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1. INTRODUCTION

Congratulations on choosing a 29er from Ovington Boats.

This manual has been compiled to help you to operate your craft with safety and pleasure. It contains details of the craft, the equipment supplied or fitted, its systems and information on its operation and maintenance. Please read it carefully and familiarise yourself with the craft before using it.

If this is your first craft, or you are changing to a type of craft you are not familiar with, for your own comfort and safety, please ensure that you obtain handling and operating experience before assuming command of the craft. Your dealer or national sailing federation or yacht club will be pleased to advise you of local sea schools, or competent instructors.

Please keep this manual in a secure place, and hand it over to the new owner if you sell t	the
craft.	

From all at Ovington Boats, Happy Racing!

EC DECLARATION OF CONFORMITY TO DIRECTIVE 94/25/CE

I declare that the craft described as:

29er

complies with the following Standards:

ISO/DIS 9094-1, ISO 10087, ISO 10240, ISO/DIS 11192, ISO/CD 11812, ISO/DIS 12215-1, ISO/DIS 12215-4, ISO/DIS 12217-3, ISO/DIS 14945, ISO/CD 15085.

2. SPECIFICATION AND DRAWINGS

Identification

Hull Identification Number (HIN):	G	В	О	V	В					
							i '		 	

Record the HIN of your boat in the space above – it is moulded into the starboard side of the transom.

Dimensions

Length Overall (LOA) 1:	4.45 m	14.60 ft
Waterline Length (LWL):	4.24 m	13.91 ft
Beam:	1.77 m	5.81 ft
Draft ² :	1.08 m	3.54 ft
Air draft ³ :	6.58 m	21.59 ft
Displacement, Light Craft Condition:	90 kg	198 lb
Towing Weight:	90 kg	198 lb
Maximum upwind Sail Area:	12.5 m^2	135 ft^2
Maximum downwind Sail Area:	27.5 m^2	296 ft^2

Notes:

- 1 Spinnaker pole retracted.
- 2 Draft measured with centreboard down.
- 3 Air draft is distance from water surface to top of mast, excluding any windex.

Figure 2.1: Profile

Figure 2.2 : Deck Plan

3. SAFETY INFORMATION

3.1 DESIGN CATEGORY

The **29er** is a Design Category C boat. The definition of this design category is:

• Design Category: C – 'Inshore'

• Description of Use: Designed for voyages in coastal waters, large bays, estuaries,

lakes and rivers.

• Wind Force (Beaufort scale): Up to, and including 6

• Significant Wave Height, $H_{1/3}$: Up to, and including 2m

The 29er complies with this design category, subject to:

• The crew having suitable skill and experience.

• Satisfactory construction and maintenance of the boat and equipment.

Users of this boat are advised that:

- All crew should receive suitable training.
- The boat should not carry more than the maximum load.
- Bilge water should be kept to a minimum.
- Stability is reduced by any weight added high up.

3.2 LOADING

The maximum recommended load for the **29er** is 170 kg and the maximum number of persons that it can carry is two.

The breakdown of the maximum load is:

Load item	Maximum, kg		
Crew, 2 persons	165		
Personal effects	5		
Manufacturer's maximum recommended load	170		

The minimum crew weight recommended for capsize recovery is 60 kg.

3.3 SAFETY EQUIPMENT

It is your responsibility to ensure that all necessary safety equipment is obtained and that it is on board and readily accessible while the boat is in operation.

3.4 CAPSIZE RECOVERY

Risk of Capsize

The capsize is an inevitable part of small boat sailing and the **29er** is no different in that respect. As a racing craft, there is a high likelihood of capsize if the **29er** is sailed to its limits. You should practice capsize recovery until you are totally familiar with it.

Capsize Recovery Technique

Should you capsize your 29er:

- if the genniker is up, it should be doused;
- if the boat inverts, it should be pulled onto its side so that the rig is horizontal. This can be done by simply standing on a wing and pulling on the centreboard. It sometimes helps to pull it up with the aid of the wind if the crew stands on the leeward wing, the boat will quickly come onto its side.

