



# AMATEUR BOAT BUILDERS' ASSOCIATION

JULY/AUG '00

## ABBA COMMITTEE

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<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.

## HOW IT ALL BEGAN

Our meeting for May was extremely well attended, perhaps because we were to be addressed by the grand old man of WA Naval Architecture, Len Randall. While it was great to witness the attendance, it was even better to be able to hear the man who was in at the very beginning of boat design in this state.

Len started by briefly reviewing the early history of yachts starting with the Dutch and Charles II and moving through the 18th century racing developments and finally reaching cruising boats which he feels were not developed until after World War I.

Len's own design career spans sixty years, starting with a 15' chine sailing boat. He taught himself the craft, because there was nowhere to learn it in WA, leaning extensively on high school maths. All I can say is that he must have understood calculus better than I did. Books by authors such as Howard Chappelle and Norman Skene were his chief guide, of course. Professional recognition came with the presentation of a thesis to the

UK-based Royal Institute of Naval Architects, of which he was made an Associate.

Serious keelboats with external ballast only came on the local scene during World War II, and Len designed and built for himself the second of these, "Rebel" and at this point he decided to make Naval Architecture his profession. "Rebel" led to many Randall designs, including "Rugged" which won the inaugural Fremantle - Cape Naturaliste race as it did the return event, averaging a then-astonishing 7.75 knots off the breeze coming back. Since then he has designed an astonishing range of yachts from "Gemini", a tiny double-ended class boat, through to quite large boats such as the 60' "Red Boomer" (one of many of his designs to circumnavigate the globe) and extending to 73' designs.

All the new yachts in Western Australia would never be enough to keep the wolf from the door, of course, so Len has relied on commercial fishing boat design to fill out the

portfolio. Many of these have been designed for fibreglass but he welcomed the coming of aluminium to the game with the associated removal of the fibreglass mould, allowing changes to individual boats during construction. All told over twenty five years Len estimates six to seven thousand boats have been built to his designs.

From the early days of local yachting Len remembers the perfect quality of the timber available, especially jarrah, with flawless planks around 30' long being available. Ah, those were the days. Of course racing designs demanded something lighter so oregon was then used for topsides. In steam-bent timbers tuart would outlast karri, but both made excellent ribs. For decks Len has always preferred plywood, even in the early days when it was battling to be accepted by the majority. This soon led to its use in crayboat hulls before fibreglass and, later, aluminium. Meanwhile racing yachts went away from traditional planks to cold-moulding using a variety of timbers including luan, oregon, Queensland maple and red cedar for the veneers.

A spirited discussion followed an audience question regarding sailing balance in yacht design and it Len made it quite clear geometric balance between centres of effort and lateral resistance was only the very beginning of a very complicated problem. Certainly he feels that the major element in the balance equation is tied up in hull dynamics, angle of heel and angle to the wind.

There was a lot to discuss and the audience was eager to listen, but when the talk finally came to an end it started all over again as Len unrolled about a dozen of his early designs for our perusal. I think the only people making themselves coffee during this phase were those who couldn't get space at the table to study the plans and ply Len with further questions.

All in all it was a great evening which passed all too quickly and we are indebted to Len for his time and his ability to hold an audience while giving us the benefit of his long years of experience.

