



Thistle Tuning Guide

DIEBALL SAILING 2009

Our Tuning Guide is intended to make sailing your Thistle as clear and straightforward as possible. Superior boat speed depends on adjustments to your rig and sails. The following measurements and sail trim tips are what we have found to be the fastest for setting up your new Dieball Sailing sails. As you are getting used to your new sails, this guide should be referenced when setting up your boat for the different wind conditions.

If you find this guide either unclear or have an alternative suggestion, please don't hesitate to contact us. We are glad to have you on the Dieball Sailing Team and are looking forward to working with you!

RIG TUNE

There are a number of elements that are involved when properly tuning the Thistle. Combining the correct rake measurement with the proper shroud and diamond tension is important to attain top performance. Outside of sail trim, correct rig tune is the most important contribution to top boat speed.

Mast Step

Your mast should be set up to the class minimum position, which is 4'9". The mast step can either be flat or angled. If you choose to go with an angled step, be sure you have the ability to "SHIM" the mast. Shimming is putting small link plates under the front of the mast, thus restricting how much the mast butt rocks on the mast step. Three 1mm shims should be carried on board, if you have the angled step. If your mainsail flattens out too quick or if you are looking to get more "punch" or power slide the shims in front. This helps straighten the mast and adds power.

Mast Rake

We have experimented with a range of Mast Rake positions with the Lake Erie Sails. We have found that you can set up your rake anywhere from 26'10" to 27'2" depending on your crew weight (heavier, rake further forward). We have found that 27'0" is pretty ideal for a 465 lb. team. This provides you with a nice helm feel and positions the jib lead in the middle of the GMW thwart. If you sail lighter crew weight, you might rake back a little (1")...if you are heavier, you can go forward (1").

Measure this by hoisting a 50' tape to the very top of the mast. I like to take the tail of the main halyard over to the guy hook and cleat it in the spin cleat. Take the tape and go through the tiller hole in the transom and measure at the bottom of the tiller hole (top of the transom below the traveler bar).

Rig Tension

Rig tension should be ~275-320lbs on the Loos Gauge, which is 30-33 on the old gauge and 23-25 on the new "Pro" gauge.

Diamond Tension

We set up our mast with a "variable" tension strategy. We first start by analyzing how heavy you will be sailing as a team and then factor in how hard you hike. This then correlates into the settings for the mast.

Light (375-435)	Average (435-490)	Heavy (490+)
Top - 4 (2 Pro)	Top - 4 (2 Pro)	Top - 4 (2 Pro)
Middle - 12 (10 Pro)	Middle - 14 (11 Pro)	Middle - 16 (12 Pro)
Bottom - 8 (5 Pro)	Bottom - 10 (9 Pro)	Bottom - 12 (10 Pro)

GUIDELINES FOR SAIL CONTROL ADJUSTMENTS

We have set up this guide so you can look at a specific section when you want information on either main or jib trim. Each section contains the correct settings each sail control adjustment requires for that particular point of sail.

Sail Control Adjustments for the Jib

Jib Halyard- Since the rig relies on the forestay to support it; we use the jib halyard to properly maintain the position of the draft in the jib. A good guide to follow is to tension the jib halyard enough to just eliminate the "crows-feet" that come off the jib luff snaps. As the wind builds it will become necessary to tighten the jib halyard to maintain this trim. It is very important not to have the halyard too tight, so be sure to ease it off some as soon as the wind gets lighter

Jib Leads-Fore/Aft- For winds under 15 knots, the jib leads should be set at 108.5" measured from the forestay to the point where your jib lead would intersect the thwart if extended on through your jib lead.

Jib Leads-Laterally- A good all-purpose setting for the jib leads is at 16" from centerline. In choppy seas where steering is difficult and 18" (Lake Erie) from centerline will open up the slot to make sail trim more forgiving. We use barberhaulers to help with this set up.

Barberhaulers- A good barberhauler arrangement can be a very effective way to angle your jib sheets outboard. When sailing upwind in a choppy sea or whenever steering is difficult it would be good to barberhaul outboard. Also, barberhauling outboard when you are jib reaching can be real fast.