After that there are basically two situations to recover from:

- when the rig is lying on the water, pointing downwind;
- when the rig is lying on the water, pointing upwind.

Both methods may take some practice, but they are fast proven methods to continue sailing after a capsize.

Rig Pointing Downwind

Both helm and crew should be on the centreboard, with the helm behind the crew.

Use the genniker sheets if necessary to pull boat upright. When the boat gets to about 45 degrees, the helm should climb in and get hold of the tiller and mainsheet, while the crew continues to pull the boat upright.

As the boat comes level, the crew can climb in, ensuring that the jib is sheeted a little to balance the boat and prevent an unwanted tack. Then just sail off.

Rig Pointing Upwind

This is quite often the position the boat ends up in, especially if time has been spent getting the genniker down or recovering from the inverted situation.

The crew should be on the centreboard, holding onto the genniker sheets and using them as the righting line. The helm should be in the water inside the boat holding onto the tiller and mainsheet as if they are ready to sail. The jib should also be sheeted in loosely.

As the crew starts to right the boat, the wind will help. As the mast tip leaves the water, the crew should then climb into the boat in front of the shroud, walk across the boat in front of the mast to the new windward side to meet the helm, who is in a position to sail and balance the boat.

With both helm and crew on the new windward side the boat is ready to sail off straight away.

Minimum Crew Weight

The *29er* can be recovered from a capsize by a single competent sailor of minimum weight of 60kg. This has been demonstrated during the testing of the *29er* for its certificate of conformity.

3.5 AIR TANK

The **29er** is equipped with an air tank to provide buoyancy in the event of capsize or swamping. The air tank is formed by the hull and deck mouldings and consequently the following points should be noted:

- ! Do not puncture the air tank.
- ! If the air tank is punctured, do not use the boat until the air tank is properly repaired. If in doubt, contact Ovington Boats for a repair procedure.
- ! If adding any fittings to the boat, ensure that any fasteners that penetrate the air tank are suitably sealed to keep the tank watertight.

3.6 MAN OVERBOARD PREVENTION AND RECOVERY

Working Deck and Handholds

The working deck of the *29er*, which is intended to be occupied afloat, is the whole boat from its aft end to 500mm forward of the bridge deck on which the mast is stepped, as shown in Figure 3.1



The designated handholds covering this working deck, which have been tested for strength in accordance with ISO 15085, are:

- the foot/grab rails along the deck;
- the base of the shrouds.

Crew Overboard Recovery

To recover a crew member from the water:

- The helm should bring the boat just downwind of the person in the water.
- The helm should balance the boat using a combination of body weight movement and sail pressure.
- The crew should board the boat via the windward gunwhale using a combination of the following handholds: the windward shroud, the trapeze wire and the foot/grab rails in the bottom of the boat.

3.7 USE OF OUTBOARD ENGINE

! The 29er is not designed or equipped for use with an outboard engine and is not capable of modification to be safely used with an outboard motor.

3.8 TOWING, ANCHORING AND MOORING

Towing

If it is necessary to tow a 29er, use the following procedure:

- Secure the towing line around the turret supporting the mast step.
- Fully raise or remove the centreboard.
- Stay at the tiller. In the event of loss of the rudder, sit aft.

Anchoring

The *29er* is not designed or equipped for anchoring and this should not normally be attempted. You should remain in control of the boat at all times when it is afloat.

If there is no alternative to anchoring, the anchor line should be secured around the turret under the mast step and the crew should remain with the boat. If the boat must be abandoned when anchored, it is best left in a fully capsized position.

Mooring

The **29er** is not designed or equipped for mooring and this should not be attempted. You should remain in control of the boat at all times when it is afloat.

4. COMMISSIONING

4.1 PREPARATION

Your *29er* comes with all parts included and ready to sail. In order to commission it, you will need the following tools:

- screwdriver;
- adjustable spanner;
- 4mm Allen (hexagon) key;
- pliers;
- PVC (electrician's) tape;
- if you have one, an ISP rig tension gauge.
- ! Do not use a knife to cut through packaging and boxes containing boats, parts and fittings you may damage the contents.

