

NEWSLETTER OF THE MIRACLE ASSOCIATION

## DOES YOUR BOAT MEASURE?

- \*Peter Skilton looks carefully at a number of issues that concern us all.
- \*A look at some of the more important rule changes.
- \*A complete reprint of **GUIDE TO MEASURERS.**

The NORTH LINCOLNSHIRE SAILING CLUB team who mounted this year's dinghy exhibition display for the MIRACLE ASSOCIATION would like to thank all those who helped them on the stand. Certainly it was a very busy time for Richard, Peter, Eileen and Phil who had suffered two burst tyers on their way to London. Such disasters were to prove of minor importance when it was discovered that the slides for which a complex computer automatic display system had been 'lost'. Luckily Graeme Castle came to the rescue with a pack of his own excellent slides and all went well until the projector burnt out a few minutes later! Luckily Richard was able to programme the computer to show something of interest but it wasn't quite what was intended.

The eight hour journey home was without mishap - except we managed to burst another tyer. It must be said that on reflection it was all very worth while. Spending a whole weekend talking dinghies, and particularly Miracles was great and we all enjoyed it immensely. We feel that we have learnt a lot about 'exhibiting' and would take it differently if we ever decided to do it again. P.J.T.

## A quiet moment at Pickett's Lock







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## FROM THE CHAIRMAN'S PEN

It seems a long time since I wrote my notes for the 'HALO'. Previous notes appeared in the 'HALO' as long ago as the December issue and a lot has happened since that time.

During March we had the tragic death of our representative from Draycote Water Sailing Club, Ian Barnett. Ian, although he had only recently been elected to our committee was beginning to make his mark. His untimely death is not only a great loss to his family but also to the Association. In memory of Ian a donation was made to the Leukaemia Research Fund on behalf of us all.

I attended the London Dinghy Exhibition held at Pickett's Lock. The Association was represented on the MIRACLE stand by Philip Twining, Peter Skilton, Eileen Waite and Richard Twining, all members of the North Lincolnshire Sailing Club, and visited by John Wilson on the Saturday and myself on the Sunday. It was very well presented and a lot of interest has been shown in the class.

It was during this week that I received the resignation of Bob Fitzpatrick our measurement secretary. Bob, who runs his own business, was having difficulty fulfilling his post and therefore resigned reluctantly. I accepted his resignation and thanked him for all the work he had done for the Association. To fill the gap I have co-opted on Pearson of the Mid Warwickshire Club to act as measurement secretary. The measurement Secretary has a thankless job but we on the Committee will give Tom our wholehearted support in our efforts to update our rules of measurement. You the Members can also help by informing Tom if you are a measurer so that he can then complete an up to date list. Tom's address is:

14, Lewis Road,  
Radford Semele,  
Leamington Spa,  
Warwickshire.

Only those who register by July will be entered on the list so please write now.

Had an enjoyable evening at my own club's annual dinner dance - I even won a bottle of Scotch. As the weather was improving about this time in March, I decided to restart my sailing activities, with dire results. Poor old Polly, and I say that with great reverence, sprang a nasty leak. I contacted Dr Smith at Bell woodworking and took her over for her medical. It appears that the floor area took a bit of hammering at Eastbourne, and allowed the water to seep in and the very bad winter did the rest. Thanks to Bells Polly looks like new after they had replaced the rear panel.

Thinking I was ready to attack the various open meetings, this was not to be, I did myself a nasty and was excused boots for four weeks, so your better helms can rest easily for the next few weeks.

May the 1st. saw most of our Committee again visiting Ullswater Sailing Club to finalise the Nationals to be held in July. Nationals mean Annual General Meetings, and A.G.M.s mean proposals and changes in the measurement rules. Please see that all proposals are in the hands of our Secretary no later than five weeks, Rule 7g. before the A.G.M. The A.G.M. will be held on July 29th. Cups and Trophies must also be either returned to the secretary or Dennis Southwell, Race Secretary. If you have won a cup or Trophy and you are not coming to the Nationals please, please return it. We hate the embarrassment of not being able to present the cup or trophy to the

winner, and remember somebody brought it back to enable you to be presented with it.

May 9th. I drove my apprentices to Monmouth to take part in the annual raft race. We managed a second and a third.

May 16th. off again this time to the Puddleduck at Hoveringham Sailing Club. What a well - organised club this is, Commodore Rod Little with the help of Peter Ward and Peter S. who incidentally are all Miracle sailors gave all of us a tremendous weekend. I am almost convinced that Rod Little ordered the superb sailing weather direct from the great Miracle sailor in the sky. Very keen racing the overall result in doubt until the last race, which saw Graeme Castle win from David Southwell with Harry Yule-Smith third.

All together a magnificent weekend with a usurper in the shape of J.Lumbie taking over my honoured position, but do not worry members my crew assures me it wont happen again. I like the rest of the committee members present look forward to Hoveringham Sailing Club hosting another meeting for us next year. Singer Bob Measures says he will learn Cussie Butterfield especially for me. Well done Hoveringham.

Hoping to get around and see a few more of our fleets during the season.

Good sailing.

JIM PERKINS

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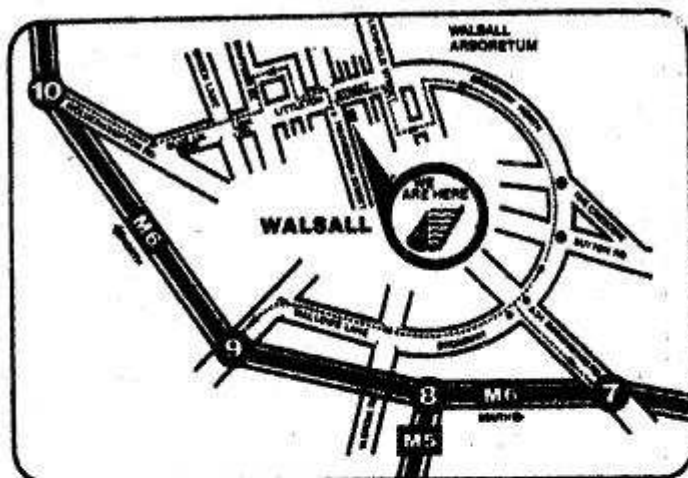
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N.B. Oct., Nov., Dec., Jan., Feb., Late Night  
until 7.00 p.m.

**REMEMBER: IF YOUR RIG IS NOT BECOMING TO YOU  
YOU SHOULD BE COMING TO US.**



# IAN BARNETT

It is with very deep regret that I have to inform you of the death of Ian Barnett, Miracle 949, and Miracle 3282, at the age of 33, on Sunday 28th. February 1982.

Ian joined Draycote Water Sailing Club two years ago, when he and his family moved back to Coventry after spending some years in Torquay.

He immediately became a very active member of the fleet, and served on the Fleet Committee where both his, and his wife Maralyn's organising abilities were put to good use for the social functions we held. He was nominated 'Most Improved Sailor' in last year's prize giving, and had just completed building his new boat.

Ian was elected onto the Miracle Association Committee at last year's A.G.M., and I am sure that his services will be as much missed there as in his own club.

The funeral took place on Thursday, March 4th, 1982 and both Miracle sailors and Draycote Water Sailing Club were well represented.

I am sure that Ian will be missed by all who knew, and sailed with him, both at Draycote and at Eastbourne last year.

Our sympathy is extended to Maralyn and his two lads, Andrew and Christopher.

F.W.Haywood. 21st.March 1982.

Dear Mr.Perkins,

I would like to thank the Miracle Association for their message of sympathy, and donation to the Leukaemia Research Fund in memory of Ian, the total amount donated reached £300 which I have now sent to London.

I intend continuing with my boys our membership at the Draycote Water Sailing Club, unfortunately the children are too young to sail Ian's new Miracle, from which he got so much pleasure in building, and launched just two weeks before he went into hospital.

Both boys are very keen on sailing, Christopher has completed his Optimist training course and loves to sail. Andrew will start his course after Easter. One day I hope they will have their own Miracles.

I shall continue my Association with Draycote Miracle Fleet, which gave us all so much pleasure.

Yours sincerely,

Maralyn Barnett.

# 1982 TOP DOG

Held at Walton - on - Thames Sailing Club.

Despite the appalling sailing conditions - virtually no wind at all - the competitors sailed four extremely professional races and most went away feeling that they had at least been in a competition rather than a lottery. I think that the consistency of the results bear this out.

We look forward to your class champion being with us again next year hopefully with a little more wind.

John Caig Vice - Commodore.

OT - out of time.

David Iszett	Int.Moth	1	1	2	6	3½
Andrew Carpenter	Solo	4	2	3	4	9
Mike Wigmore	Lark	3	3	OT	3	9
Ian Fryatt	Topper	11	10	1	1	11½
Alastair McMichael	OK	6	7	5	5	16
Mark Rushall	Firefly	13	8	6	2	16
IAN PINNELL	MIRACLE	2	17	9	9	20
David Phillips	Heron	OT	5	8	7	20
Tom Cooper	Brit.Moth	8	6	7	15	21
Andrew Robinson	Cadet	OT	9	4	8	21
Mark Upton Brown	420	OT	4	10	12	26
Peter Fountain	Optimist	5	13	11	11	27
Richard Estaugh	GP14	7	10	OT	10	29
Mike Holmes	(81 winner)	9	4	OT	16	39
Neil Freeman	Laser	12	18	OT	14	44
Stewart Taylor	Leader	OT	15	12	17	44
Stewart Robinson	Enterprise	14	11	OT	20	45
Jonathan Townsend	Wayfarer	OT	16	OT	13	49
Peter Mathews	Phantom	10	D	D	D	58

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## REDDITCH MIRACLE OPEN

15 Miracles enjoyed a good day's sailing at Redditch on April 17th. in a light North-Easterly. David and Ian Southwell of Leigh SC led the fleet to the first mark increasing their lead to take the gun. With positions changing, Peter and Alison White finished second; John Wilson and Karen Beston worked hard to pull through from seventh to finish third.

The second race found Wilson rounding the first mark in front increasing his lead to finish unchallenged. Southwell's jib halyard parted during the first beat forcing his retirement. Dennis Crowe and Andy Beston narrowly beat Clive Haywood to second place after some close sailing.

A course change gave a port bias start for the third and final race. Fortunately, everyone started cleanly with Wilson leading from start to finish, to become the overall winner. Dick Clarkson at last put things together with his new boat sailing through from 10th to finish fourth.

### Overall results:

1st. John Wilson and Karen Beston (Redditch), 2nd. David Southwell and Ian Southwell (Leigh), 3rd. Dennis Crowe and Andy Beston (Redditch), 4th. Peter and Alison White (Redditch).

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## Storror & Bax Sailmakers believe it proves a point or two

HELM- IAN PINNELL  
CREW- BRUCE NICHOLSON

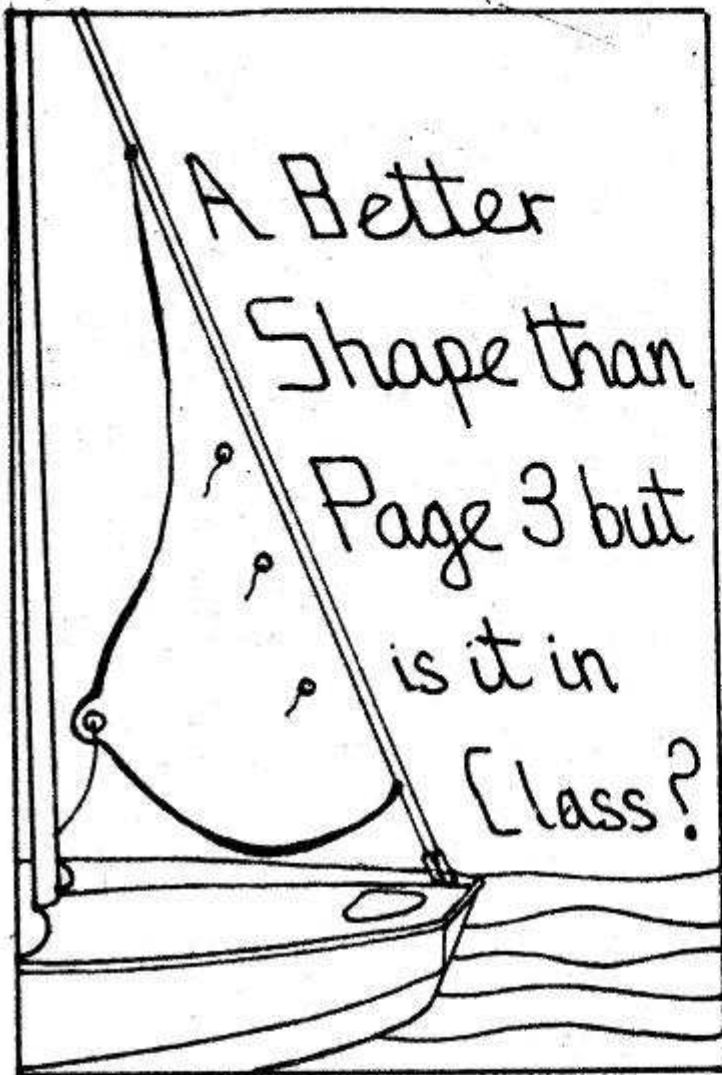
MIRACLE 3107

race - 1 2 3 4 5 8  
position - 1 1 2 1 1 2

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The Miracle is a 'one design' dinghy, some would say a 'strict one design' class. The essential spirit and concept of a one design class is to maintain a class wherein all boats are as nearly as possible identical. For this purpose we have rules of measurement and construction defining critical dimensions, permitted fittings, methods and materials used in construction, etc. It is not practicable to specify all the measurements, materials and methods neither can even those specified be exactly reproduced in every dinghy. This latter problem is resolved in part by the application of tolerances and the former by invoking 'the spirit of the class' when anomalies or variations arise. The underlying intention is to keep all boats nominally the same may be applied to rule a boat 'out of class' if it has any visual or material characteristics not specifically permitted by the rules. Put at its crudest, "if it doesn't say you can then you can't" is or should be the guiding principle.

