It's time for us to admit it, our boats seem have a weakness. We may just be treating our boats poorly, but it's more likely that there is an issue that PT 11 owners should be aware of..

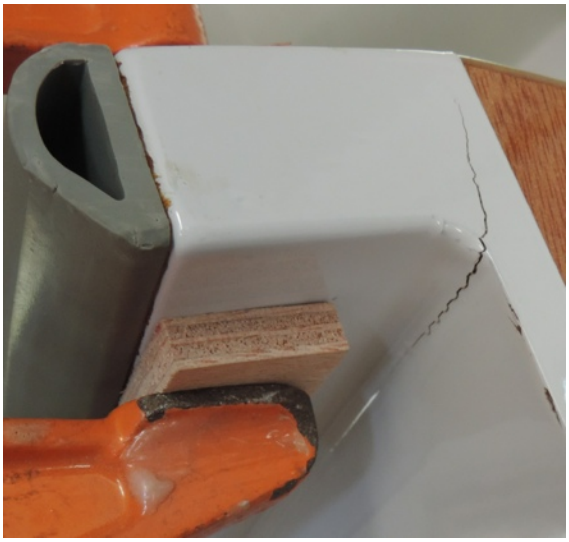
Owners, please check your boats for cracks. Builders, there will soon be an added step in the building manual to prevent the problem. If you haven't glued your bumper on yet, the fix is easy.

We have seen this failure three times now, the first when one of our boats got driven over (just the edge) by a truck. We thought that was unusual punishment, fixed the boat and forgot about it. The second time was a boat that got beat up by solid water while lashed to a foredeck. We didn't really know what happened there.
The third time it happened it was our newest PT 11 and again we don't know exactly why, but here is our theory:
Q) When the boat is upside down in the nested position and somebody walks on it (or a bunch of people sit on it), where does that weight go? A)On to the very ends of the gunwales on the fwd hull half.

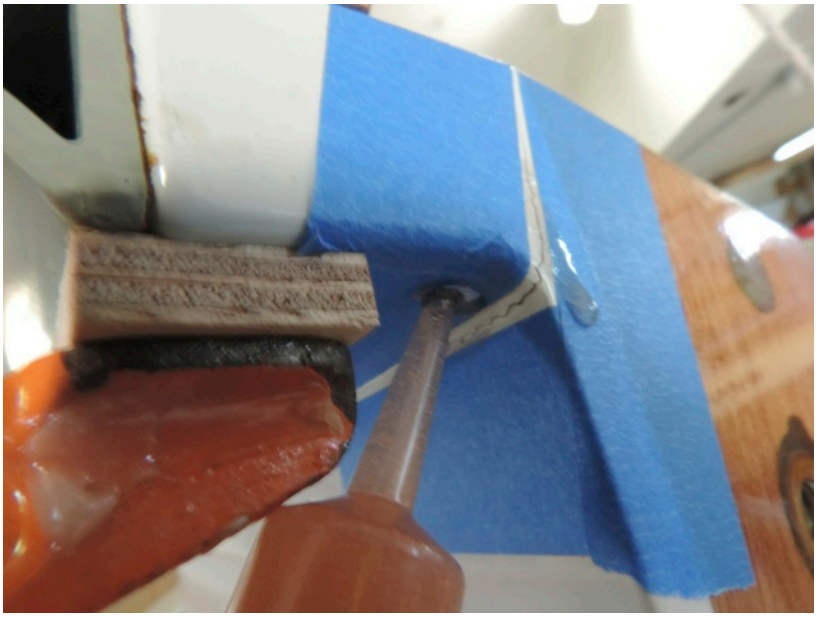
The failures have always been in the plywood hull skin (right where you would expect it). Fixing the break and the weakness that caused the break are both pretty easy. The first is done by **injecting epoxy into a carefully drilled hole** to fix the crack, the second by **putting screws (with epoxy) into carefully drilled holes.**

