

PRACTICAL HINTS FOR CRUISERS

On the subject of trailing

by Frank Webb

Insurance companies have had to deal with an increasing number of claims for damage to Mirror dinghies. Not only, as might be expected, from sailing but from damage whilst being towed. Again not, as you may think, by cars running into them but from simply not being properly adjusted on the trailer itself. Perhaps these few hints may assist the owner contemplating changing to a trailer, or may even help explain some odd looking damage to existing trailed boats.

Most trailers when purchased are intended for universal application, and therefore require some alteration or at least adjustment before suiting the Mirror. Even trailers advertised as suitable for a Mirror are not always that and some cannot be made so without quite drastic additions. If we consider the basic requirements, then any trailer can be examined for its suitability.

Firstly, the weight of the boat, plus mast, plus what some camping families load into the boat, should not greatly exceed 200 lbs. It is better to have the correct springing than to do as has been done, lower the tyre pressure to give a smoother ride. This can damage the tyre, so aim for a trailer of about this loading whatever type of suspension your pocket will let you choose.

Secondly, the support for the boat should be on the keel in at least two places, sensibly apart, with the two steadies adjusted so that when the boat is correctly supported forward and aft, they prevent it from rocking from side to side but are not contributing to supporting the boat directly. Whilst talking

of the steadies, some are adjustable, some floating and some seized up, so have a good look to ensure that they are properly protected by a rubber or similar material and in the case of the Mirror they often lie across the bilge strip, causing one edge, however well protected, to dig in. It is better, if you can, to remove the existing steady and replace it by a larger flat custom-made one that is well protected and avoids sitting unevenly on the bottom of the boat. You should also make sure that the keel supports are of a suitable material and if they swivel, by design or accident, that they are correctly positioned before you set out.

Thirdly, securing the boat to the trailer. Everyone to their own design is fair comment, for what appears to satisfy one owner will not satisfy another. Again, basic requirements are best considered: (a) we want to stop the boat going forward; (b) to stop it sliding back; and (c) to stop it bouncing up and down.

The forward and aft ties should be of rope (old sheets are very kind to your boat and your hands). The forward one can be taken from the forestay eye to a point aft of this on the trailer's backbone. The aft one can be taken from the cross member of the trailer, through the hole in the skeg to the other side of the cross member. The tie-down straps can, of course, vary in material from rope to sophisticated quick coupling, spring-loaded webbing. This is a matter again for you and your pocket to choose, so long as the boat is kept in close contact forward and aft with the trailer. Two ties would be best for this, one at the cross member and another forward.

The stowage of the mast, gaff and boom is really one of individual choice, but a useful idea is to make a support that holds them along the centre of the boat, just a little higher (say four inches) than the transoms, so that if you trail with a cover on or park

your boat outside, it will make a ridge and allow the water to run off as well as preventing chaffing against themselves or the decks.

On the question of covers, it depends on how particular you are on keeping your hull free of stone chips, etc., when you are travelling. If you are a keen racer or perhaps a perfectionist, you may wish to use a hull cover (under-cover) but it does mean some extra lifting.

Finally, before every trip it is vital that the hitch is inspected to ensure that there is no obstruction in the cup and this includes old hard grease. Check the locking device works and when it is on the ball that it is secure. Attach the electrics and you are

ready for the off. A good plan is to take the long way round to the driver's seat and check all that has been mentioned is in order. This simple procedure can easily be repeated at any stops en route with advantage.

On the question of the law in respect of trailers, it is not the subject of this article, but again it obviously pays to read the law and comply with all its requirements. Perhaps all that is required to reduce the increase in insurance claims for damage by the trailer is a little common sense, it can avoid a frustrating time trying to repair some awkward damage and maybe help keep our insurance premiums down. Let us, as Mirror owners, take these few sensible precautions.



Towing for two-boat-families

by Jack White

With the increase in the number of Mirror dinghies being purchased and sailed, there are a large number of families with more than one dinghy. I have, therefore, devised the following system for stowing two dinghies onto one trailer. This system has been tested for several years, sometimes at speeds far in excess of the towing limit of 50 m.p.h., with great success.

Materials required are:—

2 pieces of softwood 150mm x 75mm x 30mm; 4 pieces of softwood 280mm x 150mm x 25mm; 2 pieces of softwood 950mm x 38mm x 12mm; 1 piece plywood 1.225m x 150mm x 5mm; 20 x 2in. No. 10 countersunk galvanised wood screws; 8 x 1½in. No. 10 countersunk galvanised wood screws; 8 x ¾in. No. 6 countersunk wood screws.

First of all, take the first two items of timber, separate them into two sets, i.e. 1 piece of wood 150mm x 75mm x 30mm and two pieces 280mm x 150mm x 25mm in each set. Take each set separately, screw

Fig 1

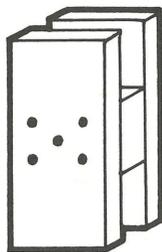
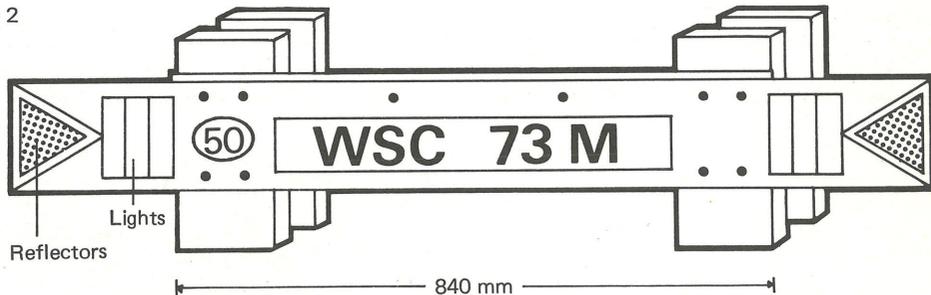


Fig 2



and glue them together using one shot glue and the 2in. No. 10 wood screws, making sure that the grain of the smaller piece of timber is at right angles to the grain of the other pieces. Five screws from each side countersunk into the timber will be sufficient. These pieces of wood should now form an 'H' shaped frame as fig 1.

Take the piece of plywood and the two pieces of timber remaining to make up the numberplate board. Screw and glue the battens to the long edges of the plywood panel to act as stiffeners, making sure that they are fixed an equal distance from each end of the panel of plywood. Then take the number plate board and fix it with the 1½in. No. 10 wood screws to the frames that you have previously made, making sure that the overall outside dimension of the two frames is exactly 840mm. This is an important dimension, as you will later realise. You should now have the main frame made up as in fig 2.

The number plate, lights, reflectors and 50 m.p.h. signs can be fitted to the front of the number plate board and wired up to suit your towing socket, leaving sufficient wire to reach from the transom of the dinghy to the socket of the car with, maybe, a foot to spare.

When it comes to stowing the dinghies onto the trailer, you must be sure that your trailer is capable of carrying the load that you are going to put on it, which with the masts, booms, gaffs, tillers, centreplates, possibly wetsuit and sailbags, not to mention the boat covers, spinnaker poles and launching trolleys, must weigh somewhere in the region of 350lbs, at least.

Place the first dinghy onto the trailer in the position that it is to be carried and lay within the cockpit such things as centre-

Outboard bound

by Percy Blandford

plates, tillers, sailbags, spinnaker poles, wet-suits and boat covers, spreading them out as much as possible to distribute the load. Take the two masts one at a time, fitting the base of the mast into the rear of the dinghy under the transom knee, the tops of the masts will then pass under the plywood corner piece at the forward bows and remain fairly secure. Rest the tops of the masts onto a small piece of sponge or carpet on the forward deck. When both masts have been stowed you can position the number plate board, sliding the 'H' shaped pieces over the transom of the dinghy. Here is where you will notice the importance of the dimension outside of the two frames, as these must fit snugly between the two knees of the transom, in order to prevent any sideways movement of the second dinghy.

However, assuming that the frame fits, you load the gaffs and booms, resting each end onto small pieces of carpet, and lash the centres down to the thwart. Securely lash the dinghy to the trailer, ensuring that there is no sideways or forward/backward movement. At the same time it is a good idea to check that all the spars and equipment have been loaded, as this is the last time that you will be able to see inside the dinghy before you reach your destination. Also, remember to lay your electrical cable from the lights along the deck of the dinghy, bringing it over the gunwale, approximately one foot back from the stem of the dinghy and into the socket of the car.

You need a small piece of carpet about eighteen inches by six inches to lay across the bows of the dinghy. Invert the second dinghy and lift it onto the first dinghy, ensuring that the transom fits into the upper slots of the 'H' pieces of the frame. Resting the bows onto the bows of the first dinghy, lash the two dinghies together by using the two forward towing eyes and by the shroud plates or chain plates. You can, if you wish, invert your launching trolleys and load them onto the top, securely lashing them to either the top dinghy or to the trailer.

You are now ready for the road and will find your load safe and secure when you reach your destination.

"Happy trailing."

There are occasions when you do not want to sail and the idea of expending energy on rowing does not appeal to you. It may be that there is no wind in any case, or you have to buck a foul tide faster than you can sail if you are to get home that day. Which brings us to an outboard motor.

Any hull has an optimum speed, which is based on waterline length more than anything else. You will go faster if a good length of the boat is immersed than if the hull is down at the stern and a yard or so of the bow is sticking up in the air. This may be obvious when sailing, but is just as important under power — yet how many dinghies may be seen with the crew sitting beside the motor and peering around the raised bow?

There is little point in using a motor more powerful than is needed to push the hull at its optimum speed. Any greater power will cause a great flurry of water astern, pull the stern down and give only marginally greater speed. The only way to go really faster is to use enough power to make the boat plane — structurally the Mirror will not stand up to the thrust of a high-powered motor, so do not try that.

The power needed to drive a standard Mirror at all the speed it can cope with is quite slight. For most purposes 1 HP will probably do. If you want to load it heavily then something like 2½ HP is the most that can usefully be employed. Different makers seem to use different horses, so powers vary a little between makers, but these are a general guide.

Motors are described as long-shaft and short or standard-shaft. This applies to the depth of transom. The short shaft fits a transom not more than 15in. from its top to the bottom or keel. The Mirror transom is less than this. To avoid rudder hangings the motor goes to one side, so the effective depth at the motor position is less than at the centre. It does not matter much if the motor projects well below the hull, but there have been a few motors produced with shorter shaft than 15in.

The thrust obviously comes at the propeller, but the effect on the transom is to apply a twisting action, forward at the bottom and outward at the top. This has to be resisted by the structure of the transom. The motor applies the load via a bearing plate against the outside of the transom and one or two cramp screws at the top. Most cramps open wider than the thickness of the transom and it is a good idea, if you intend to do much motoring, to arrange to spread the load.

There can be an extra thickness of plywood outside, larger than the outboard bearing surface, and a strip of wood across the inside of the transom for the cramp screws to bear on. These pieces can be fixed but it is a good idea to have two suitable pieces linked by a rubberised fabric piece that goes over the top of the transom. This can be removed and prevents the transom being marked by the motor.

Which side you have the motor depends on which hand you prefer to steer with, but do not go too far away from the centre. Most motors have an adjustment of angle on the motor bracket. The motor drives best when the shaft is vertical. The adjustment is to suit different transom angles. A few motors do not adjust nearer than 15° to vertical. On the vertical transom of a Mirror this would leave the motor out at a slight angle, which would not matter much, but if you can choose a motor that goes right in to suit, that would be better.

All small outboard motors are single-cylinder two-strokes. Some are water-cooled and some are air-cooled. The former is supposed to be quieter, but in the sizes we are considering there is little to choose in noise level — you have to accept the high-pitched two-stroke buzzing. The fuel tank is mounted on the engine and you have to follow the maker's recommendations fairly closely about mixing oil and petrol. A modern motor is fairly trouble free if you watch this.

Most motors can be propped at an angle to clear the water so it is possible to sail with a motor in position. However, you may want to stow it in the boat. The fuel tank can be sealed and fuel turned off, but the carburettor may trickle annoyingly when

the motor is placed on its side. To avoid this problem, the motor should be stopped by turning off the fuel and letting it idle until the carburettor has emptied.

It is good practice to never lift the underwater unit above the power head. There could be a risk of water finding its way into the works. Some small motors are adaptations of lawn mower motors, often with no marinization. With careful use on inland waters they may have a reasonable life, but on salt water they soon suffer from rust. An outboard motor built as such is usually a better buy.

Small outboard motors have no clutch. This means that as soon as the motor starts, it is driving the boat. This is not as frightening as it seems, as the thrust is slight at idling speeds and the boat can be easily held. Many motors reverse by turning completely in their mounting — this is also your only brake!

Most outboard motors have recoil cord starters. British Seagull, probably the most popular small motor, has a loose starter cord, so take care not to lose it.

You do not need to be an engineer to run an outboard motor, but there are two things you should know how to tackle and always have the tools needed for these jobs with you. The solitary sparking plug can become fouled and cease to function, so the motor stops. Have a spare plug and a suitable spanner with you. A fouled plug is better cleaned with the equipment at a garage than by hand tools. Most propellers drive through a shear pin, which breaks and protects the mechanism if the propeller hits anything solid in the water. In many cases the propeller nut is locked by a split pin, so have a dummy run on your engine, and see how to remove the propeller and fit a new shear pin, before being faced with the job afloat.

At one time sailing men professed to hate engines and were rather proud of neglecting it, if they had one. This is a rather negative attitude. Mirror sailors are much more enlightened seamen, we hope. An outboard motor can be a useful part of your equipment, deserving about the same amount of care you give your sails.

The Iron Topsail

by Peter Booth

Down sail, up funnel; for a decade or so an order heard on warships and merchantmen. To use the iron topsail was an expression for switching from sail to power, but rarely were the auxiliary engines a success in sailing ships. The engines were inefficient, required boiler and bunker space within hulls designed to the finest lines possible, the paddles or propellers caused drag which was unacceptable and the crew hated the innovation.

The advantages were the same then as now. A sailing ship, down tide and to leeward of its landfall, should have been enabled to catch her tide, clear a dreaded lee shore or cross the doldrums trade wind to trade wind, had the machinery been efficient. When there was a breeze, of course she had no need of it.

The obvious answer, when pleasure sailing, is to take an outboard and these days they are not the encumbrance they used to be. Let us try to define the range within which you may seek the ideal engine for yourself. We can postulate an upper limit of power at 4 H.P. and a lower limit at 1½ H.P. Price is a consideration but not the sole consideration and £80 – £150, including V.A.T., covers almost any suitable make. Clearly the lighter the better but be warned, the lighter and smaller the engine, the more likely will be the necessity to work very

strictly to the manual.

To exemplify, the British Seagull engine, traditional standby of the practical yachtsman, is simple, adequately powered and although it should not be so subjected, capable of withstanding a great deal of misuse. Its simplicity of design plus its spare power achieves this but it is not the lightest of engines. The smallest and lightest engine of all, will give endless satisfaction provided the petrol/oil mixture is absolutely accurate, and it is operated in accordance with instructions. You pay your money and takes your choice!

The weight factor is very important and again the range is wide. From 11½lbs (5kg) to 30lbs (15kg) or so. Thirty pounds in the wrong position can affect the trim badly and it takes a lot of carrying home in these days when outboards can no longer be left overnight safely. But weight tends to denote power. Obviously an 11½lb engine is nearly three times more attractive than a 30lb engine, particularly as an outboard is a tolerated nuisance for 90% of its life, but in a fast tide, head sea and heavily crewed Mirror, it may not give quite enough power to push you home.

It would be wrong to list the engines available and draw comparisons, for you must study not the other man's needs but your own. The ideal of course, is the least weight, at the cheapest cost, for the greatest reliability, with the maximum power and minimal noise and vibration. It's not yet on the market and it is hard to see how it ever can be.

Ask yourself some key questions – adding up a score may narrow the field a little.

Is your normal crew	1. Heavy	2. Moderate	3. Light
Are the prevailing conditions	1. Exposed	2. Average	3. Sheltered
Do you want an engine as	1. Prime power	2. 50/50	3. To get you home
Your mechanical aptitude is	1. Nil	2. Average	3. Good
The carrying distance is	1. Short	2. Medium	3. Far
Have you also a dinghy which is	1. Heavier	2. The same	3. Lighter
Will you take the engine	1. Occasionally	2. Sometimes	3. Nearly always
Space in your boot	1. Lots	2. Some space	3. Very little
Will you allow the children to use it	1. Rarely	2. Sometimes	3. Often

A high score would seem very roughly to indicate the range 1/2 H.P. weight up to 20lbs (10 kgs)

An average score leaves the whole range open.

A low score calls for study of the heavier, higher powered and very simple engines.

But – it is not conclusive. So above all, seek demonstrations, observe other users and talk it over with your fellow owners.

Joys of outboarding

by Peter Marks

Most Mirror owners wish at one time or another that we had a small outboard motor on the transom; to get us home against a strong ebb; to spin for mackerel, or showing even greater wishful thinking, to get us back to the front of a racing fleet, having yet again misjudged a wind-shift!

Cost has always been something of a barrier to those who would only make very occasional use of their motor, but with the cheaper ones at only half the price of a Mirror kit, they too represent a very good investment.

On the market there is a bewildering selection of smaller outboards, some excellent, some very mediocre. The old favorite must be the Seagull Featherweight or, giving rather more power, the Seagull Forty Plus. These are probably the most reliable and long-lived motors in the world, are among the least expensive and require the minimum of maintenance. At a price of around £80 plus VAT in the UK one can afford to overlook some of its shortcomings in not having recoil starting (the cord has to be wound onto the pulley) and not having the reversing ability by pivoting through 360° as on most other motors.

