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THE DIVERSIFIED WORLD OF ...**



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IMPORTANT NOTICE. This manual is devoted to increasing your safety and enjoyment of your Hobie 33. We ask that you read it all thoroughly and **TRY OUR WAY FIRST!** Please pay particular attention to the Safety section and the Maintenance, Mooring, and Trailing sections. It would also be a good practice to review these on a periodic basis.

Standard Boat Description

HOBIE 33

HULL

- One piece, hand laminated hull of high strength, lightweight fiberglass with foam core providing extra rigidity and insulation. Class association measurement marks.
- Retractable keel of fiberglass/foam composite construction. Integral, fiberglass covered lead ballast, stainless steel securing brackets. Removable, mechanical lifter.
- Removable rudder for trailering, fiberglass covered foam core construction.
- Molded in location for knotmeter transducer.
- Boot stripe molded in.
- Shear stripe of replaceable applique or gel coat.
- Sacrificial zinc anode to protect keel bolts.
- Area of solid glass laminate for mounting of depth sounder transducer.

DECK

- One piece, hand laminated deck of high strength, lightweight fiberglass with foam core providing extra rigidity and insulation. Additional reinforcing for all hardware.
- Molded in nonskid on all walk areas of deck, house and cockpit.
- Stainless steel chainplates.
- Perforated, extruded aluminum toe rail, hard anodized, running full length of boat and bolted through deck and hull flange for strong, water-tight joint between hull and deck. Integral chafe bar provides protection against docks and pilings.
- Stainless steel bow and stern pulpits. Tapered stainless steel lifeline stanchions. Vinyl covered stainless steel wire lifelines (upper and lower) with pelican hooks aft and adjusters.
- Large, molded fiberglass forward hatch with Plexiglass light panel, faired into sloping housetop.
- Extra large, sliding fiberglass companionway hatch.
- Teak plywood dropsides.
- Six fixed, flushed ports of tinted Plexiglass provide light to the interior.
- Three mooring cleats, 1 forward and 2 aft.
- Four 1" tee tracks for jib sheeting inboard of rails with four adjustable blocks.
- Roller bearing mainsheet traveler with controls.
- Two Lewmar #30 sheet winches or equivalent with cam cleats.
- One winch handle, 10", ball bearing grip.
- Laminated wood tiller with anodized aluminum cap and fork assembly.
- Molded fiberglass engine hatch cover.
- Molded in storage for horseshoe lifebouy and storage for man overboard pole.
- Self-draining cockpit.
- Two molded in winch handle pockets.
- Molded in self draining contoured cockpit seats.
- Inboard well for engine of up to 10 h.p.
- Three halyard winches, Lewmar #7 or equivalent. One each for main, Genoa, and spinnaker halyards, with cam cleats.

Hobie 33
Standard Boat Description
Page Three

- Portable Coleman ice chest beneath teak companionway step.
- Vinyl headline in cabin, with zippers for access to wiring and deck hardware.

ELECTRICAL, PLUMBING

- International running lights and bow light.
- One combination red/white fluorescent cabin light.
- Electrical panel with four circuit breakers. Space for two additional breakers.
- Water tank with six gallon capacity.
- Lighting ground system.
- Plastic case for battery.
- 90 amp/hr. battery, pre-charged.

Boat Model Hobie 33'

Length Overall 33' - 0"
Length on Deck 31' - 0"
Length at Waterline 30' - 6"
Beam 8' - 0"

All measurements on this form are in: ☐ metric ☒ English units.

Keel type(s): ☐ fixed ☐ swing ☐ no keel
Boat has: ☐ centerboard ☐ daggerboards ☐ other Retractable Keel
Draft minimum 1' - 10"
Draft maximum 5' - 5"
Displacement 4000 lbs.
Ballast 1800 lbs.

Type (s) of rigs available Sloop
Rated sail area of above rig(s) 423 sq. ft. (100% F.A.)
Mast height above DWL (highest mast) 41' - 0"
Hull material Rein. Fiberglass
Deck material Rein. Fiberglass
Spar material Aluminum
Does this boat have positive flotation? ☐ yes ☒ no
Is this a one design? ☒ yes ☐ no

An auxiliary engine is: ☐ Standard ☒ Optional ☐ Not applicable
If standard — Brand _____
☐ Diesel ☐ Gas Horsepower _____
If optional — Maximum horsepower recommended 10.0 h.p. Fuel Tank Capacity _____
☐ Inboard ☐ Outboard

Headroom 4' - 6"
Cockpit length 8' - 2"
Fresh water capacity 5 gal.

Designer Hobie Alter
Builder Hobie Cat
First year manufactured 1982
Number manufactured to date N/A
U.S. Distributor (if applicable) N/A



Safety – Symbols

THE PURPOSE OF SAFETY SYMBOLS IS TO ATTRACT YOUR ATTENTION TO POSSIBLE DANGERS. THE SYMBOLS, AND THE EXPLANATIONS WITH THEM, DESERVE YOUR CAREFUL ATTENTION AND UNDERSTANDING. SAFETY WARNINGS DO NOT BY THEMSELVES ELIMINATE ANY DANGER. THE INSTRUCTIONS OR WARNINGS THEY GIVE ARE NOT SUBSTITUTES FOR PROPER ACCIDENT PREVENTION MEASURES.....



SAFETY WARNING

FAILURE TO OBEY A SAFETY WARNING MAY RESULT IN SERIOUS INJURY OR DEATH TO YOU AND OTHERS.



CAUTION NOTE

ADVISES YOU OF INFORMATION OR INSTRUCTIONS VITAL TO THE OPERATION OR MAINTENANCE OF YOUR EQUIPMENT AND POSSIBLE DAMAGE.

Safety Equipment

The United States Coast Guard has minimum safety equipment requirements for various size boats. The items listed below are minimum requirements, and additional safety gear should be added depending on the type sailing most frequently done.

1. Personal Flotation Devices:

A minimum of one Type I, II, or III for each person on board and one Type IV. (See P.F.D. section subsequent pages.)

2. Fire Extinguisher:

At least two B-I type approved portable fire extinguishers or at least one B-II type approved portable fire extinguisher. B-I and B-II refer to the size of an extinguisher. Fire extinguishers may contain foam, carbon dioxide, dry chemicals or halon, and should be selected according to what materials supporting the fire may be present.

All extinguishers are labelled, and we recommend you consider the various alternatives when selecting the extinguishers for your boat. Don't forget to check them regularly to make sure they are filled, gauges are free and nozzles are clear.

3. Whistle or horn:

One hand or power operated whistle or horn, audible at least one mile for a two second duration, and in good working condition.

4. Bell:

One, which when struck, produces a clear bell-like tone.

5. Visual Distress Signals:

Any of the following may be used, when carried in the number required, to meet USCG requirements. Select the devices that will best suit your needs, become familiar with directions on how to use them, and store them where they are easily accessible. It is important these devices be kept in working order and have a current service life if there is a date marked on them.

SAFETY EQUIPMENT - Cont'd.

Visual Distress signals;

<u>Description</u>	<u>Use</u>	<u>Number Required</u>
Hand held red flare	Day and Night	3
Red Aerial flare	Day and Night	3
Distress Flag	Day Only	1
Orange Smoke- Hand held or floating	Day Only	3
Distress Signal Light S.O.S.	Night Only	1
Red Parachute Flares	Day and Night	3

Personal Flotation Devices

Personal flotation devices must be Coast Guard approved and are classified by "Type" according to performance.

A Type I PFD has the greatest buoyancy and is designed to turn most UNCONSCIOUS persons in the water from a face down position to a vertical or slightly backwards position. The adult size provides a minimum buoyancy of 22 pounds and the child size provides a minimum buoyancy of 11 pounds. The Type I PFD provides the greatest protection to its wearer. The Type I is most effective for all waters, especially offshore and ocean cruising, when there is a probability of a delayed rescue.

A Type II PFD is any approved wearable device designed to turn its wearer in a vertical or slightly backward position in the water. The turning action is not as pronounced as with a Type I, and the device will not turn as many persons under the same conditions as Type I. An adult size device provides a minimum buoyancy of 15 1/2 pounds, the medium child size provides a minimum of 11 pounds, and the infant and small child sizes provide a minimum of 7 pounds.

A Type III PFD is any approved wearable device designed so the wearers can place themselves in a vertical or slightly backward position. While the Type III has the same buoyancy as the Type II, it has little or no turning ability. A Type III PFD comes in a variety of styles, colors and sizes. Many are designed to be particularly useful when water skiing, sailing, hunting, fishing, or engaging in other water sports. Several of this type will also provide increased hypothermia protection.

PFD's

Continued:

A Type IV PFD, is any approved device designed to be thrown to a person in the water and grasped and held by the user until rescued. It is NOT designed to be worn. The most common Type IV devices are a buoyant cushion and a ring buoy or horseshoe type buoy.

