

OFFSHORE

NUMBER 30

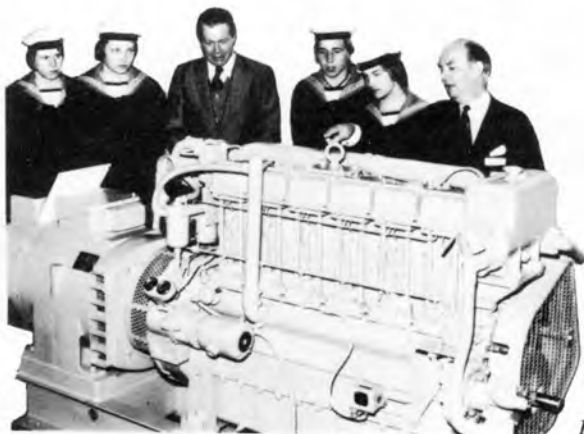
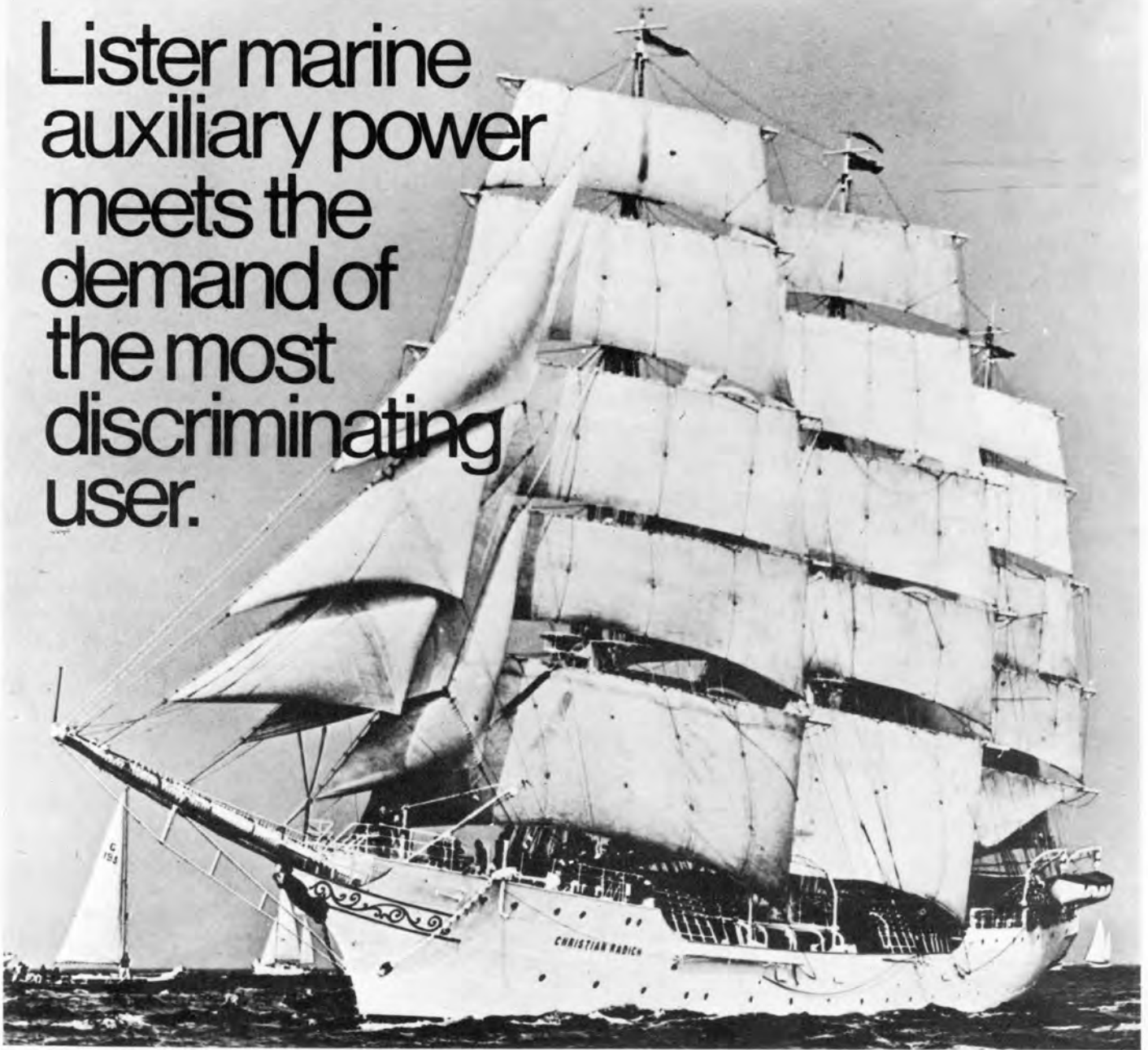
JUNE - JULY 1976

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SAILS AND
RIGGING
ISSUE



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OFFSHORE

Number 30

June-July 1976

SAILS and RIGGING ISSUE



Cover: This issue's special feature, sails and rigging, is suggested in Lesley Brydon's photograph taken aboard 'Ballyhoo' during the China Sea Series. The ghostly tones of our cover were achieved by printing Lesley's positive colour transparency on black-and-white photographic paper, producing a negative image. —Ed.

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Well, what was once a rumour is now reality; the Kiwis will sail two teams in the next Southern Cross Cup. Their approach to the CYCA on the matter was based on the difficulties they faced in selecting a truly representative team from widely separated centres of ocean racing in that country. That sounds like a familiar debate.

Meanwhile at home the centre of activity of Admiral's Cup preparations appears to have shifted to Melbourne where Peter Farfors (ex *Superstar*) is rumoured to be preparing a new Two Tonner for the trials, John Musgrove (ex *Fantasy Rag*) is interested in a new 47 footer for the same game, and that perennial ocean wallop Lou Abrahams has also been in earnest conversation with more than one designer. What price Admiral's Cup trials on Port Phillip Bay?

Whatever the rumours, it is one thing to buy a boat, quite another story altogether to guide it through to an appearance at Cowes as more than one Sydney P.B.O. will attest. Meanwhile the new *Ragamuffin* grows and looks better and better.

Alan Blackburne, who has had a major role in the construction of the new "Rags", has also been kept busy working on lowering the ratings of a few older boats, with mixed success. *Geronimo* down to 35.5 from 36.3; *Love and War* has not had much luck with her rating so far but is 1500 lbs lighter, and now *Patrice III* has also joined the battle of the computers. Come spring it will be interesting to see the effect of all this in the result sheets.

* * *

Much talk around the club bars about the gradual demise of level rating competition that I cannot agree with. It is true that the One Tonners have faded, at least temporarily, but I have no doubt that they will reappear given sufficient incentive. In the meantime the Quarter and Half Ton fleets are stronger than ever and attracting many ex dinghy sailors who might have otherwise given ocean racing a big miss.

There are supposed to be eleven Farr One Tonners on order for Sydney-based yachtsmen. Whether they will all eventuate remains to be seen, and if so they may not all race as One Tonners.

OFFSHORE — June/July 1976

Even so that is a pretty heady list for a class which is supposed to be on the way out. The big attraction of the Farr design, apart from the success of *Prospect of Ponsoby* during the Southern Cross Cup, is the reduced fitting out costs vs more conventional One Ton designs. A One Tonner with headsails and associated gear the same size as a Half Tonner represents a big saving in the cost of racing and still leaves the owner with a One Ton sized hull for cruising.



by John Brooks

Did you hear about the would-be round the world enthusiast who built a magnificent chart table cum cocktail cabinet cum practically everything else into his boat only to find that the charts did not fit. So he took them along to a local printer and had the charts trimmed with a guillotine to fit the table. This also got rid of all those messy grids and numbers down the side of the charts.

* * *

Jack Rooklyn seen wearing a big grin lately after taking the double in the China Sea Race. *Ballyhoo's* development problems seem well and truly settled, and the Green Machine is really flying these days. She is now on the way to Honolulu via Taipei and Osaka for the Round Hawaii Race late in July.

Hong Kong Yacht Club has a long way to go before they can claim to be running an international event in the China Sea Race in spite of entries from Japan, Singapore and Australia. It remains essentially a home town effort and in that respect the competition is relatively pedestrian. It was virtually impossible to get progressive race information during the race, both at sea and ashore, although the media were keen to report the event. At the pre-race ball none of the international boats or visitors present were welcomed during the speeches, and neither was Severino de la Cruz. Who is he you ask? Just the Commodore of the Manila Yacht Club, co-sponsors of the event, and he was not very impressed.

In Manila after the China Sea Race the entertainment was all one might expect after hearing stories of legendary Philippino hospitality. One very popular game was musical beds, and with a two-day start on the rest of the fleet the *Ballyhoo* crew established a commanding point score lead. Winners of the event were Tom Stephenson and Mike Summerton who dead heated after a play-off at the Manila Hilton. There is no truth to the rumour that the Manila Hilton collapsed after the white ants left for Australia.

Speaking of match racing, which we weren't because the original paragraph was cut, it seems a great pity that there is so little of it done here in Australia. Maybe this is a field worth the attention of those Board Members seeking ways and means to revitalise the C.Y.C.A. What about a match racing series with those new dinghys we are reputed to be buying; nothing too serious at first, say, a Wednesday evening series from the dinghy ramp out to the # 3 naval buoy and back, points to be cumulative over two months or so. Later on we could get serious about it with a couple of Etchells or any other pair of keel boats. What about it OFFSHORE readers, anyone interested?

