

## RS600 Tuning Guide.

The RS600 is quite simply, one of the most exciting boats you will ever sail. Yet design development and rig technology mean that sailors from all sorts of backgrounds can learn the skills required to enjoy the high performance. A simple width and weight performance equalisation system means that the RS600 has the broadest competitive weight range of any single-handed dinghy. If you weigh less than 70kgs (11st) you will have wide wings, between 70-76kgs either wide or narrow, but wide wings must be accompanied by 3kgs of lead or if you weigh more than 76kgs (12st) you will have narrow.

The setting up of the boat is very similar whether you have wide (7ft beam) or narrow (6ft 4in) wings fitted. Some adjustments should be made for helm size but generally start with the standard setting. Your goal in tuning is to find that right 'feel' and being able to reproduce it in a variety of conditions.

The boat is amazingly simple with clearly laid out controls. With a hull that weighs only 52kgs constructed using vacuum bagged epoxy foam sandwich it is also extremely strong. The carbon fibre mast is engineered to create a uniquely dynamic rig and the flextop delivers awesome gust response, again lightweight is matched by incredible strength. The boat also boasts a state-of-the-art reefing system, which allows the sail to be reduced by almost 20%, and shortens the mast accordingly.

Given its simplistic nature any tuning guide is going to be quite a short guide when perhaps compared against other classes. Like any other one-design going fast in a straight line is not normally the problem but winning races involves an awful lot more than a well tuned boat. Time spent practising on the water is probably ten times more important than time spent 'bimbling' ashore. However if you are new to the class there is a definite set of procedures to follow to check your boat is in racing mode. So lets take a closer look at the two broad areas; hull and rig.

### **Hull :**

These are bullet proof and almost impossible to differentiate between an old one and a new one. Obviously you want a dry hull with no leaks and as scratch free as possible. The main areas to check for leaks are: around daggerboard case, transom join between hull and deck, rudder pintle and around the U-bolts that hold down the wings. The daggerboards never fit tightly in the case; hence they wobble about all over the place and eventually wear out the back of the case. Fix either a small piece of wood or plastic to the inside of each side of the case with glue; don't make the board too tight though.

The foils are resin transfer moulded and offer an incredible strength to weight ratio. All they require is repairs from any groundings and a light sanding from time-to-time. The downhaul on the rudder requires checking for wear, as does the tiller extension flex joint. I would recommend a carbon tiller extension as they are much lighter and provide bags more 'feel' than an aluminium one. I also choose to secure the rudder assembly down to the top rudder pintle to avoid it coming off. An unlikely occurrence but has happened in certain sea states.

Grip is important in this kind of boat. A loss of footing can end up with a costly swim. I prefer to wax the decks inside, with progrip on the wings. Simply wipe over all surfaces aft of the mast and reapply regularly. Some others guys prefer progripping their decks and central push-off bar as well. Both work equally well. I also prefer not to use toe loops on the wings but others find them useful for sea sailing.

If you are choosing from the options list for your new boat, definitely go for the split control lines, ie a separate eye riveted to the wings for kicker, outhaul and cunningham, it just makes life a little easier. As does a continuous kicker, also available as an optional extra.

## Rig :

The carbon rig is probably the area that most sailors find the most difficult aspect of tuning their boat. Firstly lets look at rake and rig tension and then other ways to alter your mast and sail shape.

Rake is measured from the top of the mast to the transom bar on the centreline. Do not use chainplate holes as your only measure of rake as shroud and forestay lengths may vary a little but they can be used once a benchmark has been set. In medium airs (10-18 knots) the current fashion is **6900mm** (on most boats, 3rd hole down from the top of chainplates). In light airs move up the chainplate one hole. In winds over 18 knots move down the chainplate by anything up to three holes but usually only one hole again unless nose-diving is likely to be a real problem. If you are sailing with the reefed rig you will need to reset your benchmark, probably finding the shrouds are now much lower down the chainplates, maybe even on the very bottom hole. Helm size and wide or narrow winged boats should all fit into the above criteria. However if you are very light (< 10st) or very heavy (> 15st) you may need to find a slightly different benchmark.

Rig tension is also something that should be set prior to launching. It can be adjusted between races while afloat but this involves a capsiz usually and a swim up to the bow. The benchmark for our medium air scenario is between **150-200 pounds**. In light conditions try around **100 pounds** and in strong conditions something above **200 pounds**. I find that the flatter the water, the less rig tension I need. This may feel a little strange but seems fast.

Diamond wire tension is a bigger concern to helms than it should be. The range is **30 pounds** for a 10st sailor up to **100 pounds** for a 15st sailor. Once set I tend to leave alone but check from time-to-time that the bottle screw hasn't worked loose during travel. Spreaders are fixed and all the same length so there is no need to worry about these.

There are several other controls that should be used to control the rig. An increasingly common way to pre-bend the mast is to use the main halyard. Hoist the sail to the top of the mast then thread the cunningham through a slip knot in the halyard where it emerges from the bottom of the mast. Pull down the cunningham to extract approximately another two inches of halyard from the bottom and then cleat. This will require changing the halyard on average twice a year to avoid failure and also crushes the sail headboard after a while but the resulting pre-bend does see the sail set much better on the mast.

A common failing among new sailors is to under use the cunningham and kicker. I would suggest using as much cunningham as you can pull on and then some for up-wind sailing in a breeze. The cascade kicker should be slightly under load when onshore with the sail hoisted and halyard tensioned (see above) but should be pulled block-to-block when beating in anything over 10 knots. Use these two controls to the full and see your mast now resemble a windsurfer rig but giving bags of forward power. Sail battens should be tied in securely so that all sail creases are removed but not so tight that the sail wont lie flat on the ground.

Another worthy tip before going afloat is to tape up almost everything. Shroud pins through chainplates, shroud reefing points, shrouds to spreaders, all split rings on trapeze gear, tiller extension joint onto tiller, all control line to shockcord knots, sail batten ties on sail.

In conclusion the RS600 is a simple boat to rig and once set up correctly really doesn't need a lot of maintenance. Unfortunately this means the rest is down to the helm and to master this boat requires lots of on-the-water practise. The RS Association is directing more resources and attach increased importance on training for sailors who want to both tune and master the handling techniques of their RS boat with help from fleet experts and qualified racing coaches.