



AMATEUR BOAT BUILDERS' ASSOCIATION

JULY/AUG'04

ABBA COMMITTEE

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Contact any of these four people for clarification of association activities.

A LABOUR OF LOVE

On Saturday, June 5 we made a second visit to Harry Speight's workshop in the hills at Hovea, the second in about two years. Harry's building a Farrier F82A folding trimaran in strip plank cedar. On the first visit we found that he'd completed both armahs (the outrigger floats, stupid) and was most of the way through the port half of the main hull, laying it up in a female mould, which would later be adjusted to make the starboard half. He was having some trouble deciding where to source the hingeing hardware for the folding components.

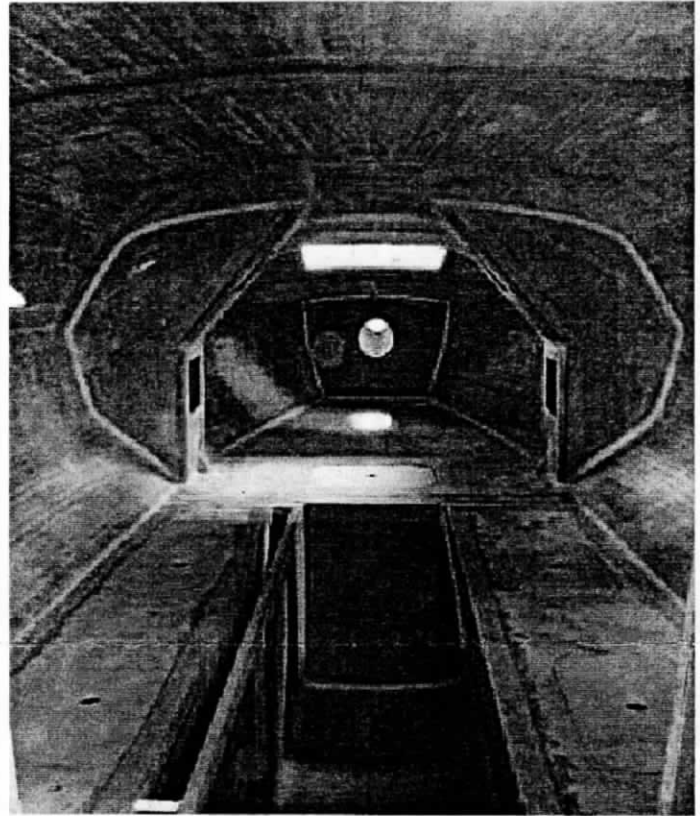
That was then. On this visit we found a great deal of progress had been made. The armahs were gel coated in white and sitting, at least temporarily, outside the shed. Inside was the main hull, both halves joined, partly filled and sanded, partly still covered in peel ply. Peel ply, of course, is that sacrificial layer of cloth put on top of the last coat of resin to iron out lumps and bumps and which, after peeling off, minimises the lumps and bumps to make a final

sanding easier and prevents amin blush, ready for painting, etc. The decks, cabin top and aft cabin top were, of course, layed up while in the female moulds and were complete, having been part of the joining process. This exercise must have been very tricky. The first half was turned over and hauled into the roof area directly above the building jig while the second half was finished. The first half was then lowered back down in its slings most of the way, temporary blocks were glassed onto the top half and the load transferred from the slings to four car jacks which then lowered it the last inches onto the bottom half. The joint was then made with resin, glass and filler. As you can imagine, a tricky exercise - not a huge amount of weight involved, but still very tricky. The finished weight is designed to be 900kg, so each hull half would have been around 200kg.