Before rigging your 29er, fit the rudder stock as follows:

- Remove the R-clip from the rudder pin.
- Position the rudder stock with the stock gudgeons on top of, and in line with, the transom gudgeons.
- Push rudder pin through all 4 holes (it may be stiff) and fit the R-clip to secure it.

It is a good idea to leave the stock on permanently – it is a good place to fit the lighting board.

4.2 MAST

Rigging the Mast

Your *29er* mast may come in three pieces or in one piece ready rigged.

If your mast is in three pieces, follow the instructions in Appendix A to assemble the mast.

Once your mast is assembled, or if it arrived in one piece, all you will need to do is:

- fit the trapeze wires to the mast using the screw shackles;
- attach the forestay by inserting the T-terminal into the slot above the jib halyard sheave box.

Stepping the Mast

Ensure all halyards, forestay and trapeze wires are fitted and pulled down clear and untangled.

Lay the mast on the boat aft side down with the heel at the mast step and the tip out of the back of the boat. It is recommended that one person stands at the back of the boat to hold the mast.

Remove the pin from back of mast step, insert the mast heel in the step and secure it with the pin.

Attach the shrouds to boat. Attach the 'boat-puller' to the forward hole on the tack fitting.

Use one of the trapeze wires to pull mast up and hook the boat-puller onto the trapeze ring when it is upright. Take the slack out of the boat-puller to hold the mast steady. Attach the unused trapeze wire to elastic that exits just aft of the shroud base.

Threading the Genniker Halyard

Take the halyard from the starboard side of the lower mast and thread it down through the bush in the bridge deck to a pulley on the side of the mast pillar.

Thread the rope through the pulley forward to a floating double ended pulley under the genniker chute.

From there take the line aft under all other ropes to an eye and cleat on the starboard cockpit floor and on to a pulley behind it, across the boat to another pulley on the port side and then up the spinnaker chute sock to the bow.

4.3 BOOM AND VANG

Attaching the Boom

The boom simply attaches with a pin at the lower gooseneck. Take care not to scratch the boat with the aft end of the boom.

To fit the mainsheet, check that the ratchet on the boom is working the right way round. Attach the mainsheet strops and block to the transom ensuring that they are equal length.

Thread the mainsheet through the ratchet block on the boom. Take it aft through the boom pulley down to the pulley on the strops and back up to the boom.

Pass the mainsheet through the hole behind the pulley. Push the rope so that it comes out of the back of the boom and tie a stopper knot.

It is useful to tie the free end of the mainsheet to the jib sheet to prevent tangles.

Vang and Vang Control

The vang strut (kicking strap) stays on the boom at all times. The forward end of the vang fits to the mast in the same way as the boom does.

The vang control line exits from the forward lower end of the boom and needs to be attached to the small pulley on the end of, and controlled by, the red rope in the boat.

4.4 HOISTING SAILS

Attaching the Forestay and Hoisting the Jib

Set the pins in the shroud adjusters to the highest position, so the shrouds become as long as possible. Pull the boat-puller tight until the forestay can be attached to the middle hole of the tack fitting. Release the tension from the boat-puller.

Measure the rig tension on the shrouds, which should be 30. If it is not, use the boat-puller to release the forestay and to hold the mast steady. Move the pins down in the shroud adjusters and use the boat-puller to refit the forestay as before. Now check the shroud tension again.

Repeat this process until you achieve the required shroud tension. This operation should only require to be done once, but you may want to occasionally re-check the rig tension.

Remove the boat puller from the boat and trapeze wire, and attach the trapeze wire to the side of the boat.

Now you have the hole settings for your rig set-up, which you should record, you can fit the jib.

Attach the jib tack to the aft-most hole on the tack fitting and attach the jib hank clips to the forestay. Shackle the jib halyard to the head of the sail, not forgetting to tape around the shackle. It is always a good idea at this stage to look up to check for twists and tangles.

If there is not too much wind, hoist the sail and attach the loop at the end of the halyard to the pulley system at the base of the mast. If it is windy, wait until you are ready to go afloat before hoisting the jib - nothing hurts a sail more than flapping in the wind.