The Miracle class in common with other one design boats has constituted procedures for changing the rules of measurement which enable improvements and enhancements of the design to be introduced. However it is debateable whether these procedures operate satisfactorily for the benefit of the boat or the majority of members. In practice changes are proposed, debated and voted at the A.G.M. which is traditionally held at the National Championships. The members attending the Championships frequently have been unable to give the changes proposed any prior consideration and in any case they may not be representative of the Association as a whole. Also the pressures of racing and accommodating the other business of the A.G.M. is not conducive to good judgement. Good ideas may be lost for want of a skilled advocate and bad ideas may be adopted to hasten the conclusion of the meeting. I for one would welcome a review of our procedures with definite stages as follows:

- (1) Proposal to the Measurement Secretary.
- (2) Consideration by a measurement sub-committee who will consult and advise on redrafting the proposal as necessary.
- (3) Publish the final draft of the proposal in 'HALO' together with supporting argument and a statement of the measurement committee's position for or against the proposal.
- (4) Ballot - either in regional meetings or alternatively and perhaps more conveniently by post, on voting slips printed with the proposal in 'HALO'.
- (5) Submission to the copyright holders for ratification of proposals which receive the necessary margin of votes in favour.

The last step is one of the features which puts the Miracle Class in a different position to most other classes in matters of measurement. The Daily Mirror Group, market and promote the Miracle and have a vested interest, commercially, in ensuring that the dinghy appeals to the widest possible spectrum of dinghy sailors. A low cost ubiquitous dinghy should generate a strong active class association membership. The reason why we only succeed in attracting approximately 10% of Miracle owners into the Association is a sobering comment on our enthusiasm for the one design principle. Presumably the vast majority of Miracle owners do not care much for it and mutations and no doubt



unauthorised developments are rife beyond our pale. It would be understandable if the interests of the copyright holders inclined to wishes and opinions of this larger group of owners on the grounds that they are more representative of potential Miracle owners than are Association members.

When the introduction of the spinnaker was a controversial change in our measurement rules non-members were also canvassed for their opinion by the Mirror Group! There is an area for potential conflict which would be harmful to the class interest if ever a situation should arise if a change in measurement rules proposed by the Association is vetoed by the copyright holders or alternatively if a design change introduced by the copyright holders is unacceptable to The Association.

Any changes introduced under our procedures are normally advocated on the grounds that a 'better' Miracle results from adopting the proposals. 'Better' is usually defined as either cheaper, stronger, safer, faster, more durable, better looking, easier to handle etc. Most members have at least one idea which would vastly improve his or her satisfaction with the boat which is not yet permitted by the rules. For example:

Adjustable fairleads,  
ratchet blocks,  
modified rudder shapes,  
laminated centreboard case capping,  
carbon fibre centreboards,  
spreaders,  
a trapeze,  
barber haulers,  
epoxy impregnation,  
etc., etc.

Is our current procedural machinery up to legislating for or against these potential ideas to the general benefit of the boat and all concerned with it both now and in the future?

Some owner introduce ideas, not specifically allowed, without reference to the proper procedures and risk being ruled out of class. Such cases are usually followed up by objections and create problems for those charged with forming or interpreting the rules. So please, if you are keen to innovate you should formally propose the changes you intend to make to the Association before you proceed to build and race in Association events.

Well with all this effort do we succeed in making all Miracles identical? Certainly in terms of the boat's general appearance the answer is clearly 'yes' but where it matters, from a racing point of view, I doubt it very much. Racing Competition stimulates research into techniques of making the boat sail faster in given conditions. Sail shape

and hull shape are principle targets for this industry. Hull measurements although constrained have tolerances with room for exploitation by skilled builders. The aerodynamic shape of the sails, their cut and material quality, is not even touched upon in the rules and without doubt this is the engine room of the boat. Many helms discard their kit sails and commission specialist sails for use in class racing. The kit itself can be assembled, I am told, in ways which exploit the tolerances to the benefit of the boat's performance.

Alternative resins, alternative or different components may be used with similar objectives. The 'Mirror' dinghy class have recently published an authoritative article in their class newsletter on this sort of problem which argues that these practices are against 'the spirit of the class' i.e. seeking to make the boat different. Indeed they are, but are they out of class? Some would argue clearly not since the tolerances define what is 'in' and what is 'out'. I would add that if what has been achieved within these tolerances is beneficial we should applaud it and make the knowledge generally available. If the results are undesirable then we must not be afraid to change the rules subject of course to the approval of the copyright holders. If rule changes are made, it is desirable that they do not affect the status of existing class certificated boats. Also, where any change offers a potential improvement in competitiveness we must ensure that it may be retrofitted to existing boats, preferably without any cost differential as compared with a new boat, so that they are not at a disadvantage when racing.

This newsletter should be a forum for disseminating information on any experimental out of class modification which are being tested or evaluated by members on their boats. The experiments of today may become the rules of tomorrow. Of course if these experiments are designed to give your boat an unfair advantage over other boats against which you may be racing, well ...! If we face up to the truth we will be forced to admit the hypocrisy of scrutineering boats at Association events and perhaps insisting that a boat with black plastic insulation tape defining black bands on his spars strips them off and repaint them in black enamel paint whilst totally ignoring another boat's specialist cut, deck sweeping jib made from a plasticised woven polyester.

There are some points for you to consider viz a viz our 'one design principle'. Most of these dubious features are taken from



observation of certificated racing boats

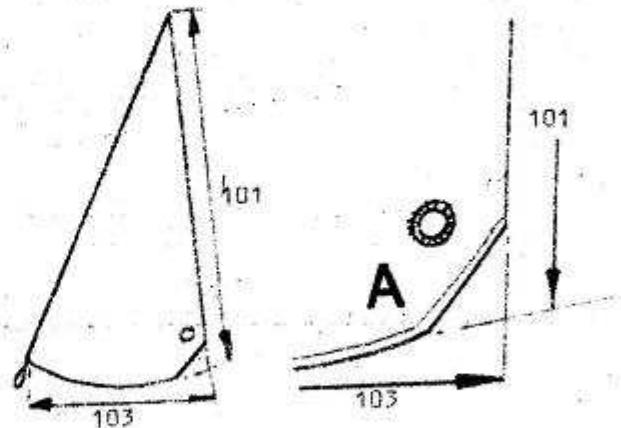
- \*Centreboard pivot bolts made from thin gauge stainless steel tube screwed at the ends on its outer diameter.
- \*Raking of the rudder blade forward of the pintle axis.
- \*Centreboard slots assembled to minimum tolerance.
- \*Centreboard built to maximum thickness.
- \*Masts stepped so that the mast gate cannot be closed without significant kicker tension.
- \*Razor edges on stem and chine seams.
- \*Transom holes without flaps.
- \*Spinnaker bags.
- \*Reverse image of Miracle insignia on one side of the mainsail to fit back to back with the insignia on the other side.
- \*Hollow stern post and transom beam.

Is this sort of thing acceptable under general description of 'boat tuning' or out of class infringements of the one design principle?

I used to make the claim I was the last of the 'kit sail' competitors. My source of replacement sails being discounted suits discarded by new boats. I am now on my third such suit and in passing, I can say my experience is that the quality of these kit sails has declined! For the coming season, however I have bought a new suit of specialist sails and another excuse for not winning bites the dust and I join the ranks of those using a 'shape' not specifically permitted by the rules. You can see a good photograph of my choice on page 5 of 'HALO' number 22 (September 1982) bearing the sail number M3107. When I put my tape over them I found a certain vagueness about the leach measurement (no. 101) which this jib possesses. Our rules say measurement 101, 'Foresail leach from head to clew as defined, must be greater than 3215mm' and by way of definition a small sketch is supplied and the guide to measurers states, "101 (and 103) are taken to the edge of the sail material or extension thereof at the corner of the sail". I didn't think that this helped at all in this particular case. At what point are the extension lines to be drawn tangential to the edge of the sail? Not much problem with the extension of the leach but two of the many possible tangent points on the foot give me leach measurements which in one case is in tolerance and in the other out of tolerance. The problem was referred to the committee and a ruling made after consultation with the copyright holders. I quote from the committee correspondence:

"The Committee's view is that the sail plan composed of two straight and a curve must fall within the maximum measurement dimensions and that an attempt to increase the area by using an 'odd' shaped foot is not

acceptable. If however the corner is cut off within this sail plan then that is satisfactory and in line with the definition of the clew measurement point given on page 19 of the Guide to Measurers" ... 'The measurement position should be taken as the intersection of the tangent to the curve of the foot at the point of cutback (A) and the projection of the leech edge' ...



Yes you guessed 'out of class' and I must now arrange for the jib to be set back and recut. What is particularly interesting is why the sail was designed this way in the first place. As I understand it, a deck-sweeping foot, again I quote, this time from advertising copy, "...answers most of the problems of the old jib." (for "old" read "kit"). However the Miracle Class has a fixed fairlead position and the 'dogleg' foot is a further device raising the clew cringle to enable the leech tension to be modified. Earlier deck sweepers seem to quickly form a crease across from clew to tack due to over tensioning in the foot. The 'dogleg' design promises to alleviate this problem somewhat. Also on my particular suit the clew corner is substantially reinforced to spread the jib tension evenly, and further minimise this creasing problem.

How long will it be before someone puts a short batten in the dogleg corner to do this job properly? Unless of course a proposal for adjustable fairleads is adopted and the entire issue becomes passe!

In the matter of rule definition I believe we can learn a lot from other classes and as a point of reference on this one issue alone here are the relevant foresail definitions from the Mirror and Enterprise classes:

Mirror

"When the shape of the sail is not a simple triangle or where the head and/or the tack are for example rounded, then the point of measurement at the head should be the point where the extension off the luff meets the

extension of the leech and the point of measurement at the tack should be the point where the extension of the luff meets the extension of the foot.

The length of the leech shall be the distance in a straight line from the highest point of the sail at the head (as previously defined) to the lowest point of the sail directly under the centre of the clew cringle.

The length of the foot shall be the distance in a straight line from the tack corner, I.E. i.e. the lowest point of the sail on the luff adjacent to the tack cringle (as previously defined) to the aftermost point of the sail directly aft of the centre of the clew cringle."

Enterprise:

"The measurement shall be taken to the outside edges of the sail and shall not include cringles which are wholly outside the sail.

"The length of the luff ... shall be measured between the lowest part of the sail at the tack and the highest part of the sail at the head."

"The length of the leech ... shall be measured between the lowest part of the sail directly below the clew cringle and the highest point of the sail at the head."

"The length of the foot ... shall be measured between the lowest part of the sail on the luff rope and the outer edge of the sail directly aft of the centre of the clew cringle."

"Batterns are prohibited."

These classes both define the point of measurement with respect to the clew cringle, although the foots seem to have an ambiguous measurement when the cringle is not within the sail! Note that they also prohibit batterns. The option for Miracles to define the leech in a similar way to the Mirrors is somewhat problematical as earlier deck-sweeping designs so exploited the maximum tolerance at the extended clew corner of the sail that if the measurement were to be taken through the centreline of the clew cringle on these sails it would exceed the permitted maximum dimensions. It would be somewhat ironic that having gone through the trouble of getting my job recut under the recent ruling if a proposal should be forthcoming which would allow the unmodified shape.

I think at the forthcoming National Championships, and possibly area organisers should consider it also, we should have a prize for the first standard boat without any 'go faster tweaking' whatsoever. Kit sails, hook up racks, nailed decks- the lot.