All PFD's that are presently acceptable on recreational boats fall into one of these designations. All PFD's shall be U.S. Coast Guard approved, in good and serviceable condition, and of an appropriate size for the persons who intend to wear them. Wearable PFD's shall be readily accessible and throwable devices shall be immediately available for use.

SUGGESTIONS FOR USE OF PFD's:

1. Try on your PFD and make sure it fits comfortably in and out of the water.
2. Try it out in the water to get a feel for how it works. Be aware that swift water or bulky clothing may affect the performance of your PFD.
3. If used regularly by the same persons, PFD's should be marked with the owners names.
4. Do not alter the PFD to make it fit better. Any device that has been altered is no longer approved by the USCG., and more importantly, may not hold up under extended use.
5. Do not use PFD's for kneeling pads or fenders.
6. Inspect PFD's regularly to make sure they are free of rips, tears, and holes and that all seams are securely sewn.
7. PFD's containing kapok may become waterlogged and lose their buoyancy. If the kapok is soaked with water, or becomes hard, the PFD may not work and should be replaced.
8. Allow any wet PFD's to dry thoroughly before storage.
9. Do not dry wet PFD's in front of any source of direct heat.
10. If you have to swim while wearing a PFD, use a side or back stroke.
11. If you are sailing offshore or in heavy weather, it is advisable to attach a whistle and personal strobe to your PFD.

CHILDREN AND PFD's:

Children may have difficulty floating in a safe position because of body weight distribution. They may also panic in an emergency situation, and the violent movement of arms and legs may nullify the stability of the PFD. Children should be taught how to use the device and should try it out in the water. It is important that they feel comfortable with the PFD and know how it functions. PFD's should NEVER be used as a substitute for adult supervision.

WHEN TO WEAR THE PFD:

If you don't choose to wear the PFD at all times, you should keep it handy and put it on when heavy weather threatens or if danger is imminent. Non-swimmers and children should always wear PFD's when on the water.

RECOMMENDED MISCELLANEOUS EQUIPMENT:

Some of the items listed below may be useful only on rare occasions, but are essential when those occasions arise.

Tools:

Screwdrivers, two sizes slot and one phillips.

Visegrip pliers.

Regular pliers.

Crescent wrench.

Wire cutters (diagonals).

Rigging knife.

Hacksaw and spare blades.

Duct tape.

*These should be of sufficient size to cut through standing rigging in the event of demasting, it may be necessary to cut free to prevent more serious damage. When sailing in very rough seas these should be available and not hidden away as time is critical in this event.

Other:

Silicone grease

Silicone spray

Extra line - various sizes and lengths.

Man-Overboard Pole/Life Ring

(Optional)

The Hobie 33 has an open ended tube molded into the transom to accommodate the optional Man-Overboard Pole. It also has a molded in compartment near the tiller for the horseshoe shaped life ring. This is a Type 4, throwable personal flotation device. It is attached to the pole by 20 feet of floating polypropylene line.

The pole is 12 feet long, with a weighted bottom and a float approximately two feet from the bottom, which provides the self-righting capability that is required to display the red/yellow flag. The flag is 18" X 18" with a diagonal batten to maintain an open position for visibility.

STORAGE:

Proper storage of this assembly is essential to successful deployment in an emergency.

The horseshoe flotation device should be stored open end down, in the compartment at the stern. This places the strap and "D" ring on top, where the pole tether is attached. Excess line should be coiled neatly and tucked under the strap. The tether line MUST be routed up and over the stern pulpit railing and clear of any obstacles which may snag it.

DEPLOYMENT:

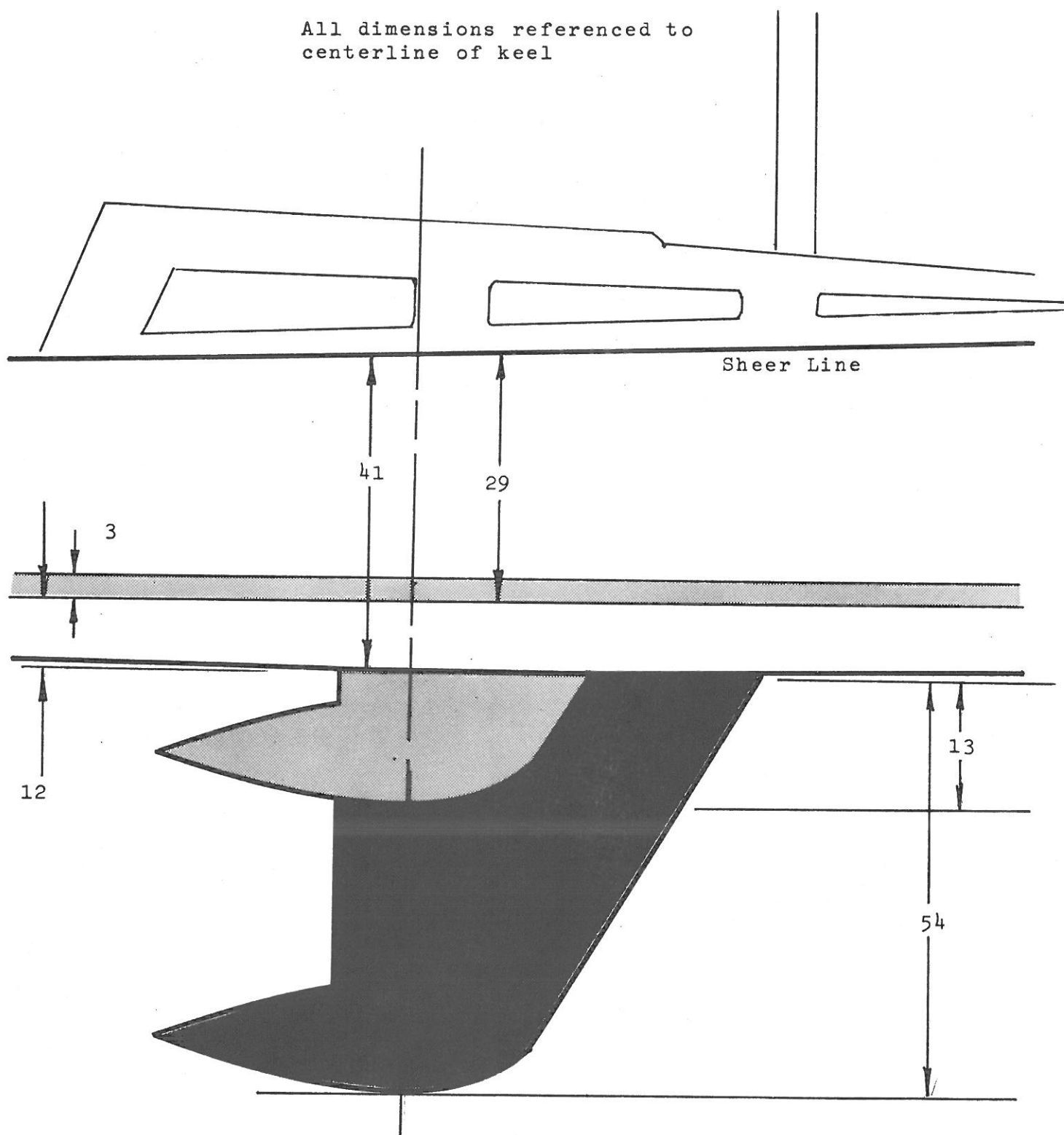
Timing is extremely critical and the unit must be thrown immediately following an overboard incident in order to have the device as near the victim as possible.

Once the life ring is thrown overboard, the boat movement will drag out the line attached to the pole and extract it from the storage tube. The red/yellow flag will be visible as the pole rights itself to the vertical position.

This process should be practiced whenever possible to achieve timely and accurate return to the device. We recommend you consult any of the various publications on 180 degree turns, particularly at night if you elect to sail then.

