Living with the RS700

CONCEPT OVERVIEW:

It is clear that the RS700 delivers, and that single-handed sailing will never be the same. That feeling of anticipation as you reach the windward mark, and the inner glow as RS800s get frustrated that they can't get away, hmmm..!! Last week, Yachts and Yachting at last got around to the RS700 boat test and I was asked: "So why is it like it is? What are, say, 2 key secrets that have really made this sailing concept work?"

Well, back to messing about with a spinnaker on the RS600 – we did learn 2 things: Firstly that hull stability, (both fore and aft and sideways), cockpit ergonomics, and kite handling systems had to make hoists, drops and gybes the easiest in the game. This is when the singlehander is most vulnerable! Secondly that the kite had to be big enough to really take over downwind, after all bigger kites with no handling cost is performance for free!

A stable platform...wider waterline width than the 600, and a bow that goes on forever - very fine in the entry. With all that hull in front of the mast and a well rockered hull, she never goes down the mine, and the fine entry shrugs off the waves upwind and down: throw in a long waterline and that brochure line "performance with ease" was never so apt.

Projected sail area... getting a big enough kite away from the rest of the rig was always going to be a challenge. The pole cannot be too long on a singlehander without lee helm going through the roof. So raise the hoist enough and you get enough sail area complete with a high clew for easy gybing, and good visibility. Pull the forestay far enough back down that long bow and you can keep chute and pole entirely in front of the forestay, spinnaker handling to die for.

These two points were non-negotiable for the boat to be really fast around the course and easy enough to race and not fight the boat. The downside is that the rig and thus the hounds had to be higher than the norm. Add to that a softish mast, essential to big mains and wide competitive weight bands, and a very narrow shroud and forestay base and you need good, controllable support. "Ah", you say, "that's why the 700 is so rig tension and spreader setting critical", and you'd be right. But that long mast has another benefit – a long luff and less roach is efficient upwind. Plus we could do away with yet another full-length batten and make the sail lighter and easier to hoist and use.

Survive - and fast! So, like every other RS, we have a light hull with shed loads of sail area, and as we all know loads of fun in the light and moderate. The reefed RS600 is such fun in serious breeze but was never as fast upwind as the sums would suggest. Trials with a mega-raked rig demonstrated that we could achieve similar sailability with a simpler system. The flattener leech cringle and raking daggerboard keep things in balance, and the rake tightens the kite luff and makes that easier to use as well!

BOAT HANDLING

Upwind

Conceptually the RS700 rig has more in common with the Contender, RS300 or even the Laser than the RS600.

In lighter winds, sub trapezing, you have to supplement the rig-tension induced prebend with gentle kicker tension – the downhaul on soft-battened sails cannot be used to prebend the mast, and should be fully eased to ensure the flattest entry to the luff. It's very easy to oversheet the main in these boats, so keep the boom end somewhere just inboard of the gunwale, and go sailing and try oversheeting to feel the rig stall, and then ease it until the flow kicks in and the boat comes to life. Develop a sense of the point at which this happens and sail on that knife-edge.

As you power up and start to wire flat the kicker should progressively come on to hold the leech fairly hard. Remember this is not a 600, where the sheet does most of the leech control at this point. This, however, is the only windstrength when the main will be nearer the centreline – just keep sailing to that stalling knife-edge.

Sailing in a breeze is more self-explanatory – kicker on harder still and by this time the downhaul is working very hard – it is the main depowering control and above 20kts you pull it really hard, the standard 4:1 is barely enough for this.

Rake the board above 12kts and rake the rig and use the flattener above 18kts. This will be crucial for the lighter (sub 85kg) sailors if they are to hang in there upwind.

Tacking

Of course with the kicker eased, the boat is a pussycat and any dodgy old RS800 sailor could cope. Kicker on and you th nk it's easy as it the soft sail wafts through the wind only for that clew area to fill first, sending the boat shooting back into the wind – ask any Topper sailor what that feels like. This is the only time a fully-battened sail works for you – as you thump through the tack flow establishes itself over the sail as soon as the battens flip, rather than the topper effect at the clew. So although the RS700 is inherently less weather-helmy than the RS600, you have to be as aggressive as the 600 sailor through the tacks.

Coming from the 800, I tried to develop a tacking technique that was common to both boats, but soon discovered that I'm not agile enough to exit the tack standing up in the 700, and adopted the old tried and tested, safe, 600 technique. I notice that most of the fleet uses something similar to this...

