INTERNATIONAL MOTH 1990

IMCA (U.K.)

£1.00 to Non Members

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UK PRESIDENT'S REPORT

Martin cleaning Newsletter
Man Toby's ear out

To follow 1989 in terms of new members new designs and the general interest and awareness of our Class, seems at this end of the year, to be a pretty daunting prospect. However, I think that with a little bit of effort by all the Association members, this year could see another leap forward for Moths.

You have a keen committee ready to undertake their relevant tasks and they are always willing to listen to any comments or suggestions. There are several new events to try, and the hardy annuals that have been enjoyed for years. The World championships are at Ratzeburg in July which I would like to see won by a UK sailor. There are also plenty of new designs appearing, which should interest a lot of the more cerebral of our members.

So, with all this to consider, there is plenty of opportunity for us to develop our class further. Remember that the best way to publicise our class is to be seen on the water at our clubs and at events.

The more active our class, the bigger the membership, the brighter its future will be So go out, attend the events that appeal to you, extoll the virtues of Moths and the appeal of the class to all and sundry.

But most important of all, have lots of fun while doing it.

I wish everyone a memorable season, with success if that is what you wish, enjoyable sailing if that is all you desire.

Martin Saveker

FIXTURES LIST

7th April
Bartley Green

14-16 April
Royal Lymington Easter Regatta

14-16 April
Bala

May
?

28-29 May
Rutland

2-3 June
Notts County

7-8 July
Pre-World Series - Ratzeburg, W. Germany.

9-13 July
World Championships - Ratzeburg, W. Germany

26-29 July
UK National Championships - Royal Torbay YC.

25-27 August
Rutland

September
Northerns - Greenwitherns

October
Bewl Handicap Event

Further info in Class Newsletter

Midori Claridge - Ladies Champion

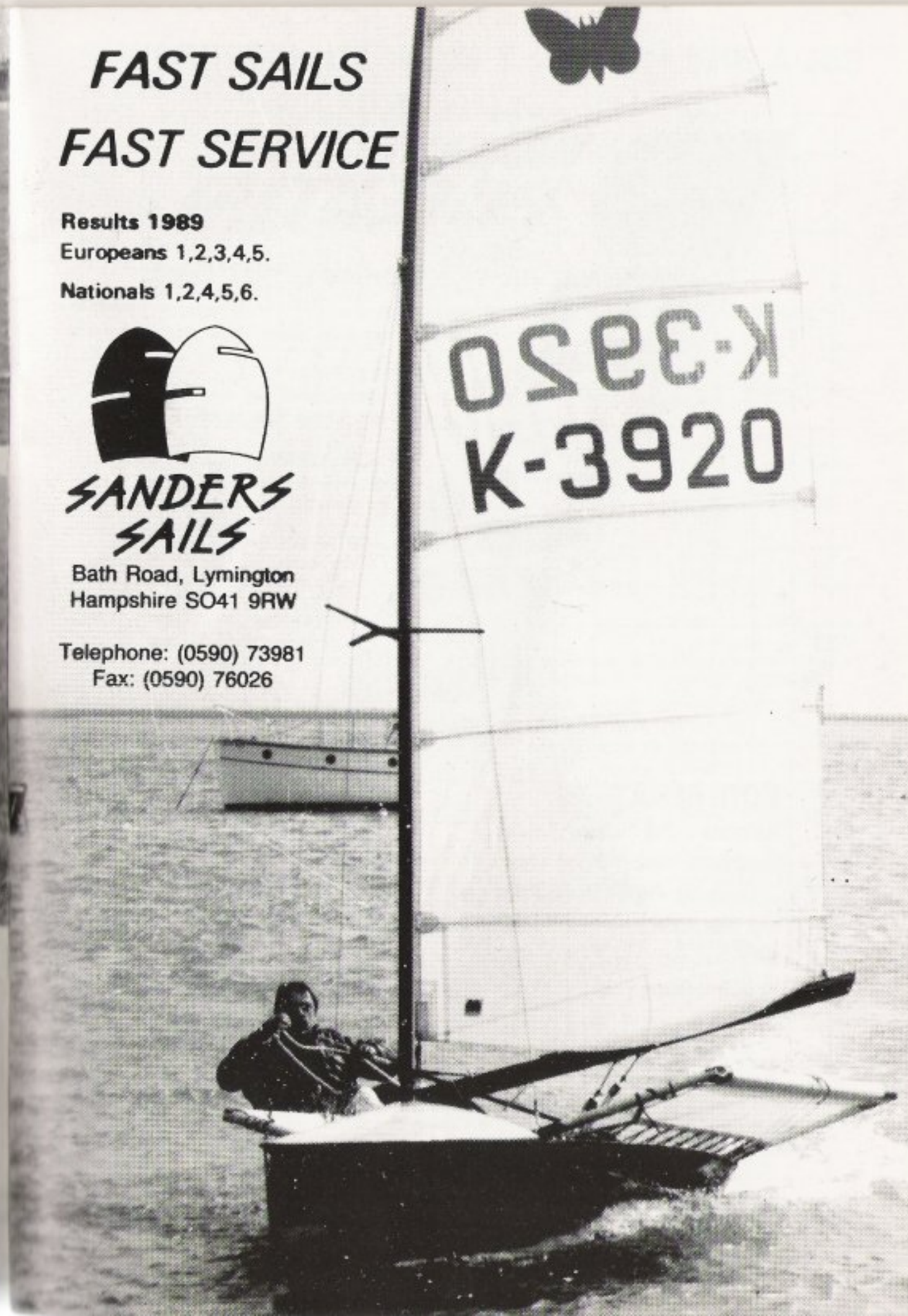
Andy Paterson - The Axeman

Spotty

Any excuse to retire

Simon Payne - Always fond of a drink.

Racing at Lymington



SUCCESSFUL DESIGNS THROUGH THE AGES

WORLDS

HELM		NATIONALITY	BOAT
1965	Jean Piere Roggo	Swedish	Roggo
1966	Jean Piere Roggo	Swedish	Roggo
1967	Blair Fletcher	U.S.A.	Florida
1968	M.C. Faronx	French	Duflos.
1969	Dave McKay	Australia	Scow
1970	Dave McKay	Australia	Scow
1971	Jacques Fauraux	French	Duflos
1972	Jacques Fauroux	French	Duflos
1973	I. Brown	Australian	Charley Brown
1974	Rob. O'Sullivan	Australian	Scow
1975	Peter Moore	Australian	Scow
1976	Ted Causer	U.S.A.	Poacher
1977	Bill Short	G.B.	Womble
1978	Rob O'Sullivan	Australian	Scow
1979	Dave Iszatt	G.B.	Magnum 3
1980	Dave Iszatt	G.B.	Magnum 3
1981	Dave Iszatt	G.B.	Magnum 5
1982	Greg Hilton	Australian	Scow
1983	Robin Wood	G.B.	Magnum 5
1984	Robin Wood	G.B.	Magnum 6
1985	Roger Angell	G.B.	Magnum 6
1986	Steve Shimeld	Australian	Cuddy (Skiff)
1987	Steve Shimeld	Australian	French (Skiff)
1989	Andrew Landenberger	Australian	Landenberger (Skiff)

EUROPEANS

WINNER		DESIGN
1955	Raymond Fragniere	Fragniere
1956	Serge Vernieul	Vernieul
1957	Lucien Frison	Frison
1958	Serge Vernieul	Vernieul
1959	Jean Claude Jammes	Jammes
1960	Alexy Bailly	Bailly
1961	Michel Nerbollier	Nerbollier
1963	Joel Roland	Europe
1965	Jean Piere Roggo	Roggo
1967	Lennart Lind	Lind
1969	Jacques Fauroux	Fauroux
1970	Marie C.Fauroux	Duflos
1972	Chris Edwards	Duflos
1973	Colin Brown	Poacher
1975	John Claridge	Mangum 2
1976	Horst Deyhle	Deyhle
1978	John Claridge	Magnum 3
1980	Dave Iszatt	Magnum 3
1982	Robin Wood	Magnum 5
1984	Roger Angell	Magnum 5
1986	Roger Angell	Magnum 6
1988	Roger Angell	Magnum 8
1989	Roger Angell	Magnum 8

U.K. NATIONALS.

