



**Welcome to the Cobras
from the
Victorian Cobra Catamaran ass'n**

How to rig and sail a Cobra Catamaran

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1. Introduction

The VICTORIAN COBRA CATAMARAN ASSOCIATION welcomes you to a very unique group of people, *Cobra Sailors*.

We hope to see you on the beach at Parkdale Yacht Club on Beach Rd. at the end of Warrigal Rd. We have Cobra's sailing and racing on Sundays when our members will freely offer advice and assistance.

This document is aimed at new sailors or new Cat sailors in the hope that the hardest part of sailing (beginning) is made a little easier. There are plenty of books on sailing and it's a good idea to get a few.

Have Fun!!!!

2. Before the Beach.

Many a good day on the water has been ruined by gear failure or loss. Lets face it, you've spent a lot of money and put a lot of effort into buying, transport and rigging the boat, it's worth doing a bit of maintenance on the boat to ensure you're not going to have preventable failures.

Either after a sail or at home between sails, go over the boat and rigging and:

- Fix anything that gave you trouble last time you were out.
- Make sure fittings are tight.
- Make sure the hulls are aligned.
The point of the bows should be 10mm wider apart than the centre point of the transoms. The distances for the point of the bow to the centre point of the opposite transom should be the same.
- Make sure the rudders are parallel.
Measuring the distance between the centre line of the leading edge of the rudders and compare it to the distance between the trailing edges. The tiller will be heavy and there will be a lot of turbulence coming off the rudders if they are not parallel.
- Make sure the rudders and centre boards are the correct shape and smooth.
- If the boat takes in water, see if you can fix it. **Extra ballast is not required!**
- Check the stays, wires, sheets and cleats. If they look *worse for wear*, change them.
- Touch up any damaged paint.
- Make sure gear that can fall off a boat or trailer is properly tied on.
Looking around for a HATCH COVER, SHACKLE, SCREW OR BOAT THAT FELL OFF ON THE WAY TO THE BEACH IS A PAIN.

[Insert picture of boat on trailer]

3. Rigging

Sailors call bits and pieces on a boat, strange names. Eg. Most ropes are called sheets. Here are some common names for gear on the boat.

Figure 1.

1. Bow.
2. Port side.
When standing at the stern (back) of the boat, the *PORT SIDE* is the *LEFT* side of the boat. The way to remember it is **ANY RED PORT LEFT IN THE BOTTLE. (RED FLAG).**
3. Starboard side.
When standing at the stern of the boat, the *STARBOARD SIDE* is the *RIGHT* side of the boat. **(GREEN FLAG).**
4. Stern.
5. Transoms.
6. Bridle.
7. Forestay.
8. Front beam.
9. Rear beam.
10. Mast.
11. Mainsail.
12. Boom.
13. Mainsheet.
14. Jib sheet.
15. Traveller.
16. Barber hauler.
17. Rudder.
18. Jib.
19. Centreboards.
20. Battens.

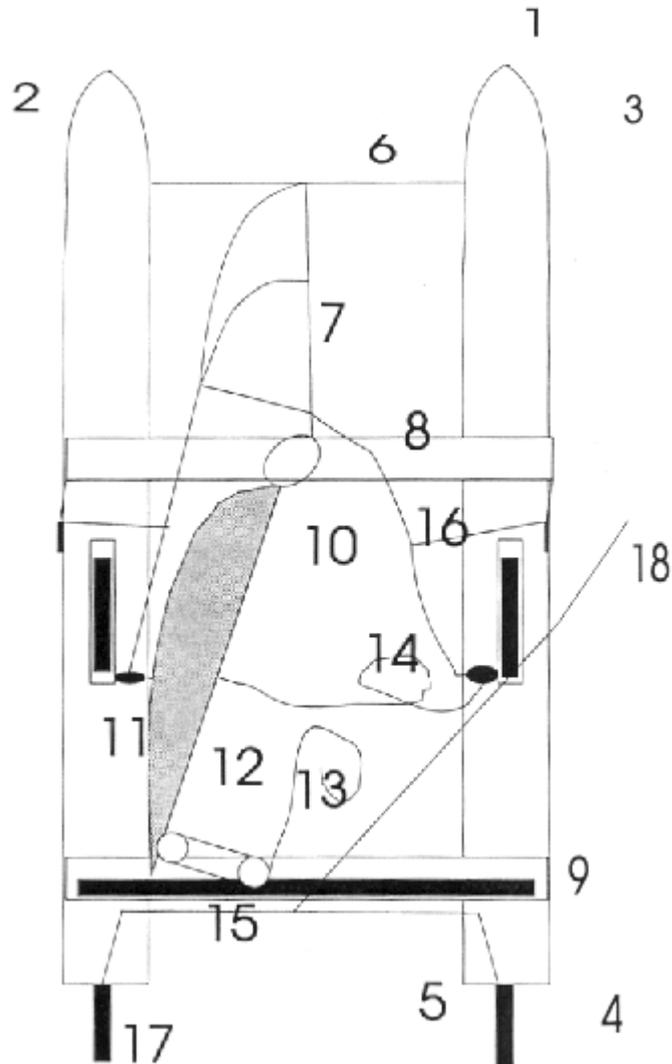


Figure 2.

