

AUSTRALASIAN AMATEUR BOATBUILDER AND KITBOATS

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ST AYLES SKIFFS
ROW THE
RIP

THE LOST
ANCHOR

BUILDING A
WATER
RAT



ISSN 1039-1657



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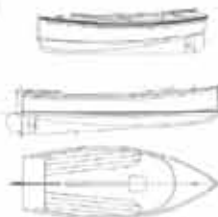
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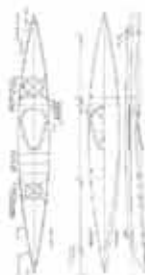
PROJECTS:

- Small dinghy / tender
- Canoe
- Kayak
- Water Rat (canoe / kayak)
- Goat Island Skiff
- Handy Punt
- Stand Up Paddle Board
- River Table
- Bench top



Ian Phillips
MANAGING DIRECTOR

"I like boats, and we like to talk about boats! I built my first boat when I was a teenager and here I am still at it years later!"



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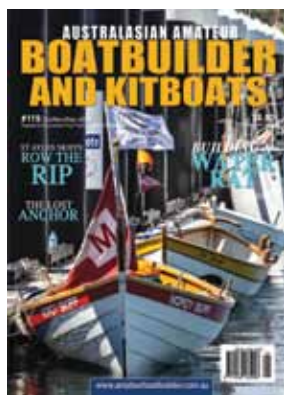


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Sailing Club, *Fast
Messenger* – Warrnambool
St Ayles Skiff Club and
Covent Garden – Royal
Geelong Yacht Club.
Ready for the Geelong
Regatta.
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ST AYLES SKIFFS **ROW THE RIP**



COASTAL ROWING WILLIAMSTOWN at the regatta.

story | **JONATHAN WALLIS** photos | **PETER DOYLE**

After a life time at sea, I must have entered, or departed Port Phillip Bay on numerous occasions in vessels from 800-ton coasters to sizeable 23,000-ton bulk carriers to much larger tankers. Transiting 'The Rip' was always undertaken with great care and under the direction of a well experienced Port Phillip pilot, and sometimes under horrendous conditions.

In fact 'The Rip' is renowned as a very dangerous transit also known as 'The Heads'. It is the narrow entrance connecting Bass Strait to the bay of Port Phillip in Victoria and it is the only route into Port Phillip, and thus sea access into Melbourne and Geelong. Because of large tidal flows through the relatively narrow channel from the bay to the ocean, and a high rocky seabed, The Rip is a notoriously dangerous stretch of water that has claimed numerous ships and many lives. Geographically, it is the roughly triangular area of water between the land points of Point Nepean on the Mornington Peninsula, Shortland's Bluff and Point Lonsdale on the Bellarine Peninsula, with these three forming The Heads.

I would never have believed I could be introducing an article like this superb report from event host, Peter Doyle of RGYC, but then those hardy and versatile Iain Oughtred designed St Ayles skiffs, their dedicated builders and their crews, never fail to amaze me!

"Sunday, March 5 saw St Ayles Skiff crews from Victoria and Tasmania launch from Mordialloc Sailing Club on a six day, open water expedition to Row the Rip (RtR). This was an official St Ayles Skiff Community Rowing Association of Australia (SASCRAA) event, managed and delivered by the Royal Geelong Yacht

Club (RGYC). The route would take them down the eastern shores of Port Phillip Bay to Portsea, across Port Phillip Heads via the famously mercurial Rip to Queenscliff, St Leonards and Port Arlington. That done, the ultimate destination was more rowing in the more formal guise of the 'Spirit of St Ayles Cup' regatta at the Wooden Boat Festival of Geelong.

As many readers will know from previous articles in this magazine, the ancestry of the St Ayles Skiff lies with the Vikings and more recently in the cold seas of the Fair Isles off northern Scotland. A coxed four-oared rowing boat of 22ft, they are built by community groups around the world, are easy to row and a very capable sea boat. Their current incarnation is as a flat-packed kit boat that was commissioned by the Scottish Fisheries Museum and designed by Iain Oughtred. With nearly 400 world-wide, the nearly 40 in Australia were purchased from Robert Ayliffe of StrayDog BoatWorks.

After what was jokingly referred to as '*the warm-up row*' from Mordialloc to Portsea, crews and boats gathered for the feature row across 'The Rip' at the Portsea Quarantine Station. This is a restricted-access, National Park beach just under Port Phillip's Point Nepean headland. With a tidal flow often hitting 12kts there, getting the slack tide timing right is always



MORDY SKIFF with crew from the Mordialloc Sailing Club crossing the Rip.



FAST MESSENGER and Warrnambool crew rowing the Rip. Point Lonsdale Lighthouse in the background.



IMAGINE AND LIVING BOAT Trust crew from Franklin, Tasmania.

critical for boats of any size using this notorious waterway. Event host Peter Doyle of RGYC stressed this in his 'Row-the-Rip' briefing and went on to say that as the route crossed busy shipping lanes, it was also advisable for crews of our four-oared rowing boats to keep a weather eye out for tankers.

Under the paternal guidance of Queenscliff Marine Rescue officers and Vic Gow of Marine Training Services, the official tide chart was taken as a guide only as crews launched on the out-going tide toward the rip to await slack water as the signal to start the 3.5km crossing to Queenscliff. With a stiff 28kt breeze running from the east, sterns were set to take it square, deep breathes were taken and bows pointed due west to Queenscliff. With a 6-10ft rolling sea, the nearest boat was often hull-down over the waves, the crossing was exhilarating."

At this point Patrick Groot added the following:

"Whilst open water experience in skiffs varied between groups and rowers, with members of the Tasmanian, Living Boat Trust and the Warrnambool crews having rowed in the raids conducted in Southern Tasmanian open waters and elsewhere. The Mordialloc Sailing Club crew cut their rowing teeth on Port Phillip Bay and at events like the Steamers Run raid on the Gippsland's lakes of Wellington and Victoria where waters can be as challenging as so-called open waters. The actual crossing of the Rip saw no incident; however, the crossing almost did not proceed due to the Warrnambool skiff rolling over in the waves at Tyconderoga Bay.

The plan was to beach as a group and await slack tide and then proceed together from Bend Beach. This event is happily perceived as a 'near miss' though, as by providence rowers were not badly hurt and deemed themselves as able to continue. The Warrnambool

As many readers will know from previous articles in this magazine, the ancestry of the St Ayles Skiff lies with the Vikings and more recently in the cold seas of the Fair Isles off northern Scotland

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IMAGINE AND THE CREW from Franklin lead the three skiffs out of Queenscliff – heading for St Leonards.



LUNCH BREAK at Edwards Point.



THE POINT LONSDALE lighthouse, by the late Eva Richmond with permission from Lindsay Richmond.

crew, despite two broken oars and a damaged rudder system managed to deploy their spare oar, receive a second spare from another crew and resourcefully replace a pintle with what turned out to be a very useful Phillips head screwdriver.

This incident could have resulted in a significantly worse outcome, and it has been treated as a definite learning experience by all rowers and clubs and one that will result in the modification of behaviours and safety procedures, in particular how St Ayles skiffs might approach a seemingly benign beach landing in relatively small waves.

The eventual re-launch off Bend Beach with the assistance of RGYC members saw the raid proper proceed after *Fast Messenger* and the Warrnambool crew were reunited with the small flotilla of skiffs and safety boats. All handled their boats with confidence,

skill and without incident from this point on. The heritage of the St Ayles Skiff shone as they comfortably handled what is a truly serious seaway, and keeping their crews dry and relaxed.”

Peter Doyle continued:

“Days two and three of the Row the Rip were comfortable rows from Queenscliff to St Leonards and on to Portarlington. Rowing out through ‘The Cut’ at Queenscliff and around the SAS security zone which is Swan Island, crews inspected the wrecks of Australia’s World War 1 submarine (HMAS J3) and the wreck of the paddle steamer *Ozone* at Indented Head. We lunched on remote beaches with old and new friends and celebrated with the ‘We-made-it’ dinner at Portarlington.

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COASTAL ROWING Williamstown at the Regatta.

As all who're involved with the St Ayles Skiff community in Australia and world-wide know, these boats are all about fun and well-being. Most of their builders and rowers are over 50 years old and over 50% of them are women. The motto of the international St Ayles Skiff Association is, 'Communities build boats. Boats build communities'. This was exemplified in spades by the comradery of the Row-the-Rip event, with lunches catered for and dinners hosted along the way by the Queenscliff Cruising Yacht Club and St Leonards Sailing Club, and our skiff rowers were exposed to the amazing hospitality that is so typical of yacht clubs. The other side of that same coin is that building and rowing St Ayles Skiff is emerging as a phenomenon among yacht clubs around the world as they look to welcome people who don't sail, but who would enjoy being active on the water with friends, and as an activity for their older members."

I would have to admit I am filled with admiration for the organisers and participants in this Maritime Adventure which totally justifies my faith in the sea keeping

qualities of these hardy versatile skiffs with their northern heritage and immaculate pedigree.

In conclusion Patrick Groot, President of The Warrnambool St Ayles Skiff Community Rowing Club Inc has added a timely observation:

"SASCRAA is always keen to welcome new members into the St Ayles Skiff community and coming up there is an opportunity on the New South Wales southern coast to get acquainted with the St Ayles Skiff. In an earlier edition of this magazine there was a story on the Eden Marine High School skiff build which is progressing very well. At the Eden Whale Festival (October 7-9) the build to date will be on display via a parade as well as on the hard. Jim Barr (SASCRAA's new President) and Dave Craigie from Marlo are planning to take two skiffs from Victoria to participate in the display as well as in a 'come and try' event on the waters of Two-Fold Bay. So, as well as celebrating the southern migration of the humpback and other whales, folk can check out the Eden skiff build and even hop into a skiff to see how well they perform."

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RESTORING

JAMES CRAIG JIB BOOM

story | **DAVE GIDDINGS** photos | **PETER GOSSELL & SALLY OSTLUND**

Following the success of repairing the *James Craig* top mast sections back in 2013 and 2014, there was no hesitation in repairing the jib boom when it was displaying evidence of degradation. Why did they not use a Douglas Fir (Oregon) log to replace the jib boom?

Believe it, there was a stand of Douglas Fir trees planted at Laurel Hill in southern NSW back in 1927 as an experiment to see if Douglas Fir could handle the Aussie climate. Fortunately for Sydney Heritage Fleet they were very slow growing. The trees were burned in the 2019 fires, but the logs were satisfactory. They were culled to make way for a new forest to be established, as pine will not rejuvenate after fire like Eucalypts. Peter Gossell had previously identified this stand and scored some logs for spars on his own yacht. The Sydney Heritage Fleet was fortunate that Forestry NSW donated several logs to them to use for replacement spars for its heritage vessels. Another kind donor has provided storage for the Douglas fir logs. These need several years to release moisture

and stabilise before they can be used. Therefore it was necessary to repair the original jib boom using slabs of imported Oregon from USA.

During a recent inspection of the Jib Boom, deterioration was identified with significant rot hidden below the inner forestay deadeye. It had pulled forward as shown in *figure 1*. Also note the cracking and dark grey timber foreward of the deadeye which is a classic sign of degraded timber. The load pulling on the deadeye was crushing the timber on the damaged side. The gap at the other side then allowed more water to build up and soak into the timber on the damaged side exacerbating the problem.



FIGURE 1 – Inner forestay deadeye with signs of rot.



FIGURE 2 – Extent of degradation of timber at deadeye.

If *James Craig* spent her life at sea the degradation would have taken much longer for the timber to degrade due to salt water splashing over the bow and providing protection to the Oregon. The problem occurred due to rainwater creating a damp environment in which rot spores had a field day. The extent of the damage at the deadeye can be seen at *Figure 2*. Plus, it looks like someone has scarfed in a section of Oregon adjacent to the deadeye in the past.

When the first restoration of an Oregon spar for *James Craig* was carried out to the fore top mast section back in 2013, it created some trepidation as such a repair was new to the current Sydney Heritage Fleet Shipwrights and team. The process for the repair was published in AAB#85. When the main top mast displayed similar degradation in 2014 there was no hesitation in calling on Master Shipwright, Peter Gossell's expertise to replicate the repair process by scarfing in a new section using the same technique used on the fore mast, except larger slabs of Oregon were used to reduce the amount of gluing required and cut down on the timeframe to complete the glue up using EPOX-E-Glue from the team at BoatCraftNSW.

The extent of rot to the jib boom is shown at *Figure 2* as the damage was chased along the spar for almost 3m before establishing sound timber with the degraded timber piled up in *Figure 3*.



FIGURE 3 – Firewood pile demonstrating extent of rot.

Some past cosmetic maintenance had been carried out in good faith by volunteers which has contributed to several other areas of rot. As the Oregon in the spar section expanded and contracted, due to humidity and temperature change, several cracks opened up over time. The cracking was natural and did not have a

significant effect on the spars strength, as most cracks only extend into the timber 15-25mm as shown in *figure 4* after the degraded timber was chased back to stable timber.



FIGURE 4 – Stable Oregon demonstrating extent of cracking.

The cosmetic measure involved filling the cracks with a modern black sealant as shown in *figure 1* and at *figure 2* in the spar in the background. Over time the sealant pulled away from one edge due to the timber movement, allowing fresh water to find its way into the timber. The problem was that this allowed the timber under the sealant to stay moist allowing rot spores to have a field day as shown in *figures 2 and 3*. The cracks should have been allowed to naturally open and close with change of humidity, or filled with Jeffrey's Marine Glue. As used to seal the gaps in the timber deck beams on the *James Craig*. The reason is that Jeffrey's Marine Glue remains flexible and will expand and contract at a similar rate to the timber.

The modern technique would have been to dry the area around cracks and fill it with Bote-Cote high solids epoxy resin with Timber Preservative and Reactive Diluent Agent (TPRDA) added. This would have also glued the cracks. The reason for using the TPRDA in this application is that it will allow the Bote-Cote resin to draw into the smallest of cracks to handle the timber movement. Plus it makes the Bote-Cote more flexible in the open cracks. Some black pigment could also be added to make it look more authentic.

The decision was made to scarf in new slabs of clear grain Oregon and gluing it all together using Epox-E-Glue. The shipwright who carried out the first repair had become sensitised to old technology epoxies

and would not use them as he had developed sensitivity. He did not want to further expose himself to increased sensitivity and exclusively used EPOX-E-Glue and Bote-Cote Epoxy Resin. This is due to the modern technology chemicals that make them much safer to use and did not cause sensitivity issues for him.

Peter also uses EPOX-E-Glue and Bote-Cote Epoxy Resin as they were developed especially for working with timber in



FIGURE 6 – Modern tools to speed up the task.



FIGURE 5 – Master Shipwright using traditional skills.