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I don't care if you have brought your & favourite records the sailing instructions said "round the island and straight back to the clubhouse"

**What do you think?**

10

**Peter Skilton M1998 Silver Ladv**



# NATIONAL MIRACLE PUDDLEDUCK CHAMPIONSHIPS-HOVERINGHAM S.C.

We were honoured to be the hosts to the 1982 NATIONAL PUDDLEDUCK CHAMPIONSHIPS at HOVERINGHAM SAILING CLUB in Girton Lagoon near Newark, Nottinghamshire, over the weekend of 15th and 16th May, and were blessed with ideal weather.

The programme called for 1 practice race and 1 points race on Saturday followed by 3 more points races on the Sunday with the best 3 to count.

The first race started in force 2 increasing to 3 during the latter stages. From the gun Peter Skilton (1998) and Rod Little (2048) the host club's commodore took the starboard side of the beat and were first and second round the windward mark with David Southwell (2713) in close pursuit but by the end of the first lap Southwell had taken over the lead. It then became a 'three horse' race for 3 laps but Harry Yule Smith (3402) last year's winner of the practice race, who had been over the line at the start fought his way back to take 3rd place of Little just before the finish.

The Saturday evening saw an excellent Beef Bar-B-Que at a very reasonable cost for all the campers and caravanners which 150 people attended and this was followed by a Disco in the 'old' club house for the young and not so young kindly put on by the scouts and some excellent 'home bred' talent in the new club house for the more mature types who I am sure appreciated the more sedate action taking place. After a good sail, good food and good fun everyone (well nearly) said good night and brought the day to a fitting end.

Sunday dawned with a thick mist, not a breath of wind and a few thick heads but with a well-judged 30 minute postponement by the Race Officer, P.Ward, the mist cleared, the wind filled in to the force 4 and extra coffee helped with the heads.

The second race got off with, by now, 21 boats on the line and it was Southwell who got away first and held it throughout the first lap with G.Castle (2922) who had arrived late on the Saturday evening 2nd and Paul Taylor (3270) in third place but this was a race of changing fortunes. By the second lap Castle had taken over the lead, Yule Smith had clawed his way back to second followed by Southwell and Taylor. On the last lap Yule Smith managed to force his way through to take the gun from Castle and Southwell.

The third race once again over three laps of the same course started with the wind still holding a 4 and this time it was Castle, Southwell, Yule Smith and Taylor in that order throughout the race which at least made the last race all important with three possible winners of the championship.

With the last race extended to four laps the wind eased and swung at the ten minute gun but the starting officials held their nerve and before the start it had filled in again and gave round to make a good first beat. From the gun Castle who was in no mood to hang around went clear ahead with Southwell following close behind but Yule Smith the third contender got tangled up and did so many turns he got quite dizzy but was still third at the end of the lap.

Throughout the race Castle sailed immaculately to continually increase his lead over Southwell and finished well ahead with Yule Smith third. Skilton who had sailed consistently over the weekend finished fourth.

A good crowd assembled for the prizegiving and the Commodore, Rod Little, invited Jim Perkins the Chairman of the Association to present them. All competing helms and crews were given a Hoveringham sailing Club glass, prizes were given to 7 places with special prizes for the practice race and the first non-spinnaker boat.

All the visitors commented on an excellent weekend and may I say that we thoroughly enjoyed entertaining you all. Hoping to see you all soon. Jonnathan Ward. F/Captain. ||





## WORTHING S.C.

### new fleet captain

May I firstly thank John Wilson for his kind mention of the Miracle Fleet at Worthing Yacht Club in the 1981 Membership report. The success of this class at Worthing is due to many factors, they include the inherently stable design of the craft, the introduction of the spinnaker and the personalities who sailed Miracles over recent years.

Prospects for the class in 1982 look good so far, the numbers are likely to be similar to those of 1981. This year however Richard Smale has been kind enough to accept responsibility of class captain within our club and also Fleet Captain for purposes of the Miracle Association.

ROBIN MUGRIDGE MM2963 'Jiberish'  
7, Idenhurst, Hurstpierpoint, Hassocks.

## New Boats

Having made an earlier Miracle from a kit I have been extremely disappointed to find how much the quality of the plywood supplied in the Standard Kit, now available, has deteriorated.

It would seem that there must be other owner/builders like myself who feel the same. Accordingly, changes from Standard are now permitted, to use special panels on the decks. It seems illogical that the use of special veneers, which in no way can improve boat speed, is limited to deck panels only. I am about to build another Miracle in which I am considering the use of Sapele veneered panels for decks, seat tops, side tank panels and transom. Under present rules the last two, which can affect the speed of the boat no more than the use of special deck veneers, would appear to infringe the rules.

I will be putting a proposal to the A.C.M. to permit the use of a alternative plywood species for side tank panels and transom and wonder whether any other members would support this proposal.

P.H. Gibbs MM541  
49, Fieldon Close, Shirley, Solihull.

## More for the cruising man. Is that the answer?

I was rather disappointed in the March issue of 'HALO' of the decline in the membership of the Association. Although I agree that the recession must take some of the blame - may I suggest that other factors could possibly influence the decline. As I understand it until 1979 all Miracle owners were sent a newsletter automatically. After January 1979 the newsletter was sent out to Association members only - which could account for the upsurge in membership in 1978 and 1979. Since 1979 membership has gradually declined - a trend which seems likely to continue this year according to your figures. Generally dinghy owners can be split into two groups. The out and out racing fanatics and those who enjoy sailing generally, but for one reason or another have not been bitten by the racing 'bug'. The newsletters over the period since 1979 has catered well for the race fanatics but the second group I have mentioned seem to have been left out in the cold. I would suggest that it is this group where the Association is missing out. Just think there are some 2,500 Miracle owners who are not members of the Association. I am not suggesting that all those could be recruited, but if the newsletter catered more for the owners who just enjoy 'messing about in his Miracle' I'm sure membership would increase. I would imagine that the majority of the 2,500 'missing' members have their boats for their families to enjoy on holidays, weekends etc. and a newsletter full of race news is not of much interest to them. After all the Miracle is marketed as a dual purpose boat - ideal for a family; with performance for those who want to race. Could I suggest some enquiries be made amongst other class associations of other dual purpose boats (e.g. Mirror, Wayfarer etc.) to find out what their membership in relation to the number of boats in the class is? I hope you keen racing members of the Association don't take offence! I would like to see an upward trend in membership - a strong Association must be good for the class.

Having expressed my point of view I must add that I find your newsletter interesting and always look forward to the next issue. I would also like to thank those who work so hard to keep the Association going.

DAVID A. WATSON 10, Belmont, Holton Le Clay,  
Grimsby, South Humberside. MM2751 (Covenham).

# QUOTATIONS FROM PAST "HALOS"

## 1. JIB FAIRLEAD POSITIONS

Ruled that the jib fairleads must be in a fixed position by screwing down through the deck into the fairlead pads (part No. 31 in Building Instructions).

## 2. KICKING STRAP

Ruled that a strap may be attached through the kicking strap eye on the boom.

## 3. BOW TRANSOM

A hardwood strip may be fitted to the bow transom to protect the foredeck.

(Above quoted from 'HALO' number 1. issued October 1975)

## 4. RUDDER GUDGEON AND PINTLE

The materials to be used for rudder gudgeons and pintles is optional.

## 5. THE BOOM

Authorised fittings may only be attached to the boom in such a manner as to ensure that they cannot foul the

rigging of another boat.

## 6. SHROUDS AND STAYS

One pair of shrouds and one forestay to be of multistrand wire of 2.4 m.m. minimum diameter.

## 7. MAINSHEETING

3 : 1 Ratio transom mainsheet with free running sheeves.

## 8. TACK DOWNHALL

Adjustable tack downhaul for mainsail with all controls controls attached externally to boom, mast and sail only,

using existing tack cringle.

## 9. HOOK UP RACKS

A single row hook up rack may be fitted to the mast for attaching main and jib halyards. This is to be in addition

to standard cleats.

## 10. CENTREBOARD CONTROL

The standard rope handle for the centreboard may be replaced by a pair of stops bolted together through the existing hole

in the handle. No dimension of each stop may exceed 40mm.

11.

A length of shockcord with or without rope tail may be attached to the handle of the centreboard and lead aft

to a jamming device to hold the centreboard in a 'down' position.

## 12. TOE STRAPS

A single hole of not more than 10mm may be drilled through the spine forward of the centreboard case for the purpose

of attaching the forward ends of the toe straps and/or for securing the centreboard in the raised position. Alternatively, a single fitting may be used.

## 13. ANCHOR AND TOWING LINE

A maximum of four open fairleads, one sampson post and one eye plate may be fitted on the decking for the purpose of

leading and securing an anchor and towing warp in such a way that no fitting extends forward of the bow or outside the sheerline.

(Above quoted from 'HALO' number 4. issued November 1976)

## 14. WOODEN KNEES

Two wooden knees may be bonded and screwed to the bottom and chine panels and to the forward end of the centreboard

case; one to be fixed to each side, for the purpose of preventing excessive flexing of the centreboard case. The actual dimensions to be advised by the committee.

## 15. CENTREBOARD & RUDDER

The leading and bottom edge of the centreboard or rudder may be protected by a strip of optional material not

exceeding 10mm in cross section and that this must be done in such a way so as not to alter the overall dimensions of the centreboard and rudder.

## 16. TRANSOM REINFORCEMENT

That two strengthening blocks of triangular shape be fitted between the top inside edge of the transom and each side

deck, the length of the shorter two sides of the blocks to be a maximum length of 160 mm. and 25mm thick.

## 17. MAST BUOYANCY

In the interest of increased safety in reducing the tendency for the Miracle to turn turtle on capsizing

it is proposed that internal buoyancy material be fitted inside the mast.

## 18. FOR STRENGTHENING STOWAGE BULKHEAD

A maximum of four wooden support blocks be allowed forward side of the stowage bulkhead. These blocks to be fitted and not to be larger than one inch square and four inches

long.



19. MAST STEP One or two wood blocks may be screwed and/or bonded to the top of the central spine adjacent to the mast foot in order to limit movement of the mast at this point.

(Above quoted from 'HALO' number 7 issued October 1977)

20. HOOK UP RACKS Two single row hook up racks may be fitted to the mast for attaching main and jib halyards. This is to be in addition to the standard cleats.

21. SHROUD AND FORESTAY ADJUSTERS Pin rack type only.

22. COSMETIC ADDITIONS Standard foredeck, sidedeck and seat tops may be replaced with 5mm plywood of different species.

23. DECORATION OF HULL TO ME (i) a solid wood fillet between foredeck panels 16mm wide maximum and to maximum thickness of the deck ply and be limited to: fitted so as not to stand proud of the foredeck.  
(ii) a solid wood lamination of maximum thickness 6mm and up to the full depth of the bead may be inserted between the gunwale and rubbing bead. (parts number 3 (c) and 35 respectively).  
(iii) the thwart may be laminated along its major

dimensions.

24. MAIN HALYARD That a fitting such as Holt Reference: H.A.14 may be used to prevent the main halyard jamming in the track.

25. CORRECTORS That when weight correctors are required to be fitted to any Miracle a letter X must be permanently cut into the inside of the aft transom adjacent to the boat number and of similar dimension to the boat number.

(Above quoted from 'HALO' number 10 issued June 1978.)

26. JIB HANKS That the jib hanks as now fitted to the jib become an optional fitting.

27. CENTREBOARD Packing of space between the centreboard and centrecase sides is allowed by means of a piece or pieces of any flat material of uniform thickness applied to the centreboard in such a manner that it (they) shall not protrude below the keel with the centreboard in any position, nor shall the packing pieces be less than 3" radius measured from the centre of the pivot pin.

28. RUDDER Packing of space between the rudder and stock cheeks is allowed by means of a piece or pieces of any flat material of such dimensions that do not extend beyond the designed contour of the stock. (Above quoted from 'HALO' number 14 issued September 1979).

29. MAST AND BOOM The mast and boom sections shall be constant over their main lengths. The mast shall have grooved track for the mainsail luff. The mast shall have two contrasting bands not less than 10 mm wide painted on it as per measurement form. The mainsail shall not extend above the lower edge of the top black band. The mainsail tack shall not extend below the top edge of the lower band.

30. WEIGHT OF MAST The maximum weight of the mast shall be 7 kg.

31. JIB TENSION Two single hook up racks may be fitted to the mast for attaching the main and jib halyards. These to be in addition to the standard cleats. Alternatively the jib may be tensioned by a hyfield lever.

32. JIB The red tape may be omitted from the leach of the foresail.

33. The foresail may be fitted with one transparent panel which shall not exceed a rectangle 60 mm x 250 mm nor less than 100 mm from any edge of the sail.

(Above quoted from 'HALO' number 19 issued December 1980)

34. SPINNAKER (i) The length of the luffs shall not exceed 3650 mm.  
(ii) The length of the centre fold measured along the curve shall not exceed 3935 mm.  
(iii) The half width of the foot shall not exceed 1250 mm.  
(iv) The half height cross measurement shall not exceed be greater than 1230 mm nor less than 1140 mm. To find to find the position, fold the peak to the clew and measure across the fold.  
(v) The length from the clew to the half height centre seam shall not exceed 2150 mm.

