

Basic Sail Trim (Intermediate to Advanced)

Sail trim is one of the most difficult aspects of racing, because although easy to adjust, it's quite difficult to adjust things exactly right. It takes years of practice, but if you know how to trim well, you'll gain a huge advantage over your opponents.

First, the sails operate in two modes: airfoil mode and 'barn door' mode. The airfoil mode is any time that you're going from close-hauled to a reach. The wind flows over both sides of the sails, and generates lift that will help pull you forward. When you go from a reach to dead downwind, it's almost impossible for the wind to flow correctly around the leeward side of the sail. This is what I call 'barn door' mode, because the sails are basically being pushed by the wind. Because the wind doesn't flow over both sides and generate lift to pull you forward, you will go more slowly when broad reaching and running.

When sailing with the sails operating like airfoils, you can use your telltales to help gauge when the sail is trimmed correctly. With the main, I like to put telltales between 1/3 and 2/3 of the way back from the mast on both sides of the sail. It's also good to have telltales on the leech of the sail (usually attached to the batten pockets). These will help you determine when the main is trimmed efficiently. Basically, you want the telltales on the side of the main to both flow aft, and the telltales on the leech of the sail to flow aft off the sail and slightly to leeward of the battens.

With the jib, you need telltales on both sides of the jib. Your sailmaker should have these already installed on the jib for you. A good general rule of thumb is to have the inside telltale lifted slightly when sailing upwind, and both sets flying aft when you bear off on a close reach or reach. Telltales on the jib can also tell you if your jib car position is correct. If it's too far forwards, the bottom windward telltales will break before the top ones do because the leech will be closed (preventing the wind from flowing between the jib and main) while the foot is too loose. If the car is too far aft, the top windward telltales will break before the bottom ones because the foot of the sail will be tight and the leech will be open and spilling the wind out up top. When you get things right, the top and bottom windward telltales should break at the same time.

In light air with waves, you want your sails to be full so that they may develop power to punch through waves. You'll need loose outhaul and downhaul, and a straight mast. You can add some mainsheet tension and hook the top batten of the main a bit more to windward. With the jib, leave your halyard fairly soft. If there aren't any waves, you don't need the sail to be as powerful, and can work more on speed and pointing.

In decent breeze, you want the main's top batten to be parallel or hooked slightly to weather of the boom and the boom on the center of the boat (when going upwind). You'll need to use a combination of your traveler, mainsheet tension, and boom vang to get the top batten position and leech tension correct (depending on the boat). The basic rule of thumb in light air is to have light mainsheet tension and use the traveler to bring the boom to centerline upwind. In heavier air, you'll need a lot more mainsheet tension and the traveler won't be as high.

As the wind picks up, you want to start using some of your sail controls to depower the sail. Tightening your outhaul and downhaul will flatten the sail and reduce its ability to generate power, helping keep you upright. In really heavy air, you can loosen your mainsheet tension to open the leech and spill some of the wind out of the top of the main. Also, putting some backstay on will bend the mast, which will also help flatten the main while also tightening the headstay and reducing headstay sag. For the jib, move the car aft to open the leech up and let some of the wind spill out of the top of the sail as the breeze gets heavy.