



Thank you for choosing DIEBALL SAILING sails for your Day Sailer. Much time has been spent in developing a durable sail program that is capable of making a wide range of gear changes easily. This will allow you to be fast in a wide variety of conditions.

The following is a guide to use in boat set-up and preparation. Use these ideas and numbers in developing your program. If you have any questions please call. We want to help you sail fast, smart and have fun!

MAST RAKE AND SHROUD TENSION

Properly setting up the rig of your Day Sailer requires a few simple tools consisting of 25' & 50' steel tapes, a Loos Gauge (old or the new Pro), time, and a little patience. Start by installing your mast with the butt of your mast securely seated in the mast step with a measurement of 11'0" +/- 1" from the top of the transom/deck juncture to the aft face of the base of the mast at the heel of the halyard sheave box. Attach both shrouds and finally the forestay.

Measure the rake of your mast by hoisting a 50' steel tape on your main halyard to the top of the mast holding it tight at the transom/deck juncture with the overall rake of 25'0" – 25'3". Forestay tension should be 240-250 lbs while the shrouds will be 350-400 lbs depending on the overall stiffness of both your boat and mast. Mast rake and overall rig tension are now set establishing a very simple and effective setup.

After achieving proper Mast Rake and Shroud Tensions there should be 1.25-1.75" of positive prebend in your mast. This can easily be measured by securely wrapping the main halyard around the base of the gooseneck and mast, pulling the main halyard tight and measuring the distance between the halyard and the back of the mast at the spreaders.

Keep in mind that if you sail in predominately light air venue the greater Mast Rake and lesser Shroud Tension are desired and the exact opposite is required for moderate to heavy air locations.

MAST STEP AND SPREADER TUNE

Mast bend in a Day Sailer is dependent on the particular mast section your Day Sailer has. Some sections will bend more easily than others and the same mast section on two different Day Sailers will bend differently from each other depending on the age of the section, use, and set-up of each Day Sailer.

Overbend wrinkles starting in 10-12 knots of breeze are indicators of proper adjustment to the mast step and spreaders. In 10-12 knots proper bend is indicated by light overbend wrinkles radiating from the clew of the main to the area of the mast between the tack and spreaders. In mid-range winds of 15-18 knots the overbend wrinkles will increase in definition. 20 knots and above they become "Speed Wrinkles".

Careful adjustments to the mast step and spreaders are necessary to achieve proper mast bend. The Day Sailer mast has three distinctive sections; top, middle, and bottom.

The top section is above the shrouds and forestay attachment points and dependent on the section shape, age, taper, and alloy used in the manufacture and fabrication of your mast. As such you have very little control over how much or how little it bends.

The middle section between the spreaders, shrouds and forestay attachment points is controlled through length of the spreaders and their angle or "sweep". Spreader length on most Day Sailer masts is 21-22" measured from the side of the mast to the shroud.

The easiest way to determine proper spreader length is to sight up the aft edge of the mast while sailing upwind with main and jib properly sheeted. If the mast pokes to windward your spreaders are too long and if the mast pokes to leeward your spreaders are probably too short. Ideal length is a straight mast.

Spreader angle/sweep affects mast bend. A good measurement to start with is 36" from shroud to shroud. A shorter distance between shrouds will cause the mast to bend more flattening the main and increasing overbend wrinkles while a greater distance between shrouds will straighten the mast making the main fuller. A good point of reference to determine proper angle is to sight up the shroud from the chain plate to the shroud attachment point at the mast or use your Spinnaker Halyard pulled down to the chain plate seeing a straight line. If the spreader is towards the bow of that straight line then the spreader angle needs to be decreased and if the spreader is towards the stern of that straight line then the spreader angle needs to be increased.

The Bottom section of the mast between the spreaders and Cuddy Cabin is controlled by moving the butt of the mast on the keelson. Most Day Sailer come with a single mast step for the butt of the mast to be mounted in. An alternative method is to fabricate a 4" long fore/aft mast step using 1/8 x 3/4 x 3/4" aluminum Channel and drilling multiple 1/8" diameter holes 1/2" on center. This modified mast step allows for a much wider range of fore and aft locations to achieve easier relocation and proper fore/aft placement of your mast.

Mark the keelson where your mast is located at the 11'0" from the transom/deck juncture to the aft face of the base of the mast at the heel of the halyard sheave box. The Bottom section can be made straighter and stiffer by moving the mast butt forward. Moving the mast butt aft causes the mast to become bendier.

Excellent upwind performance through all wind ranges is only achieved after spending the time necessary in properly setting up the rig ashore. Still perplexed? Give a call and we can talk you through it.

MAIN TRIM

MAINSAIL TRIM

A 1:1 Bridle Mainsheet coupled with a pair of ratchet blocks on the Boom and Mainsheet Base allows for quick and easy adjustment while doing away with the Traveler commonly found on most Day Sailers. Another benefit of the Bridle Mainsheet is that it self-centers the Boom in light to moderate conditions while keeping very little Mainsheet in the bilge of the boat or between the Boom and Boat.

Sighting from under the boom and looking up the Main it should be trimmed so that the top batten is parallel to the boom with the tell tails streaming aft off all four Battens. In very light wind, tall waves, or large wind chop the mainsheet should be eased 2-6" so that the upper batten is angled outboard approximately 5-10 degrees.

Constant adjustment of the Mainsheet in all conditions upwind, reaching, and running requires vigilance of the Skipper to keep the boat balanced and going fast forward.

