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***Laser II Regatta***  
**RIGGING MANUAL**

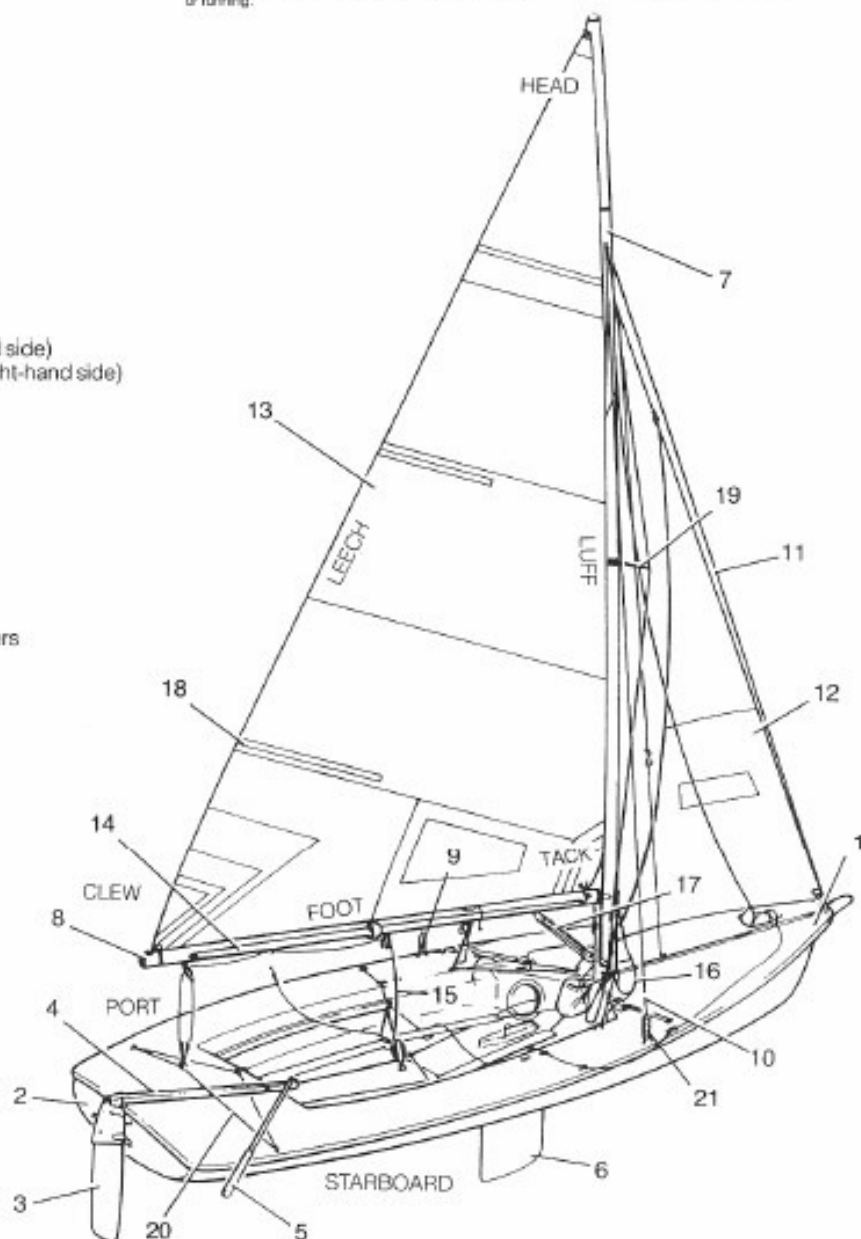
## GLOSSARY

**Aft:** towards the back of the boat.  
**Bow:** the foremost end of the boat.  
**Burgee:** a flag normally flown from the top of the mast.  
**Batten:** a thin plastic strip which fits into a long narrow pocket in the sail.  
**Bridle wire:** one of the two wires connected to the bow and forestay on a catamaran.  
**Centre board:** a pivoting plate that reduces sideways drift.  
**Clew:** a fitting to which ropes can be attached and made fast.  
**Clew:** the lower aft-most corner of a sail.  
**Cunningham hole:** an eye set near the bottom of the luff on a sail to enable the luff to be set more tautly when required.  
**Daggerboard:** a plate which can be moved vertically to increase or reduce sideways drift.  
**Diamond wires:** supporting wires which form a diamond shape and are used to control sideways mast bend.  
**Forelead:** a fitting that leads a rope in the most convenient direction for working.  
**Foot:** the bottom edge of the sail.  
**Forward:** towards the bows of a boat.  
**Forestay:** the wire supporting the mast in a fore and aft direction.  
**Goose neck:** a hinge fitting connecting the boom to the mast.  
**Gunwale:** the outermost edge of the hull.  
**Head:** the top corner of a sail.

**Hounds:** the connecting point on the mast for rigging that gives it support.  
**Halyard:** a rope or wire used to hoist or lower sails.  
**Halyard tack:** a toothed tack over which a halyard can be tensioned to control tension at the sail luff.  
**Jib sheet:** the rope used to control the position of the jib when under sail.  
**Kicking strap:** a line or series of lines between the base of the mast and the underside of the boom to control sail twist and boom position.  
**Leech:** the trailing edge of a sail.  
**Leeward:** the side of the boat on which the mainsail is set when sailing.  
**Luff:** the front edge of the sail.  
**Main sheet:** the rope controlling the position of the mainsail.  
**Mast heel:** the casting at the base of the mast.  
**Mast step:** the position on the hull or deck in which the mast is located.  
**Port:** the left hand side of a craft looking forward.  
**Reefing:** the ability to shorten sails appropriate to the degree of wind strength.  
**Shroud:** a wire securing the mast in position and preventing it from falling sideways.  
**Shackle:** a U shaped piece of metal secured with a pin, used for securing halyard to sails etc.  
**Spinnaker:** A three-cornered light weight sail normally set forward-most to increase sail area when reaching or running.

**Spinnaker pole:** a tube with hooks at either end to support the spinnaker when set in relation to the mast.  
**Spinnaker up/down haul:** a set of lines connected to the centre of the spinnaker pole allowing adjustment of its height.  
**Spreaders:** metal struts placed in pairs approximately halfway up the mast and connected to the shroud-offering further mast support.  
**Starboard:** the right hand side of a craft looking forward.  
**Stem:** the aft-most area of a boat.  
**Tack:** the lower forward corner of a sail.  
**Tiller:** a length of aluminium or wood which fits into the rudder head to allow steering.  
**Tiller extension:** a length of aluminium connected to the tiller by a universal joint which allows steering whilst leaning out.  
**Topping lift:** a rope from the top of the mast to the end of the boom to take the weight of the boom when the mainsail is not hoisted.  
**Trapeze wire:** a wire connected approximately 75% up the mast which supports a crew member by means of a harness and hook arrangement, allowing further extension of crew weight.  
**Transom:** the flat area across the back of the boat to which the rudder is hung.  
**Thwart:** a seat or seats set across the boat at 90 degrees.  
**Windward:** the side of the boat opposite to which the mainsail is set when sailing.

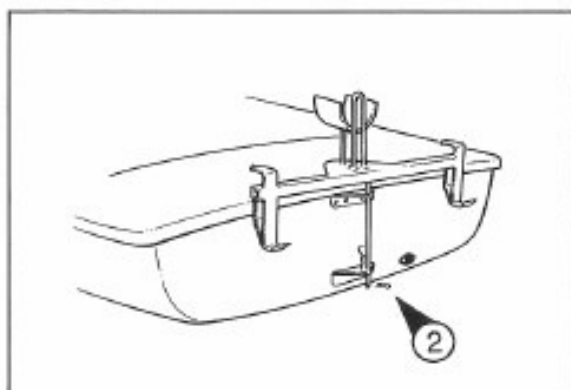
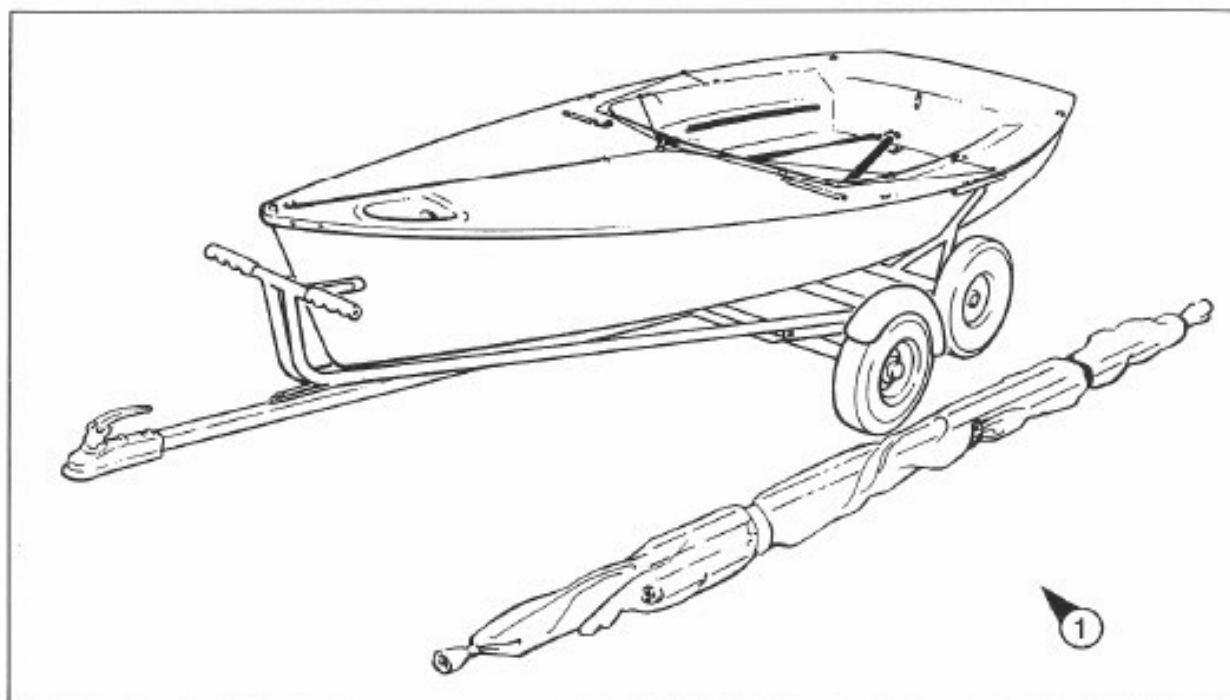
1. Bow
2. Stern
3. Rudder
4. Tiller
5. Tiller extension
6. Dagger-board
7. Mast
8. Boom
9. Shroud: Port (left-hand side)
10. Shroud: Starboard (right-hand side)
11. Forestay
12. Jib
13. Mainsail
14. Spinnaker pole
15. Main sheet
16. Jib sheet
17. Kicking strap
18. Battens x3
19. Diamond spreaders
20. Traveller line
21. Vernier shroud adjusters