		BOAT DESIGN
1964	Robin Cemp	Florida
1965	Chris Nielson	Florida
1966	Tony Blachford	Shelley
1967	Charlie Reeves	Shelley
1968	Eddie Dunhill	Lucky Sixpence
1969	Chris Eyre	Nervous Breakdown
1970	Dick Owen	Skol
1971	John Claridge	Duflos
1972	Colin Brown	Stockholm Sprite
1973	Sean Cox	Demon King
1974	Not Sailed	
1975	John Claridge	Magnum 2
1976	Peter Conway	Womble
1977	Bill Short	Womble
1978	David Iszatt	Mangum 3
1979	David Iszatt	Magnum 3
1980	David Iszatt	Magnum 3
1981	David Iszatt	Magnum 5
1982	Roger Angell	Magnum 5
1983	Robin Wood	Magnum 5
1984	Toby Collyer	Magnum 6
1985	Roger Angell	Magnum 6
1986	Roger Angell	Magnum 6
1987	Roger Angell	Magnum 8
1988	Roger Angell	Magnum 8
1989	Roger Angell	Magnum 8

INTERNATIONAL MOTH EUROPEAN CHAMPIONSHIPS LAUWERSMEER HOLLAND

Report by John Claridge.

The British helms lead by Clive Everest in his radical Ghoul design totally dominated the practice race held in a pleasant force 2-3. But in race 1 the wind dropped to a shifty force 1-2, and it was the German Sebatian Kohlmann, showing amazing speed who lead round the windward mark, followed by Lars Marklund (Sweden) and Heinz Dieter (Germany). The first UK helm was Midori Claridge rounding sixth in her modified Phoenix design, followed by her husband John in a Magnum 8. Sebastian continued to pull away, winning by almost three-quarters of a leg, with Lars Marklund second, Heinz Dieter third, John Claridge fourth and Jason Belben fifth.

Sebastian

The sea breeze filled in for race two, and in a fresh force 2-3 Clive Everest drove hard away from the port end of the line, moving very fast, easily rounding the windward mark first and continuing to pull away. Second round the windward mark was Simon Payne sailing a Magnum 8, and he too was able to secure a safe second position. But third place was contested all the way by Jason Belben in his Blitz design and defending champion Roger Angell in his Magnum 8, and it was the latter who after an exiting tacking duel up the final beat won this particular contest. Fifth was Melvyn Cooper (Magnum 8) and sixth Heinz Dieter (Magnum 6).

In virtually the same conditions, Clive repeated his previous performance, accelerating away from the port end of the line, to round the windward mark well clear, but with Roger this time in pursuit. Although Roger closed the gap the final position was never really in doubt, with Clive taking line honours, Roger second, Jason third, Lars Fourth, Simon fifth and Melvyn sixth.

Race four saw another sudden change in the weather with squalls of force 5-6 appearing to come from nowhere. These decimated the fleet, but again it was Clive rounding the windward mark first with Simon, Jason, Roger Melvyn and John just behind. Roger eventually broke clear to take an easy first place. Clive, despite having to stop to repair his mainsheet, finished second, Melvyn third, Simon fourth and John fifth.

So with over half the series complete Clive was odds-on favourite, but again the wind dropped, and this proved to be a turning point in the series. In fact, at the start of race five there was only just enough wind to move, and although at the start John was observed head to wind, moving gently backwards he again displayed his renowned light wind skills to round the windward mark first with Jason second. These two opened up a huge lead with Jason, after an exciting battle eventually pulling well clear, but John fought back overtaking Jason to windward up the final beat to take line honours (Edt's note:- you can guess who wrote this report!!). Roger drifted in third just ahead of the flying Sebastian Kohlmann and Simon Payne.

For race six the wind resumed its force 2-3, and again John rounded the windward mark first, but he was quickly overtaken by the lightweight fliers, in the guise of Simon, Roger, Jason and Clive. As the wind shifted turning the beats into fetches, Simon drew well ahead to win comfortably with Roger second. Sebastian displaying amazing boat-speed just beating Jason on the line for third with Clive fifth and John sixth.

So with only one race left, the championship was still very open, the two main contenders being Clive and Roger. Bearing this in mind Roger decided to cover Clive right from the start, to such an extent that even in the favourable force 2-3 winds he was unable to break clear. Jason taking advantage of the private battle was able to establish a good lead with Simon second. However, Roger seeing that both Simon and Clive were getting the wrong side of a major windshift, broke cover and went on to finish second clinching the title. Third was Simon, fourth Clive and fifth John just holding back Sebastian and Lars Marklund.

So with six different winners in seven races, this was certainly the closest European Championship for some time. At the start of the week Roger had looked unlikely to take his fourth title, as Clive in particular had looked better prepared and much more in practice, but as the week progressed Roger fought back and although he only had a distict advantage when it blew hard, his string of consistent results was enough to secure him the championship.

De Dutch "Heavy Mob"

Day Trip to Schiermonnikoog

Simon, Clive & Roger

Overall Results:

	HELM	NAT.	POINTS	DESIGN	Wt.	MAST	SAIL
1st	R. Angell	UK	20.4	Magnum 8	10.5s	JCS	Sanders
2nd	J. Belben	UK	34.7	Blitz	9.5s	Needlespar	Sanders
3rd	C. Everest	UK	35	Ghoul	11.5s	Carbon Windsurfer	Sanders
4th	S. Payne	UK	36.7	Magnum 8	9.5s	Proctor	Sanders
5th	J. Claridge	UK	45.1	Magnum 8	12.5s	JCS	Sanders
6th	L. Marklund	SWE	58.7	Magic Eleven	11s	JCS	Sanders
Ladies Champion							
	M. Claridge	UK	130	Phoenix 3	9s	JCS	Sanders

MOTH MANIA (An Antipodian Article)

Emmett Lazich conducted his own research on why so many good sailors overlook the International Moth Class when searching for a lethal dose of fun, speed, competition, learning and social life.

The following is a copy of one of the laboratory experiments that he carried out.

Aim:

To determine why the Moth Class has not been the obvious choice for young sailors trying to decide what their next move will be.

And to investigate the reasons why such sailors should not be misguided.

Method:

Gather information from as many of these potential Moth sailors as is possible.

Then, in having just moved into Moths myself, proceed to combine and correlate this information with my own recent experiences.

Equipment:

Ears — for listening for sailors caught in the "what shall I sail next?" syndrome. — Hearing what these sailors have to say about Moths. — Hearing their reactions after I tell them what they have been missing out on.

Mouth — enables laughing after mental recall of past Moth experiences (on and off the water). — Gives me something to concentrate on: It is interesting trying to keep this piece of equipment shut once my enthusiasm is let loose on the "victim".

Eyes — used for spotting sailors caught in the "what shall I sail next?" syndrome. (eg Spiral sailors. Well — "next" isn't really the correct word in this case, is it?)

Hands, arms, body and big toes: — to assist in describing some of my recent speed blasts, nose dives, go fast theories, tactical windward beats, hell downwind legs, injuries and burning off of other classes.

Results:

I gathered the following reasons (myths) why some people have not got into moth sailing already.

After each comment, I have written my reply.

"Not enough competition" — with a serious sort of look on their face.

In the past I have competitively raced in Manly Juniors, Flying Elevens, 420s, and Lasers. If you are the kind of person who enjoys a sailing race which is strategically and tactically demanding, closely fought and not over until the very end — then stop and think! This is what you get with every race in Moth sailing.

It is this type of racing that I have always loved. Can you remember the last time you tried to explain to a non sailor just what it is that we sailors do? The way that it is not the casual cruise around the buoys that so many envisage? What you were trying to describe is exactly what I am talking about here! I always enjoy the fun of a sailboard, but close dinghy racing gives me something more. (It's a pity that so many sailboard riders don't realise this!) I have not felt this enthusiastic towards my sailing, probably since I left Manly Juniors. By the way: If you think you're pretty good, you'll get quite a shock once you realise just how much better you can get!