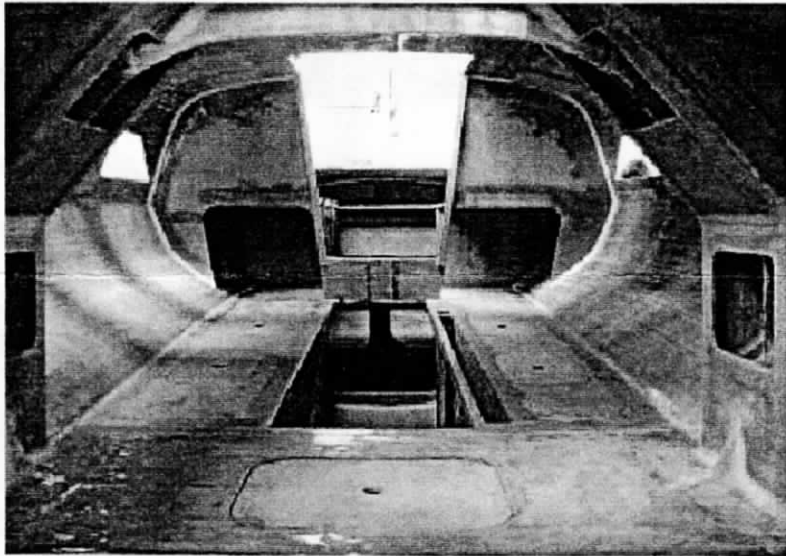
Most of the bulkheads and many of the internal bunks and seats were glassed in although the cockpit furniture was incomplete and the aft



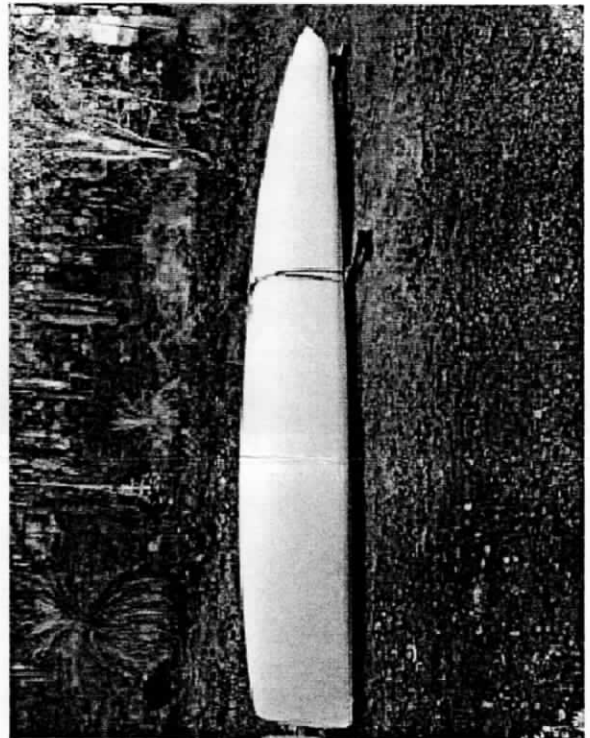
ABOVE: The fine lines of the Ferrier bow are clearly visible in this photo. Note the tube which houses the removable carbon fibre bow sprit.



ABOVE: Looking forward into the main cabin of the Ferrier trimaran.

