

# Controlling your boat by sails alone

On a sailing boat, it's all too tempting to manoeuvre under engine, however, with the increasing price of fuel, **Duncan Wells** demonstrates the skills required that enable us to handle our boats under sail.



1 Head to wind – notice how the power station chimney is in line with the helmsman



2 The bow is being blown off, the chimney is now in line with the Ensign.



3 Round she comes...



4 Wind on the quarter.

There is immense satisfaction to be gained by being able to sail our boats well and not rely on the engine. Here, we look at some of the manoeuvres we all know but don't always put into practice.

Before we start looking at using our sails, let's look at how our boat behaves under bare poles. This is important, because what she does here tells us a lot about how she will behave when sailing. After all, the topsides, mast, boom, sprayhood and any dodgers represent a fair amount of the total windage of the boat. In this case, our boat is a Hallberg Rassy 352 sloop with a furling headsail and a fully battened main.

### Drifting

First, we will leave her to drift by stopping the boat and seeing what happens. How quickly the bow is blown off tells you what she will be like in close quarters situations and how difficult or easy it will be to hold her closehauled under a single sail (Pics 1-4). Left to her own devices she will adopt her natural drifting position. For some boats this is beam on to the wind, while others point more downwind. As a matter of interest, see at what angle you can sail the boat downwind under bare poles and how close to the wind you can sail with nothing set.

### Headsail

Now we can move on to working with the sails. Let's start by sailing under headsail alone. Start by sailing downwind (Pic 5), which is a straightforward as it gets. Now

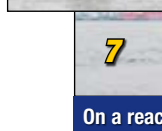
tighten up until you are on a broad reach (Pic 6), a reach (Pic 7) and a close reach and see how she handles. Then tighten up to closehauled and hold her there. How close you can sail to the wind will depend mostly on your hull/keel configuration.

### Tacking under headsail alone

Let's try tacking the boat under headsail alone. With no main to help the turn and a boat that has shown how easily the bow will blow off, this is not going to be easy. We need to gather as much way as possible, by bearing away, and then throw her into the tack to get her head through the wind before the wind on the headsail throws us back on to our original tack.

Bear in mind that with the barn door rudder that comes as standard on an HR352 we do not want the helm hard over, because this will simply stop the boat. We use full helm to 'trip' the boat when we want to lose speed and we certainly don't want to lose speed with this manoeuvre. If we can get the bow through the wind we will have won the day.

When a boat is sailing under headsail alone, it is difficult to get her close to the wind and she will want to bear away. The main, affected by sideways force, acts more or less like a rudder, turning the bow to windward as it powers up, while



7 On a reach.



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**About the Author**  
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PHOTO STEWART WHEELER



11 Closehauled on port. 12 Sheet eased to depower sail and allow the momentum to take us through the wind. 13 Headsail backed. 14 Round she goes.



12



13



14



8 Ease the sheet as the bow comes up to the wind. 9 Headsail backs. 10 On starboard.



9



10

the headsail provides the forward driving force. Mains give you steerage, headsails give you power, so without the main, we lose some of our steerage.

The degree to which she wants to bear away depends on the rig and the hull/keel configuration. If your keel does not give you much grip on the water, it will be harder to hold the boat closehauled under headsail alone. We did this exercise on two separate days; one where there was barely enough wind to drive the boat (Pics 8-10) and the other when we had F5 (Pics 11-14). On both days we had to use the same techniques, but to differing degrees. In light airs we found that gathering speed through the water and then going for the tack worked well.





Putting her through her paces under main alone.



(16) Closehauled on port, the start of the tack.



(17) Hard on the wind.



18



(19) Tacked and now on starboard.

There comes a point when you need to ease the sheet to depower the sail and allow the momentum of the boat to take the bow head to wind. At this point the slack headsail will shake and gently back itself and you can hold this and get it to take your bow through the wind onto the opposite tack. Then release the old leeward sheet, which has become the windward sheet, and harden in the new leeward sheet.