Australian conditions. BoatCraft Pacific reduced the tensile strength of their epoxies slightly. The result is an epoxy not as brittle as most other epoxy glues and resins available. The reason for this is to enable the epoxy to handle the expansion, contraction and flexing of timber. Plus the EPOX-E-Glue has a considerably longer working time, which was important with the large surface areas being glued up. In addition, it is much easier to mix in larger quantities with its 1:1 ratio.

To give you an idea of the scale of the operation the dimensions of the spar are square at 350 x 350mm and round section being 350mm diameter at the inboard end with an overall length of 15.5m and weighing in at 650kg. As you can see it is not a log you can throw over your shoulder to carry around. The operation had to be planned and coordinated to maximise the Sydney Heritage Fleet volunteer's availability and ensure the *James Craig* was not out of service for too long. As there was a major commitment booked in for early July. The Project Management for this detailed evolution fell on the busy shoulders of Tim Drinkwater who is the Fleet's Operations Manager.

The first step was to cut off the offending section of jib boom where the timber had degraded as demonstrated at *figure 3*. They started the evolution by making a series of cross cuts with a chainsaw to a bit above the guide battens marking half the depth. Then Peter expedited this task using his trusty adze. The adze is capable of removing large amounts of timber in a controlled manner in a minimal timeframe as shown at *figure 5* with accuracy when in experienced hands. Once the Oregon was cut away it showed the jib boom

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had previously been repaired as shown in *figures 2, 3 and 4*, using mainly 100 x 100mm Oregon on the bottom half up to the deadeye.

The bottom half of the degraded spar was left in place to provide a datum to support gluing the first two slabs of Oregon in place. The next step was to shape in a 1 in 12 taper for the scarf as shown at *figure 6* on one side of the good mast section. Starting out with a chainsaw by cutting grooves down to just above the guide battens set up to identify the taper required. Imagine the time it would take to clean up the spar ready for gluing only using traditional hand tools.

The taper takes considerable skill following up with the adze and using a No. 7 hand plane to level and flatten the surface using a Spirit Level Athwartships as shown in *figure 6*. The length of taper is important to facilitate maximum surface area to glue up, ensuring the timber at the glued joint will not pull away. *Figure 7* demonstrates the straight edge confirming the taper flat and even across the spar. The same tapered scarf is applied to the 5m lengths of new 300 x 100mm Oregon, sourced from Harper Timbers at Pendle Hill.



FIGURE 8 – New Oregon slabs glued and clamped.



FIGURE 7 – Tapered scarf section of the jib boom.

Normally, the end grain on the scarfed surfaces needs coating with Bote-Cote Epoxy Resin, first. This is to wet out the timber to ensure the end grain is saturated to eliminate the joint being starved of glue due to resin being drawn out of the glue into the end grain. As Peter is experienced with using EPOX-E-Glue, I knew there would have been ample Glue in the joints. When using epoxy glues, it is important to not squeeze all of

the glue out of the joint or it will result in a weak joint. Clamping should only be firm enough to ensure the joined timber cannot move and ensure there is epoxy to the edge of all areas of the joint as demonstrated at *figure 8*.

This was achieved by using heaps of clamps. After 24 hours, the beast was rolled over and the other side was laminated using the same technique. By the way,

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the longer it takes epoxy glue to cure, the tougher and stronger it will be.

Once glued up, Master Shipwright, Peter Gossell and team moved onto the job of shaping the jib boom and restore its character. This took many hours of patient planing with modern and traditional wood working tools and skills as shown in *figure 9*. The process involved turning the square into an octagon, then taking it to 16 sides, 32 sides and finally 64 sides using the No. 7 hand plane to finish off. From there it is easy to plane



FIGURE 9 – The jib boom shaped to 16 sides.

the surface round, taking out any lumps and bumps with a sander.

Then it was time to work on the inboard end using the drawing at *figure 10* to precisely replicate it to the designed shape and size. The finished jib boom shows the inboard end as depicted in *figure 12*. Plus note the colour difference in the timber on the restored section.

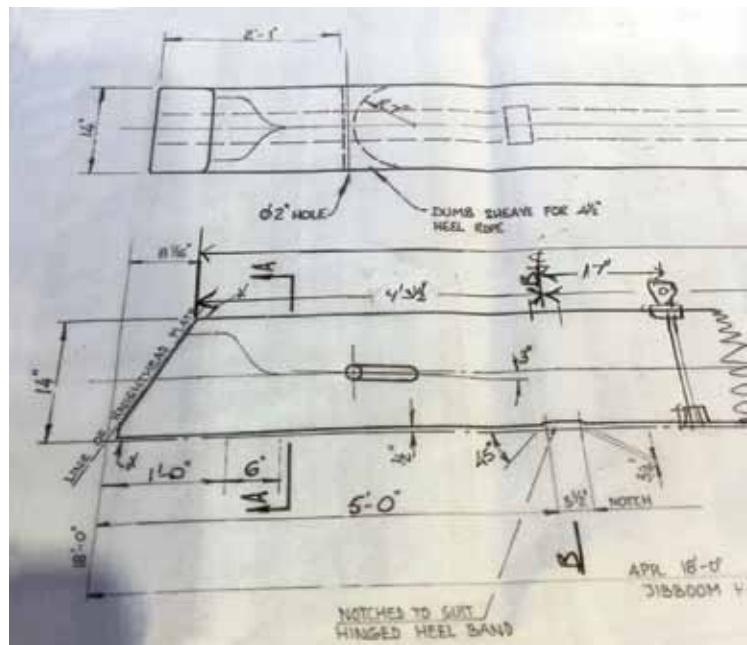


FIGURE 10 – The inboard end jib boom specifications.

A new design by Peter for the deadeye was fabricated to eliminate the previous point load placed on the jib boom as shown fitted at *figure 11* and position on the spar at *figure 12*. Plus it created a stronger spar by eliminating a large hole through a critical section of the jib boom.

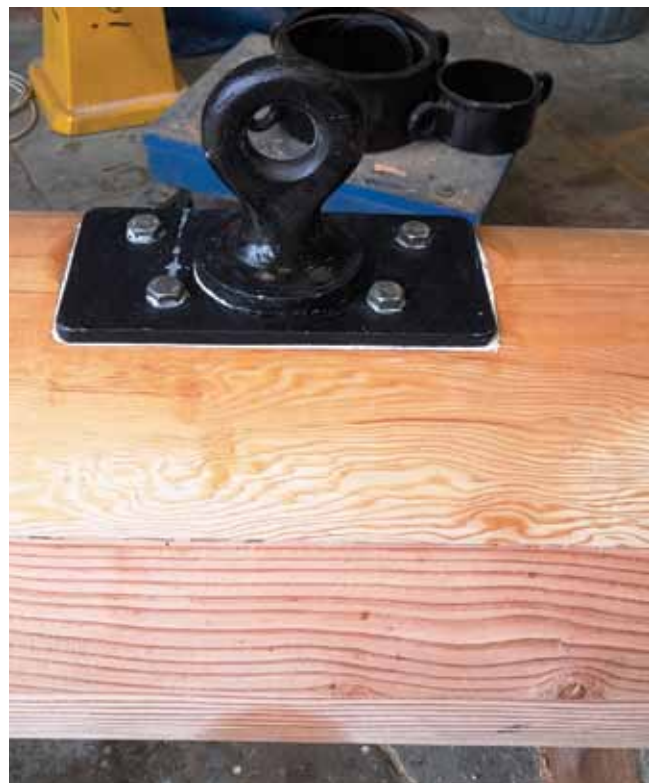


FIGURE 11 – Modified deadeye fitted to jib boom.

Once all of the wood butchering was completed, it was back to the riggers to hoist the beast into place using the ships rigging as shown at *figure 12*.



FIGURE 12 – Jib boom ready for hauling into place.

This task requires considerable sailing ship skill and coordination to ensure the boom was safely moved into position as depicted at *figures 12 and 13*. Then all of the rigging and fittings had to be set up to bring the *James Craig* back to operational readiness in time to meet its commitment.

Figure 14 shows the jib boom shipped home and rigging being set up – BRAVO ZULU team.

The fact that the *James Craig* has been fully restored and maintained in operational service is a credit to the many volunteers who keep her in pristine condition and take her to sea regularly with paying passengers. I recommend a trip on *James Craig* to anyone with or without salt in his or her veins to experience what it was like to be at sea in a square rigger.

Make sure you put it on your 'bucket list' by contacting the Sydney Heritage Fleet at www.shf.org.au or telephone **02 9298 3888**. The Sydney Heritage Fleet is in need of volunteers of all vintages for vessel maintenance and operation, archiving to model making / restoration and computer skills. It is a great organisation having the largest fleet of operational vintage vessels in the southern hemisphere. Expertise is not essential, just a willingness to learn as training is provided.

With the knowledge gained, you will have the capability to repair a rotten or broken spar. Or if fabricating a new spar it will give you the confidence to make a long spar with available sized timber scarfed and glued. Hoop pine



FIGURE 13 – Jib boom on its way to the focsle.

is an excellent timber for making spars as No. 1 grade is clear grain and excellent timber to shape as it is fine grained and does not splinter. In many cases if you laminate several lengths of recycled or new timber the spar will be as strong, if not stronger than trying to source a solid length of timber which is clear grain at an exorbitant price. The team at BoatCraftNSW are able to assist with Hoop pine and EPOX-E-Glue for the fabrication and Clear System for sealing and longevity of the coating in full sun.



FIGURE 14 – Jib boom In position.

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GIVING THE OLD GIRL



A BIT OF LUBRICATION, heat and a good hard pull had the stern tube out in a trice.

A COLONOSCOPY

story | IAN JOHNSTON

I love my boat, I am far from her first and hope to be far from the last owner of the 45 year old *Juliene*. A sense of continuity is part of the pleasure, indeed honour of being a wooden boat owner.



“ The problem with electrolysis is that it is so beastly complicated with many factors contributing for the long term durability (or lack of it) of the craft ”

AFTER DRILLING AROUND the keel bolt the space was filled with plastic water pipe and penetrating epoxy, isolating the keel bolt from the timber.

The first part of her life was as a commercial crayfishing boat in southern Tasmania so was ruggedly built from the finest materials throughout by a master boat builder. She is a great part of the adventures of my life. It suits her character to be painted with a 4 inch brush, satin white rather than varnish.

It takes more than good timber, design, construction and ventilation to have a century of life. She needs maintenance if you want her to get to the ton, I want a rugged boat to thrive in tough conditions. There is little room for niceties (apart from a heater and a shower).

Although I have come from a high tech lightweight timber racing yacht background I have changed to a much more traditional heavy design as my values and desires change.

I will use epoxy and other high tech materials and methods on this traditionally built craft if it works better, lasts longer and is cost effective, and it does not change the integrity of the craft. *Juliene* was very strongly built from King Billy Pine with a Blue Gum backbone and is copper fastened.

When I bought the boat I saw a minor problem, when on the slip, with what looked like de lignification (alkaline damage) in the timber around the stern tube, so I did an interim fix to halt further deterioration until I could get back to a proper repair six



DRILLING OUT THE keel bolts with a specially made long hole saw.



ALL BACK TOGETHER again ready for the next 40 years.



THE KEEL BOLT'S in very good condition.



THIS IS HOW the stern tube looked for six years, before we effected a proper repair.



This was how the keel bolts looked before removal, the discolouration was only on the surface.

years later. I scraped back and drilled a series of down sloping holes into what felt like sold timber and dried the area. I then squirted epoxy wood preservative into the holes until saturated and forced epoxy glue into any gaps. This held things in check until now.

The factor which initiated time to have a good look was at an annual slipping, something had changed. The boat showed an excess loss of her zinc anodes and excess corrosion on her steel shoe. There was a voltage difference of .6 of a volt between a keel bolt and the timber next to it. This much voltage is a loud warning that there is something that warranted immediate attention.

The problem with electrolysis is that it is so beastly complicated with many factors contributing for the long term durability (or lack of it) of the craft.

Different metals in an electrolyte (which in this case is water sodden timber) creates an electrical current if more than a small amount (.3 of a volt) it can deteriorate timber, amongst other problems.

This is why boat builders greatly favour particular metals for various parts of the boat (usually the most expensive) to greatly reduce the chance of a problem occurring. Also of great import is the nature and placement of sacrificial anodes made from either zinc or mild steel. The number and layout is the cause of much slipway discussion.

The year before I had changed the placement and increased the number of zincs and now *Julienne* showed .6 of a volt. This shouted that it was time to pull out the keel bolts and stern tube and have a good look. In other words, give the old girl a colonoscopy.

So we slipped her and removed the rudder and then pulled out the copper and bronze stern tube. Cleaned everything up and dried the area thoroughly. Fortunately, what we found was no where near as serious as it could have been and so we graved in a small piece of Huon Pine onto the stern post, drilled everywhere into solid timber and soaked everything in epoxy wood preservative and then reassembled the structure.

In another 40 years someone might like to pull it to pieces and make sure it is still in good nick. The other job was to drill around the keel bolts with a pipe drill and remove the bolts. We then dried the area and saturated it with timber preserver and then slipped PVC hose and poured epoxy resin over the stainless steel keel bolts (filling the area removed by the pipe drill) and we used a large plastic washer between the nut and the timber keel.

Apart from visual staining, no wood deterioration was found anywhere. We reduced the number of zinc anodes to one and replaced the single mild steel anode with a much bigger version. After relaunch a voltage test measured .2 of a volt, ergo success!

If you keep a spray bottle of cheap white vinegar in the bilge it could be sprayed next to metal fastenings to neutralise any alkaline degrading of the wood. Any 'fizzing' would indicate that it may be worthwhile investigating further.



JULIENE HAS A GARDNER 5LW motor which is a slow revving, high torque motor that swings a huge propellor. Ideal for exposed water cruising.



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DAVEY JONES' LOCKER: his own immaculately-maintained boat, *Kelvin*, sits in stark contrast to the hulk of the *Tiroa*.

WHAKATAHURI

ONCE WERE WRECKERS; WRANGLERS OF GOOD YARNS

story | **ALEX STONE** photos | **LESLEY STONE**

They should make a movie about this place. The *Smash Palace* of boats. In a north-facing bay in the outer Pelorus Sound at the northern tip of New Zealand's South Island. Whakatahuri sits near Allen Strait, between the Mainland and Te ParuParu, Forsyth Island. It's the unexpected site of two businesses that dealt with the opposite ends of a boat's lifecycle: the Wells family's boat-building business and the Sounds Wrecking Company, now long gone. Once upon a time, Whakatahuri was the most remote boat-building *and* boat-wrecking yard in New Zealand.



Whakatahuri is found within the almost bewildering maze of the Marlborough Sounds, and is a place of simultaneous delight and destruction. The nearest towns are Havelock and Picton, equidistant as the seagull flies, about 20nm — though much further via the water, which is the only sensible way to try to get here. Best accessed, in fact, on a cruising catamaran. As we did.

