

RACE WINNING TECHNIQUES

More miles to the galleon

by Peter Barnes

Most articles on making the Mirror go faster through the water deal with bottom finish or having the best suit of sails you can buy . . . very seldom is much written about the other retarding force, 'windage.' By this, I mean any obstruction which either deflects or impedes a free and even passage of air over the hull and sails, reducing their effectiveness and efficiency.

To use a simile, a clogged air-filter of an engine increases fuel consumption and decreases power output. With a dinghy, excess windage wastes the force of the wind and speed is consequently reduced. The cure is the same in both cases — you either replace with something more efficient, or clean up.

What I shall do then, is to go over the boat, and look at the various areas where possible improvements can be made.

The main and jib sheets, where possible (by this I mean when accurate weather forecasts are available) should be kept to the minimum size for comfort, even to the extent of making tapered ones. The Holt-Allen black blocks for the mainsheet are quite adequate, having the bonus of low windage area. Going further, the dead-eyes for these blocks can be the small sheet stainless variety, instead of those large black things people still retain, and which were originally intended for running the mainsheet through. To improve the jib sheet, why not permanently attach it to the jib with a small, neat whipping, instead of large, unsightly knots?

The kicking strap can be improved by having the block on the boom faired as low down as possible, leaving only a single cord for the wind to pass over. I would be against using wire here on the grounds of safety — having many times caught my fingers between it and a raised centre-board.

Sometime ago I experimented by using stainless wire for the halyards in an attempt to reduce stretch and windage. I found that it is not recommended for the mainsail, the reason being that, where the eye passed through the mast over the sheave it is restricted, often jamming, and to free it means rapid jerking — metal fatigue quickly set in and the whole lot collapsed about my ears. With the jib, however, it was a more feasible proposition. The make up of the halyard was a nine foot length of 7 x 7,2mm stainless wire, eyed at both ends, one end shackled to the jib peak and the other having an 11 foot length of 5mm cordage spliced on for simpler stowage and cleating.

To keep the halyards at the front of the mast, both pass through the spinnaker pole anchor point on the mast, and are only allowed to go round the sides on the lower portion of the mast.

Shrouds are another area where effective reductions can be made. The standard galvanised wire used is 1/8in. (3mm) diameter. This can safely be reduced to 3/32in. (2.5mm) stainless wire, which has a breaking strain of over 500 kilograms. As the foreward mast step is little used, the forestay can be extended some 4-5 inches, reducing the amount of rope used for tying down, and at the top end of the forestay it can be continued round the mast, and have a combined jibstop. The pulley there can be reduced in size effectively.

On the shrouds, it is common practice to use a form of protection for the jib sheets,

allowing them to pass more freely over the shrouds. What is most commonly used is a plastic tubing which, by the way, has hidden dangers. If your shrouds are galvanised, make sure the tubing is loose, and there is no possibility of water collecting in them by having the tubing a snug fit on the ferrule. Corrosion can eat through the wire very quickly without being noticed. The most effective material I have found is that used in the electrical industry and known as spiral cable-wrap. It has an outside diameter of 1/4in., rotates easily, and does not collect water. It is sold to the trade by R.S. Components and should be obtainable from a radio/T.V. repair shop. As the sheet only touches a small section of the shroud, a length of 15in. should be more than sufficient.

Turning one's attention to the spars — the gaff is invariably the main offender. When tapering the gaff, bear in mind that it has to pass through the air smoothly, creating minimum turbulence. Therefore, very little, and preferably none, tapering fore and aft. Only the sides should be tapered. This will give more than sufficient flexibility. The gaff jaws should have the outer edges faired to the inside face, but not faired back too far as this tends to weaken them too much and breakages occur. Finally on the gaff, if you use those proprietary burgee holders, keep them on the front, or better still, just use the luff groove and put the racing flag down there.

The mast should be kept free from unnecessary fittings.

On the boom, the kicking strap block can be chamfered forwards, and radiused, and as with the mast, kept free from unnecessary fittings. This is another reason why I am against the growing practice of carrying the spinnaker pole there, with all its attendant fittings. Outhauls and downhauls should be kept simple and neat, using the smallest diameter cordage you can get away with.

With the hull, projecting fittings should be kept to the minimum. The jib fairleads can be made to fit on the inside, not the top. Apart from the extra windage, placed where they normally are (not on the original), they can be quite uncomfortable to sit on when the wind blows. Other fittings on the gunwale can be improved; if you have rowlock plates,



change them for plastic (lighter) type and recess them into the wood. Spinnaker pulleys can be fitted to the inside. Most chutes are flush fittings so little need be said, but spinnaker control lines should be minimum size commensurate with comfort and wind conditions.

The trim of the hull in the water can affect the amount exposed to the wind. By sitting too far aft, the bow is lifted. This wastes the power from the sails. Apart from being pushed back, this is forced sideways which necessitates a continual correction of the rudder — more drag. The best trim is with the lowest point of the foretransom just touching the water when on the wind. More windage is exposed by allowing the dinghy to heel too far. Try and keep it level, the sails are far more effective at this angle.

Up to now all I have said deals with the dinghy itself. There is, of course, one more item of prime importance — the helmsman

Improve your figure

by Peter Barnes

Racing in inland waters, where there is no tide or current, one sees the same mistakes repeated with great frequency.

People pay insufficient regard to wind-shifts, rounding marks correctly and the 60° vector.

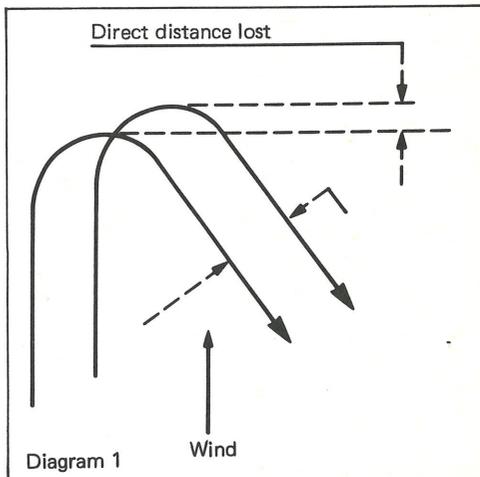
In small lake circuit races, with heaven knows how many laps, you can lose up to 4 boats' length per lap by rounding marks badly.

The rule to remember at the leeward mark is to go in wide and come out fine — as in Diagram 1.



and crew, the largest excess windage factor in the dinghy. One should formulate a set of Rules, starting with, say, wherever possible the helm should stay in the bottom of the boat and let the crew do all the balancing. This will also serve another important point — with the crew staying on the windward side, they will stay out of the slot between main and jib where free passage of the wind is essential. When the wind pipes up, try and stay close behind your crew. This way, only one body surface is presented directly to the wind (and you stay drier). Finally do not wear loose flapping clothes.

To sum up, it may be possible to calculate that some of the things I have mentioned would only mean a difference of inches in a mile, whereas others may mean yards. To those of you who have sailed at a Championship and seen how close boats have been after a race of nine miles, isn't it worth it?

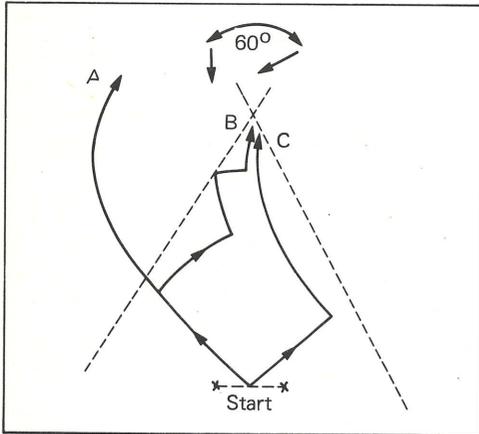


Assume you are running to a mark with a beat following and there are boats close behind you. Your instinctive reaction is to harden up to weather to prevent any risk of overlap. If you are near the mark, ease off to leeward, gybe if you have to, and 'hit' that mark on a beam reach, not frantically pulling in sheets, and come out from the mark with the sails set for the beat moving at full speed. Any boats behind you will drop off in your dirty wind, or have to tack to clear their air without having full way on.

Shooting a mark is a way of rounding which, although slower than a proper rounding, can convert a bad situation into a

bearable one. When you find that, with proverbial cussedness, the wind has backed on the final short leg of a beat, and that instead of making the mark easily, you are about half a boat's length short, resist, and I know it's hard, the tendency to pinch and slow the boat, continue sailing as fast as possible and at the very last moment go hard-up head to wind. FREE THE JIB, and coast using the boat's momentum to carry you forward and round the mark. This method is one which can save putting in two tacks, which you may not be able to do if other boats are near, but you are allowed to luff head to wind.

The 60° vector is a well bandied phrase, little understood and seldom correctly used. Basically, it indicates an area to sail in when on a windward leg, to keep the advantage and nullify the disadvantages of windshifts.

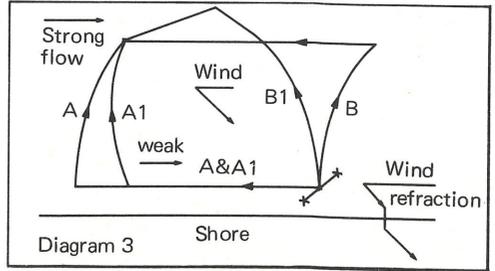


Winds can vary up to 90° on lakes, and sometimes even in excess of this. You can see from Diagram 2 that helmsman A, whilst continually getting a lift, is on a merry-go-round, and not getting any nearer to the mark. Helmsman B is tacking more often but continually making ground. No comments on C, he's just a jammy

Something which really only comes with time, is being able to feel the boat for wind changes, otherwise known as sailing by the seat of your pants. Even this can be given a helping hand. The main thing is to ignore your burgee when beating or reaching for although it is compulsory to carry one, it is also a b liar. Sail on the luff of your jib, and on woolstrands on the shrouds, as

this way you can watch the way you're going, AND see the wind direction at the height it really matters. Be ready for changes in wind direction and strength when nearing islands, trees or other obstructions.

Sea or river sailing brings into play one of the most important factors of final boat speed — this of course is the current. Bad use of it can lose you, not just a few boats' lengths, but hundreds of yards.



An extremely simple example may help. In Diagram 3 above, helmsman A has stood along shore in a weaker current, overstanding the mark, allowing for eventual drift and then heading out to the mark with fingers crossed. Helmsman B heads out first, not considering or failing to understand, water-flow over deep and shallow water. It may even be that he wants to approach the mark on starboard. What will happen is that he may make half as much ground as helmsman A on this tack, or at worst he could stay in one place for the rest of the race.

If, however, the tidal flow is reversed, it would be quite correct to stand out to sea. B would go to windward in almost a direct path, whereas A, tacking along the coast, would find he had to reach down to the mark once he did tack out to sea.

Still considering this simple case where the tide is about to turn and there is but little flow in either direction, the determining factor is the wind. This brings into play a phenomenon known as 'wind refraction.' When a mass of air passes over the coastline either on or off-shore there is a tendency for the direction of the wind to veer almost 90° as it passes over. Thus, by making your first tack along the shore, you get a lift towards the first mark.

Finally you should consider the possibility of a direct on or off-shore wind. Off-shore winds usually attain their full strength at a

distance of at least nine times the height of the land or obstruction over which they have passed. Thus a tack out will pay off whereas an on-shore or sea breeze can be stronger closer to the shore.

Thank you, dear Father Christmas

by Michael McNamara

Roll tacking

by Roy Partridge

ROLLTACKING – A wonderful self-explaining word – you roll the boat while tacking, after plenty of practice.

While beating in light airs you can temporarily increase the effectiveness of the wind when the boat leans to leeward, by slowly bringing the boat upright, and if you hold the same course whilst watching your burgee you will notice that the apparent wind moves back towards the beam until you stop righting the boat, when, because of the extra speed as well, you appear to be nearly heading the apparent wind. Now it follows that if, whilst bringing the heeling to leeward boat upright you turn into the wind, you will gently power your way round the beginning of the tack. Still staying where you are, allow the weight of the boom to pull the sail over towards you, letting the mainsheet slip a few inches. You should almost be sitting in the water with the boat heeled well over and approximately 90° from your previous sailing line. At this point don't fall in, but gently shift your weight to the new windward side and regain the few inches of mainsheet you had previously let out. Combined with the fanning of the sails while rolltacking, this latter movement may well treble the effective strength of the breeze. Watch your burgee carefully as you bring the boat upright, because when you stop you will probably be trying to point too high.

To a lesser extent you can use most of this rolltacking in winds almost up to gale force, but of course, then the gain is less apparent.

After some practice you may think that the gain is not worth the effort – that is the time to watch someone who carries out a perfect roll tack alongside one who doesn't – the gain the former achieves will have you immediately practising with renewed gusto.

Last Christmas, were you one of the lucky ones? Did you find, hidden deep in your Christmas stocking (amid all those socks, pipes and underpants, slippers I reserve for cruising sailors) a book on how to win races?

Leaping on it with a cry of joy, you, perhaps, thought that this could be the catalyst you were waiting for. The secrets of making the brilliant port tack start; of playing the windshift; and of that Force 5 gybe would all be revealed. Mind you, if you think that those secrets are for your eyes alone, you are in for a shock. For a start, the writer already knows them and he hopes his book is going to be read by more than one person. Taken to extremes, the thought of 30,000 Mirror Dinghies arriving at that one ideal spot on the starting line (which the book so clearly describes) could make many a strong man quake.

The book will be very convincing. Apparently, achieving this winning thing can be neatly split into categories. These include tuning the boat; race preparation (where we are warned that the trailer wheels must be greased); the start; the beat; the reach and GYBE; and the run (when we will have time for a Mars, but we mustn't relax); so to the finish (where we must cover the guy who is lying second) and finally to the apres sail (where the check list we are given must have been lifted straight out of a Jumbo Jet.)

Of all these, most attention is given to the start. Did you know that there are at least three ways (apart from guessing) of finding out which end of the line is favoured. You can, for instance, luff up head to wind on the line. This is shown as a diagram with wiggly lines to show that the sails are flapping. Then you should see which end of the line your bows are nearest to. The second method is to sail along the line with the mainsail trimmed properly, and the sheet held tightly. Then, after tacking without letting go of the string, you should be able

to see whether the mainsail is lifting (so you are sailing towards the favoured end); or needs easing (so you are sailing away from the favoured end); should be, that is if you can avoid the dirty looks from the crew who will be bailing out the water that poured in when you heeled because you refused (selfishly in his/her opinion) to pay out the sheet. The final method involves a compass and should be reserved for degree aspirants. It involves jotting down the wind direction over a time. This will not only enable you to sort out the favoured end at the start, but also the likely changes so that the beat can be planned.

Now, all this is very simple on paper, especially when you are helped by nice clear diagrams which have useful arrows for the wind and lines to show the boat's directions.

In reality, things are different. Gone are those arrows, and you have to rely on which ear has the most noise pouring in (it's a sort of swishing sound). Gone too, are those lines to show the direction of the boat. They seem to have been replaced by bubbles, which, in any case, don't last long. Let's say then, that you decide to try the three ways.

First you luff up and the sails flap, but you will find that you cannot see either end of the line because there are too many boats, all head to wind with their sails flapping . . . An interesting point here – if you are going backwards, which way is starboard?

So, on to method number two, which is even more difficult because there are all those other, selfish, boats whizzing up and down preventing you from holding a straight course.

Finally, then, you try method three. Remember you have to jot down the wind direction. So let's say it's 180° and after a bit changes to 175° (M'mmm, you say) and so on. After a few minutes your crew will say, "Excuse me Skip", but you answer, "Shush, I'm concentrating." "But, but . . ." Eventually you will say, "Right crew, I've cracked this, let's go" – to which the answer will be, "Thank goodness for that, the others started two minutes ago."

However, a little practice will help and about half way through the season you will be able to say (well before the start), "right crew, that's where I want to start."

Unfortunately (that word again), you cannot reserve your spot like you can a railway seat, by planting your bobble hat on it. Others may try to get to it too.

Again the books try to help, for they usually show about six boats approaching the start line, of which about (!) three are white (Hurrah for the Goodies) and three are shaded (Boo, hiss for the Baddies). Various wiggles show the tactics involved as the leeward white boat (lee-bowing a black one) crashes off into the distance; the centre white one points as high as possible and the windward white one tacks on to port. The last black boat has a sub-title under him which says, "Boat F has made a poor start and must start the race in dirty wind." I expect he realises this without being told!

This preoccupation with black and white is OK, if only five or six boats start, but what about the various shades of grey? The other 50, 100 or 200 boats in, say a Championship race? Perhaps the moral here is never to have a dark coloured boat as it gives the helms of the white boats a psychological boost. This is even more important on the beat where, in the books, the white boats pick up the windshifts and tack properly on the headers while the poor old black boats go back and forward in the same place, making no headway. The degree books show complications like sailing into a bay where the curving of the wind is shown by thick, lovely lines which, again, are never there in real life. Then, wherever you go you are



headed and the others lifted (now what colour is your boat?) Where, too, is the church tower (conspicuous) with which you are supposed to take bearings?

In fact, I've never once read in a book the most common reason for tacking on a windy day, "Golly, crew, my legs are tired. Let's have a walk to the other side." Another place where the books try to help is rounding the marks. Again the white boat (cocky little devil) is always on the inside while the poor black boat is always on the outside. Mind you, if the black boat is so bad, how on earth can he stay up with the white boat long enough to be called 'water' at? Also, the books don't seem to have any answer for the rounding of marks in big fleets where the requirement is not just 'water' but 'water for 40 boats, please.' I wonder which colour the outside boat is?