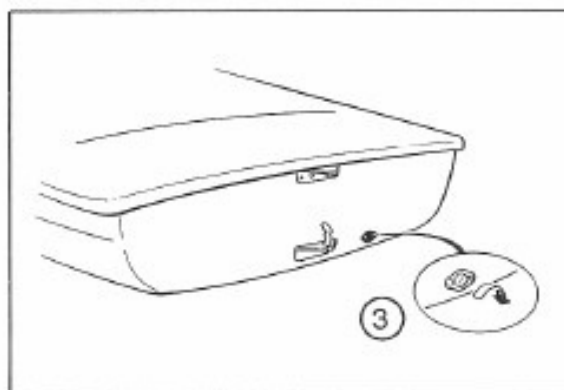
## RIGGING INSTRUCTIONS: LASER II REGATTA

### REMOVING BOAT FROM TRAILER.

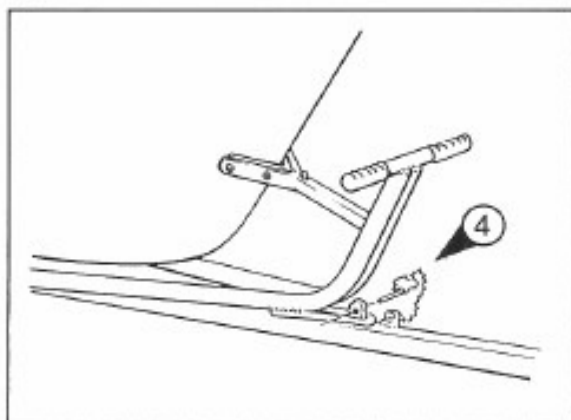
- \* Remove all securing straps.
- \* Remove the spars (Fig 1) ▲.



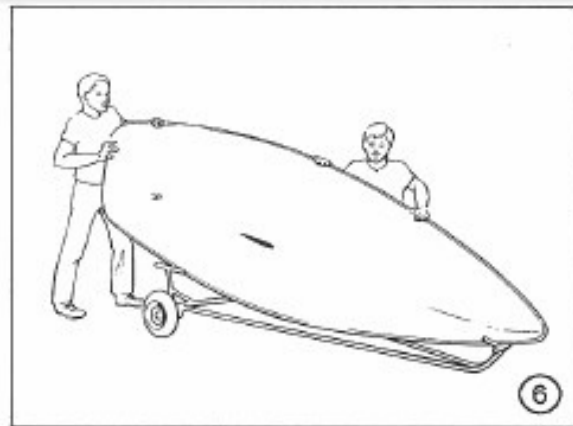
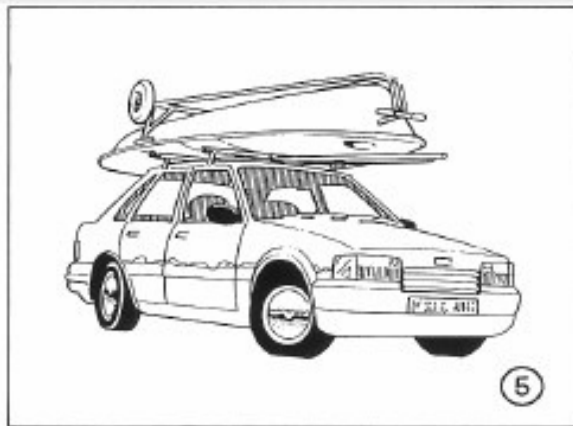
- \* Detach rear mast support (if fitted) by removing 'R' clip (fig 2) ▼.



- \* Secure bung in transom drain hole as shown (Fig 3) ▼.

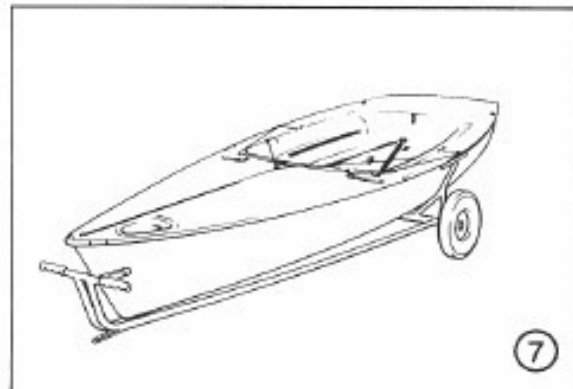


- \* Release trolley from road trailer base by releasing pin (Fig 4) ▼.
- \* Slide launching trolley carefully off road trailer base.



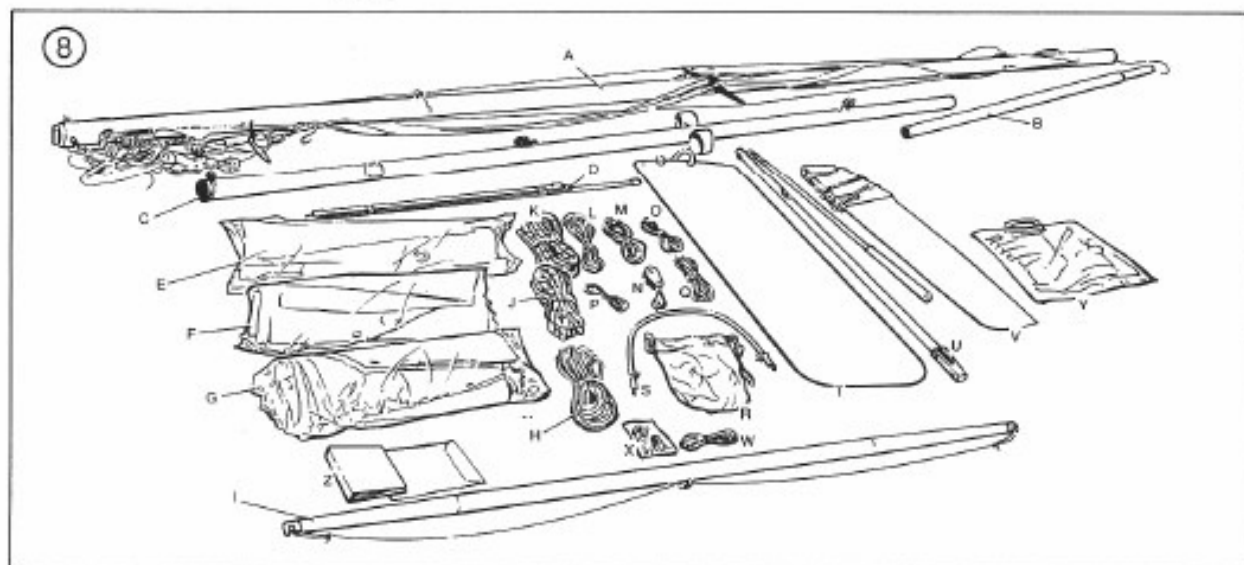
#### REMOVING FROM CAR ROOF

- \* Remove all securing straps (Fig 5) ▲ .
- \* Remove the spars
- \* Remove trolley from roof and place beside vehicle.
- \* Carefully slide Laser II Regatta hull off the car roof, turn through 90° and rest the gunwale on trolley (Fig 6) ▼ .
- \* Re-position hands, turn hull through a further 90° and rest on trolley supports, as show (Fig 7) ► .

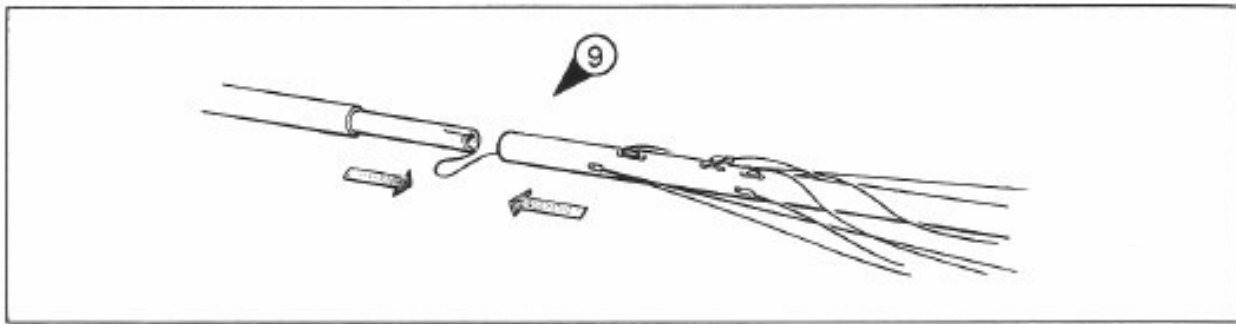


- \* Layout all parts of the boat and identify with contents list (Fig 8) ▼ .