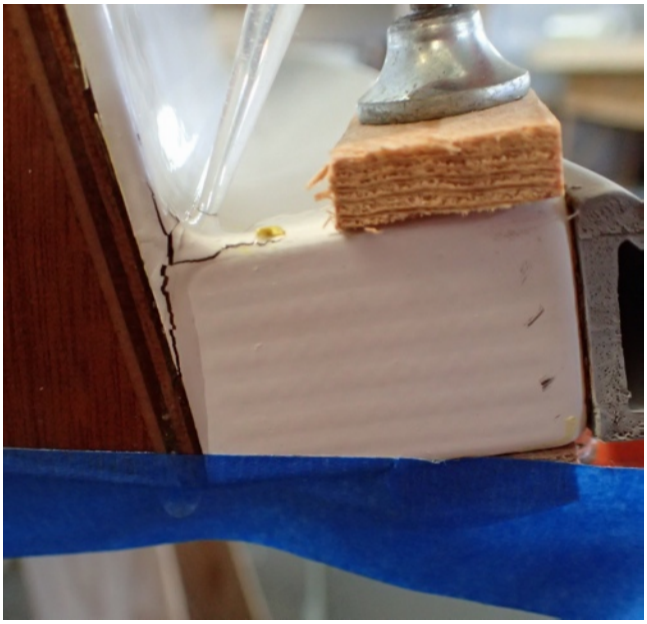
The screws pass through the gunwale without threading and then thread into the bulkhead and gusset. **When tightened, the screws will pre-load the failure area and make another failure very unlikely.**

The first step if you have a crack is to get it dry. The crack can be opened up slightly as shown below. If there's the possibility of salt, open as shown and flush with fresh water, high pressure if possible. Dry by gently warming with a light bulb or small heater over a day or more with the crack opened slightly.



The trick for gluing the crack is to drill a hole at an angle that intersects the crack and have the hole and the tip of the syringe be the same size. Cut off the tip of the syringe until it just fits the outside edge of the hole that you drill.
These photos show one boat being fixed right side up and the other upside down (I can't get the drips to lie). However you do it, keep wiggling the clamp and pumping epoxy (un-thickened) through the crack (wipe up the drips) until you are sure it's full.

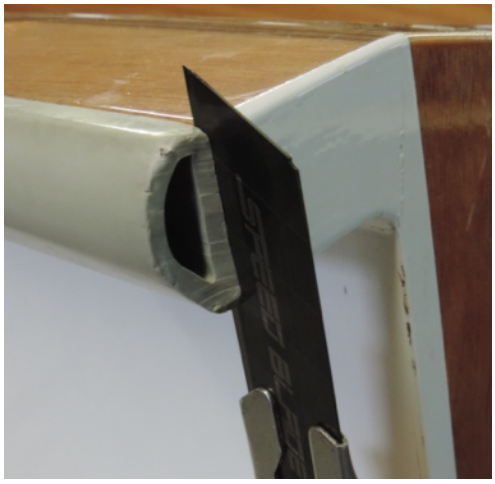


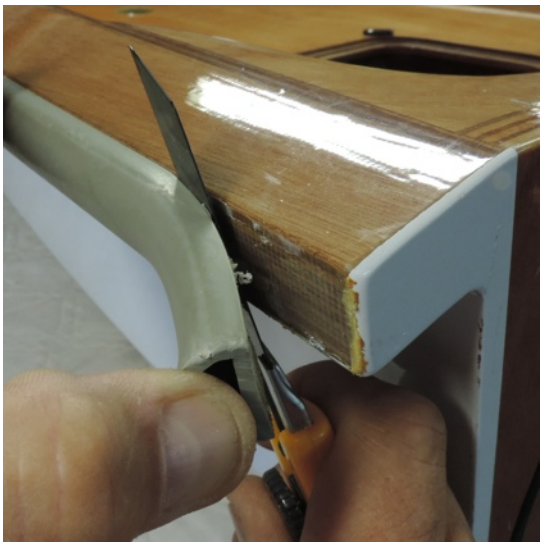


This is a good way to clamp the crack closed again with a few layers of wide tape pulled tightly. Plastic packing tape would work well.

