

MO T H



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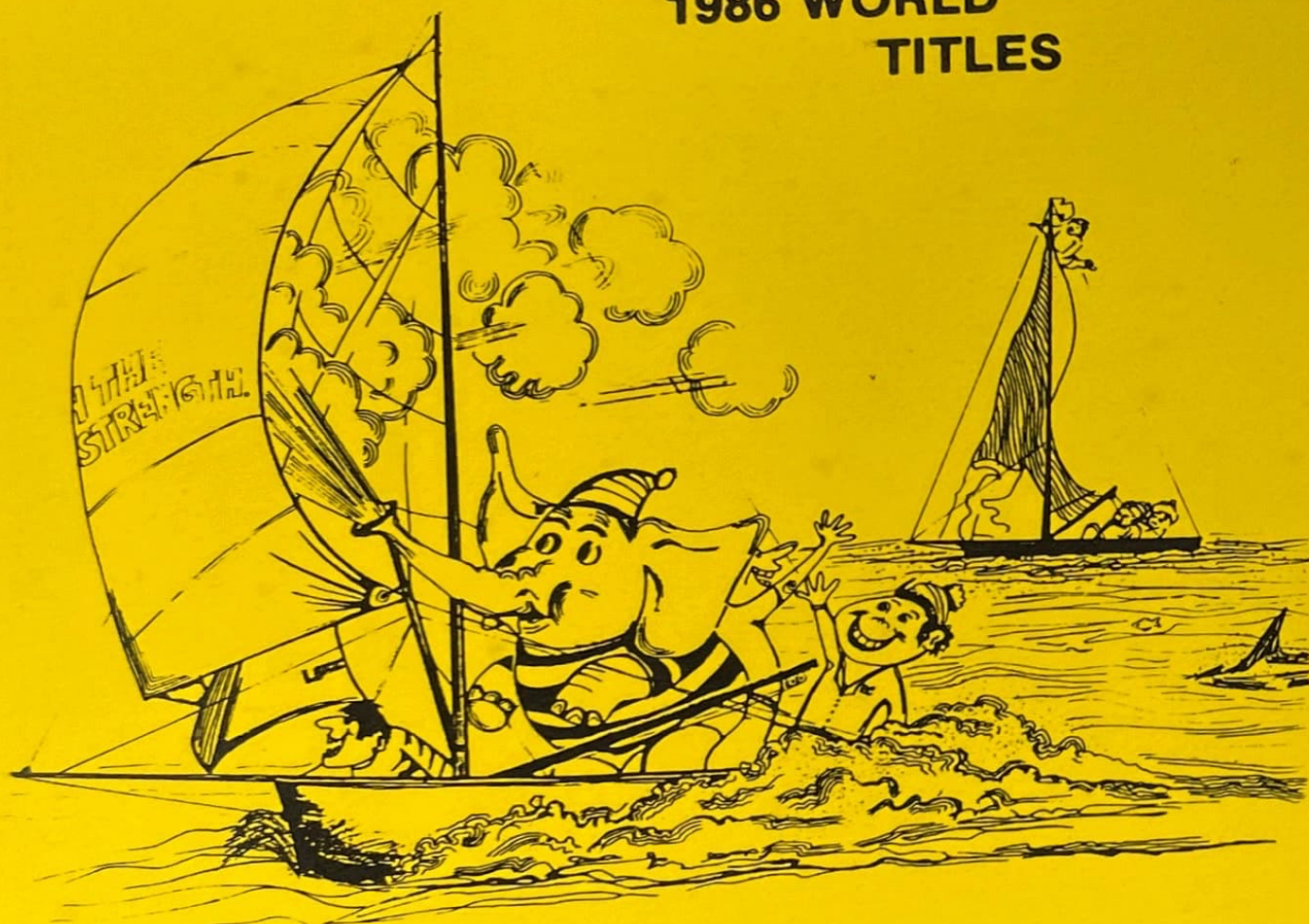
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S.A. MOTH ASSOCIATION

1986 WORLD
TITLES



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Special thanks to Jenny Pert's excellent
typing for this Publication.

EDITORIAL

The Moth 83 is once again a different size as compared to the years before. This years Moth Magazine has been printed using a very common size that is quite cheap to print and this we feel is the name of the game. That is to produce a quality magazine at a very low cost so as not to be a burden on the respective associations.

Anyway, this year we have achieved just that aim and may even make a slight profit. We in South Australia are probably one of the smallest States and have found it has given us a good winter hobby, enabling people in the Association to maintain their interst throughout those long winter weeks.

The help and co-operation we have received with articles has been terrific and I would also especially like to thank Greg Hilton and Ian and Merran Ward for the time and effort they have put in making it truely a National Magazine.

In closing I would just like to say that this magazine, if thought about properly can bring a few benefits to your States Association and is a project that is definitely worthwhile taking on. Enjoy your reading and all the best for the new season.

Editor

Adrian Nicholson



SOUTH AUSTRALIAN NEWS

Nothing down here in the Festival State seems to be on the increase again after some exciting sailing, social events and visiting other clubs during the season gone by. One of the more memorable races that comes to mind was the Murray Bridge to Tailem Bend and back race (a mere 40kms). The club put on a splendid wine and cheese tasting night to get everyone in a jolly mood for the strenuous day of racing on the 'morrow. The race was sailed in extremely light conditions taking an average of 7-8 hours, the race was eventually won by David and we'll all be back next season.

Great sailing and camp life was experienced by us all at the Wallaroo Sailing Club over the Australia Day Regatta. Once again light conditions, with the series being won by Adrian, what were these rumours about a bar of soap, Carol!

The State Championship was decided at Arno Bay in absolute torrential rain with victory going to David Knapman first, followed by Adrian Nicholson and David Dowden coming a close third. The class has found some new promising juniors at Arno who all turned in creditable performances.

The Peter King teams race was sailed in heavy conditions and was once again won by the Arno Bay guys, Brian and Chris Ramsay who were helped greatly by an excellent sailing performance from junior, Brett Darling.

During winter, the committee is in the process of organizing a training weekend for its members and any Mothies interested to help us get our boats up to the racing standard of other States. We are also getting off the ground the 1986/87 World Titles, and arranging sponsorship, heat dates and those other million and one things that need doing.

The Adelaide Boat Show has been and gone with the Mothies putting on a splendid stall with lots of propaganda sheets to hand out a must at these events. Geoff Potts even bought a new McFrawd Hull specially for the occasion. How many little kids walked over it did you say? We had quite a few enquiries and are now waiting to see how many will join our ranks to see if the venture was worthwhile.

A newcomer to our ranks is well known Mothie extraordinary Greg Hammon, originating from some funny "State" called Victoria, loving the clean air at the moment, Greg's accidentally involved in everything.

The new season looks to be even better with a few new boats, some good interstate second hand boats scattered around for good measure and hopefully a good increase in the number of regular sailors.

See you all at the next Nationals.

ADRIAN NICHOLSON

QUEENSLAND NEWS

1982/83 has been a fairly quiet season for Queensland Mothies. Seven skippers made it to Botany Bay for the National Championships. The best performance was that Runaway Boy, John Briggs who is one of the lightest Moth nationals sailed, came a creditable 14th! The accommodation was first rate and everybody enjoyed a well run series.

The State Championships were held in April and sailed over two weekends at R.Q.Y.S., Manly and Lake Cootaraba S.C. The start of the first heat at Manly was eventful for defending State Champion John Briggs. Five seconds after the starting gun, there was a second bang followed by a loud expletive from the cockpit of Runaway Boy as its rig disappeared over the side. Mike Pitt held out a charging David Scott who posed a real threat until he ran aground in the headwaters of Lota Creek while searching for a lift! John bounced back to take the second and third heats. The fourth heat saw a do-or-die effort by Mike Pitt in order to regain his lost crown! Several long tacking duels ensued and a last minute 30° windshift left the race in doubt until, John around the line ten seconds ahead. John wrapped up the series in a win in the final heat. Cam Wilson finished third overall and won the Junior Championships in a performance that looks well for the coming Nationals at Manly.

Well that's the Sailing News, now for some gossip!!

A notable non-starter for the season was well known Mothie Peter Brooke. His excuse was that someone stole his Holmes made rudder and centreboard, from his home, apparently ignoring cash and diamonds lying about the house! So on his behalf we are issuing a nation-wide alert for these stolen items. We ask all Mothies to interrogate all owners of this brand of blade as to how they acquired them and how they could afford them! Brooke, unable to finance a new set snapped up (with a partner) the 37 foot Farr, formerly called Picallo. The name of the boat is "Argent en Plastique" (or Plastic Money, to non-French speakers)!

While the boys were still reeling from these events, Brooke announced he was getting married - a wise move in his precarious financial situation, some might say! However the lovely Annette was on the dole. So surprised were his friends when Brookey showed up at the wedding, they had to drink \$1,500 of booze to sooth their jaded nerves!

A few new faces will be appearing next season. Martin McLean a former cherub champion has recently acquired a skiff and should be hard to beat in light airs. His wife, Sally, bought a scow so that she can watch with amusement his heavy weather antics. Mike Dudley has succumbed to offers of big money (well a few Rum and Cokes anyhow!) and made the trek North to the sun. He will be a welcome addition to the fleet next season.

Queensland takes the opportunity to welcome all Mothies travelling to Manly at Christmas.

MIKE PITT

VICTORIAN NEWS

The Victorian scene at the moment is one of intense activity both from a social side and also on the water. We were very happy with the results from both Andy McDougal and Jim French at the Nationals in Sydney during the Xmas and New Year period. Andy was the first Victorian to win a senior national title for some 23 years. It was a well deserved victory as Andy has not alot of development into skiff sailing over the past few years.

At the Victorian Championships held in March, Jim French won a closely fought series in his newly launched McFrawd from Andy McDougal in his old skiff. Raja Lingham was third overall and first Junior. Despite the lack of competitors this year, the racing was generally close in the moderate conditions experienced at Rye Yacht Club.

On the local scene, the majority of racing seems to be down on the Mornington Peninsula with McCrae Yacht Club boasting some good sailing with regular fleets of around ten boats. The majority of these boats are juniors which only goes well for the future. Hopefully next season there will be around 15 Moths sailing throughout the season. Most of the groundwork in recruiting these juniors has been through hard work of our State Secretary, Murray O'Brien.

As well as McCrae Yacht Club there are also smaller fleets sailing out of both Sorrento and Rye.

On the social side, we must congratulate Jim French on his recent marriage and wish both he and Leanne all the best for the future. Also we lost Greg Hammon recently to the land of the Croweaters. Looks like Greg might realise his lifetime ambition of being S.A. State Champ.

Well, it looks like being quite a productive winter for the Victorian Moth Class with at least five new boats on the planning board for next season.

Look forward to seeing you all at the Brisbane titles at Christmas.

Good Sailing,
Skiffy to be!



NEW SOUTH WALES NEWS

The National and World Championships held at Georges River Sailing Club were the focal points of our season. An enormous amount of time and effort was contributed by a number of N.S.W. Moth sailors, too many to name individually.

There were also many other people and organisations who I will name and hope I have not omitted anyone. John Stapley, Mac Shimeld, Ron McPhail, Brian Keogh, John Word and their families were invaluable in providing their boats and time, as was the Royal Volunteer Coastal Patrol. The facilities and the on and off the water help provided by the Georges River Sailing Club was central to the success of the series. Finally, the generous sponsorship provided by the Commonwealth Bank and Sandvik made the series possible.

Congratulations to the new Australian Champions, Andy McDougall and Stuart Shimeld and World Champions, Greg Hilton and Peter Morrison, and a special mention to Ian Ward who was third in the nationals and a close runner-up in the World's. The numbers of overseas competitors was disappointing, but those who did make the long journey must be thanked for their participation. Unfortunate hold ups in boat delivery did hamper some of their performances.

Back on the State scene, the Interclub Shield series was characterised by generally light conditions. Four of the five races were incorporated into weekend series, three of these at country venues.

At the Balmoral Centreboard Classic the Moth class received a bonus for having the largest number of entries in relation to state registrations. The series was won by Steven Shimeld.

The Spears Point October long weekend series was dominated by skiffs with Reynold Le Ferre winning the series and the Interclub Shield heat. The Canberra regatta was won by local sailor Chris Overy with "team mate" Phil MacGiluray, winning the Interclub Shield heat. The Avalon heat was won by John de Vries.

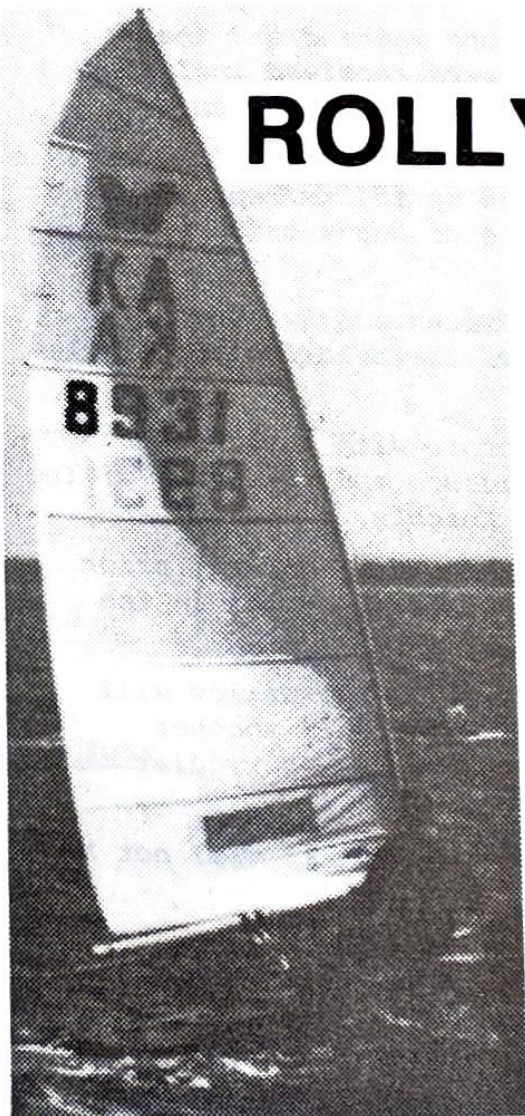
The Long Jetty regatta saw a variation in conditions with finally some wind - this time too much for many boats on the Saturday afternoon. "Veteran" Bob Bruce, sailed excellently to win the series with Reynold Le Ferre winning the Shield heat. Overall season, Interclub Shield winner was John de Vries with Kerri Shimeld winning the Bernie Hay Memorial Handicap Trophy.

In the Gypsy Bowl Teams Race, the strong Seaforth club with boats for all conditions won convincingly from a young B.Y.R.A. Team.

The State Championships at Easter, hosted by Spears Point, completed the skiffs domination of the season. Steven Shimeld took the clear sweep of Sub-Junior, Junior and Open Titles, second was the fast improving Andrew Cuddihy from John de Vries. Handicap winner was Michael Charles who showed great improvement with a new boat and was the first scow overall.

Registrations were slightly down this season as compared with past years, as were entries in the State Championships. Some of the older faces are disappearing, but there are some promising juniors coming on the scene. Hopefully, they will stay in the class and continue the high standard of competitive sailing the class has enjoyed in this State.

JOHN SMIDMORE



ROLLY TASKER SAILS

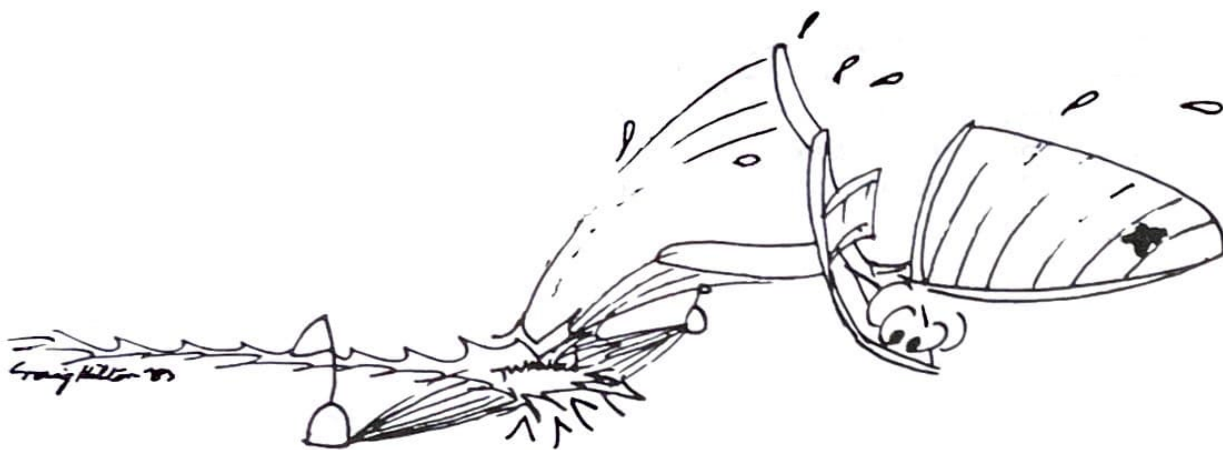
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TASMANIAN NEWS

The 1982-83 State Titles were won convincingly by fifteen year old Darren Jones sailing his "Gidget" designed scow "Hughie" which also won the title last season with his elder brother Peter at the helm.

The 6 heat series was sailed over the March long weekend and the weekend before. A total of thirteen entries were received including five of which were juniors with an average age of only fifteen.

Conditions for the series were predominantly light with only one heat above 15 knts. The venue, Montrose Bay, lived up to its reputation by producing typically fickle winds with a couple of heats being won from a seemingly hopeless position.

Jones won three heats, 2nd placegetter John Penman won two and 3rd placegetter and the only Northern entrant Dave Shepherd taking out the remaining heat.

Social activities for the series were to the fore with a relaxing barbeque being held at the famous Fenton residence and the prize giving and wind up night at the bush retreat of the Knights.

Although sailing amongst the members had been somewhat dormant prior to the titles, apart from a few dedicated regulars, interest in the class is certainly on the move again.

Ian Ward has designed a new hull for Peter Cleary, Paul Bailey will probably build a McFrawd and Peter Turner may yet create another masterpiece. B.C. Deane is also another who has promised regular sailing heats in the coming season.

Ian Gill has just returned from Darwin and it is hoped it will not be too long before he is on the water.

Promising juniors Bruce Fleet, Robert Prestedge and Andrew Coxall should have benefited from their first season in Moths and hopefully they will race at Montrose each week. It is also planned this season to conduct invitation races at various clubs to promote the class and hopefully maintain competition. A portion of the 1983-84 State Title heats will be held prior to Xmas.

P. CLEARY

STATE SECRETARIES

I.M.C.A. Secretaries and local Clubs are:

S.A. A. Nicholson,
27 Weerana Rd.,
SALISBURY PLAIN. 5108.

Clubs: Grange Club
Port River
Port Pirie
Henley Sailing Club
Largs Bay
Wallaroo
Arno Bay

N.S.W. Ian Cross,
10 Winton St.,
TURRAMURRA. 2074.

Clubs: Seaforth Moth Club
Balmoral Sailing Club
Connells Point Sailing
Club
Avalon Sailing Club
BYRA
Concord Ryde
Speers Point
(Lake Macquarie)
YMCA Canberra

Qld. Mike Pitt,
37 Murray St.,
WILSTON. 4051.

Clubs: Oxley Sailing Club
Royal Qld Yacht Squad

Vic. Murray O'Brien,
4/47 The Boulevarde,
IVANHOE. 3079.

Clubs: Albury/Wodonga
Rhyl
Somers
Sorrento
Rye
McRae
Albert Park
Black Rock

W.A. Rob Hermans,
115 Virgin Ave.,
MT. YOKINE. 6060.