THE CHINA SEA SERIES



Story and photos by Lesley Brydon

The true story about this year's China Sea Series could never be contained in yet another saga of the sea but told more aptly in yet another bawdy yarn about yachtsmen's experiences ashore. From the point of view of international sailing, there is little to distinguish the China Sea event . . . there was no really stiff competition from other entries, and sailing conditions were largely monotonous.

But any race sailed between two exotic ports such as Hong Kong and Manila has to have its own charisma, and it wasn't long before *Ballyhoo's* crew had sorted out the main attractions and found themselves completely at home in the world of Susie Wong.

They spent a tireless week preparing for the main event, devoting equal time to the bar of the Royal Hong Kong Yacht Club, with its amusingly decadent colonial atmosphere and the somewhat seamier side of the city . . . the girlie bars of Wanchai.

With the boat in top condition they sailed the 650 miles to Manila in just over 4 days which provided a suitable period of rest and recuperation before launching into the even spicier delights that waited in Manila.

But trouble wasn't only confined to the bars, for elsewhere in the China Sea area one particular female was causing heaps of problems. She was definitely out of season, according to officials of the R.H.K.Y.C. But regardless of this, on the eve of the big race, Typhoon Marie continued to rage . . . with winds up to 175 mph . . . 100 miles east of the island of Luzon in the Northern Philippines and travelling right up the rhumb line of the course between Hong Kong and Manila.

At a meeting of skippers and boat owners a vote was taken and it was decided to postpone the race. There was general feeling of relief among certain of the crew of *Ballyhoo* . . . some of us had taken her through tropical cyclones in the Pacific where the winds had been mean and destructive . . . but never anywhere in the vicinity of 175 mph.

But eventually Marie changed course and took her tantrums east to the Pacific, so the long race began on the day after schedule.

With Jack Rooklyn at the helm and Tom Stephenson calling tactics, *Ballyhoo* went to the start in a nice little nor'easter, but when the starting gun went it was like a switch that turned off the fan. For nearly an hour we drifted in the murky Hong Kong waters with the fleet in a state of confusion. Some with spinnakers, some with light weight headsails with the breeze coming in little puffs from any direction — it was a matter of just grabbing what you could get.

Eventually *Ballyhoo* took a good lead and was heading for the first mark when she fell into a hole. For an hour and more she was practically immobilized in a steep sea and a strong south-westerly set. Other boats escaped the hole by tacking sooner, and when the wind came in again we were mortified to count several boats ahead of us. (We were still in full view of the spectator fleet who had expected to be impressed by the performance of this maxi ocean racer.)

It was dark when we approached the mark and it was difficult to find, located somewhere in the vicinity of a warship which patrolled the fringe of Hong Kong waters.

Beyond the warship lay the waters of Red China, and these were patrolled by communist gun boats. It was definitely unfriendly territory. As we searched for the mark in the dark and pelting rain, two vessels suddenly appeared ahead of us, speeding fast and purposefully in our direction . . . communist boats, there was no doubt in our minds. Could we have drifted unwittingly into communist waters . . . ? It wouldn't be difficult in the conditions we'd experienced that afternoon. No wind and that strong southwesterly set carrying us towards the mainland. Even Stan Darling was having a moment of doubt.

The boats were almost on top of us and we feared any moment to hear shots fired in our direction . . . but they came closer in silence and passed us with indifference and in the glow of their lights we recognized them . . . a couple of Chinese fishing trawlers.

We rounded the mark and the breeze kicked in and the first night at sea became a bit of a nightmare. The seas were huge and the monsoon pelted down with raindrops like bullets. There aren't many occasions when I've thought that being the cook was the best job on the boat, but as I rattled around in the warm and dry of the galley, I figured it was a whole heap better than the cold and misery on deck.

By morning the boisterous conditions had died, and there followed a day's good sailing when, with sheets slightly eased, we logged 199 miles. By next morning, however, the instruments recorded no more than two knots of wind, and by afternoon it was again a similar story. All day *Ballyhoo* paddled along doing at best 4 to 5 knots.

On Tuesday morning the radio spluttered and went silent, and before it was repaired we had missed two radio skeds. That night the weather broadcast was rendered totally inaudible by a very powerful Chinese station broadcasting on the same frequency, not unheard of in these parts. It has been a practise of Communist countries as a form of psychological warfare to jam other nations' transmissions anywhere in their vicinity, at least until they can ascertain the nature of the broadcast. So whether wilfully or unwittingly, all race broadcasts were wiped out that day.

From here to the finish the race was uneventful. We carried a spinnaker for the last 24 hours, but the pace was unimpressive. There appears to be a big no-wind area in the waters around Manila which there is no way of avoiding, and the heat in this area is especially trying. As the temperature soared well over the century we raised a sun umbrella over the cockpit and passed the odd can of San Miguel around the deck, feeling very grateful that we weren't sitting out there in a fibreglass hot box.

Around midday Steve Bull was hoisted to the top of the mast to look for wind, but even from ninety feet up there was nothing. Jack Rooklyn reached such a peak of boredom that he volunteered to do a stint in the galley and won high praise for his wonderful French toast.

The finishing line was situated off Corregidor Island thirty miles out of Manila with the notion of sparing the yachts the trials of crossing another notorious no-wind area into Manila Harbour. Consequently there were only two

spectator craft to welcome *Ballyhoo* as she crossed the line taking line and handicap honours, but back in the Manila Yacht Club it was a different story. In the opinion of all

the Australian yachtsmen, the Manila Club is one of the top spots in this world — little more than a bar and a huge verandah which extends out over the bay, alive with Philippino music and friendly Philippino service. It serves wonderful breakfasts on the terrace with fresh tropical mangoes, pineapple and papaya and splendid curry lunches in vast silver tureens.

Party night is every night, and the presentation dinner was a memorable affair. Tables covered with Philippino lace and bundles of coloured flowers extended all the way along the Yacht Club marina. It is a truly exotic setting marred only on those occasions when a light nor'easter wafts across the bay, carrying with it the unmistakable smells of the city's canals, and the heavily-armed security guard which surrounds the Club leaves the visitor in no doubt that he is in a country under martial law.

For further information about the series, it will be back to the bawdy yarns. If you happen to be chatting to the boys in the bar, you might ask Don Mickleborough how it feels to go for two weeks without sleep or Mike Summerton why he still prefers blondes.

Dave Burke has a unique story about the only guy who got a knock back from a Philippino bar girl. Stan Darling could tell how he found a strange and beautiful naked girl in the captain's cabin dispensing drinks early one morning, and Tom Stephenson could probably tell how she got there.

Harry M. Gooch will talk for hours about how he entrepreneurial the whole deal and so efficiently arranged accommodation for the boys that they generally had to sleep in someone else's bed at the Hilton Hotel.

And you will hear about the submarine commander (dubbed "Upscope" by the crew) who made a guest appearance in the *Ballyhoo* crew and is probably still trying to find his way back to Bangkok. He'd lived all his life in the East and waited forty years for a bunch of Australians to show him how to enjoy it.



Lesley Brydon, who went along on *Ballyhoo* as cook, photographer and journalist.

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Watson's Knaviguessing Know-how

At the time of writing I'm sitting up in North Queensland soaking up sunshine, having just delivered *Corroboree* to her new owners in Townsville. The trip was accomplished in seven days of sailing, plus a few stops, and was punctuated by a late cyclone which forced us to shelter in Nari Inlet, Hook Island – certainly an anchorage I can recommend.

As a voyage, it was reasonably uneventful, 25-30 knot SE breezes most of the time. We patronised Lawrie's new marina in Mooloolooba where Ken Flehr (ex *Marara*) is now established as sailing consultant and yacht broker. Ken is also Rear Commodore of Mooloolooba Yacht Club, in charge of sailing, and actually inveigled me on to a lengthy protest committee while I was there! Lawrie's was good . . . something like a yachting caravan park with all the necessary facilities for a cruising stopover.

Wide Bay bar was lifting a bit, and the channel is well to the North of the first leads. Apparently the banks moved during the cyclone season. We called in at Gladstone and rafted up with *Love and War*, *Leda* and *Helsal* as we were between the Gladstone and Cairns races. It was like a branch of CYC. Due to neap tides we couldn't go through the Narrows, so we had to bash back out again into the south-easter. Great Keppel and Hayman were our only other stops before picking up the mooring in Ross Creek, Townsville, 18 days out of Sydney.

Working the sets as we progressed up the reef brought it home to me how important it is to analyse the situation progressively and continuously. With reduced visibility, your DR can be seriously wrong if you have not allowed for the action of the tide. (A few yachts were in strife in the Gladstone – Cairns race.) The chart and the pilot give a good indication of what can be expected, and these should be consulted with the tide tables. Let's face it, a 1½ to 2 knot

set across your track can be devastating when you are making 4 to 5 knots, and soundings can give no warning of impending disaster. We were in the bad situation of having no log or speedo for the entire trip, which didn't help at all!

