

Wooden Scout Cutter 113 Restoration

In May 2011 Cockle Bay Scout Group In Manukau Zone New Zealand were allocated Scout Cutter 113, as we had previously been borrowing a variety of Cutters to use with our Scouts and Venturers.

Cutter 113 was originally built by the Boat Building Class of the Industrial Department of Otahuhu College in 1964. 113 is a traditional clinker built Scout Cutter, being mainly constructed from Kauri.



113 as we received her

113 was originally operated by Weymouth Sea Scouts, and was more recently passed to Kaiaua Sea Scouts when they formed around 2008. Following the demise of Kaiaua Sea Scouts in 2009 the boat was laid up in a shed until Cockle Bay took over responsibility for her. Prior to the boat moving to Cockle Bay it had been looked over by Finn Hansen a boat builder who declared the boat to be reasonably structurally sound, but requiring some minor structural repairs as well as considerable cosmetic repairs. The boat was complete with most of the necessary gear for both

sailing and rowing. The boat was on a road trailer that, whilst not being currently warranted or registered, also appeared to be sound.

Whilst at Kaiaua the boat had sustained some damage to the planking when it had been run aground on rocks, and there was a hole in the port forward area that had affected at least 2 planks.

On the delivery trip to Cockle Bay the trailer winch and bow snubber post parted company with its mounting plate due to it being rusted around 75% through.

Once the boat arrived with Cockle Bay the first job was to strip out the floors in order to fully access the extent of the damage to the planking and to access what other structural repairs were needed. Removing the floors revealed that at some stage the forward floor had had 2 part liquid urethane foam injected under it to provide some additional buoyancy, and this had had the effect of retaining water in the bottom of the boat, which had partially rotted some of the ribs in this area. With the floors removed the planking damage was seen to be a clean break through 2 planks, but fortunately this had occurred between 2 ribs, so there was no rib damage in this area. It was also noted that at least 9 ribs were either broken or cracked, and that a number of the intermediate ribs, which join on to the centre board casing in the centre of the boat had become detached at their inner ends.

With the structural damage assessment complete a restoration plan could then be drawn up and decisions made about how to best carry out the restoration.

Because of the skills required to repair the planking damage it was decided immediately to put this work in the hands of a professional boat builder. Whilst this work was being completed by Half Moon Bay Boat Builders, the remaining restoration was planned. Whilst at the boat builders it became apparent that the stern tank had also been filled with liquid urethane foam, and this was also retaining water, which could have a detrimental effect on the wood of the hull.

Once the boat returned from the boat builders the stern tank was removed and all the old urethane foam had to be removed. With this done, all the fittings were removed from the hull.

Although the exterior of the hull appeared to have been repainted several times during the boat's life, the interior appeared to have had nothing

done to it save an additional coat of paint. Because of the condition of the interior paintwork it was decided to completely strip the inside of the boat back to bare wood. Due to the complex nature of the inside of a clinker build boat, it was decided that the mainly large flat areas, seats, centre board casing, gunwales etc. would be stripped by hand using paint stripper and paint scrapers, but that we would seek professional advice as to how best to remove the paint from the interior planking, ribs etc. The best suggested solution to removing the interior paint was to have the complete inside soda blasted professionally. After the Venturer unit and Howick rover Crew had put in many hours stripping and scraping the large flat areas of the boat, Ecoblast Ltd were engaged to soda blast the boat's interior. The soda blasting took some 5 hours, and at the end of the exercise the majority of the paint had been removed to reveal the bare wood interior. Because even the soda blasting would have caused erosion to the wood of the boat had it been too prolonged, areas of old paint remained around the intersections of the ribs with the keel, and in certain other areas, so many more hours of scraping and sanding were required before the inside of the boat was ready for painting.



Venturers stripping paint.



Interior paint removed.

Thanks to Fin Hansen we were able to obtain all the marine paint we required for the entire boat for around 50% of the market cost.

With the inside of the hull ready for painting we then applied 1 coat of International Yacht primer, 2 coats of International Prekote undercoat and 4 coats of International Toplac enamel topcoat. Once the interior had been repainted the structural repairs were then carried out.