For those prepared to spend rather more to obtain the benefits of the features now found on the products of the larger manufacturers, one cannot go far wrong with the little 3.5 Yamaha, the 4hp Johnson/Evinrude or what to my mind must be the best buy at a price of around £170 plus VAT — the new Mercury 4. This superb piece of engineering, completely new for 1976, weighs in at just 36lbs (16.3 kilos), has recoil starting, 360° pivot reverse, integral fuel tank, twin cylinders, a clutch giving a neutral position in the gearbox, a system whereby the exhaust gases and noise are ejected through the centre of the propeller for fume-free and quieter running, a blissful absence of those infuriating shear pins that most makes use to protect their propellers and last but

certainly not least, Thunderbolt ignition that requires no contact-breaker points and uses a special type of sparkplug that does not have a conventional central electrode gap. It is these last two features that raise the Mercury head and shoulders above its competitors, as they have virtually eliminated the old bugbear of oiled or fouled sparkplugs with the attendant bad starting that has put so many people off owning an outboard in the past.

All these small outboards are simplicity itself to operate with just a choke and throttle by way of controls, and are held on the transom with two thumb screws. The more prudent of us would attach a lanyard from the motor to an eye plate on the transom just in case the clamps vibrate loose (a euphemism for the skipper having forgotten to screw them up in the first instance!) and to protect that rather fine piece of mahogany from unsightly scores we would screw a piece of metal plate to the transom.

The position that the motor should take up on the transom is open to debate. Ideally, it should be dead centre but this is not usually possible as the rudder gudgeon and pintles foul the motor's clamp bracket and we have to compromise by offsetting it to one side. In this position we have to accept that the Mirror's skeg interferes with the flow of water to the propeller and results in a much larger turning circle in one direction than the other. We have of course removed the boat's rudder and are using the motor tiller to steer, but another system which has some advantages is to retain the normal rudder, set the motor as far to one side as it will go on the transom in the straight ahead position and then use the Mirror's own tiller. Using this method, one can trim the boat correctly by sitting well forward and furthermore one has far better control at low speed, especially when the motor is switched off just prior to coming alongside or onto the beach, since without the thrust from the propeller one would have no steering at all. A word of warning though, too much 'hard a' port' and you may well chop your rudder off!

Remember to take a spare can of ready mixed petrol/oil and a small funnel — it is a cartoonist's dream to see someone trying to

decant fuel into the tank via the tiny filler cap in a bit of a lop. 'Pouring oil onto troubled waters' takes on a whole new meaning! Other essential items are a couple of paddles, a spare sparkplug and for those who do not have a Mercury, a handful of shear pins. Lastly, to avoid mutiny, if you intend doing much outboarding, make up a short, dummy daggerboard that is a nice tight fit in the centreboard case. Failure to supply this will result in a very impressive fountain of water landing in your crew's lap.

Further joys of outboarding

by Tony Hutchings

I first read Peter Marks' article whilst deeply immersed – if that is the correct term – in applying the final coats of polyurethane to M31765 in the month before the grand launch. His ideas about the joys of outboarding seemed rather remote, what with all the arrangements concerning paint, trailer, tow bar, registration, and the right champagne for the job!

However, after a 'getting to know you' six months under sail only, I soon came to the conclusion that the Mirror is the type of boat that needs exploiting to the full. The joys of outboarding were discussed again and Peter's article re-read in light of experience and possible requirements.

Picture the scene shortly afterwards . . . the helmsman steadies the Seagull 40 with one hand, instruction book in the other. Turn to face transom, pick up motor for the n'th time, and attach to the transom via the motor bracket. But where shall I put it? Shout for the crew to bring help and Reflections No. 5 open at page seven. Ah! the confirmation of a suspicion, 'ideally the motor should be in the centre position but this is difficult to achieve as the gudgeon and pintle tend to foul the clamp bracket.' As I don't fancy the alternative rudder-chopping position we are now back at stage one.

Perhaps if we go right back to the drawing board an idea might come. So, swopping helmsman's woolly bobble hat for whatever marine architects wear aloft when feeling

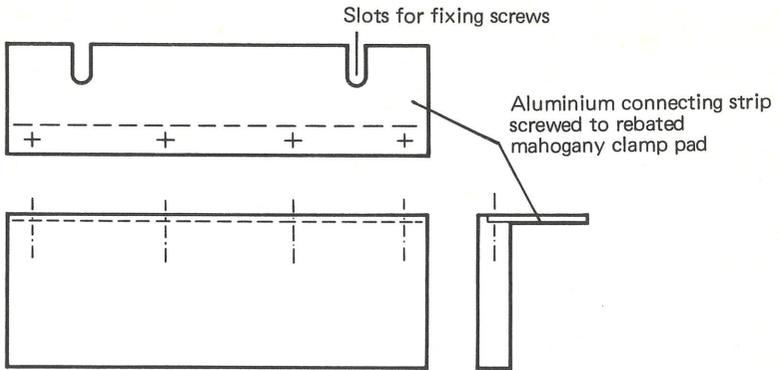
creative, away we go. A look at the engine mounting bracket for the Seagull (and some other motors) will reveal that there is enough clearance in the centre for the gudgeon and pintle to protrude when set central and some ½in. (13mm) away from the transom. If a piece of mahogany is made up to take the pressure from the two upper mounting points and the lower thrust pad on the one side of the transom, and the two thumb screws on the other, we might be getting somewhere. How to get such a clamping pad on the transom and over the rudder attachments is the chief difficulty. This problem was solved by having the clamping pads in two parts, secured when in the correct position by screws. Eureka! Now all we need is to get from the drawing board to the real thing.

Some time later . . . trials over the season proved most satisfactory. Having the engine on the centre line of the hull is ideal and well worth the effort. The clamping pad is simple to attach, easy to remove and no marks are left on the transom to show that an outboard has been in use. (This point should be noted by those whose friends are sailing purists, and race committees who are suspicious of the last seeming to come first!)

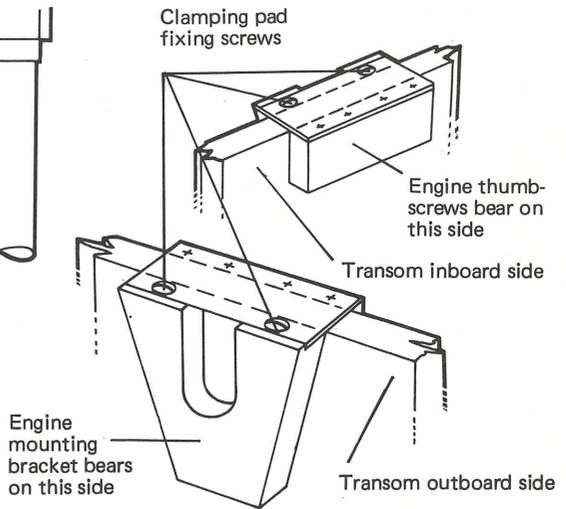
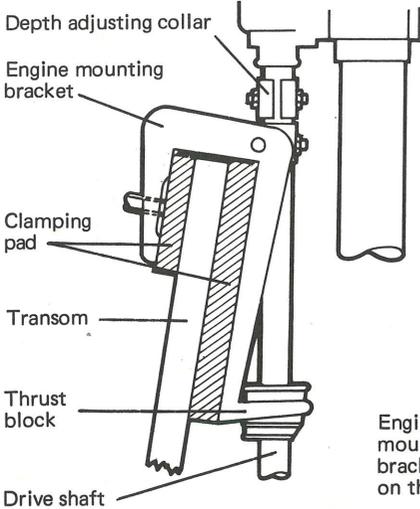
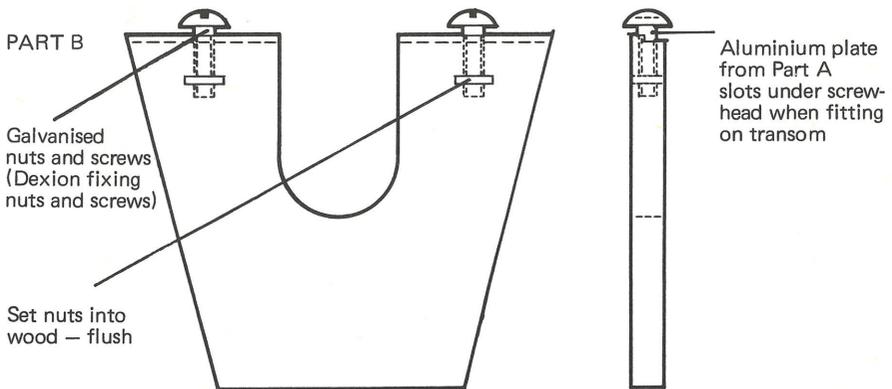
Although the pad was developed with the Seagull 40 in mind, adaptations of the idea may well suit other motors.



PART A



PART B



The Mirror and its engine - abroad

by Hugh Cundall

By the time the summer holidays arrived, I had already waged a long campaign – constant dripping wearth away the stone – to overcome the distaff objections, and when we set off ‘en famille’ to caravan in Brittany for the second year running, we had the Mirror on top of our old Victor estate – and a launching trolley on top of the Mirror.

First tip – do have an Estate. I lash my spars into the Mirror, and because the roof rack is right at the back of the car, I can have the Mirror on top of the car and securely lashed in 10 minutes flat, *single handed*. You can’t do that with many other boats.

We chose the Saturday mid-day ferry to Cherbourg, on which you do not pay extra for height – then missed it due to the traffic jams. So we took the next one to Le Havre instead. Who said you have to book the ferries months in advance?

At Le Havre a rather boot-faced Customs man asked if we had an engine for the boat, and all unsuspecting we said yes, it’s a 1½hp Evinrude, 5 years old, in the boot of the car under the clothes, camping gear etc. “Can I have your carnet?” he said. “What carnet?” we said.

Second tip – Caravans and boats can be imported free, but any sort of engine needs a carnet.

“How do we get one?” we said. Leave the engine in the Thoresen freight shed over night, and go to the AA office in the morning and get a carnet.

But we don’t belong to the AA. Can we pay the duty – the engine’s only worth £15 at the outside? No, you can’t (Question – I wonder why he was so keen for us to go to the AA? What nasty suspicious minds we have!)

But it’s Sunday to-morrow. The AA office is open in the morning.

So we and another car/caravan/boat equipé in an identical fix, slept over-night in the car

park of the local Club Nautique (where it said “No Camping”) and waited until 9 a.m. when we thought the AA might be open.

Third Tip – The AA office in Le Havre is open from 7-12 (from memory) on Sundays, so we need not have wasted that much of the day.

So it cost us £10 to get the silly little engine into France.

Fourth Tip – Get a carnet in England.

After that inauspicious start, all went well. We used the Mirror a lot in Port Mer bay near Cancale – the kids learned to row and did some sailing – it was used as a tender to a ‘Galion’ cruiser owned by some French friends – and the cruiser owner and I went for a long and delightful ‘cruise’ round the coast in the Mirror one afternoon.

One Mirror writer recommended contacting the local Mirror Association before going abroad. I tried this, both using the address in the Yearbook and through our indefatigable Secretary, only to find that the French Association is apparently moribund. (*Editor’s Note. The French MCA is now once more a flourishing concern.*) In one way this was a relief, as I was already dreading the campaign I would have had to plan and execute in order to arrive, ‘fortuitously’, at a Mirror regatta at the right time, so that “well darling, now we are here, it’s silly not to take part . . .” As it was, without regattas, life was much simpler!

Our good Secretary recommended that we should visit Crozon on our way to Concarneau and our French friends also said how attractive it is. Whilst we were pleased to have been there, the camp site was several miles from the water, and the harbour did not look very exciting. Frankly, we were disappointed, and only stayed one night.

Concarneau, on the other hand, was a fantastic success. We found a field where we could make ‘le Camping sauvage,’ across the other side of the bay, and we used the Mirror to sail the 2 miles to the town centre for shopping! We did get a few curious glances as we entered the harbour – not surprising. I suppose, at the sight of a funny little, stunted, sawn-off boat, containing 2 adults (one 6ft 2½in!), 3 children (15 down to 9), an out-board motor (stowed in the bilge just in case the wind dropped), a week’s washing, all the shopping etc. And for some reason

In praise of (a) sail

by Laurie Jones

I shall never understand, it sailed straight up to a 15ft high harbour wall, against an offshore wind. The Gods were certainly smiling on us.

We also used the Mirror for pottering – did you know the foredeck makes a perfect place for the owner's wife to sunbathe, if you steer so that the sun is not behind the sails? – and for teaching the young to sail, and for fishing.



We saw one other Mirror there, but he was using his outboard . . .

In the end, I think we all agreed that taking the Mirror along had been a great success. For me, of course, it had made all the difference. I could combine a sailing holiday with what the non-sailing parts of the family wanted to do.

On leaving Cherbourg on the way home, the Douanier asked "did we have an engine" and "could he have the carnet."

Fifth Tip – Maybe honesty is the best policy – if we had said "No" on the way in, we would have had to lie again on the way out – and we would have had kittens the whole holiday dreading the customs on the way out.

Sixth Tip – If you are going to all that trouble, make sure the damn thing works – insofar as one can do this with an outboard. We had water circulation problems half the time.

Nevertheless the little Mirror is a fantastic boat, and I know of no other that would be anywhere near as useful and attractive for this sort of activity. And, as I am always telling my 9 year old crew, Mirrors do not capsize – unless – but that is another story.

Sitting with the wind howling around the house and the rain lashing the windows, reminds me of our last holiday with the Mirror in Cornwall. It was just such a day when I realised how easily things can go wrong. We were staying at Place Manor, a beautiful sheltered spot almost opposite St. Mawes on the Percueil River. It was a particularly blowy day and we had not been sailing. Martin, aged 6, wanted to go for a row and to sail his toy yacht. The westerly wind was blowing strongly across the entrance to Place, against the ebb, which had just started to run. We cleared the boom and mainsail of the Mirror, but I thought to throw the jib into the stowage locker, just in case, and I also retained the centreboard. Just as well!

Martin's boat sailed bravely out into the rough water and had nearly reached the St. Mawes shore, when it went about and headed back towards Place. Almost across the fairway it went about again and we decided to rescue it. I misjudged the approach and ran it down. Martin almost went overboard trying to grab it, and I grabbed him, only to find one oar bobbing away upwind. The toy yacht sailed gamely on!

It took four or five minutes to extract the jib and hoist it, and about half an hour to beat back to the place where we lost the oar. There was, of course, little chance of finding it. Would it go with the ebb, still rather weak, or be wind blown up river? Anyway we found the yacht, now nearly back to St. Mawes, and managed to retrieve that. While all this was going on under grey lowering skies, a helicopter came and took a good look; comforting really. There was no hope of finding the oar – Martin was getting cold, and trying to make a Mirror go to windward under jib alone is rather a slow business, especially when it comes to tacking. The solution is to bear off and get some way on, free the sheet, luff up smartly, raise the centreboard, back the jib and reverse the helm. The boat backs round on the rudder, making a short stern-

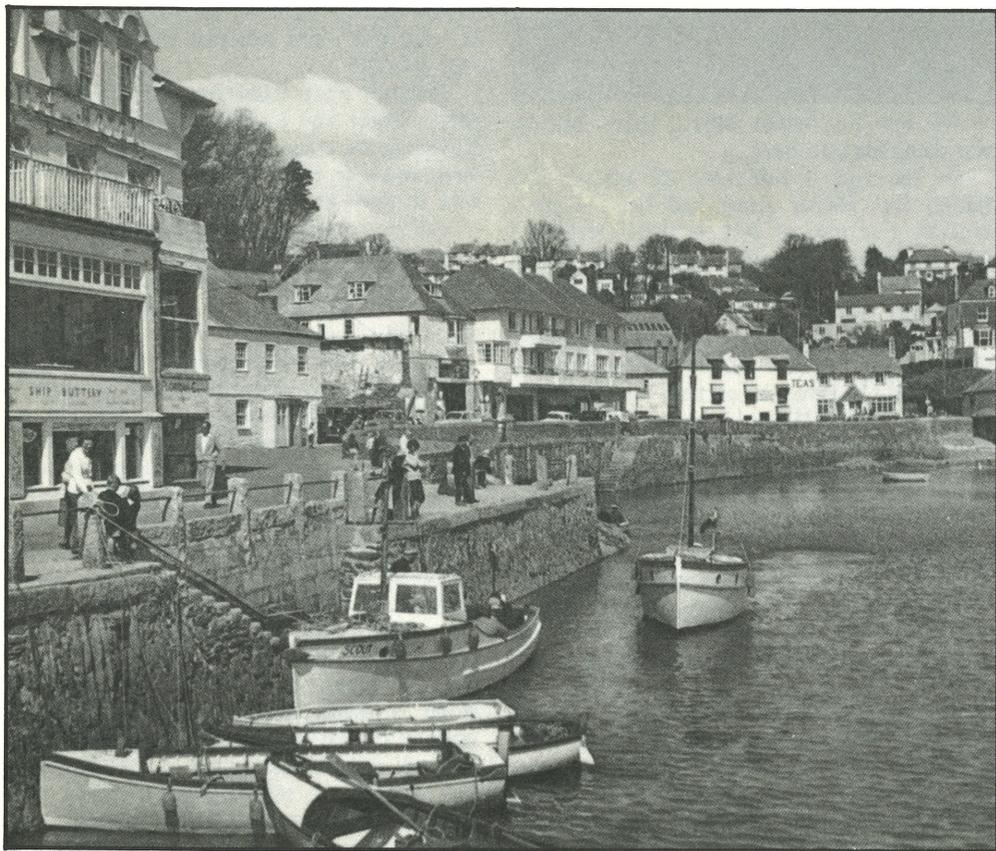
board. Then you can put the board down, sheet the jib across, and off on the new tack. But we weren't making much progress towards Place, so I put Martin ashore at a landing from which he could walk home, while I re-rigged the jib on the main halyard, and tacked it down with the kicking strap, taking one sheet through each of the drainage ports on the transom. After that, progress was reasonably rapid, the boat was well balanced and handled well. Later we borrowed an outboard and went looking for the missing oar. It was quite fruitless, of course, but surprisingly, with the motor flat out and a lot of wet coming over the front, we found that our little Holt-Allen bailer would not suck. Yet, under sail, it will dry the boat out, even when going to windward. It's amazing how efficient sails are in getting a boat through water.