Here's an interesting problem, totally academic, which you can play with. Steering north with the true breeze 45° on the port quarter, we are making 5 knots through the water. The set is west at 2 knots. If we wish to leave close to port a rock now bearing north, distant 7 miles, and do not alter course until we can gybe to to bring the breeze dead astern, what will be the bearing and distance of the rock at the time of gybing? Ignore the effect of the set after the gybe. A picture will help . . .



Last issue we asked you about a ship showing two red and two white lights. Did you work it out? The correct answer was "a ship aground". Such a vessel carries the white anchor lights (two if 150' or longer), plus the red lights of a vessel not under command. I'll let you check out the rule, and I'll be back again next issue.

— Hedley Watson.

JUST WHAT IS A BLOOPER?



Bill Harvey's 'Wunderbar' carrying a North's tri-Radial spinnaker and a BLOOPER during an offshore race. Gareth Welch photo.

Reprinted by courtesy of YES Magazine

Just what is a Blooper?

It's the ridiculous looking jib that hangs opposite the chute like a drunk from a lamp post.

It adds half again to your spinnaker area and steadies the boat on a run.

So, maybe it's not quite so ridiculous after all.

The air flows off the spinnaker onto your Blooper and you can use it at up to 120 degrees apparent.

Modern IOR boats' fine ends, short keels, small rudders and high-aspect-ratio mains make for relatively unstable rigs under spinnaker in high winds and rough seas.

By balancing the effort of the chute, the Blooper dampens side to side oscillation, allowing you to carry a larger spinnaker than you otherwise could.

This also eliminates the need to sail closer than 165 degrees

apparent and avoids rudder drag need for control.

As the wind increases and downwind tacking becomes less effective, just lower your main slightly and hoist the Blooper.

Fly it without a tack pennant and outside your pulpit to avoid chafe.

Use your spare spinnaker halyard and set it outside your spinnaker sheet.

By easing the halyard about 15 percent, you create a sag with the Blooper's exaggerated luff curve that's congruent with the spinnaker leech, and they marry up, so to speak, without overlapping each other.

The clew is cut high and its sheet runs well above the boom to the transom.

Trim by playing the halyard and sheet together.

Instructions for flying Bloopers

Description. The BLOOPER is considered to be a jib rather than a staysail and is measured as such. The LP is usually equal to the LP of your largest headsail, as we have yet to find a BLOOPER that was made too large. The foot will be very, very long and the clew quite high . . . higher than the clew of a normal jib top. The luff is not a straight line, rather it is curved to allow the sail to fly away from the spinnaker. The three sides of the sail are all made with heavy duty tape (wire rope is not necessary as the luff is never tight as the sail flies better when it is allowed to sag quite a bit).

Extra Equipment. The BLOOPER should be flown from an extra spinnaker halyard, as a wire Genoa halyard will tend to work-harden and does not swivel as the spinnaker halyard does.

Your should also have a topping lift permanently attached to the main boom and, if possible, adjustable from the inboard end of the boom. NAYRU safety requirements include this topping lift, so it does not often have to be added to the boat, particularly if the boat happens to be a level class racer.

When to use. The BLOOPER can be flown with the apparent wind angle at least as close as 150°. As the wind moves further forward, a large, tall spinnaker staysail becomes more efficient, and you will have to experiment with both to decide which sea and wind conditions are better for either.

In very light air of 3 to 6 knots true, it is usually best to tack downwind with the apparent wind angle at between 130° and 150°. The entire mainsail can usually be flown under these broad reaching conditions, and with the pole between 45° and 60° off the headstay, your boat speed will usually be faster than attempting to go dead downwind.

As the wind continues to increase above 6 knots, you will improve your speed made good downwind by tending to steer with the apparent wind approaching dead astern. In about 12 knots of wind, you should be able to steer nearly dead downwind, at least with the wind between 170° and 180°. In these conditions the mainsail should be lowered to the bottom batten in relatively smooth water and perhaps lowered altogether if rough water tends to make the BLOOPER difficult to fly.

As the wind increases, the BLOOPER acts as a steadying sail, allowing you to carry your maximum size spinnaker and the BLOOPER in much higher winds than otherwise possible. With the BLOOPER counteracting the sideways heeling force created by the spinnaker, the boat will sail relatively level when heading nearly dead downwind. When the BLOOPER is lowered and the mainsail hoisted, the spinnaker will tend to roll the boat to windward, causing a tendency to broach to leeward, hence additional rudder and drag and ultimately forcing one to sail closer to the wind at about 165° apparent to maintain stability. The use of the BLOOPER usually allows complete control with minimum drag when sailing dead downwind in these heavy weather conditions.

Trimming the blooper. The luff length of your BLOOPER is just the right length to allow the sail to measure in when measured as a headsail. This means that the luff must be relatively wrinkle free when the sail is tacked at the bow and

hoisted. Consequently, the tack of your BLOOPER must always be in the tack pin at the tack fitting, and never allowed to fly above through use of a pennant, as the rule specifically states that the length of the pennant must be included when measuring the luff length of your BLOOPER. Of course, if your sail by design was made to be three feet short, for example, then a three foot pennant could be added at the tack. Our BLOOPERS are made as close as possible to the maximum tolerance, and you must not use a pennant at the tack. Be sure the tack of the BLOOPER is led underneath the pulpit and then to the tack fitting. If you lead it over the pulpit it will chafe and subsequently tear.

As mentioned earlier, the sail is flown from the spare spinnaker halyard entirely outside of the spinnaker sheet. The curvature of the luff of the BLOOPER and the manner in which the halyard is tensioned allows the sail to easily fly to leeward of the spinnaker sheet. The halyard is usually eased between 10% and 15% of your "I" dimension to create a sag that somewhat approaches the curvature of the leeward leach of the spinnaker. You should experiment with the halyard tension to find the optimum position of the head and consequently the luff of the BLOOPER with respect to spinnaker leach. We recommend that the upper half of the BLOOPER be as close to the same curvature of the spinnaker as possible and that it be as far away from the leach as seems reasonable without loss of projected area. In other words, you can ease the halyard off too far and you can very easily get it too tight.

The sheet on the BLOOPER should be led all the way aft to the transom, over the top of the boom and up the leach of the mainsail. The clew of the BLOOPER is designed to be quite high so the sheet might remain 6 to 8 ft. or more above the boom of a medium-size boat. Ease the sheet so that the sail tends to luff in harmony with the spinnaker. It is very easy to overtrim a BLOOPER and pull the boat sideways rather than forward. Adjust the sheet and halyard together to achieve the shape that gives you the best downwind, speed.

How to jibe a Blooper

1. Square off and make sure both BLOOPER and spinnaker are stable.
2. Jibe the pole, but leave the pole low on the new side.
3. Ease both the BLOOPER halyard and BLOOPER sheet, while . . .
4. The helmsman slowly steers the boat into the new tack. This washes the BLOOPER around the outside of the now low flying spinnaker.
5. Once the BLOOPER is around the spinnaker let out the BLOOPER sheet completely (which collapses the BLOOPER), and race the BLOOPER sheet forward and reset on the other side.
6. While the BLOOPER is being reset raise the pole to the required height. Then watch the opposition blow their minds!

This technique works well in above 8 knots true. Below this the boat loses too much speed square running while the act takes place.



Special Feature

As the majority of racing yachts are designed to fit a rating either precisely (in the case of level-raters) or approximately, the determination of sail area and its "distribution" between mainsail and headsail is a design factor generally decided by the designer.

Any later decision to "up the rating" or reduce it may, of course, change the rig design; however, generally speaking the sail plan, including sail area, distribution of sails and rig type (in respect of masthead or sub-masthead, e.g., $\frac{3}{4}$ or $\frac{7}{8}$) is within the brief of the designer.

The decision having been made as to the above three factors however, more and more yachtsman are looking to the experienced spar maker and rigger to advise on the rig.

Should the rig "genus" chosen be masthead, three "species" present themselves as the most common possibilities.

- (1) single spreaders
- (2) double spreaders
- (3) Bergstrom — Ridder type

Single or double spreader rig

Essentially, the reasons for providing more than a single set of spreaders are: (1) to achieve a shroud angle that will provide sufficient mast support without excessive compression. The low limit on shroud angle is probably in the vicinity of 8° ; however generally speaking, an angle of 9° minimum to 11° maximum should be aimed for.

(2) to enable a close angle to be obtained on headsail sheeting. This is primarily a requirement on the racing yacht; however it has some relevance to the efficient cruising yacht.

(3) to reduce the panel length of the mast so that an l/r ratio for the longest panel, in the vicinity of 100, can be achieved.

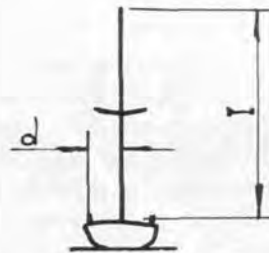
As a guide to making the first decision in designing the rig layout, i.e. whether to use single or double spreaders, the following rules can be adopted.

(It is assumed of course, that the chain plate position has been decided for construction considerations or for a desirable headsail sheeting angle).

In this issue of OFFSHORE we present a special feature on sails and rigging.
Below, Grahame Shields of Alspar comments on

ASPECTS OF A MODERN RIG

If the ratio l/d is greater than 11, double spreader rig becomes desirable; should it exceed 13, it would almost certainly be essential.



These ratios should only be used only as a guide; factors such as whether the mast is keel or deck stepped also have a bearing.