"Moths . . . too progressive. I'm a one-design sailor thank you."

Now this one really gets me going. My instinctive reply is usually something like: "What's wrong? Aren't ypu prepared to think a little now and then?" If you are off the pace in a Moth there is always

a reason why. If you want to work at it there will ALWAYS be people who will help you. But more than anything else, you are going to have to think! And best of all, it's not going to cost much! Have you ever wondered about foil shapes, luffound, side bend, helming or catching waves?

Serious Laser sailors don't race boats that have been raced for more than two years. The majority of the top Manly Junior and F11 sailors race in new to very new boats. My boat is a typical design and is a bit over two years old, just like the first two boats in the world titles!

If you know that you are good at tuning a rig, then sailing a Moth will let you prove it. If someone is going fast at the Nationals, the opposition doesn't come running over to have a look at the underneath of his boat. They all look UP at how well his mainsail fits his mast!

The percentage of sailors who avoid development classes because they have their sights set on doing an Olympic campaign, is depressingly high. People who push one-design classes heavily because they think they are improving Australia's Olympic chances are actually doing more bad than good! An Australian sailor can handle a boat just as good as some guy from Russia or wherever. But he gets beaten nowadays because sailing has become rather technical. This is why the Moth is so great. It provides so much thrill that motivation for training is NEVER a problem. And, for true success, the Moth requires such a high level of technical ability, that an increase in theoretical knowledge is inevitable.

The modern epoxy-foam-fibre skiff Moths are all very similar in appearance. A hull's competitive lifetime is not fully known, simply because these boats are still racing today! To talk dollars and cents, your fully rigged brand new high tech speedster will set you back about as many bills as you would have to spend for a new Manly junior! (Even I'm getting excited — and already have one, [sarcasm off].)

I used to avoid development classes because I always used to think — "How would I know if I was beaten by five minutes because I made so many mistakes, or because my boat was just too slow?" It simply isn't like that anymore. My reason for getting into Moths was purely because I needed some excitement. I needed it bad! But what I got was much more. This is what I am trying to tell everyone.

I feel an urge to tell others what I now think, so that they won't make the same mistake I made. I now wish that I had gone into Moths straight after Flying Elevens. For those of you with goals involving Olympics or Olympic class racing, ponder on the fact that practically all of Australia's Olympic class yachtsmen have sailed Moths (or another development class) at some stage. People such as Ian Brown, Mike Fletcher and Glen Bourke, have all been successful Moth sailors!

In a competitive development class, you can very quickly find out what is fast. When you have a new idea, you can usually try it out. When you go back to a one-design class, you will know (from your Moth experience) which way to deviate within the limiting rules by which you are confined.

If I end up in a 470, FD, 505, 14ft skiff, or Etchell, I will be a lot more competitive now that I have had some experience with Moths.

"I want to get a Laser."

Two years ago, I put myself into a Laser because I wanted to be on equal terms with everyone else. It doesn't always turn out that way. I don't want to criticise Lasers. I have the utmost respect for successful Lasers sailors.

I will confess two things about Lasers and me:

1) I still have my Laser.

2) I have not sailed it since I went for my first sail in my skiff Moth.

It's nice to be able to put my boat on the roof racks by myself (when I have no choice in the matter. It's comforting to know that when I go down to the club during the week, I only need to find a little boy on the beach with a yabbie pump to give me a lift into the water with my fully rigged boat.

"I'm not big enough to sail in a Moth."

Hmm, yes. A very common myth indeed. Basically if you are 8.5 stone (55 kg) or more you are heavy enough. If you are lighter then this, you could get into a Scow Moth. Scows have an even wider range in competitive body weights than Skiff Moths. Undersized sails are very common amongst the Skiff Moths.

"I'm too big for a Moth aren't I?"

Unlikely. I am 11.5 stone and can set my sail up so that I am fully hiking in about 6 or 7 knots. Even though it is likely that I will get heavier, I have no intention of getting out of Moths in the near future. Scows can handle even more body weight. And as a bonus for Scow sailors, the next Nationals in QLD (just north of Brisbane at Humpy Bong on Morten Bay) will have separate skiff and scow champions plus the usual Open National Moth champ!

"Okay — But I'll have to finish off this season before I buy one."

This could be a bad move. Seriously, it is less than a year to the next Nationals already. This was a mistake that I made. Skiff Moths, especially, require a fair amount of practice in varying conditions before you compete against the top guys in the tactical sort of manner that you might be used to!

"I don't have any money at the moment!"

I like this one. A Moth is one of the cheapest ways to go racing. When you consider the returns that an individual can get from sailing a Moth, you will realise that buying yourself a Moth is money well spent. You will meet new friends, learn new theories, improve your imagination and never look back.

"I've always got a bad hangover on Sundays."

[sarcasm off] (actually — I don't think I've turned it on yet!) Not a problem!!! Buy one tomorrow. You'll never stop thanking me.

"What's in it for you Emmett?"

It annoys me to see so many sailors "wasting" their time. Either fading away or becoming stagnant.

I like large fleets. Especially off the water!

I see the Moth class as having a huge growth ptoential. A lot of young sailors quit sailing because of boredom or money or even crews (or skippers). This is a pity, but I have stumbled across a saviour — The International Moth.

The more people we get into sailing the better we are going to get. And this means we will bring home the results when we go overseas.

Conclusion:

Many reasons were found explaining why so many potential Moth sailors are not getting as much enjoyment out of their sailing (or lack thereof!) as what I have had recently, or as much fun compared with what I have ahead of me.

After my recent investigations I am confident that the Moth class is in for a BIG year. And that much enjoyment is awaiting all those who would like to take part.

DESIGNS

The 1989 season from the design view point was the most interesting for years, with a whole range of new designs, some exploring entirely new avenues, out to stop the impressive record of wins in the European and national titles of the various Magnum marks.

In fact a Magnum 8 sailed by Roger Angell again won both the European and National titles with Jason Belben sailing his brother's Blitz design runner up on both occasions, Jason failing to take his first National title by the narrowest of margins. Whilst the very light, fuller bowed Blitz design went well in all conditions, particularly when marginal planing, it did have breakages and was no match for the Magnum upwind.

Clive Everest, sailing his amazing flareless Ghoul design also showed impressive boatspeed at times, often looking an odds-on Championship winner, only to be let down by his poor showing in light winds.

Perhaps the biggest upset of the season was Andy Paterson's Bloodaxe whose ultra narrow near box like hull form first appeared early in the season and whilst showing promise looked totally impracticable to race. However by the time of the UK Nationals, Andy was not only staying in the boat (most of the time), but his consistent high placing gained him third place overall.

John Pierce sailing Gentleman Jim was, for various reasons the only European to go to the Worlds in New Zealand and finished a creditable third, perhaps equally impressive was that his boat was flown both ways as part of his luggage allowance. Gentleman Jim also went well in the Nationals finishing fourth overall.

Sebastian Kholmanns design was similar in concept to the Ghoul and in contrast to Clive showed amazing speed in the light winds at the Europeans. However he appeared to struggle and have gear and structural failure as the breeze increased, obviously a stronger version of this design may well be a boat to watch out for.

The Swedish Magic Eleven design caused much interest with epoxy transluscent hulls and single skin see-through decks, but whilst these comparatively simple designs were always near the front of the fleet, they seemed to lack the kind of boat-speed needed to win races.

The other design of note in '89 was of course Andrew Landenbergers with which he convincingly won the Worlds.

