



'Rubix'

Rig Setup and Tuning



A basic guide on how to rig and tune the 'Rubix' to achieve competitive performances.

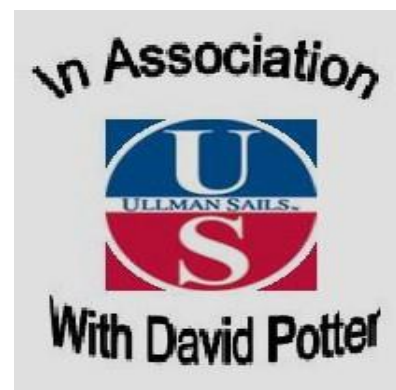
By

John Taylor

Contents

| | |
|---------|--------------------------------------|
| Page 1 | Cover Page. |
| Page 2 | Contents. |
| Page 3 | Introduction / Hull Leak Prevention. |
| Page 4 | Mast Details. |
| Page 5 | Main Boom. |
| Page 6 | Mast Rake / Pictures. |
| Page 7 | Jib Boom. |
| Page 8 | Rig Tuning. |
| Page 9 | Sail Twist. |
| Page 10 | Sail Flow |
| Page 11 | Rig Plan View. |

Taylor Made Yachts supports:



Introduction

This booklet is meant purely as a guide, the ideas and measurements recorded here, some of which are my own and some have been comments from other skippers, yet have all been tried and proven to work. Therefore, take from this guide the benefits that work for you but please remember there are many ways to achieve the same results.

If you have any further questions please contact me through the following email address:

johnmtaylor69@yahoo.com

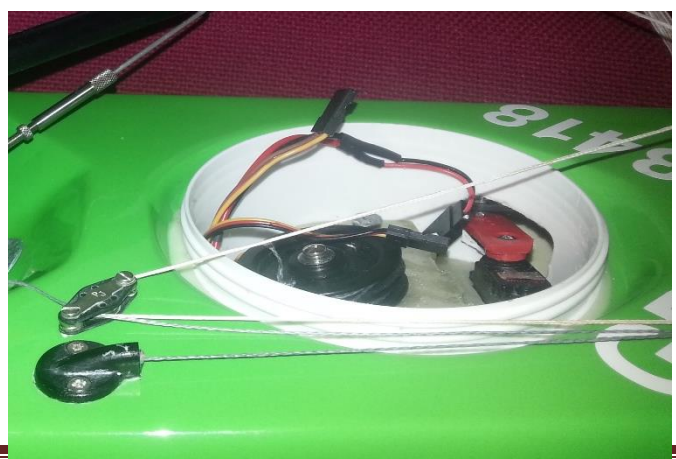
Hull Leak Prevention

Water ingress can be very frustrating, not only can it damage your radio equipment, but also the performance of your yacht severely degrades. There are a few routine checks that can be done to ensure your yacht remains at a competitive standard.

Periodically you can check for water tight integrity of the mast socket, fin box and the hull. Pouring water into the mast socket will help to find leaks, if the water disappears into the hull. Taping up the hole in the deck for the fin locating screw, then pouring water into the fin box from the underside of the hull, will again find leaks if water enters the hull. By taping up the rudder shaft and the hull drainage hole you're able to pour water inside, by carefully moving the hull and water around, you can then check for water tight integrity throughout the whole boat. If leaks are found ensuring the inside of the hull is dry, your able to brush resin around the areas of concern, then once the resin is cured re-test for leaks.

Prior to sailing your yacht, it's wise to check the following on the Rubix. Ensure all deck fittings are properly secure. The lead ballast securely fixed to the fin. Ensure the deck patch material is properly covering all the access hatches on the deck. This includes covering with deck patch material the **top bearing of the rudder shaft** situated at the rear of the deck. An important item when achieving good watertight integrity.

