section 1: Pintle Replacement

Jim Boissier #285 Ardea

For the past year I've had water around the area of the pintle attachment bolts at the stern of Ardea. I tried to convince myself it was rain water but finally resigned myself to the fact that one or more pintle bolts were leaking. So I decided it was time to replace the pintle. The following are the steps I took to accomplish the replacement.

The pintle is attached to the hull with four 5/8" x 3" stainless steel bolts that are visible inside the hull under the steering radius wheel at the stern. The rudder must be dropped about 6 inches. Mark the rudder post with a felt marker where the radius wheel sits. Loosen the steering cables at the radius wheel and then loosen the four bolts that clamp the radius wheel to the rudder post and let the wheel slide down the post.



Radius wheel. Pintle backing plate is visible way down there

This will allow the rudder post to slide down once the pintle is detached. Put a jack under the rudder and adjust it to within about 1 inch of the bottom of the rudder. Crawl inside the starboard lazarette and move to the stern and remove the nuts from the four bolts inside the boat with a 15/16" socket. Once the nuts are off, using a 5 lb. hammer beat the daylights out of the bolts until they come loose and start to drop down. If you plan to re-install your original pintle screw the nuts part way on the bolts before hitting

them with the hammer. Return to the jack and lower the rudder/ fairing assembly until the pintle bolts clear the hull. The fairing sits on top of the pintle and can be removed and set aside.

To prevent the rudder from coming off the pintle, the window in the rudder is tight against the bottom of the pintle. The area of the rudder below the pintle pivot pin is built up of some kind of filler and must be removed.



After cutting out the “plug” that holds the pintle in

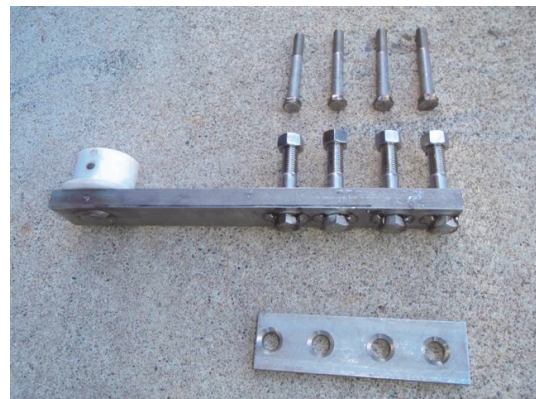


The Plug

I used a “Zawzall” to cut out this area. Retain the piece removed as it will need to be replaced later. Once this piece is removed the pintle will fall out.



Old pintle and bushing



New pintle. Extra bolts are not part of this project

If the plastic bushing is stuck inside the rudder post you can pound it out from above. I used the steel handle from my floor jack. I tied a cord to it and then dropped it down the rudder post about a dozen times and the bushing fell out using the cord to retrieve it between drops.

Clean all surfaces of old sealant and wipe with acetone. The surfaces to clean would include the bottom of the hull, the upper and lower mating surfaces of the fairing, the pintle and backing plate and the inside of the hull.

I thought the hull was pretty thin in this area (about 3/8" thick) so I added some fiberglass to double the thickness on the inside of the hull.

To re-assemble start by cleaning the area of the rudder where the piece was removed with the saw and also the plug that was removed using acetone. Mix some thickened epoxy, shove the pivot of the pintle up into the rudder and epoxy the plug back into place. The weight of the pintle will hold it in place until the epoxy sets.



New pintle in place and plug epoxied back in rudder

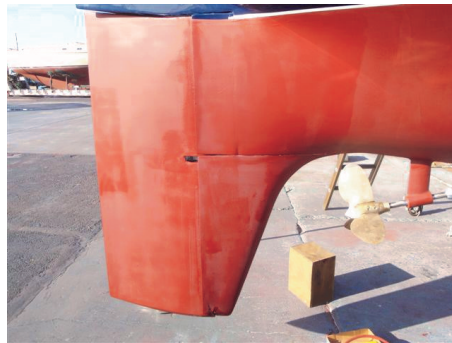
Next apply your sealant of choice (I used Life Seal) to the mating surfaces of the pintle and the fairing (both sides). Align the bolts with holes in the hull while jacking the rudder back into position. Be sure to center the fairing as there is a good deal of side to side play. The rudder doesn't move straight up but moves up and forward. It takes a little fiddling to get it in the right position.

Once the rudder is in position return to the comfort of the inside of the hull. Apply sealant liberally (I used an entire tube of sealant in a caulking gun for whole job) to the area around the four bolts. Slip the clean backing plate over the bolts and install the nuts and washers. Tighten the bolts evenly.



Finished installation from inside hull

Reinstall the radius wheel to your mark on the rudder shaft and tighten the cable back up. Now go back outside and admire your work.



Good as new

I wasn't sure I wanted to replace the pintle instead of just resealing but after removal of the old assembly I'm glad I did. The 1" pivot pin was corroded from the inside out. It was virtually hollow. I removed one of the mounting bolts from the old pintle (the heads are welded to the pintle) and found the bolt and the hole to be pretty badly corroded also.



Light spots inside hole is sun shining through pin holes in top of pivot pin



Top of pivot pin



Corroded bolt hole

There are a number of pintle configurations available from Tartan Parts. The first one I received had $\frac{1}{2}$ " bolts that were 4 inches long instead of the $\frac{5}{8}$ " bolts that are 3" long so check to see what you have before ordering. Art tries to keep one of each assembly on the shelf but there is no guarantee of that. Lead time is 4 to 6 weeks if he is out of stock so plan accordingly.