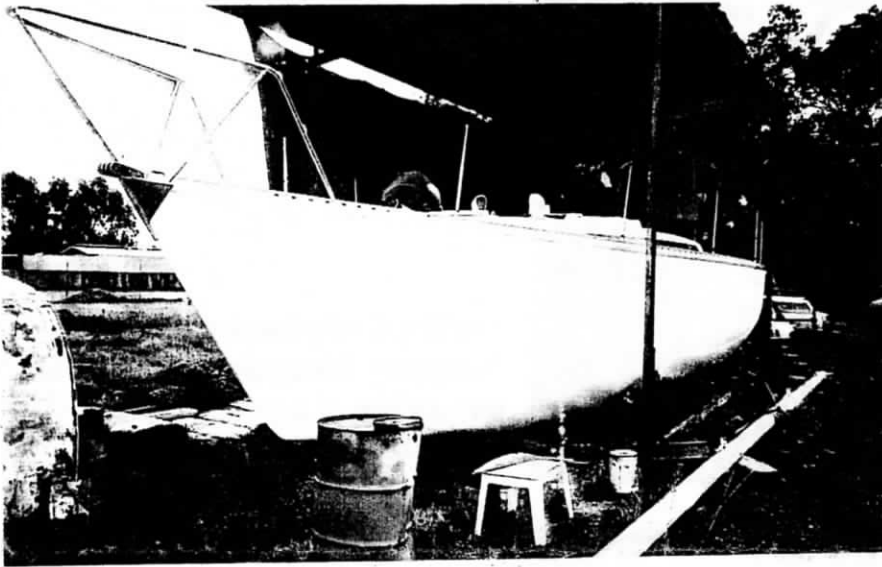
### THE JUNE TOOLBOX VISIT

It wasn't a good day, weather-wise, for the visit to Steve Key's project in Orange Grove. It was overcast and lightly raining all the time and Steve has only a leaky lean-to which is neither as long nor as wide as his huge Frers 40. But fortunately the very size which makes the boat a liability on the outside meant that it was large enough to accommodate all visitors on board, in the saloon mostly, at one time! Having said that, it soon became an inspiring visit in terms of the amount of work Steve has achieved, and is yet to achieve.

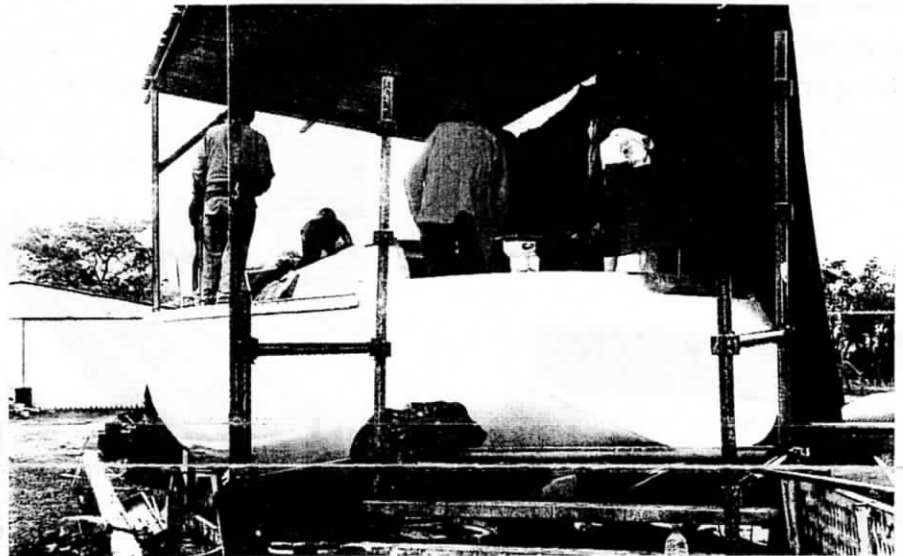
The first and best known Frers 40 in this state was the gun ocean-racer, "Hitch Hiker",

built for and raced by Peter Briggs about a decade ago. Since then about eleven others have been moulded here but few have remained in the state. Steve's sample was purchased privately from someone who obviously had second thoughts about the magnitude of the task ahead. It came as an empty, unworked shell and an unfitted deck actually moulded for a Prestige 40 (a slightly shorter vessel). Steve can best be described as a competent optimist and the first thing he did was have the hull ultra-sound tested for shell thickness. This proved to be a bit thin in places so was built up with extra layers internally. Then the deck was 'glassed on with five layers of 1.8 oz. tri-axial cloth