When dealing with stronger winds, we need to do exactly the same, only now the windage of the boat comes into play and getting the bow through the wind is tricky. It needs boat speed and a fairly quick turn through the tack. Again we depower the headsail as the bow comes head to wind by easing the sheet, so that it shakes and, with any luck, it will start to back. As soon as it has, it will whizz the bow through the wind and onto the opposite tack as quick as can be.

## Main

Now we're going to go through the same exercise with the main only. Run, broad reach, reach, close reach and closehauled and see how she responds (Pic 15).

## Tacking under main alone

We won't have the same issue with getting the bow through the wind as we did with the headsail, our problem will be trying to sail fast enough while closehauled to effect the tack. Generally, modern sailing boats sail well under main alone, especially if they are fractionally rigged where the main is much larger than the headsail (Pics 16-19).

## Hoisting the main under headsail

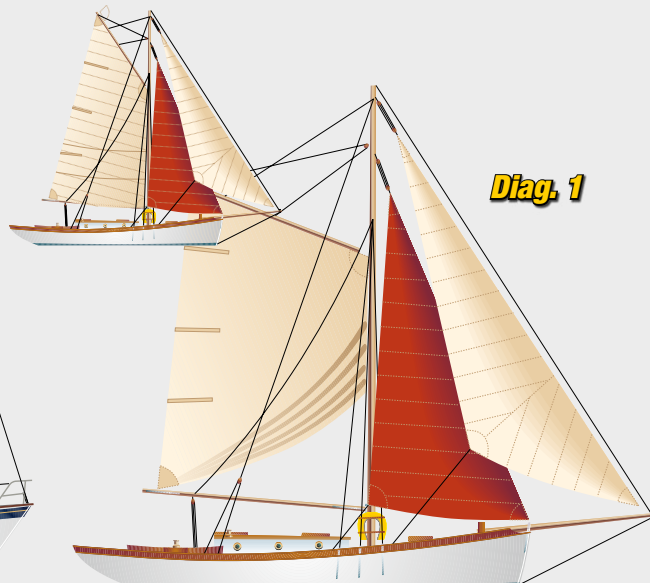
Now we have control of our sails, have you ever thought of setting the main while under headsail, as opposed to slavishly doing it under engine? It's not difficult and if you do it as soon as you're in open

water you'll be sailing while most other crews are still thinking about hoisting the main and switching off the engine.

With the headsail set and drawing, we need to sail the boat as close to the wind as possible without pinching her, ease the main sheet so the boom is dead downwind and hoist away (page 116, pics 20-23). With the main up, sheet in, bear away until you are on a comfortable point of sail and Bob's your uncle.

Steady and true helmsmanship are required to effect this manoeuvre, because we need the boat to be as close to the wind as possible as we don't want to let the boom too far out, just because it becomes a bit unwieldy. It's also a bit untidy to let the unfettered main fall off the boom before we have hoisted it and yet we don't want to be so hard on the wind that we lose way. In actual fact, many boats are restricted in how far they can let the boom out by having swept back spreaders, especially >

Bermudan sloop, boom topped up to scandalise and depower the main.



## SCANDALISE THE MAIN

You 'scandalise' a bermudan main by raising the topping lift so that even if the sail did catch some wind it would be spilled immediately and there would be no chance of it powering up. Fully battened mainsails will only scandalise to about 50 per cent, as the battens prevent the boom being topped right up, but this is enough to keep them de-powered. Furling mains and rod kickers also present difficulties when it comes to scandalising a main on a modern yacht and it is not something we do as a means of completely depowering the sail, not like the fishermen of old who used this technique all the time to reduce speed through the water, especially when operating a trawl. Being gaff rigged, they would scandalise the main by lowering the peak. You may additionally, if she's so rigged, trice up the tack. (Diag. 1).

