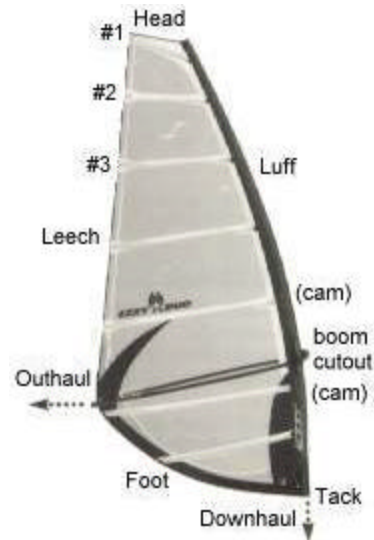




1999 Ezzy Duo Rigging & Fine Tuning Guide

These tuning tips will make your sail work the way I designed it to. Use them to find your own perfect settings. Be sure to rig and de-rig in the same order as outlined in this guide; you not only get on the water faster, but you will also extend the life of your sail.

See you on the water,
David Ezzy



Rigging:

1. **Slide the mast through the luff sleeve.** Note: slide the mast above the cams (do not attach the cams to the mast yet).

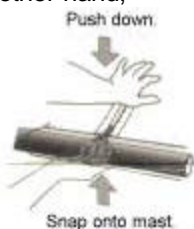


Slide the mast above the cam.

2. **Attach the mast extension and thread the line through the cleat. Do not tension the downhaul yet, just cleat the line off.**
3. **Attach the boom and outhaul to the boom length that is printed on the sail.**

Quick Tip - The boom length is the distance from the clew to the front of the mast at the center of the boom cutout.

4. **Attach the cams to the mast** by pushing down on the batten with the palm of your hand, approximately 12" (30cm) from the luff sleeve, and snap the cam onto the mast with your other hand,



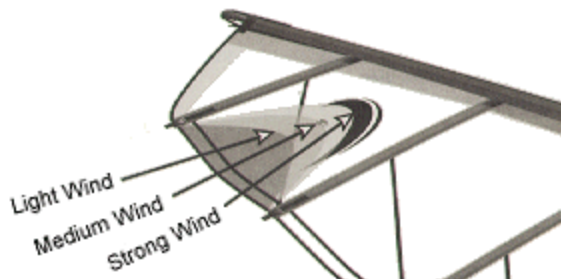
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Quick Tip - If the cam is difficult to put onto the mast, check that the batten tension webbing is loosened until the Velcro touches the buckle. This will allow the cam to slide further from the mast and will make it easier to get the cam onto the mast. Also, make sure the sail is outhauled flat before attempting to snap the cam onto the mast.



Quick Tip - Opening the zipper will make it easier to snap the cam onto the mast. But, to avoid damaging the zipper; be sure to close the zipper again **BEFORE** tensioning the cam batten

5. **Downhaul the sail until the leech goes loose between battens #2 and #3.** Use the sail logo that is printed on the sail as a reference. The front and back ends of the logo coincide with the maximum and minimum downhaul settings (see diagram below)



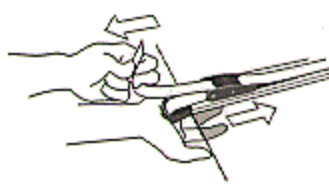
Quick Tip - The amount of downhaul tension will vary for different wind conditions: A high-wind setting requires more downhaul tension to loosen the leech and give more twist. For lighter wind, the sail will perform better with less downhaul. This gives the sail a tighter leech and better low-end power.



Quick Tip - For the correct sail rake, the foot edge of the tack should be approximately 4 inches (10cm) above the deck of the board. Always keep your base extension at its shortest possible setting. If there is not enough space for downhauling and you have mast extending from the top, use the adjustable top to raise the sail up on the mast rather than extend your base.

6. **Now, tension the two camber battens by pulling on the batten strap while pushing the palm of your other hand against the batten end-cap. When the camber battens are correctly tensioned, the sleeve directly in front of the cam should be tight.**

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Quick Tip - It is possible to over-tension the cam batten, which will cause the cam not to rotate. A quick check of this can be done by holding the sail up on land and pumping the sail from both sides of the boom. The cam should rotate smoothly: if it doesn't, decrease a little batten tension.