What then IS the answer to this winning problem? Obviously there is no short cut, and an apprenticeship has to be served. You must read the books, but you must also practice. By doing this, lines of thought stimulated by the experts can be incorporated into your sailing. Don't forget though, that 'an ounce of practice is worth a ton of theory.' Now where did I read that?

In the meantime, what would happen if 30,000 Mirror Dinghies arrived on your bobble hat on the starting line?

P.S. Dear Father Christmas,

Can I have a couple of pints of white paint next year, please?

Waves

by Peter Barnes

The Plymouth National Championship in 1967 was my first introduction to sailing at sea, and one which gave me a great respect for water 'en masse.'

One particular situation arose during a race which alarmed me at the time and subsequently puzzled me for many years as to the cause.

If my memory serves me correctly, it was the third points race on one of the broad reaching legs and the wind was about force 3-4. Spinnaker was set and some exhilarating surfing enjoyed. It was on one of these frothy rides down a wave that I sat open mouthed as the bow started to submarine into the wave in front, only blind panic made me scramble to the transom which brought the boat level considerably lower in the water, having collected at least five inches in the bottom. Why did it happen? It is with this question in mind that I would like to try and give a better understanding of waves, their effect, and how to use them.

It is not until a wind reaches a speed of just over two knots that it is possible for waves to be formed. Once this happens and these minimum wavelets occur, they are always the same size, having a wave length of just over three inches, and a ground speed of fourteen inches per second.

When the wind speed increases, more waves are formed which either combine or interfere with those already set up, eventually forming a larger wave form, the speed of which can be approximated by multiplying the wind speed by 0.75. The eventual size of these waves is dependent upon three variables, these are: the wind speed; the duration of this wind speed and the fetch — that is the uninterrupted distance the wind travels over the water.

A rough but reasonably accurate method of calculating the maximum height of waves in gale conditions for a given fetch can be made by using the formula $1.5 \times \text{square root of the fetch in nautical miles}$. With this it is possible to calculate the maximum height of waves on a lake or large stretches of



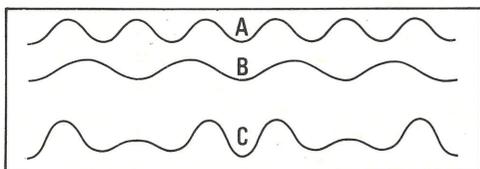


water. For example, a gale blowing from Calais to Dover would only raise waves just over six and a half feet from trough to crest, and on a lake one nautical mile across a wave height would occur of not more than one and a half feet.

These waves, now that energy is stored within, if allowed to continue in open water without further assistance from the wind and without being adversely affected by rain or opposing winds, will continue for a considerable distance under their own power. For a further example, a six foot high wave with a length of fifty feet would travel fifty nautical miles and only lose one third of its height due to this kinetic and partly potential energy stored.

Once this is realised, it is possible to understand that once a wave is formed and established, successive winds can add or subtract to this by imparting further waves to those already in existence, these may have different height and length but will combine to give a more complex wave form.

It is to this effect that sea lore has given the saying 'every seventh wave will be larger.' This may in certain circumstances be true, but more likely it will be of a different frequency such as every other wave, or one in twenty. It will only be by continued observation that a regular pattern can be predicted.



In the above diagram showing three wave forms, A is to indicate one of local origin and B is the remainder of a wave pattern formed further at sea. In C these two forms A and B have combined to give a more complex pattern where every third wave is the largest.

You may ask 'how can I use this information?' In launching from a fairly steep beach it can at times be extremely hazardous, particularly with an onshore wind. It will not be the first or last time I see dinghies damaged and come close to being wrecked through bad handling and trying to launch at the worst time, with the largest surf

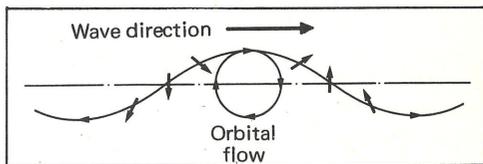
about to break, when a few seconds wait would allow a reasonably comfortable launch.

If then, a launching party is in operation, the man at the bow must remember to lift the bow when the waves break and not to worry about getting his head wet, pushing down on the bow to keep himself dry will have so much water loading the boat as to render it completely unmanageable.

The helm and the crew, preferably, want to be in the boat with sheets ready to power the sails, and the rudder raised but clipped in. The decision to go must be that of the man at the rear or side who should have the pattern of waves in his mind, then on the 'push start' the sails should be pulling with the centreboard and rudder lowered as far as conditions will allow.

Two things to remember: don't get into irons but keep the boat driving; and don't launch with obstructions on your leeward side.

Once out of the surf you will find the waves lessen in their intensity and you will be in a reasonable and generally bearable swell. These will be the waves you will be sailing in and learning to use them will be one of the hardest aspects of sailing you will have to contend with.



If tidal flow is discounted, the surface movement relative to ground of any particular particle of water, although obviously up and down, also moves fore and aft by an equal amount. In deep water the surface movement of these particles is circular and is referred to as the 'orbital flow,' the diameter of which is equal to the wave height. By being able to utilize this motion in racing an advantage is immediate on all points of sailing.

When beating through waves a rather sinuous course has to be made, you will find that in the trough the jib will lift and you will have to bear off slightly to maintain full speed. This is due to the orbital flow at that point moving the boat forward and sideways into the wind, this in turn causes an increase

in wind strength and moves the apparent wind further forward.

On the faces of the wave, a mean course is held as the flow is mainly up or down, but on the crest the orbital flow is moving the boat back and sideways away from the wind. In this situation the wind is freer due to the apparent wind moving further aft so that you can point higher into the wind.

On the downwind legs, the waves will be passing under the boat, occasionally giving you one of those magnificent mouth opening surfs, where your boat literally leaps forward. Being able to prolong these movements more than your competitors is once again utilizing the orbital flow. Lengthening these periods on the crest can be done by moderately moving your weight fore and aft to either increase or decrease the wetted areas on the appropriate surface of the wave form.

The time to move your weight aft is when the crest is nearing the transom, by increasing the wetted area on that section of the boat, and correspondingly decreasing the wetted area of the bow which is in the opposing flow of the trough section of the wave form. This brings into play a number of effects: an overall drop in the total wetted area due to the wave slope, squaring the the sails to the wind thus giving maximum drive, using more efficiently the forward motion of the orbital flow, and lastly by reason of this increase in speed the 'false vertical' effect of a wave is nullified allowing gravity to assist in maintaining your position near the crest.

It then also applies that the time to move your weight forward is when on the back of a wave, where the transom is in the trough applying a retarding force, in doing so you reduce the wetted area and thus lessen the drag.

Whilst on this point of sailing it is worth mentioning two extremely unpleasant things that may occur, these are 'broaching' and 'submarining,' and to use that well worn cliché, prevention is better than a cure. To do this an understanding of the cause is necessary.

Broaching to is a term applied when, in a following sea, the boat twists on the forward face of a wave by the action of orbital flow. If one imagines a boat sailing obliquely across a following sea there will be a point

on the forward face where the bow is in the trough and the transom on the crest. The effect of orbital flow in this case is to push back the bow and the transom forward, trying, and often succeeding, in bringing the boat beam on. The centreboard then acts as a brake and the boat capsizes by tripping over. A further contributory cause to this twist is that, due to the bow digging in, the centre of lateral resistance is moved sharply forward creating excessive weather helm. This together with the rudder being in the forward moving water of the crest can lose up to thirty per cent of its efficiency. So it is easy to understand that when you broach it is often more by luck than judgement that a recovery is effected. The only solution is to quickly move your weight aft and balance to prevent heel. To prevent broaching, never sail by the lee, only use about half centreboard and maintain correct trim on the forward faces of a wave.

Submarining is where, while tramping down a wave, the bow digs into the wave in front and disappears, recovery by moving your weight aft although bringing aboard a mass of embarrassing water is better than taking a chance on going A over B! The cause is the same as in broaching, except that in being square with the waves, the bow is pushed back and down with the transom being pushed forward and up. Thus the twisting action is in the vertical plane. Prevention is once again, on that part of a wave face, keep your weight aft.

The reaching legs, as with the beat, need constant correction of the rudder, because the orbital flow as before is constantly pushing you into and away from the wind. It is on these legs when marginal planing conditions exist that gains of a hundred yards and more can be made. By bearing off when the crest is nearing, a plane can be induced, as the additional speed given by the flow is sometimes all you need to kick the boat up. Careful and quick adjustment of sails and trim will then enable this plane to be maintained, possibly for the rest of the leg.

Rounding buoys in a heavy sea can be chancing your arm if you try to cut corners. Surface flow can suddenly move you towards the buoy, which at the same time can be moving towards you, with the inevitable

result of having to re-round. If you are not therefore travelling very fast, do not try and cut fine as you might on a lake.

As with all things the perfect does not exist; the waves I have written about assume true wind and water — these in nature are never found. Variations in wind strength and direction together with the coastal outline all add to complicate the wave pattern.

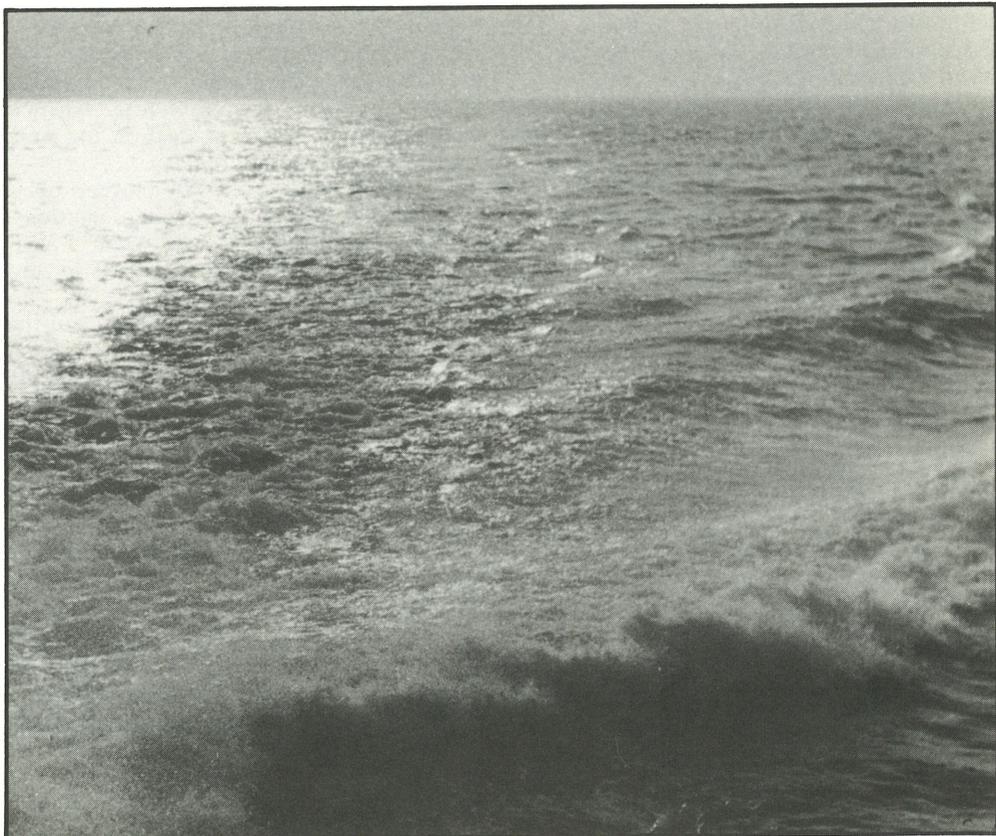
Waves, when nearing the shore and moving into shallower water, have stored within, a vast amount of energy and changes take place in the form before this energy is expended on the beach. The effect of the sea bed on the wave form is firstly to slow down the speed of the waves and in doing so the wave height is increased. The orbital flow instead of being circular, becomes elliptical, eventually the friction of the sea bed retards the trough sufficiently for the crest which is still accelerating to overtake and break into surf.

Race Officers are quite often the subject

of unfair criticism by sometimes abandoning or postponing a race. What the visiting helmsman do not realise is that possibly at the estimated finish of a race the surf will be breaking at a harbour mouth or at the start of a steeply shelving shingle beach, where waves will be expending their energy with sometimes savage intensity and no sympathy for the unwary. Pressures on a wall where waves are breaking can exceed six tons per square foot and even an incoming swell of three feet striking a wall can produce pressures of more than a quarter of a ton per square foot on a resultant standing wave.

In common with the Secretary's usual disclaimer, the writer also accepts no responsibility, whatsoever, for anyone either pole vaulting up the beach (a la Maxi), submarining or tunnelling under the Club-house, not finishing, or just not winning!

Nonetheless — Good Sailing.



You can't capsize a Mirror

by Hugh Cundall

You can't capsize a Mirror, I said to Jamie, my (then) 8 year old crew.

Ian, my 12 year old, started to build our Mirror at school in 1970. We almost finished her in time for the summer holidays in Swansea, where we had to combine serious recreation – I was crewing a friend in the Albacore Nationals! – with, hopefully, a family holiday.

We finished her in our little spare time during the Albacore Nationals and had a trial sail. Then, her first big event was to be the Club regatta on the Saturday. It was blowing a bit, and I was crewing in the Albacore, but the Club provided a young helmsman who was supposed to know more about sailing than Ian, so he and Ian set off for the Mirror race.

The helmsman did *not* know more than Ian, and they capsized before the start . . . (He froze onto the sheet in a gust; when I was first taught to sail as a toddler, I was told "If you let everything go in a gust, she'll look after herself").

Two days later, we took her out through the surf in one of the Gower Peninsular bays. I'm not very good at sailing off a beach; on the way back in, we proved this, and also that the mast, stuck into the sand, is not strong enough to hold up the weight of the boat! Score so far: 2 capsizes in 3 times out! And I've been sailing dinghies for 35 years!

My gaff is specially made to suit a 1 7/8in. dia. mast, and by the most fantastic piece of luck, the only round timber in the whole of Swansea was 1 7/8in. Quite incredible. Anyway, by hard work we had her sailing again the next evening and had a very successful race in force 5/6.

The rest of that year was uneventful. The next year I did not get her out until I was asked to go to an open meeting at a club on the River Trent near to my home.

There were three races. The first was almost a disaster. I arrived late. I'd left my centreboard and rudder behind. I had to

pick up a scratch crew. And when we launched 1 second before the 5 minute gun, the spinnaker halyard came loose and snarled up both jib sheets. It was blowing force 3/5, and the start gun went while we were still trying to clear the snarl – but there was a general recall. Then we went aground. Finally we were cleared up – sailed back to the line – saw a chap looking all earnest with his finger on the trigger of the pistol (we had no idea of the time – much too busy to look!) so we turned round to the start, found a hole at the starboard end of the line and were never headed thereafter! Talk about luck.

The second race we were much better organised, and got a good start. Again we worked out a good lead and then, running down to the finishing line, just in front of the clubhouse. I decided to do it properly and gybe for the line.

Looking back on it, I think the centreboard must have been too high so that the kicking-strap caught on it . . . We righted her and climbed aboard again for the line, and still managed to win. We got a round of applause from the clubhouse, whereas what I deserved was a castigation for gross carelessness throughout the day.

The next time out was another open meeting, this time in zero wind conditions, with young Jamie as crew. What, I hear you say, surely you did not capsize in zero wind conditions?

It was the last race of the day, and the cup depended on winning it. We had a good lead as we passed the clubhouse on the second beat, against the near-zero wind and the stream, and I was trying to teach Jamie how to roll-tack. We were getting better and I said "now let's have a really quick one."

Looking back on it, I think he must have come across much quicker than previously and there we were, both sitting on the same gunwale . . .

At first, I worried that he might be under the boat, until I heard some reassuring, if unhappy, noises. I went and heaved on the centreboard and could not understand why she would not come up; then one of the boats that had put out from the clubhouse told me that my crew was clinging to the upper gunwale on the other side! So I had to swim round and cajole him into letting go

and work him round to the transom – all tangled up in the mainsheet, can't you just imagine it? (Or have you never capsized?) Then back to the board, and up she came at last. Back to the transom, a quick hand under Jamie's bottom to tumble him into the boat, then unceremoniously in after him, and get her sailing again.

As there had been some unhappy noises while he was in the water (he said afterwards that he knew he could not swim out of his depth, and had forgotten he'd got a life jacket on!) I asked if he wanted to give up and go in, since we were right in front of the clubhouse(!), but he would not hear of it.

Then we had the most fantastic piece of luck – the other man who could win the cup had passed us while this was going on,

and was short tacking against a fickle wind and stream; we picked up an enormous lift that took us straight up the middle, caught him on port at the buoy, and finished miles ahead!

Only to have to retire because someone else protested that we had touched the first buoy without knowing it, but he had not told us at the time.

Still, we got second prize, and Jamie was very chuffed with his, particularly when the Commodore's wife could not believe that anyone so small had been the crew – and we got a mention in the Commodore's speech for entertainment value!

But, nowadays, Jamie does not always give me unequivocal support when I tell people how difficult it is to capsize a Mirror . . .