1. Traveller.
2. Barber hauler.
3. Jib sheet.
4. Side stay.
5. Righting rope.

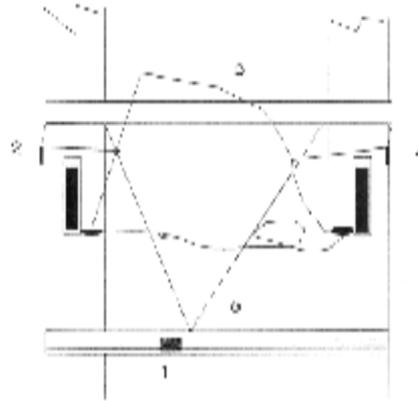
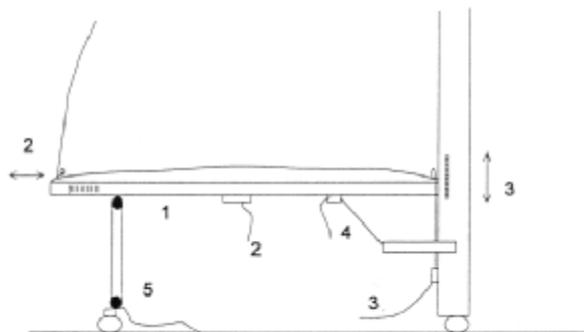


Figure 3.

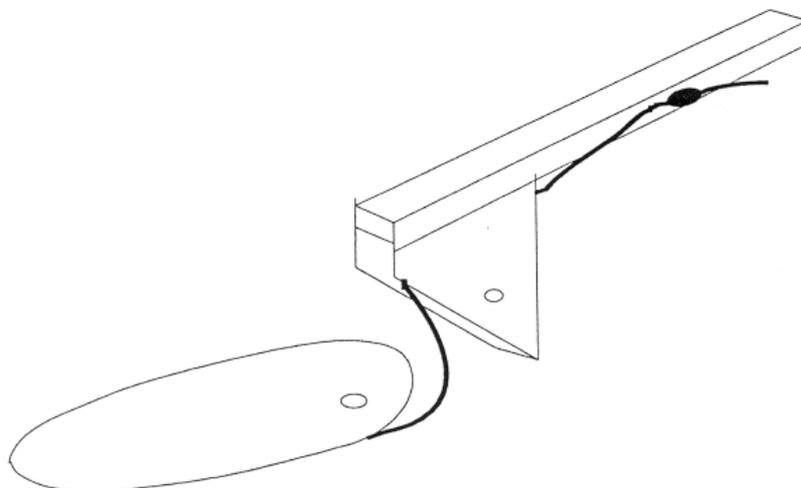
1. Boom.
2. Outhaul.
3. Downhaul.
4. Mast rotation.
5. Mainsheet.



Rigging the Boat

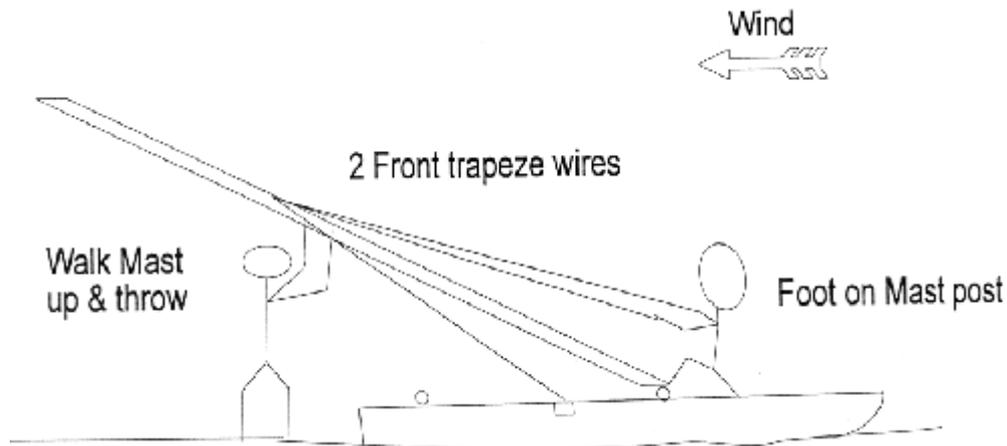
General.