The afternoon's events brought home how helpless one is with an oar missing in any

sort of a chop. A sculling notch in the transom would be a big help but I haven't dared cut one in case it puts us 'out of class.'

In future I shall certainly always carry a rag of sail and retain the centreboard. They saved our bacon that afternoon. Apart from that incident, the holiday was a great success, and I can thoroughly recommend the Falmouth area as a place for Mirror sailing, and Place Manor at St. Anthony as an ideal base.

Finally, on a visit to Sweden (without any boats) I saw a neat method of stowing oars, which I have found most satisfactory but have not seen used in this country. The oars are passed, blade first, under the thwart, one on each side of the plate case. The blades fit into the stowage lockers, and stay vertical when the oars are lashed together with elastic cords fore and aft of the plate case. The oars are quite out of the way and can be used instead of toe-straps.



Cats

by Ean McDonald

“... *les mouvements des équipiers (the crew) doivent avoir la promptitude et la souplesse de ceux d'un chat...*”

I came across this in the Touring Club de France sailing school manual which I was using to coach four young Dutchmen in French sailing terms. They had been taken on as assistant instructors for the T.C.F.'s July sailing courses that year. Like most of their nationality, they were good sailors and their English was fluent, but even their every day French was somewhat inadequate. French pupils instructed by Dutchmen who had had their French sailing jargon imparted to them with a Scots accent! I wish I could have stayed on to see some of the results...

However, the object of this article is to offer some wrinkles to any who, like myself, find by reason of advancing years or any other reason, that their ability is short of cat-like. I suppose that the best advice to them would be to buy a small cruiser. But this is a little heavy to make passages across France on the roof of an ancient van, particularly one whose compass courses are hopelessly deviated by the magnetic attraction of the *Massif Central* for the pilot.

The Bassin de Thau is a salt water lagoon, 12 miles by 2, behind the port of Sete in Languedoc. Thousands of plated oyster poles along its northern shore provide a guarantee of the purity of its warm water for those addicted – or prone – to total immersion, and provide an additional incentive to visit the inns of the one or two little harbours along its shores. Sete itself offers the lover of ships everything, and can be visited by a network of canals which put Venice to shame. The T.C.F. Centre Nautique at Balarue les Bains offers an excellent camp and caravan site, not restricted to club members or sailing pupils, except perhaps in July and early August, but prior enquiry from T.C.F., Bureau Regional, 4 rue de Verdun, Montpellier, is advisable. The centre has its own private slips and jetty.

Mirror 21831, 'Le Mirage' (dictionary

definition 'optical phenomenon, associated with water and/or with objects seen upside down') Bedford 'Vital Spark Too' and their owner have made the double passage from this, their port of registry, three times in the course of which they have involved themselves, severally and jointly, in numerous misadventures from being stranded at the source of the Loire, at 4000ft. to being blown across the Bassin under bare poles by the mistral, the strong north wind that whirls down from the Massif Central and the Maritime Alps. It is of maritime affairs that I would write.

Wrinkle No. 1:

For the uncatlike the Mirror is delightfully easy to get out of from any position, provided you do not mind landing in water of any depth, with or without the boat on top of you. I had an uneasy feeling that getting back in solo, after righting her if necessary, might not be so simple. Being alone that year I thought that some experiments were called for, even if I *had* to be a lone wolf. I had no desire to sail the width, or at worst even the length, of the Bassin in the guise of an auxiliary and animate rudder. So I anchored her in chin-deep water and *tried*, over the transom, naturally. It *could* be done but the exercise was strenuous, and only achieved in a more or less unclad condition, after removing the rudder and more skin from various parts of my anatomy than I cared to make a habit of. Furthermore, judging from the comments of some small boys watching from shallower water, the performance must have been most undignified. National pride had to be considered.

Then I tried a stirrup bent to a line passed through one of the transom clearing holes, round the mid-ship thwart and back to hand. No good. The length of the stirrup 'leather' could certainly be adjusted, but as soon as any weight was put on it, it rode forward under the boat.

So – laugh who will – I have made myself a little ladder, designed to hook over the transom without removing the rudder. Any nosey parker seeing this stowed on the after thwart (but easily removable) will be told that it is a set of fiddles to prevent the beer and sandwiches being coupé into the bilges when I am lunching in a popple.

Wrinkle No. 2:

An excellent way of achieving the total immersion above referred to, delightful in summer Med. waters, but undignified, is when coming alongside a jetty single handed and leaning outboard to get hold of something to which to pass a line. It can be positively ensured, if the free end of the bow line is lying where it should *not* be — at the forward end of the foredeck — and the lone mariner essays a perilous crawl along that no-man's-land.

With me in a Mirror there is no room for any extra clutter such as a boat-hook.

So I found me a piece of steel rod which would just fit into the D-eye at the middle of the spinnaker boom, bent about two inches at right angles and slipped this finger into the eye. Then I ran the rod along the boom and made another judicious bend to fit the rod into the claw at one boom end, taking care not to put pressure on the claw, and finished off with some kind of hook. Round off the two ends of the rod to avoid tearing sails or, better still, fit a small wooden parrel ball on the hook end. The fitment can be clamped into the boom in a moment or removed from it with a single tier of lacing line. Anyway, few uncatlike Mirror sailors will use their spinnaker single handed. The gadget is also useful when catting the anchor without venturing on to that perilous foredeck. You can grapple for the warp forward of the bow transom and drag it round and get your anchor on board opposite the mast without risking punching a hole in the bow transom.

Wrinkle No. 3:

The Mirror's boom is doubtless admirably designed for its primary purpose. But with its weight and square section, and being so low hung at the clew, it is capable of inflicting some vicious swipes on the head and shoulders of the uncatlike helmsman when luffed, getting under weigh, bringing up, or at other moments when things are not strictly under control. In any case, it can be an infernal nuisance at such times, or when rowing.

As a most uncatlike small boat mariner I am not ashamed to admit that I carry oars and moreover keep them in their crutches, blades lying forwards against the shrouds so long as I am within soundings (dinghy soundings). Substantial collars at the top of

the leathers allow me to let them trail if need be.

But they would be of little use with that infernal boom flying backwards and forwards about a foot above the gunwale. So I rigged a topping-lift; bent on a small snap hook at the head of the gaff and spliced an eye into a length of light line (similar to that used for the luff lacing is ample). This line I rove through a transverse hole in the boom after end, thence to a jamming cleat about two feet forward on the side of the boom, and, *after checking that there was ample slack*, stopped off the end with a small parrel ball. Then I topped up the boom as high as it would conveniently go without straining the gooseneck fitting, cut the line, turned an eye splice into the lower end of the hanging part and spliced another snap hook into the part rove through the boom. This ensures that the hanging part of the lift can be fitted, if wanted, as the sail is hoisted, and removed as it is lowered. Carefully checked for ample slack it won't spoil the set of the leech. But you presumably don't want it racing (it may even contravene Class Rules) or with a crew on board, and if left bent will sooner or later produce a hurrah's nest with the main lowered, for which, if unbent, it provides a useful tier.

I once saw the late Uffa Fox, arriving late at a meeting, lash H.R.H.'s Bluebottle to a nasty jagged seawall railing with his mainsheet, while he went for sailing instructions, watched by the usual group of devotees — my pupils — whom I had recently instructed that a main sheet should be reserved for its primary purpose, not used as a sail tier, warp or whatnot. The Mirror's standard sheet gets kinky enough as it is after salt water use. With this topping lift, 'Le Mirage' even in her most intractable moods is reduced to absolute docility. I have sailed her through the worst of a mistral squall with the mainsail so scandalised. It is as well, of course, to remember to let go the kicking strap before topping up. It is of tougher cordage than the topping lift!



Notes on a 65 mile weekend cruise

by Nick Lindsay



Earlier, we have told how three members of Wormit Boating Club sailed single handed, one June weekend, around Fife from the Forth Bridges to the Tay Bridges. We hope these notes will help anyone with a like venture in mind.

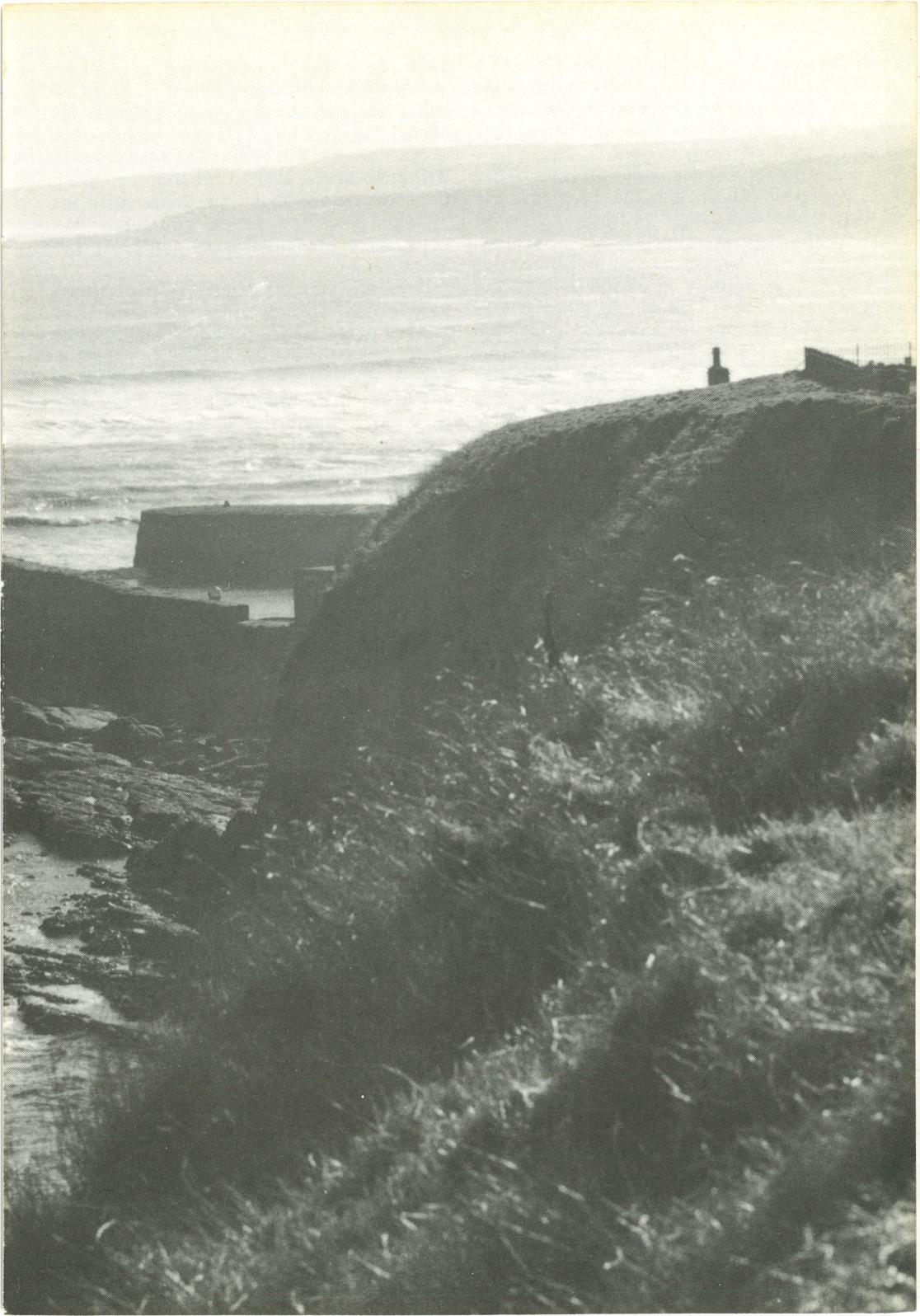
We were all brought up locally, and had a good knowledge of the coastline from the shore before we attempted our circumnavigation. There are quite long stretches of rocky shore where knowledge of sheltered beaches and harbour entrances is vital to planning.

The one inch Ordnance Survey map of Fife was our chart, but while under sail single handed in Mirrors 17552, 12476 and 38955, consulting a map is awkward to say the least. Pre-knowledge and visual memory are important. Previously, two of us had tried the trip around Fife, two up in 38955. We learned that 23 stones weight of crew,

plus food, plus clothing, plus essential gear, adds up to an overloaded and very cramped Mirror – if we hadn't been overpowered by the weather, we might well have given up due to stiffness and fatigue. Our second valuable lesson on the 1973 attempt was our discovery of the invisibility of an orange painted Mirror under jib only. We had dropped the main when we were running before a force 6, and found ourselves broaching. We sailed some 15 miles under jib only, and although the coastguards and six friends were all on the lookout for us, the visibility was good, and we were no more than half a mile from the shore, WE WERE NOT SEEN AT ALL. The 1974 successful sail lasted 34 hours with breaks of 3½, 1 and 3½ hours. Comfort under sail was a big help in keeping going.

We carried our boat covers to serve two purposes. The main one was as a seating pad on the floor of the cockpit. When running, or broadreaching, we sat on these pads with legs stretched forwards, and, on port tack, with tillers extending past right ears. Our waistcoat type buoyancy aids acted as cushions for our ribs on the hard edges of the aft and side buoyancy tanks. Our weight was low, and, with gear stowed forward, the boat trim was reasonable. Anyone who has sailed single-handed on a run knows that sitting centrally on the thwart, twisted to look forward and at the same time with one arm aft to hold the tiller, is an uncomfortable position to maintain for long. We had nearly seven hours of running, so our 'armchair' forward facing position was a real ache-saver. The second use of our boat-covers was as bedding for the few hours we spent ashore. This was not so successful. A turn in our sleep and our ill-formed sleeping bags let in an icy blast. We all feel that the waistcoat type of personal buoyancy, already mentioned, is the safest type for single handed sailing. If you have ever tried to get back into a Mirror unaided, after a single handed tip, you will appreciate our point. Wearing a life jacket and 'carrying all before' like a pantomime duchess, you'll really struggle! Before going on a long coast-wise trip single handed, you should have practised getting into a Mirror over the transom, using a loop of mainsheet as a stirrup if necessary. A local phone call gets us the Met. Office at Leuchars, and we frequently check with them before sailing.





If you are lucky enough to be close to a Met. Office, it is worth getting to know the duty officers who are generally pleased to give a 'personalised' forecast when they know what you hope to do.

A word of warning about forecasts. They are **general!** Local hills and headlands can play tricks with wind direction and a shift of 45° makes the difference between a hard thrash to windward, and a fast reach. Having touched on weather, let us admit that Lady Luck must be on your side when a long coastwise cruise is attempted, but experience and judgement are important too, in making the best of the weather. A badly judged stop ashore could put the final landfall back a whole tide, or even make success impossible within the time available. One advantage of Mirror cruising is that if you do get stuck, a phone call can get you home by road. Have your radio pre-tuned to the shipping forecast frequency on Radio 2 (1500m) and seal it inside a loose polythene bag. You should be able to switch on and off through the bag, thus saving the risk of a wet radio. It can be done by touch during darkness. The safety points of buoyancy and radio lead naturally to other important items, such as a **damped** compass. A Sylva bearing compass is ideal and can be used at night. A powerful water-resistant torch and flares should be carried. Do remember that red flares should only be used in dire distress when life is in danger. White flares are all you'll ever hope to need. We were lucky enough to borrow an aerosol horn. The type commonly used for racing. In fog or darkness this might prevent being run down in a shipping lane. Each of us carried at least one knife, a whistle and sundry lengths of rope. It is an idea to stow lashings in two or three places. The forward shroud deadeyes are good fixing places. This emphasis on safety equipment does not mean that timidity is any part of coastwise sailing. Quite the opposite. Confidence, built on planning, preparation and practice, and the ability to cope with eventualities are the requirements for pleasure and success.

Our biggest safety measure of all was having 3 Mirrors working as a team, keeping in close touch and conferring when each tactical decision had to be made. Landings were easy as three people can carry a loaded Mirror without strain. As an aside at this

point, Jock and I worked out a two-man Mirror lifting technique. Here it is: Stand on either side and find the point of balance for lifting. Take a loop of jib sheet around your necks. The ends will be fixed by the fairleads. With bent knees, tighten the loop and grasp the sheet firmly under the thwart with the 'forward' hand. Buoyancy aids should cushion your necks. Straighten knees and backs and away you go.

Stowage is important on long trips. You'll need plenty of easy-to-eat food stowed so that it is easy-to-reach to satisfy hunger while afloat. 'First in will be last out' is the key phrase when stowing. The Mirror stowage compartments can hold a lot when carefully packed. We found that 'family' size cans of soup, once opened, will sit on a Gaz stove for a hot and tasty snack ashore. Disposable soup pots, as it were.

Few dinghy sailors get experience of night sailing. With light or moderate winds and a safe forecast, sailing at night can be most enjoyable. As dusk gives way to darkness, the eyes become accustomed to the much lower light level. Provided you don't keep destroying your night vision by use of a torch, it is amazing how much can be seen and how position can be judged by the changing relative position of lights on shore. Distance is very difficult to judge at night, but as shore is approached, ears come to the aid of eyes, and the shore sounds, properly interpreted, can give much needed information. One thing I personally learned on this trip was that if another craft, near the limit of visibility, sails across the lights of a village or town on shore, instead of being silhouetted by the lights behind, it can vanish in the darkness. Perhaps looking continuously towards the lights partially destroyed my night vision on this occasion. Fortunately, when this happened, I knew well enough where Jock and Russell were going, so we joined forces again without too much searching.

