As you seek to master the cornerstone of windsurfing technique, Harty focuses on the issue that most commonly trips up the improver (and that’s all of us) – power control.

The Power and the Gybe

Dynamic wave-riding is a power on power off game – powering on to drive the sail, powering off to release the wind and redirect always at exactly the right angle on the right part of the wave. Power up too soon and you lose the nose and stall; power up too late and you pivot and stop.

And back down a level with the intermediate – learning to commit to the harness and release the death grip only comes from knowing how to dump power in an instant to avoid the dreaded hooked-in catapault.

Power and the Gybe

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HIDING THE SAIL

Beach and wave starts introduce you to the concept of lifting and dropping the sail in the windward/leeward plane to increase and decrease the area exposed to the wind - and so increase and decrease power. Often missed by keen amateurs, ‘laying it down’ is also an essential way of controlling power in fast, advanced gybes.

MOBILE HANDS

The position of your hands on the boom, especially the back hand, determines the sheeting angle. By dropping it back, you automatically sheet in. By sliding it forward, the sail will naturally open. A mobile back hand in the gybe does away with the need for a lot of pushing and pulling. The windier it gets and the more power you’re dealing with, the more important that mobility.

Arguably the biggest stanza peccadillo is placing the front hand too far forward on the boom – it’s usually a defensive measure, which leaves you too close to the rig. It also makes it very easy to sheet the sail out by pulling the front arm – bad in cases where you want planing power – but good at a certain moment in the gybe when you need to depower the rig before releasing it. Sliding the front hand forward at the right moment is a key element of gybe power control.

TURNING UP AND DOWNWIND

The easiest way to control power and speed is to alter course up or downwind. Every board and sail combo has an optimum point of sailing depending on the wind-speed and sail size. The more powered up you are, the broader to the wind it is. It’s similar to your sail’s sheeting angle in that if you head either up or downwind of that optimum angle, you’ll lose power.

People assume that to gain speed and power in the gybe, you keep bearing away. Wrong.

• For most non-racing, happily powered up, free-side situations, the optimum point of sailing is only about 10° off the wind. It’s not a broad reach. This is where people lose speed as they gybe. Their entry is too wide as they’re lingering too long in the broad, slow-down zone.

Being aware of these optimum angles is key to shaping your arc according to the wind and power available. For example, if you’re stacked or run into a headwind, you need to expand your understanding of power on different points of sailing. It’s not always a case of bearing away.

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The hardest gybing concept to grasp as you seek the upper levels is that of leaning forward more. How is that possible? If the rig is pulling you forward, you lean forward, you surely pile over the front? Unless you’re an alien with your own force field, all you can do is react to and resist pressure.

So here’s how it works – but beware, there’s no easy solution – every power control method in the carve gybe demands a little commitment and valour.

LEAN FORWARD?! HOW?

The hard gybing concept to grasp as you seek the upper levels is that of sheeting in and leaning forward. How is that possible? If the rig is pulling you forward and you lean forward, you surely pile over the front? Unless you’re an alien with your own force field, all you can do is react to and resist pressure.

Just telling someone to ‘lean forward more’ is like telling them to jump out of a plane without a parachute. The right advice is ‘let the power pull you forward … and then control it.’

And understand – leaning forward is crucial if you’re to dominate the board through the turn and pressure the inside edge. And only if the mast is forward … and deep, are you set up to control both nose and tail. It’s your rig handling that controls the nose.

In a modern gybe, you look to use a powered rig to help you accelerate all the way round.

• Firstly if it’s windy and or choppy, you never get up to the speed of the wind on the rig never gain lift. Hence you’re tempted to keep bearing away deeper and deeper. Not only do you get more and more out of control but also end up miles downwind.

• If you start at full speed, the only thing you can do is slow down around the arc. By releasing the rig and surfacing, you’re relying on residual speed to carry you round – it only takes one rogue chop to kill it. In a modern gybe, you look to accelerate all the way round.

As the aim has to be, by controlling your speed, shaping your arc according to the wind and sheeting in to the right amount, to have some power (a controllable amount) in the rig right up to the rig release. With power, the rig can drive the rail through the chop as well as powering the nose and keeping the board level nose to tail. In short, to gybe well you need control of both nose and tail. It’s your rig handling that controls the nose.
First consider what happens when you bear away to gybe (assuming you’re powered up). You go from about 15 to 25 mph in the space of a second. Take away the rig and imagine how much you have to lean forward just to anticipate that acceleration and stop yourself flopping off the back.

The trick is to sheet in as you bear away by extending the front arm and allow the rig to pull you forward and upright over the board to the point where you’re tripping over your feet. Until you get used to it, it’s an unsettling feeling which is why so many at this stage resist it by bending the arms and dropping back – but you have to go with that flow - and then change the direction of flow…

THE HANDLEBAR TWIST - IT’S ALL IN THE HIPS

Puff your chest out and take control of this ship. Boss the rig so it takes you where you want to go – don’t just hang on and be taken where it’s going. As you bear away, you want it to pull you forward. Then as you carve, you want it to pull you to the inside (and help you control the edge). Here comes the critical and most ignored rig move – the twist.