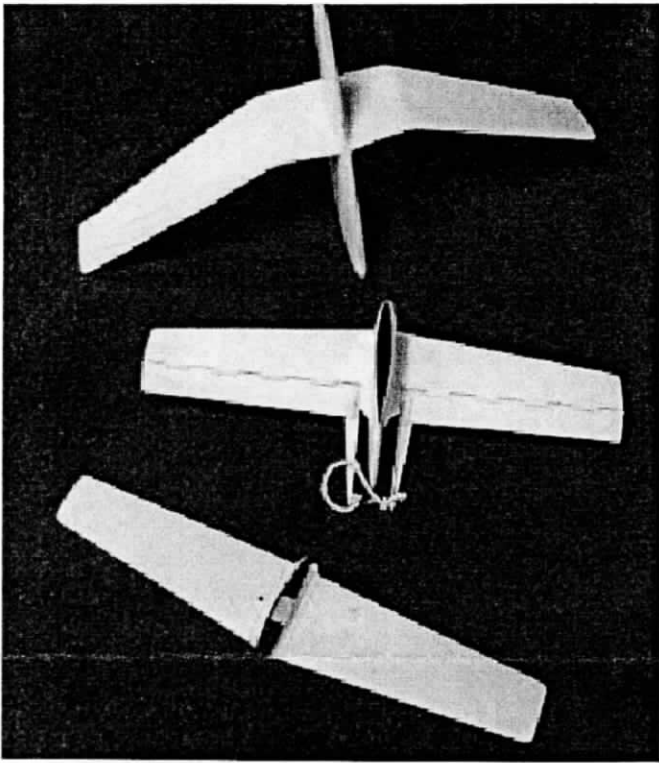


ABOVE: Looking aft towards the cockpit from the forepeak. Note the plate box along the inboard edge of the port saloon seat

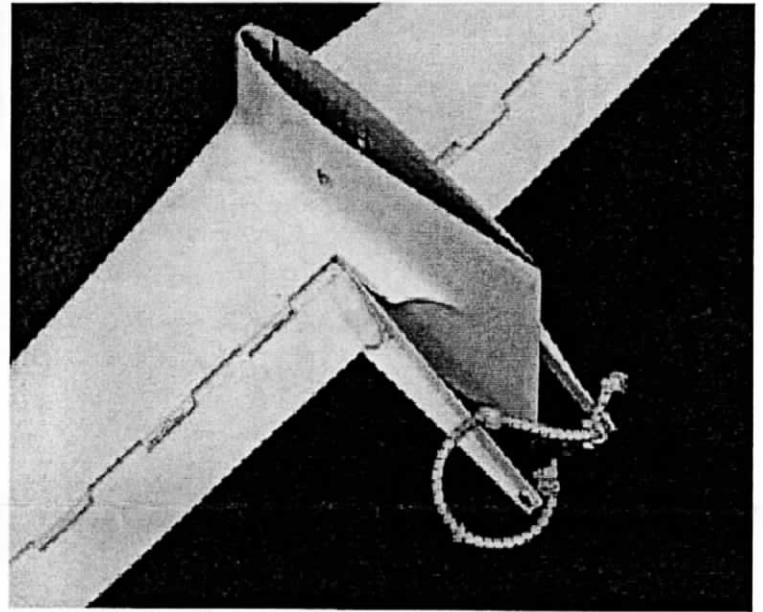


ABOVE: One of the two completed ama hulls of the Ferrier trimaran.