The restricted site on a narrow neck of land is also a photographer's dream. Shipwrecks abound, towed here during a time when Sounds Wrecking was the only ship-breakers yard in the country. The company took on some really big ships in its time, reducing them to marketable timber, second-hand fittings and non-ferrous metals. On-selling bed linen, crockery, cutlery, porcelain wash basins — even light bulbs. Whatever could command a price, and bring home some cash. It was a boating business with little sentiment and a lot of noise.

Here is also a place to yarn
about good boats: old
and new, big and small, as long
as they're wooden. David
Harrison Jones will
want to talk about them

At their height, Wells and Jones employed dozens of people, who dismantled all kinds of boats, from big to small, including ships like the *Kaitoa* and *Waitangi*, which had been in charge of the Lyttleton to Wellington run back in the day.

Whakatahuri was a cacophonous site then, of crashing and bashing and breaking-up. By today's standards it would have been a health and safety nightmare. The most visible wrecks still there are those

of the *Tiroa*, built by Lane & Brown in 1916 (her hulk now provides a breakwater for the Whakatahuri boatshed); and *Valmari*, a 145ft, three-masted schooner, built in Hobart in 1917.

Old anchors are everywhere (they're units that resist wrecking into smaller parts). A unique historical boat is among the wrecks — it's being restored slowly. Very slowly.

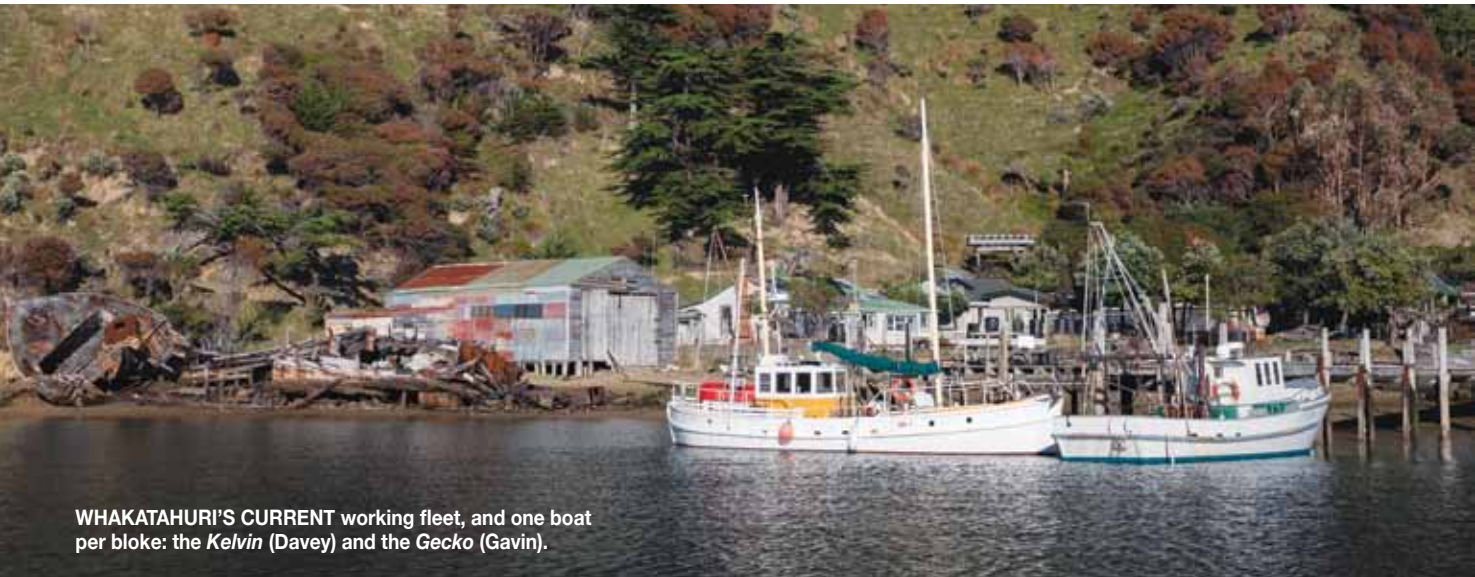
Here is also a place to yarn about good boats: old and new, big and small, as long as they're wooden, David Harrison Jones will want to talk about them. Davey Jones is well into his 70s now and has his share of yarns, including how he once had to sail a thoroughly-trashed-by-the-French Greenpeace protest yacht back from Mururoa Atoll to Tahiti. "The boat was buggered. Everything was wrong with it."

'Connoisseur of Classic Wood Boats and Ancient Lister Engines' it says on his business card. He is the surviving owner of the former Sounds Wrecking

their dog Polly, and a few goats. Bellbirds provide a constant, other-worldly soundtrack.

It's a remote place. It takes Davey seven hours to get to Nelson to visit his 'lady friend'. They keep a car at Elaine Bay, a 2-hour trip away by sea. The mail run boat from Havelock (the 'Mussel Capital' of the world) comes once a week on Fridays with fresh supplies — and, sometimes, those keen young volunteers too.

The Wells family began building boats 150 years ago on this site, and Gavin is the last of the family to carry on the tradition — though he's now mainly



WHAKATAHURI'S CURRENT working fleet, and one boat per bloke: the *Kelvin* (Davey) and the *Gecko* (Gavin).

Company, his former business partner Francis Wells having moved off this mortal coil some time ago.

Davey Jones is living out his days in unhurried bliss, tinkering aboard his boat the *Kelvin* at Whakatahuri alongside Francis' son Gavin Wells, who tends to take charge of emergency grocery runs in the *Gecko*, a modified fishing boat. Assorted volunteers (minimum stay seven days) help with the household chores, cutting firewood, and restoring historic buildings — the old school house is currently being converted into a tiny museum. Family come at holiday time and stay as long as they like. But mostly it's just Davey, Gavin, his partner Natalie Everett



IN THE BOATSHED, 'the *Splinter*' is slowly being restored. She's an example of the unique, slim, easily-driven Marlborough Sounds launches of the last century.

involved with boat restoration rather than construction.

The biggest boat built by the Wells family was the 45-foot launch *Noelene*, built by William Wells in 1937. The family specialised in slim, easily-driven launches unique to the Marlborough Sounds. Right now, in the boatshed, there's a leisurely restoration going

on of *Tanekaha*, nicknamed 'the *Splinter*.' Boating buffs will be intrigued by its extreme narrowness, and distinctive torpedo stern. The boat really looks like the one hull of a modern cruising catamaran.

When we visited, while on a circumnavigation of Te Ika a Maui (via the Marlborough Sounds) aboard our 40ft sailing catamaran, Davey insisted we tie up at his mooring in the bay and talk boats with him for

hours. Fine by me. Using the mooring is a seamanlike option, for with anchoring you run the risk of fouling the wrecked shipping detritus that litters the bottom of the bay!

Both the boat-building and wrecking businesses became uneconomic in such a remote location. Now Davey, Gavin and Natalie subsist mainly on the modest income from the small mussel farm out in the bay, but the mussels grow slower here than in the inner Sounds. Natalie reckons the future is in a seaweed-harvesting industry. She has an 'amazing pesto recipe' for seaweed she likes to make. Previously a computer technician, she otherwise busies herself with fine sewing projects, and restoring the old buildings on the site. "Down here you make do with what you've got." Looking around at the remains of so many boats around her and the bright blue bay beyond, she considers that statement. "But we've got a lot."



DAVEY JONES, 'Connoisseur of Classic Wood Boats and Ancient Lister Engines'. And storehouse of stirring sailing yarns.

FOR THE VICARIOUS TRAVELLER THERE'S MUCH MORE IN THE BOOKS ABOUT WHAKATAHURI

- *Boats for a Lifetime, the History of Boats Built by RW Wells and his Sons, including the Sounds Wrecking Company*, 2001, self-published by Yvonne M Fell
- *Time & Tide Waits for No Man*, 2004, by Lorna Orchard (néé Wells), published by Yvonne Fell, Blenheim.
- *Sounds Wrecking Company*, by Martin Berthold, 2009, published by NZ Maritime News.

Quotes from *Sounds Wrecking Company*:

"Dress for school kids is fish scales on wool."

"The cove is an inner pocket tucked inside the coast of the Pelorus Sound, with no road access, out of sight of the prying eyes of the curious, the eco-friendly righteous and the Wellington grey suits."

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ITALIAN IMMIGRANT SHIPS



GALILEO GALILEI arriving in Sydney.

story | **DAVID JONES – QUEENSLAND MARITIME MUSEUM**

It was not until after the First World War when Italian immigration into the USA was restricted, that Italians began migrating to Australia in any numbers. Two government-backed shipping lines began services from Genoa to Australia in 1921 bringing low-income farm workers from northern Italy to Australia. They settled largely in Melbourne and Sydney, but also on the cane fields of north Queensland where Italian communities grew.

A variety of ships were used which were either second hand or diverted from other routes, but only third-class accommodation was provided of a fairly basic nature. Ships that spent the most time in this early service were the *Regina D'Italia* of the Lloyd Sabaudo Line and *Citta Di Genova* of NGL.

By 1930 the Great Depression was reducing passenger numbers and emigration from Italy fell

away. Nevertheless, Mussolini's fascist government was determined to keep Italian shipping active on the world's oceans. Four modern diesel motor ships were assigned to provide a monthly service to Australia from Genoa, Naples and Messina. To distinguish them from traditional steamships, *Romolo*, *Remo*, *Esquilino* and *Viminale* were fitted with a tiny funnel which did nothing for their appearance.

Their operations were rationalised under the management of Lloyd Triestino shipping line and all were still running to Australia when war broke out a decade later. Italy did not join Hitler in the war until June 11, 1940 on which date *Remo* was berthed at Fremantle and was quickly seized by Australian authorities.

Romolo, on the other hand, had left Brisbane six days earlier and for a while was shadowed by the armed merchant cruiser HMAS *Manoora*. But as they moved further north the chase was called off, only to

Italy's merchant marine had been decimated by the war and few vessels were available to carry the flood of immigrants to Australia. Demonstrating the desperate need faced by Italian shipowners was their first immigrant ships to come here after the war, both of them arriving in 1948. These were the 25 year old *Toscana* which had survived the war as a hospital ship and the *Napoli*, converted from a bombed-out freighter abandoned at Crete.

A more suitable ship, the 11,000 ton *Surriento*, a former American passenger and troop ship was adapted in



SURRIENTO WITH double-banked lifeboats of a high-capacity immigration ship. Image Colin Jones

be resumed nine hours later when Italy finally entered the war. Next day *Manoora* caught up with *Romolo* which took scuttling action and sank. *Esquilino* and *Viminale* were also lost during the war.

Italy emerged badly scarred from the war. Her industry was largely destroyed in the fighting and soldiers returned to find no work waiting for them. Emigration offered an escape from poverty.

Parallel with this, the Australian Government adopted a policy of population growth after the war and Italians were encouraged to come to Australia by assisted immigration. Added to this were the many displaced people from war-torn Europe seeking a new home and safety in Australia.



FAIRSEA'S ORIGINAL basic dining room. Image State Library of Queensland FL1095479

Italy for her new role. In December 1949 she carried a full load of 1,155 immigrants to Australia from Naples “comprising Italians, Hungarians, Poles and other Europeans, and one lone Irishman, a Roman Catholic priest.”

However, the fastest and most economical way of adding more ships to meet the burgeoning demand was to buy second-hand vessels and rebuild them as passenger ships for the migrant trade. Italian shipyards raised this to an art form, transforming surplus vessels into graceful, well-appointed ocean liners.

Readily available for this treatment were small, wartime aircraft carriers. ‘Jeep’ carriers as they were called, were mass produced to provide an anti-submarine escort for convoys. These former carriers were taken over and converted to immigrant ships, the change being accomplished within a year. The first was USS *Charger* which in 1950 emerged as Sitmar Lines’ dedicated immigration ship *Fairsea*.

She could accommodate 1,800 third class passengers in austere conditions with cramped, three-tier bunks in large, open, women’s and men’s dormitories. *Fairsea* began carrying displaced people from Europe but was subsequently chartered by the Australian Government to carry assisted Italian immigrants. Despite the hard conditions, the voyage to Australia was fondly remembered by these migrants who had never travelled in such a big ship before.

Three more former aircraft carriers followed, but they were completed with a higher quality of design and accommodation. *Roma* and *Sydney* set new benchmarks for elegance and comfort for Flotta Lauro in 1951, while Sitmar’s *Fairsky* of 1958 was so improved that she was unrecognisable as a former aircraft carrier. No longer were passengers offered third class accommodation. From now on it would be first and tourist classes with a maximum of four berths in a cabin. *Fairsea* was extensively refitted in the mid-1950s to bring her up to the standard of her competitors.

Lloyd Triestino, longest of the Italian companies on the Australian run preferred building brand new liners for the service. The 13,000 ton trio, *Australia*, *Neptunia* and *Oceania* which made their maiden voyages in 1951, carried a well balanced mix of first, second and tourist class passengers. In 1955 Cogedar Line became the fourth Italian shipping line to carry immigrants to Australia. Their *Aurelia* and *Flaminia* had both been converted from cargo ships to become stylish immigrant ships.

The 1950s proved to be a watershed for Italian migration to Australia. Some 170,000 Italians made the journey, coming from northern Italy through Genoa, with further numbers coming through Naples and Messina. Travelling via the Suez Canal, they disembarked progressively at Fremantle, the southern capitals and



FLAVIA of the Cogedar Line. Image David Jones



FAIRSEA FIRST NEW post-war immigrant ship. Image Queensland Maritime Museum

Brisbane. From here the vessels returned via Torres Strait to Italy carrying tourists and holidaymakers to Europe.

Immigrants were welcomed by established Italian communities in the capital cities and rural areas. In Queensland they joined communities and families on the Granite Belt, northern sugar cane areas and the Atherton Tableland. Italian vessels later extended their routes to include assisted immigrants from Great Britain, Germany and the Netherlands.

By the 1960s intercontinental jet air travel was beginning to take over the market for trans-oceanic travel. As migrants turned to the airlines, Italian immigrant ships along with ocean liners around the world sought new markets, and cruising offered the brightest possibility for the future.

Nevertheless, that decade also saw new and larger Italian liners added to the immigrant trade to Australia. Finest of these were Lloyd Triestino's elegant twins, *Galileo Galilei* and *Guglielmo Marconi* which made their maiden voyages in 1963. At 27,000 tons they were twice the size of previous immigrant ships, and they were faster, reducing the passage time from four to three weeks.

Flotta Lauro purchased two second-hand Dutch liners and with practiced skill, transformed them into the modern *Achille Lauro* and *Angelina Lauro* fully air-conditioned with accommodation for 1,500 passengers. But their introduction in 1966 was late, and two years later they were reassigned to full time cruising overseas.