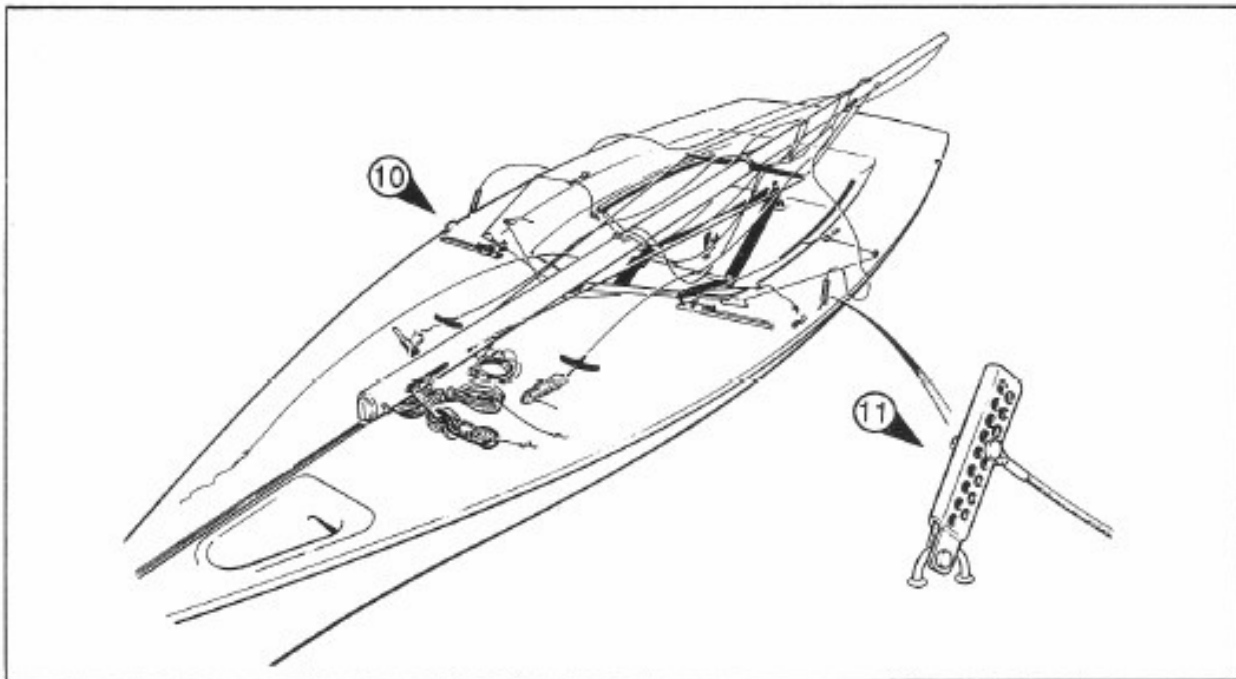
A Bottom mast	N Traveller blocks x 2
B Top mast	O Traveller bridle
C Boom	P Clew tie
D Battens x 3	Q Dagger-board retaining shockcord
E Mainsail	R Rope bag
F Jib	S Spinnaker catcher
G Spinnaker	T Dagger-board
H Spinnaker sheets	U Tiller/Tiller extension
I Spinnaker pole	V Rudder
J Jib sheets	W Kicking strap line
K Main sheet	X Kicking strap blocks x 2
L Clew outhaul	Y Boat cover (accessory)
M Traveller line	Z Rigging instructions/sail numbers



## RIGGING YOUR LASER II REGATTA



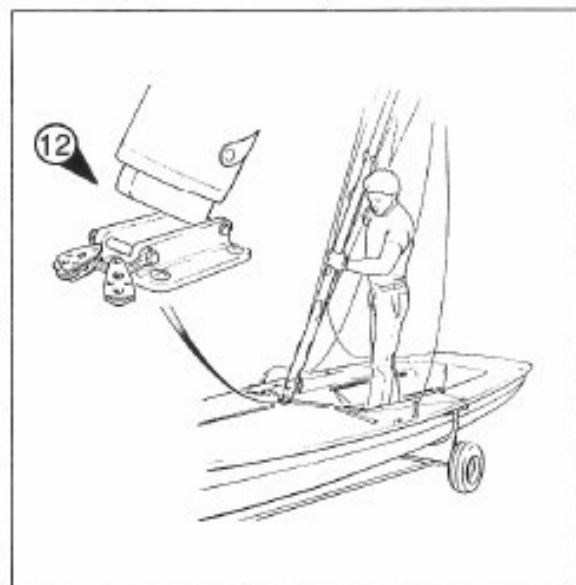
- Take the top mast section (Part B) and slide into bottom mast (Part A) making sure the luff groove is in line and the sleeve is fully pushed home. (Fig 9) ◀  
N.B. Care should be taken not to trap the main halyard in the mast sleeve during assembly. It is a good idea to put some lubricant, silicon spray or similar, on the mating surfaces before assembly.

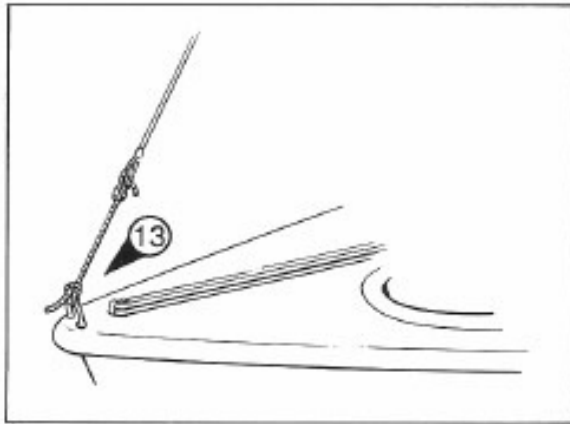


- Recover the main halyard from the top of the mast and secure at the mast base temporarily.
- Identify the jib halyard where it exits from the front of the mast, two-thirds up, and secure at the base of the mast temporarily.
- Position the mast on the boat with the mast heel alongside the mast step, with the gooseneck facing down. (Fig 10) ◀
- Connect the shrouds to the shroud plates, as shown. (Fig 11) ▼

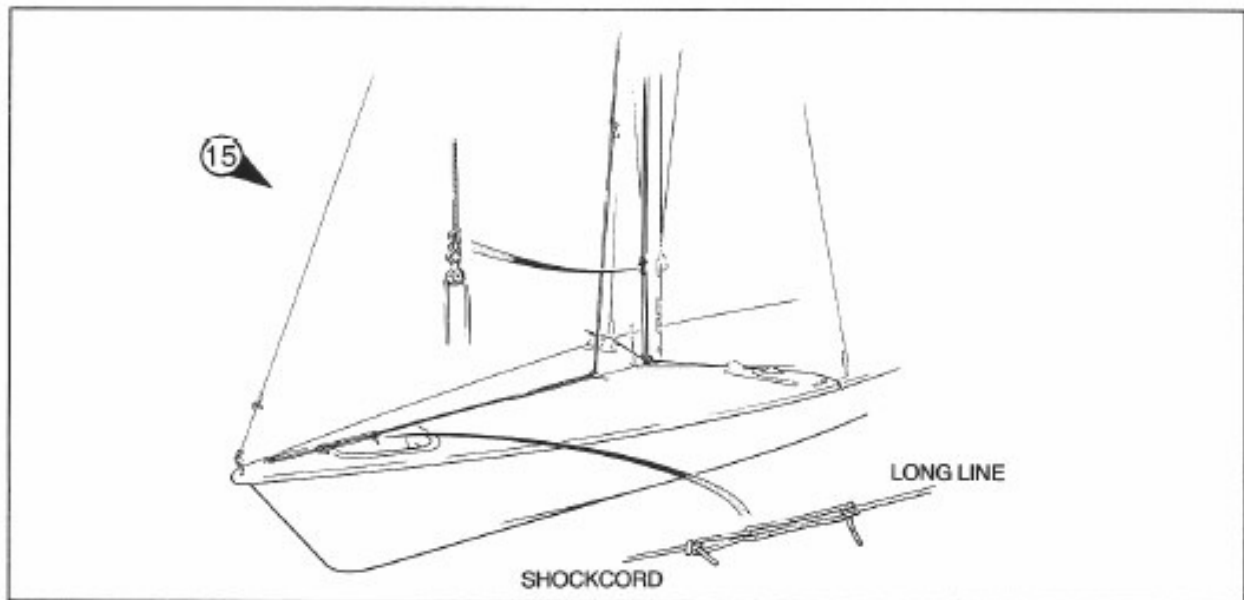
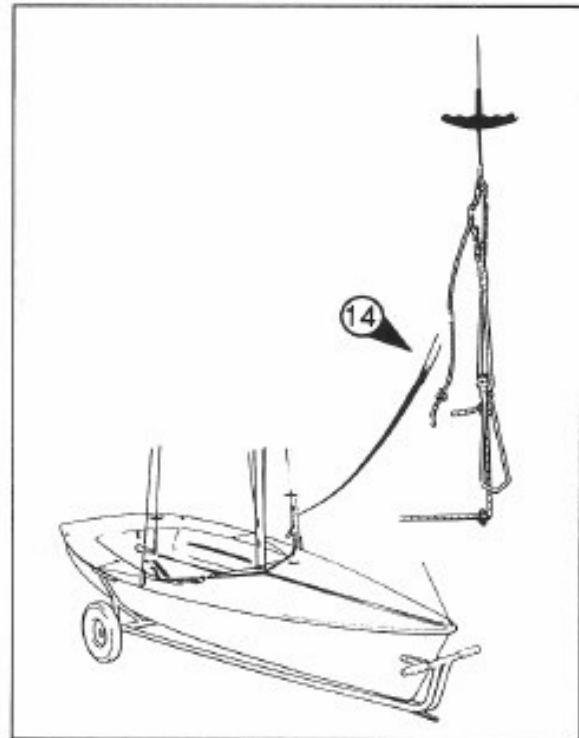
Initially position the shroud in the vernier shroud adjuster on hole No. 8. You may choose to alter this position at a later date when race tuning your craft. N.B. Make sure there are no kinks or twists in the wire.

- Identify the forestay and lay it out carefully towards the bow of the boat, checking it is clear of any other rigging, and not twisted or kinked.
- Carefully position yourself in the cockpit of the craft, lift the mast and position the mast heel in the mast step casting. (Fig 12) ▼  
N.B. Care should be taken when raising the mast that the small micro blocks at the mast foot are not damaged.
- Rotate the mast forward until the shrouds restrict its forward movement.





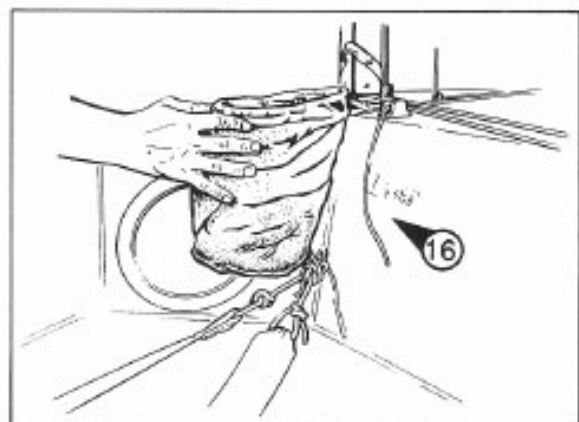
Secure the mast in the upright position by attaching the forestay to the bow plate, as shown. (Fig 13) ▼  
 N.B. Raising the mast can be done single handed, however if two people are present further security is offered by the second person guiding the mast heel into the mast step slot.  
 Identify the trapeze wires, check they are free from all other rigging, and secure at the shockcord restraining lines, using a suitable knot, as shown, (Fig 14) ▼.

