

Background info for boat repair discussion with Alex Conley (conley.alex@gmail.com or 509 654-0394)

Overview of Bow setup

Bow fitting takes both upward pull from forestay and pull when used as eye for trailer winch strap, so crack repair needs to be structural sound



Closeup of most extensive cracking in lip of hull



Interior view showing crack at hull liner/deck joint in bow; liner lightly bonded to hull sides, but void between stem and liner (see flat section of liner maybe 2-3" aft of very stem)



Notes:

Boat is 1986 Montgomery 15; known for high quality layups

Hull and deck are 1/8 to 3/16 thick

Crack is all the way through (passes water to bilge)

No sign of cracking in deck; Deck is balsa cored, but not I think, at the lip

I'm guessing boat dropped and the bow overhang caught the fall (some damage to edge in out of focus upper left part of photo above)

Maybe bow coming down hard on a wall edge in waves? jacked off trailer by the lip? Cranking up on trailer can't help...

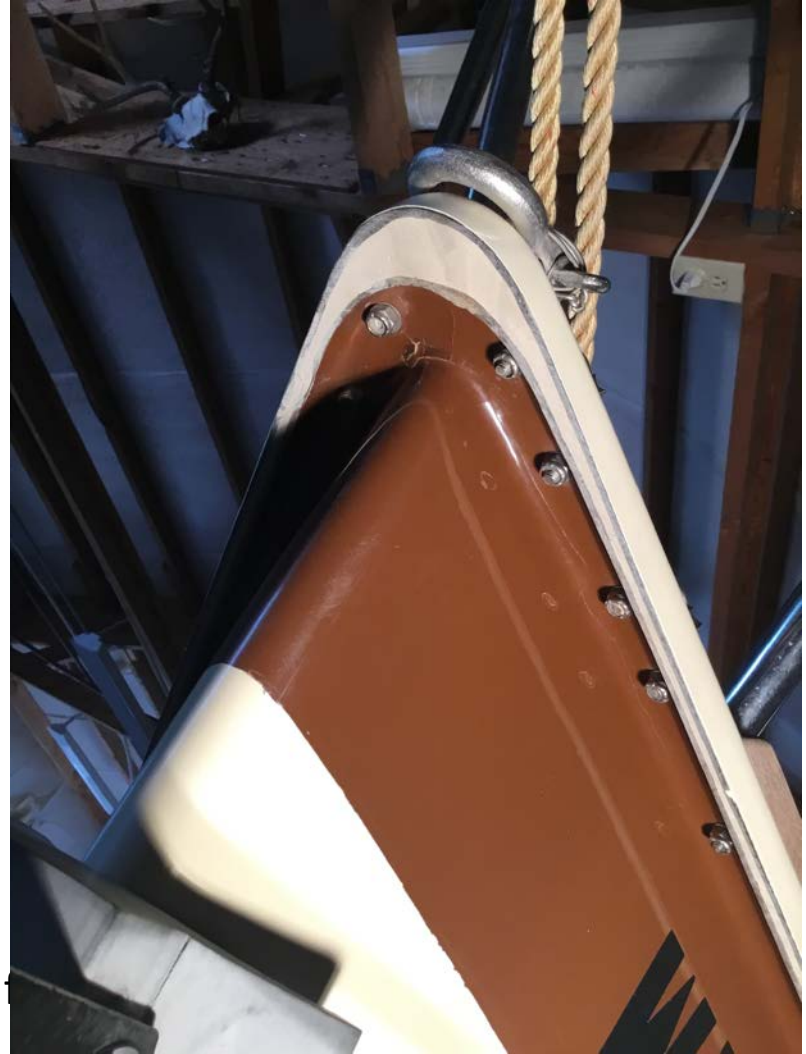
Pretty sure crack predates my ownership (and had very superficial repair? Or if that just stressed gelcoat?);

may have spread in the short season I have used the boat

Starboard side crack extends ~9" aft (beyond last bolt)

