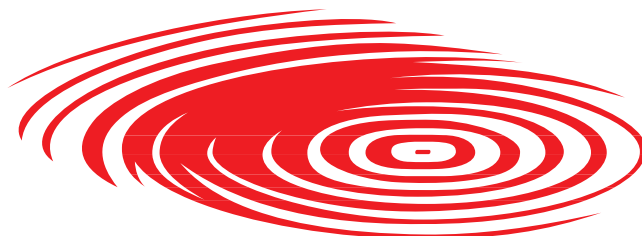




The Loft 2009 TRIM GUIDE

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Rig Trim Intro

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

- sail design (the mast and seam curves cut into the sail)
- mast stiffness & flex character
- the trim you set into your rig (downhaul & outhaul tension as well mast-foot position and boom-height among other trim settings).

Trim sensitivity = Performance & wind range expansion

Rig trim is *critical* to rig performance. Loftsails are exceptionally trim responsive.

Trim begins with noting the boom length, mast length and the recommended mast for your sail which is printed on your sail and on your sailbag. The rig reacts directly to two primary trim variables: downhaul and outhaul tensions.

DOWNHAUL

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

When overpowered- tension the downhaul! High downhaul tension will open the sail's leech (rear edge) releasing sail power. High downhaul 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 downhaul tension as the wind rises... Loftsails are built to accept & respond to high downhaul tension. Increased downhaul tension will soften the leech from the head all the way down to the boom- correct "knife-like" trim should your rig feel too powerful in strong winds.

Should the wind drop or should you find your sail size small for the wind strength, **less downhaul** tension will firm the leech and make the sail body fuller.... such reduced or "soft" trim generates **greater low-end power**.

When winds are sufficient for easy planning it is the right moment to experiment with increased downhaul 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.

Note that the tension applied to the downhaul directly influences tensions at the boom; high downhaul will "soften" the outhaul, conversely low downhaul tension will increase tension at the clew- given the same boom length.

OUTHAIL

The **outhaul** has direct impact on rig performance. **Reduced** outhaul 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 should the wind rise. **Greater outhaul** tension flattens the sail profile making the sail much **easier to handle** and faster in medium and strong winds. Flatter outhaul 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 overly tight outhaul (relative to wind strength) may make the rig feel “nervous” or “Twitchy”. An overly released outhaul (relative to wind strength) may make the rig feel difficult to handle and overly backhand oriented.

A simple **trim reference** (cam-free sails) is the position of the forward end of the batten just above the boom. If this forward batten end passes the mast without touching the mast, the outhaul is set for medium winds. If this batten end makes mast contact during rotation the outhaul is set for light-to-medium winds. Both downhaul tension and outhaul tension directly influence this trim reference.

Optimizing Rig Trim goes beyond outhaul and downhaul sail adjustments. Boom height, the mastfoot position, harness lines and mast type all impact your windsurfing performance.

-Boom 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 & fin have greater capacity to lift and plane.

If the wind is strong for your sail size, lowering the boom will give you greater control. With a lower boom position the riders weight becomes more board oriented; increasing board control in challenging conditions. Generally, wide boards are better suited to higher boom heights- as the windsurfer moves outboard the wider stance drops the boom.

-Harness lines are your power transfer: 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 forward- reducing the likelihood of being catapulted. Lines too far forward will limit speed as the windsurfers position is forced, resulting in more board contact with 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 and less) transfer power to the sailor more directly, more 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, often no space between the lines!

-Harness line length also influences performance. For average size windsurfers 24 to 26 cm 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 23cm max from boom) limits the reaction time as the windsurfer encounters changing wind and sea conditions. Overly long lines (more than 30 cm) 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 2-4 cm.

Longer lines (28-30cm +) are associated with slalom/speed windsurfing, while shorter lines (26-24cm -) are the norm for freestyle and wave sailing.

Adjustable lines are recommended for competitive speed/slalom disciplines as they allow fine trim tuning while on the water.

-Harnesses A loose fitting harness affects negatively harness function; 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; they place the hook higher on the body- suitable for maneuver-ease.

Racing/slalom/speed harnesses are normally lower on the body, bringing the hook down which may more easily close the rig down onto the board; augmenting speed potential. Lower hooks may also allow the fin a greater capacity to lift which also augments speed potential.

