

# The Sailorman

A periodical Journal published by The Polynesian Catamaran Association

#15

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## EDITORIAL

Having edited seven issues of The Sailorman, I feel that a change is due so that new blood can be infused into our journal. During my time as Editor I have had the advantage of the help of Joan who has in reality done as much of the work as I and has in no small way contributed towards the shape and content of the journal. Keith Elliot of Peterborough has said he would be willing to take on the Editorship. If anyone else would like to be considered also at the A.G.M. on the 4th January, 1975, they should write to Peter Davey the Secretary.

During the past 3½ years we have come to realise that many builders of Polynesian Catamarans have little, if any experience of sailing and if they have it is generally in monohulls. Our policy has, therefore, been more and more to give greater space to seamanship and the art of handling catamarans under sail. Most new comers to Polynesian Catamarans seem to be worried or concerned about the possibility of capsizing. My experience is that capsizing is not the danger but the lack of general seamanship and the placing of craft in dangerous situations for trivial reasons. Would you attempt to enter a narrow harbour entrance in near gale conditions because you or a guest/crew had left the car there or wanted to get home in time to see a television programme? You may say in the comfort of your armchair that you would never do such a thing, but I can assure you that many owners have done just that and worse for no better reason (getting to the office on Monday is not a good enough reason for risking your boat or the lives of everyone on board). The attractions of a harbour in uncomfortable conditions with night falling are undeniable but please do not heed the song of the sirens until you have calmly and rationally considered your course of action.

If you have any articles for the Spring 1975 issue of The Sailorman, send them to me and I will forward them on to your new Editor. Many thanks for all your support.

Many members in the S.E. will have seen the disaster to Gerry Greenhalgh's Tehini, Aku Aku on television, when it ran onto the South Goodwins in heavy weather. Gerry took 8 years of dedicated work in building Aku Aku and had launched in the Spring of this year in preparation for a round the world voyage. I hear that he is on his way to Spain to start building another Polynesian. Catamaran. All our regrets and best wishes for the future go out to him.

*David Lewis*

Editor



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CHECK, CHECK - and DON'T TAKE CHANCES ( A Lesson I Learnt ) by Ruth Wharram

Though it was just one week after landing in Trinidad following a rather hard Atlantic crossing on our 52 ft, catamaran TEHINI, I immediately accepted the offer of a friend to crew his 50 ft, monohull SANTA MARIA to Grenada where she was to be slipped for painting and repair work on the hull. I expected to be back in three days.

SANTA MARIA was a 70 year old yawl, which Denis, the owner, had bought cheaply in the States. He had already spent much time and money on his boat. A new suit of sails was on its way from Hongkong, and a previous attempt to sail to Grenada had failed as the borrowed sails proved not efficient enough to beat against the Trades. This time, Denis made certain that we had enough fuel to motor almost all the way - in fact all available containers were filled with diesel oil, as the original fuel tanks had been taken out, for the owner had not intended to use the motor much in future; this left only two one gallon containers for water, one without a lid. Still, there were twenty gallons in the big steel tanks which had been filled for their previous attempt. Denis asked to borrow a staysail from us and our No. 2 jib proved ideal. Next day we collected the third crew member, Ernie, who also brought a friend along, on holiday from Canada. He had never been on a sailing boat and also had only one hand.

There were a few things which I did not quite like when we prepared the vessel for sea. No lifelines around the deck - apparently quite normal on old sailing boats - but being used to the level, safe working deck of a catamaran, I did not feel very secure on this deck with only a couple of shrouds on each side, and no handholds when the boat would be well heeled over. To get the yankee up or down, Denis had to stand on a plank and netting with no pulpit around. The mizzen sail had to be fixed to the boom from the dinghy and, once hoisted, could not be lowered as there was no topping lift to keep the boom up, which, being so far aft would drop into the sea. Nor had the main with its terrific sized boom any topping lift or crutches to rest the boom in. I did not notice (or check) anything else, and in the afternoon we set sail, or rather, motored out of the 'Bocas', the entrance to the Gulf of Paria. I must admit that we seemed to have trouble with the engine from the start. I do not understand engines, therefore left this to the men, but a cap apparently had come off, we lost the freshwater cooling system and had to use seawater which I was told was acceptable so long as it was cleaned out when we arrived in Grenada. Nor could the engine run on full speed for some reason or other; Denis decided to sail as close to the wind as possible until land was sighted, but as there is a strong current running west between the islands we would certainly end up far down wind, so we kept the engine for the final beat across to Grenada.

Once out of the sheltered Gulf, SANTA MARIA heeled over, like all monohulls, sails filling. As the main needed hoisting higher, Denis and Ernie started winching it up, when, all of a sudden, the winch shot off the mast, fortunately without causing any injuries; the wood of the mast was rotten. They managed to fasten the halyard and we made good progress until 9pm when a severe rain squall hit us, tearing the yankee which started to flog but could not be taken down as it was too dangerous to work on the bowsprit in the dark. Without the yankee and an inefficient staysail due to the flapping canvas ahead, SANTA MARIA developed so much weatherhelm that main and mizzen had to be eased, the boat fell even more off the wind and her speed dropped from 5 to 3 knots. It was the afternoon of the following day that we sighted Grenada, 20 miles away and almost abeam.

The remains of the yankee had been cut away early in the morning, but the mizzen mast had to be wedged in again and three of the turn buckles of the lower mizzen shrouds had unscrewed themselves. As we had no chance of being able to beat to Grenada, which was now in the eye of the wind we started the engine and prepared to drop the mainsail which was now shaking about with the enormous boom dangerously swinging around the helmsman's ears. Another bang, and to my horror I saw



WIND AND SAIL

So you have built your Polycat, now what follows? In a word "Seamanship". The following material is an extract from "The Ocean Sailing Yacht" by Donald M. Street. The complete book is so detailed and full of excellent and practical information we thoroughly recommend P.C.A. members to obtain a copy. Cost £6.50 in the U.K. Our thanks to the publishers David & Charles (Holdings) Ltd, South Devon House, Newton Abbot, Devon, for permission to publish extracts from Mr. Street's book.

## +++++ S E A M A N S H I P +++++

There are people who have raced small boats all their lives, are most competent sailors, are unbeatable in round-the-buoy racing, but cannot be regarded as seamen. They have had little or no experience outside their own small boats. For them, such skills as splicing wire to rope are black magic. Similarly, the crew member on an ocean racer is not necessarily a complete seaman. He knows how to crank winches, set spinnakers, change jibs, tack, and jibe. But his proficiency too often depends on the fact that he is operating perfect gear and has a large crew to support him.

By contrast, a seaman, in my estimation, is a man who can cruise over long distances with a relatively small crew. He can repair his own sails, and is something of an electrician, carpenter, plumber and mechanic. He can cope with calms and hurricanes. He can jury rig and keep going. When he reaches a destination in his boat, he takes up food, fuel and water, has a shower at the local club or marina, and then returns to his boat, living aboard.

A seaman is a man who cruises fast and far with his small crew and enjoys it. There are many seamen who know much more than I, but they are too busy sailing, or preparing to sail, to take time to sit down and put their knowledge into writing. From men like these I have gained quantities of odd bits of information, which I hope I have compiled into readable form.

Seamanship is seldom really well learned unless a person has sailed on various boats with various people. Many single-handers have done all their sailing on their own boats, with no one to point out their errors, and with no exposure to other people's methods. As a result, they have often been doing the same thing wrong - or the hard way - for many years. They drift, as it were, around the world. They think they know how to sail, but often really do not.

Frequently, an individual of this type may be recognized by the appearance of his boat. For example, his headsails and mainsails, when furled, may be secured to the boom by a line continually spiraled around them. This is the hard way; it takes much more time and the sails don't look as neat, and take much longer to unfurl. The good seaman is likely, instead, to secure his sails with nice flat sail stops (which I prefer) or to use shock-cord furling. One can also judge the competence of a seaman by observing the gear on deck, how the lines are coiled, whether or not there are gilguys on the halvyards; one can note the set of the sail covers, the set of the awning, or the securing of the dock lines.

An obvious indicator of good seamanship is the ability to handle one's vessel under sail in restricted waters. Many a person who considers himself a good seaman starts up the engine, drops off the hook, powers out of the harbor, and once outside, sets the sails. He sails to his heart's content until he is ready to return to restricted waters: then down come the sails and on goes the engine, and he drives the boat home. For this individual an engine failure will completely ruin a cruise, as he does not have the ability to sail on and off the hook, into and out of crowded harbors. I am not advocating that one should come into a harbor with a 180-percent low-cut genoa set- such a sail is hard to handle and completely

contd... ++++++ S E A M A N S H I P ++++++

obstructs vision - but certainly any seaman should be able to handle his boat in restricted waters with a three-quarters genoa or a working jib.

Watching a yacht sail in restricted waters is always a good way to judge the seamanship of the members of the crew. Some manage this kind of sailing only with much shouting, screaming and running around; others come in with the minimum of fuss and furor - they are the seamen.

The most obvious element of good seamanship is the ability to sail long distances at a respectable speed without breaking down any gear. The ocean racers continually turn in fabulous runs, but they are raced on a cost-be damned basis. It is often said that ocean racing is like standing fully clothed in a cold shower, trying to smoke a cigar, and tearing up fifty-dollar bills - all at the same time. On an ocean racer everything is likely to be left up much too long; a sail may stay up till it blows out, a split spinnaker being easier to take down than one full of wind. The ocean-racing sailor continually takes chances. On a cold, dark, rainy night he will run into harbor, with his spinnaker set, in order to cross the finish line a few seconds sooner. He will duck across sandbanks on a falling tide to save three minutes, which may mean the race. He always has a big crew on board to bail him out if a mistake is made, plenty of spare gear, and repair facilities. Frequently the prize goes not to the seaman but to the man who has the biggest checkbook. Perhaps at the end of an ocean race a special trophy should be presented to the boat that comes in first on corrected time with no gear damage at all. This is the trophy I would be happier to win than any other.

Though the cruising sailor is not seeking to break speed records, he does not sail slowly or sloppily. The good seaman does the hard thing; heaves to for the night and waits for the dawn instead of running in, tacks off short to clear all shoals, shortens down in heavy weather - but still turns in good runs. During the innumerable trips I have made on Antilles as navigator, helping to take her south in the winter and back north in the summer, we have pushed her hard. I can remember one trip where we took off from St. Thomas with everyone a little under the weather and not really concentrating. Two days out, I discovered we were moving very well indeed, and urged everyone to push a little harder. Under a strictly cruising rig, we did 920 miles in five days, which I thought was tremendous going for a vessel of 46 feet LOA without the aid of any racing sails and little or no assistance from the current.

Between 1960 and 1970, Antilles made ten round trips between the east coast of the United States and St. Thomas, and in addition sailed across the Atlantic to Ireland, down to Portugal and Madeira and back to the islands. During this entire period there was no damage except that a very tired working jib finally gave up the ghost and three or four feet of genoa track lifted off. We used cruising sails rather than racing sails most of the time. This absence of damage was the result of having a well-built boat, with good quality gear, and a first-rate skipper who kept the gear in top order and signed on a fine crew of experienced seamen.

Donald M. Street.

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 From Maui to Raka Bruce Weber of Idaho wrote to us in September,

I built a Maui and have been sailing it for a little over a year now. Presently I have a Raka under construction. I often sail my Maui on large lakes with only light air. So found it helpful to design a small genoa to add to its performance. It is a masthead design, 3 oz U.S. (4 oz British or 150 gm  $\square$ ) dacron, luff 16'6" leech 14' 6", foot 7'0", total of 51 sq ft. It is blue and red alternating sections.

contd... From Maui to Raka

I have a synthetic rope in the luff instead of wire for a stretchy effect. It looks and most important, works great.

This increases the original sailplan from 100 sq. ft, to 135 sq ft, That is an increase of 35%. The difference is very marked in faster performance.

I have found that the best Genoa fairlead position is in the centre of each hull 34" aft of the centre of the forward beam. I have placed the original sailplan jib fairlead 12" aft of the centre of the forward beam, also at the centre of each hull. This 22" span allows a light track, block and clam cleat arrangement with one block used for each hull in common for either genoa or jib.

I experienced some difficulty with the strain on the eye bolts on Maui. I got around this by running two headstays to the masthead, one from each stem post. These are 3/32" diameter lx 19 s.s. wire. I use the standard bridle and 3/32" wire for the jib genoa forestay.

I am building mv Raka the Epoxy Saturation method and would like to hear from any one with experience with same.

Bruce Weber, 541 Karin Ave,  
Lewiston, Idaho 83501 U.S.A.

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SHIP HANDLING - IN A SOUTH COAST TANE

by Cmdr. James W.F. Briggs

1. A slowly diminishing stream of collisions, groundings, and berthing incidents involving LAA MAO MAO has finally convinced me that POLYCATS, with all their very real graces, are definitely 'different' to handle than any mono-hull and indeed, many multi-hulls with drop keels. Observation of other owners in action suggests that my son, elder daughter and I are not alone in having sense of humour failures when manoeuvring under sail and /or power in narrow, congested tidal waters without benefit of insurance. Furthermore, it would be a pity to get the Association, as a whole, a bad name and be greeted by other small craft owners, armed with fenders, boat hooks and fierce expressions wherever we go 'SO WHAT IS DIFFERENT'.

2. SPECIFICALLY POLYCATS

- a) Are very stable in azimuth (this means that they don't like altering course much).
- b) Make plenty of lee-way close hauled at slow speed, just after tacking and when under jib and mizzen only with the wind forward of the beam.
- c) Lose their way quickly when coming into the wind and sea because they are so light for their length and beam.
- d) Are of such shallow draught, bless them, that one forgets that muddy water can be only a couple of feet deep without actually seeing the sea bed or the tops of the reeds and seaweed.
- e) Being very fast and making so little wash, other seafarers try to shave close ahead, misjudging speed (and beam) to the chagrin of all concerned. They are also liable to give harbour masters heart-failure.
- f) Having their propellor(s) well displaced athwartships from their rudders, are very difficult if not impossible to turn in their own length under power alone.
- g) Do not have large deep rudders nor can they always be turned to the useful maximum of 35°.
- h) Have a very low T.P.I. (tons per inch of immersion) for their size and are therefore very sensitive to weight movements fore and aft. They are also capable of shooting up a slippery mud bank clear of the water, no joke just after High Water Springs, unless you have plenty of shovels and strong

contd. SHIP HANDLING - IN A SOUTH COAST TANE

h) tolerant men onboard.

### 3. YOUR BEST RUDDER

I have bored readers of The Sailor man with the advantages of the ketch rig before but there is no doubt that there are few solutions to many of the close quarter manoeuvring problems if one has no mizzen to 'steer' with. Normally mine is the first sail to be hoisted and the last to be handed. To bear away quickly it is let fly; to luff up is hauled fore and aft before putting the rudders over, and hauled to windward when going about in a tight spot thereby guaranteeing not "getting into irons". To achieve this one needs double sheets led from each stern (or rudder head), or a traveller between the sterns. It is often left set when going alongside or turning short round under power since it does guarantee being able to come up into wind and stop the boat in the event of engine failure, perish the thought, The same applies to anchoring and picking up a mooring except when there is a strong tidal stream in opposition to a light or only moderate wind.

### 4. UNDER POWER

Manoeuvring under power alone is not easy but we have found that being able to rotate the propeller in azimuth is a great help. Having a small outboard with no astern gearbox I have made a bracket so that the whole engine can be turned through 360°, rather like a Wolth Schneider gear, sometimes found in small harbour tugs. To turn quickly one rotates the engine so that the prop wash impinges at 30° to the rudders on the inside of the turn. If the engine can be fitted on the after beam, rotating it 90° will allow an easy turn at rest while rotating the engine 180° provides plenty of stern power; providing the shaft clamp does not permit the prop to fly up out of the water, (saturating the helmsman) before it over-revs and the engine explodes dramatically. This is followed by a collision which completes the enjoyment of all onlookers (stand fast the owner of the yacht ahead). POLYCATS with no sails set like to star beam on to the wind and it needs quite a powerful engine to overcome this alone. My advice is to keep either a small mizzen and/or jib up, be resolute and maintain plenty of headway (so that rudders can bite) and last, but not least, have your best anchor a 'cockbill.