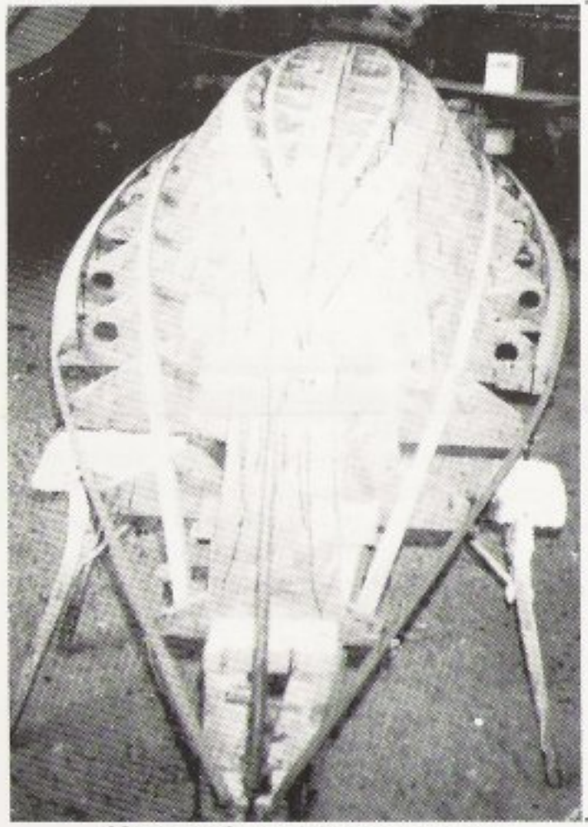
The hull form seems to be similar to the Magnum 6 but with a more rounded aft section and greater V up forward. The boat is obviously strong and performs well but I suspect that the calibre of the helmsperson in the strong winds experienced in New Zealand was a more determining factor in the results.

Well, that was '89, and what of 1990? Well we know that the Belbens, Andrew Paterson, Sebastian and the Magnum Team are all building new boats for the Worlds at Ratzeburg and there are no doubt others producing the ultimate Moth of which we know not, maybe with at last perhaps a little sense creeping into this crazy world, it could be an East German or Chechoslovak design which will be featuring next year. One certainly hopes so.

MAGNUM 8

Boat Design: Magnum 8
Designer: John Claridge/Mervin Cook/Roger Angell
Year Designed: 1986
Materials Used: Wood/Kevlar/Glass/Epoxy
Construction Method: Stressed ply over male mould. Hull sheathed.
Deck Layout: Self-draining cockpit and raised foredeck.
Max. Beam on Designed Water Line: 525mm
Beam at Transom on Designed Water Line: 330.5mm
Rocker Form and Distribution: 35.5mm Rocker. Flat middle section.
Prismatic Co-efficient: 0.63
Claimed Hull Weight and all up: 40lbs / 80lbs
Best Results to date: 1st Europeans 1988 & 1989. 1st Nationals 1987,1988 & 1989.
Helm Weight Suitable for: 8-12.5 Stone.
General Description: Straight development of previous Magnums. That is narrow U-section hull form with low rocker, centre of buoyancy just aft of mid point to allow fine entry, narrow transom to aid boat handling and decrease wetted surface.

Made initially on a male mould from tortured ply construction, epoxy sheathed then transferred to female mould for insertion of bulkheads, decks etc.



Magnum 8 - Building male mould

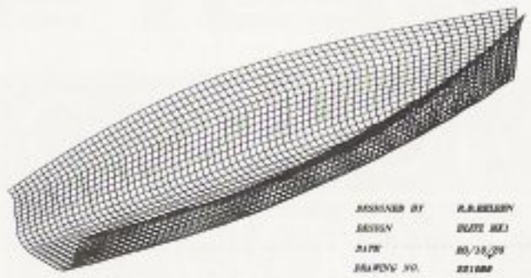
Magnum 8 - Interior Construction

BLITZ Mk.1

Designed by Russell Belben.
Built by Jason Belben.

Results acheived in 1989:-

1st Queen Mary Open Meeting.
2nd European Championships.
2nd National Championships.
1st Cock of Harbour (Hayling Island).
1st BEWL Valley.



Jason's boat (Harder Faster) has proved to be very fast this season, particularly off the wind, and upwind in flat water.

Design Features

All efforts were made to keep the prismatic coefficient high whilst keeping the wetted surface area as low as possible. Blitz 1 has a prismatic coefficient of 0.69 with Jason helming (9.5 stone) and 0.72 with an 11.5 stone helmsman.

The wetted surface area with a 9.5 stone helmsman is 1.695m² and this increases to 1.75m² with an 11.5 stone helmsman.

NB. High prismatic coefficient Cp helps (a) to promote early planing.
(b) Reduces pitching in a seaway.

To prevent bow diving in strong winds the centre of buoyancy was kept as far forward as was felt reasonable, 2.30 % aft of amidships with Jason helming and 3.33% with an 11.5 stone person sailing.

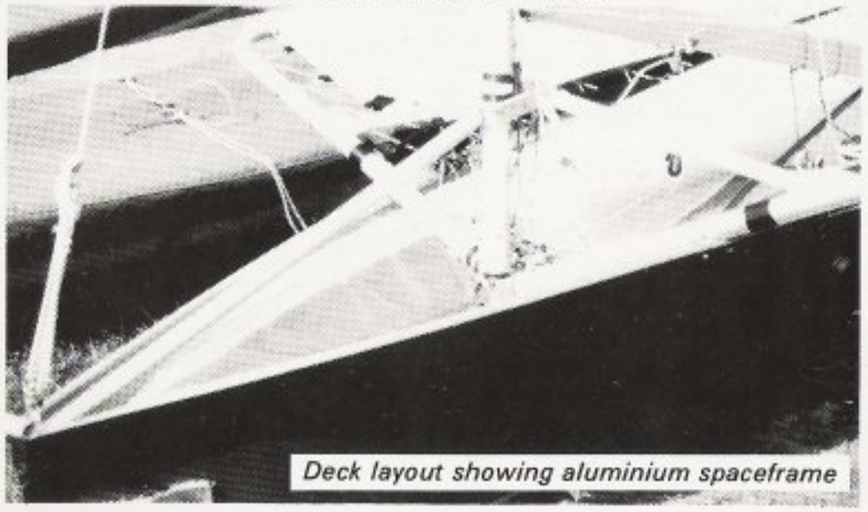
All above figures were calculated with the boat at level trim.

NB. It can be seen that due to the Moth helms' high relative weight in relation to the boat's weight the Moth's hull form coefficients and properties vary considerably for only a 2 stone difference in helm weight, this makes designing the boat for the individual more important than in most other classes.

Russell is curently designing the Blitz Mk. 2 in which Jason will be competing in 1990.

The general principles will remain the same for the new boat but efforts will be made to optimise the shape to better suit Jason's weight and the lumpy sea conditions of the Solent.

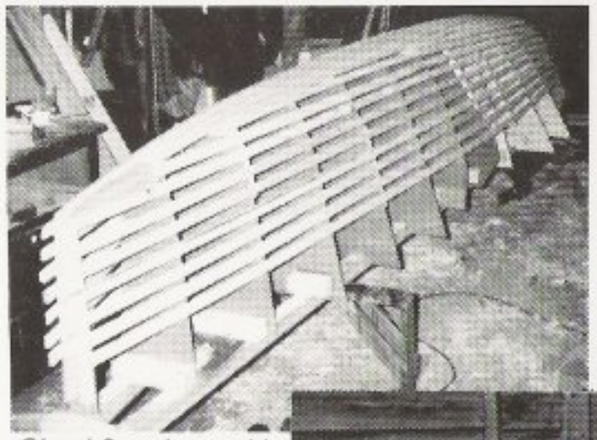
The new boat will be constructed in Sandwich Construction rather than the Ply/Kevlar/West Construction of Blitz 1 which Russell will be sailing.



