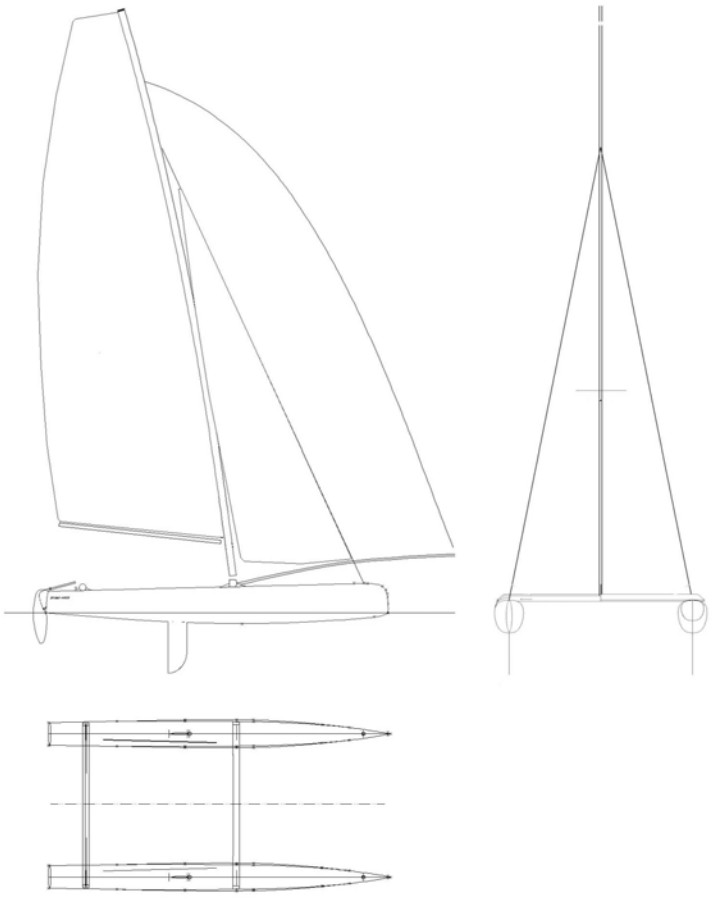
Spitfire



OWNERS MANUAL

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Edited by

Sebastian D Lefort LL.B.

Additional input by

Tim Swinburn, Grant Piggott
Stuart Gummer, Chris Stroat

Enquiries:
+44 (0) 7050 260201
e-mail: reg@swell-catamarans.co.uk
website: www.swell-catamarans.co.uk

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Introduction

This manual was written in order to help you to use your craft in a safe, yet satisfactory way.
The assumption is made that you have the expertise that is necessary in order to rig and sail your new boat. Should this be your first boat and should you not have benefited from the necessary instruction, we highly recommend you contact an RYA (or similar) affiliated sailing centre in order for you to undergo the appropriate instruction.
Please keep this manual in a safe place and pass it on to the new owner, should you sell your boat.

Beware of the possible dangers mentioned below!

- The mast is metallic and thus an electrical conductor. Any contact of the mast with overhead electrical wires may be fatal! Be extremely cautious when masting, launching or sailing!
- Always wear an appropriate buoyancy aid that is in conformity with the European norms (CE)
- Always ensure that the daggerboard maintenance device is working correctly in order for it not to be able to get lost should you capsize.
- …

List of Spitfire Catamaran parts

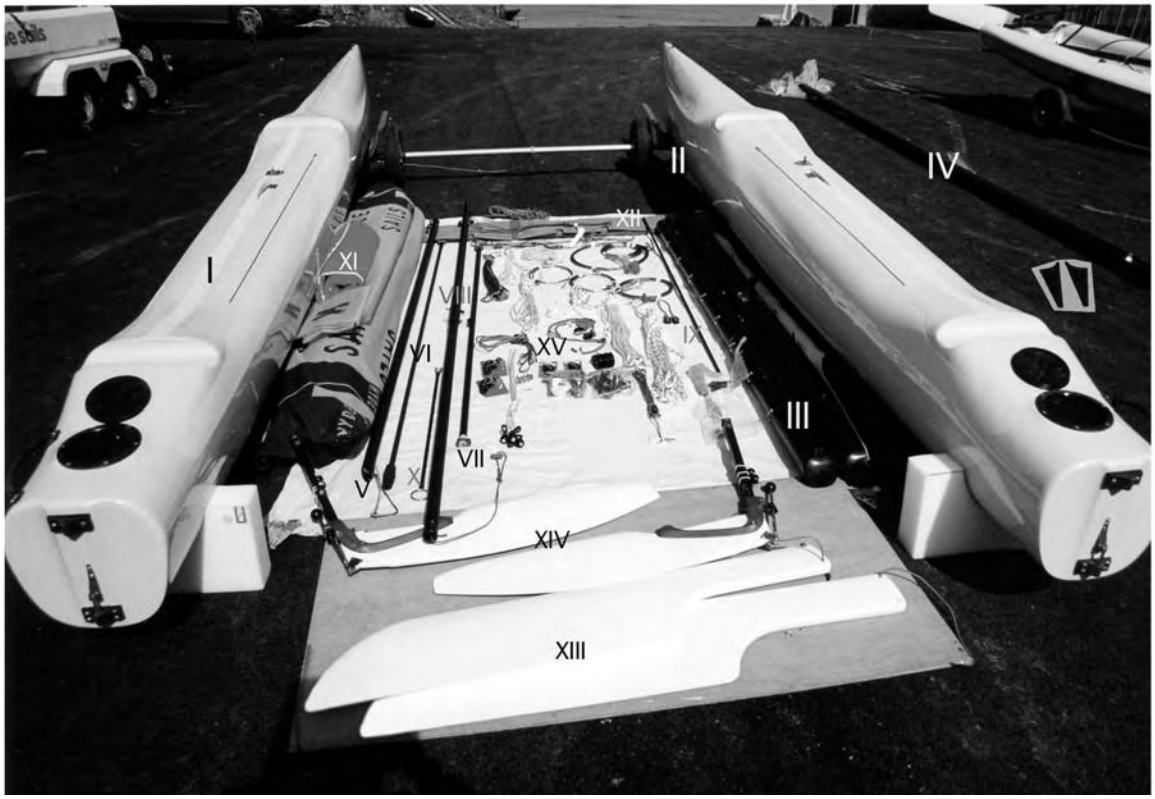
Main parts

I. Hulls (2) and inspection hatch covers.
II. Main beam with:
- 2 jib travellers and blocks
- 2 polyester caps, screws and washers
- 2 square aluminium pads

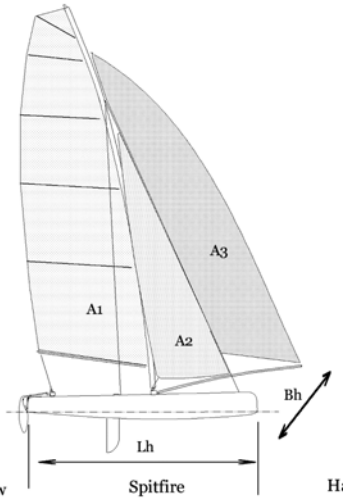
III. Rear beam with:
- 2 polyester caps, screws and washers
- 2 square aluminium pads

IV. Mast with spreaders
V. Boom
VI. Tiller extension
VII. Connecting bar
VIII. Bowsprit with spinnaker halyard
IX. Trampoline tube
X. Stay striker strut
XI. Spinnaker, jib, mainsail and bags
XII. Trampoline
XIII. Centreboards (2)
XIV. Rudderblade, rudderstock and tiller (2)
XV. Rig and parts bags

These parts are separate on delivery.



Principal Dimensions.
Dimensions principales.
Hauptabmessunge.
Dimensioni Principali.
Dimensiones Principales.