Galileo Galilei and *Guglielmo Marconi* also moved overseas for cruising when the Commonwealth



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ROMA, ELEGANTLY CONVERTED from an aircraft carrier. *Image Queensland Maritime Museum*

Government transferred all migrant travel to the airlines in 1972. Only Sitmar's *Fairsky* and *Fairstar* remained in Australian waters, and they too were permanently engaged in cruising. *Fairsky's* career was cut short in 1977 after colliding with a wreck in Djakarta, but *Fairstar* continued cruising for many years. She did not retire until 1997, fondly remembered by many who travelled aboard her.

Italian immigrant ships and the stories of people who came to Australia on them is just one aspect of the broader history of immigration currently displayed at the Queensland Maritime Museum.



ROMA'S TOURIST class dining room. *Image Queensland Maritime Museum*



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The Queensland Maritime Museum remains active in this our 50th year since inception. We have survived three major floods and Covid restrictions to be open to visitors on five days a week from Wednesday to Sunday.

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Please contact us on (07) 3844 5361, info@maritimemuseum.com.au or by enquiring with any of our members. We would love to meet you and include you in our crew.



ROMOLO RAN TO Australia through the 1930s. *Image Queensland Maritime Museum*

THE LOST ANCHOR



story | **DON NICHOLSON**

When I was fitting out *Catnap* our Jarcats J6 over 20 years ago (where has the time gone?) I was quite specific that I wanted an anchor that would hold the boat reliably, could be deployed easily and quickly and be simple to retrieve.

I chose a CQR or plough style sized for a 22' boat and fitted a bow roller offset to port to give clearance under the tack track (but not so close to the port hull to damage it). To ease recovery I fitted an additional roller behind the tack track so I could haul in on the rode without leaning over the front. Six metres of 8mm chain and 50m of 12mm dia nylon rode completed the main ground tackle.

In addition I added a piece of light gauge stainless steel sheet over the edge of the anchor locker so the chain running out won't eat the wood.

All this worked well EXCEPT the anchor was hard to set and tended to not hold. I also had a sand anchor with 2m chain. When needed I shackled this to the tripping loop of the CQR and deployed both.



ANCHOR holding pin.



PLOUGH anchor.



ANCHOR detail.



NEW anchor setup.

This really annoyed me and one day while sitting near a sandbar with a metre of water over it I decided to see what was happening. Motored over the bar, deployed the CQR and all 6m of chain and backed off at just over idle. The boat kept going backwards, the anchor lay on its side and dragged a shallow groove in the sand. It did not set in 10m of dragging! I retrieved it, motored back to the top of the sandbar and jumped into the water and buried the anchor completely by stomping it into the sand.

Back on board, motor in reverse quarter throttle and the bloody anchor came up, lay on its side and dragged again!

Time to do some research. Found the SARCA web site and ended up buying a SARCA #2. Not cheap (but shopping around there are deals out there).

Another sandbar but similar conditions.

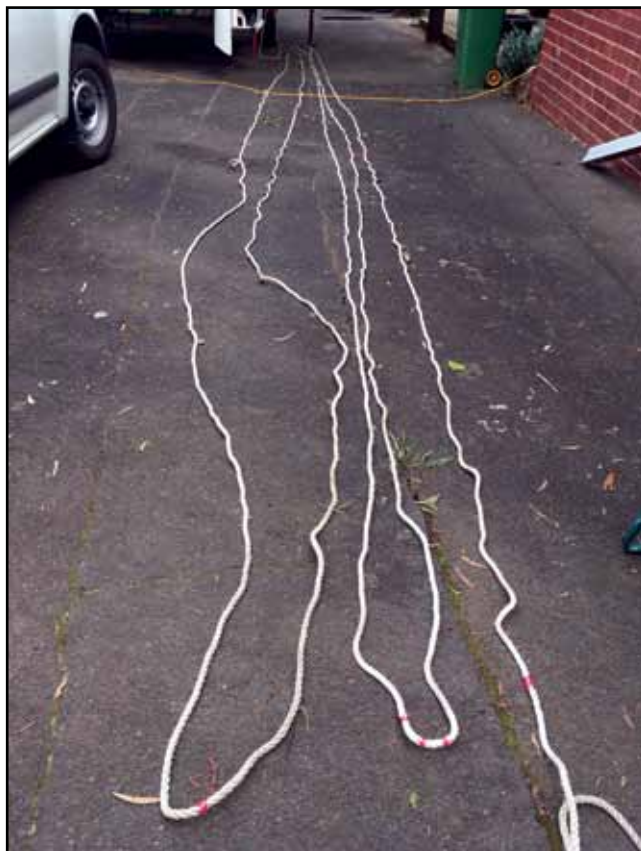
First test, chuck the anchor in the water, pay out the chain and back off at idle. Within a metre of the chain straightening the anchor buried itself and the boat stopped. Full throttle in reverse, the anchor buried itself a little more and that was it. Very happy.

RETRIEVAL

Motor slowly over it, taking up slack, the shackle slid up the groove and the anchor slipped out no problems.



SECOND anchor setup.



ANCHOR rode marked.

It has proved to be a bit prone to clogging up with weed but has still set and held well, just a bit of a pain to clean when up.

Our reserve anchor is stored in a locker in the foredeck. It is usually deployed from the stern now we have a bow anchor that works! To make it easy to deploy I have the rode for it (2m chain and 30m of rode) stuffed into a mesh bag with a drawstring at the top and a small hole at the bottom with the eye splice poking out. Simple to use. Drag it out of the locker, hook the eye over a cleat (just in case), open the bag and toss the anchor into the water. Pay out enough rode, tie off and motor gently away until it sets.

Another thing I've done for the main anchor is to mark the rope rode at 5m intervals with sailmaker's whippings. Short one at 5m, long one at 10m, short one at 15m, two short ones with a small gap between

them at 20m, short one at 25m three short ones at 30m etc. If you use the fluoro polyester bricky's line you can both feel and see it as it pays out.

The reason for the article's name? While out sailing after fitting the SARCA I left the old anchor in the drive in front of the garage. When we got home someone had stolen it. "Good luck," to them I say

NOTE: I am not employed by or have any interest, financial or otherwise in SARCA anchors or any of their distributors. There are other high holding power anchors on the market, all of them I'm sure will work well but I haven't any experience with them.

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A SMALL BOAT

WITH MANY PARENTS



PETE RIPLEY and his son Gus
with one of the latest prototypes.

story | **JOHN LONGLEY**

A feature of the 2023 Australian Wooden Boat Festival will be a return of what was originally called the Johnston Mini Boat. This wonderful little boat made its first appearance in the 2015 AWBF when a number were built quickly, at the show, and then paddled by enthusiastic children around Constitution Dock.

This original boat was designed by local Tasmanian identity Ian Johnston who recalls that the boat was heavily influenced by a larger design by Jon Smeeton. So it already had two fathers.

Attending the 2015 festival was John Longley, a crewman of *Australia II* and Steve Ward who built the famous wing keeled winner of the America's Cup in 1983.

Both were very taken by the little boats they saw paddling around Constitution Dock. Steve, who at that time was Rear Commodore at Royal Freshwater Bay Yacht Club, commented that one of the problems in getting very young children to start sailing was that when you put them into an Optimist, or similar dinghy, they had so much



ANDREW LOCKE building a prototype sitting down.

to contend with. They had to steer, attend the main sheet, not get hit on the head by the boom, not be terrified if they capsized and have the responsibility of being in command and making decisions as to where to go—a lot for a six or seven year old to take on at once.

What attracted Steve to the little boat was that it allowed children to experience being in charge without all the other considerations. They would also simply have fun and even if they capsized in the shallows it was no big deal. The other attraction was for the child to learn that you don't just buy a boat – you can build one as well.

John and Steve returned to WA and the memory of the little boat went on the back burner because they had seen a St Ayles Skiff at the AWBF and were mad keen to get that program going in Western Australia.

A few years later John contacted Ian and asked for the plans to his little boat. These duly arrived and John built one for his grandson who at the age of six did not immediately take to it, but a year later you could not keep him out of it.

What attracted Steve to the little boat was that it allowed children to experience being in charge without all the other considerations





JOHN LONGLEY and his grandson Marlon who is paddling the first MYB built in WA.

Steve Ward's interest was rekindled but he was not quite happy with the design forward of the main frame so he did a tweak and then produced some Mylar templates which could be used to make a CNC file because it was considered that if the boats were cut out very accurately they would be much easier to build than doing so with a jigsaw from paper plans. The boat now had four fathers.

The next stage was to turn Steve's redesigned boat into a CNC file. Enter stage left James de Bere, a naval architect who, at the time was working with Austal Ships, and whose day job was designing Naval vessels. James, who has had a lot of experience designing kit boats, did a few more tweaks before creating the CNC file. After a few prototypes were cut out by O'Connor Wooden Boats to do test builds, we now have a very accurate kit that pulls together beautifully and a little boat with five fathers.

So the plan is to now cut these boats out and with detailed instructions featuring Steve Ward actually building a boat, recruit 25 child and adult teams to build the boats prior to the next AWBF. Rather than being built hastily we are encouraging the builds to take place at a more leisurely pace so that the children can learn both boat building skills and life lessons at the same time, of which there will be plenty.

The kits are so accurate that there is no need to build them on molds, an old garden table will do the job. One of the prototype builders, Andrew Locke, had polio as a child and built the boat sitting down all the time. Andrew provided a lot of input into the instructions and can be seen as another father.

So if you are keen to build a lovely little boat for a six to 10 year old now that you have more time on your hands than you might have planned, contact office@awbf.org.au

The kits are so accurate that there is no need to build them on molds, an old garden table will do the job

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Ian Phillips
MANAGING DIRECTOR

With pandemics and lock downs behind us... I hope... you may be finding that the boat building project you started in lock-down is now stalled.

It happens with all of us as the pressures of everyday work and responsibilities have returned and the project you started to pass the time, you now don't have time for.

But, since you have started and invested your time and money it makes sense to finish the job. Summer is coming and you can't have much fun sailing your unfinished dinghy or paddling a half-built canoe.

Here's how to get going again.....

1. Go into your garage or shed. Have a look at your boat and the work you have already done. Chances are you have made some good progress and can feel pretty good about it.
2. Decide on ONE thing to do next to make some progress, no matter how small and do it immediately.
3. Allocate a time to work on your project that you might otherwise spend watching the TV or browsing the internet.
4. Decide on your next job and make sure you have everything you need to make it happen. Tools, materials, epoxy, fibreglass tape, sandpaper, etc.
5. Decide what you need to do next. If in doubt, do anything you can that is a step forward. Building a boat, like building anything, is a series of small steps that eventually become a finished boat.
6. Keep going.... You will now be enjoying the time you spend on your project and set some deadlines for completion of your boat and its maiden voyage.

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**The Fishing
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FEATURED PROJECT

The Fishing Punt "BIG BEN"

Garvey 19 foot Fishing Punt built by Rob Kiely

Although the designers call this vessel a "Punt" it is a seriously good looking and practical fishing platform and as unlike any mental image of a pole driven, flat bottomed, punt you could imagine.

The boat builder Rob Kiely having retired from farming decided to spend his time fishing instead of mustering. So being a practical country bloke decided the first step would be to build a boat for the job. A bit of research and he settled on the "Big Ben" with centre console and controls, a decent length at nineteen feet and with the sort of stability you need when you catch that big one.

His build story in photos follows as well as his own comments below.

An excellent result and a lot better than "BEGINNER'S LUCK" for his first boat.

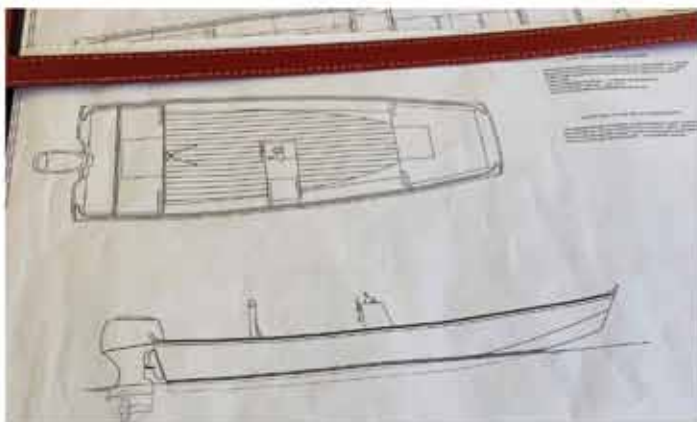
"BEGINNERS LUCK"

I have just finished building a Big Ben GARVEY and it has been a lot of fun. I am a retired farmer and I do not play golf. I laughed when I received the plans and wondered what had I let myself in for, I took my time adopting the measure twice cut once method and would recommend the use of templates as much as possible, it shows just how things will look and if you make a mistake it is on a cheap piece of ply not expensive marine ply. It is easily driven and stable, most suitable for the type of boating we will be using it for. I found both Doug Hylan the designer of the Ben Garvey punt and the guys at the Wooden Boat Store most helpful with info and support. It is the first boat I have ever built, I called it BEGINNERS LUCK.

ROB."