### 5. ANCHORING

I believe it is good seamanship to let go your anchor with sternway over the ground. This avoids scratching the smooth, underwater finish with nasty old chain cable, keeps the anchor buoy clear of prop and rudders, and avoids tripping the anchor as your vessel falls back on her cable. We pass a strop from midway along the furthest forward span and this cuts down yawing enormously; a popular move in crowded anchorages on dark rainy nights. An anchor can be used as an emergency brake after the main halliard has jammed, the prop has fallen off and a squall has hit you from right astern in the entrance to a marina full of shiny gin palaces. To slow down, towing a bucket astern works well but can easily be forgotten when putting to sea again at dawn with a horrid hangover. Finally, one can turn at rest using an anchor; the technique being different in still conditions to that used where there is wind and/or tidal stream. In the first situation the trick is to let go the anchor with cable attached, equal to about one and a half times the depth of water, then put the rudders hard over and motor gently round the anchor using it as a pivot. This does not work if there is an appreciable breeze or steam when all that is needed is to take the cable (or mooring buoy) right aft and hold on tight; easy really.

### 6. GROUNDINGS AND GETTING OFF AGAIN

It is often fun to go aground; one has a good excuse to swim, scrub the

SHIP HANDLING - IN A SOUTH COAST TANE contd.....

bottom, (essential for saving face as though you had meant to scrub off in the first place) dig for worms or make sand castles. However, it may be highly inconvenient, socially embarrassing in the extreme or just plain dangerous with a rising onshore wind. This is where the T.P.I. comes in; I reckon that two able bodied men can lift one bow or stern of a TANE by 6" - 9". If they are quick about it even a springs ebb off Mount St. Michel is hard put to do better than that. Another trick is to swing out the main boom with a preventer forward and all shimmy along it toward the deep water. If both hulls are stuck its usually better to push off backwards along the trenches that the keels will have dug on the way to a grinding halt. Sometimes it is not even necessary to jump over the side and sending all passengers and crew to the opposite corner to the one that is stuck will succeed. Its worth remembering that although the port bow may be firmly on a two foot deep salting, the starboard quarter may be over a seven foot deep rythe; especially is nobody can swim. Sailing off a lee shore usually needs an anchor out to windward. Towing chain cable in a dinghy is unrewarding; its better to heap it in the bottom of your tender with the anchor hanging over the transome on a slip rope. Useful navigational hint; if seagulls and shags are walking about close ahead of you, alter course by at least 90° and start looking for the right chart.

7. COLLISION AVOIDANCE

Most collisions happen for highly uncomplicated reasons such as the helmsman, who was supposed to give way, not noticing the other craft because he was washing up, listening to the shipping forecast and trying to look down the front of the cooks bikini all at the same time. 'Hardy annuals' include steering up the port side of narrow channels, altering too little and too late when giving way, forgetting to sound at least six short blasts on the foghorn to wake up the other chap if he is not taking action when he should. One of the worst crimes is altering course when you have the right of way and before having got to the stage when both must alter to avoid a horrid scrunch. How do you know whether collision is likely? If the compass bearing of the other vessel remains steady then it is; very likely indeed. It has been said that there's nothing like a collision at sea to spoil one's day, I understand that this applies to mid-air collisions between aeroplanes too.

8. IN SUMMARY (NOT BEFORE TIME EITHER)

POLYCATS are different but not difficult to handle in tight corners providing one does not rely on their rudders alone. A mizzen makes life life easy and a decent anchor at immediate readiness keeps the insurance man away. If you run aground, lots of quick, wet and resolute action usually gets you off again. It takes two to make a collision but only one alert suspicious seaman to avoid most of them. Finally, people who build and maintain their own craft with living care and then perhaps can't afford to insure them (like me) have a grand incentive to think, plan ahead and use all their seamans eye to prevent smashing them into tiny pieces.

J.W.F.B.



"You and your charcoaled steaks!"

WIND AND SAILSQUARE SAIL EXPERIMENTS ON A HINEMOA  
(or - ADVENTURES OF TWO RABBITS)

Carol and I took our Hinemoa Two Rabbits on an 875 mile cruise to Gloucester Mass., this August. We made some remarkable passages and sat our some remarkable calms. We reached Pt. Judith, Rhode Island, from Montauk in four hours, averaging six knots, and Vinyard Haven from Nauset in ten hours, averaging 5.3 knots. On both these passages the tide was more against us than with us. On the open ocean passages - Cape May to Point Judith and return - the boat behaved well, but we encountered no very severe weather. Counting all the time the anchor was up, not just the time we had sail on, we averaged 2.7 knots made good, and we doubt any other 23 ft, cruising boat could do better.

Sailors think storms: but the real problem is calms. We carry deck chairs, books, yoyos, and bottles of wine and find them far more useful at sea than storm canvas. We also beguile our time in light airs with our squaresail, which is 10ft at the head, 12 ft at the foot and  $13\frac{1}{2}$ ft high, or 148 square feet. Downwind it gives us more effective sail area than the 173 square feet of working sail. The fabric is 2oz, U.S. (British weight  $2\frac{1}{2}$  ozs) spinnaker cloth and it will set when working canvas will not, and is useful to windward to within 10 degrees of the luffpoint of the sprit main, as the yard is above the hounds, and can be braced at any angle. It takes longer to raise than a spinnaker, but once drawing it is far less finicky and the yard stows under the forward deck, along with the sweep oar.

I row the boat by sitting on the starboard bow with my feet in the sail locker hatch. The oarlock is on the inboard gunwhale, just for'd of the forward beam. The nine foot oar thrashes around between the hulls and gives about  $1\frac{1}{2}$  knots in short bursts, which usually gets us away from docks and other obstructions. Nothing could persuade us to add a motor to our boat, for we believe anyone with a motor misses half the point of sailing, and never learns about currents or tides or even (with a big enough motor) winds.

We use a single vang, and only downwind, to keep the sprit off the stavs. A spinnaker pole fitting on the upper end of the sprit, right through the peak grommet, is dependable and may be released in an instant. An adjustable cord in the mainsail leach stops the fluttering, without resort to battens and their problems.

The coal stove was not a success, and we now cook with Sterno underway and a brazier on deck in harbour. The stove made an oven of the cabin in warm weather and backdrafted viciously on certain points of sailing, because the stack couldn't be long enough without singeing the sails. Nevertheless, we believe it was sound in principle and look forward to having one on a larger boat.

Two Rabbits has homemade T - shaped ventilators of  $1\frac{1}{2}$ " copper plumbing pipe fore and aft, and 6" plastic fittings in the watertight bulkheads, and hooded 6" dia. screened breathers fore and aft in the cabins. We can leave the bilges damp, and come back in a week to find them dry.

We navigate with a plastic sextant, taking latitude every noon and LOP whenever curiosity prompts it. Our instrument, without telescope, will not bring down the smoggy stars. We use logarithms instead of sight reduction tables, to save room in the library for smut. Time is taken with a cheap watch, and compared with time announced by three or four disc jockeys. We are always within five miles on our landfalls, but we take a lot of sights and compare them carefully. We urge Commander Briggs to try his navigation this side of the pond, where he can enjoy an occasional flat sea, and an almost invariable sun.

We feared the long, whippy tillers in the Hinemoa plans, and after trying various other systems we went to dual wheels, mounted on the aft beam and hooked up with ropes and pulleys, like Jim's system on Tehini. He gets away with one wheel, but

Contd..... ADVENTURES OF TWO RABBITS

he doesn't have to worry about getting all the crew weight to windward at certain times. Our system has proven pleasant and foolproof. Wheels are 14" diameter, drums  $4\frac{1}{2}$ " and they turn tillers two feet long.

Self-steering is easy on a Hinemoa with the wind forward of the beam. Full main and jib requires tiller lashing and a couple between jib and rudders, but reefed main and full jib will work on a variety of courses without lashing, and the wheels turn a little this way and that, seeming to pick their way through the waves. The reefed jib and our 40 sq. ft. Bermudan storm trysail also balanced well, on one occasion, with lashed steering. In winds of less than ten knots a vane would help as the couple gives unacceptable loss of way, and we steer by hand. We are still experimenting with self-steering downwind, particularly with the squaresail (the diagram in the AYRS book on this point is baloney). I'd like to do without a vane, with its complications and its well advertised self-destructive tendencies.

We find the worst problem with a polycat is that the thing you want is always in the other hull.



Thomas Firth Jones

Grant Masland, Omaha, Nebraska - wrote to us in October. "Had a good summer drifting around Nantucket Sound in Tava'i (Grant described the building of his Hina fully in the December 1973 issue of the Sailorman) "When the wind died there was only one boat left under sail, everybody else turned on a motor of some kind and putted off into the distance; and we were left with the Sound to ourselves and a new moon rising. Which once again shows that there's no place to go, so why rush to get there. Here in Omaha I'm helping a struggling farmer break some horses: watching the demise of advanced western technology, economies, governments, and other mislaid concepts. Australia is still in the wind, but only as a way back to the South Seas; there's too much happening in the U.S. now to depart for another high speed consumer society. Here, many people are coming out of the dazzle of a purely material culture and waking up to such things as living off the land and sea. Time will tell, but I feel we're over the hill, the Sun has set on the West, even though we're dazzled by the sunset aura.

Enclosed is some of that odd form of energy called money for a subscription to The Sailorman, a form of real energy to more than you think.

Regards, to all involved with Polynesian Cats.

Grant Masland

ROBERT AND SUSAN PYKE of 2 Beaufort Villas, Claremont Road, Bath, Avon England have started a small secondhand book business.

We have a copy of their Nautical & Maritime Books Catalogue to show members at the A.G.M. in January.

Meanwhile, if you find you can't wait that long, you should write yourself to Robert and Susan and obtain full details. Also you may have some books to sell them which other nautical types are longing to own.

JOURNEY TO THE LOWLANDS

by Joan L. Lewis

In September 1974 David and I took time off to go to Holland; a trip we had long planned to make. We hoped to meet Polynesian Catamaran builders, sailors and the many Dutch friends we had made.

On a very stormy day (Force SW8 increasing to 9) we visited Dick Taat at Staveren. He had suggested that we spent some time sailing with him on his Narai "Bilbo". Only the day before Dick and crew sailed across the Iselmeer to Staveren. From all accounts it was more than speedv; even with the engine in reverse and a large galvanised bucket over the stern the boat was doing 12 knots. Dick took 13 months to build and complete his Narai, working six months full time and the remainder at week ends with the help of a few friends. Needless to say the boat was in first class condition and like all Dutch boats we saw, built to the highest specifications and care. In the galley a large water tank was built in under the work top, the cooker and sink unit built across the boat against the foreward bulk head. There were plenty of shelves and cubbyholes for goods. I noted the belaying pins, instead of cleats, at the foot of the main mast. There are two points of view about this, although easier to secure halliards one could easily fall over the fixture and perhaps damage feet or shins. Handholds along the top of the cabins was an excellent safety idea. "Bilbo" has already made one long trip to Norway and back. On the return journey they close reached with a Force SW 8 on their bow but were still able to make 480 miles in four days. We noted the sprit rig; the large seat in the starboard cockpit area; decking across the aft area with a reduced netting well area (this allows easy access to the mizzen boom). The engine was fixed on a steel bracket and when not in use the deck was placed over the engine well.

The main event of the trip was a visit to Groningen where needless to say we had a very interesting and pleasant time. Although the lady of the house says, do not say too much about it for although they love to have visitors, too many can be exhausting. A point I fully appreciate from our involvement with P.C.A. Ronald de Boer and Maryke Boon are building a Narai, both hulls in marine ply finished with epoxy tar in black. So far both hulls and one interior are complete; with decks fitted and one cabin top, rudders made; steering wheel made and varnished to a top class finish by Lilian Boon, who also has used traditional methods in knotting line to produce the fore and aft nets. Ronald estimates it will take about 4,000 man hours to complete the boat ready for sailing. He reckons that the cost of materials and labour, if built by a professional boat builder in Holland, would total around £18,000. Ronald has included an underwater fixed window in one hull so he can extend his interest in fish and photography. Again we saw craftsmen working and producing a boat far above the standard we are used to seeing in the U.K. Despite the fact that the Dutch are surrounded by traditional boats and boat building and have every reason for producing such high quality, we feel we have a lot to learn from the Polynesian Catamaran members of the Nederlands.

By the side of Ronald's boat sits Helmut Wams' part built Tangaroa. He is now on the second hull, finishing the surface as smooth as a baby's bum. Even when you think the finish is perfect, Helmut will sand down and re do the preparation work. We look forward to seeing Helmut's boat completed and sailing next year, and perhaps he will even make a trip to the South Coast to show off his good work.

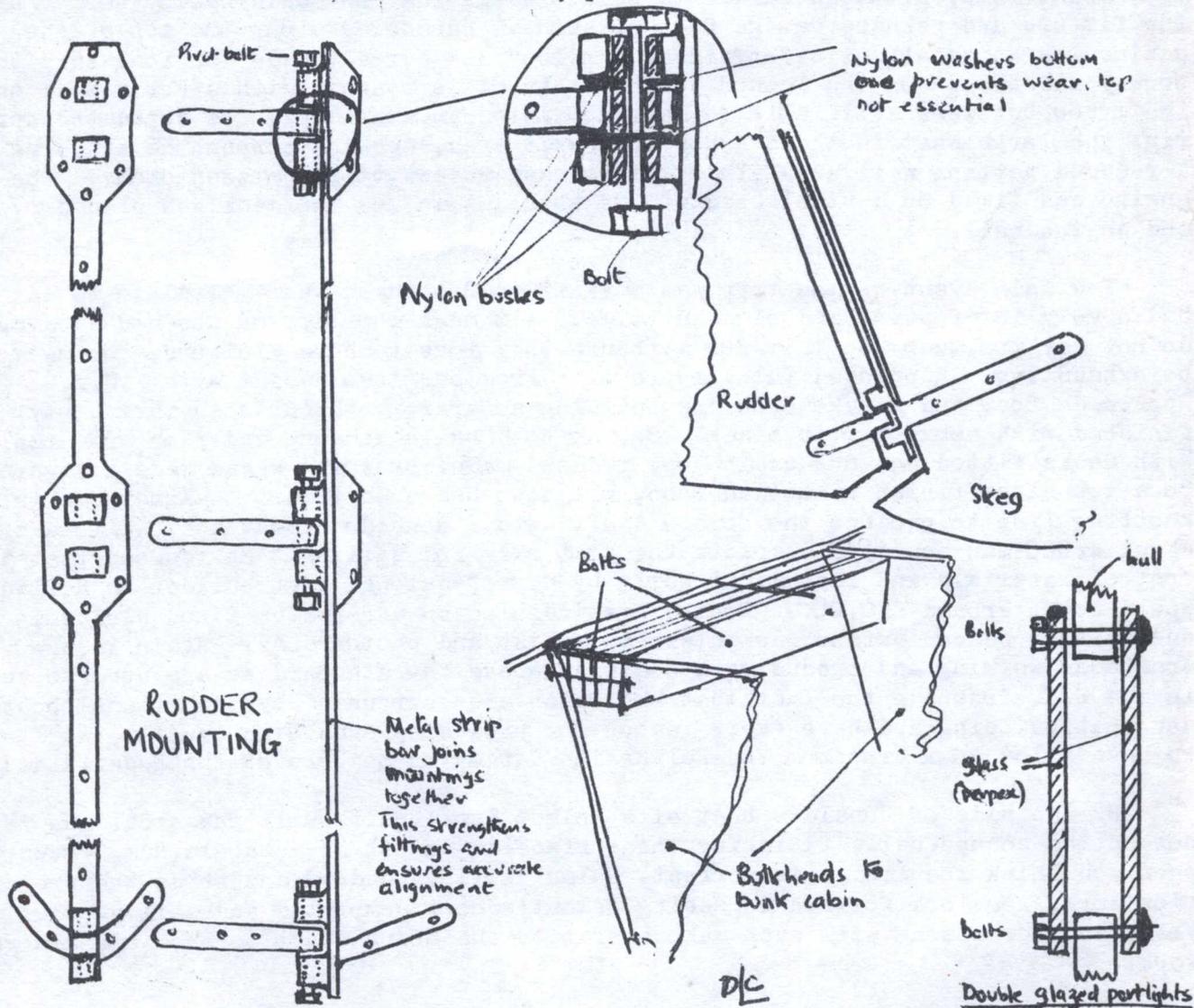
Across the vard in another barn is an extended Tane being built by P.F. Wiersma and brother. They are working hard to complete the planking-up of the second hull as they have to move out of the barn this winter to make way for yet another boat. Nico and Sonya Boon have opened up their place to give people the opportunity to build Polycats and also their whole lives are dominated by talk, people and boats. Really, the amount of work they have contributed over the years to Polynesian

contd.... JOURNEY TO THE LOWLANDS

Catamarans cannot be gauged.