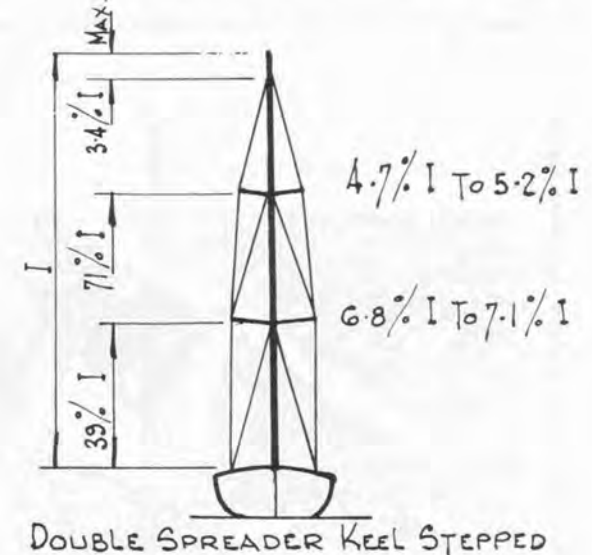
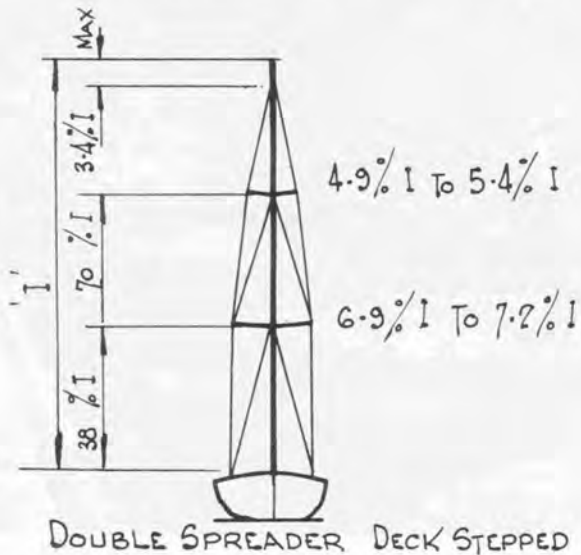
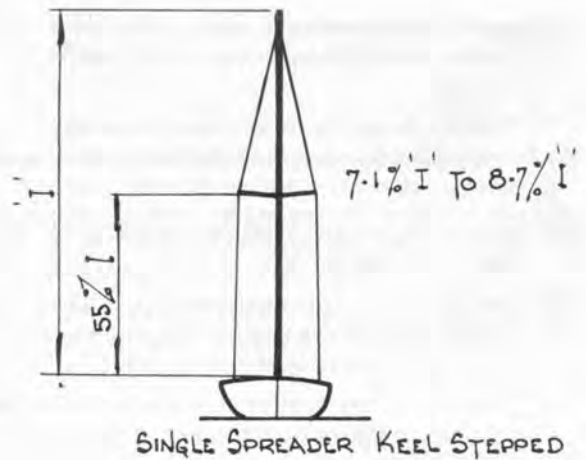
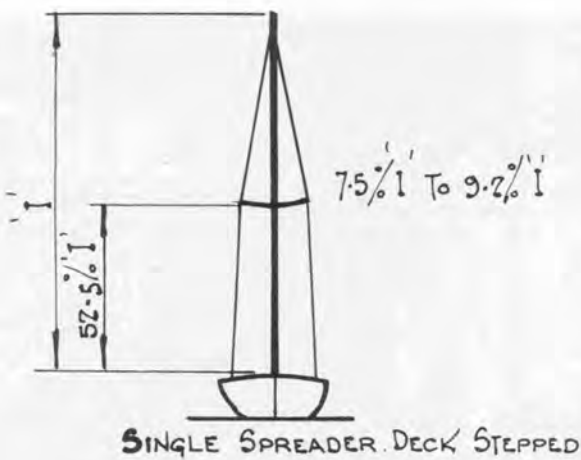
Spreader lengths & position

The decision having been made as to single or double spreaders, the following diagrams show the correct spreader positions and lengths, as percentages of mast height above deck.

The Bergström Ridder-Rig

As with most solutions to sailing 'problems' the solution itself introduces new problems, and the evaluation of benefits is a trade-off between the various pro's and cons. The final decision therefore becomes largely a matter of judgement, as both schools of thought can usually produce extensive racing results to back up their claims.

The Bergström — Ridder system is usually applied to high aspect ratio double spreader rigs and consists of a double braced system set on spreaders angled aft at approximately 30° . As well as the conventional caps (linked), lowers and intermediates, as can be seen from the illustration additional stays run from the ends of the top spreaders to the base of the mast at the deck or cabin top. (see page 12)



This configuration has as its main advantage the fact that it provides fore and aft as well as lateral restraint at both spreader positions, whereas the conventional double spreader rig has only "part time" fore and aft restraint at the top spreader position if runners and inner forestay are used.

Thus, a spar section designed specifically for the Bergstrom-Ridder system can have a smaller dimension fore and aft than a conventional section, with a consequent saving in weight.

In engineering terms, the allowable applied load varies inversely as the square of the l/r ratio, (where l is the effective length of the panel and r is the radius of gyration of the section) and directly as the net sectional area of the mast extrusion.

The weight saving may not be as great as anticipated, as an increased wall thickness — particularly in the side walls — is required to maintain athwartships properties.

The complete Bergström — Ridder concept involves not only the rig network, and the smaller and differently shaped mast, but also the use of turbulence stimulators. However, as boundary layer modification could equally be applied to a conventional mast system, this does not really enter into a discussion on the merits of the rig.

Advantage of the Bergström-Ridder Rig

- (1) Weight reduction. An overall weight reduction, probably in the vicinity of 15% to 20%, should be possible.
- (2) Reduction in drag — due to shape of section.
- (3) Faster tacking. As the genoa clew has to travel a shorter distance from tack to tack, faster tacking should be possible.

For example, on a $\frac{3}{4}$ tonner using a 150% Headsail, the distances that would typically have to be covered by the clew, tack to tack, are as follows:

Bergström-Ridder Rig	15'0"
Double Spreader Rig — single lowers no sub-forestay	17'0"
Double Spreader Rig — single lowers and sub-forestay	18'0"

Disadvantages of Bergström-Ridder Rig

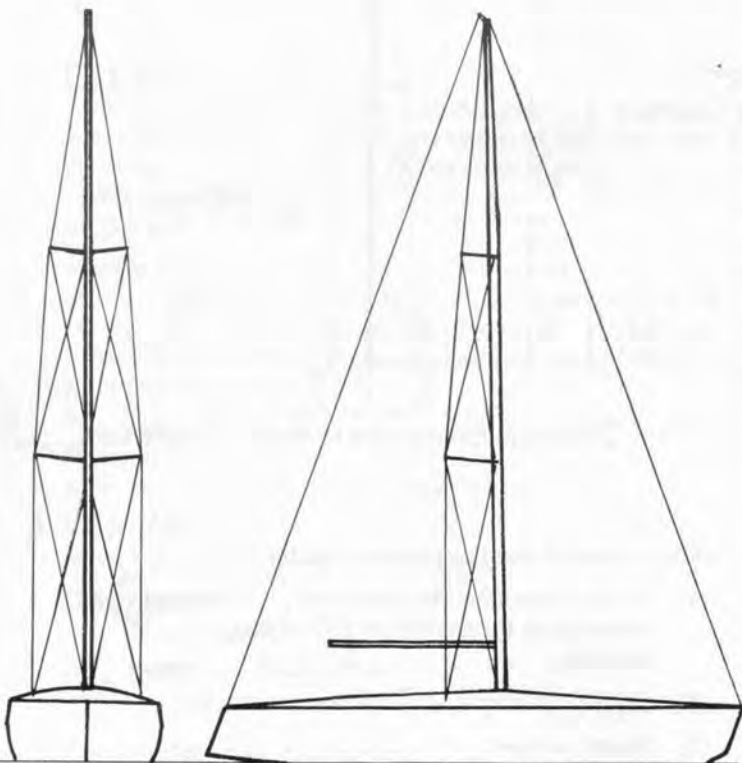
- (1) Increase in windage and weight from rig network and longer spreaders.
- (2) Inability to square boom off more than 60° from fore and aft centreline of boat. This is probably the most serious disadvantage, particularly when broad reaching and running, and involving the necessity for a powerful