1. Make sure the boat's bow is pointing into the wind when it's on the beach.
2. Make sure the hatch covers and plugs are on securely.
3. Until you are more experienced it's better to rig the boat tightly (for strong winds). It is better to rig for heavy winds than to rig for light winds and then get caught in heavy winds.
4. The rudders can be put on at any time, so while the crew is looking for something to do, just say Rudders! Keep the wing nuts on the inside so you can keep an eye on them.

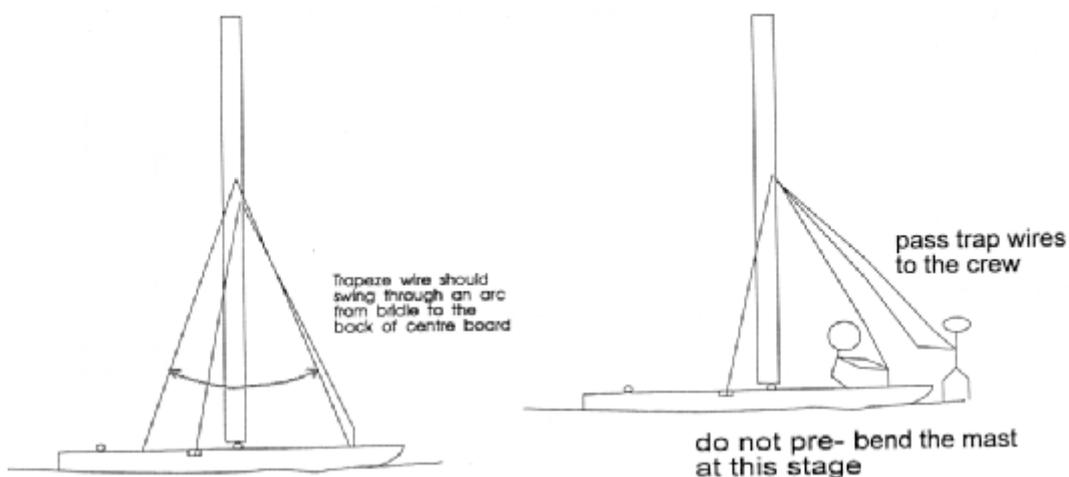


Mast.

1. Lay the mast on the boat with the base near the mast post on the front beam.
2. Untie the front trapeze wires, side stays and forestay. Secure the side stays to the side plates.
3. Place the foot of the mast on the post on the front beam.
4. Take a front trapeze wire handle in each hand and put one foot on the mast to prevent it from coming off the post.
5. The crew lifts the mast up and walks it up until he reaches the back beam.
6. Then the crew throws the mast up and forward as the skipper pulls the mast up by the two trapeze wires.

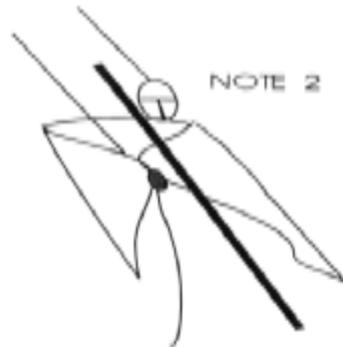


7. Pass the trapeze wires to the crew and have them hold the mast up while you fasten the forestay. Do not prebend the mast by tightening the forestay fully because it makes pulling the sail up difficult. Two loops will do at this stage.
8. Check the mast rake angle once the forestay is done up correctly. A trapeze wire should be able to be swung through an arc from the bridle to about 75mm past the rear of the centreboard case.
9. Clip the trapeze wires to the stocks.

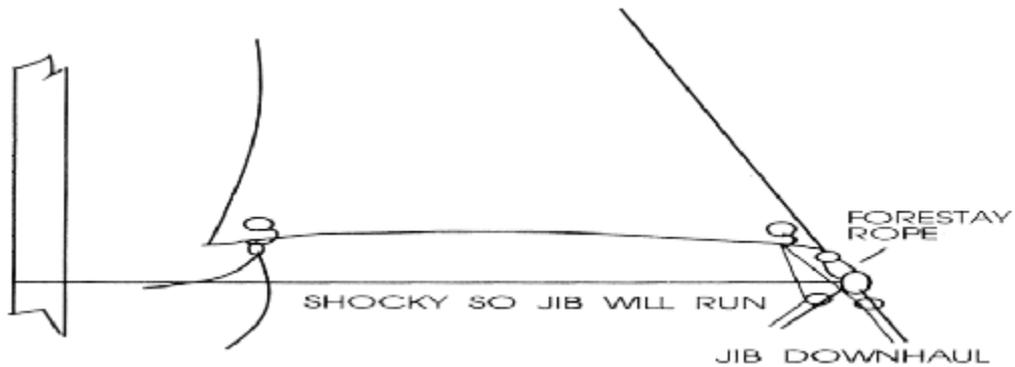


Jib.