Inside primer applied



Undercoat complete



Inside painting finished



Internal structural repairs

All the broken or cracked ribs were splinted, with new rib sections being made and then fixed into the hull next to the broken or cracked old ones, with the originals being left in place. Instead of using the traditional method of fixing the new ribs into the hull with copper rivets and roves, they were fixed using stainless steel nuts and bolts which were sealed with epoxy resin. Where the intermediate ribs had come away from the centre board casing, a new piece of wood was screwed into the centre board casing running longitudinally down the length of the centre board casing on each side, on top of the ribs, and then screws were put right through the new timber and into the ribs to ensure the ribs were once again securely attached to the centre board casing. To increase buoyancy a new foredeck was constructed in place of the original forward thwart, and this was filled with 1.5l fizzy drink bottles.

With the inside of the boat repainted it was time to turn our attention to the exterior of the hull. The boat was turned over and the old paint was sanded back until it gave a smooth and even surface for repainting. Because the outside of the hull was not taken back to bare wood, priming was not necessary, so the outside was painted with 3 coats of International Prekote undercoat and 3 coats of International Toplac enamel topcoat, except for the gunwales, which because we elected to paint them yellow, required 5 coats!



Outside sanded ready for painting.



Exterior topcoat complete.

Whilst the boat was upside down and being painted the trailer was given a thorough inspection and service. Both springs were replaced with uprated single elliptical springs, both wheel bearings were replaced, a new pin was fitted to the towing hitch and the axle was moved slightly to give a better distribution of the boat's weight on the trailer.

Once the exterior painting was finished the boat was turned over and put back on the trailer. An assessment of the boat's fittings resulted in most of the old ones being discarded in favour of new replacements, this included making a complete new rudder mount. All the standing and running rigging was checked and all the running rigging replaced, along with the replacement of the anchor, chain and warp and both bow and stern painters. New floor boards were made to fit either side of the centre board casing as these were missing from the boat originally.



The completed job.

On 21st January 2012 113 was re-launched in Cockle Bay for her initial sea trials. The trials were conducted with the original sails, which we knew were tired and had no battens. The sea trials were a success, and

although the boat had been out of the water for some 3 years, the hull did not leak too badly. Following the sea trials more buoyancy was added under the floors in the shape of 330ml juice bottles. 2 months after the sea trials we were fortunate enough to be able to procure a brand new set of sails.



Sea Trials.

Summary of expenditure:

Professional boat building repairs: \$1155

Trailer repairs \$284

Ecoblast Soda Blasting \$1285

Paint \$600

Replacement of fittings \$170

Replacement of Running Rigging \$420

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Replacement of Anchor and Warp \$230

New Sails \$1200

Misc. Consumables (Paint Brushes, Paint Stripper etc.) \$250

Total Expenditure: \$5600

Summary of hours:

Stripping fittings etc. 6 hrs

Trailer repairs 26 hrs

Stripping paint and sanding 80 hrs

Painting 84 hrs

Structural Repairs 24 hrs

Re-fitting fittings 10 hrs

Making and fitting new floors and foredeck 20 hrs

Replacing running rigging 3 hrs

Sea trials 4 hrs

Total Hours: 265 (not including professional labour time)

Apart from the professional boat building work to repair the broken planks, and the soda blasting of the interior of the boat, all the work was carried out by the leaders, parents, Scouts and Venturers from Cockle Bay Scout Group and the Rovers of Howick Rover Crew. Without this valuable effort the restoration would not have been possible. The hours of work, if they had been charged at the rate we paid for the professional boat building would have cost around \$15,500.

We were also extremely fortunate in having a family in the group who had a large empty barn on their property that had power and light, and was accessible 24 hours a day and 7 days a week. This meant that the restoration work could continue regardless of the weather conditions.

When Cockle Bay Scout Group received Cutter 113, it was, apart from the hole in the planking, more or less in a usable state, and the time and money which have been expended in getting the boat into her current

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state are in indication of just how much investment is required in getting these wooden boats back into good shape.

This report is not intended as an A to Z guide to the restoration of a wooden cutter, rather as something to maybe give others who are considering embarking on a similar project an idea of just what lies ahead.

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