

THE

#20

SAILORMAN



A I L O R M A N



June 1977





Jim's Column

The March 1977 "mini" SAILORMAN records success. Success of the PCA in numbers, organisation, future plans, and safe ocean voyages completed by its members. After years of struggle, suddenly all the dreams of the original founders of the PCA seem on the way to being realized.

Yet at the AGM, a small group, (very small as shown by the voting figures) felt a sense of unease. They were not our most articulate members, and even if they had been, it would have been very difficult for them to put their feelings into words. I know, because I too, feel a sense of unease similar to theirs.

In my case, the expansion of the Sales side and the organisation of the biggest multihull design group in the world, is constantly putting a barrier between myself and my friends; the exciting people who build my boats.

We are indebted to every person who buys one of our sets of design plans. That person trusts his life and fortune to our ideas. This, to us, is a great responsibility. In the early years, between ourselves and the people who bought our design plans, grew deep personal friendships, either by personal contact or by letter. Now we can no longer sustain the intensity of feeling of those early years. We find ourselves less able to reciprocate to the enthusiasm and affection given to us by newer people, for there are so many. At the end of a summer, the sheer excitement of their numerous personalities has left us emotionally overwhelmed.

I have been a Woodsman, a Hill and Mountain man, a Seafaring man, but never, a City man. People who live in lonely places are always "open" through to their inner selves. We obey nature's laws of hospitality.

At our Milford Haven Base I found it distressing not to give immediate hospitality in the way of sharing our meals with unannounced visitors. Yet it was logistically impossible.

Not to answer each letter personally leaves me feeling I have let the original writer down. Not to allow each person who approaches me to have full access to my personality seems unfair. I am told it is all a question of organisation, which will enable me to get through to many people in the same way as in the past I got through to a few. It will take time and we ask for understanding whilst we achieve it (advice, too!)

The small core of people at the AGM who felt uneasy over the increasing organisation of the PCA had a point to which we must all listen.

In my case I cannot go back to the early years when I could have close intimate contact with a few builders/friends, without cutting out the many new people who also have wishes, desires and dreams.

Neither can the PCA have the informality of its early years. Such informality could so easily develop into an "elitist" group of friends. It cannot satisfy the needs of the many.

We all fear ORGANISATION. Over-organisation for organisation's sake is destroying man and what makes life worth living. It is like fire, a neutral force, which can, uncontrolled, be destructive, or controlled be beneficial. To answer the needs and wishes of the many as quickly as possible, we have to have organisation. There will be mistakes, but we ask for your sympathetic help and criticism, when it appears that our "organisation" is becoming more important than people.

PCA

SUBSCRIPTIONS

Have you paid the whole of your 1977 subscription? Remember that the 1977 subscription was increased by £1 on the basic fee at the A.G.M. and if you paid before learning of the decision to increase the fee at the A.G.M. it is very likely that you are due to pay a further £1. As there are still a large number of members who have not paid this increase, would you please do so without being contacted by letter etc as this is both costly and the Treasurer does not like having to write reminder letters. If you are not sure whether this applies to you, he will, however, be pleased to advise. Payments should, as before be sent via the SECRETARY, at 42, Park Hill, Carshalton, Surrey. Subscriptions are: for 1977:

Entry fee (new members only)	50p
UK and European members annual fee	£3.00p
Non-European members including the mandatory airmail surcharge)	£4.00p

(Non-Sterling cheques: US 7.50 dollars, Canada 7.70 dollars, Netherlands G.15, Germany DM 15, France F. 30 etc— For other countries, please add 50p to the fees applicable to the non-sterling equivalent to cover Bank Charges.)

Association News

SAILORMAN ANTHOLOGY OR BOOK

I have now been sending photocopies of articles from old issues of The Sailorman to PCA members for over a year. Whilst members have appreciated this service which was not previously available, it is admittedly expensive although hardly any profit is made. Likewise it is not such an attractive format as a book or magazine properly compiled and presented. Despite this, there has been a good demand for the photocopies. Since the main asset of the PCA is the information contained in all the issues of The Sailorman, it seems only reasonable that it is made readily available to all members as cheaply and as well as possible. Thus a book presenting this information which is still of use should be produced.

There are two main problem areas, Cash for printing and permissions from past contributors to reproduce the articles in whole or part.

Cash— The cost of a book or magazine, of about the size of James Wharrams, Two Girls, Two Catamarans, is being investigated but the price of an individual book cannot be ascertained without a reasonable estimate of demand. It will be cheaper the greater number of books printed but then so will the risks of losing money if demand is not high enough. If you would be willing to buy such a book, please let me know. The initial cash would have to be found outside of the PCA as it does not have sufficient funds itself. Again, if you would be

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willing to pay in advance of printing, when costs are known together with the demand, this will help and more 'profits' go to the PCA.

Permissions— I hope that there will be no objections to articles being reprinted and there is implied permission for the PCA to publish in its journals etc. articles sent in. However, if there are objections, please let me know which articles so that no-one is offended.

Please contact:

R.G. Fautley,
11 Park Street,
Southend-on-Sea,
Essex. Tel. 353201

LAUNCHING PARTY

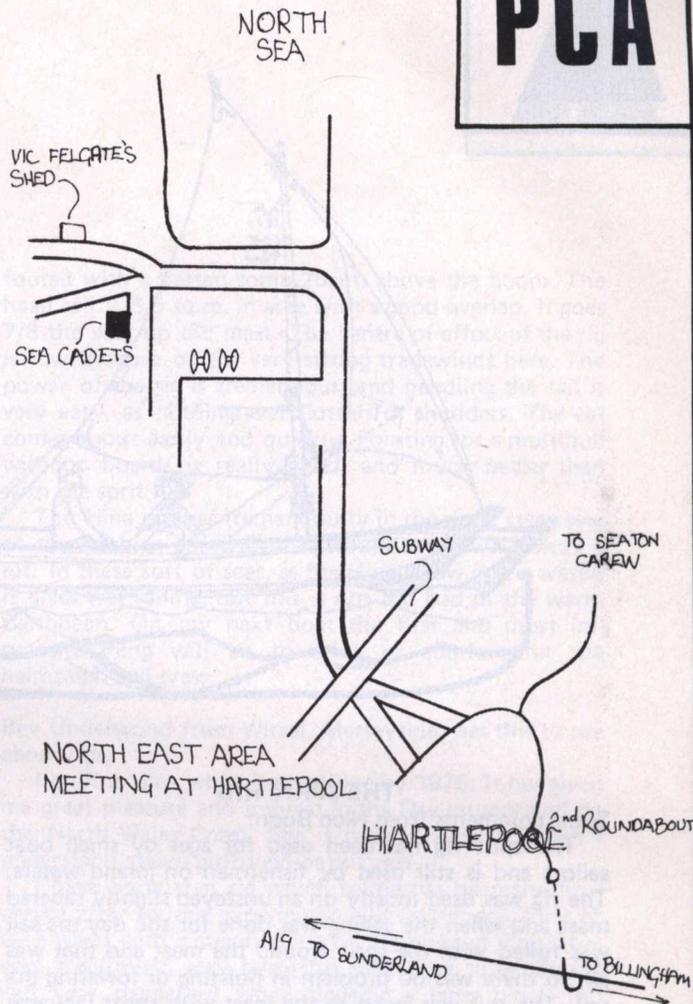
Peter Williams of 9 Penine View, Linthwaite, Huddersfield, Yorks. will be launching his Tangaroa on 18th June at Middleton Sands, near Overton, Morecambe Bay at 2.00 p.m. — this is about 3 miles past the Battery Pub. on the prom. There is to be a barbeque and everyone is welcome to come.

SOUTH WEST AREA MEETING AT PLYMOUTH

Friday 26th to Monday 29th August 1977

To be held at Mount Edgecumbe Country Park, Cremyll, near Plymouth — meet at the Old Battery Barn Pool, anchorage: West Mud, Millbrook Lake. For those wishing to camp contact The Whitsand Bay Holiday Camp. For advanced booking and a list of Bed and Breakfast addresses send an S.A.E. to Steve Turner, Withnoe Farm, Millbrook. Anyone interested in the Multi Start Pursuit Race or requiring pilotage details for this meeting should contact: Les Landricombe, West Park, Plymouth (telephone: Plymouth 705759). Les would like to hear from anyone with ideas on handicapping/ratings for this race.

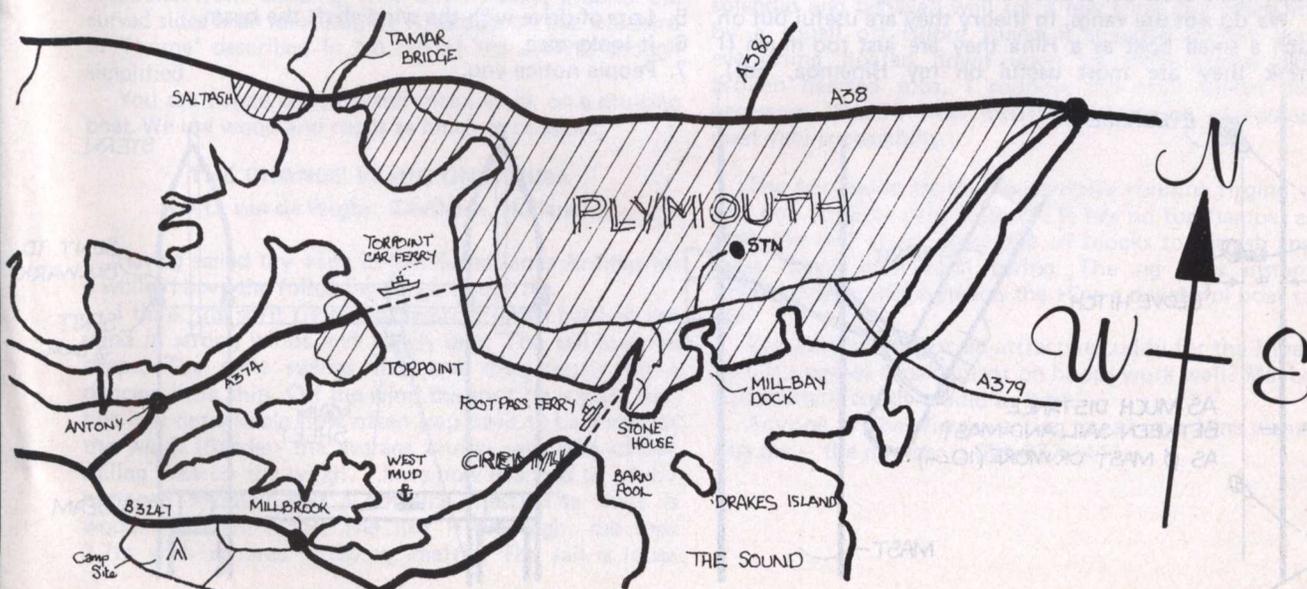
Members in the S.W. area are invited to meetings on the first Wednesday of each month at 8.00 p.m. in the Stonemason's Arms, Albert Road, Plymouth — new faces welcome. Anyone looking for somewhere to build, lay-up or fit-out may be interested to know that there is still space in a small, friendly DIY boar yard run by the catamaran designer Pat Paterson in Millbrook. Rates are 1p per sq. ft. per month and at present amongst about a dozen other multihulls the yard contains two Oros, half a Narai, three Tangaroas and the world-girdling 'Rehu Moana' being rebuilt by member Tony Boag and his wife Pat. The address of the yard is: P.T. Yachts, Foss Quay, Millbrook, Plymouth or contact Steve Turner.



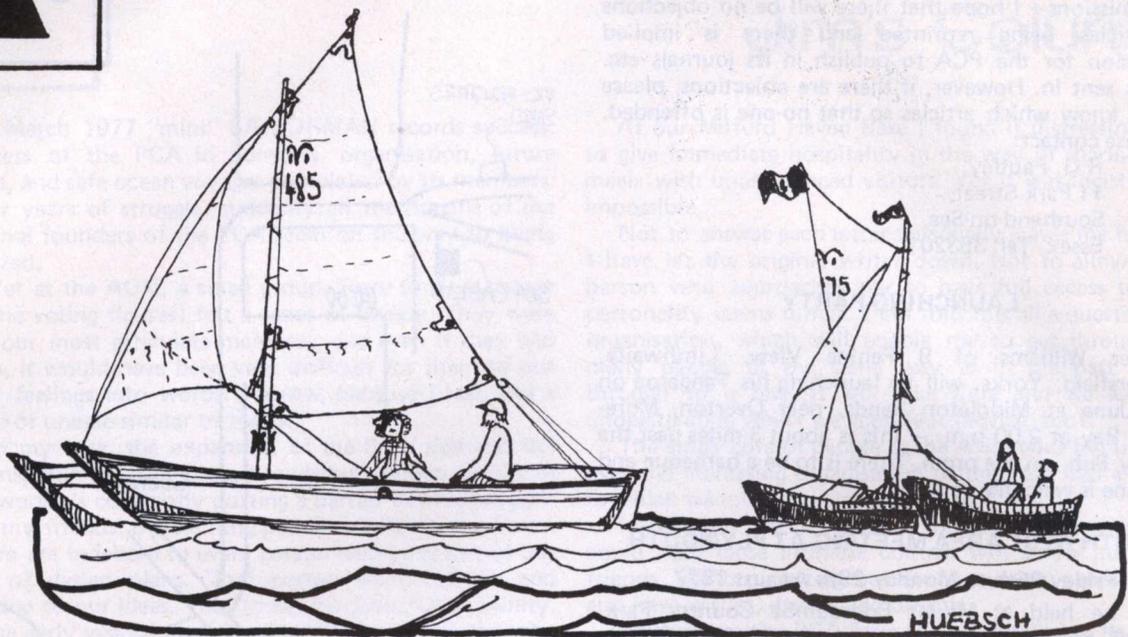
NORTH EASTERN AREA MEETING at Hartlepool Harbour 30th and 31st July 1977

Visitors can be accommodated in Sea Cadets quarters. The meeting will be publicised in the local press and on radio. Events will include a demonstration of Breeches-buoy techniques by the Coastguard, inflation of a life-raft and a lecture on navigation. Further information from: Pete Jezard, 77 West St., Normamby, Teesside.

The NE area of the PCA will form itself into a semi autonomous unit to facilitate local negotiations for any event of project. NE members must first subscribe to the parent PCA.



Rigs and Rigging



LITTLE BOAT AND HUIHEINE IN COMPANY

THE SPRIT RIG

Some comments from Nico Boon:

The sprit rig has been used for ages by small boat sailors and is still used by fishermen on inland waters. The rig was used mostly on an unstayed slightly tapered mast and when the sailing was done for the day the sail was rolled with the sprit around the mast and that was all, so there was no problem in hoisting or lowering the sail. The sail was laced to the mast with short lanyards sometimes with parrels from eye to eye, and not the way described by Richard Bumpus in "The Sailorman", June 1976. The system used for lowering a long heavy sprit on cargo boats was illustrated by Roland Huebsch in the June 1976 issue.

While I agree that a block and tackle as used by Roland Huebsch does give more scope for sail trim, for seven years on our Hina TURANGA we have used a thin nylon line to attach the bottom of the sprit to the mast, and find it works well.

Originally the main sheet was connected to a line with a block between the stern posts. Now we use a sail track like a cross bar as shown on the diagram.

We do not use vang. In theory they are useful but on such a small boat as a Hina they are just too much (I think they are most useful on my Hinemoa, Ed!).

The brails we use are described on the design improvement sheet for the Hina and on the drawings for the Hinemoa. We use two brails and when the sail is brailed up a short line, always attached to a lower cringle, is taken around the sail and mast.

Some comments from Roly Huebsch: (from POLY-CATS the Great Lakes area PCA newsletter).

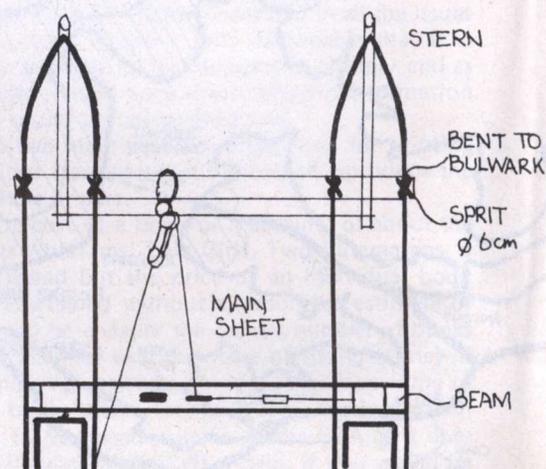
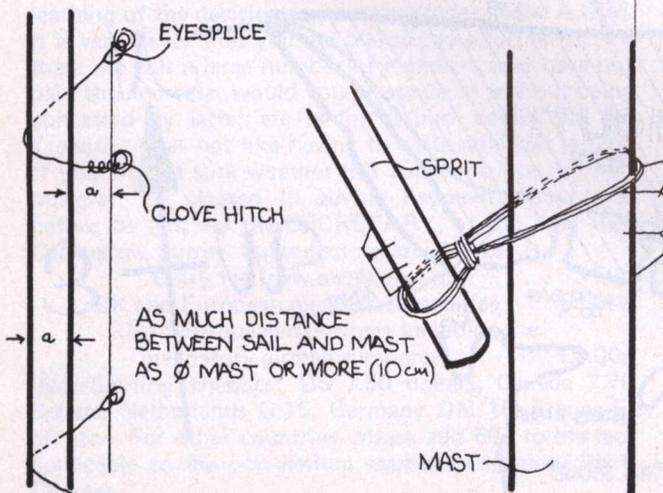
I have been sailing with this rig for six seasons now and I am very happy with it.