1. Do up the shackle at the top of the sail.
2. Wrap the jib around the forestay and start the zipper, feed the string through the hole formed.

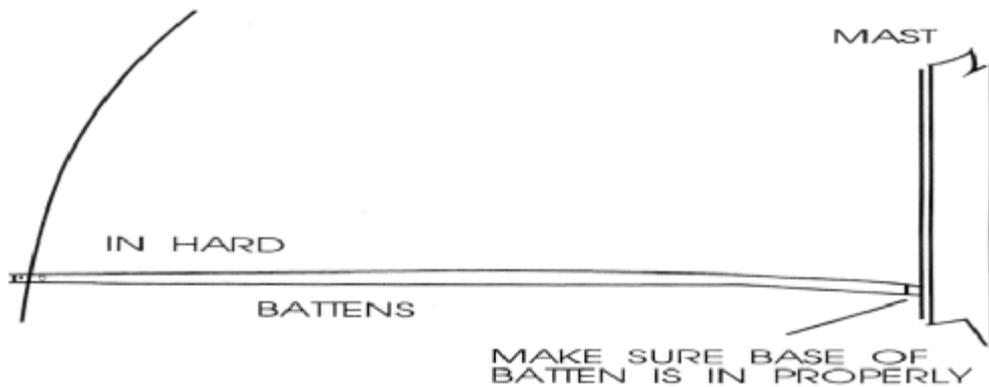


3. Hold the zipper while the crew pulls the string until the swage comes through and then attach it to the to ring.
4. Attach the downhaul to the eyelet at the luff.
5. Wrap the jib around the forestay and attach the jib sheet to keep it place until you're ready to sail.
6. Tie an elastic rope between the tow ring and the mast to stop the jib catching on the rigging.

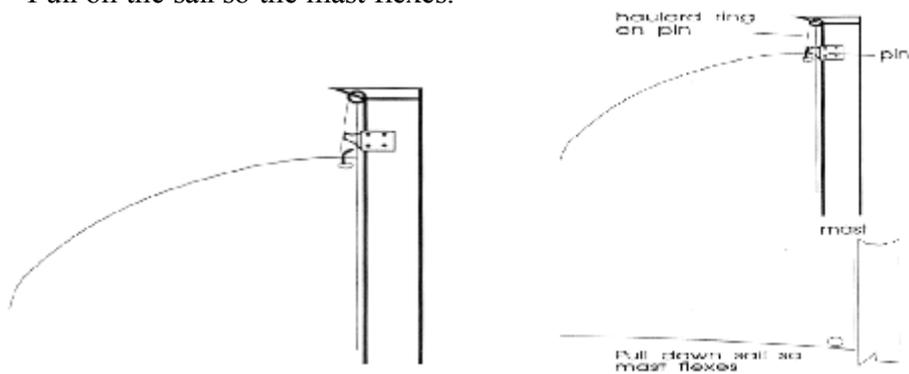


Mainsail.

1. Battens should be slid into the pockets carefully; making sure the base is in properly before tying the batten off (it could hole the sail).

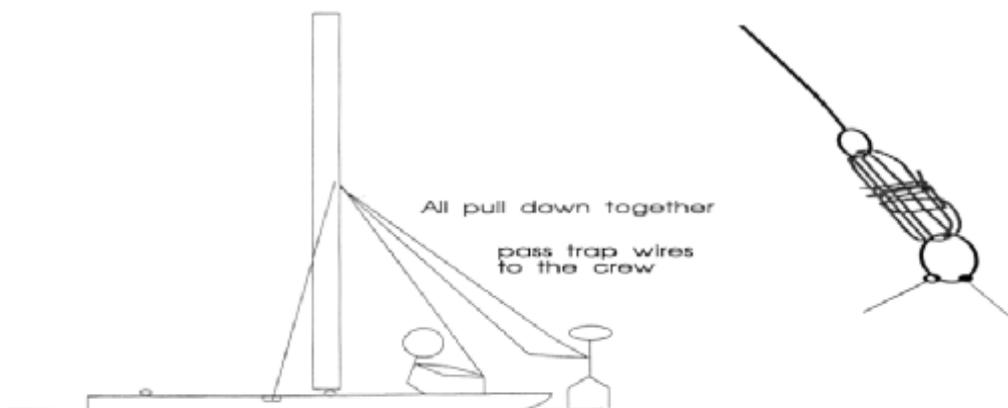


2. Tie the battens off with an appropriate amount of force to put shape into the sail.
3. Fix the halyard ring to the sail so the ring is looking toward the leading edge of the sail.
4. The crew feeds the sail up the mast as the skipper pulls the halyard.
5. The ring has to hook on the pin at the top of the mast. If you cannot get the ring to hook on, turn the boat on it's side and hook it on. **Watch the rudders!**
6. Pull on the sail so the mast flexes.