With a wide grip, like on a chopper motorbike handlebar (please see the film Easy Rider for reference), drop the front hand and pull the back hand as if you were turning those handlebars. That directs the rig drive towards the centre of the circle, at the same time turning your hips and dropping back - but you have to go with that flow - and then change the direction of flow…

And why don’t people make the rig twist? Because they can’t/won’t sheet in.

SHEETING IN – MORE POWER TO YOUR NOSE

People can’t sheet in primarily because their back hand is too far forward on the boom. Like having the door knob in the middle of the door, they don’t have the leverage to pull it closed. With the hands close together the instinct is to pull on both arms, which chokes the power and makes you sit back. People won’t sheet in because the force appears to be leading them into a chasm. Nibble your way towards that chasm. Drop your back hand back perhaps half a metre, hold the tension (i.e. don’t let the boom open). Look upon your front arm as the accelerator pedal. With each gybe try extending it a little more and dropping your back hand back a little further. If you’re happily powered – not hanging on - you may begin to enjoy the sensation of being pulled into the front seat. (The front seat is where your hips are in front of your feet. The back seat is where your hips are behind the feet.)

And as you drop the rig into the turn, you should begin to feel the mastfoot pressure depressing the front section of rail. The greater the twist, the more the edge bites and gouges. When you start to turn around the full rail and not just the tail, you feel yourself accelerating like a dinghot – and not just pivoting and stopping – and you’re on your way to a planing exit. The next stage is to be fully aware of the back hand position. The further back it goes, the more you automatically sheet in, the more power you direct into the rail and the tighter the arc.

This is all happening because you’re making positive use of the power and are not just hanging on.
OVER-SHEETING – THE HOW …

As you tilt off the wind to initiate in moderate conditions, even though you’re bearing away, the sudden acceleration means your apparent wind churns forward. You then have to gather the sail to prevent being back-winded.

When it’s windier, the apparent wind doesn’t swing forward as much and that steering is in met with resistance – there’s too much. If you don’t get it under control you have no choice but to hold the sail open, sit back, resist and have much the same experience as a jockey being dragged behind a runaway horse. This is the bold, grunty bit. Dumping power comes from hiding the sail by dropping it to leeward, at the same time over-shooting by pulling the clew past the optimum angle – only possible with the back hand way back.

If the feeling as you drop and pull initially is that you’re going to die, and then suddenly that you’re not. As the clew comes in and the leech opens, it all goes quiet. It’s a beautiful moment. The bear is tamed and you drop into the turn in total confidence (or so it says here …)

SHEETING IN … THE WHEN

As suggested, it is a huffy move, hence the commonest sheereting in mistake is to delay, bear away too far and over-sheet dead downwind when the rig lightens up – that’s about half an hour too late.

Depending on the wind strength the critical over-sheeted zone is between beam and broad reach - that’s where you need to dump power. Over-sheeting needs to happen AS you bear away. By downwind you should already be opening up into your transition. At this point it’s worth underlining the timings. Sadly it all happens much more quickly than you’d like. Bear away and sheet in for one second and on two, open out into your foot and rig change. Effectively the rig is never still, you’re either pulling in or letting out. Because that over-sheeted lay-down feeling is so wonderful, people stay there too long. If you love it so much, start going for 360s – then you can stay there all day.

THE TRANSITION

It pains me greatly watching people do the tricky bit and then fluff the rig change – such a waste. The problem is that they’re releasing the rig because they have to, it’s about to over-power them, rather than because they want to. If you let go of a fully powered sail which you’re resisting, there’s a wild change of pressure, which demands a huge balance readjustment on your part. That’s rarely a pretty outcome.

The two tricks to work on, which happily are the same off the plane, are:
1. Make the transition smooth – i.e. don’t let go of a fully sheeted in sail or it’ll ring round like a whip. But ease it out gradually as you turn through the wind so you’re giving to and releasing the pressure all the way round.
2. As you release it make sure you and the rig are balanced. You’ll be on your heels anticipating the pull forward as the clew swings round. And most importantly:
   a. the mast is tilted to windward;
   b. your front hand is forward on the boom by the mast (so the rig will pivot around your wrist and not swing back)
   c. and the rig is balancing itself. Back to the 80s and the big trick was the ‘no hands’ rig change – only possible if the rig was tilted right to the inside as you released.

AND SO TO SUM …

The secret to seamless gybing, and the whole windsurfing universe is indeed power control and I leave you with this nugget.

When you learn to windsurf it’s all about resisting the rig. It pulls one way and you pull the other and that neutralising of forces drives the board along. And as you speed up non-planing manoeuvres it’s still about resisting – in the flare gybe for example you drop back against a windward tilted rig and get the manifest pressure to drive the nose round. But as you progress into planing moves, e.g. the carve gybe, another force enters the mix, the acceleration and the centrifugal one. Now you have a symbiotic relationship with the rig – sometimes you resist it but sometimes you go with its force and let it pull you. The trick is to keep moving it so it pulls you into the right positions.

More ‘techniquery’ from Harty next month. Please do visit his website, www.peter-hart.com, for news of clinics and DVDs and like his Peter Hart Masterclass facebook page.

With sail open and tack, and think facing the nose, it is hard to control the carve.

Harty Hart Photography.