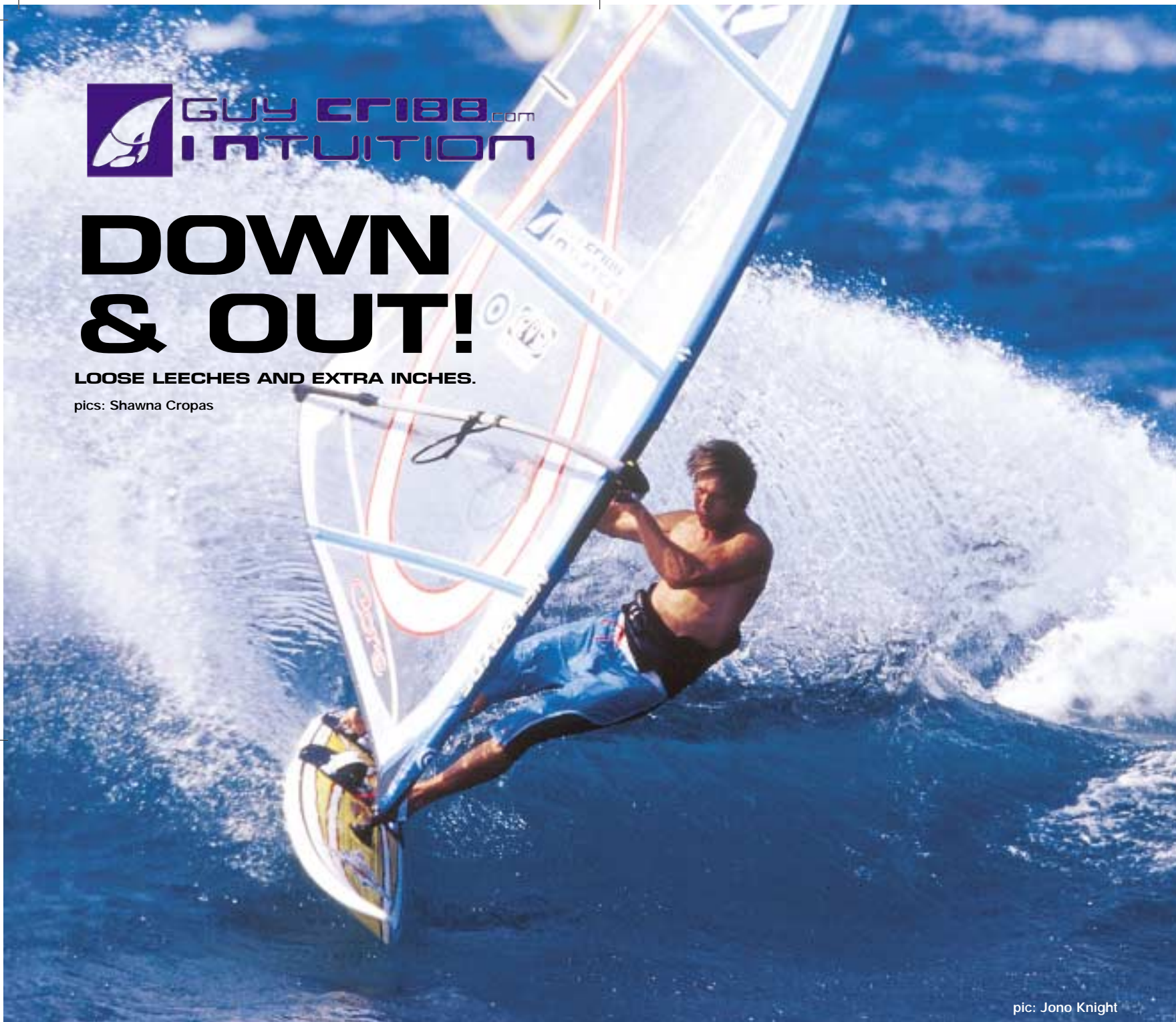




# DOWN & OUT!

LOOSE LEECHES AND EXTRA INCHES.

pics: Shawna Cropas



pic: Jono Knight

Time and again I swap kit with my guests; they take my finely tuned Formula One car for a spin whilst I'm faced with sailing their kit, loosely flung together more out of habit than design.