Finally, attach the single jib sheet that comes off the traveller to the clew board. You will find a number of holes to choose from - essentially the stronger the wind, the lower the hole that should be used, to allow the leech to open. For your first sail, start by using the lowest hole.

The purchase of the jib sheet should be altered according to the sailing conditions, as shown in the sketch below. In heavy winds, tie the fixed end of the jib sheet purchase to the becket on the central jib sheet block, giving a 3:1 purchase. In light winds, tie the fixed end to the port jib sheet block, giving a 2:1 purchase.

Rigging the Genniker

Shackle the two ratchet blocks to the eyes next to the shroud points. Un-flake the genniker on the port side of the foredeck. Attach the halyard to head of sail, the tack line to the tack and the sheets to the clew. It is a good idea to attach the sheets by folding them in half and threading the loop through the clew eye.

Take the downhaul line from the chute mouth and thread it through the lower eye in the sail from starboard to port, then up to the upper hole. From inside the boat, pull the genniker down through the chute, being careful not to snag it on the trolley. Thread the port sheet through the port ratchet and thread the starboard sheet inside the halyard around the forestay and through the starboard ratchet.

Tie the two ends of the sheets together in a stopper knot – this is the line you will use when you need to pull the boat from a capsize.

Once again, look up to make sure none of the lines are twisted.

Attaching and Hoisting the Mainsail

If your sail numbers are loose, see separate notes on where and how to fix them.

Unroll the mainsail on a flat surface. Make sure the battens are in very tight and tie them off. Roll the sail back up again and place it on the boat. Position the boat with its head to wind. Attach the mainsail halyard to the head of sail, feed it into the mast track and pull the sail up the mast – you may have to step into the boat to reach the start of the track. Just before the sail reaches the top, place the large webbing loop on the clew over the end of the boom and the small one on the outhaul hook. Fully hoist the sail.

Wrap the two sides of the tack envelope around the mast and boom, and zip down half-way from the top. Coil up the tail ends of the mainsail and jib halyards and place them in the velcro bag in envelope. Fully zip the bag down. On the bottom of the envelope are two webbing loops, these should be used to attach the two cunningham swivel hook pulleys which have the blue rope through them.

4.5 COMPLETION

Fitting the Centreboard and Rudder

Both the centreboard and the rudder blade are daggerboards. The rudder simply slides into the top of the stock, and is pushed down as the boat leaves the beach. The centreboard fits in the same way, only it should not be forced - make sure you have the angle correct and it will slide firmly into place. Both blades may be very tight in their housing when they are new.

Taping

You are now almost ready to sail! But first, tape up all shackles and clevis pins and anything that looks as if it could snag the genniker.

5. SAILING HINTS

5.1 Introduction

Firstly, the **29er** is a skiff – it will feel different.

A light fast planing skiff needs one or two different techniques from those used in sailing more conventional boats. It will soon come with practice and is not only great fun but also very rewarding. Here are a few tips.

5.2 WHO DOES WHAT?

The skill level of helm and crew will determine how to distribute the various jobs in the boat.

The two options that have been found to work well are:

- With a skilful crew, the helm will control the jib and tiller upwind while the crew sheets the mainsail. Downwind the crew hoists the genniker and controls it, while the helm has the mainsheet and tiller: the jib is left to itself.
- With a not-so-competent crew, the helm can take the mainsheet upwind. All the crew then has to do is get from side to side and maybe adjust the jib sheets.

5.3 SHEETING THE SAILS

The jib should be pulled so that there is a small curve in the base of the sail and it is not so tight that it won't self-tack. The mainsail has to be constantly worked and adjusted to suit the wind and balance the boat.

Use the sails to balance the boat before you move, ie, when a lull comes, sheet the sails in first before you dive into the boat to try and balance it.

The **29er** is fast – sail it fast. Find the line upwind that will give the best performance. Don't luff hard to depower upwind but feather gently and ease the mainsail. The **29er** is a very light boat and will stop if luffed hard in a gust.