Aspects of a modern rig

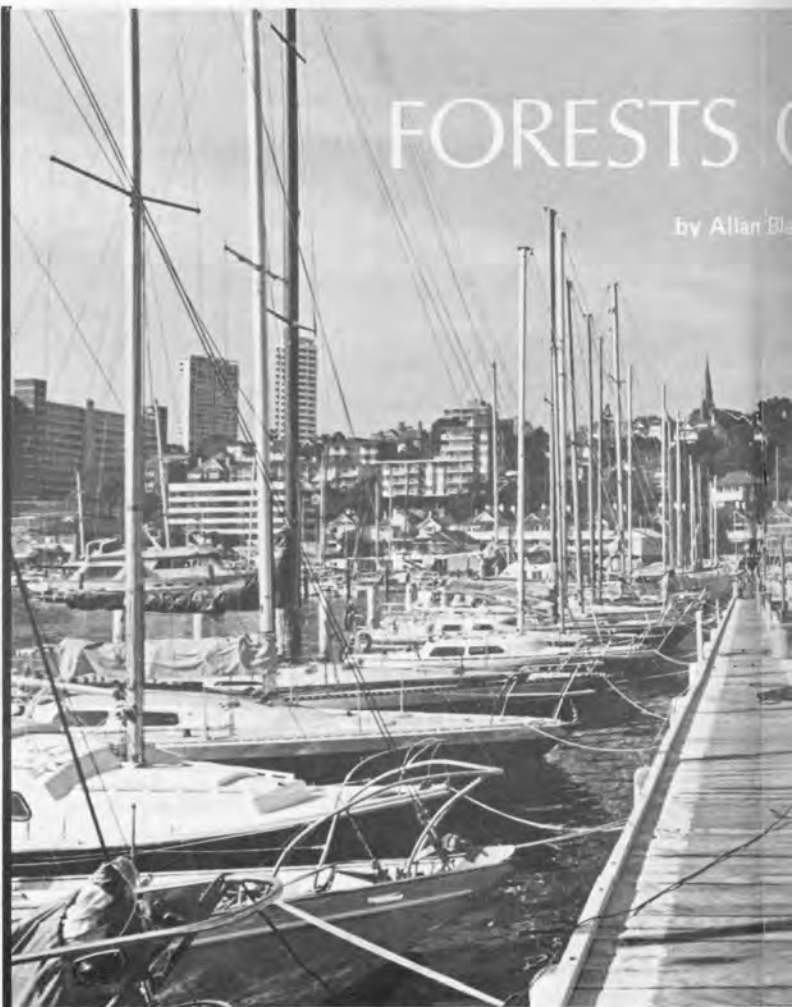
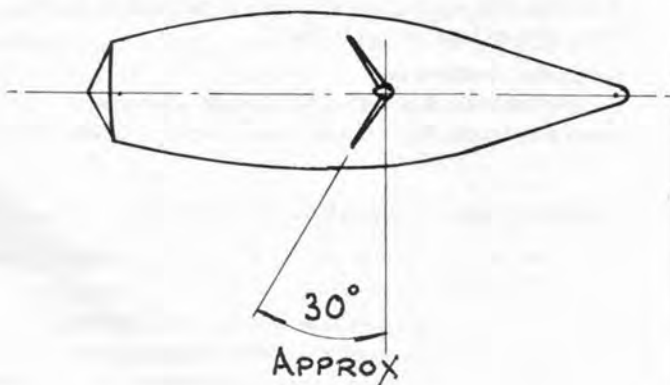
vang system.

- (3) Rod rigging becomes essential if the rig is to stand up safely.
- (4) Additional care and expertise required in setting up and tuning the rig.
- (5) Lack of flexibility in mast bend that is possible with conventional double spreader rig, set up with sub forestay and backstay adjusting system.
- (6) Extra cost often involved in strengthening up the structure of the yacht in the area of mast step, chain plates and deck.

So there it is; you pay your money and you take your choice.



The Bergström-Ridder Rig



FORESTS

by Allan Bla

When walking down a marina, the most noticeable thing these days is a chorus of clangs and clanks emanating from a forest of alloy and wire — the song of the modern day mast.

The mast today plays a much more important role in sailing than it did even ten years ago. In the past a nice, stout, timber spar heavily rigged was just the thing to hang sails on. But now the mast needs to be contorted to give the right aerodynamic shape to the sails. To do this a mast needs to be bent, raked, compressed, tensioned, side loaded etc. In the ever developing science of sailing, a mast must do more than just hold the sails up.

We have seen the advent of the tall rigs with high aspect ratios and narrow bases which make control even more difficult. Sheeting angles have become narrower, so top spreaders have been shortened to give a better slot.

Much experimentation has been going on recently with small sectioned masts, which are light but with sufficient stiffness to be controllable. The major development has been in the ton class boats, where, for instance, one ton sections have been used on two tonners with 55'0" rigs. Carbon fibres are used to stiffen these sections in a fore and aft



Even with these factors taken into consideration the rig once properly set up is a very effective windward and reaching rig.

Pied Piper's rig was also an interesting answer to the problem of mast control and windage. Instead of having a single cap shroud and intermediates connected together at the lower spreader, both the cap and intermediate were separate and carried to the deck, placed one behind the other and presenting a much smaller area to the wind.

Whether this arrangement has any structural or control advantages over the conventional rig is hard to gauge (remembering that *Pied Piper* broke a lower spreader in the Hobart).

Three-quarter rigs seem to be coming back into vogue on the smaller, lighter ton class boats, but apparently they have no advantage over masthead on a boat that can carry the sail plan dictated by a heavier displacement. On the lighter displacement yachts where the IOR dictates the sail area, the $\frac{3}{4}$ rig is the only method of getting sail area up into the air. A squatter rig would be of little use in light air where rig height plays an important part.



Special Feature

direction. The rig thus becomes more streamlined and much lighter. These smaller sections are then attached to a forestay, baby stay, back stay and boom vang hydraulic systems. Throw in running back stays and you have a light, supple yet controllable rig with which you can do anything to control sail shape.

Rigging has also come in for a deal of revision and updating, most notably the B & R form of staying. This type gives a staying pattern that allows a much smaller section to be used and still be controlled. The advantages are in the lesser windage from the section, thus improving the flow over the luff of the main. The swept-back angle of the spreaders (30°) also allows for faster tacking due to the ease of passing the genoa around the mast.

The B & R does have some drawbacks. For one, the rig does make the mast very stiff so it cannot be bent in the same manner as with a normal rig. The swept-back angle on the spreaders also means that the boom can never be pushed right out for square running. The B & R itself takes some setting up for all wind ranges; because of differing tensions as the wind increases, the interaction of the rigging alters and different mast characteristics emerge, and these can be hard to control.

Mast sections and staying systems have not been the only product of the technological sailing era. Masthead fittings have become far more refined. In the past blocks on cranes were the thing for spinnakers. Now we have even the spinnaker halyards inside the mast with sheaves. The geometry of a masthead fitting with all internal sheaves is complex and all important if you are trying to preserve halyards and ensure that the fitting does not incur any unwanted IOR penalties. The forestay and the top line of the spinnaker sheaves must line up exactly with the forward side of the mast so there is no chance of the "I" being 3" or 4" above the top of the mast (because the forestay pin was for'd of the front of the mast on a crane mechanism) — an old killer.

Backstay cranes have also been reduced. It was found that with hydraulic adjusters, the mast could be loaded up far beyond its limits with a large crane (as I suspect was the case with *Ballyhoo*). So cranes have become smaller (for hydraulics); where once the lever arm on a crane may have been 12"-15" now it is down to about 4".

To assist with the halyard exit, rollers and guards around the forestay and mast sides have been introduced — otherwise a

halyard would wear out very quickly.

What these innovations have produced is much lighter more streamlined masthead fittings; when looking from the deck a masthead should look clean and free of obstructions. Weight saving has also been effected. Weight saved aloft is a true gain. Imagine 5 lbs saved in a masthead fitting on a 60ft mast; that's 300 lbs/ft. With lighter boats this is a real saving in terms of stability, since it means that this moment can be absorbed by the sail plan, i.e., the lighter boat can carry more sails.

The most common rig today is the double spreader masthead rig. This appears to be the easiest to set up, is easily controlled and gives sheeting angles consistent with developments in sail shapes and cloth technology.

What do you look for when looking at a modern rig? Well first, does it follow the accepted proportions for its height, or if the section is on the small side, is the rigging engineered to handle the smaller section? Has the masthead been developed to ensure that halyards will be preserved? Can the halyards be readily replaced? If hydraulics are installed on forestay, backstay and baby stay, are bypass valves fitted to ensure that one or other ram cannot be inadvertently pumped beyond allowable limits? Are the turnbuckles protected (covered) and are they readily adjustable? Are the tack horns in the right position to ensure that, when set, a genoa will lead into a luff groove device correctly? Has care been taken to ensure adequate fixing of the shrouds where they pass over spreaders (if no spreader end tangs are used)?

When considering a new design or installing a new sail plan, what are the factors that should be looked at from the standpoint of rig performance? One interesting little rule of thumb to remember is that the \sqrt{S} factor should be about 5% greater than the rating. This, of course, does not apply to the non-masthead rig types but does generally apply to the Petersen, Frers etc. designs. For a well balanced rig "J" should be about 42%-44% of length overall. The aspect ratio for the foretriangle nowadays is about 3:00:1 and 3:10:1. Mainsail dimensions vary from about 3:85-4:10. Care should be paid to ensure the main is not getting too skinny or lacking in overlap on the genoa.

Well that's about it. There is, of course, a multiplicity of alternatives within a sail plan/rig set up. But I hope this has given something of an insight into what is actually going on.

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TUNING WITH THE MODERN RIG

Special Feature



by Rob Venables

The rig of the modern ocean racing yacht is an area often sadly neglected both in new designs and when improved performance is sought in older yachts. Most owners — and designers — are content to specify a mast, fittings and riggings of a size and strength (and thus weight and windage) far greater than is actually necessary. This enormous rig, with all the characteristics of a tree trunk, is then stepped in the boat, set up, and promptly forgotten, except for a casual onceover every few months.