I immediately notice their wobbly boom, lack of outhaul, slippery deck, mast track in the wrong place, boom too low, harness lines too far forwards, and especially the severe lack of downhaul. So I crank into a carve gybe to return to shore and retune it for them. But,

even after twenty years of carve gybing, however hard I try I can't control their kit and get launched into one of those catapults I only do sailing dodgy kit. No matter how fast my reactions, a combination of their crisp packet rig control and sun-cream footstraps, send me flying through the air wondering why after all these years people still don't have the foggiest idea how to rig up. To strengthen my point, as I'm struggling to even waterstart their homemade kit stew, I watch my guest using me as a

buoy to crank a perfect carve gybe around, whooping at me because for the first time ever sailing such user friendly kit, she has time to take the piss out of me half way round her gybe. Typically I spend the next ten minutes re-tuning their kit before having to send a bailiff out to get them off mine.

It's not just because my kit's got enough carbon in it to start a new planet, it's the way it was rigged, more out of design, than habit.

On our **INTuition** holidays, we have a fun rigging competition between two teams based on the ten rigging tips I give them. Getting the downhauling right wins about 40 % of the points, such is its importance. Getting the outhaul right for the conditions wins another 10%. This article will enlighten you as to how and why you should still crank on as much downhaul as you physically can to improve your carve gybing, control, top speeds, getting into footstraps, developing your harness skills, preventing spin-out and more...

# SHINING

## SHINING EXAMPLE

## THE DARK SIDE



### DOWNHAUL!

Pulling the downhaul on increases the tension in the front half of the sail and loosens the tension in the back half (loose leech to exhaust the gusts). With every centimetre more downhaul you crank on, your rig's stability infinitely improves.

On the water, when the wind hits your rig and bends it off to leeward, the tension in the front half of the sail reduces, whilst the tension in the back half increases. That's why even though your leech looks like it will just be a floppy waste of space on the beach, on the water it does tighten up. And also why although the front of your sail seems as taught as a drum on the beach, on the water it might become the crisp packet technology that sends you, or me, catapulting.

### Wind Simulation.

In order to take these photos, we created a simple wind simulation ashore. You need two people and a fully rigged sail with boom on. The first person stands firmly on the mast base, whilst the other pushes the mast tip downwards, simulating the wind blowing against the sail.

### Breaking.

These diagonal creases on the shining example are known as 'breaking' in the world of sail testing R&D and are a result of twisting, (next time you ring a towel dry, note the diagonal creases from twisting.) If breaking occurs in every panel, it's a sure sign the sail is twisting off evenly, which is good news. One of the reasons sails have battens is to iron out these wrinkles to cause less drag, especially important for race sails.



The only difference between these two rigs is the one on the left has 2cm more downhaul (subtly seen by it's floppier leech). They both appear to have a highly tensioned leading edge.



With a wind simulation applied, the **Dark Side** clearly turns into an uncontrollable crisp packet, whereas the **Shining Example** remains as tight as a drum.



ABOVE: Imagine trying to control this!?

## FAQ'S.

**Can you over downhaul your sail?**  
 Having seen about two to three thousand people's kit in my time coaching, I've yet to see anyone over downhaul their sails.

**What if the wind drops, does less downhaul improve my early planing?**

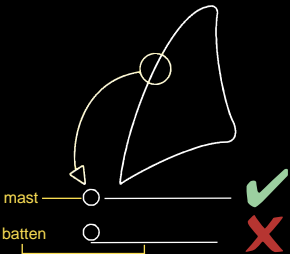
Yes very fractionally, but the extra drag and instability created by less downhaul isn't a balanced trade off. There are four much better ways of improving your early planing, without reducing your downhaul:

1. Less outhaul
2. Higher boom
3. Tipping the rig forwards
4. Pumping (these naturally increase Downforce and take your weight off your feet, enabling the board to accelerate easier).

**How much downhaul should I use?**

As much as you physically can, unless you're a gorilla. Everyone has a different perception of what 'floppy' is, (eh eh) and floppiness is very subjective to light/reflection, so saying 'floppy down to the third or fourth batten' isn't always perceived correctly. Not to mention some sails only have four battens.