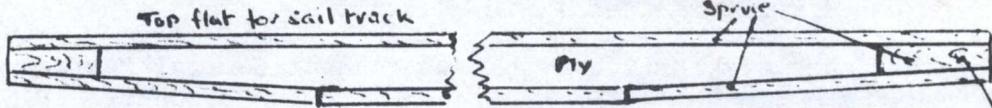
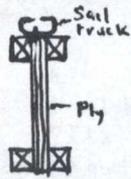
Just remembered a safety factor on "Bilbo". During their very hectic sail into Staveren, they used a safety line secured from the mizzen mast to the main mast for people on deck to clip onto!

From Groningen we went to Venhuizen to visit Dorf and Suze Kruger. The journey across the Dyke was very memorable and confirms the ingenuity of the Dutch. Dorf is building a Mk 1 Narai and has so many points of interest for me to report I have left David to do some sketches below to illustrate some of these. Whilst Dorf is out in the boat shed, Suze is involved in designing and producing the most interesting Batek designs for dresses, wall panels and hangings. Suze is very much an extrovert and after half an hour in her company you are laughing and being laughed at. She professes to 'hate' sailing but as she loves her husband she goes along for the ride. The following sketch notes will give you some idea as to the rudder fitments, beam fixtures, port lights and seating arrangement.



On to Hoorn to visit an Ariki built by A.B.Slotemaker, with blue and white hulls. He had a tapered boom (see sketch) very heavy masts, again the use of hand holds on the cabin tops. Seat and locker besides wheel behind port cabin, no netting aft, but a boarding ladder hinged to the aft beam. Decks and cabin tops varnished, which I did not think very safe on a wet and bumpy day for moving around.

sketch of tapered boom etc...

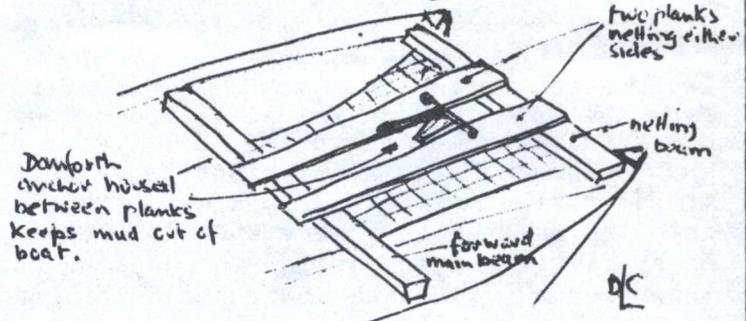
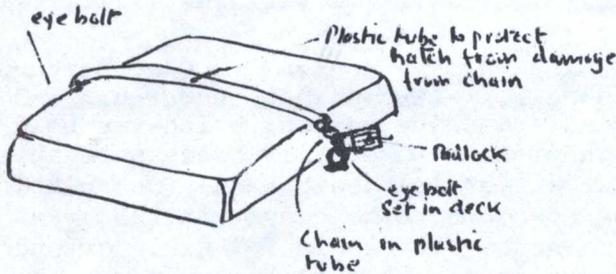


Detail of construction of web beam type of boom  
DK

Also at Hoorn was "Double Fun" a Tangaroa built by Theo Gruter, red hull, black bulwark, white cabin tops and varnished inter-decking. All very secure and ship shape. Again we noticed the use of belaying pins at the foot of the masts. Each bow had a carved figure head. Theo Gruter had been planning a journey to the West Indies but crew not yet fixed up.

Finally, on to Enkuisen and saw Jan Jutting's boat 'Honte' recently sold to a new owner. This boat painted in dark grey and light grey, again a Tane built to very high quality. We were told that Jan had to sell for work needed to his house, but no doubt later we will see him building again.

Also at Enkuisen in the Marina was "Kaimiloa" built by Lautier, this had a water cooled Vauxhall inboard engine, also a cockpit the whole length of the aft area in front of the mizzen mast. Ventilators on the cabin tops; Anchor secured on two planks across the front netting beam. White hull, red bulwarks, varnish cabin tops, hatch covers secured by chain covered in plastic tubing.



One could not leave Holland without feeling that a Polynesian Catamaran community was growing and Nico Boon, who himself built and sails a Hina, is trying to obtain secure mooring area in the North for the multi-hull members in Holland which will make facilities very good for the sailor and builder and combine information for all.

We were able to visit some wonderful maritime museums, see people who have only been names on a list in the past, sample the Dutch way of life, even visit Amsterdam, where all the world seems to meet. Our visit to Holland will long be remembered and we return to our boatbuilding with hopes of achieving at least part of the high Dutch standard.

Joan L. Lewis.

FOR SALE 'TE WA' 28' Tane - Flush Decked Ketch Rig. Three berths  
 One private. Beautiful Cruising boat. All best fittings  
 All gear ashore Weymouth, Price £2,000. Telephone Upwey 2620  
 also One Spinnaker as New. Blue 24ft drop 14' Foot. Price £27

ASSOCIATION NEWS

Peter Davey the Secretary, confirms that the Annual General Meeting of P.C.A. will be Saturday 4th January 1975, at Richmond Community Centre, Richmond, as usual. Facilities available to members from 3pm onwards. Main meeting will commence 7pm. The afternoon period gives people the opportunity to meet and natter.

ooooo 000 ooooo

Hon. Treasurer for 1974, Keith Searle of Cornish Arms Hotel, St. Blazey, Par Cornwall. writes to say he will not be able to take on the job for 1975. Now don't all rush at once, but those people keen to do this job please send your name to the Secretary Peter Davey, Little Selwood, 36 Melville Road, Falmouth, Cornwall prior to the A.G.M. if you are willing to collect the funds for the Association.

Keith reports that there are 440 full members, so the Association is holding its own. On the financial side the income, so far this year, has been £500 and the expenditure to date is around £250. There is the December 1974 Sailor to produce and distribute, which means we should break even this year. Unfortunately the Association has to have cash to function, so, once again, please pay your subs early in January for 1975. Cheques and postal orders to be made out to Polynesian Catamaran Association and not to individual committee members. £1 for U.K. members and £1.50 for overseas members. Sterling cheques from overseas members if possible, as bank charges are out of all proportion to our small subscription....."

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Ted Johnson writes to say "The P.C.A. Spring Bank Holiday meeting at Queenborough from the 24th to 27th May was a tremendous success. (Who said Queenborough was not a suitable meeting place? ! ?) 70 people attended the meeting which was held in the Church Hall, kindly lent to us by the Rev. Alan Duke. Six boats were able to get to the meeting. Frank and Patricia Martain sailed their NARAI (Jeannine) into the Harbour on Friday and did everything possible to make everyone who went on board welcome and during the weekend took a number of people for sails around the harbour. Fred and Christine Short had some setback on the journey round due to gear box trouble, but they sailed into the Harbour on Sunday and we all appreciated their efforts in making the journey in their ORO (Rua-Ma-Toru). Brian Harriman also sailed in on his Tangaroa 'Seven Seas' and kindly let us go on board to look her over. Fred Faccenda put his Hina 'Zulu' at our disposal for the meeting and this was very much appreciated. Friday night members assembled at the Hall for a chat and refreshments, each morning members who were camping came to the Hall to arrange for the days events and were served coffee and teas. Saturday was spent visiting each others boats. Sunday brought ideal sailing weather and after a good day sailing we all returned to the Hall for a barbecue of chicken, beef burgers and sausages, served by Chris Giecco. The bar was organised and run by Mick Luckhurst and Joan. With recorded music which made the evening very relaxing and sociable. Monday arrived with again good weather so we were able to enjoy a further day of sailing which completed a very happy meeting. The behind the scenes worker of course was my wife Sheila and from the many letters received from members her organisation was very much appreciated. We are considering arranging further meetings at Queenborough and look forward to meeting P.C.A. members again.

Ted Johnson  
Secretary South East.

We know from calls we have had from members who attended that Ted and Sheila's hard work was very much appreciated and send our congratulations on a fine effort and hope as Ted says there will be many more meetings at Queenborough.

Editor.....

ASSOCIATION NEWS

Harold Goddard writes from British Columbia

1st Report from KISKADEE (ORO)

KISKADEE was launched on June 18th 1973, a coolish cloudy day which we are unlikely ever to forget. After four years of watching her grow slowly from that original compact truckload of lumber and plywood, until she seemed to fill every square inch of our huge shed, we suddenly saw her transformed by her natural element into a graceful living ship, dancing and curtsying to the small harbour waves, and looking far smaller than she did when cooped up in the shed.

Launching As A Single Unit - The trip from the shed to the launch site, and the launching itself served to give the Cross-beams a good testing, since she was both moved and launched as a complete unit. Although the slings used for launching were rubber covered cable, the stresses involved are great and we averted damage to the Cross-beams by placing wooden protectors between them and the cable.

It took us another month and a half to get her rigged and to install the "pod" and outboard motor (Johnson 50 H.P. longshaft). We never did get the mizzen working, as I didn't get around to making the gooseneck before summer was over. However, we spent some wonderful weekends aboard and had some really enjoyable sails although without the mizzen the lee-helm was, to put it mildly, significant.

Engine and Pod I am not at all satisfied with the "pod" arrangements, because of the pounding and because, although the bottom of the pod is only 12" off the water (as low as I dared put it), the propellor still is not deep enough, and cavitates badly in any kind of chop. This Spring we will install a 13 H.P. Yanmar industrial diesel, with a hydraulically driven propellor on a retractable leg. This will be a large slow turning 4-bladed propellor for maximum efficiency. I'll send you further details on this when I've completed the installation and seen how it works - the diagram shows how I hope it will be.....

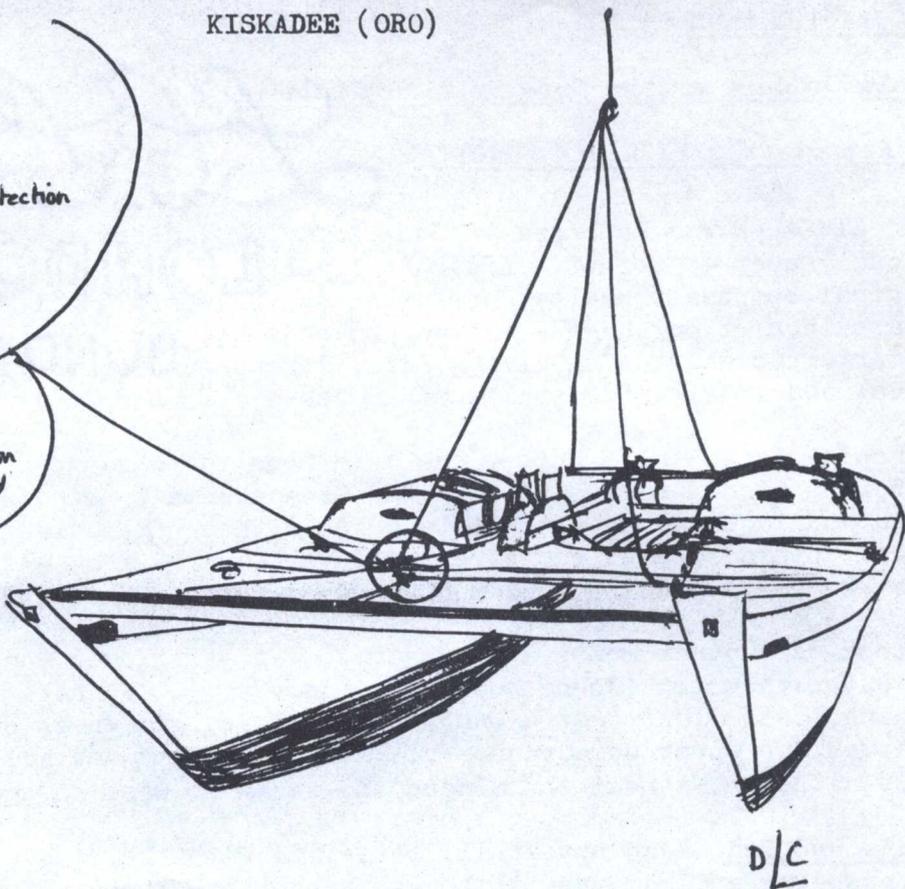
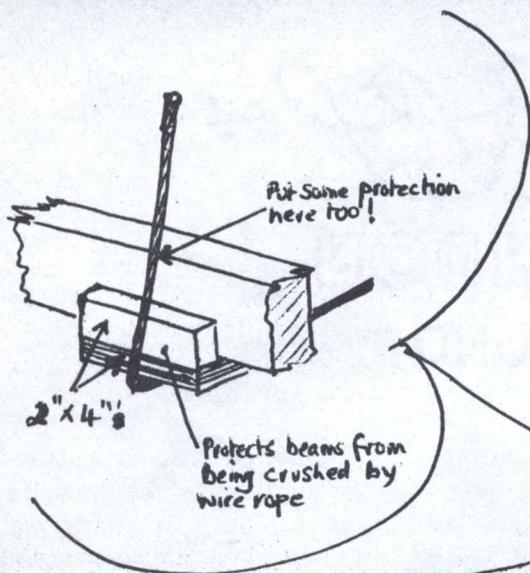
Trysail Vangs I also had little success using the vang's to control the sprit on the try'sail. On many points of sail, the vang chafes on the luff of the mizzen staysail, and on one occasion almost cut right through the top of the mizzen staysail halyard. We persisted with them for the summer but I am going to change to a single part sheet leading down from the mizzen mast, and have a double ended vang kept along the sprit which can be used to vang the boom forward when off the wind.

L.P.G. Stove We are using L.P.G. (In Canada, it's Propane) for our cooking and we think our stove installation is a good and safe one. It has worked well for us. We built a gas tight compartment for the stove, and drained it overboard - it's well above the water line. The 20lb tank (which lasts about one month) is stored in the engine pod, and this naturally would drain overboard in case of leaks. A single unjoined piece of copper tubing leads from the tank under the wind deck through the hull to the stove.

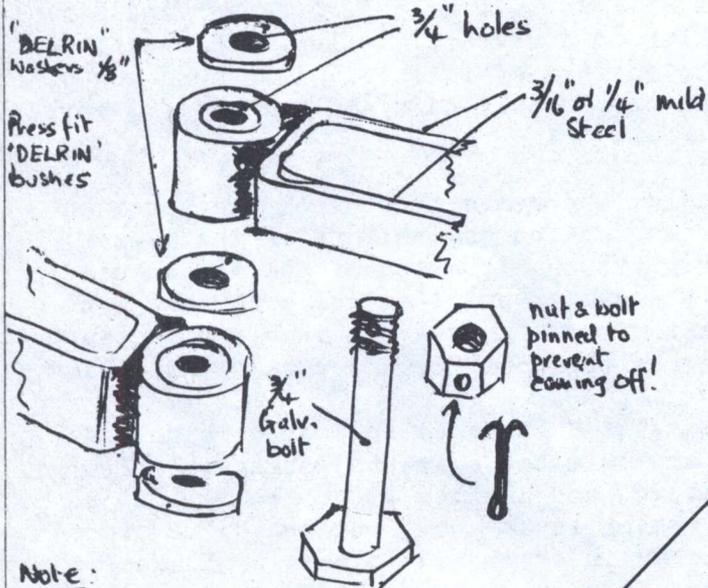
Extra Hatches We are very pleased with our four extra hatches over the bunk cabins, they caused a bit of extra work in building them, but we certainly feel they were worth it, for the following reasons:-

- (1) they provide an escape route from the bunk cabins if needed (say in the event that a galley fire blocked the main companionway)
- (2) they provide beautiful through-ventilation.
- (3) the additional deck beam, together with the hatch coamings add considerably to the stiffness of the decks.