Clubs: South of Perth
East Fremantle
Maylands
Princess Royal (Albany)

Tas. Peter Cleary,
79 East Derwent Hway,
LINDISFARNE. 7015.

Clubs: Montrose Bay
Port Dalrymple

LADIES ON MOTHS

In many sailing classes in Australia the female species is regarded as good for making afternoon teas and being obedient slaves.

Not so in the N.S.W. Moth class where many ladies have taken to the water in this high powered racing machine and proved very competitive, especially in the light to moderate winds. Vanessa Dudley won a World and an Australian junior title in 1974-75 against top competition.

Because of Moth design rules and the nature of the craft it surprises me that more girls haven't taken up sailing them. Moths require none of the brute strength or weight that is needed to sail a Laser or an OK dinghy. Moths can be tuned in such a way that an 8 stone girl can compete on equal terms with a 12 stone person. It must surely be more fun to sail in the fast competitive racing that Moths offer on a Saturday or Sunday, than to sit on the beach watching husband or boy friend enjoying himself racing. (Just ask Kathy Brown who sails on both Saturday and Sunday in her Moth, while husband Ian sails his 505 at another club!).

The people who sail Moths are very friendly and helpful to any new-comer, and are of all standards of ability, which makes good fun and competitive racing all the way down the fleet.

As an added incentive to sailing Moths, there is a N.S.W. Ladies' Championship held in conjunction with the N.S.W. Open Moth Championship.

Unlike many classes, Moths are cheap to buy and maintain. A good second hand boat will cost between \$800 and \$1,000. A brand new professionally built boat will cost around \$2,000 fully fitted out. Many boats are built by the owner for much less.

Any girl who would like to know more about Moth sailing should contact the I.M.C.A. in their State, or better still, turn up to the local club and talk to the Mothies, and try to go for a test sail.

Some of the lady Mothies in N.S.W. are:

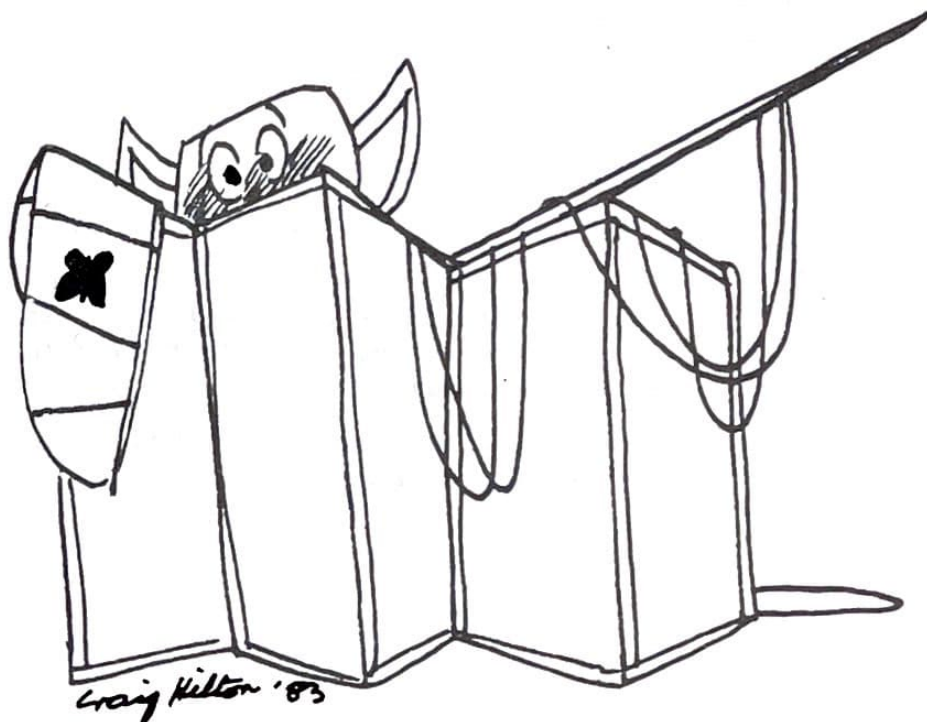
KATHY BROWN - Seaforth

Kathy is the most consistent lady Moth sailor in N.S.W. At the time of writing she has just sold her French build Seycelle and is moving into her fourth boat, a new McFrawd.

In the light to moderate conditions she has extremely good speed, and has the ability to hang in there with the best in a blow. She is a very popular member of the N.S.W. Association, being one of the few sailors to attend every inter-club this year and sail twice a week. On Saturday she sails with her home club, Seaforth, and on Sunday sails to nearby Balmoral for more racing.

MERRAN WARD - Seaforth

Merran is the diminutive and very feminine sister of Ian Ward. Merran doesn't rely on Ian's fame however, being herself a more than competent skipper, as shown by her 1981-82 N.S.W. Ladies' Championship win. She is one of the fastest scow sailors in the light. Her boat Grumbleskin was built by Jim French for brother Ian (2nd in S.A. Nationals).



Merran is a very active member of the Association, being a co-editor of Wings Magazine, and also edited the past two National Magazines.

KERRY SHIMELD - Byra

Kerry is one of the youngest members of the Moths, but has great sailing experience, winning a National Manly Junior Championship with her elder brother Steve (Moth Champion 1983). Other successes have been in Flying Ants and 420s. She is very competitive and tenacious only failing the N.S.W. team when her normally reliable boat broke up! Kerry and brother Steve have done much to revive the Moth fleet at Byra in the last 2 years.

LESLEY DAVIS - Seaforth

A very keen member of N.S.W. Association, Lesley is the co-editor of Wings with Merran Ward. Leslie tends to prefer the heavier breeze. Like her friend Kathy Brown, Lesley is going to move into a brand new McFrawd Moth.

Lesley is now a 1st year Physio student following working for famous Mothie Andrew McDouglas' "Endtune" and Ian Brown's "One Design Sail Loft".

SALLY WATER HOUSE - Seaforth

Sally is one of the real characters of the Moth class. No moth function would be complete without Sally. She once surprised us all by choosing to behave and not to rage.

IAN CROSS

NEWS FROM JAPAN

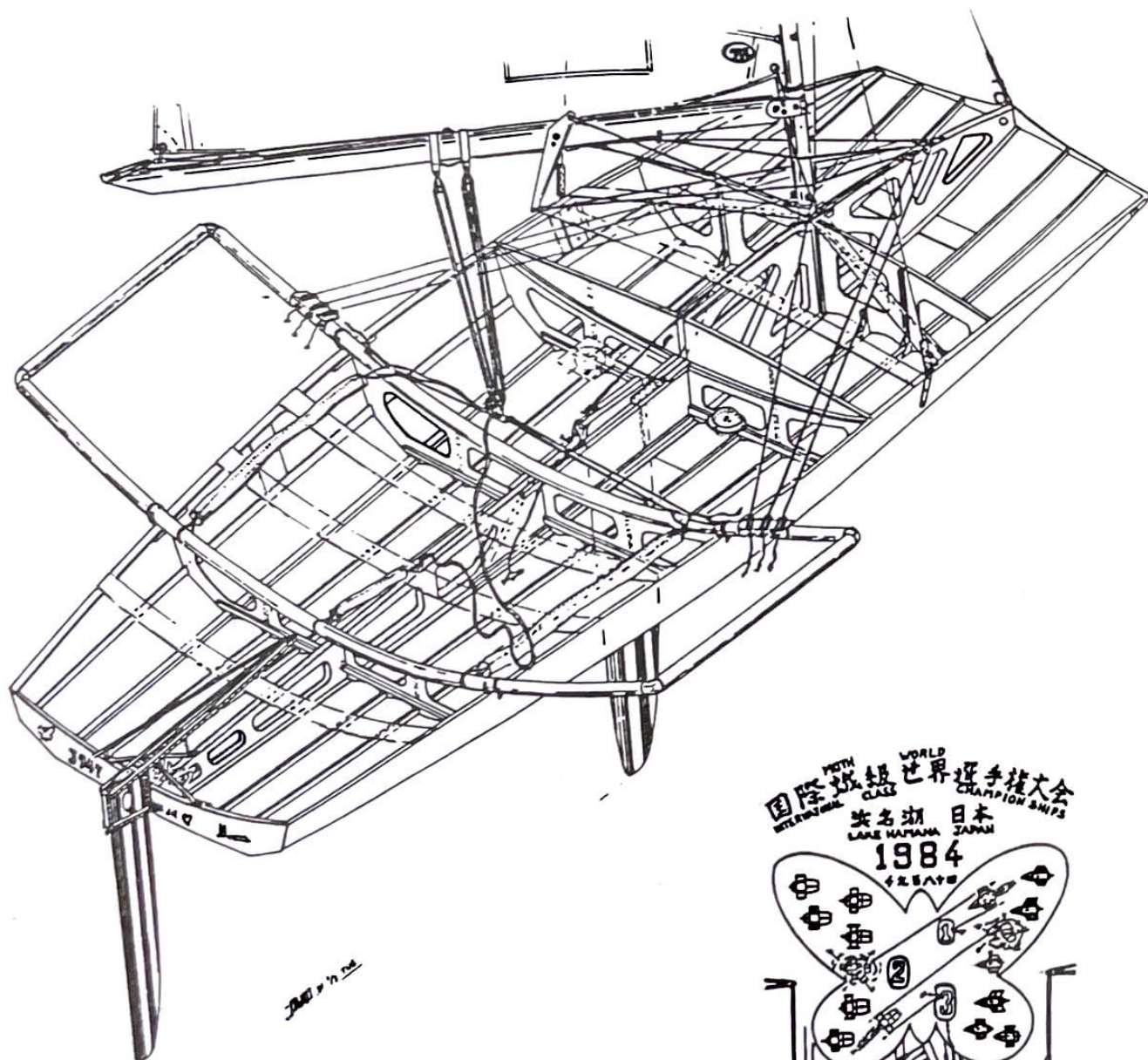
In a letter from Nobuhiro Ohno, news was given of the distribution of Moths in Japan (see map).

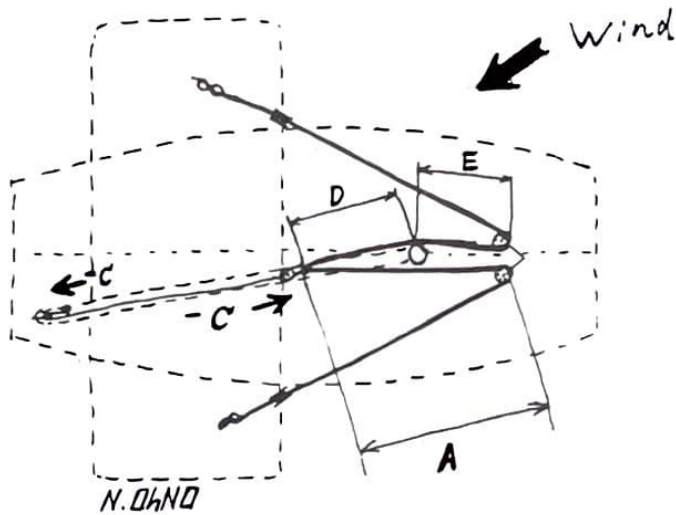
Ten of these are Magnum Skiffs imported from John Claridge.

The design for the 1984 World Moth Titles poster is shown on page 11 featuring the war of the Skiffs and Scows.

The sketches on page 12 of an Automatic Clew (Cunningham) System is self explanatory although some experimenting would be needed to get the correct amount of added tension required.

The schematic diagram on page 11 shows a typical Scow rig which differs only slightly from Australian designs.



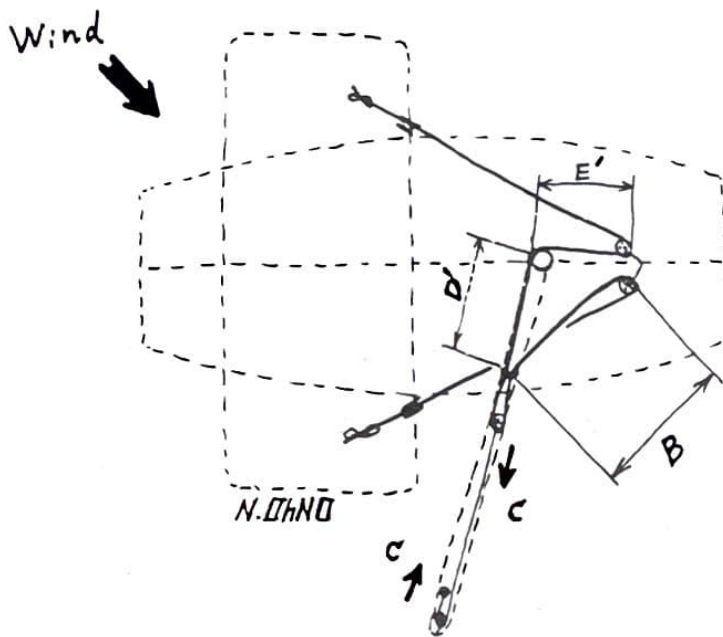


Clew (Cunningham)
Automatic System.

$$D+E \cong D'+E'$$

$$A > B$$

$$C = \frac{A-B}{2}$$



IMCA
JAPAN
1988
RACING?

AKO F.
3

LAKE BIWA F.
15

FUKUYAMA F.
5

HIKARI F.
2

OKAYAMA F.
3

LAKE HAMANA F.
25

GAMAGOURI F.
5

URAGA F.
5 Boats

MIURA F.
25

ZUSI F.
5

ENDOSIMA F.
5

LAKE HAMANA
Beach's Marina
MOTH WORLDS "84"

NEWS FROM GERMANY

At the recent '83 Moth World Titles held at Sydney, roving Moth '83 reporters Adrian and David took time out to talk to visiting German Sailor, Justus Wolf to get yet another Moth '83 scoop.

Mere Moth: Have you seen much of Australia while you have been over here?

JW: Yes, I have been down in Melbourne for a few weeks before the series and after I hope to pop up to Queensland and then back to Melbourne and across to Perth via Ceduna, so I will get the chance to see lots of sights in Australia.

MM: How long are you spending over here?

JW: Oh, a few months to give me time to see as much of the sights as possible.

MM: How many moths do you have over there in Germany?

JW: Well, there isn't really a great deal of moths in Germany so we have a lot of European race series which usually include the Holland and Swiss guys mostly giving us a good fleet of moths to sail with.

MM: What sort of conditions do you get over there and what sort of places do you sail on?

JW: Well, we sail in nice sunny days in summer on the ocean off the Coast of Holland or Germany. We also have occasional regattas and winter series on Inland lakes and rivers. In winter we hold our "Ice Picker's" series which is held on the ocean as all the lakes and rivers usually freeze over in the snow and ice accompanying such a series. When you race in these series you have to wear body warmers, wet suits (3), balaclavas, jumpers; in fact you wear so many clothes that you can hardly move! By the time you have got all your gear on, you'll find that your mainsheet has frozen solid and there's frost all over your sail so you have to tip hot water all over them and quickly set off before they freeze again!

MM: Gosh, you must be a keen lot, how many would you get sailing in this weather?

JW: Oh, about 10 keen ones are always willing to come down.

MM: Do you sail anywhere else during winter?

JW: Yes, our Easter Regatta is held in Switzerland where we sail and then go snow skiing in the same weekend. It's a load of fun and is very popular.

MM: How do you get moths to all these events?

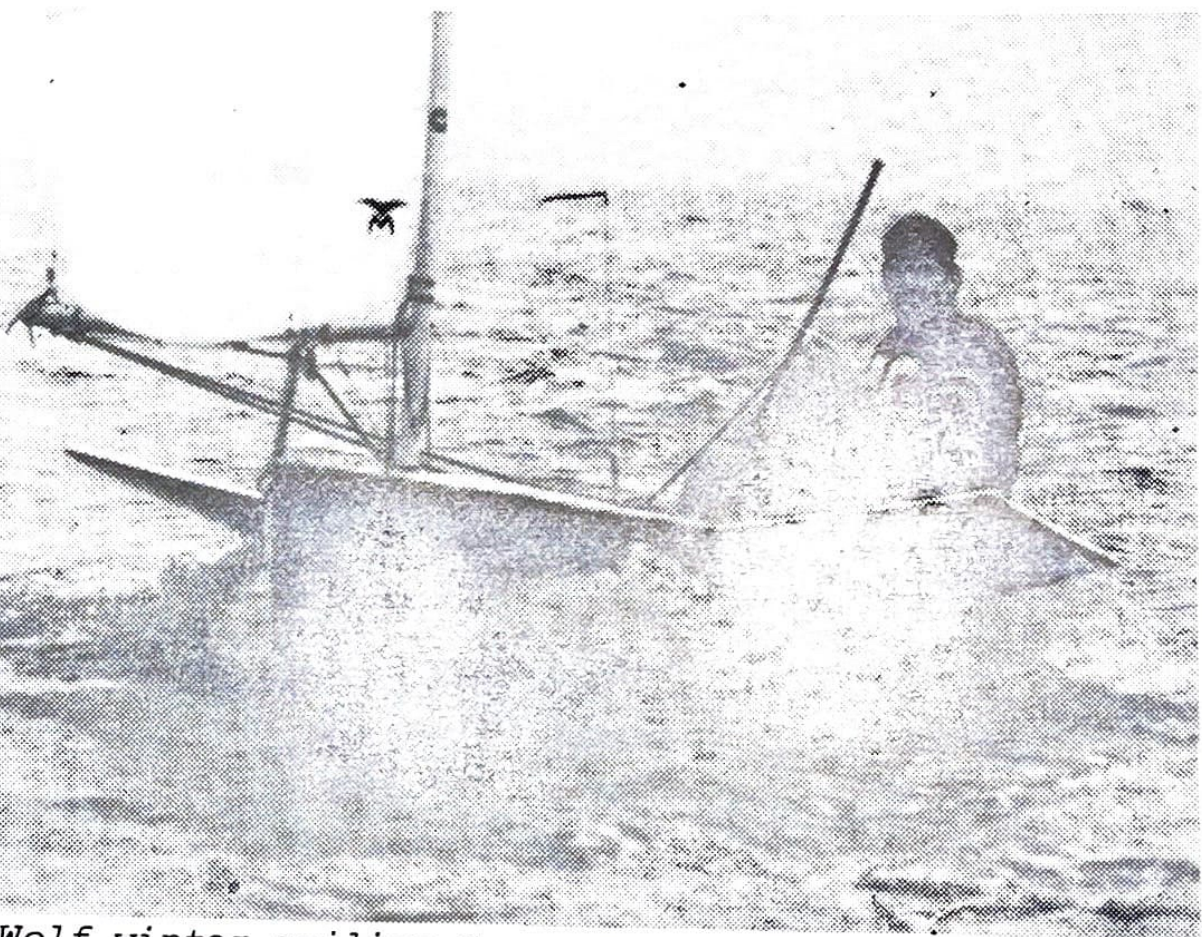
JW: Well, as petrol is so expensive in Europe, about 70-90'c a litre depending on which country you are in, as many boats as possible on the same trailer, our largest carries 14 on the one trailer.

MM: 14!!!! How do you manage that?

JW: Well, we put two rows of boats on all on end.