The boat is more stable when at speed and less so when stationary – keep the sails sheeted and the boat moving.

Keep both sails sheeted in unison all the time to balance boat – fully battened sails are always on.

Keep the mainsail sheeted in at least to the aft quarter of the boat when going downwind with the genniker flying – this helps support the rig, but more importantly it keeps the boat speed up.

When a gust comes – bear away under it. If you let the mainsail out, the power goes and you will roll in backwards. The boat is light, so all you have to do is pull the tiller towards you and go faster.

In the lulls, luff up to keep the speed on and the apparent wind strength up.

5.4 SITTING POSITIONS

The **29er** has a fast planing hull. In light winds keep the weight forward. Only in the wildest days will you need to move right aft.

5.5 TACKING

Crew

For the crew who is not taking the mainsheet, this is simple – ease and re-cleat the jib sheet several centimetres, then cross and balance the boat facing forwards.

For the crew who has the mainsheet, she/he can either:

- give it to the helm to tack; or
- cross the boat with the mainsheet, passing it behind her/him as they cross the boat.

Helm

For the helm who has the mainsheet the tiller extension should be passed under the mainsheet as it is pushed away. Stand up and face forwards, place the tiller extension down on the new windward deck, sit down on the new side and then change hands.

Facing forwards all the time enables the helm to:

- make sure the boat is going through the wind; and
- keep in time with the crew.

If the crew has the mainsheet the procedure is the same, except the helm has no rope to handle!

5.6 GYBING

The key to a successful gybe is speed – therefore the sails must be kept pulling and set at all times.

Assuming the crew is on the wire and you are moving at full speed:

- The helm should bear away a little to allow the crew to come into the boat.
- Once the crew is in, she/he should un-hook and pull the slack out of the windward genniker sheet.
- The helm then bears away in a wide arc, steering the boat onto the new gybe.

A useful tip here is to place the tiller extension on the new side of the boat and steer the boat from the tiller in really strong winds.

- The crew should cross the boat and sheet the genniker onto the new side as soon as possible, getting on the wire if practical.
- The helm should also cross the boat and ensure that the boat is flat at all times except in the lightest wind and that the boat is kept 'under' the rig.

With practice, gybing in the strongest wind is both fast safe and a really satisfying thrill.

5.7 GOLDEN RULES

After a capsize, ensure the helm gets to the tiller as soon as possible to gain control of the boat.

Never let the mainsail out in a gust when sailing downwind with the genniker up. Steer the boat to the gusts and lulls

Always ease off the kicker before going downwind. Do not gybe in strong winds with excessive kicker on, otherwise undue strain will be put on the top mast.

Scoop the helm up when recovering from a capsize and get sailing straight away. Keep the jib in a little to balance the boat and prevent involuntary tacking.

Go into the gybe fast and flat in a wide arc.

The crewperson on the trapeze should avoid jumping into the mainsail during a capsize.

When hoisting the genniker on port tack be sure to bare away enough to be square to the wind so that the sail blows forward and clear and does not blow inside the jib. Should the genniker go inside the jib, it will snag between the mast and jib halyard. If hoisting continues, a capsize or torn sail may result.

6. TUNING GUIDE

6.1 RIG TENSION

25 (ISP) on forestay and 30 (ISP) on shrouds. The forestay will still become slack when flying the genniker.

6.2 Mainsail Downhaul (Cunningham)

Pull the mainsail downhaul just enough to remove the worst horizontal creases in light airs, pulling further down progressively as the boat becomes overpowered.

6.3 VANG

Apply enough tension to the vang to help take some of the load out of the mainsheet. Do not pull it on too hard, as this just bends the mast.

6.4 OUTHAUL

Keep the outhaul tight at all times, except in light winds and choppy seas, when easing it a centimetre or two will help power through the waves.

6.5 JIB CLEW PLATE AND TRACK POSITIONS

So far, the furthest-outboard pins on the jib track have been found to be the most successful in most conditions, although time will tell.