Down with the spinnaker

by Harry Taylor

Let me take you back a bit. Except for the very young, we must all remember the time when our sport was simple and peaceful, when Mirror men were placid, carefree people, moderate of tongue, kind to their wives. What went wrong? Why does the ten-minute gun now strike such fear into them? Why are they now furtive and anxious, jumping at any sudden noise? Why does the five-minute gun now strike such fear into them? I put it down to the referendum – it came in about 1967 I think – did we want spinnakers? Ten thousand innocents said 'Yes' and things have never been the same since. Looking back, I'm not sure that many of us quite knew what a spinnaker was. We do now alright – it's an invention of the Devil and should have no place in a civilised society. They said they would make sailing more interesting. No-one will deny that that promise has been kept!

With other sails you know how you stand. Talk about the belly of your main and it won't take offence. Over sheet your jib and it will hardly murmur. Mishandle them as you will and they will forgive. But take

one liberty with the spinnaker and it immediately becomes a spiteful, vindictive thing, like a deck chair in the hands of a music hall comic.

The old timers knew better. Read any book on the subject and you will find that, after rounding the Cape and Easting Down before a good Westerly, every page is full of T'gallants, Royals, Skysails and the like being hoisted, braced or trimmed to oaths from the drunken mate. But Spinnakers? Not a mention. They had scurvy and belaying pins – we have spinnakers.

So what is wrong with them? Well, to start with, given a fresh breeze, look into the dinghy park, where boats are being rigged for an important race. You will find spinnakers blossoming everywhere from boats on their trolleys. Now the first thing we learnt about sails was that they should only be hoisted into wind. However, that, we find only applies to proper sails. Because of its perverse nature, a spinnaker must be hoisted downwind. This, of course, is the opportunity it is waiting for and, before you can say 'Sally Karlake,' it has gone, boat, trolley and all. Few sights can be more daunting than that of a Mirror amok in a crowded park, like a rampaging bull on Market Day. When peace has returned, ask the owner why he put it up. If you don't get a Holt's quick release end fitting up the nostril, he will tell you that he was checking his rigging. He was, of course, doing nothing of the sort. It's

all psychological and the real purpose is to persuade you, once on the water, to put up yours, with the inevitable tangle which will result. This is called 'tactics'. Some people would say it is unfair tactics, and that to give everyone a fair chance, flying the spinnaker should be compulsory, like the burgee.

The first leg of a race is, if possible, always a beat. Other explanations are often given for this, but the real reason is to give everyone an excuse for not using the spinnaker, without loss of face, until they have settled down — it is sometimes called, for this reason, the 'leg of grace'. You can take some comfort from this, in the same way as it is nice to find a queue at the dentist's but before long, as you approach the windward mark, a decision must be made, to spi or not to spi (Hamlet, I think) on the reach. If you don't and the rest do you will feel naked. If you do — well look what happened last time in a Force 5. You could look up front and see how those who have already rounded are coping. This unfortunately will not help much as these are your Peter Barnes's and Derek Beeres who, you should notice, have a completely different sail, a powerful but docile creature, quite unlike your untamable monster. In any case, as soon as they have persuaded you to put yours up, they are likely to take theirs down.

But a warning to you not to unleash the beast may not long be heeded when Mark Rushall (who got tangled with the warp of an angler's pram and was further delayed by an ear full of ground bait) half fills your boat with spray as he screeches past on the reach. The blood rushes to your head and, before you are aware of it, out come the fateful words 'Spinnaker Up'.

If you are lucky nothing happens. Lady wife, saying that there is nothing about this in her contract, carries on bailing. She may, however, decide to humour you, or worse, you may have fitted one of those contraptions whereby you hoist the sail yourself. Ingenious as it is, it leaves you short of a hand to steer with and, to the peril of those around, your boat shoots off in all directions, like the dog which has discovered mustard in its meat. And what the heck is she doing with the pole?! You can now ponder on how pointless it was hoisting the sail ashore. If it was right then, how can the

sheets now be inside the forestay, shrouds and jib sheets? Of perhaps less importance why now is the sail number vertical instead of horizontal? I am afraid there is no explanation — it's the perversity of the spinnaker again. Likewise there is no obvious reason why all those people, many of whom could not even spell 'spinnaker', are now so far ahead.

Don't brood too long because the time has come to make peace with your crew. It is essential to be on speaking terms again before the leeward mark. Humble yourself, explain that those words just slipped out, promise her something, anything, for the spinnaker must now come down. And if there is anything it resists more than going up it is coming down again. You should bow to the inevitable here. As surely as toothpaste will not go back into its tube, a spinnaker will not go back into its boat. It will go into the sea where, as Cinderella's coach turned into a pumpkin, it will change into a sea anchor, and a highly efficient one at that. It takes time but this little difficulty can be sorted out surprisingly easily, provided you don't intend to use it again. People have even caught fish in this way. And you may be able to find the pole on the next lap.

A good story should have a happy ending. Surveying the tactical situation, you find things not quite so bad as they appeared. Immersed in your own troubles you had forgotten that most of the others also had spinnakers. Admittedly there is now no-one actually behind but a good quarter mile beyond the mark, and still making good speed downwind, are two unfortunates who can only have their halyards jambed. Another, which has rounded the buoys, seems to be making awfully hard work of the beat. Getting closer, you notice that a spinnaker sheet has tied itself round the end of the boom with a series of knots not seen since the days of the Cape Horners. Your spirits have now recovered enough for you to consider a few words of encouragement as you slip past. If his response is a bit quieter than you expected it has nothing to do, as you first thought, with good manners. The sheet, you now see, is also wrapped round his neck. No, all is not lost, and if you can keep the Devil out of you and the spinnaker

where it belongs, you will no doubt pick up more places on the next downwind leg. For surely some of the others, who got away with it this time, still have their lesson to learn.

The discerning reader may feel that in this narrative a leg appears to have been left out of the course. What happened to the

second reach? He is right, but this is no accident. It would have been impossible to write an article suitable for younger readers and those of a nervous disposition, and yet give a true account of the catastrophies and the language to go with them at the jibe mark.

Yes, enough is enough!





Doctor, Doctor

by Michael McNamara

You would need to be a Van Gogh, at the very least, to capture the beauty of a fleet of racing dinghies. The movement of hulls; of sails and of water combine in a unity impossible to describe. Unfortunately from the artists point of view, one or two of the dinghies would spoil the overall effect. These would be the upright ones, the ones whose sails flapped less and whose hulls made less noise in the waves. In fact, the faster ones. The artist would have to paint his pictures just after the start or invest in a long thin piece of canvas to get them in.

This problem of achieving speed faces every dinghy racer. Page after page, book after book is written listing the physical processes of achieving it. Yet even after stuffing themselves with knowledge very few back markers manage to leap through the fleet. Most skips tend to blame the boats as not being fast enough. I know for instance of at least two championship winning boats which had centreplate and mast positions altered radically by their new owners. It is, of course, a classic case of the old chicken and egg routine — which does come first, the good helmsman or the fast boat?

In view of this then, isn't it surprising that so much attention is given to the boat and so little to the attitudes and state of minds of the crew?

Perhaps there would even be a good opening for some enterprising psychiatrist. He would be the catalyst to sort out the basics of the boat speed and then to help the crew organise themselves as the most important segment of the crew; hull; sails triangle. He would obviously have to modify his normal routine and change his 'office' a little. The traditional couch would have to go and be replaced by a sitting out bench — adjustable of course so that the necessary degree of uncomfotability could be achieved. Added refinements could include a fine spray and a noise machine — to include both boats' sounds and the snarls of the helmsman demanding (or rejecting) rights, etc.

Surely then when his soul is suitably

empty of it's speed inhibitions and neurosis, our back marker could start his climb up the fleet.

Mind, it would not be easy, years of suppression don't disappear overnight but think of the advantages in saying "My boat is not pointing today but never mind I really know that that thing I saw in the wood shed can't harm me now."

A whole new language would have to be learnt and distressing new symptoms analysed. Take for instance that tragic case of "I'm on starboard and I feel great" neurosis. This exhibits itself in the helm who is calm and gentleness itself when at home or even in his car, but when he is on starboard becomes a demented gibbering fiend. Instead of rationally deciding only to use his right of way when he is going to get an advantage from it, he uses it willy-nilly and to hell with the end result. He's always being leebowed (the backward glance and accompanying grin reduce his morale even further) or being stopped dead as he crashes into some victim. Although I've yet to see rows of little sails just like swastikas those much loved on W.W.2 aircraft, the scratches, dents and chips are evidence enough. This unfortunate man has to learn that this starboard advantage only lasts for a second during the leebowing; the subsequent tacking off (usually into a header) and the crunch can be more permanent — and result in a lost race, even a series. His purging could be lengthy and, of course, there is always the chance of relapse because temptation (just like that of alcohol and tobacco) is always there. Though, I think, the foundation of 'Starboard Anonymous Sailing Club' would be going a little too far.

A sad business but no sadder than the oft seen schizophrenikeeler. These fall into two categories — the heavy weights ("I never free off for anything old boy") and the tiny bots (who never sheet in). It doesn't really matter which is which, the end result is the same as the boat presents to the water a shape which its designer never intended; creates waves which look terrific; looks full of action — but sails like a brick. The treatment for the two types of heeler is different. The heavy brigade have to learn that there comes a time when a fuller sail creates just too much sideways drag and there is no substitute for a proper aerofoil.

The light weights have a much harder problem. They have to come to terms with the fact that there is no magic mast that will bend in, out, up, down, sideways and keep them up with the fatties and that there will be other occasions – marginal planing perhaps – when their weight will be very much in their favour. The motto for everybody – large, medium or small – should be “Don’t be proud if you’ve got too much, get rid of some.” In other words let the ruddy mainsail go a bit.

Which thus brings us back to this chicken and egg thing, for if we could alter the shape of the sails and if we could adjust the boat, we could adjust it to suit the conditions and thus suit ourselves more.

Windshifts

by D J Derby

What are windshifts? Well, first and foremost they are a rather convenient peg on which to hang your excuses for not winning particular races. I am convinced that they account for at least half the races which I lose, but I am working on it. Helmsmen who fail to detect, and make use of, windshifts have very little chance of ever consistently winning in top competition.

In this article, which I hope you will find helpful, I only propose to deal with the small oscillating windshifts which occur all the time, whatever the conditions. These shifts, about 10 degrees (5 degrees either side of the mean wind direction) arrive roughly every 2 to 3 minutes on inland waters. On the open sea they tend to be less pronounced and more irregular, but they are still there just the same. If you can time your tacks as early as practicable after detecting these shifts, you can gain about an 8% distance advantage over a boat making normal progress, which is 140 yards on a mile long beat! This is one reason why our top helmsmen consistently get to the front without actually moving any faster through the water. If you want to be up there with them then you must learn how to spot and use windshifts, a technique which requires continuous concentration during a race.

In any case, I can hear you say that there are no sailing psychologists and even if there were there is no way that they could advise all the sailors.

Here is a case for each individual sailor to be his own psychiatrist. There must be no cheating and no matter how painful to the ego the critical self analysis has to be frank. Otherwise it will not work.

So keep in mind that glorious goal; that wonderful achievement; that light at the end of a very long dark tunnel; that burst of sunlight through the angry storm cloud; that moment when you win your first race. Mind, even that doesn’t mean the war is won, merely that the first battle is over.

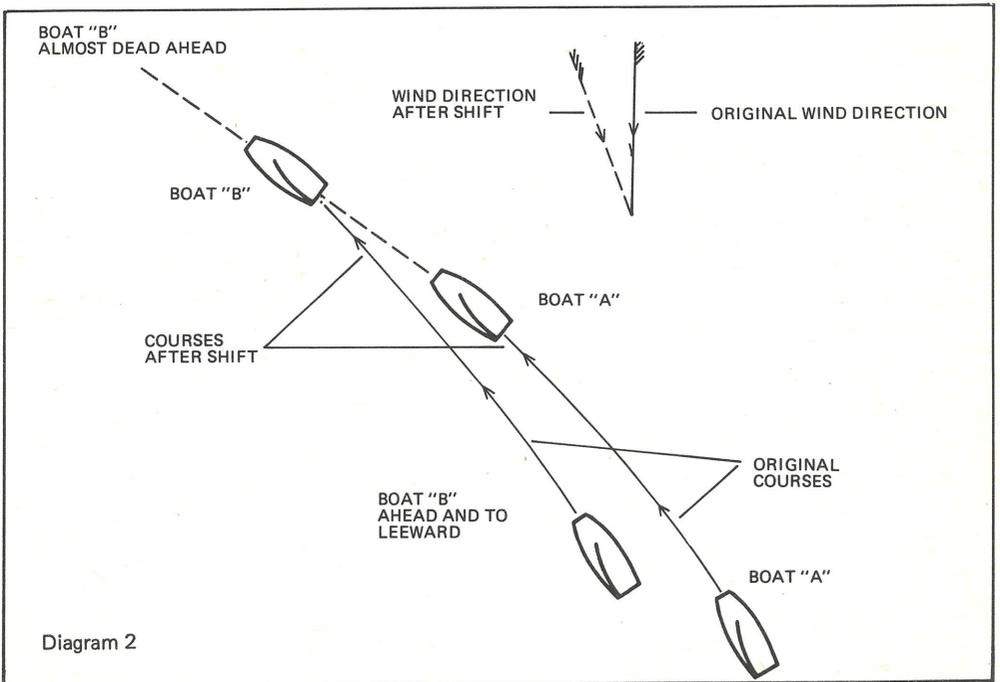
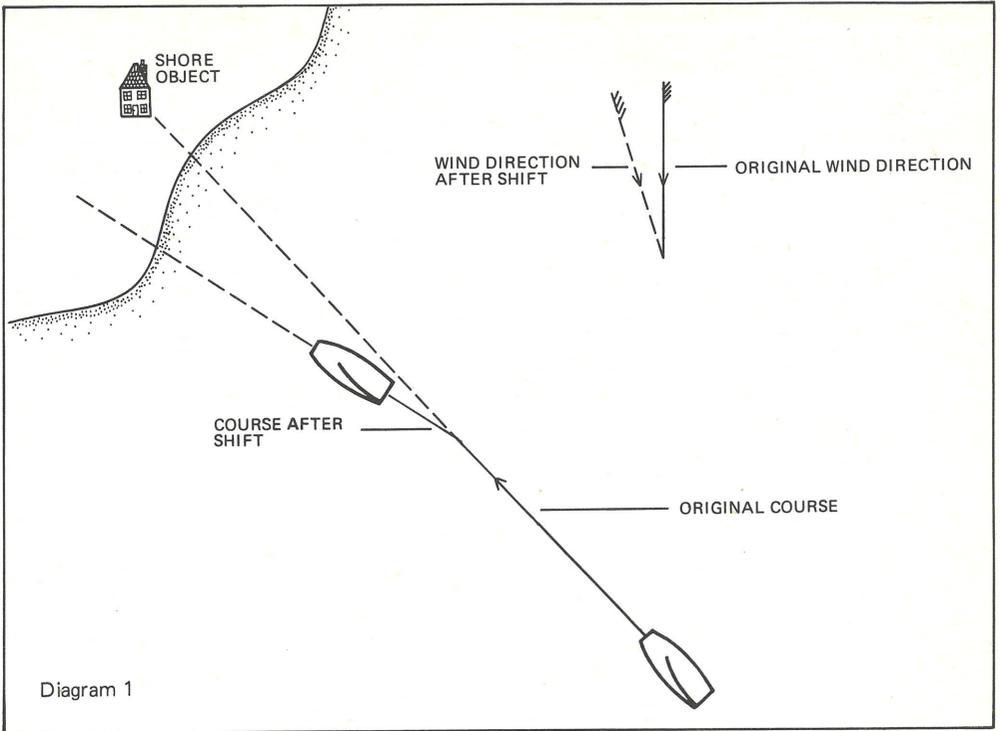
There are three basic ways of detecting shifts.

The first method is to line up on some conspicuous shore mark (preferably not a farm animal or flashy sports car) after having come round on to a new tack. When you can no longer lay your mark ashore, you have been headed and it is time to tack. See diagram 1.

The second method is to make use of surrounding boats sailing a similar course to your own. When you are headed, boats which were previously ahead and to leeward, will now be almost dead ahead and it is time to tack. See diagram 2.

The third method is to use one of the small tactical compasses which are available. When sailing to windward with one of these fitted and set up correctly, the compass needle will lie along the line joining the red and green sectors shown on the face. When you are headed the needle moves into the red sector and you must tack.

I realise that the foregoing all sounds very nice and simple, but what you must do is take out your boat and practice. At first you will notice very little gain since no doubt you will miss some shifts, imagine others which are not there and also probably lose ground because your tacking technique needs improving. However I am sure that with perseverance, in time, you will start to regularly make up ground on the beats until eventually you happily find yourself leading the fleet.



Proper course

by Ron Burdon

The International Yacht Racing Rules are a headache, all 78 of them! And more will be added. . . I doubt if anyone can recite them all, and understand them.

For the paltry sum of 75p in 1975 anyone can purchase from the RYA their booklet No. YR1/73 'Yacht Racing Including the International Racing Rules' and although this booklet does not interpret the regulations, if Part I of the rules is understood, i.e. Definitions, then Parts IV and V can be worked out.

Apparently the IYRU was asked for simpler rules so that beginners could understand what its all about, but as the rules have to be watertight, they declined. They did, however, give a summary, saying that if anyone racing obeyed these four points, then they would keep out of trouble.

1. Opposite tacks – The boat on port tack shall keep clear.
2. Boats on the same tack – The windward boat and the boat which is clear astern shall keep clear.
3. When two boats come to a mark or obstruction overlapped, the outside boat shall give the inside boat room to round or pass.
4. Except when she has luffing rights, a boat shall not alter course as to force another boat to alter course immediately to keep clear.