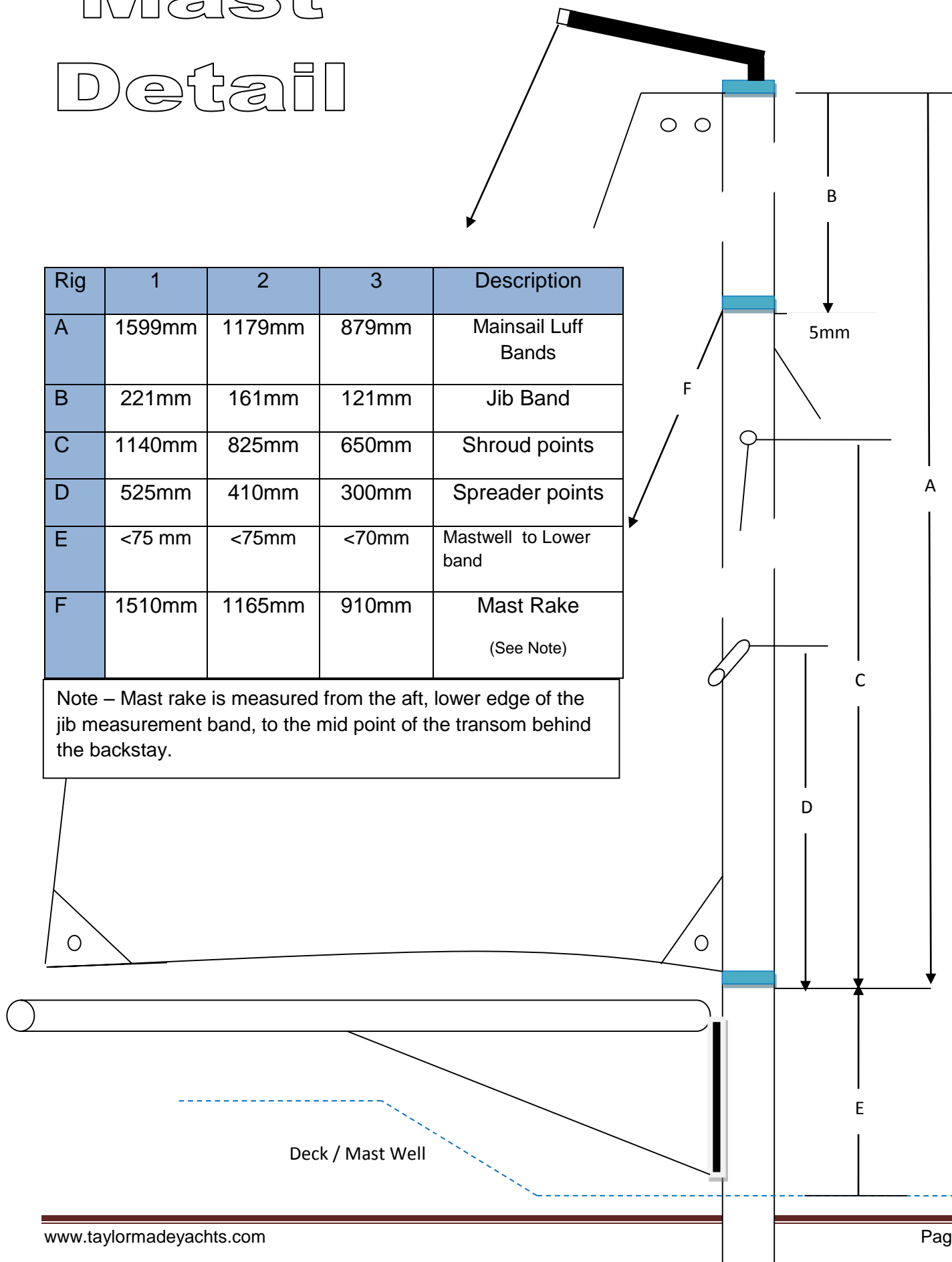
WARNING - It's important to securely fix the radio pot lid after switching on your radio equipment, but I recommend not to continually over screw the pot lid, because you risk the danger of breaking the seal between the radio pot and the deck of the Rubix.