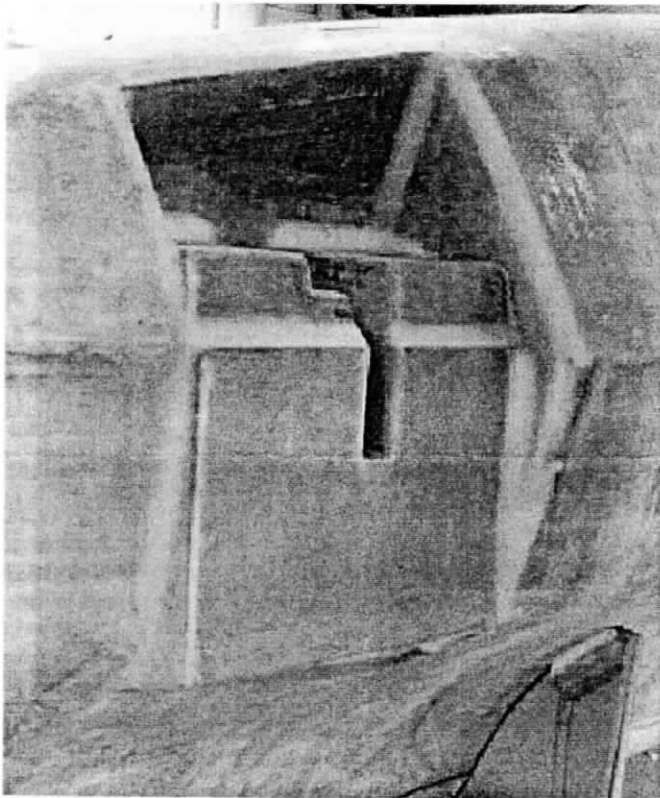
Photography by Geoff Leggatt



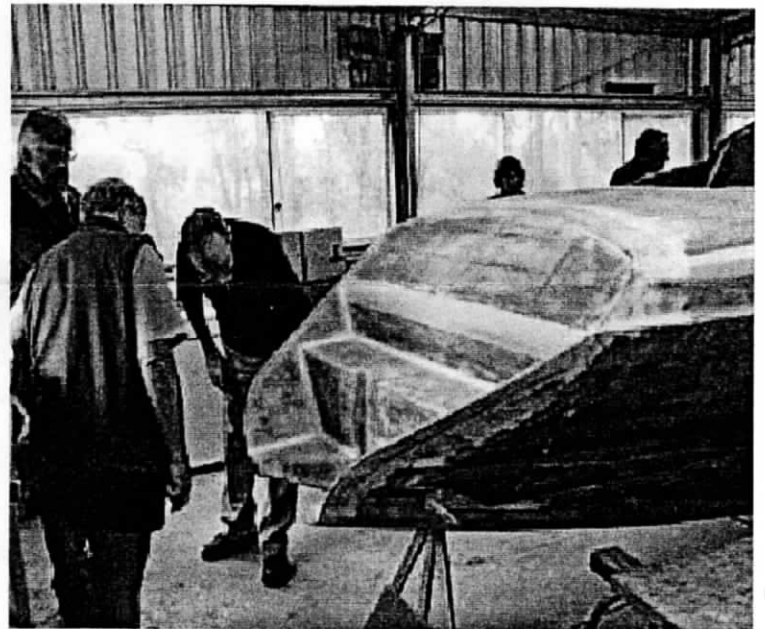
ABOVE: Two variants of David Lugg's centre board mounted foils top and bottom. The rudder mounted foil is shown center.



ABOVE: Detailed view of David Lugg's rudder trailing edge flap actuator. This foil mounts on the existing rudder and is pinned in place.



ABOVE: The mounting points for the amah hull support beams on the main hull. Construction is fibreglass encased plywood and solid fibreglass panels.



ABOVE: Harry Speight describes various aspects of the stepped transom of his Ferrier trimaran to Peter Leggatt and Klaus Sussenbach.

cabin not yet started. Most importantly, the hinge mounting boxes (four of them) were cut into the hull and all glassed up ready to receive the hinges which Harry finally had made up in Queensland. Even the giant tube bearing in the bow to accept the retractable spinnaker pole was glassed in place. Going on the displayed photos, this took a lot of work to align accurately before locking home. Already completed, too, are the rudder and centreboard fins. Quite unstated, however, are the outrigger arms. These are hollow box constructions in timber but curved, banana-like, and should be quite difficult, needing to be fastened to hinges at the inner ends and plugged into the armahs at the other. Harry's expecting a year of part-time work on these alone.

Overall, this is not some narrow-gutted flying machine. Sure, the waterline is fine, but the accommodation spreads out, wine glass-like, above that to give a very wide saloon. In fact, although I didn't get the actual deck beam, it looks too wide with the armahs folded to meet

the maximum towing allowance of 2.5m. Still, I guess it will. Headroom is limited, but one spends most time inside sitting down anyway. The centre case is mounted off-centre against the port saloon seat to preserve floor space. Harry's not interested in the other option, a centrally mounted daggerboard case. With V-berth, saloon berths and aft cabin she should sleep six - pretty capacious.

