



COASTWISE CAT

MENTION THE NAME of James Wharram and most people think of home-build Polynesian cats. Which is why most articles major on the constructional aspects of his boats, sometimes at the expense of the way they perform under sail.

To break with 'tradition' then, I shall start at the other end of the operation — away from the building shed, and out on the water.

How does his and Hanneke Boon's latest creation, the Tiki 21 really sail? The answer, I can reveal, is very well. Her long keels, which are a product of the sharp 'V' hull sections, grip the water with enthusiasm, leaving in their wake no discernible sign of leeway. Virtually all the energy she derives from her clean looking sail plan is converted into forward motion, making her dance across the waves as nimbly as a young dolphin.

As most sailors these days have been conditioned to consider windward performance as the major consideration above all other sailing attributes, that is where I shall start.

We set sail from the lee shore under headsail alone. This was a good test of keels and nerve but with a spell of vigorous paddling we cleared a rather menacing jetty and, without incident, reached open water where we set the main — and all without the help of an outboard. Tiki 21 is a craft full on innovation and her sail plan is no exception. Her jib is the standard triangular sail but her main has a shape more reminiscent of the traditional Dutch short gaff mainsail. This shape combines the advantages of a low centre of effort, a long straight luff and the simplicity of not needing sail battens. But the real step forward comes from the way the sail is bent over

Dave Greenwell sails the Wharram Tiki 21

the mast. Rather like a sailboard sail, the luff of Tiki's sail has a sleeve so that the mast and halyards sit inside the sail. This sleeve is somewhat deeper than those of sailboard sails and produces a very clean leading edge to the wind. A wrap around sail is not new, but combining it with the short gaff headed sail is, and the pocket is far more economical than some of the double sided sails that have appeared in recent years.

Out into open water we sped under full canvas. At every extra puff she accelerated and the changes in apparent wind direction as *Sisu-Mari* surged forward were quite noticeable. This made checking the angle through which she would tack rather difficult but by taking sightings of landmarks as we came about indicated she was tacking through about ninety degrees which makes her comparable with most modern cruising mono-hulls. Centreboards would possibly improve her windward ability just slightly, but for my money, any marginal gain they might bring would not be worth the additional draft and the loss of the beautifully simple nature of the hull form.

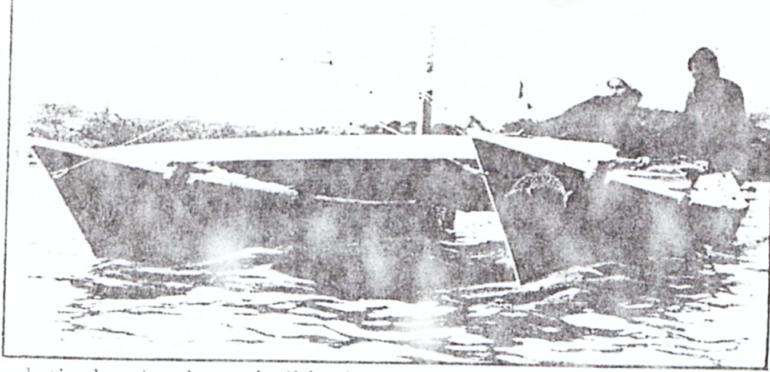
But what about all those cautionary tales you hear about catamarans being difficult to tack? I can only report that if they were all as well behaved as the Tiki 21, cat's would have never got that reputation in the first place . . . At the back of the building manual a section is devoted to tacking and the main piece of advice is to sail her round letting the jib back until the main fills — just like sailing any long keeler.

I put this into practice and *Sisu-Mari*

responded obediently. Tacking the Tiki 21 is a very gentle process needing only small tiller movements and there's no need to pay off to increase speed beforehand. The result is a very attractive combination of fast sailing between tacks and non-spectacular turns. Freeing the backed jib immediately the main begins to pull, avoids any tendency whatsoever to sag off down wind before gathering speed. The loose footed, boomless mainsail needed no attention from one tack to the other and the absence of a boom took away any chance of being bonked on the head during the manoeuvre.

One small criticism I had was the way in which the mainsheet block remained almost static on its rope horse from one tack to the next. As a result, the sheet tended to pull from the centreline of the boat rather than from one side. Loose footed mains tend to object to having their clews sheeted in to the centre of the boat because it tends to stall the sail. *Sisu-Mari*'s main showed no sign of stalling but pushing the clew down wind did improve performance a little and James told me that he intended fitting control lines to enable the sheet block to be pulled over to windward, he also said that he intended trying a pair of vangs from the top of the gaff to control the peak. This would, of course, add rather a lot of 'string' to the rig but I'm sure it would be worth the effort.