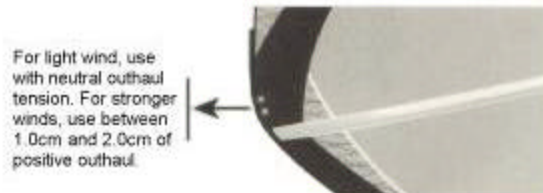
7. **Check that the batten tension on the screw-batten tensioners is correct. When correctly tensioned, there should be no wrinkles running across the batten pockets.**



Be careful not to over-tension the battens.

NOTE: YOUR SCREW BATTEN TENSIONERS HAVE BEEN SET AT THE FACTORY AND SHOULD NOT NEED ADJUSTING. If the battens do not need adjusting, use the Allen key that is stored at the tack of your sail and tighten the battens until the wrinkles throughout the batten pocket disappear. **WARNING: OVER-TENSIONING THE BATTEN WILL DAMAGE THE SAIL.**

8. **Release the sail completely and re-set it according to the wind strength you will be sailing in. For light wind, use with neutral outhaul tension and for high wind use between 1.0cm (3/8") to 2.0cm (3/4") of positive outhaul tension.**



Quick Tip - We recommend using the lower clew grommet for most sailors, however, if you attach your boom at the top of the boom cut-out, the upper grommet is recommended.

9. **Check that the camber is not over-rotated. Over-rotation will fatigue the cam and the batten and lead to possible breakage. If the cam is over-rotated, you need more downhaul.**



10. **Wrap the tack-strap webbing around the bottom of the mast base. The tack-strap should be tensioned at least until the edge of the foot is tight. High tack-strap tension is desirable in all wind conditions.**

Quick Tip - The tack-strap can not be over-tensioned. More tension in stronger wind puts the center-of-effort lower, giving the sail more control. In light wind, tensioning the tack-strap makes the foot deeper and tightens the lower leech, creating better low end power.

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makes the foot deeper and tightens the lower leech creating better low-end power.

De-Rigging:

Quick Tip - To increase the life of your sail, it is recommended that you de-rig in the following order:

1. **Release the camber batten tension (push the release lever located on the center of the buckle) and undo the tack-strap.**
2. **Release downhaul.**
3. **Snap cams off of mast**
4. **Release outhaul and remove boom.**
5. **Slide mast out of luff sleeve without creasing sail.**
6. **Roll sail from the top and use the strap we've provided to tie the sail.**
7. **Insert the sail into the sail bag with the sleeve-end first.**

Sail Care:

Sunlight:

- Sunlight will break down all sailcloth in a relatively short time (300 hours of direct sunlight).
- Don't dry off your sails in the sun! It is better to dry them in the shade, or to roll up wet.

Creasing:

- Creasing damages sail cloth. When rigging and de-rigging, try not to crease your sail or let it flap in the wind.

Sand:

- Sand will scratch the sailcloth film and can clog the batten tensioners. Try to roll your sail sand-free.

Cleaning:

- Use a mild soap and water with a rag to clean your sail. Harsh solvents may damage the sail cloth.
- Contrary to what most people think, you do not need to fresh-water rinse your sail.
- The vinyl window can be cleaned by washing with fresh-water and polishing with dry towel.

Storage:

- It will not damage your sail to store it with the battens fully tensioned.
- If storing your rolled sail vertically, make sure the sleeve-end is supporting the weight. This prevents the clew from getting damaged.

Trouble-Shooting:

Problem:

Possible Solution:

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PROBLEM.	POSSIBLE SOLUTION.
Camber is difficult to get on the mast:	<ol style="list-style-type: none"> 1. Make sure the batten tensioner is completely released while snapping cam on. 2. Make sure the sail has NO downhaul tension and is outhauled fully before snapping cam on.
Sail feels too powerful:	<ol style="list-style-type: none"> 1. Sail is too deep, try more outhaul and downhaul. 2. Mast is too stiff, check that you are using the correct mast.
Sail lacks power:	<ol style="list-style-type: none"> 1. Sail is too flat, try less outhaul and less downhaul. 2. Mast is too soft, check that you are using the correct mast.
Camber does not flip:	<ol style="list-style-type: none"> 1. Camber batten too tight, release a little batten tension. 2. Cam is under-rotated, need less downhaul.
Camber comes off of mast:	<ol style="list-style-type: none"> 1. Camber is over-bending, need more downhaul. 2. Mast diameter is larger than normal, lengthen the webbing straps on the cam.
Sail feels heavy:	<ol style="list-style-type: none"> 1. Leech is too tight, try more downhaul.