



2005 TRIM GUIDE by Monty Spindler

Windsurfing rigs have by nature elastic, living character. The aerodynamic form your rig presents to the wind depends primarily on three elements:

- a) The sail design.* (The mast and seam curves cut into the sail)
- b) The mast stiffness / flex character.*
- c) The trim you set into your rig.* (Down-haul & Out-haul tension, as well as, mast-foot position, and boom-height among other trim settings).

Arguably the most important one is the trim.

Performance & Wind Range Expansion = Trim Sensitivity

Loftsails have exceptional response to trim, providing both power in light wind and high wind handling ease.

Trim begins with noting the recommended mast and boom lengths and the recommended mast for your sail.

Mast/boom length specs and mast recommendations are printed on your sail.

Rig trim is critical to rig performance.

The rig reacts directly to the two primary trim variables: down-haul and out-haul tensions.

Down-haul

All sails respond favorably to increased down-haul tension for high wind sailing. For strong winds it pays to be radical increased down-haul tension will produce easier handling and greater speed in strong winds.

An **8:1** tack pulley system is recommended for easy application of the high down-haul tension needed for strong wind performance.

When overpowered, tension the down-haul! High down-haul tension will open the sails leech (rear edge) releasing sail power. High down-haul tension will also flatten the sail body making the rig significantly easier to handle in strong wind and increase your speed and fun! Be aggressive with down-haul tension as the wind rises.

Loftsails are built to accept & respond to high down-haul tension. High down-haul tension will soften the leech from the head all the way down to the boom and this is the correct trim if your sail is too powerful.

Should the wind drop or should your sail size is small for the wind strength, less down-haul tension will firm up the leech and make the sail body fuller. Such reduced or “soft” trim generates greater low-end power.

Note that when winds are sufficient for easy planing it is the right moment to experiment with increased down-haul tension. The feeling of free speed will set your windsurfing soul free! The adjustment range between ideal low wind trim and ideal high wind trim for a given sail size may be as much as **5cm**.

Out-haul

Out-haul has direct impact on rig performance.

Reduced out-haul makes the sail deeper in profile generating greater power for light winds. Extreme low wind trim will increase light wind power and also make the rig feel stiff and more back hand oriented, especially if the wind rises.

Greater out-haul tension flattens the sail profile making the sail much easier to handle and faster in medium and strong winds. Flatter out-haul trim allows the sail to pass more easily through the wind. For a given sail size the range between ideal strong and light wind trim may be up to **6cm**.

An easy out-haul trim reference is the forward end of the batten just above the boom. If this forward batten end passes the mast without touching the mast, out-haul is set well for medium-to-high winds. If this batten end makes mast contact during rotation out-haul is set for light-to-medium winds.

Optimizing rig trim goes beyond outhaul and down-haul sail adjustments. Boom height, the mast foot position, harness lines and mast type all impact your windsurfing performance.

Boom

Its height has a direct performance impact.

Low boom height will make initiation of planing difficult.

An overly high boom promotes early tail walking and makes maneuvers difficult;

a good position to begin is *chest/shoulder* level.

In very light winds the boom is best raised to assist in the initiation of planing. A higher boom places more of the windsurfer's weight onto the rig and less on the board. Consequently the board has a greater capacity to lift and plane.

If the wind is strong for your sail size lowering the boom will give the windsurfer greater control. With a lower boom position the riders' weight becomes more board oriented; increasing board control in challenging conditions.

Harness lines

They are your power transfer as their position and length will affect rig performance. The harness lines bear the diving power from the rig allowing the windsurfer to be free! Finding the right harness line position is a question of balance. Windsurfers who are starting with the harness usually like to place the lines too far forward reducing the likelihood of being catapulted. Lines too far forward will limit speed as the windsurfer is kept forward, forcing more board into the water.

To place the lines correctly, go with the flow... if harness lines are too far forward the back arm becomes fatigued. If the lines are too far back the forward arm becomes fatigued. Try sailing with no hands! When the lines are placed correctly you will be able to sail for long moments with no hands! If you reach for the boom first with your backhand the lines should be moved back. If you reach for the boom first with the front hand the lines should be moved forward.

Lines placed further apart may produce a feeling of greater stability. Wide lines (30cm+) will harness sail power comfortably and are generally better suited to beginning and intermediate windsurfers.

Narrow harness lines (12cm or less) transfer power to the sailor more directly, and critically. As the harness lines are placed closer together on the boom they make rig trim more critical relative to the power center. Racers tend to set narrow harness line placement, as little as 4cm between the lines.