People ask what is the 'proper course.' It's in the Racing Rules, Part I, as follows:

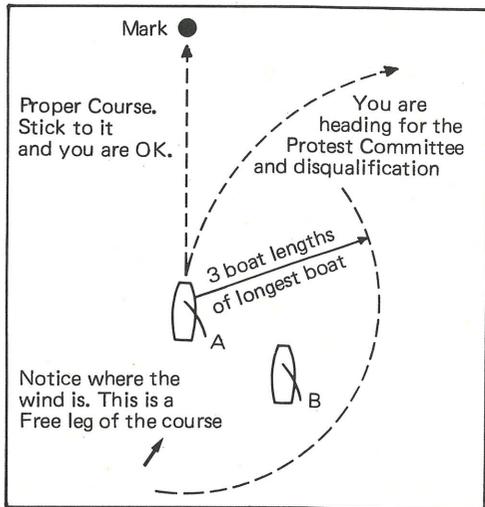
Proper Course. A Proper Course is any course which a yacht might sail after the starting signal, in the absence of the other yacht or yachts affected, to finish as quickly as possible. The course sailed before luffing or bearing away is presumably, but not necessarily, the Proper Course. There is no Proper Course before the starting signal.'

I am not trying to put over oneupmanship – I had to get the exact wording from the rules. I think that most of us know the gist of the rules and rely on 'Elvstrom' or 'Pinaud' for detailed situation analyses, and if we all obeyed them implicitly (that's a

laugh for a start) there would be no need for protest committees.

Rule 39 – Sailing Below a Proper Course.

'A yacht which is on a free leg of the course shall not sail below her Proper Course when she is clearly within three of her overall lengths of either a leeward yacht or a yacht clear astern which is steering a course to pass to leeward.'



While B is within 3 lengths of A, then A shall not bear away or interfere with B. Do not pull the tiller towards you (to windward) and so put the transom closer to the wind.

Rule 37.3 – Sailing above a Proper Course.

'A yacht which establishes an overlap to leeward from clear astern shall allow the

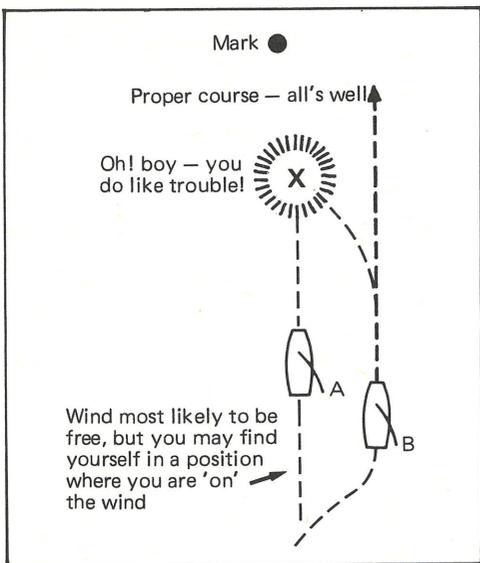
Simple but effective

by David Howell

When beating into waves, move crew weight aft to lift the bow of the boat. This assists the boat to ride over, rather than through the waves. The blunt nose of the Mirror is not ideal for cutting through waves as it tends to be slapped, it is better to 'lift' the bow over.

When offered a tow from a power craft, take a line from the craft, make one turn around the base of the Mirror mast. Hold

windward yacht ample room and opportunity to keep clear, and during the existence of that overlap the leeward yacht shall not sail above her Proper Course.'



B has established the overlap by sailing from clear astern into A's lee, while the overlap lasts B cannot luff (sail above the proper course in this case) to impede A.

To remember the difference between 'above' and 'below' a proper course - sailing above the proper course you are putting your bows nearer the wind (LUFFING); sailing below the proper course you are putting your stern closer to the wind (BEARING AWAY).

the line in the hand whilst being towed - thus making it easy to release if the power boat goes too fast. I have had the misfortune to have my bow transom broken by a motor launch idiot!

Racing without a spinnaker: when running, goosewing the sails, and sail a dead run by steering a wind course. Steer by watching the sails, not the racing flag. If you do not lay the mark, cover the final distance on a broad reach.

When beating, turn head aft, and look over your shoulder without turning your shoulders; the extremity of your vision will be your approximate line after tacking.

Don't blame the Tell-tail.

(He's really telling the truth)

by Gerald Rockett

As one who feels completely blind without them, it came as a surprise to me to find how few Mirror sailors actually use sail tell-tails.

By fitting tell-tails on both sides of a sail, it is possible to 'see' the wind flowing over the sail. For maximum drive the wind should, in theory, flow smoothly across both the windward and leeward surfaces. If both the windward and leeward tell-tails are streaming horizontally, this is happening and the sail is set at the correct angle to the wind. However, if the weather tell-tail is streaming horizontally but the leeward one is lazily gyrating or pointing in another direction, this shows that the air flow has broken down on the lee side of the sail and turbulence is occurring. To correct this, the angle of attack of the sail to the wind must be reduced. Conversely, if the leeward tell-tail is streaming but the windward one is not, then turbulence is occurring on the windward side and the sail's angle of attack must therefore be increased.

Tell-tails have many applications, for instance, controlling the amount of twist to allow, or as a guide on how far to ease the sheet on a reach but, by far the most useful purpose, so far as dinghy sailors are concerned, is as a guide to pointing when sailing to windward. For this latter purpose, two tell-tails are all that is required and I recommend that these be fitted approximately 6in. (153mm) behind the foresail luff at about 2ft. 6in. (0.762m) and 3ft. 9in. (1.143m) up from the tack. When sailing to windward, with the foresail sheeted in, if the windward tell-tail is not streaming then you are pointing too high or, alternatively, if the leeward one stops streaming then you are pointing too low.

It is frequently argued that tell-tails are not necessary for sailing to windward because back-winding of the foresail luff will show when the boat is being pointed too high. However, tell-tails are much more sensitive,

frequently showing a breakdown in the wind flow long before the sail has started to lift. Also, tell-tails have the advantage of showing when the boat is being pointed too low, thereby helping you to quickly pick up an advantageous lifting wind shift.

A tell-tail can be made from any light material or thread. I favour spinnaker nylon cut into a strip about 3/16in. (5mm) wide because this is a very light fabric and consequently very sensitive. It also has the advantage of drying quickly. The most popular and more easily obtainable alternative is a single length of wool, but, if you use this, avoid making it too thick because if the tell-tail is heavy it will be insensitive in light winds. Remember also to be careful over your choice of colour for the tell-tail because you must be able to see the leeward one through the sail cloth. Black or white are probably the most suitable colours.

You can buy complete tell-tails which are supplied with a sticky disc to attach them to the sail-cloth. However, these discs can

become unstuck and the tell-tail blow away (inevitably at a critical moment) unless you are careful. Instead, I recommend that you make a small hole in the sail cloth with a bradawl and simply push the spinnaker nylon or wool through, tying a knot on either side of the sail to stop it slipping out. Incidentally, the tell-tail needs to be about 5in. (127mm) long on each side.

Finally, one word of warning – wind is fickle and its flow can be easily disturbed, particularly when the boat is pitching in a sea. Consequently, local areas of turbulence can be created which cause the tell-tails to give the occasional misleading information, and when first learning to use tell-tails, this might confuse you. However, ‘reading’ tell-tails is an art which must be learned so that you are able to differentiate between correct information and false. My advice to you, therefore, is to persevere. When you have really got used to them, you will wonder how you ever managed to sail a boat to windward without them.

Is this your single problem?

by Harry Taylor

I understand that in the single-handed race at the National Championship, spinnakers are actually hoisted. I have recently completed my boat and found great difficulty in hoisting my spinnaker on dry land – but then I don't suppose there are many telephone wires for it to get tangled with at sea.

I suppose a quick answer is ‘with difficulty’. However, as you say, more and more people find that, even in single-handed races, it is usually necessary to use a spinnaker to be competitive.

Before the advent of spinnaker chutes, the practice was confined to the few who possessed three hands.

Nowadays, the real difficulty comes, not in hoisting the sail, or in lowering it for that matter, but in handling the pole. Here it is essential to have some means of holding the tiller while you are doing your business up

front. There are various ways of doing this, but what we are looking for is some means by which, having set the boat on a steady course, the tiller can be firmly fixed. I have a piece of elastic across the front of the aft tank which can be stretched over the end of the tiller though I am afraid this does allow more movement than I would wish.

Another, and probably better way, is to loop an endless cord through both transom drain holes and a point near the end of the tiller.

If this is tensioned by a trumpet cleat, the friction of the line through the drain holes will resist movement of the tiller.

Some people take a line from the end of the tiller and cleat it in the windward jib sheet jammer. Or a pole can be devised to extend the length of the tiller temporarily so that you can steer from the front. Except for the last method which I have never tried, you will find that, while you are messing with the pole, the boat will still go off course, and you will need to make minor adjustments to the course by shifting your weight and heeling the boat.

Without these devices, I don't think many people could handle a spinnaker single-handed.

The human factor

by Deborah Evelyn

This article is aimed at the person who has been sailing a number of years and has mastered the basic techniques but still manages to finish well down the fleet. He probably spends a long time tuning the boat, worrying about sails, etc. when in actual fact the one thing that matters is the man at the helm. So what can be done to improve performance?

The most important thing is to reduce the number of mistakes. It is the person who makes the least mistakes who wins. Nobody sails a perfect race, but some people make a lot of common errors.

First of all, do you have the right attitude? Do you really want to win? No, seriously! Are you absolutely determined to win?

For example, there are some people who arrive down at the club just as the ten minute gun has gone, and, of course, they are late for the start. The only reason for being late is that you don't give your sailing the priority it deserves. And if you don't do that you won't win. At the other extreme, if you are really keen you can keep a log of every race, analysing all your mistakes — it speeds up the learning process.

However, you must get down and get out in good time. It gives you an opportunity to get the spinnaker up and see that it is not twisted (you should check this on land anyway). You can also practise the first leg of the course if there is plenty of time. This can be very useful because the first beat of the race most determines your position. I once won a race at South Shields because I discovered while practising tacking for the windward mark that the angle of the wind was just sufficient to let the tide (which was generally running against me) leebow me there. So instead of keeping in along the pier I went out into the tide and was round the mark miles before anyone else. Just by careful observation beforehand.

You *must* know the course. I make my crew stand with his back to the course-board and recite the course, times of starting and

high tide etc. It is a very good discipline. I learn it as well of course. And if one of us forgets something it is rarely the same thing so between us we are right.

The ones who get it wrong are those who write it down and then think they know it. Have it in your head — it is the only way.

Memorising nine numbers isn't difficult; beyond that you might need to write it down. Remember to note whether you have to leave the marks to port or starboard. Particularly if it is a figure of eight course or one where you leave one mark to one side and the next to the other. Make especial note of any marks which have a required side but do not begin or end a leg of the course. For example: marks indicating shallows or simply marks which you round at a later stage of the course but which happen to lie in the vicinity of a previous leg of the course.

Arrive at the start in good time, and after the ten minute gun don't go further than about 30 seconds travel from the line in any direction. This way you can be sure that even if the wind dies away you will still be able to start. Make allowances for the tide — it may sweep you away from or over the line. Don't forget if you are timing your approach to the line it will probably take at least ten seconds to tack and get going again. But don't be so busy practising the start that you find you have run out of time! If you haven't got a watch just sail up and down the line until the gun goes. It is so simple — I don't understand why anyone is late!

I am not going to tell you how to sail the race, but bear in mind these two rules of thumb:

1. Keep between your opponent and the mark.
2. Don't go off by yourself unless you are *absolutely* sure you are right.

They amount to basically the same thing and I have found them very useful. In a large fleet *clear wind* and *turn at the mark* are, I think, important factors.

Always carry a protest flag/spare (clean?) handkerchief. If you are involved in an incident make as much noise as possible ... and then look round to see who is looking at you — you will need all the witnesses you can get.



You cannot always rely on your crew as a witness. Even if the protest committee do not suspect him of bias, he may not have seen things as you did! Find out if he knows what happened – the classic phrase from one peeved crew at a protest was: “I don’t know, I was just looking at the jib as I was told to! (sob).”

It goes without saying that you have to know the rules backwards (and incidently not just the rules of Part IV). After an incident, review the situation rapidly in your mind. Decide which rules apply and whether to accept a penalty or to protest. Tell the other helmsman straight away if you can.

Sometimes the fact that there has been a collision helps decide a protest. If you hit another boat make a lot of noise (by shouting) so that he cannot claim he was unaware of the collision. But remember if there is a collision you must protest or accept a penalty (or retire). If you do not, someone else may protest and you will be disqualified, even if the collision was not your fault, because you failed to protest or accept a penalty.

Finishing a race is just as important as starting. Find out which is the nearest end of the line and sail for it (even in some cases if it involves tacking). I have gained several places on the finishing line in this way. Conversely, if you have to keep ahead of one

other boat cover him all the way. Even if he seems to be going in the wrong direction, go with him, keeping between him and the line. If you let him go off on his own the wind may change and he may get there before you.

That is enough about the helmsman, what about the crew? First of all, how do you choose a crew? My ideal crew is a child aged 11 or over and not too heavy. I like a total crew weight of not more than 16 stone. But the most important factor is keenness and boys tend to be better than girls in this respect.

It is very important to keep your crew stretched so that he has not got time to be bored. As well as the usual duties, my crew has sole responsibility for watching out for boats coming up from leeward, and it is he who decides which one is going to pass ahead of the other or if we are on collision course. He is the one who shouts starboard. (But he doesn’t half get a telling off if he slips up). Incidentally, if you think you may be on collision course with a boat on starboard, it pays nine times out of ten to ease off and go behind rather than to tack (unless you are almost clearing ahead of him).

My crew and I always discuss how we are going to start and sail the first leg. As we approach each mark, I outline the procedure to be taken even if we have done it lots of



times already.

We find at Tynemouth that on a choppy day crews are fine during the race. But waiting between races they start feeling seasick! It is simply boredom — keep them interested and they are fine. Unless the wind is particularly tricky I let my crew helm between and after races. I also keep a fishing line in the boat (I never catch anything). Actually it is Secret Weapon No. 5 ... you anchor or tie up to a buoy and drop the line over the side and it tells you what the tide is doing! (If I go on like this I won't have any secret weapons left). Like polishing the bottom of the boat — it doesn't do much good but it doesn't half scare the opposition! (And, incidentally, a smooth bottom is, contrary to popular opinion, more important in heavy weather than in light weather).

The main thing is that you should be confident in yourself and inspire confidence in your crew. Make sure he realises that you expect him to do exactly as you say and he will always respect you for it. (I personally prefer crewing for fussy helmsmen).

Finally, if you think the boat is not going well, then it won't go well. Not because there is anything wrong but simply because you are not happy with it. So next time the boat is not going so well ask yourself — is it me or the boat? It is probably you.

Why here?

by an anonymous silent watcher of
Mirror sailing

AS THEY watched over the sea-wall those hundred and fifty red sails became dots on the horizon. "Just over ten minutes to the off, I make it", observed the Sage.

"But what a pity!" said Molly, "we won't see a thing".

"Probably make out what's happening at the first mark", said the Sage, "it's always a bit difficult for spectators here. The shelter from the headland makes it hard to lay a course to suit competitors and spectators as well. Might as well go for a cuppa while we wait".

"Young Stephen's sure to ask if I was watching", Molly said as she poured. "It's a pity they couldn't have chosen somewhere like they had last year". "Yes, Molly, but there were snags there too, you remember. Car-parking was very difficult, and in any case, most people like to change from year to year. In fact, Clubs suitable to lay on a Championship for our number of boats are not easy to come by, and even the best are still a compromise. We must have good launching facilities for a lot of boats — it's not much fun for beginners if they spend the week trying to get through the surf onto the water. Then, of course, we need plenty of accommodation, we can't always expect to be so handy that we can play with our boats before breakfast, but that's the ideal some look for. And, of course, a Club's premises, being designed for their own needs, can never be really adequate for an influx of 600 visitors".

"Um, I'm beginning to see what you mean, and we also need somewhere suitable for the children, with a family boat like the Mirror, this is essential". "Oh yes, you could go on and on", said the Sage, "and we haven't mentioned the rescue boats. We need a fair number with a fleet of this size. Some Clubs are lucky and have members with their own boats who help out. Others have to hire and this can be expensive. But the most important thing of all, I think, is that the Club we visit must want us. I don't think all

Sail your own race

by Adrian Hope

Windshifts? Of course the wind shifts — we all know that. It usually happens just when you can lay the mark or when you are going to beat old Whatsisname for the first time. Perhaps the best thing that can be said about a windshift is that it makes a useful excuse for getting ashore after all the tea is finished and everyone else has gone home.

Now, if the wind blew nice and steady from one place as it should, we could beat to windward like the lucky chap in Fig. 1, making a nice neat angle of 45° or so to the wind.

