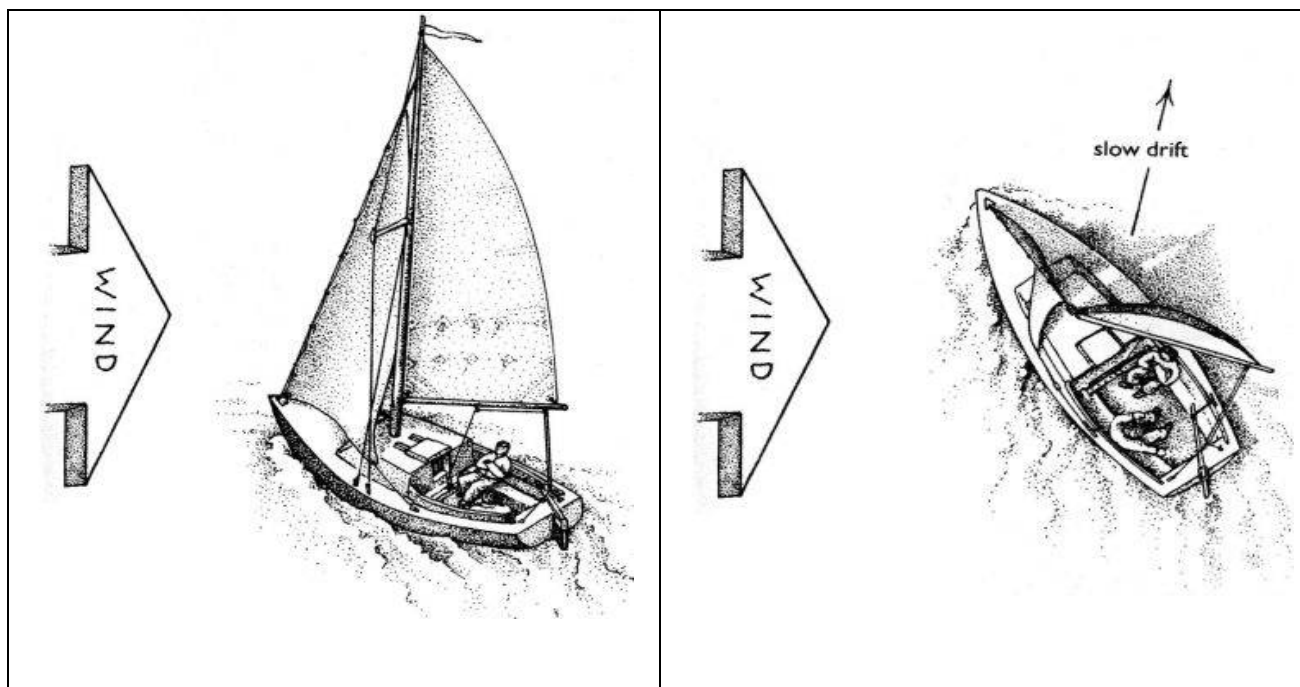


HEAVING TO



Heaving to is a technique for stopping the boat almost completely with the sails still up. The boat maintains a steady position relative to wind and waves, in contrast to "lying ahull," in which sails are dropped and the boat is allowed to drift any which way - usually leading to an uncomfortable and perhaps dangerous boat position. A boat lying ahull is likely to turn beam-on to the waves and may capsize.

Why Heave To?

Heaving to is an essential sailing skill every sailor should learn. With this simple technique you can stop the boat in a controlled manner without having to stay at the helm. It can be a valuable skill for managing a storm because it allows you to "lock" the boat at a safe angle to wind and waves and go below to ride it out. Some sailors like to heave to simply to calm the boat for lunch. Singlehanders who do not have an autopilot find it a valuable skill if they need to leave the helm for any reason.

Basic Steps to Heave To

The theory of heaving to is to use the mainsail and headsail (usually the jib) to work against each other to balance the boat at an angle to the wind. The jib is backwinded and attempts to turn the boat away from the wind, while the mainsail and rudder attempt to turn the boat into the wind (as shown in the illustration above). With these forces balanced, the boat holds a steady position.

Here are the basic steps for heaving to:

1. Bring the boat into a [close-hauled point of sail](#) with both the mainsail and jib trimmed in tight.
2. Tack across the wind without releasing the jibsheet (unlike in normal [tacking](#)).
3. Once on the new tack, the wind in the backed jib will attempt to blow the bow further away from the wind. Turn the rudder to keep the boat toward the wind on your new tack. The force of the mainsail will try to move the boat toward the wind just as the force in the jib tries to push it away.
4. As needed, adjust the mainsheet and the rudder position until the forces balance out and the boat stays steady relative to the wind, often roughly 60 degrees off the wind.
5. Lash the tiller or wheel to keep the rudder in this position. The boat should stay heaved to in this position unless thrown off by a sudden gust or a big wave, very slowly drifting away from the wind.

These basic steps are easy to learn - but not every boat acts the same. More modern boats, especially, require some adjustment and practice in order to heave to. Go on to the next page to learn what else to do to make this work in your own boat.

Factors Affecting How a Sailboat Heaves To

- The longer the [sailboat's keel](#), the easier it will be to heave to. A boat with a fin keel, in contrast, can spin easily and will need to be more carefully balanced.
- The larger the jib or headsail, the harder it will be to heave to because the larger force of wind against the backed sail can easily blow the boat completely off the wind regardless of the driving force of the mainsail.
- The smaller the mainsail in relation to the jib, the harder it will be to heave to, for the same reason. A boat with a [reefed mainsail](#) and a large jib that has not been [furled](#), for example, may be impossible to heave to.

Learn How to Heave To in Your Own Boat

1. Start by practicing on a day with a good, steady wind - but not too much wind the first time.
2. First follow the basic steps on the previous page and see how your boat performs.
3. At step 3 on the previous page, after tacking and letting the jib be backwinded, observe how your boat behaves.

If the bow keeps turning farther from the wind, put the rudder hard over to turn back toward the wind with the mainsail sheeted in tight. If nothing you can do keeps the boat from being blown completely back around (into a [gybe situation](#)), then you will have to reduce the size of your jib in order to heave to. With a furling jib, bring in enough of the sail so that the bow is not blown completely off when the sail is backwinded; you can also try easing the jibsheet a little so that the sail is slightly less backed. With a hanked-on jib, try with a smaller working jib or a storm jib. (After all, in a storm situation you would not want a large jib up anyway.)

If the power of the mainsail threatens to tack the boat again against the backwinded jib, then let out some mainsheet. Keep the rudder over as if trying to turn into the wind and tack, but with the mainsail out farther (as in the illustration above) the boat should not have enough forward drive to be able to tack against the jib and will settle into the heaved-to balance.

Once you've found the best method to heave to in your particular boat, practice. Be sure to practice on a day with a good strong wind, when you might have to reef the mainsail down and use a smaller jib or furl your jib. The same principles hold true in storm winds, but you may need further adjustments in steps 4 or 5.

Remember: heaving to is a valuable technique for coping with many different situations. Sailors are often surprised by how calm the boat becomes when the forces are balanced, and a calm steady boat might be essential for coping with a medical emergency, a [storm](#), or any number of other reasons