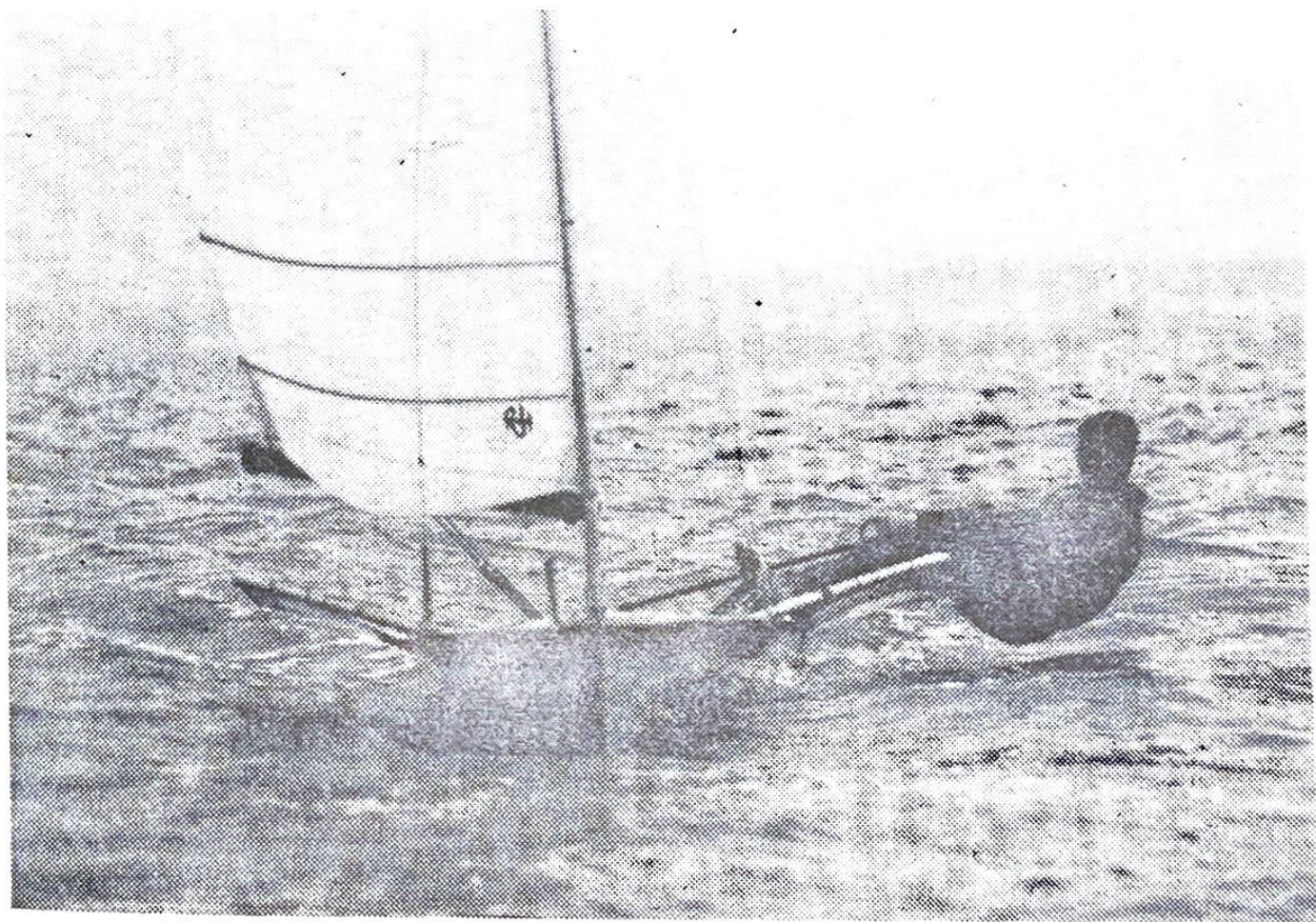
MM: What type of moths do you sail over there?

JW: Well, mostly Magnum 3.5 skiffs with a lot of built in "Rokka" due to the flat conditions we sail on. Most of these are homemade as this really does cut down on cost, but some are built by a professional English boat builder, John Claridge and now a new Dutch builder is moving into the market - Ruurd Hiszelar.



Justus Wolf winter sailing Germany

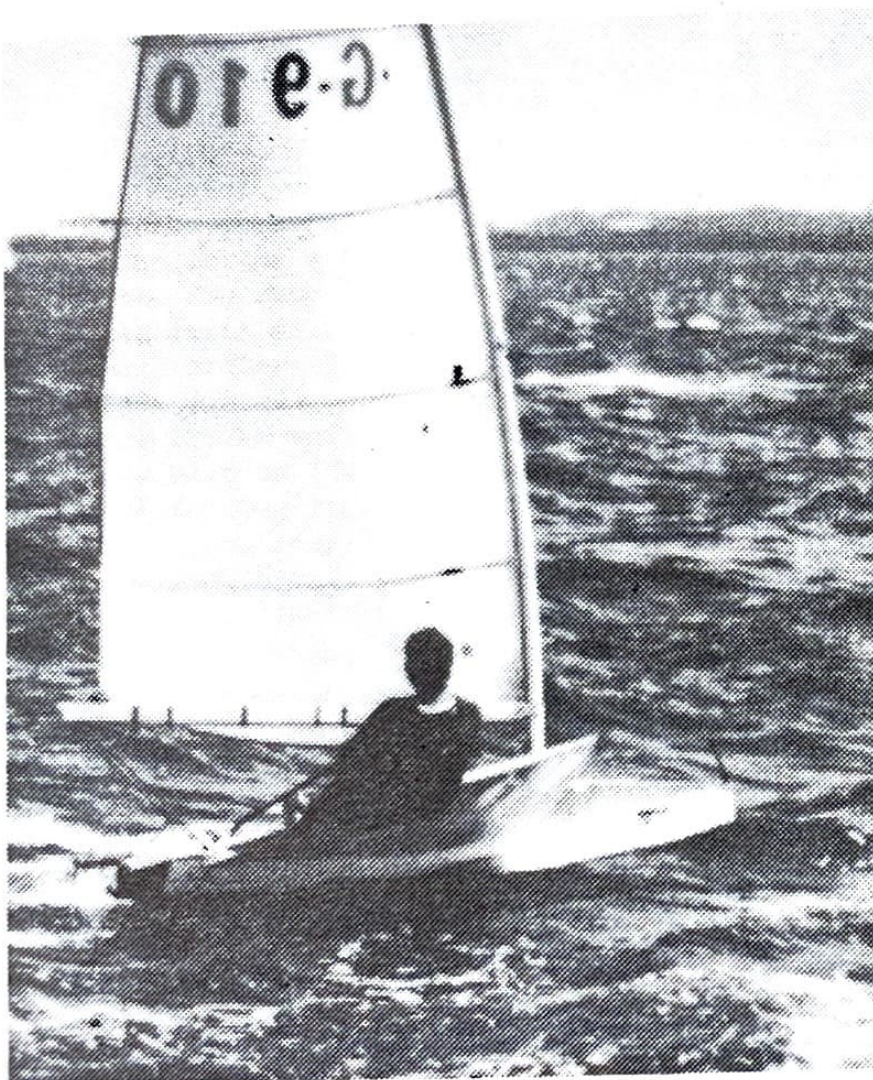
Claudis Buhler



MM: What sort of things do you put into your rig over there now?
 JW: Well, there is a trend to stiffer masts such as proctor and super spar masts from needle spar mast. We don't really use a lot of Mylor sails but mainly use the ordinary sails. These are made mostly by Harbours and Sanders. Also moving in is new German sailmaker - Bruder Segel who only charges extremely cheap prices for his sails. We use practically everything for sail batons and the most popular is proving to be electrical conduit.

MM: What are the prices of moths over there?
 JW: You can buy good second hand boats for about \$800-\$1400. New boats can be purchased in two basic stages. Firstly just a completed hull for \$900-\$1500 and secondly a fully finished boat for \$1500-\$1800, making it a not too expensive, and much work is done by the boat owner to keep these costs down.

MM: Well, thank you for your time and enjoy your stay in Australia.
 JW: Thank you, goodbye.
 MM: Goodbye.



Justus Wolf World Titles, Botany Bay,
 January '83.

MOTHS

SKIFF and SCOW from JIM FRENCH

Featuring EPOXY / GLASS / FOAM CORE construction, ply decks.

SKIFF
SCOW
SCOW

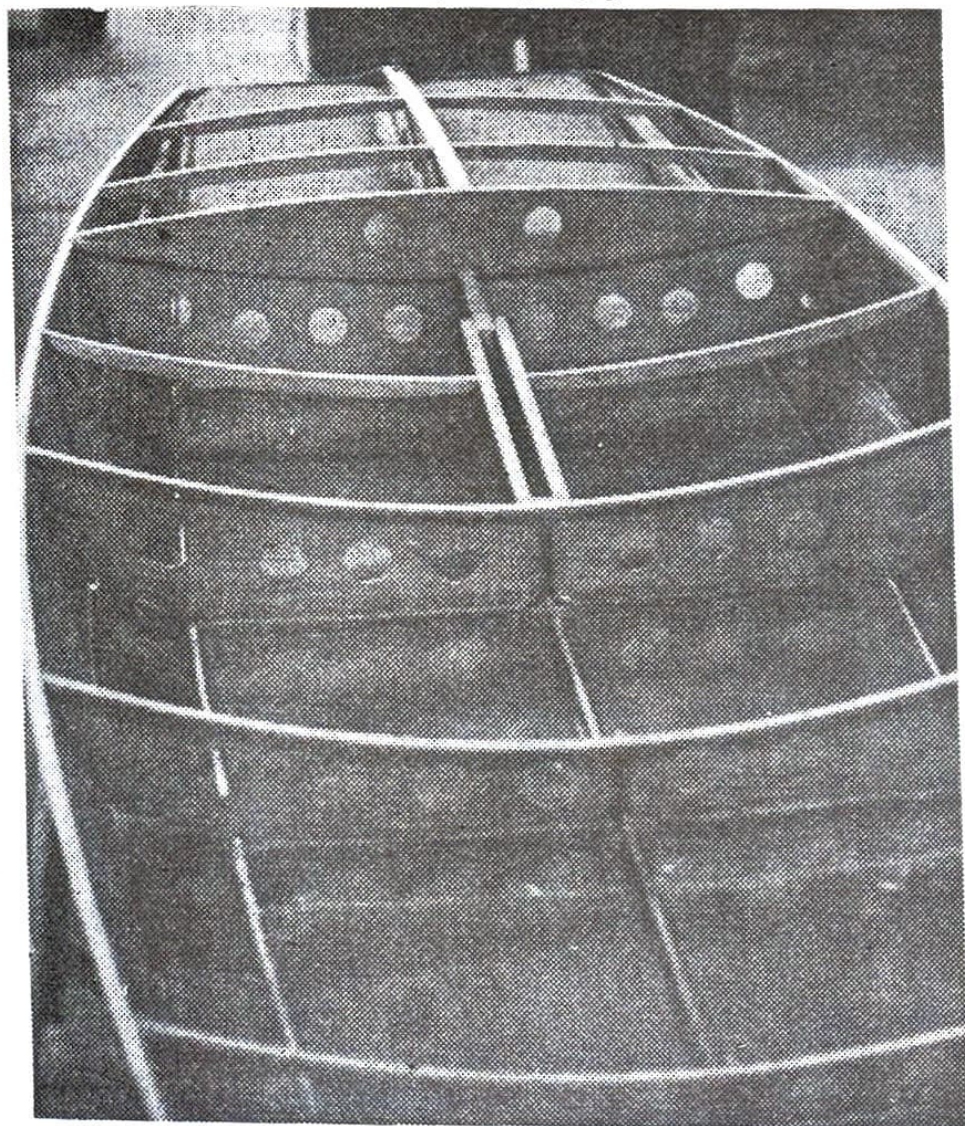
- 1st 1983 Australian Championships
- 3rd 1983 Australian Championships
- 2nd 1982/3 World Championships

Both available in two forms —

STAGE (1) — A shell, with materials to finish off.

STAGE (2) — A hull ready to paint.

Plus all equipment to completely rig your Moth.



For further information contact:

JIM FRENCH,
31 Spray Avenue,
Mordialloc, 3195, Victoria.
Phone (03) 587 1204
A/Hours (03) 787 2542

NEWS FROM SWEDEN

The history of the Moth in Sweden is rather short compared with Australia as the first Moth Sailing Club was started in 1959. IMCA Sweden was founded in 1962 and the class grew steadily to have around 50 starters in the Nationals in the mid sixties. The boats were wide skiffs with vec-bottoms and hard chines. Kits were sold and there was a professional boat-builder, Leuhart Lind, ex European Junior Champion and ex European Champion who produced new boats. A steady drop in starting numbers started them, with a few years in the early seventies as an exception, to the numbers of today of 10-15 starters in a National Championship. Sweden was host for the 1974 World's which Bob O'Sullivan (AUS) won and now recently the '82 European Championship.

In Sweden, the winter is spent in the building shed by the keen Moth sailors as there is still ice on the sailing waters on the 16th March, the day when I'm writing this. This winter there are two major projects on, very contrasting in character.

The Hedlund brothers have designed a narrow round-bottom skiff to be built in the high technology materials that has become available lately.

They have cold moulded a plug and they are going to build a mould for the hull and one for the deck. The moulds are a slight problem as the boats are to be built out of prepreg carbon fibre and kevlar with a nomex honeycomb core. The prepreg has to be baked in an oven in 125C for eight hours which a normal fibreglass mould couldn't take. As for the oven, the brothers have decided to build their own with a saunaheater in their Dad's garage. The major aim is not to produce an extremely light boat, but to make it very strong and durable. Or as per Hedlund says:- "If you want to get more people to the class, you have to have a boat that you can lend to any idiot without fearing that he will put his foot through it!".

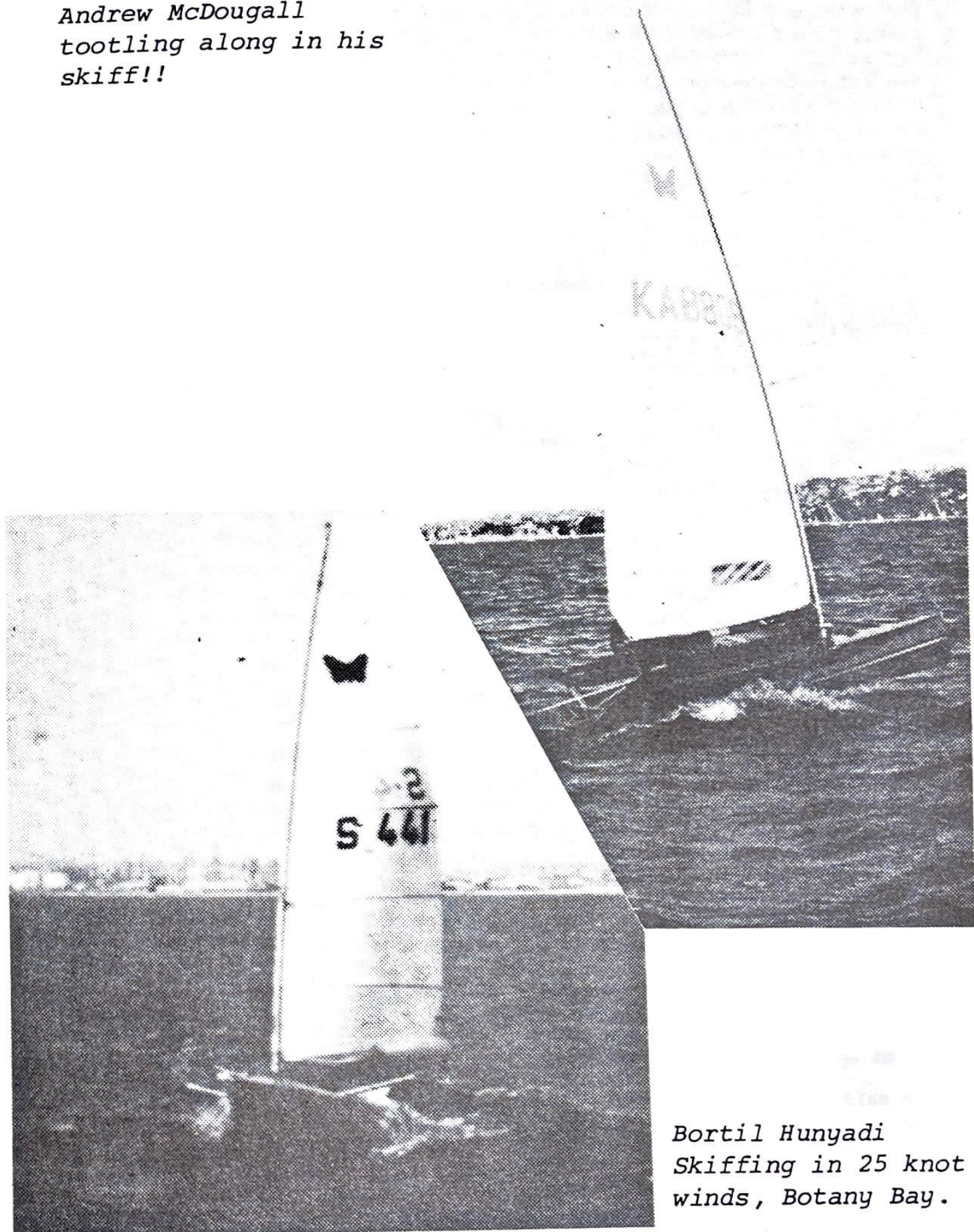
The other project is mine. After my return from Australia, I took a look in my pockets and found that I couldn't afford a boat like the brothers'. I decided that my boat was to cost no more than \$600 complete which is a fairly tough budget for a new Moth. I drew a boat to be built in 3mm gaboony plywood. It is a double chine design but the bow which has much compound curves will be built with form that will be glassed over. So there will be no chines in the bow area which I feel is very important. The boat is as narrow as the Magnum V but is a bit more stable. I'm expecting about equal light weather performance, but better medium and heavy weather performance.

As for a sail, I have bought a sleeve-luff sail made in '76 that has hardly been used at all. This sail doesn't require a sailtrack on the mast, which is impossible to find in Sweden, so I can simply make the mast out of a round aluminium tube for about \$20.00.

If anyone is interested in this design a complete set of plans of the panels and the lines will be available in June, from me.

BERTI HUNYADI
Spireatigen 101
S-16235 VALLINGBY
SWEDEN

*Andrew McDougall
tootling along in his
skiff!!*



*Bortil Hunyadi
Skiffing in 25 knot
winds, Botany Bay.*

MOTHEAUCRACY

The Moth is a do-it-yourselfer's delight. Within a few simple design restrictions the Moth skipper can design the hull to his own taste, rig it as he sees fit and repair it how he likes. This leads us to a problem when we want to decide which yachts are Moths and which are not. We usually at this stage quote the Holdfast Trainer. If it were rigged without a jib it could be registered as a Moth. On the other side of the coin we have a lot of yachts which look recognizably like Moths and even have a Moth on the sail, but which are not officially Moths.

A Moth is a yacht which has been built and rigged within the class rules of the International Moth Class, which has been officially measured, for which a valid Measurement Certificate has been issued and which has been registered in the current owners name both nationally and in the home state.

Now, some skippers, having read as far as this will be developing guilt symptoms, usually indicated by impotent waving of arms in the air to the accompanying mumble of "What a lot of tommy rot"! Well, some such act of rules has to be applied in order to keep Moth sailing fair and this is the system devised by our founding fathers. Its application becomes crucial when skippers want to compete in official Moth class events - State heats, National Titles and World Titles.

Most Yacht Clubs accept entrants for "Moth" races on whether the skipper says his yacht is a Moth or not. However, only registered Moths are accepted for competition in official Moth events.

Let us run through the steps to follow in acquiring a Moth, in contrast to having a rigged yacht. Let us assume the skipper is building his own hull. He will need some forms, which is why this article has that heading.

BUILDING FEE RECEIPT

This form you buy from the State Registrar, which is me, for \$9. This is the way funds get channelled back to the National and World Moth Association to cover their administrative expenses.

APPLICATION FOR SAIL NUMBER

This and the other forms mentioned later are obtained free from the State Registrar. It is the form used to request a sail number and get an approved name, bearing in mind that no two moths in Australia can have the same name. You choose 3 names and list them in order of preference. This form is sent with the Building Fee Receipt and \$20 to:

The Australian Yachting Federation,
33 Peel Street,
MILSONS POINT. N.S.W. 2061.

