KARVER TOP DOWN SPINNAKER FURLING TIPS

Over the past season I've had a chance to get more hands on experience with Karver's Top Down Spinnaker Furling Systems and would like to share a few of the things I've learned. By following a few basic steps you will be able to reproduce the same nice tight furl over and over in most conditions. These tips will help regardless of where the furler drum is tacked. Be it an anchor roller, prod or a full length sprit.

First you need a really good anti torque rope. The two I'm most familiar with are Marlow's Pro Drive and Navtec's custom anti torsion ropes. We are keeping our eyes open for new products and I'm sure they are coming, but for now these two seem to work the best. Marlow's product seems to be very good for boats up to the mid 40 foot range. After that I'd recommend the Navtec product, or even Future Fiber. When using off the spool products (Marlow)that require use of Karver thimbles, we recommend using the largest diameter rope that will fit into the particular furler model being used.

The rope needs to be very tight! Similar to how tight you'd have the luff of a Code 0. Figuring out how tight the rope needs to be should be done in increments working from soft to hard. It will either work or it won't. If you are having trouble getting the furl to start then stop immediately and tighten the rope a bit. Once you get the right tension it will start to furl fairly quickly. Mark the halyard so the setting can be duplicated. Remember that you only need to have the rope at max tension to furl and unfurl. Once done the halyard can be eased. The rope is independent of the sail when it's flying.

Second: I found that the problems I was experiencing personally when using the system were the exact same problems others were having with it. You would turn and turn the drum trying to furl the sail, and when it finally started it would almost instantly furl the top third of the sail super tight. Then the second two thirds would furl fairly normal. When trying to unfurl the bottom two thirds unwind and then everything stops at the top third. On top of that it wasn't uncommon for the lower part of the sail to get sucked back into the rope and start rolling up in the wrong direction! I finally figured out that the reason this is happening is due to torque stored in the rope! No matter which anti torsion rope you use, it will store torque. I've found you can use stored torque to help you furl, but you can't have any when trying to unfurl. I think the easiest way to explain this is to describe the process from the first time you are setting the system up through furling and then unfurling.

Assuming you've properly lashed the head of the sail to the lashing thimble on one end of the rope, the easiest way to set the system up the first time is by doing a conventional hoist. Plug the top lashing thimble into the top swivel, and the other end of the rope into the furler drum. The tack of the spinnaker is attached to the tack ring (several attachment options discussed later). It seems impossible to believe that its going to launch with out being completely #@%!*up, but it seems to work just fine! Once the kite is flying we will describe the furling process with the assumption the rope is tensioned properly. While you can furl on a reach the system works best when the kite is unloaded behind the mainsail. It's important however to not sail too deep and risk the kite collapsing into the fore triangle. Add the presence of the rope to the mix and what can already be a disaster just got worse! While you are sailing with the sheet loaded and the kite full, turn the drum 15-20 times counter clockwise (must always furl counter clockwise due to the locking drum). You will know you've put enough turns on when you feel the furling tension increase. The amount of turns needed to be effective is directly related to the velocity of the wind. Once you feel the tension, you've stored enough torque in the rope to help start the furl. The sheet should now be fully blown in an attempt to unload the kite as much as possible. Often times due to the stored torque the sail will start to furl on its own. Continue pulling the furler line counter clockwise (due to the lock, you only need to worry about the one furling line). At this point it's important to control the sheet. You want to have the sail roll on to the rope evenly. It's a combination of pulling back on the sheet without causing a fight with the furl. If done properly, you should end up with the sail furled in such a way that you could leave it up and sail up wind without the sail flapping. Furl the sail all the way to the clew and continue until the sheets are wrapped around the sail several times.