Harness line length also influences performance.

For average size windsurfers 26cm to 28cm from the line center to the boom is

an average harness line length.

Short lines limit speed potential... bodyweight is the power generator. Bodyweight too close to the rig and maximum power is unavailable.

Overly short lines (less than 25cm max from boom) limits the reaction time as the windsurfer encounters changing wind and sea conditions.

Overly long lines (more than 32cm) may cause arm fatigue and rather wet windsurfing as the sailor may make contact with the water.

Correct harness line position is affected by downhaul and outhaul tension.

- *Strong wind trim*, will shift the harness line positions forward
- *Light wind trim*, will bring the harness lines further back

The difference being in the range of 2 - 4cm.

A loose fitting harness affects harness function negatively; power transfer is less effective, and is detrimental to your windsurfing performance. Keep your harness tight!

Waist-type harnesses are generally used for wave and freestyle windsurfing. Waist-type harnesses place the hook higher on the body, which is suitable for freedom of maneuvers.

Racing/slalom/speed harnesses are normally lower on the body, bringing the hook down which more easily closes the rig down onto the board.

Low harness hooks generally make more available power from the rig, augmenting speed potential.

Batten tension

It is simple! Tension the battens until the sail becomes visibly taught.

Many windsurfers overlook batten tension.

Full batten tension makes the rig more stable as well as removing wrinkles.

Severe over tensioning battens may cause asymmetric profiles and affect batten rotation. Cammed battens may need special care as over tensioning cammed battens may result in hard rotation.

Mast

Masts influence rig performance. It is best to use the recommended mast for

your sail.

If a softer mast is used the rig becomes more flexible; rig handling will normally become easier in high winds and the rig will be easier to close down onto the board ("closing the gap"). Softer masts will normally make the rig faster downwind.

A stiffer mast will have the opposite effect; the rig will become more difficult to close down onto the board in the upper wind range. Stiffer masts tend to go upwind more efficiently compared to soft masts.

Board trim

Boards have three trim variables; foot straps, fins and mast foot position.

Foot straps

Their position determines the sailors' stance on the board and therefore the boards' attitude in the water. Most boards have options regarding foot strap placement. Generally, a wide stance is control and maneuver oriented.

For rough water/upper end foot straps placed forward and farther apart will result in more control over the board and the lift generated by the fin.

On flat water both foot straps may be best located further back. Rear foot strap positions and straps set closer together will allow the windsurfer to fly more on the fin with less board in the water for greater speed potential.

Fins

Deeper/bigger fins are well suited for light winds as they generate greater lift at lower speeds. As the wind rises shorter fins will make the board easier to handle. The fins angle to the bottom of the board will also affect performance.

Vertical fins will make the board fly; better for lighter winds and speed.

Sweptback fins will make the board easier to control in stronger winds and generally turn more easily but will detract from light and medium wind speed performance.

Mast foot

It is where the power and the ride meet, so position is critical!

Generally, forward placement increases board control by taking the sailor's weight forward, more onto the board, controlling the fin.

Rear mast foot positions are more speed oriented as the fin is allowed greater ability to lift the board; with more of the board out of the water speed potential is increased.

The mast foot set 137 - 140cm from the tail is a good "all-round" position from which to begin.

High wind trim package

If you feel overpowered set the mast and boom length to the recommended high-wind lengths and trim accordingly. Also try the boom lower by 2 - 4cm and set the mast foot further forward 1 - 3cm. Hi wind trim will require the harness lines to move forward by 2 - 4cm compared to low wind trim.

Low wind trim package

To trim for power free the down-haul and the boom 2 - 4cm. Raise the boom a few centimeters and move the mast foot back 2 - 3cm. Low wind trim will require the harness lines to move back by 2 - 4cm compared to high wind trim. Experience the new sensations resulting from trim alternatives, and you will expand your windsurfing performance!

TROUBLESHOOTING

Windsurfing is a wonderful feeling of balance. Should you feel unbalanced try one or more of the solutions listed. One of the solutions or a combination of them may bring balance for you!