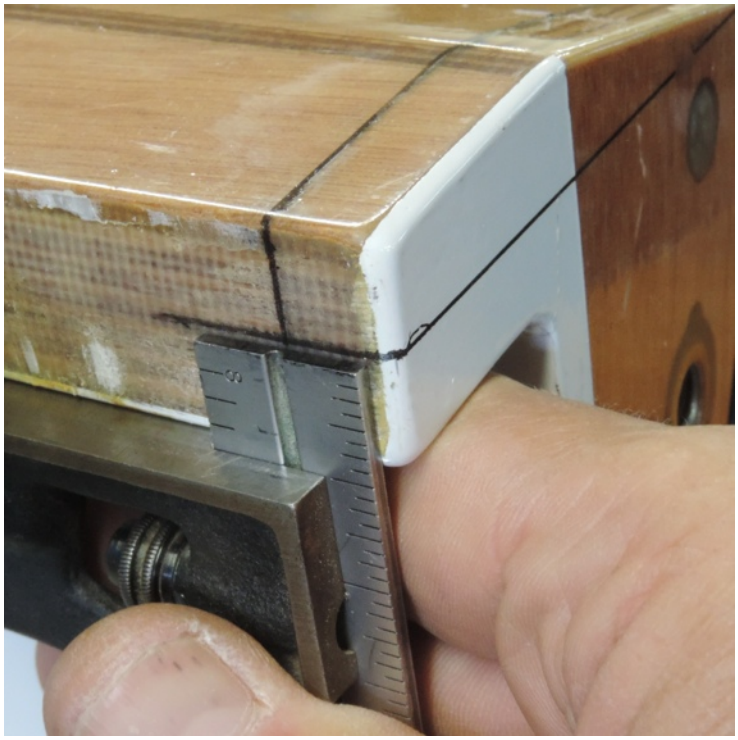
Dry wipe (no thinners) any squeezed-out epoxy and let cure.

About 4” of the bumper must be de-bonded to install fasteners. This experience gave me hope that removing a bumper (we never have had to replace one) would be possible. The trick is to start the cut (photo on left, sharp blade) and once started, angle the blade as shown in middle photo and rock knife handle fore & aft to cut along the gunwale face.