Clearly the project remains a labour of love for Harry; there's an enormous amount of work, both done and to be done, but he hopes to finish it in a couple of years to coincide with retirement. I think he clearly realises that it won't be a lot of fun to tow up and down his serpentine hills driveway (although he claims to have towed in and out a 9m glider) and to that end has already purchased a mooring in Mangles Bay near Rockingham for the summer months. So eventually we should see him scooting all over Cockburn Sound, at least. Many thanks, Harry, for allowing us a second look at this exciting project.

STILL FLYING ON FOILS

Many moons ago, (so long ago that my records don't cover the event) we were addressed by David Lugg on the subject of carbon fibre Fourteen Foot Dinghies (or skiffs as they seem to be called now). Since then he's been doing far more exciting things than merely laying up boats in 100% C/F and he came along to the evening meeting of May 25 to tell us about it.

David's been doing ground-breaking stuff on hydrofoils in the 14' class and as he had to learn all of it by trial and error it made a pretty good story. Firstly he explained that the class had recently amalgamated with the International 14 class and that this boded ill for future prices of yachts, since in England the International 14 sailors generally buy their boats complete, over the counter, at great expense, whereas most Australians still build their own. Fortunately it doesn't seem to have come to pass yet - most

Aussies are still building their own.

In the International class there had been hints of foil development and this motivated David to try out some ideas of his own. I got the impression that class rules forbade the increase of beam underwater so David had to try a foil on the centreboard, instead. His first foil was sleeved over the bottom end of the board and worked too well! It was about 2' wide with a chord of around 6 - 8"; not much on the face of it. However, on the first test it lifted the boat alright, but the bow more than the stern, leading to a backwards capsize almost straight away. David didn't say what people witnessed this first dramatic test. It must have been a bit like Kittyhawk, 1903, but without the photographer, I guess.

Clearly some longitudinal stability was needed

and thus was born a second foil, smaller and sleeved over the rudder, but initially fixed. This led to semi-controlled rocket-like spurts of speed with the hull lifting completely clear of the water, but still erratic. Then they tried a vent tube leading down the centreboard to feed air to a hollow main foil, the air exiting as bubbles from a string of exit holes drilled spanwise at the high point of the foil. This was an attempt to smooth flow over the foil and reduce cavitation. It was an interesting concept but didn't lead very far.

It became clear that for consistency a steerable rudder foil was needed, allowing the angle of attack to be altered. The first attempt had external controls dragging in the water and was available for inspection. The two foil halves had hinged elevators (as on an aircraft tailplane) and a pair of short levers running aft and linked together and these were pulled downward by a short length of approximately 5/16" shock cord giving "down elevator". "Up elevator" was achieved with a wire running up the trailing edge of the rudder and along the tiller. So now the two-handed helmsman had to handle not only the mainsheet and the tiller, but the foil fine trim as well, while out on a trapeze - I don't know how he managed all three. Clearly some form of control through the tiller extension was needed. This was eventually managed when David discovered a small universal coupling available in car parts places and it was possible to set up an extension that rotated to alter the foil trim while steering with the usual push-pull action.

Constructionally the early foils were carved in cedar and glass sheathed but all later ones were moulded hollow in C/F.

The final result was a yacht which was quite competitive when going upwind and which went like an absolute streak downwind. And apparently it was no harder to balance than a

conventional boat. David had a large, framed photograph of the boat taken at this stage. The yacht is on a spinnaker reach, taken from the lee side. It's reaching bolt upright with everything strapped down firm and the hull is about 2' clear of the water. Going on the legs just visible under the boom, the crew is only about halfway out on their trapezes. It's awesome. Naturally, both fin and rudder had to be locked firmly down to resist the upward lift of the foils.

At about this time the 2000 National Titles came up and were held on Botany Bay. Despite the wind (high) and king-size jelly fish impacting the foils, David won one heat very convincingly and this led to a meeting convened at the Nats to discuss the foils. The staggering National decision was to ban multiple foils immediately. No warning period, no nothing; they can do that apparently. A photograph of the yacht on the foils also made the front cover of "Seahorse" magazine - maybe this helped turn the committee against the foils as well.