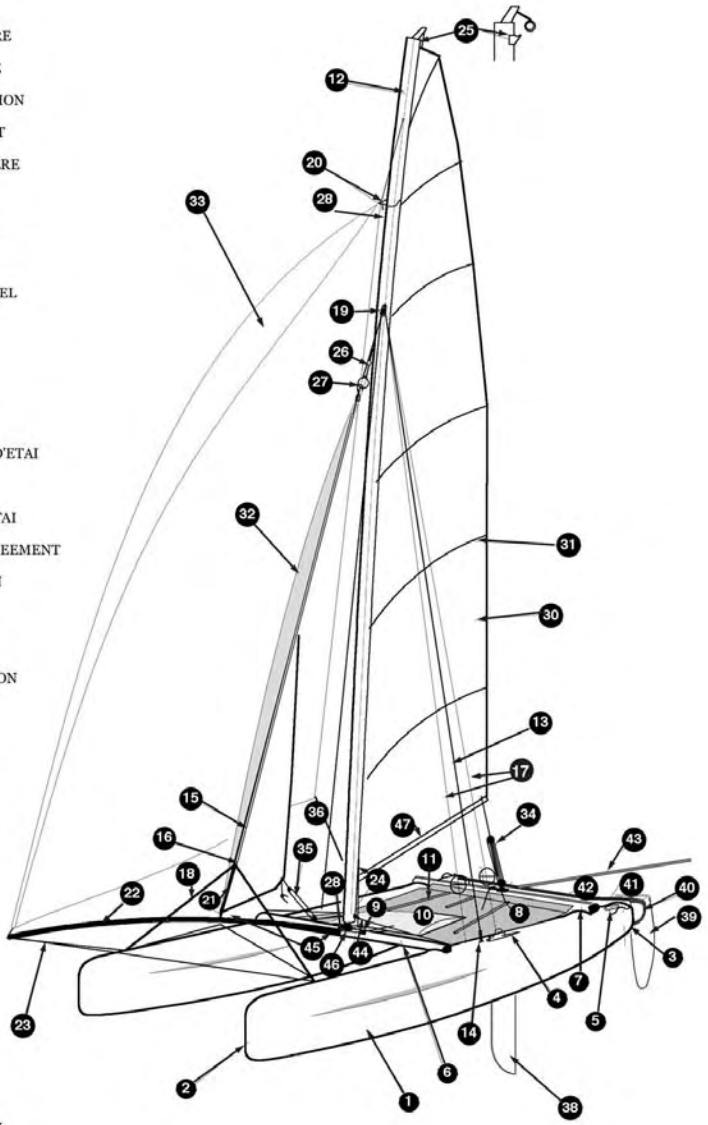
	Shadow	Spitfire	Hawk	Storm
Category	C	C	C	C
A1	13 m2	15,50 m2	17 m2	21 m2
A2	0 m2	4,50 m2	4,15 m2	6 m2
A3	9 m2	18 m2	21 m2	27 m2
Lh	4,80 m	4,98 m	5,52 m	6,12 m
Bh	2,40 m	2,52 m	2,59 m	3,20 m
D	95 kg	139 kg	180 kg	192 kg
ML	130 kg	205 kg	230 kg	260 kg
CR	65 kg	125 kg	135 kg	140 kg
CL	2 -	3 -	3 -	3 -
Mast section L	8.05 m	8.55 m	9.15 m	10.10 m

		English	**Français**	**Deutsch**	**Italiano**	**Español**
Category		Category	Catégorie	Kategorie	Categoria	Categoría
A1	m^2	Main sail area	Surface de grand-voile	Großsegelfläche	Sup.Vela Maestra	Superficie de la vela mayor
A2	m^2	Jib area	Surface de foc	Fockfläche	Sup.Fiocco	Superficie del foque
A3	m^2	Gennaker area	Surface de gennaker	Gennakerfläche	Sup. Gennaker	Superficie del Gennaker
Lh	m	Length of hull	Longueur de la coque	Rumpflänge	Lung. Scafo	Eslora
Bh	m	Beam of hull	Largeur de la coque	Rumpfbreite	Larg. Scafo	Manga
D	kg	Hull weight	Poids de la coque	Rumpfgewicht	Peso Scafo	Peso del casco
ML	kg	Maximum load	Charge maximum	Höchstlast	Carico Massimo	Carga máxima
CR	kg	Minimum crew for capsize	Equipage minimum pour redressage	Mindestbesatzung beim Kentern	Equipaggio minimo per capovolgimento	Número mínimo de tripulantes en caso de zozobra
CL	-	Maximum no of persons	Nombre de personnes maximum	Maximale Besatzung	Massimo Nu. di persone	Número máximo de personas

Loday White Ltd - 2001

Glossary

	GLOSSARY	GLOSSAIRE
	ENGLISH	FRANCAIS
1	HULL	FLOTTEUR/COQUE
2	BOW	ETRAVE
3	TRANSOM	TABLEAU ARRIERE
4	CENTRE BOARD BOX	PUITS DE DERIVE
5	HATCH	TRAPPE D'AERATION
6	MAIN BEAM	TRAVERSE AVANT
7	REAR BEAM	TRAVERSE ARRIERE
8	TRAMPOLINE	TRAMPOLINE
9	HALYARD BAG	POCHE À DRISSE
10	SPI BAG	BAILLE À SPI
11	TOE STRAP	SANGLE DE RAPPEL
12	MAST	MAT
13	SHROULD	HAUBAN
14	SHROULD ADJUSTER	LATTE RIDOIR
15	STAY	ETAI
16	STAY ROPE ADJUSTEMENT	BOUT RÉGLAGE D'ETAI
17	TRAPEZE	TRAPEZE
18	BRIDLE STAY	PATTE D'OIE D'ETAI
19	HOUND FITTING	CAPELAGE DE GREEMENT
20	SPI HOUND	CAPELAGE DE SPI
21	STAY STRIKER STRUT	TIGE D'ETAI
22	BOWSPRIT	TANGON DE SPI
23	BOWSPRIT STAYS	TIRANTS DE TANON
24	MAINSAIL HALYARD	DRISSE DE GV
25	MAINSAIL HOOK	HOOK DE GV
26	JIB HALYARD	DRISSE DE FOC
27	JIBHOOK	HOOK DE FOC
28	SPI HALYARD	DRISSE DE SPI
30	MAINSAIL	GRAND-VOILE
31	BATTENS	LATTES
32	JIB	FOC
33	GENAKER/SPI	SPI/GENAKER
34	MAINSHEET SYSTEM	PALAN DE GV
35	JIBSHEET	PALAN DE FOC
36	SPISHEET	ECOUTE DE SPI
38	CENTREBOARD	DERIVE
39	RUDDERBLADE	LAME DE SAFRAN
40	RUDDERSTOCK	TETE DE SAFRAN
41	TILLER	BARRE DE SAFRAN
42	CONNECTING BAR	BARRE DE LIAISON
43	TILLEREXTENSION	STICK
44	MAINDOWHAUL	CUNIMGHAM DE GV
45	JIB DOWHAUL	CUNIMGHAM DE FOC
46	MAST FOOT	PIED DE MAT
47	BOOM	BOME



PLATFORM ASSEMBLY

Tools: Screwdriver, 17 hex key, 13 spanner.
Parts: 2 hulls and 2 beams (the fixation screws and washers are attached to the beams).
Required space: 7 metres x 4 metres


1


2

- Remove the caps from the beams. (photo 1)
- Carefully slide the mainsheet traveller from the blue loading strip onto the traveller track on the rear beam, with the traveller cleat facing towards the front of the beam (the front of the beam has multiple hasps for securing the trampoline, whereas there are only two hasps on the rear of the beam).
- Tie the traveller rope to the two hasps on the rear of the rear beam, feed the rope through the traveller and then tie a stop knot in the rope. This is to restrict traveller movement and prevent it falling of the rear beam or hitting the beam bolts. (photo 2)
- Position the hulls and beams on a levelled surface.
- Fit the beams in their respective cradles on each hull.
- For the rear beam: the side with the two hasps for the traveller rope faces backwards, the side with multiple hasps for securing the trampoline faces forwards.
- Carefully align the holes in the beams with the corresponding holes in the hulls, adjusting the hulls in order to be able to insert the four outside bolts. Each bolt must have the following fittings on it, in this order: Aluminium square, narrow part facing outwards, stainless steel washer, screw. – Screw without fully tightening. (photo 3)


3

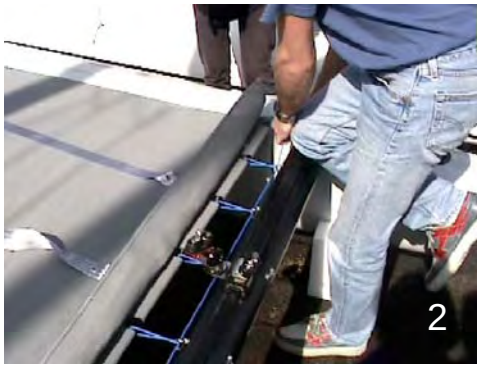
- Check that the two beams are parallel and fully seated in their cradles in the hulls, when seen from the front.
  If need be readjust the parallelism of the hulls using wedges.
- Tighten the long bolts (Ø10) for the front beam with the thick plastic washer and stainless steel washer .
- Tighten the long bolts (Ø8) for the rear beam with the thin plastic washer and the stainless steel washer.
  (photo 3).