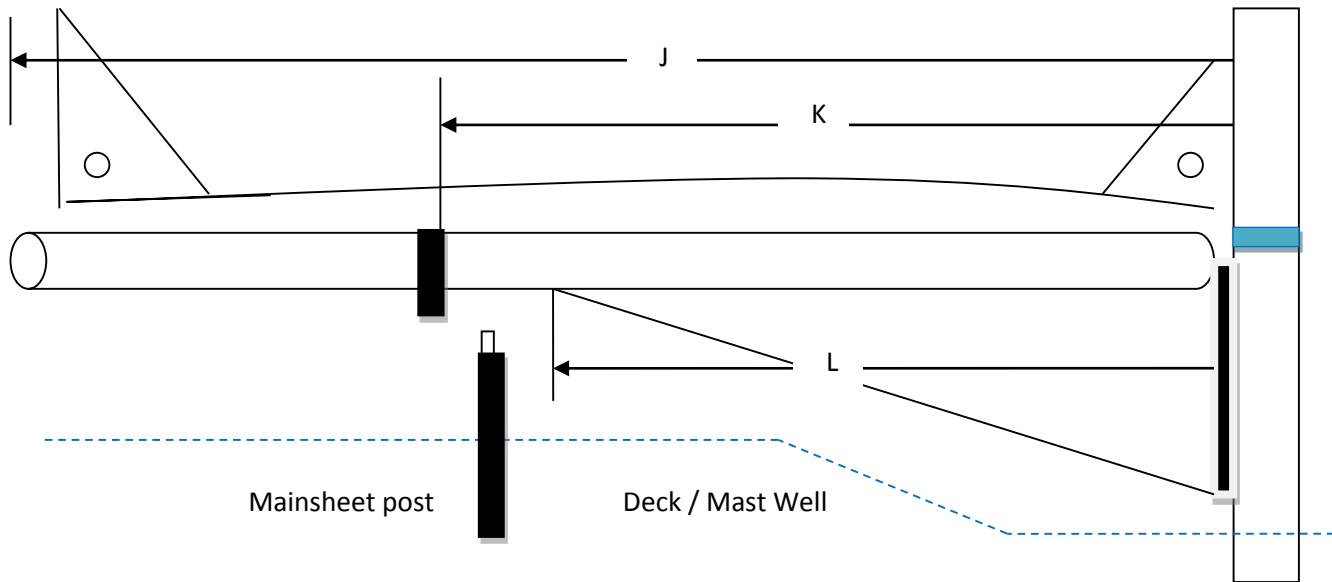
Mast Detail

| Rig | 1 | 2 | 3 | Description |
|-----|--------|--------|-------|-------------------------|
| A | 1599mm | 1179mm | 879mm | Mainsail Luff Bands |
| B | 221mm | 161mm | 121mm | Jib Band |
| C | 1140mm | 825mm | 650mm | Shroud points |
| D | 525mm | 410mm | 300mm | Spreader points |
| E | <75 mm | <75mm | <70mm | Mastwell to Lower band |
| F | 1510mm | 1165mm | 910mm | Mast Rake (See Note) |

Note – Mast rake is measured from the aft, lower edge of the jib measurement band, to the mid point of the transom behind the backstay.