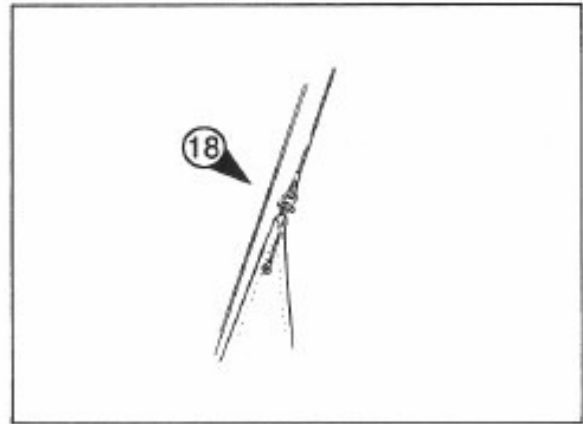
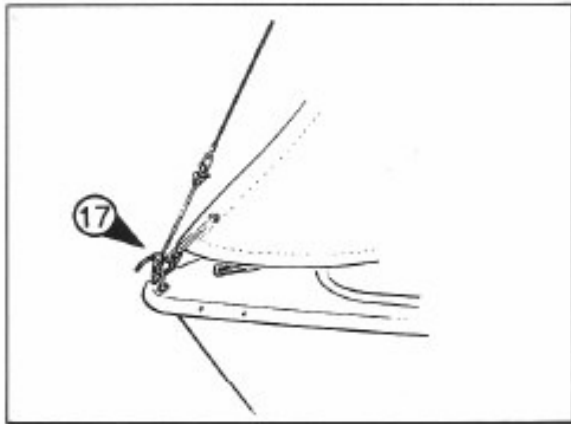


\* Attach the spinnaker pole uphaul/down haul line as shown, (Fig 15) ▲  
 N.B. The longer length from the hook goes into the shockcord, the shorter length to the micro block.

#### SECURING THE ROPE BAG

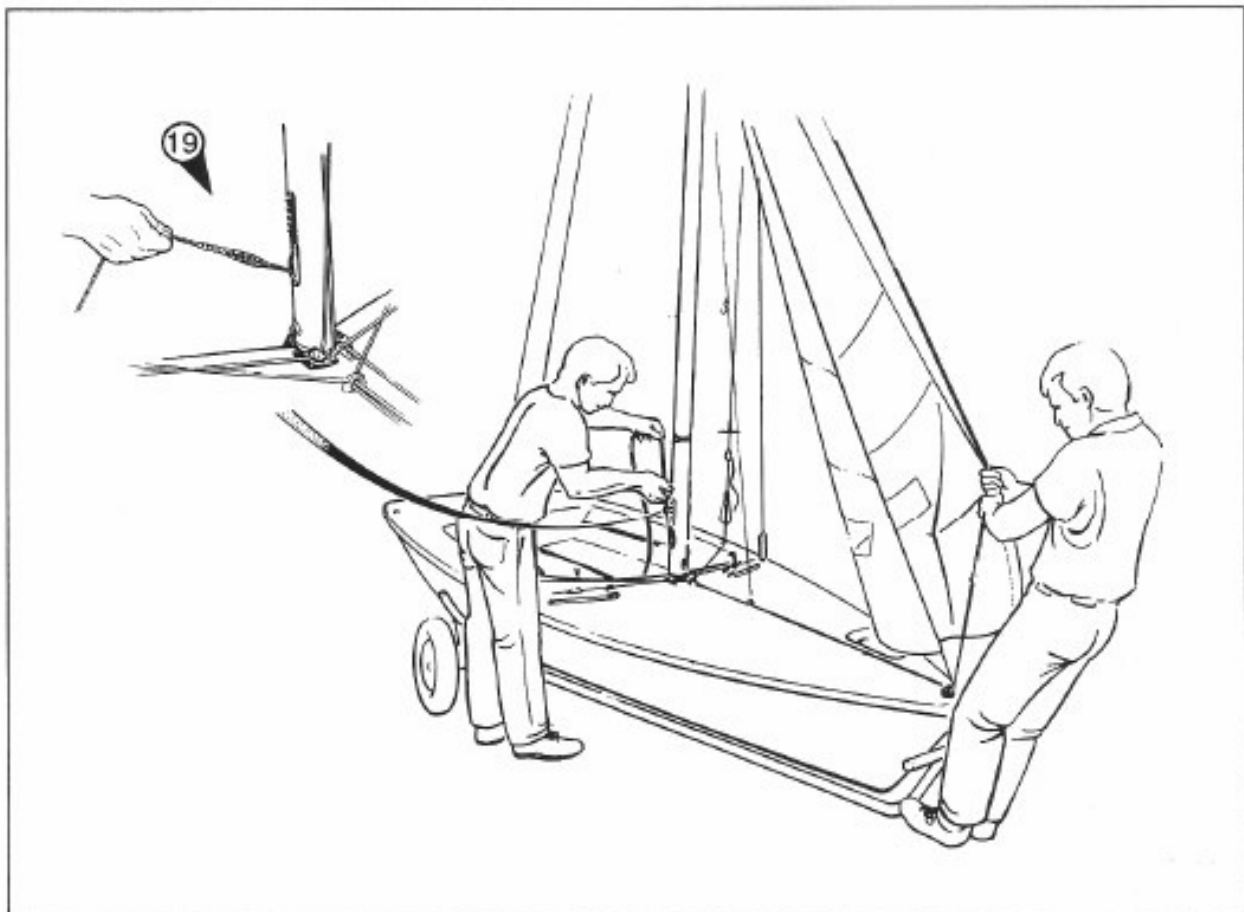
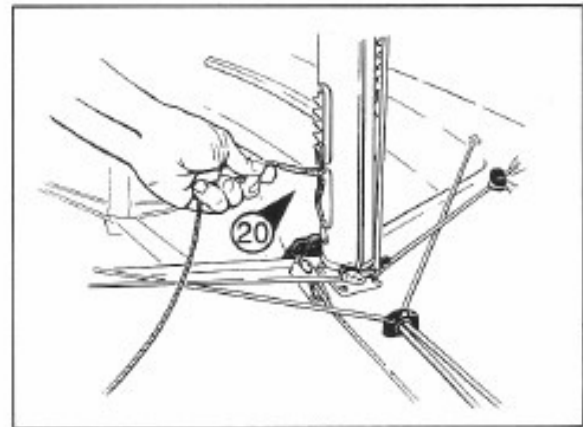
\* Place the rope and stowage bag (Part R) in to the front of the cockpit, as shown (Fig 16) ▼. All excess halyard lines can be placed in this bag.

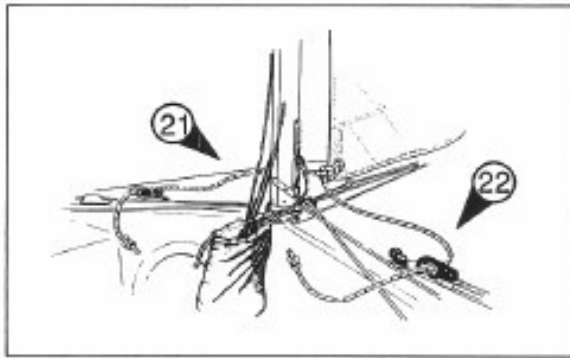




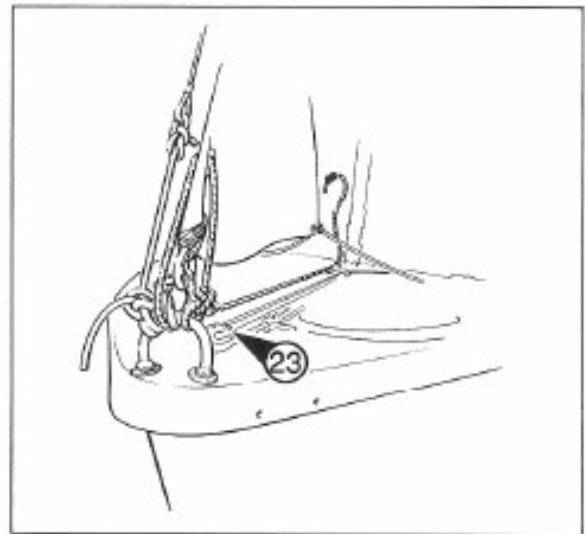
#### ATTACHING THE JIB

- Check that the bow of the boat is facing into the wind.
  - Connect the tack of the jib (Part F) to the shackle at the bow of the boat, as shown, (Fig 17) ▶.
  - Connect the head of the jib to the jib halyard, as shown, (Fig 18) ▼.
- 
- Raise the jib via the rope halyard where it exits from the starboard side of the mast, until the wire loop is showing (Fig 19) ▶.
  - Tension the luff of the jib by one person tensioning the forestay, while the second person places the wire loop over a selected tooth on the jib rack, as shown. (Fig 20) ▼.
- N.B. Care should be taken to slide the rope tail to one side.



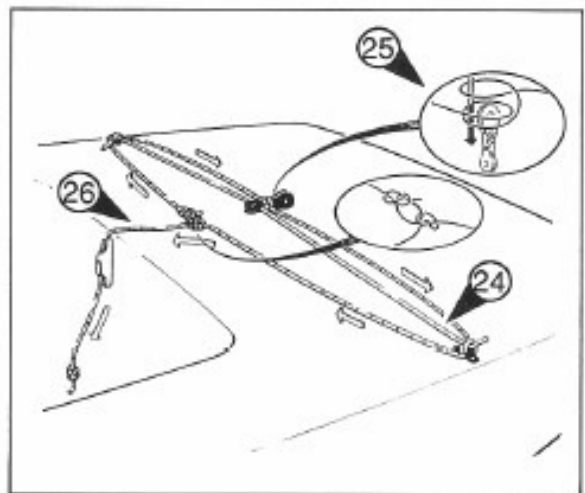


- Coil excess rope halyard and place in rope bag. (Fig 21) ◀
- Connect the jib sheets (Part J) to the jib clew and feed through the jib fairleads as shown, finishing with a stopper knot. (Fig 22) ◀
- Attach the jib cunningham line to the tack of the jib as shown. (Fig 23) ▶