THE OBJECTIVE



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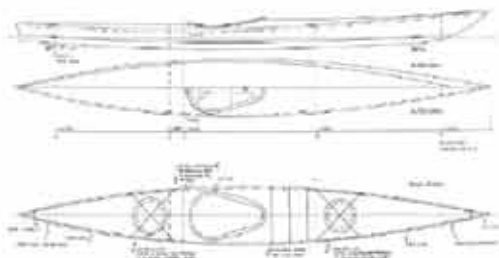
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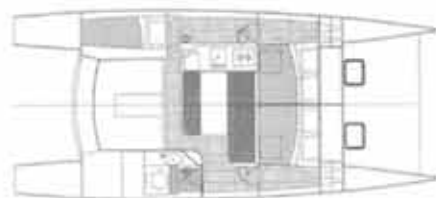
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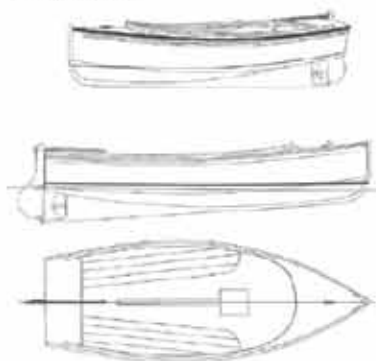
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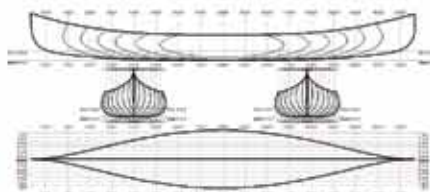
MULTI-HULLS



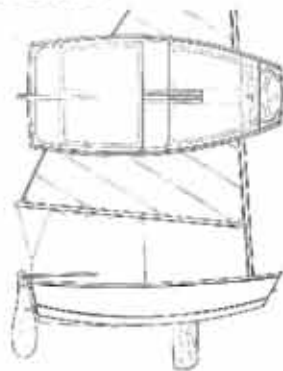
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RIG CONSIDERATIONS

FOR SAILBOATS



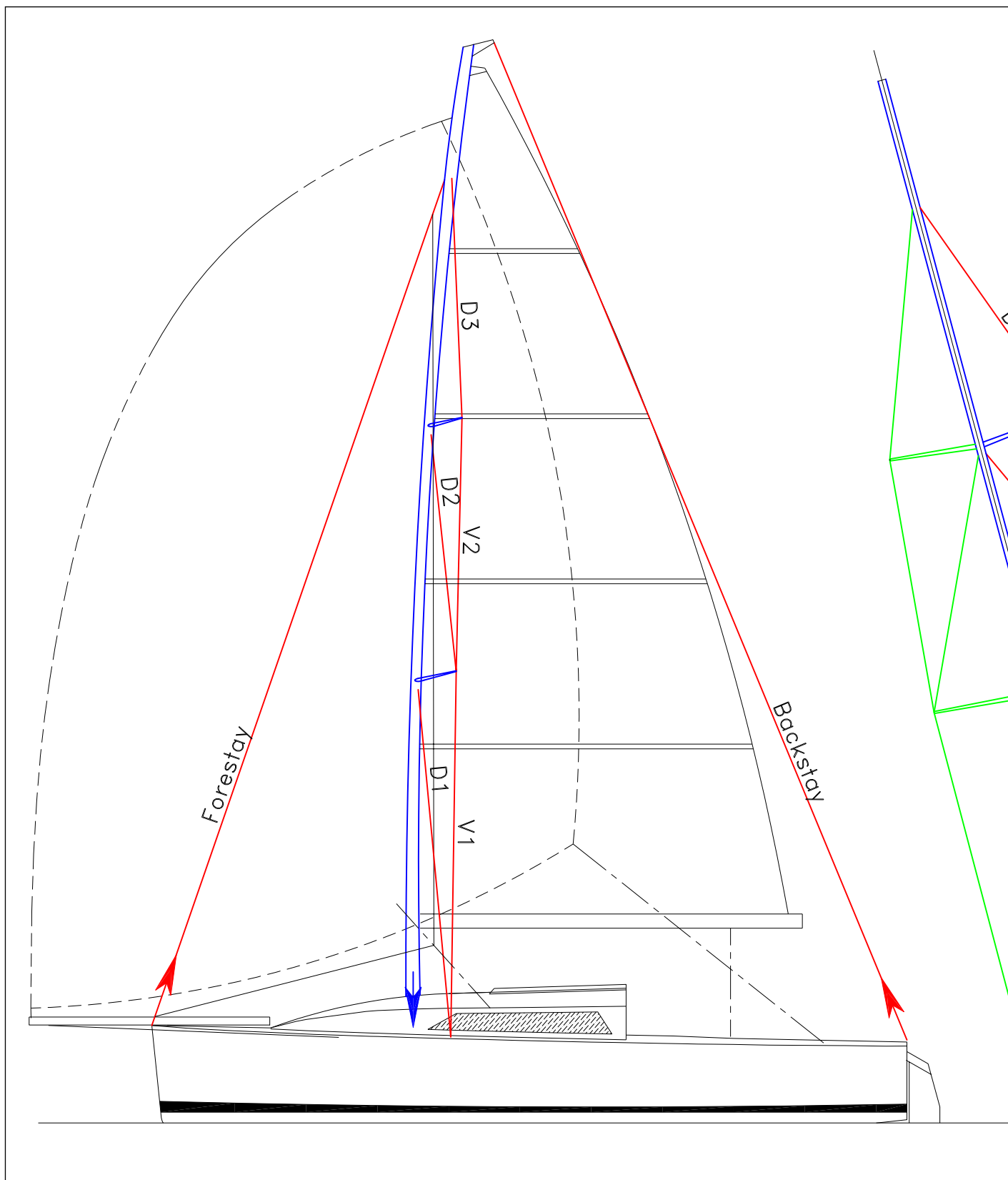
DIDI 26 UNDER maximum load situation, knocked down with main, jib and asymmetrical spinnaker. This is the bigger sister to the Didi 23 in the diagram.

story | **DUDLEY DIX**

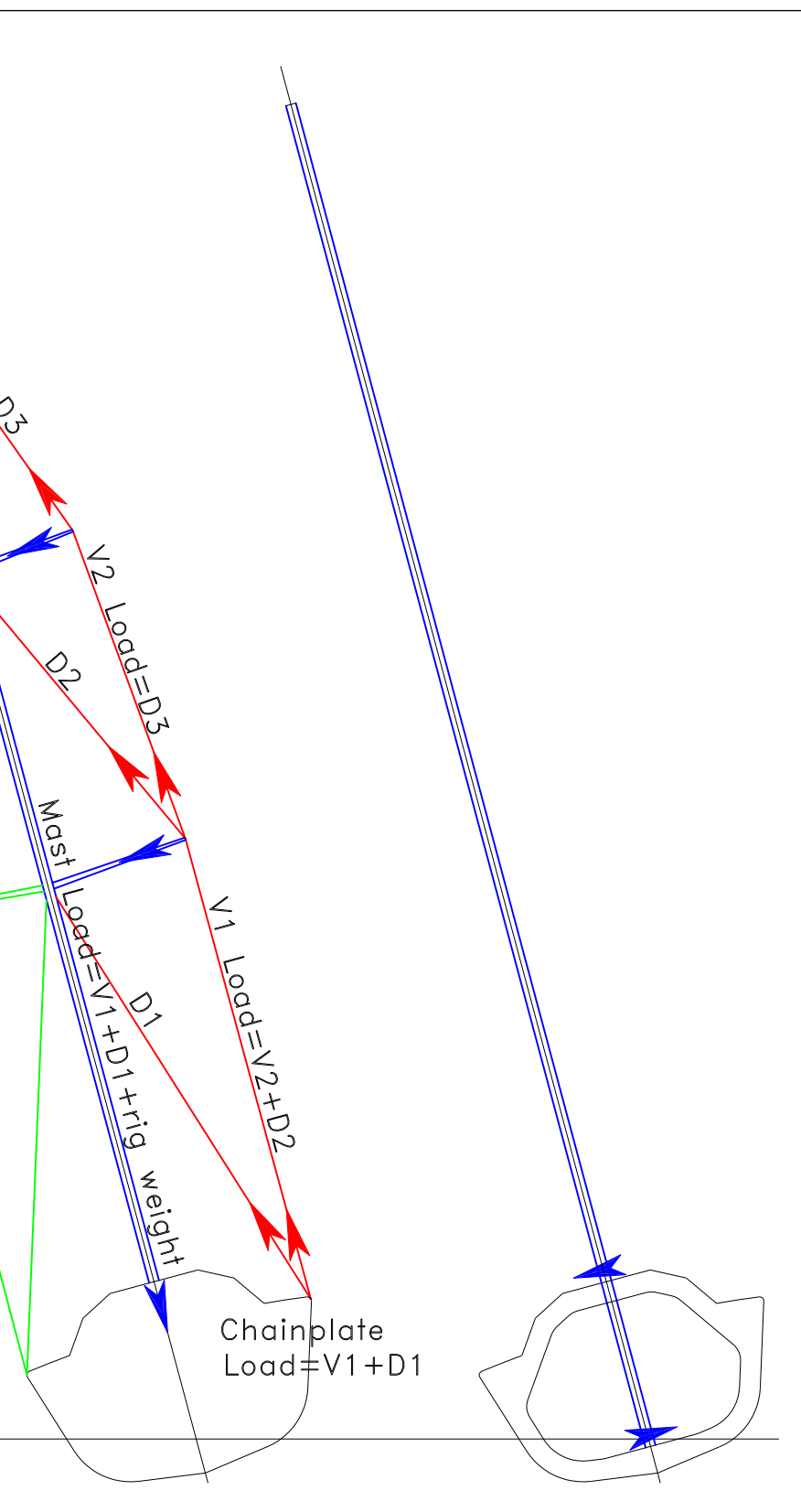
The effect of rig loads on our sailboats is something that we all have to deal with sooner or later, in one way or another. This can be relatively inconsequential like a pesky little leak at a chainplate, dangerous strain of the structure, or anything between those two extremes. The types of loads and the structural effects depend on the type and proportions of the rig, the construction material of the boat and its stability characteristics.

A free-standing rig is essentially a cantilevered beam set vertically for the mast, which applies lateral loads on the hull and deck (parallel to the waterline when the boat is at rest). The loads are inversely proportional to the depth of bury of the mast into the structure of the boat, so the deeper that the foot can be inside the hull the lighter the loads will be. At deck level the load is downwind and at the foot the load is upwind. This type of rig needs a pair of strong ring frames to distribute the loads into the structure. The cantilever load from the mast is substantial and can distort the structure diagonally if the ring frames aren't up to the job. The ring frames resist the lateral loads from sailing to windward. The mast should be stepped between the two ring frames and braced to them to also distribute the longitudinal loads when sailing downwind. A bulkhead can replace one of the ring frames but they need to be too close together for two bulkheads to work.

A rig that is held up by wires applies upward and downward loads to hull and deck. I say upward and downward because they are not vertical nor perpendicular to the at-rest waterline, they are aligned with whatever item in the rig is applying the load. The mast applies a load downward and perpendicular to the at-rest waterline. The wires apply a load upward



DIDI 23 TRAILER-SAILER RIG LOADS. Items under compression are blue, items under tension are red and green indicates unloaded. Arrows show the direction of the load. The centre image shows the Marconi rig with deck stepped mast, so the structure under the mast is all in compression. The image on the right is the same boat but with free-standing rig stepped on the structure at the bottom of the hull. It has ring frames to carry the loads, which are downwind at deck level and upwind at the mast foot. The image on the left is the profile view of the same boat with Marconi rig. In this view the difference in angle of pull between the backstay and the D3 can be judged by the angles that the two wires meet the mast. The load in the D3 with the backstay set is much less than if sailing without the backstay.



and aligned with each particular wire, so a mix of directions. The downward (compressive) load applied at the foot of the mast is equal to the weight of the rig plus the total of the upward (tension) loads in all of the wires that come down to deck level. The loads in the wires when the boat is not sailing are what has been pre-set by the rigger who set up the rig to hold the mast straight under sailing loads. The wires are pre-tensioned during that process, so they are always in tension and the mast is always in compression, even when the boat is at rest.

Under sail those loads change. The wind trying to turn the boat over and the ballast trying to keep it upright are in direct competition with each other. Most people think that the loads in the boat under sail are related entirely to the sail area and the strength of the wind but they have only an indirect relationship. Rather, the loads are directly related to the stability of the boat. If two boats each set the same sail area on their rigs and one has more stability than the other, the more stable boat will stand up more and present more sail area to the wind than the boat with less stability. Both boats will heel to the point where the forces applied by the wind and the stability balance each other. The less stable boat heels more to get to that point of equal forces but, in doing so, the sails will effectively present less area to the wind and the sails will also spill more wind due to the angle at which the wind strikes the sails deflecting more of the wind up the sail rather than flowing across them to generate forward thrust.

The greater the stability, the greater the loads that are added to the boat. Sailing to windward, there are increased tension loads in the rigging wires on the windward side. Slight stretching in those wires allows the mast to lean over to leeward a small amount, resulting in reduction of the loads in the leeward wires. The loads in the leeward wires might disappear completely if the rig is set up a bit on the loose side, seen by the leeward wires swinging loose instead of staying taught.

Tension load in the forestay is also increased, from wind pressure in the sails. That pressure pulls the headstay to leeward and the tension on the headsail sheet pulls it aft. Together they make up the headstay sag that you see if you stand on the bow and look up the luff of the sail. Headstay sag shortens the distance between

bow and masthead, pulling the masthead forward. That lengthens the distance between the backstay chainplate and masthead, so loads in the backstay increase to fight the lengthening. The skipper wants to minimise headstay sag, so tightens the backstay to pull the masthead aft, applying more load to the backstay, which transfers the additional load to the forestay.

As designers we draw the shape to give the sailing characteristics and performance that we want but then the rig loads change that shape

Most modern boats with fractional rigs have the spreaders raked aft 20-25° (swept spreaders) and many skippers will rely on the aft component of that spreader sweep angle to replace the duties of the backstay, so that they don't have to contend with adjusting the backstay and getting battens to pass the backstay when tacking. This increases the loads in the shrouds considerably because the aft angle between the mast and the cap shroud, when viewed from the side, is a lot more acute than the angle between the mast and backstay.

The loads applied to the boat's structure by the rig are large enough to pull the boat out of its designed shape. The more that the rig is tensioned, the more that it bends the boat, putting the deck in compression longitudinally and the bottom of the hull in tension. As designers we draw the shape to give the sailing characteristics and performance that we want but then the rig loads change that shape. Forestay and the associated backstay loads bend the boat longitudinally, increasing rocker. That will reduce the prismatic coefficient, which will hurt performance in stronger winds, particularly downwind, because of the increased underbody curvature. The increase in rocker can be as much as 1-2" on a 40ft boat. Reduced prismatic coefficient would be beneficial to performance in light breeze but that is when the backstay is likely to be slacked off, removing the hull bend.

That longitudinal deformation of the long and low hull and deck structure is easily imagined as a beam with

the ends pulled up and the middle pushed down but the distortion athwartships is not as easy to visualise. The transverse deformation is more difficult to imagine because the shape is more like a square or semi-circular box, naturally more stable. The load is still pushing down in the middle but the load pulling up is unbalanced between the two sides, causing a diagonal distortion. When the boat tacks the distortion tacks as well, because the unbalanced load switches sides.

Generally there is enough transverse structure in the boat to resist that diagonal distortion. This is in the form of frames, ring frames and bulkheads. They can hold the shape as long as the rig loads don't overpower the naturally stable shape and structure. Over-tension the rig and problems can result. As example, there is a 40ft GRP racer in Cape Town that

has the rig cranked up so tight that they had to install an aluminium spreader tube across the boat below deck level to stop the boat from becoming narrower, which also tries to make it taller and pop the deck off. The tube passes through the head compartment and the door has a cut-out to fit around the tube when it is closed. The tube is an obstruction to movement through the boat, with the crew having to duck under it to get to the forecabin. This boat has been sailing with the internal spreader for more than 30 years.

The BOC boat of Bertie Reed suffered some deck damage when en-route to the start of the Single Handed Around the World Race, wrinkling the deck under the loads from the rig. It was the intense heat of crossing the doldrums, with the sun beating down on the mandatory black registration numbers painted onto the deck, that softened the epoxy/glass/foam laminate enough that it could not withstand the compression loads in the cabin roof that came from bending the structure longitudinally.