Disadvantages:

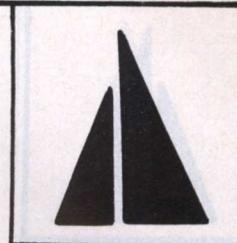
1. Not quite as close-winded as a bermudan rig.
2. People notice you.

Advantages:

1. No boom to crack your skull.
2. Sail, when brailed up, leaves the deck area clear for swimming, picnicking, sleeping, etc.
3. Low sailplan contributes to safety.
4. Low mast. I negotiated the Trent Canal without having to lower the mast.
5. Lots of drive with the wind abaft the beam.
6. It looks nice.
7. People notice you.



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It is necessary to keep the sail well peaked up to avoid creases at the clew when hard on the wind, but the peak can be lowered slightly to give more draught to the sail when sailing off the wind in light conditions. Richard Bumpus does this by keeping the sprit steady and raising and lowering the sail slightly with a powerful tack downhaul ("The Sailorman", June 1976). I achieve the same end by moving the sprit up and down with a heel tackle known as a stanlif ("The Sailorman", April 1974). Either way, some sort of chock is required on the mast to prevent the sprit from slipping down.

This past season I fitted vang to the sprit. They are useful to control the shape of the head of the sail, particularly when sailing on a broad reach when the entire sail area from top to bottom can be set to the optimum angle. The vangs also hold the sprit from swinging about when the sail is brailed up. I do not think that I would favour the rig in a boat of 30' long as the weight of the sprit swinging about in a seaway would scare me, but for a smaller, easily driven craft it is ideal.

Finally, if anyone doubts the seaworthiness of the rig, last year Tom Jones sailed his Hinemoa "Two Rabbits" from Cape May, New Jersey to Bermuda and back. On the return voyage, they weathered a hurricane in which a 31' fibreglass monohull was lost ("The Sailorman", December 1975 and June 1976).

THE WISHBONE RIG by Nico Boon

All credit is due to Frits Fenger for developing this rig. Details are given in No. 11 of the AYRS February 1957 publication.

The trysail on the mainmast of a split sprit rig should be narrower if a wishbone is to be used. The wishbone I made for the Narai was, I felt, too heavy at 12 kg (about 25 lbs). A single block at the masthead made hard work when hoisting the sail. A double block, at least, would be a lot easier as with the junk rig.

When using a wishbone, the mast either requires to be thicker at the point of contact between the two or a new staying arrangement needs to be made, otherwise the mast will bend dramatically.

Construction

The wishbone is of a T-construction. Ten thin strips of oregon pine are laminated into a parabolic curve. On the inside of a strip of 1cm. thick ply is laminated on to add stiffness. The clew is a piece of 4cm. thick ply glued and nailed to the curved pieces. A thin stay is laid around the curves in a narrow groove and connected as on the drawing. The harder the sail draws, the more the stay prevents the curved sides of the wishbone from bending. The use of stays around the curved sides is an idea used by Riverdale on the 'Bluebird of Thorne' described in No. 75 of the AYRS, though simplified.

You see I hate complicated metal work on a cruising boat. We use wood and ropes as much as possible.

THE CHANGE IN RIG ON A HINA by C. van de Weghe, Zierikzee, Holland

Having sailed my Hina in the Netherlands Antilles for a while, I have the following to say about rig.

I think the sprit rig is unseaworthy when hard on the wind in strong winds and rough seas. The sail loses its shape. The sprit swings free and dangerously on a dancing little ship. Off the wind the sprit rig is great fun, but it is remarkable how often you have to beat against the wind. (Baader: the average cruiser sails 60% of her sailing time on the wind). I have now changed to a fully battened mainsail and a rotating mast. The mast is wooden (6.60m high). The luff is 6m high, the foot 2.7m with an area of 26 sq. metres. The sail is loose

footed with a batten some 25cm. above the boom. The head sail is 6.5 sq.m. in area with a good overlap. It goes 7/8 the way up the mast. The centre of effort of the rig is low because of the very strong tradewinds here. The power of the rig is tremendous, and handling the sail is very easy, as nothing ever flutters or shudders. The cat comes about easily and quickly. Pointing for a multihull without boards is really good, and much better than with the sprit rig.

The Hina pitches tremendously in the short steep seas of the Arubian coast. Boards would cut down leeway a lot. In these sort of seas, as the Hina is low in the water, it gives wet sailing, but this is not too bad in the warm Caribbean. On my next boat the first and most important thing will be to think of comfort for the helmsman and crew.

Bev Underwood from Wirral, Merseyside, has this to say about rigs:

I built a Hina which was sailing by 1975. It has given me great pleasure and interest in the Dee estuary and on the North Wales Coast. She is called VAHINE which I understand means girlfriend or mistress.

I have bermudan rig which to me has been the final choice after various experiences with other rigs. First of all I sailed with a standing lug on a converted lifeboat — very traditional, very beautiful, very poor to windward and very dangerous when flogging a large block (no boom), also very simple — a big point in its favour, just pull up the traveller or let it down.

I was wooed by the gaff, again on a lifeboat — again beautiful, powerful on a reach or run, poor to windward, messy with complex gear especially when I rigged a topsail. In fact there was so much rope on the foredeck that large passing sea birds were tempted to nest in it all.

On completion of the cat I had no time to make a new rig so I used the gaff set up from the lifeboat, very successfully I thought. The sail of the lifeboat caused a winter of mast building and sail making. Jim's plans for the ply and wood 2 x 1" bermudan mast looked splendid and behaved well for a few trips, but when hit by a squall off Hilbre Island it snapped in two and everything floated down upon us amid groans and broken hearted sobs, I suppose the mast lacked the necessary "beef". Now VAHINE sports an ex-Falcon mast very successfully.

The bermudan rig has no complex running rigging — just pull it up or drag it down. It has no top hamper as with the gaff — no great pile of blocks to varnish and mess about with each spring. The rig gives instant driving power which makes the Hina a delightful boat to sail.

Can anyone suggest an attractive cuddy for the Hina? Would a canvas arrangement on hoops work well? Maybe a permanent cuddy would be best.

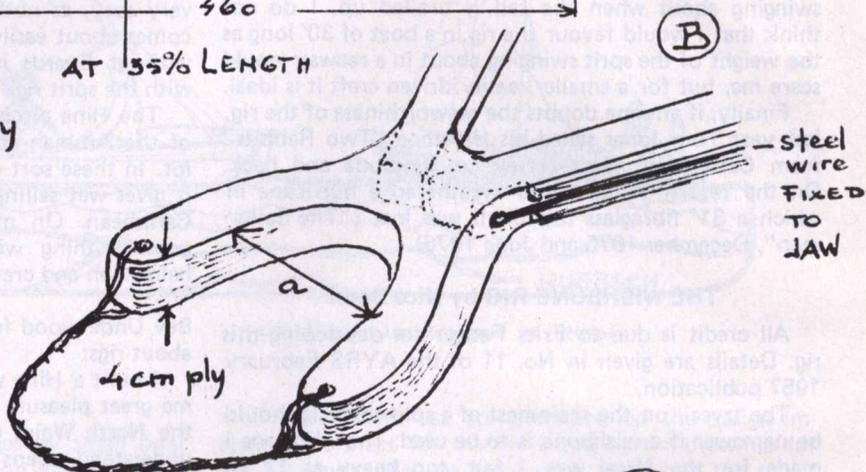
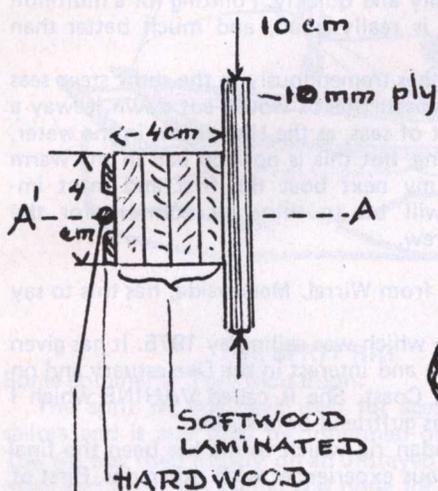
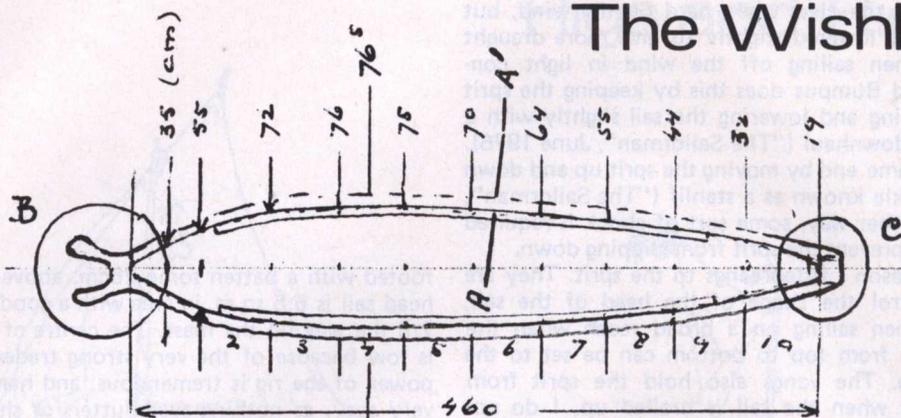
Anyone in The Wirral wanting to sail on a Hina please ring me — the number is 051-677 1411.

The Wishbone

by Neo Boon

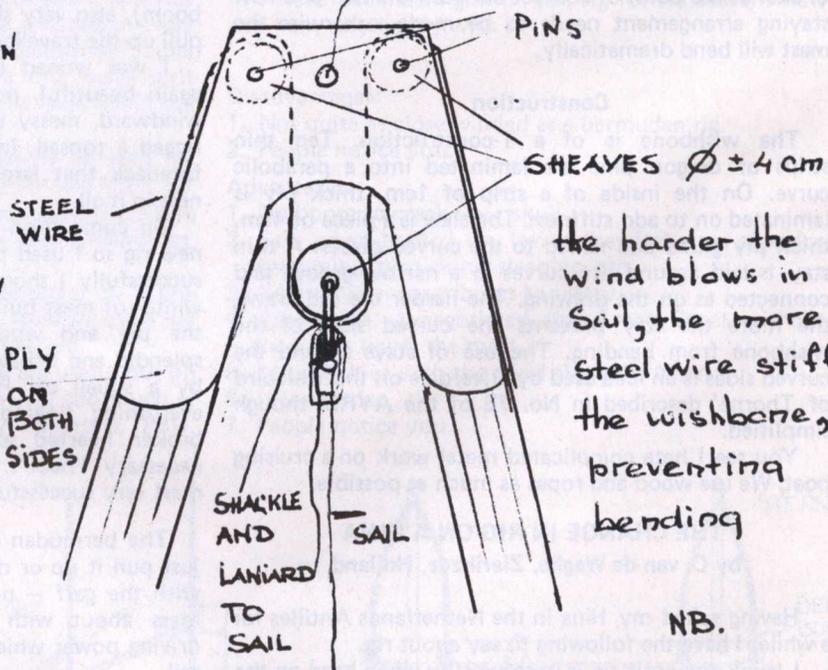
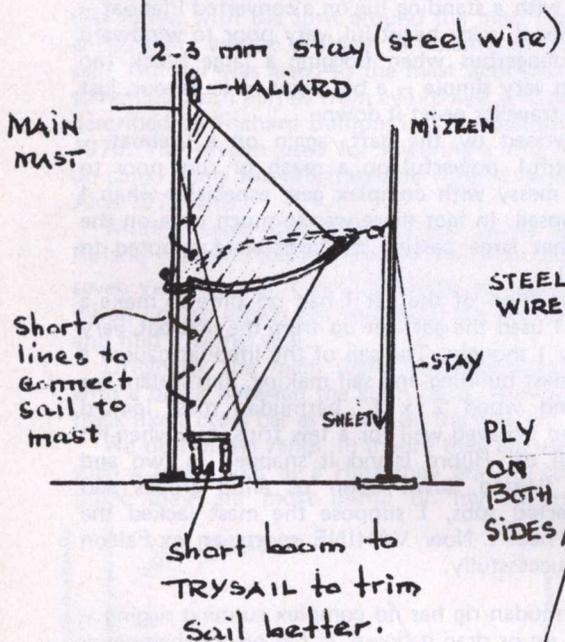
WISHBONE FOR
NARAI TRYSAIL

SCALE 1:5



$$a = \phi \text{ mast} + 20\%$$

HOLE TO CONNECT SHEET TO MIZZEN



the harder the wind blows in the sail, the more the steel wire stiffens the wishbone, preventing bending

NB.

A MAIDEN VOYAGE

by Pieter G. Scargo, The Netherlands

We launched our Tangoroa TARAPO (a magic Polynesian boat built in one night by the wood elves) the week before Easter in 1976 after 3½ years of hard work. We finished the boat in the beginning of August by hoisting the sails for the first sail on 8th August at about 2.00 p.m. This maiden sail was made near

Hellevoetsluis on the Haringvliet (one of the closed delta-arms in the South West of the Netherlands). We started very quietly with only the jib and mainsail of our high-aspect ratio ketch rig. It was going well, completely neutral on the helm, but it was impossible to tack. With the setting of the mizzen this was overcome but heavy weatherhelm was the result. By setting the flying jib the boat sailed with neutral helm again —

The Sailorman



very satisfactory. After some trials we were able to sail the boat close to the wind without touching the helm. As we noticed that the forestay was too loose we will change the rigging a little by replacing the running backstays by a single backstay with spreader around the mizzen mast. We will also try to get a bigger jib (genoa) and a mizzen staysail. This should improve the sailing capabilities quite a bit. The interior still needs the finishing touches but up to now we have what we dreamt about. Our Yamaha 15 hp petrol/paraffin is a very good engine.

Clay Philbrick of Vashon, Washington mentions some points about CHIPAGUIMA

I chose a lashing system for several reasons:

1. Dacron line is a very reliable product under fatigue conditions.
2. I can "tune" the beam lashings with the lashing jacks and know how much load I have where, in the boat.
3. With the lashing system I could spread the beam loads out over a large hull area quite easily.
4. A lashing is easily observed for condition, and easily and rapidly replaced in event of failure (very unlikely if designed correctly) with materials readily at hand.
5. I love lashings — they have always worked for me — they work well in CHIPAGUIMA.

I should say that Jim & Ruth's system looks fine for their designs but CHIPAGUIMA is different. I would use the bolts and rubber donut system on a stock polycat if I were to build one, although I would take special care to put more glue area into the hull skin in way of bolt points.

On the question of rig performance, I would like to stress that CHIPAGUIMA is an integrated vehicle — it is really not possible to separate any one facet of a design out of context from the sum of the other facets. For

instance — on a C-class cat., you would not put on a cutter rig — not because the rig is not good — it is very good — but because it does not integrate with the rest of the vehicle.

CHIPAGUIMA is sailed primarily by my wife Debbie and myself. In moderate winds CHIPAGUIMA is best sailed by 2 or 3 men or women, even while racing — more wind requires more crew, unless you are cruising when her admirable reefing characteristics and short rig ability make life easy.

CHIPAGUIMA has been raced twice and easily took line honours in both races. In the second race (approx. 50 monos and multis up to 75' LOA) even the big mono men were impressed. She has a grace and smoothness that blend with her sailing power and generally pretty lines and low profile to win the hearts of most of the people that have seen or sailed with her.

CHIPAGUIMA generally does twice the speed of the wind on a reach and easily and frequently goes 20 knots — she goes to weather the same as a good 50 foot sloop.

EXPENSIVE HARBOUR DUES

Bill Robinson tells us that Dartmouth, Torbay, Torquay, Brixham and Paignton are very expensive places to anchor let alone moor. Even launching a dinghy across the beach is costly.

QUEEN'S SILVER JUBILEE

All multihulls wishing to participate in the festivities in The Solent should congregate near Ryde Sands.

Ariki

some impressions by Ted Berry, Invercargill, New Zealand

I recently sailed my Ariki class polycat 750 miles up the east coast of New Zealand, and during this very enjoyable trip had plenty of time to observe and contemplate this special breed of ocean cruiser. If some of my comments seem trifling and critical let me state quite clearly that my overall attitude to these boats is favourable — they are reasonably speedy, comfortable sea boats. The basic design cannot be improved upon — but details of it can.

Much of our sailing was off the wind (as all good cruising should be) and here the Ariki is excellent — she could move at a comfortable 10-12 knots all day, and at this speed you can still sleep, navigate and cook with no discomfort. Each days run was not very high because of the lack of lasting wind but when we had consistent breezes (as is the tendency further offshore) she loped along easily. On the wind she performs less well — even in strong breezes she makes consistent leeway, and going to windward in a light breeze is by far her worst point of sailing. I have considered and rejected leeboards as being too complicated, and centreboards and fixed keels are out of the question. I think you must sail with the idea in mind that the boat does make leeway and that you must, for example, give reefs and points a wide berth (which is only good seamanship), and avoid situations which involve lots of short tacking.

Her performance off the wind more than made up for these shortcomings.

I like all the special design features — the flexibility, the v hulls, and the long overhangs. They all work though I am pleased I raised my bows 9" to give more buoyancy. I had no worries running dead before a 12 - 15' swell. I had tried previously to take such waves on the quarter but found that the boat tended to round up at times. With the genoa or staysail poled out, the main strapped down running downwind she seemed happier, with no loss of speed. The open decks are excellent for working on but I would prefer a less cluttered surface i.e. there are too many beams, bulwarks, etc. to trip over. In Whitinga I saw a splendid Narai IV being built. Her owner, Keith Morcom, had raised the deck so that the beams were flush with the decks and the slats. This is a vast improvement and to be recommended.

