

## CASE STUDY

### Birchwood 33 renovation

#### Window leaks

Whilst working on renovating his Birchwood 33, Simon Butler of Boat-Shift Marine Transport Ltd, noticed several leaks from windows in the front cabin. Upon stripping out the linings, it became clear that he had a few issues to deal with. First, the fixed windows appeared to have rubber seal degradation.

He spent 4 hours taking the port side mid cabin window out of the boat to strip and replace the seal. Luckily there was no grp damage but it was difficult to remove. This

window was stripped down and the rubber seal replaced using an extrusion from Seals-Direct. Once this was done he refitted it to the boat.



either been raining or was damp with dew. His dilemma was in keeping the windows dry long enough for him to sort the seal. He purchased adhesive film from 'Toolstation'. Normally used for decorating at home they supply a film to protect windows when painting. He cleaned off the outside of the boat and the window and stuck the film over the whole lot. After a few days with a heater going in the cabin, the joint dried out with no risk of water getting in to where he wanted a good seal joint.

*(After seeing how well this worked, Simon is proposing that the film will be placed over the windows during the winter period when she is laid up. He hopes this will be a really good additional leak preventative barrier under the canvas covers he normally uses.)*

He started by doing the inside first, that way when the inside was done and he moved to do outside, he removed the film, cut out all the old rubber trim and re-sealed it in one go, without any risk of trapping water.

To help ease the removal of the rubber he used a very long handle adjustable blade knife and a hack saw blade with a hook ground out of one of the holes in the end.

#### Window rivets

However, the water ingress had damaged the soft linings and timber supports so Simon stripped off all the linings. This meant taking out all the window inter-screws to remove the lining. Doing this revealed another problem. This boat has window covers made with turnbuckle fasteners. These fasteners had been riveted to the superstructure.... in the middle of the rivets was a little hole. This is where a lot of the water ingress originated! These were ground back and filled with gelcoat. *(These would be aircraft style rivets where the mandrel pulls through the hole expanding the rivet into place but leaving a hole. Break stem rivets - 'Pop' - will leave the mandrel [nail] in place.)*

All the window areas were cleaned off and retrimmed in foam backed vinyl, together with the ceiling lining under the V berth. Curtain pelmets were retrimmed in leather to match and all refitted.



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### Locker upgrade

On the starboard side where the galley is usually situated on a Birchwood 33, Simon has a small sofa. Behind and above this is a panel with two drop down locker doors. These were not fitting correctly with the front panel being poorly installed and the leaking windows having damaged some of the wooden fixing supports.

Simon replaced the damaged timbers and refitted the locker separating the bulkhead. He then trimmed them out with foam backed vinyl and some grey lining material and securely fitted the front panel. This has greatly improved the appearance and usefulness of the locker area in this part of the boat.



Above: locker interior refitted.

Centre: front panel replaced.

Above: vinyl and lining material in place in both lockers.

### Woodwork

After renovating the lockers on the starboard side, Simon set to on the damaged port side woodwork. There is a dinette seating area to port, which the worst offending window was above (the one he removed from the grp to reseal.) This

also had an under deck unit, with two lockers and a middle storage shelf.

All the wood was beyond repair and the joinery work was disappointing (as it turned out, along with most of the other woodwork inside!)

He removed the unit and some foam backed vinyl to expose the original panel lining which, sadly was not really in any fit state to continue its purpose. Once this was removed the hull appeared and the supports for the new plywood panels were revealed. As this under deck unit takes away quite a lot of space if the seating area is also used

as a berth. However Simon says there is not enough room to lay there.



Once the panels were shaped and dry fitted, he removed them and covered them in new leather trim, purchased to match all the interior seat areas. A new top was made for the aft most seating area and a locker lid cut in to access under seat storage.

Once this cabin is finished the carpet will be laid up to the line of the seating against the hull. (Seen as bare ply in the pic left).

Case story continues overleaf.

### Aft Cabin leaks

All of the work mentioned so far was in the forward cabin. All the seating had been stored in the aft cabin which Simon had intended to 'just tidy-up'. Simon went into the aft cabin to collect the seat cushions for his local upholsterer to measure. He discovered that the top one was a bit 'damp' (There was heavy rain.) and was dismayed when he heard 'drip-drip-drip' in quick succession.

Once the cushions were out and in their respective positions in the bow Simon investigated this "wet wonderland." There was no sign of water ingress. Peering gently behind the bed side panels his thought of a 'quick tidy' in the aft cabin soon became a fading light. The support beam fibre-glassed into the side of the hull had a puddle of water on top. But he couldn't immediately see from where it was originating. He assumed that - after all the issues in the forward cabin - it had to be the windows. But it wasn't.



Pulling away the loose foam backed side lining material in front of the window revealed more soggy wet mess. Then, higher into the roof linings these were all soaking wet. He ripped out the roof linings. After about an hour or so of stripping everything out, he finally found the culprit. The aft deck handrail support at the front of the cabin roof was seriously leaking. This was mainly due to the fact that two of the four mounting screws weren't tight! Water was pouring in!

Having removed the side linings it became clear the damage was extensive. The forward end bulkhead in the cabin was totally blown, rotten away and brittle. All that was left was to keep removing things until solid and dry wood was found. Thankfully all the bunk panels and supports were good, and it was really only the bulkhead with the wardrobe door that had suffered.

Simon removed the handrails causing the leaks, cleaned them and resealed. Most were accessible by one arm out of the window holding a screwdriver whilst the other hand had a spanner on the nut underneath!

### Woodwork

The bad and damaged wood was replaced, a new lower bulkhead was shaped and fitted up to bunk level. From here up it steps back a couple of inches to form a headboard and the remainder of the bulkhead and wardrobe front. This was in about 4 or 5 separate parts and none had been particularly well fitted or shaped. The headboard section was shaped and fitted, a length of teak was machined to form the bottom edge of the wardrobe door panel. The side panel infill was then cut, shaped and fitted. The original door frame and doors placed.

As this is all teak faced ply, Simon says his real dilemma was what he was going to do to reface the new panels. He pondered all the different options. As this is a boat that he will keep long term, he had already decided to do the work and make the boat useable as quickly as possible.

Simon plans that every couple of years he will return his boat to his yard and properly refit a section at a time. He has found, on eBay, a supplier of iron-on real teak veneer. It has arrived and Simon says it looks good. He has not fitted it yet and this will be another part to this ongoing and exciting case study!

*(Simon has so far done everything on his own but says there are things that would have been much easier to do with help from a second person.)*