Retighten all bolts thoroughly! – Tightening should be rechecked after every two or three outings.

TRAMPOLINE RIGGING

Parts: Trampoline, aluminium tube (2 metres), rear lacing tie, soap or silicon spray. Front part of the trampoline: small boltrope, top of halyard bag and spinnaker bag.

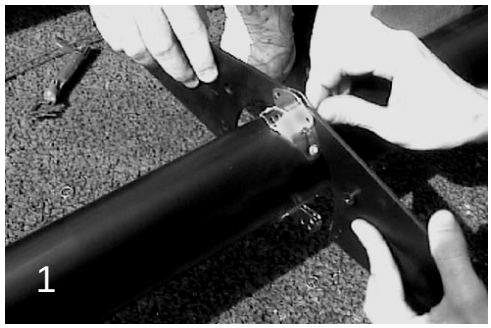
- Thread the front boltrope onto the small groove of the front beam while feeding it carefully into the groove. Centre the trampoline on the front beam, aligning the halyard bag on the trampoline with the mast foot.
- Thread the two sides of the trampoline into the grooves of the hulls, after having applied either soap and some water or silicon spray onto both parts (Photo 1).
- If the trampoline is new the mid-trampoline loop may need to be carefully eased into the grooves in the hull.
- Two people rigging: Begin with one person on each side of the platform, one hand to pull, the other to guide the trampoline (photo 1). Once the mid-trampoline loop is passed, pull from the rear, taking care to pull in line with the grooves (NOT upwards or at an angle).
- It may help to thread the aluminium trampoline tube into the loops and pass a piece of rope around it in order to be able to pull with a better grip.
- Secure one end of the trampoline securing line to one of the exterior hasps and lace as shown (photo 2 and 3). Tension the trampoline and remove all slack then secure the other end of the trampoline securing line (photo 3).



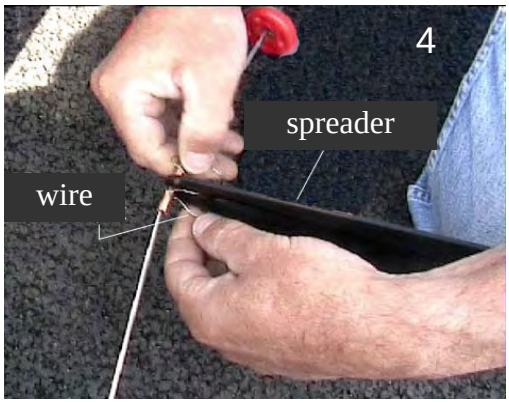
MAST SPREADERS & DIAMOND WIRES

Parts: Two spreaders, diamond wires (two cables in one), turnbuckle with its blocking pin, electrical insulating tape, silicon or similar paste, thin and soft stainless steel wire (2x20cm) or thick thread.

Required space: 9 metres x 2 metres

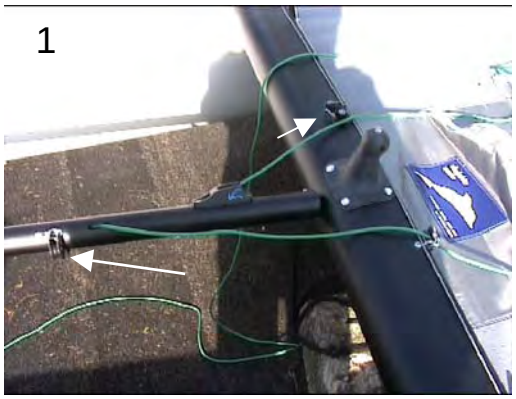


- Attach the spreaders (hollow side facing down) to the fittings in the middle of the mast: First, insert the front pins, with the split rings below the spreader (photo 1).
- Then, insert the rear pins, choosing the spreader angle (three possible positions):
    - A : Crews weighing less than 125 kgs – spreaders with maximum rearwards angle
    - B : Crews weighing between 125 and 145 kgs – intermediary position
    - C : Crews weighing 140 kgs or more – spreaders with minimum rearwards angle.
- Tape the pins and the split rings for security and to protect the spinnaker.
- Diamond wires: place them alongside the mast and insert the T terminals, having done a 1/4 turn, into the top terminal fittings (photo 2).
- Attach the bottom turnbuckle onto the thimble of the wires and then onto the fitting at the bottom of the mast (photo 3). The turnbuckle should only be slightly wound in. Make sure that the pin is placed on the bottom screw with the folded part facing upwards.
- Pass the wires through the slot in their respective spreader with the talurit above the spreader, then slide the spreader up towards the talurit.
- Tighten the turnbuckle using a large screwdriver (making sure not to scratch or to otherwise damage the mast), until the mast prebend is approximately 38mm (1.5”) – this can be measured by pulling a thin cord tight between the tip and bottom of the mast and measuring the distance from the cord to the mast track.



- Once the correct prebend is achieved, look down the mast track from the tip. If the mast bends to one side, unfasten the diamond wires and reverse the diamond wires then repeat the procedures above; if this doesn't cure the bend some packing will be needed on one diamond wire. Slacken the diamond wires and fit a piece of packing (e.g. a discarded rivet stem or similar diameter piece of stainless steel) between the spreader and diamond wire. Re-tension the diamond wires until the prebend is approximately 38mm (1.5"), then look down the mast track and check for any bend. Repeat with different diameter packing until the mast is straight.
- Slacken the diamond wires and use silicone sealant to COMPLETELY fill the holes where the T terminals hook into the sides of the mast.
- Re-tension the diamond wires until the prebend is approximately 38mm (1.5").
- Use silicone sealant to completely seal around the diamond fittings, then secure the small protective plastic covers over the diamond fittings with silicone sealant. Take care that the diamond fittings are absolutely sealed in the mast with the protective covers fitted, since any gaps will allow water into the mast and make capsize recovery difficult.
- Put the blocking pin through the hole in the diamond wire turnbuckle and tape it in order to maintain it in position.
- Secure the wires to the spreaders (photo 4): With a piece of rigging wire (or thick thread), lace the diamond wire, in order for it to remain secured in the spreader and against the talurit. Wrap tape around the diamond wire just above the protection ring, to keep the ring close to the spreader and protect the jib and spinnaker.
- Feed the mainsail halyard around the pulley at the tip of the mast into the mast track.
- Use a screwdriver or knife-blade to feed the end of the halyard down the track and out through the slot near the base of the mast.
- Tie a stop knot in the bottom end of the main halyard, and use a stop knot to secure the ring shackle for the mainsail to the other end of the halyard.