-Batten tension 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 negatively affect cam rotation.

-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.

Rigging advice

-When rigging, it is **very important** that as the mast is placed into the mast pocket, the sail head arrives all the way to the mast top **before** pulling the sail all the way down onto the mast. A fold will occur at the boomhole which relieves pressure between the mast pocket and the mast top- avoiding damage to the mast pocket.

-It is also **very important** that the mast parts do not slide apart during the rigging process. If your mast has a loose fit, check the joint **before** downhauling by feeling the middle of the mast with your hand- if you can feel a gap between the mast parts- STOP!... and re-fit your mast!

Taping your mast together around the middle seam will ensure your mast stays together and comes easily apart.

Board Trim

Boards have three trim variables; footstraps, fins and mastfoot position.

-Footstrap position determines the sailor's stance on the board and therefore the board's attitude in the water. Most boards have options regarding footstrap placement. Generally, a **wide** stance is **control and maneuver** oriented. For rough water/upper end footstraps placed forward and farther apart will result in more control over the board and the lift generated by the fin.

On **flat water** both footstraps may be best located further **back**. Rear footstrap 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 may detract from light and medium wind speed performance.

-The Mastfoot 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 mastfoot 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 mastfoot 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 2-4 cm and set the mastfoot 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 downhaul and the boom 2-4cm. Raise the boom a few centimeters and move the mastfoot back 2–3 cm. 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 will bring balance for you!

⊗The rig feels stiff and heavy with too much backhand power.

☺Try more downhaul& outhaul, mastfoot back, boom up, softer mast.

⊗The board has the tendency to turn into the wind.

☺Try the mastfoot further forward, more downhaul, harness lines further back, footstraps further forward.

⊗The board has the tendency to turn downwind.

☺Try the mastfoot farther back, higher boom, harness lines further forward, bigger fin, footstraps farther back.

⊗The windsurfer feels in constant danger of being catapulted.

☺Try more downhaul, harness lines farther forward and farther apart, smaller sail, more outhaul, softer mast.

⊗Slow, stuck to the water feeling.

☺Try the mastfoot farther back, boom higher, more downhaul, harness lines farther back and closer together, bigger fin, footstraps farther back, bigger sail, board with more volume.

⊗Difficulty to get planning.

☺Try the boom higher, mastfoot farther back, bigger board & fin, bigger sail, harness lines back, less outhaul, footstraps farther back.

⊗The board stands on the tail in strong winds (tailwalking).
 ☺Try more downhaul, more outhaul, mastfoot farther forward, smaller board & fin, footstraps farther forward, softer mast.

⊗The board spins out easily.
 ☺Try more downhaul, more outhaul, straps further forward, bigger fin, mastfoot further back, softer mast.

⊗Difficulty closing the sail down onto the board.
 ☺Try more outhaul, more downhaul, mastfoot further forward, smaller fin, softer mast, footstraps farther back, harness lines farther back, lower harness hook, smaller sail.

⊗The board bounces in chop and when starting to gibe.
 ☺Try the mastfoot farther forward, boom lower, more downhaul, more outhaul, smaller fin, footstraps farther forward, smaller sail.

Optimizing trim for **high performance windsurfing** is a process that has no limits! Improvements in one area will compliment trim improvements in other areas... your performance will improve as you feel new, more efficient trim configurations.

Maximizing trim is the cutting edge of windsurfing. Windsurfing is the most efficient, purest sailing form... a never-ending source of new sensations...

Feel it! Experience it!

The Loft 2009 Specs

Compatible masts (in preferential order)