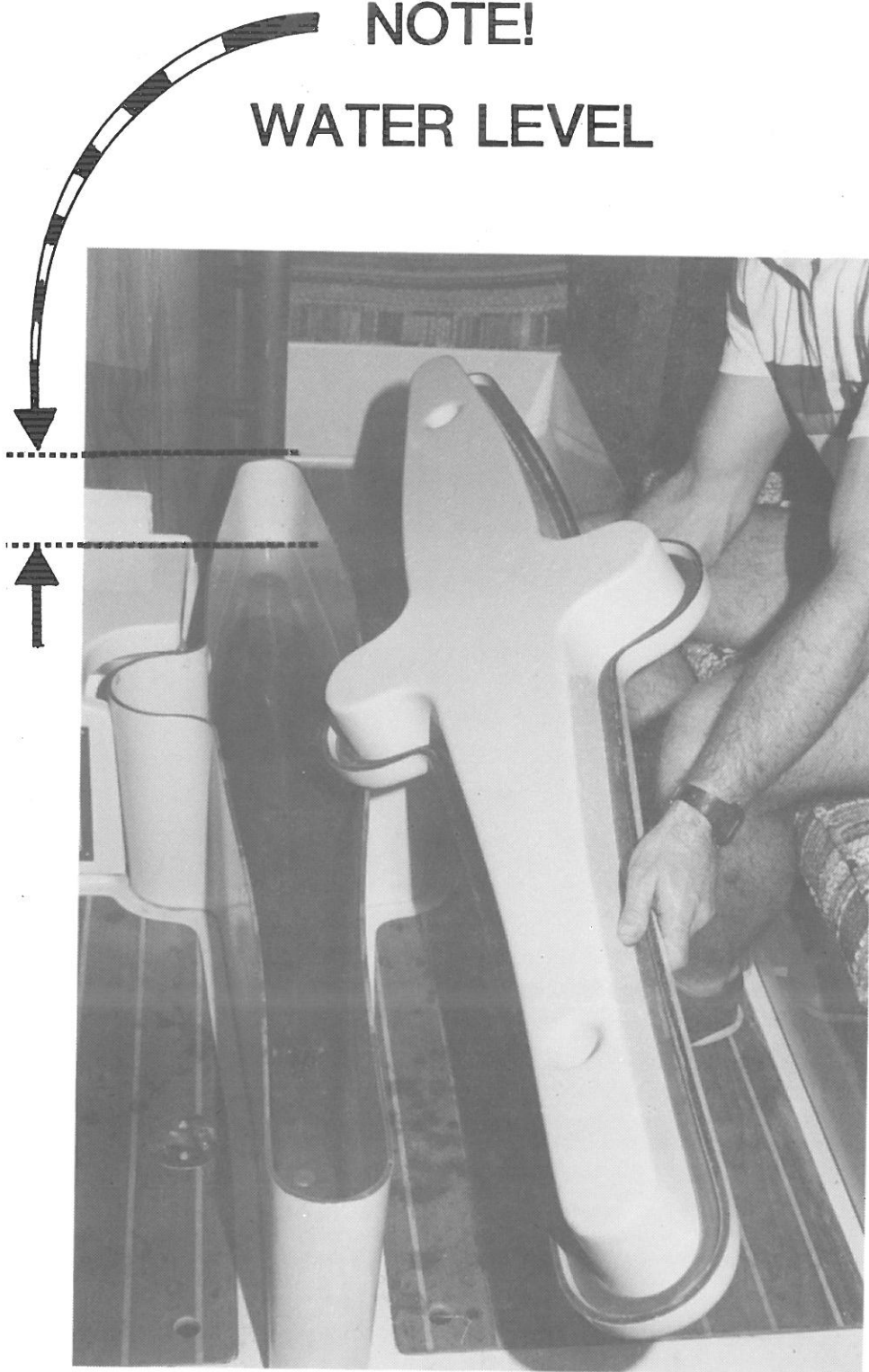
For night use, a light should be attached to the device. A flashing strobe is recommended.

All dimensions referenced to
centerline of keel



All dimensions rounded to nearest inch.

NOTE!
WATER LEVEL

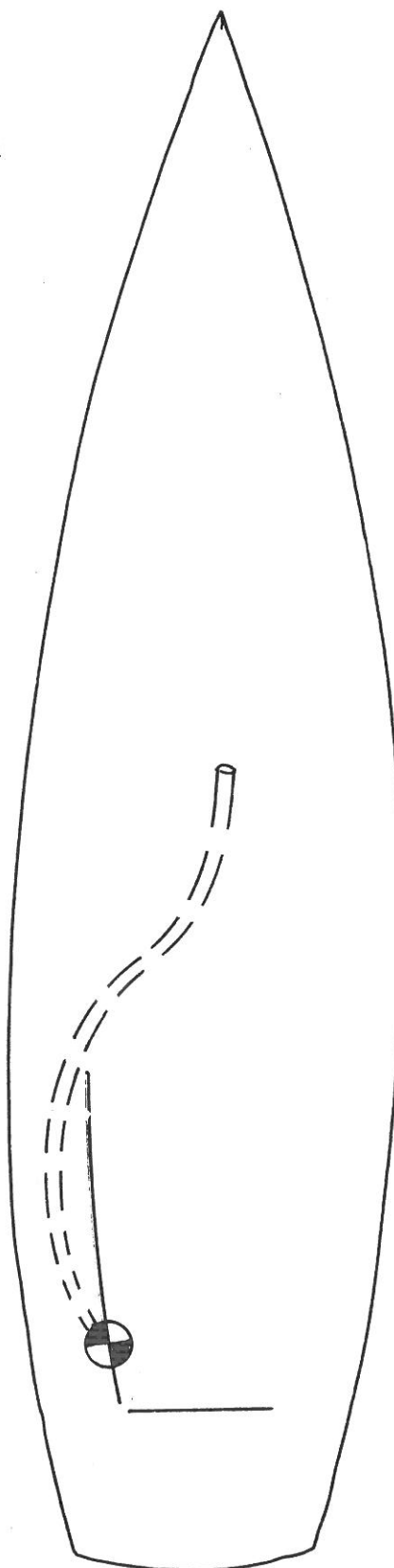


Bilge Pump

The Hobie 33 has a manually operated 12 G.P.M. bilge pump located in the cockpit Port side. Make sure the operating handle is securely stowed in a readily available location.

The 23 foot long, one inch diameter suction hose is stored below deck in the aft port berth area.

Familiarize yourself and crew
with the location and operation
of this important piece of
equipment.



Pre-launch

PRE-LAUNCH PREPARATION

Before launching your boat, you must make sure that all parts are present, are in working order, and that the rigging is completed properly. Taking the time and care during the rigging stage of the boat will ensure that you will have the safest and most enjoyable time when on the water.

Before rigging, be sure to read the operation section so you will be familiar with and fully understand the rigging procedures and will have the appropriate equipment and tools on hand. There are several SAFETY precautions with which you should be familiar.

Check the parts that you received with your boat against the following parts list. Carefully inspect each item to be sure that it is complete and in working condition. Do NOT try to rig the boat if there are missing or faulty parts. This can be dangerous and / or costly. Please contact your Hobie dealer to correct any problem.

Rigging components

FOR HOBIE 33

0-2

I Standing Rigging

Shrouds, Upper	2	34'8-3/8": 3/16"-1x19 SS wire T-terminal top, turnbuckle bottom
Shrouds, Lower	2	18'2-3/4": 3/16"-1x19 SS wire T-terminal top, turnbuckle bottom
Forestay	1	35'8": 3/16"-1x19 SS wire installed into Headfoil assembly with marine eye bottom, toggle fork top
Backstay, Upper	1	40'8": 5/32"-1x19 SS wire marine eye top, fork bottom
Retaining Plugs	4	Rubber - for shroud T-fittings

II Running Rigging

Halyard, Main	1	41'3": 5/32"-7x19 SS wire spliced to 45'4" All white 3/8" line
Halyard, Jib	2	38'6": 5/32"-7x19 SS wire spliced to 44'6" White/green trace 3/8" line (STBD.) 45'6" White/red trace 3/8" line (PORT)
Halyard, Spinnaker	1	38'10": 5/32"-7x19 SS wire spliced to 48'0" White/blue trace 3/8" line
Topping lift	1	35'0": 1/8"-7x19 SS wire spliced to 35'0" All white 5/16" line

III Sheets

Main	1	59'0" All white 7/16" line
Genoa/Jib	2	37'0" White/red trace 7/16" line
Spinnaker	2	57'0" White/blue trace 3/8" line

IV Miscellaneous

Foreguy	1	26'0" White/blue trace 5/16" line
Boom Vang	1	24'6" All white 3/8" line
* #1 Reef	1	31'6" White/red trace 3/8" line
* #2 Reef	1	40'0" White/green trace 3/8" line
* Outhaul	1	10'0" All white 3/8" line

(* - installed in boom as received)

V Lifelines

Lower Aft	2	70-1/2" coated 1/8"-7x7 SS wire
Lower Forward	2	25'10-3/4" coated 1/8"-7x7 SS wire
Upper Aft	2	78-3/4" coated 3/16"-7x7 SS wire
Upper Forward	2	27'4-3/4" coated 3/16"-7x7 SS wire

VI Baby Stay

Upper	1	102-1/2" coated 5/32"-7x7 SS wire
Lower (Installed)	1	48-5/8" coated 5/32"-1x19 SS wire

VII Hardware

Link Plates	2	5-1/4" x 1/8" plate w/ six 3/8" holes
Winch Handle	1	Black (Lewmar)
Bell Shackle	1	7/16" x 3/16"
Traveller Control Line	2	10'0" All white 5/16" line
Swivel Snap Shackle	1	Plated, approx. 1"
Boom Vang Block System	1	Two block sets (line attached)
Mainsheet Block System	1	Two block sets (main sheet attached)
Rudder Assembly Tool Set	1	One 11/16" socket One Ratchet Drive Short extension for ratchet

VIII Retractable Keel Assembly Option

Keel Hoist Tool Set:	1	Special tool (1-1/2" and 11/16" sockets welded to square stock. Accepts winch handle)
	1	19 mm socket (12 pt.)
	1	3/8" drive ratchet
	1	3/8" drive extension
	1	3/8" drive 11/16" socket (12 pt.)
Keel Lugs	2	1"
Keel Lugs	2	5/8"

MAST ASSEMBLY

Basic Rigging

1. Set mast assembly on raised supports for ease of handling and access to all sides.
2. There are small lines pre-strung through the mast to facilitate leading the various lines into position. See illustration and descriptions on subsequent page.

