DESIGN AND CONSTRUCT TIMBER RACING SKI

By Stephen Kelly

I have just received one of the best Christmas presents I could have asked for, a subscription to this wonderful magazine. I am very happy indeed. With the subscription I also received issues 59 and 60 which have articles on the CLC Pax 18 and 20, so I am inspired to tell you of my project.

In 2002, after reading this magazine on an irregular basis, I saw the advertisement for the Duck Flat Okanui timber mal, and was inspired by the articles to build something that I could enjoy and I was keen to get into the surf after many years of retirement from the surf club scene.

So in 2002/2003 I completed the Okanui.. I am still riding it and it always starts a conversation on the beach. As I had never built any sort of craft before it was a great first time project.

About a year after the completion of the board I starting paddling my old K1 kayak for fitness. I had raced surf skis back in the surf club days and always enjoyed paddling as a sport. What I also enjoyed and admired were the Sturer timber racing kayaks from Denmark, they are a real work of art. So I got to thinking about building a timber kayak, but then thought that really a surf ski would be better as I could then paddle it in the river and the surf. Hence the idea was born!

As far as I know there are no plans available for a timber racing ski so I set about designing one myself. I have no experience in boat design at all (I will apologies now for my lack of knowledge regarding the correct terminology in this article!) so I looked at a lot of timber kayak designs and married that knowledge with my experience with paddling racing skis.

In short what I wanted was something I could paddle in the surf and catch a few waves and have it perform as close as I could get it to a real racing ski.

Therefore the basic design was to follow that of a racing ski. A racing ski is 5.7m long however I shortened this by 0.5m to make the ski a little easier to manage/carry etc. A racing skis minimum width is 480mm (SLSA specification), I made my 510mm, a little wider for stability. I

drew the design up on a CAD package. This took a long time as all I went on was what I thought looked good and there were many iterations to the design. Not very scientific I know! I spent a lot of time wondering if she would sit right in the water if and when it was launched.

What I also wanted was to have *very* rounded edges to the ski. When you get hammered in the surf it does not pay to have sharp edges on craft. To this end the design was 4mm ply on a timber frame. The frame would allow me to get a greater radius on the chines and sheerline than stitch and glue, the frame would (I believe) provide greater strength and this was the type of construction the Okanui used.

And so construction began. Working full time and with three young boys and all that goes with looking after them and the good wife, time to build was very limited. There were many late nights marking up timber and gluing. All the noisy sawing was done when I could during daylight hours. The good thing about the slow build time was that it meant that I had a lot of time to think about what was to happen next and how I was going to do things. There were quite a few things that I did not know how I was going to do before I started and I had to work them out as I went along. Necessity is the mother of invention someone wise once said.

The bulkheads, "backbone", stringers/chines etc were all assembled on a temporary jig. They were all glued together in one session after several dry runs. Once set the whole frame could then be taken off the jig and hung up under the back deck where most of the construction took place. I was very please and a bit surprised at the results.

As I had no measurement for the side and bottom panels I marked up corflute templates and transferred these onto the ply. The bottom and sides required 2 scarfs (3 pieces). The deck was in three pieces plus all the seat intricacies.

Remember the surf ski is not like a kayak in that it is fully enclosed and must be watertight. Therefore the seat and foot wells had to be incorporated into the design. There were many long hours thinking about this! The seat and foot wells also take the most stress ie: a lot of movement while in the surf, paddlers weight, leg drive when paddling with effort, foot straps, peddles for steering. To this end they needed to be incorporated in the "backbone" and chine timbers.

The seat and foot wells were the first to go into the frame then the decks. The decks have quite a bit of curve/camber in them. The rear deck went

on first with lots of difficulty, hence I learnt a lot. With the fore deck I took more time and over a few days wet the ply several times and used ropes and clamps to bend the ply. The decks were glued and nailed.

Once the decks were on the craft was a lot more ridged, as I was only using a temporary jig every time I took her down from under the deck to work on. After the deck I had to run to rudder cable tubing through the bulkheads into the rudder box and out through the deck. These obviously needed to be installed before the sides and bottom went on and once they were on there was no opening her up again!

I could afford to be a bit rough with the side and bottom panels as I was always going to round them off quite a lot. Still there was quite a lot of fiddling that went into this. I did not have the luxury of the exact dimensions a stitch and glue kit would provide!

After the panel went on she was looking a treat! All the chines and shearline, except the wave deflector/bill, had the edges taken off them and rounded. The hole for the rudder tube was drilled through the thicken "backbone". This was done after the bottom went on and before the side panels. This was very nerve racking as it had to be plumb and drilling through the curved and angled bottom into the rudder box took some careful preparation and courage. I did not want a skewed rudder!

After the shell was complete the fittings went on . This included the deck hatch to the rudder box, foot pedals, foot straps and a rod holder drilled through the skin. Yes the last item is a non-standard fitting to most racing skis but I dream of going for a paddle on a beautiful ocean trolling a lure and hooking a large mackerel. I have not yet worked out what I will do if I catch one on the ski but hope I get the chance! Here I must thank John Gibbons of Gibbons Surf Skis as he helped me out with all the rudder and associated hardware for the ski, many thanks John.

She was then given two coats of Bote Cote epoxy and all chines and the shearline were taped with 50mm fiberglass tape.(Forgot to mention earlier all the inside was coated with epoxy) I must say here that I do not enjoy working with fiberglass in any way. Working with just epoxy is fine but not fiberglass as I always make a mess with it. Anyway it was a necessity to tape the joins and it was done.

After the epoxy two coats of varnish went on. I admit I rushed the finishing off. After taking so long to make I was very/overly keen to get her in the water so I did not spend as much time as I should have with

sanding the epoxy between coats. She looks good but it could have been better.

After all the effort it was time for sea trials. The launch was conducted at Currumbin Creek early one Friday morning before work. It was not a real nice day and the bar was a bit choppy with a 3 foot surf running. With a couple of friends on their fiberglass racing skis we gave her her first run. Well she floated and looked fantastic. Punching through the surf was her best attribute and I even caught a couple of waves. What a relief!

Since the sea trails I have moved the seating position and foot chocks back a little. Luckily the seat was long enough to accommodate the shift towards the stern, necessary as she was a little nose down when the paddler sat on the ski. The foot chocks took a bit of nutting out but I am happy with the result.

Performance wise there are 2 things I would like to change. She is a bit heavier than I would have liked at 21 kg and as such is well off the pace of a fiberglass racing skis. The second is that I have set the seat a little to high and as such she is a bit “tippy” in choppy conditions. Countering this of course the higher position is better for paddling in smooth conditions. Overall for the original purpose of catching a few waves and having a paddle it is great!

Summing up his was a fantastic project to do. It took a lot longer than I expected but was worth the time and effort in the end. The ski is, in my opinion, a lovely shape and does get a lot of positive comments where ever she goes. I have learnt a lot with this project and would encourage others to have a go. The contributors to this magazine gave me the inspiration to tackle the project. Maybe this article will light the fire in someone else!

Is the fire the still burning in me ? I am afraid so, the next project is on the drawing board!