7. Attach the downhaul and pull so you put tension on the sail and rotate the mast and let off the downhaul. This is to ensure the ring is at the base of the pin.

8. Fix the forestay by having the crew grab the two front trapeze wires and going to the bow of the boat. Then the crew pulls on the trapeze wires at the same time as you pull on the forestay then do it up while the crew maintains the tension on the trapeze wires. The bridle ring should be 75 to 50 mm from the forestay swage.



Boom and mast rotation.

1. Attach the boom to the mast by sliding it onto the pin, then attach the mast rotation pulley to the lever on the mast. Leave enough slack so the mast can rotate about 45°.
2. Straighten out the mainsheet pulleys so the blocks are parallel and the sheet doesn't go through a 180° turn. Join the mainsheet to the boom with a shackle.

4. On the beach

Things to be done whenever you leave the boat on the beach.

1. Make sure the boat has its bow pointing into the wind.
2. Make sure the downhaul; the main and the jib are **not cleated**.
3. Furl the jib by wrapping it around the forestay then reattaching the jib sheet.
4. The diamonds should be adjusted so there is even pressure on both. We normally run them so that 600mm up from the bolt the wire can be pushed to within 25mm of the mast with reasonable pressure. The other way is to use beam scales and set them so they deflect at 30kg.
5. Dolphin striker should be set so that the main beam is slightly arched up when the mast is up. The dolphin striker is there to ensure the hulls are parallel. If it not right, you go slow.
6. Now check that everything is tight. Have a look over the boat and make sure nothing is forgotten, and then ***get on the water!!!***
7. **De-rigging**
 - To get the mainsail down, pull the halyard so the halyard ring goes up past the pin. Rotate the mast so the ring will slide down past the pin.
 - Getting the mast down is the reverse of getting it up. You hold the trapeze wires and lower it. Have some-one ready to catch it. Keep one foot on the base of the mast so it does not jump off the front beam.

[insert front view picture]

5. On the water

1. What to wear on the water.

Buoyancy vests and trapeze harness are musts; **do not leave the beach without them!**

Beyond that, protect yourself and being comfortable are most important, so consider taking the following on the water: -

- Wet suit, long short – your choice.
- Gloves.
- Hat.
- Sun cream.
- Boots.
- Water, (If the wind dies, you could be out in the sun for a long time).
- Sun glasses.

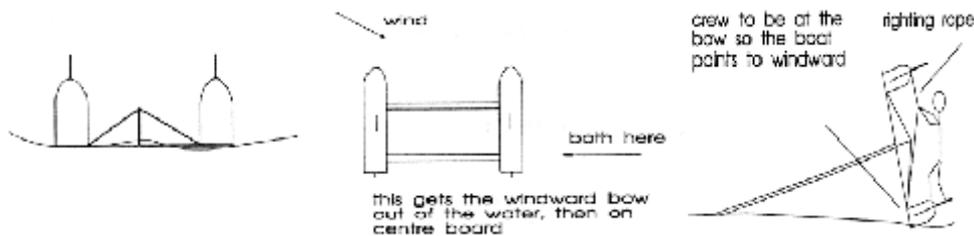
It's no fun being out and freezing or getting sunburnt, remember there are lots of things on a boat to knock yourself on so it's better to cover up.

2. Over powered boat

It is vital that you know how to right an over turned boat, it should be practiced in shallow water using the following procedure: -

2.1 Make sure the main and jib sheet are uncleated and free.

Get the windward bow out of the water, and then get on the centreboard.



2.2 Throw the righting rope over the hull and get out on the centreboard.

The crew should be in the water holding onto the bridle, this should bring the boat around to windward but they might have to get on the dolphin striker.

Do not walk on the hulls except where there are beams.

2.3 As it comes over, **watch your head** and **hang on**.

3. Tacking Cobras

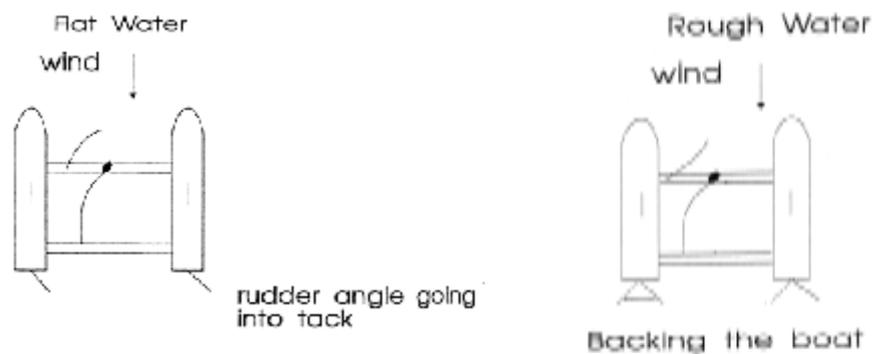
It's not the same as tacking monos and needs practice,

Assuming you're both out on trapeze.