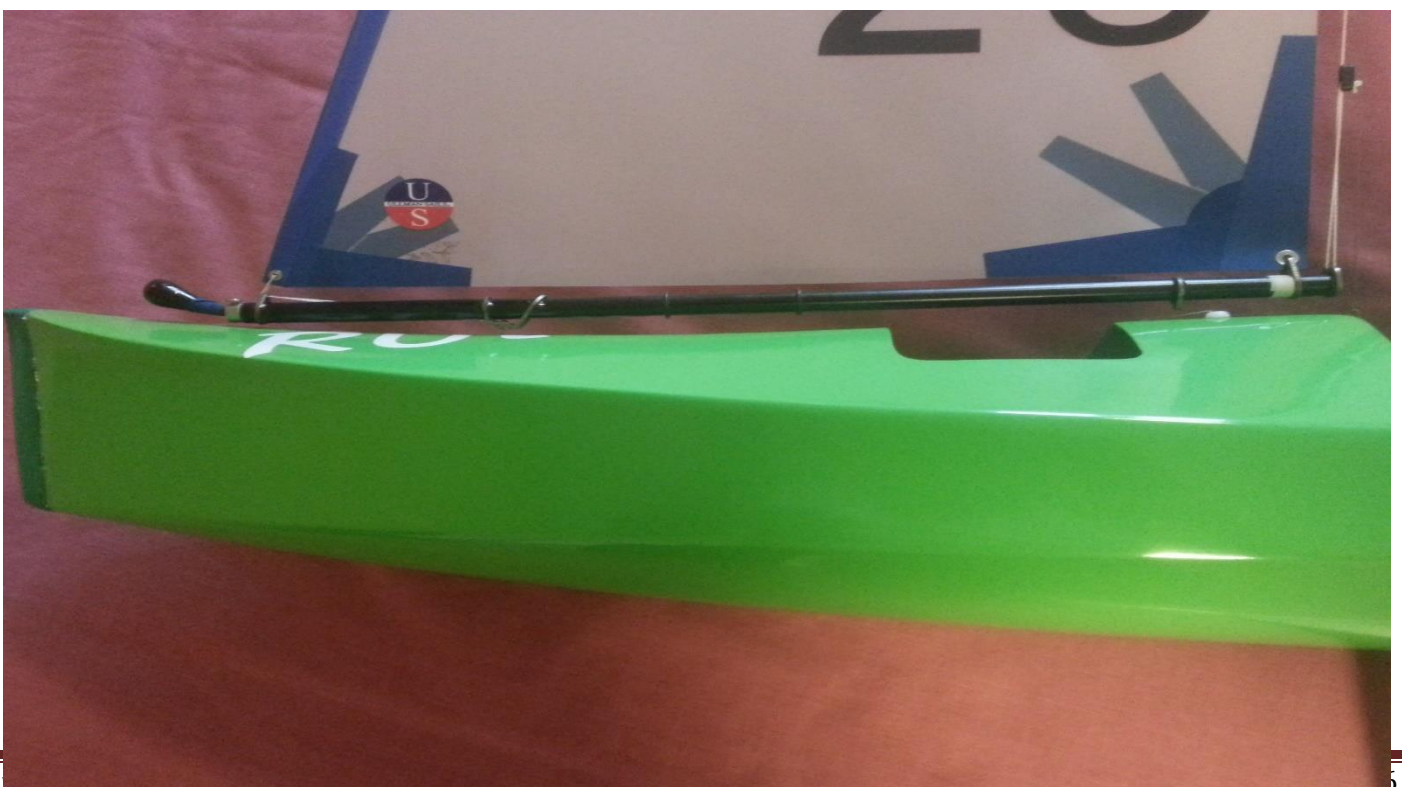
Main Boom



| Rig | 1 | 2 | 3 | Description |
|-----|-------|-------|-------|------------------------|
| J | 365mm | 355mm | 310mm | Length of boom |
| K | 223mm | 223mm | 223mm | Main boom sheeting |
| L | 125mm | 130mm | 110mm | Kicking strap location |