In my plans there was no provision for a cockpit — and after sailing for two seasons leaning against the bulwarks sawing the tiller across my knees, I installed a simple wheel system on the back of one cabin. The shaft extends inside the cabin and has a wheel on each end so that in cold or rainy weather, the helmsman can



ARIKI

sit inside and close the hatch. It is essential to protect yourself from cold and fatigue at sea and any prospective builder must put plenty of thought into the question of from where he will steer the boat.

The designed cabin-tops have never done justice to the rest of the design. Perhaps it is for ease of building but someone who builds a 40' boat should be able to build a cabin that looks better than a box. Could not James Wharram design something that resembles the coach-roof on the shippy-looking Tangora on the cover of the recent SAILORMAN? My feelings about the accommodation plan are similar — the plans are really very sketchy. I have built my cabin sole to plan and find that it is too narrow (14") to allow two people to pass in the galley. This winter I will raise it and make more room.

During our trip we were all kept awake by the banging of the rudders at anchor. We tried lashing the tillers in all positions but the rudders (built to plan) are so large that they move in the slightest ripple. My gudgens have tufnol insets but they are rapidly wearing out. Do the rudders have to be so large?

I have noticed much correspondence about engine installation and throw in my ideas based on a set-up I saw in the SAILORMAN. This really works and has been on the ship since launching. The motor is a 20 H.P. Sachs-Wankel Rotary, and weighs only about 70 - 80 lb. with a Ducatti gear-box. The engine and shaft are fixed and as you pull on the rope the collar slides up the shaft and lifts the prop out of the water.

The main shaft consists of 3" galvanised water-pipe through which runs the 1" drive shaft. Bearings are every 3' and the whole thing is oil-filled. Therefore oil-seals are needed at each end.

Every multi-hull magazine (except the SAILORMAN, I am pleased to see) seems to be morbidly preoccupied with capsizing, I expect never to roll my Ariki, but when 60' of 'Gulfstreamer' can roll in a force 6 breeze with only a staysail up, the possibility can't be ignored. We carried our life-raft just against the aft beam so that it would be accessible from both above and below the boat. We also lashed an axe under the deck slats and plan to paint the underside of the bridge-deck orange. A man overboard off any boat is serious. Worse off a Wharram cat. because of her speed, and her relative

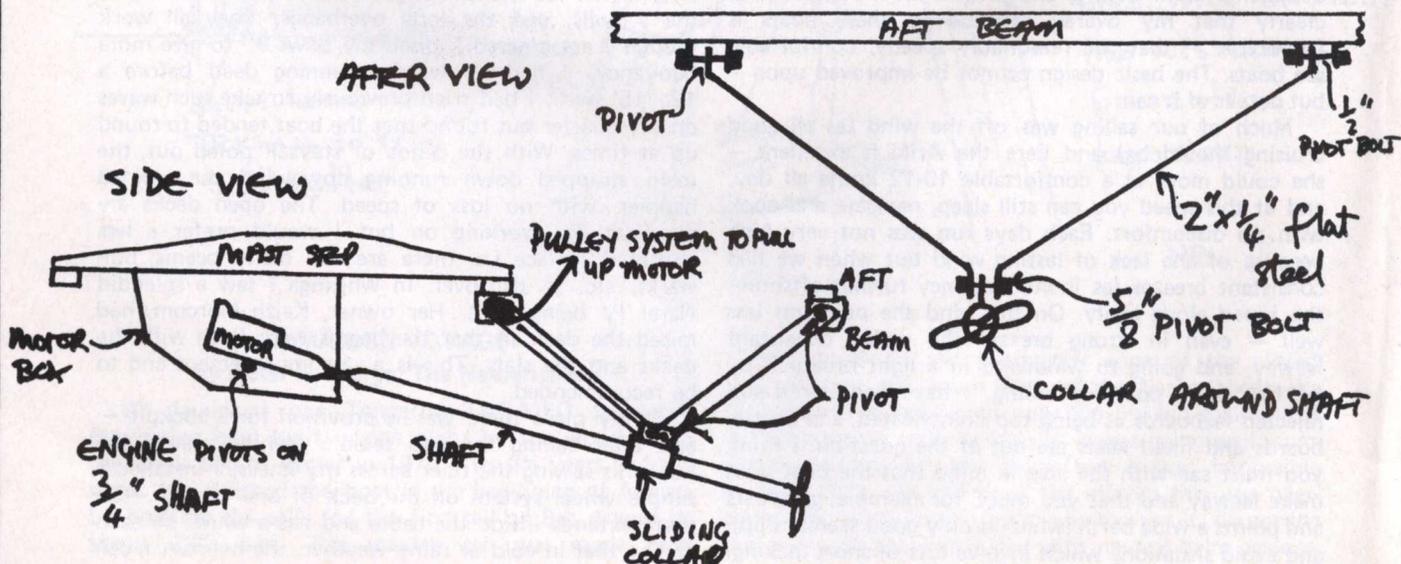
difficulties in manoeuvring rapidly. We had a lifebuoy on 100 metres of line, ready to release, a dan buoy on the shrouds next to the helmsman, and a rule that whatever the weather, safety harnesses had to be worn. To help free movement we tied lines fore and aft for the carabiner on the harness to slide along. I forgot to mention that we had a "Panic Kit" lashed alongside the raft. It contained one woollen garment for each crew member, food, flares, first-aid kit, fish hooks and line etc. My attitude towards safety equipment is — prepare for the worst, then forget about the worst and enjoy the sailing. And sailing can be a real pleasure on a polycat.

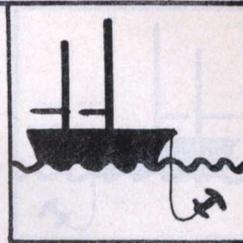
N.B. It was a rogue wave that actually capsized Gulfstreamer. (Ed.)

From LIMABEAMS — the newsletter of the Long Island Multihull Association

NAUTICAL TERMS by Keith Cutshall and Gary Wong

- BOW — half a bark
- STERN — the act of stirring
- COME ABOUT — admit your wrong
- WEAR AROUND — win by persistence
- HEAD — thinking place
- BULK HEAD — big thoughts
- PULPIT — make mashed potatoes
- PUSHPIT — toilet
- HATCH — what eggs do
- SHEET — Mexican expletive
- HOIST THE JIB — toast the skipper
- BREAK WIND — start the motor
- GUNWALE — relative of the swordfish
- DEEP SIX — cooling the beer
- FATHOMS — trying to understand
- KNOTS — squirrels love them
- HEEL — winner of an argument
- FORESTAY — stay in front of
- BACKSTAY — stay in back of
- JACKSTAY — he has to finish building the house
- SPREADER — keeping one foot on the dock and one on the boat as they separate
- BAGGYWINKLES — results of keeping night watch
- TELL TALES — to enlarge upon one's sailing expertise
- CLIPPER — marine supply
- GAFF RIG — costume for playing a joke
- OUT HAUL — taking the garbage out
- BERTH — releathing gath
- BOOM — result from eating boomers
- WING AND WING — what the telephone does
- NIGHT WATCH — peeping tom at work





The Cruising Life

AND ITS PREPARATION

by Ruth Wharram

The Slocum Society once made a study of would-be 'Round the World' and other long distance sailors and found that one in a hundred and five actually achieved his aim. Most of them fell by the wayside at some stage or other, because the realities were so different from their dreams. Often with more patience, it could have been done.

Waiting a few months more could mean that the boat is much better finished off. All too often one sees beautifully built hulls with inferior decks, cabins, cross beams, sails or rigging because patience and money have run out. A few extra months work to earn the necessary cash, would have meant a better boat and more success in cruising.

'Teething troubles' can be avoided by choosing the right weather and the right season for the first cruise. These initial difficulties can often become, if not actual disasters, such unpleasant experiences that the whole project is given up altogether. However many books people may have read beforehand, they usually only remember the beautiful experiences and forget or ignore the hardships and gales. Books often dramatize incidents and accidents and don't stress the importance of apparently 'little' frustrations enough. Those hardships and frustrations have to be accepted in order to appreciate and enjoy the beauties of the cruising life.

Preparing oneself and the boat includes studying navigation and the weather; learning how to handle the boat; proper stowage and securing of gear, making the boat leak-proof, as well as having sufficient water, stores and safety equipment aboard. The lack of any of these can cause a disaster.

A clash of personalities can be the end of a dream. This is a difficult problem to avoid and difficult to foresee. How often do we see partnerships of men who have built a boat, planned everything carefully, and have known each other for years, fall out with each other after only a few weeks living together at sea. It is not the important decisions but the small habits which irritate others which are the factors that cause the crew to break up.

Building a boat is like another job ashore; to cruise is more a way of life which has to be learnt.

In 1975 I received an invitation from Kevin and Marianne Halpin in Australia to skipper their sprit rig Tangaroa (KM). I accepted the invitation and joined them as cook, navigator and general adviser. (See SAILORMAN June 1976, page 34 "Tales from the Tasman").

My "advisory service" was soon called upon and the questions came pouring in. The main questions were about:

1. Navigational books and equipment,
2. safety equipment,
3. extra sails,
4. interior fittings, stores and stowage.

Navigational books and publications

Nautical almanacs —

Brown's is more suitable outside of England.

Reed's is better for cruising around the British Isles.

Admiralty tide tables —

Various volumes according to where you are.

Admiralty list of lights and fog signals —

Various volumes according to what part of the world you are in.

Radio Signals —

Various volumes.

Sailing directions known as pilots.

Tidal stream atlases.

Charts —

These are kept up-to-date with the weekly published "Admiralty notices to mariners". Admiralty charts have a world-wide coverage, other charts such as Standford's coloured charts tend to simplify navigation with magnetic courses and distances, tidal chartlets, small harbour charts and information about port facilities (useful only in U.K. waters). For long distance sailing one needs Admiralty charts, routing charts (British or American), and "The ocean passages of the world".

Celestial navigations —

This of course needs to be learnt. I use sight reduction tables and Norries tables. I use the Haversine method and though only the longitude can be obtained by this method, together with a noon sight it will give a fix and does not require any chart work — important for a seasick navigator. Useful books on the subject are Mary Blewitt's "Celestial Navigation" and "Basic Principles of Marine Navigation" by D.A. Moore (a kandy publication).

Navigational Equipment

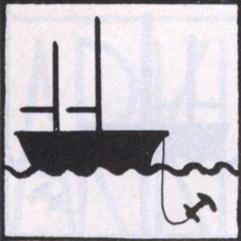
This includes: a radio for time signals and weather forecasts, log, depth sounder, two compasses and a hand bearing compass, sextant, barometer, binoculars, and a powerful torch, and navigation lights.

The type of equipment you buy depends on the size of your pocket. For speed and distance the "Sumlog" is very good. "Seafarer" echo sounder is very good for its price. We also use the "bosun" grid compass.

Kevin Halpin, like myself, does not like holes in the boat so he bought a "Walker" log instead of a "Sumlog". The transducer of the echo sounder was attached inside the end of a piece of 2" x 3" timber. On "KM" Kevin used a Japanese 'Sauri Keki' compass which was a disappointment as it was not luminous like the "Bosun" and even with the light on it, the grid was not visible. For a hand bearing compass we used the "Seafix" on TEHINI (which is also an RDF set), and also the "Mini" compass which is excellent — it is steady, easy to read and has a built in beta light which is good for night work. On "KM" we used a small Finnish "Suunto KB14".

For radio direction finding "Brooke's and Gatehouse" is probably the best but most expensive. The "Seafix" we use works well and is a very reasonable price. Radios with RDF such as the "Pilot Pal" or Japanese "Hitachi" must be lined up with the ship's course and bearings taken are relative to this course. For chart work parallel rules and dividers, soft pencils and a rubber are the minimum requirements.

For navigation lights, if electricity is available, the "Aquadial" tricolour lights are good. These are shone from the masthead. A powerful torch or hurricane lamp are useful as steamer scarers and for lighting purposes if electricity is not carried.



Safety Equipment

This includes: safety harnesses and life jackets for each member of the crew, flares, fire extinguishers, first aid, lifebuoys, radar reflector, and fog horn.

The best safety line is one which is not too short to let you fall overboard, but must be long enough to reach all places where work has to be done. The photograph illustrates George Payne's solution on RAKA. The safety harness is clipped to an eye-slide that moves up and down a track on the bridge deck. (See photo)

Radar reflectors: these, together with hand bearing compasses and charts have been tested and written up in a publication called "Geartest" (1976 No. 1) published by Kenneth Mason Publications Ltd., 13/14 Homewell, Havant, Hants. (£8 for 4 issues, a "Which" magazine for boat gear). We have used an "Umbrawin" coated mesh radar reflector for several years. It has one of the best ratings but has since been replaced by a "Sowester".



Fog horns come in a variety of types but a bugle would do since the Halpin's couldn't get one in Sydney. Hand holds are very important in heavy seas. Ventilation holes at the top of bulkheads can be

either small holes (that can be stopped with a cork or larger Holt Allen screw in covers which let in more air. These should be closed in bad weather especially those in the bows of our smaller designs as Ted Johnson has shown. The main hull of his TANE filled through the ventilation holes from the bow hole after the hatch cover had partly lifted off (there was a dinghy over the top of it so it was hard to see what was happening). The boat slowly rolled over under very reduced sail.

Unless money is no object, I don't think it is worthwhile buying a radio telephone for distress purposes only, though a distress beacon such as the "Callbuoy" purely in an emergency for SOS signals is a good investment.

Extra sails

For "KM" we suggested a 70 sq. ft. trysail for heavy weather, a self-steering sail (see SAILORMAN December 1975 pages 32 and 33), and a flat cut spinnaker of 160 sq. ft. as used by Richard Bumpus on his 23' HINEMOA "SURF SONG" (see SAILORMAN April 1975 pages 24 and 25).

Because of the heavy weather off the Australian coast and in the Tasman Sea the trysail was used often and very successfully, whereas the other two sails were never used because the wind was usually forward of the beam, and "KM" almost always steered herself. On larger boats we would recommend a storm jib but on "KM" reefing the jib was just as easy as changing to a storm jib. The only advantage would have been a heavier sailcloth.

Living aboard

For those who intend to live permanently on boats and to cruise for years, comfort is very important as more time is spent in harbours than at sea. A well fitted-out cruising boat where you can live in close quarters, have privacy, have good cooking facilities and be self-sufficient without wanting to dash ashore to the nearest shower, hotel or restaurant as soon as you drop anchor, is as important as good sailing abilities. On "KM" Marianne said "I cannot imagine myself living in a house again".

Cooking facilities

There is a choice of gas, paraffin or methylated spirits. We always use paraffin because it is available everywhere, cheaper than meths and not as explosive as gas. We used a meths stove on "KM" which is cleaner than paraffin.

The stove should have a fiddle on it but gimbals are not necessary. An oven of some kind is worthwhile for baking bread.

Stowage

Stowing provisions is a big task and when the heavily built "KM" was loaded she drew 8" - 9" more than designed.

Fuel and water

On the 1500 mile voyage to New Zealand we took 55 gallons of water, 15 of petrol, 10 of paraffin and 15 of meths., all in 5 gallon containers. Most of this was lashed to the slatted deck which extended over the cabins.

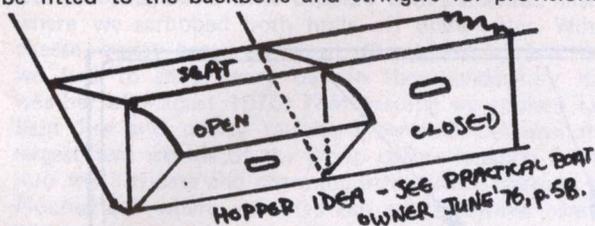
We prefer 5 gallon water tanks to large built in ones for several reasons:

1. a few water tanks can easily be filled from the nearest tap without having to go alongside a pier just for a few gallons,
2. we like to reserve the bilge for food and heavy gear and stow empty water tanks in the bow and stern holds or leave them on deck,
3. should a big container leak, a lot of valuable water may be lost and the bilges flooded,

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4. we keep empty water tanks handy on deck to throw into the water — as well as the lifebuoy — should someone fall overboard.

Food keeps cool under the floorboards unless the sea water is warm. Plastic containers are best for food stowage and can be easily obtained. Fruit and vegetables could be stowed in hoppers under the seats. Netting can be fitted to the backbone and stringers for provisions



and clothes to keep them off the bilge floor underneath the bunks. On "KM" one bow hold was the toilet, the other was the sail and rope locker with room for a sewing machine. One of the after holds was a tool room while the other was the paint, engine and other spares store.

For storing our many charts Kevin hung them over a piece of dowling fastened along the bunk cabin side. They took up little space, were easy to get at, and the bunk could still be used. The chart table on "KM" was a piece of ply from shelf to seat which I found good to work on. We had the same arrangement in the galley with the stove on the ply. I was always able to cook three meals a day even in the worst weather. I believe in regular meals whenever possible, most important factor for successful cruising. The bunk should be cut into three sections for easy access to the stores beneath.

Dreams can be quite different from realities. I know the realities of a cruising life well and love it in spite of its hardships, but before going to Australia I was carried away by dreams.