Tell your crew that your thinking of tacking and why. Once you've agreed that it's a good idea. (If you can't agree, remember you're the skipper)

- 3.1 Tell the crew to "go in", they should cleat the Jib and go to the middle of the tramp deck.
- 3.2 The crew yells "okay" (or what ever) when they are ready. You may have to point a little higher while the crew is getting set.
- 3.3 Push the tiller away from you in a smooth action and come in off trapeze. Unhook and let the Main off about 450 mm. (not necessary in 5 knots or less).

In flat water once the boat is head to wind tell the crew to change over by pulling the Jib sheet out the other side. You should be going out on Trapeze at the same time.



In rough water wait a little longer so the Jib is back winding. (You may have to reverse the rudders and back the boat).

4. Going out through waves with the wind off the water.

- 4.1 To get through waves leave the rudders up so they will not get broken on the bottom.
- 4.2 Pull the Jib on hard and Main on about half. **You can steer a boat with the Main.**

5. Balancing the Boat

Like monos the crew weight is the ballast. Cats go better with only 1 hull in the water. Getting out on trapeze is critical. Going out on Trapeze should be practised with the boat being held to windward in about a 300 mm of water.

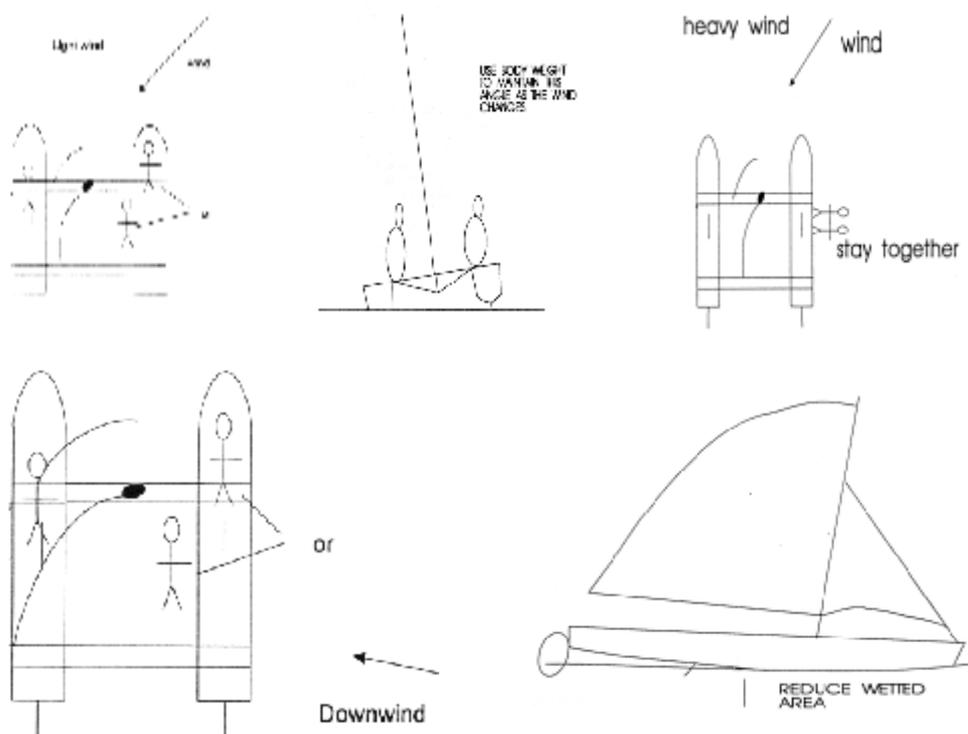
- 5.1 The trapeze wires height should be adjusted so it stays engaged on the hook of your trapeze harness when you're sitting on the side of the boat.

5.2 Hook on; hold the wire so it's pulling on the hook. This stops the hook coming off as you go out, a frequent occurrence.

5.3 Ease your backside over the side push off with your forward leg. Then get the other leg out, keeping your feet about shoulder width.

5.4 To come in, use the trapeze handle to pull yourself in.

- Use body weight to keep the windward hull just out of the water as the wind changes.
- Both the skipper and crew should move together and keep close together.
- When going down wind, keep the wind at about 90° to the hulls.