By installing such a rig, many racing yachtsmen are losing out on significant increases in performance which can be gained by taking advantage of the new developments in mast, rigging and fitting design. These advantages become even more important as the displacement of the new breed of boat decreases.

With the double spreader rig (which provides considerably increased lateral support for the mast) now in general use even on quite small boats such as quarter tonners, mast section can be reduced and the taper considerably increased in the top panel. This allows the use of the new "internal" mast head, which gives a dramatic reduction in weight and windage with the diminution of spinnaker halyard blocks, shackles, mast cranes and tangs. The three halyards on the leading side of the masthead are all internal and lead out over three vertical rollers, which eliminate chafe when the halyards are subject to a sideways loading; in effect each halyard becomes a multi-purpose one. This type of masthead is only slightly larger than the tapered mast at its top point, and when faired up with epoxy filler, is only a fraction of the weight and windage of a conventional masthead.

Other areas where weight and windage can be reduced are the shroud mounting points, with internal tangs now in general use, with key-hole type terminals for smaller boats; new spreader mounts of an aerodynamic cast base, fastened

directly to the mast wall; and smaller, neater intermediate-to-cap shroud link plates fabricated to incorporate the swages as part of the fitting. The use of exotic materials such as titanium and carbon fibre has also opened up a whole new range of possibilities in mast and fitting manufacture. In this year's S.O.R.C., the winner, a Petersen 2 tonner with a tall rig used a mast section suitable for the average 1 tonner, but built up with carbon fibre and epoxy.

A lighter more flexible rig of course requires considerably more attention than the older tall-trunk types; in fact the rig, used a mast section suitable for the average 1 tonner but knots variation in wind strength, and certainly after each sail change. However, the boat's performance will improve considerably by being able to make these alterations as and when required.

As the mast is held in the lateral plane by the side shrouds, only fore and aft adjustment may be made. These have the most effect on performance anyway. The method of making the required alteration is in the judicious use of the backstay, sub-forestay, boom vang, and runners if fitted. The first three are often hydraulically operated by one pump, with valves to control each unit separately. A high degree of mast control and support can be obtained by careful use of these units, but care must be taken not to overdo it. Always have someone sighting up the mast as adjustments are made.

In light weather or sloppy seas it may even be necessary to ease off the backstay and allow the forestay to sag off a bit and put some drive in the headsail and also to ease the boom vang to put some shape in the main. In these conditions if you have runners you may be able to use them to actually straighten the mast in the middle panel, thus filling up the mainsail a bit. Using these controls, instead of regarding them as fixtures, will really pay dividends in today's hot racing fleets.

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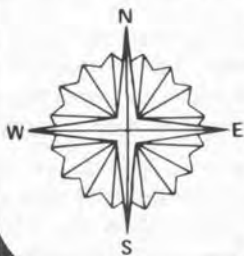
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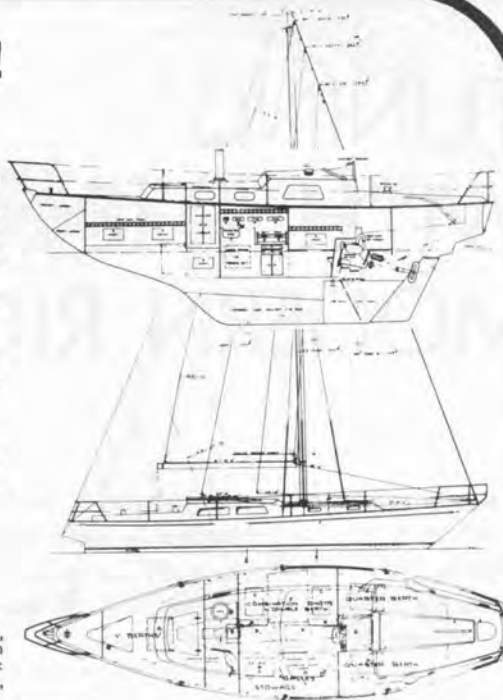
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The ORD regulations for level rating classes have provided us with a limited choice; however with proper selection an ideal inventory is possible in every class. Here are some guidelines for each of the level rating classes in headsails suitable for ocean racing in Australia.

Quarter Ton

(ORD maximum limit — six headsails + storm jib)

No. 1 Light Genoa 3.2oz

Maximum luff length, Cunningham eye, clew height 27" above deck; maximum foot roach.

This allows the sail to double up as a reacher, suitable for winds from 0 - 15 knots apparent.

No. 1 Regular Genoa 4.6oz

Luff length 4" shorter than maximum, Cunningham eye, maximum foot roach, clew height 15" up.

Flatter cut, with the use of adjustable backstay to be used from 8 - 22 knots apparent depending upon the yacht's stability.

Shooter ¾oz

Maximum IOR rule, treble mitre cut.

Luff hollow of 5½' gives a long foot and leech to ensure the sail sets way out beyond the mainsail leech to avoid the necessity of having to partially lower the main.

No. 2 Genoa 6oz

12" less than maximum hoist. LP 130%. 2' reef. Clew 15" above deck.

No. 3 Genoa 6oz

15" less than maximum hoist. LP 100%. 3' reef. Clew 15" up.

Dual Purpose Staysail 3.8oz

High clew that sheets to transom when reaching. Luff length 95% full hoist. Tacked 30% J aft of forestay. LP 115%. Reef points fitted. Suitable for close reaching under No. 1 Light Genoa or ¾oz Tri-radial.

Half Ton and Three-Quarter Ton

(ORD maximum limit — seven headsails + storm jib)

This allows the use of a high clewed reacher. This is a most important sail from 40° apparent around to the angle where the shyest spinnaker is effective. This sail with a reefed 115% reaching staysail set under is a most effective close reaching rig.

The Half Ton and Three-quarter Ton inventories are almost identical. However, the Half Ton No. 1 Regular Genoa is 4.6oz, the Three-quarter Ton Regular Genoa is 6oz. Both sails capable of being set flat by use of forestay tension, Cunningham eye tension and sheet lead location.

The No. 3 Genoa cloth weight should be 8oz for both classes. In the Three-quarter Ton, 115% combination staysail should be 4.6oz.

One Ton

(ORD maximum limit — Eight headsails + storm jib)

No. 1 Light Genoa 3.8oz

Full cut which allows setting on taut forestay in sloppy sea conditions. This is a real race winner compared with a sail that is flatter cut and must be set on a well-sagged forestay to obtain ideal fullness. This slack forestay when bouncing around in sloppy conditions drastically reduces the performance. Wind range 0 - 12 knots apparent.

No. 1 Medium Genoa 4.6oz

The extra sail available in the One Ton inventory should be the medium to full cut with use of variable forestay sag. Designed for use from 6 - 20 knots apparent.

No. 1 Regular Genoa 6oz

Can be used from 12 - 25 knots apparent. This is a flat cut genoa. Set on taut forestay.

Shooter ¾oz

Should have at least 8½' of luff hollow to ensure that the bulk of the sail is flown well clear of the fully hoisted mainsail when running dead downwind in light conditions. It is ideal that shooters be made 1' short of maximum luff hoist with a 1' tack pennant. This eliminates tack chafe.

Two Ton

(ORD maximum limit — Nine headsails + storm jib)

This is the same as the One Ton inventory except the extra

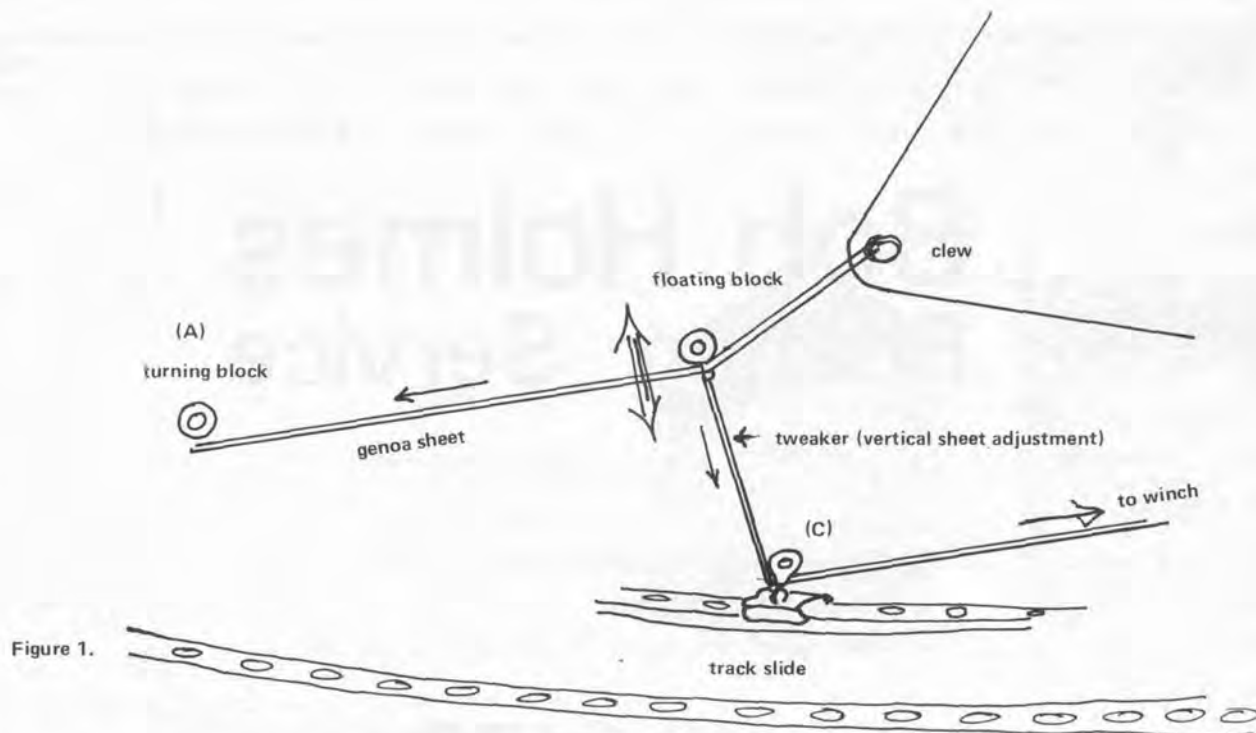


Figure 1.