Much thought should be given to choice of clothing. You won't have space to stow a lot of spare clobber, yet you'll want some kind of change unless you aim to beat Jock's record of 36 hours continuous wear of wet-suit and socks. He never felt cold, but when he reached home he felt quite 'unwanted' until he'd stripped and showered. Hardly the sweet smell of success after an epic voyage.

Expeditions

by Bob Fewtrell

Non-racing Mirrormen may be interested in expeditions organised on the following lines.

If a fleet of Mirrors, preferably with a powered escort craft, wish to go off for the day to explore unknown waters, a leader boat should be appointed. She should have some distinguishing mark, such as a certain flag or hull colour, and have a fairly responsible person on the helm. A 'Tail-end Charlie' with a different identification is also needed. All crews should be instructed that, whilst under way, they are to keep astern and to leeward of the leader boat and ahead of 'Tail-end Charlie'. They also need to be able to heave to.

Once the fleet has set sail, the leader really becomes responsible for the whole fleet. Not only must he set a course well clear of all hazards, and keep a good eye open ahead, but he must also watch his flock; if they get too strung out he should heave to and wait while they close up. This means that, as each boat arrives on station it needs to heave to in turn. Once they are in a bunch again he may proceed.

This system has been found to work very well, even with a great variety of experience within the fleet. The National Sailing Centre uses it regularly in the Solent with various instructional groups from elementary standard upwards.

An additional safety feature is the carrying of flags by the escort craft with meanings understood by all members of the fleet. Those used by the N.S.C. are:—

N — Go Home

1st Substitute — Close me to communicate.

Answering Pendant — Reduce sail.

RY — Come and take a tow.

The escort craft is also useful for carrying picnic lunches, spare gear, etc., in addition to the usual equipment such as first aid kit, flares, blankets.

Why don't you organise an expedition some time, they're fun and they're safer than going alone.

Peter Barnes Hove to . . .

Sailing at sea, particularly when it's blowing, tacking can become a slightly more difficult manoeuvre. Not having enough way or a combination of wind and waves, a situation arrives where the dinghy reaches head to wind and refuses to fall on the next tack. This, feeling the proverbial lemon, is where you become 'stuck in irons.' The exact meaning of this phrase I throw open as I just do not know, however, I hope I do know the cure . . .

At one time, I tried wagging furiously with the tiller to very little effect. This tended on the whole, to keep the dinghy head on, and not to pull it round. It was only later I realised, that within seconds of reaching head to wind, forward motion stops, and backward motion starts. Once I realised this, the method of freeing became apparent, insofar as the need to is steer backwards.

So remain on the windward side, free off the main and jib, and push the tiller away from you and hold it there, resisting the temptation to waggle, and the boat will then swing round to beam on. At this point the main and jib can be pulled in, allowing you to continue sailing.

Earlier I said that I did not know the original meaning of the expression 'in irons' — and there is another one about which I am completely in the dark. This is the term 'hove to'. Yet to 'heave to' is an extremely useful manoeuvre to master whether racing, pottering or fishing. With full sails set, you and your crew can lie back and relax, particularly during the pre-start frenzy with the majority of people belting back and forth in the start area. Moving forward on a tack with the jib cleated, you go slowly about and keep the jib cleated. This is now on the wrong side. The main is let completely free, and the tiller is pushed fully to leeward. The centre-board is left fully down to resist side movement. The effect of the wind is first to push the jib, which is backed and the bow swings round. The wind then affects the main which gives the dinghy a slight

forward motion. The rudder, being hard over, swings the bow round, bringing the jib into play, and the whole procedure starts again.

When I said you can lie back and relax, I meant it literally, with your foot against the tiller. It leaves you free to close your eyes, and enjoy the pleasant(?) motion – or even have a mackerel line over the side.

Now, that reminds me of something totally irrelevant – my first Mirror Dinghy, old 1981. Boat was originally built for fishing, and I remember taking it with me on holiday to Dartmouth to have its second dip in the water, almost eighteen months after building it. Sails were completely out as I still didn't know how to sail, and I'd taken an old 5 h.p. Clinton outboard with me so that we could do a bit of fishing. Came the launch during the week and the engine started, we motored out of the Dart into the sea. I found out the hard way the need for a dummy centreboard or something to fill that hole. Every wave we went over and slammed down, more water poured in – still, not to worry, a bucket kept it down to a safe level, and who cares with the sun, and water and the rods on board. About a quarter to half a mile off shore the rods were rigged up, and battle commenced. As luck would have it, it was no time at all before we were catching mackerel and pollock. Using light spinning tackle, these fish put up a marvellous fight. As soon as they were boated they were unhooked and dropped in the bottom. After some half dozen, Brands Hatch had nothing on this. I wasn't sure whether to wave a chequered flag or what – the fish were circuiting the centre-board case – I wonder why they went clock-wise?

Still, this is the fun with the Mirror. Ever tried sailing backwards? Try it when the winds are light as it can be a bit hairy if a gust hits you at the wrong moment, and the resultant strain on your rudder fittings can be quite heavy.

To get this rather odd way of sailing, tack as if you were going to 'heave to' and have the jib backed. At the same time, back the main and push the boom to windward. The roles of the sails are then reversed – the main becomes the jib, and the jib the main. It is a most peculiar sensation having a rudder at the front.

Another thing you can try is to sail the boat without the rudder. A combination of playing main and jib can give steerage so can heeling the boat to windward or leeward.

Cold

by John Stevens

When you say 'I'm cold,' generally it is only partly true. If you really were cold you probably wouldn't be able to speak properly. Usually it would be more accurate to say 'I'm losing heat too rapidly,' but that does not have the same terse quality required when your teeth are chattering and the rescue boat hasn't noticed.

The most important effect of cold upon humans is the mental incapacity that can result from comparatively short periods of exposure to the cold. In an experiment with young naval volunteers, most of the men were mentally helpless after 20 minutes spent nude in the water at 5°C (41°F). Well, that's pretty drastic treatment but of course the effect is progressive and it is difficult to specify in advance the exact time span and conditions in which any one person could be in serious trouble. The solution is to make sure that you always leave yourself and your crew – especially a child – a really good safety margin.

$M \pm C \pm R = O$. (\pm , plus or minus according to whether it is a gain or a loss). This is 'the comfort equation' and shorthand for your heat balance. It is basic to the mechanism which keeps your body temperatures at or near normal, 98.4°F or 37°C.

M stands for metabolism and this is the process which converts (burns) the food we eat to produce energy and heat – the dreaded calories of the slimmers.

C stands for convection by which we lose heat to the air.

R stands for radiation by which we lose or gain heat.

If they all add up to zero, then we are comfortable. If not we start to become warmer or colder, and then what? If you are too hot either stop working to reduce M, or take off some clothes to increase C, or sweat to add E = evaporation to the equation. This last is very efficient if the

atmosphere is not humid, but to the sailor, hill walker, and so on, can be a positive menace because whether your clothes are wet with sweat, or with rain or sea, a wind and a dry atmosphere can remove enormous quantities of heat from your body by evaporation. This is why windproof garments are so vital.

So if you are too cold conserve M (goose-pimples shut off the supply of warm blood to the skin), increase M (teeth chattering, running on the spot), decrease C by putting on clothes and stop E happening with oilskins. R you can vary also — a radiator is your own body, the sun or any other source of heat and any surface — your clothes, your skin, the ground — will absorb radiated heat.

Fortunately we don't generally have to think much about all this because whether we know the equations, the physics and chemistry or not, we don't have conscious control over goose-pimpling or sweating and we have consigned to the subconscious most decisions about being active or lazy or wearing clothes.

However, in the animal kingdom man's emergence and survival is marked by the special development of the brain, and the winners amongst men, in dinghies or anywhere else, are those who use their heads. The survivors of disasters are often those who used their heads. For instance:

The Sea Gem was an oil rig wrecked in the North Sea. A survivor was wearing every stitch he possessed because he had recently returned to this country from the Persian Gulf. His mates were lightly clad and, significantly, were too stupid with cold to react to his instructions.

The liner Lakonia foundered north of Madeira in December 1963 in water at about 17°C — like our west coast summer seas. 124 people died, many wearing efficient life-jackets. The available evidence suggests body heat loss was the main cause with progressive mental helplessness as an important factor.

Mr. Harry Eddom, skipper of the trawler Benella, had his trawl warp cut recently in the cod war. He made the headlines in 1968 also as sole survivor from three trawlers lost in winter off Iceland. That he got ashore on a life-raft was remarkable enough; once ashore he curled up small in his oilskins and

stayed out of the wind until he was discovered, alive. He did all the right things; he didn't produce more heat than necessary by being active and exhausting his reserves rapidly; he reduced his surface area to a minimum and the area he had to expose was covered by the fairly impermeable oilskins. Thus the minimum of heat leaked out and that little wasn't rapidly removed by wind.

If you are actually immersed in water the situation is not so clear, but clothing is a definite help provided you don't start thrashing about — then the clothing and water will hamper your movements and you will exhaust yourself more quickly. Clothing, especially oilskins and, of course, wet suits, will retain water your body has already warmed up but if you start to move actively you will tend to displace that warm water and allow cold to flow in.

But disaster is a very extreme word. Is a week-end dinghy sailor really at risk? Yes, I think so, to some extent, which depends upon himself. Indeed, if there wasn't some risk would it be half the fun it is?

A symposium in 1967 on 'The Effects of Abnormal Physical Conditions at Work'* dealt particularly with cold exposure. Treatment, for a normal healthy person who has become too cold due to some recent accident, was considered there to be rapid warming as in a hot bath. Frostbite or long term coldness are quite different. Hypothermia in old people (and sometimes babies) in winter due to inadequate home care is not uncommon and requires medical attention.

**Report published by E. & S. Livingston Ltd., Edinburgh and London, 1967. Sea Gem & Lakonia referred to in it.*

GENERAL REFERENCE: 'Ergonomics' by K. F. H. Murrell, Chapman & Hall, London, 1965.

USEFUL BOOKLETS:

Walter, R.N. 7th reprint from R.Y.A. Magazine (Winter 1970).

'Mountain Hypothermia' pamphlet produced by British Mountaineering Council.

CLUB EMERGENCY EQUIPMENT:

Space Blanket; heat-reflecting sheet or bag to envelope patient. Cost from £1.50 to £5.00.

Space blankets and 'Mountain Hypothermia' available at Boy Scouts Association Shops. 'Cold can Kill' available from R.Y.A.

Capsize drill

by Roy Liddington

Towards the end of the season I had the opportunity of practicing the capsize drill (based on the R.Y.A. Method) in a Bosun Dinghy in Portsmouth Harbour. Our racing or more nimble crews will no doubt have their own techniques and the R.Y.A. Method can be adapted to suit individual requirements. However, this places the emphasis on safety, and certainly should be used by novice capsizers, in very high winds, when a swell is running, or in tidal waters.

If a spinnaker is in use, it should be removed by the crew between either steps 2 & 3 or 5 & 6. In centre-mainsheeting dinghies, the crew's activities are carried out aft of the mainsheet.

Single-handed helmsmen will invariably need to board over the stern. A loop tied in the trailing mainsheet will assist in gaining a foothold. Light-weight helmsmen with heavyweight crews should change roles from step 3 on.

If the boat inverts completely a substantial pocket of air is available for anyone underneath. When helmsman and crew have got outside the boat on the same side, one should put his weight on the quarter, the other can then stand on the gunwale and pull the boat horizontal by pulling on the centreboard or far jibsheet. The boat can then be righted from the horizontal position.

A demonstration of this Capsize Drill from the fully inverted position was given at Lake Bala one September. Unfortunately, the squally conditions at the time resulted in most members missing this spectacular display. However, you will be pleased to hear that Mike has kindly volunteered to repeat the performance, at regular intervals.

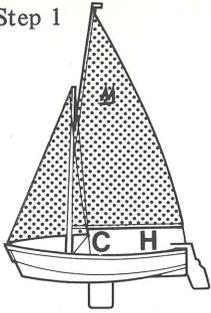
From experience, I would recommend that the helmsman and crew slip into the water early (particularly from high sided built-in buoyancy dinghies), preferably before the mast hits the water, and so reduce the possibility of the boat inverting completely.

Swimming with a lifejacket on can be something of a revelation, especially one with high chest buoyancy (e.g. Crewsaver, Beaufort, Admiralty types, etc.) – back stroke is sometimes easier. Well displaced buoyancy aids make little difference, whichever way you swim (anyway, it's darned awkward!) Mirrors and other dinghies with built-in side tanks float very high (Step 5) and the helmsman may find that the centreboard is at arms length above him in the water. When he is getting into position to be scooped up into the boat (Step 7) the crew should avoid putting any weight on the boat, but should float (face down is probably best) holding on to something convenient such as toe straps or centreboard case.

In the final manoeuvre (Step 8) the helmsman can gain added advantage by floating on his back, bending his hips and knees and placing his feet high up on the hull, the jibsheet held tight and the knees and body straightened before walking up the boat.



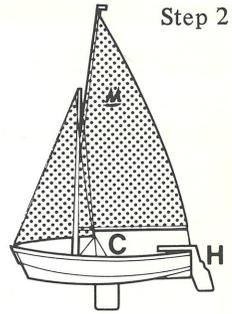
Step 1



View diagrams as from above

1. Boat on its side. Helmsman and crew slip into water between hull and boom.

Step 2



2. Helmsman works round to stern and exerts force on rudder to prevent boat inverting.

Step 3



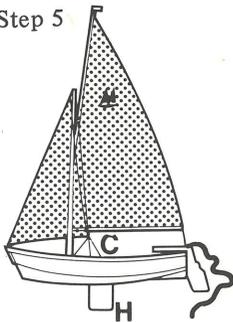
3. Crew works along to stern, coils up length of free end of mainsheet and hands it to helmsman.

Step 4



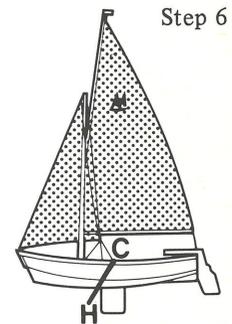
4. Helmsman, holding mainsheet as a life-line, swims round to centreboard, while crew exerts righting force on rudder.

Step 5



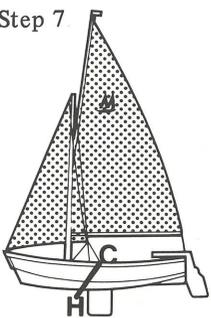
5. Helmsman bears down on centreboard to prevent boat inverting, releases sheet. Crew works back to original position.

Step 6



6. Helmsman moves to leading edge of centreboard, still bearing on it. Crew throws free end of upper jibsheet to helmsman who acknowledges he has caught it.

Step 7



7. Crew lies along the lower gunwale, partly in the boat and partly in the water. Crew tells helmsman when he is ready and in position.

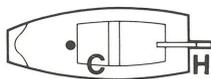
Step 8



8. Helmsman, floating horizontally, puts feet on bottom of boat, and pulling on jibsheet, hauls himself out of the water walking up the hull. This exerts a strong righting force on the boat, which will suddenly right, scooping up the crew.

Crew frees sheets.

Helmsman presses on gunwale or transom, hoisting head and shoulders into boat with head well down. Crew grabs helmsman and hauls him into the bottom of the boat.



Reefing

by John Harrison

Reef a Mirror? Certainly not for racing — but there are occasions when a lightweight crew might find it useful, and prudent, to be able to reduce sail. Also for anyone interested in passing the RYA National Dayboat proficiency tests in a Mirror — and why not? — one of the requirements of the Intermediate test is reefing afloat and under way. In a Mirror, if you try the standard method of lowering away on the main halyard, and rolling up the foot on the boom, the gaff falls away and inevitably you end up with a nasty crease from the throat and a most inefficient sail and, what happens to the kicker?

A few simple modifications make a tidy seamanlike reef possible. You have no need to touch the boat or alter your spars in any way — all you need is one old mainsail and there must be plenty of them around — cast offs from the 'new sails every season' brigade. You only want one sail to be modified for a Fleet and that sail can then be lent to any one in need.

The change to the sail is the fitting of traditional reef points (what else on a loose footed main!) Put in as many rows as you like, but it saves work if you line them up with the luff lacing eyes, which can then be used as tack cringles when reefed. The reef points are simply dressmaking eyelets with a stiffening patch of sailcloth stuck on each side of the sail (Yes, stuck — glue — it's easier than stitching) and it is easiest to melt the hole through the three layers, rather than punch it out. It is surprising how tough you will find the sailcloth, even on an old blown out sail. A small bit soldering iron or heat gun makes a neat 'heatsealed' hole.

Some stitching is necessary to fit clew cringles to the leech at the end of each row of reef points. The easiest way is to fit cringles to a line at the correct spacing, and then stitch the lot on as a leech line from clew to the first batten pocket.

The only other 'extras' you need are a small block, a peak halyard and a short piece

of line to lash the block to the peak of your gaff where you normally secure the peak of your mainsail. Secure the new peak halyard to the peak of the sail, reeve it through the new block at the peak of the gaff and use as a peak halyard. Then rig as normal. If you are short of halyard cleats you may need to transfer the jib halyard to the shroud plates, and then use the jib halyard cleat for the peak halyard.

To reef, lower on the peak halyard (the gaff halyard is *not* touched, the gaff remains in the close up position), transfer tack downhaul to reef tack cringle and clew to reef cringle, adjust peak halyard, tie up reef points (reef knots of course) and that's it — with kicker, tack downhaul and clew outhaul still usable.



Sail fully hoisted showing two rows of reef points.



Sail double reefed almost down to the first batten.