The sail number and name are sent back by post to the builder within a week or two, with copy to the State Registrar.

MEASUREMENT FORM

The candidate Moth which by now has the sail number indelibly marked in the transom and the name on too, is presented to the State Measurer and the Measurement Form filled out and compliance with class rules is determined. This form is for the hull, mast and boom, and is usually completed within 10 minutes.

SAIL AREA MEASUREMENT FORM

This form is for proving mathematically that the sail does not exceed 8 square metres. The sail is delivered to the State Measurer who then lapses in to a depressed state and some time later the sail and duly completed form are available for collection. Jock Duncan, by the way, is an approved Measurer for Arno Bay, though like me he hates doing sails.

MEASUREMENT CERTIFICATE

The name of the game is to have one of these. It is obtained by sending to A.Y.F. (with no money) the Measurement Forms for the hull and sail. Additional sails can be recorded on the Measurement Certificate by the State Registrar, but for each sail a completed Sail Area Measurement Form has to be lodged with A.Y.F. The Measurement Certificate prescribes where the black bands must be placed on the mast and boom, for each sail in your suit.

If you are building your own Moth and have done all the above steps then you now have a Moth registered at the National level. For those of you who do not like all that paperwork, the easier option is to buy a pre-owned Moth, making absolutely sure that the original owner registered it. For example ask for the measurement Certificate. Then you need only one form:

NOTIFICATION OF CHANGE OF OWNERSHIP

This form is sent to A.Y.F. with \$20, for which sum you receive a Measurement Certificate in your own name and the option to change to a name of your own choosing (the yacht, not yourself!) but keeping the same sail number.

Now, one last thing before the gods will smile benignly on you: you have to have a:

REGISTRATION DISC

which you obtain for \$4 from the State Registrar. Of that amount \$3 goes to the National Body for administration and \$1 is the Overseas Travel Levy, to help send competitors to World Titles overseas.

While you are buying those discs, you should also pay your annual dues - \$10 senior or \$6 junior, under 19 on December 31st. You have to buy an up to date Registration Disc at the start of every racing season.

I guess this will be judged the least popular article for the year, but you skippers are in a class which allows you to compete in State, National and World events and this article is written to show how to ensure that your yacht is eligible.

Confused? Need help? Think positively, and this year really will register! Contact the Registrar in your State.

LES GOLDFINCH

REFLECTIONS

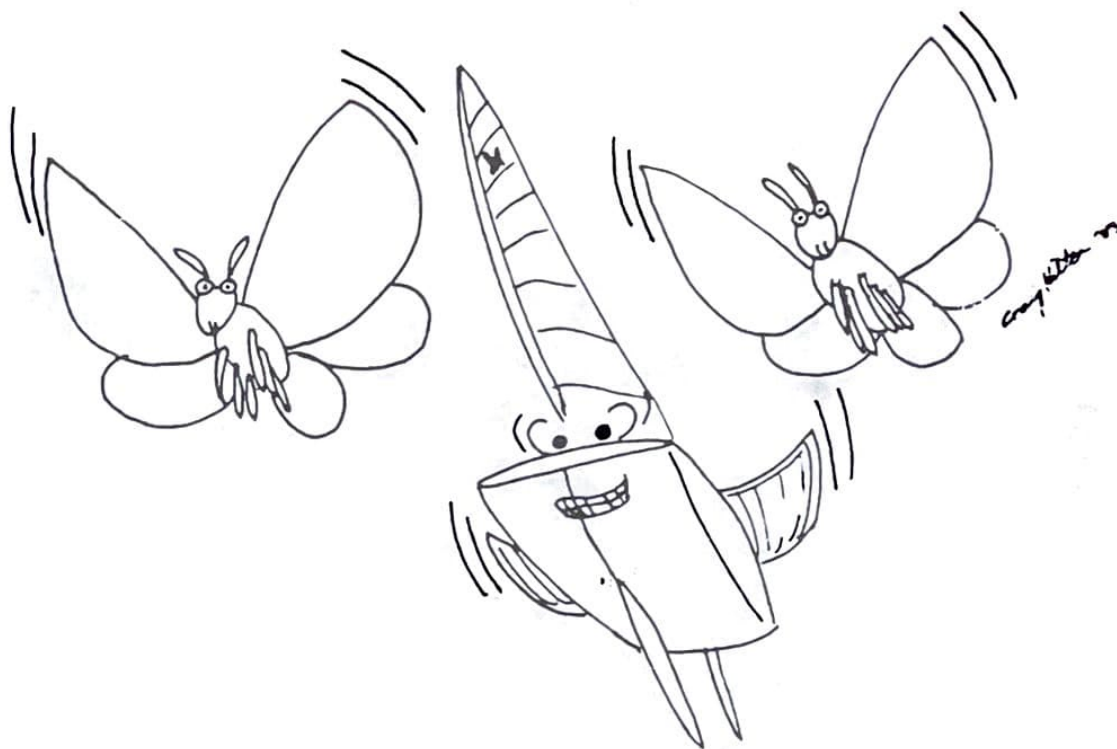
Having been asked to write something about "when I sailed Moths" makes me feel a bit past it! Stop me if I start crying into my beer about the good old days!

I sailed Moths for about seven years at Balmoral, starting when I was 13. My first boat had little four inch timber wings and a pocket-luff sail which needed spruce battens. If you left the boat lying rigged in the sun for very long the battens would get brittle and soon break and if you capsized you'd be bound to break a few. The sail was like a big solid wing which was always catching the wind and dumping you in the water in unguarded moments. So for the first two years, we were always buying more spruce.

Then my father, who came to earn the nickname "Wild Bill" or just "Wild" for various misdemeanours old Mothies will remember, built me a Snubby hull with aluminium wings, a Fogg sail and fibreglass battens. Making the state team for the first time and going to Perth for the Nationals was a big thrill. I was pretty cocky and ignored what everyone said about the wind and chop on the Swan. After I'd broken a mast and smashed up the deck, I came home a bit sheepish. Then winning the junior title in Adelaide the next year was an even bigger thrill. I was able to go to the Worlds in Japan, taking a new Snubby hull again built by Wild, came seventh and won the junior title, though it was a bit of a joke seeing as there was only one other Japanese junior who finished probably only two heats. But it was a big experience for the travel, the chance to race at a very exotic tropical island and to meet a lot of interesting people who had a lot of ideas about racing boats. It definitely gave me a taste for international regattas. In that boat I sailed in three more Nationals and the 1978 Brisbane Worlds. It was good to see my brother Michael win the juniors' there. Then I got caught up racing for the Women's Worlds and went into Lasers, which I still race sporadically, along with keelboats and whatever comes along.

Looking at it now, I would say the biggest thing I've gained from my Moth background is the ability to climb onto all sorts of other boats and be able to adapt quite quickly. Moths teach you how to do just about everything by yourself. They teach you a great deal about sail trim because there's so much allowed by the rules and so many controls you can have. They can also teach you a helluva lot about the theory and practice of boat design and construction. I got a lot out of watching my father build Moths; if I had my time again I like to think I'd take a more active role in building my own boats because it teaches you so much. Laziness is a problem, though.

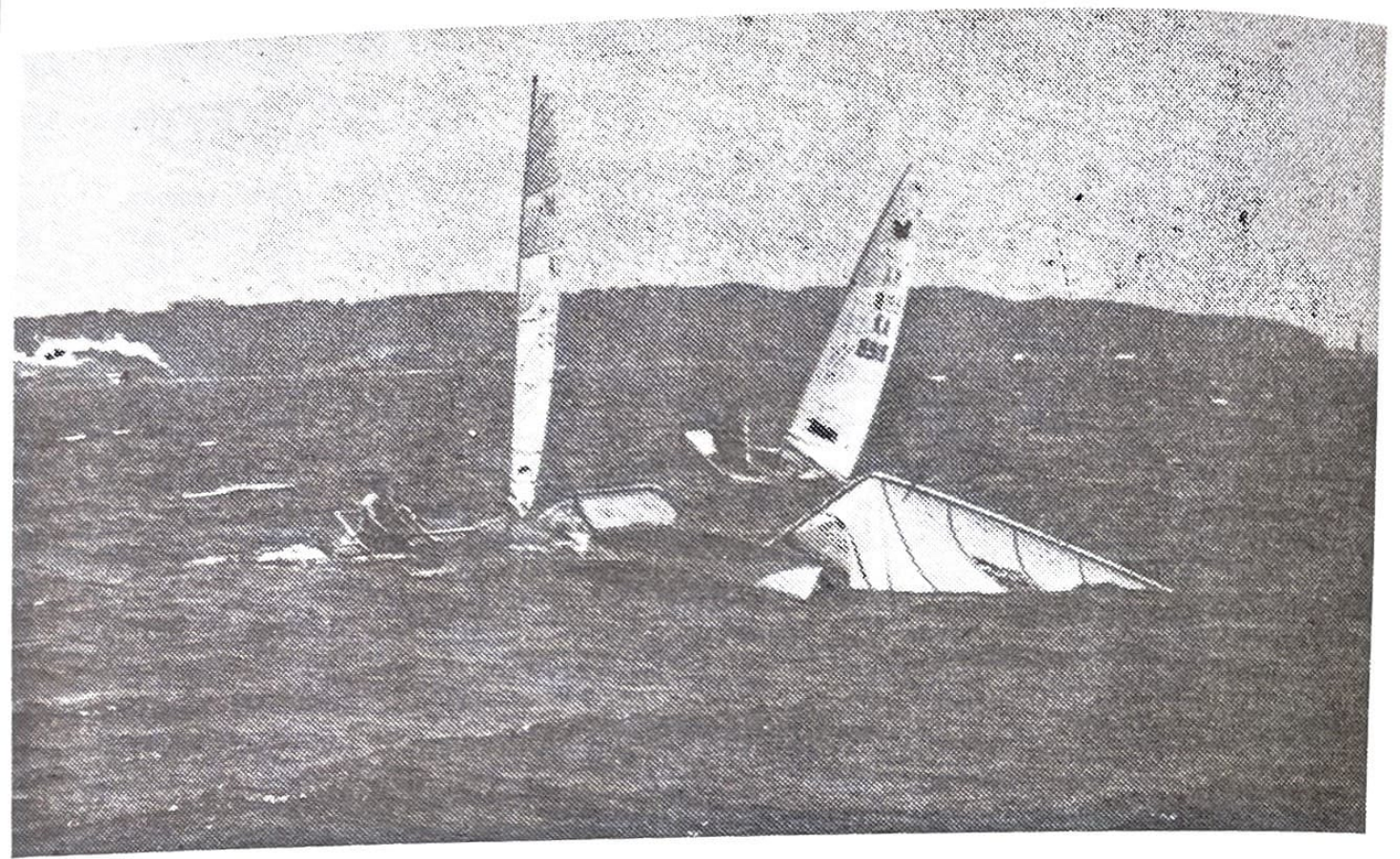
Another thing I've appreciated was the lack of any stigma attached to being female and racing Moths. They are a good boat for girls and I never felt I had any excuse for not sailing as well as any one else, which can happen in boats like Lasers which require more "grunt power". Socially, of course, it could be a positive advantage. Which brings me to another benefit of Moths, the very close-knit ties within and between the states. Making friends and looking forward to seeing them again and racing against them each Christmas was a big thing - it's good now to bump into old Mothies, like at the Worlds last Christmas.



What else? The chance to compete in International Championships opened a lot of doors; it's something worth striving for. I feel very lucky to have had the chances that came along to meet a whole stack of people from different places and to learn from sailing under the pressure that is part of the bigger regattas. You could take it a lot further. Look at ex-Moth sailors like Ian Brown and Mark Bethwaite.

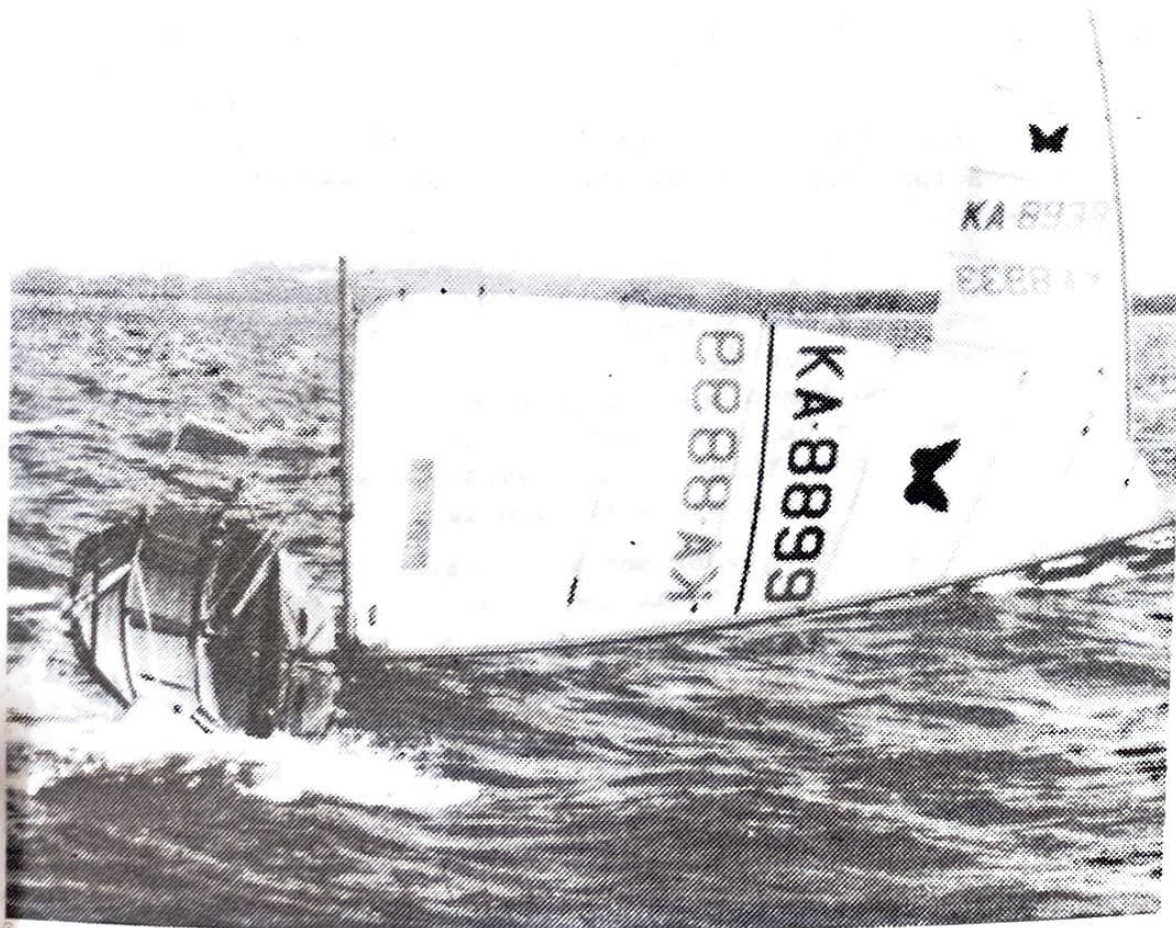
Finally, I got a lot of sheer kicks from sailing Moths and a real lust for strong winds. Scows are great. You wouldn't catch me dead on a skiff Moth. Unless, one day, Andy McDougall or someone else invents one that CAN go downwind, be gybed, and win, in 20-25 knots of wind on Botany Bay. But by then, I'll probably be too geriatric to sail Moths.

VANESSA DUDLEY



Too much mast bend here!

Competitor combining swimming with sailing!



BATTEN SHAPING

There are many different types of batten available, all with their own properties. I even tried making my own wood/fibreglass/epoxy battens once - these were extremely light, but tended to break under load. The foam sandwich construction seems to have good possibilities, being quite light, but it makes shaping difficult. It would be necessary for these to be produced in a wide range of thicknesses and only a minimal overall taper, so that final shaping could be done by the purchaser. The fibreglass batten still seems to be the most popular, because of its durability, relative cheapness and ease of shaping. The "Blue Streak" batten is good because its design gives it a good strength to weight ratio and the ridge is easy to shave down; it also makes it easy to see how much has been taken off.

I always buy long lengths of untapered batten and start from scratch. The pre-tapered battens are useless because the maximum bend is too far forward. By the time you have bought these battens longer than you need and cut the bendy ends off, it would have been cheaper and easier to buy enough untapered sections to suit your requirements. In addition, you have some handy off cuts which can be used for experimenting with (explained later).

I find that only two gauges are necessary - gauges four and five. The top three battens can conveniently be obtained from one 3.6 m length of gauge 4. Battens No. four and five can often be obtained from one 3.6 m length of gauge 5 and the bottom three require one length each (the off cuts from these latter three can be more extensively shaved down and used for experimenting with top batten shapes).

A "Surform" file is a good tool to use because it can be used in either a planing or a rasping action, depending on the angle held; used in the latter way, the rate of reduction is slower and it doesn't produce splinters. It is a good idea to use gloves, in any case, when working on fibreglass battens. A plane can also be used for initial reduction, but it can "dig in" if it is not kept sharp and not used carefully. A long, coarse sanding board is extremely useful for final reduction and evening out of bumps.

The first thing I do after cutting the batten to length and preparing the ends, is to shave about 2 mm off each edge along its entire length. This reduces the weight slightly with a negligible reduction in stiffness. Next, I taper the batten evenly over its entire length, by reducing the ridge. To check the bend, I stand the batten on its end on the floor and push down. I try to get the maximum bend just forward of the mid point. When the stiffness feels just a bit greater than I think it should be, I leave it and start on the next batten. Once all the battens are shaped in this way, I rig up the sail and check the overall shape. Final shaping can then be done individually until the sail shape looks good. It is obviously important to use vang and downhaul tension to bend the mast while doing this.

I hope this discussion has been useful for those attempting batten shaping for the first time, and perhaps for those who could improve their technique. It is really very important to have experience in such a vital part of the boat.

G. HILTON

FINISHES FOR MOTH HULLS

It is amazing how many people take extreme care in building their boats, then spoil their efforts by not devoting enough time to the final finishing, i.e. painting, varnishing. After all, it's the final finish which comes into contact with the water, having a marked effect on performance.

In my opinion as a professional boat builder, it is very important to spend the time sanding back the ply, enabling as smooth a finish as possible without going through the outside veneer. Once this is done, the first primer coat of the final finish can be applied. The procedure for this depends upon the type of finish required, i.e. paint, varnish. There are lots of different brands of paint and varnish on the market, but they tend to fall into two categories:

- Polyurethane type (no mixing required)
- Pot mix type (requires mixing two pots together)

Polyurethane type

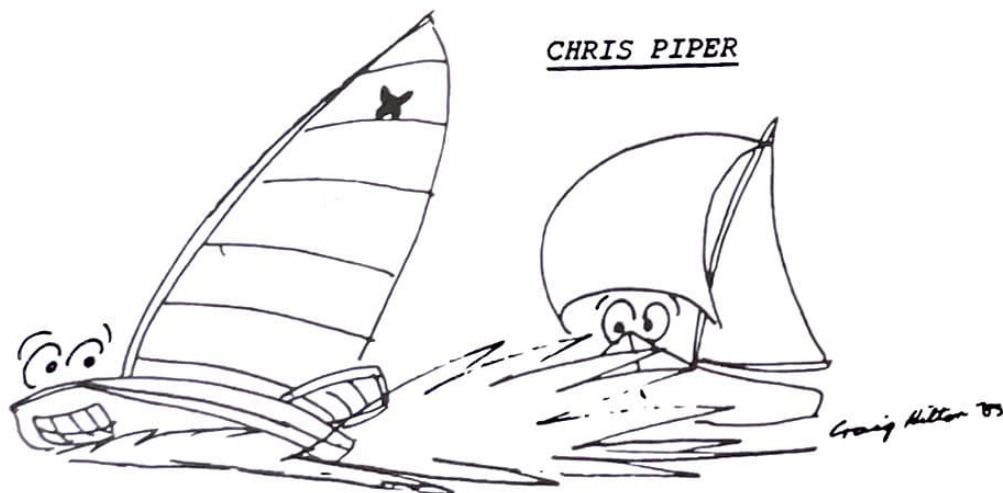
Is probably the easiest to use, as it can be applied by brush straight from the tin. It is usually touch dry in one hour, and once fully hardened provides a reasonably hard flexible finish. This type of finish is ideal for the thin plywood construction of Moths, because it doesn't crack as the ply flexes.