## KISKADEE (ORO)



### RUDDER FITTINGS



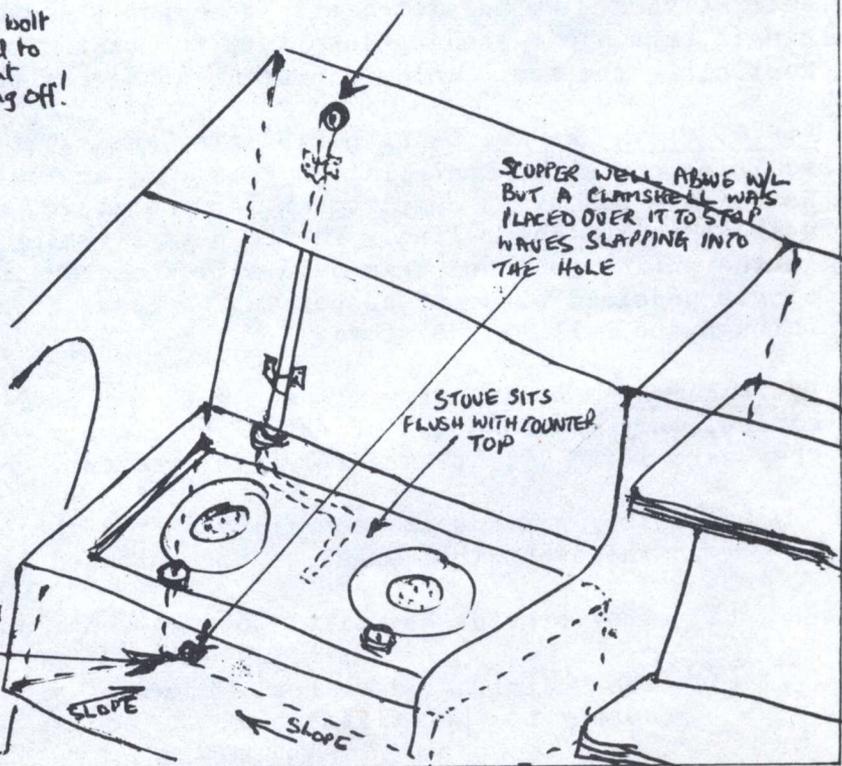
**Note:**

TUFNOL MAY BE USED INSTEAD OF DELRIN BUT NOT NYLON WHICH EXPANDS (SWELLS) WHEN IMMERSED IN WATER!

NOTE BOTTOM OF STOVE BOX SLOPES IN BOTH DIRECTIONS DOWN TO THE DRAIN HOLE ( $\frac{1}{2}$ " DIA.) THE INSIDE OF THE BOX WAS FIBRE GLOUED WITH NON-FLAMABLE RESIN SO AS TO BE GAS TIGHT.

### LPG STOVE INSTALLATION

SINGLE UNJOINED COPPER TUBING LEADS TO TANK ON DECK



contd. Report from KISKADEE (ORO)

- (4) they give a beautiful view of the night sky while lying in the bunk - this is of course useful only to us stargazers! But build them well, and really watertight- wet bunks are not conducive to sound sleep.

Rudder Fittings We made our rudder fittings of  $\frac{1}{4}$ " strap instead of the  $\frac{3}{16}$ " called for on the plans, and also used heavier high pressure tubing, with a larger hole so that we could fit DELRIN bushings. There is no metal-to-metal contact in any of the fittings, and they are beautifully free moving, yet have NO "play" whatsoever. Also we bolted the top hull fitting right through the sternpost, instead of just screwing it on.

General Performance To Date MOTORING: With the Johnson 50 H.P. outboard fitted with Johnsons' lowest pitch propellor, she will cruise best at exactly  $6\frac{1}{2}$  knots (per E.M.I. Electralog) this is the speed at which the inner bow waves meet at the position of the prop, thus giving the least cavitation. In order to maintain this speed (in calm conditions), the engine runs at just over  $\frac{1}{2}$  throttle. With a good wind or chop, the situation changes drastically. The pod starts to be slapped by the waves, and we throttle back to avoid over-revving the engine as the prop cavitates or leaves the water altogether, when pitching.

KISKADEE, as expected, has a large "turning circle" but unexpectedly we found her to be very responsive to the tiller even at very slow speeds (except in very windy conditions, when her windage takes over!)

SAILING I don't feel it would be fair to comment on her sailing performance yet since we have never had her sailing with the mizzen. She is very unbalanced without this sail, with the tiller having to be held a third of the way over to the bulwarks in order to maintain a straight course to windward. A glance at the wakes is enough to confirm that appreciable leeway is being made with this unbalanced rig. Downwind in almost non-existent airs, again without the mizzen we were able to maintain a gurgling  $1\frac{1}{2}$  knots, and this was very pleasing since we noted that we were keeping up with many yachts flying Spinnakers. We like the easy motion of her narrow hulls, and although people on other boats have told us that she appears to pitch a fair bit, this has never been apparent to us on the boat.

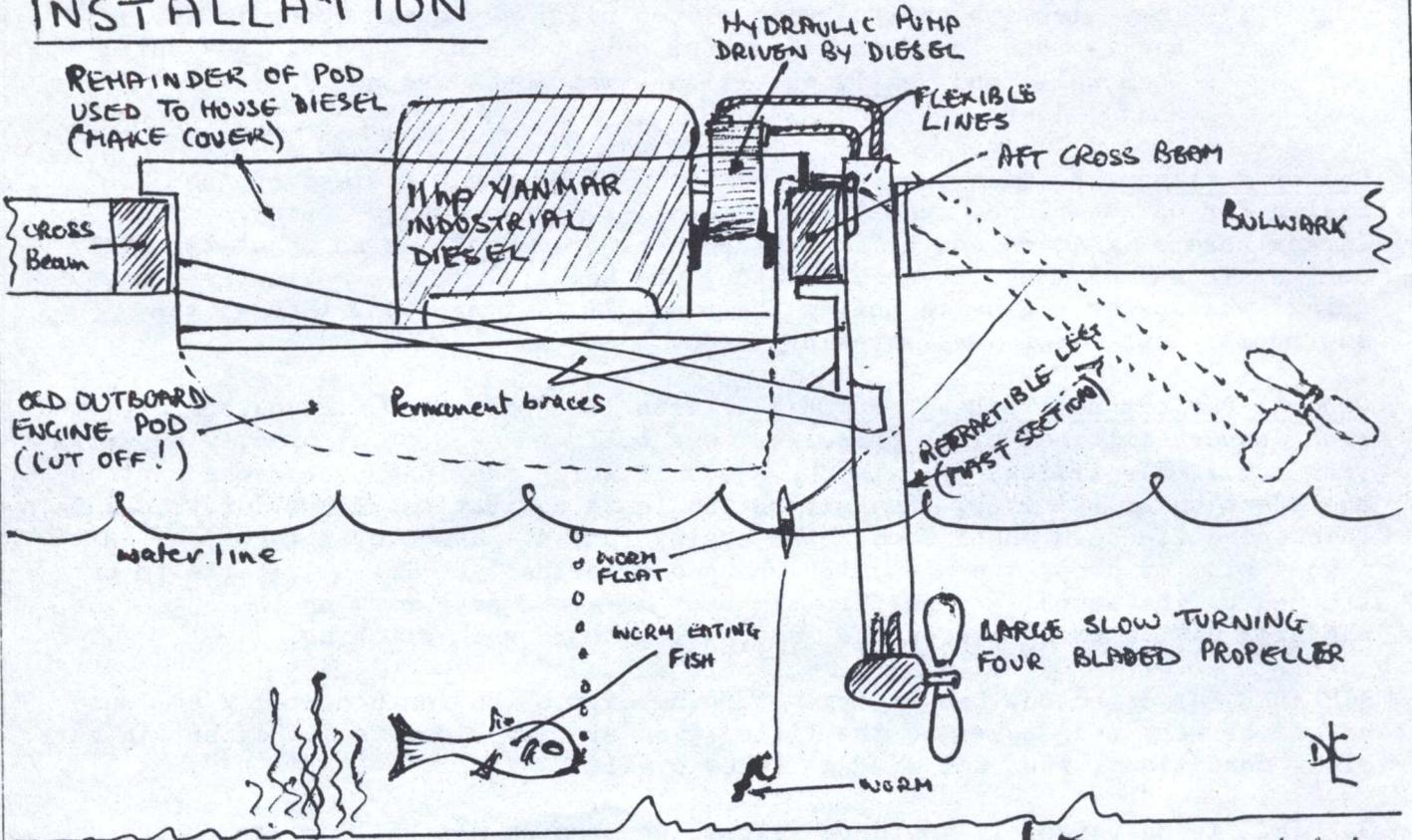
CONCLUSION: Apart from normal teething problems and that of the auxilliary engine arrangement. KISKADEE has turned out to be everything we had hoped for. She is relatively inexpensive for her size, her motion at sea is very easy. She provides complete privacy (when needed) with her separate hulls, and she is (to us anyway) very, very beautiful. This last quality has been commented on by many other people (mono-hullers included) and I think it is mainly due to Jim's lovely sheer line and the small cabins.

We hear from the B.C. Multihull Society that Tom and Don Hembroff sailed their Ariki from Neah Bay to Hawaii in late July. Their boat "Piggy" took 17 days to complete the crossing.

Wendy and Harold Goddard sent some very colourful pictures of their boat and these will be on show at the A.G.M. in January.

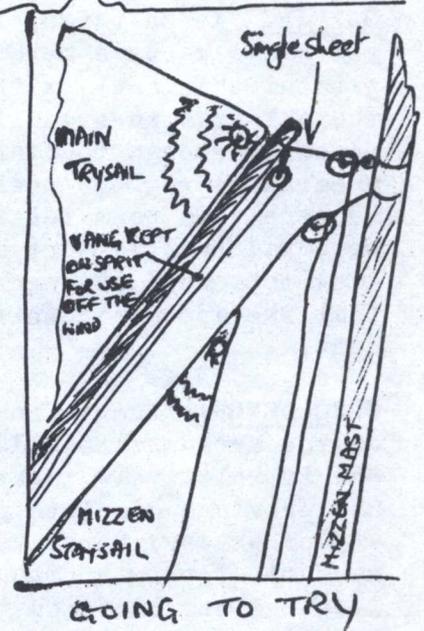
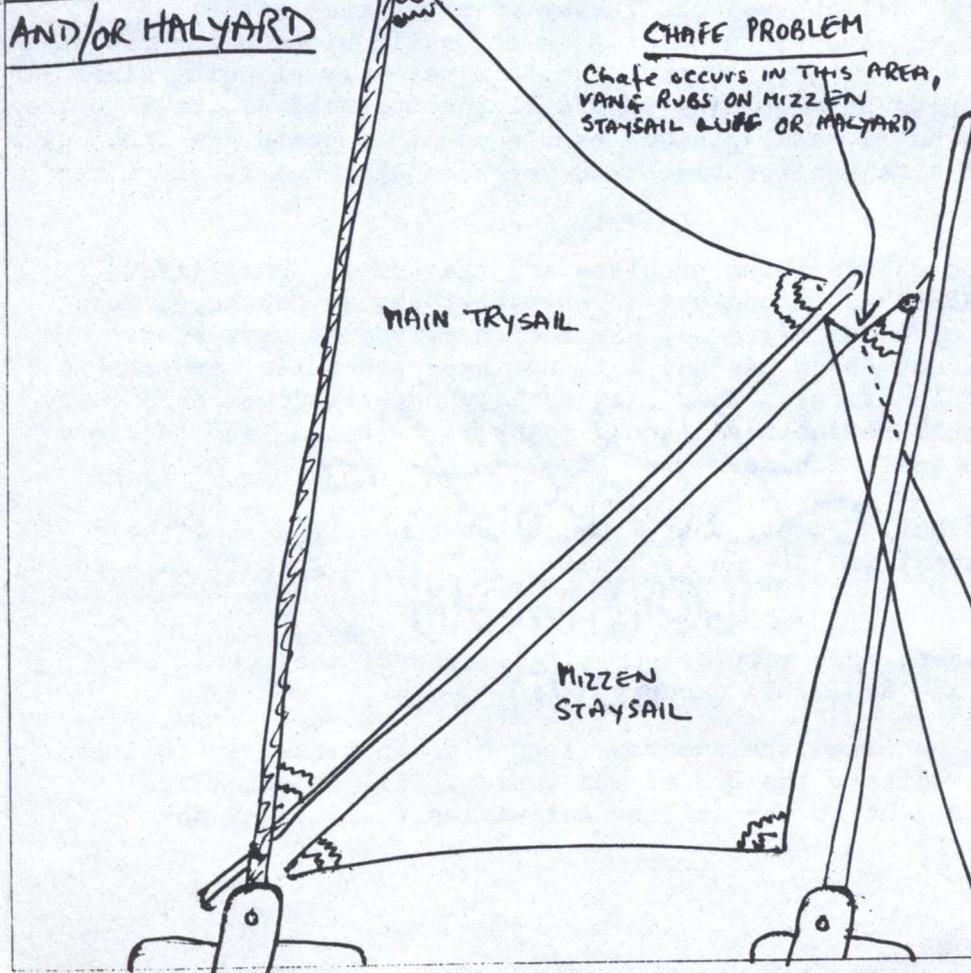
Also N.K. Polycat members can read the numerous issues of Multihull Association newsletters we have received from the U.S.A. and Canada. All of which are interesting and give an insight to the sailing activities from across the Atlantic. Editor....

## PLANNED ENGINE INSTALLATION



## PRESENT "VANG" CHAFES MIZZEN AND/OR HALYARD

## ARRANGEMENT STAYSAIL LUFF



D/C

## ASSOCIATION NEWS

### SOUTHCOAST NEWS from Martin Lillvstone

1974 has seen three meetings of the P.C.A. in the Summer Meet at Portland. The first at Poole with 14 members and friends and the second with 21, which is not bad as some had come from as far as Didcot. Our first meeting started with a pint and then we went to have a look at a Narai being built in Bournemouth by Anthony Barton. A nice looking boat, nearing completion after about three years hard work. For the second meeting we went to have a look over a Tehini built by John Foote, Phil and Mike which had just been moved down to Poole for finishing off and fitting out. When I last saw them at the end of August 1974 she was afloat and they had just had a sail. They said she sailed really great. Also they were hoping to set sail for warmer waters in October 1974.

George Payne has written fully on the Summer Meeting held at Portland so I will only say Thank You to all the members who stopped behind to help with the clearing up also many thanks to the helper with the bar work etc.

Thanks,  
Martin.

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Tommy Thomas "Tawhaki" wrote from Shrewsbury to tell us news of his area...

After a busy time getting his Tane finished Tommy Thomas at long last launched "Tawhaki" in August and had a very successful trial sail in Cardigan Bay and found the information on engines in the previous Sailorman very helpful so that he was able to make a bracket and fix his 5H.P. Seagull outboard. He has sailed his Tane in all conditions, from Force 1 to Force 6 winds and is delighted with Jim Wharram's design. But has one problem in that his boat refuses to go through the wind! (Where have we heard this before!) Apart from experience in sailing, you need very good cut sails, no sagging fore sails and baggy mains please! Watch the waves and pick yourself a calm patch over goes the tiller, release the jib nice and easy, centre the tiller and she should go round like a bird - I think perhaps at the A.G.M. we should discuss this fully so that we can iron out problems of tacking for all members... Editor....)

During his sailing Tommy met Mr. Owen of Market Drayton and one or two other P.C.A. members who had been down to visit Jim and Ruth. Altogether Tommy has had an interesting summer and described the P.C.A. types as busting with enthusiasm and inspires Tommy to put some new ideas into practice ready for next season and hope to make the Summer Meeting 1975 sailing in "Tawhaki". (He wonders if the "Cmdr" had problems with his Tane).....

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Tom Butler of Tasmania, Australia, launched his Tane "TEVAKE" in February 1974 and is enjoying sailing in the waters along the North West coast of Tasmania.