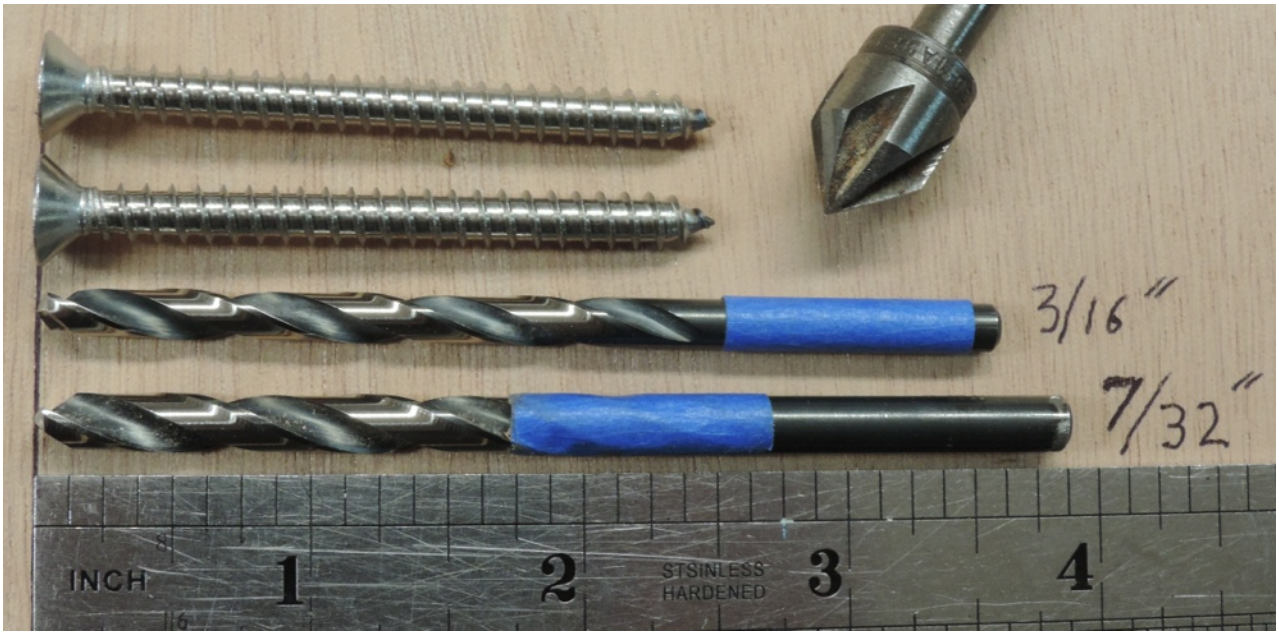


Lines to use as guides for drilling (see drilling photos below) can be marked with felt tipped pen & removed later with alcohol.
Use a combination square set to mark 1/2”. Mark the top face and lines that cross on outboard face. The aft face can be drawn straight to the corner or middle of radius as shown on right side of photo. This angles the fastener hole down slightly, which is good.

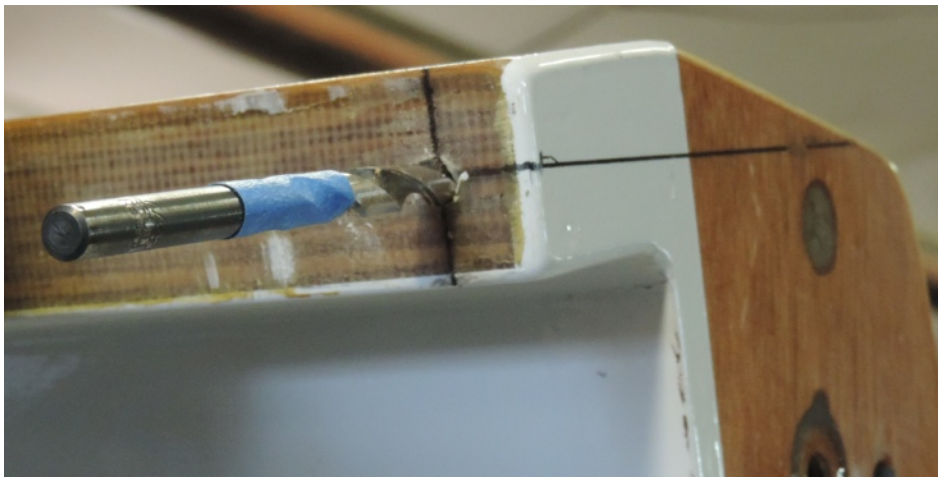


The screws to use are stainless steel #10 x 2 1/2” long, flat head phillips sheet metal.
That’s what they are called. If you can’t find them easily, we will send them to you.

Mark a 7/32” drill bit to a depth of almost 1 3/4” as shown below. This bit size should allow the screw to pass through the gunwale.
Mark a 3/16” bit to the length of the screw as shown below.