Would she sail under main alone? That was the question that intrigued me, and with all that emphasis on using a backed jib to bring her head round, the main part of the question was whether or not she would tack round under main only. The jib was lowered and the first, and very noticeable effect was a marked reduction in



Quietly knitting her way through the water, she gives no hint at all of her real speed, but even in a light breeze the miles slip quickly beneath her shallow keels.

relatively simple to build, they were labour intensive. Tiki 21 has been designed to overcome both these shortcomings.

Tiki 21 represents a new phase in Wharram catamaran designs. Instead of being aimed at the ocean sailor, she is intended for those people who, by virtue of their commitments to twentieth century living, are unable to break away completely but have the need to escape for short periods to recharge their souls. The idea is that the boat can be trailed to a chosen cruising ground, assembled on a beach or slipway and used for a type of coastal cruising that James calls 'coastal trekking'.

The idea behind coastal trekking is that all the family can take part, it gives you access to areas barred to conventional craft and you can escape completely from the commercialism that now surrounds most of boating. You don't need well maintained slipways, marinas, town quays or even harbours. All you need is an interesting stretch of coastline with a gently sloping beach and a few sheltered bays. Coastal trekking calls for a boat that can be sailed off a beach and back through the surf.

In designing Tiki 21 to perform this role James Wharram and Hanneke Boon laid down a number of requirements: she had to have enough accommodation for at least two adults and two children, she had to be towable behind a family car, easy to assemble and get afloat either from a slipway or a beach, sail in shallow water and, very importantly, be designed and presented in such a way as to make building both simple and quick.

The accommodation on Tiki 21 is extremely simple — some would say spartan. Each hull provides a single berth with dry stowage beneath. Further sleeping space is provided on the bridge deck under cover of the deck tent. The main difference between the accommodation provided by Tiki 21 and more conventional craft is that no attempt is made to build in fixed furniture. No bunks or fixed galley and no enclosed toilet. Instead, Tiki 21 provides space for these things which gives a much more flexible approach to cruising. In bad weather the hull cabins provide a measure of protection against the elements when sailing and certainly make a snug place for the children to keep dry and warm. But the

concept is one of camping afloat rather than cruising in a floating caravan. Those who enjoy camping ashore will, I'm certain, adapt quickly to this type of cruising and get a great deal of enjoyment and satisfaction from it; others who insist on padded arm chairs and a lock on the toilet door may take a little longer to adapt.

Making her trailable meant that the hulls, cross beams and so on have to be easy to handle ashore by two people and also quick and easy to rig at the water's edge. The solid wood frame and plywood panel construction of earlier Wharram catamarans would have made her too heavy so they turned to the epoxy stitch-and-glue method of construction which not only made her quick to build, but also comparatively light and, therefore, easily moved about on shore. Even the cross beams are made by gluing light pieces together to form a very strong 'H' section which weighs only a fraction of what a standard laminated beam would be.

The hulls are attached to the cross beam by lashings which may sound rather crude but is, in fact, a very elegant solution which is both neat and foolproof. You can see at a glance whether or not the lashings are in good order and any problems show up a long time before they become critical — also replacement is cheap. And lashings provide that measure of flexibility that is a feature of Wharram catamarans and one that James believes plays a major role in the seaworthiness of his craft. Tiki's rudders are also lashed on rather than hanging on conventional rudder fittings. A figure-of-eight lashing is used which works extremely well and gives a very firm and secure feel to the rudder system — no back lash and no play yet not in the slightest bit stiff.

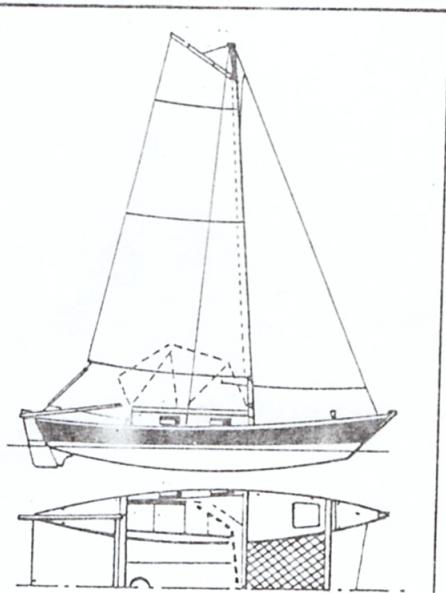
Everything on the boat has been well thought out in terms of easy assembly. James and Hanneke took about three quarters of an hour to put *Sisu-Mari* together, including taking her off the trailer, and they had only done it a few times before. I spoke to someone who had done the job a few more times and was assured that it can, in fact, be assembled in about half an hour.