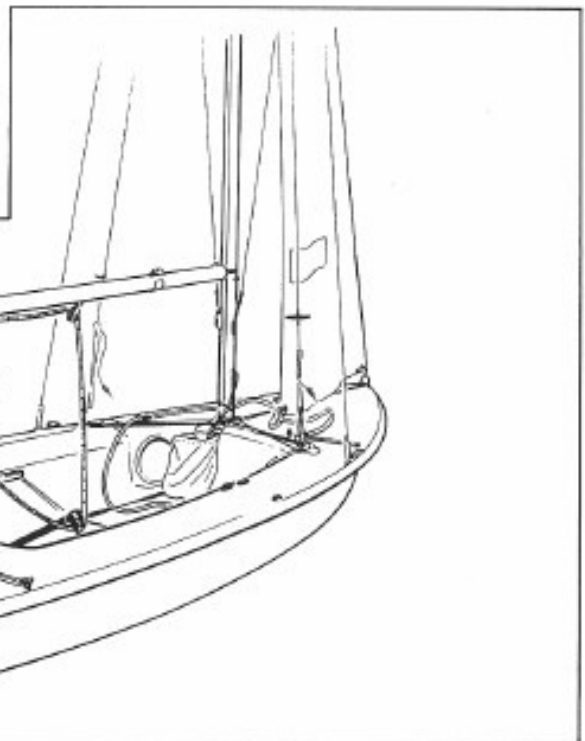
#### CONNECTING THE TRAVELLER BRIDLE AND TRAVELLER LINE

- Secure the traveller bridle (Part O) to the traveller bullseye, feed through the traveller block and secure at the second bullseye, as shown. (Fig 24) ▶
  - Connect the lower mainsheet block to the traveller blocks, as shown. (Fig 25) ▶
  - Tie a bowline or similar knot at one end of the traveller line (Part M). Place the bowline in the centre line of the boat and feed the loose end through the traveller bullseye and secure at the traveller/mainsheet block, continue the line through the second bullseye.
  - Tie a non-slip knot around the loop and feed the tail end through the traveller cleat as shown, finishing with a stopper knot. (Fig 26) ▶
- N.B. Adjustment may need to be made to the position of the traveller block to give a central position.



#### CONNECTING THE BOOM

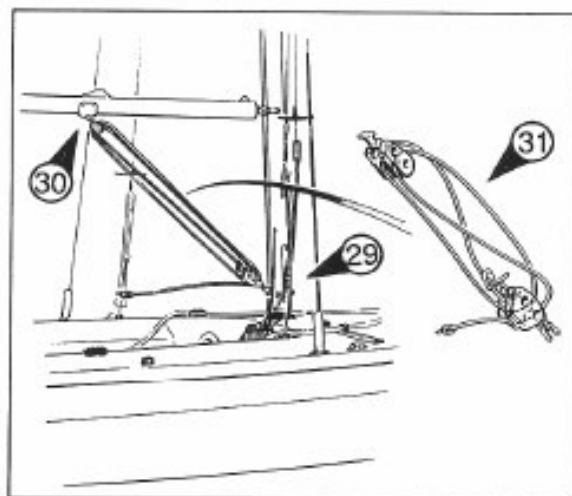
- Place the boom (Part C) on the gooseneck fitting with the main sheet blocks facing downwards, as shown. (Fig 27) ◀
  - Feed the main sheet (Part K) through the main sheet system taking care to pass it correctly through the main sheet ratchet block, as shown. (Fig 28) ◀
- N.B. The main sheet ratchet block is positioned in the cockpit well and is fitted with an on/off ratchet switch. When the switch is ON, friction is only activated when the main sheet is released and is for use in strong winds.





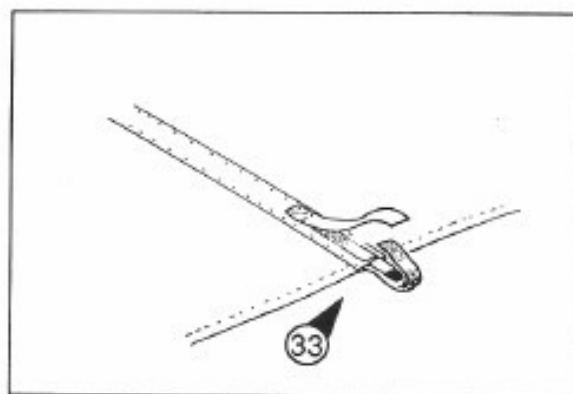
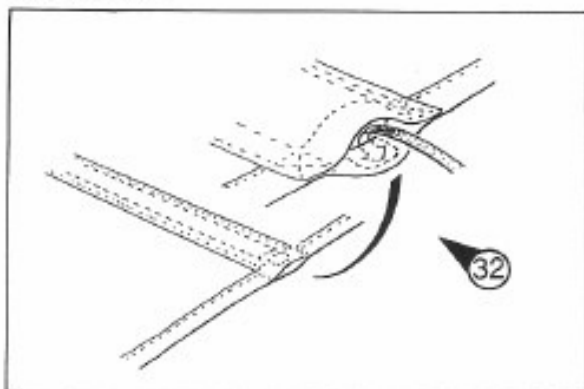
### ATTACHING THE KICKING STRAP

- \* Connect the lower block to the base of the mast. (Fig 29) ▶
- \* Position the upper block in the underside of the boom. (Fig 30) ▶
- \* Attach the kicking strap line (Part W) to the lower block and feed through the system, as shown, finishing with a stopper knot. (Fig 31) ▶

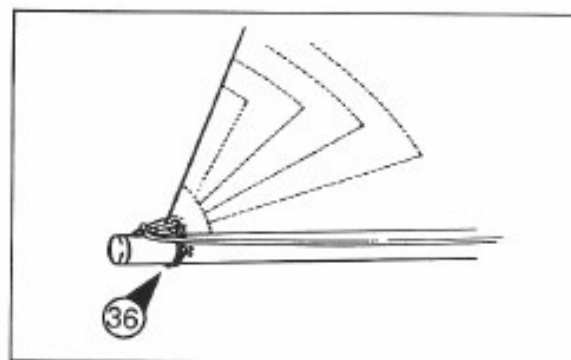
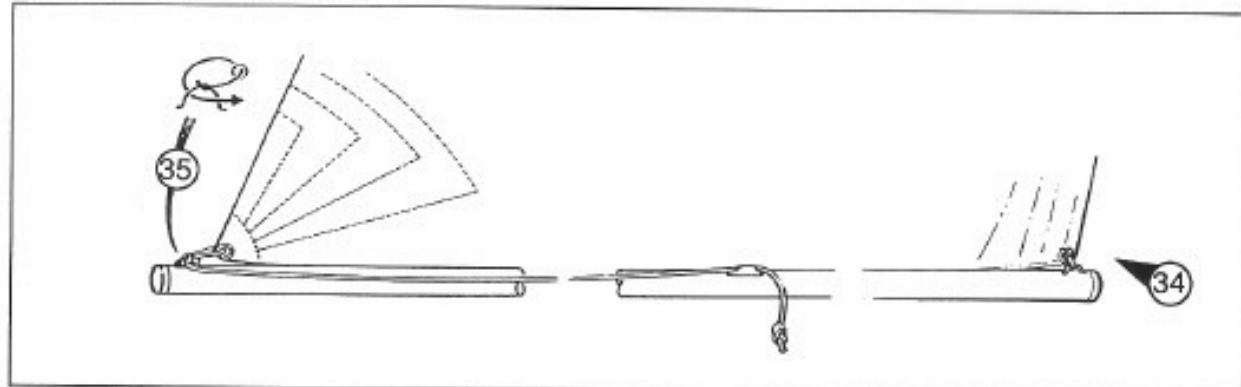


### ATTACHING THE MAINSAIL

- \* Check the bow of the boat is still facing into the wind.
- \* Lay out the mainsail (Part E) on a clear piece of ground and insert the battens (Parts D). Battens 1 and 2 are inserted into the sail and retained by a pillowcase closing arrangement (Fig 32) ▶. Batten 3 (longest batten) will need securing with velcro. (Fig 33) ▶.



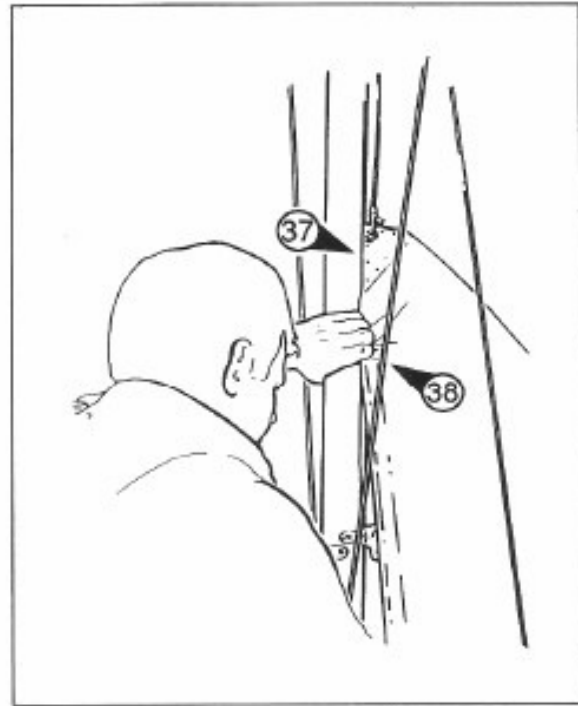
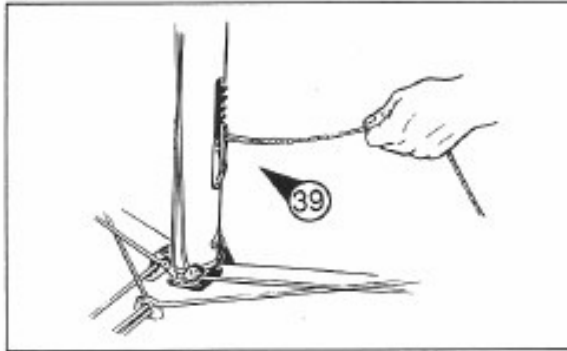
- \* Secure the tack of the sail to the front of the boom. (Fig 34) ▶
- \* Tie the clew outhaul line, (Part L), to the eye at the end of the boom and feed through the sail clew and up to the cleat, as shown, (Fig 35) ▼, finishing with a stopper knot.



