

# TIPS AND TRICKS FOR SPINNAKER HANDLING

by Kame Richards

[The following is an article which I wrote for the RACE GUIDE for the 1998 WEST MARINE PACIFIC CUP.]

## OVERVIEW

The following is a list of suggestions on how to handle a spinnaker in the West Marine Pacific Cup race to Kaneohe. Keep in mind that spinnakers are fairly large sails, and are quite capable of dragging a sailboat a long distance, whether the boat is right side up or sideways!

One of the things I admire most about the Pacific Cup Yacht Club is that they make a serious effort to help you learn how to race your boat better.

You are about to embark on a 2200-mile long intensive sailing lesson (not to say immersion). It would be unfortunate to sail that far and not substantially improve your sailing skills.

## SPINNAKER SETS

- First of all, know all the halyards are straight and clean before your first set the spinnaker. If it is dark, use a bright flashlight to check things out at the masthead. (This should be done every morning and afternoon as a matter of course.)
- If you will be doing spinnaker peels (see below), anticipate the first spinnaker change so the halyards will still be clear after one spinnaker change.
- On a race like Pacific Cup, I prefer double sheets and guys, even on fairly small boats. This means there is a sheet and a guy on each clew ring in the spinnaker. I also prefer independent shackles (or knots) to attach each of the lines to the clew ring, with the sheet fastened above the guy. This makes it twice as hard to flog off both lines. The sheet needs to be over the guy to make dip pole gybing run smoother. I also prefer knots in the end of the spinnaker gear, but the gear must be long enough for the clew of the sail to wave like a flag in front of the boat. This means the sheet is two times the length of the boat. The length of the guy depends on where you lead your guy, and whether or not you use a turning block. I know the books tell you to never EVER put knots in your spinnaker gear, but it is awfully hard to take the sail down if all the gear has some how been allowed to run free, and now the spinnaker, AND all the sheets and guys are streaming down wind from the masthead!
- It's okay to set the spinnaker right from the bow pulpit. This means there will be less afterguy to bring in. The halyard will also go up faster because it will not be sliding up the outside surface of the genoa.
- If you are using a spinnaker sock, it seems best to connect the halyard to the top of the sock, pull the halyard up, straighten out any twists in the sock, connect the sheets and guys, then haul the sock up to fill the sail.
- In the event you are using a roller furling jib, I think it would be best if you drop the sail onto the deck after you set the spinnaker rather than furl up the jib. Reason 1: The roller jib is quite heavy, and it is not wise to carry that much weight (a) that high in the air and

(b) that close to the bow. Reason 2: If you get a spinnaker wrap, it will be much harder to undo because the spinnaker cloth will not slip off the UV cover material on the jib as easily as it slides off the aluminum foil of the furler.

## SPINNAKER GYBES

- On the boats I've gone on in the past, we have found it best to assign people to the individual jobs for gybing, independent of being on or off watch. This means the same person will be in the bow, on the topping lift, in the cockpit, etc. You may want to appoint two drivers so the one who was completely asleep when the gybe was called doesn't have to try to steer while half asleep!
- If it is fairly windy, two-pole gybes are something to consider. In this case you rig a second pole, including a topping lift and a foreguy. Connect the new pole to the lazy guy, top it up, square it back and trim in the new foreguy. Now the spinnaker is held solidly from three corners and consequently will hold very still during the gybe. Now gybe the mainsail over to the other side, and take down the old pole. The problems / dangers of this style of gybe is that if you round the boat up or down, you will stick a pole in the water, and probably break the pole, or worse, the mast. You also must be careful setting the new pole and dropping the old pole, because it is momentarily pointing directly into the spinnaker, and if they touch, the chances of tearing the sail are very high. Another problem is to be sure that the two inboard ends of the poles don't bind on each other while you are working with them.
- If it is very windy and you feel you can't complete a gybe without breaking something, the "chicken gybe" is a safe way to get the job done. In this case you drop the spinnaker, and then actually TACK the boat, and then re-set the spinnaker. In my experience, if it is so windy that you elect to chicken gybe, you will be smart enough to not try to reset the spinnaker immediately.
- If you are using a sock, consider pulling the sock down to contain the spinnaker and lowering the pole onto the foredeck. Then gybe the mainsail, connect the spinnaker pole onto the new afterguy, and reset the spinnaker.