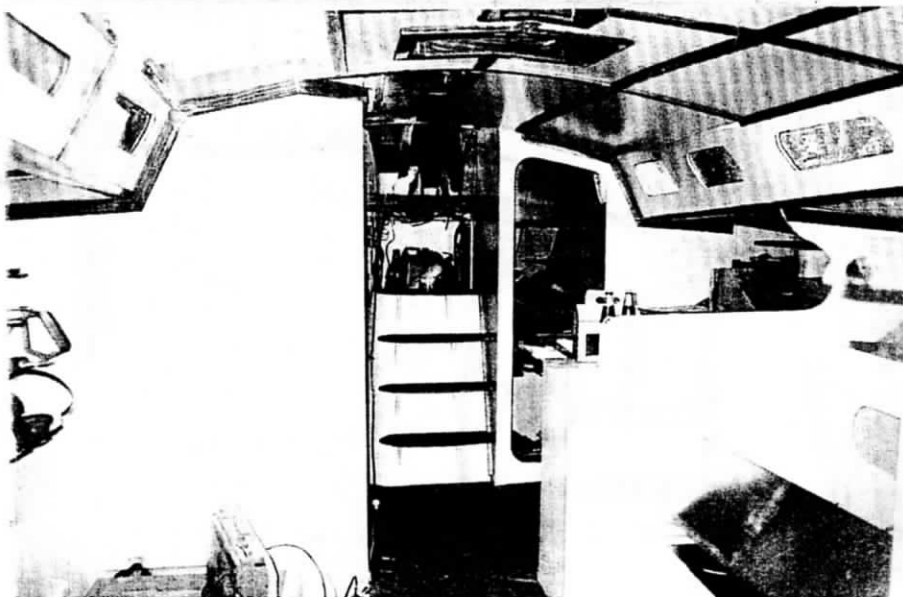
## FINISHING A FRERS 40.



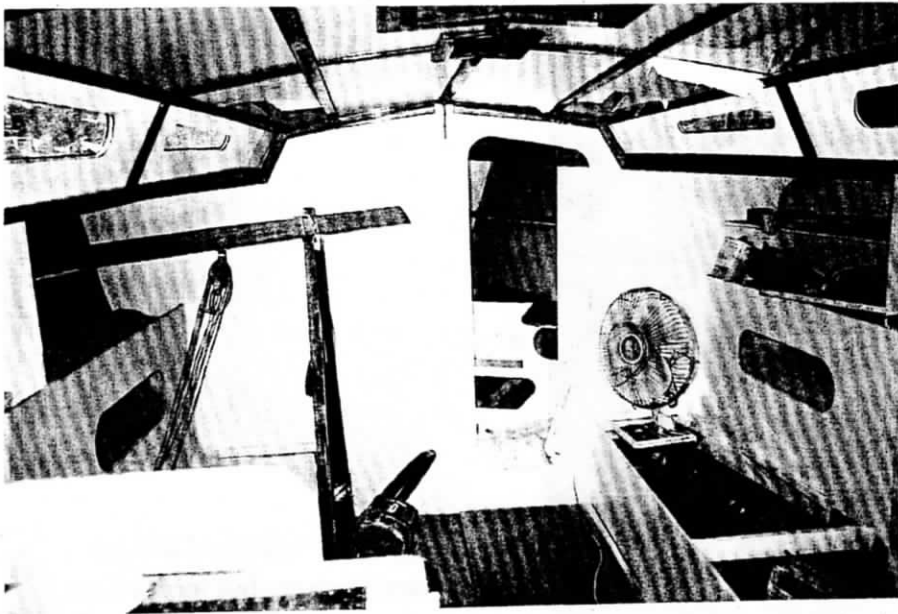
The sharp end. Pulpit and lifeline stanchions in place, but most of the work's been happening inside.



The blunt end. Neat steps moulded into transom have failed to show up in this shot.