Fibreglass boats are fairly elastic and can generally be distorted under load without breaking, returning to original shape when the load is removed or reduced. Nevertheless, they can be broken by excess loadings. Custom boats are generally very well bonded, with wet layup bonding angles (tabbing) to attach bulkheads and joinery to the hull and deck and internal grids that are fabricated in place. Amateur-built GRP boats are built with these same methods, so, as long as proper preparation of the glass surfaces is done to receive

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follow-on laminates, the structure will be robust. But most production boats have bulkheads and structural grids that are glued into the hull. These methods have proven themselves in use but occasionally one of them starts to come apart, with the bond breaking down between the grid and the hull. When that happens it may require much of the interior to be ripped out to get access to repair the grid.

Traditionally-built wooden boats can suffer more under excessive rig loads than GRP boats or wooden boats of more modern construction methods because they don't have a monocoque structure, instead being assembled from hundreds of individual pieces that are fastened together and can move minute amounts relative to each other. They require relatively large scantlings to have the stiffness to maintain the intended shape. Over time the constant loads from the rig can change that shape, which can be seen by upward distortion of the sheer curve at the shrouds, spoiling the smooth curve and replacing it with an S-curve. This is called hogging and will be aggravated by an over-tensioned rig, resulting in leaking joints that need constant attention to remain watertight.

Fibreglass boats aren't immune to this either. An over-tensioned rig will strain the hull/deck joint, causing leaks that can be very difficult to cure. When water gets in through a fastener that penetrates the deck, whether it be fastening the deck to the hull or holding a fitting to the deck, that water can show in the interior of the boat in a very different place from where it enters. Water runs downhill when there are no other forces acting on it, so you might expect that the leak will be easy to trace from where

water is first seen but that is not always the case. When the boat is at rest there is an obvious downhill direction but when heeled over that direction becomes more erratic. Add pitching and rolling in big seas and that water can go to unexpected places and do much damage.

I sailed the 1993 Cape to Rio Race between Cape Town and Rio de Janeiro on a very solid GRP Shearwater 39. It was a new boat, built for that event. Partway through the 3700 mile voyage water appeared in the navigation area, below the chart table. Try as we might, we could not find the source of the leak. On the return voyage through the Roaring 40s the water was getting into the nav table and lockers above the saloon settees. Back in Cape Town, she went into a boatyard to sort out the problem, which was ruining veneered interior finishes by then. It was found that the builder, who had gone broke by then, had drilled the required anchor locker drain holes but had not sealed the edges of the holes.

Modern adhesives and the ability to reinforce locally where needed have made it easier to build wooden boat structures that are more stable and resist deformation much better than in the past

Racing hard downwind, those holes had the bow wave surging past them every few seconds. Water went into the perimeter bonding of the bulkhead, from there into a foam-cored stringer, which carried it aft.



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Modern adhesives and the ability to reinforce locally where needed have made it easier to build wooden boat structures that are more stable and resist deformation much better than in the past. Laminated wood and plywood have contributed in large part to this, with the stable nature of these materials spreading the loads in multiple directions and enabling lighter scantlings commensurate with the strength requirements of a mobile structure that must live in sometimes violent surroundings. The skin of that laminated wood or plywood hull acts more like a fibreglass skin than the unidirectional nature of the wood from which it is made. The more layers, thickness and grain directions that are used, the stronger the skin is and the better the loads are distributed into the rest of the structure.

So, what has all this got to do with rig loading? It is to make the point that a well-designed and well-built boat is strong but it is not invincible. A careless rigger can do a lot of damage, so good rig tensioning procedures should be followed when setting up a Marconi rig or, to a lesser extent, a gaff rig. Some riggers crank up a lot of tension without really knowing how much additional load they are putting into the structure beyond what is needed. Traditional rig tensioning methods were developed when planked wooden boats were the norm and should still be followed.

The procedure for a new rig is to do a basic setup in harbour, with the mast standing vertical athwartships and raked as shown on the sail plan, then to go sailing in moderate breeze. Under sail, with the boat heeled to a nominal angle, the slack is removed from the leeward shrouds. Then the boat is tacked and the same number of turns is taken up on the rigging screws on the new leeward side. This is repeated until the slack is gone from the rig but no unnecessary extra tension is pulled into the wires. The mast is checked for lateral straightness and fine-tuned as needed to get the bend characteristics that the sails need for optimum flying shape. Sailing will stretch the wires, so slight retensioning may be needed occasionally, by taking up a turn or two to maintain tune. This procedure doesn't need to be repeated after the rig is taken down for service then resteepped because masking tape should be used to mark the setting of each rigging screw before removing, then it can go back to the same setting later.

Clues that a rig may be over-tensioned are locker and cabin doors that don't close or which pop open at times

under sail. If this happens when in harbour then the rig is definitely tighter than is good for the boat.

On my plywood *Black Cat*, after variable results and generally excess tensioning by the local rigger, I decided to always fine-tune the rig myself after the rigger had finished. Fourteen years after I sold that boat I was to sail on her in a trans-Atlantic race and said to her skipper that he must ensure that the rigger did not over-tension the rig when stepping it. When I got to the boat I looked at the hull and could see the positions of the chainplate bulkheads on the outside on both sides, showing very clear vertical dents in the surface from the shroud tension trying to pull the bulkheads off the inside of the hull skin. There were also cracks showing in the glued joints of the settee backrests where bonded to the bulkheads. I had to slack off the V1 and D1 rigging wires more than 10mm to remove the excess, then repair the damage that had been done to the backrests.

Loads in the hull from the rig can be modified by stepping the mast on deck, on top of a post or bulkhead. This reduces the forces that are trying to push the hull and deck apart due to compression on the bottom of the hull and places everything below the mast base in compression. The deck will still be in compression longitudinally and the hull bottom in tension due to forestay/backstay loads but the hull and deck are acting together as a deep beam to resist the bending of the boat. Having personally built and owned boats with deck-stepped and keel-stepped masts I can attest to the structure under a deck-stepped mast being much more durable and trouble-free.

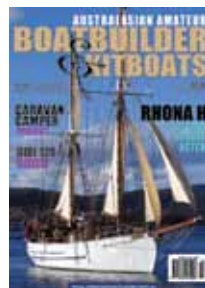
The drawback is that it may need the mast section to be one size larger to compensate for the stiffness lost due to the flexibility of the bottom panel without the fixed-end support provided by burying the mast into the boat structure. For a cruiser or cruiser/racer this is a small penalty to pay for the peace of mind that comes with the deck-stepped mast. Long-distance single-handed racers favour deck stepped masts because of the ability to change mast rake easily at sea for forward rake downwind and aft rake upwind, modifying the balance characteristics between underbody and rig. Top-end crewed racers favour keel-stepped to get the additional mast support and reduction in mast weight to aid stability and performance.

Regular rig service and maintenance is important for the durability of any rig. Remember to mark your rigging screws with masking tape before slacking off the rig for removal, so that you can easily go back to the settings that you had before, with no need to set up the rig again.

South African born yacht designer Dudley Dix is a graduate of Westlawn School of Yacht Design. He has a wide range of designs, built by professional and amateur builders in 90 countries. The Dudley Dix Yacht Design office is in Virginia Beach, USA, with website at <https://dixdesign.com> Australian agent is Ron Jesche of Stainless Boatworks, with website at <https://stainlessboatworks.com.au>

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RENOVATING CHAPARRAL



FINAL SAIL with the old wheelhouse. Image Jade Garland

story | **JONATHAN WALLIS**

When we first saw Peter Manthorpe's newly purchased 39' cray boat, *Chaparral*, at the 2015 Wooden Boat Festival in Hobart, she was, to put it nicely, pretty basic, and it was hard to visualise the image of a sailing family cruiser that Peter had in his mind.

However not for a moment did we, or should we, have doubted Peter's capabilities as he is a very knowledgeable and experienced sailor as well as proving a competent and practical boat builder.

And as we watch the progress he is making in achieving his dream from all those years ago, then so our total confidence in Peter's abilities has been confirmed, and it is a true joy to see *Chappy* realising her true beauty.

We recently discussed the current project, and Peter told us:

"When I bought *Chappy* I knew that the decks needed attention. There were a number of leaks, so I got to work with mallet and irons to harden up the caulking seams by laying in some extra cotton here and there. The deck was all Huon Pine, 1inch x 4inch planks, held down with galvanised spikes. Unfortunately, with every knock of the caulking mallet, I could see the deck planks shifting sideways instead of the seam tightening up. The nails were rusted; many had completely let go. As a result, fresh water had got into some of the beams and started to rot them.

Ripping up a Huon Pine deck is a bit heartbreaking, but there is no other way of replacing the beams. I started with the foredeck, being a simpler task than the main-deck, while also allowing me to fit mast partners so that, once I built a mast and rig, I could at least get the boat sailing properly, which was always a priority.

Once the foredeck was replaced with plywood we had the luxury of a dry part of the boat in which to leave bedding. Weekends away no longer necessitated ferrying epic loads of stuff back and forth, no doubt



PETER INSTALLING the new wheelhouse. Image Paul Chapman



SECOND LAYER of ply going on. Image Peter Manthorpe



NOT FIREWOOD – removed Huon Pine. Image Peter Manthorpe



LAZARETTE HATCH coaming. Image Peter Manthorpe

prompting onlookers to imagine our destinations to be far more exotic than they were.

This year it was the main-deck's turn. I knew that rot had progressed in some of the beams, and I knew that the wheelhouse had dropped because the water pooled around it and drained into the engine-room instead of over the side. The bottom panels of the wheelhouse were also rotted out, so I decided that I'd build a complete new one, similar to the original but slightly longer, to fit a day-bed. I built it in the driveway at home for convenience, so I could knock it apart and rebuild it on the boat once the new deck was complete.

I then set about ripping up the old main-deck. This proved much more difficult than the foredeck because



NO TURNING back. Image Peter Manthorpe



NEW BEAMS in place, first layer of ply going on.
Image Peter Manthorpe

of the construction of the boat. Aft of the foredeck, *Chaparral* has bulwarks two planks high, all the way along each side and around the stern. The builders had put these planks on after the deck had been laid. In some places there were scuppers cut in the lower plank, but for the most part the bulwark planks sealed tight over the edge of the deck.

So, to get the deck up, I had to cut a strip off the bottom of the bulwark planking, carefully setting the depth on the circular saw to avoid cutting through the Huon Pine stanchions. This gave me a 25cm gap to lever up the cover board (the outer plank of the deck, which follows the shape of the deck edge and is notched around each

stanchion) far enough to use a grinder to cut through the screws that were fastening it to the sheer-strake.

Once the deck was lifted I discovered that I needed to replace six deck beams. For these I used 160 x 45mm Tasmanian Oak. Then two layers of 9mm marine plywood were glued and screwed down to the beams and, at the deck edge, to the sheer strake. Fitting the sheets of ply was a bit of a fiddle because an accurate notch had to be cut for each bulwark stanchion. I left a 15mm gap around each stanchion, to be sealed with Sikaflex.

The sheer of the boat and the camber of the deck form a compound curve, so the two layers of plywood bonded together with overlapping joints, form a very rigid laminated structure that has added a great deal of strength to the boat. This, together with the fact that there will no longer be any ingress of fresh water into the internal structure of the boat, should ensure that the boat's life expectancy has been substantially extended. There's no reason why

The sheer of the boat and the camber of the deck form a compound curve, so the two layers of plywood bonded together with overlapping joints, form a very rigid laminated structure that has added a great deal of strength to the boat



NEW SPONSON. Image Peter Manthorpe



THE NEW WHEELHOUSE in the driveway.
Image Peter Manthorpe



WASTE NOT WANT NOT – original builder's pencil found under the old deck.
Image Peter Manthorpe

Chaparral shouldn't be cruising around for another 50 years or more.

To protect the edges of the plywood at the deck edge, and to protect the topsides in general, I have laminated three layers of hardwood to form a sponson 90mm wide and 60mm deep. Bending and fitting these hardwood battens, the final two being 35mm x 60mm and 9m long, was a challenge, especially with the boat in the water. Luckily, I had the help of an old friend, Paul Chapman. The last time Paul and I worked together at sea was in 1979, when we were both deck cadets on the *Darwin Trader*, a hybrid bulk/container ship, in which we seemed to mainly deliver beer to Darwin.

Paul came up with an ingenious plan. He attached the aft end of the batten to the main sheet, then swung the boom right out over the water until the timber was tangential to the boat's hull at the forward end. Working from a dinghy, I was then able to hold the front of the batten against the hull with one hand and pre-drill for a screw with the other. Once the forward end was attached, Paul gradually pulled in the main sheet, bringing the batten in while at the same time lifting or

lowering the end so that the curve conformed with the sheer as I drilled and screwed the batten to the hull. I won't claim that we didn't get covered in glue in the process, but good old-fashioned seamanship made an almost impossible job manageable.

The next part of the job is to disassemble the wheelhouse in the driveway and reassemble it on the boat. The bottom edge of the coaming will have to be scribed and shaped to fit the camber and sheer of the new deck. Then the posts go up, the lintels fitted and the 'monkey island' landed on top. After this, the panels and glazing go in, the doors are fitted and then I can get to work re-fitting the steering mechanism, engine controls and electrical systems. The final touches will be to fit a bunk along the port side, and a galley in the starboard aft corner.

Then we can go sailing again. I'm holding that thought."

And just as we are watching the gradual restoration of *Mistral 2* in the nearby Waterman's Dock, similarly we are waiting to see the new wheelhouse finally bedded on to the deck, and maybe even to a trip out upon the Derwent under Peter's capable command!

BUILDING A WATER RAT



WATER RAT – Maiden voyage with grandson.

story | **BOATCRAFT PACIFIC**

A project in pictures from sheets of marine ply to maiden voyage....

The Water Rat is a sort of cross between a kayak, a canoe and a punt. Practical to use on a river, lake or dam on flat water, light weight and easy to transport and very stable.

Best of all is that you can build it yourself in your garage with two sheets of marine ply.

Plans and materials are available from BoatCraft Pacific and their distributors nationally and it's a great first project for someone wanting to give boatbuilding a try or just keen to have a family boat to play with for the summer.



Boat plans and marked up panels.

Designed by Doug Laver and with plans from Ross Lillistone, the Water Rat comes in two alternative sizes. A 9ft version perfect for one adult and a 12ft version perfect for two adults, or one adult and a couple of children.

The pictures following provide a step-by-step guide to building a Water Rat, starting with the purchase of plans, marine ply and the Bote-Cote range of epoxies, glues etc from BoatCraft Pacific.

Working from the plans you mark-up your sheets of ply with the outline of each panel. Basically, a series of dot points joined together to make smooth curves. You then glue the ply sheets together using a butt join and cut the panels out using a jig saw.



Panels all cut out and looking very unimpressive.

As you can see below, the panels are then attached to each other using cable ties through matching holes in the ply, forming the basic shape of the hull. After that it is step by step through to a finished boat (see photos) and a maiden voyage with your son or grandson as crew.





Fibreglass tape of all joins.



Fitting the skegs.



Fibreglassing the hull.