Our northern winter, while being the best time of year to cross the Atlantic along the Trade Wind route, would be the wrong time to sail to North Australia, the Indian Ocean or the South Pacific, as their cyclone season lasts from December to April. Our plan to sail to and in the Great Barrier Reef (with its many sheltered anchorages apparently safe even in the cyclone season) did not materialise. The decision was "let's go to New Zealand instead", so I did achieve one of my dreams, to visit Polynesia — the home of our catamarans.

LIVING AFLOAT — The Second Year by Indulis Vanags, from the British Columbian Multihull Society Newsletter

Not long after writing the article on the first year afloat we found it necessary to move off the boat for a while. Not all the problems had been solved. Now we are back and have made more modifications.

In the port hull we had two heaters which were positioned near the bow and stern ends of the compartments. The Sharp heater had a chimney connected which the Toyoset did not. We had felt that the Toyoset might not need a chimney since it could be turned down to a much lower heat setting. We discovered this to be wrong since by the end of winter the ceilings and walls were badly sooted over. Now the Toyoset heater has been replaced by another Sharp, which also has a chimney and damper connected to it. We found that chimneys are a must since not only soot but also water vapour is vented out. The heat loss can be controlled by a damper.

The next step was to insulate the walls and ceilings. Polystyrene was glued in between the stringers using the special paste recommended by the manufacturer. We found that Wexter Co. had the best prices for both glue and insulation. After the polystyrene had been glued in place the surface was covered with prefinished plywood.

(Windsor Plywood was found to have the best selection at reasonable prices. also they had plywood seconds available). The plywood was simply screwed to the stringers using countersunk washers and number 6 flat head screws. The starboard hull was likewise insulated on the walls and ceilings. The insulation reduced the condensation problem to a minimum.

Heat was still a problem in the starboard hull because there we only had a Sharo heater in the central cabin and it was not possible to place a heater at the foot end of the bunks. This meant that the central part of the hull was warm but the foot end was freezing. This problem was overcome by converting Aladdin lamps to heaters. This was done by riveting on an adapter so that the tall chimney could be replaced by an ordinary oil lamp chimney. Then the mantle was removed so that the lamp gave off a small blue flame which produced hardly any light, but considerable heat. Two of these lamps were converted to heaters and placed one at the bow and the other at the stern end of the compartments. Now there was heat at the foot end of the bunks as well.

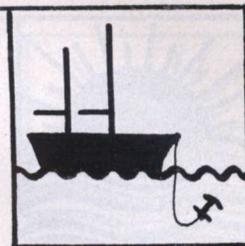
The next major improvement came on the decks. The boat has high bulwarks with the platform between the hulls even with the top of the bulwarks. This meant that the deck was split into three levels with the hull decks lower and the central section higher. One was always stepping up and down as one crossed from one side to the other. This was changed by having a slatted deck built across the hulls so that there was a uniform level across the boat. This slatted decking across the hulls was made of oiled mahogany (oiled with ½ boiled linseed oil, ½ turpentine). It was about 8" above the main deck, and was built in sections so that the space between the two decks could be used for storage of ropes etc. Two benefits were realised. Not only was frost kept off the main deck, but also when it snowed very little snow fell between the slats. As a result the hulls were easier to keep warm and there was not the condensation problem experienced during the first winter.

The fourth improvement was that of a larger boom tent. A new tarp was made which extended to the whole length of the main boom and across the entire boat. This helped to keep the frost off the main living areas, as well as keeping the deck reasonably dry in the rain.

The next improvement has been made possible because we are now moored at a dock which has power. Although the boat has dorade ventilators, and the hatch is kept ajar, it was found that on still nights (days) the air did not circulate and the quality of air deteriorated quickly. We solved this by using an ordinary kitchen fan which was positioned at the hatch end so that it drew air out resulting in some sort of air circulation. This has not only given us peace of mind concerning carbon monoxide poisoning, but also helped to keep the windows clear.

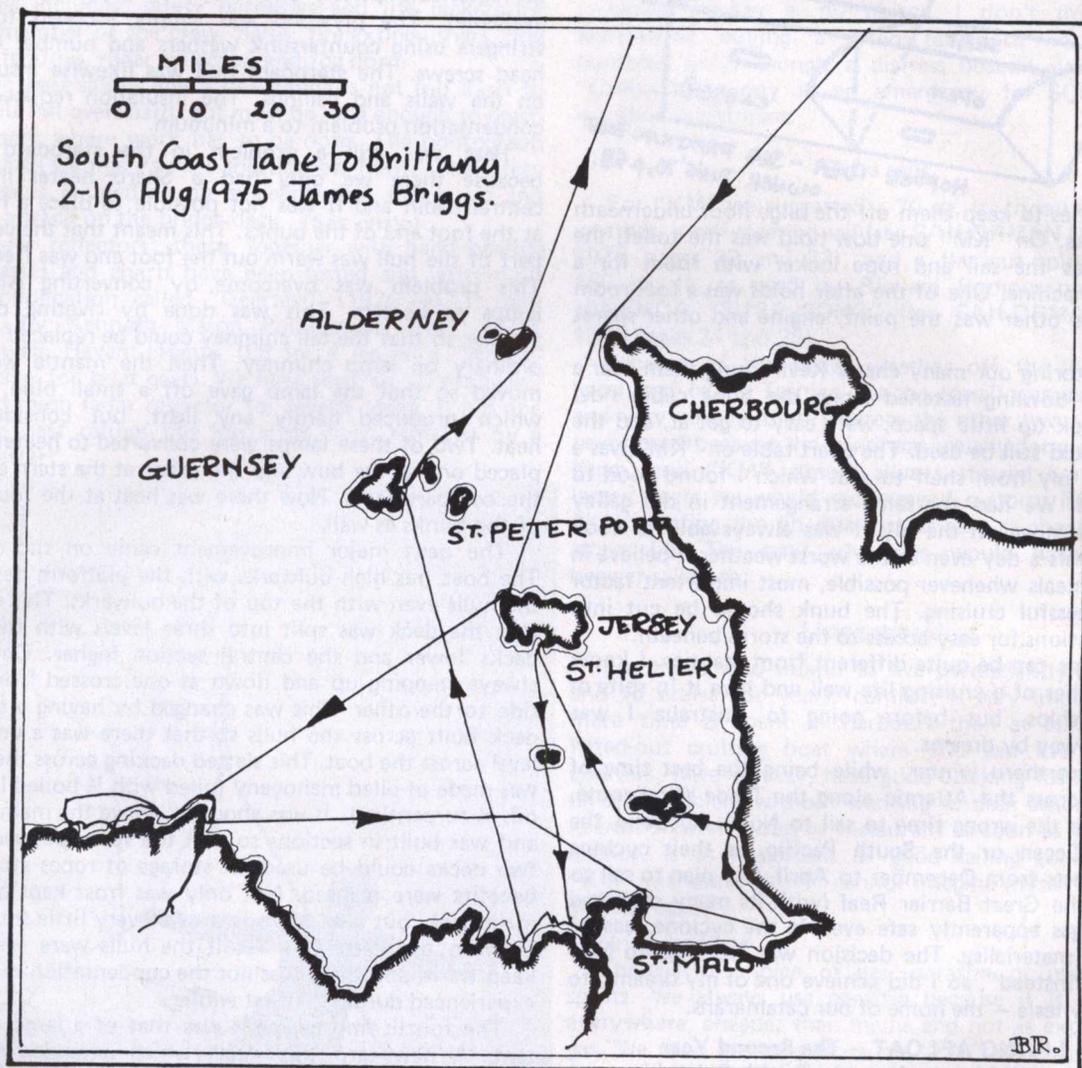
The next improvement will be lighting; presently we have only one fluorescent lamp in the chartroom (run off a battery). The rest of the boat is lit by 3 perko kerosene lamps. We are planning to add more fluorescent lamps and use a truck battery of 225 amp. hrs. to power them. So far only the battery has been purchased.

Slowly we are making the boat more of a home. Chances are that when we have completed everything to our satisfaction we will start building a house or sail to the Pacific Islands, or do something equally crazy.





Over which horizon did you sail?



South Coast Tane to Brittany 2nd – 16th August 1975
by James Briggs

A well-provisioned South Coast Tane slipped her moorings at 0917 BST Saturday 2nd August bound for Brittany, the Channel Isles and anywhere the wind would take her since this year two sweeps had replaced her outboard motor. The only other modification was a pair of 3' 6" cross trees at the upper hounds which allowed a fair sized flying jib to be carried in the splendid force 4 East by North breeze. As a result Ventnor, Isle of Wight was well on the starboard quarter by 1145 and a latitude from the sun at 1310 gave a speed good of some 7 knots. Grand progress continued across the shipping lanes to the South Westward (without holing a single tanker) until 1900 when the wind suddenly dropped away soon after we had sailed through some weed patches of Sargasso-like consistency and had recovered a large drifting fishing float.

After two hours becalmed, and a heavy dinner for the male crew of 3, a fresh breeze returned out of the East and sent us hurling through the Alderney race close to the Cherbourg peninsula soon after sunset. Sark was abeam to starboard by 0130, the unlit Paternoster rocks

to port soon after and the anchor went down in five fathoms close to L'Etac off the NW tip of Jersey sharp at 0300 with 120 miles astern already.

Breakfast time coincided with low water and showed a fearsome sight of jagged pinnacles virtually surrounding our tiny anchorages. After Sunday lunch ashore with kind friends they embarked for a fast sail to the gorgeous west-facing sandy beach inshore of La Rocco tower in St. Quens Bay for swims, then it was back to our anchorage and ashore for dinner. Anchor was aweigh again at 0725 next morning course 230 degrees N with a force 3-4 breeze on the port beam again, complete with thunderstorms. That tall slim sentinel, the Roches Douvres lighthouse was soon abeam, then Barnovic after which the sun came out again for the rest of the cruise. In a falling wind LAA MAO MAO entered the Treguier River through the reefs of the Passe de la Gaine and picked a mooring off the sailing club just below the bridge in time for some shopping, cultural rambling and vin ordinaire before dinner.

A few strokes at the sweeps helped us to clear the river on the last of the ebb on the Tuesday morning

The Sailorman



after which the Easterly breeze sprang up again and took us round the Ile D'Er and down the coast to Port Blanc. Lacking any large scale charts of the Brittany coast and being to the west of our ancient Adlard Coles, pilotage (and choice of harbours) was conducted from a series of postcards; aerial views being much the best. Port Blanc was beautiful but a trifle trippery with a splendid beach where we scrubbed both hulls off underwater. Wine, cheese, crusty bread and fruit disappeared so fast that we had to shop every day in the wonderfully hot weather of August 1975. That evening we probed Les Sept Iles and nearly ran hard aground between the largest two islands of the group before heading South into the intricate and charming little fishing harbour of Ploumanach where we dried out on the strand near a fairground.

Wednesday's postcard was Ile Grande, a large holiday island off which we nearly boat-hooked a huge dozing fish before spring-cleaning and painting our boat. With only three days to top of springtides 335'W was the furthest westing that LAA MAO MAO made so as to be sure of reaching Mont S. Michel at least one day before springs. The Easterlies held for the rest of the day giving a rather wet thrash to windward with a fair tide to the beautiful unspoilt Ile de Brehat at the mouth of the Poutriex River. There is a fine anchorage in the channel that runs East/West through the two halves of the most efficiently manned naval look-out station beside the lighthouse.

The tidal stream turned East again at 0130 on the Thursday morning so on we sailed to the Eastward in light airs that finally died away at dawn close SW of the Minquiers. A catspaw gave the two knots needed for a breakfast of fresh mackerel and soon after a gentle Southwesterly wafted us in to a rather trippery bay one mile North of Cancale at the SW corner of Mont St. Michel Bay leaving some 14 miles to cover in the 2½ hours to HW. LAA MAO MAO headed for Tonbelaine Islet on a heading of 110'M and soon the water had the consistency of porridge with sand in suspension over the shallows.

One mile short of Tonbelaine we turned to the South East to pass close round the West and South coasts of the steep-sided rocky Mount. Soundings were a good deal less than expected but were soon into the lee of the rock where we let go the anchor close to the seaward end of the causeway. Depth was exactly four feet with a very hard and a very even bottom. This, together with gendarmes blowing whistles convinced us that all was not well. Soon after moving half a cable further out and re-anchoring in sand, the tide fell and revealed the municipal car park with the scratches of our anchor in the asphalt. A placated Gendarme told us that we were the first British yacht there for some three years. This seems a pity: the abbey alone is well worth a visit and there are plenty of bars, bistros and restaurants. Low tide shows one vast expanse of sand with the sea far beyond the horizon. Almost all channel marks were well out of position; two on the top of the highest bank. The best advice is to arrive one hour before HW a day or so before springs and get clear fast if even fresh NW winds are forecast.

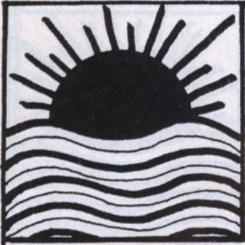
At the end of a hot sunny Friday 8th August we watched (and heard) the flood tide race in, lift LAA MAO MAO in seconds and transform Mont St. Michel into an island once again. A fresh onshore breeze came with the flood so we were soon thrashing to the Northward to arrive at Granville, rather damp, before midnight averaging nearly 10 knots.

Shopping and scrounging enough netting for a monster prawn took exactly two minutes too long the next forenoon and we were left sloshing round our mud bespattered Polycat cursing our own stupidity as the tide literally fell out of the harbour. Afloat again at teatime

the dying westerly resulted in a low slow beat to Iles Chausey, a bare nine miles into the setting sun. Grande Ile is sheer unspoilt charm and has the largest tidal range in Europe but almost no fresh water. Surprisingly the prawning is poor and so, having explored this paradise throughout Sunday we set sail west and north to St. Aubin, Jersey to restock with English victuals, telephone home and visit some hospitable cousins. St. Aubin dries at half tide so we anchored to the SE of the old fort and were heading south again after a heavy lunch. Pilotage through the Minguiers at half tide was, for once, conducted by the skipper personally with one eye for chart and compass and the other for tell-tale swirls over the jagged pinnacles that make up most of this huge area of reefs. At times we were aiming up to 45 degrees uptide to maintain track and it was with some relief that after narrowly missing the Basse du Sud rock LAA MAO MAO was clear to the south before dinner with only 15 miles to Dinard. The entry to La Rance in the dark was made very simple by the excellent leading lights. The NW breeze held and there was a spare mooring waiting for us off the Yacht Club.

Tuesday's shopping in the rather Victorian watering place of Dinard was a great success, the very last franc was spent and the rest of another gorgeous day was enjoyed dried out a few miles to the westward at St. Briac. Coffee and brandy on deck made instant friends and dinghy oars built a splendid sand castle. Another night passage followed but this time in fluky head winds. The long slow beat towards Guernsey continued throughout the next day, only enlivened by meeting a french trawler who cemented the common market with the gift of one large and very much alive crab. Sunset found us at the southern end of the Little Russell Channel with Herm and Sark disappearing into a cotton wool-like fog bank. Guernsey soon followed leaving us arguing over the difference between a diaphone, a nautophone and a siren. Blind pilotage into St. Peter Port was achieved by carefully timing our tacks to and fro across the Little Russell Channel until our choice of foghorn proved correct and the harbour wall of St. Peter Port suddenly loomed above us. By then the light airs had died away and the last half mile was covered under oars, only the second time in the whole cruise. Duty free stowed, LAA MAO MAO slipped out before the harbour dues collector reached her and we led the fleet all the way to Alderney in a fresh headwind and fair tide. The rest of Thursday is still something of a blur. Licensing hours are flexible in Alderney. Suffice it to say that everyone finally got back onboard that night and only the skipper fell into the harbour in the process.

A rather subdued crew finally set sail for England shortly before noon. Morale improved steadily in ideal sailing conditions with two spinnakers, one on each mast, and a mizzen to ensure coming head to wind in case of a man overboard! Splendid progress was made until soon after tea when the main spinnaker halliard parted. Happily, the sail fell over the bowsprit instead of under the racing hulls and so was soon rehoisted on the main halliard. A rising wind, dark clouds to windward and a force seven warning dictated a turn to port for Needles Channel which we reached in sheets of spray at sunset as the ebb started out of the Solent. There was a distinctly character-forming half hour until inside Hurst Castle by which time a gale was blowing and we were running under storm jib and storm mizzen only in torrential rain and pitch darkness.



Chichester Bar at low tide was clearly "out" so into Portsmouth Harbour we shot at our customary arrival time of midnight and secured in Vernon Creek of Round the World race memory. A brisk sail round to Emsworth at breakfast-time completed the last of 650 miles in exactly a fortnight to the very minute. Eighteen harbours had been visited, many hours of sun soaked up and LAA MAO MAO had, as always, acquitted herself splendidly throughout.

"A NARAI ESCAPE" or "EXCUSE ME CAPTAIN BUT WHARRAM I?" or "I MUST BE OUT OF MY TANE MIND!" - being the mistakes of a season by an anonymous beginner

Having rowed round the Serpentine on at least six occasions and sailed down the Crouch in a friend's Enterprise at least once I decided to invest the profits of an extremely complicated property transaction in a boat before it was fritted away on carpets and curtains and other such luxuries. Problem No. 1 what to buy with an absolute ceiling of not quite enough! After looking at a large variety of 17' plastic washbasins, an advertisement for 27 feet of catamaran at the same sort price had me rushing 200 miles to look at a Wharram Tane, whatever that might be. Every one of my huge mountain of sailing books and magazines (the man who designs a boat to be made from pulped Practical Boat Owners will make a fortune!) said you don't buy on first sight, you don't buy without a survey and you don't buy without a trial sail - I did and haven't regretted it - yet. I can't put off the embarrassing bit any longer. What did I learn in my first season?

