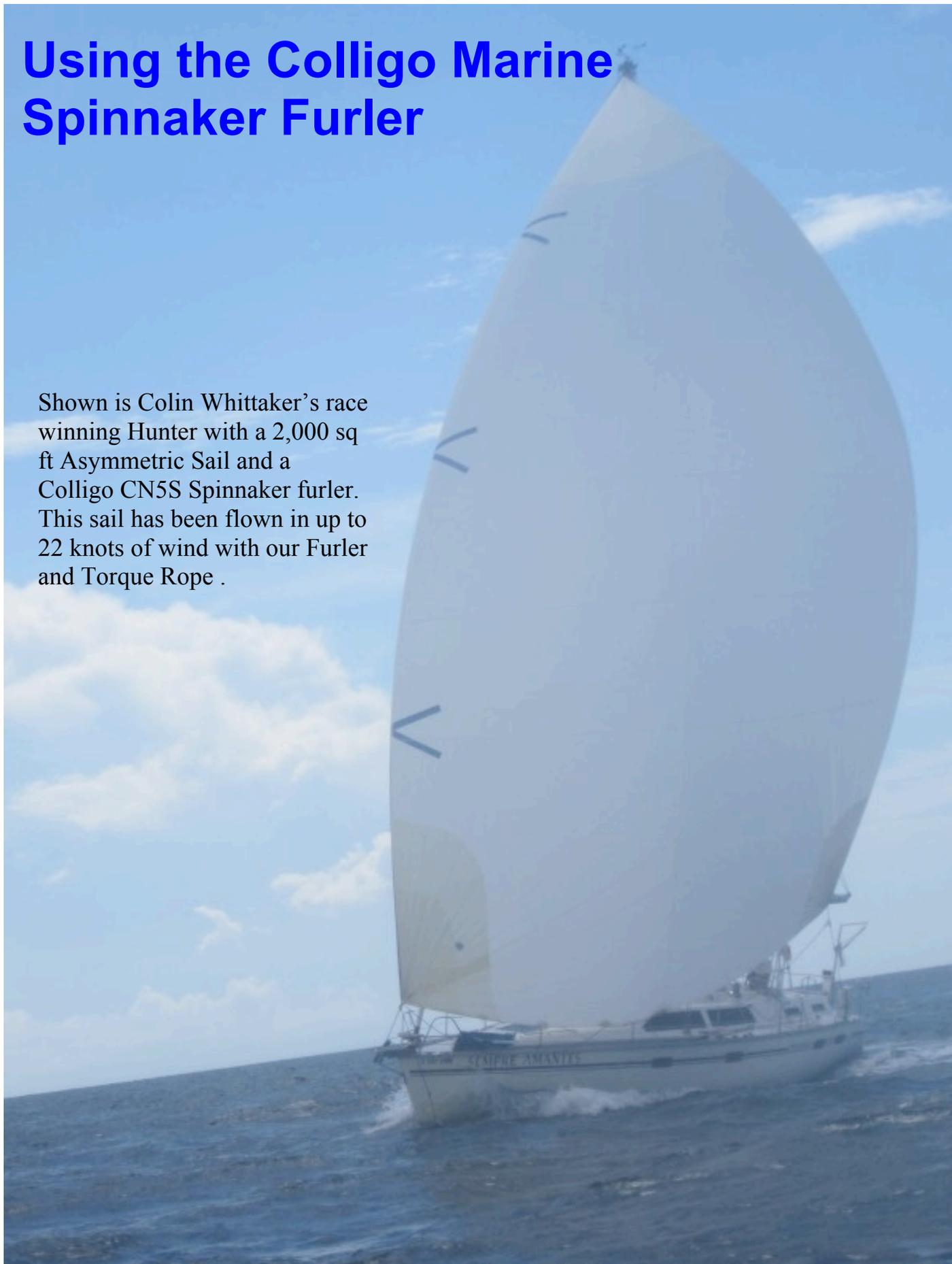


Using the Colligo Marine Spinnaker Furler

Shown is Colin Whittaker's race winning Hunter with a 2,000 sq ft Asymmetric Sail and a Colligo CN5S Spinnaker furler. This sail has been flown in up to 22 knots of wind with our Furler and Torque Rope .