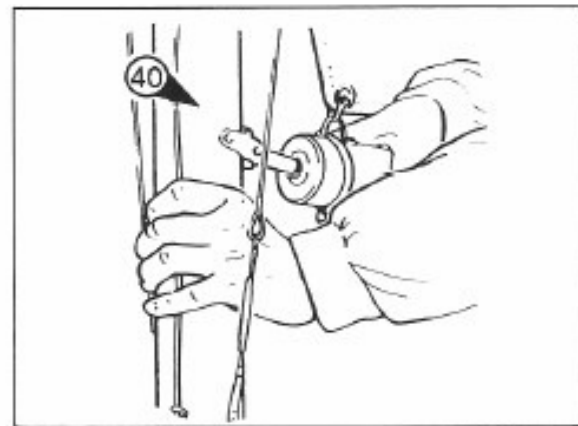
- \* Take the clew tie down (Part P), pass it through the clew eye, around the boom twice, as shown, (Fig 36) ▶, finishing with a reef knot or similar.

## RAISING THE MAINSAIL

- \* Connect the main halyard to the head of the sail, as shown. (Fig 37) ▶.
- \* Raise the sail via the halyard, where it exits at the port hand side of the mast, feeding the luff of the sail into the mast groove. (Fig 38) ▶.  
N.B. Care should be taken when feeding the sail into the luff groove to make sure the sail does not pinch in the opening of the luff slot.
- \* Raise the sail to the top of the mast and secure the wire loop of the halyard on the halyard rack as shown. (Fig 39) ▶.  
N.B. Make sure the rope tail of the halyard is not pinched against the rack teeth.

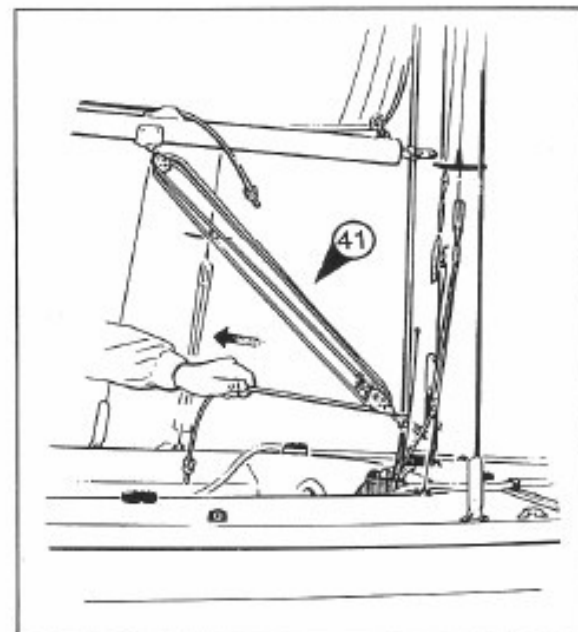
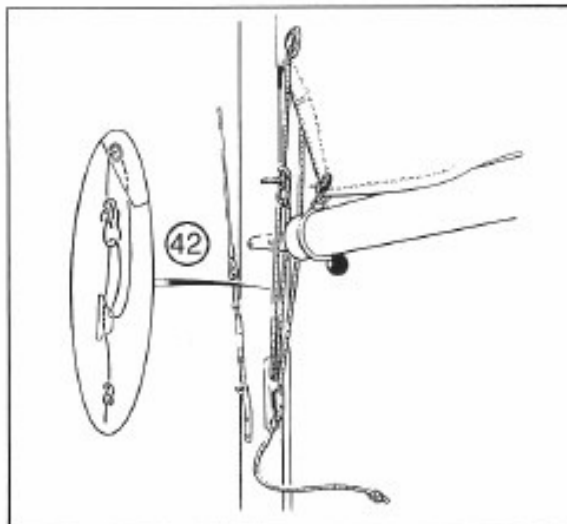


- \* Place all excess halyard lines in the rope bag provided.
- \* Pull the front of the boom down and slide onto the goose neck fitting, as shown. (Fig 40) ▶.
- \* Re-connect the kicking strap fitting to the underside of the boom and tension, as shown. (Fig 41) ▶.  
N.B. Check the mainsail is free to swing from side to side and that there is no tension on the main sheet.



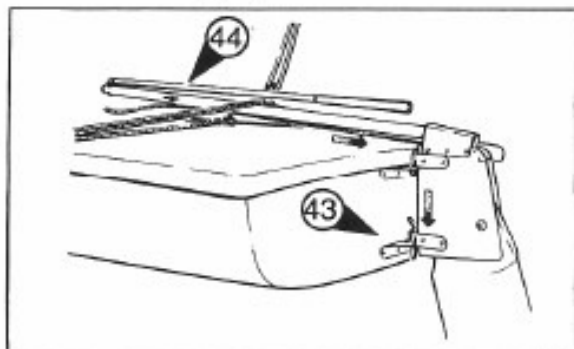
## CUNNINGHAM LINE

- \* Attach the cunningham line as shown securing with a stopper knot. (Fig 42) ▼.



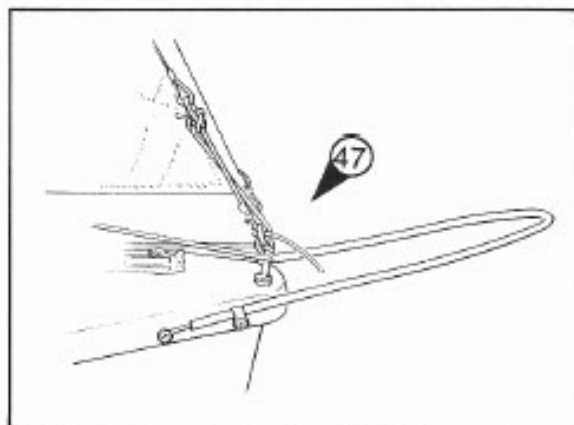
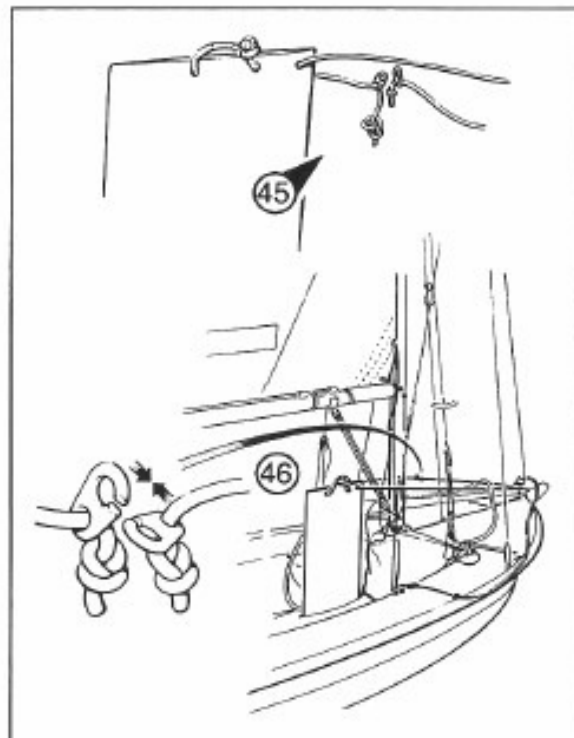
### CONNECTING THE RUDDER AND TILLER

- Clip the rudder (Part V) to the rudder fitting on the stern of the boat making sure the retaining clip is fully home as shown. (Fig 43) ◀
- Slide the tiller (Part U) **UNDER** the traveller line and into the rudder stock making sure that the downhaul line for the rudder blade is free. (Fig 44) ▶