35. SPINNAKER CONTROLS AND FITTINGS

(i) Distance from centre of shroud and forestay tang eyes and top of sheave on block. Maximum 250 mm.  
(ii) Apart from halyard no spinnaker controls may pass

within the mast.

- (iii) No spinnaker controls may pass within the boom.
- (iv) All fittings must be fitted in such a way as not to extend beyond the deck plywood and where it joins the outer gunwales.
- (v) No part of the spars or hull may be cut away for fittings or controls with the exception of:
  - (1) for the halyard in the mast.
  - (2) for the spinnaker chute in hull.
- (vi) Not more than one spinnaker pole may be used. Maximum length of pole 1525 mm.
- (vii) No ratchet blocks are allowed.

(Above quoted from 'HALO' number 21 issued June 1981).

**36. DECKS**

Decks must be securely fixed by gluing, additional pinning is optional.

**37. CENTREBOARD AND RUDDER**

Laminated boards are allowed.

**38. (above quoted from 'HALO' 22 September 1982)**

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Well, those are all that I can find. I am short of a couple of the earlier 'HALO's so I may have missed one or two items. We now have a new MEASUREMENT SECRETARY who I know will be only too pleased to sort out QUICKLY any problems related to measurement. Please telephone GR, BETTER STILL SEND A STAMPED ADDRESSED ENVELOPE to :

Tom Pearson (Measurement Secretary ,  
14, Lewis Road,  
Radford Semele,  
Leamington Spa.  
Warwickshire.

Phil Twining.

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# THE 1982 MIRACLE NATIONAL CHAMPIONSHIPS

26, New Row,  
Mosley Common,  
Worsley,  
Manchester.  
M20 4BE

26 March 1982

Dear Phil,

**Entries for the Nationals  
have been coming in  
steadily since Christmas  
now numbering  
OVER 40 ENTRIES.**

As there will be a maximum of 80 boats, people intending to enter should do so without delay. A few camping pitches are available at the moment, but these are rapidly being booked up.

Advanced bookings for Eastbourne last year did not get into double figures. Ulswater, therefore, seems to be a popular choice. Let's hope we have the weather we had at Eastbourne. The Committee has managed to arrange everything else, but the weather I'm afraid will be left to a higher authority.

On a personal note Phil, I noticed in the last edition of 'HALO' your advertisement for someone to replace you as Editor. Please think again Phil. You are doing a fine job, producing a superb magazine. Please continue as Editor as your expertise would be sorely missed.

Yours sincerely,

IVOR WILLIAMS (MN 2186)



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## TRIBUTE TO HOVERINGHAM S.C.

Dear Sir,

Doubtless there will be 'Official' reports from participants about races and results, but as a spectator at the PUDDLEDUCK CHAMPIONSHIPS I would like to thank HOVERINGHAM SAILING CLUB for a very pleasant weekend. It must have been obvious to everyone that a good deal of organisation and extremely hard work had gone into the planning to make the meeting such a success.

Saturday evening's entertainments were much appreciated - musical as well as sailing talent abounds at Hoveringham! The catering was excellent - comments about the beautiful beef were to be heard everywhere and the most substantial breakfast was certainly enjoyed by the campers. Your lady helpers were seemingly tireless, did any of them get any sleep on Saturday night?

Did you have a special arrangement with the weather man?  
Even that was pretty good.  
Many thanks.

**A very impressed  
visitor.**



**VELAS**  
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HERTS EN8 9SD U.K.  
WALTHAM CROSS  
0992 23080

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# FOOD FOR THOUGHT

As the membership are well aware, when the spinnaker was introduced on the Miracle for 1980 a great deal of controversy was caused with some hard words spoken by individuals who argued that not only was more expense being added to a boat marketed on simplicity and low price, but many of them had bought the boat because it did not carry a spinnaker and, as such, was no longer the craft they were particularly interested in sailing. In fact, one club declared U.D.I. and banned spinnakers from their racing series. Unfortunately, for these individuals, when it came to open meetings they were obviously outclassed as the fleet became really expert in spinnaker use.

I'm sure its true that the Association did lose boat owners as a result of this move although we probably gained boat owners who prefer the spinnaker. A move was made at the 1978 Nationals to introduce the genoa as an additional sail and I must admit it surprises me that a relatively cheap additional sail failed to get support whilst the more expensive spinnaker was added to our equipment.

Let me make the point that I am not anti-spinnaker or anti-genoa, but I fully appreciate the points that the anti-spinnaker brigade were making at the time and I find it rather sad that the Association should lose their support as a result of this move, which effectively, put them out of the competition, as it were. Certainly, at the Youth and Junior last year, all the boats were using spinnakers to great effect, and very expert they were to. Does this mean that perhaps the youngsters are all for the spinnaker? Whilst the older members may prefer the genoa. This of course brings me to the point - which is, how about introducing a genoa for any members who would prefer it to the spinnaker.

Obviously a declaration would have to be made before racing any series, opens or championships, on the type of sail to be used with no change allowed during that particular series of racing. It would certainly be a revolutionary step, but so was the joint Nationals with the Graduates at Llandudno and that was very successful. The boat would then become a very attractive proposition for all types of sailor, allowing the non-spinnaker brigade to compete, with less experienced crews, unable to handle spinnakers.

What do you think? Send your views to Halo and lets have a debate on the issue.

It would be very interesting if the proposal was put to the Annual General Meeting - ANY TAKERS.

Dennis Southwell.

ps: I'm sure many of the spinnaker brigade will not like this proposal, but what is good for spinnaker boats is not necessarily good for the Miracle Fleet as a whole.

---oOo---

## DO YOU WANT YOUR CLUB TO BE PUT ON THE MAP ?

The best form of advertising your Miracle Fleet and Sailing Club can have is by staging open meetings.

Does your club have the facilities and expertise to stage an Area Championship?

The Association is now looking for Venues for 1983/4/5.

If you are keen to push the cause of your fleet and club then write to:-

Dennis Southwell  
National Race Secretary  
Rocksavage  
136 Irlam Road  
Flixton  
Manchester  
M31 3NA

Tel: 061 748 4940



# MID WARWICKSHIRE YACHT CLUB

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TOM PEARSON MM 3333

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## THOSE NAMES AGAIN

Reading the December Issue of 'HALO', I noticed in the article about Miracle Names a gap between sail number 173 and 175, so I am writing to fill it in ! We own sail No. 174, and our Miracle is called 'Mirrabel 2'. She is named after my horse, Mirrabel, who at the age of 22 is still an extremely spritely old lady - rather an appropriate name for an elderly Miracle, don't you think ?

Y urs sincerely, ANNABEL BLAKE and CHARLIE WISE. 4, Berwick Court Cottages, Alfriston, Polegate, Sussex. 4ht. March 1982.

P.S. I wrote some weeks ago to the measurement secretary for a copy of the measurement rules, as we want to fit out 'Mirrabel 2' with a spinnaker chute, Highfield lever, etc. but as yet I have not had a reply - should I infact have written to someone else? (This issue of 'HALO' should help ; sorr for the delay).

\*\*\*\*\*

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## Denham Sailing Club

SEPTEMBER 11 TH. 12 HOUR EVENT IN AID OF THE R.N.L.I.  
SEPTEMBER 19 TH. OPEN HANDICAP MEETING.

Further information can be obtained from : The Sailing Secretary, John Arden-White, 5, Scot Grove, Pinner, MIDDX. Telephone Number: 428 7361.

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# THE HALF SOVEREIGN EASTBOURNE S.C.

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## DATCHET WATER SAILING CLUB

### 12 HOUR RACE in aid of R.N.L.I.

### JUNE 12TH.      Start time 0800

The competition is open to all classes of boat which are recognised by the R.Y.A. and who have a Portsmouth Yardstick Rating of 146 and below. Results will be based on average lap time corrected by Portsmouth Yardstick. Prizes will be awarded for the leading boats after 12 hours, 9 hours, 6 hours, and 3 hours in that order with no boat winning more than one prize. Entry Fee: £5 There is no limit to the number of crew used during the day, but no one person shall sail for more than 3 hours without a break.

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## WORTHING YACHT CLUB MIRACLE OPEN

SEPT. 18 & 19 TH. 1981      TIMES OF RACES: Saturday 1330  
Sunday 1100 & 1430

ENTRIES TO: D.G. JONES ESQ., 56, MELROSE AVENUE, WORTHING, SUSEX. W. SX.  
ENQUIRIES TO: RICHARD SMALE, TELEPHONE:- WORTHING 63445;

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The Owner has the continued responsibility of ensuring that the boat stays "in class" after the issue of a Certificate of Measurement. The only way to keep informed properly is to join the Miracle Association and Measurers should encourage owners to join the Class Association which publishes advice, rulings, and revisions, in the newsletter "Halo". Membership is also a requirement for entry to any Class sponsored event.

1.6 Authorised Measurers:  
Measurement of Miracle dinghies may be undertaken only by Measurers approved by or registered with the Class Association. Measurers may not measure their own boats.

1.7 Fees:  
The fee charged for measurement should be the subject of agreement between Measurer and Owner before measurement is commenced. A fair charge is considered to be £7 plus reasonable travelling expenses (at June 1976).

1.8 Equipment:  
Measurers should provide their own equipment which should be carefully maintained and regularly calibrated where necessary. (See Section 10 for details of measuring aids which may be easily made.)  
Basic equipment for measuring includes:-

1. Mir. 5 metre steel tape with metric graduations.
2. Spring balance(s) weighing accurately between 0 to 7 Kgs and 50 to 70 Kgs.
3. Small calipers for measurement of spar diameters and thickness of ply.
4. Large calipers for measurement of hull dimensions (see Section 10).
5. Templates for sheerline, chines, bow, etc. (see Section 10).
6. Squares, straight edge, line, clamps etc to establish "baseline" etc, by whichever method is most convenient. (see Section 10)
7. Waterproof Marker for signing sails.
8. Tool to mark weight correctors.
9. Short length of hose (to air test buoyancy tanks).
10. Forns, pen and black/white chinagraph.
11. Chine gauge (see Section 10).

1.9 Spirit and intention of the Rules:  
Measurers should always maintain vigilance for any particular or general conscious attempt on the part of the Owner to depart from the Rules of Measurement and report such to the Association by noting it on the Measurement Form. Owners who build from kits should be encouraged to work within the spirit and intention of the Rules.

1.10 Time for Measurement:  
An experienced and well equipped Measurer should be able to complete the measurement of Hull, Mast and Spars within approximately 2½ hours with the aid of the owner only.

Item No.	Part	Quantity	Material
31	Forehead Pad	2	4 x 1 1/2" x 8" Countersunk
32	Deck Carlin (Short)	2	4 x 1 1/2" x 8" Countersunk
32A	Deck Carlin (Long)	2	12 x 1 1/2" x 8" Countersunk
33	Fore Deck	2	180 x 3/4" Brass pins
34	Side Deck	2	200 x 3/4" Brass pins
35	Rubbing Bead	2	64 x 1 1/2" x 12 Copper Nails
36	Transom Capping	2	20 x 3/4" Brass pins
37	Keel	1	34 x 1 1/2" x 8" Countersunk
38	Rudder cheeks	2	6 x 1 1/2" x 8" Countersunk
38A	Rudder packing	1	
38B	Tiller Hood Pad	2	8 x 3/4" Copper Nails
39	Tiller	1	
39A	Tiller Ext	1	
39B	Tiller Ext Pad	1	2 x 3/4" Brass pins
40	Rudder blade	1	
41	Centreboard	1	

2. Measurement Procedure

- 2.1 Measurement Forms. Measurement Forms may be obtained from the Class Secretary (address as given in Section 1.4), free of charge.
- 2.2 Submission of Forms. When measurement is complete, queries resolved with the Class Secretary, and Measurement Form completed, it should be sent to the Class Secretary (address in Section 1.4) together with a Registration Fee of £1 and a stamped addressed envelope for the return of the Certificate.
- 2.3 Deviations from Rules. If a deviation from the rules can be easily remedied Measurers should not submit the form until the owner has had sufficient opportunity to rectify the error - be helpful and don't waste everybody's time! A gross and permanent deviation from the rules will normally automatically disqualify the boat from certification - but if in doubt, ask!
- 2.4 Measurement Certificate. A dinghy which Measures entirely within the Rules will be issued with a Certificate after submission of the required form and fee. Attention is drawn to the annual requirement for buoyancy testing without which the Certificate becomes invalid.
- 2.5 Measurement Procedure. Measurement procedure and form are related and divided into the following sections in order to ease the task by presenting measurements in a logical and associated manner:-  
 Section 3 - The Hull  
 Section 4 - The Centreboard and Rudder  
 Section 5 - The Spars  
 Section 6 - The Rigging  
 Section 7 - The Sails
- Each section includes all reference material to that part of the boat, i.e. reference to measurements as numbered on the Measurement Form past rulings, permitted exceptions, advice, suggested aids to measurement and diagrams.