It doesn't happen like that, of course. What happens is usually more like Fig. 2. You sail happily along for a bit, say from A to B, and then the wind changes. Suppose the wind shifts round 20° and comes more free, that is, more abeam, you will find that you can sail from B to C. This is all very fine and gets you up to where you

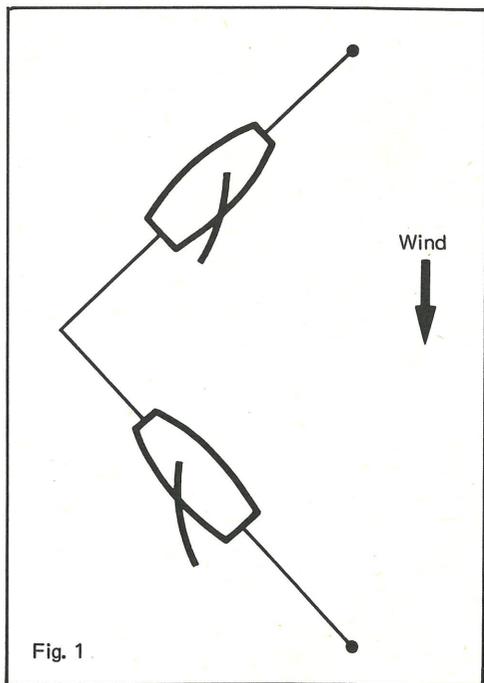


Fig. 1



of us appreciate how much Club members have to do for a successful meeting. Usually it will be found that most of their members have given up a week of their holidays for our benefit, and if a Club is as good as that, other Classes have their eyes on it, so we have to book up at least three years ahead."

"Well, I still think that when we have found somewhere nice, we should try and stick to it. Also I think a good Social Programme is just as important as the sailing, and everyone likes somewhere special for the prize-giving night. We wives are on holiday too."

"We do go back to places, you know, and talking of prizes, there is an art in that. Try to imagine choosing over a hundred prizes. That nice pair of ear-rings might be a beautiful prize for the third crew, but not if it happened to be young Jimmy's reward for not dripping the spinnaker pole over the side. I sometimes think the prizes should go to the losers anyway, the winners have had their reward."

"Shall we go back and see how they are getting on? I hope I can pick out Stephen. Where are they having the Nationals next year?"

"Dunno," said the Sage, adjusting his binoculars, "but no doubt we will be there."

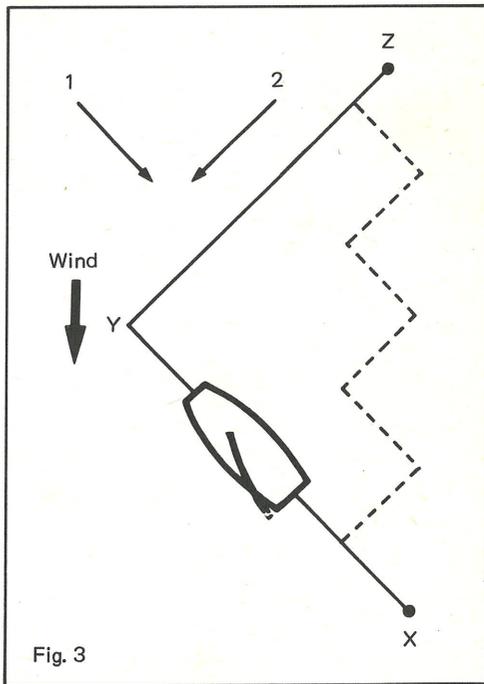
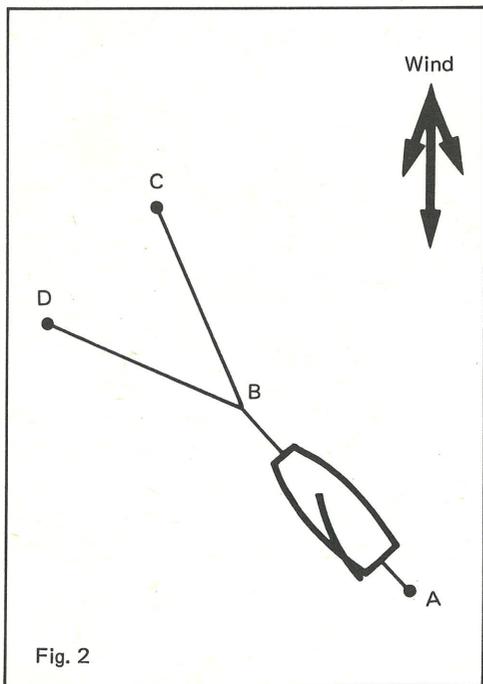
want to go – BUT, if the wind shifts the other way and goes 20° more ahead, you will find that you can't point any higher than D. This is not much use at all and very discouraging but there is only one thing to do – apart from swearing at your crew – and that is to tack. You will then find the wind is free on the new tack and you can lay a nice course up towards the windward mark so you sail along on that tack until the wind goes back to where it started. This gives us WINDSHIFT RULE ONE – *Tack on the Headers*,

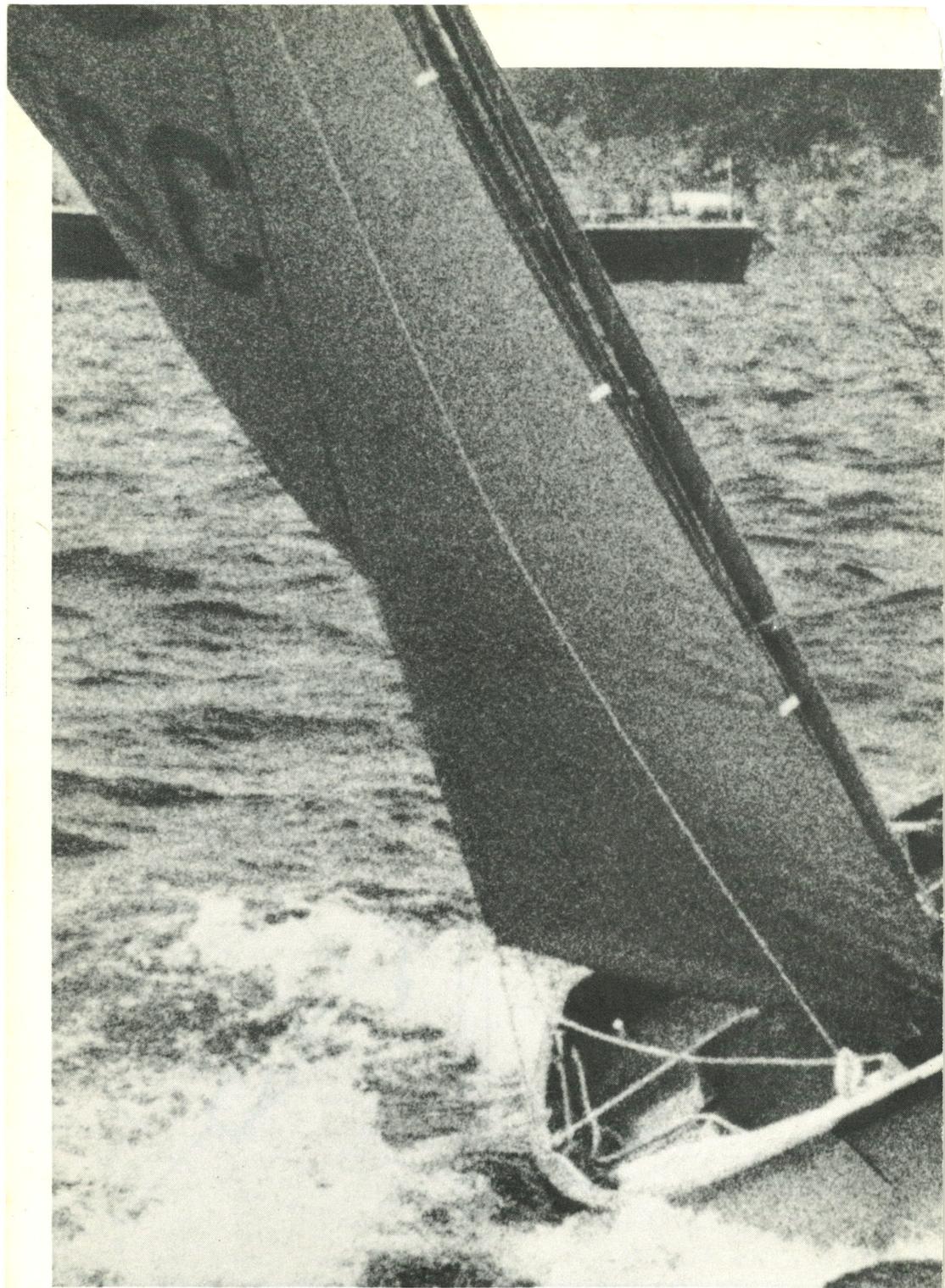
Now then if you haven't already moved on to Repairs and Maintenance – have a look at Fig. 3. It is more complicated than the first two so as to make it look clever. Suppose you are beating up from X to Y and Z. It's a long beat, and just when you get to Y, the wind shifts. If it starts blowing in the direction of the arrow marked 1, then you have a beam reach to the mark, so you will go a bit faster. If, on the other hand, it starts to blow in the direction of arrow 2, you will find that you can't lay the mark at all and you are really in trouble. If you get a couple of shifts like this, you will feel as if you might sail round and round in circles

until you look like the Ancient Mariner. The answer to this one is not to get caught by sailing out to Y in the first place. Follow the course shown by the dotted line so that you can make the best of any wind shifts that come along by tacking on the headers. This gives us WINDSHIFT RULE TWO – *Stay downwind of the mark*.

If you think all this is quite easy and when do we get to the difficult part, then that's good because here it is. The difficult part is that when you decide to tack you find that someone is sitting on your transom and you can't. The answer to this is the simplest of all – you should have been somewhere else. If you are going to use the windshifts, then you must do all you can to get away from the other boats. If you get away in front, that's excellent, but at all costs get on your own. This points to WINDSHIFT RULE THREE – *Sail your own race*.

Well, perhaps we haven't covered everything there is to know about windshifts, but if you study your local conditions, keep a weather eye open, and remember the three rules, you will soon find yourself finishing in front of some people in faster boats. They will say, of course, that it's all just luck!





Sailing fast

by Peter Bateman

(PREPARED IN 1973 AND STILL RELEVANT)

Sailing fast is an art, but as in all arts in the end it depends heavily on science for its application. Take sail shapes, more is talked about the curves of individual sails than any other facet of the sport, but the science is not in the individual shape, so much of it is the total aerofoil from the luff of the jib to the leach of the main and its application to any particular course on which the boat is sailing. Speed comes from sails which can

create this total aerofoil shape easily over a wide spectrum of wind strengths. Many will argue that the flow in this or that position is faster but with correct sheeting and various sheeting systems sails can be made to change their shape to suit different wind conditions to achieve the required position and depth of flow. It is most important to realise that the control of the slot is of primary importance. With the Mirror dinghy it is particularly difficult when sheeting to the standard position on the gunwale to achieve any form of parallel slot effect and therefore, we have been experimenting in bringing the fairleads further inboard in order to

obtain a more balanced slot. We are trying to aim at getting as near a parallel effect from the clew of the jib to the head along the line of the leach following the leeward side of the mainsail.

Well, you may say, so much for the theory. We all know the overall shape needed to make the boat go faster but how do we achieve this, that is the question. In fact, because the variables are so numerous, to give a complete answer would take far too long. Nevertheless there are some very fundamental rules that we, the Bruce Banks Racing Team, can pass on to you, which we feel would help. These are, if you like, the thick black lines of the picture, the shades and colours you will fill in for yourself.

Foresails. It is most important to realise that the function of the foresail is twofold, first as a component of the total aerofoil and second as an individual power unit. As the leading sail, the luff entry is very critical and it is important to realise that in smooth water a flatter luff entry is faster whilst in a chop a fuller luff entry is better. This is irrespective of wind speed. The big problem is to retain attachment of air flow to the leading edge. In smooth water the fine entry can keep the air flow attached as the boat is not being moved about, but in a chop the boat is always stopping and starting and therefore, a fuller entry is required to stop the air from being stalled. Perhaps surprisingly the fuller entry in fact points higher whilst the flatter entry is faster.

Please bear in mind the following points, depth of flow in the sail will move towards the edge under greatest tension therefore, sheeting control and halyard tension are critical; in light airs the sheet should be eased slightly. Halyard tension is obviously critical in both conditions and sufficient tension should be used to just stop the luff sail from distorting between the hanks. We would suggest that some form of graduation is put onto the halyard in order to keep some form of control over the amount of stretch used. The sail has to have a uniform angle of attack and therefore, we would suggest you fit four tell-tails on the luff approximately 6in. in, and you should obtain a situation where all of these tell-tails are moving at the same time. If the top tail flut-



ters first then the sheet leads must be moved forward. If at the bottom then the sheet leads must be moved aft. Correctly trimmed they will move like soldiers. We would then suggest that the top two and the bottom one were removed and therefore, you have only one tell-tail to look at.

For good speed it is essential that the tell-tails are streamlined aft on both sides of the sail, whilst beating it is permissible to allow the weather one to dance when the boat is being pinched, never let this happen to the leeward one, you will be throwing yards away.

Mainsail. Again the function of the sail is twofold, as the balance of the aerofoil and its individual power unit is different from the foresail in that its shape is more versatile and therefore to achieve the fastest speed the shape must be fully controlled in all con-

ditions. All controls of sail shape are integrated with one another and it is nonsense to use one in isolation. Remember the total aerofoil shape is what we are aiming for, the controls to use are (1) the foot outhaul, (2) luff tension, (3) kicking strap, (4) mainsheet. There is nothing like experimenting for yourself to work out the various effects of these controls, but here are a few rules to help. In light and medium winds it is important to hold the gaff as straight as possible except where you have sails which are very full cut, then we would advise that allowing the gaff to fall off slightly in the lightest winds will produce a far better sail shape than if the gaff is held straight. With the gaff held straight you will tend in fact to induce fullness at the front edge and however slack you have the luff it will be impossible for the flow to move aft, therefore, by artificially putting a bend in the mast you are letting the gaff sag, you will enable the boat to have a flatter sail which will be faster in the lighter winds. However, once there is a breeze around it is very definitely to your advantage to hold the gaff as straight as possible in order to develop the maximum power drive from a full sail. Luff tension should be adjusted to ensure the correct position horizontally of the depth of flow and the kicking strap should be used in order to obtain the right amount of twist to the leach of the mainsail. Finally the clew outhaul should be adjusted to determine the actual depth of camber created in the sail. Once all of these have been set and calibrated it is just a question of adjusting the mainsheet to set the sail for the particular course on which you are sailing. All the various adjustments have to be noted and remembered as you go along and so we normally supply to our customers some graduated sticker strips which make this very easy. Once the position is found and noted it is simply a matter to recreate the shape to order.

Sail Battens. A vast amount of research and production skill has gone into achieving the right style of glass fibre battens. There are many available on the market at the present time but we feel that our rod design has many advantages over some of the others. By merely rubbing with a simple abrasive paper it is possible to adjust the

camber and the bend of these battens to fair in with your sail without any interference to the general shape whatsoever. These battens are also very light and yet are stiff enough to control the leech if required.

Spinnakers. Spinnaker nylon is an inherently unstable and stretchy material. At Bruce Banks we have an incomparable understanding of these problems and for many years the loft has led in design not only in this country but in the world. The big problem is to control the distortion in the best possible way in order to produce a nice fair shape. It should be remembered that the control of unstable fabric is what seams and shaping is all about. Your spinnaker should be trimmed with the leading edge on a permanent verge of collapse, the old pretence that a spinnaker should always be full whilst pretty in pictures is slow in speed. The boat is constantly pitching and changing course and by keeping the front edge collapsed attached air flow is assured with a wide slot. A wide slot means less drag and more power. The degree of collapse on the luff is open to personal taste but we advise people to aim at a fold on the luff of approximately half the length of the luff and a depth of 4-5 in. If the sail is only collapsing the upper third of the luff then your spinnaker pole is too high and should be lowered. If however, more than half the luff is folding in then the pole is too low and it should be raised slightly. The position of the pole relative on the mast is something which a small amount of adjustment on the outboard end overcomes any amount of adjustment at the inboard end and so therefore, we advise that you take your normal standard position for this. With regard to the sheeting point, probably a foot or eighteen inches in front of the transom would give the best point for sheeting, so therefore, remember the following rules. Hoist the spinnaker to its maximum height, trim the sail by just collapsing the luff, adjust the pole height to achieve the correct amount of luff-break.

We hope that the above is of interest and will help some of the Mirror sailors with increasing their boat speed. If at any time there are any further points which people would like to discuss with us we would be quite happy for them to contact us.

Racing single handed

by Bill Webber

Many people think that single-handed sailing cannot be as rewarding as sailing with a crew, as there is not the satisfaction of teamwork involved. However, there is in fact great satisfaction in teaching yourself how to do a job normally done by two. For this, some practice is needed, and maybe some small modifications (all in class of course) to your Mirror, which will also be of use when sailing two up. These modifications, plus some description of the techniques I have developed, are described below.

Done well, single-handed sailing is really quite simple and safe. Also, there being less weight in the boat and with perfect co-ordination between the helmsman and himself, the boat's handicap could be reduced fairly to the Association Committee's recommendation of PYR 118 — but not to the RYA's suggested figure of 113!

Boat Modifications

Well adjusted toe-straps are essential to successful single-handed sailing in a blow. They should be positioned so that you can sit well out, comfortably, close up behind the thwart. Also of use for sitting out, is the maximum length of tiller extension with a universal joint coupling on the very end of the tiller. The best length is such that the extension does not quite foul the main-sheet when swung back along the tiller.

Furthermore, good free-running jib-sheets and fairleads are needed, with efficient, easily used cleats.