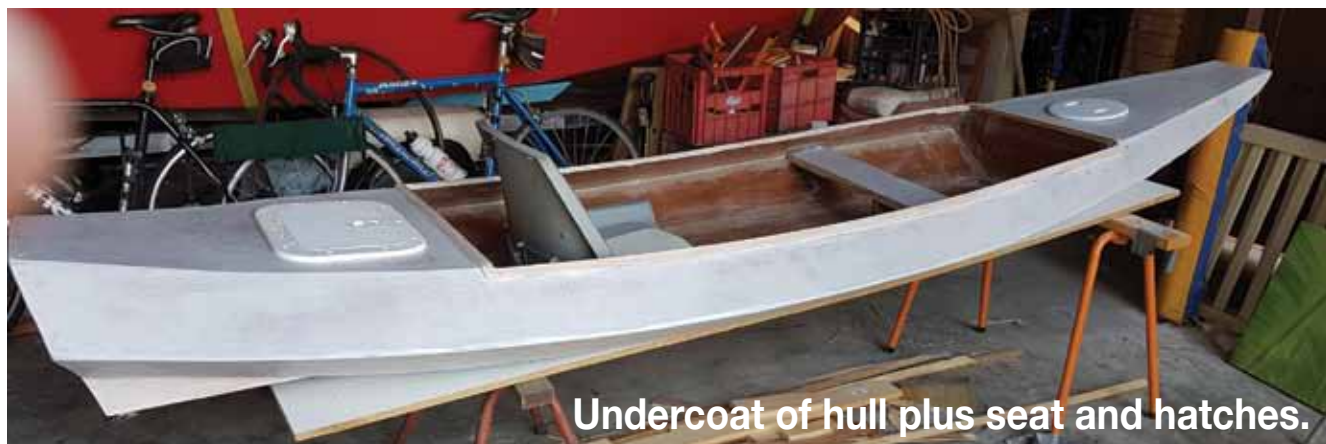
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Dear Ed

Doubly thanks for printing my letters in the preceeding issue, I am just writing in that your mag gets an idea or so and I did cover most of my life but although snowboarding is a not a watercraft, it is if the snow melts ...

My grandmother, being part Polynesian from New Zealand, may have influenced my hobbies in building things I could use for water sport, the Hawaiians used to surf on Malibu surfboards, a sacred pasttime made from wood available from the islands and carved with tools they invented and now a multi dollar sport.

In the 1960s in Canberra we get snow on the Brindabella mountains and being only young I had no money to go skiing but my dad had a piece of Klinki pine I could develop to an idea I had which I believe no one had thought of – a snow board. It was short and wide with two leather straps and stood sideways like a surfboard and no poles.

I steamed up the board in a drainpipe with water and blockages at each end on an open fire then compressed it into a ski mold I made of a block of wood so it finished up as a single ski. I varnished and waxed it with bees wax from the ski shop, Paddy Pallan, in town. I then hitchhiked up to Mt Franklin 40 miles away and everyone gave me a lift to see what I had made and if it worked.

They also gave me ideas how to improve it. When I got there two old Harley Davison motorcycles were bolted to concrete and made into rope tours and a chalet for club members, so there I was about to make history ... I stood on it sideways and down I went, now how to stop!

Just skid over, wool! that is how I believe the first snow board, 'mini Malibu' came about, since then the idea has become world renowned.

A watersport on land

It sat in my father's shed after that but it was car portable, only now I can understand how encompassing what had come about, being young it was only instinct, now 70 you know life is more as to how things came about.

Thankyou Chris

LETTERS TO THE EDITOR

CROC BOATS



Dear Ed

While touring around Cairns some years ago we stumbled on the Tinnaroo Raid completely by chance. Among the other wooden boats were these two beautiful 'Croc' boats. They are associated with the Pink Ladies who have survived breast cancer. I was honoured to be offered a paddle with these lovely ladies. Unfortunately I don't remember the full story of these boats. I'm sure someone among the readers of this magazine knows the full story and would be willing to share it with the readers.

Don Nicholson



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HONKING

WEE SEALS



JIM BARR'S newly purchased, part built Wee Seal Mk 2.

story | **ROBERT AYLIFFE**

The eastern states are honking with gestating Iain Oughtred designed Wee Seals.

A first incarnation Mk 1 Wee Seal kit was part built in Tasmania about 25 years ago. Graham Rankin now owns her and is completing her in a rather nippy winter locale, (Franklin, Tasmania). He hopes to have her sailing in time for the Australian Wooden Boat Festival in Hobart in February next year.

Jim Barr, President of SASCRA (The St Ayles Skiff Association of Australia) and instigator of St Ayles Skiff, *Cariad*, has just bought a near completed, very well built Mk 2 Wee Seal from her builder, Bill Collopy near Adelaide. Jim, like Don, is planning to use the balanced lug yawl rig on his boat.

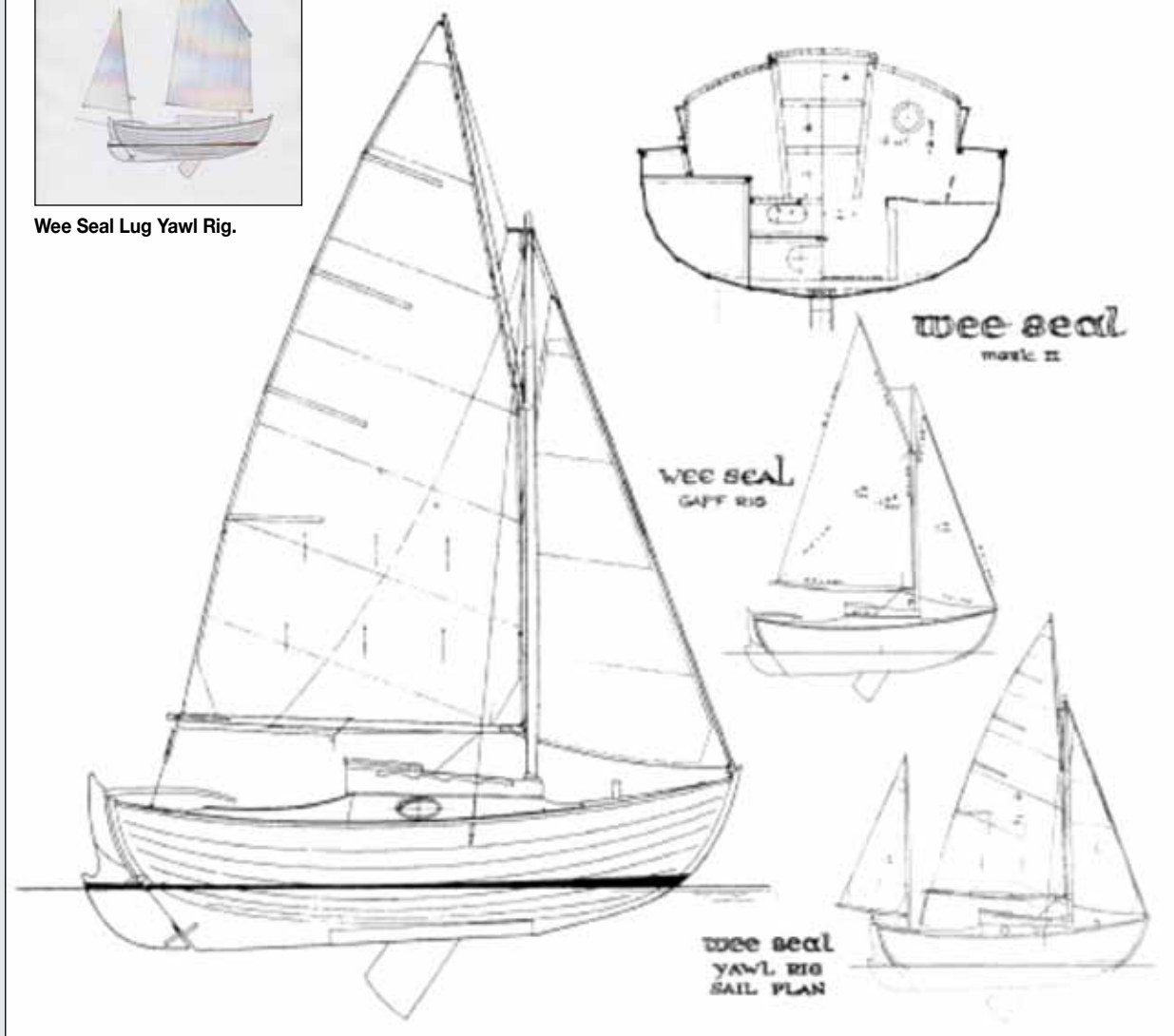
Tim Adey-Wakelin and I were on a mission to Eden in NSW to help sort out an NIS 29 in nearby Quarantine Bay when we decided to visit Don Ross, the famed Ballarat boat builder who has been braving even nippier weather, for which his postcode is famous. He is building the first Mk 2 Wee Seal kit at his climate controlled workshop near Ballarat.

WEE SEAL

Design #82



Wee Seal Lug Yawl Rig.



TYPE trailer / cruiser | SAILING RIG gunter sloop or yawl | ACCOMMODATION 2 berths

BUILDING INFORMATION

CONSTRUCTION glued lap clinker plywood

OPTIONS traditional plank, cold-moulded, strip plank

Building Time 1100 hours

Plans 8 sheets with small-boat instructions

47 page specifications

full size patterns of stem, stern and moulds

LOA	18' 6" / 5.64m
LWL	15' 3" / 4.65m
Beam	7' 3" / 2.21m
Draught	1' 9" / 533mm
Weight	1550 lbs / 507kg
Displacement	2200 lbs / 1005kg
Sail Area	177sqft / 16.44sqm

I admit to nervousness as my friend Tim and I neared Don's residence and workshop.

I already knew that Ballarat would be a great place in winter if it had a thickly insulated roof. Being so cold I was sure Don must have modern, insulated purpose built, climate controlled premises that would leave us with bad cases of workshop envy, back here in Mount Barker.

On getting out of the ute, I had a strong desire to jump back in, and speed off ... but that was not to be. Don had already seen us!

There WAS a roof, to be sure.

It was clear plastic sheet, batten reinforced almost flat, just a bit above head height.

Climate controlled all right. No obvious front door, for starters.

It dripped a bit, too being almost flat, and scarily, onto the Wee Seal's still upturned hull. A little dog ran out, its features reminiscent of a larger Kelpie.

For second I thought it WAS a larger Kelpie, that had suffered shrinkage in the cold. It wasn't. But she might become one later, providing she does not freeze to death in the meantime.

Don however was unreasonably cheery, showing Tim and I the intricacies of his rustling fridge like domain. Tim and I were nervous that we might be speared in the noggin by a dropping stalactite.

But, through it all shone Don's indomitable spirit, and enthusiasm for his project. The hull planking looked reassuringly fair, as you will see in the pictures, and he had a good plan forward. Amazing. He has never built a boat of any kind before, but he has built his own impressive house with all the of the grid stuff over the roof, and many other things besides.

Years ago I asked a boat builder what qualifications were required for boatbuilding. The answer came quickly.

"Fire in the belly, son, and the humility to ask questions!"

Don's 'Wee Seal' project is an inspiration for us all.



GRAHAM IS bringing the cabin sides in to give wider side decks.



DON'S CLIMATE CONTROLLED workshop. The writer (left), the gestating Mk2 Wee Seal and the builder, Don Ross (right) holding his cold 'bonsaid' Wee Dog. *Image Tim Adey-Wakelin*



TIM (left) and Don at the drawings table.



STRAYDOG BOATWORKS

the modern classics

BOOKS AND STUDY PACKS

Norwalk Islands Sharpies Study Pack. Norwalk Islands Sharpies Mk 2 kits have sold well, but responding to clients suggestions, we are soon to release paper building plans for for the NIS 18, 23, 26 and looking to introduce a Mk3 version of the NIS 29. The NIS 31, 35 and 43 will come later. CNC bulkheads, interior furniture and more available to plans builders as required. New study books coming too Stay tuned.

AU\$59 + \$30 Express post within Australia AU\$45 to New Zealand and AU\$70 to USA.

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Order both together within Australia, and we will make the deal post free. Both of Iain's books are available from Boatcraft Pacific agents around Australia, and Boat Books, in Crows Nest, in Sydney

In The South by Geoff Heriot is a sly read, much of it reflecting a high level of study of the long history of

the waters around and south of Geelong, all the way to Hobart and knowledge of a recent time, when the waters were not there. And how the people that lived and worked those areas before the British invaders came, with their trinkets, their muskets and all the rest of their poisons. The sea is not just a body of water. It bears witness history, and the land it is still embracing.

And then there are the boats. Geoff has from childhood roamed the waters from Corio Bay to Hobart and beyond. Most recently he has become involved with the ownership, and the lore of Norwalk Islands Sharpies. It's great read. Recommended.

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SCRUFFIE WORLD NEWS



STORNAWAY on Moreton Bay.

story | **DEREK ELLARD**

Life on water or on land is beset with what we euphemistically call ‘challenges’ – events the Lords of Karma and The Gods of Fate sprinkle on our path to keep us on our toes – outrageous fortune indeed. We can rise above them and learn, or wallow in a vat of self-pity – or a bit of both. A sailor is not so lucky, either you fix it or you face the consequences, literally anything from broken things to drowning. Fate invariably throws the book of life at you, best catch it, study it and learn from it – chapter and verse. Amid that sea of slings and arrows however, there are always wonderful, serendipitous blessings in disguise, often delayed and sometimes hidden in plain sight – signposts with the word ‘destiny’ on them. Such is life. Scruffie Marine was started decades ago with the best of intentions but right now it’s facing a frustrating fork in the road and yet ...

A few months back we sold the kit business to the Noakes Group headed by well known yachtsman and Sydney/Hobart regular Sean Langman. Wonderful! At last someone with the means to take it to the next level – with my continuing involvement and royalties too! The idea was to relocate to their Tasmanian yard and start the ball rolling with a shiny new version of a Stornaway exhibited at the Wooden Boat Festival. Then came the Covid slings and staff shortage arrows forcing the yard closure. Okay, Plan B then – Woolwich dock on Sydney Harbour and my proposal for a **Sydney Centre for Sustainable Boating** – perfect! Except for those forking arrows. Sean is doing his best dodging his own missiles but it's all still on hold.