Spinnaker Pole and Rigging

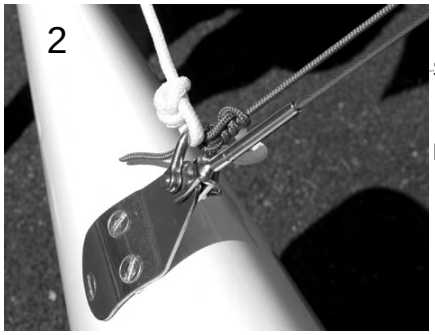


- Position the spinnaker pole, stainless steel pin end facing towards the front beam and clam cleat facing upwards (photo 1).
- Feed the spinnaker tack outhaul line (from the inboard end of the spinnaker pole) through the tack outhaul cleat on the front beam; tie a figure-of-eight knot in the end of the line.
- Bring the mast to the boat coming from the rear putting the bottom of the mast onto the mast foot on the front beam, round side facing upwards, and remembering to protect the rear beam.
- Attach the shroud adjusters to the tangs on the hull.
- Attach the shrouds to the shroud adjusters; the average setting on the shroud adjuster is 5. (photo 2)
- Prepare the forestay so that the forestay strop can easily be taken hold of once the mast is upright, by tying it to the diamond turnbuckle.

Setting up the rig and raising the mast

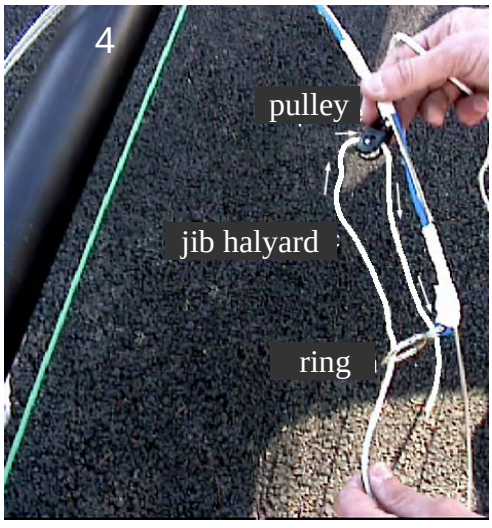
Platform

- **Do not leave anything on the trampoline**
- Attach the bridle wires to the bridle fittings on the hulls, shackle in front of the bridle wire, with the shackle pin facing downwards. **– Tighten the shackles well!**
- Pass the two ends of the bridle wires (with the eyes) through the shackle of the stay striker strut (photo 1), ring part on the bottom. **– Tighten the shackles well!**



Mast

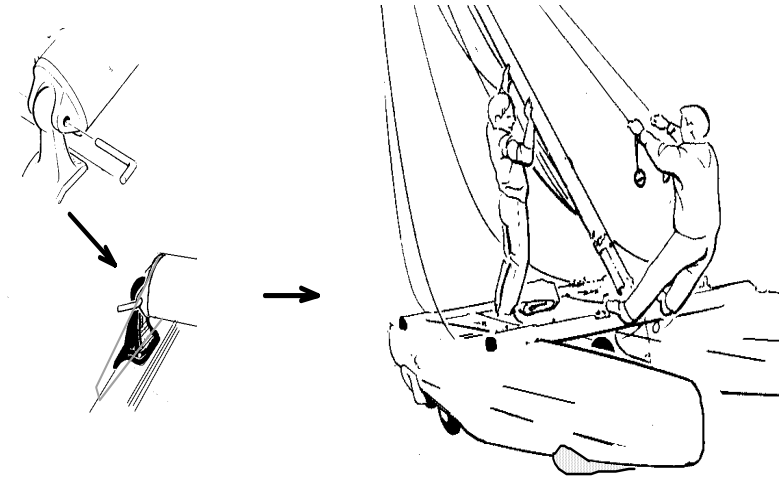
- Attach the rigging to the hound (photo 2) with the forestay in the centre, a trapeze wire each side of the forestay, then the shrouds (the thickest wires) go outside. Keep the split ring facing to the rear and taping it up. The small jib halyard block and the halyard locking ring should face backwards (nearest the mast).
- The 8mm shackle must be **tightened well, using a pair of pliers,** and checked regularly.
- (Photo 4) To rig the jib halyard, thread the halyard end that has no hook attached through the ring, then through the block and finally through the small part of the ring. Attach the end to the second piece of the jib halyard. Attach both ends (the one with the hook as well as the one without) to the bottom of the stay.
- Feed the spinnaker halyard/downhaul around the halyard block at the top of the mast. Feed one end of the line down through the hole in the port spreader.
- Loosely tie off the two ends of the spinnaker halyard/downhaul to the bridle shackles, to prevent the halyard coming loose while the mast is raised. The spinnaker halyard will be fully rigged once the mast is raised and the spinnaker pole / sock are fitted.
  NOTE: the spinnaker halyard and spinnaker downhaul are a single piece of line. For consistency and clarity the end of the line that attaches to the head of the spinnaker will be called the spinnaker halyard and the end of the line that attaches to the spinnaker downhaul patch will be called the spinnaker downhaul.



Raising the Mast

Safety notice – Beware of any overhead wires and cables. Check that the shrouds have been secured properly. Check that nothing will prevent the wires from going up with the mast. Be careful with the wind and make sure that the boat cannot slide forwards when raising the mast.

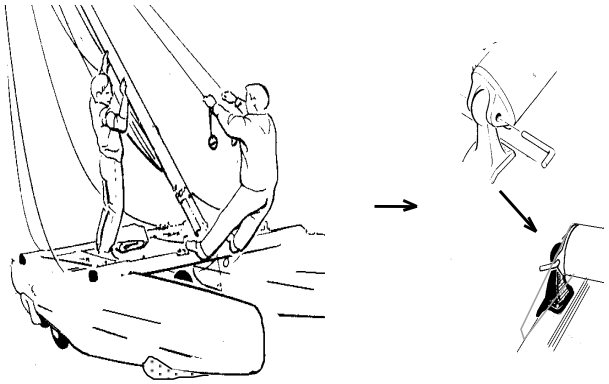
- One crew picks up the mast top, the other the mast foot.
- Place the mast on its side with the foot of the mast on the mast ball. (Use the provided mast foot pin to prevent the mast from sliding off while the mast is being raised.)



- The crew next to the mast foot takes one trapeze wire into each hand holding on to the handles. While the *rear* crew lifts up the mast, the *front* one pulls on the trapeze wires whilst putting his feet onto the front beam.
- Maintain the mast in an upright position (*front* crew pulling on the trapeze wires) while the *rear* crew comes to the front in order to attach the forestay strop to the shackle on the top of the stay striker strut. Make a lacing with at least 3 turns, tying tightly finishing off with several knots (photo 1).

Lowering the Mast

- The procedure for lowering the mast is, in essence, the reverse of the mast-raising procedure.
- Remove the spinnaker halyard, downhaul and mast rotation lines, the boom, etc. from the mast before lowering the mast.
- Turn the mast and insert the stainless steel pin through the foot of the mast and the mast ball, to secure the mast to the ball while the mast is being lowered.
- While the crew holds the mast in a vertical position using two trapeze handles, the helm unties the forestay strop from the shackle on the bridle.
- The helm then steps onto the trampoline and, while the crew gently starts to lower the mast walking towards the front beam and then stepping onto it, the helm grabs hold of the mast and supports the weight, gently lowering it.
- Support the mast top once the mast is down, then remove the mast securing pin from the foot of the mast.
- Remove standing and running rigging from the mast, then remove the mast from the boat.