Heavy Weather Techniques

— To be able to sit out well for long periods is an advantage. To help me do this, I first hold the main-sheet across my body and then hook it under my hand on the tiller. In this way, when the wind is constant, I have a hand free to hold on to the gunwale. When the wind gusts I let the mainsheet slip, and let go of the gunwale for short periods to pull the sheet back in. As in any sailing, it is essential to keep the boat upright even if it means spilling wind from the main.

In sitting-out weather, tacking is very easy and quick. If you are on starboard and going to tack on to port, the best method is to uncleat the jib and hold the tiller and both sheets in the left hand. Then take hold of the sheet on the starboard jib fairlead and tack in the normal way, bringing the jib-sheet behind your back as you move across. When the jib is fully in you must be able to cleat it without looking. Then take the tiller in your right hand, keeping hold of the mainsheet in your left until correctly trimmed. Other techniques may be easier for you, but they must be practised until they work every time.

When reaching, optimum speed is only obtained if the jib is continually played to the wind. To do this the tiller and mainsheet must be held in the same hand, leaving the other hand for the jib-sheet.

Light Weather

In light airs, sailing single-handed is harder than sailing crewed. To keep the boat correctly balanced some interesting positions are often taken up. The position I most commonly adopt on beats and close reaches is lying across the thwart with my head resting on the windward gunwale. From here I can see both sails, the racing flag and other boats in most directions.

Whichever position you sit or lie in, it is important to be able to move quickly, as it only needs a small gust to capsize a boat with the helmsman trapped somewhere to leeward.

Spinnaker Handling

I have not yet mentioned the use of the spinnaker whilst single-handing. Once up it is easy to control, but hoisting, and especially lowering, are difficult and will lose you much ground when racing — too much, if sailing on inland water, to balance the advantage gained.

The way to use a spinnaker is described below, and is much easier if a chute is fitted.

A piece of elastic across the boat which can be hooked on to the tiller is needed, because, however the spinnaker is used, you will have to let go of the tiller for a short while, steering with the trim of the boat, if the boat is heeled to windward it will bear off, and vice-versa.

To put up the spinnaker the pole should be clipped to the guy, the uphaul and then

the mast. When this is done the sail should be hoisted, after which it can be controlled in your normal way.

To lower the spinnaker is usually more difficult. If you do not have a chute the pole must be removed first, then the spinnaker brought down to windward. With a chute, the pole can be left up until the spinnaker is stowed. **MUCH PRACTICE IS NEEDED FOR THESE OPERATIONS!**

Having got used to handling the boat, you still have a few other things to remember before racing. All the normal crew's jobs must be done, such as taking the course down and using the starting watch...and remember, when things go wrong, you have only yourself to blame!

Water, water everywhere

Question-with answer by Richard Dalby

I'd welcome some comment on a problem I encountered at the Mumbles. When there was a pretty fair swell, and particularly when there was a force 4 or above with the swell. I shipped an enormous quantity of water during the beats. Not having self-bailers (yet) I had to detail my crew to bail all the way from the windward mark to the gybe mark: I've no jamming cleats so he couldn't bail during the beat, really; now, why didn't other people ship water also? Were they hitting the waves at a different angle, and if so, just when does one bear away, how far, and does one do so for every single wave, or just look out for the white ones? Or was it my own boat's trim do you think? Were we sitting too far forward? I don't think so myself; I seem to remember that a lot of water came aboard past the shrouds rather than at the bow.

Peter Moran

Peter has raised two points – first the water over the bows; and second, the water over the side.

The first essential to realise is that once water gets in, it immediately deadens the boat, making her much less responsive, and so the next dollop comes aboard all the more easily.

On a windy day it is very easy to get water aboard before the start. The frequent changes of course (why is the other fellow always on Starboard?) and the disturbed water anyway, all lead to water splashing aboard. Around the ten minute gun, I always try to pull clear of the Piccadilly Circus area and then bail out to the point of sponging dry, and then jog along until the start. This may seem trivial, but boat speed in the first 50 yards is absolutely vital to pull into clear wind which will then stand you in good stead for the rest of the race.

When I used to sail with my elder son Adrian, we were somewhat heavy and we had a lot of trouble with water coming over the bow. Often we did not reach the windward mark before we had the choice of stopping to bail out or conducting an immersion buoyancy test on the spot. I thought that sailing with my younger children, Claire or Simon, would ease the problem. It did to a degree, but still far too much was coming aboard, and so we developed the following technique which seems to work reasonably well.

We sit fairly well aft, but lean forward as well. Then, as a wave approaches, so we lean back sharply. This lifts the bow, and so the wave hits the sharp underside of the hull, and passes by harmlessly. It needs a lot of practise to get the timing right.

If you do it too soon, the boat stops dead. If you do it too late, you've wasted your time! But, get it right and not only does the water stay out, but the boat seems to leap up to windward, probably due to the action of the wave on the underside of the hull – a very handsome bonus indeed! (We have often read about this sort of thing off the wind, but never in going to windward).

As to whether one should sail free, this must depend entirely on crew weight. I like to sail the boat slightly free to keep maximum speed. This is easier anyway; avoids the risk of stalling, and is the only way I can use my weight to advantage. It also means that there is an element of being able to luff up a degree or two into the really nasty waves and still keep the sails full.

However, if you haven't got the weight, then it is important to sail as close as possible all the time to avoid being blown over. Certainly, you must watch the water some

10 yards on the windward bow for that really nasty curling wave when the only way is to luff up into it and hope. Never, ever, bear away as this will only turn the boat sideways on to the wave, and lead to certain swamping.

As for the second point of water coming over the side, this is probably due to the boat being allowed to heel too much. I have always thought that the Mirror dagger board is at least a foot too short and hate to think of the loss of what little resistance it has if it is not absolutely upright in the water. Hence I believe another fundamental is to keep the boat absolutely upright.

This means constant adjustment to the mainsheet. Rather than constantly pulling it in and letting it out (very slow and tiring) I hitch the mainsheet around my hand with a running half hitch. Ask any Boy Scout what that means, or see me at the bar. Then by letting my arm slide backwards and forwards, the mainsail can be adjusted instantly, and it can still be let go in a flash if there is a really heavy puff.

Plain sailing

by Peter Thomas

Nothing will convince me that there aren't a handful of *them* and about 50,000 of *us*. By *them*, of course, I mean these jokers who are round the bar, dry, changed, and working out where to put the cup in the old glass fronted cupboard, when you and I are struggling up the slipway after an exhausting final effort to snatch 34th place. We all read the expert articles and learned textbooks promising instant success, but to no avail. I wouldn't say we are slow to catch on, although I freely admit the reason we are always allotted so much space in changing rooms, I only now realise, is due to my crew's unfortunate habit of covering himself with his wife's perfumed talc, prior to donning his unlined wet-suit.

I particularly like the twee little diagrams, beloved of serious volumes, showing eddies of wind curling coyly round clumps of trees and tall buildings, and their probable effect on the unwary. We have three blackthorn bushes in one corner of our gravel pit that so

upset the ozone that you can tack through 200 degrees and be head to wind throughout the manoeuvre, yet the dirty great gravel-crushing mill offers as much cover from the Gloucester Monsoon as a polythene kilt. The other, more frequent diagrams showing which boat has right of way in various situations are a riot. In the middle of the fleet, the mass arrival at the buoy from all points of the compass produces anything from "If you touch me I'll scream!" to instructions in broad West Country combining sex and travel. The confident dead-pan shouts of 'Starboard' are too often bluffs which would do credit to any Hollywood horse-opera poker game. My crew, a worthy exponent of this, was drawing my attention to such a successful move in our last race, only to have us rammed by a non-competing boat which I swear was materialised by an alien power. We haven't felt so foolish since we helpfully launched an Enterprise with the drain corks out. (We tell the curious that the notches in our gunwales are being left in as footholds for when the Class adopts the Trapeze, and put on our Forward Thinker look).

Spinnakers, well what can you say, all the experts tell you how to get them up and down in split seconds. The only time mine has come in that fast was when it was recently draped over the washing line drying after one of it's frequent immersions, together with the rest of the wash, when next door fired up a bonfire large enough to signal the Second Coming and threatened to reduce it to a molten, sticky mass of Terylene. With the speed of light we got the sail in, but the wife's Living Bra perished. Curiously, these articles never tell you useful stuff, like how to get the thing back in the chute from it's position under the keel, or plastered on the shrouds. One of the neatest rollers for this that I have seen consisted of a towel rail revolving around a pair of toilet seat pivots, the latter being replaced by a chute with an entry cut from a baby's potty. The inventor, who is in the building trade, expressed the desire to keep everything simple and bog-standard. One of our fleet rivals is thinking of equipping his lady crew with a quiver of spinnaker poles so that he doesn't have to keep circling back to pick up his present lone example when she gets a touch of her William Tells with the down-

haul elastic. He's another bloke who seems to have a lot of space given him.

Crews, must be careful here, are a problem in themselves. Not moving in a society blessed by independent means, synchronising your free time on a week-end can be frustrating. Happy the man who has a choice of several and can get on with all of them. Our fleet captain feels his crew is the better for water cooling, and immerses the whole shooting match regularly. In a recent event, after a preliminary two capsizes he decided to quit while he was ahead, and made for shore only to lose the crew on the way. Arriving at the jetty roaring "Where are you?" – all that could be seen was the mute appeal of a pair of staring eyes flanked by two white pairs of knuckles hooked over the transom. The too helpful crew can be a drag. On one epic occasion we were actually leading an all-Mirror race somewhat uneasily. It was one of those classic scenes, you know "I don't like it, it's too quiet, we ain't seen an Indian all day" when twanggg, up shows the expert. "How many more laps is it?" says he. "This is the last" says the crew before I strangle him. "That's never right is it?" says he, and promptly bombs off over the horizon.

Planing, the ultimate in my humble view, is a state of grace only to be reached inland in a Mirror, when the wind gets up, the sky is as black as a yard down a cow's throat, and anybody with any sense is banging in more tent pegs on the boat cover and headed for the bar. Then the boat comes into it's own, screaming up and down in front of a Clubhouse full of un-usable plastic gin-palace owners. The final insult is if you can manage single handed, with your head in your bow wave, and no fear of hitting anything, as 98% of the boats have hauled out, but beware the exhuberance of your own velocity. I got caught last time, and ploughed a furrow up the slipway that would have won rosettes at the Bath and West Show. And when you make your wet but happy entry to the warmth of the Clubhouse, are you greeted with cries of honest admiration? No! at best it's "If the Good Lord intended boats that tiny to go that fast, He'd have issued them with proper pointed bows!"

You just cannot win! – which I think is where we all came in.

Wasser Bitte

by Harry Taylor

Those attending the International Championships may find it desirable to equip themselves with a few nautical phrases, so that they can converse, in their own tongues with our continental friends. Here is a short glossary of German terms which will cover some of the more common situations.

Officer of the Day – Der Oberfuhrer der tag mit kapund schoutentube.

Five minute signal – Die funf minuten bangen.

General recall signal – Die vaserhellvasdas earschplitten bangen.

Committee boat – Die grosseboot mit lotza phlags und bangenwerks.

Oilskins – Der neinkaltwasseringangen klobber

Tiller – Die puschenpuller schtik fur vich-vay gangen.

Helmsman – Der dumkopf mit puschenpuller schtik vas ist alles schouten und schreamen.

Mainsail – Das grosserflapper.

Boom – Der grosserflapper bonzschplitten schtik.

Capsize – Der boot ist kaput und der alles dumkopfs gangen schwimmin.

I have an overlap – Wasser bitte.

Starboard! – Getderhell ausser der Strasse.

Launching Trolley – Das boot ingangen in wasser wagen.

Dagger Board – Die schingleschraper und bottumpinscher.

Buoyancy tanks – Der nein unterseebootwerks.

Outboard engine – Der spitzenpoppen seebootpuscher.

Emergency repairs – Fablonschticken mit hopinundprayen

Kicking strap – Der Herrparten und Earrippen Kord.

First Dog Watch – Eine tikundtok hund.

I am aground – Donner und Blitzen ver vas der wasser gangen.

Lightweight Crew – Klein Kinder mitaus Kilos.





20 Questions on the Racing Rules

by Deborah Evelyn

I think we all realise that it is very difficult to understand the rules at first. It is partly the sheer concentration needed, because every word matters, and partly the fact that it is difficult to think of all the instances where the rules apply.

This article is designed to set you thinking about the rules and their application, by posing questions (the answers are also given but on other pages). However, first of all you should read the rules. Nos. 31 to 68 are the most important, and also pay particular attention to Part 1 Definitions. Do not worry if you cannot remember them, just as long as you understand basically what each rule is saying.

I hope the notes with the answers and the reference to the relevant rules will be sufficient. But if not, and your local sea lawyer/rule shark cannot help, don't hesitate to contact me although I cannot promise to answer anything immediately. But *contact me, not Sally* – she is very busy as it is (my address is in the Yearbook as a measurer). If you think I have got something wrong please let me know, it is quite likely; after all we are all amateurs at this game!

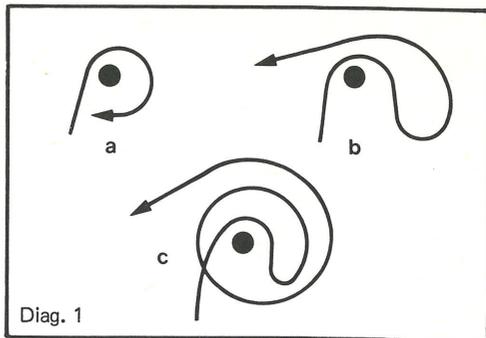
If you want to score yourself, keep a note of the number of wrong answers you choose which are marked D or R in the margin. D stands for a disqualification and R for a retirement, which would not have been necessary if you had known the rules. Not all the questions are marked in this way. The top score is, of course, zero D's and zero R's.

Have you read the rules? If so, you can start doing the questions. Don't hesitate to refer to the rule book. You might also find a pencil and paper handy. The answers follow on after the questions.

QUESTION 1

The course specifies marks to port but by mistake A leaves one to starboard. What should he do now?

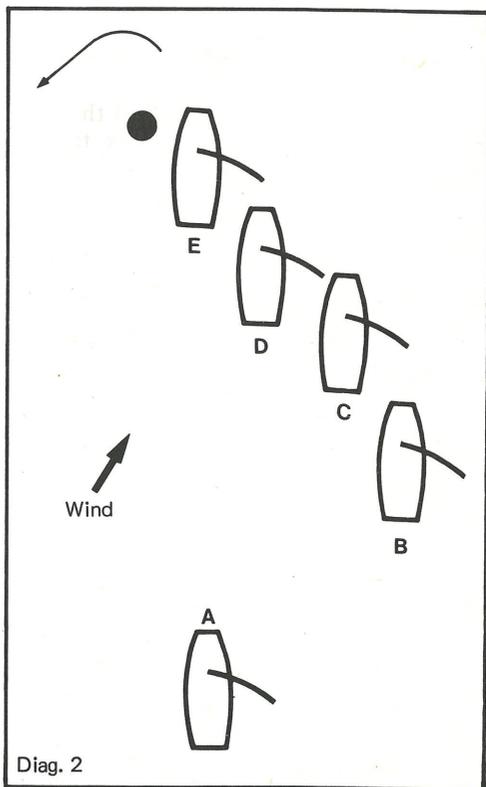
- (a) Sail on (see Diagram 1a)
- (b) Turn around and go back leaving the



Diag. 1

mark to port and sail on (see Diagram 1b)

- (c) Turn around and go back leaving the mark to port and then round it again leaving the mark to port and sail on (see Diagram 1c)

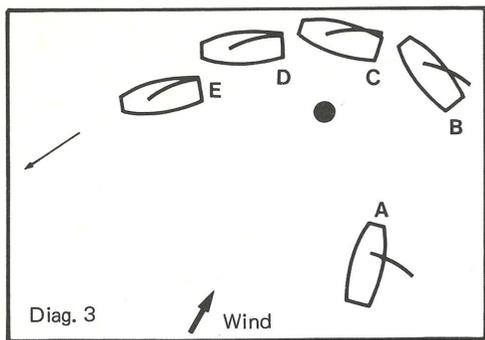


Diag. 2

QUESTION 2

(See Diagram 2). How many boats does B have to give water to at the mark?

- (a) 0
- (b) 1
- (c) 2
- (d) 3
- (e) 4



Diag. 3

taking all A's wind so B is catching up on A. B cannot luff up to windward because of the anchored vessel and she cannot go to leeward of A without gybing, which will result in a capsize because it is blowing force 5! B hits A on the transom.

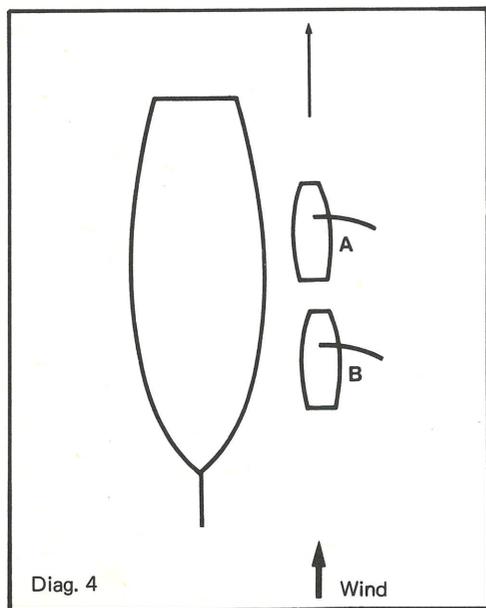
What should B do? (see Diagram 4).

- (a) Sail on.
- (b) Retire.
- (c) Protest.

