

SAILING WITH TWO SAILS

Introduciton

This tutorial introduces the forward sail on a boat with two sails. The sail, called a jib, provides many benefits, but also adds a level of complexity to sailing.

The jib is the sail at the front of the boat. It provides a number of benefits, but unfortunately, it can be somewhat complicated when first starting out.

Benefits of the Jib

- Increases Speed
- Improves the Handling of the Boat (in most situations)
- Increases the Efficiency of the Mainsail
- Provides an Easier Method for Getting Out of Irons

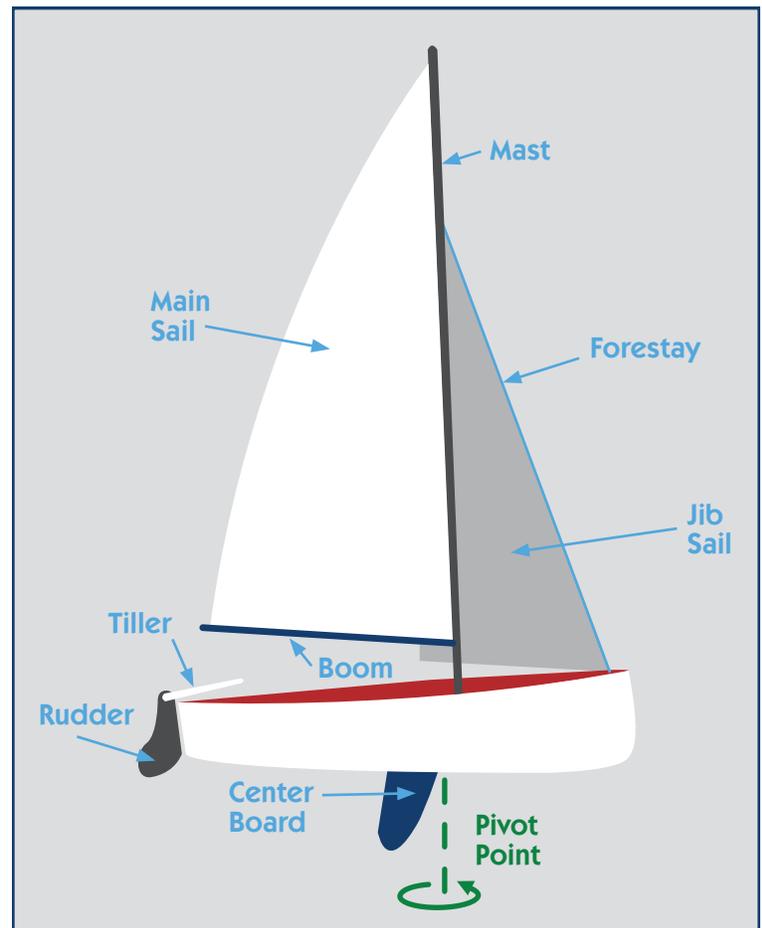
– Increases Speed

The jib increases a sailboat's speed simply by adding a significant amount of sail area which catches a lot more wind. It also increases the efficiency of the mainsail (an explanation follows shortly).

– Improves the Handling of the Boat (in most situations)

Since a picture is worth a thousand words, to the right is a picture. Take a look at it. Make sure to pay particular attention to the "pivot point."

A sailboat's pivot point is just behind the mast. Notice that the majority of the mainsail is behind the pivot point. When sailing with only a mainsail, the force that the wind applies behind the pivot point is greater than the force in front of the pivot point. This leads to a sailboat wanting to turn up into the wind when sailing with only a mainsail. To counteract that force, you have to pull the tiller toward the wind slightly. If the wind is strong, and your boat is moving slowly (which it does after a tack, when leaving the dock, and after getting stuck in irons), the rudder might not be able to overcome the mainsail. If you add a jib to



the front of the boat, then it balances out (or at least comes close to balancing out) those forces, which makes the boat easier to control.

However, the "in most situations" caveat was added because the jib can overpower the boat if not used correctly. If the jib is in too tight, then the force in front of the pivot point will be greater than the force behind it. When that occurs, the boat will turn away from the wind. To counteract that, the tiller would need to be moved away from the wind. However, doing so adds new problems. It is impractical to list all of those problems here, but most are caused by the boat slowing down.