The other important headsail trim adjustment is lead angle. Most boats are fitted with one genoa track, the aft end being about $8^\circ - 9^\circ$ off the centre line leading forward to the chain plates at about 12° . This is a good average to start working from. By the use of a line rigged from the floating block on the sheet as described previously through a block (Block D) on the toe rail athwartships of the sail clew back to a winch, an optimum sheeting angle for your boat in varying wind speeds and sea conditions can fairly readily be found. It is amazing how much faster your boat will go if continual experimentation with this adjustment is undertaken. Whenever reaching always go to the rail with your headsail lead. On some occasions in smooth water a 150% LP genoa can be effectively barber-hauled inways. Be careful. It is easy to stall your boat out and it is also necessary for the helmsman to steer extremely accurately. In a shifty wind this is almost impossible. A full hoist 100% No. 3 can be successfully barber-hauled into 9° (try it!).

A couple of pointers that can be useful when ordering a headsail. Make sure the expected wind range required is covered to ensure the sail pays for itself. It is also very useful to triangulate your rig so that a headsail can be made to fit your boat exactly. Firstly, hoist a steel tape on your genoa halyard right up until the swage hits the sheave. Cleat the halyard off, measure to the underside of the tack hook, walk aft swinging the tape measure out around the spreader tip and measure to a point on the deck approximately where you want the sheet lead to be. Don't be concerned about the tape measure being deflected by the capshroud near the top. Lower the halyard away. The third measurement is then taken from the tack hook around the chain plates back to the point on the deck where the previous measurement was taken to. From this resultant triangle we can allow for halyard tension and design the clew at its ideal height above deck with the particular LP required.

I hope you find this article useful and appreciate that whenever you buy a headsail, make sure that it's designed and made so that it pays for itself.

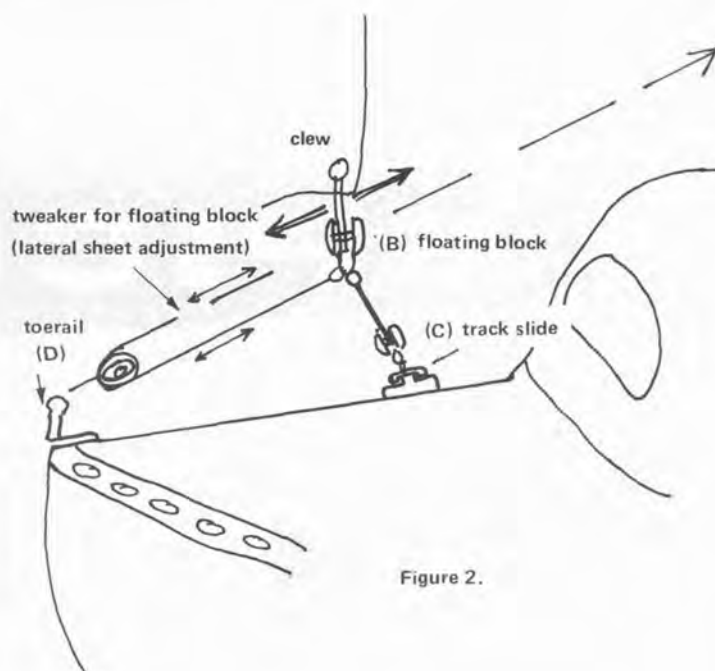


Figure 2.



THE CYC AND THE OLYMPICS

It is more than pleasing to note that once again the Club has representatives in this year's Olympic team, and we all look forward to seeing them do well in one of the biggest Regattas of them all, the Olympic Games. No fewer than 11,000 athletes and officials and more than 2,000 broadcasters and journalists will gather in Canada for the greatest sporting spectacle of all time.

Of the 21 sports on the Olympic Games calendar at Montreal (July 17 – August 1st), Australia's prospects in the six yachting classes are outstanding, and it would be no surprise if this section of the team brought home a variety of medals – gold, silver or bronze.

The six classes for the Montreal Olympics will be Soling, Finn, Flying Dutchman, Tornado, Tempest and 470.

Bill Northam was the first Australian to win a gold medal in yachting, when, at Tokyo in 1964, he gave a masterly display to outsail the world's best.

At Kiel (Munich Games) in 1972, David Forbes and John Cuneo won two gold medals for Australia (by far our best ever performance), and other representatives in the Yachting team were not far away from success (John Bertrand and Mark Bethwaite).

In previous years, it has been difficult to gauge Australia's chances in yachting, but in 1976 our team includes men and crews who have in recent times featured prominently in world and international competitions.

The team is:

Soling	Dave Forbes, John Anderson, Denis O'Neil
Flying Dutchman . . .	Mark Bethwaite, Tim Alexander
Finn	John Bertrand
Tornado	Brian Lewis, Warren Rock
Tempest	Joern Hillner, James Byrne
470	Jan Brown, Jan Ruff

Reserves are John Ferguson and Guy Johns, supported by team manager Kevin McCann, coach Mike Fletcher and meteorologist, Frank Bethwaite.

C.Y.C. members will doubtless recognise that in this team we have no fewer than four representatives: John Anderson and Denis O'Neil (Soling); Joern Hillner (Tempest) and Mike Fletcher (Coach). Not a bad effort! Two other members of the Club, Bert Oliver and Gordon Bray will be media representatives of the Australian Broadcasting Commission at Montreal, thus making the Club's representation a total of six out of 19.

Gordon Bray



Bert Oliver



Bert Oliver will be the ABC's Producer - Coordinator for the total radio coverage – approximately 100 hours of transmission to Australia. Bert's role will be to assign and supervise the work of eight commentators (including Gordon Bray) and two radio operators. Bert, incidentally, will be attending his fourth Olympics, having previously been a member of the ABC teams at Melbourne, Mexico and Munich. Full details of the ABC's Radio and Television coverage will be released shortly by the ABC.

Gordon Bray has been selected to specialise in reporting on the yachting at Kingston, 180 miles from Montreal for both radio and television. With six classes to cover simultaneously on three courses, he will find his task far more difficult than the Sydney-Hobart Race. Gordon's radio reports will be heard daily during the ABC's comprehensive coverage, in addition to his commentary for the daily television film to be supplied by the Canadian host organisation. There will be a total of 25 hours of TV in Australia from Montreal, all by satellite.

Kingston long has been known for its good sailing conditions. The Kingston Yacht Club has hosted many international championships and, since 1969, has served as the venue for the Canadian Olympic-Training Regatta Kingston (CORK).

Three triangular courses will be laid out within theoretical circles, far out onto Lake Ontario to ensure good winds and fair racing. The Solings, Tempests and Flying Dutchman will race on one course, the slower Finns and 470's will share another, and the Tornados will be accommodated on a special course of their own.

The opening of the Games is on 17th July; competition in 13 sports gets under way the next day. The yachting programme will begin on the 19th July, with the remaining six heats scheduled for the 20th, 21st, 22nd, 25th, 26th, and 27th July. The 23rd and 24th July are scheduled Reserve days. Wednesday, 28th July will be the Closing Ceremony for Yachting, providing all races have been completed, but further Reserve days have been nominated for 29th and 30th July.



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SYDNEY - BRISBANE RACE REPORT

by John Hawley

Suddenly there were none of the usual boats around the harbour and it wasn't the week after Christmas but Easter weekend.

Middle Harbour Yacht Club's most successful Sydney-Brisbane Race had attracted a record 36 starters, and Dr. Tony Fisher's navy had claimed 18 of the bar's most stalwart supporters to drive *Helsal* to a romping race record of 45 hours 27 seconds, half a day faster than the previous record set by *Apollo* in 1974. This time the luckless *Apollo* broke a boom, blew out thousands of square feet of sail and finally lost her mast off Ballina, where she had to anchor in Byron Bay and sit for three days waiting for the Ballina Bar to become passable.

Second over the line, 1 hour and 21 minutes behind *Helsal*, was Nev Gosson's *Leda*, having made up lots of time after dramatic events in the earlier stages when radio reports had broadcast alarming suggestions of withdrawal. In fact three men (not wearing safety harness) had been swept overboard as she dipped into the large following seas. All were rescued in a very creditable manner, but this should be a lesson to wear safety harness in heavy weather.