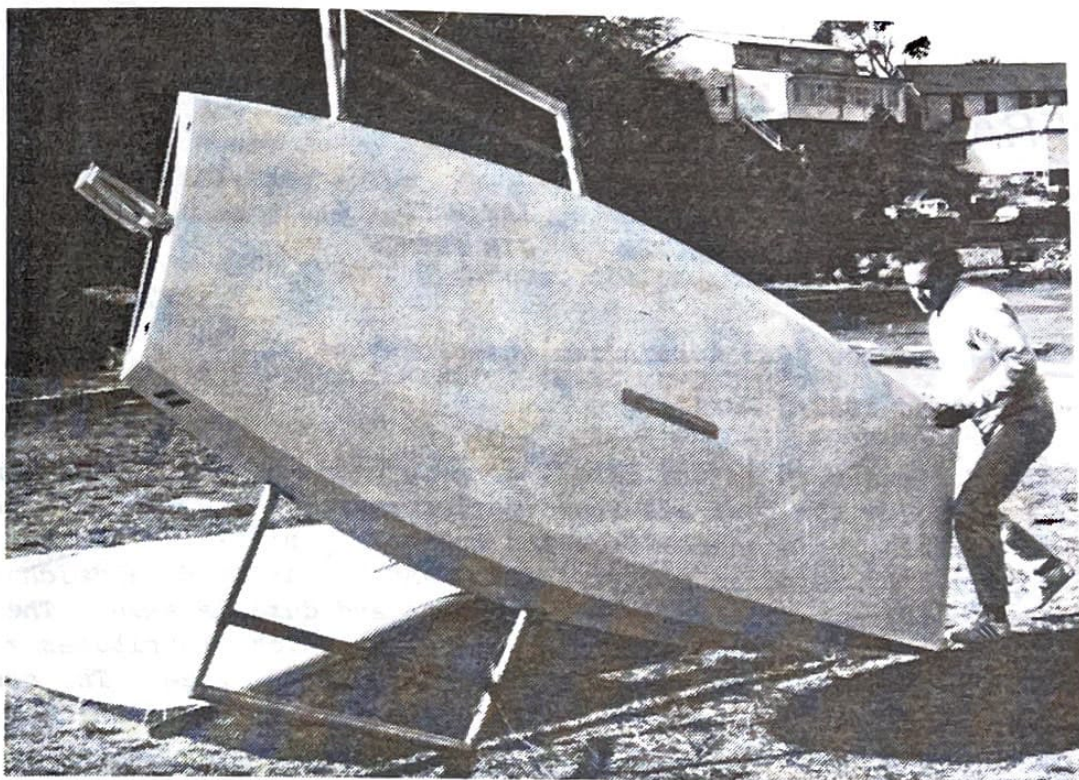
Epicraft Goldspar and Watsonia Proof are two brands I have found to be the best, especially because of their ease of application and ultra-violet light resistance.

Pot mix type

Not as easy to apply as polyurethane and lends itself to being sprayed on. The final finish tends to be very hard and has a habit of cracking if applied over a flexible construction. It is not really suitable for Moths, unless the construction is of a foam sandwich type. This type of finish is very resistant to scratching and harsh treatment, making it more suitable for other dinghy classes.

Epicraft Epivar, Epicraft reaction lacquer and Dulux Durethane tend to be the most popular brands used, the latter not having the colour range that the Epicraft do.





*Ian Ward admiring his finish, but really
all weekend!!*



**GET WITH THE
STRENGTH**

McFRAWD MOTHS

DESIGNER : IAN WARD
BUILDER : JIM FRENCH

- First scow 1983 Australian championships
- Second 1982/3 Worlds

The McFrawd moth is the result of many years of development in order to produce the best all-round performance boat, which is light, strong, durable, maintenance free and moderately priced. This has been achieved by using an EPOXY / FIBREGLASS / FOAM CORE sandwich in a female mould, - resulting in a very stiff and durable skin. The hull has six internal frames, and a strongback which distributes rig and skipper loadings, and keeps hull rigid and twist free. The cockpit floor is fibreglass re-inforced from the mast to stern which makes holeing the cockpit a thing of the past.

- Here is a short summary of what goes into a McFrawd moth;

The fibre glass is laid up inside the mould and the foam core is prepared.

The foam core is glued and vacuum pressed in.

The timber around gunwale is glued in and the inside laid up with epoxy and fibreglass.

This completes shell to stage (1).

The frames are made and are fixed in with epoxy resin and fibreglass tape.

The hull is pulled out of the mould, the decks are glued on and the ash trim is fitted.

This completes the hull to stage (2).

THE McFRAWD IS AVAILABLE IN TWO BASIC STAGES

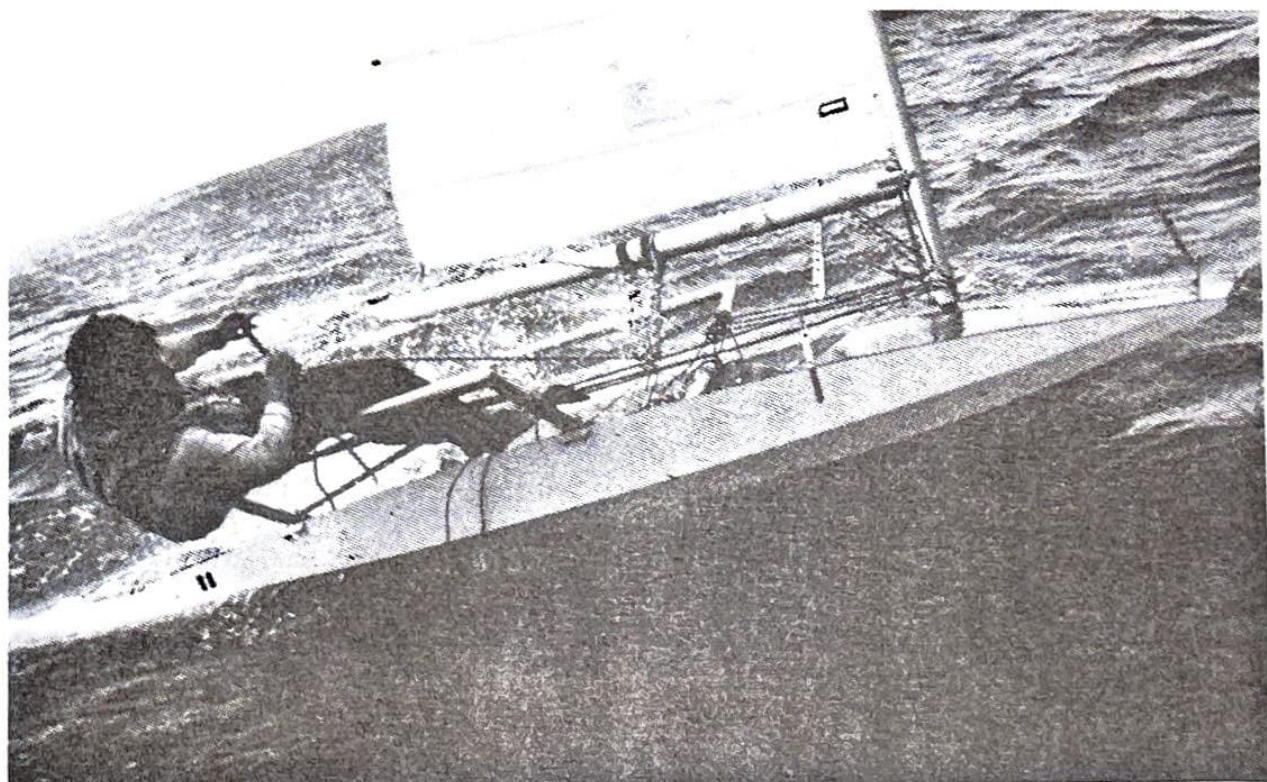
- STAGE (1) : A shell with all materials to finish off:
 - Ply for decks, frames and strongback
 - Timber re-inforcing for frames and strongback
 - Fibreglass tape for fixing in frames
 - Fibreglass for under cockpit floor
 - Epoxy resin for sealing all timber and to use with fibreglass
 - Wing attachment blocks, transom beam and ash trim
 - Chainplates, rudder gudgeons and centre board roller
 - Detailed instructions of how to finish off

- STAGE (2) : A hull with decks, completely finished ready for painting and varnishing, (hull has clear epoxy finish on bottom and decks, so bottom needs a light sand and two coats of finishing paint, decks need the staple holes filled a light sand and two coats of varnish.
- Comes with rudder gudgeons, chainplates and centre plate roller.
- PLANS ARE AVAILABLE FOR PLY / FRAME CONSTRUCTION
 - They come with full size frame drawings, comprehensive building instructions, plan and detail sheets and a set of class rules.
- FULLY COMPLETED BOATS, OR ANY STAGE THERE OF ARE ALSO AVAILABLE
 - Ready to sail away or anything down to stage (2)

FOR ANY MORE DETAILS CONTACT:-

JIM FRENCH,
 31 SPRAY AVENUE,
 MORDIALLOC 3195
 VICTORIA Ph; (03) 587 1204
 A.H: (03) 787-2542

- AUSTRALIAN CHAMPION SKIFF DESIGN ALSO BEING BUILT
 - all specifications with regards building the same as the McFrawd
 - has recently won the 1983 Australian Championships (Andrew McDougall)



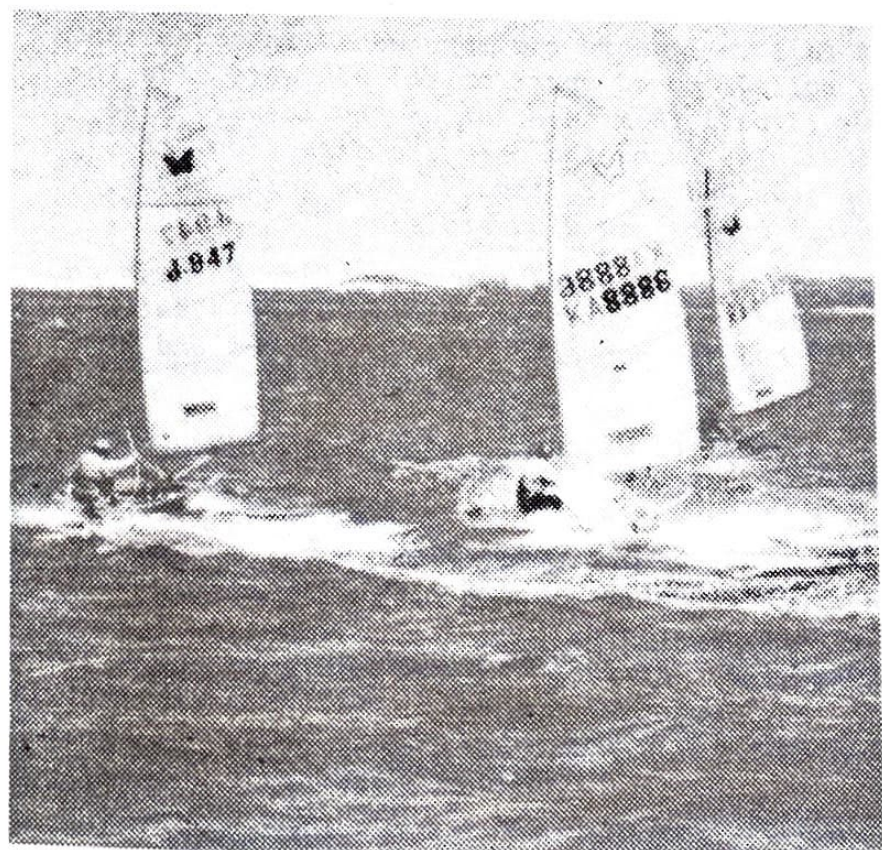
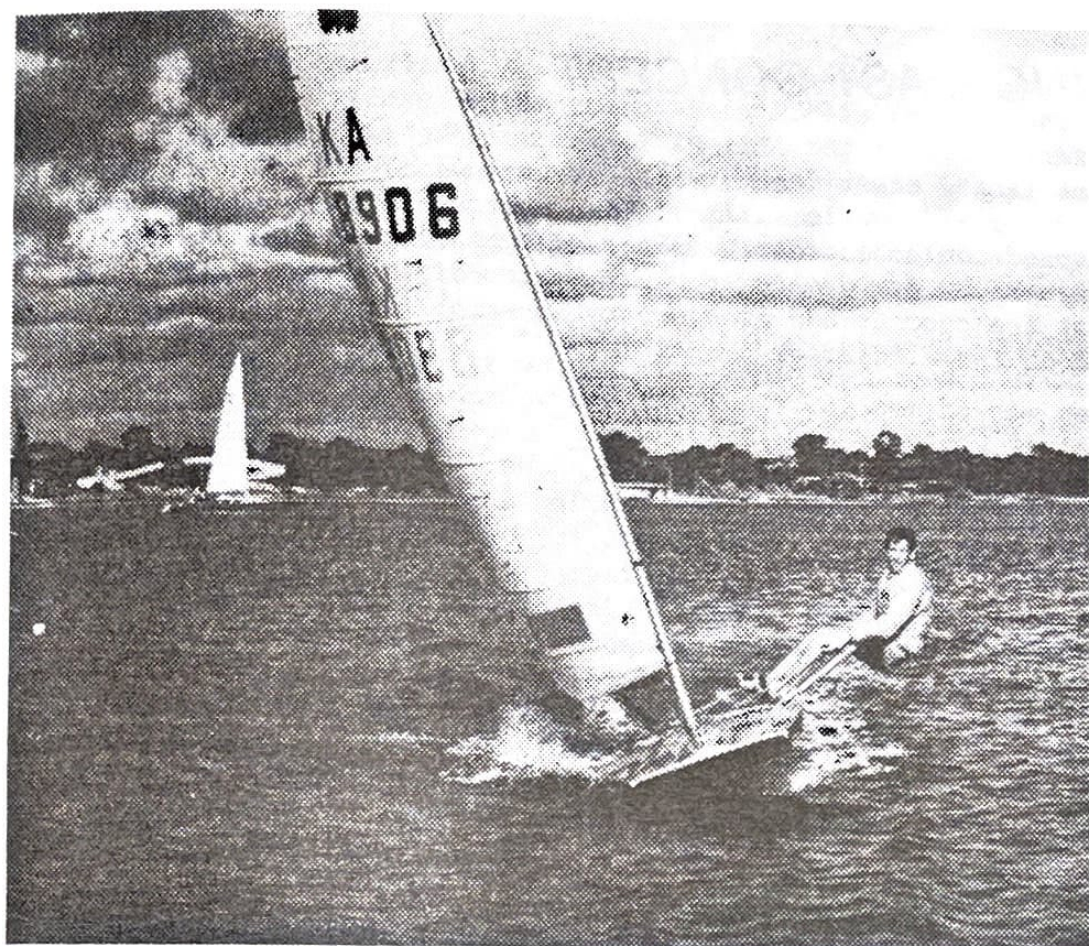
STANDARD SAILING INSTRUCTIONS

At the National A.G.M. at Largs Bay, January 1981, the W.A. Association was charged with producing a draft set of Sailing Instructions with Guide Notes. The draft "SAILING INSTRUCTIONS FOR MAJOR EVENTS" was drawn up during 1981, and subsequently accepted at the January 1982 A.G.M. held at Sorrento, Victoria. It was agreed that use of the "Standard" Sailing Instructions would be desirable rather than mandatory.

Here are some recommendations to be born in mind if charges are made to these instructions so that they may suit the local venue:

- 1) No conflict with the Constitution is permissable. Any protest substantiating a violation of the Constitution would have to be upheld.
- 2) The implications of Rule 3.1 (Status of Sailing Instructions) should be carefully considered. It should be noted that in the wording of 3.1, some IYRU rules may not be altered by the Sailing Instructions, and Rule 3 (Sailing Instructions) is one of these.
So that:-
 - * all items required to be included in the Sailing Instructions must be so included,
 - * where it is desired to change an IYRU rule as allowed by 3.1, make sure that specific reference is made to that rule as required by 3.1. Otherwise the original IYRU rule will take precedence over the Sailing Instruction clause,
 - * care must be taken to avoid any clash between the S.I.s and the IYRU rules. It is not good enough to say that in the event of a clash then the S.I.s take precedence, because 3.1 only allows a change to an IYRU rule by making specific reference to it. So that the IYRU rules take precedence, unless they have been changed in this prescribed manner.
- 3) Ensure correct use of "shall" and "will" to convey the intended thought. Future tense, first second and third person goes "shall", "will", "will"; Imperative form goes "will", "shall", "shall". So that "There will be a briefing --" tells competitors that a briefing is programmed to take place. On the other hand "There shall be a briefing --" is really an instruction, presumably to a sub-committee, to arrange a briefing.
- 4) It would be desirable to mark any changes in some manner (e.g. an asterisk). This would make it easier for competitors.

R. HILTON



SWINGING MAST CONCEPT

During the first half of the 1981-82 season we ("We" shall refer to the "Hilton think tank") experimented with a device which could rake the mast from side to side while sailing. Our initial thoughts were that light wind speed could be greatly increased by having the boat heeled and the sail upright for greater power. We immediately realized, however, that the concept had even greater possibilities in strong winds, based on the windsurfer principle.

The next step was to set about designing a workable system. We soon realized that it would be very difficult and cumbersome to have to pull the mast up to windward after going about. The alternative was to let the mast rake to leeward before going about, so that it would be on the new windward side after going about. One exception to this would have been to have the mast foot on a sliding track, so that after going about, the bottom of the mast could be let off to leeward - this would possibly even work automatically. In addition, the boom would always remain high, eliminating the danger of being caught under it. The main problem with this system, apart from any possible reduction in efficiency from having the sail further to leeward, would seem to be an engineering one, not to mention the extra weight involved. If I were to continue with swinging mast development, this is probably the way I would go.

After considering many ideas, including rake adjustment from the hounds on a continuous shroud, we eventually settled on one that was quite simple and easy to make. This consisted of a 6 : 1 purchase set of pulleys on each side, through which ran a continuous, kevlar-cored rope and back through a cam cleat on each side of the cockpit. Before going about, the rope would be pulled upwards out of the cleat on the windward side and as the mast fell to leeward the rope would run over the top of the cleat. As the pulleys moved apart on the windward side the rope, being continuous, would pull them together on the leeward side. Since the cleat on the other side faced the opposite direction, the rope would run through the jaws and cleat itself. Upon going about, the rope would now be cleated on the new windward side.

The mast base consisted of a stainless steel pin projecting through an aluminium collar with a rounded upper surface. On top of this sat a nylon washer. The mast foot had the conventional pin removed and a hole drilled in the bottom.

The description would not be complete without a mention of advantages, disadvantages and handling properties. In a light wind, strangely enough, there did not seem to be a noticeable speed advantage. I can offer no explanation for this. It is in the stronger winds, however, that the difference is really noticeable. Going upwind, the stronger the wind, the better the performance. The boat feels tremendously light and lively, and accelerates readily in the gusts rather than being knocked over. In big waves, the boat easily lifts over the top rather than smashing into them. It is interesting that having the mast to windward gives the boat lee helm, so the centreboard needs less rake. This probably contributes to the good pointing ability experienced and the lift over waves.