Ease the sheet a foot and put in your tiller ext hand, unhook with the handle whilst still trapezing. Put the helm down and swing in, letting go of the ext. As you go through the tack, facing forwards, pick up the sheet with your new fwd hand, making sure it's uncleated. End your movement landing on

the new wing, maybe easing the sheet. Lean back quickly and grab the tiller extension, quickly put the sheet in the ext hand while you hook on, and hop out, sheeting in as you go. Wire to wire in 5 seconds is a good guide, if you want to check your progress.

Hoisting

If you remember, the best time to ease the kicker is prior to rounding the windward mark, it makes bearing off easier, and is one less thing to do once the kite is set. The take-up elastic should be pre-tensioned from the last drop, so you can go straight for the handle. Find a position, which you are comfortable with for the hoist – it can be standing up in the light or sitting snugly on the deck in some breeze – and practice reproducing this position for each hoist – a quicker and more consistent hoist should result. I guess we'll see what gizmos are developed for quick release of the halyard take-up shockcord – but getting the kite full with the downhaul fully eased is crucial to not getting rolled at the windward mark.

Get the boat going and then sheet in the main, hard enough not to be backwinded, cleat it and drape the sheet over the wing for easy access.

Over 8 kts and you should at least be wiring off the gunwale if not the wing, but watch for the guys soaking low – only go for it when you are confident of getting that extra pace.

Gybing

The safe way is to come in and sit on the wing, ease the main and continue to bear off, easing the kite, but keeping pace on. Put kite sheet in your tiller ext hand and pull in the slack, plus a bit, of the windward sheet with your fwd hand. Steer into the gybe and cross the boat pulling in all the new sheet you can, hopefully filling it as you sit down (tiller ext behind your back). With the boat balanced, let go the ext to swap hands on the sheet, grab the ext again, sheet in the main and arc it up again.

The cool way to gybe is not to ease the mainsheet, making the transition from wire to wire much faster, but if you slow down or overdo the turn through the gybe you are finished – you takes your choice!

Dropping

Definitely ease the mainsheet, and adopt your practised stance/sit position, take one pump of the downhaul to douse the kite and tension the shockcord take-up, flick the halyard out of the cleat, and down comes the remainder. If you have any spare time, now is the time to tidy the sheets, as upwind it can become an irritation.

RIG SETTINGS

The RS700 has a narrow shroud and very narrow forestay base combined with those high hounds we talked about earlier on. Thus support via the spreaders and rig tension is crucial. Mast rake, spreader length and aft sweep, and rig tension combine to determine how stiff your mast is when sailing (also the lowers of course). This is all made more complicated to analyse as raking the mast effectively rakes the spreaders as a side effect (reducing mast support in the process).

Good sailor, terrible dresser!

Let's not worry overmuch about all this with one exception: Inadequate support will result in the mast overbending in the midsection upwind or close reaching. Horizontal "stress cracking" will be the first evidence prior to the mast failing – no failures yet in this area, but I have seen evidence of the cracking – that mast was taken out of use quickly! Only a heavy yotter who likes the kicker combined with heavily swept spreaders and less than 140kgs static tension could cause this sort of problem. It is fairly inconceivable for the rig to fail with the kite up, unlike many 2-man boats.

As a pre-requisite we all need to use a degree of pre-bend – 50-60mm as a minimum to ensure the sail sets acceptably in light winds. Beyond that all the settings are dependant upon our weight or the conditions, and not having any definitive fast settings yet, all we can do is rig up within acceptable min and max settings giving us max and min power guidelines, and adequate support for the mast.

	Min. Power	Max. Power
Mast Rake Tip of mast/gudgeon	7,060 mm	7,360 mm
Rig Tension Measured on shroud	150 kg	220 kg
Spreaders - Length Mast to shroud	400 mm	450 mm
Spreaders - Sweep Shrouds to mast track	220 mm	140 mm
Prebend	125 mm	50 mm

Assuming that as a breed we are not manic boat tinkerers, then the only one of these that we might adjust for different wind strengths is the rake. Max power 7360 will be 3-8kts for everyone, big guys hanging on to it a bit longer, whereas min power 7060 is fully raked up, flattener in and board fully raked – light guys 16/18 kts, lardies 20kts+.

As regards rig tension and spreader settings, that is down to your weight and venue. Our approx spread of sailor weight is 67kg-95kg, and that would correspond to min and max power settings. If you weigh 80/85 kgs and are med height then somewhere in the middle will not be far wrong.

Lastly, I hope that you all get some good winter sailing, and that some of the Hayling clan can continue to keep Neil Robinson in check!

Nick Peters