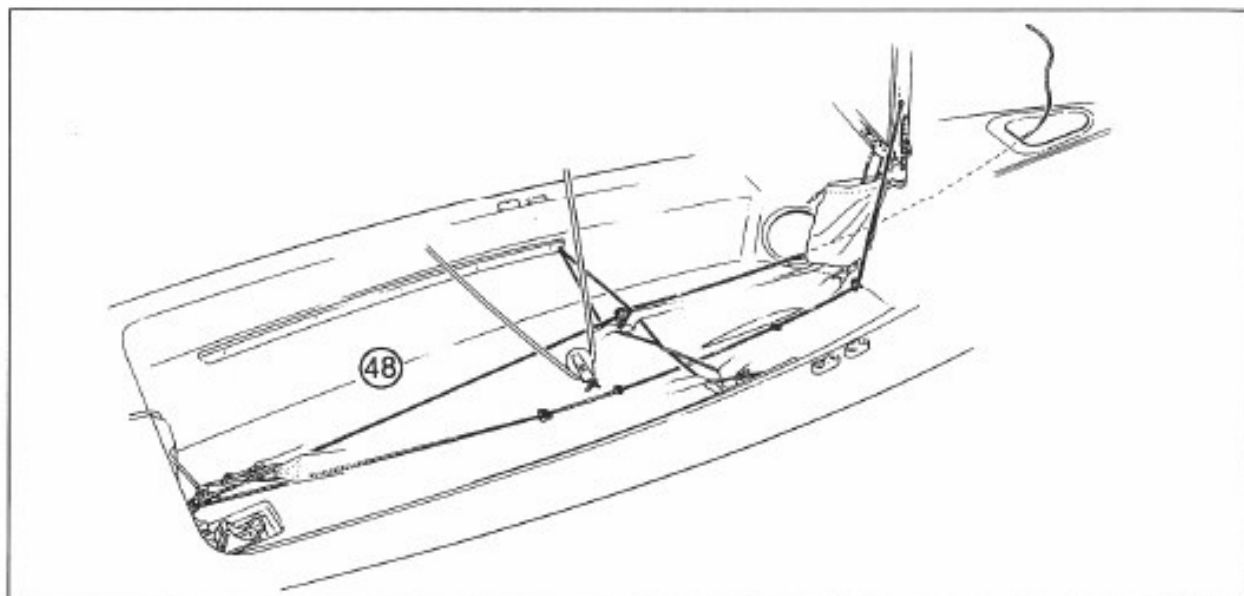
### CONNECTING THE DAGGER-BOARD

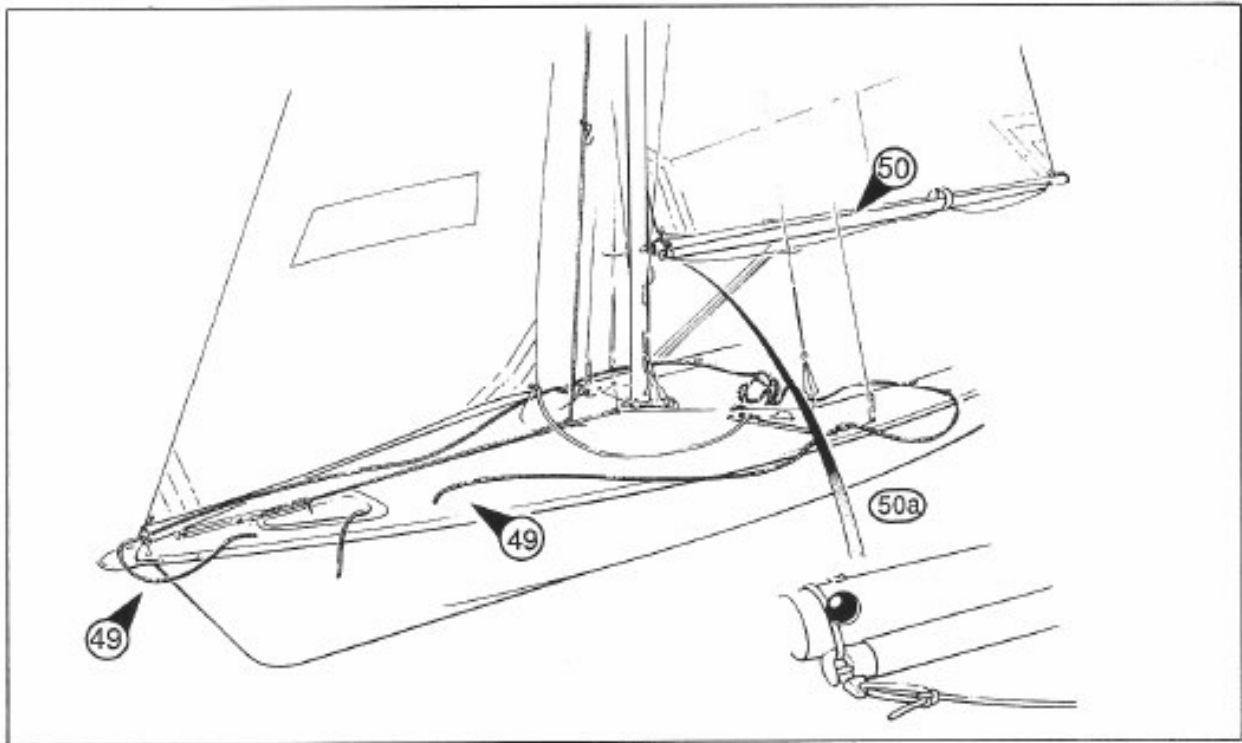
- Feed the dagger-board restraining shockcord (Part Q) through the eye on the front of the daggerboard (Part T) and replace the clip as shown. (Fig 45) ◀
- The shockcord is fed through the bow eye and then clipped together, as shown (Fig 46) ▶, ready for when you go sailing.



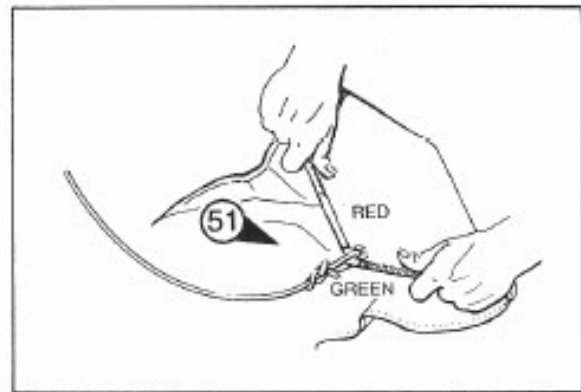
### ATTACHING THE SPINNAKER

- Attach the spinnaker catcher (Part S) to the bow of the boat as shown. (Fig 47) ▶
- Feed the spinnaker halyard where it exits on the base of the mast, through the up/downhaul system as shown. (Fig 48) ◀

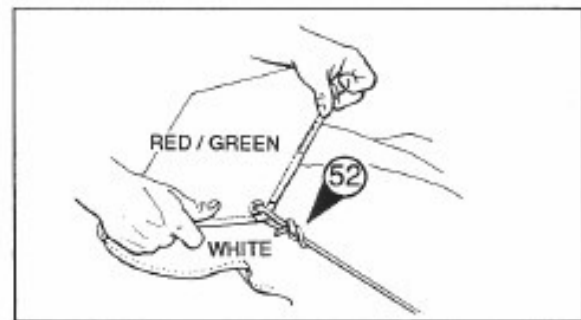




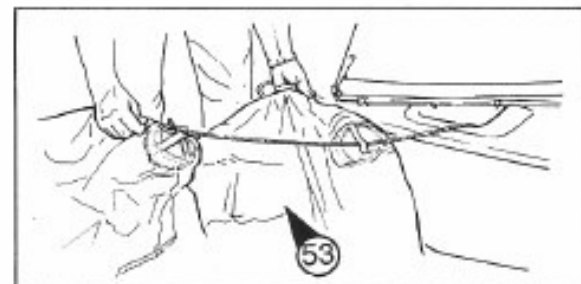
- \* Feed the spinnaker sheets (Part H) through the spinnaker fairleads and lay out towards the bow as shown. (Fig 49)
- \* Attach the spinnaker pole (Part I) in its stowage position as shown. (Fig 50) ◀ .  
N.B. The spinnaker pole should be connected through the shock cord clip as shown, (Fig 50A) ◀ , to prevent accidental deployment.
- \* Connect the head of the spinnaker (Part G) identified by the red and green edging tape to the spinnaker halyard as shown. (Fig 51) ▶ .  
N.B. Check the halyard is clear of all other rigging.

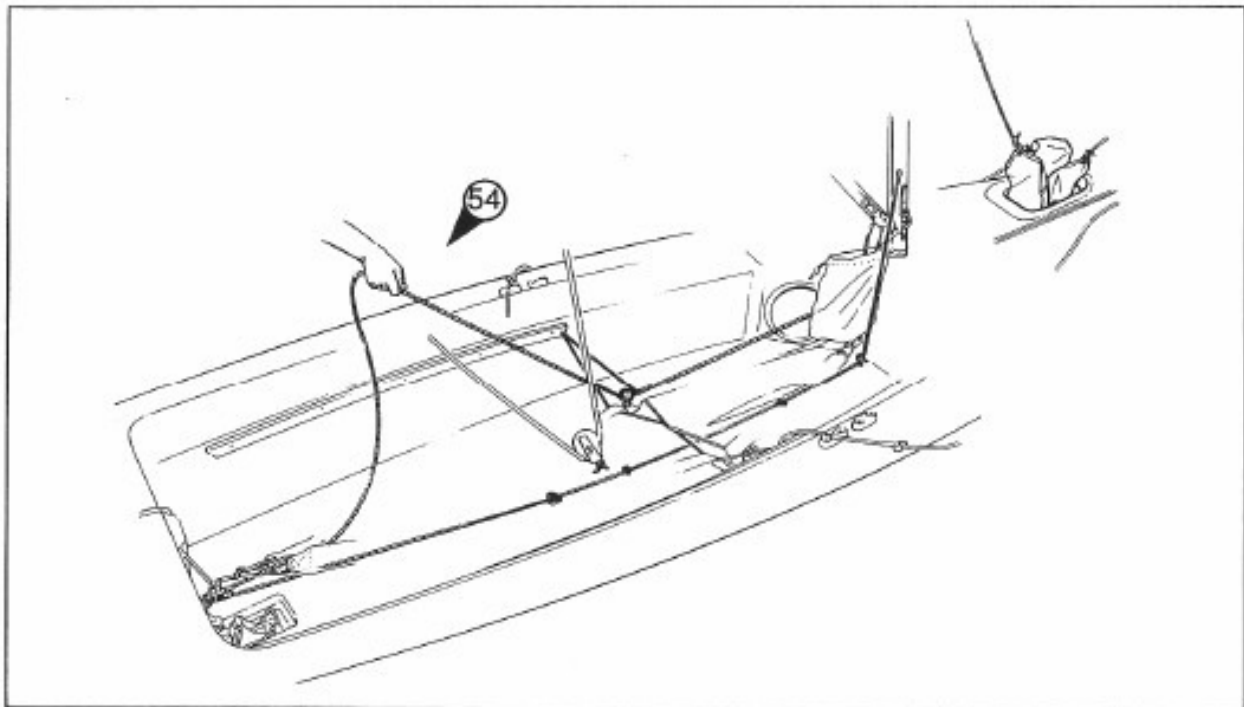


- \* Identify the corners of the spinnaker and attach to the end of the sheet using a suitable knot. (Fig 52) ▶ . Red to port and green to starboard.



- \* Attach the spinnaker downhaul line to the recovery patches on the inside of the spinnaker as shown. (Fig 53) ▶ .





- Draw the spinnaker back into the spinnaker shute using the recovery line as shown. (Fig 54) ◀
- Recover all excess spinnaker sheets inside the boat and store in the back of the spinnaker shute. N.B. Check that the spinnaker sheets have not slipped under the keel of your craft. It is advisable to secure these sheets when not in use under the reaching hooks as shown. (Fig 55) ▶

#### YOUR FIRST SAIL

Your craft is now ready to sail but before you launch, it is best to familiarise yourself with the boat's equipment, spinnaker deployment/recovery and any other accessories. It is also important that you consider all safety aspects of dinghy sailing.

#### PERSONAL SAFETY

The LASER II REGATTA is an excellent compromise between fun and safety and we recommend you always wear suitable clothing and an adequate buoyancy aid/life jacket when venturing afloat.

#### LIFTING AND LOWERING THE RUDDER

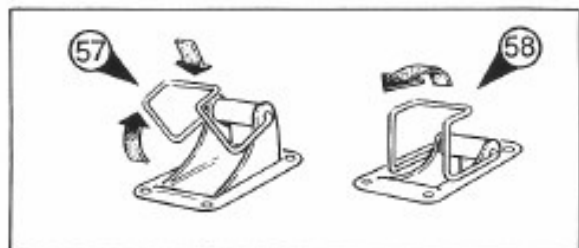
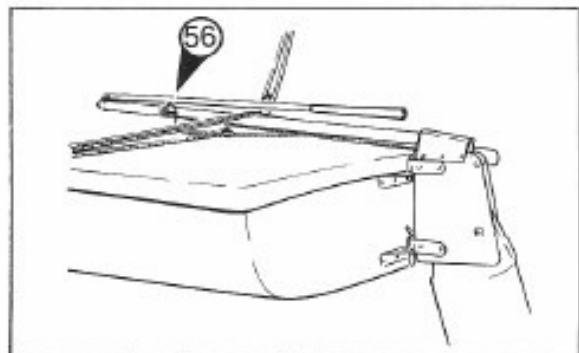
- The rudder is easily lowered by tensioning the downhaul line and securing on the cleat. (Fig 56) ▶
- When returning to shore, make sure the line is released to avoid damage to the blade.