6. Powering Up.

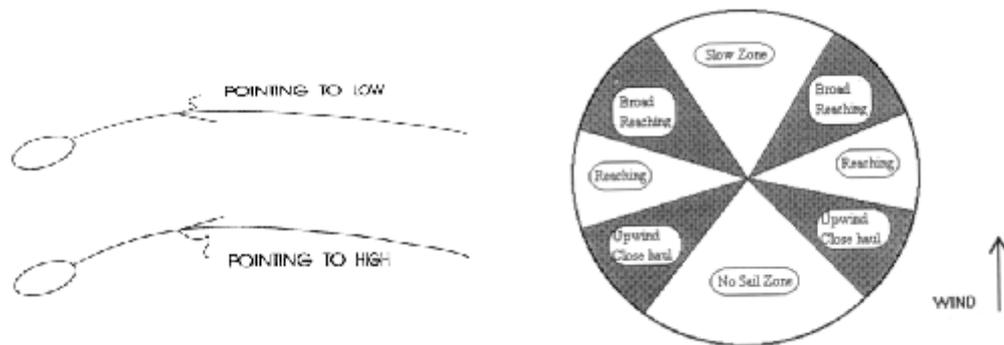
- Main and Jib on full, go by the tell tales.
- Downhaul on, but not fully. (Downhaul should only be pulled on 30 seconds before the start).
- Set the Mast rotation.
- Pull the Traveller into the centre.

7. De-powering.

- Traveller out about 225 mm (9") for 25 knots and below 6 knots,
- Downhaul on full.
- Less Mast rotation.

8. Sail trim.

The aim is to have all streamers flowing horizontally.



9. Going upwind.

If the windward streamer is not flowing then you are pointing too high or your sail is too full.

- Pull you downhaul on.
- Pull you outhaul on.
- Pull your mainsheet on.

If the leeward streamer is not flowing then you are pointing to low or "bag up" your sail:

- Let your downhaul off.
- Let your out haul off.
- Let your mainsheet out.

10. Shy reaches.

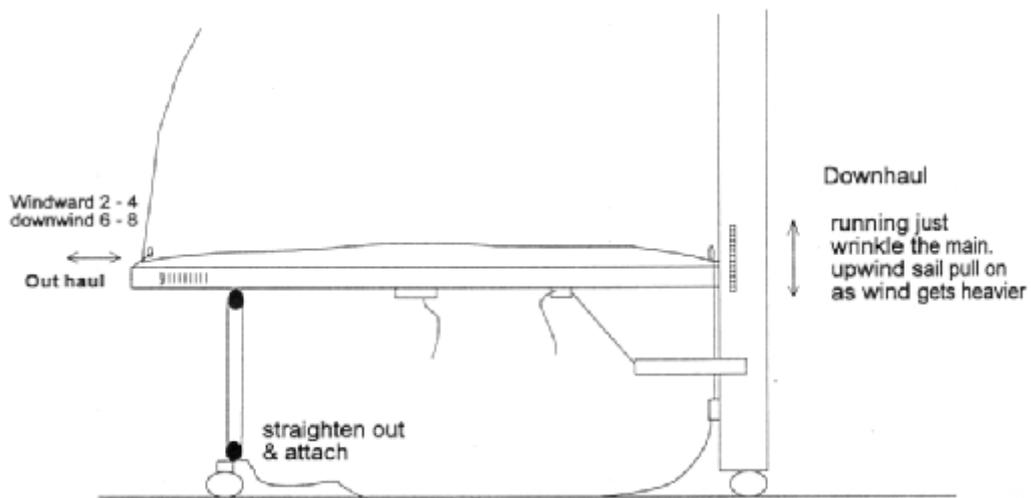
- Ease downhaul a little.
- Ease sheets but keep the streamers flowing.
- Raise the windward centreboard.
- If necessary, ease out the traveller so that the windward hull is just skimming the surface.

11. Broad reaches.

- Ease downhaul a little.
- Ease sheets but keep the streamers flowing.
- Raise the windward centreboard.
- Ease out the traveller 500 mm from the centre.
- Jib barber hauler should be pulled out about half way to the gunwale.
- Ease the outhaul.
- Increase mast rotation.

12. Down wind.

Ease downhaul so that wrinkles just appear.
Ease sheets but keep the streamers flowing raise both centreboards.
Ease the traveller fully out.
Jib barber hauler should be pulled out to the gunwale.
Ease the outhaul.
Increase mast rotation.



13. The Crew

The crew should:
Look out for other boats.
Work the jib, downhaul, and barber hauler, centreboards.
Balance the boat *keeping the leeward bow 25 - 50 mm out of the water.*
The crew needs to know how to stop, (point it to windward and un-cleat all sheets) steer, and sail a boat. This is handy when you fall off!!!.

14. Coming into shore

Always round up to windward before the rudders hit the bottom then push the boat into shore.

6. Basic Rules

Even if you don't race it's important to know the basic rules so as to avoid collisions. There is one major rule, four basic rules and lots of minor rules.

The major rule is **don't hit anything !!!** To avoid hitting other boats **always make your intentions clear** to all nearby.

Hitting other boats is dangerous, expensive and usually means the end of the race or series. The best way to avoid hitting other boats is to have the crew keep a constant look for and report on other boats positions.