The very first lesson is to allow yourself plenty of time to prepare for your first excursion. Getting aboard an hour before the boat will ground is not enough on those early trips when sails and rigging are unfamiliar, awkward and even downright bloody minded. I can assure you from personal experience that standing waist deep in muddy water in your underpants in early April, screaming for a spare sheerpine, as the water level visibly sinks around you, is not likely to improve your reputation as a seaman or your healthy enjoyment of the sport. On my first outing it took 3 hours to get under way with sails properly set. Do try and get away while there is plenty of water under the boat and preferably flowing in the direction you want to go. If you can arrange it so that the water turns round and comes back when you do so much the better. Do not underestimate the strength of water power, those old water mills used to grind exceedingly small and so will the waves if they get you up against a seawall in anything like rough conditions. I speak as one who has sailed, swiftly and surely forward onto a porthand buoy with the tiller firmly in the 'right hand down a bit' position. It's a terrible job getting a buoy out from under the forward netting anyway so its better not to get there in the first place. Check the tide tables with as much care as you would a winning line on the pools. Neglecting tides at the worst could be fatal, at the least extremely frustrating. The memory is still fresh of a glorious reach down the Thames Estuary covering over 20 miles in 3 hours and then spending the next 3 hours tacking back and forth trying to cover 2 miles round the Foreland against the whole of the English Channel which was squeezing through the Dover Straits and up the North Sea! If we had left at 4 instead of 6 the tide would have carried us through but who in his

right mind wants to get up at 4.00 a.m.? I do, for one, if it will avoid lurching off the same boring headland for 3 hours.

Talking about boring scenery brings me to the next lesson which is 'keep a good lookout at all times'. It's all very well for your actual intrepid heroes of the deep to get a full nights sleep a thousand miles from land but in the coastal waters which most of us use anything could cross your path, and usually does, when you least expect it. This profound observation is prompted by sailing across the entrance to Sheerness Harbour at 1.00 p.m. on a beautiful sunny Sunday looking out to sea as I gently guided the tiller like Maurice Griffiths himself when I saw my crew (sitting on the other hull facing me) suddenly go popeyed with terror as he stared, paralysed, over my head. Anyone who knows Sheerness intimately will know that the Holland ferry comes out very promptly at 1.00 p.m. and its bridge looks a hell of a long way up when you've just sailed across its bows with your back to it! So do please take a look all round the horizon from time to time and avoid surprising yourself.

Another simple tip learned the hard way may save someone a lot of trouble. Those slatted decks may be very seaworthy but they do let a lot of water through so if you stow your outboard lashed to the mast as we do then pop its head into a plastic bag and it *may* start when you need it.

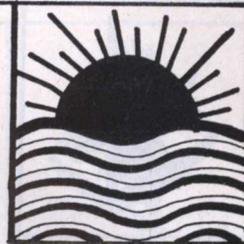
The final point I'd like to pass on is the experience gained on an unintentional night passage. (The reason for it being unintentional is another story!) Do please, when in the dark, give *everything* a very wide berth until you get used to judging distances at night. If you can hear the sound of sea on shingle you are too close. If you can see the white water looming up out of the darkness you will hit the shingle bank before you can tack away as we did. There is a guardian angel who looks after novice sailors but I shudder to think what it would have been like trying to kedge off that bank on anything other than a soft balmy night. Seeing and being seen are the two essentials of night sailing. Our emergency Mickey Mouse navigation lights were useless and shining a strong torch on the sails was the best way to avoid being run down by passing cowboys in fishing boats and was also the means by which the Dungeness lightkeeper was able to supply our position to the Coastguard when we were reported overdue. In retrospect it would have been better to find a shallow bit, anchor and, with torch hanging in the rigging, go to bed until daylight, secure in the knowledge that if anything ran into us it couldn't be much bigger than us or it wouldn't have strayed into our shallow bit in the first place. It's all experience though and there is always the Guardian angel hovering in the background. However, please remember Sodde's Law - "The likelihood of anything happening is in direct proportion to the inconvenience which will be caused should it do so" - don't push your luck. Good sailing and fair winds to you all.

Tony Meakin

PIGGY SAILS ON - a letter from Tom and Don Hembroff to the B.C. Multihull Society.

Jakarta, Indonesia - The scenery around here is absolutely incredible, but the *heat!* We're probably here at the wrong time of the year; the sun's 90 degrees overhead and as soon as she comes out in the morning that's what the temperature is, 90 degrees! You can't really cool off by jumping in the water cause it's almost as warm.

Well enough of the blues; it's actually been quite an experience here in Indonesia. The place I'll always remember was Bali. Words just couldn't describe the beauty of that place. We rented motor-cycles and zapped all over the island sightseeing for a week. It only cost us



2 dollars a day for 125cc Hondas which is in keeping with the low cost of everything on that island. A full course dinner with drinks would rarely cost over 70 cents so naturally we ate out during our entire stay, and even found a place that had hot apple pie and ice cream Wow, what a treat! While in Bali with an overseas yacht *the* thing to have done is some carving on your bulkheads or something. We followed suit and to be original had Balanese pigs carved into our tillers.

It's a shame that we're in a hurry and can't stay longer and see more of Java and Sumatra (maybe next time around? It's ideal for cruising if one stays close to the coast, no matter which monsoon, there's a land and sea breeze effect that always makes it reach either way. The Indonesians are right into sailing too. It seems each village has its own class of prau (sailboat), and they're well kept too. Even though these are really poor people (average wage a dollar a day) they always have a new coat of paint on their boats. Most inter-island freight is shipped on very large trading schooners. Dacron hasn't

made it here yet so cotton sails are all you see usually multicoloured where panels have been replaced.

There is one hang-up with cruising these waters and that is with customs. It is mandatory to get port clearance from and to each place you go which involves the hassle of seeing the customs, navy, immigration and finally port administrator on entering and leaving each place. I thought Australia was bad; this place is insane. At Surabaya, the immigration people wanted 5 copies of our crew list alone!

In the six weeks we've been crusing here I'm sure I've met more officials than anyone else and spent more time in public offices than sight-seeing, but that's the price you pay here. At least, it doesn't cost you anything, outside of the initial landing fee and 12 dollars per month for a visa.

Well, we'll be putting provisions here for our 4,000 mile trip to the Sychelles, where we hope we'll have Christmas. From there we'll be racing to get around the Cape before the end of February (which is the best month).

THINGS FOR SALE

FOR SALE — Complete set of sails for a sprit rig Tangaroa, comprising: main, mizzen, mizzen staysail and jib. Unused, white terylene, made by Jeckells, no sail number and nylon bagged. Contact: J. P. Batty, 68 Sudworth Road, Wallasey, Merseyside.

FOR SALE — Spinnaker 21ft. Luffs 14ft. Aluminium spars for sale. One dinghy mast 22ft suitable for Tane mizzen or Hina/Maui mainmast. Two 11ft, 13ft, 15ft sections suitable for Tane or Tangaroa main booms or Oro mizzen booms. Offers. Emsworth 3440.

SAIL TRAINING FACILITY

It is hoped that there will be an afloat meeting on the weekend of 1st/2nd October in the Solent area to discuss the years Sail Training Facility's activities. Any interested parties should contact:

John Cork (Organiser)
140 Somerset Road,
Southall,
Middlesex.

M.T.F. Briggs (Regulator)
Bosmere House,
Nile Street,
Emsworth, Hants.





Gone with the Wind

by the Sailing Secretary

In my last article I asked for members' comments on RACING, by way of a change . . . and have received several, by letter and word of mouth, for which, many thanks for taking the trouble and for the many perceptive comments. From these various contributions has arisen the beginning of a recognisable "PCA attitude to racing", the essentials of which, it is the purpose of this article to describe.

People who go to sea to race multihulls have until now, tended to assume that the activity is just like racing monohulls, only faster. From this a series of difficulties arise, as follows:

1. Greater Risk

To quote **Edward Backhouse**: "In my view it is a mug's game if done in the same way as racing in monohulls because the penalty for an error of judgement is so severe. In the final analysis, all other things being equal, in heavy weather, the winner will be the man who takes the greatest risks and gets away with it." Whereas, for example, a monohull will slow down if over pressed to windward, making a sail change both safer and faster, a multi-hull will simply accelerate until sooner or later it capsizes. Again, where a monohull's best speed is limited to a function of the square root of its waterline length, that of a multihull is unlimited off the wind having no built-in safety factor to prevent excess stressing of the structure. To quote **Bob Evans**: "All multihulls are floating structures like oil rigs and floating docks, and subject to the same stresses and strains, however well designed." For this reason, however much a rating rule improves design it cannot prevent crews concentrating on the one vital competitive factor in a normal race — SPEED, and taking greater or least risks on all the others which may together be called SEAMANSHIP. Nigel Tetley's greatest worry during his epic circumnavigation in the trimaran *Victress* (which eventually broke up just before reaching home) was excess SPEED. . . . he could not prevent the boat going dangerously fast downwind.

2. The Incentive to Unstable Design

One O.S.T.A.R. skipper described being "a bit concerned" when he saw two feet of green water covering the lee outrigger of his trimaran while under bare poles in a gale, while another capsized after the race, again under bare poles. More and more multihulls are being designed primarily, if not purely, for SPEED, and more and more are capsizing or (if built beamy and buoyant enough) breaking up because they are too lightly put together. While this problem may perhaps be remedied by a new rating rule, and while the scrapping of the notorious I.O.M.R. is a fine step in the right direction, no rating rule has ever been free of loopholes, and pure speed, subject to the rule, will remain the main designer's criterion.

3. Great Cost

Someone once described offshore I.Y.R.U. racing as "standing fully clothed under a running shower tearing up five pound notes." While racing remains a competition to get there sooner than the other man, and while the rules govern only the shape of the boat and the size of the sails, the man who spends most on all the other elements (e.g. the shape of the sails) will have an advantage. The rapid growth of structure

design classes (e.g. Loner and CONTESSA Cruisers) bears witness to the widespread concern about the cost of monohull racing. Multihull racing is still so new (and so much in the melting pot now I.O.M.R. has gone) that it is not too late to take a different approach.

4. Psychological antipathies

It has never been firmly asserted that P.C.A. people are racing people. To quote at random from a revealing letter from David Lewis, typical of P.C.A. builders is "an unwillingness to conform to the rules . . . racing is therefore going right against their instincts . . . I do not myself feel that racing is a very seamanlike exercise and that it encourages skippers to take chances and risk their gear, boats and CREW for a not particularly worthwhile purpose. The history of sail boat racing is littered with cheats, fiddles and dishonesty." David does still see a race or cruise in company being valuable because "This would . . . allow skippers and crews to exchange tips and ideas on how to get the most out of their boats." Clearly many P.C.A. people have the "competitive itch" (you ask the Treasurer!) but most are aware that exercising that instinct by racing as monohulls race may be more trouble than its worth.

What then are the answers to these difficulties? Do we fork out a few more fivers and buy a life-raft? Or sell up and buy a ½ tonner?? Or race tortoises on the deck?? Here are just a few of the possible remedies that have been put forward:

a. The port to port rally race

Competitors would start from their various home ports and "race" to a common port in time for the start of the rally. Thus competition would be against the elements, progress reported in a log book and chart, and the winner chosen by a panel of judges at the rally, being the boat sailed with the greatest strategic skill, seamanship, speed and navigational accuracy in the light of her particular tidal and weather conditions. This would resemble to some extent the "Predicted log" competitions undertaken by power boats and the objectives could be laid down in advance speed being only one of several. This idea would obviate all the problems already discussed but would not produce a race against other boats on the same course and so would not satisfy that "competitive itch" already mentioned. There would also be formidable organisational problems to be undertaken by the rally organisers. If members have suggestions to make about this type of race, please write to the Secretary, Tony Meakin, whose pigeon it is.

b. The cruise in company

Though not a race, this would as David Lewis suggests give plenty of opportunity for boat to boat competition at close quarters, and would pose little problems of organisation — but it would satisfy the "itchy" men even less than the rally race.

c. Normal racing under Portsmouth yardstick

On the presumption that for the competitive man, no solution to the 'risk' problem will still be a real race, the only means towards solving design and cost difficulties lies within the rating rule controversy. The advantage of the Portsmouth Yardstick system is that it takes a given boat (designed e.g. for safety and with a small sail area) and then rates it according to its actual speed and general performance. Thus no incentive is given to designers to design fast, unstable, light and over-sailed multihulls. All types of boat can then race competitively, no matter how slow or poor to windward. The disadvantage is that if an individual helmsman sails his boat exceptionally well, his rating is then altered as if his boat were naturally faster. Thus, as in a golf handicap system,

The Sailorman



the helmsman gets rated as much as the boat. Designers, naturally, oppose the system because they are unable to design "rule-beating" boats which win all the races (unless, like Jim, they design boats with more worthy criteria uppermost in mind). In practice this system will be the only one in use this year, and for the future, until MOCRA can agree on a new rule to replace the IOMR (International Offshore Multihull Rule).

d. Cruiser/racer rule

Unlike a strict racing rating rule, a cruiser racer rule would include penalties for instability, bonuses to compensate for roomy accommodation, relatively inefficient or (safe) low aspect ratio rigs and even compensation for low cost boats (e.g. without spinnakers, bloopers, reachers, star-cuts, tallboys etc.). The PCA has an unofficial working party engaged in researching into possibilities of this type in the hope that MOCRA will take notice in their similar deliberations. Amongst others Jim Wharram, Bob Evans and Richard Woods (at present reading for a Yacht Design degree at Southampton University) are on the PCA working party.

WARNING

The work done by MOCRA and perhaps the PCA in the next year or two may well decide the future of multihull racing for many years to come. At present, MOCRA's work is dominated by a very small group of very dedicated multihull racers and designers (Jim included), all with their own firm ideas about multihull racing, but, perhaps without a full realisation of how many multihull sailors would like to race, but who hesitate to speak out or act because of the difficulties already outlined. Racing is (perhaps unfortunately) always the sphere of yachting activity that has the greatest influence on design (very noticeable in recent multihull developments) and also the greatest interest to the general public, and therefore bad decisions now could have an adverse effect on all future multihull activities and on all sailors of them. Just as the problem is much wider than a PCA concern, so it is also wider than can adequately be dealt with by the "few facing experts" who comprise the MOCRA rating committee. They are open to the views of those who take the trouble to communicate with them, but sadly very few people bother. If you are at all interested in racing, or even aware of its importance to all multihull sailors as the main influence on design and public opinion, NOW is the time to write in with your views.

Write to me or to Jim, and we will try to make your opinions felt. Happy cruising.

PCA

Helmut Laude is trying to organise German PCA activities.

Anyone interested please contact him:

c/o Fink,
Callinstr. 9,
3000 Hannover,
Germany.

THE RACING SCENE

Last May George Payne with a crew of 4 Polycat sailors and builders successfully competed in the Crystal Trophy Race in RAKA. The race starts from Cowes, Isle of Wight, goes down around eastern end of the Island, then about 60 miles across to CHI buoy off Cherbourg, thence about 170 miles down channel to Wolf Rock lighthouse between Lands End and the Scilly Isles, and then back to the finish at Plymouth. On the way to Wolf Rock, we encountered near gale conditions off the Lizard where we sailed through severe wind against tide conditions. Waves were steep, high and came in quick succession. Many had breaking crests. This gave us useful heavy seas experience although at the time, we all wondered what we had let ourselves in for. RAKA came through very well. From Wolf Rock back to Plymouth we had light winds all the way. We were sixth boat in, and last across the line of surviving fleet of 14 starters who retired through a mixture of gear failure or bad weather. This won RAKA the multihull magnum — a bottle of champagne. Well done George! The amount of work in the preparation of RAKA and getting her to the start was considerable. George now plans to enter the multihull race to the Azores in June 1977. We wish you the very best of luck and hope all goes well for you and RAKA.

Richard Bumpus

14ft Surf Cats £490

Professionally made
in G.R.P. supplied
with sails and rigging.

