



# AMATEUR BOAT BUILDERS' ASSOCIATION

MAR/APRIL '02

## ABBA COMMITTEE

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<b>John McKillop.</b>	<b>Secretary,</b>	ph 9437 6666 (Wk)	9313 7442 (Hm)
<b>Chris Davis,</b>	<b>Treasurer,</b>	ph 9222 5664 (Wk)	9387 5042 (Hm)
<b>Mike Beilby,</b>	<b>Newsletter,</b>	ph 9397 6209 (Hm)	

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

## AUSTRALIA II, THE SAGA REVISITED.

On 29th Jan, and following the Cowes Regatta of 2001, we were addressed by Aust II crew member, Skip Lissiman, on the subject of that yacht's participation at Cowes combined with a revisit to her original 1983 victory at Newport. We were lucky to get the talk at all, since we were inadvertently locked out of MBSC. Fortunately the neighbours came to our aid and the meeting was held in the upstairs bar of RPYC, where we were just about the only people. Many thanks to Royal Perth Yacht Club.

Skip started with a short video which included material from the last America's Cup race of '83, as well as footage from the Cowes Regatta of 2001, before a brief history of the America's Cup, from the 1851 challenge for the 100 Guineas Cup, through the giants of the late 19th century (Resolute was 150' long!), the somewhat smaller J-classes of the early 1900's to the 12 metre class of post-WW II. One important rule change Skip didn't describe was the removal, in the 1950s,

of the requirement for the challenger to sail to the area of the Cup defence "on her own bottom". This made it much easier for a challenger to be built to suit the Newport conditions, and ultimately helped Australia II's victory considerably. Of course, with yachts down to 12m size, probably nothing could have been designed capable of crossing the Atlantic and then being competitive around the buoys, so the Deed of Gift just had to change.

Skip then spent some time on the development of Aust II, pointing out that earlier challengers, especially Bond's Southern Cross, were relatively long and, hence, under-sailed; good for fresh conditions such as those encountered here, but too powerful for the lighter conditions off Rhode Island. Aust II, on the other hand, was short, with plenty of sail. The famous winged keel, which was actually narrower at the top, by a considerable amount, than at the bottom, was intended to have an end-plate effect to reduce pressure

losses (which are considerable on a foil as short as a 12 metre's) as well as lowering the boat's centre of gravity. I once heard somewhere that the latter aim was achieved to the extent of lowering the c.g. by 900mm, compared with traditional keels - if true, that was a huge gain. Of course, Dennis Connor's Liberty had her share of design tricks, too. She had three different 12 metre certificates, based on different displacements and water line lengths, and could be changed from one to another overnight, depending on weather forecasts. There was a certain amount of after-market designing on Aust II as well. At one stage the fin keel was moved forward about 9", while a lot of the aft bustle was removed. This made her very nimble on the helm in pre-starts and tacking, but difficult to steer on long legs downwind. Incidentally, although the crew was never happy with Aust II's downwind speed, they had the Americans convinced that Liberty was inferior in this department!

Skip pointed out that there were three factors in Aust II's success in '83 - the yacht itself (which was good but not absolutely superior to Liberty), the crew team and the management team. Although Skip didn't say so exactly, it would seem that the crew and management teams were the most professional of any Australian challenge to that date, with constant practice and about twenty five real match races behind them. Crew members were even well practised at taking alternative roles should an accident befall anyone and endanger the team's operation (which it did on several occasions).

Then we had the politics and the sailing relevant to the Cowes events of 2001. First the yacht had to be prised away from the National Museum, Canberra, (who had lent it to the National Maritime Museum, Sydney) and then the WA Maritime Museum had to agree to its use in the Cowes project. A million dollars was needed to fund the exercise and it looked as if this target was

beyond reach for a long while but eventually Shell (Aust) put up enough money in sponsorship to complete the backing and it was under way. Even so, the money available was marginal and Skip had several amusing stories of the short cuts which were necessary to get the yacht ready for serious racing again. Stories like the exhumation of low stretch, nickel-cobalt shroud material from the long grass behind Tasker's loft (left there from the '87 defence); and the decision to use old-fashioned, stitch-together, panelled sails as opposed to the more recent and expensive, moulded in one forms. And then there was the unfinished mast left over from the 1987 sale of Aust III and IV which was just as well because the original 1983 mast was regarded as a museum artifact and irreplaceable. It was a good argument for the never-throw-anything-away brigade. Perhaps the biggest departure from original was the manufacture of a new, carbon-fibre boom; much more rigid than the original because the original rivets were all working loose, and half the weight as well.