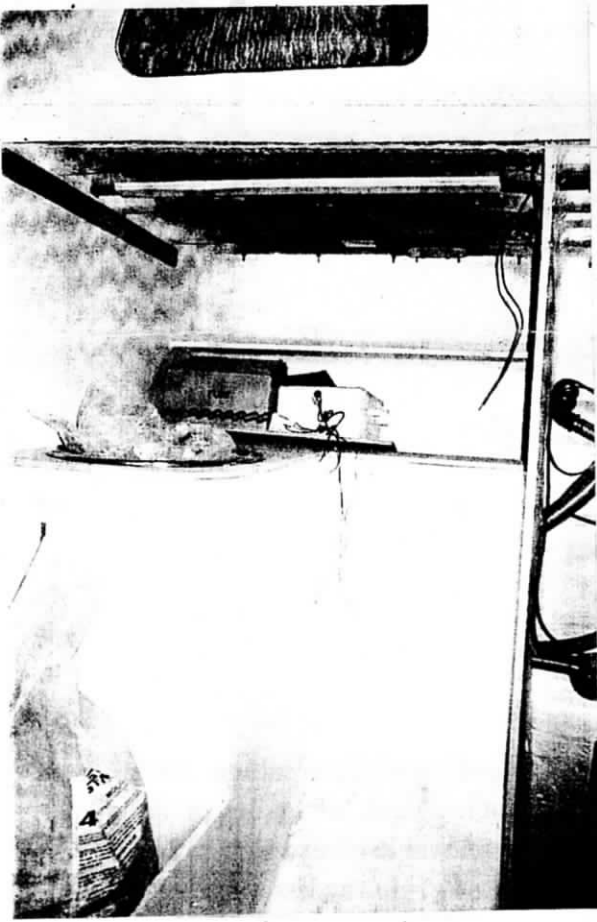
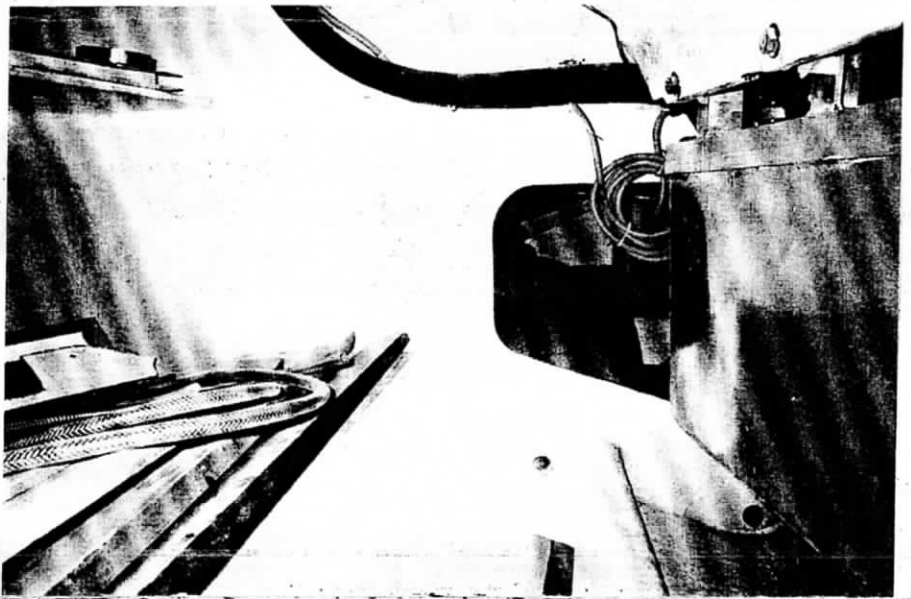


Looking aft from saloon. Bathroom enclosure on left, galley on the right. Removable companionway steps (centre) give access to the engine.