QUESTION 3

Following on from Question 2, the boats are now in this position (see Diagram 3). What should A do?

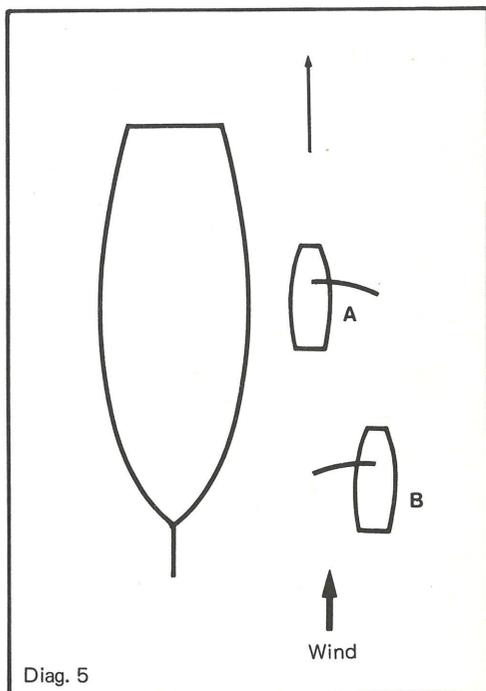
- (a) Pass under B's stern and then assume the course for the next mark even though this means taking the mark wide.
- (b) Cut in close round the mark inside B and improve his position.
- (c) Slow up so that B can round the mark first and then take the mark tight in their wake.



Diag. 4

QUESTION 4

A and B are running on port and passing a large anchored vessel. B is just astern of A. Unfortunately B is directly upwind of A and

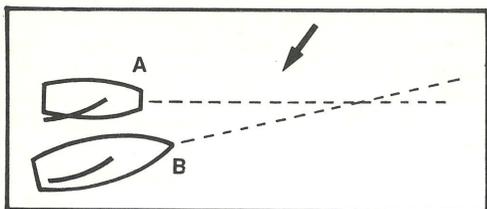


Diag. 5

QUESTION 5

The windward mark must be left to starboard. A is approaching it on port and B on starboard. They are on a collision course. What should B do?

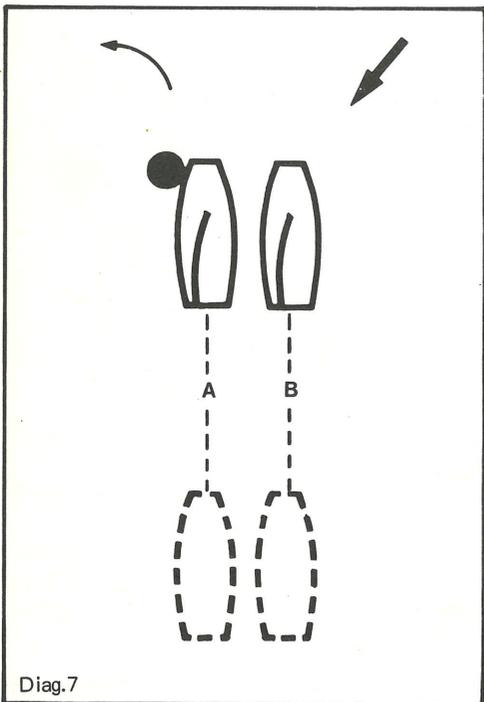
- (a) Bear off and pass under A's stern.
- (b) Call 'Starboard' to A and immediately tack onto port to round the mark.
- (c) Call 'Starboard' to A and when he has crossed A's original track, tack onto port.
- (d) Tack onto port to leeward of A and call for water despite the fact that they are both clearly within two boats' length of the mark.
- (e) Realise your position is hopeless and retire.



QUESTION 6

A is a Mirror sailing a close hauled course. B is a bigger, faster boat which can also point higher. What should A do? (see Diagram 6).

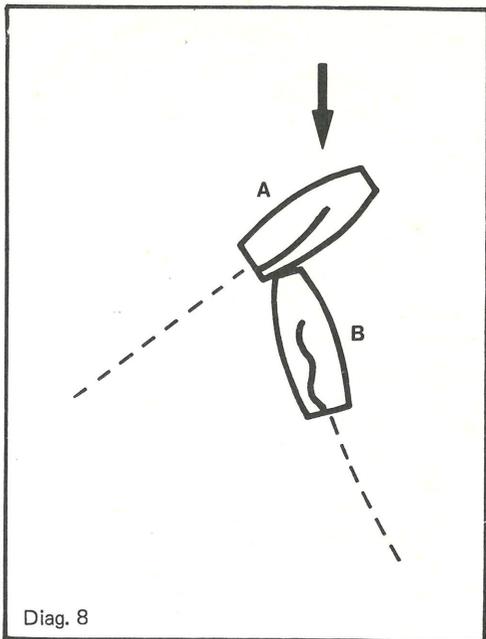
- (a) Tack.
- (b) Luff up to keep clear.
- (c) Hail B 'Mast Abeam' and force her to bear off.



QUESTION 7

(See Diagram 7). A calls for water from B but is not given enough and hits the mark. However there is no collision. What should A do?

- (a) Sail on.
- (b) Protest B.
- (c) Re-round the mark and protest B.
- (d) Re-round the mark and sail on.

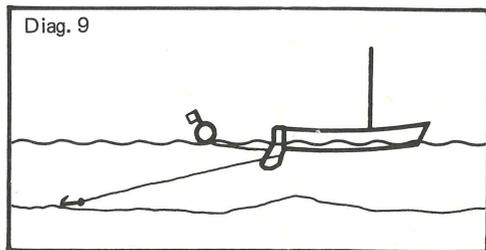


Diag. 8

QUESTION 8

A is on port tack and crossing clear ahead of B on starboard tack when suddenly B luffs up and hits A; B tells A to retire because A was on port (see Diagram 8). What should A do?

- (a) Sail on.
- (b) Sail on and protest.
- (c) Retire.
- (d) Retire and protest.

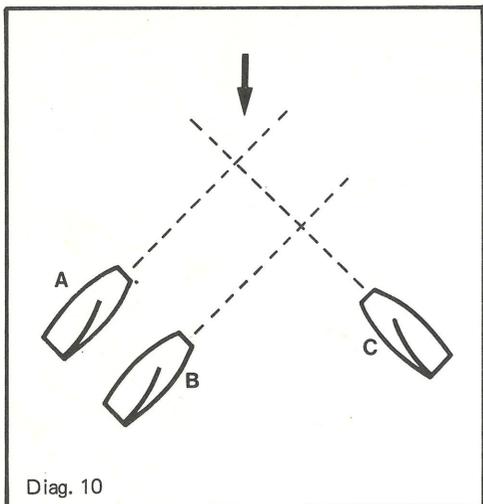


Diag. 9

QUESTION 9

(See Diagram 9). A rounds the mark and catches his rudder on the anchor warp. He lifts his rudder blade and he is free. What should A do now?

- (a) Retire.
- (b) Sail on.
- (c) Re-round the mark in accordance with Rule 52.2.



QUESTION 10

A and B are on collision course with C (See Diagram 10). What can B do?

- Tack.
 - Bear off and go behind C remembering to leave enough room for A to do the same if he so chooses.
 - Hail for room to tack and if it is given, tack.
 - Hail for room to tack and retire immediately.
 - Bear off and go behind C but tell A he has no right to water between C and B.
- N.B. Do question 11 before looking at the answers as the two questions are related.

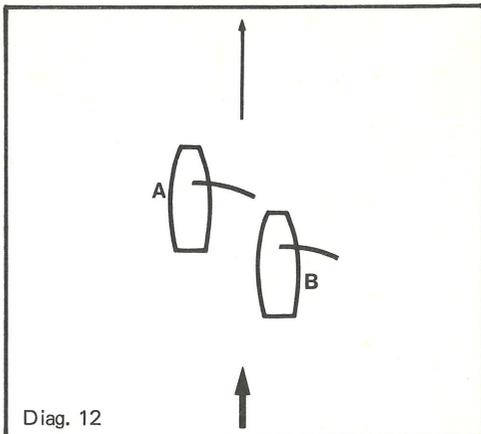
QUESTION 11

If in Question 10 only B was on collision course with C and A can clear C, what can B do?

- Tack.
- Bear off and go behind C remembering to leave enough room for A to do the same if he so chooses.
- Hail for room to tack and, if it is given, tack.
- Hail for room to tack and retire immediately.
- Bear off and go behind C but tell A he has no right to water between C and B.

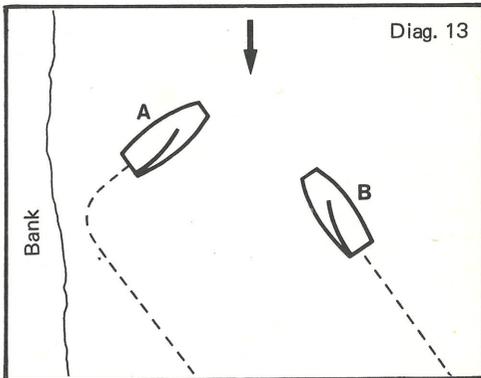
QUESTION 12

B is overtaking A to leeward on a run. When B first establishes an overlap A calls 'Mast Abeam' to prevent B from luffing. If



B wants to luff what must he do? (see Diagram 12).

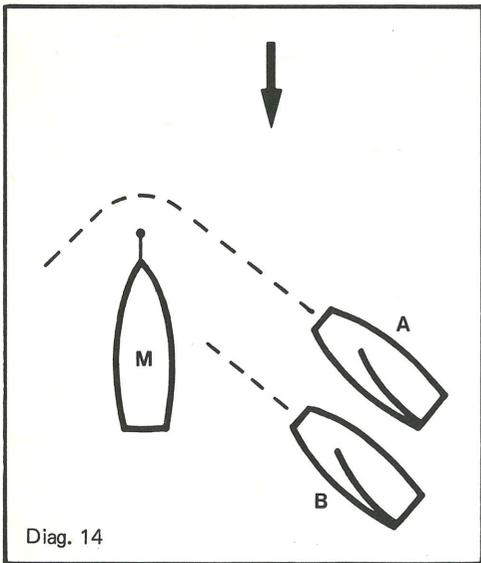
- Nothing. B is not allowed to luff A under any circumstances.
- B must draw clear ahead.
- B must drop clear astern.
- B must move away two boats' lengths to leeward of A.
- B must draw level with A.
- B must gybe twice.



QUESTION 13

A and B are beating up a river (see Diagram 13). A is sailing on starboard but soon reaches the bank and has to tack onto port. A then sees B approaching on starboard, they are on collision course. What should A do?

- Call for water because of the proximity of the bank.
- Immediately tack onto starboard and then call for water to tack because of the proximity of the bank.



QUESTION 14

(See Diagram 14). M is a mark of the course, a large boat at anchor. A can lay the mark but B will have to tack to get round it. What should B do?

- (a) Hail A for room to tack and tack when it is given.
- (b) Keep clear of A altogether.
- (c) Hail A for room because it is impossible to keep clear and then retire.

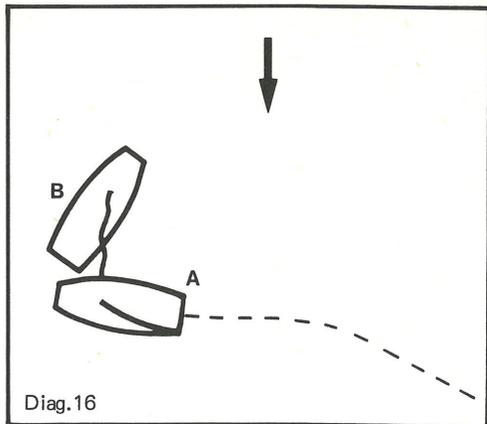
QUESTION 15

Let us suppose in the case above that B calls for water and A quite rightly, refuses. However, then the wind suddenly heads A and A cannot lay the mark. What should A do?

- (a) Tack and then tack back again and round the mark.
- (b) Gybe and round the mark after B (we can assume that B had managed to keep clear of A and M until now).
- (c) Retire.

QUESTION 16

During the beat the helmsman of B notices that his shoe lace is undone and he is in danger of tripping over it so he lets the sails flap and bends down to tie it. He does not see A approach. A has to bear off to pass under B's stern but as he is going close past B's boom, which is flapping about, knocks

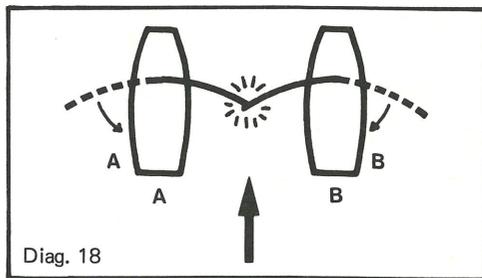


the helmsman of A on the head (see Diagram 16). What should B do?

- (a) Finish tying his shoelace and sail on.
- (b) Retire.
- (c) Protest.

QUESTION 17

When does a port-tack yacht *not* have to keep clear of a starboard tack yacht? (CLUE – you should be able to think of four separate instances).



QUESTION 18

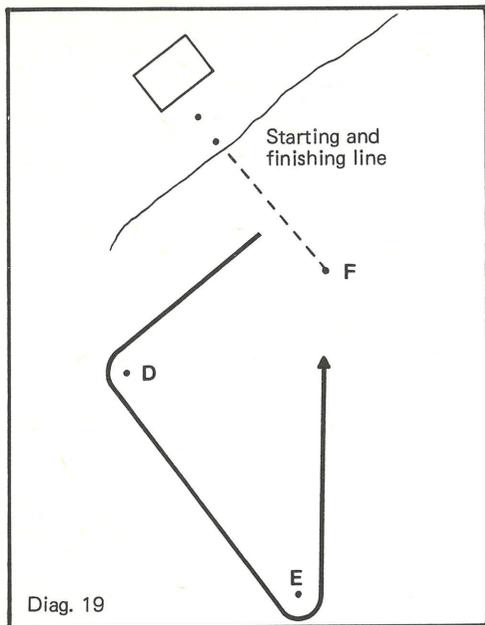
A and B gybe *simultaneously* and there is a collision (see Diagram 18). Who should have kept clear?

- (a) A
- (b) B

QUESTION 19

(See Diagram 19). The course board says D (to port), E (to port), F (to port) – 3 laps. At the end of the third lap do you:-

- (a) Leave F to port and cross the finishing line.
- (b) Leave F to starboard and cross the finishing line.



Diag. 19

- (c) Do both, i.e. cross the line one way and then go back round the outside of the finishing mark and across the line the other way.
- (d) Follow the boat in front.

QUESTION 20

It is a quiet day on the river. All the boats in the race have resigned themselves to making little or no progress until the tide turns. As the wind drops they start to go backwards.

A is the only one who has an anchor so he drops this over the side. B discovers his bucket contains a plastic bag full of pebbles (the family were at the seaside last weekend) so he ties that onto the end of a rope and drops it over the side. C makes his crew stand up to his waist in water holding onto the boat. D lets his crew go swimming to pass the time of day. E lets his boat ground gently on a sand bank and both of the crew wade ashore and go and have a pint in the nearby pub, returning within half an hour. F's crew is bored and cold so he lets him go home and takes his little brother as crew instead. G ties up to an old fence post with the boat still afloat. Who should retire for infringing the Racing Rules? (a) A (b) B (c) C (d) D (e) E (f) F (g) G.

TWENTY QUESTIONS ON THE RULES

ANSWERS

N.B. Some clubs now allow alternative penalties (e.g. 720 degree turns) instead of retirement. Therefore wherever in an answer there is a reference to retirement, this may include the possibility of accepting a penalty instead.

ANSWER 1

- D (a) Wrong
- D (b) Wrong
- (c) Correct. See Rule 51.2.

ANSWER 2

- D (a) Wrong.
- D (b) Wrong.
- D (c) Wrong.
- (d) Correct. B must give water to C, D & E but not A who is clear astern. See Rule 42.1 & Definitions OVERLAP.
- (e) Wrong.

ANSWER 3

- (a) Safe, but you could lose some places by taking the mark wide if there are other boats close behind.
- (b) Dangerous, if you touch B or C you can be disqualified under Rule 42.1(b)(i).
- (c) Probably the best way if you can slow up enough. See Rule 42.1(b).

ANSWER 4

- D (a) Wrong.
- (b) Correct. Because B should keep clear. Rule 37.2.
- D (c) Wrong. B will be disqualified. It is no good pleading that there was nothing else you could do. You must anticipate situations like this, B really should have gone the other side of the anchored vessel. See Rule 37.2.

ANSWER 5

- (a) Coward! You could get round the mark ahead of A and C if you did as suggested in answer (d).
- (b) There is nothing in the rules to stop

you doing this but I would not recommend it for two reasons. Firstly, the next time you call starboard they won't believe you. Secondly, if A, as a result of your hail, starts to bear off to go behind you he may not be able to avoid you if you immediately tack. So you would be disqualified under Rule 34.

- (c) You could do this, but you would probably let C through since you would have overstood the mark. Much better to do (d).
- (d) This is the correct procedure provided you can clear the mark on port. Rule 42.2(b) allows you to call for water in this case.

R (e) Unnecessary, (d) is the preferred strategy if there is room to tack beneath A and still lay the mark. If you hit A whilst tacking however, you must retire (Rule 41.1). If you hit the mark you can re-round it. If A forces you onto the mark you really must try and arrange to hit A and the mark simultaneously. Otherwise you may find it difficult to prove that it was his fault when it comes to the protest hearing.