For the Cowes events fourteen of the original fifteen crew members attended at their own expense and the results suggest they were just as professional as ever. They were fourth out of twenty five in the big boat class of the main Cowes Week Regatta, then third of thirty six in the 12m World Champs and finally second in the 12m class of the Around the Island Race. All this from a 1983 design against designs as recent as 1987. (12m development virtually ceased after 1987 with the change of America's Cup rules). Viewed in this light, Aust II's original victory of 1983 becomes less of a surprise, even if she was the first successful challenger in 132 years. The combination of boat, crew and management must have just been superb.

We are indebted to Skip for a fascinating insight into the running of the whole campaign. Thank you, Skip Lissiman.

## STATE OF THE ART FIBREGLASS

Our February Toolbox Visit took place on a Tuesday night (the 12th), by way of a change, at Milner Yachts in Henderson. Peter had the factory open and work was still underway as late as 9pm, but perhaps things were not as busy as on a regular day. However, he had a team of three or four putting in serious overtime on the main project, a 45' Pilothouse Fast Cruising Yacht which was destined for launching in only three weeks time. Although the boat looked very complete on the outside, it still needed a fair bit doing on the inside and I would suggest that a few more evenings of overtime are in the pipeline. Actually, a quick glance at the calendar shows me that by the time you read this, the PFCY will have been launched, all being well.

Peter started out by telling us how he started building canoes and similar 35 years ago but pretty soon ended up describing his present techniques which seem to be mainly Airex foam/fibreglass sandwich variants, with carbon and Kevlar reinforcing thrown in for good measure. Clearly many of our members could relate to this and many interesting questions were generated. I think most people realized that if one were to build a fibreglass boat at home a foam sandwich would be the way to go and so there was a lot to be learned here. The chief differences between the boatyard and home construction are the availability of a reasonable sized and well qualified workforce, and the easy familiarity with, and access to, vacuum-bagging techniques.

For one-off yachts like the PFCY Peter builds over a male mould, just as an amateur would, although his building time for such a mould puts any amateur in the shade (days instead of months). The deck for this vessel was built in a female mould, however. Where there's likely to be a future market for the design he goes to the expense of a full plug and female mould and in fact had a

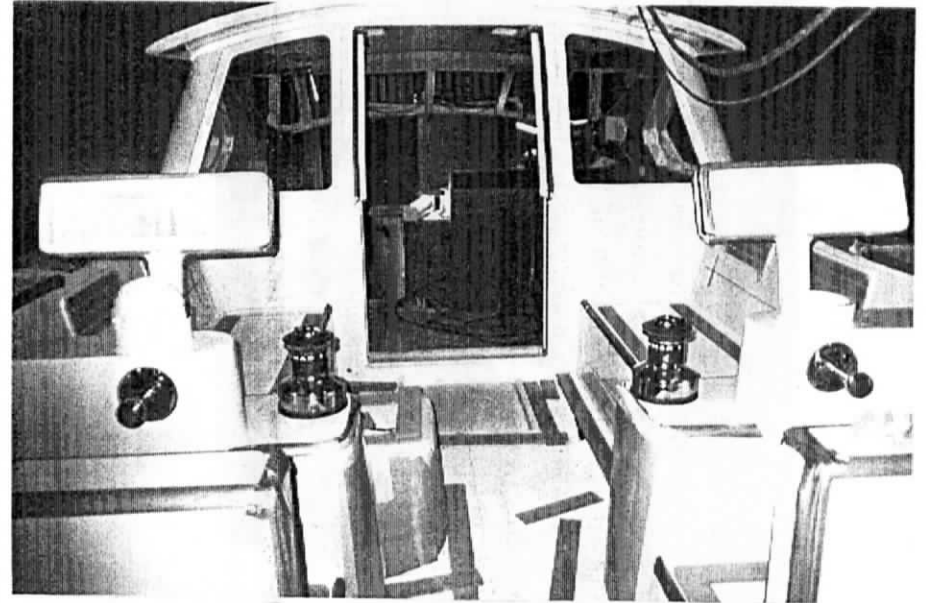
Foundation 36 half laid up in such a mould that night. This was a foam sandwich construction again, nearly ready for its inner skin of fibreglass. Peter was able to show us a good variety of foam cores, mostly slashed in an interesting range of patterns to facilitate bending over compound curves in various ways. These cores are invariably sucked down onto or into the hull by vacuum, of course. He had an even larger range of weaves of glass fibre to show us as well, from the conventional through unidirectional and double-bias and on to more complex forms whose names I can't even remember. They all have their specific uses in providing maximum strength at each point of the structure, and allow these modern yachts to be built extremely light - about 80% less than old fashioned chopper gun lay-ups Peter claimed and I believe him.