## SPINNAKER CHANGES

- The most conservative spinnaker change is the bald headed change. Get the new spinnaker up on deck, with the bag fastened down and the corners organized. Strip off the old spinnaker (see "spinnaker drops" below), put the same gear on the new sail, and send it right back up again. This provides an opportunity to change spinnaker halyards.
- Spinnaker peels take a little more time and a little more orchestration, but when properly done, the boat is never without a spinnaker that is full and pulling. In the peel, you rig the new spinnaker with a new (clear) halyard, a sheet, and a "tag line" which will temporarily hold the tack of the sail. (Rig the tag line as follows: a snap shackle at the free end, clove-hitched to the headstay at shoulder height with the snap shackle hanging two feet down, with the other end securely fastened to the bow cleat to prevent the whole arrangement from sliding up the forestay.) The new spinnaker is hoisted and trimmed. When it is drawing, the old spinnaker is tripped from its afterguy. It will rotate off downwind and act like a flag flying from the halyard and the sheet, where it will hang out for a while.

Now ease the spinnaker pole toppinglift and afterguy so the guy can be connected to the spinnaker tack. Take the slack out of the afterguy, and trip free the tack of the sail from the tag line. Now square the pole back to its proper sailing position. Not until the new spinnaker is fully trimmed is the old sail dropped. Finally do what needs to be done to straighten out the spinnaker halyards. Occasionally this requires sending someone to the top of the mast.

## SPINNAKER DROPS

- You must be sure the halyard will come down uninterrupted, so flake out the halyard tail, or drop the tail over the side so you know it is straight (literally!), and can't get tangled up. While you are at it, be sure the afterguy and lazy sheet are organized too.
- In order for the crew to pull in the spinnaker, it must completely collapse. This should happen before the halyard is let down.
  - One way is to ease the afterguy forward until the pole is near the forestay, then let the afterguy run completely free. "Free" means taking all the wraps off the winch and letting the line go.
  - Another way is to trim in the sheet, ease the pole forward, and bear the boat off. This will move the spinnaker into the dirty air behind the mainsail, which will cause it to collapse. Now run a whole bunch of the halyard, watching the crew gathering the spinnaker to be sure the sail doesn't fall into the water. There are two potential problems to this style of drop: (1) If you let the halyard off as soon as the sail collapses you run the risk of the spinnaker blowing through the foretriangle the wrong way and causing a spinnaker wrap. (2) As the sheet is trimmed in, the spinnaker is prone to round the boat up. It is essential to bear the boat off to counteract the round-up problem and cause the spinnaker to collapse.
  - Still another way is to lower the topping lift and ease the pole forward so the foredeck person can reach up and trip the guy off the sail by pulling the release on the snapshackle. I would say this is my LEAST favorite method. The spinnaker pole tends to thrash around after the sail has been tripped, and I don't want the foredeck (or anyone else, for that matter!) hurt.

## SPINNAKER TRIM

The spinnaker is properly trimmed if the wind is flowing just tangent to the leading edge of the sail. Don't think of the spinnaker as a bucket which "catches the wind." Just like a main or a jib, it is a foil which bends the wind, and just like a main or a jib, the spinnaker pulls the hardest when the wind is traveling smoothly across the spinnaker's OUTSIDE surface.