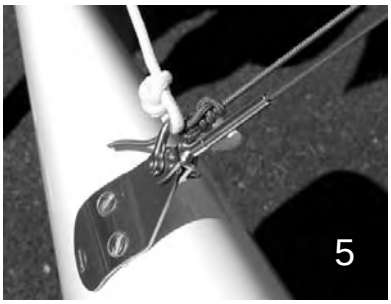


Spinnaker pole, sock and boom

Spinnaker pole and sock

- Slide the stay striker strut ring over the spinnaker pole (photo 1).
- Insert the stainless steel locating pin on one end of the spinnaker pole into the hole in the middle of the front beam.
- Tie the two 3mm spinnaker pole stays around the pole, next to the stay striker strut ring and onto the bridle shackles (photo 5) - these ropes will hold the spinnaker pole central.
- Attach the spinnaker downhaul tensioning block to one of the hasps on the rear beam, using a length of shockcord (photo 2).
- Feed the end of the spinnaker downhaul (that comes down through the hole in the port spreader) around the fixed turning block on the front beam (photo 3), then through the Spinlock clutch, then through the downhaul tensioning block attached to the rear beam, then through the swivel turning block on the front beam.
  NOTE: the spinnaker halyard and spinnaker downhaul are a single piece of line. For consistency and clarity the end of the line that attaches to the head of the spinnaker will be called the spinnaker halyard and the end of the line that attaches to the spinnaker downhaul patch will be called the spinnaker downhaul.
- Slide the jubilee clip and spinnaker sock mouth over the spinnaker pole, passing the spinnaker sock under the two 3mm spinnaker pole stays
- Pass the end of the spinnaker downhaul (that comes through the swivel turning block on the front beam) through the eye in the closed end of the spinnaker sock. Pull the spinnaker downhaul through the spinnaker sock and mouth, then loosely tie off the end to the spinnaker pole.
- Hold the' closed' end of the spinnaker sock approximately 38mm to 50mm (1.5 inches to 2 inches) from the front beam, slide the spinnaker sock mouth towards the front of the boat, then tighten the jubilee clip when the sock is taut (photo 4).

- Use the three velcro tabs to attach the sock to the spinnaker pole.
- Tension the sock using two lines from the ‘closed’ end ; one ties around the mast ball, the other attaches to the hasp on the front beam. (The sock must be quite tight and smooth to work efficiently).
- Check that the mast spanner does not catch on the sock when the mast is rotated. (On some older boats it may be necessary to turn the bolts on the end of the mast spanner upside down, to clear the sock).
- Attach the two 5mm spinnaker pole stays, tying them to the bridle shackles (photo 5), and with a loop around the front of the spinnaker pole so that they are secured by the button on the top of the pole (photo 6 and 7).
- To pass the loops around the spinnaker pole, apply hard pressure onto the end of the pole in order to bend it downwards.
- The lengths of the spinnaker pole stays have to be adjusted so the pole curves down by approximately 10cm (photo 8), and also to ensure that the spinnaker pole is centred between the hulls. In order to check whether the tube is curved enough, lift up the front of the boat by the spinnaker pole. If the pole does not bend upwards, there is sufficient tension in the stays.
- Attach the line from the port side of the spinnaker sock mouth to the port bridle shackle (photo 9). Put a purchase loop in this line and tension it so that the spinnaker chute mouth is supported and does not rotate upwards.
- The spinnaker sock and mouth should be regularly lubricated with McLube sail lubricant or silicone spray, to remove friction and make hoisting/dropping easier.
- After one or two outings, the tension of the various stays should be checked (and readjusted, if necessary).
- The spinnaker pole can be pulled in and stowed away under the trampoline in order to gain space in the dinghy park, by undoing the spinnaker sock tensioning lines and then pulling the pole so that the stainless locating pin comes out of the front beam.


5


6


7


8


9

Boom

- The knot on the securing elastic should be passed, through the aperture, into the groove of the mast and should then be slid down to the gooseneck (photo 1).
- Pulling the boom towards the rear of the boat, the boom can be fitted onto the pin of the gooseneck with the elastic maintaining it in place. This secures the boom to the mast in the event of a capsize, while the boom can easily be removed on shore.

Setting up of controls & equipment

Trapeze

- Feed the trapeze shockcords through the eyes on the trampoline (front eye for crew trapeze, rear eye for helm trapeze) passing under the trampoline and finish with a bowline (or similar knot with a loop).
- Then pass the little ball at the end of the trapeze adjuster through the eye of the bowline and do a loop so that it remains secured (photo 1).
- Make sure that the trapeze wires remain clear of the shrouds when you go out on the trapeze.

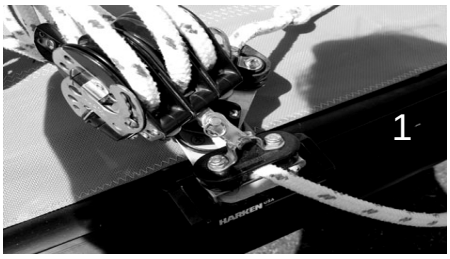
Mast Rotation

- Feed the mast rotation control line through one of the cleats on either of the hulls and then under the trampoline, though the eye that is just below the cleat.
- Then pass the end of the control line under the front beam and feed it through the block on the spinnaker pole (photo 2), through the block on the mastfoot plate, through the block on the other side of the spinnaker pole, under the front beam, feed it through the eye in the trampoline and finish off passing it through the cleat.
- Tie a figure of eight knot on both ends of the mast rotation control line.

Traveller

- Feed each of the ends of the double-ended part of the traveller rope through one of the hasps on the back of the rear beam. Tie off each end with a figure of eight knot (photo 3).
- Ensure the traveller assembly is in the centre of the beam. Feed the end of the traveller rope through the double-block on the traveller, the eye and the cleat. Tie a stop-knot so that the traveller is stopped approximately 10cm short of the bolt on each end of the beam.
- The end of the traveller rope should be tied to the end of the mainsheet when sailing (photo 4).
- You are advised to keep the traveller rope rigged and in place at all times: This will prevent the traveller hitting the beam bolts or sliding off the beam (and losing the traveller ball bearings) when de-rigging the platform.

Mainsheet and Mainsheet strop



- The angle of the mainsheet cleat can be adjusted by loosening the securing screw on each side of the block sufficiently to allow movement of the cleat (photo 1). Retighten the securing screws after setting the desired cleat angle.
- Shackle the bottom of the mainsheet assemble onto the hasp on top of the traveller assembly (NOT onto the hasp on top of the traveller cleat!). Tie the end of the mainsheet to the end of the traveller line, for easy access to the traveller whilst sailing.
- Once the mainsail has been raised and the boom attached to the clew, tie the mainsheet strop around the boom and through the middle or rear eye in the mainsail clew, using a bowline.

Mainsail Downhaul

- Feed the downhaul control line through one of the swivel cleats on the side of the mast, through the pulley of one of the downhaul strops, through the turning block on the back of the mast, through the pulley of the second downhaul strop and then through the second swivel cleat.
- The downhaul line should then be passed in front on the jib blocks and the ends fastened to the shockcords located in the front beam.

Jib Sheet and Jib Strop

- We advise the use of the bottom eye on the jib clew.
- Attach the jib strop to the clew using a capstan knot and ensuring that the two ends are of the same length.
- The jib strops are then attached, using bowlines, to the ‘free’ jib blocks.
  Take one end of the jib sheet and tie a bowline around one of the ‘free’ jib blocks. Then feed the sheet through the top ‘fixed’ jib block (on the front beam)
  Repeat the same operation on the other side with the remaining end of the jib sheet.

Jib Downhaul

- Attach one end of the jib downhaul line to the mast foot.
- The other end is then fed through the clam-cleat on the spinnaker pole, through the block on the front of the spinnaker pole, through the eye on the downhaul of the jib and is then tied to the eye on the opposite side of the spinnaker pole.

Righting Rope

- A righting rope should be tied to the mast foot and stowed away in the halyard pocket, on top of the halyards for easy access!

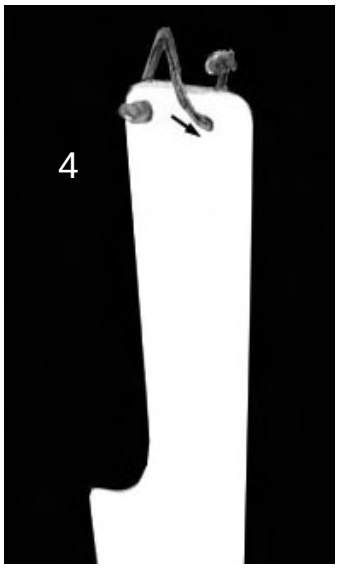
Foils

Rudders

- Adjustment of the rudder position is made by modifying the length of the stainless steel shaft.
- Loosening the screw will move the blade further forwards into the rudder stock and vice-versa. The screw should be adjusted so that the front of the rudder blade is tight within the stock, then the lock nut fully tightened to prevent accidental movement of the screw.
- There are three rudder positions (see photos):
    - On shore
    - On launching
    - Off shore
- The use of the one or more elastics (with the plastic balls) around the stainless steel shaft will hold the blade down more or less firmly in the event of an impact (photo 3).
- The tiller arms are specific to each side of the boat, with the tiller arm bent inwards towards the platform.
- The rudder tracking is pre-adjusted (on the connecting bar) by the boatyard for every boat individually.
- The tiller extension is clipped onto the connecting bar (photo 5. You are advised to make use of this quick release to disassemble them once on shore; this prevents the tiller extension from catching while manoeuvring the boat.