Deck layout showing aluminium spaceframe

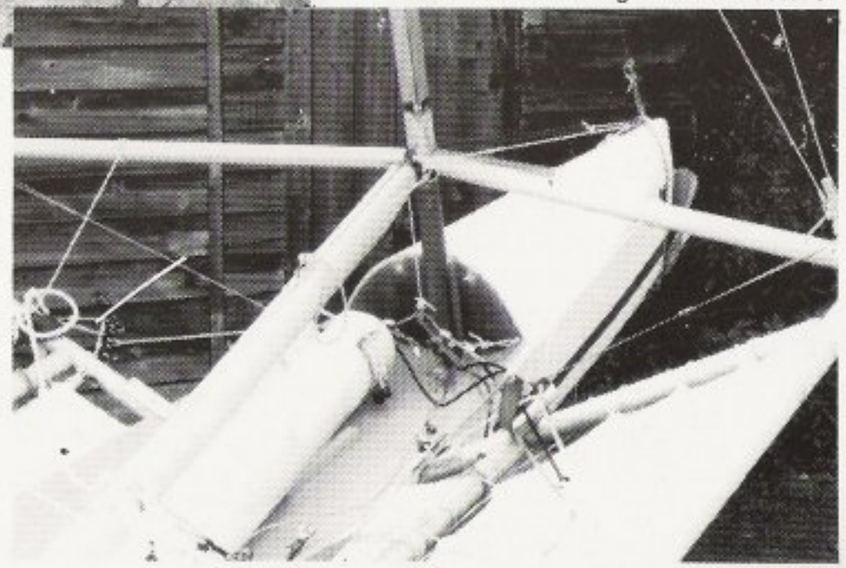
GHOUL 2

Boat Design: Ghoul 2
Designer: Clive Everest.
Year Designed: 1989
Materials Used: Epoxy glass on PVC foam core.
Construction Method: Built on male batten mould.
Deck Layout: No flares, wingtip shroud base with understays, torpedo foredeck.
Max. Beam on Designed Water Line: 442mm.
Beam at Transom on Designed Water Line: 300mm.
Rocker Form and Distribution: 7cm at transom, 11cm at bow, very flat in mid-sections
Prismatic Co-efficient: 0.71!! (it really is)
Claimed Hull Weight and all up: 14Kg / 31Kg.
Best Results to date: 3 race wins at Europeans/Nationals, 2 practice race wins, Hoo Freezer 1st.
Helm Weight Suitable for: Designed for 11 stone, shuold be reasonably insensitive.
General Description: Possibly the fastest Moth in the World!



Ghoul 2 male mould

Ghoul 2 Deck/Wing/Mast Structure

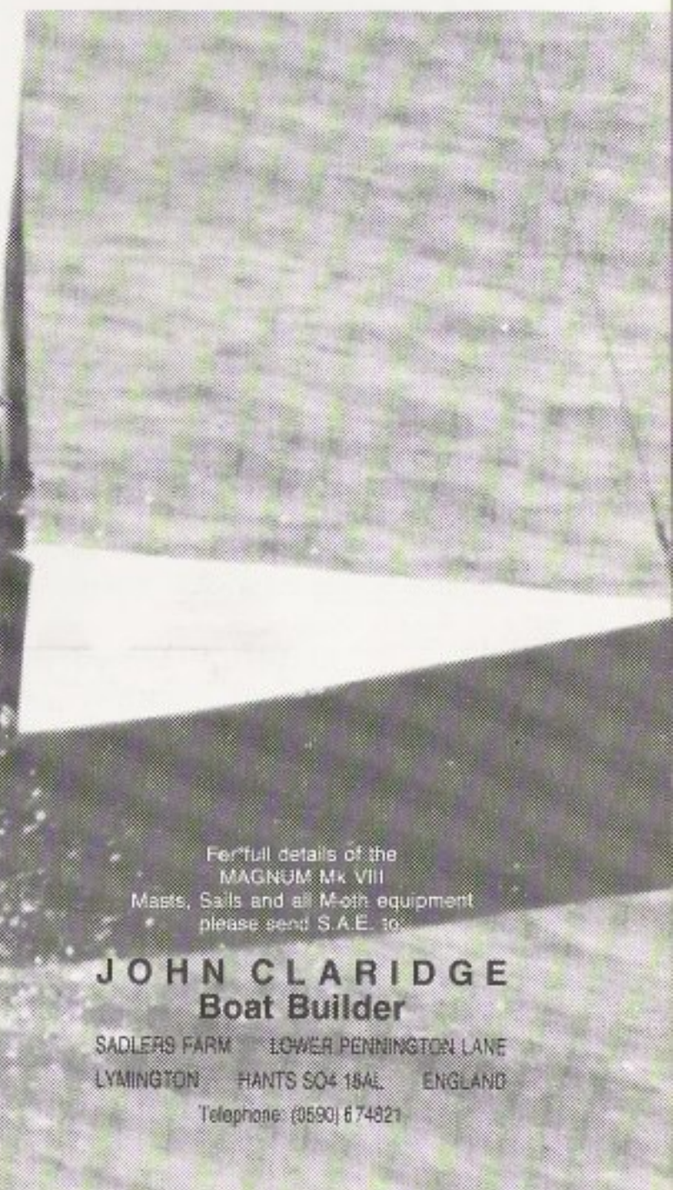


MAGNUM

Simply the most successful Moth ever!

13 National, 8 European and 6 World Championships in the last 15 years.

Roger Angell on his way to winning the Easter Regatta 1988.
Melvyn Cooper photo.



For full details of the
MAGNUM Mk VIII
Masts, Sails and all Moth equipment
please send S.A.E. to:

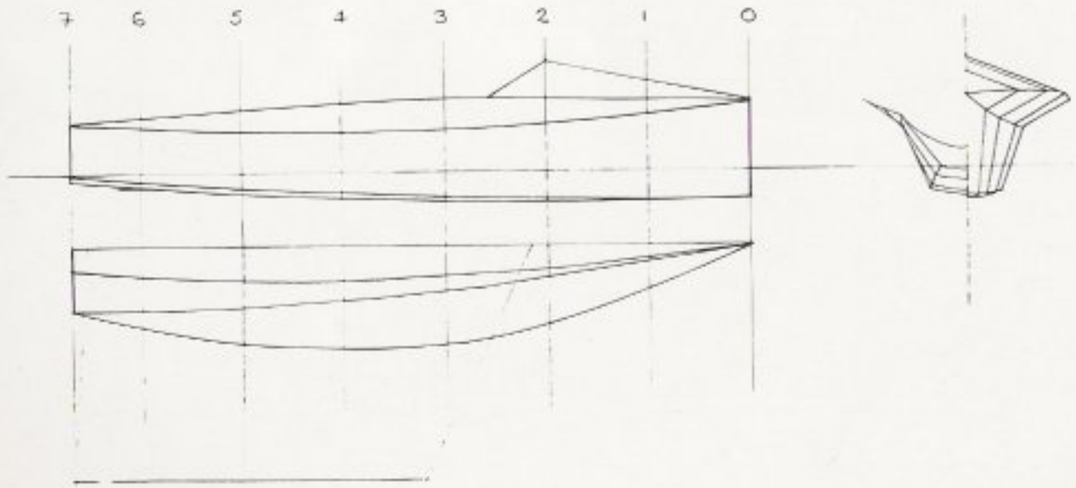
JOHN CLARIDGE
Boat Builder

SADLERS FARM LOWER PENNINGTON LANE
LYMINGTON HANTS SO4 1BAL ENGLAND
Telephone: (0590) 674821

AXEMAN

Boat Design: Axeman
Designer: Andrew Paterson
Year Designed: 1989
Materials Used: Ply, Glass, Carbon, Kevlar, Epoxy and Cedar.
Construction Method: 2.5mm ply, glass sheathed outside, kevlar inside, constructed over 7-frame male mould.
Deck Layout: Boom fitted to high 'V'd foredeck, with flares.
Max. Beam on Designed Water Line: 350mm.
Beam at Transom on Designed Water Line: 240mm.
Rocker Form and Distribution: 50mm evenly distributed.
Prismatic Co-efficient: 0.54
Claimed Hull Weight and all up: 20Kg excluding fittings, wings, mast, boom & foils.
Best Results to date: 3rd 1989 Nationals.
Helm Weight Suitable for: 9.5 - 12.5 stone.
General Description: The hull is extremely narrow, of hard chine form, with greater freeboard and higher flares than normal. The bows are very fine leading to the maximum waterline width of 350mm at the daggerboard case, and narrowing in to the transom. This gives a very easily driven hull, which is sailed with substantial bow-down trim in light winds to reduce transom drag, but the bows are lifted when planing in strong winds so that nose dives are no more of a problem than is normal. The design has shown excellent upwind speed in light weather, and reaches extremely fast in medium to strong conditions. The hull has absolutely no static stability, and is therefore difficult to sail at low speeds. i.e. in drifting conditions, or running in light winds. The stability increases dramatically with a little boat-speed, and the boat handles very easily even in strong conditions.