Lip Wave Hardcore wave

All sizes vario top

Lip Wave 6.2m2 Mast: 460cm Boom:192cm Mast Rec:430/21*rdm MastExt:30cm	430 460 rdm & sdm
Lip Wave 5.7m2 Mast: 446cm Boom:185cm Mast Rec:430/21*rdm Mast Ext:16cm	430 460 rdm & sdm
Lip Wave 5.2m2 Mast: 430cm Boom:175cm Mast Rec:400/19*rdm Mast Ext: 30cm	400 430 rdm & sdm
Lip Wave 5.0m2 Mast: 416cm Boom:173cm Mast Rec:400/19*rdm Mast Ext:16cm	400 430 rdm & sdm
Lip Wave 4.7m2 Mast: 408cm Boom:169cm Mast Rec:400/19*rdm Mast Ext:8cm	400, 370, 430 rdm & sdm
Lip Wave 4.5m2 Mast: 400cm Boom:166cm Mast Rec:400/19*rdm Mast Ext:0cm	370, 400, 430 rdm & sdm
Lip Wave 4.3m2 Mast: 388cm Boom:160cm Mast Rec:370/17*rdm Mast Ext:18cm	370, 400, 430 rdm & sdm
Lip Wave 4.1m2 Mast: 376cm Boom:156cm Mast Rec:370/17*rdm Mast Ext:6cm	370, 400, 340 rdm & sdm
Lip Wave 3.9m2 Mast: 370cm Boom:150cm Mast Rec:370/17*rdm Mast Ext:0cm	370, 400, 340 rdm & sdm
Lip Wave 3.7m2 Mast: 352cm Boom:145cm Mast Rec:340/14*rdm Mast Ext:12cm	340, 370, 400 rdm & sdm
Lip Wave 3.5m2 Mast: 347cm Boom:144cm Mast Rec:340/14*rdm Mast Ext:7cm	340, 370, 400 rdm & sdm
Lip Wave 3.1m2 Mast: 327cm Boom:140cm Mast Rec:340/14*rdm Vario Top:13cm	340, 370 rdm & sdm
Lip Wave 2.8m2 Mast: 316cm Boom:137cm Mast Rec:340/14*rdm Vario Top:24cm	340, 370 rdm & sdm

360Free Freemove & Freestyle

All sizes vario top

360Free 6.2m2 Mast: 430cm Boom:192cm Mast Rec:430/25*rdm Mast Ext:30cm	460 rdm & sdm
360Free 5.8m2 Mast: 448cm Boom:187cm Mast Rec:430/21*rdm Mast Ext:18cm	430, 460 rdm & sdm
360Free 5.2m2 Mast: 422cm Boom:174cm Mast Rec:400/19*rdm Mast Ext:18cm	400, 430 rdm & sdm
360Free 4.7m2 Mast: 404cm Boom:165cm Mast Rec:400/19*rdm Mast Ext:4cm	370, 400, 430 rdm & sdm
360Free 4.3m2 Mast: 398cm Boom:156cm Mast Rec:370/17*rdm Mast Ext:28cm	370, 400, 430 rdm & sdm

O2 Freeride Cam-free slalom/speed

9.6 fixed top, smaller sizes vario top

O2 Freeride 9.6m2 Mast: 532cm Boom:245cm Mast Rec:520/34*rdm Mast Ext:12cm	490, 500, 505 rdm & sdm
O2 Freeride 8.4m2 Mast: 513cm Boom:229cm Mast Rec:490/29*rdm Mast Ext:23cm	490, 500, 505 rdm & sdm
O2 Freeride 7.4m2 Mast: 488cm Boom:218cm Mast Rec:460/25*rdm Mast Ext:28cm	460, 490 rdm & sdm
O2 Freeride 6.6m2 Mast: 469cm Boom:205cm Mast Rec:460/25*rdm Mast Ext:9cm	460, 430, 490 rdm & sdm
O2 Freeride 5.9m2 Mast: 445cm Boom:192cm Mast Rec:430/21*rdm Mast Ext:15cm	430, 460 rdm & sdm
O2 Freeride 5.3m2 Mast: 424cm Boom:180cm Mast Rec:400/19*rdm Mast Ext:24cm	400, 430 rdm & sdm

Compatible masts (in preferential order)

Switchblade Performance slalom 2cam	5.8 vario top, larger sizes fixed top
Switchblade 8.5m2 Mast:508cm Boom:230cm Mast Rec:490/29*rdm Mast Ext:18cm	490, 500, 505 rdm & sdm
Switchblade 7.8m2 Mast:490cm Boom:218cm Mast Rec:460/25*rdm Mast Ext: 30cm	490, 460 rdm & sdm
Switchblade 7.3m2 Mast:480cm Boom:213cm Mast Rec:460/25*rdm Mast Ext: 20cm	490, 460 rdm & sdm
Switchblade 6.8m2 Mast:468cm Boom:208cm Mast Rec:460/25*rdm Mast Ext: 8cm	460, 430 rdm & sdm
Switchblade 6.3m2 Mast:446cm Boom:196cm Mast Rec:430/21*rdm Mast Ext: 16cm	430 rdm & sdm
Switchblade 5.8m2 Mast:424cm Boom:184cm Mast Rec:400/19*rdm Mast Ext: 24cm	400, 430 rdm & sdm