Daggerboards

- Thread the ropes through the two holes on the top of the daggerboards, making a tight knot on both ends (photo 4). They are designed to be both handles as well as shock absorbing stopping devices, preventing the daggerboard from slipping down through the daggerboard box.
- The flexible rubber wedge in each dagger board casing, which maintains the daggerboard in a high or intermediary position, can be filed or adjusted. It is advised to wet the daggerboards before sailing in order to reduce friction (as well as the wearing of the wedges). We advise adjusting these wedges only after several outings.
- The Spitfire's draught, with fully lowered daggerboards, is 95cm.



Sails

Mainsail

- The mainsail battens are numbered from 1 (short top batten) to 6 (long bottom batten).
- The tension for first batten should be quite tight, for the others, tension must be sufficient to make the creases across the batten pockets disappear (Figure 1).
- *Rigging the mainsail* – Position the boat with the bows pointing directly into wind and the launching trolley towards the front of the hulls. The person rigging the main should stand close to the mast, on the side where the main halyard comes out. Attach the ring of the hook to the sail by fastening the shackle welded to the ring to the top eye (photo 1). The knot on the ring is usually facing towards the back of the sail; if, however, one is experiencing difficulties hooking the sail, one can try rigging it with the knot facing forwards.
- Hoist the main by pulling the halyard vertically down the mast. Guide the sail by pulling the part that is just engaged in the mast towards the front. Continue hoisting until the halyard ring hooks onto the mast lock at the top of the mast. Hoisting should be relatively easy, provided the boat is facing into wind and the mast and sail are correctly aligned.
- Once the sail is hoisted, check that it is hooked properly by pulling it downwards and by rotating the mast from side to side.
- Stow the main halyard in the front bag of the trampoline.
- Pass the slide on the bottom of the main through the opening in the groove of the mast and feed the bottom of the sail down into the mast track.
- *Unhooking the mainsail* – Hoist the main to the maximum, rotate the mast fully (to left or right) and then let go of the halyard and pull the sail down.
- *Downhaul* – Pass the downhaul strops from each of the downhaul pulleys through the bottom eye of the main and then fasten them in the clam cleats on either side of the mast.
- In strong winds, we advise that this operation only be carried out just before leaving the shore

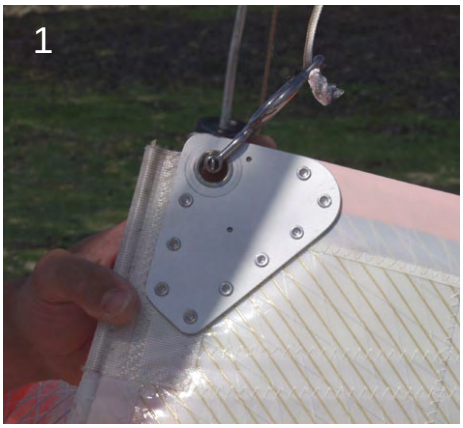
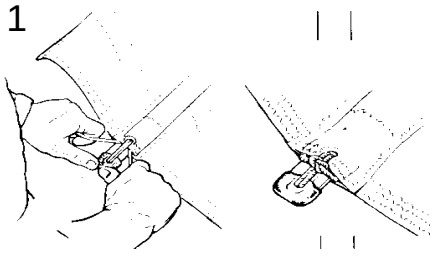
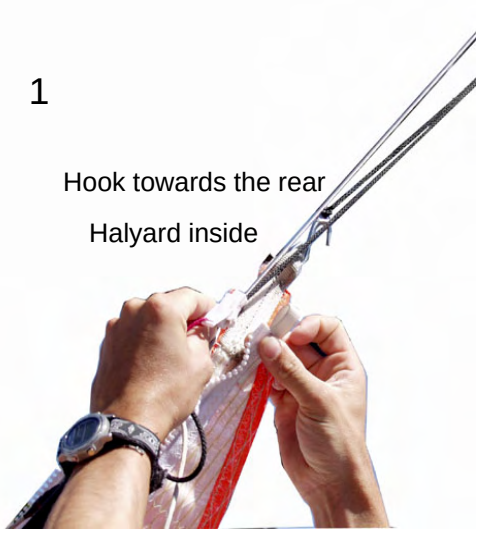


Figure 1



Jib

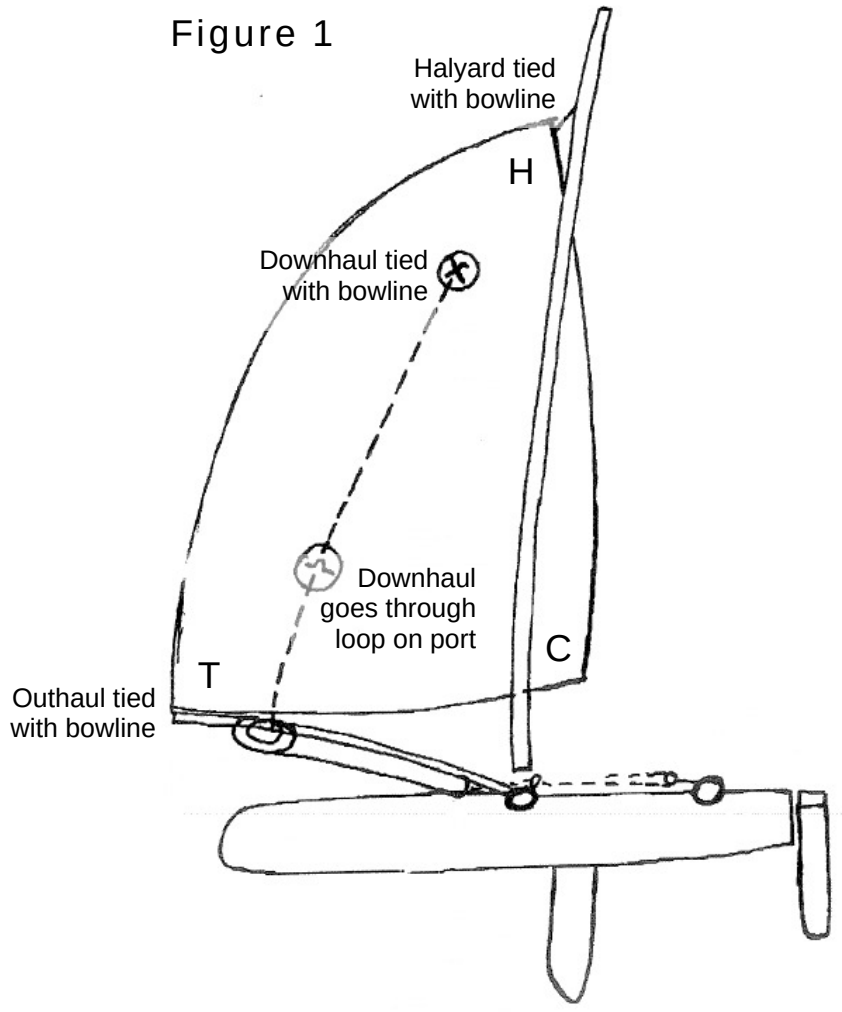


- If need be, move the launching trolley forward, towards the bridle wires; using the trolley as a step may make it easier to reach up and guide the jib.
- Undo the jib halyard and its hook from the forestay and make sure that it is clear of any twists that could prevent the jib from hoisting smoothly. The hook, pointing towards the rear, should be attached to the strap on the top of the jib.
- The zip should done up progressively, making sure that it encloses both the forestay as well as the part of the halyard that is used to hoist the jib.
- Hoist the jib by pulling the halyard down, remaining parallel with the forestay.
- To hook the jib, hoist it so that the hook is over the ring attached to the stay. There is no need for it to be hoisted any further. (This operation may have to be repeated several times if necessary).
- Once the jib is hooked properly – check by pulling it down – thread the jib downhaul line through the eye on the bottom of the jib and tie it off onto the eye on the spinnaker pole. It should then be pulled in and secured in the clam cleat (see earlier section)
- Rig the jib sheets (see earlier section).