The Mark 2 design currently under construction features a slightly wider transom with more volume in the topsides, in order to prevent the transom sinking during tacking.



GENTLEMAN JIM

Boat Design: Gentleman Jim
Designer: John Pearce
Year Designed: 1989
Materials Used: Epoxy/Plywood
Construction Method: Built over male mould.
Deck Layout: Self-draining, 1.5mm ply.
Max. Beam on Designed Water Line: 520mm
Beam at Transom on Designed Water Line: 432mm
Rocker Form and Distribution: Low/straight run out
Prismatic Co-efficient: What's that?
Claimed Hull Weight and all up: 34lbs / 72.75lbs.
Best Results to date: 3rd Worlds, 3rd Nationals
Helm Weight Suitable for: 8 - 12 stone
General Description: The boat was developed from the Genesis mould and fitted with the Magnum 8 style rig, and gave good all round performance.

Gentleman Jim

AERO II

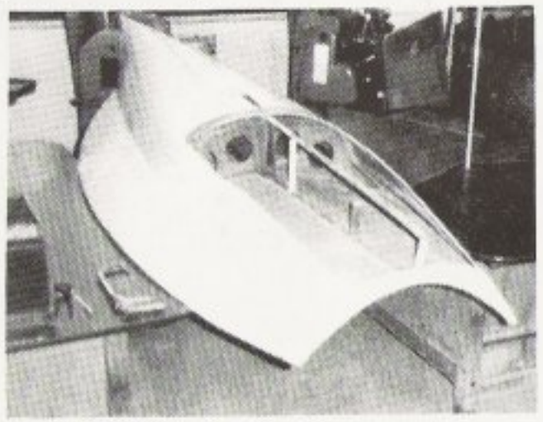
Boat Design: Aero II
Designer: Ian Ridge
Year Designed: 1987
Materials Used: Divinecell Foam/E,Glass, 100g Carbon/Epoxy Resin
Construction Method: Vacuumed Foam/Wet Hand Lay-up in female mould.
Deck Layout: Self Draining/1.5mm Ply.
Max. Beam on Designed Water Line: 680mm
Beam at Transom on Designed Water Line: 400mm
Rocker Form and Distribution: Fair Curve
Prismatic Co-efficient: 0.62
Claimed Hull Weight and all up: 75lb /33lb
Best Results to date: 2 seconds, 6th overall 87 Championships/1st Southerns 87, 1st Dutch Open 87.
Helm Weight Suitable for: 9.5 - 11.5 stone.
General Description: Same hull shape as Aero I but experimenting with 5mm and 1.5mm Divinecell Foam and limited Carbon Fibre. The boat has good speed in light airs or medium breeze and flat water.

MAGNUM 7 REBUILD

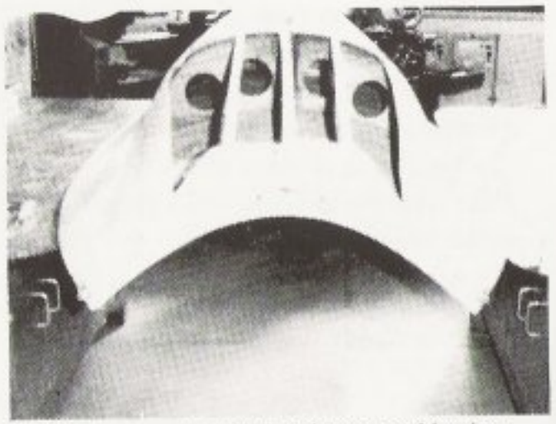
Redesign Objectives:

1. To improve speed in marginal planing.
2. To reduce overall weight.
3. Redesign centreboard box for Gybing Board.
4. Improve upwind performance.

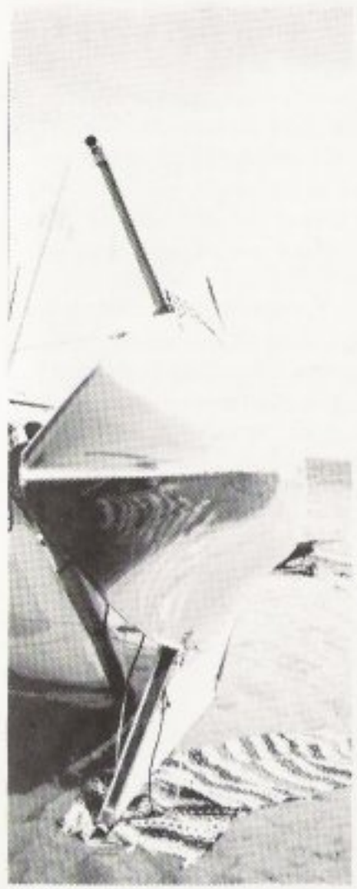
The new hull skin was made of 1.8mm Ply and glass sheathed. This was tortured into position in stages over various frames, then faired and painted.



New hog fitted to reduce rocker



Transom extension prior to reskinning



Magic 11

Sebastian's flareless skiff

Sebastian's - Bow on

Swedish Magic 11

Midori's Modified Phoenix 3

NEW WORLD CHAMPION!

Congratulations to Andrew Ladenberger of Grafton N.S.W. as World, Australian and N.S.W. Champion in 1988-89 — an outstanding achievement.

Australian Championships, Toronto, N.S.W.

WORLD CHAMPIONSHIPS - NEW ZEALAND 1989

John Pearce, our sole representative at Wellington, New Zealand, having flown his boat out as excess baggage, kept the flag flying down under.

There were representatives from Australia, Japan, UK and of course New Zealand.

The courses were set in fairly shallow water which gave predominantly short chop with waves 1m high, and the winds for most of the week were moderate to strong.

The first four races were held in wind strengths from 12-20 knots in which Andrew Landenberger (Aust) dominated with Pearcy and Richard Reatti (Aust) fighting it out for second and third.

During race 5 a 35 knot squall decimated the fleet soon after the start, leaving only 5 finishers, Pearcy not being one of them.

Race 6 again was held in strong conditions, many competitors thinking that it would be cancelled. However, after being late for the start along with Landenburger and only having a small sail Pearcy only managed sixth place - Landenburger, using a full sail, went on to win the race. With race 7 blown off, this left Pearcy with a very creditable third place overall.

OVERALL PLACINGS

1	KA9115	Andrew Landenberger	6	KA9134	Mark Thorpe
2	KA9068	Richard Reatti	7	KZ795	Morris Hall
3	K3936	John Pearce	8	KZ872	Martin Balch
4	KZ875	Peter Nees	9	KZ798	Graham Roberts
5	KA9088	Ian Ward	10	KA9132	Stuart Brown

International Moth National Championships
August 31st - September 3rd 1989

The International Moth National Championships were held in conjunction with the Cherubs at Seasalter S.C. over a long weekend - August 31st to September 3rd, and attracted a strong competitive entry of 36 boats.

The first race was held in an onshore wind of force 2-3, and saw Jason Belben and Clive Everest battling for the lead, Clive being faster upwind, but Jason was able to overtake on the reaches and covered Clive on the rather short final upwind leg to the finish.

After a long delay due to lack of breeze, race 2 (Friday) finally started in light winds. Andrew Paterson sailing his ultra-narrow Axeman design battled for the lead with Ian Marshall, but with much commpression of the fleet on the run, Roger Angell was able to recover well from a mid-fleet position to round the leeward mark ahead. Roger held his position to the finish followed by John Claridge and John Pearce.

The tide went out leaving no water for the second race of the day, now to be sailed late on Sunday afternoon.

Two races were held on Saturday in similar conditions of force 3-4 onshore breezes and lumpy sea. Clive led the early race to win from Roger and Jason. The second race of the day had the same three in the top places, but this time Roger took the winning gun with Jason second and Clive third.

Both races on Sunday were held in light winds of force 1, and saw some new faces at the front. Graham Caws led the first race from start to finish, with Martin McCaffrey second and Jason third.