Presenting the design in a clear, concise way is something James Wharram is very particular about. Designing for professional boatbuilders is far easier than for the amateur builder he

explained. Unlike the professional builder who knows about the detailed construction of boats and therefore can be left to his own devices to quite a degree, the amateur has to be shown every step in detail. To this end, James has an able ally in Hanneke who must take the credit for the excellent drawings that accompany the design pack. The information on how to build the Tiki 21 is presented in a set of plans that give the dimensions of the plywood components, and an illustrated builder's manual. This takes you through every step of construction from selecting the appropriate grade of plywood to sheathing the hulls with glass cloth and epoxy, making the bridge deck parts, mast and spars and even a trailer to carry it on, it even gives hints on sailing techniques.

The illustrations leave no room for ambiguity. You simply follow the instructions and exercise your creative talents on producing a good finish rather than trying to impose your own ideas on the basic design. The reasons are simple. Apart from a possible weakening of the structure, the resulting boat could not honestly be called a Wharram cat'. Your modifications might suit your own needs but when you come to sell her, you could well have destroyed the resale value.

Why would you want to sell your Tiki 21 after putting so much love, care and attention into her building? Having caught the boat building bug from the 21, you might well decide then to build a Tiki 25, the prototype of which was taking shape when I was enjoying myself on James' and Hanneke's Tiki 21. But that's another story.



TIKI 21

LOA	21ft.
LWL	18ft. 6in.
Beam.....	12ft.
Draft	1ft. 2in.
Displacement	600lb.
Sail Area	208sq. ft.
Price plans	£50.00
kit	N/A
Designer	James Wharram Designs, Greenbank Road, Devoran, Truro, Cornwall TR3 6PJ Tel:(0872) 864792.

her speed through the water. The jib accounts for 78sq. ft. of her total sail area of 208sq. ft. — only three-eighths of the total area — but certainly accounted for more than three-eighths of her speed. But this ability to reduce speed a significant amount I found comforting because there are few things worse than charging into a situation where a steady, slow approach is the seamanlike course of action.

Time to tack so I put her tiller over at about thirty degrees — so as not to slow her further — and around she came. The main fluttered a little as we went through the wind, gently filled on the opposite tack and we quietly set off again. This, I admit, was quite a surprise so I did it again... and again. By this time the wind had dropped to a nice breeze and the sea was flat. Whether wave action would have prevented her coming about under main alone is difficult to say.

On a couple of occasions *Sisu-Mari* did get caught in irons — mainly due to my making ever smaller rudder movements — but this only served to demonstrate another of her abilities, that of sailing astern under complete control. There is, of course, nothing new about sailing backwards. But it is one of those wonderful manoeuvres that seems to have been neglected by many sailors of today — probably due to the iron tops'l. The outcome of being able to sail the Tiki 21 astern, however, was that in a very short time of being held in irons, she gained steerage way astern and a small amount of opposite rudder very soon had her main resetting on the opposite tack. Within seconds we were again making good headway.

Under full sail once more, we headed out into Falmouth Bay to see how she would behave in a seaway. Now, those who feel that they are not sailing properly unless they have the lee rail under have often been heard criticising multi-hulls for their rather bland, unexciting ride. Most, I'm sure, would change their opinions if they felt, at first hand, the sheer thrill of the Tiki 21 dancing across the waves, cutting and rising to the swell with natural ease and totally without strain.

Her fine entry hulls made very little fuss as they sliced through the water and, as a result, she is surprisingly dry. Unlike earlier Wharram catamarans that had slatted bridge decks, Tiki 21 has a plywood panel bridge deck. This coupled with the trampoline laced between the hulls the bow beam and the leading edge of the bridge deck makes her far less open to flying spray. In really choppy seas, some water will come aboard through the trampoline lacing but the crew should not have too much difficulty keeping fairly dry.