- The sheet side:
  - The luff should fold in every once in a while. This is the best way to tell that the wind is flowing tangent to the spinnakers' leading edge.
  - The boat is SLOW if the luff doesn't fold in every once in awhile.
  - Anticipate acceleration: When the boat speeds up, as in surging down a wave, the apparent wind will increase and swing forward. Start trimming in the spinnaker

- sheet as soon as the boat starts to speed up. Be sure you ease it back out as the boat slows back to its original speed.
  - The driver should not steer to correct for these small spinnaker luffs. If you are the trimmer, be sure you talk with the driver so you understand the drivers anxieties about how the spinnaker is being trimmed
- The guy side
  - A good basic rule is to keep the pole perpendicular to the apparent wind angle, which is indicated by the wind indicator at the top of the mast.
  - The pole height is determined by where (in terms of up and down the leading edge) the spinnaker first folds when it luffs. The pole is too low if the luff occurs high up near the head. If the sail is luffing relatively low, like half way down or more, the pole is to high.
  - Be sure that you trim the sheet much more often than the pole. Although you can fix a collapse by easing the pole, this should be the last resort. The boat seems to lose its punch when the leading edge of the spinnaker is being constantly moved backwards and forwards.
- Halyard
  - It is best to keep the spinnaker halyard all the way up. It keeps the sail from moving around too much.

## SPINNAKER STEERING

Fundamental to steering is realizing that every time you move the rudder, the boat slows down a little bit. So the more you can get the boat to go the way you want it to without using the rudder the better.

- Anticipate steering: If the boat is straight up and down, it will tend to go straight ahead. When the boat heels left, it will turn right. When it heels right, it will turn left. As soon as the boat changes angle of heel, start putting in the steering correction. The sooner you put in the correction, the smaller the correction can be, thereby slowing you down less.
- Anticipate acceleration: When the boat speeds up, as in surging down a wave, the apparent wind will increase and swing forward. Bearing off (turning slightly downwind) will reduce the chance of a spinnaker collapse...especially if you see that the spinnaker sheet is not being trimmed in at this moment.
- As a driver, you need to keep your trimmer informed of how you feel. If you want the sheet trimmed a little softer on average, just ask for it. This usually starts the kind of conversation that gets your boat sailing faster.

## CHAFE WATCH

In racing to Kaneohe, chances are you will sail something like 1500 miles with a spinnaker up. That is a lot of miles, and it will be a lot of hours too! It will be the equivalent of many years of racing if you just did buoy racing or the local ocean racing series. One of the ways this will manifest itself in chafe on the lines. You need to set up a 'Chafe Patrol' once or twice a day . The common places to look are:

- Spinnaker sheet on the winch -- A common problem, especially with brand new winch drums, also a problem with polypropylene covered sheets. This usually is no surprise. You will see a lot of fuzz lying around the winch base!
- Spinnaker sheet on the bottom edge of the boom -- For this type of sailing, the sheet should not be allowed to rub on the boom. Even on a smooth boom, you can chafe through the outside sheath of a sheet in one night. Rig a spinnaker twing or snatch block in such a way as to prevent the sheet from rubbing on the boom.
- Spinnaker halyard -- Even though this might be the place you would least like to go, someone should get up to the top of the rig once a day to be sure everything is hanging together. If you have been using one halyard for a few days, you can change spinnaker halyards by sending up the inspector on a jib halyard, have them attach the other spinnaker halyard to the head of the sail, take up the load on the new halyard, ease off the old, and bring the old halyard back down to the deck...being sure everything is clean of course! Keep in mind a broken spinnaker halyard usually lands the spinnaker in the water straight in front of the boat. After you sail over it, it doesn't quite seem to work the same, even if you get all the pieces back!
- Afterguy in the jaw of the pole -- Another hard place to get to, and a hard place to see, but it must be checked. One opportunity is during spinnaker changes when the afterguy is not connected to anything.

**CHAFE SOLUTIONS** The first solution is to not let the chafe happen in the first place. But if it has already occurred, here are some fixes:

- Spinnaker sheet on the winch -- Spinnaker sheet on the bottom edge of the boom -- usually reversing the sheet will move the chafed portion of the sheet out of the actively used area of the sheet.
- Halyard at masthead -- Reversing the halyard, or trimming off the top foot or two, will give you a "new" piece of line to work with.
- Rigging an external halyard, which touches nothing except sheaves and a winch will chafe the least.
- Afterguy in the jaw of the pole -- Again either shortening or reversing the guy will solve the problem. Or wrap the last 4" to 6" in leather.

