



Reefing: The Steps for Shortening Sail

The most important part of reefing is making the decision to do so.

Well, summer is over. Yes, I know – what summer? I agree, summer took too long to get here and left too quickly. But, like it or not, we are headed into winter and the strong winds that come with it. The bright side is we can sail in the winter; our waters do not freeze over and the thermometer seldom registers the tiny numbers our friends back East often see. But our winters can be windy and gusty so being comfortable in these conditions is important.

Two years ago, in the October issue of 48° North, Sailing Tips covered the techniques commonly used in heavy air sailing. If you don't have it handy you can review it online by going to www.48north.com/articles.htm and clicking on the October 2009 issue (page 25). There were several techniques discussed, such as twisting off the top of the sails and reducing draft; but the most important one was reefing – the subject of this month's article.

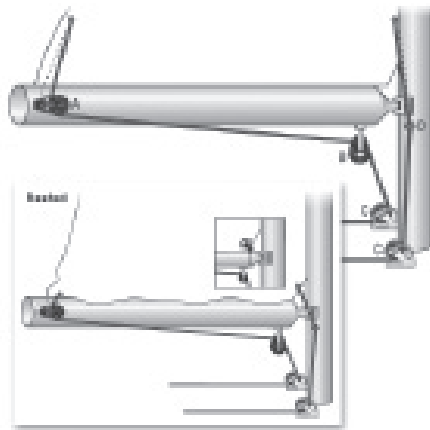
Probably the most important part of reefing is making the decision to do so. In other words, being aware of the existing and coming conditions and realizing you have too much sail up. Therefore, getting weather reports often and understanding what they are saying is important. So is being aware of building winds or dark lines on the horizon; both are signs reefing may be prudent. One could just wait until things are ugly, but the earlier reefing is done the easier it is to do. This is where the adage "Reef early and reef often," came from.

Reefing, in principle, is simple: reduce sail area to match the wind conditions. But which sail and how much? While there are no hard and fast rules, here are some general guidelines: Most boats will handle winds in the range of 15 to 20 knots with full sail. From 20 to 30 knots some mixture of

reefed sails should work. Between 30 and 40 a very small jib by itself will usually suffice, although some boats will also want a small main to stay in balance.

So let's discuss the 20 to 30 range as it is the most common situation. If the winds are on the lower end of this range, reefing just one sail may be sufficient. If that is not enough then add a reef to the other sail. The following rule is a generalization but provides a good starting point; reef the main first if you have a jib smaller than a 135 and reef the jib first if it is larger than a 135. If you have a 135, then try it each way and see what your boat likes best. Our boat sails like a pig with a reefed jib and full main, but then, it loves a reefed main and full jib. Try both ways on your boat to see what works best.

As the wind approaches 30 knots a reef in both sails will be needed and it is possible one sail should be completely dowsed. This is true on our boat; in these winds we sail with a reefed jib and no main. Like our boat, many of today's cruising boats have beamy sterns and do not sail well when heeled way over



This diagram shows a common reefing system using two lines. Lines can cleat on the boom and mast or be run back to the cockpit. Courtesy www.Harken.com

and generally go slower when doing so—and the best way to reduce heel is to reduce sail area.

The basic procedure is the same for reefing both mainsails and jibs – unload the sail, furl or shorten the sail, re-tension the halyard or furling line, reload the sail and, lastly, fine tune the trim. One important point – reefing when on a broad reach or sailing down wind is all but impossible in a blow. It is best to come up to something above a beam reach, preferably a close reach or close hauled to reef.

The following procedures are designed to be used while continuing to sail. If you are reefing the mainsail it should be possible to continue on your present up-wind course. If you are furling the jib it may be necessary to fall off about ten degrees as mainsails usually don't point as well as a jib. But before we get to the details, one thought on safety; remember to put on your PFD's before reefing. Chances are good you will need to do something outside cockpit and in windy conditions doing so without a PFD is only unwise.

Reefing the Jib: Most of today's cruising boats have roller furling jibs. To reef them one needs only furl the sail part way and re-secure the furling line. Sounds easy right? Well, in a blow this can be a challenge.

The first thing to do is get prepared. Having one person on the jib sheets and one on the furling line helps but is not critical. If you do have two people, put the stronger person on the furling line. When ready, release the jib sheet. If the winds are blowing hard do not keep any tension on the sheet, doing so will keep wind in the sail and make furling impossible. The sail is going to flap, just let it do so. If you have line-controlled jib cars, move the car all the way forward (this minimizes the sheet slap and will likely be needed for the reduced sail anyway). Also, don't forget to move the car on the other side of the boat forward.