ANSWER 6

- (a) Correct.
- (b) Correct.
- D (c) Wrong. B is not sailing above *her* proper course, see Rule 38.1. A, as the windward boat, must keep clear, see Rule 37.1.

ANSWER 7

- D (a) Wrong.
- (b) Correct.
- (c) Correct and very wise because even if you cannot prove that it was B's fault that you went on the mark, you cannot be disqualified since you have corrected yourself. However, it is not worth doing this if there are other boats close behind because you may lose places.
- (d) Safe but cowardly! You ought not to let B get off so lightly – you should protest. The principle of the Racing Rules is that each individual

is responsible for enforcing them. If you do not protest when there has been an infringement of the rules you are encouraging a lax attitude towards the rules at your club. This is particularly bad when you are sailing with young helmsmen. They must not get the impression that some rules have to be obeyed and others do not. The rule that applies in this case is 42.1(a)(i). Incidentally, if there had been a collision between A and B, A must protest under Rule 67.1 or retire.

ANSWER 8

- D (a) Wrong, there has been a collision, therefore A must retire or protest, see Rule 67.1.
- (b) Correct, B is in the wrong under Rule 34. B should not have luffed up. This is why the best acknowledgement of a hail of 'Starboard' is to hail 'Hold Your Course'.
- R (c) Wrong, you should protest. If you can prove that B luffed up B will be disqualified.
- R (d) Wrong, you should sail on and protest. However, there is nothing to stop a boat which has retired from protesting. But you cannot wait until you have got ashore and read up the rules before you decide to protest. A protest flag must be flown at 'the first reasonable opportunity', Rule 68.3(a). The only exception is where a yacht has no knowledge of the facts justifying a protest until after she has finished. Rule 68.3(b). For example, if you thought that the other yacht was going to accept a penalty but, when you came ashore you found out that she had not, then you could (and in some cases, must) protest.

ANSWER 9

- R (a) Wrong. A has done nothing wrong.
- (b) Correct.
- (c) Unnecessary, unless in freeing himself A pulls the mark towards himself and touches it. See Definitions MARK.

ANSWER 10

- D (a) Wrong, if you tack without hailing A you will hit her.
(b) Correct.
(c) Correct.
- R (d) Wrong, there is no need to retire.
- D (e) Wrong. A has right to water between B and C.
- N.B. Answers (b) and (c) are equally correct and in this situation B can choose between the two. A cannot force her to do one or the other. See Rules 43.1 & 42.1 and Definitions OBSTRUCTION.

ANSWER 11

If only B is on collision course it makes no difference to the answers, they are the same as in Question 10. It is up to A to decide if he can pass safely ahead of C. If he chooses to go behind C he can ask for water.

Again, although I have not asked a question on it, if A only is on collision course and B can pass under C's stern without having to bear away, she must bear away and give room to A to pass under C's stern if A so chooses. See Rules 43.1 and 42.1 and Definitions OBSTRUCTION.

ANSWER 12

- (a) Wrong.
(b) Correct, if B draws clear ahead she breaks the overlap and Rule 38.1 does not apply.
(c) If B drops clear astern the overlap is broken but as soon as a new overlap is established B will be in the 'mast abeam' position again and no better off. So this answer is wrong.
(d) Correct. If B moves two boats' lengths away to leeward she breaks the overlap. If she can then establish a new overlap without dropping back into the 'mast abeam' position she may luff. See Rule 38.2.
(e) Wrong (this answer is a red herring).
(f) Correct, if B gybes she breaks the overlap. If she can establish a new overlap without dropping back into the 'mast abeam' position she may luff. See Rule 38.2.

ANSWER 13

- D (a) Wrong.
(b) Correct. Rule 36 applies in this case. It is irrelevant where the boats are, whether they are near the shore or a mark either. Rule 36 applies (See Question 17 for the instances, they are very few, when Rule 36 does not apply). Rule 43.1 allows the inside of two boats on the *same* tack to call for water to tack away from an obstruction so the only correct answer is (b). Of course, what A should have done is checked how close B was before he tacked onto port. The moral is 'Look over your shoulder before you tack'.

ANSWER 14

- D (a) Wrong.
(b) Correct.
- R (c) Correct, but not a very happy outcome – you have to retire. You should have thought about what you were going to do before you got so close to the mark. See Rules 43.3(a) & (b).

ANSWER 15

- D (a) Wrong.
D (b) Wrong (this answer is really a red herring).
(c) Correct, see Rule 43.3 (c).

ANSWER 16

First, was there a collision? Yes, between B's boom and A's helmsman's head, this counts as a collision even though the boats themselves did not touch. Who was in the wrong? B, he was on port (see Rule 36 and Definitions ON A TACK). So:

- D (a) Wrong.
(b) Correct.
- D (c) Wrong, you can try, but if you knew your rules you would know that the protest committee will disqualify you. So if you are going to tie your shoe lace tack onto starboard first!

ANSWER 17

- (a) When returning to start (Rule 44.1).
(b) When re-rounding after touching a

mark (Rule 45.1).

- (c) Whilst doing 720 degree turns (see Appendix 3).
- (d) When an inside yacht on starboard will have to gybe round a mark to assume proper course to the next mark, she shall gybe at the first reasonable opportunity (see Rule 42.1 (a)(ii)).

N.B. It is not just port and starboard which do not apply, a yacht has no rights in these situations and must keep clear.

ANSWER 18

(a) Correct (see Rule 41.4).

D (b) Wrong.

N.B. It is not often that two boats tack (or gybe) at exactly the same time. If one can prove that the other waited until he saw the other begin to tack (or gybe) then the case is altered and 41.1, 41.2 & 41.3 apply. For example, in this case if B gybed after A and hit A whilst gybing, B would be in the wrong under 41.1.

ANSWER 19

D (a) Wrong, this is known as a 'hook finish' but it is not a correct finish at all. The finishing line must be crossed from the direction of the course from the last mark (see Definitions FINISHING).

(b) Correct.

(c) Correct, but you are very cautious. Also if you cross the wrong way first you may lose a place before you finish correctly.

D (d) Wrong! He is bound to do it wrong too!

ANSWER 20

R (a) A is quite correct (Rule 63)

R (b) B is quite correct (Rule 63)

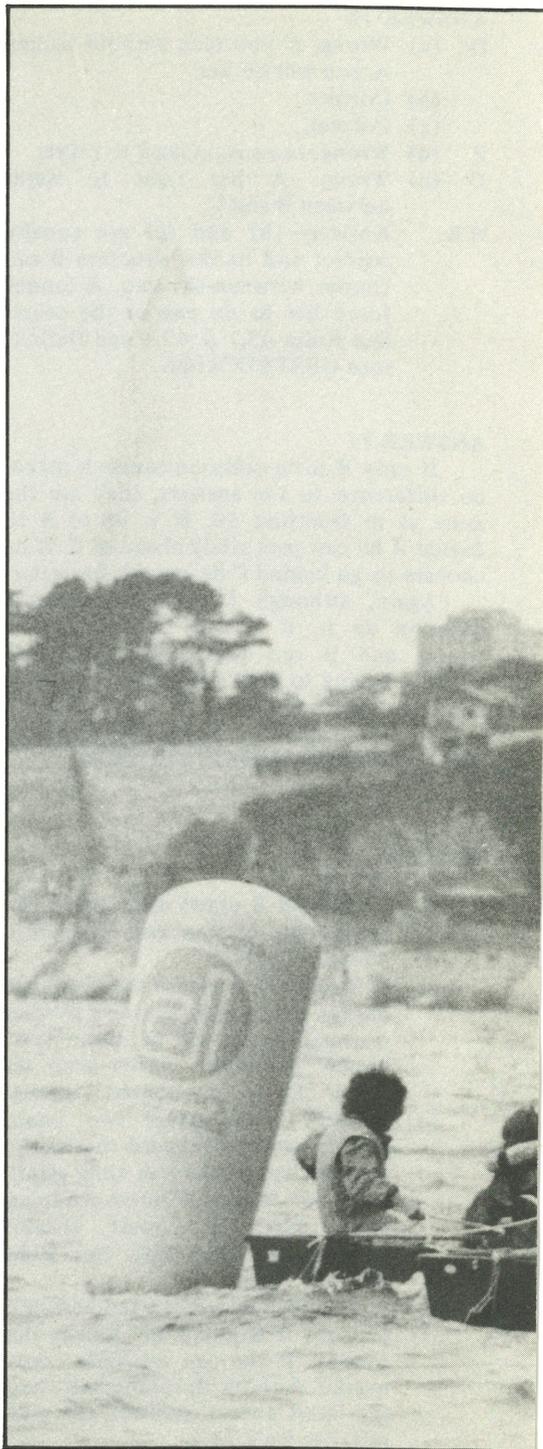
R (c) C is quite correct (Rule 63)

R (d) D is quite correct (Rule 57)

(e) E should retire, they must not leave the boat except as provided in Rule 57.

(f) F should retire (see Rule 57)

R (g) G should retire, he must not tie up (Rule 63.2)





Rounding a mark

by George Gibson

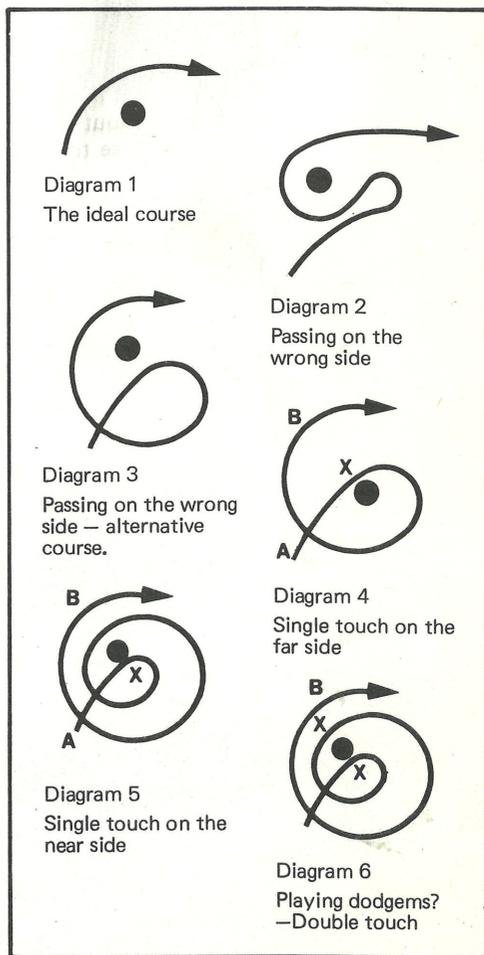
When we first begin to race it is quite easy to know which way to go – follow the boat in front. Then there comes the exciting time when we are the boat in front (all the experts have gone to the National Championships) or the despairing time when we are so far behind that we have forgotten which way they went. By then we will have learned that a course is specified by stating the various marks in order and the side on which each has to be left. So all we have to remember is which are starboard hand marks and which are port hand ones. If the wind is kind to us we can follow a course round a mark such as that shown in diagram 1, tacking or gybing if necessary, and concentrate on sailing the next leg. But sometimes we misjudge the correct moment to tack or, in tidal waters or on a river, the current is stronger than expected, and we discover to our horror that we are passing the mark on the wrong side. In these circumstances we must make our course conform to the requirement of Rule 51.2 which is that a string representing our wake would, when drawn taut, lie on the required side of each mark. So we can follow the course shown in diagram 2 or that in diagram 3.

As our racing ability improves we sail closer and closer to the marks, and we have some company as we are rounding them instead of being Tail-end Charlie. Eventually the inevitable happens and one day we hit a mark. If we were 'wrongfully compelled by another yacht' to touch the mark the solution is obvious – protest. If the race committee decides that our protest was justified the other boat will be penalised in an appropriate manner and we, the innocent party, will suffer no penalty. More frequently we will realise that it was our own fault and that we stand no chance of persuading the committee that the blame rests with somebody else. In these circumstances the action laid down by the racing rules some time ago was to retire. The powers-that-be decided that this was rather a severe penalty for an incident that can readily occur during the heat

of racing and that does not interfere with any other yacht specifically. So they introduced a process by which a yacht could acknowledge her fault and be penalised but could continue in the race.

The process is specified in Rule 52.2 which states that a yacht 'may exonerate herself by completing one entire rounding of the mark, leaving it on the required side, and thereafter she shall re-round it or re-pass it, without touching it'. Obviously this is only possible when the mark is surrounded by navigable water – we are not allowed to climb out on the bank, drag our Mirror ashore, and re-launch it on the other side of the mark!

The rule is deceptively simple; there have been a number of cases taken to the



R.Y.A. Racing Rules Committee to clarify the interpretation for various situations. The simplest one is that shown in diagram 4 where the mark has been touched on the far side at the point marked X. The correct course thereafter is to complete the rounding to A in order to exonerate ourselves and then to re-round the mark. The process finishes at B where we are on the proper course to the next mark. Diagram 5 shows the next situation where the mark was touched on the near side. Comparing this with diagram 3 we see that the portion to A is completing the first rounding even although it seems, at first sight, to be more. Then we must re-round to the proper course to the next mark at B. If we are sufficiently unlucky to hit the mark twice the situation might be as shown in diagram 6 where we can see the application of the same process: 'complete the entire rounding' during which we touched, 're-round' without touching, and then go on a proper course to the next mark.

While we are going round in circles we must keep clear of these more skilful people who did not hit the mark. The critical point at which we can re-assert our rights, if there is anybody still in the vicinity, is that marked B on the diagrams where we are on a proper course to the next mark.

The course that we have to follow is enough to make a snake giddy so we will only carry it out when we touch the mark. It is therefore worthwhile knowing what is part of the mark and what we can touch with impunity. The flag and flagpole are considered as part of it but ground tackle and any object accidentally or temporarily attached are not. So it is quite permissible to plough through any weed that is trailing from the mark. Equally we need not worry if we catch the mooring rope, provided that we succeed in disentangling it before the mark is pulled against the side of the boat.

Those who wish to know the exact wording of the rules summarised above will find them in the 1973 Yacht Racing Rules. The definition of a mark is given in Part I; Rule 45 covers the period during which we must keep clear of other boats; Rules 51.2, 51.3 and 51.4 deal with rounding a mark; and Rule 52 is concerned with touching a mark.

Ask Aunty Harry

by Harry Taylor

In response to many requests Aunty Harry has agreed to give advice to help solve some of our readers' problems. Letters will be treated in confidence with maximum publicity to anyone wishing to bend the rules.

Dear Aunty Harry.

I have recently purchased a new reaching spinnaker. It sets very nicely but my fiancée who crews for me complains that she is unable to find a suitable make-up which does not clash with its green and orange colour scheme.

Worried

Dear Worried.

I think you know the answer already. A really good spinnaker is very hard to come by.

Dear Aunty Harry,

My trouble is with the other members of my club. Whenever I come to a buoy I shout, 'Water at the mark,' like Paul Elvstrom advises, but they are all beastly and just laugh at me.

Blue Eyes

Dear Blue Eyes,

I think you may have misunderstood Elvstrom's advice. It is not necessary for you to shout 'Water at the mark' when you are the only boat there. For other occasions, although it is fairly easy when you have an overlap, constant practice is required to develop a really forceful hail which will ensure room when you have not. One of our top helmsmen, who regularly frightens people away from ten yards or more, sets a small course on his lawn and practices on his dog.

Dear Aunty Harry,

What is a shroud clipper and is it a permitted fitting on a Mirror dinghy?

Quester

Dear *Quester*,

This shroud clipper is a spring loaded wire snip which is screwed to the end of the boom on the port side. When it is touched by the shroud of a boat on port tack, the cutter is released and automatic dismasting occurs, obviating the need for protest. The fitting is not, however, a permitted extra as it has been found that, during rigging, it is possible to accidentally snip one's own shrouds and halyards.

Dear Auntie Harry,

I have a lot of difficulty getting a smooth finish on the bottom of my boat. Can you offer any hints?

Speedy G.

Dear Speedy G.

You should first turn your boat upside down. If you have no helpers, this can easily be done with an ordinary Coles crane. If you do not happen to own one, the best procedure is as follows:

- 1. Lift the gunwale until the boat is resting on the other side.*
- 2. Carefully adjust the angle of the boat until it just balances.*
- 3. Run swiftly round to the other side of the boat and grasp the gunwale again before the boat crashes to the ground. (It is a good idea to do a few practice runs round the boat as speed is essential).*
- 4. Very gently lower to the ground.*
- 5. Carefully smooth the bottom, not neglecting to repair any damage which may have occurred in 3.*

Dear Jasper,

I am afraid your query is not suitable for publication, and so, if you will send me a stamped and addressed envelope, I will write to you privately.

Meanwhile, it would be tactful of you not to mention to your clubmates what you have suggested to me. The object of tuning should be to make your boat faster and not to make those of all the other competitors slower.

Dear Auntie Harry,

I have almost completed the building of my Mirror dinghy. When it is finished, and I

have had a little practice, I plan to take it on a round the world cruise (not non-stop of course). The rules on the fitting of toe-straps seem to me a little vague. Can you help me?
Globe Trotter

Dear *Globe Trotter*,

Yes, I think you should fit toe-straps.
Bon Voyage.

Winning

by John Taylor

*(5 times National Champion or runner-up
Runner-up European Champion
13 times Area Champion or runner-up)*

Winning is a frame of mind. If you know that you are going to win before the start, you may be disappointed at the finish. If you think that you will not win, you certainly won't.

Will you still be disappointed?

100% boat speed requires 100% concentration.