## SPINNAKER REPAIRS

- You will need to have a spinnaker repair kit, which is a sub-section of the sail repair kit. The spinnaker repair section needs to contain the following:
  - one quart of acetone or denatured alcohol
  - masking tape / duct tape / vinyl tape and push-pins (to hold the torn sail in place while you apply the adhesive material)
  - "Sticky back" Dacron tape, about the luff length of your spinnaker, 2 or 3 inches wide depending on the size of your boat. (This is NOT the same as "spinnaker repair tape." The dacron sticky back is both stronger as a material, and uses a much more tenacious adhesive than the ripstop nylon repair tape.)
  - Stainless Steel round rings (in the event a head or clew ring pulls out)

- 1 inch tubular webbing, 4 to 6 pieces one to two feet long depending on the size of your boat. (to anchor the round ring to the remaining reinforcement in the head or tack)
- hand sewing kit (needed in the event the loads in the repaired area are too great for adhesives alone)
- Where is the hole? If the hole is relatively close to a corner (approximately 10% to 15% of the luff length), it is more important than a hole that is further away from the corner.
- What kind of a hole do you have? If the hole is about 1/4 inch in length you can pretty much ignore it. Holes of about 4 inches in length would cause me enough anxiety that I would want to get the sail down and fixed reasonably soon. With bigger holes, it becomes important to try to get the sail down quickly without making the hole worse.
- Repair goals:
  - The repair will be accomplished by applying the dacron "sticky back" tape across the tear. The adhesives will not stick unless the sail is clean and dry. Use the acetone or denatured alcohol on paper towels for cleaning and drying.
  - For a working surface use an upside down floorboard, because the owner will probably let you stick pushpins into it, but not likely into the table or the deck. If you use pushpins for holding the repair, don't pull the cloth so tight that the pushpins tear the spinnaker anew!
  - We want the repair area to be locally flat, just like before the sail was torn, so do not overlap the cloth. We want a butt joint, so the yarns on one side of the tear just touch the yarns on the other side of the tear. It is also desirable for the individual yarns to line up across the repair. If they are shifted left or right, we will end up with a pucker at one end of the repair, and the sticky back dacron tape will tend to come off the sail at the wrinkle.
  - If the hole is longer than two or three feet, place the sticky back on both sides.
- Procedure:
  - Clean and dry the effected area with the acetone.
  - Get the effected area flat.
  - Cut the sticky back to a suitable working length. Longer than three or four feet becomes challenging.
  - Peel back 6 inches of the paper backing at one end of your working piece.
  - Carefully position the sticky-back so (1) the middle of the hole runs down the middle of the sticky back, and (2) so one end of the sticky-back will reach beyond the hole by several inches. This is best done by placing the still paper-back portion onto the hole, getting the alignment correct, and then laying down the exposed adhesive. Now working from the glued end, peel off the backing and rub the sticky-back onto the spinnaker.
  - The adhesive is pressure sensitive, so press hard while you are rubbing the sticky-back down, especially along the outside edges.
  - If the tear is in a high stress area, or large, use sticky-back on both sides of the spinnaker. You may also need to stitch through the sticky-back to reduce slippage.

After 2200 miles of sailing, you will have had a great opportunity to work on many of the ideas covered here. I hope this article helps you anticipate problems so they can be avoided and, most of all, I hope it helps you get to Kaneohe sooner!

For further reading...

If you are using a spinnaker sock, there is a great article on using them on our web site, [www.pineapplesails.com](http://www.pineapplesails.com). Point your browser at [www.pineapplesails.com/downwind.htm](http://www.pineapplesails.com/downwind.htm). There is also an article on dip pole gybes, with descriptions of each step and in what order they need to be done at [www.pineapplesails.com/dpg\\_chro.htm](http://www.pineapplesails.com/dpg_chro.htm).

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