The clearest visual method to check for enough downhaul is to look at the batten about a third or a quarter of the way down from the top of the sail. Make sure this batten is literally pointing straight into the centre of the mast instead of pointing underneath it (diagram 1). This method is applicable to all sails, even though every style of sail has a different luff tube width and luff curve.



**Are the measurements printed on my sail correct?**

Neil Pryde measurements are exact and easy to follow. This was one of the biggest differences I first noticed using Neil Pryde rigs. But most smaller brands are still making printing or measuring mistakes and some are hard to understand.

**Mast Debating:** Does a softer mast make downhauling easier?

Yes. Lighter people, (below 70 Kg) can usually get away with using a softer mast than the IMCS stiffness recommended on the sail, and the softer the mast the easier it is to downhaul. But using a stiffer mast than the recommended amount starts causing problems.

**Does a quality mast extension make downhauling easier?**

A decent mast extension with large pulleys and /or lots of purchase makes downhauling much easier. The only three models to consider are Neil Pryde, Fanatic and Arrows.

**WARNING:**

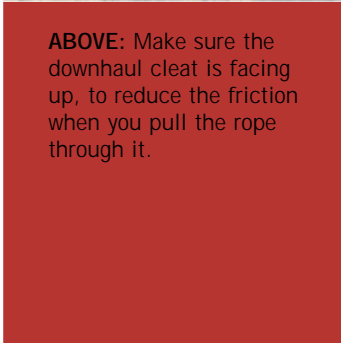
Do not use the old fashioned single hand 'easy riggers' made of plastic with a metal cleat inside them. These things shatter in your hand and send you to hospital.

Do not use sharp objects like screwdrivers to pull the downhaul on; if the rope snaps you might stab yourself in the knee, like I did once. Doh!

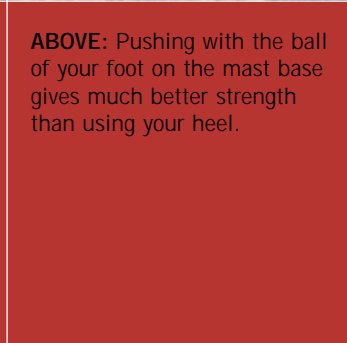
# DOWNHAUL



**LEFT:** Keep your arms straight and lean back, as you would on a rowing machine.



**ABOVE:** Make sure the downhaul cleat is facing up, to reduce the friction when you pull the rope through it.



**ABOVE:** Pushing with the ball of your foot on the mast base gives much better strength than using your heel.



**LEFT:** The world's best easy rigger is your two-handed harness hook. Ideally tie a bowline (rabbit, snakes, holes etc) or wrap the rope around enough times in some kind of granny knot.

# OUTHAUL

Less outhaul creates a 'fuller' sail, (the shape of the sail becomes more like a bath tub) which increases the power. When you're under powered, use less outhaul. When you are overpowered use more outhaul. On average I change my outhaul about six times whilst I'm sailing, to always maintain perfection whilst the conditions vary.

**FAR RIGHT:** This is the 2cm adjustment range used to dramatically change the sail in the outhauling pictures below.



Less outhaul = more power.



+ 1cm makes a surprisingly big difference.



+ 2cm makes a massive difference.

**RIGHT:** On the water when the sail is wet, where it touches the boom a black line will appear. Don't let the sail touch the boom for more than about a foot in really light winds and not at all in stronger winds.

**FAR RIGHT:** This sail has too little outhaul, touching the boom almost all the way forwards to the harness lines, creating too much 'lift' and thus, strangely enough, one of the main causes of spin-out. This is one of the most common tuning mistakes many of you make with no-cam sails, so look out for that tell-tale black line next time you're sailing in a gust.



## SUMMARY:

Next time you're overpowered, crank on more downhaul and outhaul and go back out!

Next time you're under-powered, let the outhaul off, put the boom up two inches and go back out!

Only by experiencing these changes can you get into the habit of adjusting your sail for the conditions, just as the pro's do with every slight change in the weather. Modern rigs have enormous wind ranges, provided they're rigged right.

**Guy Cribb INTUITION Holidays.**

Why are Cribby & Shawna's holidays the most popular of their kind?

The best coaching, perfect venues, best wind stats and a right laugh.

For a life changing experience, contact:

01273 842 144  
 intuition@guycribb.com  
 www.guycribb.com