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Up to the time of going to Press we have not received Milford Haven's report on their sailing to West Indies, but understand this is in the post, therefore we hope to see this included in the first 1975 issue of The Sailorman.....

Editor

## ASSOCIATION NEWS contd....

Report from the South West

The South West area boasts a thriving, motley gaggle of Polynesian Catamaran builders who get together about once every two months in a pub in St. Blazey, to swap tales of woe, cries for help and very tall stories of speeds achieved that would shame Concorde!

Among the Cornish contingent of which I have most knowledge four boats have been finished so far:- Peter Bousfield's Maui moored on the Helford river. Chris Churn's Tangaroa at Fowey. Peter Greenwood's Tangaroa at Looe and the Guy's Oro at Newquav.

Peter Greenwood's boat recently suffered £300 of damage while moored when another boat moored nearby broke free and ran amok.

The Guy's story is the most adventurous so far. With a crew of four adults and one child they set sail for the Pacific in their very soundly built Oro, "Pollux", in October 1973. After surviving a broken mizzen mast and the temptations of an idyllic life in the Caribbean, their trip finally ended in Panamas where for personal reasons they decided to sell the boat and return to England.

Three more boats are nearing completion in Cornwall - John Martin's Tehini at Hoyle, Pete Aston's Nawai at Liskeard and Keith and Jenny Searle's Oro at St. Blazey.

Peter Davey the P.C.A. secretary, has recently started his Tangaroa at Falmouth and another new starter is John Truelove building a Tane at St. Stephen. Our own Oro has both hulls complete and sheathed in nylon and one hull about two-thirds fitted out after two and a half years of spare time working. I am now working on the boat full time in the hope of speeding up the progress but I'm not going to make the fatal mistake of predicting a completion date!

A step we must take soon in the South West is to move our meeting place further east so that more people in the area will be able to make the trip and benefit from our shared experiences.

An Offer of Help Many people making trips out into the Atlantic will probably call in at one of the Cornish ports such as Falmouth, before they finally leave the country. If they get in touch with me or any member in the area we would be only too pleased to turn out and help with any final fitting and provisioning, or simply to provide a final hot meal and bath.

Roger Atkinson "Treveague"  
Feock, Truro, Cornwall.

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NEWS FROM ULSTER

by Ken Sampson

Early in the Spring I had great hopes that our Polynesian Catamaran fleet would be substantially increased. I had hoped that three new Tanes would be launched - however, this was not to be.

Gary Cairns, who was building a very sound Tane in Larne, got transferred and had to travel 70 miles to work on the boat. He persevered for several months but eventually sold the boat at a give-away price. This was very unfortunate as I had helped him quite a bit and was very impressed with this particular model.

Mervyn Dobbin, who lives in Lisburn also failed to get his boat afloat this year. He is at present painting and fitting windows in the cabins. His boat is much lighter than mine and I believe it will be very fast. An interesting point about Mervyn's boat - the mast is made out of 4 x 1" pine and the sides are  $\frac{3}{8}$ " Marine ply.

contd... ASSOCIATION NEWS

NEWS FROM ULSTER

He will definitely be an early starter in 1975.

There is a Tane afloat down at Larne owned by Dave Morris but he is a hard man to contact and I believe I saw an advert in the paper recently showing his boat for sale.

Derek McLain has had quite a number of good sails in his Hina "Morning Star". He started off for the Isle of Man but when half-way across the wind changed and blew directly against him. His time was limited so he decided to head back to Strangford. One of the unfortunate things about being a businessman is your time for sailing is limited. He had an interesting experience in heavy seas, heavy winds and whirlpools in the Strangford narrows, a very treacherous piece of water and certainly had me sitting on the edge of my seat when he recounted these stories.

My Tane "Mitikeje" was launched this year in July. The date for the launch was somewhat delayed by the strike as I have to travel across Belfast. Also most Engineering concerns in Belfast were closed down and my friends, who were making fittings as "homers" could not get working on them. However, we finally launched in July, had a quick trial sail in a Force 5 and although we did not press the boat we left my friend's motor-boat without any bother. His boat is capable of doing 9 knots.

The launch attracted considerable interest and numerous people enquired about the type of boat. Whether they have actually sent away for details I do not know.

The sails on my boat are from a "Dragaon". The mainsail is shortened slightly and I use two fore sails and find this cutter-rig very good. My mast is somewhat heavy but it does not seem to do any harm. I took a trip to the Isle of Man and back this year with my wife and 6½ year old son as crew. The boat behaved perfectly and although we had some "hairy" sailing at times an enjoyable trip was had by all. Unfortunately, I did not put a bridle on my mooring and in a storm we encountered the boat over-rode the chain and damaged the fibreglass sheathing on one hull. I brought it out before the wood saturated and have not put her in again this season.

I have a few modifications to make. First of all I had to put on a solid deck with drain holes drilled in it to get afloat this year as some @!+!@ stole 20 lengths of pine on me which were to be used for a slatted deck. However, I have acquired 30 lengths of 4" x ¾" x 10' pine wood and will deck the boat with this. I also intend to put a centre pod between the two cabins; something like they have on the Snow Goose; this will accommodate my engine and when I make a deck tent it will make a good foot well so I can have a large table when in harbour.

Some members here, including myself, hope to organise a "Get Together" or Dinner for interested members in Ulster. I intend to contact as many people as possible and if we can get sufficient and all are agreeable we would like to have someone from Milford Haven come over as our guest for this occasion.

I hope to see most of you at the Annual General Meeting and if any news develops or any interesting subjects arise will be able to pass them on.

The Catamaran which floundered on the Goodwin Sands was fully televised here and did not do our cause any good. In fact I have said a few not too polite things to some snooty "tub boat" owners when they passed snide remarks.

Happy sailing.

Ken Sampson.

## ASSOCIATION NEWS contd...

There is a P.S from Ken Sampson which follows:- "Since I wrote the previous pages I have contacted two more Polycat owners in Northern Ireland and found another Hina and Tane.

The Hina owned by Mr. D. Lyttle of Richill, Co. Armagh was built about five years ago. It is moored at Oxford Island on Lough Neagh, near Lurgan. Mr. Lyttle is at present working on a G.R.P. Mono-hull, but is interested in a much larger Polycat for long distance cruising. He also tells me that he has used his Hina for Hydrographic surveys on Lough Neagh.

I rang Jim Haire of Coleraine one afternoon and as luck would have it I not only found him at his desk but with a set of Polycat plans in front of him. We had a long conversation and I found that he has a Tane moored on the river Bann below Coleraine and a mile or so from the sea. He also has enlarged his Tane to suit himself. The boat is finished with Epoxy Paint and is called "Blue Tane". He has a 20 H.P. Penta outboard mounted in a pod between the two aft beams. This large engine is essential as he has to go through the Bar Mouth where the river Bann meets the sea and in rough weather this can be very tricky.

Ken also sent a full account of his sailing on "Mitikeje" but this will appear in the Spring 1975 Sailorman.... Editor.

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Paul Thompson and Cheryl who called to see us this year are busy working on their Oro in North Vancouver and hope to be sailing by 1976. Meanwhile Cheryl sent Joan the following recipe, (which incidentally we have made twice as it is very more-ish).

#### Dijon Mustard

2 wine glasses of dry white wine  
1 large onion (8oz) chopped fine  
2 cloves of garlic, minced  
2 tablespoons honey  
2 teaspoons salt  
1 teaspoon of chilly sauce  
1 tablespoon of vegetable oil  
4oz of dry mustard (Cheryl used Coleman's brand)

1. Combine wine, onion and garlic in a small saucepan, heat to boiling, lower heat, simmer for five minutes.
2. Cool mixture, strain wine mixture into dry mustard in a saucepan, beating constantly with wire whisk until very smooth.
3. Blend in honey, oil, salt and pepper. Heat slowly, stirring constantly until mixture thickens. Cool.
4. Pour into glass or pottery container (not metal) cover and leave in cool place 2 days before using.

foot note, I used also a teaspoon of mixed herbs stirred in when cool.

ASSOCIATION NEWS Contd.1974 SUMMER MEETING

Thanks to the influence of Cmdr. James Briggs in arranging the venue, and the presence of Martin Lillystone on the spot to make preliminary arrangements, Summer Meetings at Portland can hardly fail to be successful. The discouraging weather this year, however, means that "success" must be measured in different terms to the 1973 meeting. Some who intended to bring their polycats were deterred by the strong winds. "Tranquility" and "Rua Ma Toru" set out but became galebound in Swanage Bay, James Briggs in "Laa Mao Mao" from the west and Ted Backhouse (Iroquois) from the east actually made it, leaving Martin to cross the harbour to complete the exhibits, until Phil and Anne Wrestler arrived later in their Narai, only to depart again all too soon. For very understandable reasons we were also somewhat short of representatives of the fountainhead of our movement, until Ruth, sailing in with Phil and Anne, answered all the questions, showed some beautiful slides, stimulated our enthusiasm, and then sailed away next morning.

Under the circumstances with fewer boats and members present, (34 plus families in the signing-in book). Peter Davey and myself having done our bit, sounded out the reactions of visitors, but finding no one had any complaints or suggestions we settled down thankfully to enjoy ourselves. Except for sunshine the basic ingredients were there.

The indefatigable James Briggs kept sailing until everyone had a trip, many having more than one. What a delight it is to watch him handling his Tane. Undeterred by an overcrowded deck, or a force 6 wind, up staysail, mainsail and mizzen, soon followed by flying jib and mizzen staysail, and away we streaked (He flew two spinnakers on another occasion when I was not aboard). Every move was preceded by clear instructions, followed by the operative word for action - PLEASE - We jumped to it with far more alacrity than for some skippers I know (not polycat skippers, of course). Escaping from his bar duties, Martin brought his Tane over to help with the trips. He has practically stripped everything off above deck level during last winter and rebuilt the coach roof to provide the most roomy layout I have seen for the size vet without the appearance of bulk. Arriving back at the jetty somewhat chilled from these trips, we joined Ted Backhouse and his wife on their Iroquois for a cup of coffee, and to (dare I say it?) envy the comforts of his cabin.

Phil Wrestler, who had anchor trouble near the harbour entrance, moored overnight at the jetty, but only just long enough for us to swarm over his Narai and absorb all the intriguing details both on deck and below. His accommodation shows noticeable changes from the standard layout (see The Sailor man Spring 1973) and could justly be called a floating home, although without the restrictions on sailing qualities that this description usually implies.

The evenings were occupied with drinks, films, slides, talks and drinks. James Briggs gave two most interesting down-to-earth practical talks, I showed my film which included shots of the Summer Meeting 1973, and Ruth brought the only sunshine of the weekend with slides of the Wharram Caribbean trip.

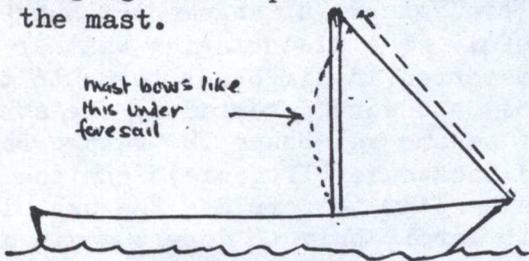
All members returned home safely so far as I know, but a friend of mine reports seeing a polycat off Start Point some days after the meeting, almost certainly Charles Williamson escaping to the Med in "Tranquility". Bon voyage.

George Payne,  
Sailing Secretary

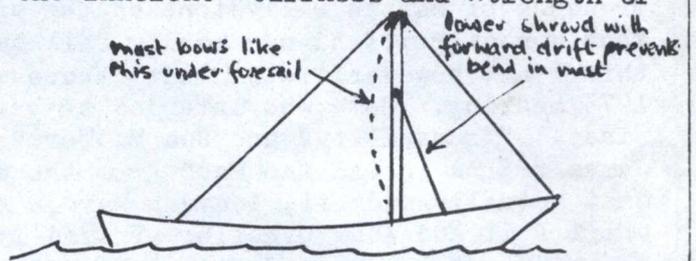
## RIGGING AND SAILS

by David C. Lewis

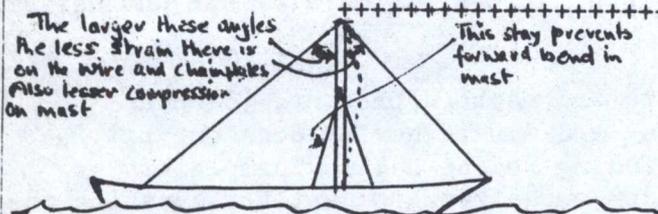
**Rigging** - The purpose of rigging is to hold a mast in an approximately upright position. The mast itself is a strut in compression and should therefore be made of a material that is strong in compression, wood is ideal. The amount of rigging used depends on the sail plan and the inherent stiffness and strength of the mast.



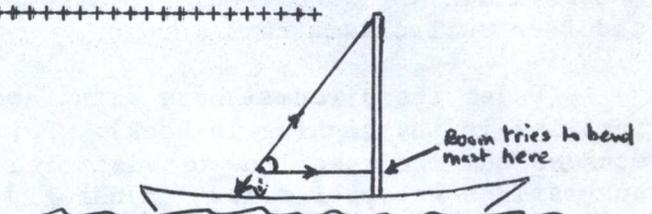
Without back staying



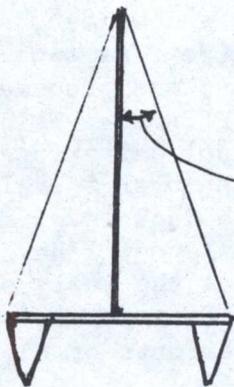
With backstaying.



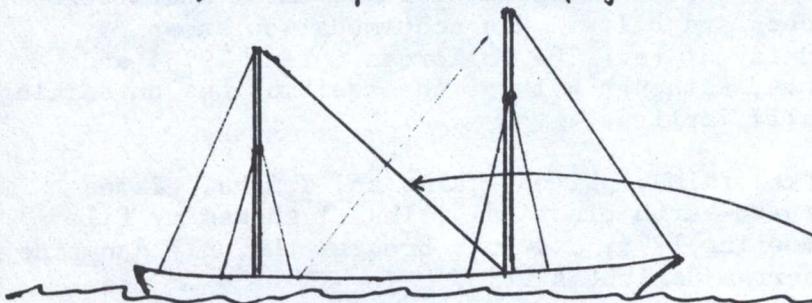
With back staying and half mast fore and aft stays



Sheet taken off in line with leech reduces compression on boom



This angle should be as wide as possible so as to reduce compressive forces on mast and strain on wire and more important, on chain plates. The side bending forces at top of mast are considerably less than in fore and aft direction, hence cap shrouds are of lighter wire.



Forestay to mizzen is essential when close hauled in short steep seas. If spritsail or wishbone it can be permanent and help to set mizzen staysail more efficiently than if set flying, and allows sail to be raised and lowered under control at all times.

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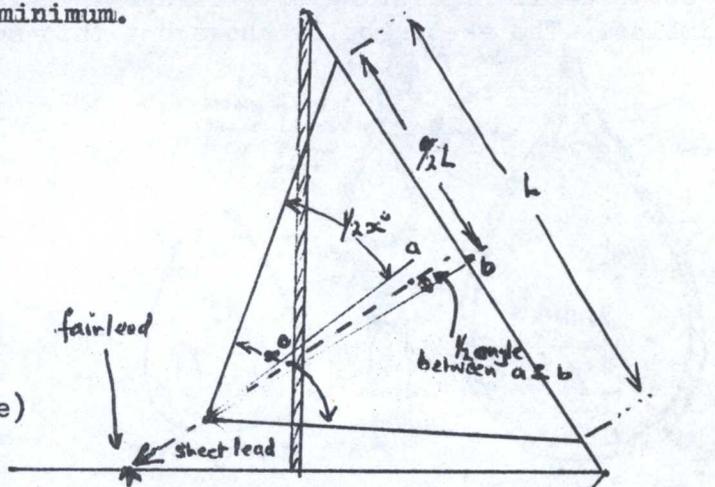
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## RIGGING AND SAILS

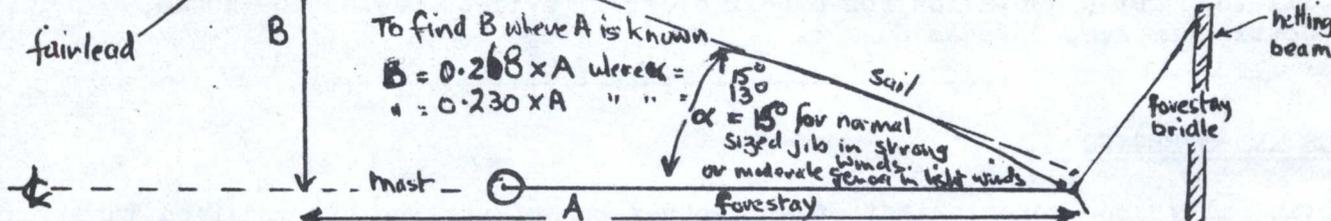
by David C. Lewis

**SAILS** - The foresails do most of the work in driving to windward. The fore stay should not be set up too tight - all over tightening does is to exert tremendous compressive forces on the mast (thereby increasing its chances of failure) and on the chain plates. On lightly built catamarans the rigging and sail stresses should be kept to a minimum.