Leda was off Terrigal carrying a spinnaker, No. 2 headsail and main when they decided to change the No. 2 to a Yankee. As they dropped the No. 2, she dived down the face of a wave going in at the bottom. The headsail produced a weir effect, bending the life rails and depositing the three men overboard. The operation which followed was copybook. The danbuoy was thrown within a hundred yards of the men; one man watched the buoy and men until the moment of rescue, pointing all the time. Nev Gosson on the helm rounded the boat up; the pole was eased and the spinnaker down in minutes; a reciprocal course was steered; the motor started and engaged as soon as all loose lines were cleared. All three men were back on board within 15 minutes and the danbuoy rescued. The sad fact to emerge, however, was that the danbuoy was carried away from the swimmers by the wind, and this raises the point that a drogue (compulsory in England) is a necessity.

Overall winner on handicap in one of the smallest boats in the fleet was Mick Sharpe in the Farr Half Tonner *Klinger*, who claims an uneventful trip, most of it with two poled-out headsails and no main, which should be a hint to tacticians.

Second on handicap and winner of second division was immediate CYC ex-Commodore Joe Diamond's *Duet*, 20 minutes behind *Klinger*.

The Tasman Sea Trophy for the best combined result of the Montagu Island, Sydney-Hobart & Sydney-Brisbane Races looked certain to go to Hugh Finlay's *Boomaroo III* before the start. However the excellent performance of Alf Wildman's *Gillawa* (5th) gave him sufficient points to win the trophy.

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CLUB NOTES

Commodore's Message

The Editor has asked me as the new Commodore to tell members of the plans that the new Board has for 1976-77.

Firstly we are not planning anything of dramatic moment at this stage. Rather, we are looking at a number of smaller proposals.

We have a splendid Club composed of men and women from many walks of life. Within our Clubhouse and around the marina is heard the most erudite sailing conversation, and very little of the gossip from the business and professional world escapes comment. To preserve and improve this atmosphere, our Board will endeavour, as have previous Boards, to provide entertainment and amenities ashore and good competition for all types of boats afloat.

We are introducing Junior Sailing from the Club later in the year, the details of which currently are being worked out. We are encouraging ladies to use the Club and are running a sailing training class for them also.

A cruising division is now operating for those who enjoy the occasional rendezvous and get-together afloat.

We are proceeding quietly with our development plans, but these must be phased when final permission is obtained to suit both our current requirements and our ability to finance them.

We are the premier ocean racing Club in Australia, and certainly the predominant Club on the Harbour during Winter. Our members have brought distinction on themselves and our Club in many ways and have built up a tradition envied by others. We have a Clubhouse unrivalled in Australia for its position and closeness to the city.

All this is ours to enjoy. This Board hopes to assist your further enjoyment and use of these amenities and activities.

All the best for the Winter Season.

Graham Evans,
Commodore.

Sailing Secretary's Report

If the Mass of figures that comprise the pointscore results for 1975-76 spring, summer and overall series have you in any way confused, please don't worry, they have almost driven Lesley and me crazy. But they are now behind us, and we congratulate those not only who did well but also those who tried.

We have received some very gracious compliments, and these have been passed on to those who worked to make the racing the success which we feel sure it was. Thank you for sailing with us; we look forward to seeing you next season and remember, our races are open to yachts from all Clubs affiliated with the A.Y.F. So if you cannot persuade your friends to join the Club, do the next best thing and persuade them to get into the competition.

By the time you read this we will be into the winter season, which at the time of writing is shaping up to break last year's records.

Year by year, the winter season becomes more competitive. This is good but can cause some situations leading to protests which would be avoided if the rules of yacht racing were understood and interpreted in detail.

On behalf of those stalwarts whom I "shanghai" onto protest panels, might I suggest that the 1973 Yacht Racing Rules of the International Yacht Racing Union (\$1.50 at this office) makes good reading.

E.T. (Max) Lees
Sailing Secretary

Social Tennis

Tennis may be far away from the thoughts of a yachtsman at sea, but for some it offers a little relaxation between weekend races.

For four years some C.Y.C. members have been playing a social game of tennis every Tuesday night, 5.30 to 7.30, at the Rushcutters Bay Oval tennis courts.

The competition is not terribly "hot", but many matches are keenly contested, particularly the mixed doubles.

There is plenty of room for more players of both sexes, and court booking times can be extended if we have sufficient regular players to justify it. There is not joining fee — just pay \$1.00 per night and enjoy yourself.

If you are interested in joining these social tennis evenings, please call Alan Brown 51-5013 or 51-1896 (business hours) for more information.

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MARINA NEWS

by Jack North

Norman Rydge sold *Kaomooloo II* and ordered a replacement. The new vessel, designed and built by Trevor Gowland and Trygve Halvorsen, will be a 60 foot aluminium motor cruiser powered by two 8 cylinder Gardiner diesels. Voyages as far afield as Noumea are contemplated and stabilisers will be fitted accordingly.

As delivery is not due until September, and Norm chose not to remain boatless in the meantime, he bought the half-tonner *Butterscotch* just to keep his hand in during the winter season.

The motor cruiser *Lana*, 52 feet and fibreglass, hails from Fremantle whence she sailed on 10th March. Her voyage seems to have been uneventful except in the Bight, where she met some filthy weather which she handled well.

She was built in Perth and has twin Volvo Pentas which can give her 21 knots. *Lana* will be based in Sydney her owner, Brian Anderson, having moved over here permanently.

As her name implies, *True Blue III* is both the third ship of a line owned by Peter and Anne de Graaf, and she is coloured predominantly blue. A Van der Stadt half-tonner, her 30 foot hull was moulded by Binks in South Australia, and the hand-laid fibreglass ranges in thickness from 5/8" to 3/4". The yacht was fitted out to completion and launched by Status Yachts in Sydney.

Saturday 3rd April last was a glorious day for the maiden cruise and, according to Peter, "We poked her nose outside the Heads." However Anne reckons they sailed a good bit of the distance to New Zealand. Be that as it may, *True Blue III* performed well in the light breeze, and the 11 horse Arona diesel pushed her easily through the calms.

Pagan Lee of Melbourne is a yawl built of 3/16" steel, Lloyd's Register gives her dimensions as 38.7 feet by 11.7 feet with a depth of 11 feet. Like *Mia Mia* she was designed by the late E.B. Slater.

Leaving Melbourne last Boxing Day she enjoyed a very leisurely cruise to Sydney where she arrived towards the end of March. Sydney is the take-off point for a round-the-world voyage, the first stage of which is planned as a Pacific crossing to Valparaiso. An unusual feature is a fleet of collapsible pushbikes so that all hands will have wheeled transport when visiting some of the more out-of-the-way places.

Dixie Lee who built the yacht himself was also the builder and original owner of the Tahiti ketch *Janus Lee* which visited the marina from Vila some eighteen months ago. *Pagan Lee* was launched in Melbourne in 1972, having been some years abuilding.

She has the look of a conventional yawl rigged yacht, but much thought and planning have gone into her interior layout to produce a very comfortable floating home. Of centre-cockpit design she has a doghouse which is, in effect, a weatherproof chartroom and wheelhouse. Her electrics, working on a 24 volt system, include a deep freeze and automatic pilot, while of particular interest is a Doppler speedometer and distance log.

Power is generated by the main engine, a 4 cylinder 72 horsepower Perkins with a fuel capacity of 250 gallons.

Kurura — high-wooded, double ended and with a big outboard rudder — looks the complete cruising boat. Her plumb stem and canoe stern are reflected in dimensions of L.O.A. 35 feet and L.W.L. 31 feet. She has a 10 foot beam, draws 4 ft 5 ins and is surprisingly roomy. Her bottom planking is spotted gum, her topsides Oregon. Tyson Bros. of Newcastle built her; she was launched in November 1949 as

Sunset under which name she was used mainly for cruising. In 1951 Dr. Pittar sold her to Allan Clarke who changed the name and put her to serious racing. And she surprised the experts by really cleaning up her division in her first season. But 1953 was her big year with firsts in the Montagu Island and Queen's Birthday Cup events. This latter race, being held in June, came to be known as the Slow Freeze or Deep Freeze.

Kurura sailed in the 1952 and 1953 Hobart races for sixth and fourth places respectively. However in 1954 Allan Clarke took her to Broken Bay where she spent the next ten years of her life just pottering about.

Norman Milne bought *Kurura* in 1965. Ten years had passed since the boat last raced, and a lot of modernisation was required. For instance, bow and stern pulpits which had been unheard of were now compulsory, while the guardrails had to be raised in height. A dodger was fitted over the cockpit and a stand for the rubber dinghy built on the foredeck. But the significant change was in the rig. *Kurura*, having always been a three quarter sloop, was converted to masthead rig while her wardrobe of cotton sails had to be completely replaced by synthetics. The reward for all this effort was a tenth in the 1965 Hobart Race — not bad at all for an old boat in a field of 53 starters.

In 1966 Wal Burke became her owner. He had the bridge deck removed and replaced the four cylinder Universal petrol motor with the present Perkins diesel. Under Middle Harbour Yacht Club registration the old yacht showed she still had plenty of go in her. Various point scores passed to her credit and she took time off to go wandering the waters of the Barrier Reef.

Over the last Christmas period she changed hands again. Laurie Gubb brought her back to the CYC fold and she is at the marina, being refurbished for a further career.



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