The rules were revised in Mid 2000, there will be user friendly rule books available you get one from places such as Boat Books or the VCCA.

Ten Sailing Rule Commandments:

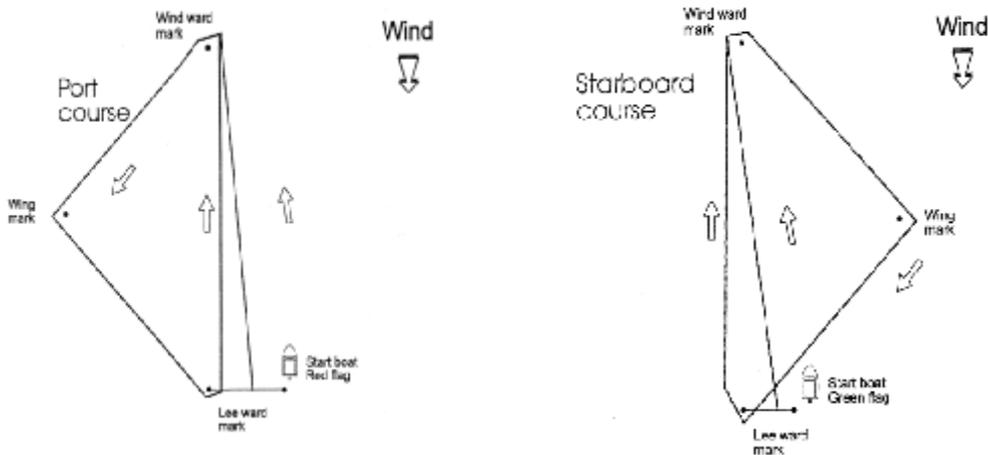
1. **Port keeps clear of starboard.**
2. **Windward keeps clear of leeward.**
3. **The boat astern keeps clear of the boat ahead.**
4. **A boat Tacking or Jibing keeps clear of one that is not.**
5. **Avoid collisions. Racing Rules are defensive to prevent collisions not offensive racing tactics.**
6. **If you gain right of way or change course, give the other boat time to keep clear.**
7. **The inside boat(s) at two boat lengths from the mark is entitled to room to round the mark.**
8. **A boat that is backing up or not racing keeps clear.**
9. **If you have violated a rule, take a penalty.**
10. **It is better to give way than to spend hours in a protest room.**

7. Racing.

Much as it might be hard to believe, after a while of hooning around on a boat, going anywhere, sailing can become a bit ho hum. Watch out you're a prime candidate for the **racing bug, a particularly contagious infection.** The challenge of going as fast as you can, competing against other boats, making the most of the wind and the sea.

1. Attend the briefing,

Understand the course; there are two basic course directions a port and a starboard course.

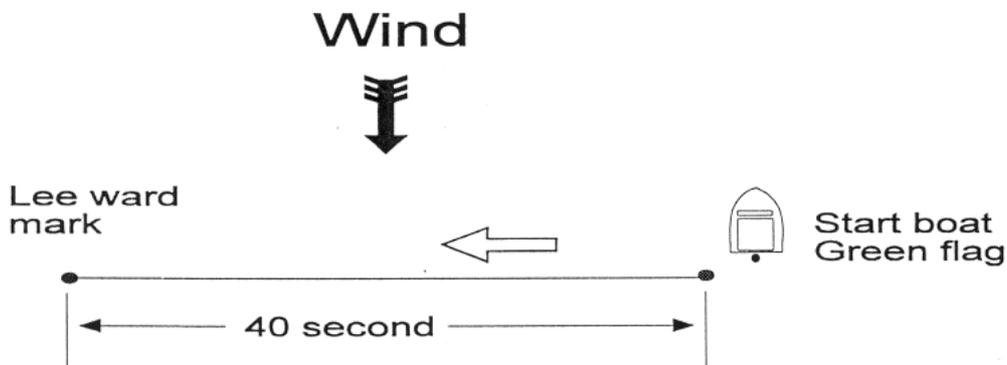


2. Starting

Be there! Be on the line at full speed when the gun goes off. It's easier said than done and requires practice. The things to strive for are:

- Clear air.
- Boat speed.
- Be on the line when the gun goes off.
- Do not hang back. Go with the bunch.

The best way to be on line when the gun goes off is by sailing down the line at about 60% full speed and time how long it takes. Say if it takes 40 seconds to travel the full length of the line. This means you can arrive at the start boat with 20 seconds remaining, knowing you cannot run out of line.



3. Around the course

- Clear air.
- Try to pick the right side of the course
- Try to keep to a minimum the number of tacks and jibes.
- Stay upwind of other boats.

4. Buoy rounding.

- Round buoys with smoothly so that you exit at speed.
- If you're going to get in at close quarters know the rules.

There are plenty of good books on racing, get one, get two.

Then enjoy the experience of sailing a Cobra.