This property of giving the boat lee helm makes broad-reaching and running rather tricky, since the boat is likely to bear off without warning. On a run, since the sail is directly over the centre of the boat, there is neutral helm. This may sound fast, but it is not really. Having the sail on one side enables you to turn the boat to leeward to increase the pressure in the sail to help catch a wave. This can't be done if the centre of effort is over the centreline.

So, basically, the only real speed advantage is seen in tacking and close-reaching in the stronger wind strengths.

On the debit side, apart from the extra weight, you have very real operating problems. In a light wind, the pressure in the sail is not enough to push the mast across to leeward, so it must be helped across. In a strong wind, it tends to go across too quickly, so the boat must be luffed sufficiently to provide a reasonable force in the sail, lest the sudden jolt cause damage.

Once the mast is to leeward, it is very difficult to go about, particularly in a strong wind. If you can't get round at the first attempt, in a strong wind, it can be almost impossible to gather enough speed to try again. To make matters worse, the boom is very low on the leeward side, making it difficult to get underneath.

Gybing can also be a problem. Here, the mast must be pulled across manually, a task that requires two hands and brute force against the tremendous tension in the rope on a run. Of course, the mast can be set in the middle before rounding the windward mark, but then you have to decide if you want the mast raked for the next windward leg. If you, say, leave it in the middle for the first tack of that leg and then rake it on the first go about, the centreboard rake must also be altered. I found it best to stop and luff after rounding the leeward mark just to pull the mast up to windward.

So it seems that in a wind strength where the boat is fastest, the system is also most difficult to handle. Capsizes on the upwind legs are quite common. I did not use the system this year, partly for these reasons and partly because I spent all my time getting the sail/mast combination right, which is much more important anyway.

I'm sure the swinging mast system will be seen on more boats in the future, because it has so much potential. All it takes is people with enough time, patience and ability to develop and refine it further.

G. HILTON

AUSTRALIAN CHAMPIONSHIPS

1982

INVITATION - The local four-red-flag system caused some confusion, with some boats starting two minutes or one minute before the start. Two general recalls and the fleet of 63 boats was away at 2.28 pm in about 12 knots in a fairly light chop. A heavy overcast, and the breeze dropped steadily to about 5 knots, rising to 10 knots during the last leg. An interesting mixture of skiffs and scows in the final result - Andrew McLachlan (skiff), Ian Ward (scow), Glen Hammond (skiff), Greg Hilton (scow), Alan Tidy (skiff), John Hilton (scow), Chris Overy (skiff), Phil Edmiston (scow), Jim French (scow), Jonathon Briggs (scow).

HEAT 1 - An overcast morning, but as the sun started to break through, the breeze also began to build up. Start postponed to 2.25 pm, in 15 knots and rising. Peter Lamb, Greg and Andrew reached the top mark in close succession, but Andrew pulled out a chain plate and a fair chunk of boat, and Greg capsized in a gust shortly after. Capsizes were occurring with increasing regularity, with the wind gusting to about 30 knots and the water becoming pretty lumpy. At the finish, the first ten over the line were Peter Lamb, Peter Morrison, Ian Ward, Phil Edmiston, Keith Chidzey, Ian Tarbotton, Brian Holman, Steve Penny, John Briggs and Robert Hermans. Quite a lot of damage occurred during that race.

HEAT 2 - A start at 2.15 pm in 8 to 10 knots, the breeze during the race varying between 6 and 12 knots. A good breeze for skiffs, and Andrew McLachlan made the most of it to record his first Heat win by about 20 seconds from Greg with Ian close behind. Then Stuart Shimeld (skiff), Ross Keogh (skiff), Jim French, John Briggs, Phil Edmiston, Peter Lamb and Glen Hammond.

HEAT 3 - After the first Lay Day and with most repairs and adjustments completed in the fleet it was on again, with the scows hoping for a blow and the skiffs looking for more moderate conditions. After a relaying of the line and two general recalls, the fleet of 62 was away at 2.35 pm in 6 to 8 knots and fairly flat water. The breeze gradually dropped to about 3 to 5 knots and fairly flat water. The breeze gradually dropped to about 3 to 5 knots, but as the front runners neared the finish a southeasterly front of up to 20 knots came through. Front placings were Stuart Shimeld, Glen Hammond, Alan Tidy, Chris Overy, John Hilton (first scow) Andrew, Greg, Chris Piper, Ian Ward and Phil Edmiston.

HEAT 4 - New Year's Eve, and a morning race with a strongly falling tide and 10 to 12 knots of South Easterly breeze. No warning gun! The breeze dropped to the range of 5 to 8 knots, and it was surprising how well the scows were hanging onto the skiffs. Placings were Andrew, Stuart, Peter, Ian, Greg, Chris Piper, John Hilton, Murray Howson, Phil, Alan Tidy.

HEAT 5 - A rain squall caused this race to be postponed to the morning of 3rd January, and the light conditions - 5 to 7 knots - again favoured the skiffs. A 20 minute postponement for adjusting the line, and they were away with Andrew and Stuart leading from start to finish. Placings were Andrew, Stuart, Glen Hammond, Ian (first scow), Alan, Ross Keogh, Chris Piper, Phil, Greg, John Hilton.

HEAT 6 - Mostly 5 to 7 knots with some small variations, and Andrew and Stuart again showed the way around the course., Third to finish was Chris Overy, then Ross, Alan, Jamie McPhail (first scow), Peter, Glen, Ian and Greg.

HEAT 7 - With the breeze at 8 to 10 knots and rising to 12 knots at times, Andrew concentrated on safe sailing and avoiding protests. Greg, Ian and Peter had a close duel throughout, with John Hilton well up for the first half. Final placings were Greg, Peter, Ian, Stuart, Chris Piper, John, Andrew, Phil, Brian Holman and David Elliott.

<u>SENIOR PLACINGS - NATIONALS</u>				
1. WOMBAT RACING TEAM	-	A. McDougall	-	(Vic) 23.4
2. COLLECTOR	-	S. Shimeld	-	(NSW) 25
3. X	-	I. Ward	-	(NSW) 48.1
4. STUNNED MULLET	-	P. Lamb	-	(NSW) 54.7
5. BUNYIP II	-	G. Hilton	-	(WA) 57
6. STRUTH	-	P. Edmiston	-	(WA) 81
7. WIZARD GLICK	-	J. Hilton	-	(WA) 87
8. EDDIE EMU	-	A. Tidy	-	(WA) 94.7
9. BIJOU	-	C. Overy	-	(NSW) 103.7
10. FRENCHY	-	J. French	-	(Vic) 106.7
11. ILLUSTRATION	-	G. Hammond	-	(NSW) 108.7
12. ZEST	-	B. Holman	-	(WA) 112
13. SIZZLA	-	C. Piper	-	(WA) 115.7

The above skippers and boats formed the Australian Team for the World Championships.

JUNIOR PLACINGS - NATIONALS

The first three of the thirteen juniors were:

1. COLLECTOR	-	Stuart Shimeld	-	(NSW)
2. GOLLYWHOPPER	-	Steven Shimeld	-	(NSW)
3. ETHYL/HEDGEHOG	-	P. Morrison	-	(NSW)

Congratulations to Andrew, Stuart and to all placegetters.



SAIL/MAST MATCHING

The importance of matching mast bend characteristics to a particular sail was brought home to me again recently. For the 1981/82 season, I had a sail cut with more luff round and more seam taper in the head than my previous sail. This proved to be excellent in light winds, but in strong winds I was hopelessly overpowered even though I had moved the hounds down. Stiffer top battens did not have much effect. I did not make much of an effort to get this sail going as I had a flatter sail which went very well on this mast in all but light conditions.

For the 1982/83 season I had a sail cut with a similar luff round to the last new sail but with the same seam taper in the head as my flatter sail. This was easier to hold up than the '81/'82 sail in strong winds but just didn't have the same responsiveness and acceleration as my flatter sail.

My brother, John, had a sail of identical cut to my new one. I had a sail on his boat and found that it handled vastly differently from mine, having all the qualities mine lacked. On the beach, I noticed that he could get the top third of his sail almost dead flat whilst mine still maintained fullness in the head even when the bottom was flat. Since the difference between them was so great, and the masts were similar, I thought there must have been a difference in the cut of the sails. We swapped the sails over, and lo and behold their shapes were now reversed; I had a flat sail and John's was too full.

I conducted some bending tests on the two masts, with the fulcrum at the hounds and load at the top, and measured the deflection of the mast tip. John's mast was significantly more flexible. I tested my other brother, Craig's mast, which was supposedly a similar section to John's. Its flexibility was between mine and John's. I sailed a race using my sail on Craig's mast and found virtually no improvement over my own mast. Once again, I could still not get the top of the sail flat. I was convinced that the cut of the sail was just what I wanted, so all I had to do was to find a mast to match it.

Incidentally, earlier in the season I had tried my sail on an old, flexible Champion mast, but found I was underpowered because the whole mast was bending too much.

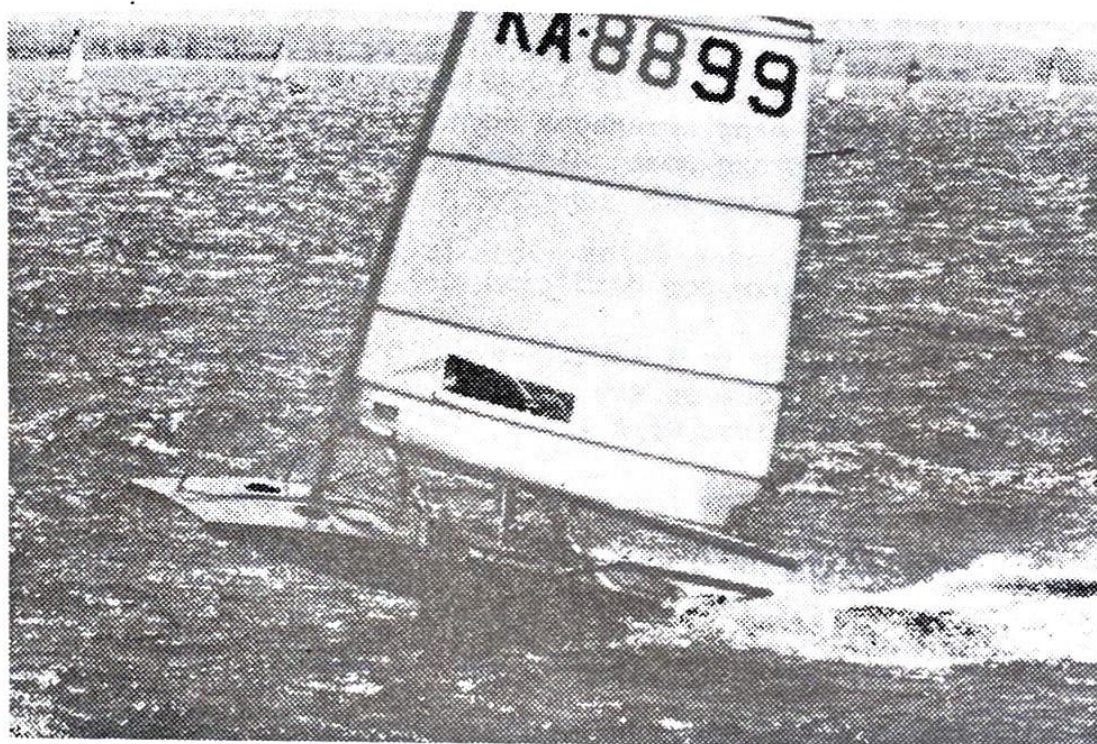
Just when I was getting to the stage of putting sawcuts in the top of my mast, I obtained some new masts of the old section Superspar, in 6 foot and 7 foot tapers. After doing some more bending tests, I selected one which closely matched John's mast for flexibility of the tip. I rigged this up and found at last that I could get the top of the sail flat. This was about a week before leaving for Sydney, and I only had a chance to try the mast once, but when I did I knew at once that I had the speed I was looking for.

This story illustrates just how critical it is to match mast bend to a particular sail. The best guide seems to be to rig the boat and pull everything on hard. It should be possible to get the sail quite flat without any diagonal lines coming from the luff, which indicates excessive mast bend. Even more importantly, the head of the sail should be almost dead flat. The critical factor is that the top of

the sail must flatten out before the bottom, indicating the extreme importance of flexibility of the top of the mast. Simply moving the hounds or the forestay down will not achieve the desired depowering effect.

I hope this account will prove as valuable to others as it was to me in matching a mast to a sail.

G. HILTON



Hooting along,
Kerry Shimeld with her
well matched mast and
sail.



Vernon Tidy,
concentrating.

DOWN WIND SAILING

In '73, the SW selections were at Toronto on the Lake. The fourth heat decided the team of 9 from 50 hopefuls. One of the "heavies" Ian Brown, had already dropped out through gear failure leaving the rest of us to plunge onto the final heat. 35-40 knots was throughout to provide a good test of ability for facing the infamous 'Doctor' from Fremantle, so the heat was held. Of 17 starters 9 finished, I remember making 8th spot which gave me last place in the team by 0.3 points and a trip to "The Doctor".

LESSON 1

Finish all heats under any circumstances.

Heat 1 on the Swan was almost a replay of the final heat of our selections. We sweltered in the strong Perth sun until midday when "The Doctor" came in. We started in 15 knots which increased rapidly to 30-35 knots. There were many breakages and a few retirements, sheer perseverance and a strong boat gave me 12th spot best for the series.

LESSON 2

Build a strong boat, keep it in top condition and you will finish under any circumstances.

Heat 2 was a light easterly up to 8 knots. The first work was tricky and the big guns were caught out on the wrong side of the course. Ecstatic at 20th spot on the first work I was, for the first time ever, 5 places in front of "SNUBBY".

Peter Moor was "THE" big gun from the east. Revved for all round speed, but especially for thrashing the pants of sandgropers downwind. Snubby was and still is a tall thin streak being out of a different mould altogether. I always thought that his build had magic built in to it. Just look at "RED NED" and "LILLO", all long thin and fast. Well, one thing we learnt at that series, Rob "Gidget" O'Sullivan is not long and thin and he won!

The second bit of information is about downwind sailing and it was picked up from Snubby.

After rounding 20th in the second heat we took off on a Broad reach in about 6-8 knots. Like everyone else, I eased the sheet, let the traveller out a foot or so, raised the centre board and raked it back in the case, let the foot in a bit, luffed off and heeled the boat over as far as possible concentrating on keeping the sail full and following the boats ahead. Actually, I thought we were catching the boats ahead a little.

That sensation of a boat on a big puff catching you from behind is nerve wrecking at the best of times. I felt it this time, but it wasn't the boats directly behind me, it was only with 1 boat about 10 yards behind. It wasn't heeled like everyone else's, the skipper was leaning from the wings and so I prepared myself for the big puff. I was prepared, but the only blast that came was a single red hull planing past. There was no puff, no extra wind, just one boat blasting past on a tight reach, a very full foot, tight vang, traveller right out to the gunwhale, board raised slightly vertically and the skipper leaning hard in what appeared to be no wind.

.... That was MAGIC!!

i.e. both sides of tufts streaming. You are now on a tight reach with your sail set for a square run. Again anticipate the acceleration, pull the sheet in rapidly hurling your body onto the wings and get the boat planing on a tight reach again. Pick the biggest wave available and tear off onto a course for the mark.

The idea is simple, the technique is not; You must anticipate each wave, gust etc. You must be able to throw sheet from a tight reach to a broad run and back again using both hands while steering the boat rapidly onto the new course. All of this is enhanced if you can swing your body out over the gunwhale in anticipation of the tight reach and come into the centre of the boat for just a short time as it slows down. The less time spent on the square run and the more time spent on the reach is time gained on your opponent.

Remember at all times to keep all tufts flowing -
PRACTICE AS OFTEN AS POSSIBLE.

Fast reaching is worth about 30 seconds to a minute on each leg, well worth while the practice don't you think?

IAN WARD



Steve Shimeld
Airborne

Snubby planed past to take fifth position at the wing mark and he led easily at the bottom of the first triangle.

LESSON 3

There is more to reaching that meets the eye.

In '83 I can now tell you a little of the technique of downwind sailing that was once a mystery to me.

I'll break it up into individual bits:-

- 1) RIG SET UP: It's important to have a full sail, tight leech, i.e. heaps of vang, luff tension off, foot well in, set traveller to the gunwhale, raise the centre board vertically about 6" from its normal position.
- 2) SHEETING TECHNIQUE: It may be necessary to sheet your sail in and out very quickly, for this you **MUST** be able to use both hands at once. You must practice holding the mainsheet and tiller in one hand. This gives a free hand for
 - a - pulling in the mainsheet
 - b - adjusting controls
 - c - lifting yourself onto the wings

IF YOU CAN'T PULL THE SHEET ON WITH TWO HANDS AND CONTROL THE BOAT PROPERLY AT THE SAME TIME OR STILL USE YOUR TEETH AS A SPARE CLEAT READ NO FURTHER YOU HAVEN'T A HOPE IN HELL!!!

- 3) Get the boat going: Even on a broad reach the only way to get planing is to take off on a shy reach. Obviously the longer you spend planing the further ahead you will get. The only problem is to make your way to leeward. Once planing on a reach, you must bear away down the face of a wave and keep planing on to the direction of a broad reach. Normally your sail will stall out at this stage and the boat will slow down to the same speed as everyone else. This is not the aim of the game.

LESSON 4

The most important rule:-

Always keep the tufts on BOTH sides of the sail flowing.

I could go into a detailed explanation of apparent wind direction etc. but the main thing to remember is to:

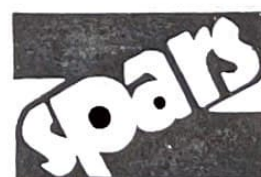
- (a) When accelerating down the face of the wave the wind comes from further ahead so pull the sheet on, lean hard and stay on a shy reach - even though you're now pointing as though you were on a broad reach.
- (b) Inevitably you will come to the end of this joyous ride on the wave. Either it passes under you or you go slicing into the back of the one ahead. Either way you come to a sudden stop. Now the wind is coming from directly astern, you have slowed to even slower than the rest of the fleet, you are heading just below the next mark and you've got the sail hard on set for a reach. It's no wonder you're going slow, i.e. the apparent wind is now dead astern. YOU have just breached the RULE. The key to stopping this is simple, anticipate what is going to happen, as you slow down, throw out heaps of mainsheet, round up to a shy reach and start again, ALWAYS KEEPING YOUR SAIL WORKING PROPERLY,



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PAPER HONEYCOMB CONSTRUCTION

Partly to see what weight savings if any could be achieved with a paper honeycomb laminate, and partly to assess at first hand the potential and limitations of this technique, we decided to build a few hulls for the 1982/83 season using a Kraft paper honeycomb core on the bottom. Jim French had had some success using a paper honeycomb presoaked in diluted epoxy and vacuum bagged between sheets of single veneer ply, the honeycomb being 16 mm depth and 13 mm cell size. We decided to go for an almost full strength epoxy coating for total waterproofness, and to offset the weight of the extra epoxy by using a bigger cell size - 32 mm, but not fully expanded. The other sandwich materials would need further thought and probably some experimentation.

For the outer skin we very quickly homed in on 1.2 mm ply, which has good strength-for-weight characteristics. This in turn confirmed the requirement to build a male and a female mould, although it might be possible to manage with just a female mould if the hull has simple chines and curves. The outer skin of ply was made up on the male mould, glassed along the chines and then transferred to the female mould, where the chines were glassed again on the inside.