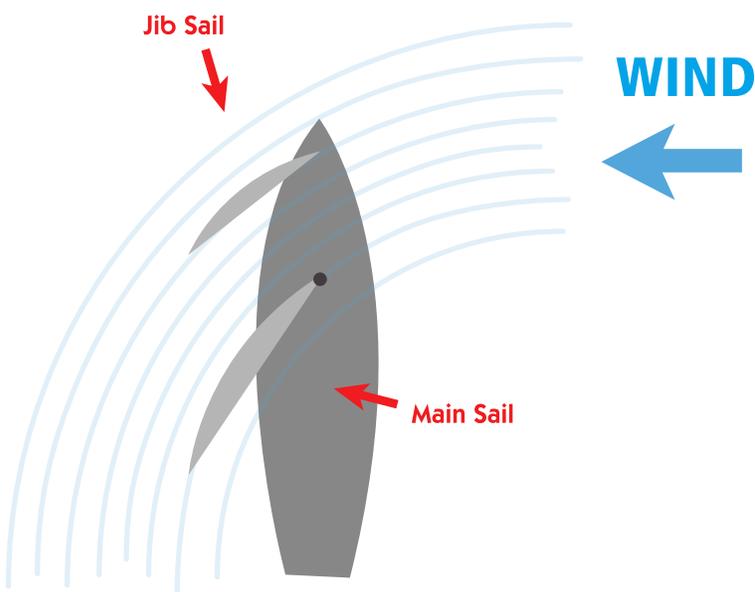


When the rudder is turned in the water, it has a braking effect. Generally, when the rudder is turned, it is done for a short period of time, and the boat doesn't slow down much. However, if the rudder is turned for a long time just to keep the boat going in a straight line, the braking is significant. This is a problem because, as already stated, the rudder needs water flowing past it in order to work (the faster the water flows, the more effective the rudder). As the boat moves slower and slower, the helmsman must move the tiller farther and farther over to counteract the wind (which slows the boat down even more). This is what causes all of those bad things to happen, whatever they end up being.

In short, if your sails are trimmed correctly, the jib balances out the forces that the wind applies on the boat which makes it easier to control.

– Increases the Efficiency of the Mainsail

Fully understanding how the jib increases the mainsail's efficiency requires an understanding of the aerodynamics of the sail; however, aerodynamics are beyond the scope of this tutorial. In short, the jib redirects the wind to a better angle for the mainsail.



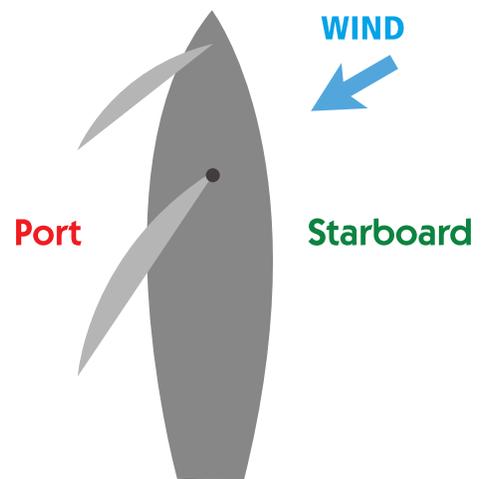
– Provides an Easier Method for Getting Out of Irons

The first method you learned for getting out of irons, skulling, requires a lot of manual labor! If you have a jib, all you have to do is hold it out to one side of the boat. That will push the bow of the boat around and out of irons. It is much easier and faster than skulling. We'll demonstrate this technique in class, but all you do is grab the corner of the jib and hold it out on the side opposite the way you want to turn.

Controlling the Jib

Now that you know how the jib makes sailing better and easier, it's time to talk about the downside of the jib: controlling it. Unlike with the mainsail, the jib is controlled by two lines known as jib sheets. In practice, what this means is that the jib will not automatically blow over to the correct side of the boat. Instead, the crew has to manually move the jib over. Switching the jib to the correct side isn't all that hard to do. It is hard to determine which side is correct.

The jib is supposed to be pulled in on the same side of the boat as the mainsail, the leeward side. If the boat is on a starboard tack (wind is crossing the starboard side of the boat first), the mainsail will be on the port side. Thus, the jib should also be on the port side.



If the boat was on a port tack, then both sails would be on the starboard side.

After some practice, you'll get to the point where just a quick glance at the jib will tell you all you need to know to control it. Until then, however, it will probably be somewhat difficult to figure out what to do with the jib. If you have any questions or concerns, ask one of the instructors (either here at the forums, or in class). Other than that, practice makes perfect.

As was mentioned earlier, the jib is controlled by two jib sheets. Only one of those should be pulled tight at a time. If the jib is supposed to be on the port side, then the port jib sheet should be pulled tight, and the starboard jib sheet should be completely loose. If the jib is supposed to be on the starboard side, then the starboard jib sheet should be pulled tight, and the port jib sheet should be completely loose. If both jib sheets are pulled tight, then the jib just ends up sitting in the middle of the boat rather than being out to one side. This will lead to the jib taking control of the boat (the repercussions of that were discussed above).