Further details

Tel Milford Haven 3737

23ft Hinemoa For Sale

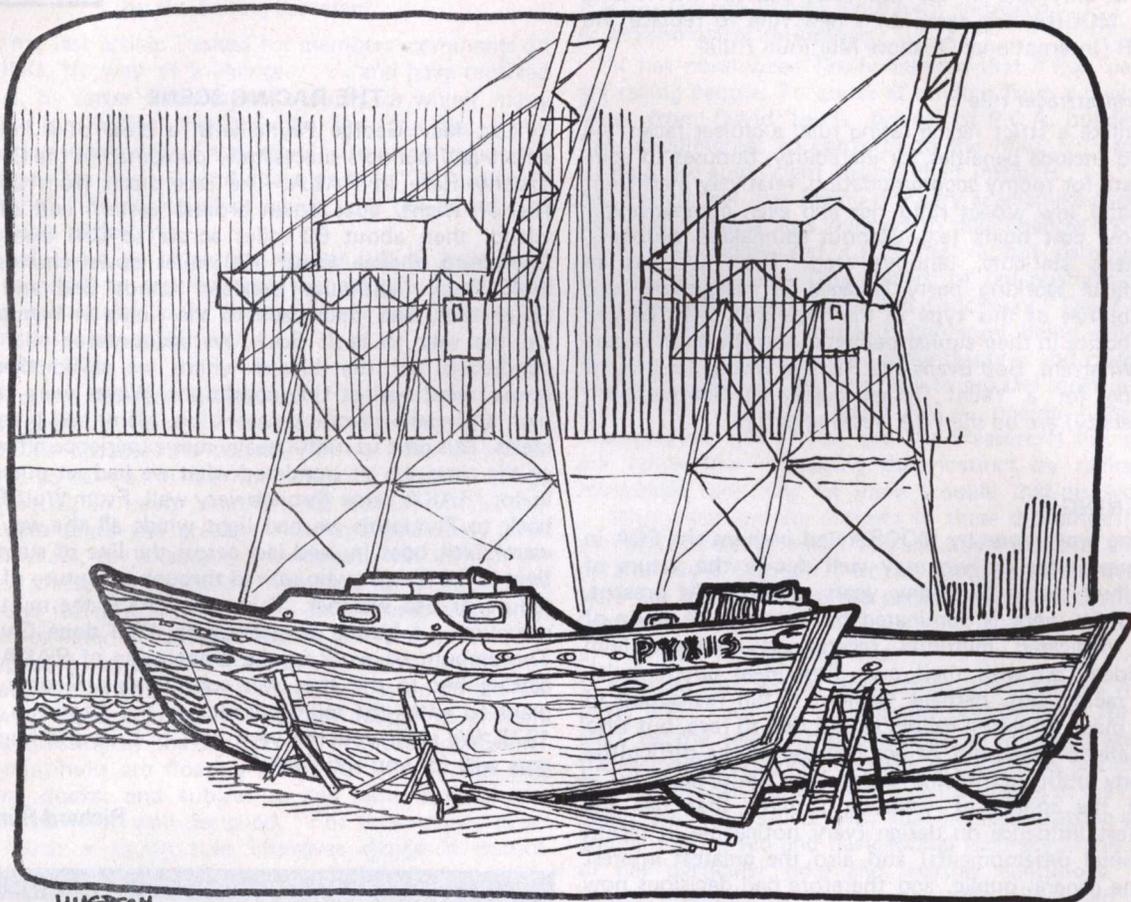
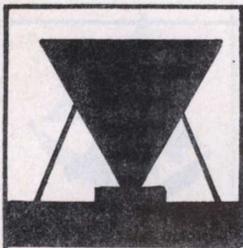
Built under the
supervision of James
Wharram.

Further detail

Tel Milford Haven 3737



The Boatyard



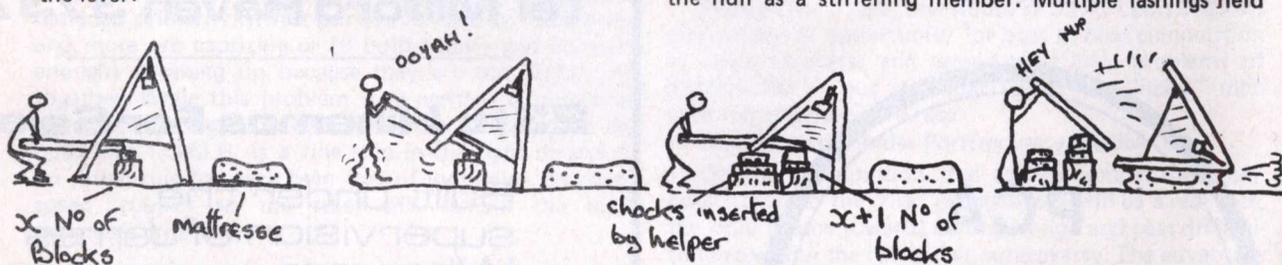
HUEBSCH

JOHN BELLENGER'S ORO

John Bellenger's Oro looks beautiful and is built of mahogany ply wood with a clear finish to expose the natural grain.

The launching of FAOILEAG (pronounced Feelag, Gaelic for seagull) by Tony Perridge, Edinburgh

I turned over with just the help of me wee wife, and she was seven months pregnant for the first one. We did it by levering, and my wife was only putting chocks under the bulkhead legs while I took a fresh "bite" with the lever:



Throwing the hull over onto a couple of old mattresses scared the daylights out of me, but I thought that if they fell to pieces then they couldn't have been strong enough anyway. As it was, there wasn't a creak or groan from either of them when they went over, and once on their side, it was easy to lift them up the right way while my wife put in supports. The whole exercise took about ten minutes. Incidentally, I'm no muscle man and weigh less than 10 stone!

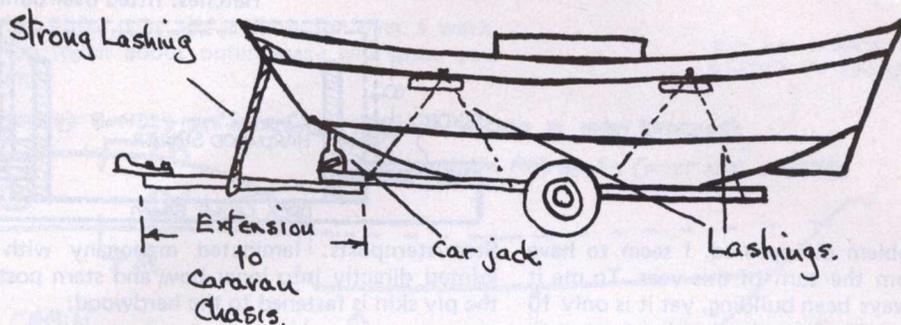
Once the boat was finished, I had to move it 17 miles to the water. Quotes from haulage contractors were horrific, so I cobbled up the following:

I used an old caravan chassis and welded on an extension so that the centre of the hull rested just in front of the axle, and there was enough length to stop the bow from hitting the back of the towing vehicle. This contraption was as flexible and floppy as knicker elastic, and in order to make it strong enough, I used the hull as a stiffening member. Multiple lashings held

the main hull weight onto the axle area, then a massive lashing bowed the front of the boat onto the extension to the chassis. A car jack was then inserted under the forward keel and used to tension the forward lashing.

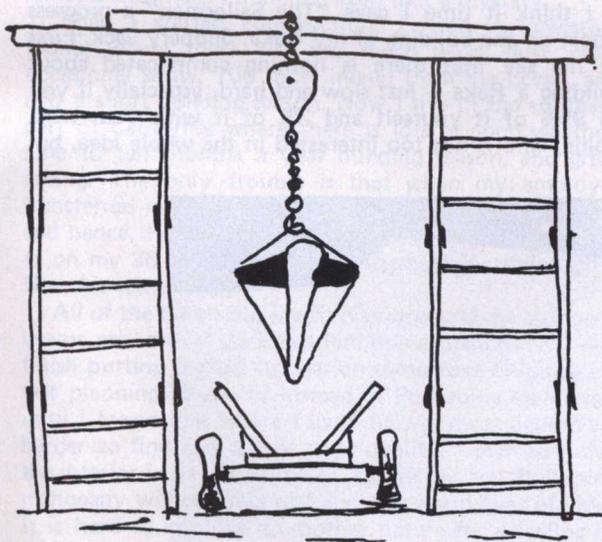
To get the hull onto this crazy trailer, I borrowed two towers of lightweight, slot-together scaffolding and a chain hoist:

The Sailorman



After the trailer was loaded, the towers were dismantled and piled in the back of a van which went with the towing vehicle and trailer, and the whole lot was re-assembled to off-load the hull. After the move was completed, I sawed the extension off the caravan chassis and sold it back to the original owner for £10 less than I paid for it (£20). Since the towing vehicle, van, scaffolding, chain-hoist and planks were all lent by kind friends, the cost of the move was £10.

Two stout planks bridging towers.



When the hulls were unloaded, (by the way it only took two of us to get it on the trailer) they were laid side by side, in their cradles, on a car-park. This was a mistake, and we had to move them off before aligning them. By "we" I mean myself, another man, his wife and a fourteen year old boy. By skidding them sideways with two poles, used as levers, we moved them 15 ft. to the side, over a 6" kerb and got them roughly lined up. The final lining-up I did myself once again using the poles — great things levers!

Anyway, after four years work FAOILEAG was launched and after various trials and tribulations, I sailed with my family, for Orkney this summer. In fact, due to persistent light head-winds and fog, we only got as far as Aberdeen, but it was very enjoyable and pointed out the need for certain modifications. I'm sure that you've heard them all before — one, a decent engine (in fact I'm installing a Reliant car engine in the bridge-deck as on the Narai NICK OF TIME; second, I'm abolishing the sprit on the main trysail and replacing it with a wishbone; and thirdly, I'm toying with the idea of fitting leeboards to the inside hull faces to counteract leeway in light airs.

THE BUILDING OF A SWEDISH ORO by Denis Lodge, Oskarshamn, Sweden

Well I now find myself a new member of your (our) association, and take heart from the fact — for let's face it, anyone who lets himself in for the building of such an unorthodox sailing machine as a Wharram Catamaran must be somewhat of an individual in need of comfort and encouragement from people of the same breed. Even individuals like to be a member of a crowd now and again! True?

Having seen that you are interested in knowing how we, out in the bush, make out, I thought that I should for the fun of it, set pen to paper.

I am now the proud owner of one completed "ORO" hull — the bits and pieces to the second are here and there and everywhere. I like to think it's only a matter of nails and glue and I will own two hulls. I am sorry to say that both are upside down, so my sweet sailing lady is still in a virgin state and shall remain so until the warmer spring months allow me to sheath the lass in nylon.

These are difficult items and can well be mirrored in my costs to date.

Sweden is no low cost paradise!

Wood	Skr. 11,000 = ca. £1,500
Ply	" 9,000 = ca. £1,200
Glue (to date)	" 1,100 = ca. £ 150
Nails (Gripfast)	" 2,500 = ca. £ 350

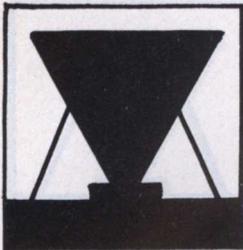
Let's face it friends, times have changed. When I first set eyes on a Wharram advertisement (1972) the cost of building would have been about £2,500 — oh yes, times have changed!

The building of my "ORO" (The word in Swedish means agitation, anxiety, alarm! — Sorry James, but you cannot please all nations) has taken the form of an enterprise — the enterprise is now a registered company going under the name of AMILO ENTERPRISES, an anagram of the family names (two of us). In today's day and age a project of these proportions can only be fully incorporating every available penny; hence the building of a company. This has many advantages and a few disadvantages. Those of you in the know will understand my point when thinking about book-keeping and tax declarations.

The building operation is taking place (40 km from the nearest open water) in a large barn — nice and dry, but cold and it's only November.

One of the things I discovered very quickly in standardized Sweden was that timber sizes (the easy off the shelf sizes) were totally unobtainable. For those of you know Sweden this must seem very strange. The country is covered in forests, yet planks longer than 5 metres and wider than 25 cm are truly rare. I have made my keel planking by gluing 1½" x 1" strips into the required lengths, 11 metres and up to 25 cm wide, then through a planer. A lot of extra work, but I feel well worth it. I now have planks 11 metres long, very strong yet only 1" thick. I experienced some problems with the stringers to my hulls — they would not follow a "natural" curve. However, after planking with

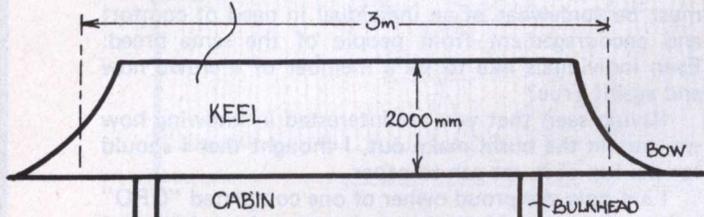
The Sailorman



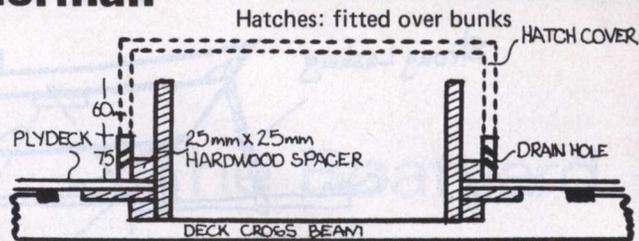
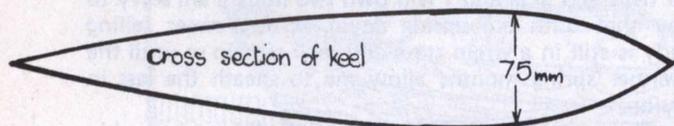
ply, 75% of the problem disappeared. I seem to have come a long way from the turn of this year. To me it seems as if I have always been building, yet it is only 10 short — too short — months from the decision to start to this day of writing — the next ten months look like being exciting. I'll let you know how we make out.

Extracts from a letter by Tom Kelly to a fellow Tangaroa builder.

LAMINATED HARDWOOD 18mm THICK



Low aspect ratio keels: see notes on these in SAILORMAN 1974.



Stem/sternposts: laminated mahogany with stringers jointed directly into inner bow and stern posts, so that the ply skin is fastened to the hardwood.

Fastenings' bronze "gripfast" nails.

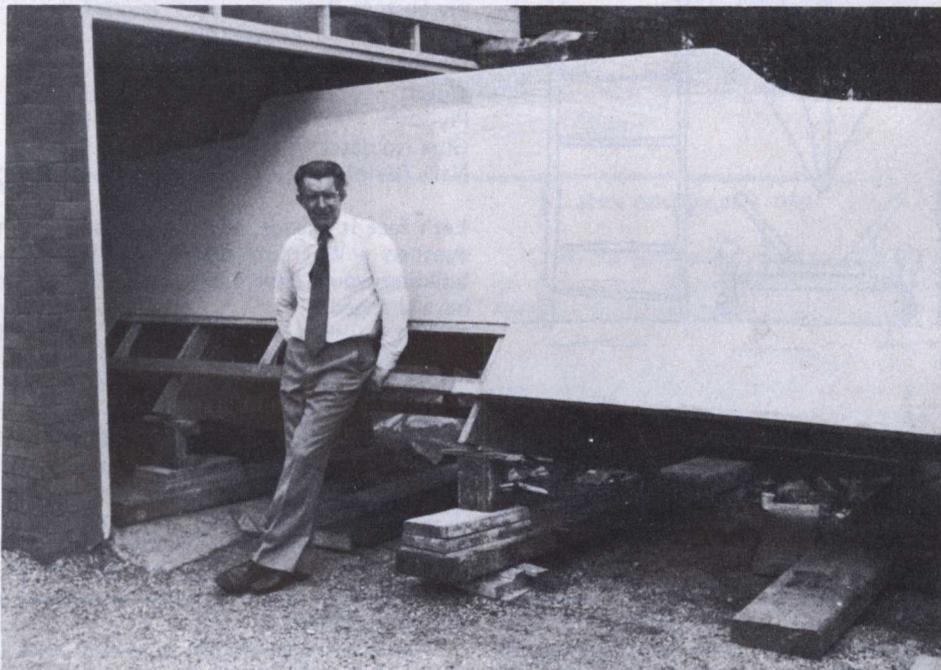
Paint: Little Ship. One coat of primer, four undercoats, each stopped and rubbed down with 320 grade wet and dry, followed by one coat ACRYLIC ENAMEL and another before launching.

Rig: cutter rig similar to the Prout SNOWGOOSE i.e. most of the rig forward of the mast. Bought a second-hand aluminium mast 10m 300mm long x 150mm x 100mm section with stainless fittings for £100. If this rig is finally used it will be stepped on crossbeam no. 3 which would require strengthening.

Sail areas: mainsail 15 sq.m. Max. sail area 40 sq.m.

The building of Raka SLIPPERY JACK by Bruce Weber, Yucaipa, California

I think it time I gave "The Sailorman" a progress report on the building of my Raka, Slippery Jack. First let me say that there is nothing complicated about building a Raka — just slow and hard, especially if you do 99% of it yourself and 3% of it with your wife, Hollie, who is not too interested in the whole idea, but



This photo illustrates Tom's low aspect ratio keels and beautifully finished hull.

Sheathing: hull and keel glass to 300mm above LWL, also deck.

Moulding: central deck and cabin tops with cast aluminium portholes 200mm diameter were moulded in one piece — all extra work.

Stringers: above the bunk, the stringers below the deck are strengthened by shelves. All stringers are scarf jointed.

Buoyancy: forward stowage section is filled with foam.

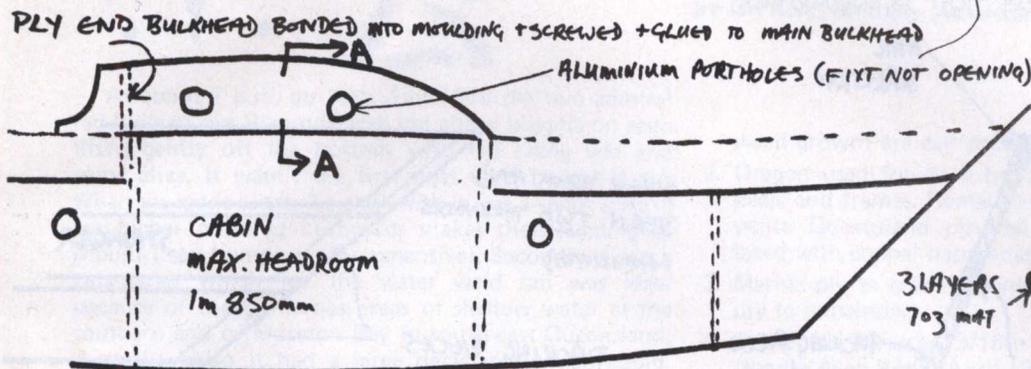
Insulation: bunk sections and cabin insulated with 18mm thick polystyrene.

will brag about it to friends; and a 17 year old son, Greg, whose mind is on interplanetary travel. He accounts for minus 1%, and a 10 year old son, Marc, who would rather dream of sailing in the Sea of Cortez than hold a slippery piece of epoxy-covered wood. He accounts for another minus 1% progress.