This left one foil - back at square one and that's how things stand today, only this time the foil is on the rudder, not the fin, because it can stop nosediving when going downwind and keep the hull level when going upwind so it's still worth having. No more hanging off the transom by one's toenails to avoid downwind nosedives; very important in an over-canvassed boat only 14' long. In America the foil is usually placed high up the rudder and is used to reduce the sternwave, just as a bulbous bow reduces bow waves. And in Europe and Melbourne, too, some yachties are still experimenting with multiple foils for sailing speed record attempts outside of the class.

All in all it was another fascinating evening showing how the other half lives with many thanks due to David for explaining it all to us.

FREE, TO GOOD HOME

The launch, "Good Intent", owned by John Glasson, currently on the hard at SoPYC, is available, free, to an interested restorative boat builder for the cost of removing it from its present site.

It was built about 30 years ago by S E Ward and Partners in Cottesloe and measures 10m by 3.6m, in other words, its a very, very roomy 33 footer. It's a hard chine design and is complete down to its V8 Cummins diesel and all upholstery. The owner wishes to keep the bell, clock and barometer for sentimental reasons.

The downside (there has to be a downside) is called dry rot. The hull has at least some and probably requires re-skinning at least. Sadly, John's health is no longer up to this sort of work and hence, the offer. It can be inspected, only from the ground initially, at South of Perth YC, by entering through the main gates and turning left towards Heathcote. If interested, contact can then be made with John by ringing Peter Somers on 9444 4312.

ADMINISTRATION NOTES

TECHNICAL EVENING Tues, 27 July. On this regular evening we will be addressed by Owen Sweetman, of International Paints. He will cover all the tricky bits about marine paints and coatings.

TOOLBOX VISIT Sat, 7 Aug, 2pm to 4pm. Four months ago we saw Bill Leonard's Maritime Museum restoration workshop. Now we get to see the museum's storage warehouse where some 20 or 30 other museum boats are stored. Most of these may never be seen in public, but we can on this visit. Probably fairly dusty, but definitely different. That's in Blinco St, Fremantle. Enter via High St and Montreal St, (it's opposite the Fremantle Golf Course) and almost immediately driving left into a compounded area, part of the warehouse grounds.

LIBRARY LISTS are available from Geoff on request.

INCORPORATION: Turns out we've been incorporated for years so revitalising this feature won't cost so much, but we're still very close to broke so please come along prepared to pay your year's sub of \$27.50 (we have to start paying GST so it's up by \$2.50).

CURRENT PROJECTS: We'd like to update our members' details so we'll be asking what you're doing in the workshop as part of the next

meeting.

SOME DATES FOR YOUR CALENDAR: AUSTRALIAN WOODEN BOAT FESTIVAL

Hobart, 12 - 14 Feb, 2005.

SOUTH AUSTRALIAN WOODEN BOAT FESTIVAL, Goolwa, 11 - 13 Mar, 2005.

These bi-annual events are almost on top of each other - crazy, isn't it? Surely one could be slipped twelve months. The S.A. event is currently well written up in the current issue of Australian Amateur Boatbuilder, (issue #46, June 2004, pp 66 and 67). This magazine is available in some, but not all, newsagents. Or you can ring the editor for an over-the-phone distillation of the article. They also have an E-mail address, woodenboatfestival.com.au and a phone on 08 8555 3810.

CALENDAR

Tues, 27 July, Owen Sweetman on Marine Paints and Coatings. RPYC Junior Club, 7.30 for 8pm.

Sat, 7 Aug, Maritime Museum storage warehouse, Blinco St, Fremantle, 2pm to 4pm, courtesy of Bill Leonard.

Tues, 17 Aug, Committee Meeting.