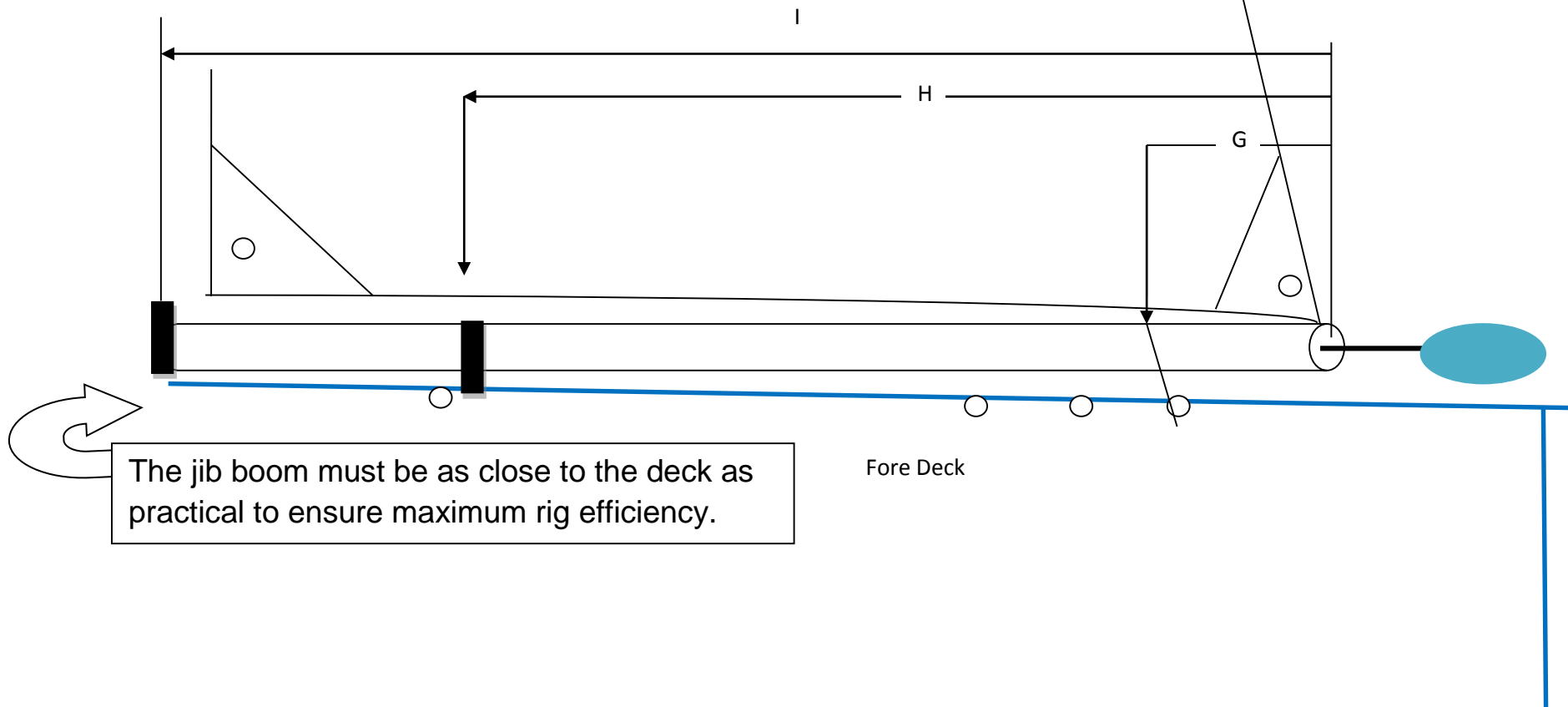
Mast Rake

It's important to create enough mast rake when setting up your rig on the Rubix. The foredeck design is shaped to allow the jib boom to remain as close to the foredeck as practical. When you create the correct amount of mast rake, the jib boom will not be allowed to foul the deck. Careful setting is required to achieve this.



Jib Boom

| Rig | 1 | 2 | 3 | Description |
|-----|-------|-------|-------|--------------------|
| G | 100mm | 97mm | 87mm | Jib Pivot Point |
| H | 340mm | 300mm | 260mm | Jib Sheet Fitting |
| I | 395mm | 360mm | 310mm | Leach Line fitting |



Rig Tuning

In light winds we don't require as much tension to keep the No 1 rig set, so reducing the amount of tension in the rig allows the sails to react quicker to any small fluctuations in the wind.

As the wind speed increases, the tension in the rig becomes more important. It's essential for good performance to have a large amount of rig tension when the wind speed is at the top end of each rig.

Also we rarely have a constant wind throughout the beat, so we need a rig that can adapt to the changing wind conditions. Using the rig dimensions as illustrated on **page 4 - 7** allows the rig more flexibility when we encounter slight increases in wind strength. The clew of the jib boom will rise slightly and induce extra curvature in the leach and thus spill excess air. You will also see the mast bend slightly and observe the curvature in the leach of the mainsail increase, again this spills excess air towards the top of the sail. Due to the same happening to both sails the rig keeps its overall balance better.

This can be easily seen when on the beat, but it is just as important on the run where we may experience stronger gusts from behind, to push us over from the top of the mast into a nose dive. If there is some flexibility, again excess air can be seen leaving the top of the rig, thus moving the leverage on the hull further down the mast, this minimises the chances of nose diving.

No2 and 3 rigs are usually sailed in much more constant wind conditions. Even when using my No3 rig, I like to induce extra twist in the sails, just in case the rig becomes over powered.