This is REALLY FRUSTRATING as the enquiries are coming in thick and fast, more than ever before. In less than three weeks this month alone, the requests for information from around the globe would, if they became sales, would easily exceed a hundred thousand in turnover. This is thanks to the publicity from Paul Da Roza's Sailing Kate Louise videos, this column in AABB and a new generation's realisation that there's more to life than apps and screens. To all those patiently waiting for a resolution, please accept my apologies but as yet we face our own fork - fix it or swim upstream. I am hopeful of a solution soon as there are always options, the Noakes Group will support setting up with others so it's plan C or D, a shareholder cooperative of interested parties, preference will be given to existing or new owners – details on the website www.scruffie.com

LIFE AT SEA – AN HISTORICAL INTERLUDE

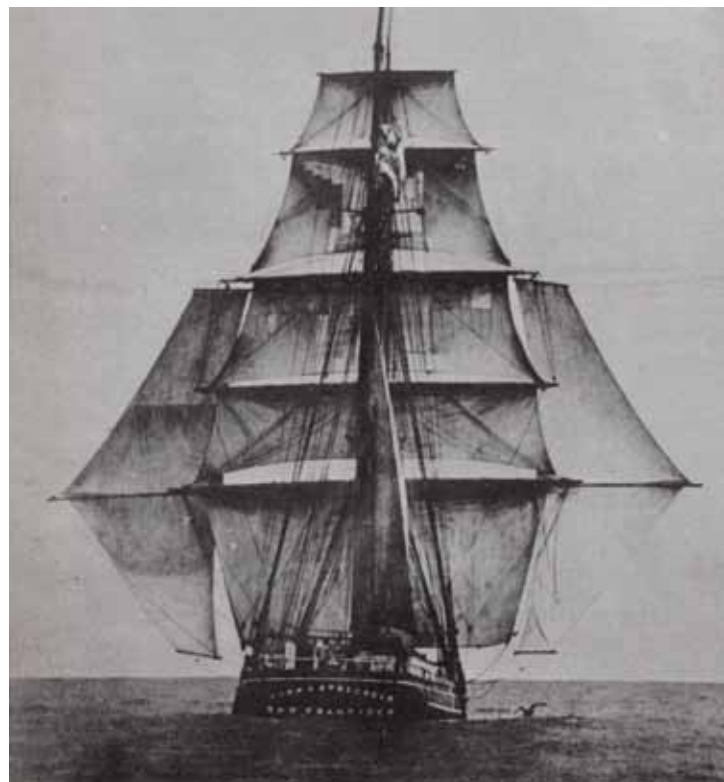
Two hands sprang aloft; the frozen earrings and reef points were cast adrift, the halyards manned and the sail gave out her increased canvas to the gale. All hands were kept on deck to watch the effect of the change. It was as much as she could well carry, and with a heavy sea astern it took two men at the wheel to steer her. She flung the foam from her bows, the spray breaking aft as far as the gangway. She was going at a prodigious rate. Still everything held.

We had a new topmast studding sail made with a reef in it – a thing hardly ever heard of and which the sailors had ridiculed a great deal, saying the when it was time to reef a studding sail, it was time to take it in. But we found a use for it now; for there being a reef in the topsail, the studding sail could not be set without one in it also. To be sure, a studding sail with reefed topsails was rather a novelty; yet there was some reason in it, for if we carried that away we should lose only a sail and a boom; but a whole topsail might have carried away the mast and all.

While we were aloft, the sail had been got out, bent to the yard, reefed and ready for hoisting. Waiting for a good opportunity the halyards were manned and the

yard hoisted fairly up to the block; but when the mate came to shake the catspaw out of the downhaul, and we began to boom-end the sail, it shook the ship to her centre. The boom buckled up and bent like a whipstick, and we looked every moment to see something go; but being of the short, tough, upland spruce, it bent like a whalebone, and nothing could break it ... With this sail added to her, the ship sprang through the water like a thing possessed. The sail being nearly all forward, it lifted her out of the water, and she seemed actually to jump from sea to sea. From the time her keel was laid, she had never been so driven; and had it been life or death with every one of us, she could not have borne another stitch of canvas.

TWO YEARS BEFORE THE MAST – RICHARD HENRY DANA 1840



THE WONDERFULLY named *John D. Spreckels* off Victoria, with stunsails set.

GO SAIL CARGO NEWS

Enough of that, In my last column I wrote of my French connections with the well-respected Audencia School of Business in Nantes. Professor Masson has now forwarded the three top papers from the student teams and they have presented clear, constructive summaries highlighting both the potential and the barriers. Among the suggestions is a possible collaboration with the school. Early days but they have the skills, contacts and expertise. I have also been Zooming with the representative of a UK-based shipping group researching the possibilities of a fleet of EC-180 schooners and this too is looking hopeful. Continuing



A STORNAWAY camper sailing on the Gippsland Lakes.

support from the Micronesian Centre for Sustainable Transport is welcome and we now have actual, positive emails from Federal MPs, **one an actual Minister**. Fortune favours the outrageous!

There's a way to go yet of course, ships that will take a thousand tonnes of cargo are not designed on the back of an envelope – remember them? – behind the scenes is a team of professionals, each an expert in their chosen field. In order to even think about fleets of zero-emission ships, every aspect of the project must be carefully considered, optimised and set up for mass-production including the sale of smaller boats in pre-cut kits. A business plan alone requires a great deal of work before it gets near to those with the means to implement it. Busy! But we edge closer.

Global events however, conspire to sharpen our collective wits and work in our favour, a perfect storm of climate-related disasters is the new normal and nowhere on earth is immune. To fix this we **ALL need to act in unison** – as the entire natural world does, otherwise we will simply run out of time. Imagine if you will, a world where everyone lived as one and worked with one aim – to heal the planet and every living thing upon it.

Arguably the greatest thinker in recent times was Albert Einstein: **“Everything is connected. The greatest tragedy of human existence is the illusion of separateness.”** I'm with him!

There are now so many scientifically proven ways to help from solar panels to rewilding to vegan diets

and good people have been saying this for decades, yet who is actively doing it? The Greens of course, the Teals and the brand-new government are all (mostly) doing their best and public opinion has swung dramatically in their favour but what about you, reading this, what steps have *you* taken? Will you join us? Every little step adds up. All our Vessels run on wind and sun alone and we are incredibly ambitious to add our small ships – lots of them – to the emerging global green marine mix.

To summarise our proposals, here is a recent blog post reproduced from the MCST website.

SHIPPING SOLUTIONS – A CALL TO ARMS JULY 21, 2022

For every time, every decade there are solutions. Mine are based on common sense and the need to take action. We offer true Zero-emission ships like our versatile C-100, not half-hearted compromises. Vessels that can be efficiently mass produced combining the best of time-tested sailing ships with the very best of proven technology. We're ready to go, here's how.

Zero-carbon operation is available right now by optimising the ships and reducing the power use.

The fully optimised ship, working with maximum efficiency starts with a computer-tuned hull for maximum performance, a safe, stable carrier that can be relied on to deliver the goods. Racing technology is applied to proven, practical rigs, the sail power is multiplied. Using wind and sun alone, the sails, wind generators and solar all work in unison to drive the vessel.

Reduce the power usage on board. Every single component must function reliably and efficiently by harnessing all available power. Here's a few examples. Magtor pumps use half the electricity, the solar panels are cooled to raise the watts and heat the showers. New generation thin-film solar on sails and awnings, Scandium alloys for the spars and low-friction bearings are all available now or coming soon.

Reliability is paramount, hence my insistence on proven technology, backed up by manual marine dexterity. The storm won't pause while you fix a software glitch in the auto-reefing system. Reliability from the ship's engines – only one moving part. Reliability is delivering the cargo on time. Reliability is achieved by applying excellence to everything.

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Excellence in design, development, engineering and production, never the cheapest option but the best, we are building a future-proof product. These principles may well equal higher upfront costs but wait and see what happens as our boats outperform lesser ships, year after year. Long term reliability and value for money, the ultimate business advantage.

Value for money. On the table are years of dramatically reduced operational costs, lower maintenance bills, no pollution, no carbon emissions and no diesel. It doesn't end there either, there's lasting value in building your own boat with our kits – from the 200 tonne C-100 cargo ships to solar/electric ferries to six-person resort/work boats – delivered in containers for Island assembly. We call it job creation and the whole community benefits.

We need people. Our shipyard is ready, we need visionary financiers and forward-thinking politicians, deckhands and managers, sailors and accountants, builders and negotiators. Good men and women to share a new cooperative way doing business. One voice can change the course of history, will it be yours?

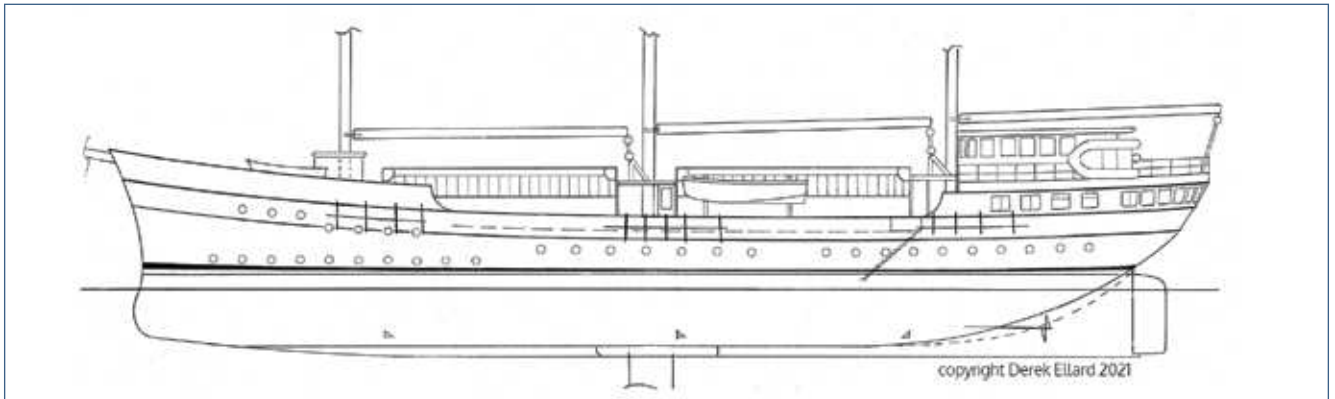
Action! Email or phone your leaders and suggest a coordinated call for help – Australia is finally listening.

Derek Ellard - www.gosailcargo.com

2 ½ inch rope * A ball of strip material for parcelling
* Wire-cutting pliers * A small iron slab as a cutting anvil for wire * Cold chisel (wider than the one in the anchor bag) * bunch of rope yarns * Small, one ounce tobacco-box full of thick grease. Bunnings?

A BRIDGE TOO FAR – PART ONE

Jeff Bezos of Amazon – retail not river – recently had a new yacht built in the Netherlands and at 127m long and \$US 500 million plus it was a big boost to the Dutch economy. The new schooner had towering masts and its own airstrip, well nearly, plus enough staterooms to house the entire governments of small nations. Except that someone forgot to measure the air draft (height, 46m) of a bridge between shipyard and sea – the new yacht is way taller. Okay then, suggested one bright thinker, how about we dismantle the bridge and rebuild it after we go through. Fair enough except that it's the historic, vertical lifting Konigshaven Bridge, a local landmark, and as word spread of the sacrilegious scheme, anger grew and amid very real threats to pelt the billionaire's new toy with rotten eggs and other decomposing substances as it passed by. Mr. B was mortified and backed away from the idea with indecent haste, opting instead to fit the masts downstream.



FIRST DRAWING of the EC-180 36. Our 36-container cargo schooner – on special this month only!

HISTORICAL STORES – THE BOATSWAIN'S BAG

A small painted canvas bag hung up in an easily accessible position. Contents:

* Spike and prickers of various sizes * A lignum Vitae hole fid * Tarred twine * Marline * Spun yarn, two yarn and three yarn * Serving board (elm) to take up to

Mindful of lingering odious threats, he ordered the vessel be loaded on to a barge and slip through in the quiet hours just before dawn. Sneaky yes, but no paintwork was defiled.

Now's the time for some fun facts – to put this into perspective

They always go a bit over budget so let's say oh, \$US600 million. That would be **enough to build:**

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30 Electric Clipper 180-36 1,000 tonne 36 container zero-emission cargo schooners

40 EC 100 4/8 container 230 tonne sail/electric cargo ketches

50 E-Cat Solar ferries and inter-island sailing cargo catamarans

200 assorted zero-carbon work boats, tourist boats and fishing boats

And the world takes a significant step towards transformation

Now of course Jeff Bezos is one of many billionaire subscribers to AABB magazine, so the challenge is there Jeff – think Go Sail Cargo when ordering the next one.



THE BRIDGE that stopped a billionaire. *Photo The Guardian*

A BRIDGE TOO FAR – PART TWO

Annette and I enjoy European TV dramas, especially those on SBS, Borgen, The Village, The Bridge, to name but three, but credibility was stretched to beyond breaking point with the UK production *Too Close*. Another vertical lifting bridge featured in a significant cameo role.

Here's the story. It was a dark and stormy night, a clinically depressed mother in her 30s is undergoing a major psychotic withdrawal brought on by her flushing the super-strength medications down the toilet. She'd left her husband and children, her hair was falling out and there were huge imaginary cockroaches crawling up her legs. She staggers into the bathroom and reaches for a handy bottle of hydrochloric acid – common in suburban bathroom cabinets – and pours acid on her limbs. Screaming with pain, she splashes water everywhere yet somehow manages to get dressed and drive round to her house where the ex is entertaining her recent best friend downstairs with

the curtains wide open – as you do. Into the front door and stagger upstairs to wake up the kids, get them dressed for a cold rainy night, hurry down and into the car outside, strap them in, slam the doors and roar off into the night. And the two adults enjoying a glass of wine by the picture windows, DID NOT SEE OR HEAR A THING! AMAZING!

Cue the children “where are we going mummy?” – “it’s a surprise!” I’ll say! And on at high speed to the bridge but the gates are closed and the bridge is way up! But her recently deceased mother is behind the gate waving! Phew, Okay, nothing for it but to reverse at high speed, (and by chance, the car behind had stopped a good 50m back!) so she could get a decent run at the gate, Floor the accelerator and blast off, smashing through and into the freezing cold river. And then, A MIRACLE! By pure coincidence, a team of trained rescue divers were on standby, ready in the water below for just this sort of thing! We were spared the details on screen but there could be no other possible explanation. They let the vehicle fill with water to equalise the pressure, used specialised equipment to force the doors open, fed them all emergency oxygen from the spare tanks, unstrapped them and somehow managed to get distraught mum and two traumatised children to shore where a fleet of emergency vehicles and ambulances had, by a simple twist of fate, materialised. THEY ALL SURVIVED!

Are there awards for this? A “Plot Holes Hall of Fame?” astonishingly, there’s more but I can’t go on.

I need to get out more.



THE ACTUAL BRIDGE over the River Swale where a film crew spent over \$150,000 to destroy a car, a gate and all credibility. *Photo kentonline.co.uk*



Comments, criticism and collaboration welcome.

derek@scruffie.com

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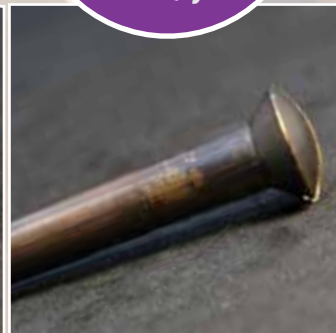
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