Using the Colligo Marine Spinnaker Furler

Our new top down style furlers for asymmetric sails offer an easy to use solution for asymmetrical spinnaker handling. The following is a list of things to do while using your Colligo Spinnaker Furler to make it a more enjoyable experience. Keep in mind that we are trying to be quite clear about any issues you might have, even remote ones, the truth is using a Colligo Spinnaker Furler is like driving a car, seems like a lot at first but when you get it dialed in it becomes easy.

Torque line

The most important component of a spinnaker furler system is the Torque Line. If you have a torque rope that is too twisty then your hopes and dreams of an easy handling spinnaker will certainly be shattered. In addition to other issues, on a twisty line the sail will be furled in at tension and then, when the tension is released, the sail will be hopelessly twisted. Several manufactures have come up with methods of dealing with a twisty torque line like foam tubes and balls. At Colligo, we have addressed the root cause of lousy spinnaker furling by using the best torque line available. In addition with our torque line clamps the line length can be adjusted and fine tuned to fit your boat perfectly. Our torque line transmits torque as well as anything on the market and is less stretchy than anything.

Furler/Sail interaction

How your asymmetrical furler works is highly dependent on how your sail is made. As we have learned in the last 2 years how to make a furler for an asymmetric, so have sailmakers learned to design a sail for a furling system. Smaller more flexible head designs to minimize mast interference are important. Flatter cut sails furl better than more full cut sails intended for sailing deep downwind angles. Luff lengths should not be more than about 105% of the length of the torque rope, the shorter the luff length the better. We have had good luck using our furlers on existing sails but a new sail made by a sailmaker experienced with making furling Asymmetrics will decrease your furling time and increase your sailing time, even help you win races.

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Other Considerations

In addition, how and where the furling system is placed on the boat relative to other systems on the boat is important. Furling drive lines should be run in a neat and clean fashion to minimize friction. Our quick release line guides should be used for running the drive line back to the cockpit. See more information here: <http://www.colligomarine.com/products/colligo-hardware/line-guides-and-padeyes> These will allow you to keep the drive line with the sail in a sailbag for most of its life and ensure that the line will stay in good shape. They will also allow for a fairlead from the furler to the furlee. We also recommend having dedicated sheets if possible.

Hoisting the sail for the first time.

With the drive end of the furler attached to the boat and in its usable position.

1. Attach one end of the torque rope to the swivel and the opposite end to the furler drive end. Some systems have different pin sizes in the swivel and drive end, so make sure that you coordinate the pin sizes with the sleeves in the torque line terminators.
2. Once the torque rope is connected to the swivel and the furler drive end you are ready to hoist the sail. First, attach the head of the spinnaker to the upper line terminator on the torque rope using the provided soft shackle.
3. Next attach the tack of the sail to the tack ring on the drive end of the furler. You might or might not need a pennant from the tack ring to the tack of the sail, depending on the size and cut of the sail. The length of the pennant from the tack can be important for sail shape and furling ability.
4. Preferably, in very low wind, hoist the swivel, torque rope and sail assembly. When fully hoisted tighten the halyard and then roll the sail in with the furler drive line. It is important that the sail roll in as uniformly as possible. This is achieved by finding the optimum angle to pull on the sheet(s). If the sheet angle is too low then the bottom portion of the sail will furl in too loosely and the sail could tangle. If the sheet angle is too high, then the top portion of the sail will roll in loose. A uniform roll is the desired condition of the sail when rolled



up on the torque rope. The right amount of tension on the sheets as the sail gets rolled is important also. This amount of tension is dependent on the wind conditions and the design/size of the sail.

Tip! When furling in, roll the sheets around the sail for a few rounds to hold the sail tight when it is lowered. If you are going to remove the sheets before sail storage you might want to use a 2-4' pennant attached to the sail clew that the sheets then attach to. When the sail is furled, these pennants can then be lashed around the sail when the sheets are removed. The pennants will then stay wrapped around the sail when it is stowed and the sheets can be used for other sails.