Because there are no adjustable fairleads, the clew plate is the key adjustment for the jib slot:

- In light winds, use the upper hole to keep the slot tight.
- As the boat becomes overpowered, move down to the lowest setting so that the slot is open and allows the wind to exhaust fast.
- When starting it is best to go for the lowest setting, making the boat easy to sail.

6.6 Foils

Keep the foils down at all times.

7. MAINTENANCE

7.1 BOAT CARE

Follow these tips to keep your **29er** in good condition:

- Dry out your boat whenever possible.
- Undo the drainage bung in the transom whenever the boat is left on shore.
- Wash off any salt water with fresh water to avoid corrosion and mould.
- Although the ropes and pulleys have light loads on them, they are used at very high speeds. Regularly inspect fittings for burn-outs and chafe.
- Always repair minor damage at once, before it develops into a major repair!

7.2 SAIL CARE

Introduction

Good racing sails today are expensive items and yet it is surprising how many people are prepared to neglect or even mistreat such vital equipment. The rules for correct sail care are simple and take little time, so follow these tips and avoid prematurely ruined sails.

After Racing

Once ashore, sea sailors should wash there sails in fresh water to remove the salt. Inland and sea sailors should make the effort to dry them as soon as possible.

Since there is no quicker way to ruin sails than to leave them flapping on a mast, they are better dried by simply laying them out flat on the ground or spreading them over the boat.

In wet weather, sails can be dried at home by spreading them over the floor of the house overnight!

Rolling or Folding

As soon as the sails are dry, and particularly if they have had to be put away temporarily when wet, correct rolling or folding is essential.

The modern racing sail is best kept rolled in a long bag, but this is not always possible. If folding is absolutely necessary, mainsails should be 'flaked' down in folds parallel to the foot, with the battens removed of course. All creasing should be shaken out and the sail then rolled from the bolt rope end.

Foresails should be treated similarly except that the leech is kept in line in the flaking operation to allow the luff wire to take a more gentle line. Once again the sail is then rolled from the luff. Do not allow any fold or crease across a window especially in cold weather.

Spinnakers

Spinnakers can be folded like a bed sheet by putting the two leeches together and then folding the centre fold in line with the leech. Halve the sail once more in the same way and then roll from the head.

If the sails are correctly rolled or folded from being put away at the weekend, they will emerge the following week smooth and free of all but the minimum marks.

Cleaning

Use only warm water to wash sails – never hot water. Use only household soap to sponge away marks, never strong detergents. Oil marks are best removed with triclorethylene or mechanic's hand cleaner.

Never send your sails to the cleaners. They can be kept clean by removing marks as they are collected.

Repairing

Send your sails back to your sailmaker for a check over, preferably in the autumn, not in the spring.

They will carry out small repairs and correct any 'wear and tear'. Use the loft which cut the sails to carry out any major repairs that may be needed – they have the best chance of getting the shape in the repaired sail correct.

Finally

Modern day cloths are often very hard, this is a necessary part of the design of a fast sail. However, this does mean the sail needs extra care if creasing and those 'little white score marks' are to be kept to a minimum. These little marks and scores cannot always be avoided and they are inevitable as the sail is used: they do not effect the performance or the strength of the sail, but are more a cosmetic and aging character.

Once again, avoid at all costs leaving your sails flapping in the dinghy park. Nothing ruins a sail so quickly especially spinnakers!

8. WARRANTY

- 1. This warranty is given in addition to all rights given by statute or otherwise.
- 2. Ovington Boats warrants all boats and component parts manufactured by it to be free from defects in materials and workmanship under normal use and circumstances, and the exercise of prudent seamanship, for a period of twelve (12) months from the date of commissioning by the original owner. Routine maintenance and care must be exercised by the owner.
- 3. This warranty does not apply to defects in surface coatings caused by weathering or normal use and wear.
- 4. This warranty does not apply if the boat has been altered, modified, or repaired without prior written approval of Ovington Boats. Any changes to the hull structure, deck structure, rig or foils without the written approval of Ovington Boats will void this warranty.
- 5. The use of the boat for commercial purposes shall void this warranty.
- 6. Warranty claims for materials or equipment not manufactured by Ovington Boats can be made directly to the relevant manufacturer. Ovington Boats warrants that these parts were installed correctly and according to the instructions provided by the manufacturer.
- 7. Warranty claims shall be made to Ovington Boats as soon as practicable and, in any event, within 28 days upon discovery of a defect. No repairs under warranty are to be undertaken without written approval of Ovington Boats
- 8. Upon approval of a warranty claim, Ovington Boats may, at its expense, repair or replace the component. In all cases, the replacement will be equal in value to the original component.
- 9. Due to the continuing evolution of the marine market, Ovington Boats reserves the right to change the design, material, or construction of its products without incurring any obligation to incorporate such changes in products already built or in use.