#### THE SELF-BAILER

- The self-bailer is fitted at the back of the cockpit.
  - To lower the bailer simply raise the catch and press firmly down, as shown. (Fig 57) ▶
  - To raise the bailer rotate the catch forward into the normal position (Fig 58) ▶
- N.B. The bailer will only work when the boat has reasonable forward motion. It should not be left down when beaching as damage could easily result.

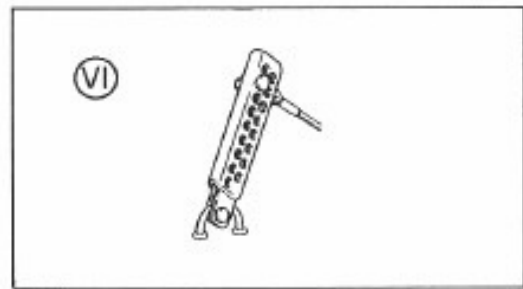
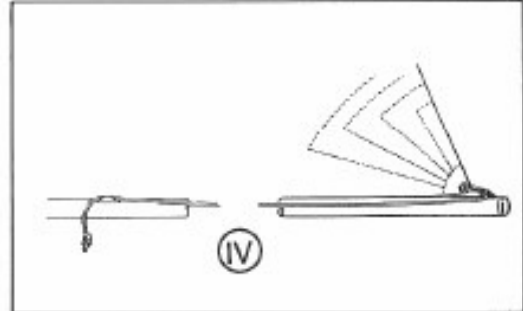
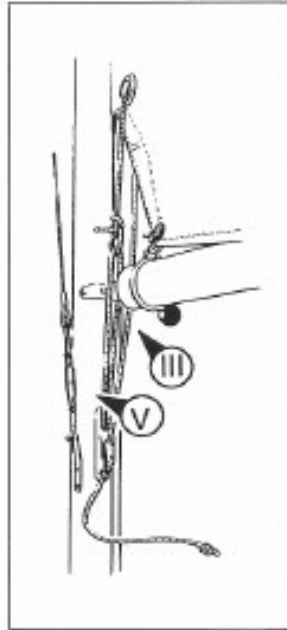
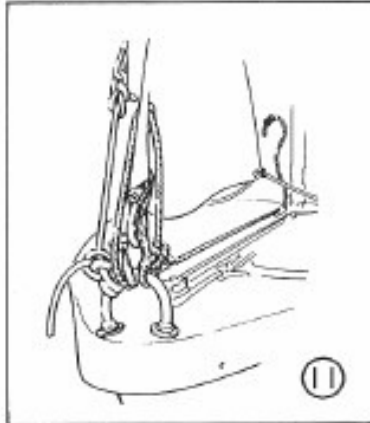
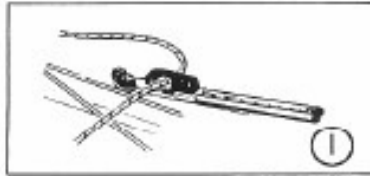
#### MAINSHEET RATCHET BLOCK

The mainsheet ratchet block is fitted with an on/off switch. The ratchet friction device is normally used in strong winds. This can be switched off for light wind sailing.



## BOAT TUNING EQUIPMENT

- \* The jib fairlead adjusters (I) ▼, jib cunningham (II) ▼, mainsail cunningham (III) ▼, mainsail clew outhaul (IV) ▲, diamond wire adjustments (V) ▲ and vernier shroud adjusters (VI) ▲. This equipment can be used to achieve maximum performance from your craft. For further information on fine tuning, consult a modern dinghy sailing text book.

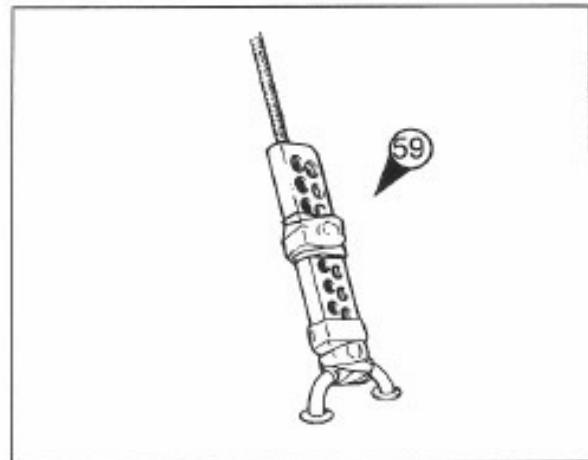


**IMPORTANT** Tape all split rings and check shackles are tight before going afloat. (Fig 59) ▶.

## LASER II REGATTA ACCESSORIES

1. Laser II Regatta Hull Cover
2. Laser II Regatta Top Cover
3. Laser II Regatta Mast Sock
4. Laser II Regatta Combo Bag

N.B. For full details of Laser II Regatta accessories, please contact your nearest Laser Centre/School.



## GENERAL MAINTENANCE AND SERVICE

### WEEKLY

1. Your boat should always be tied down securely to ground fixings when not in use. Sails should be stored dry when possible.
2. Any excess water in the hull should be drained via the transom bung.
3. The keel line should be tilted towards the stern to allow drainage of any water that may find its way into the cockpit, via the the bailer.

### MONTHLY

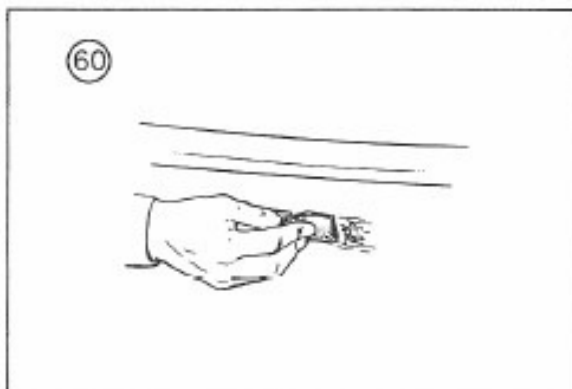
1. Ropes and rigging should be checked periodically for wear or damage.
2. All moving parts such as jamming cleats and blocks should be lubricated lightly with WD40 or similar.

### END OF SEASON

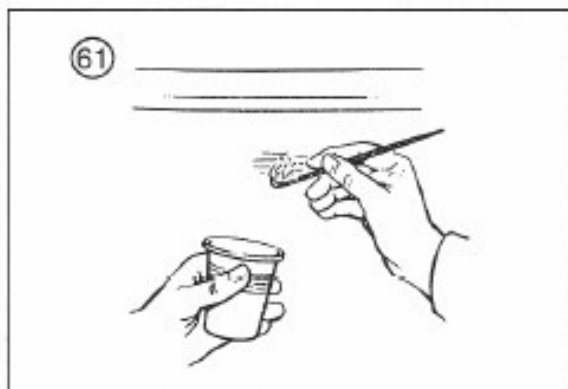
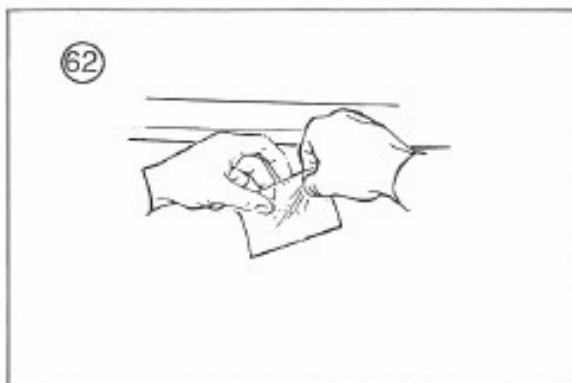
1. At the end of each season it is a good idea to check your boat thoroughly for signs of damage or wear.
2. Damaged or worn parts should be replaced using the Laser Parts identification system.
3. The hull should be washed down with fresh water and a protective cover placed over it.
4. Spars and rigging should be washed thoroughly, dried and placed in a protective area.
5. Sails should be thoroughly washed, dried, checked and stored in a dry place.
6. Road trailer and launching trailer should be washed, checked and greased where necessary.

## GELCOAT REPAIRS

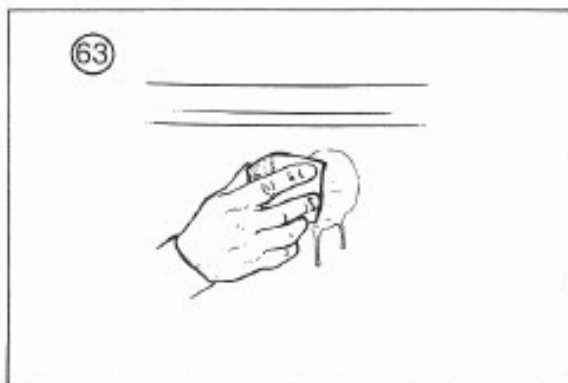
Should you damage the Gelcoat surface of your boat, you should repair it as soon as possible. The correct Gelcoat colour can be ordered through your Laser dealer.



1. Sand back the damage or flaking Gelcoat until a solid area is produced. Make sure the area is clean and there are no sharp edges. (Fig 60) ▲
2. Mix the Gelcoat with approximately 2% of hardener and apply using a fine artist brush or similar. (Fig 61) ▼ Cover the area with cellophane and allow to dry. (Fig 62) ▶



3. Brushes and equipment should be washed out in acetone if required.
4. When dry, carefully remove cellophane and sand the surface with wet and dry sandpaper until it blends in with the original area. (Fig 63) ▼
5. Finally, polish the area using a fibre-glass rubbing compound or similar.



N.B. If substantial damage is sustained to your craft, you should take it to your nearest authorised Laser Repair Centre  
OR  
contact the Laser Centre at Banbury  
Telephone: 0295 268191



March 1997

SCH000 LASER 2 REGATTA

<b>MAIN SHEET</b>	9metres 6mm Excel Pro Purple
<b>JIB SHEET</b>	7metres 8mm Excel Marstron Blue
<b>CLEW OUTHAUL</b>	3.1metres 6mm Excel Pro Blue
<b>CLEW TIE DOWN</b>	0.63metres 4mm Excel Pro Blue
<b>TRAVELLER</b>	5metres 5mm Excel Pro Blue
<b>SPINNAKER SHEET</b>	13.4metres 6mm Excel Pro Blue
<b>CENTREBOARD RETAINING LINE</b>	3metres 5mm Shockcord Blue with 2 ref HA75 Holt clips