Spinnaker

- The first few times the spinnaker is rigged it is easiest to spread out the sail so that the head, tack, clew and downhaul points are visible. This will reduce the number of rigging problems!
- It will be helpful (in gentle breeze) to attach the lines and hoist the spinnaker on shore, to ensure that the lines are correctly attached. This should be done with the wind from the starboard side, approximately on the port beam. This should NOT be attempted in stronger wind!
  Figure 1 illustrates where/how the halyard, downhaul and outhaul lines attach to the spinnaker.

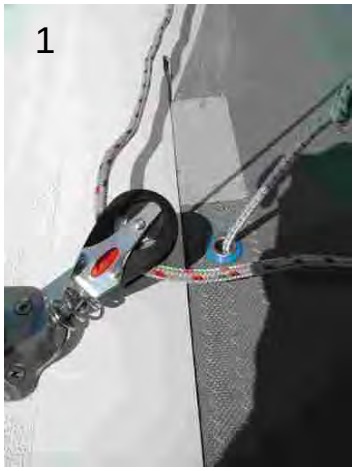
Figure 1



- Attach the end of the spinnaker tack outhaul (from the tip of the spinnaker pole) to the TACK eye of the spinnaker, with a bowline. (In gentle breeze) pull the tack outhaul line through the cleat on the front beam and cleat it.
- Attach the spinnaker halyard (from the halyard block at the top of the mast) to the HEAD eye of the spinnaker,

with a bowline. (In gentle breeze) lay the sail on the ground on the port side of the boat.

- Attach the centre of the spinnaker sheet to the spinnaker, by feeding a small loop through the CLEW eye in the spinnaker, then pulling the ends of the spinnaker sheet through the loop.
- Feed the spinnaker sheets through the ratchet blocks, then join the two ends of the spinnaker sheets together on the trampoline (photo 2).
- Hoist the spinnaker by pulling the spinnaker halyard through the Spinlock clutch and then lock the clutch.
- Feed the ends of the spinnaker sheet through the deck blocks, bearing in mind that these are unidirectional (pull and try out!). Securely tie the two ends of the spinnaker sheet together.
- Pull all the slack spinnaker downhaul through the spinnaker sock and hold the end of the downhaul. Unlock the Spinlock clutch and ease the spinnaker down, until the webbing downhaul loop is reached (approximately 1/3 up the spinnaker, midway between front and back of the sail).
  Lock the Spinlock clutch and then feed the end of the spinnaker downhaul through the webbing loop.
  Unlock the Spinlock clutch and ease the spinnaker down, until the webbing downhaul patch is reached.
  Lock the Spinlock clutch and then attach the end of the spinnaker downhaul to the webbing 'cross', with a bowline.
- Fully hoist the spinnaker, lock the Spinlock clutch and check that all lines and sheets are clear.
- To drop the spinnaker pull the spinnaker downhaul (from behind the swivel turning block on the front beam) to take up any slack, then unlock the Spinlock clutch and pull quickly on the downhaul line to pull the spinnaker into the sock.
  When the sail is about ¾ of the way in, uncleat the outhaul tack line from the cleat on the front beam and then continue pulling the downhaul until the spinnaker is fully in the sock.
- We recommend practicing spinnaker hoists and drops on shore (in gentle breeze), to become familiar with the controls and procedure.



Tuning Guide (Stuart Gummer)

	0–8 knots	8–15 knots	>15 knots
Dagger boards	**Upwind:** Down **Downwind:** ½ Down	**Upwind:** Down **Downwind:** ½ Down	**Upwind:** Down **Downwind: ½** Down, in >22 knots, lift all the way up
Diamonds	Tension should be set such that when looking up the mast track about 1" of pre-bend is observed (mast bends backwards). Do not over tighten the wire and we suggest a maximum of 35 on a loose gauge. Lighter crews generally rake the spreaders back further. This allows you to bend the mast more and flatten the sail further therefore de-powering it.	Same as 0-8 knots	Same as 0-8 knots
Jib	**Upwind:** Cars set on inner setting. Jib sheeted to touch the roller on the spreader. Jib luff tension to take out wrinkles. **Downwind:** Set to tell tails	**Upwind:** Cars set on inner setting. Jib sheeted to touch the roller on the spreader. More jib luff tension required. **Downwind:** Set to tell tails	**Upwind** Cars set to middle setting. Jib sheeted to touch the roller on the spreader. More jib luff tension required.
Main	**Upwind:** Cunningham pulled just to take wrinkles out of sail, main sheeted without hooking (closing off the top of the leech). Spanner pointing at shroud. **Downwind:** Cunningham off, don't sheet main too hard, but don't let it loose.	**Upwind:** Once you are twin wired and the boat is constantly flying a hull you can increase the cunningham to stop the boat healing excessively. Spanner pointing at shroud. **Downwind:** Cunningham off, main sheeted quite tight, but not as tight as upwind. Don't let it off as a way of de-powering the sail use the traveller. This will protect your mast.	**Upwind:** Pull on cunningham hard to prevent the boat healing excessively. Spanner pointing at shroud. **Downwind:** Cunningham off, main sheeted quite tight, but not as tight as upwind. Don't let it off as a way of de-powering the sail use the traveller. This will protect your mast.
Rake	Take the trapeze wire and tie some rope to the end of it, pull the rope to the top of the upper rudder mounting plate. To measure the rake take the rope forward to touch the gelcoat seam on the hull at the front of the boat. Now measure the distance between the back of the bow tang and the end of the rope as it touches the seam. This should be 10 to 12 inches.	Same basic setting as 0-8 knots. As wind speed increases crews tend to rake the mast further. To a maximum of 15 inches as measured previously. **Be aware that as you alter the rake you will also alter the spinnaker luff tension and the height of the Jib clew above the pole. If don't adjust these with rake to keep them at their optimum performance will suffer.**	Same as 10-15 knots.
Shrouds/Side Stays	Tension on the shrouds should be loose enough for the mast to rotate easily towards the shrouds, approximately 19 on Loose gauge . This should be measured on the shroud.	Tension on shrouds should be 20-24 on loose gauge	Same as 8-15 knots
Spinnaker	Set up with luff tension so that if you grab it in your hand you can twist it 90 degrees. To achieve this you may have to adjust the position of the pulley at the head of the sail and/or alter the band of the pole. To trim ease until luff curls and then sheet to stop the spinnaker	Same as 0-8 knots	Same as 0-8 knots

	collapsing, keeping the luff almost curling at regular intervals. Pull harder on sheet during acceleration and when boat is bearing away, ease the sheet at the end of the puff.		
Traveller	**Upwind:** Centre **Downwind:** Middle, don't sheet main too hard	**Upwind:** Centre **Downwind:** Same as 0-8 knots. When the boat is over powered and you have gone bow down it may necessary to release the main traveller to help to de-power the boat further. **Do not release the main sheet.**	**Upwind:** Centre, > 22 knots you may crack off traveller an inch or two. **Downwind:** Same as 0-8 knots

Sailing Guide (Chris Sproat)

Please refer to the Tuning Guide for boat settings.

Light Winds

Upwind

Boat Trim Crew weight forwards. Crew on or in front of front beam. Helm as close to the crew as possible. This will stop the transom dragging. If there is any intermittent trapezing it better that the crew should do it. When one of you can remain out on the wire either can trapeze depending on weight required. You are aiming to keep the boat momentum going, to do this you should avoid excessive tiller movement, keep crew movement to a minimum and concentrate.