- 2.6 Numbering. In the following sections measurers will find reference made to:  
 1. Rules of Measurement - numbers prefixed R.  
 2. Measurement Form Numbers - prefixed MF.

Item No.	Quantity	Part	Material	Assembling Fixings
10	1	Forward Bulkhead Batten	12 x 8 Copper Nails	
11	1	Stems		
11A	2	Stem pads	4 x 2 Copper Nails	
11B	1	Forestay pad	4 x 2 Copper Nails	
12	2	All Web		
12A	2	All Web Batten (Side)	8 x 8 Copper Nails	
12B	2	All Web Batten (Top)	8 x 8 Copper Nails	
13	2	Centre Web		
13A	2	Centre Web Batten (Side)	10 x 8 Copper Nails	
14	2	Forward Web		
14A	2	Forward Web Batten (Side)	6 x 8 Copper Nails	
14B	2	Forward Web Batten (Top)	6 x 8 Copper Nails	
15	2	Side Tank Panel (Long)		
15A	2	Side Tank Joining Batten		
15B	2	Side Tank (Short)	20 x 8 Brass Pins	
16	2	Mast Gate		
17	1	King Plank Spine	2 x 2 1/2 x 10s B/Screws	4 x 2 x 8s Counter sunk
17A	2	King Plank	10 x 8 Copper Nails	
18	1	Fore Transom	8 x 1 1/2 Copper Nails	10 x 1 Copper Nails
18A	1	Fore Transom Top	6 x 5 Copper Nails	
19	1	Measuring Stick	1 x 8 Copper Nails	
19A	1	Cross Strut	8 x 1 1/2 Steel Oval	
20	2	Bottom Floorboard (All)	32 x 8 Copper Nails	
20A	2	Bottom Floorboard (Ford)	22 x 8 Copper Nails	
21	2	Chine Floorboard (All)	24 x 8 Copper Nails	
21A	2	Chine Floorboard (Ford)	22 x 8 Copper Nails	
22	2	Mast Step Pads	4 x 1 1/2 x 8s Counter sunk	
23	2	Seat Strainer	2 x 1 1/2 Copper Nails	
24	2	Seat Top Support	4 x 8 Copper Nails	
25	2	Seat Coaming	20 x 8 Copper Nails	
26	2	Seat Top	58 x 8 Brass pins	
27	2	Thwarts	8 x 1 1/2 C/Screws	
28	2	Fore deck stringer	6 x 1 1/2 Copper Nails	
28A	2	Side deck stringer	30 x 1 1/2 Copper Nails	
29	2	Chairplate Block	12 x 1 1/2 Copper Nails	
30	2	Deck Knee	4 x 1 1/2 x 8s Counter sunk	

## Fastenings list

Item No.	Quantity	Part	Fastenings	Material	Assembling Fixings
1	1	Forward Bottom Panel	32 x 1/2" Copper Nails	P	60 x 1/4" Copper Nails 1 x 3" loop Copper wire bottom panel
1A	2	Jointing Batten		P	
1B	1	Aft Bottoms Panel	68 x 1/2" Copper Nails	P	12 wires for chine panel 24 copper wires for wiring panels at forward unit
2	2	Forward Chine Panel		P	
2A	2	Jointing Batten	52 x 1/2" Copper Nails	P	2 x 1 1/2" x 8s Countersunk
2B	2	Aft Chine Panel		P	
3	2	Forward Side Panel	76 x 1/2" Copper Nails	P	2 x 1 1/2" x 8s Countersunk
3A	2	Jointing Batten		P	
3B	2	Aft Side Panel	12 x 3/8" Brass pins	P	
3C	2	Gunwale		H	
4	1	Forward Spine	12 x 5/8" Brass pins	P	
4A	2	Forward Spine Packing		P	
4B	1	Aft Spine	12 x 5/8" Brass pins	P	
4C	2	Aft Spine Packing		P	
5	2	C/Case Sides	26 x 3/4" Copper Nails	P	8 - 1 1/2" x 8 Brass Csk
5A	2	C/Case bedlings		H	
5B	2	C/Case Top Rail (long)	10 x 3/4" Copper Nails	H	
5C	2	C/Case Top Rail (short)		H	
5D	2	C/Case Pivot Supports	14 x 3/4" Copper Nails	P	
5E	1	C/Case Capping		H	
6	1	Transom Panel	6 x 1/2" Brass Screws	H	1 1/2" x 8s C/Screw. 2 - 1/2" Copper Nails
6A	1	Transom Backbearer	24 x 3/4" Copper Nails	H	
6B	1	Transom Strongback	10 x 3/4" Copper Nails	H	
6C	2	Transom Fillet	12 x 5/8" Copper Nails	S	
7	1	Aft Bulkhead	12 x 3/8" Brass Pins	P	
7A	2	Aft Bulkhead Batten (Side)		P	
7B	1	Aft Bulkhead Rail	8 x 3/8" Copper Nails	P	
8	2	Centre Bulkhead	6 x 5/8" Brass pins	P	
8A	2	Centre Bulkhead Batten (Top)		P	
8B	2	Centre Bulkhead Batten (Side)	8 x 5/8" Brass pins	P	
8C	2	Centre bulkhead rail	8 x 3/8" Copper Nails	P	
9	1	Stowage Bulkhead	14 x 3/4" Copper Nails	P	
9A	1	Stowage Bulkhead Batten		P	



### 3. The Hull

#### 3.1 General Appraisal.

Look for conscious attempts to bend the Rules by adjustment of hull shape between points of measurement (P2).

Look for quality of workmanship in "home built" boats that is, soundness in taping, gluing and screwing. The boat need not be a work of art but must stay together!

#### 3.2 General Constructions.

All boats must be built according to the Building instructions. Measurers must be familiar with these instructions. Strictly, when the instructions indicate the use of screws or pins, and glue is to fix two parts together, then glue and cramping only is not acceptable. X

#### 3.3 Weighing. (P2 MF1)

The spring balance must be adequately suspended in such a position as to allow the boat to hang freely from it. Attach suspension webbing, straps etc and adjust zero.

Ensure that the boat is dry - remove bungs and mop out. Remove centreboard and all accessories not fixed by screws, pins, nails, rivets, glue or resin.

Check for and note weight of correctors (MF2). These must be fitted permanently under the thwart and the weight recorded on the measurement form (MF2). Corrector weights may not be removed from the boat once fixed. Mark their weight on new correctors.

The point of balance of most Miracles is approximately adjacent to the forward end of the thwart - if not, suspect some deviation!

(An alternative method of weighing is to support the hull under the centre of the bow overhang and the centre of the mainsheet track: the balance is applied to each in turn and the two readings added: take care to ensure that the boat is level and the suspension "points" are maintained exactly the same).

#### 3.4 Measurement and checks with boat "deck up".

(MF1 to 29 inclusive and R 4c, Be e f h l m n s to x inclusive, 9, 10, 11e and 12).

##### 3.4.1. Dimensions.

MF4 Overall length excludes the permitted bow transom protection.

MF 10, 11, 12, 13, 14 and 20. Use sheerline template as illustrated in Section 10.

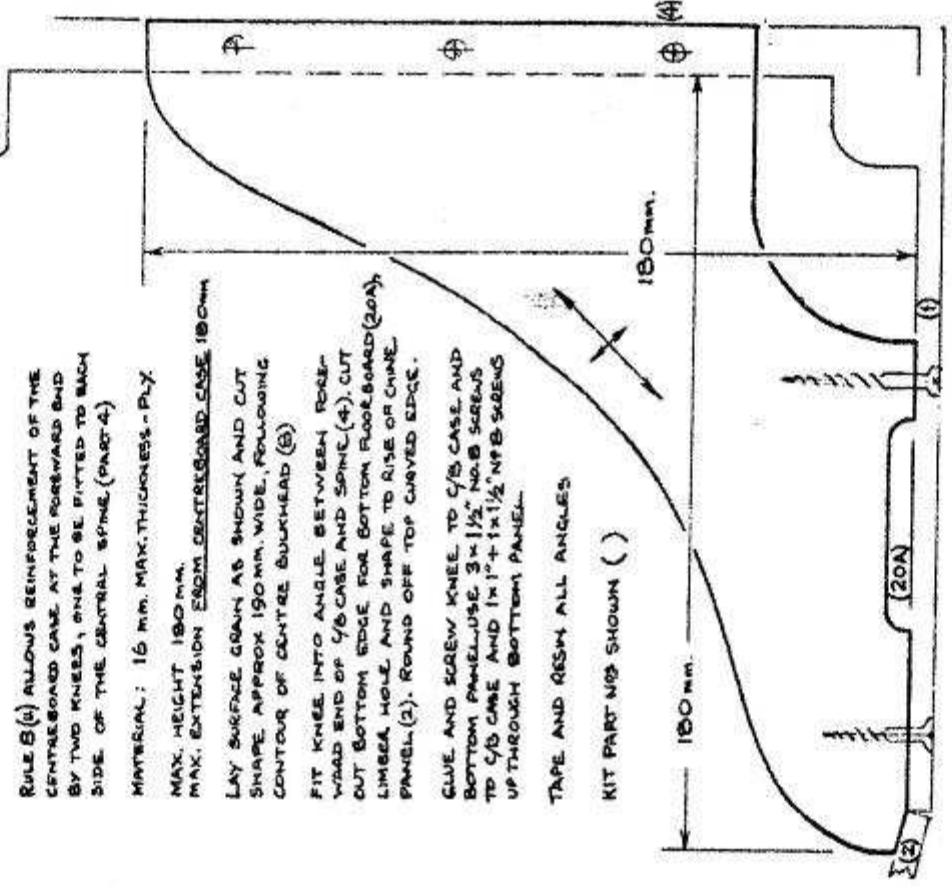
MF8 Use light line passed through eye of each chain plate and stretched taught.

88  
78

# Miracle Association

## 3.4.2. Rules - Permitted Exceptions

- R.4c The centreboard case must be constructed so that its sides are parallel. Check that the case has not been lined with laminated plastic or similar material, as neither this nor packing between board and case are allowed under the Rules.
- R.8a Two foresheet cleats are allowed, but check that the fairleads are fixed by screws within the area of the fairlead pad (Kit part no. 31). Adjustable fairleads are not allowed.
- R.8e One compass may be fixed to the boat but holes may not be cut in the boat structure except for the necessary screws or bolts.
- R.8f Two self bailers may be fitted. No type size or position is specified in the Rules. Advise that two are necessary, due to the central 'spine' and they should be fitted near the centreboard forward of the centre bulkhead (Kit part no. 8) approximately under the thwart.
- R.8h Two protection pads for outboard motor fixings may be fixed to the transom; dimensions unspecified. If the owner intends using an outboard frequently advise fitting of additional transom support as specified R.87.
- R.8i Note only one inspection hatch of 152 mm dia. is permitted per buoyancy tank and only in a vertical surface.
- R.8m Fittings for securing paddles, hand bailer and anchor are permitted.
- R.8n Two additional floor battens are permitted. These must match those supplied with the Kit (part nos. 20 and 21). Position not specified.
- R.8s The building instructions and kit parts allow for the toe straps to be fixed at the forward end of the centreboard case. Owners may secure them further forward either by drilling one hole in the spine (Kit part no. 4) of not more than 10mm diameter or by screwing a fitting directly to the spine. Positions of hole or fitting not specified.
- R.8t Not more than 4 open fairleads one sanson post and one eye plate may be fitted on the deck for purposes of leading and securing mooring, anchor and towing warps. Positions not specified but no fitting must project forward of the bow or beyond the sheerline. Check with sheerline template.
- R.8u Knees may be fitted to the forward end of the centreboard case to strengthen this area if the boat receives hard use. Maximum height and extension from the centreboard case 180mm; max. thickness 16mm. Advise owner to shape knees to match contour of centre bulkhead (Kit part no. 8) and allow limbers (water ways).
- R.8v Reinforcement of the transom is allowed at each quarter where transom (Kit part no. 6A) meets inner side of side tank (Kit part no. 15). Triangular blocks must not have their shorter sides longer



**RULE 8(6) ALLOWS REINFORCEMENT OF THE CENTREBOARD CASE AT THE FORWARD END BY TWO KNEES, ONE TO BE FITTED TO EACH SIDE OF THE CENTRAL SPINE (PART 4)**

**MATERIAL: 16 MM. MAX. THICKNESS - PLY.**

**MAX. HEIGHT 180MM.**

**MAX. EXTENSION FROM CENTREBOARD CASE 180MM.**

**LAY SURFACE GRAIN AS SHOWN AND CUT SHAPE APPROX 180MM. WIDE, FOLLOWING CONTOUR OF CENTRE BULKHEAD (8)**

**FIT KNEE INTO ANGLE BETWEEN FOREWARD END OF 5/8 CASE AND SPINE (4). CUT OUT BOTTOM EDGE FOR BOTTOM FLOORBOARD (20A). LIMBERA HOLE AND SHAPE TO RISE OF CURVE PANEL (3). ROUND OFF TOP CURVED EDGE.**