APPENDIX A: MAST ASSEMBLY

Preparation

If you have received your mast in three pieces, it must be assembled and bolted together before you can rig it. You will require the following tools:

- 4mm Allen (hexagon) key.
- 1 metre of cord, 4-5mm diameter.
- Piece of wood to tighten a spanish windlass.
- Posidriv No 2 screwdriver.

In addition, it is easiest to assemble the mast when it is properly supported – the best support is one or two portable workbenches (eg, Black and Decker 'Workmates' or similar).

Figures below in brackets refer to items in Figures A1 and A2 on the next page.

Set-Up

- Remove the packaging and the tape securing the sections of the mast together.
- Unfold the mast and lay it out on the ground, or secure the middle section in a workbench. You will notice that there are thin lines through the holes for the hounds and spreaders these prevent the mast twisting and keep the halyards in line make sure these are not twisted.

Fitting Top Section

- Holding the middle section securely, remove the transit cord between the top and middle sections. Remove the screw (A1-1) in the front face of the middle section.
- Insert the top section into the middle section. To seat the top section fully, it may be necessary to remove the top screw of the jib halyard sheave (A1-2).
- Align the retaining screw holes and insert the screw whilst supporting the backing plate inside the top section. Take care not to cross the threads! The backing plate can be supported by inserting the 'T' ball of the forestay into its normal position and pressing down on the end.
- Replace the jib halyard sheave screw (A1-2) if you removed it earlier.

Fitting Bottom Section

- Remove the transit cord between the bottom and middle sections. Remove the four screws (A2-1, A2-3) in the spreader holes in the middle section.
- Slide the spreader onto the bottom section and rotate it so that either the port or starboard holes in the spreader are aligned with the corresponding holes in the bottom section.

- Insert the middle section into the bottom section, keeping the sail tracks in line, until the screw holes in the middle section are aligned with the holes in the bottom section and spreader.
- Insert both screws, **on one side only**, either port or starboard (A2-1). Take care not to cross the threads!
- Create a 'spanish windlass' a loop of cord tightened by a piece of wood in the middle across the two ends of the spreaders (A2-2). Wind up the spanish windlass until the spreader tightens onto the mast. The free holes on the spreader should now align with the holes in the bottom and middle sections.
- Insert the two remaining screws (A2-3), taking care not to cross the threads, and remove the spanish windlass.

Fitting Shrouds

- Place the assembled mast with the sail tracks pointing downwards this makes sure that the rigging inside the mast falls behind the spacer tube when it is inserted.
- Undo the bolt (A1-4, A1-7) holding the main shrouds together and remove the spacer tube (A1-3). Insert the spacer tube in the transverse holes just below the top section retaining screw that you fitted earlier. The spacer may need to be tapped into place as it is a tight fit when new use the shroud bolt as a guide when pushing the spacer into position.
- Attach the shrouds (A1-6) using a washer (A1-5) on each side of each shroud eye and secure the shroud bolt with the 'nyloc' nut (A1-7).

You are now ready to fit the trapeze wires and forestay as described in section 4.2 of the manual.

REVISION SHEET - DO NOT COPY OR BIND

Rev	Date	Description
В	13-Dec-99	Original of Rev B
В	27-Jan-00	Modified working deck sketch without toe loops, section 3.6 text altered
		on handholds.
В	20-Jun-00	Two paras added to 'Golden Rules'
В	21-Sep-00	Para added to Golden Rules on gybing with kicker.