Mainsail tuning Remember to adjust the outhaul from heavier weather settings to flatten foot of the sail as you will not be using as much downhaul. If the wind increases and you need to put more down haul on then you may have to release the outhaul to prevent your boom from bending excessively.

You may be surprised how much mainsheet tension is required in light winds to control the top third of the sail to gain power.

You may want to increase your batten tension if you suspect a light wind day.

Constant adjustment of mainsheet tension will be required as the wind strength varies.

Jib Tuning Adjust jib as per tuning guide. This may require constant trimming.

Watch the lower two jib tell tails closely. Windward tell tails lifting then you are pinching, if the leeward tell tail is lifting then you are footing too much.

Dagger Boards Fully down

Tacking Using the tiller start gently and ease the boat into the tack. Release the mainsheet at least a couple of feet as you cross the midline. Keep the jib backed until main battens have popped. Slowly squeeze the jib and main back in as the boat accelerates away.

Bearing away You must maintain boat speed by easing the boat in to a gentle turn. These are options when time allows:

- Lift windward dagger board early
- Pull out spinnaker tack line

- If you are trapezing upwind keep the helm on the wire and let the crew go in to do the necessary jobs.
- Release any downhaul.
- Helm may need to move backwards to counter the crew who will be forwards hoisting the spinnaker.
- If overpowered lower traveller as required.

Downwind

Boat trim Crew to leeward and moving to windward as wind strength increases. For and aft trim level by weight adjustment. Avoid excessive movements of crew and tiller as upwind unless hit by a gust when it may be necessary to bear away quickly to de-power.

Mainsail Don't over sheet it. Remember if the wind increases and you are bow down use to traveller to dump power not the main sheet.

Jib Ease and set to tell tails.

Spinnaker During hoist you must go low until spinnaker is fully up. It is useful to have a mark on the halyard to indicate when this has been achieved. To trim ease the sheet until the luff curls and sheet to stop the sail collapsing. Keep the luff almost curling by constant adjustment. It may be necessary to sheet in if the boat accelerates. The helm should keep the crew informed of course changes so they can adjust the sail appropriately.

Dagger Boards Half down

Jibing Before the jibe pull the jib over to the new tack. A good time to jibe, if the opportunity arises, is at the end of a bear away. Using the tiller ease the boat round. In under five knots it may be necessary to ease the main to allow the battens to pop. Do not release the spinnaker from its current side until it starts to fill, now release it and sheet on the new side. The jib should now be released from the previous side and trimmed to tell tails. Head up gently to build up speed.

The Drop Put the dagger boards down in anticipation. During the drop bear away, **do not release the spinnaker sheet, (either kneel on it or give it to the helm),** make a bra out of the spinnaker by pulling the retrieval line just before you release to halyard, continue to pull down quickly until at least half of the spinnaker is in the chute before you release the tack line.

Heading up Use the main and jib to control the turn and squeeze on as you head upwind.

Heavy Winds

Upwind

Boat Trim Crew weight adjusted backwards to maintain fore and aft trim. If bow down and rudders stalling you are too far forwards. In extreme conditions you may have to get as far back as possible. You are aiming to keep the windward hull kissing the waves. To do this void excessive tiller movement, keep crew movement sensible and concentrate.

Mainsail tuning To set the outhaul; first pull on a reasonable amount of down haul, both trapeze, sheet the main quite hard, if the hull flies excessively pull on more down haul. The boom should now have a gentle camber. If the boom is bent excessively you have got to much outhaul on and conversely if there is no camber you need to increase the outhaul. **Downhaul is at a maximum when the eyelet is touching the boom. You may have to pull very hard to do this.** This will open the top of the sail, de-power it and enable you to point. The last inch of downhaul is often crucial!

Constant adjustment of mainsheet tension will be required as the wind strength varies.

Jib Tuning Adjust jib as per tuning guide. This may require constant trimming.

Watch the lower two jib tell tails closely. Windward tell tails will often lift. This OK as you are trying to balance the boat to the wind conditions, if the leeward tell tail is lifting then you are footing too much.

Dagger Boards Fully down

Tacking Using the tiller start gently and ease the boat into the tack. You may need to release the mainsheet further than in light winds as you cross the midline. The jib will only need backing in choppy conditions. Keep your weight forward. Slowly squeeze the jib and main back in as the boat accelerates away.

Bearing away You must maintain boat speed by easing the boat in to a gentle turn. These are options when time allows:

- Lift windward dagger board early
- Pull out spinnaker tack line
- If you are trapezing upwind keep the helm on the wire and let the crew go in to do the necessary jobs.
- Release any downhaul.

- Helm may need to move backwards to counter the crew who will be forwards hoisting the spinnaker.
- If overpowered lower traveller as required. The crew may need to do this.

Downwind

Boat trim Crew to windward, as wind strength increases they may need to trapeze. For and aft trim level by weight adjustment, you tend to keep weight well back. Avoid excessive movements of crew and tiller as upwind unless hit by a gust when it may be necessary to bear away quickly to de-power.

Mainsail Don't over sheet it. Remember if the wind increases and you are bow down use the traveller to dump power not the main sheet.

Jib Ease and set to tell tails.

Spinnaker During hoist you must go low until spinnaker is fully up. It is useful to have a mark on the halyard to indicate when this has been achieved. To trim ease the sheet until the luff curls and sheet to stop the sail collapsing. Keep the luff almost curling by constant adjustment. It may be necessary to sheet in if the boat accelerates. The helm should keep the crew informed of course changes so they can adjust the sail appropriately.
Dagger Boards Half down

Jibing You need to jibe at maximum boat speed or it can be very violent. Before the jibe pull the jib over to the new tack. A good time to jibe, if the opportunity arises, is at the end of a bear away. Using the tiller ease the boat round. Do not release the spinnaker from its current side until it starts to fill, now release it and sheet on the new side. The jib should now be released from the previous side and trimmed to tell tails. Head up gently to build up speed.

The Drop Put the dagger boards down in anticipation. During the drop bear away, **do not release the spinnaker sheet, (either kneel on it or give it to the helm),** make a bra out of the spinnaker by pulling the retrieval line just before you release to halyard, continue to pull down quickly until at least half of the spinnaker is in the chute before you release the tack line.

Heading up Use the main and jib to control the turn and squeeze on as you head upwind. You may need to put on some downhaul and release mainsheet and traveller as you round the corner.

Capsize Recovery.
Redressage du bateau.
Wiederaufrichten nach Kentern.
Recupero da Capovolgimento.
Recuperación de una Zozobra.

1

2

3

English:

(1) Climb on bottom hull.
(2) Lean back using righting lines or jib sheets.
(3) Stay under the boat. **HOLD ON.**
(4) Climb aboard over rear beam.

! Keep hold of the boat

Français:

(1) Monter sur la coque immergée.
(2) Se pencher en arrière à l'aide des écoutes de foc ou des bouts de redressage.
(3) Rester sous le bateau. **NE PAS LACHER.**
(4) Monter à bord par le dessus la poutre arrière.

! Ne jamais lâcher le bateau

Deutsch:

(1) Auf den Rumpfboden klettern.
(2) An Aufrichtungsseilen oder Fockschot zurücklehnen.
(3) Unter dem Boot bleiben. **FESTHALTEN.**
(4) Über den Heckbalken an Bord klettern.

! Das Boot nicht loslassen

Italiano:

(1) Salire sulla carena della barca.
(2) Pendere all'indietro tirando le funi dell'albero o il fiocco.
(3) Stare sotto la barca. **TENERSI BENE.**
(4) Salire a bordo dalla parte posteriore.

! Tenersi sempre stretti alla barca

Español:

(1) Suban al fondo del casco.
(2) Inclínense hacia atrás utilizando los cabos estabilizadores o las escotas del foque.
(3) Manténgansede bajo del barco. **AGARRENSE BIEN.**
(4) Suban a bordo por la parte trasera del barco.

¡No suelten el barco!

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