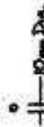
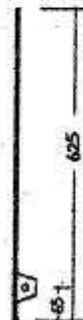
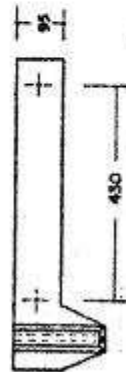
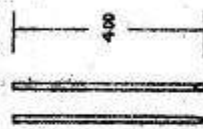
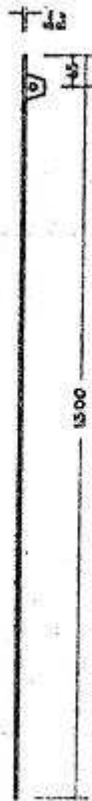
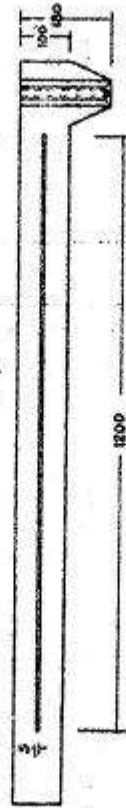
**GLUE AND SCREW KNEE TO 5/8 CASE AND BOTTOM PANEL. USE 3x 1/2" NO. 8 SCREWS TO 5/8 CASE AND 1x 1/2" + 1x 1/2" NPB SCREWS UP THROUGH BOTTOM PANEL.**

**TAPE AND RESIN ALL ANGLES**

**KIT PART NOS SHOWN ( )**

**NOTE: THESE KNEES ARE PROVIDED BY THE MIRACLE ASSOCIATION AND UNLESS THEY OTHERWISE SHOW OTHERWISE THEY SHOULD BE MADE TO MATCH THEIR OWNERS BOAT.**

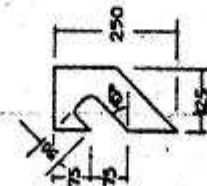
88%



CHINE BEAM & HEIGHT CALLIPERS



BOW GAUGE



SHEERLINE TEMPLATE

than 150mm, nor be thicker than 15mm. These are essential additions if an outboard motor is used frequently (see R.8h above).

R.8v Check inside stowage compartment on forward side of stowage bulkhead for optional solid wood fillets reinforcing the joint between bulkhead and floor and chine panels. Max. section allowed 25mm x 25mm. No length or position specified.

R.8x Check mast heel position on central spine (Kit part no. 4) just aft of stowage bulkhead for limit stops. Two stops only are allowed: dimensions material and fixings not specified.

3.4.3.

Rules - Others relating to hull.

R.9 The hull may not be cut i.e. holes formed, in any way other than as specifically allowed by the Rules. Fixings for permitted fittings are allowed and holes as specified in R.8f, R.8i and R.8s are legal. Transom flaps are not allowed.

R10 Buoyancy.

Buoyancy must be provided by three entirely separate tanks formed by the hull construction. The efficiency of the tanks (air or water tightness) can be determined by inspection or by air test.

Look carefully for poor glass/resin bonding, delamination and air bubbles in resin. Check inside the stowage compartment where the underside of the foredeck meets the aft side of the forward buoyancy tank bulkhead: This should have tape and resin applied. Check also under the side deck at the aft end of the seat cut out.

The air test is easily applied by inserting a suitable size hose into the appropriate bung hole and blowing with the mouth only. Do not use a pump or water under pressure or you may damage the boat! When blowing into the tank do not blow hard or attempt to build up great pressure. With very little pressure and some experience a short 'blow' is given and on removing the pipe from the mouth a definite blow back can be felt on the face when the tank is 'good'. If not listen carefully and with the help of a little soapy water even small leaks can be readily identified. (Large leaks are obvious by the amount of air blown in!)

The Rules do not require an immersion test.

R11(e) Jib fairleads may be positioned anywhere on the side deck over the fairlead mounting pad (Kit Part No. 31) or over that part of the deck carlins (Kit Part No.32) which is rebated into the pad.

R12 Note the hull number from inside the aft transom - MF3.



### Section 10. Aids to Measurement.

The following page illustrates some useful and well tried aids to measurement.

Without gauges, templates or calipers similar to those illustrated it is not possible to achieve an acceptable degree of accuracy in measurement: the process of measurement is incidentally considerably shortened by their use.

1. The Chine Beam & Height Calipers are shown assembled at the head of the page and in dimensioned parts beneath. Plywood of 5mm thickness is sufficiently strong and stable and should be varnished.

The flat slotted (sliding) sections and height "pins" can be calibrated with the maximum and minimum dimensions for each measurement, when the whole caliper can be used simply as a 50/100-50 gauge.

2. The Sheerline Template shown at bottom left must be made with the left hand (interrupted) edge absolutely straight.

3. The Bow Gauge has also been devised as a 50/100-50 gauge. For actual measurement the dimension from the pivot point at 225mm to the forefoot is taken, but the two "sebs" illustrated can be used simply to prove the hull within limits.

Please advise the Association of any tools or aids to measurement which you find useful. Dimensioned drawings are most helpful.

### 3.5 Measurements and checks with boat "bottom up".

(MF30 - 59 inclusive and R.3c)

Note: before turning the boat over refit the centerboard into the case and secure it in the "up" position.

#### 3.5.1. Dimensions

MF30 and 31. These dimensions are used to set up the "base line" or datum for further measurements, and so must be made particularly carefully.

Methods for setting up baseline:-

1. Use a light line from post clamped to transom to independent anchorage forward of bow. Line must be very tight. Boat can be adjusted on its supports if necessary.
2. Mast may be used as a "straight edge" suspended from above. Note that 3 suspension points will be necessary in order to prevent the mast sagging in the middle.

MF 36 to 44 inclusive.

All the above measurements refer to the chines in some way. As the chines are generally rounded a chine has been ruled to be the point where the external surfaces of two adjacent panels would meet if extended.

SIDE PANEL

CHINE PANEL

CHINE AS DEFINED



MF 36 to 44 inclusive.

Heights of chines from datum (base line) and beam at chines may be most easily measured using a large caliper as illustrated in Section 10.

MF 30 to 33 inclusive, 36 to 43 inclusive and 45.

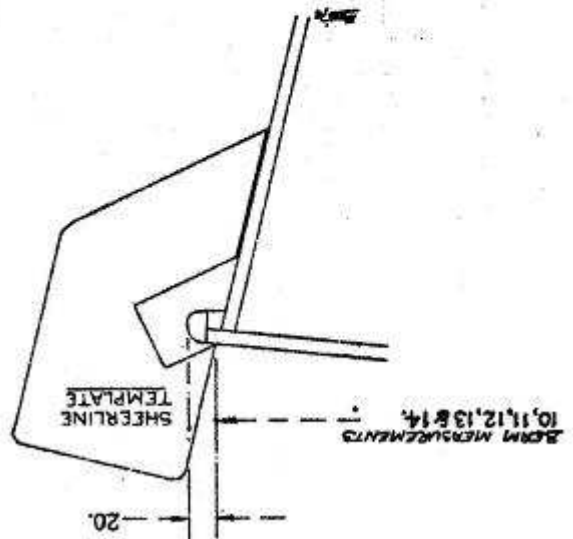
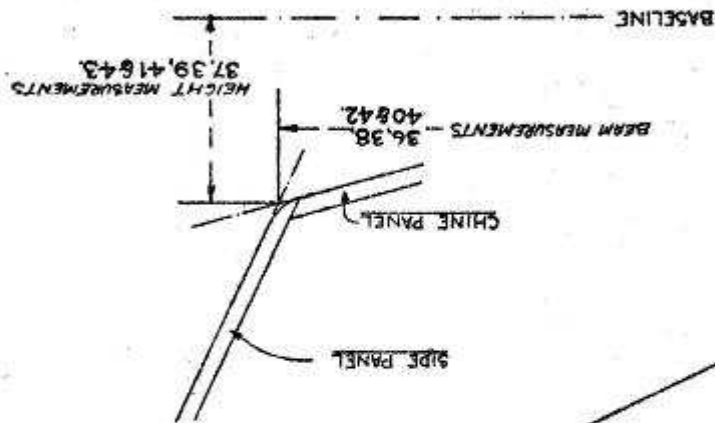
All these measurements are marked on the form with an asterisk to remind measurers that distances measured from the transom along the keel or chines must be made following the contour of the boats hull along the keel or chine as appropriate.

MF 34 and 35.

These measurements are most easily made using a simple gauge as illustrated in Section 10. Note that for MF34 it is the baseline itself which is measured.

3.5.2. Rules - Permitted Extras.

R.8c Metal or plastic strip may be used for the protection of chines or keel. Only the section is limited to 15mm wide and 5mm thick maxima. Numbers of strips and length are not specified.



28

46

44

1532

- 90 Diameter of boom.
- 91 Extension of foresail booming out spar from foreside of mast inc. lading fittings.
- 92-99. Spare.

SAILS

Manufacturer and production number of

foresail:

mainsail:

100.	Foresail luff from head to tack as defined.	-	3590
101	Foresail leech from head to clew as defined.	-	3215
102	Foresail head to centre of foot (i.e. a point on the fold when clew is placed on the tack).	-	3420
103.	Foresail foot from tack to clew as defined.	-	1340
104.	Maximum dimension of mainsail head board.	-	148
105	Horizontal width of mainsail head board.	-	116
106.	Mainsail head to clew as defined.	-	5235
107.	Mainsail tack to clew as defined.	-	2400
108.	Mainsail head to centre of foot (i.e. a point on the fold when clew is placed on the tack).	-	4970
109.	Mainsail $\frac{3}{4}$ height of leech to nearest point on luff including bolt rope.	-	890
110	Mainsail $\frac{1}{2}$ height of leech to nearest point on luff including bolt rope	-	1535
111.	Mainsail $\frac{1}{4}$ height of leech to nearest point on luff including bolt rope.	-	2145
112.	Check C/L of the three batten pockets are within 50mm of the $\frac{1}{4}$ , $\frac{1}{2}$ and $\frac{3}{4}$ height points on the leech.	-	Yes/No delete as appropriate
113.	Mainsail batten pocket lengths.	-	620
114	Height of sail numbers.	300	
115	Overall height of insignia as defined	500	550
116	Overall width of insignia as defined.	450	500
117-120.	Spare.		

Note: Measurer must date and sign sails if acceptable.





## 48-59. Spare.

CENTREBOARD & RUDDER

60.	Width of centreboard at Keel when fully extended.	-	385
61.	Width of centreboard at 610mm from Keel when fully extended and measured at 90° to leading edge.	-	300
62.	Depth of centreboard below keel when fully extended.	-	950
63.	Thickness of centreboard except where bevelled.	16	20
64.	Width of bevel on all edges of centreboard.	-	50
* 65.	Distance from transom to leading edge of centreboard where it cuts the keel line when fully extended.	2120	2140
66.	Extension of rudder blade below keel at transom.	-	525
67.	Width of rudder blade for a minimum of 400mm of its length.	220	235
68.	Thickness of rudder blade except where bevelled.	16	20
69	Width of bevel on all edges of rudder blade.	-	40
70-79.	Spare.	-	-

SPARS

80.	Weight of mast with fixed fittings and halyards, but excluding shrouds and forestay.	5.5Kg	6.4Kg 5850
81.	Overall length of mast.	-	-
82.	Mast step to lower edge of top black band.	-	5715
83.	Mast step to centre of shroud and forestay tang eyes.	4410	4425
84.	Mast step to top of foresail sheave.	-	4330
85.	Mast step to top edge of lower black band.	990	-
86.	Diameter of mast exclusive of attached track.	49	51
87.	Overall length of boom.	2520	2560
88.	Distance of inner edge of black band on boom to aft side of mast tube with boom fitted to mast goose-neck.	-	-
89.	Distance of centre of eye locating Kicking strap to mast tube with boom fitted to mast goose-neck.	542	2450 548

5. Spars

MF80 - 99: R.5a to e inclusive 8d, 8, k, o and p.

5.1 Dimensions

5.1.1. Mast:

MF80: Remember to remove the standing rigging i.e. forestay and shrouds before weighing the mast.  
MF81: The length of the mast is taken overall from top of the mast to the very bottom of the cast alloy foot, the only measurement to this latter point.

MF82 to 85 inc: All these dimensions are taken from the mast step i.e. the flat surface between the two "tongues" of the cast foot.

MF86: Use small outside calipers to measure the diameter of the mast exclusive of the attached boltrope track.

5.1.2. Boom:

MF87: The boom is measured overall the alloy tube exclusive of plastic "plugs".

MF88 and 89: Both these measurements require the boom to be fitted to the mast by means of the gooseneck. The boom must be set out so that its axis passes through that of the mast and it is at right angles to the mast in side elevation.