# SEAMANSHIP SAIL HANDLING



(20) Closehauled, boom downwind, topped up, removing the final sail ties. (21) Up she goes. (22) Halfway. (23) Fully up.

the B&R rigs of the Hunters where the degree of sweep of the spreaders removes the necessity for a backstay.

The spreaders and stays on our boat allow us to let the boom out a long way, so we are able to reach a position where the boom is comfortably downwind without having to sail all that close to the wind. Of course, we sail as close to the wind as we can, which gives us a bit of breathing space if anything goes wrong.

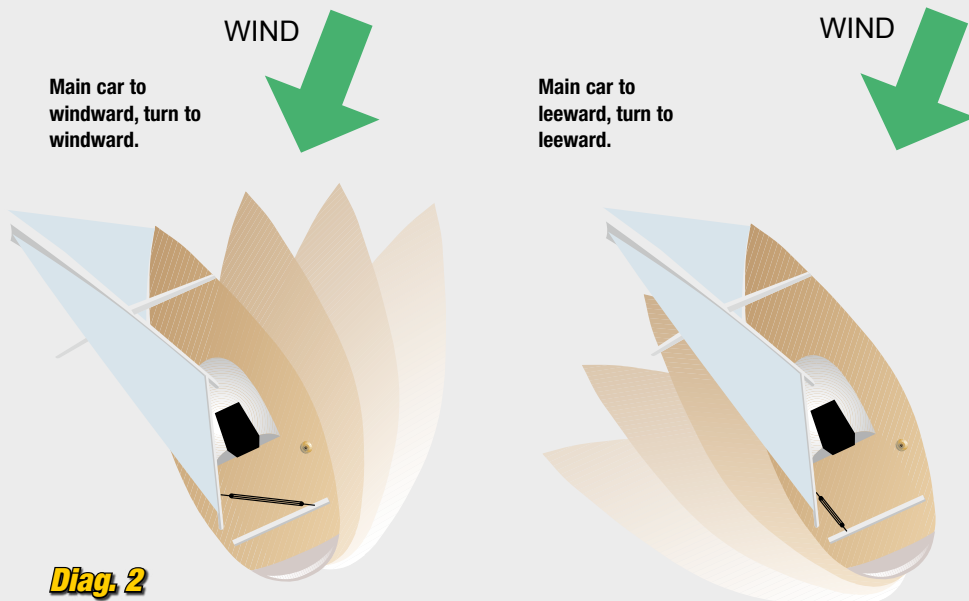
If we are having difficulty hoisting the main, easing the sheet and letting the boom out further is generally preferable to luffing up. This would slow the boat and might leave us dead in the water with a main half up and no way on. Unless, of course, the helmsman is skilful and is able to luff up for a short enough time to allow us to overcome our difficulty without losing way.

Making sure that all lines are clear to run before hoisting the main is vital. Check that reefing lines are flaked and

jammers are off. We want to be careful not to catch any wind in the main as it goes up, because any power in the main will create compression on the slides in the slot and batten cars, if we have them, and it won't go anywhere. We always hoist the main with the boom topped up a

little and one could top it up a little more than normal when hoisting the main under headsail, just to make sure that even if it did catch any wind it was to some degree scandalised.

These techniques will not only improve your seamanship, they'll save on fuel. ■



## STEERING THE BOAT BY THE MAINSAIL

You can steer your boat without using the rudder. With both main and headsail set, lock the rudder and steer using the main. If you can adjust your main traveller while under way, bring the main traveller up to the windward side to turn the boat into wind – the main is being made to be more efficient.

To turn away from the wind allow the main traveller to move to the leeward side. This makes the main less efficient and the boat will turn away from the wind. If your main traveller is fixed then try this by hardening the mainsheet to turn to windward and easing it to turn to leeward (*Diag. 2*).

Don't just take my word for it. Get out there and try these manoeuvres.

**Diag. 2**