The championship now depended on the outcome of the final race, Roger and Jason being close on points. Jason covered Roger throughout the race and was able to take the winning gun with Roger in third place, Martin McCaffrey again taking second place.

In the overall results Roger and Jason had equal points. However, Roger having a better discard took the National Champion-

J.C. considering sitting out

Jason & Roger in pre start manouvres

Andy Paterson - Foiled again

ship for the sixth time, Jason was runner up and Andrew Paterson sailing a consistent series was third overall.

After a period of Magnum domination, there are now several competitive designs, with six different designs in the first seven places, and only two of the latest Magnum 8 design in the first eight.

The Cheeseman

Si Payne getting his leg over

Jo Payne alias the brown bottle

Roger Angell powers to his 6th National Title

FINAL RESULTS

1st	Roger Angell	Prime 8	Magnum 8	Olton Mere S.C.
2nd	Jason Belben	Harder Faster	Blitz 1	Stokes Bay S.C.
3rd	Andrew Paterson	Axeman	Axeman 1	Gurnard S.C.
4th	John Pearce	Gentleman Jim	Pearce 2	Lymington Town S.C.
5th	John Claridge	Chieffy 3	Magnum 8	Lymington Town S.C.
6th	Clive Everest		Ghoul 2	Bewl Valley S.C.
7th	Graham Caws	Digby's Donkey	Magnum 6	Gurnard S.C.
8th	Ian Marshall		Magnum 6	Bowmore S.C.

Ladies Champion
Midori Claridge — Phoenix 3 — Lymington Town S.C.

Junior Champion
Richard Westbury — Magnum 8 — Bartley S.C.

Prize for Best Performance (First Nationals) Graham Caws

Triers Trophy Ian Marshall

WING MASTS AND MOTHS FOR THE 1990's

Wing masts are a development that so far has hardly been touched by the Moth class, but which could make the boats go faster. Wing masts can be divided into two categories; Big Wing Masts and Small Wing Masts. This may seem trivial, but their advantages over a conventional rig are fundamentally different.

Small Wing Masts

These are masts of near normal dimensions that have been designed to have significantly increased stiffness in the fore and aft axis, and possibly reduced stiffness in an athwartships axis, particularly above the hounds. This may be done in many ways but most practically by giving the mast an elongated section.

When the mast is over-rotated, the pull of the leach on the top of the mast will be at an angle to the stiff axis of the mast. Due to the asymetry of the mast it will not bend in the direction of the pull, but to windward (see fig.1). This has the effect of reducing the twist in the sail, and hence the loss of sheeting angle of the uppers sections of the sail, without the need for massive leach tension. By adjusting the amount of over-rotation used the effective mast stiffness can be controlled whilst racing. This is the secret of these masts, they allow increased control and setting of the sail. There is also a slight aerodynamic advantage if the mast track is faired into the mast section, because the airflow over the leeward side of the rig is less disturbed, and the Moth rules allow a little free area in the mast. This type of rig has been used effectively on ice and land yachts, some cats e.g. 'A' class (most cat rigs are too stiff), and on the Tasar.

Big Wing Masts

Big Wing Masts give improved aerofoil performance over a normal rig. Even a highly developed soft sail rig, such as the Moths, is not a particularly effective aerofoil, compare the performance of a hang-glider to a normal glider.

The requirements of a rig are slightly different to those of a glider wing where it is important to optimise the lift to drag ratio. It is more important for the rig to maximise the absolute lift, rather than the lift to drag ratio, as the aerodynamic drag of the rig is less significant because a boat has many other forms of drag.

To increase the lift generated from an aerofoil it is necessary to put more fullness in the front sections, to further accelerate the airflow around the leeward side. If this is done on a soft sail it results in a backwinding of the luff and turbulent low pressure eddies behind the mast on the windward side. Both these problems can be overcome by using a Big Wing Mast Rig.

Big Wing Mast Rigs have been used effectively on 1960's 'C' Class, 1980's Maxi Multihulls (despite the risk in storm conditions), F.40 (despite restrictive rules), some small cats (e.g. Icarus) and once again, ice and land yachts, where the gains from increased efficiency are much greater.

To my knowledge, the only wing mast that has been built for a Moth, in this country, was a carbon sheathed cedar mast built by the J.C. several years ago. This mast proved difficult to sail with, showed no significant gains and John did not have time to develop the idea further. I suspect that this mast was too stiff to act as a small wing mast but behaved like a telegraph pole with no gust response, but was not big enough to gain the aerodynamic advantages of a big wing rig.

I have built a prototype big wing mast and hope to have it developed for the 1990 season. Fig.2 shows the geometric construction used to generate the wing mast section from a high lift aerofoil section. An unavoidable problem of the first generation of big wing rigs is that they will have to be rigid and designed for one setting, then compromised or left ashore as conditions change. In order to allow for some twist in

the sail the angle θ varies linearly from 25° at the foot to 15° at the top, and the camber (t) varies from 1/10 to 1/15. This results in a wing mast that is about 22% of the cord at all heights, with a very rounded leading edge. The width to thickness ratio of the mast varies from 3:1 at the base to about 5:1. The dimensions of the base of the mast are 440mm by 160mm. The rather heavy prototype has been built from glass reinforced polyester foam sandwich, to keep the costs low, as a second mast has always been envisaged.

The gains from the big wing mast will be more power, potentially equivalent to 20% more sail area, which will be of most benefit on fast broad reaches where any gain in speed is amplified by a more useful apparent wind. Upwind there will be gains due to the increased overall efficiency, and it may be possible to gain on the runs in some conditions by gybing downwind. On the negative side the size of the rig means that it will probably always be heavier, and more difficult to set. The angle of over rotation may be very critical, although initial trials suggest that the mast sets itself to the sail, because the back edge of the mast is curved. (The leading edge is straight). The mast does not show any gust response although it may be possible to design this into a more advanced rig.

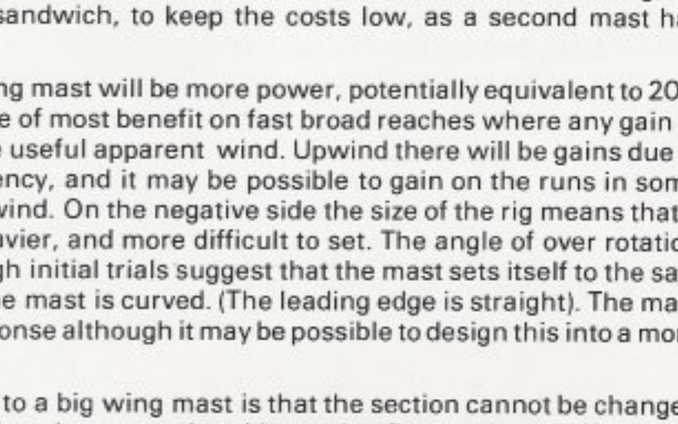
The most serious drawback to a big wing mast is that the section cannot be changed as effectively as a normal rig, where mast bend is used to flatten the sail. However, more than half this years championship races were held in the medium conditions most likely to suit a Big Wing Mast. Further developments are difficult to predict until the potential and problems of this rig have been revealed, however the second stage of development is likely to see a rig where the camber can be changed more effectively.

To produce even more lift it will be necessary to have a multi element rig with slots, flaps etc. as seen in 'C' Class and the rear wings of F1 cars where ultimate lift (down force) is the objective. Excess power from the rig could be useed to provide vertical lift, that is assuming that nobody has developed an effective rig geometry with zero heeling moment.

One thing that is assured is the potential for development of the Moth Class without the need for repeated rule changes.

