To Jibe or Not to Jibe

Jibing is similar to tacking, it is used to change from starboard to a port tack (or vice versa) when sailing downwind. The main difference is the wind crosses the stern on a jibe instead of crossing the bow as it does on a tack. Most sailors have a healthy respect for this maneuver – and for good reason. The primary issue is the main sail, during a jibe it can swing across the boat with a great deal of speed and force.

During a tack the sails become unloaded and luff as the wind moves across the bow of the boat. This creates a lull wherein the crew has time to safely change sheets and reload the sails. When jibing in anything more than a modest breeze the sails change sides in the blink of an eye. They go from fully loaded to unloaded slowly as the boat changes course but then go to fully loaded very quickly as the wind gets behind the sail. This is the point of danger.

Bad things can happen on uncontrolled jibes; people are often hit or knocked overboard and/or gear can break – all the way up to de-masting. This is why so much has been written and taught around avoiding accidental jibes. In this article I am hoping to share some information and techniques that will hopefully make jibing a safe and useful maneuver.

Wind Velocity	Relative Force
5 kts	1
10 kts	4
15 kts	9
20 kts	16
30 kts	36
40 kts	64
60 kts	144

Before getting into the techniques, let's talk about wind and the force it puts on the sails and rigging. The amount of force (or pressure) the sails feel changes as wind velocity increases. But this change is not linear, in other words, the force of a 20 knot wind is not twice that of a 10 knot wind – it is actually 4 times stronger. This is because force is proportional to the square of the wind's velocity. Just to show the impact of this, here is a table showing the relative force at different wind speeds. In the table I arbitrarily assign a force of 1 to a 5 knot wind. As you can see, the force increases rapidly as the winds get stronger.

These first two techniques revolve around making jibes safe by avoiding them.

Avoiding Accidental Jibes

Because accidental jibes are unexpected they are the most dangerous kind. Too often people are on deck or up adjusting sails and this activity distracts the helmsperson just enough to cause a course change. And when running down wind it does not take much of a course change to cause a jibe – 10-20 degrees is enough. So, the first prevention tool is steering a consistent course relative to the wind. Tool number two is adding a preventer that holds the boom on the lee side. Just be sure the line is not nylon; nylon stretches too much and will allow the boom too much movement. Therefore, don't use a dock line as a preventer line. And the third tool is to use a series of broad reaches instead of running dead downwind. This puts the wind more on the side of the boat and creates a larger margin of error in steering. And if you are not running a spinnaker it will likely get you there sooner. If the wind is blowing hard use a 'Chicken' jibe to change from one reach to the other (see below).

"Chicken" Jibe

This is a slang term for doing a tack instead of a jibe. This usually involves bringing the boat up to close hauled,

doing a tack and then falling off again. Admittedly it involves turning the boat 270 degrees instead of 90 degrees but it does avoid a jibe and is safe. I would recommend doing this when the winds get over 20 to 25 knots. Obviously this varies a bit by boat and the skills of the crew. I have done jibes in 30 knot winds and they are scary. I have also seen skilled people hurt doing a jibe in this kind of wind; honestly it is best to avoid them.

These next techniques describe how to safely do a jibe in different wind conditions. Please note that these winds speeds, while listed precisely, are approximate. You will need to try these techniques on your own boat to see where the transitions should set.

Very Light Air (0 to 5 knots of wind)

Under light air conditions jibing may require help from a crew member. You may have to literally go up and manually push the boom from one side of the boat to the other. Another way to do this is to grab the main sheet between the blocks and just pull the boom over. And the jib will probably need to be pulled by hand around the mast. There is no danger of hurting equipment in these light conditions, just let it flop. Do make sure all heads and crew members are clear.

Light Wind (6-10 knot of wind)

In this kind of wind the sails will easily move themselves but there is again little danger of hurting the equipment. At the upper end of this range I might shorten the main sheet a little or center the traveler just to decrease the swing of the boom. The boom will be moving with some speed so be sure the crew is ready.

Medium Wind (11-20 knots of wind)

With a medium wind the forces are becoming powerful enough to be respected. In these conditions it is necessary to center the main by sheeting in and centering the traveler before jibing. This will de-power the sail and shorten the swing. The stronger the wind gets the closer the sail should be to center before initiating the jibe. Once the sail swings over, and it will do so very quickly, start to let it out immediately. The quickest and easiest way to do this is to just cut the traveler loose and let it slide over to the lee side, then start to ease the sheet. In these conditions it is imperative that all crew members are clear as the boom can be deadly.

Strong wind (21 knots or higher)

Just to reiterate what was stated above, I do not recommend jibing in these conditions without knowing your boat and having an experienced crew. Instead, use the Chicken jibe.

I hope this information is helpful. Jibing is a useful maneuver; it just needs a little respect in the stronger winds.

Mike Huston teaches sailing for San Juan Sailing in Bellingham, WA. He sails "Illumine," a Jeanneau 43 DS.