MF91: The foresail booming out spar, more popularly known as a "jib-stick" should be set out, attached to the mast fitting, as for the boom, before the overall length is measured. Note that 1532mm is generally considered far too long and 1350mm is probably more suitable.

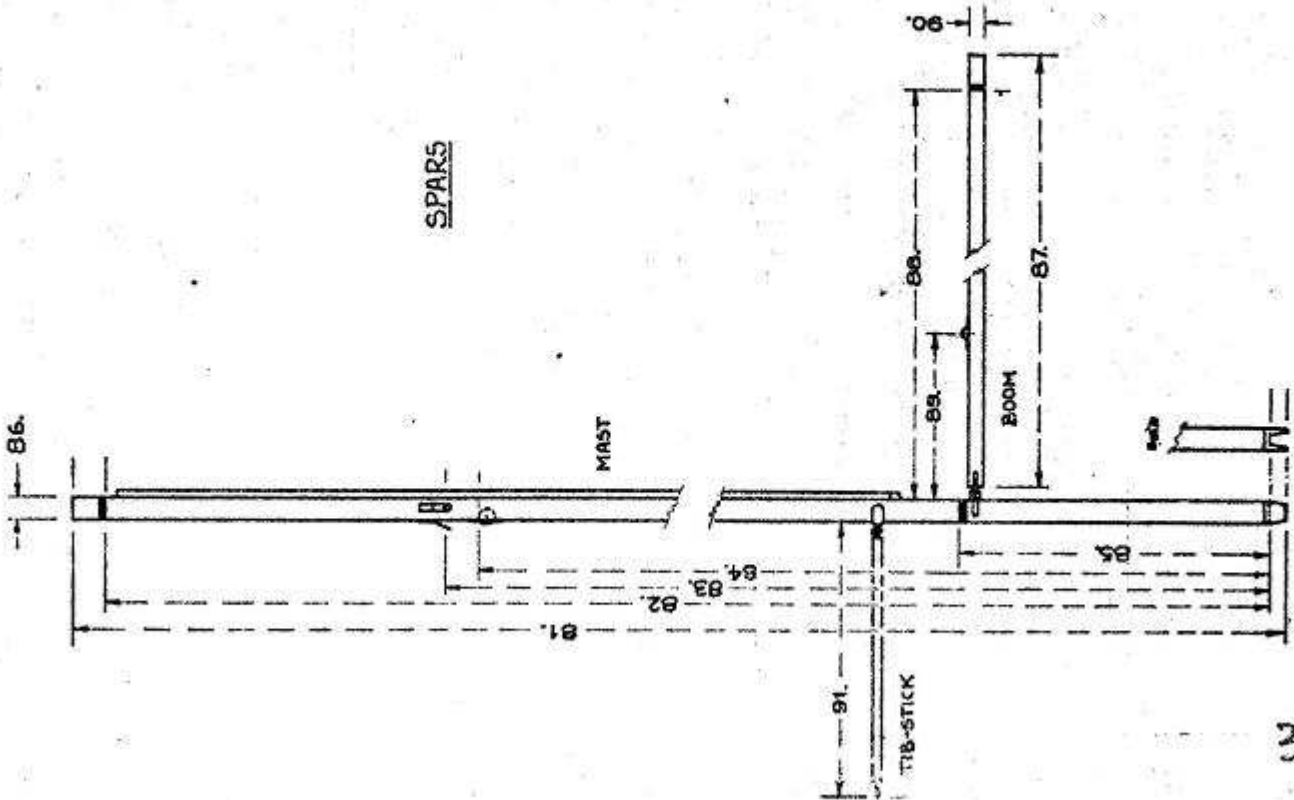
5.2 Rules - Permitted Exceptions

R.8d Non-electronic wind indicators are permitted, noted here as one of these may normally be fixed to the mast-head.

R.8g Refers to the foresail "booming out spar" or "jib-stick" measured under MF91. Diameter material and fixings are not specified.

R.8k A clew outhaul adjustment is permitted and may include track and slide together with any necessary blocks and cleats. All of the outhaul components must be fitted externally to the boom and sail only. The spar may not be cut and fitted with internal sheaves, purchases etc, nor may controls be led via the mast.

R.8o A tack downhaul may be fitted to the mainsail and acts as a form of "Cunningham" control of the mainsail luff. The downhaul must operate using the tack cringle as supplied with the standard sail. Again all controls must be fitted externally to mast and boom only and may not be led via the hull to head.





R.09 A single row hook up rack may be fitted to the mast for the securing of main and jib halyards. This must be in addition to, and not replace the standard cleats.

### 5.3 Rules - Other

R5 Alternative spars to those supplied with the standard kit or complete boat may be used but must conform to the general description of construction given in this rule: i.e.:

1. Mast and boom sections must be constant over their main lengths i.e. parallel circular section of constant wall thickness - R.5a
2. The mainsail luff track must be a separate extrusion or fabrication fitted to the aft face of the mast - R.5a
3. Buoyant material may be fitted inside the mast tube - R.5c
4. Only one eye each as supplied with the standard mast and boom may be used to locate or attach the kicking strap thus keyhole cut-outs or fittings for attaching the kicking strap to the boom are not permitted - R.5d
5. Shroud and forestay tangs together with foresail halyard sheave must be positioned according to the rules of measurement - R.5b and MF83 and 84
6. Check boom fittings for projections exposed cleats etc which might foul the rigging of another boat - R.5e

#### R.5a Black Bands:

Three contrasting (normally black) bands must be painted onto the spars as described and dimensioned in the rules. These are intended to indicate the limits imposed upon the setting of the mainsail on the spars. Each band must be a minimum of 10mm wide. - See MF82, 85 and 86.

16.	Depth of hull inside skin to top of deck at forward mast partners.	525	550
17.	Depth of keelson at mast step above inside skin.	45	60
18.	Depth of hull inside skin to sheer-line at 1525mm forward of transom.	425	445
19.	Depth of transom <u>underside</u> skin to sheerline.	300	320
20.	Extension of rubbing bead beyond sheerline.	20	30
21.	Width of centreboard case slot.	23	27
22-29.	Spare.		
<b>HULL UNDERSIDE</b>			
30.	Datum of base line is set below keel at transom.	-	158
* 31.	Datum or base line is set below keel at 310mm forward of transom.	-	106
* 32.	Base Line to underside of keel at 1000mm forward of transom.	52	62
* 33.	Base line to underside of keel at 2145mm forward of transom.	25	35
34.	Length of base line from transom extended to point where bow transom extended cuts base line.	3535	3555
35.	225mm from base line measured along bow transom extension to nearest point of forefoot.	40	55
36.	Beam of upper chine at transom.	985	1005
37.	Height of upper chine above base line at transom.	245	265
* 38.	Beam of upper chine at 1020mm forward of transom.	1265	1285
* 39.	Height of upper chine above baseline at 1020mm forward of transom.	155	175
* 40.	Beam of upper chine at 2170mm forward of transom.	1120	1140
* 41.	Height of upper chine above base line at 2170mm forward of transom.	190	210
* 42.	Beam of upper chine at 3170mm forward of transom.	610	630
* 43.	Height of upper chine above base line at 3170 forward of transom.	330	350
44.	Width of bottom panel at transom.	385	395
* 45.	Projection of keel below skin between transom and 3200 forward.	14	18
46.	Thickness of keel or chine bands if fitted.	-	5
47.	Width of keel or chine bands if fitted.	-	15

6. Rigging R.6, 7, 8b, i, j.

6.1 Standard Rigging.

R.6 Standing rigging must comprise one forestay and two shrouds, all to be of multistrand wire of 2.4mm diameter minimum. Galvanised or stainless steel is acceptable. Monofilament wire is not.

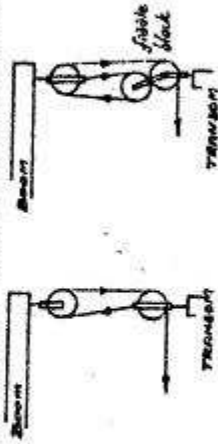
R.8j Shrouds may be adjusted by pin racks only, lever adjusters are not permitted. The Committee has indicated that this ruling may be applied to forestay also.

6.2 Running Rigging.

R.7 The type and material of running rigging are optional. This means that any rope may be used but note the limitations on fittings specified elsewhere. Wire halliards are permitted.

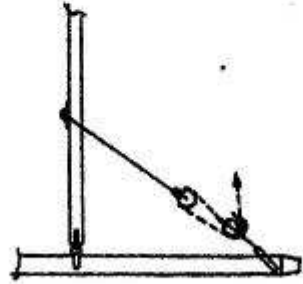
R.8b A 3:1 ratio transom mainsheet may be fitted. Sheaves must be free running.

The standard "two fold" purchase supplied comprises about 7 metres of mainsheet, pulley on boom and pulley with becket on transom. This may be replaced with about 10 metres of mainsheet, pulley with becket on boom and double or fiddle block on the transom. Ratchet blocks are not allowed.

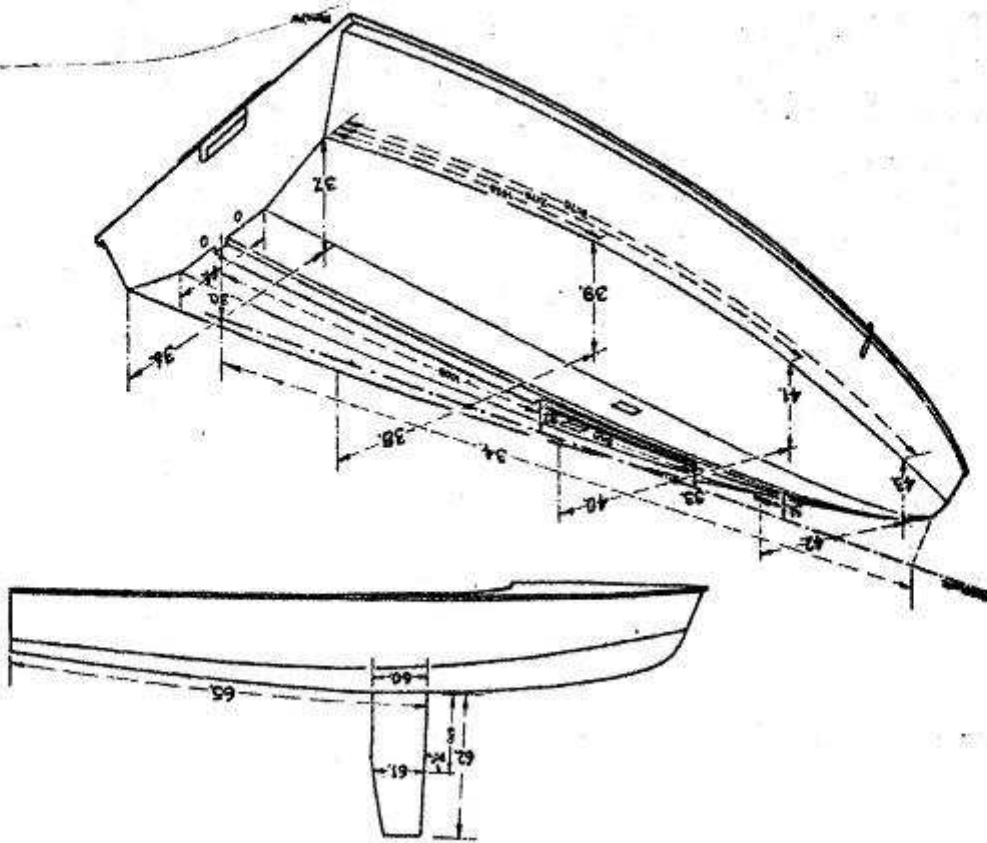


A flag halyard, block or bullseye fairlead and cleat are allowed to be fixed to the mast. (A Committee ruling).

R.8i The standard simple rope kicking strap may be replaced by a purchase comprising two single sheave blocks and one cleat. For example:



By reversing the system increased purchase is obtained.



DECLARATION

I declare that the measurements of the boat spars, sails and accessories as recorded below were made by me in accordance with the rules of the Miracle Association, and were found to be within the tolerances specified.

signed.

(Measurer)

(C) MEASUREMENTS

Note: Measurements marked \* are taken from the outside bottom corner of the transom following the contour of chine or keel as appropriate.