As soon as the sheet is free the person on the furling line should start to furl the sail. But strong winds can make pulling the furling line by hand

impossible. So you may need to put it on a winch. But operate the winch carefully – watch to see nothing jams, that the drum is turning, etc. If the winch becomes hard to turn, stop and figure out why.

If you are completely furling the jib, watch the line on the drum to be sure it has not run out. When furling in heavy air the sail wraps very tight and therefore requires more turns to furl. I have had the drum run out of line before I was able to get the sail completely furled.

Once the jib is furled to the desired size the furling line will need to be secured. Normally the furling line has no tension on it but now it will have a lot of tension, so secure it well. Once the furling line is secure the sheet can be re-tensioned. Fine tuning can be done by adjusting the jib car on the windward side and tacking.

Boats without furler reefing usually require a change of sail, and in rough seas this comes with its own set of issues. Should you need to go forward, use a harness and jack lines.

Reefing a Traditional Mainsail: Again, the basics are the same. So, start by unloading the sail; usually by traveling down and loosening the sheet a bit. What you want to see is a big bubble in the luff of the sail. This unloads the area where the main is attached to the mast so the sail can be lowered. The leach can still have some wind on it, this will help hold the sail steady and keep it from beating itself to death. If the winch with the mainsheet on it will be needed to work the reefing line or halyard, cleat the sheet and remove it from the winch.

Next, put the reefing line on its winch. Then uncleat the halyard and start to lower the sail. This can usually be done by hand as there will be no load on the top of the sail. At the same time, start to take in the reefing line. Continue this process until the reefing line is tight. On most boats the reefing line becomes the new outhaul, so cinch it up fairly tight. Some reefing systems put a hook near the gooseneck where the new tack needs to be attached. On boats with single-line reefing, both the clew and tack are handled by the one reefing line.

Once the reefing line is tight and secured, take it off the winch. Next,

the halyard should be put on a winch and re-tensioned. The sail can then be reloaded by putting the sheet back on the winch and tightening. The traveler can now be brought back to windward. And, as with the jib, the final step is to fine tune the sail. Although, in strong winds this may be pointless.

One side note, when unreefing a traditional mainsail, it will generally be necessary to go up to the mast and manually loosen the reefing line. This is because friction on all the sheaves makes raising the sail difficult, if not impossible.

Reefing an In-Mast Furling Mainsail: The first couple steps are identical to a standard main – unload the sail and, if the winch the sheet is on will be needed, secure and remove the sheet. But at this point things become different. The halyard will be left tight as the sail is “shortened” by furling it part way. So, instead of loosening the halyard, loosen the outhaul. And instead of pulling on the reefing line, pull on the furling line.

This may be difficult to do in a blow (same as the jib) and may require the use of a winch. Again, operate the


winch with care, do not fight it. If it suddenly becomes tight, stop and find out why, as this should not happen.

One of the advantages of in-mast furling is the ability to reef to any desired size of sail. There are no pre-defined reef points so you will need to pick your own place to stop furling. Then secure the furling line, as with the jib this line normally has no load on it and now it will. Once the furling line is secure, put the outhaul on a winch and re-tension it.

The last steps of reloading the sail and fine tuning it are the same as the standard main.

As you can see reefing can be a bit of a process, but the end result is a more comfortable and safer sail. If you have not done so, please practice these steps in moderate winds. Waiting until you are in the middle of a squall is not the right place to set your first reef.


Mike Huston teaches sailing for San Juan Sailing in Bellingham, WA. He has been sailing for over 40 years, many of them spent racing. He and his wife own a Jeanneau 43DS, “Illuminé.”



Our custom designed mastheads waiting to be welded

The Northwest's preeminent builder
of custom aluminum masts
refurbish & repair

Rod & wire standing rigging
Heads'l & boom furlers
Custom spars
Line control systems



www.porttownsendrigging.com

MOBILE FUEL POLISHING

Serving The Entire Pacific Northwest • 360-808-0505

Fuel Filtering... Tank Cleaning

(Water, Algae, Sludge and Particle Removal Service)



Changing filters often?
Don't let bad fuel or dirty tanks ruin your next cruise!

Whether you're cruising the Pacific Northwest,
heading for Alaska, Mexico or around the world,
now is the time to filter your fuel & tank
... before trouble finds you ... out there!

SEVENTH WAVE MARINE

www.seventhwavemarine.com seventhwavemarine@olympen.com