



Fact Sheet Number 5 Sails

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## Sails

Many Cherub sailors support their local sailmakers. One of the great advantages of sailing a Cherub is that you are not bound to a single class sailmaker and you do not have to pay the premium prices charged by monopoly suppliers of sails. In most locations around Australia your local sailmaker will most likely take an interest in your Cherub campaign and help you with tuning and sailing advice as well as cutting your sails.

Several prominent sail lofts have current Cherub sailors on their staff ready to help you with any questions that you may have about your Cherub. Lofts with current Cherub sailors on the staff include UK-Halsey in Fremantle, North Sails in Brisbane and Ian Short and McDiarmid Sails in Sydney, McKellar Sails in Belmont, Avalon Sails in Mandurah.

Several recent Cherub National Champions now manage major sail lofts across Australia. Leigh Ashwood is the manager of Tasker Sails in Perth, Brent Frankcombe is manager of Quantum Sails in Melbourne and Joel McDonald is the manager of Allwood Sails in Brisbane. Many more of Australia's leading sailmakers have some experience sailing Cherubs and are capable of producing effective Cherub sails tailored to your particular rig and crew needs. The heads of some of the most well know sailmaking lofts are former Cherub sailors including Ian Lindsay at Hoods in Sydney, Steve Walker of Walker Sails in Tasmania, Craig Phillips from the Team New Zealand America's Cup loft and many others. If you are looking for a sailmaker in your local area with whom to work on your sails, look for one who has some association with Cherubs.

It is almost guaranteed that new sails will make your Cherub go faster. There are three well established ways in which new sails work. *Better Shape* - Your new sails will have a more powerful or more efficient shape adding speed. *Better Advice* - In acquiring your new sails you will get the opportunity to work with your sailmaker, gain his or her advice on tuning and sailing tips. This effect can be just as influential as the new sail shapes. *Better Head-space* - The placebo effect. Having new sails makes you feel better about you boat and makes you sail faster. They take away your excuses to loose.

## How to order a sail

Simply rocking up to a sailmaker and asking for a Cherub sail will not guarantee you a fast and effective sail. If you are looking for sails for a new boat or replacement sails for an existing boat the following easy steps will help you get and effective product:

### Step 1 Research and detail your needs

Cherub sails can be designed to be optimised for sailing in flat water or rough water, in light, medium or heavy breezes and for light or heavy crews. You need to discuss your specific needs with your sailmaker early on in the project. If your sailmaker does not ask you questions about your specific needs, go and see another sailmaker.

### Step 2 Roughly tune your rig.

Particularly in the case of your main you will need to go through the basis tuning steps before you order your sail. This ensures that your mainsail can be cut to suit your mast and its specific bend characteristics. Your sailmaker will probably want to measure your mastbend as part of the design of the main, so make sure that the rig is working the way that you want it too before you start. If your sailmaker in in another town and you are doing the measurement on his behalf make sure that you follow the detail of his measurement process exactly. See Fact Sheet No 6 for information on the basic tuning steps.

### Step 3 Acquire the sails

Getting the new sails is the fun part. Make sure that you talk to your sailmaker about the what you need to do to care for your new gear.

### Step 4 Fine Tune you rig and new sails

Go sailing. You will need to spend time on the water with the new sails experimenting with sheeting positions and vang and cunningham settings to get them working to their best. Two boat tuning sessions with another Cherub can help with this process. Another method is to get someone to follow your boat photographing it from behind. The photos will tell you a lot about the way that the leech of the jib and the main behave in different breeze conditions. At the end of this detailed tuning process you need to know exactly how your new sail respond to different vang and cunningham and lowers settings.

## Measuring up a Cherub for sails

### Jib

It is important the a Cherub jib fits the boat precisely. Proper fitting will allow the jib to be positioned on the fore-stay so that the foot of the sail is as close to the foredeck as possible while the clew board is in a position to allow the correct sheeting angle. Most Cherub jibs are designed to the class's maximum luff length of 4.170m. The primary class rule for the jib is a maximum perimeter measurement of 9.54m. Once the luff is subtracted from this length the lengths of the leech and the foot need to be designed so that the position of the clew lines up with the desired fore and aft sheeting location on the boat.

Small variations in the location of the clew can significantly change your sheeting angle and the flexibility that you have to adjust the sheeting angle.

One importance jib measurement rule is the maximum cross width of 795mm measured at a point on the leech 1.915m from the head. Small changes the way that the head of the sail is finished can make a significant difference in the location of the measurement point and therefore the measured width of the sail. This cross width measurement is a common cause of jib measurement problems at national championships. Make sure that your sailmaker double checks this measurement after he has finished the head of the sail. It is better to sort out all your measurement issues when the sail is made rather than on the eve of the first race of a championship.

### Spinnaker

When you sailmaker designs your spinnaker he or she will probably ask you for a set of measurements that will become inputs to their computer based spinnaker design program. Each of these should be measured to the bearing surface of the knot. These are not the measurements of the finished sail, but they are the measurements that allow calculation of the final flying shape of the sail. Getting them right allows the sail to fit the boat and sheet correctly. Typical measurements are:

Hoist height	Distance from the tip of your bow pole when extended to the halyard sheave or block.
Foot	Distance from the tip of the bow pole when extended to the sheeting point on the gun-wale
Leech	Distance from the sheeting point on the gun-wale to the halyard sheave.

The kite sheeting point varies greatly depending of the particular cut of the spinnaker. It can be as far back as 1m from the transom for flattish kites with small shoulders and long foots. It can also be as far forward as 600mm forward of the shrouds for kites with short foots and high shoulders. When you have acquired your new kits make sure that you talk to your sailmaker about the best sheeting point for you new sail and take a close look at the way that it sheets on the boat. You need to ensure that the leech does not close up too much when the sail is sheeted on. At the same time you need to be able to maintain an even shape as you ease the sheet.



Above: Typically the luff round needed for a mainsail can be measured by loading the mast to a pre-determined load, and then measuring the resulting deflection of the mast from a string line running from the tip to the gooseneck.

### Mainsail

The two issues for a Cherub mainsail are the mould shape of the sail and the amount and distribution of the luff round.

The mould shape is an issue you will need agree with your sailmaker taking into account the conditions for which the sail is being optimised. The sail can be optimised for flat or rough water conditions and light or heavy breezes.

The luff round will need to be matched to your mast. Your sailmaker may have his or her own method of measuring your mast bend and calculating the necessary luff round. If so, get their detailed instructions on how to do it before you start measuring. If your mast bend characteristics are way out he may get you to go away and re-tune the rig before remeasuring it. If you have adjustable lowers you will need two sets of measurements, one set with the lowers on hard and one set with them off.