BOOMVANG

A 20:1 cascading block & tackle Boomvang system located between the bale on the boom and one on the backside of the Mast near the top of the Cuddy Cabin is recommended with the tail running below through the Cuddy Cabin to the Keelson and aft to a 360 Cleat located on the side of the centerboard trunk next to the Mainsheet Cleat. This arrangement allows the skipper to easily and quickly adjust the Boomvang in conjunction with adjustments to the Mainsheet.

Upwind the Boomvang is used to control the height of the Boom directly and the leech of the Main indirectly by "vang-sheeting" the Main. Another byproduct is bending the lower 1/3 of the Mast that in turn depowers the Main. Controlling the height of the Boom with the Boomvang allows the Skipper to trim and ease the Main laterally in puffs without allowing the Main to power up. Keeping your Day Sailer on its feet in difficult conditions requires constant adjustment of both the Mainsheet and Boomvang.

Constant trimming of the Boomvang downwind is recommended allowing the top batten to twist off to leeward 5-10 degrees and/or powering up the Main. Another benefit is that the Skipper can actually steer the boat downwind using his weight and the Boomvang. Head up by tightening the leech and depowering the Main using the Boomvang while leaning inboard and head off by hiking outboard and easing the Boomvang off to twist off the leech and power up the Main without ever moving the rudder.

CUNNINGHAM

The Cunningham on your main should have a 4:1 purchase for easy adjustment and location for the crew to adjust. With proper Rig Set-up and Tension the Cunningham is only used when you're overpowered and need to start depowering the Main by vang-sheeting.

OUTHHAUL

Upwind the outhaul should be pulled tight or nearly tight in most every condition with the Foot Tape standing straight up except for conditions requiring power to drive around waves or drive through chop and then ease the Outhaul 2-3". Downwind projected sail area is king with a tight outhaul except for conditions requiring power to drive around waves or drive through chop and then ease the Outhaul 2-3".

JIB TRIM

JIB HALYARD TENSION

The Jib Halyard is only used to tension the cloth on the luff of the Jib as the original Jib Cunningham has been removed to make your Day Sailer simpler and easier to sail. The Jib Halyard tension should be loose enough leaving slight "crow's feet" coming off the snaps of your jib similar to "speed wrinkles" in the Main. A 3:1 "Bow" block & tackle system located between the Mast Butt and Jib Halyard Cleat allows easy adjustment and location of the cleat for the 3:1 "Bow" block & tackle system for the skipper or crew to adjust the Jib Halyard tension in changing conditions. The only time the "crow's feet" should be removed is when both Skipper and Crew are fully hiking and your boat is still overpowered after all attempts to depower.

Trim the jib sheet so that upper leech of the jib is angled outboard approximately 10 degrees in most conditions. In very flat water and medium winds you may be able to trim the sheet slightly tighter. In light lumpy conditions trim the sheet looser so the middle of the leech is slightly open as well.

JIB LEAD

Set your Jib lead block 107" measured in a straight line aft from the Forestay Pin to the centerline of the car with a Harken 40mm Ratchet Block.

Both Barber-haulers should be set 10" off centerline allowing the Jib to be trimmed until the foot of the Jib starts to pull tight and then eased just slightly.

In heavy winds, it is helpful to ease the Barber-hauler outboard 2-3" helping to de-power the boat and opening the slot between the Jib Leech and Main. The crew should also be prepared to ease and trim the Jib Sheet in concert with the Skipper easing and trimming of the Mainsheet to keep your Day Sailer on its feet and upright.

After rounding the weather mark and setting the Spinnaker, both Barber-haulers should be fully eased allowing the Jib Sheet to be trimmed by the Skipper while reaching and running directly from the clew of the Jib to the Jib lead block. Don't forget to reset the Barber-haulers to their correct upwind positions prior to rounding the leeward mark.

SPINNAKER TRIM

Sail your Day Sailer spinnaker with a 6" to 12" curl in the luff. Concentration is necessary using short 2" eases and trims on the sheet to keep the spinnaker trimmed correctly. Keep the clews even at all times through adjustments to your topping lift. In some conditions, it is sometimes difficult to see the leeward clew behind the mainsail and Jib so you can adjust your pole height to keep the center vertical seam of the spinnaker parallel to the mast or forestay.

BOAT PREPARATION

Now you have your mast perfectly tuned and your Dieball Sailing Main, Jib, and Spinnaker flying at their very best have you taken the time to insure your hull, foils, and rigging are their best?

Nicks and dings in your hull and foils rob you of performance and speed. Fill in the nicks and dings, wet sand with 400, 600, & 1000 Wet/Dry Sandpaper, polish with 3M Finesse-It II, and wax with the best Carnauba Wax you can afford. Repeat often throughout the sailing season.

Top and Bottom Covers protect your Day Sailer at home and on the road ultimately saving both time and money while keeping your Day Sailer clean.

Your boat trailer should have a carpeted centerline support running most of the length of your Day Sailer and carrying the majority of the weight.

Speaking of weight, your Day Sailer shouldn't more than the Class minimum of 575#. Places to save weight include removing and/or updating with lighter rigging, replacing water-logged foam flotation, replacing the original heavy factory Rudder with a new Waterat Rudder Blade and aluminum cheeks, and replacing the factory Centerboard with a new Waterat Centerboard.

Poorly located and/or operating rigging makes your Day Sailer harder to race for both you and your crew. Most control lines can now be downsized or replaced with many of the new composite ropes reducing friction, weight, and lightening your wallet all at the same time.

Comfortable adjustable padded Hiking Straps for both the skipper and crew take most of the sting out of hiking.

We wish you good luck and fast sailing! Don't hesitate to give us a call if you have any questions or problems.

Dieball Sailing

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