There were two or three ballast moulds and patterns in the shop, too, and it seems all these yachts use modern fin and bob-type keel arrangements, many with a fin designed to twist under the weight of ballast to lift the yacht to windward when beating. Towards the end of the visit we all went on board the PFCY, a custom design from the board of New Zealander, Brett Bakewell-White, and got an excellent look at it. I guess you could call it a space age motor sailer. It has a 100hp motor and a full (4.4m) width coach house with bags of room inside but utilizes a full cruising rig as well, so this cruising yachtsman WILL be able to have his cake and eat it too. It can be managed by one person at either of the aft helm positions since all halyards and sheets come aft to a pair of Lewmar electric self-tailing winches. And just to keep the decks looking tidy most of the ropes reach those winches through under-deck conduits (a good idea with the pilot house in the way, anyway.) I'm not sure how short people go for visibility from these aft helm positions since the pilothouse seems well in the way -

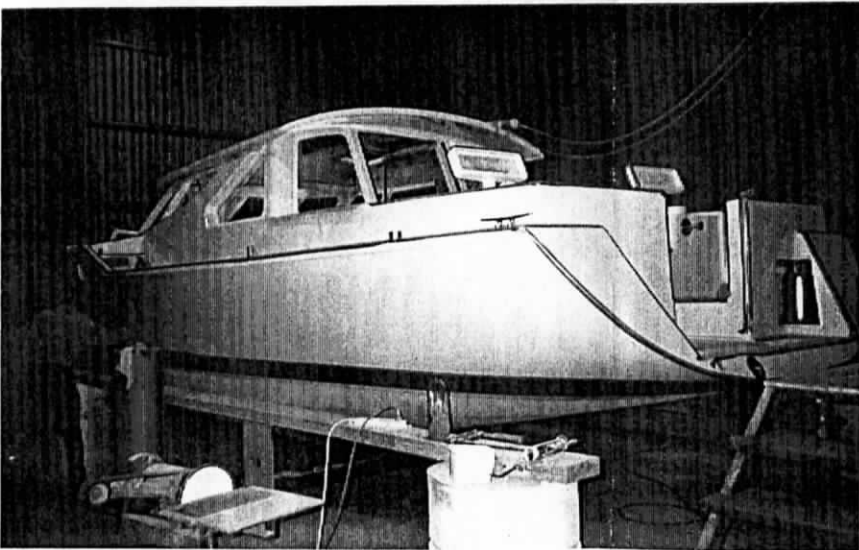
PROFESSIONAL FIBREGLASS IN HENDERSON



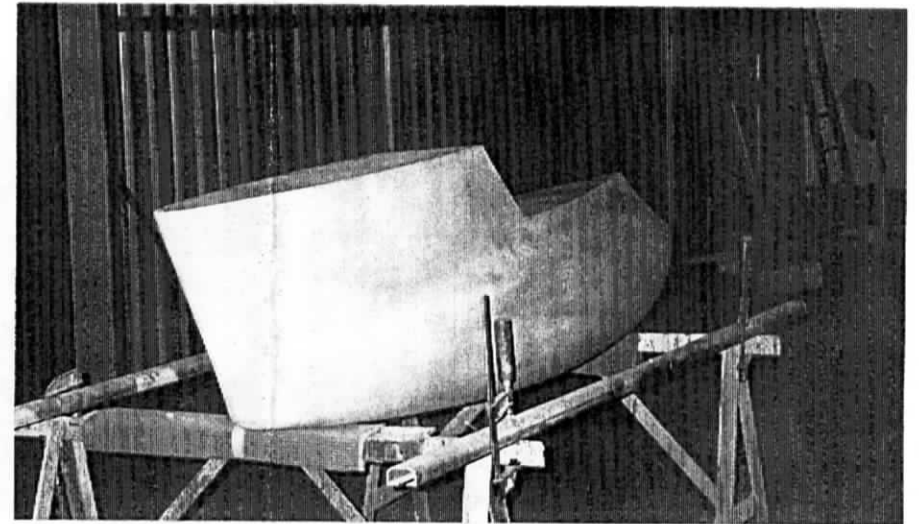
The Bakewell-designed 45' Pilothouse Cruising Yacht. A beautiful finish.