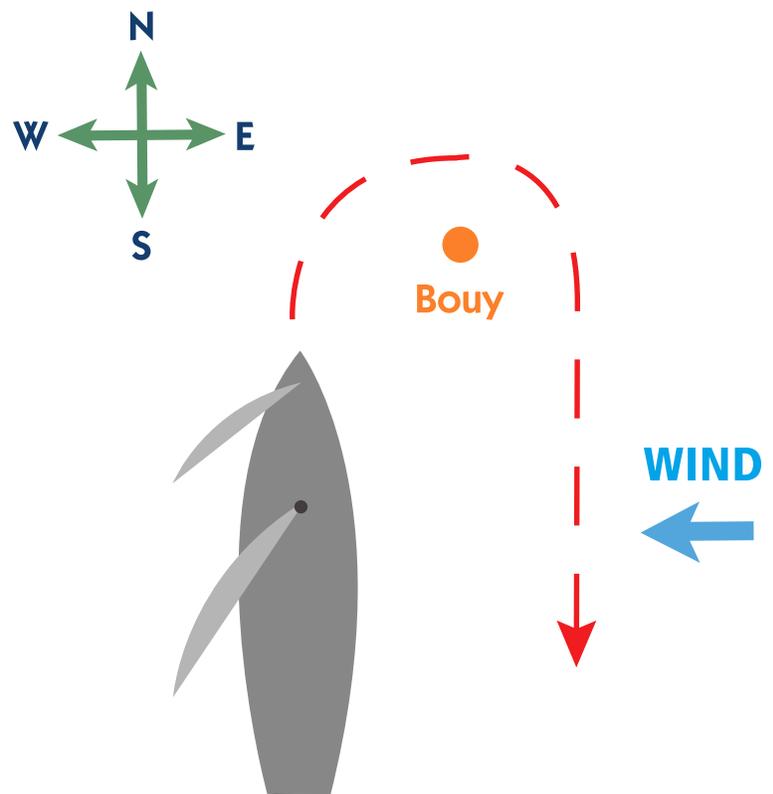
In sailing lingo, the jib sheet that is supposed to be pulled completely tight is known as the active jib sheet. The jib sheet that is supposed to be completely loose is known as the lazy jib sheet. One of the things that you will probably hear most from the instructors when you first use the jib is, "Loosen your lazy jib sheet." That means there is tension on your lazy jib sheet, and it is ruining the shape of the sail. To remedy this, simply grab the lazy jib sheet and pull some slack into it.

Tacking with the Jib

When tacking with a jib, the helmsman of the boat has the same duties as before. For the crew, however, there is an additional job. They don't simply get to ride along anymore. They have to handle the jib. Remember that the wind switches sides of the boat during a tack. This causes the mainsail to switch sides of the boat. Earlier, you learned that the jib is supposed to be on the same side of the boat as the mainsail. Well, since the mainsail switches sides, the

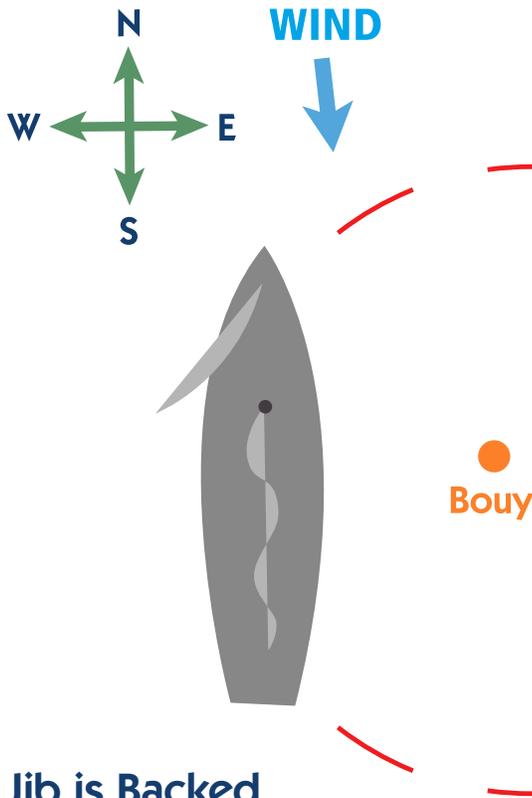
jib must be switched as well.

Having said that, switching the jib during a tack is not the hard part. Switching the jib at the correct time is. The jib should be switched as soon as the wind begins to blow on the other side of the sail (referred to as "the jib is backed" from here on out). The shape of the jib dramatically changes when it is backed. At the beginning of the tack, the jib is filled normally on the leeward side. Then the boat points directly into the wind, and the jib will luff. Immediately after the boat passes through the eye of the wind, the jib will fill on the incorrect side. This creates an odd shape in the sail that is easily seen.



Normal Sail Configuration

If the jib is switched too early, then it will stop your turn. At best, it will leave you in irons. However, it might push the bow of your boat around the opposite way (to leeward) since you will lose steerageway (your rudder will stop working). Either way, it's bad.



Jib is Backed (time to switch iib)

If you switch the jib too late, then, again, the wind will push the bow of the boat to leeward, and you might not have enough steerageway to counteract it with the rudder.

Essentially, when tacking with a jib, timing is everything. If you watch the jib and switch it as soon as the jib gets backed, there shouldn't be a problem. If you don't, then chances are you will have difficulties.

Recap/Conclusion

The jib does add complication, but once you're used to it, the numerous benefits provided will outweigh the complication. Once that happens, you won't want to sail without a jib.

Ensuring that your lazy jib sheet is truly lazy, and the timing for switching the jib are the two most important things to take away from this tutorial. If you don't keep those in mind, sailing with the jib will be very difficult.