No.	Description	Min.	Actual	Max.
1.	Weight of hull inclusive of fixed fittings but excluding centreboard.	58kg		4kg
2.	Weight of correctors if fitted to underside of thwart.			
<b>HULL TOPSIDE</b>				
3.	Sail number cut into transom beam.	20		
4.	Overall length top outside transom to top fore edge of bow transom.	3875		3005
5.	Outside transom to C/L of eye in forestay plate.	3695		3715
6.	Outside transom to foreside of mast partners at deck level.			2625
7.	Outside transom to foreside of mast gate.	2550		
8.	Outside transom to C/L of chain plate eyes measured parallel to C/L of boat	2225		2245
9.	Outside transom to aft edge of thwart	1510		1535
10.	Beam at top of fore transom at sheerline.	300		320
11.	Beam at 3125mm forward of transom at sheerline.	920		935
12.	Beam at 1525mm forward of transom at sheerline.	1530		1550
13.	Beam at 445mm forward of transom at sheerline.	1340		1360
14.	Beam at top of aft transom at sheerline.	1130		1155
15.	Distance between side tank bulkheads at 1525mm forward of transom within 50mm of inside deck level.	945		965



Section 8. Rules of Measurement and Construction.

1. General:

This is a one design class and the object of these Rules is to ensure that in hull form, hull weight, sail plan and spars the boats are as nearly alike as possible. If the Measurer considers that there has been any attempt to depart from the design in any particular way he should record this on the measurement form. Miracle Pinnacles or Kits may only be supplied through the Daily Mirror or their Licensee.

2. Dimensions:

The measurement form contains as many measurements as considered practical to check the dimensions and shape of all parts of the boat. This does not permit changes in shape at other places.

3. Weight:

The weight of the hull in dry condition shall not be less than 58kgs. The hull includes all permanent fixtures and fittings, i.e., fixed by screws, nails, rivets, glue or resin, but no other equipment. Where it is necessary to fit correctors these shall be weighed by the measurer and fixed permanently to and under the thwart. The weight of correctors shall be recorded on the measurement certificate.

4. Centreboard, centreboard case, rudder and tiller:

- a) The centreboard and rudder blade shall be of plywood of solid wood. Laminated, where the separate plies or pieces have the grain in the same direction, is not allowed.
- b) Centreboard thickness shall be constant except that the faces may be faired up to 50 mm. (2") from any edge. The profile of the centreboard is controlled by the measurements except that the corners may be shaped.
- c) The centreboard case shall be constructed so that its sides are parallel.
- d) The rudder blade shall be pivoted in the wood stock. Its thickness shall be constant except that the faces may be faired up to 38 mm. (1 1/2") from any edge. The profile is controlled by the measurements, except that the corners may be shaped.
- e) The edges of the centreboard and rudder may be protected by optional material not exceeding 13 mm. x 13 mm. in cross section.
- f) The tiller and extension are optional in size and shape.
- g) The material to be used for rudder gudgeons and pintles is optional.

5. Spars:

- a) The mast and boom sections shall be constant over their main lengths. The mast shall have grooved track for the mainsail luff, attached to its aft side. The mast must have two contrasting bands not less than 10mm. wide painted

- e) The jib fairleads may be fixed anywhere in the fairlead pad or on that part of the deck carling which is rebated into the fairlead pad. No part of the fairlead may project over the inside edge of the side deck.
- f) All measured sails shall be dated and signed by the measurer.

Registered Number:

The registered number shall be cut into the inside face of the aft transom.

Measurements:

The measurements listed with the allowed tolerances shall appear on the measurement form.

Only a Miracle certified by a recognised measurer as complying with these rules and measurements will be granted a Measurement Certificate. Any difference in measurement as per rules or the sketches showing measuring point definitions and the measurements in the form, the latter should be taken as correct.

Unless these rules give a definite permission for any specific addition, substitution or alteration, it will not be accepted.

The following are Measurers accepted by the Association:

- a) Approved RYA Measurers.
- b) Mirror Class Measurers.
- c) Measurers approved by National Authority which include Club Measurers.

on it as per the measurement form. The mainsail shall not extend above the lower edge of the top band. The mainsail tack shall not extend below the top edge of the lower band.

- b) The shroud attachment points and halliard sheaves shall be positioned as per measurement instructions.
- c) Buoyant material may be fitted inside the mast tube.
- d) No other fittings than the eyes supplied shall be used to locate or attach the kicking strap to the mast and boom.
- e) Authorised fittings may only be attached to the boom in such a manner as to ensure that they cannot foul the rigging of another boat.

#### 6. Standing Rigging:

One pair of shrouds and one forestay; to be of multi-strand wire of 2.4 mm. minimum diameter.

#### 7. Running Rigging:

Type and material of running rigging are optional.

#### 8. Permitted Exceptions:

- a) Two foresheet cleats.
- b) 3:1 ratio transom mainsheet; free running sheaves.
- c) Metal or plastic strip for protection of chines or keel, may be added part or full length, maximum section 15mm. wide, 5mm thick.
- d) Wind direction indicators (Non electronic).
- e) One compass may be fixed to the boat but the boat must not be cut or altered to mount this except for the necessary fastenings.
- f) Two self bailers.
- g) A stick to extend clew of foresail out on opposite side of boat to the main boom, an anchor for the inboard end of this stick may be added to the mast.
- h) Two protection pads for outboard motor on transom.
- i) Kicking strap may have two single sheave blocks and one cleat. (Shroud Adjusters) Pin rack type only.
- j) Adjustable clew outhaul for the mainsail which may incorporate a track and slide; all controls must be fitted externally and attached to boom and sail only.
- k) Only one screw type ventilation hatch for each tank fitted only to vertical panels maximum size .152 metres.
- l) Fittings for retaining paddles, hand bailer and anchor.
- m) Two additional floor battens similar to those supplied may be fixed to bottom.
- n) Adjustable tack downhaul for mainsail with all controls attached externally to boom, mast and sail only, using existing tack cringle.
- o) One single row hook up rack may be fitted to the mast for attaching main and jib balyards. This to be in addition to the standard cleats.
- p) The standard rope handle for the centreboard may be replaced by a pair of stops bolted together through the existing hole in the handle. No dimension of each stop may exceed 40 mm.

- r) A length of shockcord with or without rope tail may be attached to the handle of the centreboard and lead aft to a jamming device to hold the centreboard in a "down" position.
- s) A single hole if not more than 10 mm. may be drilled through the spine forward of the centreboard case for the purpose of attaching the forward ends of the toe straps and/or for securing the centreboard in the raised position. Alternatively, a single fitting may be used. A maximum of four open fairleads, one sampson post and one eye plate may be fitted on the decking for the purpose of leading and securing an anchor and towing warp in such a way that no fitting extends forward of the bow or outside the sheerline.
- t) One wooden knee may be fixed to each side of the forward end of the centreboard case, and skin of the boat, maximum height 180 mm., maximum extension from case 180 mm. and maximum thickness 16 mm.
- u) A triangular block may be fixed in each corner made by the transom and side decking. Maximum depth 25mm., maximum length of the two shorter sides in each 160 mm.
- v) Solid wooden fillets may be fitted to the forward side of the stowage bulkhead and the floor and chine panels.
- w) Maximum sectional dimensions 25 mm. x 25 mm.
- x) Two limit stops may be fixed to the central spine to position the foot of the mast. The position of the foot of the mast shall not be moved while racing.

#### 9. Permitted Holes:

The hull or spars may not be cut in any way other than that needed to affix permitted fittings, except as indicated in rule 8 (s). Transom flaps are not allowed.

#### 10. Buoyancy:

Buoyancy shall consist of three separate tanks, the efficiency of which shall be determined by inspection, or, if the measurer considers it necessary, by air test.

#### 11. Sails:

##### a) Main-sail and fore-sail.

The mainsail and foresail should be of white woven polyester fabric, edged in red. Class insignia and sail numbers shall be in red. The foresail may be fitted with one transparent panel which shall not exceed a rectangle 600mm. x 250mm. nor be less than 100mm. from any edge of the sail.

There shall be three sail battens positioned to divide the leech of the mainsail into four approximately equal parts.

All sails shall comply with the measurement form and points of measurement definitions. Measurements given are maximum. All sails shall be measured in a completely dry state and laid on a flat floor with tension adequate to remove all wrinkles along and adjacent to the measurement being taken.

The jib luff must be permanently secured to the eye in the luff wire at the head of the sail but must not be permanently secured to the luff at the eye of the tack.

# MIRACLE ASSOCIATION ANNUAL GENERAL MEETING

Thursday, 29th. July 1982 at 1600hrs.

This is formal notification of the 1982 Annual General Meeting which is to be held on Thursday, 29th. July 1982 at 1600 hours. T WELLS WATER SAILING CLUB

## AGENDA

1. Minutes of the A.C.M. held at Sovereign Sailing Club, Eastbourne on the 30th. July 1981 - published in December '81 issue of 'HALO'.
2. Matters arising.
3. Chairman's and Officer's reports.
4. Treasurer's Report
5. Proposals for changes to Miracle Association Rules.
6. Proposals for changes to Miracle Association Rules Of Measurement.
7. Election of Committee
8. Any other business.

N.B. Any motion to be put to the A.C.M. of the Association shall be proposed and seconded by full members and shall be submitted in writing, to the CLASS SECRETARY at least FIVE WEEKS BEFORE THE DATE OF SUCH MEETING (7g).

Proposals to be sent to: Mrs A. Williams, 28, New Row, Mosley Common, Worsley, Manchester. M28 4BE.

TO ARRIVE NO LATER THAN 24TH JUNE 1982.

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## NORTHERN AREA CHAMPIONSHIPS LLANDUDNO S.C. 19th-20th JUNE

Name.....(Block Capital)  
Boat Name.....Sail No.....  
Address.....  
.....  
Club.....Crew.....

Please enter my boat for the Northern Area Championships on 19th./20th. June.

I declare that I hold a valid class certificate, am insured for third party risks of £250,000 and agree to be bound by the I.Y.R.U., R.Y.A., Class Rules and the Sailing Instructions of Llandudno Sailing Club.

I enclose cheque/postal order for £5.00 payable to Llandudno Sailing Club.

Signed.....Date..... Send to: Mrs C.C. Hiller,

Llandudno Sailing Club, Irving Road, The Promenade, Llandudno, Gwynedd, North Wales.

FIRST RACE SATURDAY AT 1200 HOURS

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**MIRACLE ASSOCIATION  
YOUTH & JUNIOR CHAMPIONSHIPS  
AUGUST 14 15TH 1982**

**To be held at NORTH LINCOLNSHIRE S.C.**

**Helm** \_\_\_\_\_ **Address** \_\_\_\_\_

\_\_\_\_\_

**Helm's date of birth** \_\_\_\_\_

**Sail No** \_\_\_\_\_ **Boat name** \_\_\_\_\_

**Crew** \_\_\_\_\_ **Crew's date of birth** \_\_\_\_\_

**Club** \_\_\_\_\_ <sup>6</sup>

ENTRIES ON THIS FORM ACCOMPANIED BY THE ENTRY FEE **£5** SHOULD BE SENT TO:

**Eric Hardman, Springfield House,  
Fountain Corner, Worlaby, Brigg, South Humberside.**

**SAXBY ALL SAINTS 331**

enter my boat for the MIRACLE YOUTH AND JUNIOR CHAMPIONSHIPS. I hold and agree to produce on request, a valid class certificate (with current buoyancy endorsement) and current insurance certificate with minimum third party cover of £250,000. I agree to be bound by the rules of the North Lincolnshire Sailing Club, the I.Y.R.U., the R.Y.A. and the Class Rules.

A Youth, for this competition, is anyone who has not attained the age of 18 on April 1 st 1982.

A Junior, for this competition, is anyone who has not attained the age of 16 on April 1 st 1982. 42

THIS YEAR HELMS AND CREWS MUST BE UNDER \*18 on APRIL 1 ST 1982.



# OPEN MEETING



TO BE SAILED UNDER THE BURGEE OF

## LEIGH SAILING CLUB

AT PENNINGTON FLASH, OFF SANDY LANE, LOWTON ST. MARY'S, LEIGH, GTR. MANCHESTER.  
ON SUNDAY 11th. JULY, 1982. (First Race 1100 hours)

MINIMUM THIRD PARTY INSURANCE : £250,000

REFRESHMENTS AND BAR AVAILABLE.

SPONSORSHIP BY: H. MARCEL GUEST LIMITED. (PAINT MANUFACTURERS).

### ENTRY FEE

£ 2.50

#### OPEN MEETING ENTRY FORM

Please enter my dinghy for the MIRROR Class Open Meeting on Sunday 11th July, 1982.

SAIL NO.	MIRACLE	BOAT'S NAME	CLUB
NAME (HELM)		NAME (CREW)	
ADDRESS		ADDRESS	
CLUB		CLUB	

PLEASE RETURN ENTRY FORMS TO:- Mr. J.B.Kelly, "Charnock", Portland Road, Swinton, M/cr.  
Tel. No. 061 - 794- 7576. (Miracle).

ENQUIRIES TO ABOVE OR TO:- Mr. J.L. Westerdale, 19, Green Hall Close, Atherton, Lancs.  
Tel. No. Atherton 883643. (Mirror).

I agree to be bound by the rules of the IYRU and the RYA, by the sailing instructions and by the Class Rules. I agree to produce a valid measurement certificate and declare that I have Third Party Insurance of not less than £250,000.

SIGNED:

DATE:

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