A. HALYARD Installations:

- (1) Lay out all halyard assemblies, identifying each;

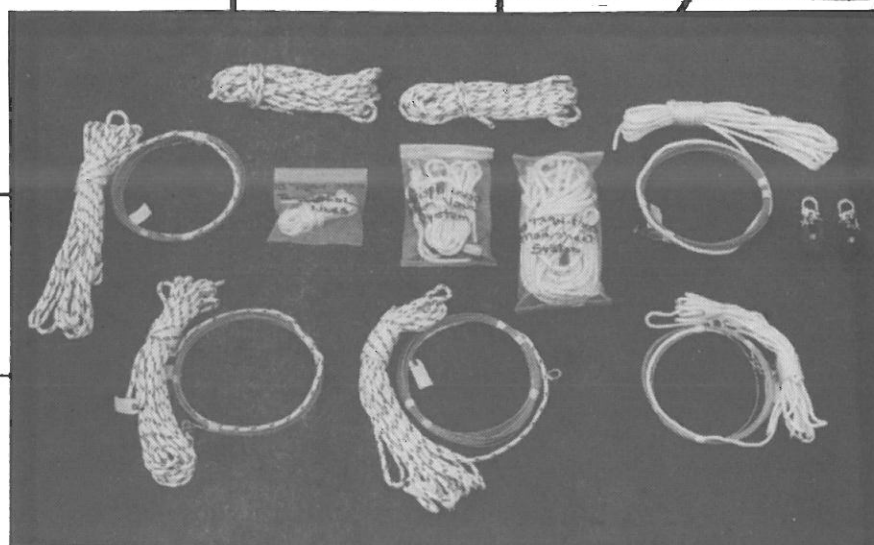
Jib halyard - Starboard -
White with green tracer
3/8" line 45' 6" long,
spliced into 38' 6" of
5/32" S.S. 7 X 19 wire.

Main halyard - All white 3/8"
line 45' long, spliced into
41' 3" of 5/32" S.S. 7 X 19
wire.

Jib Sheet #1
Ref. only

Jib Sheet #2
Ref. only

Mainsheet
Ref. only



Jib halyard - Port
White with red tracer
3/8" line 45' 6" long
spliced into 38' 6" of
5/32" S.S. 7 X 19 wire.

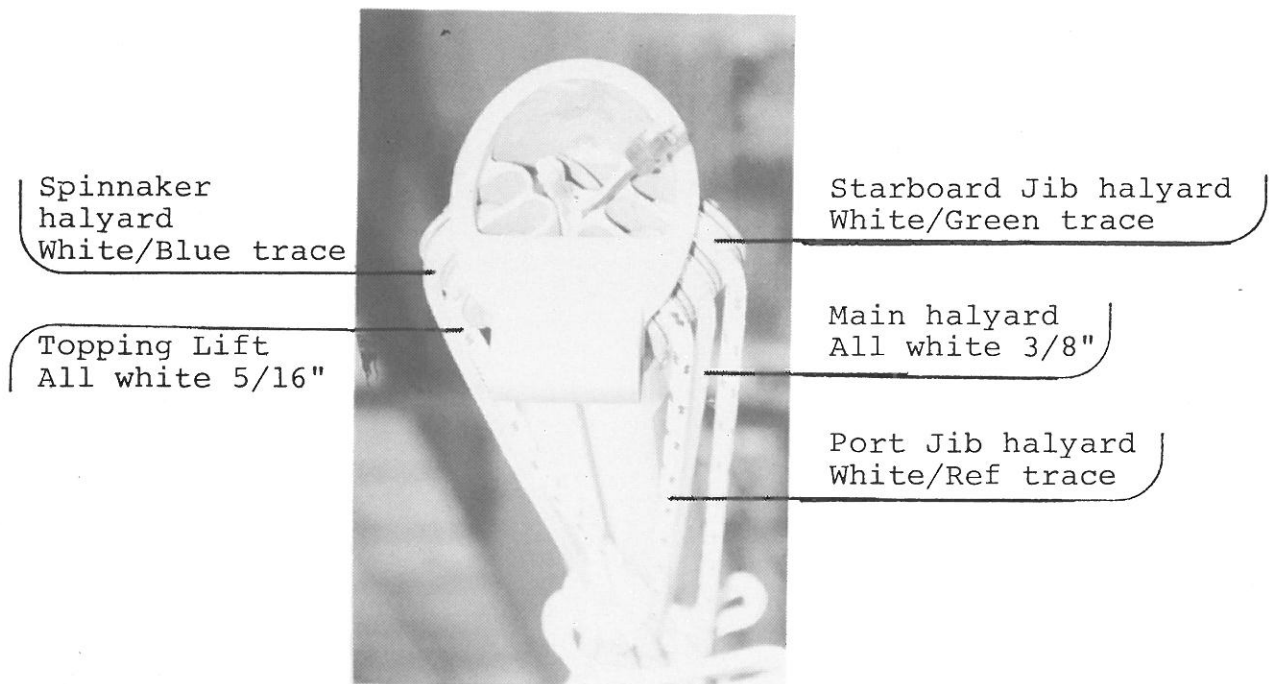
Spinnaker halyard
White with blue tracer
3/8" line 48' long, spliced
into 38' 10" of 5/32" S.S.
wire.

Topping lift - All white 5/16"
line 35' long spliced into 35'
of 1/8" S.S. 7 X 19 wire.

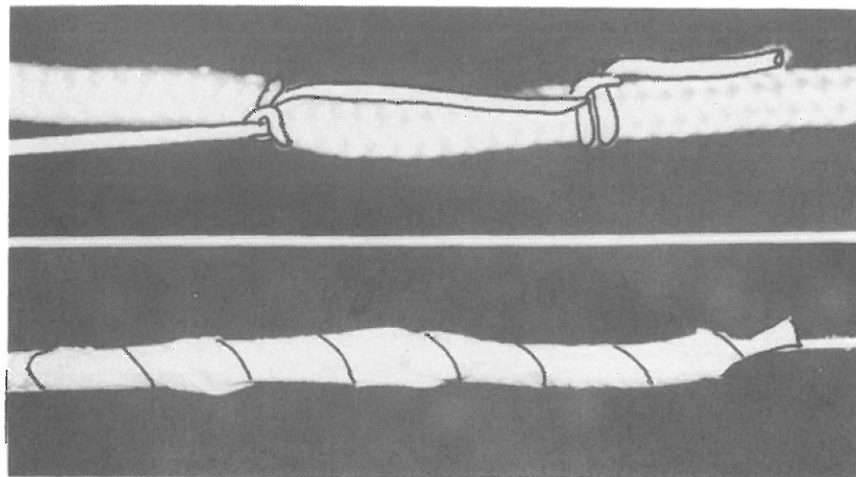
Halyard installations - continued.

A.

- (2) Leave pre-strung lines tied to spinnaker car (as received) temporarily. All lines will be installed from top end of mast assembly and will be pulled to the base internally, through the sheaves/exit points designated on the illustration.



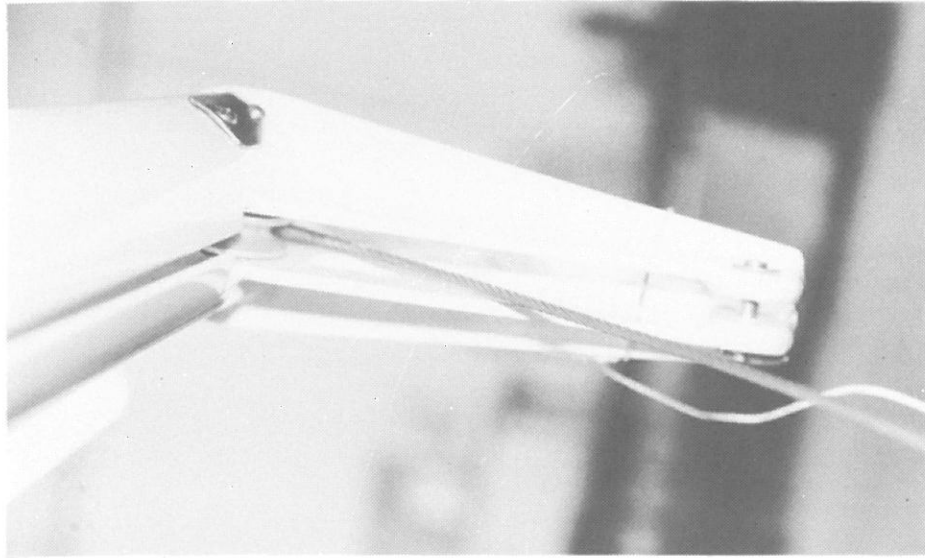
- (3) Tie lead line to Main halyard (rope end) with a clove hitch (3 minimum) and tape for security as shown. This is important to make a secure attachment as losing the line internally will require difficult restringing of the lead line. Should this become necessary, be certain not to cross lines internally as this will increase drag and wear and possibly prevent halyards from working.