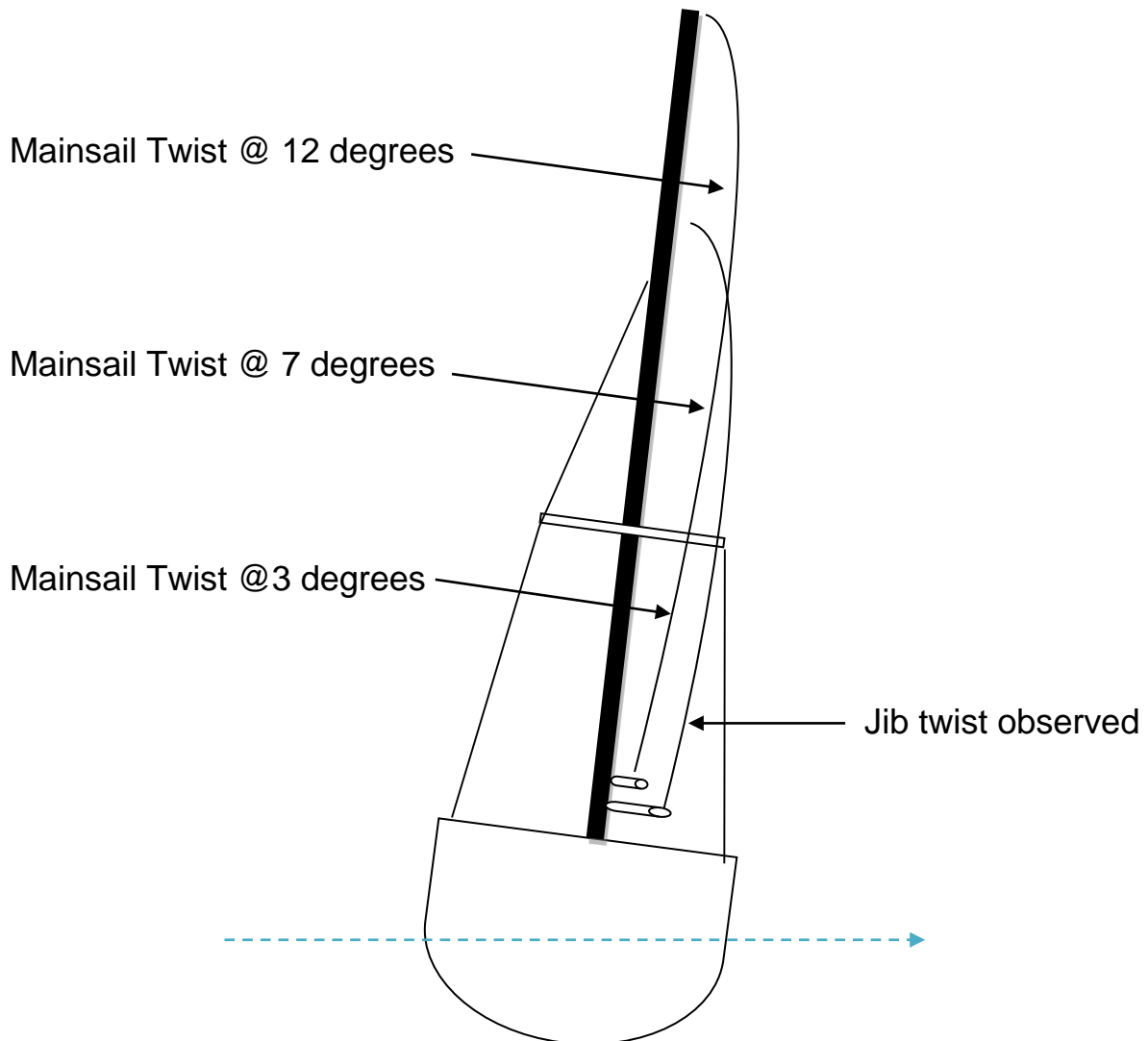
In general terms when adjusting the slot between the jib and the mast, I use the **3 finger rule** as illustrated below. This equates to a slot on average of 55mm. This is sufficient when tuning your Rubix.