Jib Trim

Your Dieball Sailing mainsail is supplied with a large jib trim window half way up the luff. This window is there for you to read the jib trim as it relates to the middle spreader. Be sure you have the ability to gauge the distance the jib is trimmed off this spreader. Ideally you'll want 1"-2" of trim through puffs/lulls and waves. Any tighter you will close off the slot between the main and jib....any looser you will lose height (point).

Sail Control Adjustments for The Mainsail

Your Dieball Sailing mainsail is very powerful. You will find that you have a very easy sail to trim through various wind/water conditions. Be sure you start getting comfortable with trimming the main with the top batten parallel to the boom. This is a great point of reference. Your Dieball Sailing main can be trimmed tighter for short spurts, when you want height (point). It can be eased, or twisted to gain more speed. The trim from these two extremes is about 4"-6" of actual mainsheet trim.

Vang Sheeting - The variable diamond tension means that your boom vang is a great tool to induce mast bend while going upwind. As you pull on the vang hard upwind, the boom is forced into the bottom of the mast forcing it to rock on the mast step. This forces mast bend and flattens out the main. It also takes the load off of the main sheet and allows you to be more aggressive with trimming in and out through the puffs and lulls. The vang should be viewed as an extension of the mainsheet and be eased off to add power and pulled on to decrease power.

Boomvang- When reaching, enough vang tension should be applied to keep the top batten parallel with the boom. For running, the top batten would be trimmed in the same manner or twisted off a touch. If you are sailing by the lee, the vang should definitely be set to allow the top batten to twist off a few degrees from the boom. The tendency is to usually have the vang too tight on a run and too loose when reaching. In strong winds try some vang upwind so when you have to sheet out in puffs the boom will not go up too much. I prefer to use the traveler first, as it will keep the headstay a little tighter.

Cunningham – When the wind starts to build and you go through the routine of applying vang to depower, you'll want to follow that vang setting with a little Cunningham to pull out the overbend wrinkles. In the biggest of winds, you'll have enough vang that you'll have a "hard line" of wrinkles down to the clew. It is at this point that you should have a fair bit of Cunningham on to pull that hard spot out. This pulls the draft back forward and opens the leech in the bottom half of the mainsail.

Control Adjustments – Centerboard

Centerboard- Upwind- It is quite likely that you will encounter an excessive amount of weather helm. To alleviate this problem and give the helm a nicer touch, the centerboard can be moved back in the trunk (which will balance out the sail plan). To do this, simply pull the rollers back from the hump and along the vertical run leading to the trunk. This movement can amount to about 2" in flat water and up to the maximum amount possible when hiking or in waves. The goal is to balance the helm, so move the rollers back as far as you need to accomplish this goal.

Centerboard - Reaching- The forward crew should be on the control line and talking with the helmsman on how high the centerboard can be. The goal is to have the board as high as possible while still keeping the boat from slipping sideways.

Centerboard - Running- You should be able to pull the board up all the way. However, be sure to have the forward crew near the control line in case the boat starts rolling or you need to head up. For these situations, the board should be lowered some.

Sail Control Adjustments for the Spinnaker

Afterguy Trim- The goal with the pole is to keep it back as far as possible. This will position the pole roughly at right angles to the wind. Adjusting the pole is as important as adjusting the sheet, and they should be worked together to keep the spinnaker positioned correctly to the wind.

Sheet Trim- The spinnaker sheet should be adjusted often, with the goal being to have the spinnaker trimmed out as far as possible. The spinnaker trimmer should always be working with about a 6-10" curl in the luff to assure that the spinnaker is trimmed out and away from the boat.

Pole Lift- The height of the pole greatly affects the shape of the spinnaker. A good guide is to keep the clews of the spinnaker even with each other.

Spinnaker Halyard- As long as the spinnaker is supporting itself and not drooping, the halyard should be let off about 6" from being all the way up. This will allow the sail to get away from the main for greater projection.

... ONE FINAL NOTE

The Thistle is a very sensitive boat that reacts well to sail trim and rig adjustments. If at any time you are having trouble with any of the areas that we have discussed, please do not hesitate to contact us.

Good Sailing!

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