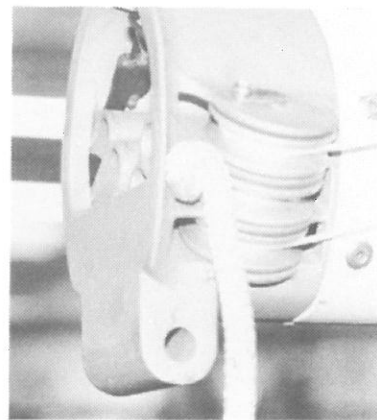
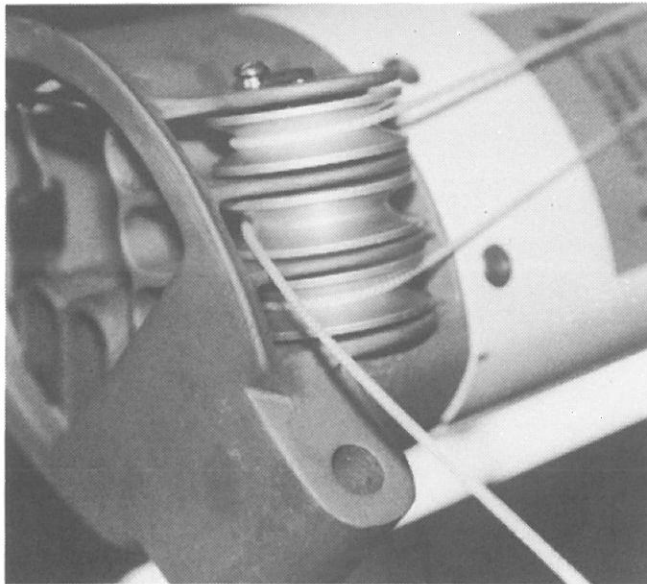
Halyard installation - continued.

A.

- (4) Shown below is the main halyard sheave at the head of the mast (with wire section exiting, as installed).



- (5) Gently pull the lead line and halyard from the base as shown, keeping constant watch for interfering coils which, during pull-through, can cause excessive loads on the cord-to-line attach and may come loose.

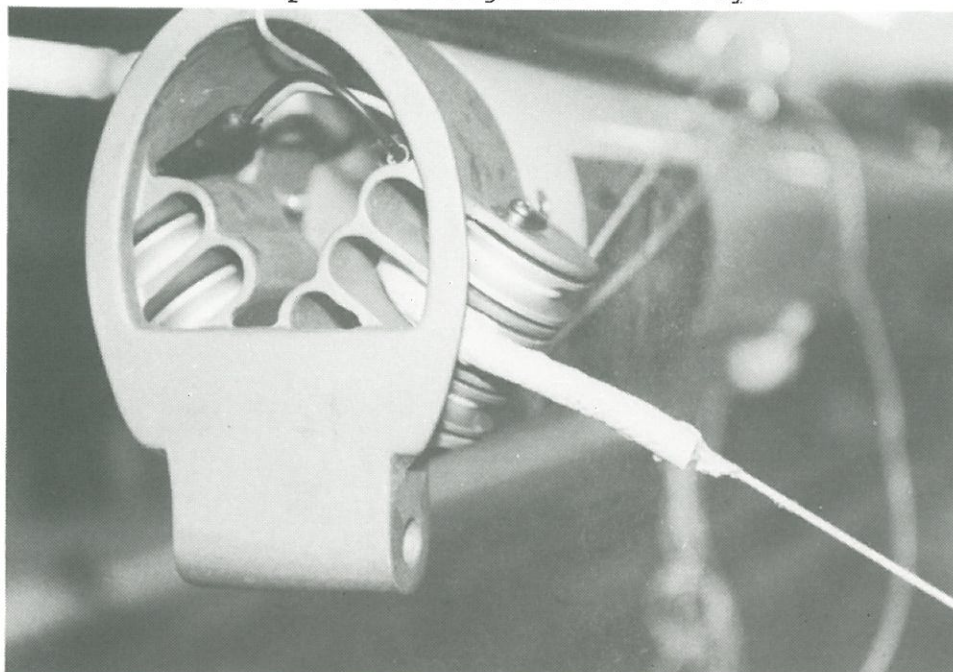


- (6) At contact with the halyard to the sheave in the base, carefully pull the line through as this offer minimal clearance for the taped connection and may tend to hang up.

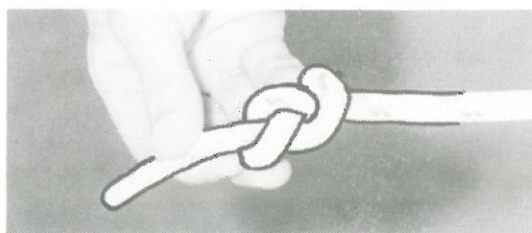
Halyard installation - continued.

A.

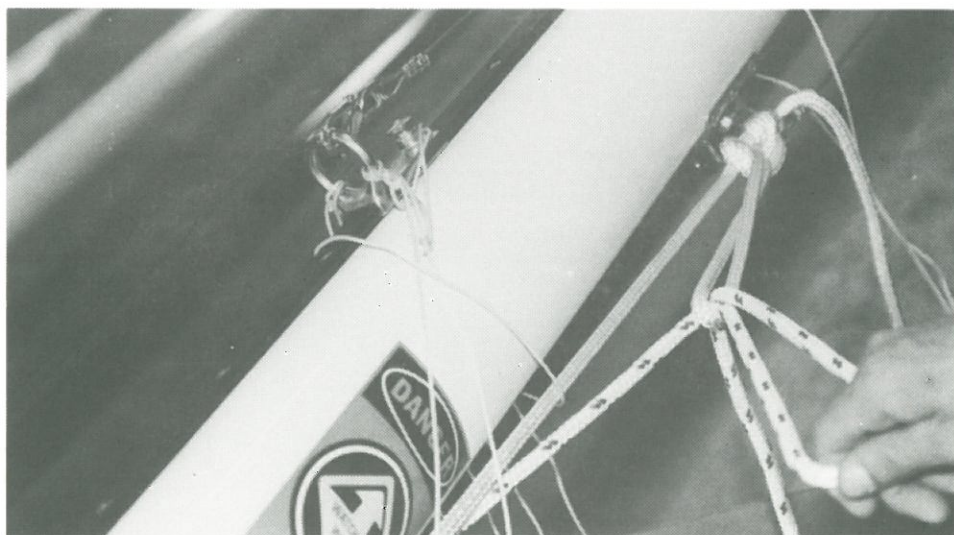
- (6) Cont d. - Once clear of the sheave and casting, continue to pull through all the way.



- (7) When pulled to end and disconnected from the lead line, a figure eight knot should be tied in the end to prevent accidental pulling back into mast assembly.

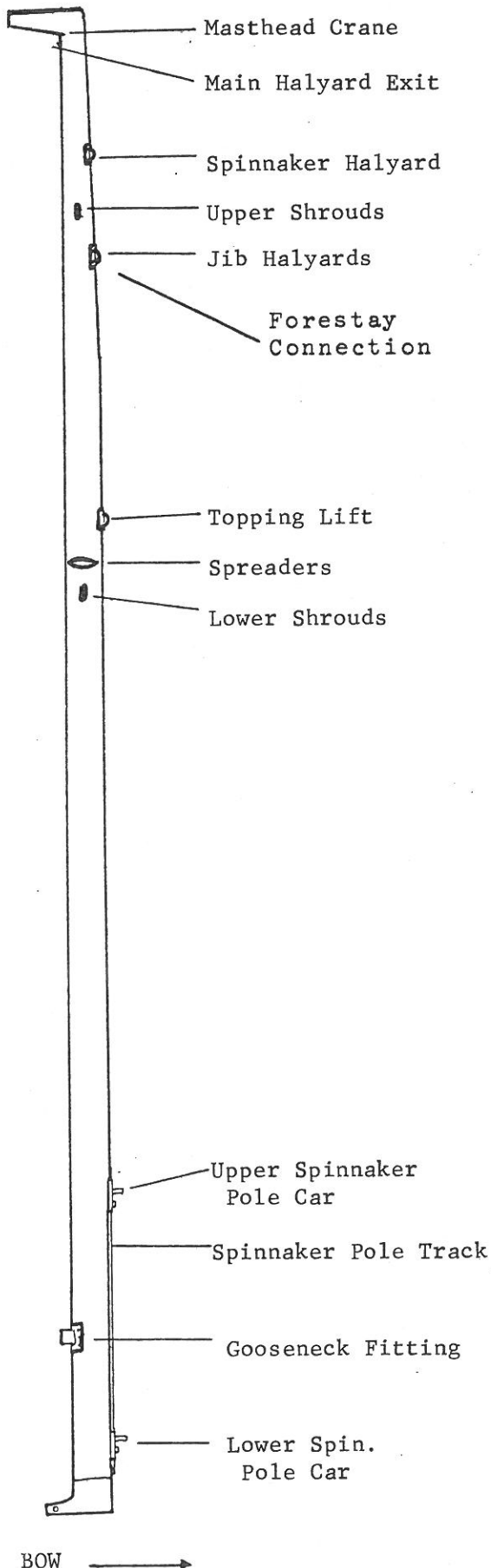


- (8) Connect snap shackle(s) to spinnaker car, with others following, to the first, and so on. Coil and store the rest of the halyard temporarily.