Single pleasures

by Vernon Milsom

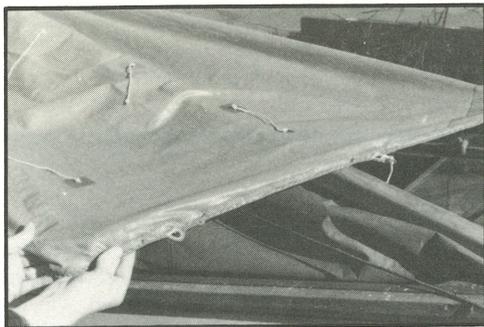
You want to go for a few days single handed sea cruising? Well now, being a novice, or just practising good seamanship, you have already read every library book you can get your hands on and you know how to build, repair and sail your Dinghy. You can take bearings, read a compass, maps and charts, you know which way a west wind blows, an easterly current goes, the difference between springs and neaps. You have practised tacking, reaching, gybing, sailing without a rudder, rowing and especially capsizing and safe recovery.

Your chief requirement is a well found boat. And that means as near perfect as possible. No half wetted glass tape, bare patches, leaks in buoyancy tanks, worn out rigging, tight blocks, tatty sails, etc., for you. Everything should be in sound working order, rowlocks and oars to hand, anchor tied to boat and ready for use, a spare line. Have you checked your rudder fixings lately?

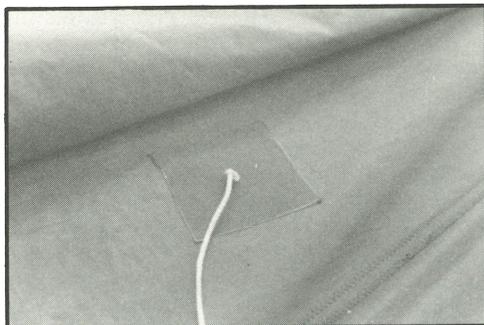
A reliable companion with a boat is an asset. It is safe to go it alone but it takes experience, planning and care. Together you sit down and study the tidal and current information, charts and O.S. maps of the area you intend to cruise, until looking at a chart is as familiar as looking at the 'box.' About a third of your enjoyment comes from this, make the most of it! Then comes the planning of 'things to take.' List these, starting with the boat and trailer, personal buoyancy, right down to small change for phone calls. If you don't list it you may leave it behind! I list some 84 items for a five day cruise.

When at sea, it is wise to give way to everything except dinghies and small power boats. With these types stick strictly to the rules. Make your intentions clear and in good time. Look for those ferries and other ships a mile or two away. They are closer than you think! Always cross a fairway or main harbour entrance as near 90 deg. as possible. Look under your lee, continually!

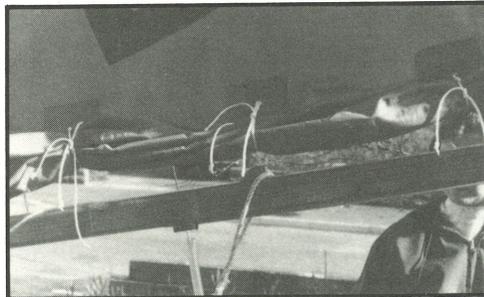
If you get becalmed and have to row,



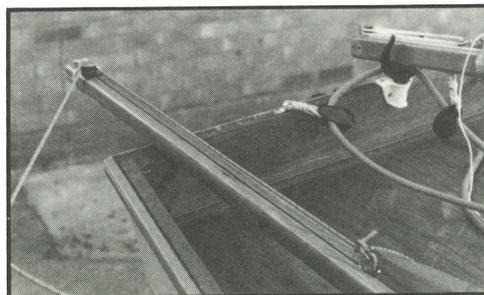
Detail of reef cringles and leech line.



Details of reef point and strengthening patch.



Reefs leave boom clear with kicker and out-haul working normally.



Peak end of gaff showing peak halyard and temporary block.

The Handyman

by Ian Wilkinson

check your mainsheet figure of 8 knot is there, douse the mainsail, move kicking strap along to gooseneck, place gaff and boom together, tuck in mainsail tidily, hitch the end of mainsheet around gaff and boom at the gaff band tying them together, haul the main halyard in tight and your gaff, boom and mainsail will be hoist above your head at about 45 deg. You can now row and see clearly. If the transits astern are kept in the mainsheet triangle so formed, you will row a straight course, rudder comes up, jib left flying so that you can be seen more easily.

If you are offered a tow, rig the gaff, boom and mainsail as recommended but also douse the jib, leave rudder down, place your centreboard only 10% down, secure the towline with a clove and slippery hitch to the bottom of the mast (deck level). YES — it will take it. You must be able to let go immediately if necessary, and being a well found boat—! Keep your weight aft, low in the boat, and the slippery hitch to hand. Give the go-ahead slowly signal and steer just clear of towing boat's wake. Your companion can be towed from your thwart or on a separate tow. And while I think of it — thank you, sailing yacht 'Solent Arcturus' for that beautiful 2½ mile tow from North Ryde Middle Buoy to Stokes Bay on Tuesday 12th June 1975 dead calm 86 deg. F. It was very much appreciated!

Tailpiece Tips

1. With a white hull touch in scratches with 'Snowpake'. Three coats in two minutes.
2. When at sea check transits. You are travelling over the ground in the same direction as the background appears to travel.
3. To test your tanks on a warm day, take out plug carefully, if you don't hear a rush of air — it leaks!
4. In heavy weather — keeping your boat moving, even in the wrong direction, minimises the risk of a capsizes. Good sailing.

A Light Trolley

An idea arose out of a desire to have a very *light* and simple launching trolley, without the complication of having to fold or dismantle it. The main problem was to locate the trolley on the boat, and the final solution rather resembles a centreboard with wheels on the bottom, but which enters the plate case from the *bottom*. There is no handle, the boat is simply pulled along by the stem. This device is intended for use when the boat is normally carried on a car roof, and travels inserted in the plate case.

A piece of half inch (13mm) marine ply, the width of a centreboard, and 6 inches (153mm) high, is sandwiched between two pieces of 1 1/2in. x 1 1/2in. x 1/8in. (38mm x 38mm x 3mm) M.S. angle. Each piece has a 15in. (381mm) length of square section 1in. x 1in. (26mm x 26mm) M.S. tube welded to it. Short pieces of 3/8in. (9mm) diameter mild steel rod are welded to the end of each square section tube. These form the axles for 7in. diameter wheels made of plastic with rubber tyres, available from Halfords at 88p per pair (at time of writing!)

Roof Storage

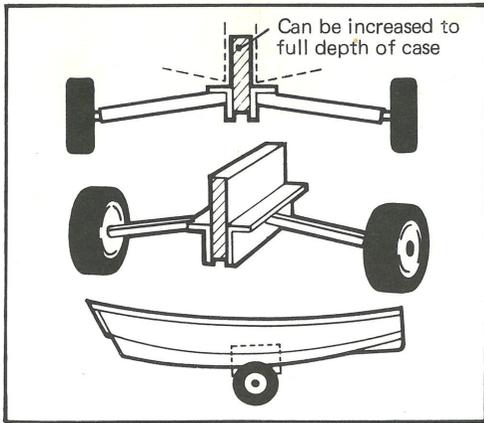
My garage space has to be shared on some occasions by my car or (I'm afraid to admit other loyalties) my Enterprise. The simplest solution is to hoist the Mirror into the roof.

To get the required leverage, it is necessary to employ a mechanical advantage of 4 (2 at each end). The anchorage on the boat is the forestay plate at the bow and a similar plate screwed inside the transom. The accompanying sketch shows the details, (not to scale).

After hauling up against the roof a strap is passed down around the boat amidships, and up back to a convenient rafter, the fore and aft tackles are eased to spread the supported load.

The effort needed is within the scope of an average adult (I weigh 14 stone (196 lbs)

The following diagrams illustrate the device.

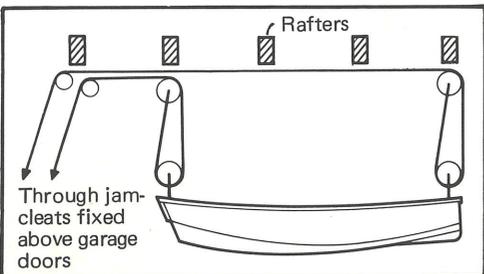


The boat moves easily on a hard surface, and fairly easily on hard sand; on soft sand, however, it does a good imitation of a plough!

The trolley is easily removed by tipping the boat by the bows until it drops out. Replacement is rather more difficult as it requires three hands, seven feet apart, or a crew who is prepared to grovel on his knees in the water while the boat is lifted by the bows. In practice it is not as bad as that — as I usually pull the boat almost clear of the water before putting the trolley in place. I'm not suggesting that it is a very practical proposition for launching over 100 yards of beach, but it works very well off a slipway.

which explains the need for an Enterprise, and why I only do well in my Mirror in races (above force 5). But a child would have difficulty.

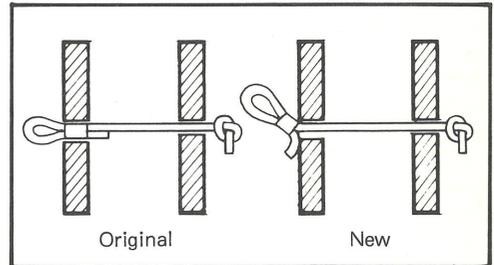
A word of warning! Make sure that you can trust those jam cleats until the boat is finally secured or you will be in Newton Crum's bad books!



Gaff Jaws

After losing the umpteenth wooden peg retaining the gaff jaw elastic, I simply pulled the loop in the elastic a little further through the hole in the jaw, and hey presto! the elastic is secure and has NEVER come loose while sailing.

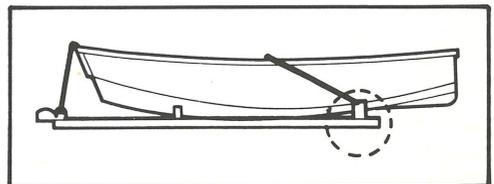
The elastic is easily released by stretching it a little further, holding the loose end in, and letting it return through the hole in the gaff jaws.



Boat Straps

Terylene straps to secure a Mirror to its trailer are not cheap, and an alternative makes use of the original cheap cotton sheets supplied with the boat.

If, like me, you used fairleads for the mainsheet before realising that blocks are essential, you now have a very tatty mainsheet in your junk box, having replaced it on the boat with the proper Terylene stuff. Waste not, want not! usually it is possible to cut two unfrayed lengths from it (or an old jib sheet) which can be used in place of boat straps. Tie one end of each length to the metal securing loop near the mudguards on your trailer. Pass the other end through the appropriate jib fairleads and jam them hard. The ends inside the boat can now be wrapped around the mast, boom, gaff bundle and hold these together securely in the middle of the boat. If the stem is lashed down in the normal position there is a fore and aft tension on the boat which locates it longitudinally.



Collision course

by Michael Pocock

Have you ever noticed that the typical motorists' slanging match is much more common in provincial traffic than in the more sophisticated cut and thrust of Central London? If so, have you ever stopped to wonder why? My own answer is that there is in London a much higher standard of competence and a strict jungle law that, although it is mostly unwritten, is instinctively obeyed by the regulars. In the provinces there is far less common code between the drivers and so the temptation to claim innocence in the face of the other fellow's ignorance is much more usual.

Why, you may ask, is this fellow rambling on about driving motor cars when 'Mirror-mania' is surely all about sailing Mirrors? Well, regrettably, there is the same tendency on the water for the helmsmen to try and hide their ignorance by voluble haranguing of others. It is a shame when this happens. Sailing is for fun and must not be spoiled by unnecessary ill feeling.

When this does occur it is invariably due to an ignorance of the proper rules and customs of the water. Some of these are laws, the official International Regulations for Preventing Collisions at Sea to give them their proper title. The others are courtesies generally involving the waiving of his rights by one skipper so as not to make the other fellow's problems greater than they already are.

I am here only concerned with the cruising sailor, the racing man has far more complicated legislation to learn.

Despite what you may have read in your Mirror sailing instructions, the present regulations became law in September 1965 and the reference to sailing boats is as follows.

RULE 17

Two Sailing Vessels meeting.

(a) When two sailing vessels are approaching one another, so as to involve risk of collision, one of them shall keep out of the way of the other as follows:

(i) When each has the wind on a different side, the vessel which has the wind on the port side shall keep out of the way of the other.

(ii) When both have the wind on the same side, the vessel which is to windward shall keep out of the way of the vessel which is to leeward.

(b) For the purpose of this Rule the windward side shall be deemed to be the side opposite to that on which the mainsail is carried or, in the case of a square rigged vessel the side opposite to that on which the largest fore and aft sail is carried.

I have quoted the entire Rule 17 because in my opinion it is a masterpiece of simplicity. Two simple rules and one definition cover all known eventualities that can involve two sailing vessels irrespective of size or shape. There is a minimum of legal conundrums and unless you happen to own a square rigged Mirror dinghy, which I suppose is perfectly possible, then (a) (i) and (ii) are all you need to know. In a nutshell, Port tack gives way to Starboard and the windward boat gives way to the one to leeward. Think for a moment, however, about the opening wording. It is not as stupid as it sounds to say that one shall keep out of the way of the other. What is meant is that only one boat should alter course and should be able to rely on the right of way boat continuing without altering, until they are well passed each other. There can be some most disastrous collisions if in an excess of gentlemanly zeal both boats give way at once.

There are two other rules that are worthy of note. Rule 20 states that a power driven vessel must give way to a sailing vessel. It goes on, however, to say that the sailing vessel cannot expect this benefit if the power vessel is in a narrow channel and cannot alter course safely. This is where the rules and courtesies begin to get merged and common-sense must prevail. It applies just as much to the QE2 entering Southampton Water as quite a modest motor cruiser in a crowded anchorage on a busy evening. The most seamanlike sailor will avoid the situation well in advance by an extra tack close to the shore or by merely planning his course so as to use shallow water that the larger vessel cannot use anyway. Nearly every type of vessel, large or small, relies on forward

movement to maintain control and if the QE 2 had to stop off Cowes to avoid a Mirror dinghy it is very doubtful whether the pilot could regain control without the aid of tugs. In just the same way the motor cruiser who is forced to go full astern to avoid a collision will quite likely end up across the channel before he can regain control. If there are seven more yachts behind him, the resulting chaos can be quite serious. Rule 24 says that whatever the situation the overtaking vessel must keep out of the way of the overtaken vessel.

To dwell for a moment on the unwritten courtesies, these have come about to avoid a right of way boat causing a lot of trouble to the other, when to turn away in good time, would be much less trouble. To take an extreme case, it takes two people perhaps 20 seconds to tack in a Mirror dinghy and twenty or thirty seamen 20 minutes in a big sail training ship like the *Amerigo Vespucci*. It would therefore seem a trifle selfish of a starboard tack Mirror to hail a big square rigger about! It could happen, but I hope not. This is of course in complete contradiction to my comments about the right of way boat holding her course. The proper answer is that if you are going to waive your rights, make a very obvious alteration of course well in advance so that the other chap is in no doubt of your intentions.

My last offering on the subject of courtesies is the custom of cruising boats giving way to racing boats. Nothing is more frustrating to the racing helmsman than to see his opponents escape ahead while he is forced to alter course for a cruising boat that has a right of way through the fleet. Unfortunately, too many racing sailors regard it as a right that they should take precedence over a boat that is 'only' cruising. This is a boorish and stupid attitude that only leads to ill-feeling and a widening gap between both sides. It is sad when this happens as the sea is there for all of us. It is worth suggesting, however, to the cruising sailor that the boats that race are frequently very beautiful and spectacular and can be thought of as a great delight to watch. If this aspect is appreciated then to give up one's right of way occasionally is a favour in return.

A yacht or dinghy always carries a square

flag at the masthead when racing. Conversely when cruising, a triangular burgee or wind-sock should be carried. Regrettably there are many owners who either do not know or care about this distinction who carry a square flag regardless of whether they are racing or not. This is a pity because it sours the attitude of the owner who has given way to them unnecessarily. In larger yachts the ensign is always taken down to race so that if it is flying it is an indication that the yacht is not racing.

Finally a word of warning, in crowded waters you must keep a sharp look out under your jib. Don't, however, assume that the other fellow is any better than you are. The cuts of many mainsails cause what can only be described as blind boats and many crews keep very poor lookouts.

Heavy weight required

by Peter Maltby

I happened to look over the shoulder of a racing friend of mine as he unloaded his boat at the end of a trip. "What's that thing?" I asked him, pointing at a gadget just a bit bigger than a domestic tin opener. "My anchor, of course, haven't you ever seen one of these before?" said my friend opening up a small grapnel, "It's in my insurance policy, you know - anchor and warp to be carried and all that - and in the racing rules, too, of course - bit of a nuisance though - extra weight you see. I s'pose it makes sense though - could be dangerous without it - at least the rope's nice and light."

I didn't like to hurt his feelings by observing that his anchor warp was probably buoyant enough to support the anchor clear of the bottom on its own, and that was probably just as well because the in-board end wasn't tied off to anything anyway. Actually I had an anchor of my own, just like my friend's but about five times the size. The difference between us was that I had at least attempted to use mine.

My kids are rather keen on fishing (they've got all the gear anyway - and mostly bought out of their own pocket money, too) and in

a weak moment I said "Yes", they could fish off shore from the Mirror but I would come along too, and away we went.

I didn't want the main and jib snagged by badly aimed fish hooks so we left them behind and rowed out into the bay under bare poles. The tide was ebbing at about a couple of knots, with a light breeze blowing with the tide, so things were fairly comfortable. We deliberately steered upwind, and about two hundred yards off shore I called to the fo'c'sl party to let go. "Anchor up and down" was reported with about 20 feet of polyprop warp over the bow and we drifted down wind veering cable as we went until there was a slight jolt to mark the fact that the whole 80 feet was out. By the time I had stowed the oars out of harm's way in the bottom of the boat, the kids had already got most of their gear over the side and I cleared a way up on to the foredeck, noted the anchor warp was nice and taut, and settled down for a lazy couple of hours in the sunshine.