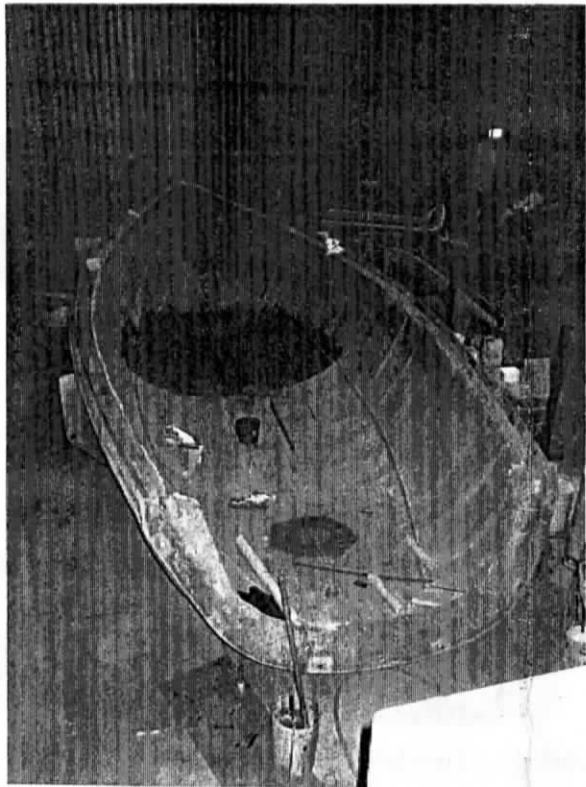
The PCY cockpit. Two helm positions here, one inside. All controls come down to these two electric winches.



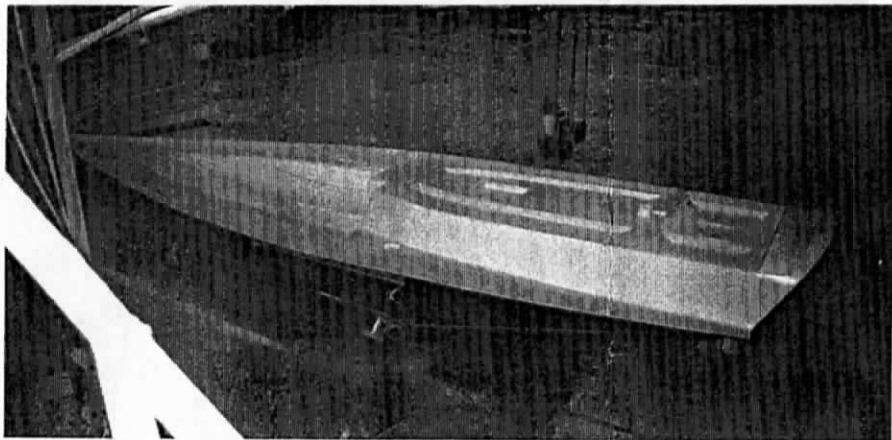
The PCY from astern. 3 weeks to go, we were told.



This is the pattern for the ballast bob on the PCY.



