

Inspecting Rudder Welds and Repairing Rudder On Talisman II T-34C #174

I had Talisman II out of the water for over a year doing several maintenance projects, as the boat is over 25 years old. Among the projects was inspecting the rudder welds and repairing the rudder. The reason for inspecting the welds was two fold. First, I knew that water had infiltrated the rudder and may have affected the welds and secondly, I had met an owner of a 34C on Cape Cod who did have these welds fail.

The second problem I had with the rudder was that the glass at the top had split, allowing water to infiltrate the foam.

The T-34C Rudder consists of a hollow SS tube – the rudderpost – and three horizontal SS bars that are welded to the tube. This SS structure is encased in foam and covered with a layer of fiberglass.

I called Joe Palmer and in his files he had the location of the rudder welds. These are – measuring from the bottom of the rudderpost up – 3”, 12” and 22.5”.

First, I drilled a hole in the bottom of the rudder, and water began flowing out. Next, working from the starboard side of the rudder, I ground away the glass at the locations Joe gave me. I would imagine a hole saw or dremmel tool could be used as well but since I was going to rebuild a lot of the rudder, the grinder was the tool of choice. After grinding through the gel coat over the areas Joe gave me, an outline of the horizontal bars appeared. On my rudder, these bars are welded to the starboard side of the rudderpost. Grinding the glass, picking away the foam and then wire brushing the welds showed that two of the three welds were fine but the upper weld had failed. Fortunately, I had a buddy with a welder and he was able to reweld the bar to the rudderpost.

The splitting of the top of the rudder presented another problem. I ground away the fiberglass skin from the top one fourth of the rudder on the starboard side to expose the foam. The foam was cracked in this area of the rudder and came out in chunks. This may have been from water freezing in the rudder or could have been from the rudder hitting the external rudder stops. Rather than try to replace the foam core that was removed, I decided to use West Micro balloons. With the rudder on the boat, foam would have been difficult to deal with and I felt that the epoxy would bond to the rudderpost itself, making a stronger structure. Mixing a stiff slurry of microballoons I applied several layers against the existing portside fiberglass

skin. After building it up to the original thickness and fairing, I applied a layer of biaxial glass to both sides of the entire rudder resulted in a slightly thicker, but probably stronger rudder. After, again fairing I applied several coats of Interprotect not only to the rudder but to the entire bottom as well.

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Talisman II