It couldn't have been more than a couple of minutes later (because even my youngest hadn't yet reeled in his line to see what he had caught) that I sat up with a jolt — something was wrong — suddenly I realised that the bow wave, which should have formed itself around the cable, was little more than a ripple, and that the landmarks inland were passing the ones near the beach. We were still moving — and at an alarming rate!

By the time I had got myself abaft the mast, and disentangled the oars from the tangle of fishing line, the picturesque stack rocks, observed from our camp on the cliff top, were looking less picturesque than menacing!

Fortunately we all had no more than a good fright, although it was hard work getting back to the beach against the wind and tide.

As soon as I could, I exchanged the polypropylene for a coil of manila (nylon is better) which sinks like a stone, and, just to make sure, added a fathom of chain between the anchor shackle and the rope. I suppose I might just have been unlucky that day, but I have not had trouble with dragging anchors since.

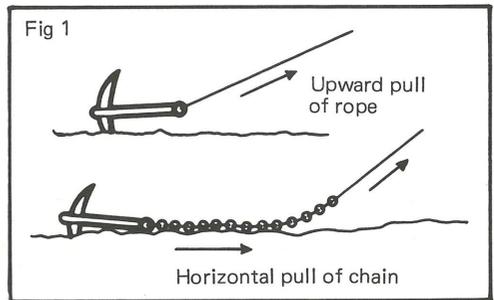
How well does YOUR anchor perform?

Anchors aweigh

by Bentley Moss

My aim in writing this article is to pass on some hard-learned experiences of working anchors in small craft on tidal waters.

Firstly let us take a look at the equipment. A short length of chain should be shackled between the anchor and the warp. This changes the direction of drag on the anchor from an upward to a horizontal force (fig. 1.)



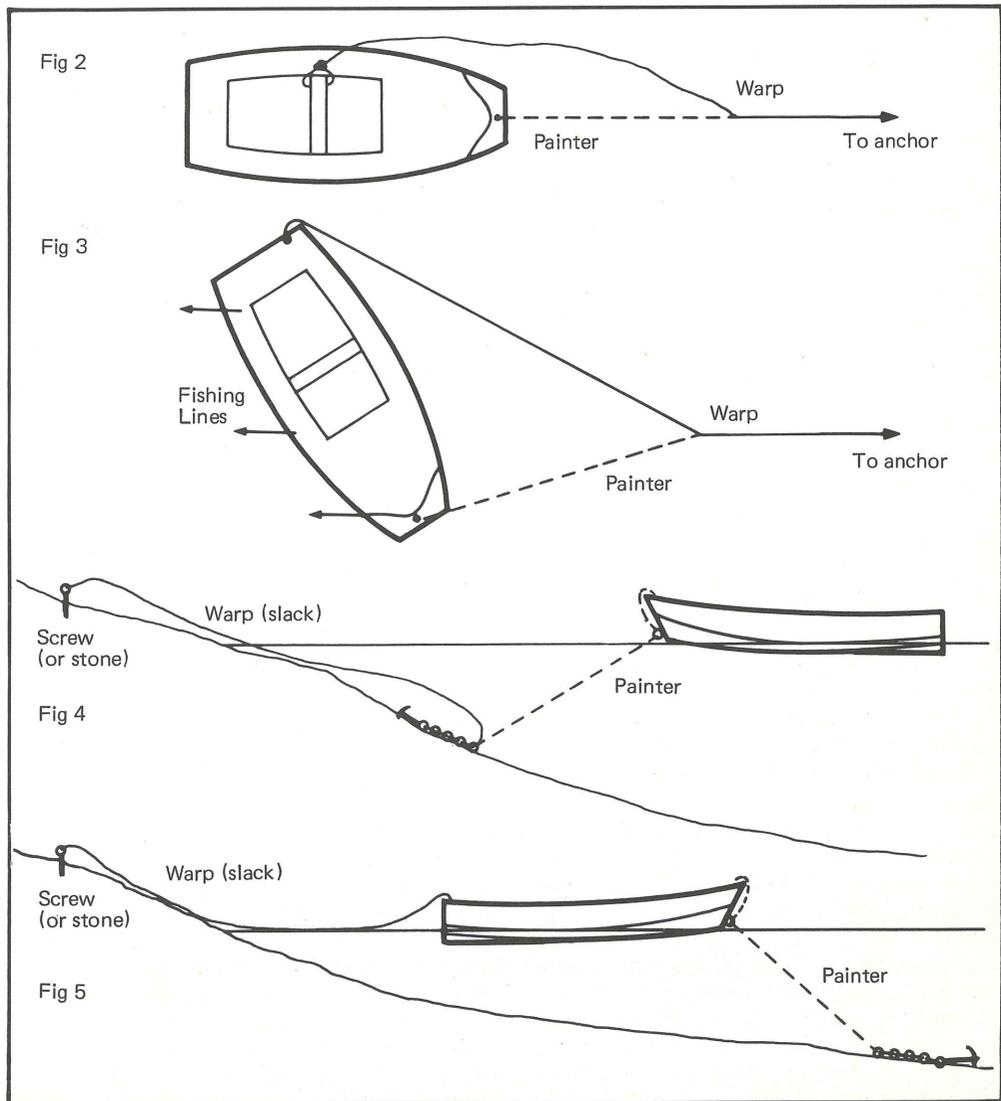
The holding power of the anchor depends on its type and weight, the length and weight of the chain, and the length of the warp. The final decision will be determined by the circumstances in which it is to be used. My own equipment consists of a five pound folding grapnel type anchor, three feet of quarter inch close link chain, and twenty fathoms of one inch circumference 'hairy' polypropylene rope, chosen for its superior knot-holding qualities. This rig has behaved adequately, with the anchor holding well, yet dragging along the bottom when required. The painter should be about eleven feet long, any more and it may foul the outboard propeller if accidentally left outside. It should be secured permanently inside the boat close to the forestay eye plate. A useful piece of equipment is a large 'corkscrew' such as used to be sold for tethering dogs. Mine consists of nine by two inch spiral of quarter inch steel with a hand grip at the top. This is kept with the anchor in one of the forward stowage lockers.

The three principal uses for the anchor are:— emergencies afloat, holding the boat while fishing, and temporary mooring off a beach.

For general use the inboard end of the warp should be secured to a lacing eye between the locker openings on the forward bulkhead. The warp is then coiled inside the locker with the anchor and chain nested on top ready for immediate use.

When fishing from the boat at sea it will ride the waves more easily if the warp is secured well forward, preferably to an eye low down on the pram bow. Since the Mirror Dinghy tends to become unstable when down by the head, the warp should

be paid out over the side and made fast to the painter at a point not less than fifteen feet from the inboard end. Further paying out on the warp transfers the strain onto the painter which should preferably have been passed through the pram bow eye *before leaving the beach* (fig. 2). Do not attempt this at sea, let the boat ride to the painter's permanent securing eye. By using this rig there is no need for crew to be too far forward in the boat and the anchor is safely worked from amidships.



Chutes, anchors and fish

by Russell Gordon

When fishing with several lines there is a tendency for them to foul each other. Provided the sea is calm the boat can be angled safely across a small current by taking the end of the warp to the stern, leading it inboard through the drain hole, heaving in until the boat rides to the bridle and making it fast (fig. 3). The lines may now be spaced out over the length of the boat giving them a greater separation.

Mooring a boat temporarily off a beach is a convenient method of avoiding the need to move it up before a rising tide, or down the beach after high water, wasting effort and risking bottom damage. On busy beaches the anchor should be laid in fairly deep water beyond the paddling range of small children where it can do no harm.

With an offshore wind the painter is made fast to the inboard end of the anchor chain, the warp removed from the boat, which is pushed offshore and, keeping hold of the end of the warp, the anchor is laid by throwing it into deep water. The warp can then be laid up the beach and the end secured with the mooring screw or stone (fig.4). As the tide rises the warp is drawn further up the beach, dragging the anchor and boat into shallower water. On a falling tide the anchor is re-laid when necessary.

If the wind is onshore then the painter is again used for mooring but the warp may be removed from the chain, secured to the stern of the boat and worked as with an offshore wind (fig.5).

Variations of the above methods may be used for mooring in inland waters and, where there may be a reduced need for an anchor from safety considerations, the lighter mooring screw will be a useful alternative.

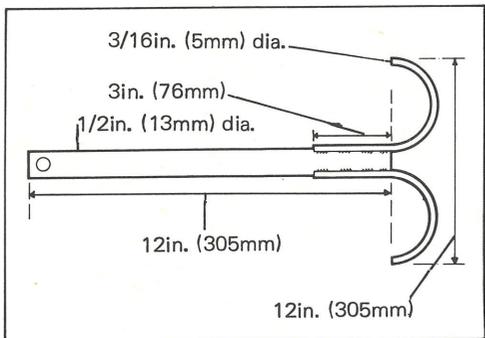
There are various rules for the minimum length of warp to be used, such as three times the depth of water with something extra for a strong wind. In practice a longer length of chain is worth at least three times the same length of warp. If you want the anchor to hold then pay out all you've got. This provides the best chance of a good hold and keeps the boat clear of loose rope. It is worth remembering in an emergency that the sheets, halyards, and painter will probably provide an extra ten fathoms of anchor rope.

In my article *Cruise Around Fife*, I mentioned that 'Katy', M12746, was heavy with several coats of paint and badly needed stripping to the bone, and repainting. With the Scottish Area Championships in mind, I sent away for a spinnaker chute and sail patch, meaning to have 'Katy' in top condition for the weekend. This was not to be, however, the Atlantic is an angry mistress in winter, and I found myself patching and overhauling her ravages onboard a somewhat larger vessel on the other side of the Atlantic. By the time I got home, winter had slipped away and summer had arrived, sailing weather is not working weather. The chute had arrived and with it a note to say that the suppliers did not sell patches, and I found that none are available locally. In fact, I still have not managed to get one, my time at home being limited. Could I therefore appeal to those who advertise chutes to state whether they supply the gear to go with them, to enable people to get the spinnakers into the chutes, or if they are just supplying them as status symbols to be screwed to the deck of the Mirror?

With racing out of the window for a season, sailing tended to give way more than usual to fishing. In three weeks 'Katy' was out nine times working for the table. A couple of times over good 'ground' where normal anchoring and kedging was carried out, so ably described by Bentley Moss in his article, but the rest of the time was spent over very foul ground indeed, and perhaps I can give you a couple of tips on keeping marks on this type of ground, all ridges and crevices which can take hold of an ordinary anchor with a vicelike grip that results in the warp having to be cut. On this type of ground I have for years favoured the humble builder's brick, the type with the holes in it, and always carry one for changing with conventional anchor when fishing over changeable ground. If one can get an old brick off a beach where the holes are smooth at the

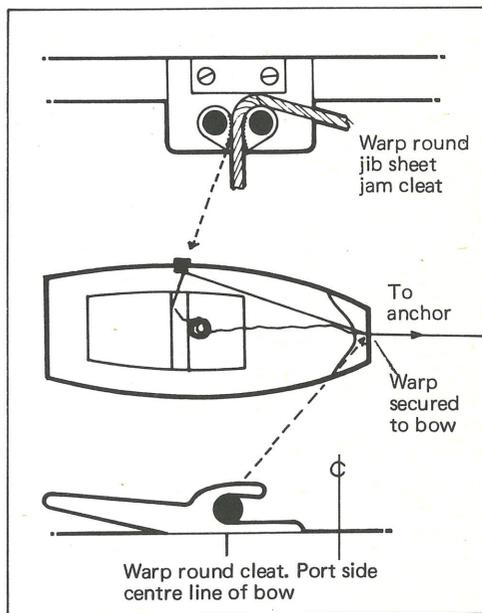
edges so much the better, as new bricks soon cut through polyprop ropes.

I have never had a brick jam yet, on bad ground and have held my 19ft. boat on same ground with it. (You need plenty of warp out.) Another means is to make a light grapple type anchor as sketched out of 1/2in. (13mm) bar and 3/16in. (5mm) 1/4in. (6mm) round steel, for prongs. These, when caught on a crevice, will straighten out under pressure and come free, being easily returned to shape by hand. Both these types of devices have kept me on marks with sea, tide and wind in one direction, with Katy's bow into the elements. Here however, I would stress that the appliances described should in no way be used on any ground as a permanent anchor, or be carried in the boat in place of a proper anchor. A proper anchor should be carried in the boat as well.



When anchoring in the deep waters of Loch Long I found that a lot of fishing time was being lost by the forward fisherwomen tying and untying the anchor warp. I therefore fitted a cleat forward and this cut adjusting time to a few seconds. Two days after fitting it, when fishing solo, in a force 4 with a fair sea running, I was adjusting the warp to give me a slow drift over a mark, bow to wind and sea, when a fish jerked the rod I was holding between my knees, almost over the side before I grabbed it. Now what to do? A bucking, jerking rod in one hand and an anchor warp in the other, and a fair sea running! Suddenly the answer was staring me in the face, the port jib sheet jam cleat, a flick of the thumb and the warp was secure, and I had both hands free to pull in the next day's lunch. So by accident I found a very handy, or lazy man's way of anchoring. One

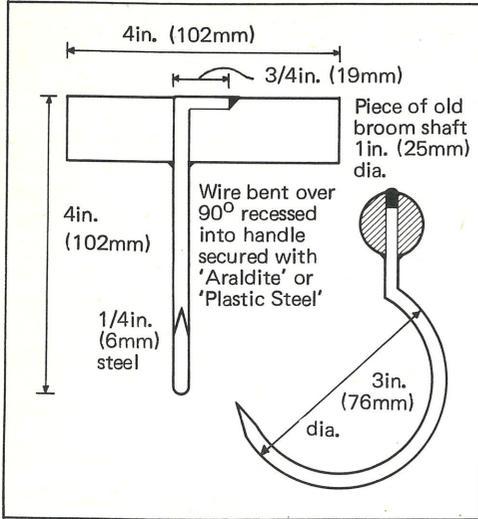
never has to move from the thwart, just put a knot in the anchor warp 3in. (76mm) from the anchor chain, then chuck it over the side. When you bring her up to the anchor, let the warp slide into the cleat forward and then slip the warp into the jib jamcleats as sketched. Adjustments like shortening the warp can be made with one hand, you just pull down on the rope as it comes through the cleats and the cleats hold it while you change your grip. Pulling the anchor in one just pulls in from the thwart, the knot striking the cleat warns you the anchor is just below the boat, so you flick the warp over the starboard bow and the warp runs down the starboard side to your hand. The anchor can then be lifted gently inboard, with no damage to paintwork.



Getting a large fish into a low freeboard boat can be tricky, the ordinary gaff in a small dinghy is likely to poke out somebody's eye, and the vicious hook is a menace to stow. A solution was found by a friend, who was a school teacher in a tough area. He confiscated a docker's hook from a budding Al Capone, who was running an intimidation racket with it. It struck him that this thing, which literally becomes an extension of your hand, might be the answer. It was, and now most of the group

have made them.

I have given a sketch of mine which sits snugly between reels in my tackle box.



In nine trips Katy brought ashore 247½lbs. cod, 5lbs. haddock, 10lbs. whiting, 15lbs. flounder, convinced two people that the Mirror is the boat that will give them true independence, as no assistance is required in handling, and she proved to them that towing, launching, sailing and retrieving can be done by one person.

Finally, if anyone is thinking about taking up fishing, can I give you a few golden rules?

1. Never, never, never go out not wearing a life jacket.

2. Always remember warm clothing, even in summer it can get very cold on the water. Remember you are sitting still for long periods.

3. Have good waterproof clothing with you, there is nothing worse than having to leave a mark with fish on the feed, because it's raining, and you are getting wet. Remember some of these sailing suits though pricy, when it comes to heavy rain, are about as much use as a hip pocket in a singlet.

4. Make sure all essential gear is tied to the boat, oars, engine, etc.

5. Make sure you have a reliable engine. I have seen many different makes tried, but all-weather fishermen usually end up with the same make, the Seagull, and the 40 plus is ideal for the Mirror.

6. Keep your feet warm and dry.

The very young...

by Sally Karlake

The arrival of junior needn't mean too long away from the water – and from the boats. Paul was about 19 months old when he first started sailing regularly, and from personal experience and other parents I have prepared a few notes.

The first problem is getting the embryo crew to feel safe and happy in his buoyancy aid. He needs to know that it will support him, and a great game is for everyone to put on buoyancy aids, and fool about in the boat in a few feet of water – inevitably someone falls out . . . but he floats! Super! And can very soon be retrieved.

The balance necessary here is one between safety and confidence, and making immersion fun. Junior doesn't want to be encouraged to jump out of the boat each time he is feeling bored. At a certain Championship some years ago, the Water Board insisted on ALL children under 14 years of age wearing buoyancy aids ashore . . . Paul wore his, and nothing else, and found 'falling in' very enjoyable . . . we had to 'rescue him' about five times until his buoyancy aid was taken from him, then, with no feeling of security in the water, he stopped throwing himself in! Try the first experiments with sufficient clothes that junior feels safe, but damp, and enough discomfort to discourage repeated submersion for the joy of it! Once you are ALL confident of the buoyancy aids, sailing in earnest can begin.

Junior is likely to be placed forward of the helmsman, and in a Mirror this can be damp! Getting the worst of the weather, he needs really good waterproof clothing – splashes on the face are fun, but once the water starts to get inside, you may have to turn back and run for home.

There are two schools of thought on footwear and keeping feet dry – Paul likes a certain amount of water in the bottom of the boat, with a large sponge, a small bucket, and a plastic spade. The spade is for paddling, and the other items are for cleaning house, bailing and getting some more water from the sea to put into the

boat. . . Other children are happier if you put them aboard dry-shod, and endeavour to keep things that way. One thing, on the subject of toys – your seamanship improves no end, as you constantly return to pick things up!

