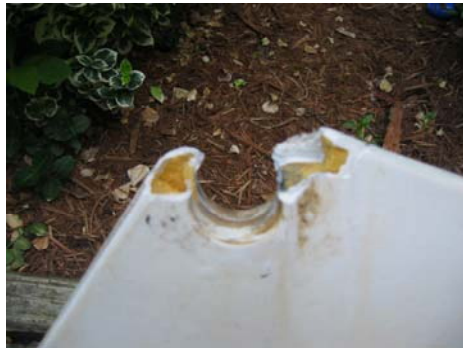


Centerboard Pivot Hole Repair

Stuart Richman (June 2005)

This is my experience is performing the repair using a procedure and guidance provided by Bob DeRoeck. I acknowledge Bob for his expertise and time in helping me.

Figure 1



1. Figure 1 shows the damaged area. I first removed the foam core about 1 inch beyond the outer circle of the existing pivot hole. This will open an area to insert layers of fiberglass to repair the broken area and replace the foam core with layers of fiberglass around the pivot hole. This will provide added strength over foam for the core.

2. I then began to insert layers of fiberglass, 3 at a time, to build up the damaged area. The fiberglass piece is sized to extend (about 1/2 inch) past where the existing edge of the board will be. This will help create a new edge around the damaged area. Note (in the photos below) how the fiberglass was layered in. Each piece of fiberglass was placed in the damaged area so the fold would go against one edge (front edge in this case) and the remaining piece would be split against each side. The fiberglass/epoxy is allowed to cure, then sanded and washed.

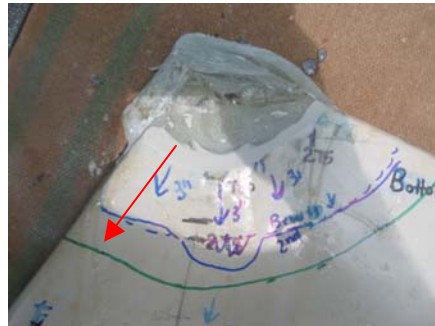
3. The layering process continues until no layers of fiberglass can fit into the damaged area. The remaining gap is filled with resin/silca mixture. If necessary, one layer is glassed is placed on one edge to prevent the epoxy from "leaking" out.



4. When the core layering process is complete, it looks like the pictures shown below. The next step is to mark the center point of the existing pivot hole with long guidelines on each side of the board. This is necessary in order to relocate the center point of the pivot hole in order to drill a new pivot hole after the repair is completed.



5. The next step is to form a scarf joint, which will attach the new fiberglass core to the existing fiberglass sides of the board. A rule of thumb for a size of a scarf joint is to use a 15:1 taper ratio for the repair. So if the each side of the repair is about 1/4 inch thick, a joint length of about 3.75 inches will provide adequate strength. So you measure this distance from the repaired pivot hole area and mark of about 3.75 inches (picture below). Then you begin to sand a beveled edge (red line in picture) from the pivot hole, outward 3.75 inches. Near the pivot hole, the existing fiberglass is sanded down to the new fiberglass and at 3.75 inches away you are back to original fiberglass.



6. Layers of fiberglass are then added to form the scarf joint between the repaired core and the original board side. Three layers are added at a time. The 3 layers are allowed to cure, sanded and washed. Each successive 3 layers is sized about 1/4 larger until the layering process is complete about 3.75 inches in size. Repeat for the other side of the board.

6. When the scarf joint is complete it looks like this.



7. The centerboard edges are then trimmed to match the existing edges of the board. A thin layer of epoxy can be applied over the trimmed area.

8. The repair is now complete.



9. Using the lines from step 4, a new pivot hole is drilled using a hole saw and drill press.

10. I had to sand a small amount off each side of the scarf joint in order for the board to fit into the CB trunk. The thickness of the repair must have been wider than the original board.

11. I have not had to “test” the repair yet, but hopefully it will be stronger than the old fiberglass pivot hole area.