By Clive Everest

FIG.1



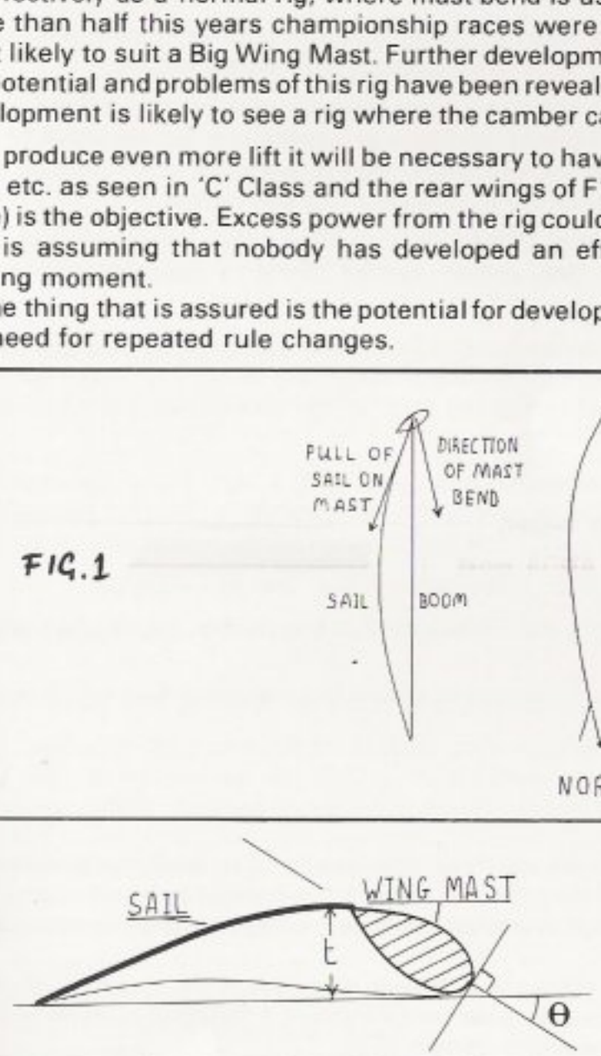


FIG. 2.

Measurement Matters

NEW BOATS

A. Obtaining a Building Fee Receipt and Sail Number

The Building Fee Receipt is theoretically payable at the time the "keel" is laid. However most people wait until the boat is almost complete before obtaining one, and with it the allocated Sail Number.

The Building Fee and Registration Charge should be sent to the Measurement Chairman, together with a covering letter incorporating details of the design, builder's name and address, owner's name and address and boat name (if known).

By return of post you should receive your official I.Y.R.U. Building Fee Receipt, a set of current Class Rules and Measurement Forms, a list of Class Measurers and guidelines on how to prepare your boat for measurement.

B. Measurement checks you can carry out

Thoroughly read the rules and make sure that the essential requirements have been fulfilled. Items which an owner can easily check beforehand are listed as follows:

1. Bands of contrasting colour to the spars indicating the maximum positions that the head and tack will be set to on the mast. There is a maximum luff length of 5185mm but no maximum or minimum for the foot length. Bands should be either painted, etched or indelibly marked on, and must be a minimum of 15mm wide.
2. National letters and Sail Numbers should be marked indelibly on the port side aft, in letters minimum 30mm high. Only drilled, carved, burnt or moulded numbers are acceptable.
3. Overall width from wing edge to wing edge (including trampolines) shall not exceed 2,250mm. Please bear in mind that di-hedral wings will bend, and make allowance for this, as your measurer will compress both wings simultaneously to make this measurement.
4. Overall length. This can be measured first by running a tape along the keel line. If this measurement is under that required, the boat will pass. But the measurer will measure along the horizontal water line by using a caliper or frame.
5. Hollow in the hull. No concavities below static water line are allowed.
6. Check that your boat is watertight. If the measurer has any doubts, he may do a pressure test.
7. Check that the sail numbers are correct, and that their spacing and positioning are as laid out in the rules.

C. Find a Measurer

Arrange with a listed measurer to have your boat measured at a mutually convenient time and place. Remember that he is a volunteer and under no obligation to travel to you. He is entitled and expected to charge for out-of-pocket expenses, with a normal minimum of £2.00 for the measurement charge itself.

On measurement day, take everything with you as if you were going sailing (including tools!) The Measurer may ask for a sailing demonstration or a flotation buoyancy test, if he has any doubts about compliance with certain rules.

D. Certification

Send the completed measurement forms, (and fee if appropriate) to the Measurement Chairman. He will issue you with a printed certificate in your name.

When you receive your certificate please remember to sign it; it's a bit like a Driving Licence! Remember that the Certificate is not valid if the boat is sold to a new owner, the owner is not a current paid up member of I.M.C.A. or is used with sails that are not recorded on the certificate. When a boat is substantially altered after the original measurement the owner is required to have the boat completely re-measured.

E. Measurement of Extra Sails

If you purchase a new sail then write to the Measurement Chairman for a spare Sail Area Measurement Form. Contact a Measurer and arrange for him to measure your sail. Remember that he will require your mast and boom to verify the luff and foot lengths that you declare. The Measurer will endorse your certificate "on the spot" as long as you send the completed and signed form to the Measurement Chairman.

SECONDHAND BOATS

The Measurement Chairman keeps records of all measurements completed and registered, sanctioned boat names, and certificates issued.

If your boat already has a certificate, transfer of ownership will have invalidated it. Send the old certificate together with the re-certification fee, any proposed change of name, and your ownership details to the Measurement Chairman. He will issue a new certificate in your name.

If your boat does not have a certificate, first check with the Measurement Chairman to see if it ever had one. If it did, then it can be treated as above, otherwise it will require a full measurement as if it were a new boat.

U.K. Scale of Charges as at 1st January, 1990.

Building Fee and Registration Charge: Incorporating fees payable to the I.Y.R.U., I.M.C.A. World Association, Certification Fee, I.M.C.A. U.K. Levy and cost of Rules, Forms, etc.)	£25.00
Certification Fee (Post K3807)	No Charge
(Pre K3807)	£2.00
Re-Certification Fee	£2.00
Copies of Class Rules, Forms, List of Measurers, etc.	£1.00

When applying for the above, please include a stamped addressed envelope. Cheques, Postal Orders, etc., to be payable to I.M.C.A. (U.K.) please.

The Association reserves the right to amend these charges at any time, as the major element of costs is payable to independent price-fixing bodies such as the I.Y.R.U., who are able to raise their charge at short notice.

U.K. Measurement Chairman

Martin Saveker
Dale Farm, Worcester Lane, Four Oaks
Sutton Coldfield, W. Midlands B75 5QT
Tel: 021 308 7597

International Moth Class
Full Measurers—R.Y.A. Approved

R. Angell
133 Ralph Road, Shirley, Solihull, West Midlands B90 3JZ. Tel. 021 745 3989.

J. H. Butler
7 Tyrone Close, Great Burstead, Billericay, Essex CM11 2RX. Tel. 02774 25488.

T. Collyer
103 Washford Farm Road, Ashford, Kent. Tel. 0233 33284.

N. Grindey
60 Half Edge Lane, Eccles, Greater Manchester, Lancs.. Tel. 061-789 6528.

D. B. Hall
Swinford Barns, Broomhill, Great Barrow, Cheshire CH3 7LA. Tel. 0829 41126.

A. C. Ireland
23 Fredington Grove, Milehouse, Plymouth PL2 3EA. Tel. 0752 53819.

S. J. Reece
25 Hornsby Close, Luton, Beds. LU2 9NP. Tel. 0582 418341.

W. H. Walsh
Great Oaks, Denefield Close, Hamble Lane, Hamble, Southampton SO3 5JH. Tel. 0703 452050.

T.M. Saveker
Dale Farm, Worcester Lane, Four Oaks, Sutton Coldfield
W. Midlands. B75 5QT Tel. 021-308 7597

C. Cotterill
97 Station Road, Wombourne, West Midlands. Tel: 0902 896224

INTERNATIONAL MOTH CLASS ASSOCIATION (UK) MEMBERSHIP 1990 DUE 1.1.90

Membership Fees:

Family Member:	£15.00 (Includes children under 19 years).
Full Member:	£12.00 (From 1st. January after member's 19th birthday)
Junior Member:	£9.00 (From January 1st after 15th birthday until Dec. 31st after 19th birthday.)
Cadet Member:	£8.00 (Until December 31st after 15th birthday).
Associate Member	£8.00 (Anyone interested who doesn't own a boat).

N.B. The Association reserves the right to charge increased membership fees to overseas members to defray increased postal charges.