Stores . . . quite indispensable! Could be a packet of biscuits, or fruit, lumps of cheese. Paul likes a choice and several small items, and we must never forget the Polos! These are ideal for rolling along the foredeck at the moment of going about. The effort of retrieving takes small minds away from the kicking strap, the noise of the flapping sails, and the weight, conveniently pushed forward, helps the manoeuvre!

Children like something to look at – dabchicks along the banks, the odd crane, or building yard, anything which distracts their attention and keeps them amused – long sea-going voyages should be kept for a couple of years. Docks are wonderful! Paul's most successful races (and this includes picking up dropped toys!) were in Dun Laoghaire Harbour, there was SO much to watch!

When either sailing or outboarding, take some extra toys along and follow the same routes . . . children are very conservative, and like the familiar surroundings of favourite voyages. They can make friends with other children during shore-going excursions, and organise themselves into all sorts of sea-going adventures (on land!)

The Mirror, whenever possible, should be used to its fullest extent – sailing, rowing, motoring and a picnic afloat, from the 'Stores', is very enjoyable.

Few families have a buoyancy aid unless they have a boat to go with it, so it is very useful to be able to provide that extra aid for the small friend you take along, but beware of showing-off! Your ancient 3 year old Mariner becomes a positive danger to shipping whilst he conveys his familiarity with a life on the ocean wave. Sit on him, firmly. The other child may not be prepared to accept the discipline necessary in a boat, and the combination can be lethal. But time spent putting over the dangers, and the need for instant obedience, sitting quietly, etc. before going afloat, pays dividends.

Children love to become involved. Give them some responsibility within their capabilities – you'd be surprised how young

they first get the 'feel' of the wind, and start playing the jib-sheet. Never allow jamb cleats for children, though – this tends to make them lazy, and you'll breed a crew with no feel for sailing. Also those small hands on the sheets in light winds feel part of the boat, and their interest is maintained.

When at sea, put out fishing lines, and let small hands look after them.

Motoring on calm waters gives an opportunity for the small crew to take the helm – and in very light winds they can even get the feel of the rudder when sailing. They can be encouraged to keep things tidy, make sure each piece of line is free, and easy to grasp where and when it is next required, no sitting on the sheets!

The most important thing to keep in mind is that you want the child to sail with you again . . . thus the length of voyage must depend on him. When he is cold, frightened, or just plain bored, put back and you can count on him coming out again. You can often put into the bank, whether outboarding or sailing, to take on fresh stores, and an ice-cream.

Children like to think there is a purpose in it all – a blackberrying trip up the river, or a voyage to a desert island (that beach just around the corner), or a raid on an Indian Village for essential supplies (that general stores at the other side of the lake!)

When under power in calm water, children seem to like to lie on the foredeck, chins on top of the bow, watching the water . . . the helmsman should watch out for other boats and especially the wash of large craft!

However badly you sing in the bath, children love to make noise (and this can be converted into music as they get older) – learn all the sea-shanties you can. Try to catch (and hold) the child's imagination . . . Paul enacts tremendous adventures, and on later voyages these can be re-told.

The most effective way to teach junior to row is to put him in the boat, with oars, and tell him tea will be served as soon as he is in . . . this was the way a favourite Great-Uncle treated the Class Secretary many years ago – coming down Chichester Harbour behind the Sloop her father sailed, the dinghy was let loose – took a long time, but hunger was an excellent teacher. I don't

say this is the best method, but it works! The Mirror is not fitted for such activities, but children should also be taught that to lose one oar is not a disaster, sculling over the stern can propel you through the water too.

As the children grow-up there is one great danger . . . they will take the boat over entirely. But isn't this just what you were training them for? Be thankful for their continued interest in sailing, and buy them their own boat!

...and the young

by Bentley Moss

There comes a time in most Mirror families when junior wants to sail on his own. In our case this occurred sooner than I expected, probably due to his early experience which had given him a 'feel' for the boat. The many problems are obvious and these few paragraphs are intended to cover some of them.

The Mirror is an ideal craft for learners, it is reasonably stable, responsive to the helm, easy for the smaller sized person to handle, and sails well under a variety of rigs. It is also an excellent boat under oars, requiring very little effort to achieve good headway. It is here where we started.

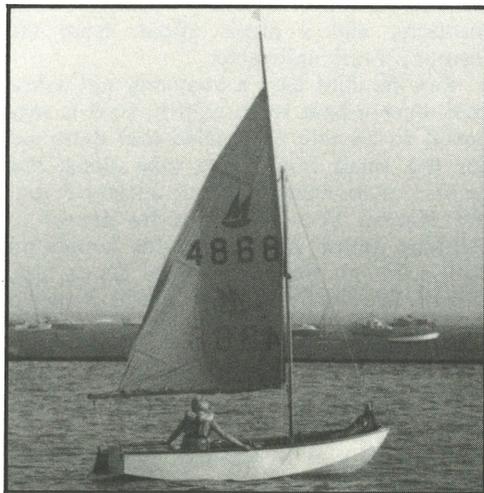
As a five year old, Adrian was very conscious of the large curved blades of the Mirror oars, which are fine in the hands of an expert but with a child rowing it is very wet work indeed and as I was getting most of the water something else was needed. Fortunately I had, from a previous boat, a pair of straight narrow bladed sea oars fitted with flanged plastic sleeves to retain them in the rowlocks. These proved an instant success and by the time he was six he was a competent oarsman. The need for keeping a lookout, bringing the oars inside the boat when not in use, manoeuvring alongside and keeping within the bounds of his limited energy are all part of good seamanship. The ability to take command and responsibility for the boat on his own proved a sound platform on which to start thinking about sail.

By this time he was an experienced jib-

sheet hand and could helm the boat after a fashion. The Ladybird book 'Sailing and Boating' provided useful reading on techniques with the added interest of several Mirror illustrations, unfortunately it does not cover the collision rules. The difficulty at this stage proved to be an inability to concentrate on the job for more than a few minutes. Time seemed to be the chief cure but whenever possible he was told that he was in command and could ask for advice when he needed it. This problem was the trickiest in the whole exercise and required a very delicate approach. Parents should seek their own solution, being best qualified to understand their offspring's temperament.

I now had a seven year old, who was a fairly competent helmsman, and no sure way of knowing how the boat would behave without my weight. As M4868 was still under the original Jeckell's rig, a new set of Rockall's was purchased and the old main taken to Perry's who put in a set of reef points. This reduced the mainsail area by a quarter and provided four rigs - reefed or full main, with or without jib. The single main is always used with the mast in the aft position since this is more convenient for changing rig and sailing does not seem to be seriously affected by the imbalance.

In the event of a capsized it is unlikely that a child would be able to right even a small craft, such as the Mirror. He should be



Reefed main 45sq. ft.



Reefed main and jib 65sq.ft.

instructed to stay with the boat and wait for help, so an attendant craft will be needed unless sailing in a restricted area with shallow water.

The original Mirror mainsheet deadeyes provide a form of safety valve in that a child may not have the physical strength to pull the sheet hard home. This leads to slacker off the wind sailing, the boat is faster, and goes about better but the upwind performance suffers — that improves with time.

The marine lake at West Kirby was chosen for the first solo run. This has shallow water with easy access, a limited sailing area and the onshore wind is relatively steady. The single main was reefed and after a run with two up he was off on his own progressing to full rig within a year.

During the latter stage a few points emerged. His smaller reach required the jib sheets to be tied together, a window in the jib is vital for lookout purposes, there should be some reminder of port tack obligations, wind strength should be force two or below for a five stone child in a fully rigged Mirror, and if you need an attendant craft remember that a lightweight solo helmsman is very, very fast! Two adults in a similar craft will get nowhere near him, an Enterprise or GP14 would be better.

Finally, when junior is a fully fledged Mirrorman (or Mirrorwoman as the case may be) consider getting your second kit — now is the time to start building if you wish to continue your own sailing.

Tackless sailing

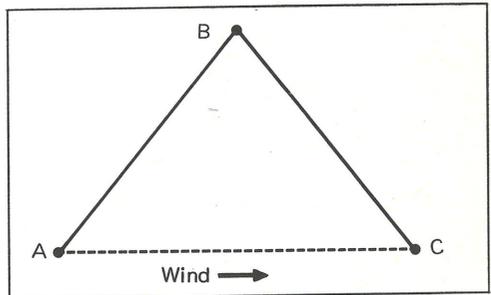
by Peter Barnes, answered by Harry Taylor, Maurice Palfrey and David Wilde.

A few years ago, a well-known Yachting Magazine had for a few months, a great deal of correspondence on a very controversial subject. I know that at my Club arguments became very heated, and were continued week after week. To give food for thought during the off-season and some budding model maker a good reason for a 'project', I suggest . . .

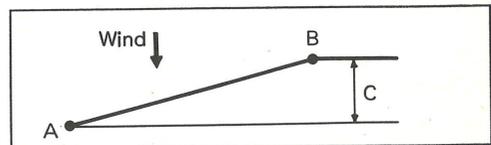
To all our engineers, headmasters and theoretical geniuses . . . *Why can't a windmill driving a screw drive, or propel, a boat directly into the wind?*

If you have now stopped laughing, dry the tears from your eyes, and read on.

My views are quite strong, I think, and reason, that it is perfectly possible for these following arguments: a dinghy has two functions — (a) to provide a propelling force via the sails, and (b) to provide a method by which an upwind motion can be achieved. This being the centreboard stopping side, and therefore downwind, slip.

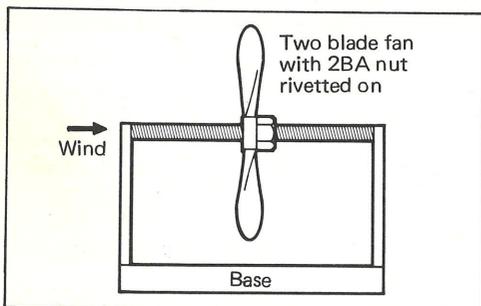


As can be seen from the diagram, a dinghy tacking upwind CB to BA has made a resultant movement directly upwind AC, or, from the second diagram . . .



A dinghy sailing from A to B has also travelled a resultant distance 'C' directly into the wind. From this, a small experiment was

made. If one likened the sail of the dinghy to the blade of a fan and the distance AB in the Diagram to the extended helix of a screw thread, a fan or propeller on a screw thread should move forwards directly into the wind.



This experiment proved positive, so why doesn't it follow that, if the wind can move or draw the mass of the propeller directly towards it, the method could be used to drive a windmill boat directly into the wind, as from the experiment the screw thread is surely only the same as the movement of a screw through the water, given that more backslip takes place?

Any takers?

THE QUESTION IS TAKEN UP!

by Harry Taylor . . .

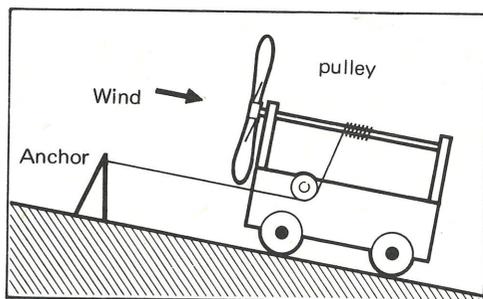
Peter Barnes writes of the amount of correspondence, some years back in 'Yachting & Boating' on the subject of windmill boats. I was foolish enough to contribute, and finished up by having to eat my words.

The argument about the theoretical possibility of sailing dead into wind had gone on for a week or two, when up came a man who said that it was not only possible, but that he had made a model which did it. Not being a great believer in magic (I seem to be one of the few people who won't accept Yuri Geller and his dreadful B.B.C. forks — he can stroke my goose-neck fitting any time he likes) I rose to assert that he was mistaken. You can't go against the laws of nature.

A sailing boat, like any other vehicle, I argued, depends on one of Newton's laws which states 'for every action there is an equal and opposite reaction.' The sails, by deflecting the wind aft, cause a mass of air to be accelerated aft. The reaction to this force propels the boat forward. However,

when the boat is pointed dead into the wind, the wind can no longer be deflected aft. So there is no force to propel the boat forward. I argued that Isaac was nothing if not fair, and would insist on the same rules being obeyed in the wretched windmill which would suffer the same fate as the Mirror which tried to pinch these few yards to the windward mark. My argument went on in rather more detail, but that was the gist of it.

"Not bad," I thought, and feeling quite smug I opened my next issue of 'Yachting & Boating' wondering if there might not be a letter from Mr. Windmill, admitting that he had lied in his teeth. Instead, there was one from a gentleman who reflected that a little knowledge was a dangerous thing, and went on to describe a strange toy which he had made. It was a four wheeled trolley with a string attached. When the string was pulled, the trolley defied Newton and everyone else and went away from you, and how about that?



Having given some thought to what strange mechanism could make the trolley behave in such a perverse way, it suddenly dawned on me that my argument condemning the windmill was as false as he had implied. So I was back in 'Yachting & Boating' again next week — but this time as a suitably contrite pro-windmill man, describing an improvement in Mr. Thingme's trolley which would convert all nonbelievers.

I don't know whether I have learned any lesson from this experience. Where would our interesting discussions come from if, just because we did not know what we were talking about, we kept silent?

by Maurice Palfrey . . .

In Reflections, we get of the best. Concurrently, we're put to the test.

Is it 'Jeckells' or windmill and screw?
Pete Barnes says the latter will do.
Let's dispose of this falseness with zest.
We sometimes catch crabs; chase red herring,
And often sail on the wrong 'berring.'
By Deed Poll, please note
For Barnes, read Quixote,
Jousting mills is for Lads Non sea-ferring.
'Into Wind' - an illusion to Sailors,
Achieved only by Trawlers and Whalers.
The problem is Forces and Friction
Barnes theories - a 'mass' contradiction.
Let's scupper by way of Self Balers.
Make 'Medusa' a right Gorgon grinder,
With windmill, screw-drive and sidewinder.
Pete B will soon learn,
He'll be dropping astern,
Let this be his solemn reminder.
Can we sail up from Kew down to Chew?
Is the answer by Windmill and screw?
I'm sorry, One Five Five Oh Oh.
The answer is 'Rollicks' and 'Row.'
But thanks for your Item, Adieu.

by David S. Wilde . . .

I notice your request for 'takers' in the March issue of 'Reflections.' Here is one. In the first place, you pose the wrong question, "Why can't the windmill etc. . . ?" Who says it can't? It can, and does. May I refer you to 'The Science of Yachts, Wind and Water' by a friend and colleague of mine, Bertie Kay - see page 26, fig.7. The relevant text starts on page 25. 'Sails and keels are not the only mechanism to exploit the velocity gradient. Fig. 7 shows a boat driven by a water-screw and powered from the wind by an air-screw, which is travelling directly into the air-stream without tacking. Working models of such boats have been made. The propeller is only like a yacht tacking in both port and starboard directions, at one and the same time. The upper portion of the propeller tacking one way and the lower portion tacking the other.

'A very successful yacht achieving relative speed $V\sqrt{L}$ of greater than 3, used a four vaned air paddle mounted on a vertical axis having mechanical linkage to feather those vanes against the wind direction. Coupled to this paddle was a feathering paddle wheel on the stern which provided the water drive. This yacht could also proceed directly against the wind.'

There you are! after all the basic theory is quite simple. It requires energy to propel a boat against the forces of resistance (aerodynamics and hydrodynamics) provided one can extract this energy from the wind then the vessel can move forward into the wind. Anyway, there you are, it is theoretically possible and evidently has been done in practice.

Answer from Peter Barnes . . .

I quite agree, that is what I thought I had said! When this argument was originally brought up I went through all the local libraries and found no evidence to suggest a model or craft had been made. We would love to hear more from Bertie . . .

by David again! . . .

Here we go again on the subject of Windmills . . . I have followed up the question of actual models with both Bertie Kay and Hugh Barkla, of St. Andrew's University.

The former provided me with an article from Motor Boat and Yachting, 29th November, 1968, entitled 'A Windmill in the Roaring Forties.' The craft described consisted of two hulls with a windmill, whose blades were at 45°, rotating about a vertical axis and driving, by means of a chain drive, a differential and two paddle wheels at the stern of the craft.

The hulls were 28ft. long, 4ft. beam, and the craft made a voyage from Cape Town to St. Helena (1,700 miles), and then from South Georgia to Crozet (4,000 miles) in 11 days, going 25 knots at times and sometimes being airborne for a quarter of a mile! Well, that's what the article says. All I can say is if you believe that, you'll believe anything!

Bertie Kay did, however, suggest that proceeding into the wind could be easily imagined by thinking of a craft which consisted of two yachts joined together by a long boom along which they can slide freely. If one yacht goes on port tack, and the other on starboard, then the craft will go dead into the wind. As each craft reaches the end of the boom they go about (pivoting about their fastening points) and so on. Somewhat impractical, but it surely demonstrates that such a craft would work.

Hugh Barkla referred me to the 'Readers

Write' page of Yachts and Yachting for 19th September, 1952, which contains two letters from people who have seen working models. One was Austin Farrar, who saw such a model in 1941, the second was from a Miss Rowe, of East Grinstead, whose father made such a craft and she had enclosed photographs of it. And, to cap it all, Hugh told me of Bob Pierson, head of research of Goodyear Tyres in Akron, Ohio, who is going into production with a windmill/propeller boat! So we shall all soon be able to buy one.

I feel there must be more references to such craft and have been told that the Amateur Yacht Research Society is likely to be able to provide details of other ventures into the field.

Anyhow, I don't propose to belabour the issue further.

Finally, let me bounce one more thought around that should keep things humming in the club-house for a while! It is possible to sail downwind faster than the wind . . .