For an efficient setting fore sail the angle at the head of the sail should be  $30^\circ$ . The sag to the fore stay should be allowed for when cutting the sail - tell the sail maker what this is likely to be. A 40' mast might have 18" or even 24" sag to stay, and a 30' mast about 12". But have a look at a boat under sail to windward to check (estimate) that is, add a bit to your guess.



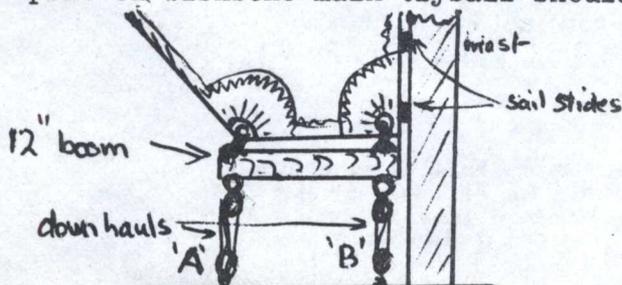
Sheet lead can be discovered from the following diagram.



For cruising sails tell your sail maker that you do not wish to have any roach in the bermudian main or mizzen and that the mizzen should be cut fairly flat. Roach is only a way round racing rules. It is expensive to put in and is a source of inefficiency and chafe (through flogging). You do not need battens, a further saving. A flat mizzen is essential when it is being used to keep the boat weather cocked when at anchor in a short steep swell - catamarans (and trimarans and broad beamed monohulls) will take up a broached aspect otherwise, i.e. they will lie broadside to waves. This can be very dangerous and could lead to the loss of the boat. No matter how powerful your engine it will not be sufficient to bring the boat into wind once it has assumed this broadside position. So always have a strong flat cut mizzen to leave up sheeted hard in. In very high winds you may need to reef or hand the mizzen and put up a storm mizzen trysail cut absolutely flat and bound all round with rope (put the trysail up first and then hand the mizzen otherwise you may broach whilst no sail is set). No anchor is likely to hold with a boat in a broached position.

The mizzen should be the last sail handed when coming to an anchor or mooring. The mizzen will keep the boat up into wind. The main should be first down, leaving the mizzen and foresail up for emergencies. Do not rely on the engine. A sail boat should always have sail set until anchored or moored, and even then a hard in mizzen can make life more pleasant with a nasty swell running.

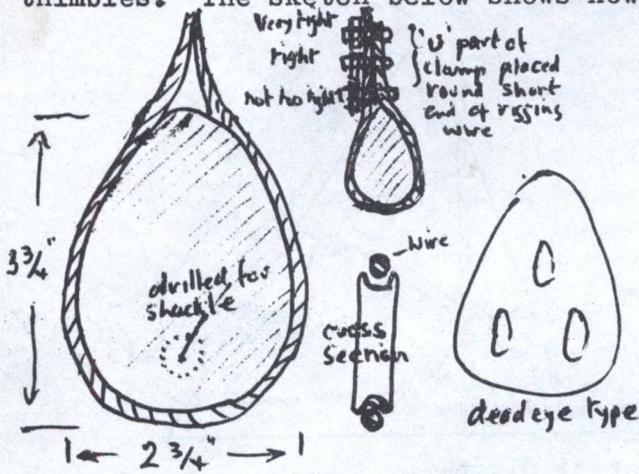
Sprit or wishbone main trysail should have its tack cut as follows:



Tighten up on leech down haul ('A') so as to flatten sail for close hauled work. Slacken off to allow sail to lift and put more belly in it for off the wind work. Down haul 'B' is standard downhaul to tighten luff after hoisting main sail.

RIGGING AND SAILS general comment

Bernard Moitessier recommends making up rigging with cable clamps and who should know better? For stainless steel wire a very large solid thimble is needed so as to avoid fracturing of wire due to hardening at the bottom of the usual size thimbles. The sketch below shows how this method should be assembled.



I am investigating the cost of having some of this type of thimble cast in corrosion resistant aluminium alloy (without the shackle hole) so that I can drill them for use as dead eyes as well as standard thimbles.

If anyone else is interested in using similar thimbles/deadeyes 2 3/4" x 3 1/2" would they please write me immediately with an indication of the number they would need if the price is right.

I will then get a quotation for a bulk order. David C. Lewis The House, 15 Cottingham Ave, Horsham Sussex.

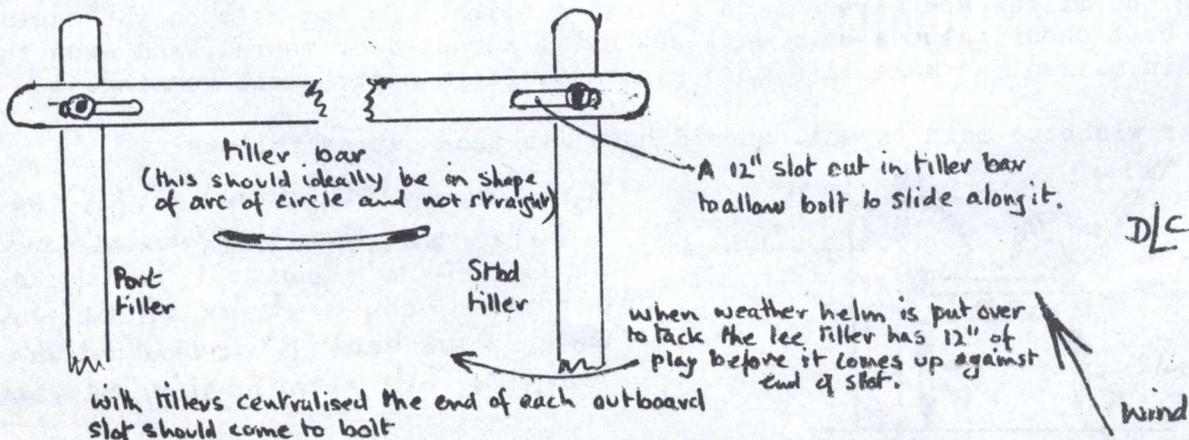
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RIGS AND STEERING

Martin Lillystone reports that after two seasons of sailing his modified Tane with an experimental schooner rig, with two fully battened mains. She sailed well but he found the battens kept breaking in the aft main. Martin then decided to try a ketch rig in order to have a mizzen which would look after itself under normal sailing conditions. He has not had any more trouble with battens.

Martin thinks a mizzen is a must on a catamaran without some form of external keel or dagger boards. Also when sailing in confined waters, on and off moorings and when in a blow, a mizzen and jib is essential. During the second sailing season Martin had a ghoster made (180 sq ft) which he thought would greatly benefit the handling of his boat but he was very disappointed to find this did not work as well as the jenny which is 120 sq ft. He found that the boat sailed well with a single mast but would not tack anywhere near as good as with a mizzen. Also the boat sailed best with a working jib.

Martin also found the boat steered much better on the weather rudder only, the lee one acting as a trim tab. This makes steering very much lighter. Other members might like to try this idea out.

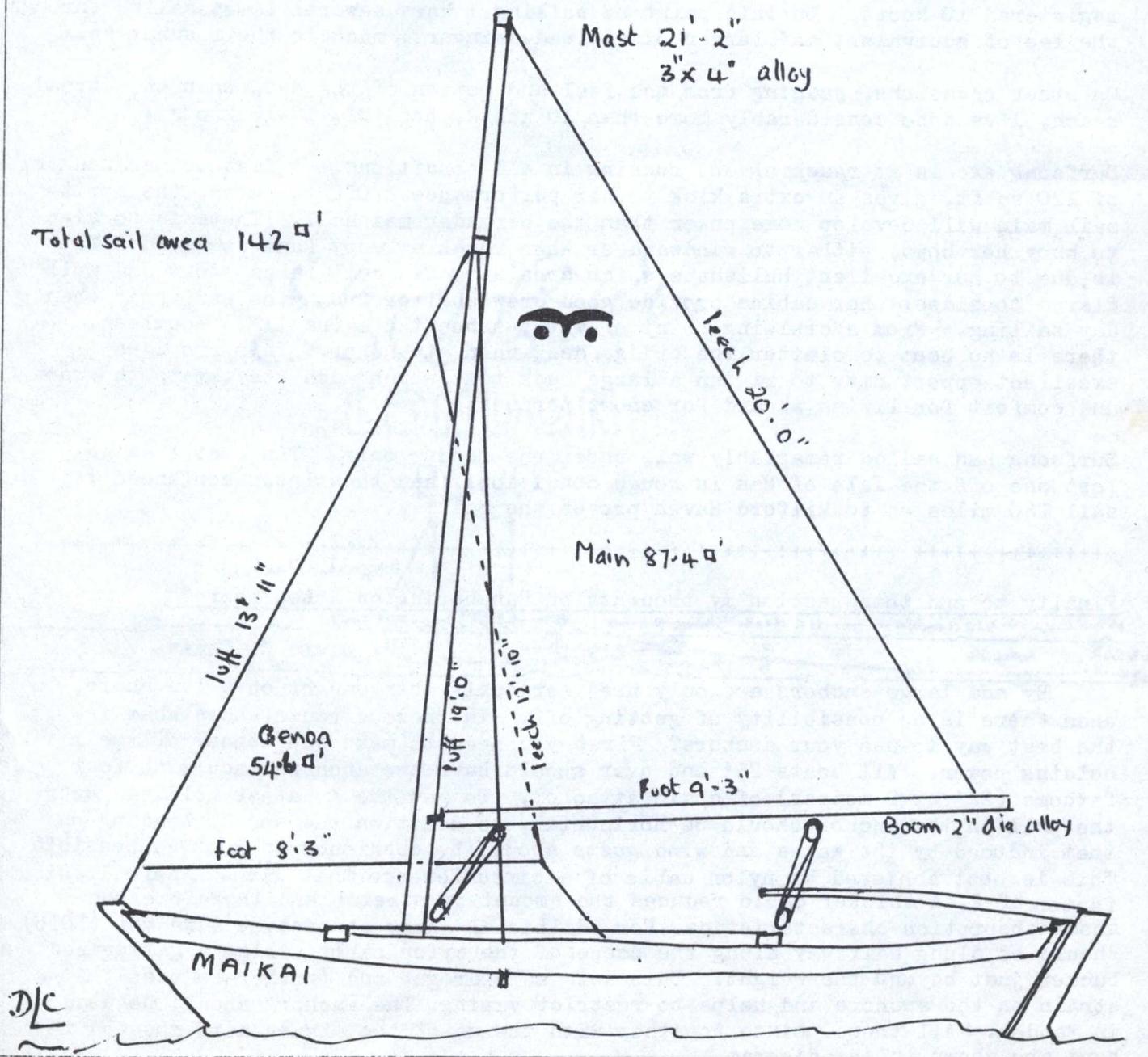


RIGGING AND SAILS contd.

Letter from Dave Atkins, RR.4 Tronson Road, Vernon B.C.

I very much enjoyed your last issue of The Sailorman and as I am quite proud of the job I have done with my Maui I decided to share my experiences with other catamaran owners through the journal. I will also include a more detailed sail plan in case other wish to share my experiences.

Since writing the account we have had many more hours of very good sailing which unfortunately ended a week ago (end August 1974) with a minor disaster. The mast folded up in a gust of unknown strength with three adults aboard, but the boat was travelling very fast before it let go. I have been able to obtain spar quality spruce and so will replace the too light (2" x 2½") aluminum mast with a heavier 3" x 4" mast. I realise you can't print the photograph but thought you might be interested anyway.

Sketch of sail plan of MAIKAI

RIGGING AND SAILS general comment contd...

My impressions of the rig and performance of a Hinemoa

by Richard Bumpus

The Hinemoa was designed as a cruising cat. Her performance, though can be very sparkling. She will see off many a larger boat, both mono and multi-hull.

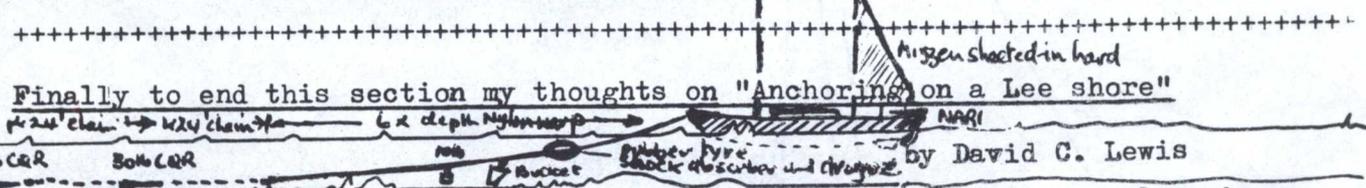
Being sprit-rigged, surfsong doesn't quite have the absolute close-hauled ability of a bermudan rigged fin-keeled racing monohull, especially in short choppy head seas, where the wave length is the length of the boat, and where short quick tacks are required. She has a tendency under these conditions to slide off to leeward because her low sections are thrown clear of the water. This is due to her light weight and buoyant hull shape, and also not having dagger boards.

However, in smoother water or through a heavy swell, she apparently does very well to windward, given a good breeze. I have kept up with an Iroquois cat and overhauled other larger boats. She could, however, do with longer luff length for windward sailing in light airs. On one occasion, when sailing in the Kyles of Bute, on the West Coast of Scotland, on a close reach, the speedometer registered 10 knots. On this point of sailing I have several times sailed through the lee of equivalent and larger sized lead-swingers, much to their surprise.

On other occasions, judging from the feel and motion of the cat, when on a broad reach, I've done considerably more than 10 knots, possibly 12-15 knots!

Surfsong excels at reaching and running in all conditions. A flat cut spinnaker of 120 sq ft, gives an extra kick to her performance. Off the wind, the sprit-sail main will develop more power than the bermudan mainsail. There is no sign to bury her bows, either to windward or when reaching very fast downwind. This is due to her excellent hullshape which consists of a well raked stern and well flared topsides. Her cabins provide good crew shelter from wind and spray when day sailing. From a cruising point of view, since the mainsail is boomless, there is no boom to clutter the bridge deck when at anchor. This provides excellent opportunity to rig up a large deck tent which adds greatly to the room and comfort for living aboard for short periods.

Surfsong has sailed remarkably well under one rudder only. The fact that we lost one off the Isle of Man in rough conditions, and then later continued to sail 160 miles on to Milford Haven proves the point.....



Finally to end this section my thoughts on "Anchoring on a Lee shore"

By and large anchors are only used seriously when caught on a lee shore, when there is no possibility of getting off. In these circumstances what is the best way to use your anchors? First you need to make the utmost of their holding power. All boats 25' and over should have two anchors each with four fathoms (24' or 8 metres) of chain attached. To get the greatest holding power the pull on the anchor should be horizontal, in addition the snatch loading on them induced by the waves and wind gusts should be cushioned as much as possible. This is best achieved by nylon cable of a circumference that gives a safe loading factor of 2. A thicker cable reduces the amount of stretch and therefore the shock absorption characteristics. For additional shock absorption a weight (10lb) should be slung half way along the scope of the nylon cable. Also a galvanised bucket just beyond the weight. This acts as a drogue and further reduces the strain on the anchors and helps to restrict yawing. The anchors should be used in tandem. All these points together with the use of the mizzen sail sheeted in hard are shown in the diagram.