Rigging Identification Points

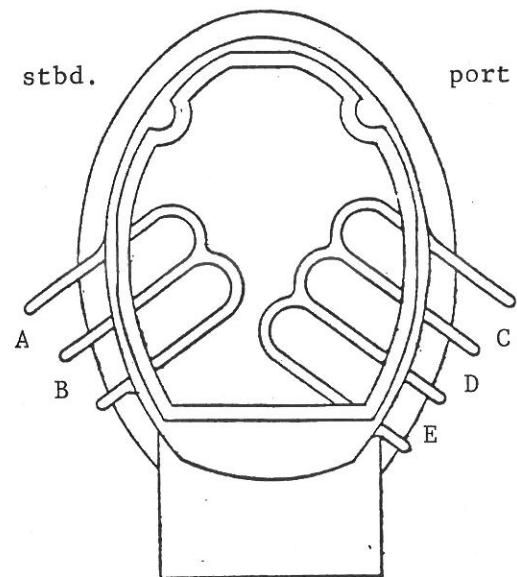
0-8



Halyard Installation - Cont'd.

- B. Proceed with balance of halyards in an identical manner to the main halyard, noting each entry/exit to be utilized with the proper halyard assembly. (Ref: pp. A(2))

VIEW LOOKING AT MAST BASE
FROM BOTTOM



- A. Spinnaker Halyard
B. Topping Lift
C. Starboard Jib Halyard
D. Main Halyard
E. Port Jib Halyard

Spreader Bar Installation

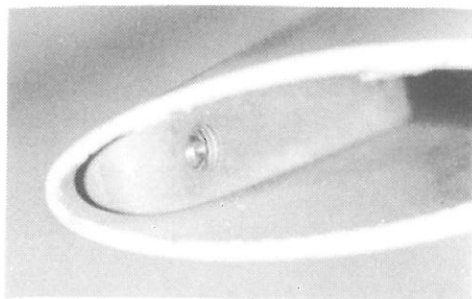
A. Remove expander casting which is taped to spreader base(s).

- (1) Apply loctite (or other general purpose retaining compound) to threaded set screws.

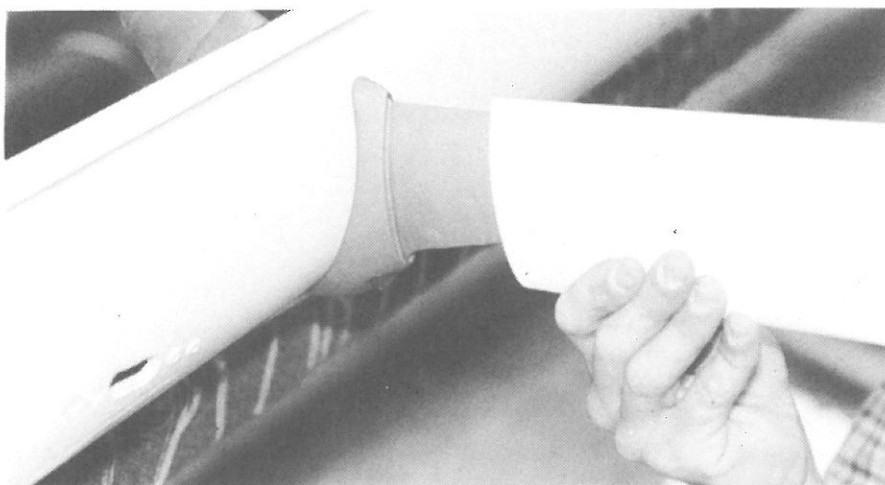


Liberal application recommended. The material will not set up until void of air exposure.

- (2) Adjust set screws to flush with the rear face (angled side) of expander casting.
- (3) Locate in position shown inside spreader extrusion.

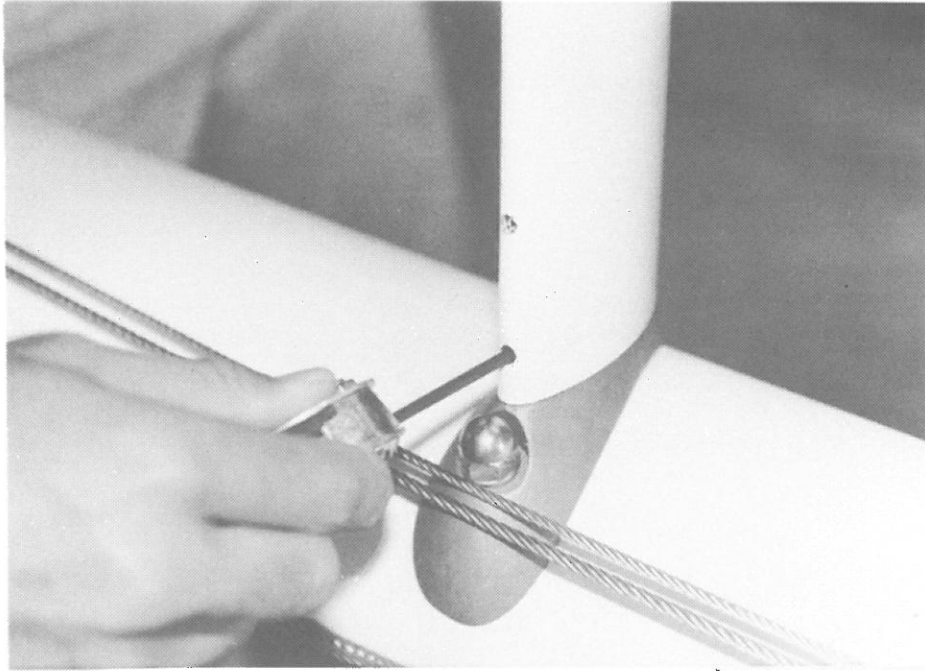


- (4) Keeping expander casting in place, slide spreader arm over base casting. Rotate mast in supports as required to facilitate installation.

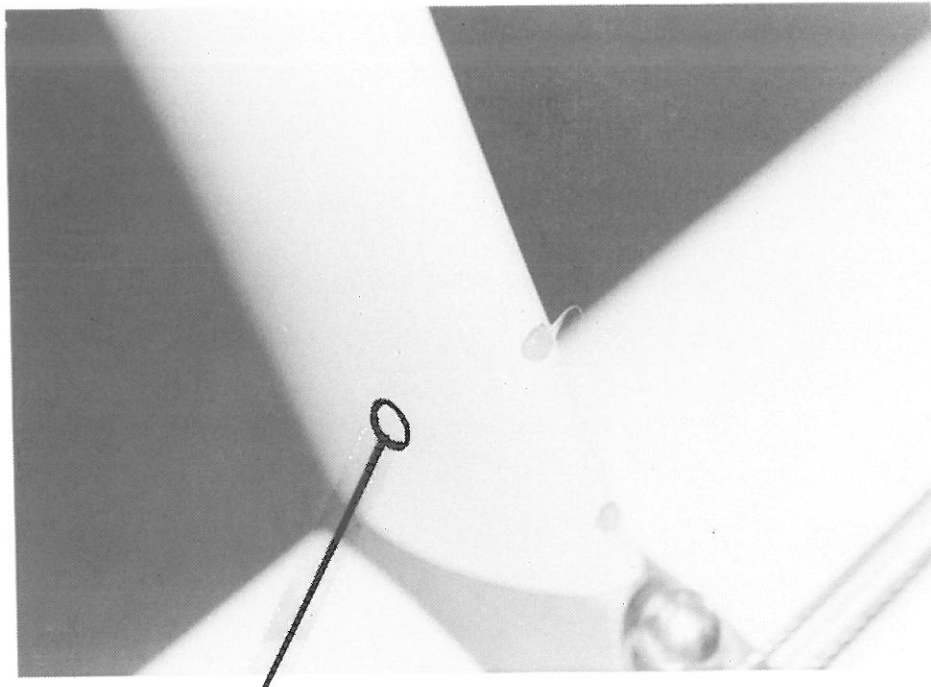


Spreader bar installation - continued.

- A. (5) Secure set screws tightly. As screws approach base casting move about slightly to insure screws align with depressions in base casting.



- (6) Apply R.T.V. sealant to further secure set screws. Allow some time for this material to dry before handling.