"Time for lunch," someone said, so we headed back having had a most exhilarating sail which every bit made up for the penetrating cold. Wriggling into a quiet shallow creek with trees down to the water's edge, we dropped

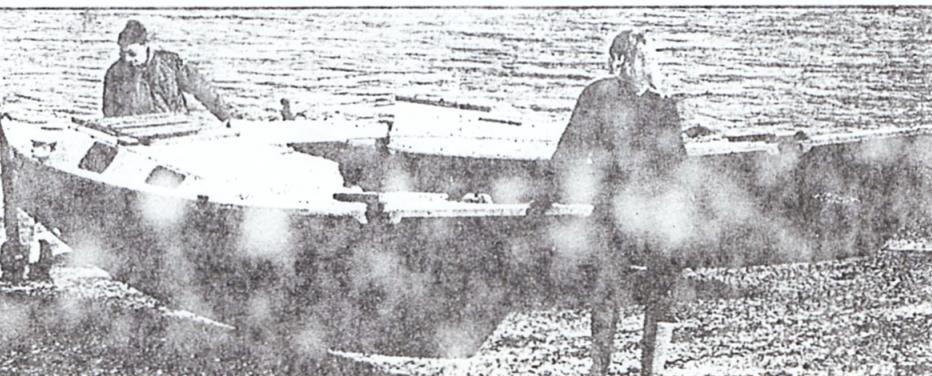
the hook, lowered the jib and tacked the main against the mast. To do this we dropped the peak of the gaff and took a spare halyard round the mast and sail a few times — a brailing line would have been even better. If it were my boat a brailing line would be a must. A few moments later the 'pram hood' type deck tent was up and warming food was being prepared on the portable galley rigged in the companionway of the port cabin. A glorious picnic in the thin winter sun was soon in full swing.

Time to get under way again and I attempted to try her under engine. I say attempted because the black painted outboard that had seen better days stubbornly refused to engage its starter mechanism. So we abandon that test and I tried a spot of sculling instead. With a large sweep located in a crutch on the after beam of the bridge deck, I made good headway until, that is, we left the shelter of the creek where wind hitting the furled sail almost stopped us dead. The sweep was not quite right for my sculling technique, and the sculling notch left something to be desired, but these are easily modified.

As for the outboard attachment on the Tiki 21, a 'well' is built into the after end of the bridge deck. This means that the motor head occupies valuable space on the bridge deck but, on the other hand, is well protected from the sea. We sailed with the engine in place and I felt that it got in the way to the point that if I were sailing a Tiki 21 regularly, I would carry the engine stowed in one of the hulls and only break it out when it was needed. The fact that you can stand directly over the mounting bracket makes shipping and unshipping the engine a safe and easy task so it would not be like fitting an outboard on a transom hung bracket.

Having tried her on all points of sail and included a good number of sedate gybes — not usually my favourite manoeuvre — and found her without vice, the only thing that remained was to find out if she would heave-to. We backed the jib, slackened the mainsheet a little and put the helm down. She showed some reluctance to slow right down but by adjusting the rudder angle, she settled to a downwind drift plus a small amount of forward way

Assembling *Sisu-Mari* at the water's edge. The whole job should take two people half to three-quarters of an hour.



that added up to around 2 knots. Rather fast, you might think, but possibly not when you consider that the Tiki 21 is a relatively light craft with only 14 inches draft. There's little doubt in my mind, however, that she would respond well to the controlling influence of a sea anchor properly rigged just forward of amidships from the weather hull.

My overall assessment of the Tiki 21's sailing ability was that she is quick and responsive without being too exciting. She showed no sign of lifting her weather hull nor did she bury her lee bow, and although she will not tack round as quickly as a fin keeler she certainly loses no time or ground coming about.

But the way she sails is only part of the story. There is a lot more to Wharram catamarans than just sailing along. They are about people building their own boats and experiencing the joys of feeling something that they have created take on a life of its own. They are also about satisfying that primitive need for self expression. But it can be a long and arduous journey between having the notion that you would like to build your own craft, to bending on the sails for the first time. With his designs, James Wharram attempts to bridge that gap by presenting plans which leave no constructional details to the builders imagination.

Traditionally, Wharram catamarans were deep-sea voyagers designed to withstand anything that mother nature could throw at them. They have sailed through tornados and it is still their proud boast that not one has ever capsized. While other designers were devising such things as masthead floats to counteract the effects of capsizing by preventing their catamarans from completely turning turtle, James held doggedly to the principle that a catamaran can be designed in such a way as to make a capsizing virtually impossible.

Traditional Wharram designs, however, used basically traditional methods of construction with plywood panels over a timber frame and although at the time, they were considered relatively light displacement craft — they carried no ballast — even the smaller designs were not easily trailerable. Also because of the construction techniques, although they were