Torque Removal: If you've controlled the sheet properly while furling you should have a nice clean furl, but now there is quite a bit of torque stored in the rope that needs to be removed. Without touching the spinnaker sheets, you need to unlock the drum by giving a quick counter clockwise pull on the furling line. If there is enough torque stored in the rope the furler will actually spin clockwise a bunch of times. Regardless of whether it spins on its own, you should give a few quick tugs on the clockwise furling line until you see the clew of the sail start to move as if it were going to start to unfurl. This maneuver should have removed most of the stored torque and now the sail is ready to be unfurled again or taken down. It's especially important to not unload the rope and take the sail down before doing this. If you don't remove the torque before taking the sail down it will go into the bag like a pretzel and be in a similar state when you try to hoist it again. Doing this can damage the sail and the rope, as well as making it very difficult to hook up and hoist. It will also not unfurl.

Now that the torque has been removed the sail is ready to unfurl. It's important to start the unfurl using the drum. If you pull on the sheets they will compress the sail on to the rope. If there are enough wraps around the sail it simply won't unfurl, and it can be bad for the sail. By using the drum the sheets will unwrap and any additional stored torque will be removed as well. The sail should unfurl evenly from bottom to top. The risk of the lower part of the sail getting sucked back into the rope and rolling up the wrong way has been greatly reduced due to the sail unfurling evenly. If this does occur it means there is still too much stored torque. Do not try to keep unfurling. Roll the sail back up and repeat the procedure for eliminating stored torque described above.

When unfurling the wind angle relative to the boat should be directly related to velocity. If you unfurl in a fresh breeze on a beam reach the sail is going to unfurl very quickly and potentially shock load. Bearing away for a moment to unload things is probably a good idea. You might consider not sheeting in once it's started so you can avoid shock loading the sail. Once completely unfurled you should look up the rope towards the top third (the tightest part of the furl) and try to determine if there is any cork screw in it. If it does appear to be cork screwed its helpful to spin the drum a bunch more times clockwise until you see the cork screw go away. I believe there is still torque stored due to the fact it probably took far less drum turns to unfurl as it did to furl. A good indicator that you've removed all of the torque is that the drum isn't going to try and twist off of centerline.

Tack Attachment: There are several options for attaching the tack of the spinnaker to the tack ring. A lot of it depends on how the unit is being used. If racing its pretty easy to lash a block to the tack ring and run a tack line through it and to the tack of the spinnaker. This allows you to ease the tack off if running a bit deeper. The only draw back to this is that you are limited to inside jibes only. This could also be an option for a boat with a big bow pulpit and no sprit. This would enable you to get the tack a little bit farther up the pulpit. With this configuration you would have to furl first and then jibe.

Another option is to luggage tag a shackle to the tack ring. This enables you to simply open the shackle and unplug the rope to separate the sail and rope from the furler. If the unit is only going to be used with one sail and the desire is not to separate it, then it can simply be lashed to the sail. Whether lashing or luggage tagging its important if you plan on doing conventional jibes that it not be too long. If its too long and the luff sags while jibing you run the risk of it getting caught under the drum. This holds true if you have too much tack line eased off as well.

If the goal is to be able to put the unit up at the dock and go sailing for the day it may be worth investing in a couple of Velcro straps. Inevitably when the tension on the rope is released the lower part of the sail near the tack gets sloppy. This is especially true if the sail and rope are separated from the drum completely. It might help if you could put a few pieces of Velcro on the furl to hold the lower part of the sail on the rope a little better. Once you unfurl and then furl back up the sail should be good for the rest of the day. For a racer who doesn't plan on leaving the sail up for very long before unfurling this isn't needed.

Use of this system should be viewed the same way we look at any sail or boat handling that takes place on the boat. Most maneuvers require a certain amount of technique to become competent and comfortable executing. Like most of these maneuvers repetition will lead to it working better, but until the maneuver is somewhat perfected results may vary! I also discovered that when using the above techniques I was able to furl in 20kts of breeze without much difficulty. I believe the system will furl pretty much any A sail. It will even furl an A2, it just might not be as clean as a reaching sail, or an AP sail. However for a race this might not be as important due to the short periods of time it will be up and furled.