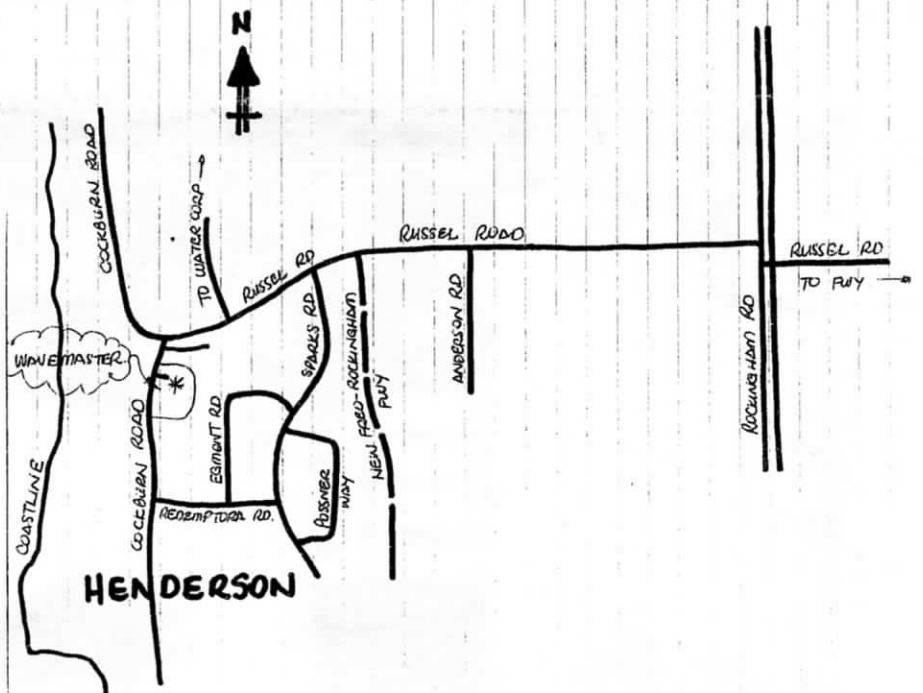


Looking forward across the saloon. Temporary lifting tackle on left is for moving one of four water tanks under the side seats.

Here the aft quarter berth lies to the left and the fuel tank is in position, hung under the cockpit floor, on the right.



Shower recess, bathroom and toilet all fit in beneath the ample side-deck.



MAP FOR NEXT TOOLBOX VISIT.

before trimming down on the outside and bolting on an aluminium toerail.

In consultation with Kim Swarbrick an internal layout was designed and all necessary bulkheads and other dividers were cut from ply and glassed into place. A high standard of finish is already displayed in many of these areas with a lot of careful filling and sanding of corners and the like, so that the finished job will be at least the equal of the external hull. A Yanmar 40 and sail-drive are now installed under the main companionway and Steve assured us it was an easy removal through the hatchway when the worst comes to the worst. Astern of it and hard up against the cockpit floor is the S/S fuel tank giving an easy gravity feed. (the cockpit floor is not removable which will make access to the steering gear difficult, but not impossible, when the time comes for that installation).

Currently the galley is all but complete, and the shower/bathroom/toilet is at least halfway there. These areas are either side as one descends the companionway. Aft on the starboard side lies the navigator's cubby hole and then a quarter berth. Aft on the port side the boat is beamy enough to allow the main double berth, just. Ahead of the galley one faces the beamy main saloon with currently four S/S water tanks going in under the saloon berths. The mast-butt pierces this area and will require a wrap-around table but there's no bulkhead as such here, just half bulkheads under the side decks to take the chainplates. Further ahead there is a bulkhead through which lies the forepeak containing only one berth and a natty little built-in seat which Steve saw in another boat and copied. Steve's order of operations follows a sequence he found laid out in a textbook, the name of which he couldn't recall, although he has it all written out in an exercise book, and he says everything falls into place quite well. Perhaps we can print this in the newsletter some time.

The temporary plywood cabin-sole lifts to reveal the massive twin oregon floors glassed in to take the mast compression, and some of the adjacent, lighter floors made up from foam and glassed in substantially as they will all have keel bolts next to them. The basic hull in this area is 28mm thick, built up to 40mm in the region of the bolts. That sounds like a lot of fibreglass but then, there's going to be 3.9 tonnes of lead hanging underneath and trying to twist its way out of the hull with every wind gust so it's better to be safe than sorry.