5. To stow the sail just drop the tack end of the torque rope (with the drive end of the furler attached or not) into the sail bag. Feed the torque line and sail into the sail bag in a circular motion until the entire torque line with sail attached is in the bag. You will not find an easier method of stowing a Spinnaker!

Deploying the sail

Deploying the sail is much like deploying a Code zero or luff line sail. Just pull on the leeward sheet and once the wind gets in the sail unfurls on its own. Make sure the tension is taken off the furler drive line (cleat released, etc) before you pull on the sheet. Some helpful tips for trouble free deployment follow:

Tip! The sheet angle on deployment should be such to not allow the lower end of the sail to get rolled in to the unfurling torque line. Since the sail is only connected to the torque line at the head of the sail, the tack of the sail is somewhat uncontrolled as the sail gets deployed. If sheet tension is not maintained at the right angle the lower end of the sail can actually get rolled into the torque line as the top end is unfurling. This can be problematic and take a good deal of time to untangle.



Tip! Maintain control of the lazy sheet. The lazy sheet can easily get wrapped up into the torque line as the sail is unfurling. Some tension on or at least strategic placement of the lazy sheet is paramount to minimize the risk of it becoming wrapped into the torque line as the sail unfurls. This is particularly problematic if the asymmetric sail is deployed close to the forestay, it is less of an issue on boats that use a sprit and the sail is flown farther away from the forestay.

Flying your asymmetric sail from a Furler

The only difference in flying an asymmetric sail from a furler versus other options is that the furler drive end and swivel will take up a portion of the hoist length. This needs to be taken into account when sizing a sail for your boat. The tack is also fixed so the lead from the tack swivel needs to be set to the desired length for all points of sail. Getting the right length of lead from the furler might require some amount of testing and iteration before you find the right length for all points of sail. Placing an adjustable strop here initially is a good idea. You can then adjust it until you get the length you desire and then put a more permanent lead in place.

Furling the sail in

When furling an asymmetrical spinnaker the main objective is to roll the sail up as evenly as possible. The main variable in doing this is the sheet angle (up and down). You can vary the sheet tension for uniformity also but the angle is the most important. You can achieve the optimum angle in many ways, from blowing the sheet completely and letting the sail flog to leeward clear of the boat while you roll the sail in to maintaining some amount of tension while holding the sheet at the right angle while the sail rolls in. The size and cut of the sail are so influential in how the furler is used that there is no one method for all sails to use.

Tip! Some amount of halyard tension will help the sail to furl. Too much tension is not good as it generates more friction, so a balance must be maintained.



Blowing the sheet method. Place a knot at the end of the sheet and completely release all the sheet. Keep the wind at 90-130 degrees and let the sail flog as you roll the sail in. Make sure that the sheets do not get rolled into the sail as it furls. Also, make sure the lower half of the sail does not furl in too early and the lazy sheet does not get rolled into the furling sail. Finish by wrapping the sheets around the sail 3-4 times, then lock the drive line off with a cleat.

Sheet tension method. Depower the sail by turning away from the wind as needed. When the sail is depowered enough, start furling the sail while maintaining the sheet at the desired elevation angle. Alternatively, you can depower the sail by rolling out the jib or genoa to shadow the Asymmetric, then roll in the asymmetric sail while maintaining some amount of tension on the sheet at the correct elevation angle.

Tip! Maintain some amount of tension of the furling line as you roll it in. Letting loose of the furler drive line could redeploy the sail unintentionally.

Tip! If the Furler Drive end is set within a few feet of the forestay, it might be beneficial to bring the lazy sheet over to the leeward side of the boat before furling. This will help to keep the lazy sheet clear of the furling sail.

For more information including video on usage of our spinnaker furlers see our website at <http://www.colligomarine.com/products/colligo-hardware/asymmetrical-spinnaker-furlers>

Don Wigston of Windcraft posted a video here:

<http://www.youtube.com/watch?v=5NBe3GaoKxs>

See an F32 Trimaran with our spinnaker furling system here:

<http://www.youtube.com/watch?v=5NBe3GaoKxs>