For the core, experimentation initially centred around honeycomb treated with neat epoxy, and tests showed that water absorption after 18 hours soaking in water was negligible. We found that even when fully set, this material could be laid to shape fairly easily. Transversely it could be bent to a fairly sharp radius, and it could be bent moderately in a longitudinal direction. But to get the best bond with the plywood skin, it seemed advisable to place the honeycomb wet on to the plywood which had just been pretreated with epoxy to accept it. The drainage of the wet epoxy should add to the bond. Initial trials showed this to be a difficult procedure, as the wet honeycomb tended to stay adhered to itself. As soon as the individual cells were prised apart, they would bunch up somewhere else. The solution was to treat the honeycomb in two stages, the first stage using a very dilute epoxy mix to temporarily set the material in a fully expanded condition. One part of mixed epoxy was diluted with 2.4 parts of acetone or methylene chloride, and the core hung up to dry in a fully expanded condition for about two hours. Typically, a section 1250 mm by 855 mm would require about 70 cc of epoxy mix and 165 cc of solvent

Next followed the second coating, and placing. The plywood shell was treated with neat epoxy, using a squeegee (we used WEST epoxy Z 105 with Z 206 hardener throughout). A 1250 by 855 section used about 100 cc. At the same time the honeycomb section was treated with a moderately diluted epoxy, a 1250 by 855 section taking 215 cc of epoxy mix and 65 cc of solvent. The section would be stretched out and dropped into place, and final cell separation and lining up carried out as quickly as possible. As each section of core was placed it was covered with polythene film, thin corrugated cardboard, pieces of thin plywood and light housebricks, almost shoulder to shoulder. Curves and chines were packed with foam strips to ensure uniform application of weight. The mould, needless to say, was heavily reinforced and

propped to ensure that there was a minimum of sag or deflection. On removing the weights next day, each cell was usually fully anchored to the ply, but occasional cells which were not fully bonded were touched up with glue.

The choice of material for the top layer involved considerable search and experiment, and we finally settled on a Kraft paper which strangely enough turned out to be the same as that used for Flutterby covers. Each 90 by 55 mm sheet was coated one side with 63 cc of epoxy diluted with 10 cc of solvent, worked in with a squeegee. A further coating was then applied immediately with a paint roller, using 30 cc of epoxy mix to which 30 cc of (WEST) cotton lint had been added. This gave a good stippled bonding layer. The paint roller has the roller covered with a strip of newspaper, which has not so far needed replacement; it was cleaned with solvent after each use. The same epoxy/cotton lint mixture was also applied by roller to the top of the honeycomb, but the quantity was not measured. The paper was then placed on the honeycomb, "worked in" lightly, covered with plastic film and cardboard and weighted with housebricks. Having the mould and the air as warm as feasible during this operation helped with the bonding as the air in the cells cooled down, and also reduced subsequent daytime cell pressure.

To improve the transverse strength of the laminate, we glued single veneer edge strips, 30 mm wide, at about 200 mm centres transversely, using the epoxy/cotton lint mixture. Bond between frames, etc. and the hull was transferred through softwood blocks (usually 50 by 30 mm) which had been let into the honeycomb and glued to the skin before placing the layer of Kraft paper.

That's a rough outline of the procedures we used, and perhaps this article may generate more ideas and encourage further experimentation. We found that the hulls we built this way were similar in weight to the lightest we had built previously using conventional methods - about 38 lbs for an unvarnished hull, which is quite good. Nevertheless, subsequent modifications would have added to this weight. The bottom, as would be expected, was very stiff indeed.

After nearly a season's use, I think a reasonable assessment can now be made of the structured performance of these hulls. A careful check after each use showed up some patches as not being fully bonded to the ply or the paper, when a firm pressure caused a slight deformation and a crackling sound. These areas were easily repaired by inserting epoxy with a hypodermic needle through a few fine holes drilled through the ply with the hull upside down, sticking masking tape over the holes and then turning the hull right way up. This cure was invariably permanent. Two stress areas caused actual damage to the paper, however, necessitating more major repairs. The first resulted from having a large separation between the bulkhead frame and the centre case frame, without any torsional strutting in between. The twist led to tearing of the paper laminate around the base of the chainplates, necessitating the re-instatement of torsional struts, addition of a light mid-frame and glassing of the paper around the stressed area near the chainplate.

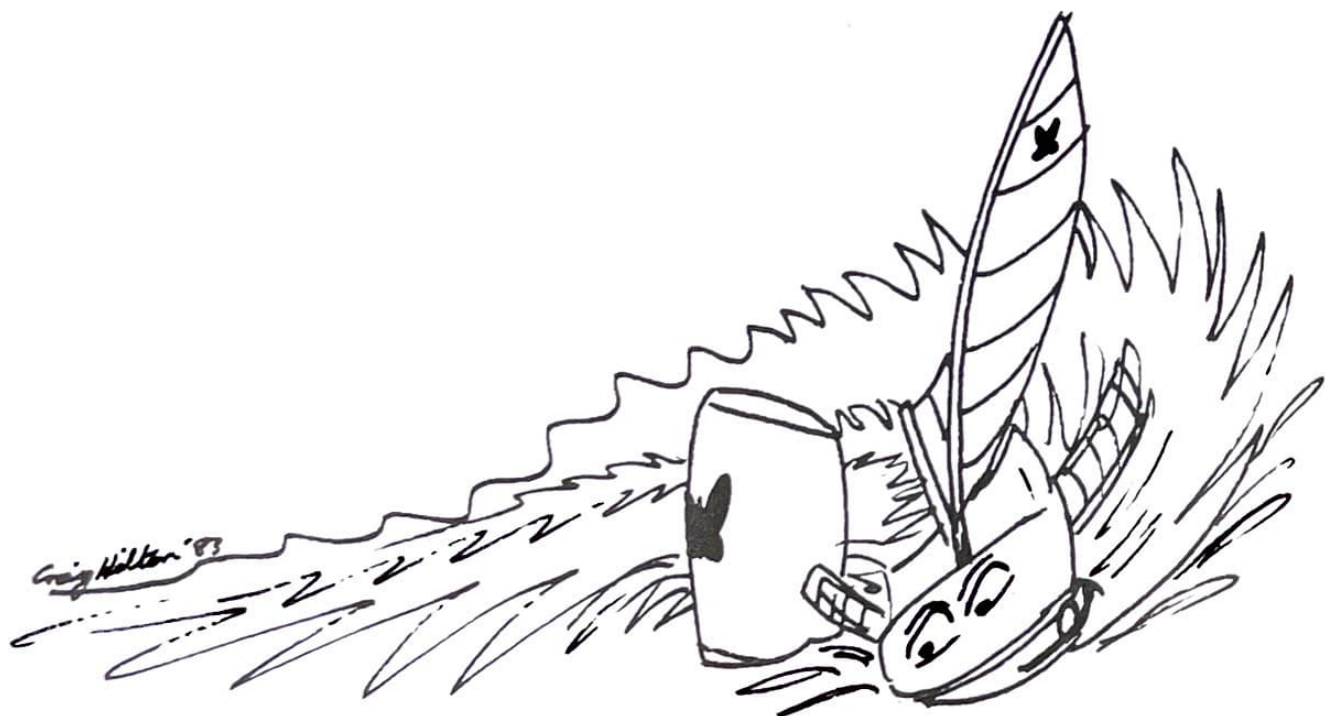
The second resulted from the enormous stresses to which the bottom

of the hull is subjected, between the nose and the mast frame. This was causing some failure of the paper laminate, which necessitated covering the paper in this area with 2 oz. glass cloth, and minor transverse bridging along the strongback. Obviously, these problems could be avoided in any future construction.

Water entering the hull as a result of damage, leaking screw-holes etc. should not normally cause trouble, but where the paper has also been damaged, water can work along the outer edges of the honeycomb core. This could be prevented during construction by installing a series of "waterstops" along the edges, prior to placing the top paper laminate.

The problems encountered can obviously be overcome in a fairly routine manner, and the honeycomb technique does seem to work. However, although the honeycomb and the paper only cost about \$10 for a hull, the total cost for an unvarnished hull including all materials was still about \$305. And although all the honeycomb and all the paper could be placed in two days, the total manhours for a hull was still quite high at about 200 (I'm not a professional). And so it does seem that for multiple construction, honeycomb is too labour intensive and by no means foolproof. For the "one-off" builder, conventional frames and stringers are still the best bet.

R. HILTON



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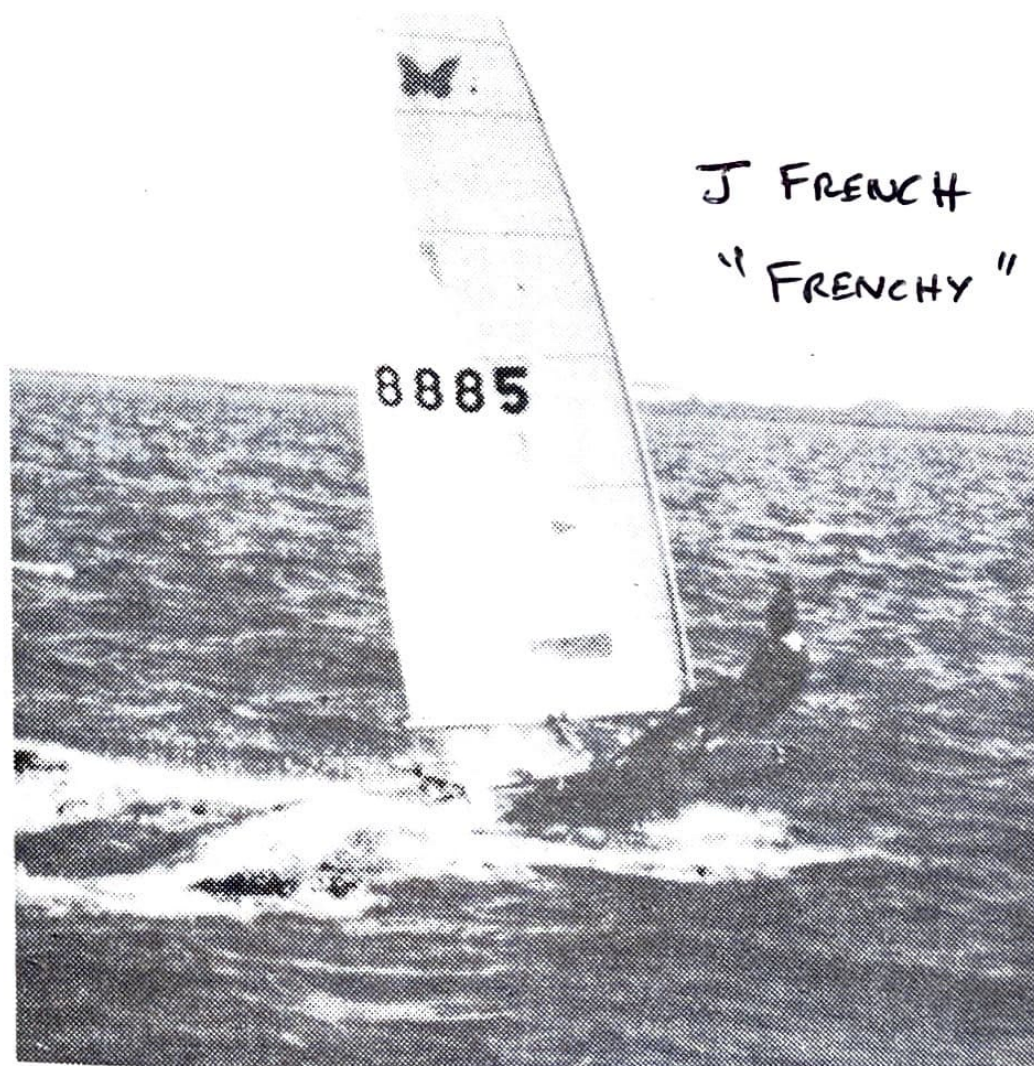
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WORLD CHAMPIONSHIPS

INVITATION RACE - 10 to 12 knots of North Easterly, and a light to moderate chop. The port side was the way to go, and those that went right lost ground on the first leg. Gregory and brother John led the way all around the course and finished in that order. Then Ian, Robert Hermans, David Iszatt (UK, skiff), Phil, Murray, Brian, Vernon Tidy and Graham Ferris.

HEAT 1 - The second of all the starts so far to get away on time, and the fleet of 48 yachts had 14 to 18 knots of North Easterly and a moderate chop. Andrew had an individual recall which did nothing to help his cause, but it was scow weather. Vern Tidy was holed before the start and Chris Piper hit a submerged object which caused strongback damage, Ross Keogh broke a mast, Phil had gear trouble and there were sundry other reports of moderate damage. Over the line it was Peter Lamb, Gregory Hilton, Phil Edmiston, Ian Ward, Robert Hermans, John de Vries, John Hilton, Murray Howson, Jim French and Ian Tarbotton in tenth spot.

HEAT 2 - I watched this race from the ferry, and with John Smidmore's commentary to assist had no trouble following the battle for positions. This was just as well, because the breeze started at 15 to 20 knots of N.E., dropped at one stage to 6 knots, then swung around to come in from a Westerly direction at 15 to 18 knots, gusting to 25. A fascinating race to watch, and the tactic-all battles were completely absorbing. Over the line it was Greg, Peter Lamb, John Hilton, Jim French, John de Vries, Ian, Vernon, Phil, Peter Morrison and Keith Chidzey. During the race, Andrew McDougall suffered a badly bent boom, and finished under an improvised jury rig in 14th spot - a real example to aspiring young skippers!

HEAT 3 - The start of this race was delayed from time to time - recalls, abandonment, postponements for course alterations - and was eventually started 3 hours late. It was 12 to 14 knots dropping to 4 to 6 knots, then 10 to 20 in a swinging breeze which changed the last reaches into a close hauled leg and a run, and the last beat to mainly a tight reach. Placings were Ian, Peter, Andrew, Jim Prower, Greg, Vernon, Phil, John, Peter Morrison and Brian Holman.

HEAT 4 - Away at 2.10 pm after a general recall, with a North to N.E. breeze of 12 to 14 knots. Greg led throughout this heat, opening a lead over Ian upwind but having the gap closed on the downwind legs. Vernon Tidy sailed impressively to edge Peter Lamb out of third spot, then Phil, John de Vries, John Hilton, Andrew (carrying water), Peter Morrison and Jim Prower. Early front runners who struck disaster were Brian Holman (rudder pin broken by a large jellyfish), Robert Hermans (holed cockpit), Murray Howson (wing bracket failure), David Elliott (collapsed rudder box) and Stephen Greeve (unstuck tape over port).

HEAT 5 - A morning race with a fast falling tide and 10 to 12 knots of S.E. breeze. A heavily favoured starboard end start, with Ian Ward getting away from the cluster and showing the way to the top mark. Ian was going very well indeed on the reaches, and was never headed. David Iszatt was going well, but could only manage second spot. Then Jim French, Greg, Brian, Andrew, Peter Lamb, Rod Harris (U.K. skiff), Stuart and Jim Prower.

HEAT 6 - 14 to 16 knots, but relatively flat water and the field now down to 37 starters. At the top mark I saw Greg capsize in a wind vortex, hit the mark and re-round in 11th spot. At the bottom after the double reach it was Ian in front, possibly Brian Holman second and Greg fifth at 1 minute 20 secs. Ian was going well on the reaches, but Greg was closing the gap upwind, and just managed to break through to take the lead at the finish. Brian Holman had by now found that his boat had overdrive, and jetted into second spot ahead of Ian. Then Phil, Jim French, Peter Morrison, John Hilton, Vernon, Peter Lamb, and John de Vries in tenth place. A real cliff hanger now. Gregory having a 5.7 morning race of Heat 7.

HEAT 7 - 4 to 6 knots, and the skiff skippers were in their element. A tricky first leg, but five skiffs shot away to a good lead. I think Ian was eighth at the first mark, and Greg 15th. At the bottom mark after the double reach I picked out Ian in seventh spot, 4m 40 secs behind the leader. Greg was another 3 mins back in 14th spot. After the next work and run the placings were much the same, but the breeze started to pick up to 10 to 12 knots. This was a new ball game. At the top it was David Iszatt leading from Andrew, and Ian was fourth at 2 mins 50 secs. Gregory had moved to seventh at 5 mins 00 secs. As the breeze picked up to about 14 knots the scows started to close right up, and at the finish David crossed with Andrew on his heels and taking in water again. And third and fourth placings were Ian and Gregory - positive proof of scow power! Then Tony Phillips (UK skiff), John Hilton, Peter Lamb, Jim Prower, Alan Tidy and Brian Holman in tenth place.

SENIOR PLACINGS - WORLDS

1.	BUNYIP II	G. Hilton	19
2.	X	I. Ward	22.4
3.	STUNNED MULLET	P. Lamb	40
4.	STRUTH	P. Edmiston	68.7
5.	WOMBAT RACING TEAM	A. McDougall	70.4
6.	WIZARD GLICK	J. Hilton	70.4
7.	FRENCHY	J. French	79.7
8.	TENSION	B. Holman	81
9.	DARCY DUGITE	V. Tidy	82.4
10.	LOIA	J. de Vries	88.4

JUNIOR PLACINGS - WORLDS

1.	ETHYL/HEDGEHOG	P. Morrison	10.8
2.	DARCY DUGITE	V. Tidy	16.7
3.	COLLECTOR	S. Shimeld	42

Congratulations again to Gregory and Peter, and to all who battled so closely throughout this series.

MYLAR SAILS

The following is a candid interview with Greg Hilton on the topic of mylar sails.

Moth '83 Magazine - What is mylar?

Greg Hilton - Mylar is a very stable polyester film. It is bonded to a light sailcloth to prevent it tearing. Sails made from mylar sailcloth are very stable and don't stretch, as dacron sails do.

M.M. - Is the sail you used in the recent World Championships your first mylar sail?

G.H. - No, I had one over two years ago at the Nationals in Adelaide. As far as I know, this was the first mylar dinghy mainsail that had been made in W.A.

M.M. - Did you use a mylar sail last year?

G.H. - No. My first mylar sail did not seem to be any faster than my dacron sail of similar cut, so last year I opted for a dacron sail because I thought it would be more durable.

M.M. - What was your reason for making the change back to mylar for your present sail?

G.H. - I knew a mylar sail would be at least as good as a dacron sail, and I wanted to develop it further. If nothing else, I would be saving 3/4 lb. (0.34kg) weight.

M.M. - Have you found any advantages with this sail?

G.H. - Yes. I would never go back to a dacron sail now. I think the mylar sailcloth is ideally suited to the present day moth sail, which uses high vang and luff tensions and plenty of mast bend to alter sail shape.

M.M. - Could you elaborate on that?

G.H. - There are some theories that you need a soft cloth so you can change the shape of the sail to suit different conditions. As far as a Moth is concerned, this is false. It is true that the luff round cut into the sail must match the mast bend accurately or the tension lines will look horrible, but once this match is right, the sail is extremely adjustable for any conditions. A major factor in this is the luff tension. Since there is no stretch in the cloth, once it takes up a tremendous amount of tension can be used without distorting the sail shape. This allows excellent control of the top of the sail via mast bend.

Because of the non-stretch characteristics, there is probably a more direct response of mast bend to depower in the gusts. An additional advantage is that the sail always maintains its shape; for example, there is no leech or batten pocket stretch.

M.M. - Are there any disadvantages?

G.H. - One of the main problems used to be delamination, but the cloths are improving rapidly, and this no longer seems to be

a problem. The cloth should not be creased too much or left in the sun for longer than necessary. A mylar sail would possibly not last quite as long as a dacron sail.

M.M. - Are there any tricks in making a mylar sail?

G.H. - Yes. Because the cloth doesn't stretch, it must be given very slightly more seam taper and luff round than a dacron sail of similar cut to give it the same shape when sailing.