Blade Pure competition speed & slalom 4 cam	All sizes fixed top
Blade 9.0m2 Mast:520cm Boom: 234cm Rec.Mast: 490/29*rdm MastExt.30cm	490, 500, 505, 520 rdm
Blade 8.5m2 Mast:516cm Boom: 228cm Rec.Mast: 490/29*rdm MastExt.26cm	490, 500, 505, rdm
Blade 8.3m2 Mast:500cm Boom: 222cm Rec.Mast: 490/29*rdm MastExt.26cm	490, 500, rdm
Blade 7.5m2 Mast:486cm Boom: 212cm Rec.Mast: 460/25*rdm MastExt.26cm	460 rdm only
Blade 6.8m2 Mast:464cm Boom: 200cm Rec.Mast: 460/25*rdm MastExt.4cm	430 rdm
Blade 6.2m2 Mast:436cm Boom: 192cm Rec.Mast: 430/21*rdm MastExt.6cm	400 rdm
Blade 5.6m2 Mast:412cm Boom: 182cm Rec.Mast: 400/19*rdm MastExt.12cm	400 rdm only
Blade 5.1m2 Mast:390cm Boom: 172cm Rec.Mast: 370/17*rdm MastExt.20cm	370 rdm only
Blade 4.6m2 Mast:375cm Boom: 165cm Rec.Mast: 370/17*rdm MastExt.6cm	370 rdm only

Blade FR Formula racing	All sizes fixed top
Blade FR 11.9m2 Mast:580cm Boom: 277cm Rec.Mast: 550/36*rdm MastExt.30cm	550, 580 rdm & sdm
Blade FR 11.0m2 Mast:562cm Boom: 267cm Rec.Mast: 550/36*rdm MastExt.12cm	550 rdm & sdm
Blade FR 9.7m2 Mast:536cm Boom: 246cm Rec.Mast: 520/34*rdm MastExt.16cm	520, 500, 505 rdm & sdm

Concept Initiation	All sizes vario top
Concept 6.5m2 Mast:455cm Boom: 205cm Rec.Mast: 430/21*rdm MastExt.25cm	460, 430 rdm & sdm
Concept 5.8m2 Mast:435cm Boom: 195cm Rec.Mast: 430/21*rdm MastExt.5cm	460, 430 rdm & sdm
Concept 5.1m2 Mast:390cm Boom: 186cm Rec.Mast: 400/19*rdm MastExt.12cm	400, 370 rdm & sdm
Concept 4.5m2 Mast:372cm Boom: 174cm Rec.Mast: 370/17*rdm MastExt.2cm	400, 370, 340 rdm & sdm
Concept 4.0m2 Mast:354cm Boom: 160cm Rec.Mast: 340/14*rdm MastExt.14cm	370, 340 rdm & sdm
Concept 3.5m2 Mast:340cm Boom: 150cm Rec.Mast: 340/14*rdm MastExt.0cm	340, 370 rdm & sdm
Concept 3.0m2 Mast:322cm Boom: 137cm Rec.Mast: 340/14*rdm Vario top18cm	340, 370 rdm & sdm

Spark 3.2m2 Mast:340cm Boom: 150cm Rec.Mast: 340/14*rdm MastExt.0cm	Two inflatable battens, vario top
Kiddo 2.5m2 Mast:330cm Boom: 150cm Rec.Mast: 340/14*rdm Vario top 10cm	No battens, vario top

All Loftsails compatible with both normal diameter masts **and** reduced diameter masts **except:**

Blade 4.6 5.1 5.6 6.2 6.8 7.5 8.3 8.5 9.0- rdm only.

*Mast flex IMCS

sdm= "standard diameter mast"

rdm= "reduced diameter mast"



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Specifications subject to change without notice

www.loftsails.com