HAMMER NAILS AND BIT OF GLUETHE MAUI MAIKAI of Vernon British Columbia

It was about two years ago that I got the urge to build another boat. I had built several before but they had all been monohull dinghies. I wanted a catamaran, so I started a search. I found very few designs that could be home built and they were mostly racing types. I needed one for family sailing and cruising on Okanagan Lake. I finally discovered James Wharram through Canadian Multihull Services, Toronto and the more I studied the design and the model that I built the more I liked them.

In 1973 I was in England visiting my family and was fortunate enough to be able to get to Milford Haven, but was disappointed that Jim was still not back from a Channel Race. I talked at some length with Ruth and discussed my ideas for changing the rig to one more suitable for our predominantly light winds on the lake.

Once back home in British Columbia I sent for the working drawings and set about designing a rig. I moved the mast step aft two feet and lengthened the mast to 21 feet, this also necessitated strengthening the centre beam. I drew in a 3/4 Bermudan sloop rig with a loose foot main and a straight leach to avoid the use of battens. I put in a 150% genoa and then started the calculations for area. The total area worked out to 142 sq. ft, and I decided that was about right.

I started construction in the basement on December 1st and my biggest problem was finding good lumber and plywood. In an area which supplies lumber to the rest of the world it proved difficult to get good quality timber. I used spruce for the stringers and fir plywood for the skin and when the hulls were finished I covered them all over with 1 oz. fibreglass mat and resin and finished up with epoxy paint. Mat is not as smooth as cloth but adheres to the wood better. The surface was sanded but not glass smooth, resulting in a pleasant texture, after all it was not for racing.

The rigging proved expensive as most of the equipment available in Vancouver is for racing dinghies, and also I felt that I would not be too happy with less than the best. I used an aluminum mast and boom and ordered the sails from Hong Kong. I had decided on a canvas trampoline in two sections, but the first try in acrylic canvas was not satisfactory as it started to tear at the eyelet holes the first time it was used. I changed to a nylon reinforced vinyl which is supported on tubes ( $\frac{1}{2}$ " thin wall electrical conduit). These are laced to the beams with  $\frac{1}{4}$ " nylon rope and have so far been satisfactory.

By June 1st 1974, all was ready for launching and as it was also my birthday we invited friends over to participate in the ceremony. We are fortunate to have a house on the lake with our own beach so with a bottle of bubbly we slid it down the beach into the water. Most of the bubbly went into the participants but we did save enough to splash over the stem posts.

The first few outings were in typical light breezes and I was delighted to find that the boat moved very well in these conditions and the balance was good enough to steer itself for long periods without a hand on the tiller. She points well but as with most cats, is slow to come about. Four adults aboard did not seem to diminish the performance very much. The crucial test came later when on one Sunday afternoon after a day of glassy calm, the wind picked up quickly to about 30 mph. We decided to try it. I was a little worried, this was the big one, would it all hang together, had I done the right thing? Getting rigged in the wind was a bit tricky but finally my wife and two sons (8 and 12) climbed aboard and we were off. I reached out across the lake barely able to haul in the sheets tight enough for good sail set and the boat picked up to high speed. As we settled down we found that the windward hull didn't want to lift, there was some weather

contd.....

THE MAUI MAIKAI of Vernon British Columbia

helm as I would expect and want in those conditions. The waves were 3'- 4' and whitecapped and quite frequently washed across the decks and trampoline in solid sheets of water. I made a note to put drain holes in the canvas. Despite the speed, coming about was difficult and several attempts had to be made until the timing was right with the waves. Everything held together but I think that next time I will try with a reef down and maybe it will be a little more manageable.

The family was wet but excited when we got back to the dock and I feel that all the work was worth it and I am sure that there will be many more enjoyable trips on the lake.

R. D. Atkins.

Snap taken at the house before launching, by No.1 son. The builder admires his work whilst No.2 son looks on from the steps.(N.B. rudders not fitted)

You will find this snap in the record book kept by the Editor, always available at meetings and A.G.M.

LOW ASPECT RATIO KEELS

by Tom Kelly

In a recent issue of The Sailorman I read with interest that a member had fitted Low Aspect Ratio Keels to his cat. This is a subject that has interested me for some time, and perhaps some of the current builders might be interested in a summary of the evidence for and against them, as far as I have been able to establish, from a variety of sources.

The depth of a L.A.R. keel for a 'V' sectioned hull to be approximately half the draught of the hull. The keel to terminate at a point 60% aft of L.W.L. Inside view, one of the most effective shapes obtained from tank testing of models, was a long triangle, having a slim vertical trailing edge, of depth and location as stated above, and having the sharp apex faired into the hull immediately beneath the bows. Such a shape would not be very suitable for taking the ground, and I am not aware of any design using this shape; although Dr. David Lewis had keels approaching this profile fitted on his cat Rehu Moena during his around the world trip. The compromise generally employed has a horizontal underside and overall length approximately equal to 25% of L.W.L.

The leading edge should be inclined forward to give a 25° contained angle between the general line of this edge and the hull. This edge should be faired into the hull. This edge should be faired into the hull with a pronounced concave curve and sweep back in a convex curve to join the horizontal underside of the L.A.R. keel.

In plan view the L.A.R. keel should have its maximum width at a point  $\frac{1}{3}$  aft from the leading edge. This maximum width should not exceed 6% of the Chord ie. it's overall length. From this point of maximum width it should be tapered aft to a fine, trailing, near vertical edge; and forward to a leading edge having a small radius.

It is considered that some benefit in effectiveness may be obtained by setting the L.A.R. keel at an angle of attack of between 1° and 2° in towards the mast position. One designer attached more importance to this than any other feature

Prospective builders reading this summary of such design features as I have been able to collect might like to consider some further evidence which has also been well established. There is only one profile, one section, and one angle of attack

contd.....

LOW ASPECT RATIO KEELS

which is best for any given hull speed. And since speed is infinitely variable..... Assuming that the fitting of L.A.R. keels will result in some improvement in performance, this will only be so on a windward course, off the wind they merely add wetted area and increase resistance. One other chilling point, too much lateral resistance converts the lee hull into an efficient trip point for a capsize. So Jim may well be correct in omitting them.

On balance I am inclined to accept the view of Dr. Morwood of AYRS, that provided the keels are not too deep, they act as a fence beneath the hull and thereby improve the lateral resistance of the hull; and that some increase in drag off the wind is a price worth paying for any improvement in windward performance.

However, in the end its largely a matter of suck it and see. I am building a Tangaroa and if I ever live long enough to complete it, after I have sheathed the hulls, I intend to fit L.A.R. keels 8 ft long x 8" deep x  $3\frac{1}{2}$ " maximum width toed inwards  $1\frac{1}{4}$ " and laminated from some 2" pine which I've salvaged.

If I find in practice that these keels add little to performance then a few pints of sweat and a thousand swear words will see them off again.

Secondary benefits which I think such keels might provide are that they would distribute the load in taking the ground over a longer length of the hull. More important they should tend to hold the centre of lateral resistance more amidships, and possibly they might correct the much discussed problem of weather helm.

I had the pleasure of sailing with George Payne on his Raka last summer and watched the phenomenon George wrote of in the last issue of The Sailor man, regarding her ability to sail to windward, perfectly balanced under jib only. For this to be so the centre of lateral resistance must be well forward and yet I noted on the day that Raka was trimmed slightly by the stern.

In Skene's "Elements of Yacht Design" he makes a point which may be relevant. Having admitted that no designer knows where the hell this important centre of lateral resistance lies, he states that where the leading underwater lines are blunt this centre tends to lie well aft, while if the entry is sharp the bow sections grip the water better and this centre moves forward. If a tendency for the centre to move forward is the real cause of the weather helm as reported by some members, then L.A.R. keels might help to correct the problem, by holding the centre more amidship. But as I've stated it appears to be largely a case of suck it and see.

Thank you to all the people who must give up so much leisure time to produce this interesting magazine.

Tom Kelly - Erdington, Birmingham.

RAKA again first over the line in the B.B.C. T.V. Bristol Channel Race 1974

George Payne our Sailing Secretary writes in his modest way to tell us the good news. First over the line,  $2\frac{1}{2}$  mins ahead of an Iroquois, 20 mins ahead of the first monohull, (112 yachts entered). Overall honours went to a converted lifeboat sailed by Barry Sea scouts on handicap P.Y. 137. In many ways it was a better performance than three years ago as my handicap is now 88 as against 93 then, and having outpaced the Iroquois and a big trimaran my PY is likely to be cut still further.

We can only say Well Done George and buy you a Beer at the A.G.M.

Editor.....

JUNK RIGGED ORO

by Michael Flynn - California USA

I do not have personal building or sailing experience to share but I have assisted in the building of "BO" Beaubiens' junk rigged Oro and have carefully studied the design with an eye to building my own. It would probably be much more informative if Bo were to tell what he learned while building and sailing, but he does not seem inclined to write so I shall try to relate some of the ideas I've had and significant things I've learned from him.

Bo found that the luff of the junk sail should always be vertical or  $90^{\circ}$  to the boom so that folds and wrinkles do not develop when reefing. A point that is hard for a bermudan sailor to appreciate is that there should be no curvature of any kind on the sail. It may be necessary to rearrange the purchase of the sheetlets to achieve balance so that the yard is in line with the boom and does not fall off to leeward. Also for ease of reefing the sheetlets should be self-tending through shieves or loose cringles as opposed to friction blocks and solid euphroses. The luff of the junk sail should be well forward of the mast like a balanced rudder so that gybing can be a routine manoeuver in any wind. This also takes much strain off the sheet and eases handling. When beating into the wind the common urge is to sheet in hard, but Bo claims that for a junk rig looser is better. Reefing a junk sail should be a simple three part operation; lower the yard; take in the slack on the sheet; and take in the slack on the snubber. The reefed sail has the same aerodynamic efficiency as the full sail.

A more specific problem with the Oro is that shrouds chafe on the yard when squared off. BO's solution was to lead shrouds from the mast band on very top instead of over hounds. Bo complains of his rudders shuddering at 8 knots and suggests streamlining. His rudders with three coats of epoxy have developed cracks along the edge grain. He recommends taping the edges or building them out of plank the old way. He used galvanized rudder fittings with copper paint and says they are rusting badly with no sign of zinc or copper left. On the topsides and interior he used linseed oil and pine tar. This has to be renewed fairly often and I recommend 2 coats of oil based varnish (hard to find). The first coat will never completely dry but the second one will. There are cracks developing along the shear between the deck and hull planking and Bo fears the area around his bulwark joint is a possible rot trap. He recommends a cover board over the deck edge or taping the seam with polypropylene and epoxy. For those considering where to put their cabin hatch, I have noticed that the first place spray comes from is between the hulls, possibly caused by the two bow waves meeting there. The second place is from the bow.

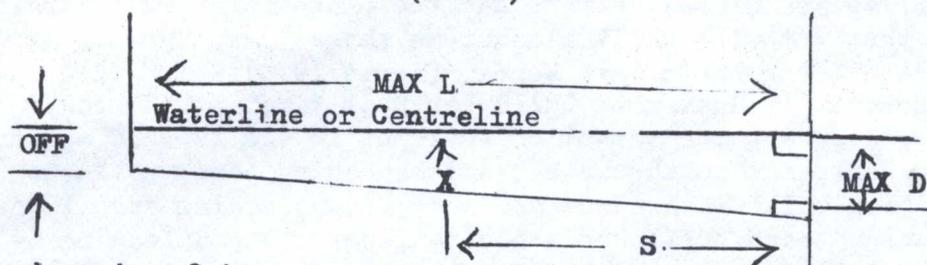
Speaking of bow waves, I have an untested idea on how to judge your speed through the water by watching the bow wave. Since hull speed is reached when the bow wave passes the stern causing the boat to sail in a trough, and since hull speed can be predicted by waterline length, it follows that the distance from the bow to the bow wave is proportional to the speed of the boat. It should be possible to just mark the side of the hull opposite the helmsman in knots and read the number next to the bow wave. Another untested idea that may have significant value to catamarans is to allow the rudders to act independently when coming about. When a catamaran turns, it is necessary for the hull on the inside of the turn to go slower than the outside hull. It is impossible to turn if both hulls go the same speed and the greater the difference in speed between the hulls, the faster the turn is executed. Since we all know that our catamarans can accelerate very rapidly why bother trying to maintain speed in a turn? Why not just stop one hull dead in the water and let the other hull pivot around it? I don't have a boat to test this idea but if anyone is interested here is what I would suggest: Remove the tiller connecting bar and connect two sticks of wood across the bulwarks so they are at right angles to the tiller when the rudder is steering straight ahead. Mark the sticks in degrees so the tillers can be placed at any desired angle.

contd. JUNK RIGGED ORO

Pick a calm day with one person at each tiller and motor under steady power with some means available of accurately measuring speed continuously. Then just make a number of turns, always starting from the same speed and note speed reduction and total time required to make 90° turns using different rudder angle combinations.

If you would like perfectly fair lines on your polynesian catamaran or if you would rather work with a calculator than lay out your lines full size, I have a formula that will develop the proper dimensions:

$$X \text{ equals } \dots \text{ MAX D} - \frac{S^2 (\text{MAX D} - \text{OFF})}{(\text{MAX L})^2}$$



If you want to know how fair your present lines are, try plotting the first or second derivative of them. Chances are the result will look like the outline of a rugged mountain range. It should not make much difference though, unless you are really pushing for efficiency.

Here is a rather far out idea for a rig that may be of interest to someone who intends to race. I've heard different stories about the qualities of the lateen rig, but I have a book that says a properly made lateen sail can point higher than any other type, given a suitable hull. Its main disadvantages are difficulty of reefing and when you tack the yard has to be moved to the other side of the mast (UGH). The tacking problem can be solved on a wide multihull by suspending the yard from the apex of a BIPOD mast.

I have purchased a small yard near a ferrocement and trimaran building centre for sailor-builders. It is about two blocks from a very wide public launching ramp. If a Polycat is sailing far from home and needs a place to haul out for cleaning and repair my land is available free to the boat and its conscientious crew. Until I have such things prepared for myself, it will be necessary to arrange locally for wheels to put under the boat and something to pull it with. There are many casual, low paying jobs available that no one seems to want, if one is short of funds. Feel free to contact me for enquiries, comments or sailing directions at P.O. Box 12 Alviso, California USA (phone 408, 263-3891. (insert 95002 after California for the post office).

I am just reading THE VOYAGE OF THE KAIMILOA, lent to me by PCA member Henry Agard. Anyone reading this does not have to be told it is Jim's inspiration and the birth place of the Polycat. It seems to me that for someone to build a Polycat without knowing about the Kaimiloa, is like having a child without knowing about the "birds and the bees".....

There were a couple of fellows who built a Tangaroa here in Alviso. I never felt moved to meet them but I heard they bashed it together very fast with little money. They told people they would trade old copies of Playboy for whatever they needed. Apparently the owner of the boatyard was not interested in their commodity because they snuck (sneaked?) away in the middle of the night, owing their rent. There is a saying that "people in glass houses should not throw stones". For a sailor to go around making destructive waves in the universe is sheer madness. You may think that it makes no difference and logic would agree, but the truth is found

contd.... JUNK RIGGED ORO

in experience viewed with open eyes. It may seem I'm making a mountain out of a mole hill to those who disdain materialism, but the damage to the soul of the boat yard owner cannot be measured in money. I would like Polycat owners to believe that it is important to have integrity. I care.

Michael Flynn

+++++  
THE NEWS IS TREMENDOUS !