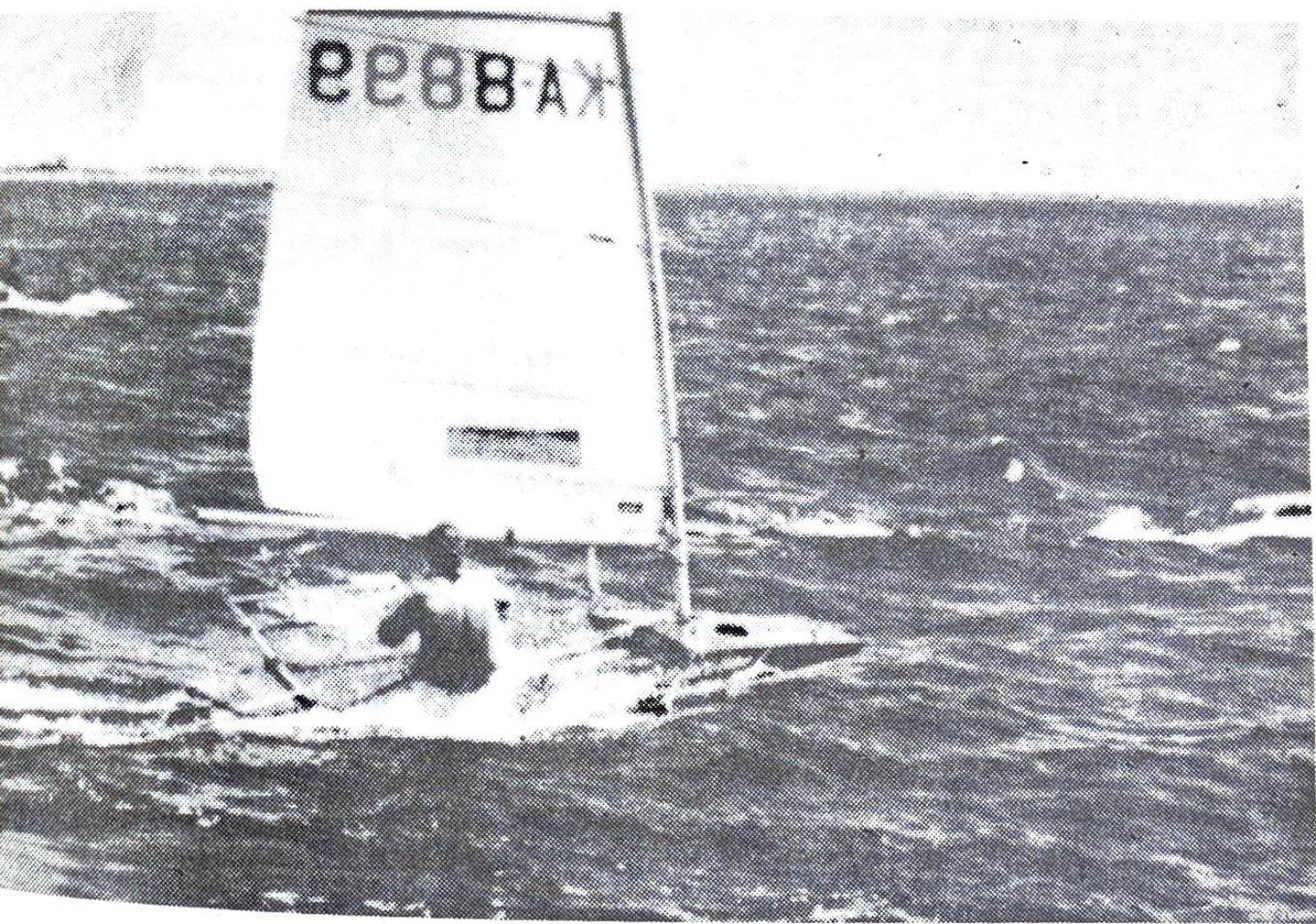
M.M. - Would you advise anyone thinking of a new sail to go for mylar?

G.H. - I would certainly suggest giving it a try, after discussion with the sailmaker.

M.M. - Thanks very much.

G.H. - Thank you.

GREG HILTON



MOTH WORLD CHAMPIONSHIPS, 1983

I arrived at Heathrow Airport a week before the Championships, and was greeted by weather much warmer than I had left behind in Perth. I was met by the U.K. President Duncan Surridge and his wife Tricia, and they took me back to their house in Silchester, to the South West of London. Duncan had a six year old RED NED hanging in his garage (Hayling Island vintage), and it was in remarkable condition, considering its age. I had taken a 2½ year old mylar sail with me, and had to adapt what was available in the way of gear. We removed a mast and boom from another RED NED (Travemunde vintage), and I made up a new mast step and foot, as the previous pin had been sheared off. I did this at John Claridge's house near Lymington where I went for a test sail, and stayed overnight. John's boat yard has to be seen to be believed. At first I thought it was a farmyard shed, but it's very cosy inside with tools and materials all over the place. I spent the next night with Richard and Lyn Hargreaves, and next day modified the vang system to make it more powerful.

After several days in London I took the Moth down to Eastbourne. I think this was the first time I had seen shingle beaches (I'll never complain about sand again). Shoes were essential for walking on this stuff. The tides were quite large and caused a substantial flow in the course area.

The first morning was a heat of the U.K. Nationals, I just managed to get the boat together in time and made it out to the start with about two minutes to go. Wind about 3 knots. I started, but did not bother to sail any great distance as it was pointless in that wind, with the skiffs moving much faster. I sailed back to shore and made some more alterations to the boat for the afternoon's race. (Heat 1).

HEAT 1

We got off to a clear start in about 5 knots. I started on port tack at the starboard end of the line (port course) and stayed on the starboard side of the course. I was going quite well, holding a position in the top quarter of the fleet of about 50 boats. As I neared the windward mark (a very long leg) they abandoned the race, even though many boats had already rounded. We all sailed back down to the leeward mark to re-start, and the wind gradually strengthened to about 20 knots. "Here's my chance", I thought, but the wind dropped out again. About 2 minutes before the next start the wind changed direction again, and the race was postponed. As we sailed back to shore, the wind strengthened and swung around about 160 degrees. The resail two days later was abandoned after a lack of wind, then cancelled.

HEAT 2

The Race Committee said they would start on time, and they did at 10.30 am, even though half the fleet was still sailing out to the start. About 15 knots, and I was going quite well - about the same as the top skiffs upwind, but I could feel that my boat wasn't fast. Second at the top mark, but four boats passed me on the first reach. At the wind mark a gust hit, and the first three boats capsized in a group.

I gybed successfully and moved into second spot, and took the lead at the bottom mark. On the next beat the wind dropped out and Welsh skipper Robin Wood passed me, then four more boats. On the run to the bottom mark my sail dropped about a foot down the mast. Rather than lose time capsizing and fixing it, I carried on and finished 12th in about 8 knots or so.

HEAT 3

The afternoon of the same day and 17 knots of breeze! I started well on starboard tack and moved slowly ahead in fairly flat water. First at the top mark in 20 knots, and I was flying down the reach rapidly catching the pathfinder launch, which was on full throttle doing 20 knots. At the wing mark I gybed and capsized, and holed the mid-deck. This made it very difficult, with the wind gusting to 25 knots and the boat capsizing backwards everytime I moved aft. I finished 9th, and was very annoyed as I could have won easily if I had sailed safely. There were many broken masts and holes, and many boats beached about 2 miles downwind from the Club.

HEAT 4

A cold, overcast day and a morning start. About 15 knots, gusting higher. My boat is really not going fast. The ton skiffs are beating me to windward. Waves fairly big. I rounded the top mark 10th, and at the end of the second reach we all sailed into a big hole, which by now extended nearly right up the course. I rounded the bottom mark 6th, and going up the windward leg it was a bit of a lottery, with the wind coming first from one side and then the other, and sometimes from dead astern. The going was very tough for the scow, because the water was very choppy with little or no wind. Near the top the wind came in again at 15 to 20 knots, but I couldn't catch the leaders and finished about 10th, only to find I had been disqualified for breaking the line at the start. It must have been close.

HEAT 5

15 to 17 knots, which held throughout the race. I got a port end start on port tack, and crossed the fleet except for one boat. I led most of the way up the beat and was a close third at the top mark. There was a strong upwind tide which favoured the boats sailing further away from the shore. On the reaches I was going very slowly, and other boats were going faster. I gained on the second reach and was only 30 seconds behind at the bottom. Upwind, everyone was pointing so much higher, I wasn't really competitive. Then my sail slipped down again. I finished fairly well back in 22nd place.

HEAT 6

The same afternoon, with 20 to 25 knots and quite choppy. I got another good start and moved to a slight lead. I went inshore to avoid the tide, but the boats out to sea got a huge lift and crossed me on port tack. I was 10th at the top mark. I picked up two places on the reaching legs, but the leading boats were going just as fast. Next beat I sailed the boat as fast as possible, but it was no good. I couldn't point, and bearing off didn't increase my speed a lot. 10th at the top, and the same at the bottom. The foot outhaul broke, and that didn't help, but I managed to hold on to 13th place.

HEAT 7

An afternoon start in 5 knots and a very strong tide. I took nearly 10 minutes and two tacks to clear the start boat, and reached the top mark after nearly one hour - 4th last. After the first triangle the wind swung 180 degrees. The skiffs were going well, but I finished amongst the tail enders.

FINAL PLACINGS AND GENERAL COMMENTS

The Series winner was Robin Wood, of Wales. He had excellent speed and sailed very consistently, as the results show. Robin sailed a Magnum V design. In fact the U.K. fleet was very largely made up of Magnum Vs (the same as David Iszatt sailed on Botany Bay).

1.	Robin Wood	(UK)	- 1, 7, 1, 2, 1, 3, - 8.7	
2.	Roger Angell	(UK)	- 2, 8, 2, 1, 2, 4 - 17	
3.	Chris Cottrill	(UK)	- 3, 2, 3, 3, 4, 2 - 23.1	
4.	John Pearce	(UK)	5.	Richard Hargreaves (UK)
6.	Simon Allen	(UK)	7.	Toby Collyer (UK)
8.	Melvin Cooper	(UK)	9.	Tony Phillips (UK)
10.	John Claridge	(UK)		
16.	RED NED (G. Hilton, Aust.) - 119 points			

There was a smattering of other designs, mostly from other countries, but the Magnum V has proved to be the fastest yet. Sails were mostly either Hargreaves or Sanders (UK) with a few assorted (other countries). The English have found mylar sails to be faster, but are having a lot of trouble with their "Melinex", which has a hessian bag appearance. Their sails tend to split at the seams. The cloth we use in Australia seems superior, but they can't get it.

The Sovereign Sailing Club ran the series in a very professional manner. It is a small club, with a very tight-knit bunch of members who were always friendly and willing to help in any way. There were always people waiting at the beach to catch your boat before it ran on to the rocks, and whisk it away on to dry land (even the Commodore, would you believe!).

Having sailed in yet another World Championships, I can once again see the problems of the two types of Moth contesting these World series. There is no getting away from the two major lines of development, and having the Championships no closer than eighteen months apart should encourage greater participation between the two hemispheres.

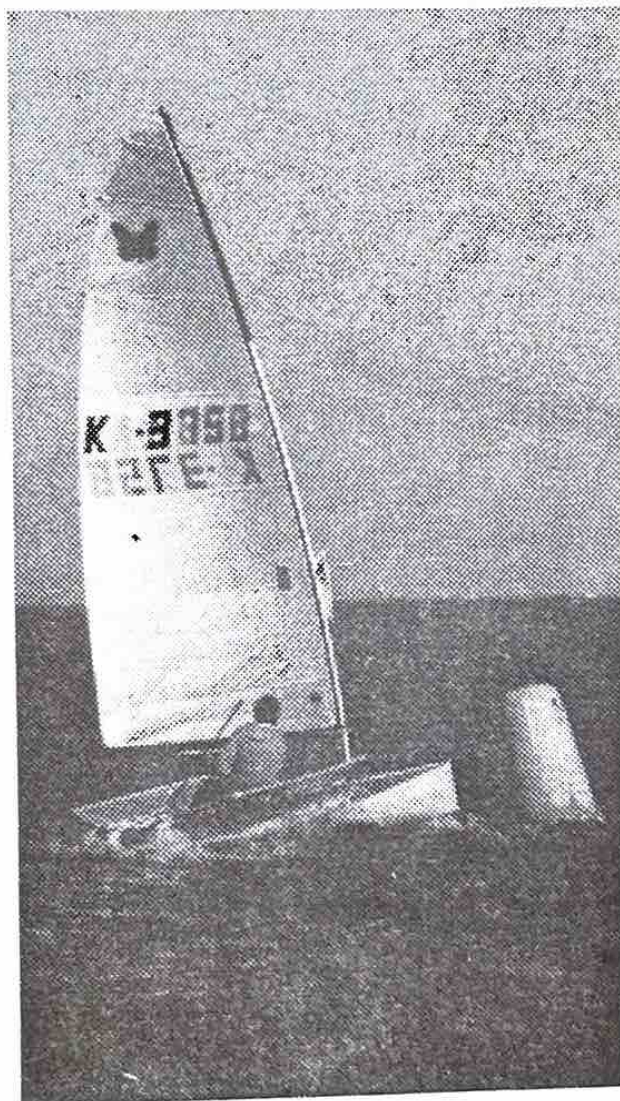
POST MORTEM

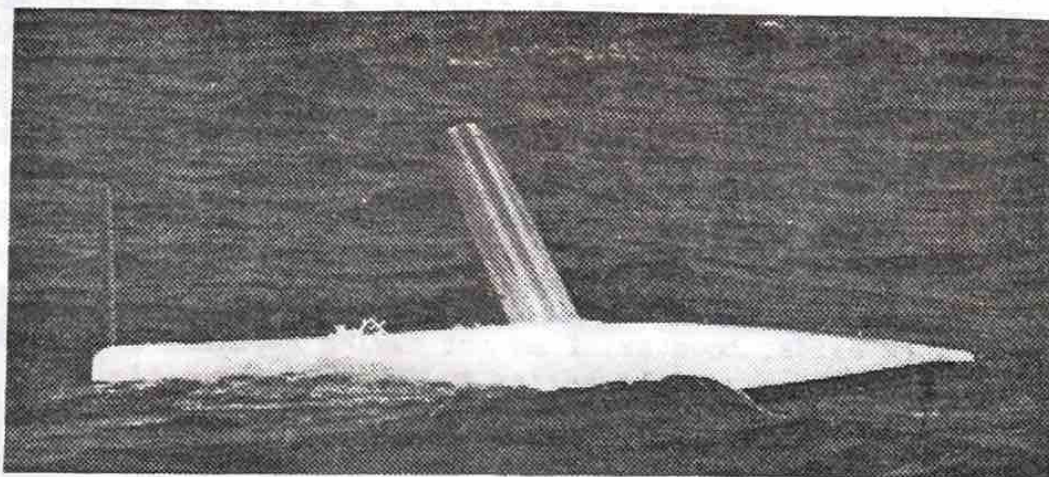
Analysing my performance, I was disappointed that my boat was so slow. This was a combination of many things. The boat itself was reasonably light, but still about 10lb heavier than our latest hulls. Sailing the Red Ned design made me realize just how far we have progressed in hull design. In light winds, because of its straight lines, the nose and transom would dig in as the boat was heeled, causing drag, particularly in waves. In fresher breezes, particularly on reaches, it just did not have the ability to get up and plane easily - it was always a struggle. I would say our latest designs would be about 2 minutes faster on a double reach.

Probably my main gear problem was the rig. Although my sail was a good one, the old Superspar was as stiff as a flagpole and did not want to bend, even with lots of vang and Cunningham tension. This made the boat overpowered, unresponsive and lacking acceleration in stronger winds when I should have been fastest. A lot of the time I was not even planing upwind in 15 knots and over. Overall, it was a disappointing performance because it really was ideal scow conditions most of the time. In my opinion a good scow would have stood a good chance of winning the series, and a WOMBAT design skiff also would have done at least as well.

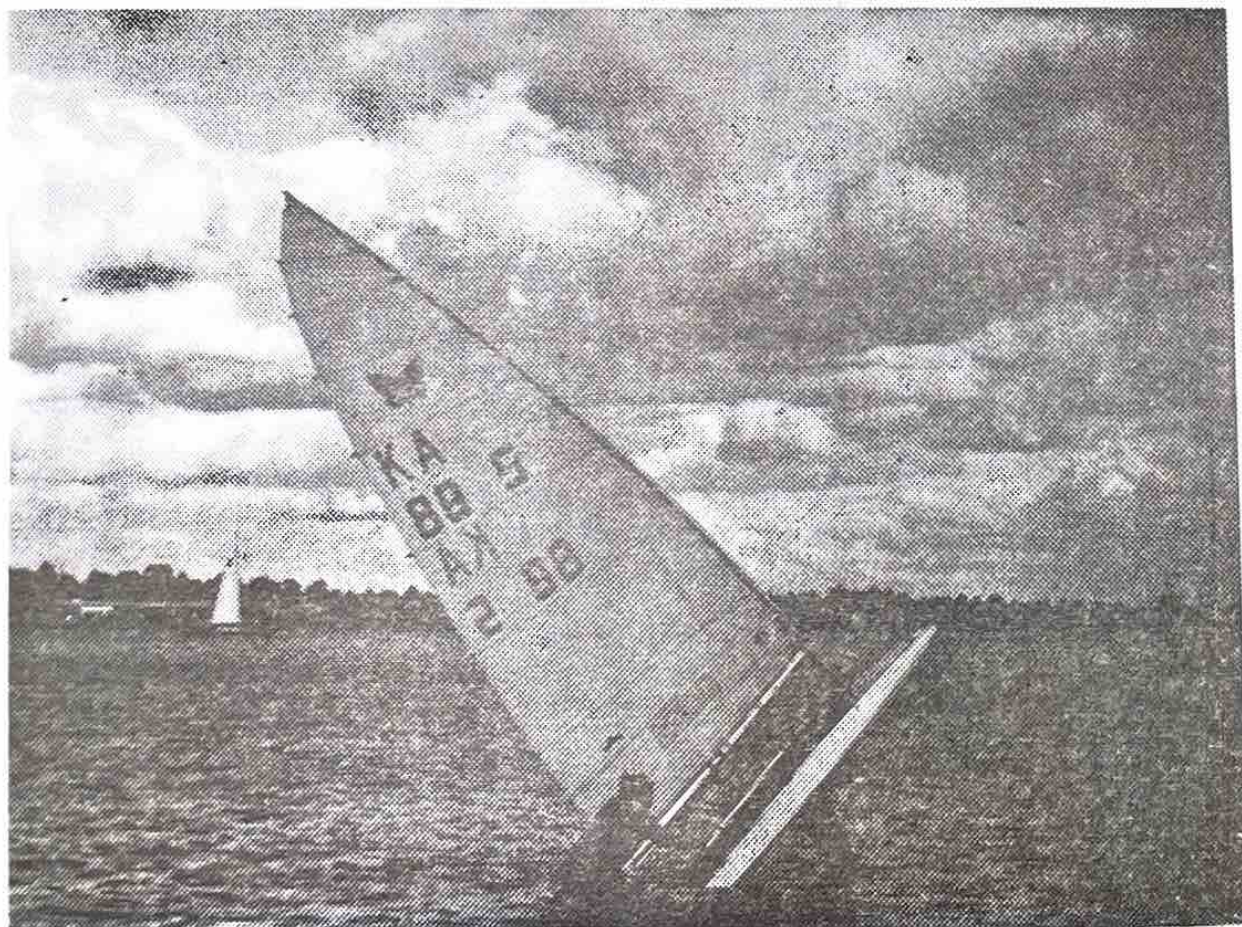
These thoughts aside, however, I am not taking anything away from Robin Wood, who sailed an excellent series to take out the title. Congratulations to him.

G. HILTON





Da, Dum... Da Dum... Dum Dm Dm Dm Dm Dm Dm
Ta Da Daaa Dum. Jaws 3 eat your heart out!!



Another "walking on water attempt",
Gregory Hilton!