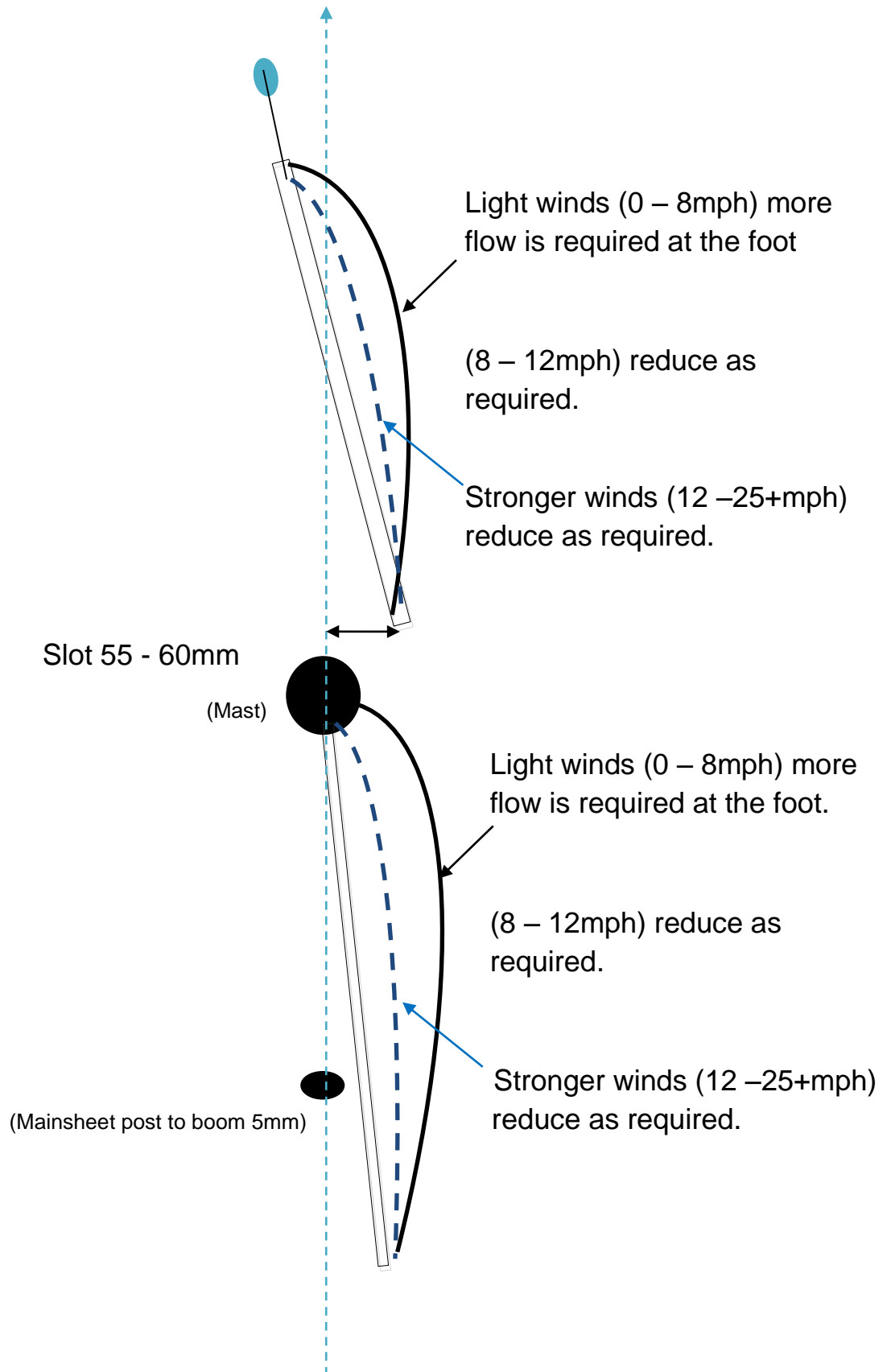
Sail Twist

For the main of an IOM, it seems that about 3mm of movement on the kicking strap does the trick, giving about 21 degrees of twist at the top batten and 12 degrees at the middle batten. Easing the mainsail clew by 2mm is equivalent to about a one-third turn off the kicker, an astonishingly small adjustment that gives a correspondingly huge change in twist.

For the jib, a lift of about 2mm on the leach line gives approximately 13 degrees twist at the upper batten, and 7 degrees at the lower batten.



Sail Flow



Rig Plan View