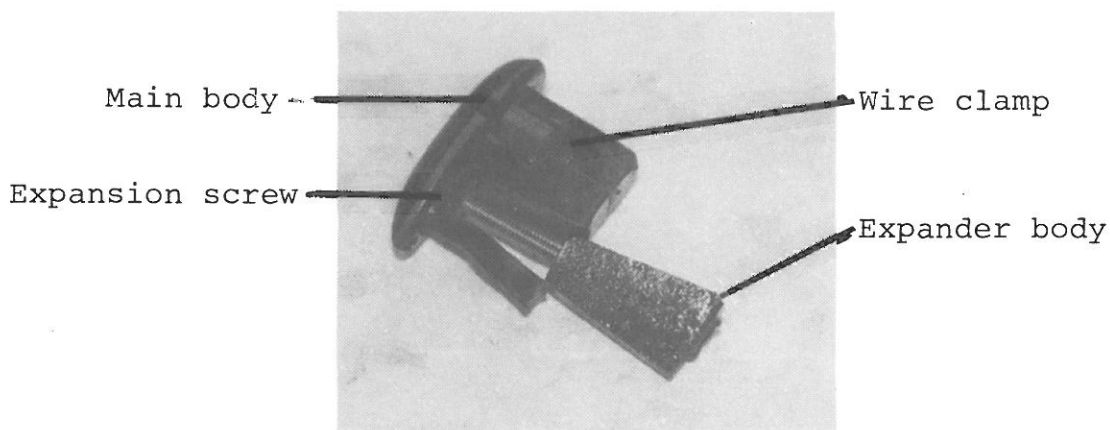
Install 1/4 bolt and nut (not shown)

Spreader bar installation - continued.

B. Spreader tip installation:

- (1) The plastic tips locate on the outboard ends of the spreader arms to secure the the upper shroud wires at this point. These will be found already installed in the extrusion and must be removed to locate the shroud wires.
- (2) Loosen screw in plastic tip and slide tip out. Take care to not lose the very small wire clamp located in the wire groove.

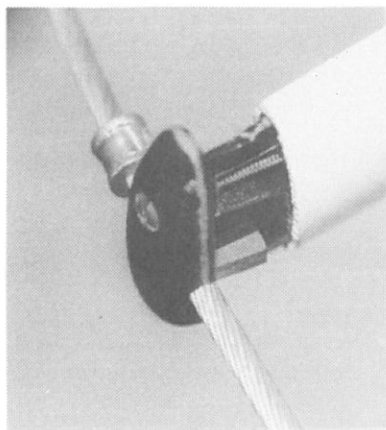
Spreader tip assembly



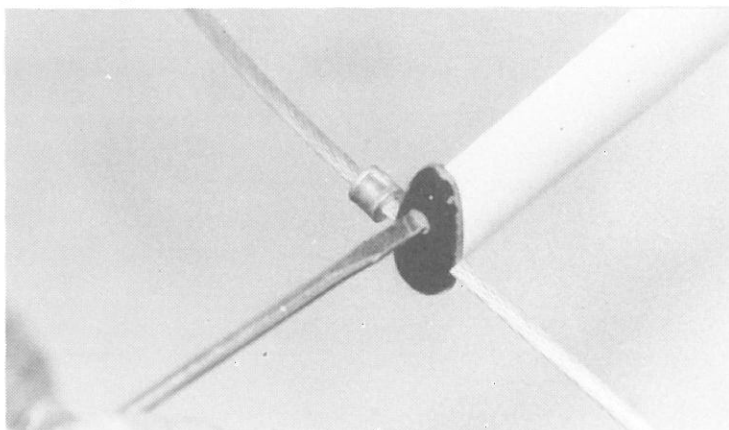
- (3) Back screw out sufficiently so that expander body is in position shown above. Remove wire clamp from main body.



- (4) Install tip assembly over upper shroud wire assembly with the swaged sleeve under the spreader arm location.
- (5) Install tip and wire about one third into the spreader arm. Install the wire clamp in position at wire and groove.



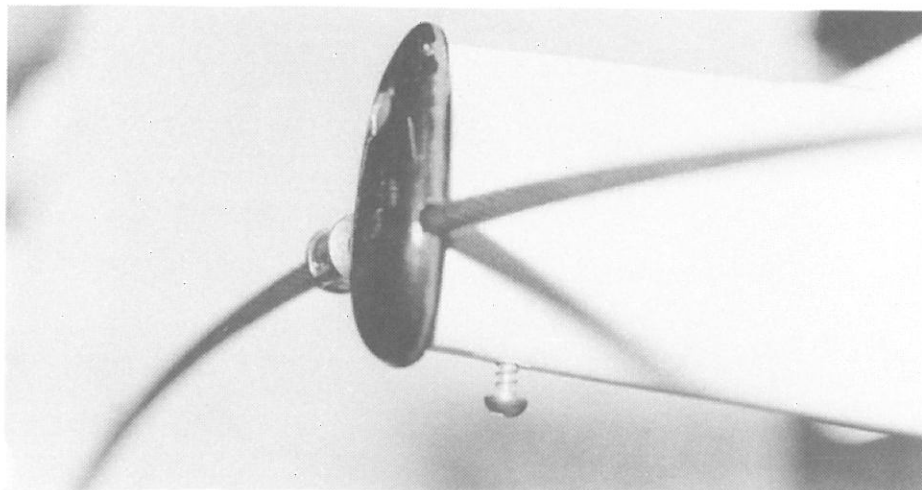
- (6) Press entire assembly into spreader arm fully and tighten screw snugly.
Caution: Do not overtighten, the brass screw and plastic threads may be damaged.



** NOTE: Be sure the T-bar fitting is to top of mast assembly.

Spreader bar installation - continued.

- B. (7) Install retaining screw into arm/tip assembly. This is a redundant but necessary securing device.



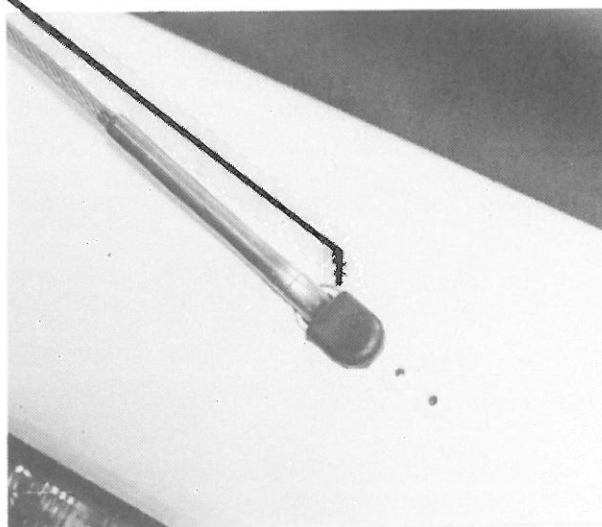
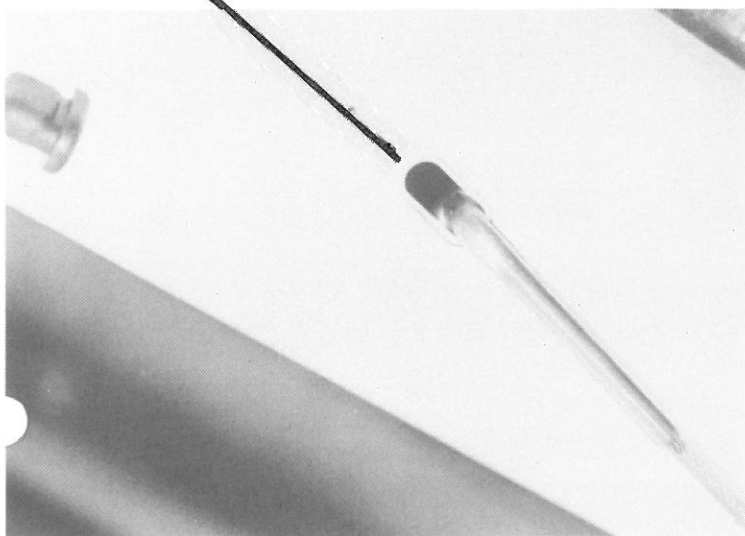
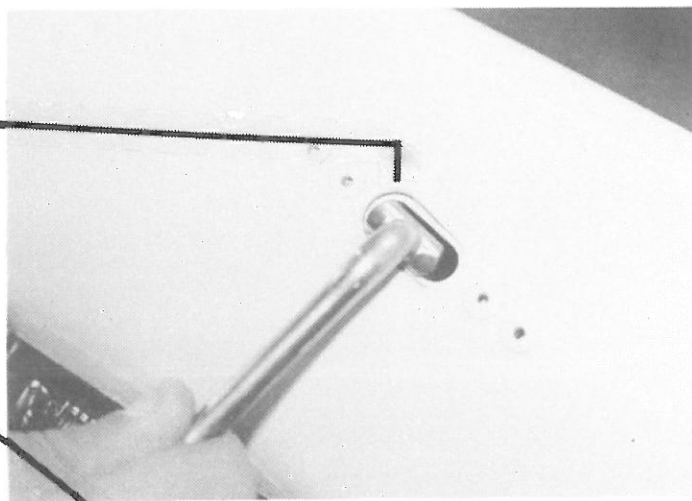
C. Shroud wire installation:

- (1) Install T-bar fitting into slot as shown.