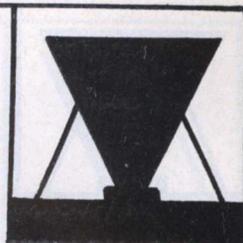
Talk about having your mind elsewhere than where it should be, Greg was supposed to be holding a 1 x 3 x 36' stringer while I was getting a hammer and nails ready. We put it in place. "Got it?" I said. "Got it." "Sure?" "Yes, I've got it!" Sure he did! As soon as I looked away for a minute to pick up the hammer, down it came on edge across the bridge of my left foot. Well so what if I couldn't walk that night. In fact I

The Sailorman

walked with slight pain and a limp for over a week. Thinking too much about outer space will space you out everytime.



PART OF EXTRACTS FROM A LETTER BY TOM KELLY



GLASSFIBRE CABIN TOP MouldING BONDED TO HULL WITH GLASSFIBRE + SCREWS

3 LAYERS 703 MAT

SECTION A-A

Perhaps I dream of being a better builder than I really am. After 1½ years of building. I am only one year behind schedule. However, I have the pride of knowing that what has been done, has been done in an exceptionally good way. I don't think I would want to see, let alone sail, one of those that was bashed together in nine pregnant months or a year. At this point, I refuse to give away details on the completion date; it remains classified. I prefer to keep that a mystery.

When I started construction, I lived in Lewiston, Idaho, where there was too much wind, dust, cold, occasional snow, 700 miles inland from the ocean, and a short building season. Now I live in the southern part of California where there is lots of good weather, nine to ten months a year building season, and great sailing. The only trouble is that when my employer transferred me to Yucaipa, he also gave me more to do, and hence, I cannot devote as much time as I would like to on my 36 foot project. Well, so much for philosophy. Now for some facts.

All of the bulkheads are fir plywood and the stringers, beams etc. are of dark red Philippine mahogany. I will finish putting the last stringer on tomorrow. Originally, I was planning to use fir instead of Philippine mahogany until I found that where I lived fir was more expensive, harder to find and was of poor quality. I plan to finish the interior in its natural color. The fir ply and Philippine mahogany will contrast well and give warm hues of light. It is hard to improve on mother nature for a feeling of beauty and comfort.

I am using the West system, wood-epoxy-saturation technique. All surfaces are painted with at least one coat of epoxy before being joined. All interior exposed surfaces with three coats, and all exterior surfaces impregnated with five coats. The pores of the wood literally drink up the first coat.

The epoxy seals out and in all moisture and air. This prevents rot, and keeps the wood lighter over a period of years as it cannot absorb even moisture vapor from the air. Working in low humidity is ideal as it will produce a lighter, stronger boat.

I recently noted an article by Jim Brown, designer of Searunner Trimarans. In it he recommends the West system on his boats. He also advises that with West fiberglassing can be omitted. The developers of West say the same.

The hull of my Raka will get no fiberglass but epoxy mixed with a good quality of colodial silica — which will make the surface very, very hard — so much so that the Gougeon Brothers, developers of West, say that only power sanding or grinding will affect it.

After building and fiberglassing my Maui, I started looking for a new way before starting a Raka. I sampled several similar products before deciding on the West system. It seems to be the easiest to use and most versatile. I knew that there had to be a way to work smarter instead of harder. One fiberglass job was enough for me.

Different combinations of additives are blended into the epoxy. These fillers, short and long asbestos fibres, micro balloons, etc., when used appropriately strengthens imperfect joints, hollows, act to fill voids, make fillets, or pasty putty.

Meade Gougeon has also written a very interesting book, *The Evolution of Modern Sailboat Design*. It gives a lot of modern ideas on how and why especially in relation to sail power.

All stringers have been scarfed, no butt joints. The stringers were rough sawn at an 8.25 to 1 ratio. A 10' blade is needed for the 1 x 3's. Then each piece is placed in a very accurate home-made sanding jig. This produces uniformly finished pieces ready for epoxy glueing. The jig looks something like this:

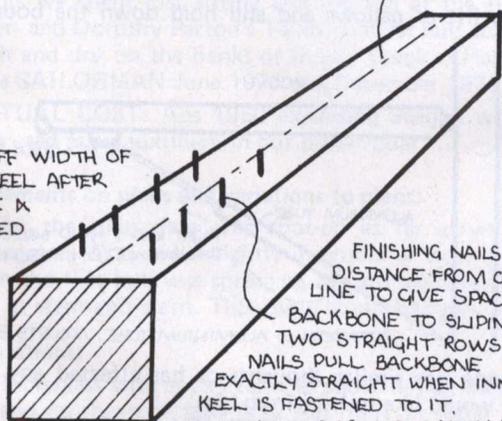
I have also given thought to scarfing the ply siding but I haven't been able to figure out how to apply enough pressure to the length of the joints. Any thoughts on this? This one may be beyond me even though I hate to admit it.

The inner stem-stern posts were made of two thickness of 7/8" laminated together, total thickness of 1½". I did this to provide a better holding surface for the stringers. The plan calls for 1" only. My Maui also had only one 1" and this seemed a little thin for good holding.

INNER KEEL PULLS BACKBONE STRAIGHT AND MAKES FOR SELF-CENTRING

CHALK LINE DOWN CENTRE OF UPSIDE-DOWN INNER KEEL

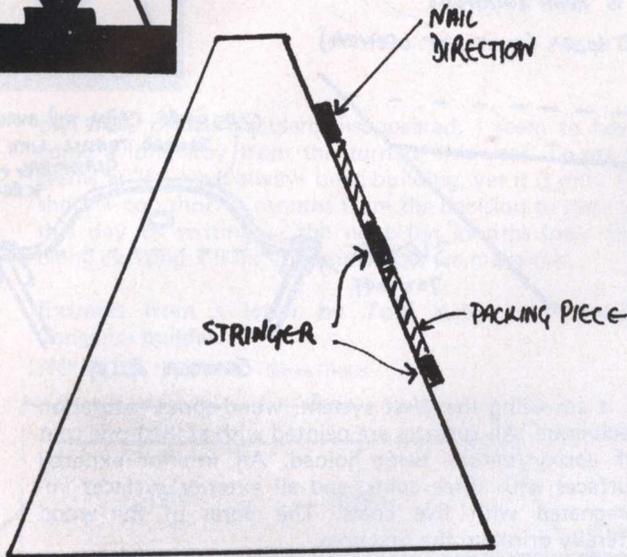
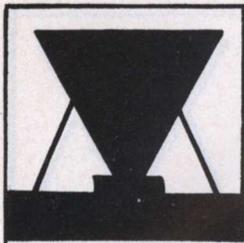
TRIM OFF WIDTH OF INNER KEEL AFTER IN PLACE & ATTACHED



FINISHING NAILS EQUAL DISTANCE FROM CENTRE LINE TO GIVE SPACE FOR BACKBONE TO SLIP IN. TWO STRAIGHT ROWS OF NAILS PULL BACKBONE EXACTLY STRAIGHT WHEN INNER KEEL IS FASTENED TO IT. FINISHING NAILS ARE EASILY PULLED OUT AFTER INNER KEEL IS ATTACHED

The Sailorman

PACKING PIECES AND STRINGERS MORE EASILY HELD DOWN TIGHT TO PIECE BELOW IF HOLE IS DRILLED & NAIL IS DRIVEN AT SLIGHT ANGLE DOWNWARD, WHICH PUSHES PIECES TIGHT TO ONE ANOTHER

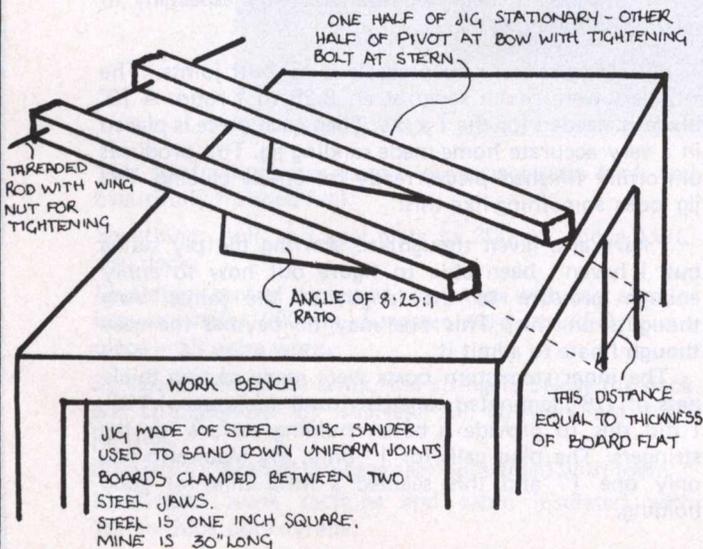


On the stem-stern I also used 3" wide packing pieces instead of 2". I did this because again on my Maui, after four years of use I noted a slight hollow just to the inside of the fastening of the fir siding. I feel that a slightly wider fastening base might prevent this on my Raka.

I am concerned with the amount of space, or lack of it, for the marine head. Does anyone use it or do most of you use the direct method to the ocean? The rotund or portly shapes will have extra problems of their own. Remind me never to get diahorrea at sea. On the other hand maybe there was a reason for its compact low profit design. With the hatch directly above the head one can go potty and keep watch all at the same time. Now that's really working smarter instead of harder.

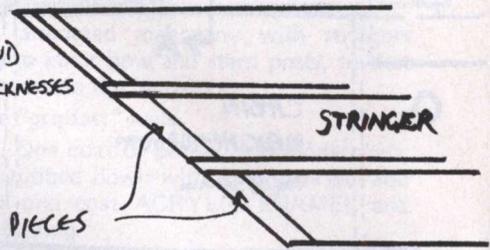
I am also concerned with finding an outboard with a long enough shaft. How long a shaft do I need? I hope this does not prove to be an opportunity for me to invent a custom cantilever sling device, but it probably will.

The hulls are being built in my backyard under "this inverted bowl they call the sky". When I am not working on Slippery Jack, I cover the structure with a black plastic tarp to protect it from ultra violet rays and the elements. When weather prohibits outdoor work then into my garage effort goes to work on skegs, rudders or beams. The cross-beam laminations are done with the help of home-made "cheapie" clamps.

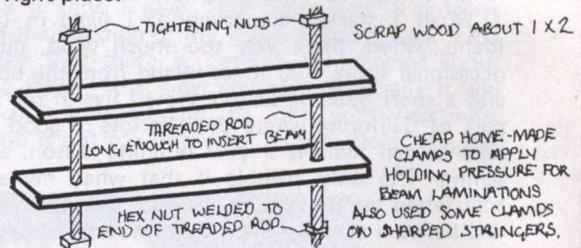


(INNER STEM AND STERN TWO THICKNESSES LAMINATED)

PACKING PIECES OF 1x3 INSTEAD OF 1x2



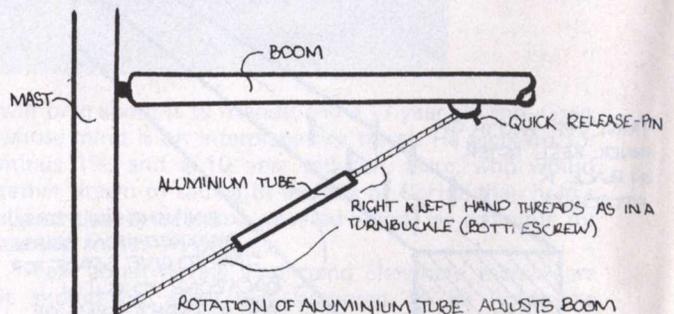
joined shorter lengths together for these and, not wishing to place the joins all in the same relative positions along the hull, we staggered them and the sheer and lower stringers kicked out at a different angle to the middle one. With a little extra planning here and there and a bit of contortion work by one large lad with a very heavy dolly we now have a skin as tight as a drum with a beautiful flare at what appears to be the right place.



Has anyone tried to rig a rotating mast? I understand a rotating mast will improve the efficiency of the main by 30% or more. Think of reducing the main square area by 30% and still have the same performance. A rotating mast does not need an overlapping jib-genoa. This would mean that it would be easier to rig a self-tending jib. I would like to hear from anyone who has used a rotating mast on a 35' boat or larger. The rigging requirements may make it impractical.

Also has anyone moved the mast to a mid-point, reducing the size of the main and increasing the size of the headsails? Such a manoeuvre in theory should give more lift to the bows. This would help prevent the lee bow from burying. How about a battenless main that would furl inside a specially constructed mast? Well, why not? That idea is no more far out than a catamaran with flexible beams.

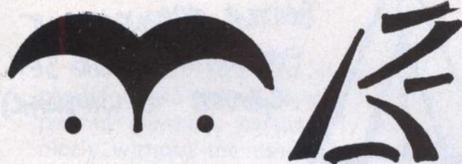
Here's another idea to play with. Why not use a solid vang? If a solid vang is used, one can do away with topping lift or gallows and still hold down the boom.



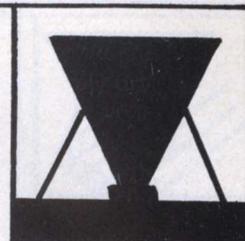
If anyone has similar thoughts or has effected any of these I would like to hear from him.

Has anyone heard of "inflation" I just discovered an 80% increase in the cost of plywood since starting. Has anyone received an 80% increase in his salary?

The Sailorman



HINEMOA 169
by Ian Kelk, Birkdale, Australia



At about 7 p.m. on 10th July 1976 the two admiral red hulls of our Hinemoa with the above insignia on each lifted gently off the bottom with the rising tide and came alive. It wasn't the first boat we'd built but our Wharram made sense. To start with it was a sailor (petrol for higher powered outboards makes their running or should I say bumping very expensive). Secondly it was a catamaran which for the water we'd sail was ideal because of the numerous areas of shallow water at the southern end of Moreton Bay in south east Queensland, Australia. Also it had a large deck area which could carry the usual 5 or 6 family bodies who venture out. Thirdly as we built, it grew on us more than any of the others with the obvious extra strength in terms of stringer spacing and laminated beams and keels. Fourthly it was a breeze to get the 8 or 9 kilometres to the launching site at Oyster Point, Cleveland — (borrow one power boat trailer and in two trips with the help of about 4 men and 2 large lads and sundry bottles of beer, champs., etc. after its in one piece of course, she's ready to meet the water with the tide. Actually it grew on more than the builders too since we had more strangers just dropping in to have a look than for any of the others. (This was particularly so when we were rigging since the sprit rig is as scarce as hen's teeth in this stretch of water.)

Building Schedule

12. 1.76. Plans received from Canadian Multihulls. Started lead up work with frames etc. immediately.
19. 1.76. Fill in time waiting for some oregon to be milled made foredeck net (our thanks to Marijke Boon in April 1975).
24. 1.76. Started starboard hull in earnest.
12. 4.76. Starboard hull completed and moved out into weather.
15. 4.76. Port hull started.
20. 4.76. Mast, sprit and sails ordered.
23. 6.76. Deck beams started.
29. 6.76. Port hull finished.
7. 7.76. Platform finished, outboard well fitted to take long shaft silver century Seagull.
10. 7.76. Launched on very appropriate day. Local Redlands (Cleveland) Show Day with sky diver demonstrations.

A very valuable experience for us was the couple of hours we spent just sitting and looking at the lines of John and Dorothy Parton's Tehini as it sat hull complete high and dry on the banks of Dobby Creek at Hemmant (the SAILORMAN June 1976 and December 1976).

ACTUAL COST: Aus 1950 excluding Seagull which is also used as an auxilliary in our power boat.

Comments on plans and variations to plans:

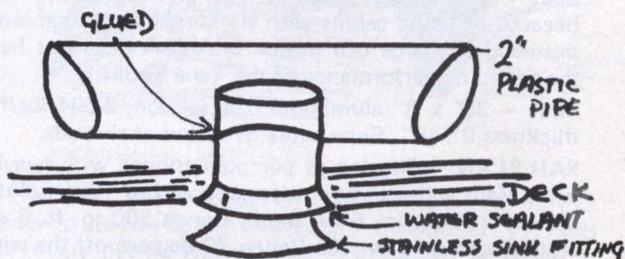
All the plan data was spot-on as far as we were concerned. The only slightly frightening time we had with the first hull was springing the stringers out to the ply at stem and stern. This came about because we had

Variations:

1. Fibreglass with epoxy resin to above design water line and on sheers as tape only (sat right on water line as per plan. The reason for the glass tape on sheers was to overcome the local problem of rot due to water accumulation between bulwarks and hull. Dry rot and

weed growth are our problems on moorings out here.

2. Oregon used for deck beams, stem and stern inners, keels and frames. Remainder was good red meranti or white Queensland pine with all hull interiors well laced with copper naphthenate.
3. Marine ply to planking only, with first grade exterior ply to remainder.
4. Bridle for forestay 3/16th galvanised chain for net (thanks Nico Boon, April 1975).
5. Platform slats are 1/2" ply with 5 widths across and 1" gaps. This stops the sheets and other small objects being in the water most of the time.
6. Outboard well is between the mast beam and the first platform beam. Works well with cavitation only in worst pitching conditions.
7. Screw down mushroom vents in foredeck with special plumber model open tube vent in stern deck. See drawing.
8. Mast 4" round aluminium tube, Sprit 2" tube. This looks well and in terms time costs to prepare oregon mast etc. was a bargain at Aus 80 with a mast cap of stainless and mast step of cast aluminium.