- ☹️ **The rig feels stiff and heavy with too much backhand power.**

☺️ Try more down-haul, more out-haul, mast foot back, boom up.
- ☹️ **The board has the tendency to turn into the wind.**

☺️ Try the mast foot further forward, harness lines further back, foot straps further forward.
- ☹️ **The board has the tendency to turn downwind.**

☺️ Try the mast foot farther back, higher boom, harness lines further forward, bigger fin, foot straps farther back.
- ☹️ **The windsurfer feels in constant danger of being catapulted.**

☺️ Try more down-haul, harness lines farther forward and farther apart, smaller sail, more outhaul, and softer mast.
- ☹️ **Slow, stuck to the water feeling.**

☺️ Try the mast foot farther back, boom higher, more down-haul, harness lines farther back and closer together, bigger fin, foot straps farther back, bigger sail.
- ☹️ **Difficulty to get planning.**

☺️ Try the boom higher, mast foot farther back, bigger fin, bigger sail, harness lines back, less out-haul, foot straps farther back.
- ☹️ **The board stands on the tail in strong winds (tail-walking).**

☺️ Try more down-haul, more outhaul, mast foot farther forward, smaller fin, foot straps farther forward, softer mast.

- ☹️ **The board spins out easily.**
- 😊 Try more down-haul, more out-haul; straps further forward, bigger fin, mast foot further back, softer mast.

- ☹️ **Difficulty closing the sail down onto the board.**
- 😊 Try more out-haul, more down-haul, mast foot further forward, smaller fin, softer mast, foot straps farther back, harness lines farther back, lower harness hook, smaller sail.

- ☹️ **The board bounces in chop and when starting to jibe.**
- 😊 Try the mast foot farther forward; boom lower, more down-haul, more out-haul, smaller fin, foot straps farther forward, smaller sail.

Optimizing trim for high performance windsurfing is a process which has no limits! Improvements in one area will compliment trim improvements in other areas. Performance can always be expanded as new, more efficient trim configurations are experienced. Maximizing trim is the cutting edge of windsurfing. Windsurfing is the most efficient purest sailing form... a never-ending source of new sensations... Experience it!

THE LOFT · 2005 SPECIFICATIONS

(All lengths in cm)

Lip Wave Concept - Hardcore wave

Size m ²	Mast	Boom	Recom. Mast	IMCS	Mast Ext.	Vario Top	Battens	Cams	Micro Battens	Weight Kg
5.7	444	183	430 Rdm	21	14	VT	5	2	0	3.60
5.2	425	175	400 Rdm	19	25	VT	5	2	0	3.42
4.7	404	167	400 Rdm	19	4	VT	5	2	0	3.28
4.3	387	158	370 Rdm	17	17	VT	5	2	0	3.10
3.9	370	150	370 Rdm	14	0	VT	5	2	0	2.95
3.5	347	145	340 Rdm	14	7	ME	5	2	0	2.72
3.1	326	144	340 Rdm	14	14	VT	4	2	0	2.56

Lip Freewave Concept - Freestyle / Light-wind wave

Size m ²	Mast	Boom	Recom. Mast	IMCS	Mast Ext.	Vario Top	Battens	Cams	Micro Battens	Weight Kg
6.8	476	202	460 Rdm	25	16	ME	5	2	0	4.16
6.2	460	191	430 Rdm	21	30	ME	5	2	0	3.88

O2 Freeride Concept - Freeride / Slalom-speed

Size m ²	Mast	Boom	Recom. Mast	IMCS	Mast Ext.	Vario Top	Battens	Cams	Micro Battens	Weight Kg
7.4	488	216	460 Rdm	25	28	ME	6	4	0	4.46
6.6	468	202	460 Rdm	25	8	ME	6	4	0	4.17
5.9	444	188	430 Rdm	21	14	ME	6	4	0	3.93

O2 Freerace Concept – Freeride / Race wideboards

Size m ²	Mast	Boom	Recom. Mast	IMCS	Mast Ext.	Vario Top	Battens	Cams	Micro Battens	Weight Kg
10.8	562	265	550 Ndm	38	12	ME	7	5	0	5.81
9.6	532	245	520 Ndm	34	12	ME	7	5	0	5.36
8.4	513	229	490 Ndm	29	8	ME	7	5	0	5.03

All sizes include the "Sensitip" head batten system except the Lip Wave Concept 3.5 & 3.1

Mast & boom measurements are trim settings for high winds. Reduce for lighter winds.

Kids									
Size m ²	Mast	Boom	Recom. Mast	IMCS	Mast Ext.	Compat. Mast	IMCS	Mast Ext.	Weight Kg
Spark 3.2	370	150	370 Rdm	n/a	0	350 Alu	n/a	20	n/a
Kiddo 2.6	370	150	370 Rdm	n/a	0	350 Alu	n/a	20	n/a

1cm	0.3937 inch	CONVERSION TABLE	1kg	2.2046 lbs
1in	2.54 cm		1lbs	0.4536 kg

Specifications are subject to change without notice. (All lengths in cm)

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