So writes Lt. Martin Lowe R.A.N. from Fremantle, Western Australia -

After owning one of the first Hinas, kept at Deganwy when Jim was there, and sailing on just about the first Tangaroa and an early Oro, inspecting a Narai being built in Singapore (five years ago), having had the plans for a Mk I Narai for "n" years and replacing them with the Mk IV plans some three years ago, my Mark IV Narai "DIABOLUS III" hit the water last Monday (April 1974). You will remember I commissioned a local tradesman to build her full time at his home. He has made an excellent job and seeing the amount of work put in (he took 10 months, 45 hours a week). Transportation to the water, and launching posed no insurmountable problems the hulls had been built in cradles and were free standing and it was just a matter of "mobile craning" each hull onto a house-transporter, unloading at a jetty and assembling on dry land, and then lifting the lot into the water with a mobile crane. She is not sailing yet - the rigging has not been started and I am "doing" the interior myself (i.e. painting and varnishing). She has been completed as standard in most ways as far as the hulls are concerned, and we found the plans clear and comprehensive. Interior and cabin top is as per plans, except for fewer windows in the cabin) Basic cabin top turns out to be very nicely proportioned and my misgivings about the outside frames running across the cabin top have proved unfounded.

I have 'designed' the rig myself, using details of masts etc from the Mk I plans. She is to be a gaff schooner ( only fools and racing men want to go to windward! ! but with fairly tall slender sails after the Dutch fashion, I think she will go to windward rather better than might be expected. Dutch traditional sailing craft were surprisingly close winded (see articles in Yachting Monthly March 1952, "The Gaff Rig in Holland", and August 1953 "In praise of the Gaff Rig". I am encouraged also that both Uffa Fox in "Thoughts on Yachts and Yachting" and Eric Tabarly in Pen Duick felt that the schooner rig was one of the finest rigs to go to sea. To finally complicate matters, the masts have to be lowered to get out of the river and so I have dreamed up a forestay-tackle arrangement a la Thames Barge. To form a bowsprit to extend the sail plan forward, to give an anchoring point for the mast lowering tackle, and carry the masts (the main mast falls between beams 2 and 3) a box girder 6" x 6" of ply and timber is being constructed which will run under all four cross-beams and out in front. I will let you have further details when I have seen whether it works.

Construction has been standard with best oregon pine and marine ply. For outer lamination of keel and stem/stern post I substituted Jarrah, a durable hardwood Silica /Bronze fastenings throughout, Dynel sheathed to 6" above waterline.

I kept a record of the money spent and so far it looks as follows:-

Timber Aus. Dollars \$ 1750, Plywood \$1700  
 Fastenings and Glue, etc, \$ 500  
 Dynel \$250, Misc. paint etc, \$ 100, Labour \$5,000

Total cost so far come to around £6,000 U.K. Help !

HAMMER, NAILS and a BIT OF GLUEWE HATE THIS FRIGID PLACE - OR "HOW TO BUILD AN ARCTIC CAT"

I think it all began when we first saw the colour picture of planet earth being sent back by the astronauts on their way to the moon. The preponderance of ocean over land hit us with a sudden impact, and I remember remarking to my wife Jean, "with so little brown, man will have to learn to live on the blue".....

With no knowledge of boatbuilding, we searched for a fairly simple plan; were impressed with James Wharram's design and began work on our ORO in the Spring of 1972. The bulkheads were built in our living room, as were the sections for the backbone (Oh the agony of wondering whether we had the correct curve). The only place we could find to set up the hulls was in a nearby marina, where the ground is most uneven - so once again there was the nagging doubt as to whether our hulls would end up with reverse twists. As it turned out they appear to be OK. One hull could have a slight longitudinal curve in it, but we have convinced ourselves that this is an optical illusion! We decided to build both hulls at the same time - not being able to face the prospect of beginning the whole process again. By the end of 1972 both hulls were stringered up and had to sit out in the long cold Canadian winter like gaunt dinosaur skeletons for six months. The 6mm polythene with which we had covered them ripped to shreds in the first gale! A word of warning to other builders - never put wood preservative on a boat until construction is completed. We did, and then found to our horror that wood thus treated will not take resorcinal glue. Luckily, epoxy worked, so we switched to this. In 1973 the hull planking was put on. It hardly seems fair that so much backbreaking work can be described so simply. Jean weighs 110 lbs soaking wet. How she held up a 4 x 10 sheet of  $\frac{1}{2}$ " fir ply slippery with epoxy whilst I got the first nails in I'll never know. To other ORO builders I suggest you modify the plan slightly. If you move the centre bulkheads about six inches further apart you can use 4 x 8 ply sheets to cover the sleeping cabins rather than the much heavier and more expensive 4 x 10's. Make sure however, that ply sheets are not butt jointed at a bulkhead if they are, leaks are likely to develop. Ideally ply sheets should be butt jointed between bulkheads/frames using a ply butt block (Editor).

This will also give more room in galley and chart room. The ply at stem and stern was pulled tight to the stringers using the classical Wharram method of driving nails right through ply and stringer, then bedding the nail ends over (untidy but strong!). After deciding to use the nylon/resorcinal method for sheathing we discovered the WEST (Wood Epoxy Saturation Technique) system and are very glad we did. It is simple and effective. All ply and lumber is coated on all sides with "WEST" epoxy, thus sealing the wood completely. The same epoxy is used for making glue and fillers. Two coats on the inside of the hull and four on the outside and the boat is ready for painting - no messing about with fibreglass or nylon. It has other good applications too, like allowing the use of screws in soft wood such as cedar. You simply drill a hole larger than the screw, fill it with epoxy paste and push the screw in with your thumb. The epoxy grips the screw and soaks into the surrounding cedar. If you wish to make the screws removable simply coat them with wax before insertion. We used this system to fix our skegs, inserted  $\frac{3}{8}$ " epoxy coated dowels and smoothed off the ends. Result? - a solid fixture with no screws to rust. We will probably use the same method to fix deck planks and bulwark rails. On the hottest day of last summer (90° in the shade) we turned the hulls and moved them into a shed at the marina. It took 9 men 8 hours and 48 bottles of beer!

Talking of costs: inside winter storage for an ORO here costs about £250 for six months. So you can rest assured that we will be working overtime this summer (1974) to get the hulls decked over and epoxied so that we can move them outside where it is a little cheaper.

cont'd... W.H.T.F.P.

Since Jean and I are planning to move into semi-retirement in Spain in October 1976 we have to complete our ORO by then. One of the problems we face in Spain is the exhorbitant import tax on boats. (80% of value as assessed by the authorities there). Since the resale value of polynesian cats appears to be somewhat low, note the NARAI offered recently for £1000 only? - perhaps we can convince the authorities that our ORO is only worth about £2000, in spite of the fact that it will cost a good £7000 to build (not including labour costs) We are not sure at this stage just how we are going to get it to Spain. Since we know absolutely nothing about sailing and even less about navigation, we will probably opt for shipping it by freighter from Montreal. Would any of our P.C.A. members like to volunteer to sail an ORO across the Atlantic for us?

Then there is the name. Because of our "Spanish Connection" we had toyed with El Gato Blanco (The White Cat) but after figuring out how much it is costing us in wood, epoxy, etc, we feel "Gato del ORO" (The Cat of Gold) might be more appropriate.

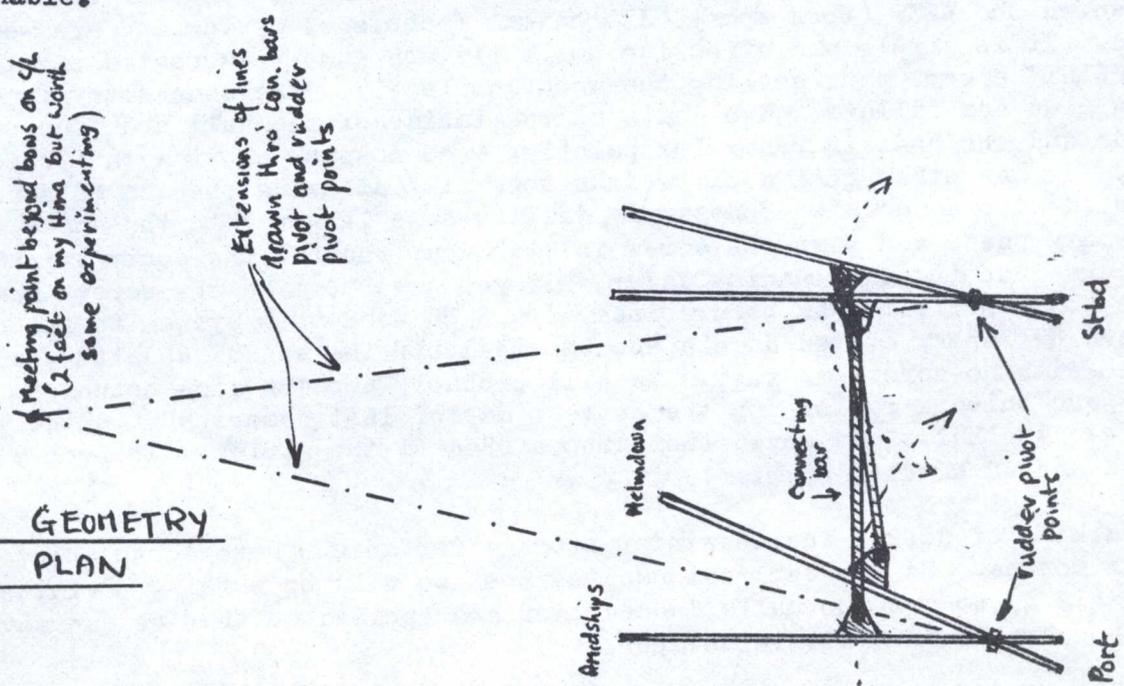
Roy and Jean Tattersall.

We look forward to seeing you in the Med in 1976 if our Narai Rani III is ready by then. So far we have one hull and the makings of the second. Editor.....

Doug Edwards of Langley Bucks sent the sketch below of the variable geometry steering fitted to his HINA. Although still in the experimental stages the results so far have proved so encouraging you may wish to pass on the information. With this type of steering the drag of the outside rudder is obviated and makes for sweet fast tacking even in the lightest of airs.

My HINA 'IO' (a Jovian moon) was built in spare time in less than four months and launched in Gelleswick Bay, Milford Haven. She performs well in force two and is through the 'hump' at sight of a breaking crest.

The mast is an old G.P. spar (£2) with a lowered gooseneck to accommodate a 100 sq ft, main. The genoa is from an Osprey. Both sails from Sail Register very reasonable.



VARIABLE GEOMETRY  
STEERING PLAN

BOSUNS LOCKERIn the Light of Experience

by Philip Wrestler

When you spend two or three years building a boat, you amass a good deal of information that might have saved you a lot of money - if only you had known about it in the first place. All you can then do is to pass information on in the hope that it will be of use to others on a similar venture. Addresses of suppliers of services and materials are amongst the most valuable knowledge one can have. Whilst I know that timber prices have rocketted, I would, if I were to build again, do so in wood. But I cannot stress too highly when buying timber and plywood to go to a lot of trouble in enquiring prices for they vary in a most incredible way. I ordered my Thames ply from Howard Bros, Ltd, Bitterne Wharf, Southampton.

Good quality Douglas fir of the grade known as 'clear and better' and suitable for beams, netting beams, tillerbar, sprit etc, is not easy to obtain. In my area I got very good timber from Peerless and Son Ltd, 51 Dolphin Road, Shoreham, Sussex

Nylon cloth for sheathing came from Fothergill and Harvey Ltd, Summit, Littleborough, Lancs. I used their K398 cloth. Although I ordered my cloth in batches over a period of three years, they treated all my additional orders as an extension of my first order and kept the price the same over all this inflationary period, a most fair and honest thing to do!

Whilst I bought most of my glue from CIBA Geigy (Aerodux and Aerolite) I also used glues from Borden Chemicals Ltd, of North Baddesley, Southampton. They make a resorcinol glue called Cascophen which I found totally satisfactory. They also make a waterproof resin glue called Cascamite. This really is waterproof inspite of the fact that you have to mix it with water. It was from Borden Chemicals that I got Cascote, the vinyl paint I used on the nylon sheathing.

For windows I used Oroglas of  $\frac{1}{4}$ " thickness, from Mooney Plastics Ltd, 17 Aintree Road, Perivale, Middlesex. Galley surfaces were covered with laminated plastic to give a nice clean worktop. Sefenite, which comes from Israel, is cheaper than Formica. It can be bought from Transatlantic Plastics Ltd, Surbiton, Surrey.

I used masses of nuts and bolts and it is not all that easy to get these, particularly if you want them galvanized even along the threads. But the people that do supply them are Messrs Galvanized Bolts and Nuts Ltd, 164 Bermondsey Street, London S.E.1.

Rubber for the mounting brackets I cut from  $\frac{1}{4}$ " sheeting. Cutting rubber is not difficult if you use a Stanley knife which you constantly dip into water. You usually buy rubber sheeting by weight and mine came from Chaplin and Co (Rubber) Ltd, 276 Camberwell Road, London S.E.5.

As far as steelwork is concerned, some of mine was made up by Smith and Jewell Ltd., Leigh Road, Industrial Estate, Chichester, Sussex and some by E.W.Hutchings, Forge Works, Britannia Road, Surbiton, Surrey. Whilst the work was well done, I now feel sure that I would have saved a great deal of money had I done more of it myself. For instance, I could have bought the steel for the mounting brackets and cut it up myself. I could then have got my local garage to do the welding, which would not have been very expensive. In fact, I did this for the last of my engine installations. It is even cheaper (as I've found) if you buy your steel from a scrapyard, like Cox and Danks Division of George Cohen Ltd, Britannia Way, Coronation Rd, London N.W.10.

Galvanizing is no problem and it is worth seeing that you get the proper hot-dip method. I used Harvey and Co, Ltd of Woolwich, London S.E. But Blake and Sons Ltd, of Sunbeam Works, Park Road, Gosport Hants, and Leech Brain and Co, Ltd Glaucus Works, Leven Road, London E.14 can also do it. It is worth telephoning

BOSUNS LOCKER CONTD.....In the light of Experience

by Philip Wrestler

round to check rates and (very important) see how long they'll take. I bought a cast aluminium steering wheel which I had plastic coated by Jura-Sprays Ltd, 27 Wates Way, Mitcham, Surrey.

My Carniti engine came from Bristol Boats Ltd, Mead Lane, Saltford, Bristol BS18 3ER, who are the main agents. The man to speak to is Mr. Sheppard.

The people that most satisfactorily moved my boat down to the coast are T.J.Clune, of Birdham, Sussex.

Finally, insurance was arranged for me by M. Richman and Co, 54 Eaton Drive, Lakeside, Kingston, Surrey, who got me a Commercial Union Policy.

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Tommy Thomas of Shrewsbury launched his Hina "Tawhaki" in June 1974. He was unable to get sailing until August due to the late delivery of sails (Sadlers & Sons, Burnham). No doubt other P.C.A. members have had similar difficulty, perhaps we should consider pooling information on availability of sails, costs, delivery etc. Would someone remember to discuss this at the A.G.M. in January

JLL.

+++++  
Peter Pille a new member from South Africa - building a Tehini - is keen to play chess by post, his first move is White P - K4. Why not drop him an airmail lettergram with your first move?. I am sure there is a lot more to discuss in regard to Polynesian Catamarans, building, equipping and sailing. His address is 13 ORIBI AVENUE CLAYVILLE TOWNSHIP Extn 7, 1665 OLIFANTSFONTEIN, Rep of South Africa.

DCL

+++++  
HINA sail No. 256 one hull completed, painted and varnished with timber (10 sheets Marine ply) screws, nails and glue to complete the boat and plans for sale.

T.S. Wilson reluctant to sell but is asking £175 for materials, his address is 88 Banks Road, West Kirby, Wirral Cheshire.

+++++  
LET THERE BE BREAD (Reprinted from the Portland Oregon Northwest Magazine 17.2.1974)

"Sailors) Mix a cup of warm sea water (for those sailing in polluted waters use fresh water with added salt. Editor) with three or four cups of flour, a tablespoon of sugar, and a package of dry yeast, to make a dough. The amount of water can be varied slightly to achieve the proper doughy mixture.

After these ingredients have been mixed and blended by kneading, it is allowed to rise. The best place for it is in a large pressure cooker, well greased and floured. Punch it down and let it rise again. Put the lid on loosely, leaving the valve open, and cook over a low heat for half an hour. Turn over, cover and cook for another half hour or so.... This is known the world over among bluewater sailors as salt water bread.... "