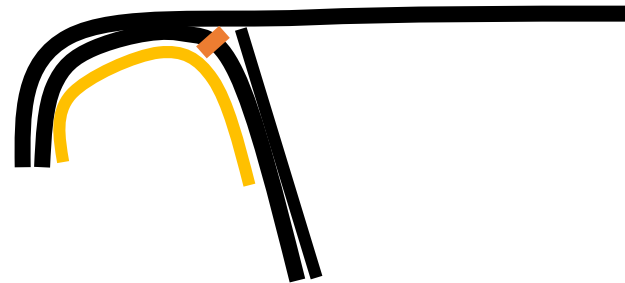
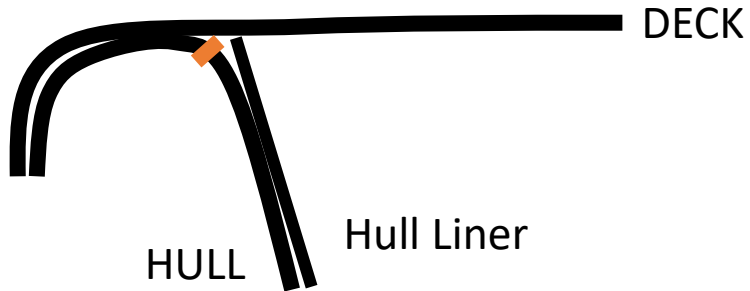


Portside crack extends ~8" aft (stops just before last bolt)



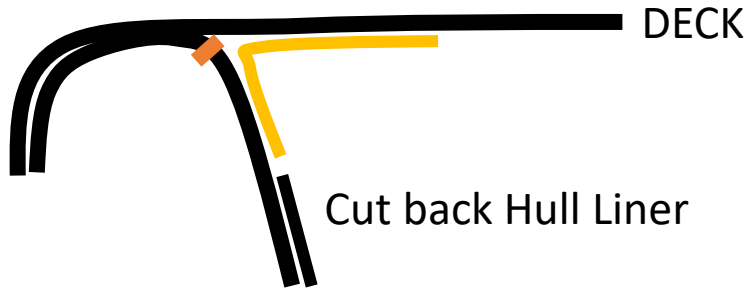
Repair Options?

Existing condition- crack in red

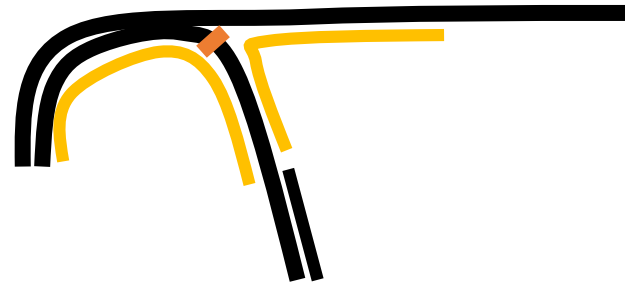


A. Grind out crack & use gap filling epoxy (no glass reinforcement)

B. Reinforce from outside



C. Reinforce from inside



D. Reinforce from both sides?

Assuming Reinforce from outside is the best route, here are my ?s



A: how far down hull to overlap glass below crack? *Aesthetically, coming down even with the outside deck edge (~5/8") is not very visible; coming further down the hull is quite visible, potentially adding more work to feather in and gelcoating the repair, but giving a longer surface for the glass to glass bond?*

B: one or multiple layers of glass?

?: Ok to simply grind off gelcoat and then glass over the outside of the existing fiberglass surface? Or is it better to grind tapered edges in hull either side of crack so repair feathers into existing hull thickness?

?: Cut glass from sheet to match curve around bow to make laying curves easier as in blue layout to right? Or will tape stretch through the ~2" radius curve around the bow?



Repair steps as I understand it:

- Get materials (basic fiberglass repair kit sufficient, or others needed?)
- Remove bow fitting and foremost toe rail bolt on each side
- Grind out crack (how much to grind out, if at all?)
- Remove gelcoat from all surfaces to be glassed
- ?Grind into hull for tapered surface for glass to bond to bond? *Hard to get angles right- I'd rather just lap over existing surface...*
- Prep surface for glass/epoxy- sand? Wipe down?
- Fill crack w epoxy- use syringe? Use any filler? Drill holes/inject to fill gap/bond deck liner and hull?
- Lay one or more layers of fiberglass?
- Sand/taper cured glass as needed
- *Ok to leave bare glass as is, or is a gelcoat or paint finish needed for structural reasons? Or just aesthetic?*
- Reinstall and bed hardware (use long bolts as needed) *Best way to bed?*
- *Glass over interior crack between hull liner and deck?*

GO SAILING DANG IT!