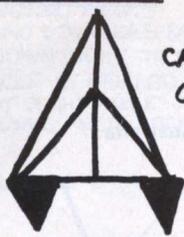
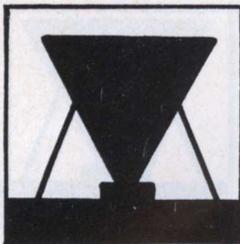


9. My major variations was in the cabins. We left them off. You might ask why didn't they go for a Hina. The load capacity of the Hinemoa is what we want and we do mostly day trips or if we go down the bay, we camp on the islands so all we need is ability to store materials. Also with deck space a priority it seemed a pity to lose the area of cabin tops. We replaced the cabins with large flat hatches of 1/2" ply and in a wet trip (waves that is) these are nicely dry areas to occupy. If we sleep in the hulls we prop open the hatches for ventilation.

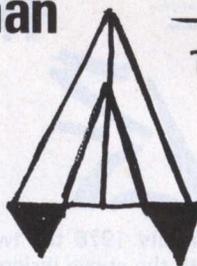
MOORING — 4 gallon drum of cement into mud with 11' of 3/4" chain followed by 12' of 3/8" chain and the mooring bridle of 15' of silva rope per hull.

SAILING — Comes about like a beauty under both sails when the secret of working the jib is worked out. Sails extremely well under jib alone but can't find out the secret of coming about into the wind with jib alone. (Nor can I unless you use some mainsail. Ed.). The more you load her the better she seems to sail. The sprit sail was a pain to start with but now we have a sequence worked out to keep the brails in the right place. Snotter a waste of time, better to just run a loose ended rope up around snotter blocks and adjust as needed. How to adjust the vang — experience. Running before the wind run jib sheet through the vang fairlead (we've no cabins in the way). I dare say we've got a lot more to learn about her sailing characteristics but the one important feature is that she feels stable under all conditions we've met so far. (I must admit she was a bit of a surprise to feel the hull movement when an adult bounces on one stem when you're under sail.)

The Sailorman



CANNOT SET
GENOA
TO WINDWARD



BETTER ARRANGEMENT
FOR SHROUDS TO SET
GENOA TO WINDWARD

Raka MIAMBA

by Brian Milne, Caernarvon, Western Australia

The boat performs beautifully, the cutter rig is ideal and allows a combination of sails to be set to suit the conditions. I have a large genoa in addition to the yankie, staysail and main. The genoa is essential in light winds. Under certain combinations of sails she will sail herself to windward. Generally, she seems better balanced when there is more sail set forward of the mainsail. Perhaps shifting the mast amidships and reducing the size of the mainsail would make her better balanced.

Occasionally, she seems reluctant to go about, when only the main and staysail are set, but this can be overcome by slackening the staysail slightly just before going through the wind, then grabbing the clew and holding it outboard. In strong winds I have the staysail set on the outer forestay. She seems better balanced and goes about without any problem (alteration for better balance by moving centre of effort forward. The main and staysail alone put the CE too far aft, hence poor tacking. If she is well balanced, there is no need for holding the clew outboard. Ed.).

Boat — Bulkheads raised 4" to give 5" beam hull. Because of larger cabins with standing head room, more slatted deck, large o/b motor MIAMBA does not have the sparkling performance of the Tane I built.

Mast — 38' x 8" aluminium oval section, 3.594 lbs/ft., thickness 0.146". Rope lanyards at end of shrouds.

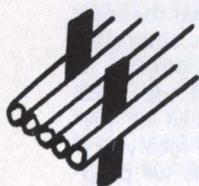
SAILPLAN — Rigging as per plan though with heavier wire. Main and jib as per plan area and of 10 oz. cloth. Yankie 200 sq. ft., 5 oz. cloth. Genoa 300 sq. ft. 6 oz. cloth. I can only set the Genoa 70 degrees off the wind or more because of the shroud plan.

She is balanced to windward with yankie, jib and main. On one occasion she went to windward in light breezes of 5 to 10 knots and calm seas by herself for 30 minutes with no one touching the helm. I was in my bunk drinking beer. I believe a lot of Wharram cat sloop rigs suffer from weather helm. You can either move the mast back and reduce the size of the mainsail or increase the headsail area. For me the cutter rig is ideal as it provides the drive to windward and the performance off the wind with the right sail combination. We have averaged 8 knots for over 30 miles. I was interested to read Clay Philbrick's article in the AYRS Sailrigs issue March 1976.

I have no winches so setting the yankie is hard work. My mainsail does a lot of work cut slightly full. It has a 15' 3" foot with one full length batten half way up plus three other shorter ones. There is little roach due to the backstays. Because the boat is built on the heavy side I can carry yankie, jib and main in 15 to 20 knot winds — she really powers along.

Raka's do go fast. On George Payne's RAKA, while taking her home after the Crystal Trophy Race in the Channel, we sailed in towards Falmouth close hauled at an average speed of 10 knots over a period of 30 mins. under yankee and double reefed main. Later in the voyage along the North Cornish coast we averaged 16 knots over a 15 minute period. We had a S.W. breeze and a moderate swell up our tail. The Walker log that was being towed behind was seen to leap out of the water.

Richard Bumpus



In the previous article I suggested that multihulls are high speed rafts, and that the seamanship and self steering techniques are quite different from that practiced on the monohull.

The slow speed, high inertia, balsa log raft was suggested as a suitable starting point for our study of multihull self steering such as the vessel of Kon Tiki, the Sun God.

The fact that a daggerboard or hydrofoil is sensitive to changes in water speed was noted, and that this reaction of a daggerboard could be used to promote self steering on high speed, low inertia, multihulls.

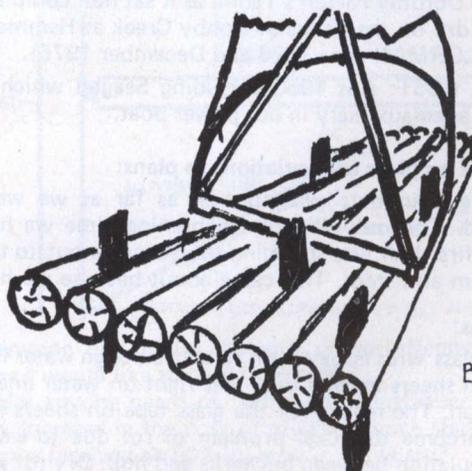
While monohulls can be controlled efficiently with a stern rudder, the stern rudder is not very efficient in the control of multihulls.

Not all sailing rafts are as slow and ponderous as the "Kon Tiki" raft. Wherever large bamboos grow near navigable water, the bamboo raft is found. Sailing versions use daggerboards a la Kon Tiki placed further inboard to allow them more manoeuvrability.

Going up the speed scale still further, we find rafts

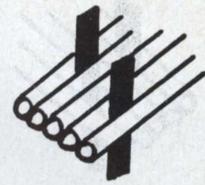
Self Steering

constructed of canoes lashed together instead of logs. The modern multihull is a descendant of these.

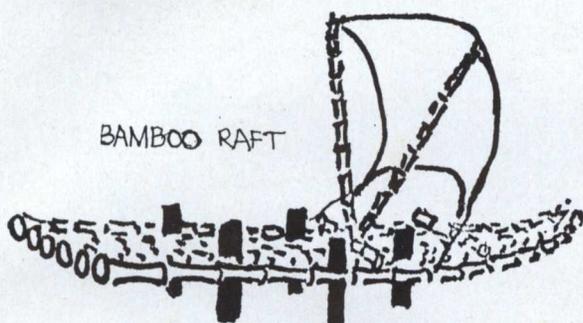


BALSA RAFT

The Sailorman



One of the really fast ancestors of the polycat is the pacific ocean going canoe. It is worth more than a passing mention, particularly as it seems to manage nicely without the need of a daggerboard or rudder. I have spent many long years trying to find some logical answers to the questions posed by a craft that is sailed backwards/forwards instead of tacking like our western monohulls. The "sea people" of the pacific are the worlds best seamen, and know what they are about. I offer you an explanation in the hope that you will try and prove me wrong. We may with luck learn something about our westernised versions of the pacific craft in the process. The pacific outrigger canoe in its more extreme forms is so alien to a westerner's imagination that it can only be appreciated by looking at the exacting environment in which it works.



BAMBOO RAFT

Imagine the coral studded tip of a mountain whose peak just emerges from the ocean. The island is swept by the warm, boisterous trade wind, and the coral reef surrounding the island is pounded by trade wind seas that have built up over hundreds of miles of ocean. It is not easy to set foot on the island from the sea, and it is usually much more difficult to leave such a surf girt place. Any boat leaving the island has to navigate the reef and surf where powerful waves are dumping avalanches of water over the coral. The return journey requires a run back in through the surf. The so called ocean going canoe is a surf boat. It is ocean going in the sense that it is one of the few craft that can reach open water from the island. Real ocean cruises are undertaken by assembling the surf canoes outside the reef and lashing them together to form suitable rafts that will survive the less rigorous conditions of the open ocean. To use a topical analogy it is rather like assembling a space probe in orbit from space craft that have been rocketed out from earth.

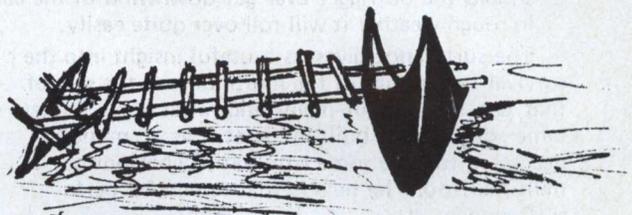
A modest understanding of surf and surfing techniques is a great help in coming to terms with the outrigger canoe. Perhaps you are one of the hardy ones that brave the bitterly cold beach surf that appears at selected spots around our enchanted island. If so you may have come to some conclusions:

1. it is very hard battling out through quite modest surf to reach unbroken water,
2. it is difficult on your own, but impossible if you are carrying anything buoyant, the surf picks you up and dumps you ashore,
3. a surf board can be carried out to unbroken water if (a) it is not buoyant, (b) it is kept vertical in the water, not flat on it,
4. the "Malibu" type surf board is quite manoeuvrable when travelling fast in surf,
5. it is controlled by weight shifts that alter the immersed shape of the inside,
6. the ride ashore is the most exciting but least controllable part of the trip, as it invariably ends with the board running too fast down the face of the wave, dipping its nose gently under and throwing it into the air the string of pearly droplets that signal

disaster, the "pearl". The board dives steeply, throwing the rider back into the surf, leaps into the air and scuttles ashore along. A spectacular 'broach-to' that is a giggle in modest surf, dangerous in big waves, and disastrous for a boat.



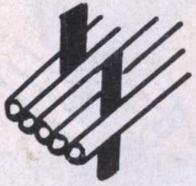
THE HARD BIT



MICRONESIAN SURF CANOE

It takes a special sort of boat, and a special sort of crew to survive in the mighty surf that batters the reefs of many pacific islands. The 'micronesian' outrigger is perhaps the ultimate surf machine. It is a long, low buoyancy surf board set on edge in the water. It is kept on edge by an outrigger and a sharp heavy float that will bury itself under the breaking crests as the canoe knifes its way out through the big toppling seas that besiege the island. The hull is long, deep, narrow and double ended. Even a large canoe is less than 24" beam. Its payload is only about 30 pounds per foot of hull, a man needs 3' or 4' of hull to support him. With skill and energy this low buoyancy canoe can be paddled out through the reef and surf, its outrigger float always upwind and upsurf. The heavy float is not there merely to support the canoe on edge for the battle through the surf, but its most important function is as a "sea anchor" to give automatic control of the canoe should a crest break violently and pick up the canoe to hurl it ashore. The heavy float will dig in to the back of the wave and swing the canoe sideways to "parachute" in on the collapsing crest. While sideslipping the crew can, by moving their weight to and fro, get the canoe to move fast parallel to the surf either forwards or backwards to manoeuvre into less violent water when they can resume the fight out to sea. Like the surf board, the canoe can utilise the tremendous kinetic energy that is available in a surf wave. The float is usually in steady water on the top of the crest, while the canoe is in falling water on the face of the wave. This energy difference squeezes the canoe along like an orange pip. This vast amount of energy that must be dissipated by a surfing wave makes it unsafe for any boat or surf board to tackle surf end on because the boat has to bridge parts of the wave where energy is flowing in opposite directions, hence the "pearl" of a surf board and the "broach-to" of a larger boat.

The Sailorman

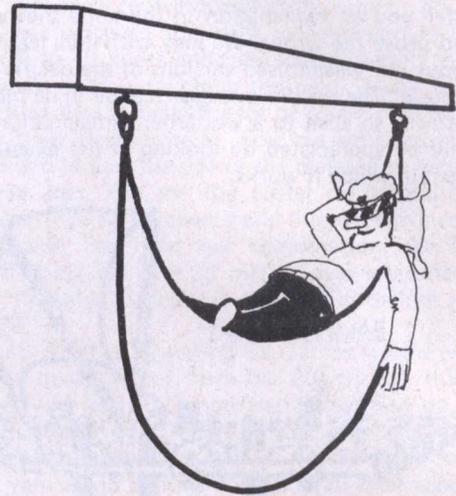
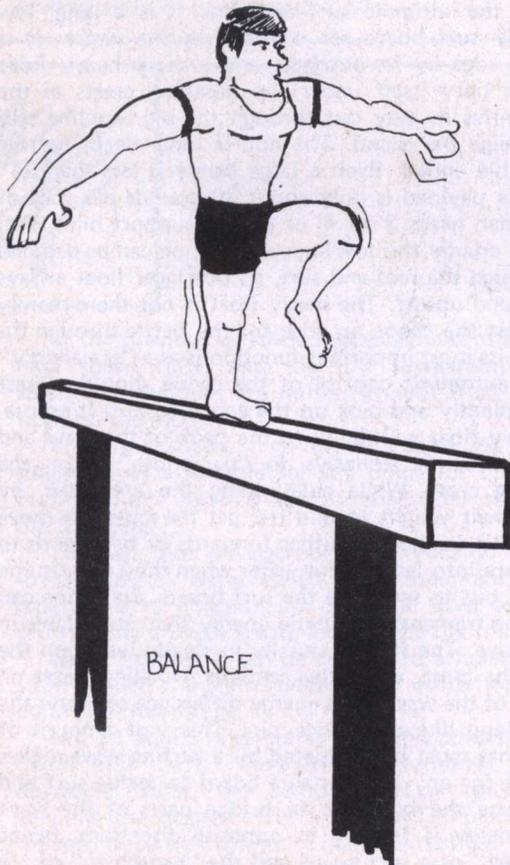


A boat "broaching-to" is saying loud and clear that it can't cope with the energy it is having to contend with, and would prefer to bobble along sideways. The principle of "lying ahull" is well understood by the sea people of the Pacific, and the heavy outrigger float upwind and upsurf is their automatic broaching mechanism which swings the canoe automatically as soon as it starts to skid sideways. The surf canoe is designed to sail to and fro in surf, and it is only natural that it should sail the same way in the open ocean. The oceanic lateen sail is ideal for this purpose with its wide range of adjustments, and the heavy float is always poised to 'dive in' at the first sign of trouble.

There are two problems with the extreme versions of the surf canoe:

1. it is uninhabitable except in equatorial and tropical climates,
2. should the outrigger ever get downwind of the canoe in rough weather it will roll over quite easily.

The surf canoe gives us a useful insight into the basic survival techniques of the multihull, and the sort of boat that can navigate in really enormous surf. To have the same degree of built-in safety as a monohull it is necessary to have some automatic behaviour pattern in a multihull too. The heavy float upwind is perfect for the surf canoe and is rather like a monohull with its ballast rotated 90 degrees and stuck on an outrigger. The surf canoe shows that you can manoeuvre perfectly at high speeds on a carefully profiled keel, as long as you have a good sense of balance.



DIRECTIONAL
STABILITY

Our polycat is two rather fat surf canoes joined together to make a habitable vessel. In breeding terms, a filly by Kon Tiki, out of surf canoe. Quite an interesting crossbreed, which can make judicious use of weight shifts and variable dagger boards depending on which bit of the horizon you happen to be sailing over! Somehow we have to 'balance' out the forces acting on the boat due to wind and water so that it will run straight. To make a boat turn we need to unbalance the forces acting so that the boat 'yaws' or rotates to suit our requirements. "Balance" is all to do with seamanship; so is imbalance. This is basic boat control. To achieve self steering we have to add one more ingredient, "directional stability", which means that should a boat get diverted off course by some random happening it will unbalance the boat in such a way that it will return to its former course automatically. Multihulls "balance" easily under sail (therefore the stern rudder can only induce limited imbalance for steering purposes), but it is not as easy to induce directional stability of the sort that will make a multihull doggedly swing back on course like a well tuned multihull. To tackle the "directional stability" problems of the multihull we need to think about boat control in terms of 'balance' to steer in a straight line, and 'imbalance' to steer in a curve. If we can then arrange our weight distribution or daggerboards, and our sail plan so that the boat balances when on the desired course, and imbalances when the wind shifts to restore the boat to its course we are nearly there. The final refinement is to induce imbalance when a boat speed increase indicates that we are off course on one of our wild dashes. Its simple really isn't it?

Boat control is all about balance; self steering is all about directional stability, which is what seamanship is all about.