At the moment the fin keel only exists as a casting pattern stored in a small side shed, although the 25mm keel studs are machined and ready. Steve is keeping the canoe hull as close to the ground as possible until the fitout is complete to minimise the amount of climbing and lifting. I think Steve may have the rudder finished too, but we didn't see that on the day. On the ground beside the hull there's one of "Hitch Hiker's" three masts, purchased second-hand, as the start of the rigging project. It will be shortened by about a foot and the stainless rod shrouds will be replaced by stranded wire because it doesn't usually let go without warning. When finished the boat will have 0.6 tonnes more ballast than "Hitch Hiker" and with the slightly shorter rig should be a more stable cruising boat with a ballast ratio near 50% and still giving a good account of itself on the race course.

To my mind it's a pity that the Prestige 40 deck doesn't give about 3" more head height inside, but if it did we'd probably have some other critic, about 6'3" tall, complaining and asking for another 3". Suffice it to say that there's a lot more headroom than in my campervan, anyway. If I were to change my van for one with enough headroom I'd have to double the investment - Steve's probably similarly situated.

With three years' work invested so far, and probably another three to go, Steve is making good time for a backyarder and the finished

boat will be a great accomplishment, one he can be proud of. We can only wish him all the luck, enthusiasm, energy and resources to get it into the water and sailing.

## ADMINISTRATION

### OUR NEXT EVENING MEETING

Bring your reading glasses and/or a magnifying glass to the next evening meeting on 25th July because the subject is physically small. How else could we get six or seven complete vessels into the MBSC meeting room? We will be addressed by model maker *par excellence*, Brian Lemon. Brian will bring three or four models to illustrate his talk and member, Mike Igglesden has no less than three Lemon models himself and will hopefully bring those as well. Apart from the obvious "how do you make such-and-such so small" - type questions, I for one want to hear some examples of how Brian researches his subjects, because that has always struck me as being a very difficult area. Come along and find out more for yourself.

### TOOLBOX VISIT

From super-small we jump to super-big for the next toolbox visit; the construction of a 26m commercial catamaran at Wavemaster's works at Cockburn. No, kiddies, do not attempt this project at home! But on the other hand, this is an opportunity to find out how the pros do it. The vessel, "Ocean Spirit 1V", already has a sister-ship afloat in Sydney, and the owners like it so much (or make so much money out of it) that they've ordered another, which is now nearing completion, and we get to see it on 12th Aug at the usual time of 2pm. Since it shares drive between a sailplan and motors, I guess it's technically a king-sized motor sailer. It will carry around 300 passengers on two decks and will mostly do lunch and dinner cruises on Sydney Harbour as a restaurant vessel. It still seems magical to me that WA and Tasmania have cornered at least the

Australian market for big aluminum commercial vessels. Maybe we can find out how it's done at the visit in August. Watch out! Cockburn Rd has been re-engineered at the Russel Rd intersection. Lot 500 is on the inland side of Cockburn Rd, a little south of Russel Rd. (see map on photo page)

### ADMINISTRATIVE

Evening meeting attendances have been gradually climbing, peaking at 24 for Len Randall's recent talk - a very pleasing sign. However we have decided to reactivate an earlier plan to furnish E.S. designers, etc, with copies of an Association pamphlet to include in posts to any WA customers, in the hope of recruiting further members. We were offered a stand at the Perth Boat Show but are in two minds about this - we understand the show caters strongly for ready-made fibreglass and aluminium boats, and we would find it impossible to man the stall continuously for the six days or so. Perhaps we could get another stall-holder to distribute pamphlets for us as an alternative.

### CALENDAR

**Tues, 25 July**, Brian Lemon on model building. MBSC, 7.30 for 8.00pm.

**Sat, 12 Aug**, Large cat. construction. Wavemaster, L500, Cockburn Rd. (just south of Russel Rd) 2 - 5pm.

**Mon, 21 Aug**, Committee meeting.