Winds and weather

by Peter Sowden

Winds and weather are of great interest to all who go down to the sea in boats, and even of interest to those who just use a small area of wet gravel. There are times when the weather can change quite dramatically in only a few hours, and although you may set out for just a quiet poodle along the coast, or to catch a few mackerel, it's always wise to check the forecast first. Though sunny now, an extra jumper or the oilskins might well be useful later on.

We all know that the forecast will not exactly describe the weather in our area of interest. It is a generalisation and there are many local variations, sea breezes for instance, or the drizzle and fog on one side of a range of hills and the broken cloud and sunshine on the other. The meteorologist will find explanations for these phenomena in the laws of physics, the best the rest of us can do is to keep our eyes open, and in unfamiliar places our ears too. There are usually one or two of the 'locals' familiar with local conditions and it can be wise to heed what they say. There

is usually a number given in the front of the telephone directory from which an up to date local area forecast can be obtained for the price of the call.

However, before worrying about the variations, it is helpful to know a little about the general picture as given by the Weatherman on TV, or as indicated by the weather maps given in national newspapers such as the Daily Telegraph. If you understand these things please skip now to the next article, if not, I hope what follows may be of some little assistance.

First those curious symbols used by the TV Weatherman. These are intended to show the most significant weather likely to occur over the different areas and are often moved across the map to show changes with time. Symbols have the following meanings:—

TEMPERATURE: Red figures on a yellow background give positive temperature in degrees centigrade. Black figures on a light blue background give freezing temperatures, i.e. below zero centigrade.

(15)



SUNSHINE: The yellow symbol represents the sun; the red figures in the centre show a temperature of 25 degrees centigrade.



CLOUD: A white cloud symbol indicates fine weather clouds that may be relatively thin and patchy.



A black cloud represents the thicker and more widespread clouds often associated with dull weather.



SUNNY INTERVALS: The sun symbol, used in conjunction with a cloud in this way means some sunshine as well, particularly if the white cloud symbol is used.



RAIN: The dark blue tear drop symbols beneath the cloud indicate rain.



RAIN SHOWERS AND SUNNY INTERVALS: A combination of rain, cloud and sun represents sunny intervals and rain showers.



SNOW: The white snow symbols beneath the cloud indicate snow.



SLEET: The rain and snow symbols together beneath the cloud indicate sleet.



THUNDER STORM: The symbol of a black cloud with a yellow flash represents the possibility of thunder and lightning.



WIND SPEED & DIRECTION: The black symbol represents the wind speed and direction, the speed printed in the centre in white is in miles per hour.

FOG

FOG: Fog is not represented by a specific symbol, it is indicated by words on the map in the general areas likely to be affected.

More detailed information may be gained from the contour charts. There are usually two of these, one showing the actual pattern drawn from recent observations, the other showing a forecast pattern for 24 hours later. Drawn on the charts are:—

Isobars — thin lines like the contours on an Ordnance Survey map. These are contours of air pressure. Areas of low pressure, called

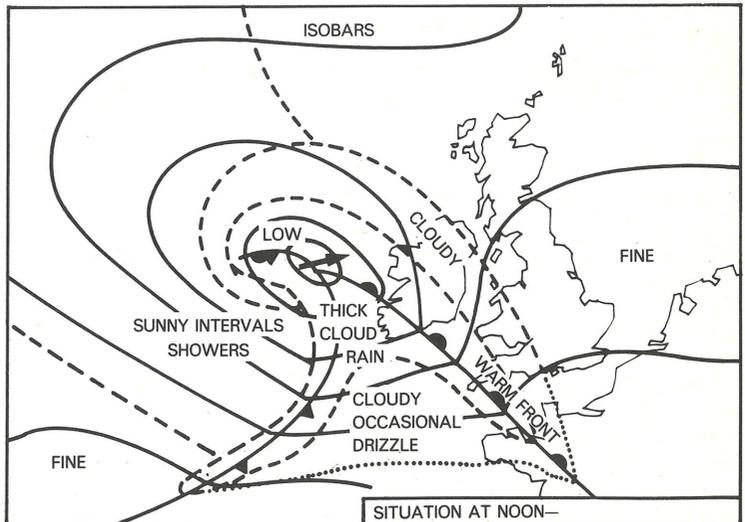
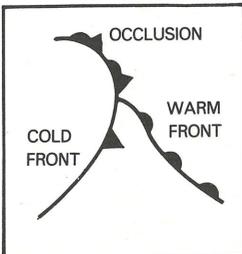
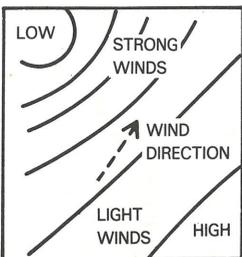
depressions, usually indicate poor weather and often strong winds. Areas of high pressure, anticyclones, are often accompanied by good weather. Arrows are used to show expected direction of movement of the centres.

Most useful is the indication given by these lines of wind direction and speed. It is found that winds blow roughly parallel to the lines (slightly backed) and the spacing between the lines indicates the speed — the closer the lines are together the stronger the wind. Direction is anti-clockwise around low pressure.

Fronts — heavier lines with identifying symbols as shown. These are used to indicate the boundaries between masses of air with different characteristics.

These lines may be thought of as showing bands of cloud and rain which move along with the wind. There is often a sharp change of wind direction and speed as a front passes. Symbols are drawn on side towards which front is moving.

Thus a depression approaching the British Isles may well have weather associated with it as shown below. All you have to do for an estimate of likely prospects, is move the pattern along in your mind's eye and note how this affects your area of interest. The 'actual' and 'forecast' patterns give an indication of direction and speed of movement.



Taking your Mirror abroad

by Hugh Jones

If, during the height of the holiday season, you stand on the white cliffs of Dover looking down on the harbour below, you will not have to wait long before you witness the splendid sight of a Mirror setting out for the French coast. The fact that these boats tend to be upside down on the roofs of their owners' cars waiting to board the ferry does not prevent the cliff-top observer from sensing the excitement of taking a Mirror abroad.

If, like me, you want a good excuse for avoiding the terrible sight of all those red sails in front of you at the National Championship, then you may be tempted to join the real elite of the Mirror fraternity. Each year, despite the falling pound and the rising cost of petrol, this small but growing band sets out for foreign parts to launch their craft from golden, sun drenched beaches into sparkling blue seas. At least, that's the way they remember it when they get home.

My family (a wife and three children) have travelled abroad for our summer holiday for many years now, but our first venture to the Continent with our Mirror on the roof of the car was undertaken with some trepidation. We discovered that you do not have to pay extra for the boat on the roof of your car on the short sea routes from Dover, Ramsgate and Folkestone. If you tow your boat you will have to pay for the extra space it takes up but a family of five in a boat topping car of 14 ft. would have to pay about £55 return to cross the Channel by Hovercraft from Ramsgate to Calais.

Should you decide to venture abroad with your Mirror then it is well worth while investigating the sailing potentialities of your intended holiday area before you make any final decisions about hotels or other accommodation. Some supposedly 'sea front' or 'lake side' hotels are a long boat's drag away from the water but, in contrast, a good many have their own launching and mooring facilities. I have to admit that my own

experience of Continental hotel living is about as limited as my bank manager's sense of humour, so our financial resources usually limit us to a holiday which combines camping with sailing. But before talking about the delights of continental sailing-cum-camping I should like to mention a few hints on the practicalities of roof-topping a boat around Europe.

It is possible to stow quite a quantity of light but bulky objects such as sleeping bags and life jackets inside the boat while travelling. These need to be lashed very securely to the underside of the thwart or pushed into the forward stowage compartments. Particular attention needs to be paid to the roof rack when undertaking long journeys and nuts, bolts and lashings should be checked regularly. The gutter mounting kind of roof rack seems to be the most reliable: we once arrived in a Norwegian camp site with bits of our 'rubber sucker' type scattered around the gutter of the car. By some miracle the suckers had carried on sucking even when the supporting stays had come unscrewed. To be really certain that your boat will not part company with you at 60 mph on the Autostrada del Sol, it should be secured fore and aft by ropes leading to the bumpers of the car. As a natural pessimist I prefer to secure my Mirror directly to the car at the sides as well and I have drilled 1/4in. holes in the gutter to facilitate this. Lifting the boat on and off the car may prove rather difficult unless you have a family of budding weight-lifters. The lifting problem is eased considerably by lashing spars and oars to the side of the roof rack rather than actually inside the boat.

Life jackets are a necessity: even though winds are light and the water warm they should, at least, be kept in the boat in case conditions change. You should also take your insurance and measurement certificate in case you are asked to produce these at any time. This has happened to us once. We were drifting along the coast of Yugoslavia one day when a police launch approached and we were asked to produce the 'ship's papers.' Apart from some old chocolate wrappings and a sailing instruction sheet from an open meeting of long ago there was not a ship's paper in sight. After 15 minutes of question-



ing we were reluctantly released.

Finally, I should like to say something about possible sailing areas for a Continental Mirror cruise, but wherever you decide to go, it is worthwhile contacting the local Mirror Class Association who may be able to give you some useful advice; you may even be able to join in some racing if you feel inclined. Only one day's drive from the Channel Ports, Brittany offers some good sailing but the tides can be rather strong and camp sites tend to be crowded during the height of the season (from late June to about the third week in August). The Baltic coast of Denmark and Northern Germany is considerably less crowded and tides are not a problem but, although pleasant sandy beaches abound, pollution is becoming a problem in the Baltic and we have experienced some unpleasant odours in the Gulf of Bosnia off the Swedish and Finnish coasts. The lakes and fjords of Norway and Sweden offer some superb sailing and the further north you go the less crowded it gets: on the lakes north of Bergen people are astonished by the sight of a boat with sails. However, as in any mountainous region, it is necessary to keep a good lookout for the approach of sudden squalls.

There are plenty of good sailing lakes in Holland, Germany, Austria and Switzerland and the French are busily adding to their

natural collection of lakes by damming rivers to produce some spectacular reservoirs.

In south and central France there are many such lakes and reservoirs, some of them enormous and most of them have camp sites on their shores. There are also plenty of places where you can 'camp rough' if you want to avoid paying camping fees which, for my family of five, work out at between £1.50 to £2.00 per night.

For really warm and pleasant sea sailing and fine weather the Mediterranean is hard to beat and the Mediterranean coastlines of Spain, France and Northern Italy are only three or four days driving away. Unfortunately, Mediterranean camp sites and hotels are crowded during July and the first two or three weeks of August.

A boat can extend the scope and enjoyment of a holiday quite considerably; parts of the shore inaccessible by road can frequently be reached by boat and off-shore islands are often within half an hour's sailing time away. Some years ago we discovered such a group of sandy islands in an arm of the Aegean. Each day we would load the Mirror with grapes, peaches, wine and other vital provisions and set off for a day spent swimming, eating and just lazing in the sun on our own uninhabited (except for us) islands.

See you on the cross Channel ferry.

Cruiser Associations

by Mike Coleman

The R.Y.A. Class Associations' Committee, on which I have the privilege to serve, currently represents some 40,000 owners of Dinghies and Cruisers, which if placed end to end, would stretch for about 127 miles. In terms of numbers only, we of the Cruising Class Associations make up only about 6% of the total owners.

Because we are small in relative numbers we may be accused of 'keeping ourselves to ourselves,' and it is possible that many do not understand what we do and why.

All Boat Associations exist because of pride in ownership. We have all put our money, according to our choice and the depth of our pockets, into a particular type of boat, and we will defend our choice, be it right or wrong, against all comers. The herd instinct causes us to group into classes, be it Mirror or Macwester or what-have-you. Our basic drive is the love of the water, which we all share, and the satisfaction of using the fickle wind to best advantage.

How we use it, gives us the cardinal difference between Dinghy and Cruiser Classes. The Dinghies generally to race on inland or estuary waters. The Cruisers to get from (a) to (b) on estuary waters or the open sea, where we take our place amongst all those 'that go down to the sea in ships.'

Cruisers seldom race, and apart from an annual rally or sail in company, organised by a Class Association, rarely congregate.

Dinghies spend most of their time on dry land, whilst Cruisers spend most of their time afloat.

Cruisers have 'full life support systems' to go to sea, and to stay there for weeks or even months. With proper safety equipment and a competent crew, they can go well out of sight of land or visual navigational aids, without hazard to anyone.

As far as my yacht is concerned, I regard it as a second home, which we move from place to place, averaging 1,000 miles each year.

Because Dinghies are essentially day-boats, and fast day-boats at that, they cannot safely endure long passages. Their owners derive their satisfaction from racing against other Dinghies of their own kind. To be fair in any race every competitor should have the same chance of winning. Hence Measurement and abiding by a strict set of rules and procedures, has rightly become the main pre-occupation of Dinghy Associations, together with the considerable effort put in by a dedicated group of people in organising races and regattas.

Cruisers, on the other hand, apart from the basic hull and rigging, are unique unto only themselves. If I put another 20 sq. ft. into my genoa, I am breaking no rules, and far from arousing anger or a feeling of betrayal from my fellow Cruising owners, I get either approval or complete indifference. Because of this, Cruisers are not regimented as Dinghies. Cruiser Associations therefore reflect this, and tend to be more loosely joined together.

Another major difference is the effect that distance has on getting together. If I want to leave my home base on the River Medway, to sail with fellow members in say, the Bristol Channel, I have to circumnavigate most of Southern England to get there, at an average of say 4 knots, weather permitting. If I were a Dinghy owner, I would have towed it by road, at whatever the legal speed is for such things, in more or less a straight line. I would then be able to meet and race against my compatriots in the Bristol Channel area and be back home before the Cruiser had passed the Isle of Wight.

The result of this is that where the Dinghy and its Associations tend to be gregarious, the Cruiser and its Associations tend to be insular. It is virtually impossible for us to meet more than a small fraction of our fellow membership. The Dinghy is mobile and we are too big to travel overland easily. A 36 foot mast and 7 tons do present certain limitations, and re-tuning a mast once lowered is not a 5 minute job.

Given these limitations, what then is the point of having Cruiser Associations? Like the Dinghy Associations, common interest. The more we learn, the more we realise there is to learn, and we enjoy learning. We benefit

from our Association Journals, and our infrequent meetings with our fellow members because we swap experiences. Our Associations provide the means of doing this, not perhaps with the dynamics of Dinghy Associations, but serving a different clientele.

Generally, Dinghies and Cruisers only meet in estuary waters, and this can be a terrifying experience for both parties. As a chauvinist cruising man, sailing back up-river on a Sunday afternoon, to be confronted with those forests of little red, white and blue sails, used to frighten me more than a supertanker at 20 knots in the shipping lanes, in a Force 6. I had failed to remember from my long past, in 14 foot Naval Dinghies, that in comparison with me, the Dinghy can turn 'on a sixpence.' For us, not the satisfaction of first around the windward mark, for we are slow, cumbersome, in-the-way, and crossing their race track. When Dinghies disappeared under my bows, or aimed themselves for my quarter at 10 knots from only 20 yards away, I used to die of fright. There was no time for 5 short blasts, or explaining the Collision Regulations to them, and to my shame, I recall shouting words that can only have lowered myself, and Cruisers in general, in their eyes. I was scared, but they were not.

Emboldened over a jar, after one of the Committee meetings, I raised this topic with the Secretary of one of the larger Dinghy Associations. "No problem," he said, "if I want to pass under your stern, I must head for your quarter. When I get to you I can flick my rudder and pass under your stern, but if I set down too much, I lose valuable feet." I tend to think in cables, not in feet, but his point is very valid, and one not generally recognised by Cruising people.

The only plea I would make to Dinghy sailors, is, don't frighten us too much. We can't stop or alter course quickly, and the majority of what I could describe as the 'Summer Cruising Fraternity,' are probably not as experienced helmsmen/helmswomen as you are.

Can we reconcile our differing aims? Possibly never, but as each journey begins with a first step, there may be a way.

If I can quote from personal experience, which may well have more general application. Our Macwester 27 sleeps five in comfort, six easily, and when not underway,

two more in the cockpit under the boom tent. The same or better is true of many Cruisers. We can cook, have a loo, 40 gallons of fresh water, a 25 h.p. diesel auxilliary, life-raft and full safety equipment, a diesel stove, stereo tapes and a V.H.F. radio, so life is not all that dangerous or Spartan, even in the depths of winter.

By sharing our life support systems which the Dinghy people lack, we can both get to know how the other one operates. We usually have a crew of 3, so we could easily take away with us for a long weekend cruise, 2 two-man Dinghies, and go to places that Dinghies cannot easily reach. We would be the Safety Boat and life support system. If the wind failed or got too strong, we could always tow the Dinghies back, without hazard to anyone. The Dinghy people could take turns at sailing the Yacht, and in navigating, whilst we might be allowed to sail one of the Dinghies occasionally, under proper supervision, of course.

Familiarity should breed understanding and consideration, because we currently suffer from unfamiliarity which continues to breed segregation and mistrust.

Cruisers could also act as Safety Boats at Dinghy Regattas, when local club facilities are usually stretched beyond the limits of effective safety.

More and more Cruising yachtsmen are studying for and qualifying as R.Y.A./D.T.I. Yachtmasters (Offshore). To do this we have to know quite a lot about yachts and the sea, and to prove it practically as well as theoretically. This does not make us different people, but shows that we care about what we are doing, and want to do it the right way. For us who regularly 'go foreign,' our joy at making Flushing or Dieppe, 'right on the nose,' must equal the joy of the Dinghy sailor who wins that critical race, without being disqualified! We are rather like the Old Bull, we may take longer to get there, but we have longer to enjoy it when we do.

In conclusion, Dinghies and Cruisers can learn a lot from one another, and can have a lot of fun doing it. For Dinghy sailors who may not yet have had the opportunity of sampling Cruiser layout, our accommodation includes one double and one triple bunk. Who says Cruising is dull?