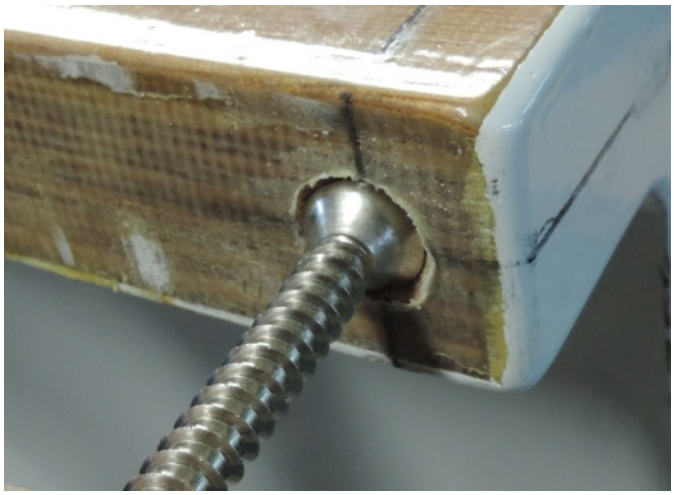


Use the drawn lines as a guide (see both nearby photos) to drill with the 7/32” bit to the depth marked with tape.
Start out slow, checking alignment in both planes while drilling.



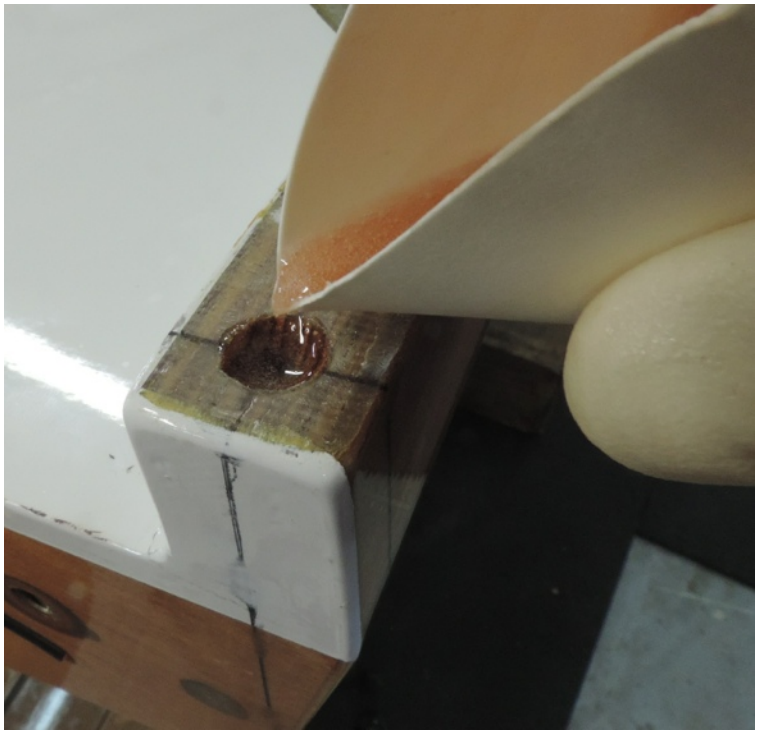
Shift to the 3/16” bit to drill to the depth marked (photo below).

Countersink the hole deep enough that the head of the screw can be well below the surface. This will allow filling (with epoxy) over the head of the screw for a reliably watertight seal.



We stood the hull half on one edge and then the other for installing the screws.
Use un-thickened epoxy to pour into the hole. The hole should be full of epoxy for its whole length before installing the screws. Use a piece of wire to fish out the air bubbles and then pour in more epoxy.
Install the screws slowly for the last 3/4” so that trapped epoxy can spiral around the threads and escape. Dry wipe away excess epoxy (photo on right), turn the hull over and repeat.

Mix colloidal silica into the remaining epoxy and carefully fill over the heads of the screws, making sure there are no bubbles or voids.



We used hypalon glue to re-attach the bumper ends after thoroughly sanding both surfaces and wiping with clean rags.
Contact cement could also be used (the smelly and flammable kind). With either glue, you will need low humidity and two thorough coats. Wait for the first coat to dry before applying the second and then carefully place the bumper when the second coat is dry to the touch.