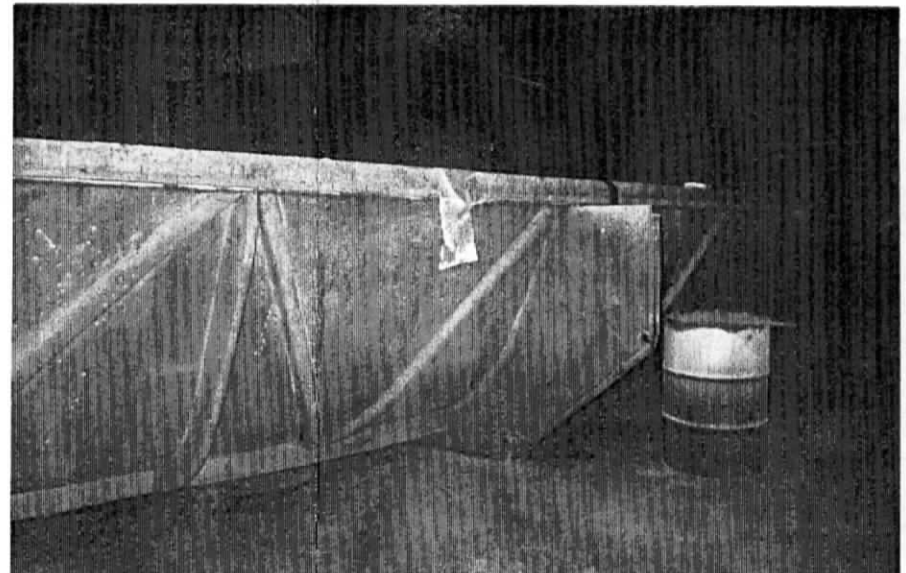
Foundation 36 part laid up. Outer skin and foam in place, reinforcing going in before inner skin.



The deck of the Foundation 36 part laid up on its female mould. Only the gel coat, so far.



Peter Milner, second from left, makes a technical point to John McKillop, Harry Speight, Mike Igglesden and Ken Pether.



Outside of the Foundation 36 mould. Note the reinforcing.

my wife would have to stand on a milk crate, I'm sure. There's also an internal helm position, using a joystick rather than a wheel, probably best when under power. When finished it will have all mod cons below. The nav. station, for instance, will all fold away out of sight to provide more saloon room when not needed, and I think it's the first yacht I've struck to be equipped with a bow

thruster, too. (should be very handy if she's slow in stays - just joking)

As usual, our visit came to an end all too quickly, but not before we'd learned a lot about modern fibreglass production and techniques from a man who clearly loves his job and business - it was great that Peter could give up so much of his time for us.

## ADMINISTRATION

**OUR NEXT EVENING MEETING** will be our **SHOW AND TELL** night, on 26 March, at MBSC. The evening is still in the planning stages but Harry Speight and Clive Jarman look like kicking the evening off for us. Both have projects at the half to three quarter stage mark and will tell us about them. Geoff Leggatt and Mike Wade will probably be on hand to tell us of their exercises, too. If you've got something on the go and can talk about it, we'd love to hear. Give one of the committee a ring to arrange for projection of photos and plans, etc.

**NEXT TOOLBOX VISIT** will be to Harry Speight's workshop at 305 Hedges Rd, Hovea. It's a 5 acre bush block with the house invisible from the road and shows Lot 4 on the gate as well as the street number. Approach from the western end. Harry is building an Ian Farrier F82A folding trimaran. This boat is 8.25m long strip-planked in Western Red Cedar. She's got a maximum beam of 6m but folds up to 2.5m for trailing. Harry's finished the amas and is about halfway through the main hull which is being built in two halves in female moulds. It all

sounds very interesting.

**LIBRARY:** Due to the hassle over venue, and other things, no borrowing took place at the last meeting, so this time it WILL be the fitting out books which Geoff brings along, together, I assume, with our recently purchased 30, 40 and 50 Wooden Boats catalogues.

**INSURANCE:** Public Liability insurance has just become horrendously expensive. Up till now we've not bothered with it anyway. Neither are we an incorporated body. We feel we should do something but know nothing about either. If you've got any recent experience please make yourself known to a committee member at this next meeting. Many thanks.

## CALENDAR

**TUES, 26 MAR** - Show and Tell at MBSC, 7.30 for 8.00pm, upstairs, Perth end.

**SAT, 6 APRIL** - Harry Speight's workshop at 305 Hedges Rd, Hovea (Lot 4), 2 -5pm.

**MON 15 APRIL** - Committee meeting.

## BOAT NAILS, FOR SALE.

Chris Davis has in his current possession a large quantity of monel metal boat nails; the barbed, annular ring type things. Trouble is, they're pretty big, 3" by 10g to be precise so they're no good for small canoes and such. But boat nails in monel metal are like the proverbial hens' teeth these days and Chris feels that some one must have a use for them and is prepared to release them for a very reasonable price.

Ring him at home on 9387 5042 and you could score the bargain of the year.