- (2) Align to downward position.

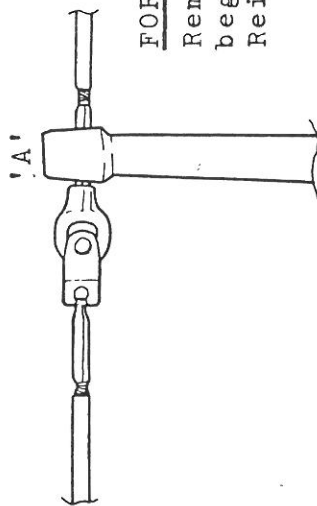
- (3) Install rubber retaining plugs.

- (4) Repeat for other side.



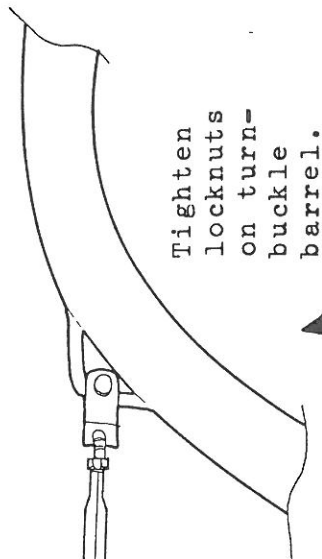
Lifelines

LIFELINE INSTALLATION

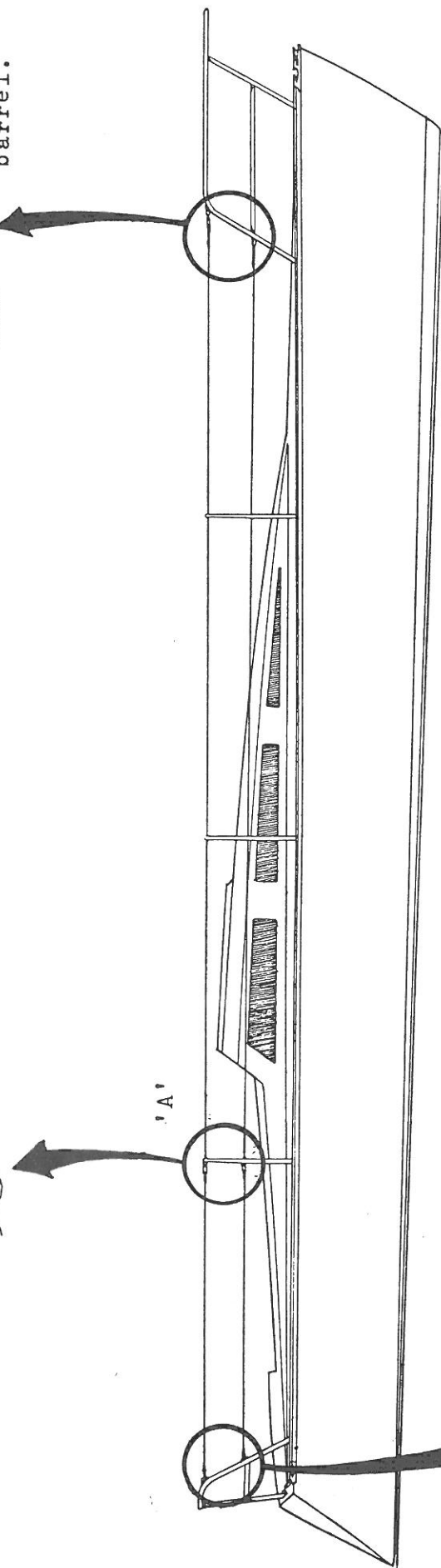


FORWARD PORT AND STARBOARD LIFELINES:

Remove turnbuckle barrel and install beginning with stanchion 'A'.
Reinstall barrel and tighten.



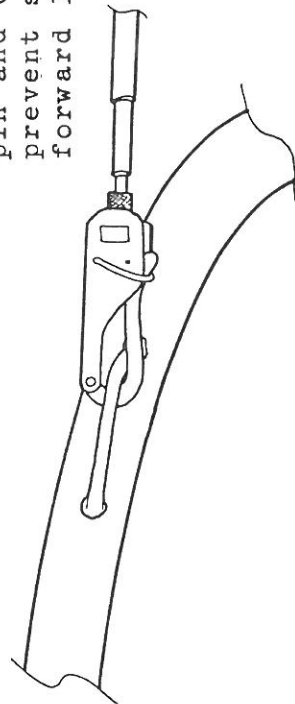
Tighten
locknuts
on turn-
buckle
barrel.



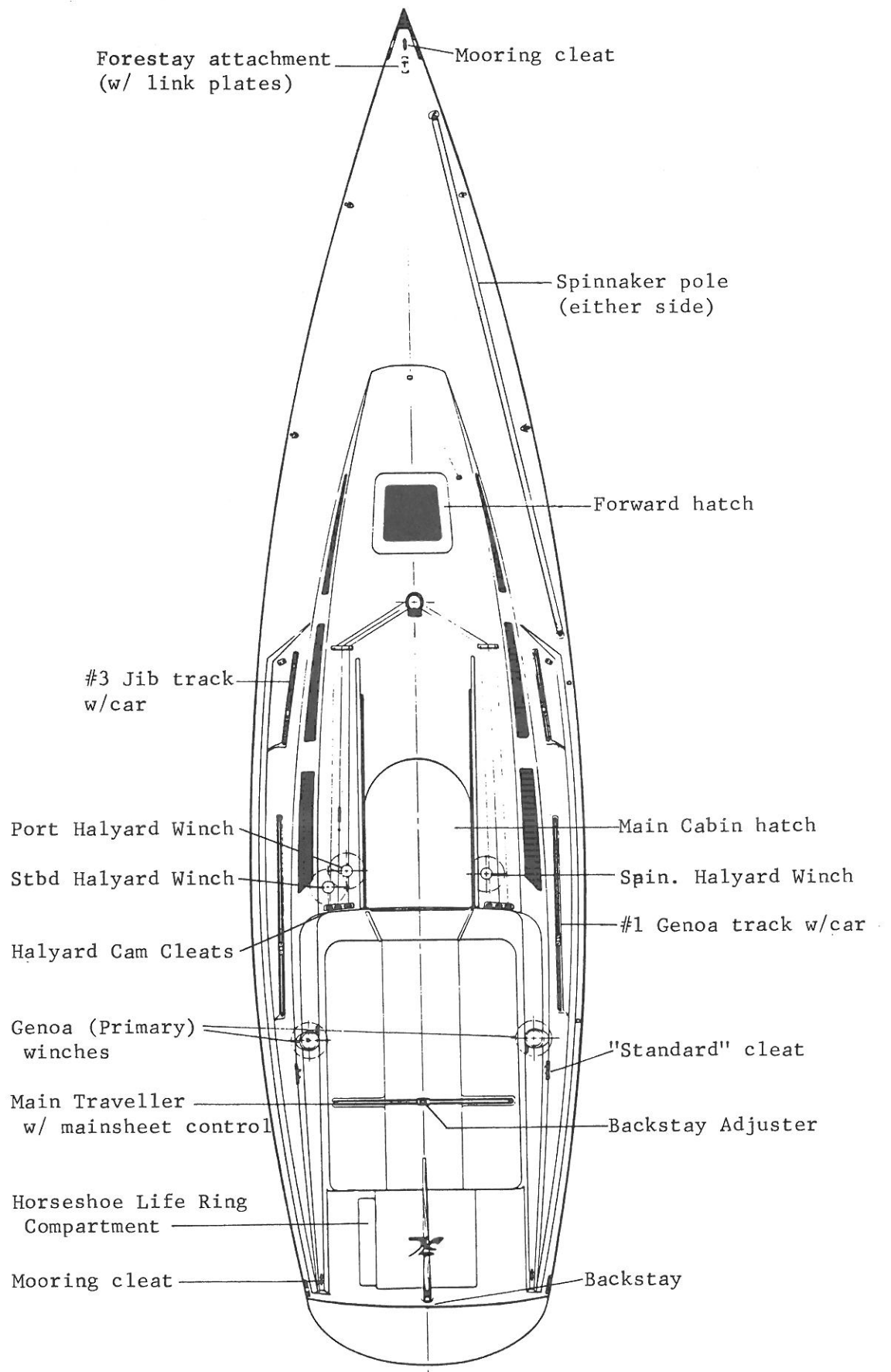
AFT PORT AND STARBOARD LIFELINES:

Attach swivel toggle with clevis pin and cotter key (tape over to prevent sharp edges) to end of forward lifelines at stanchion 'A'.

Attach lever to stern pulpit.



Deck Layout

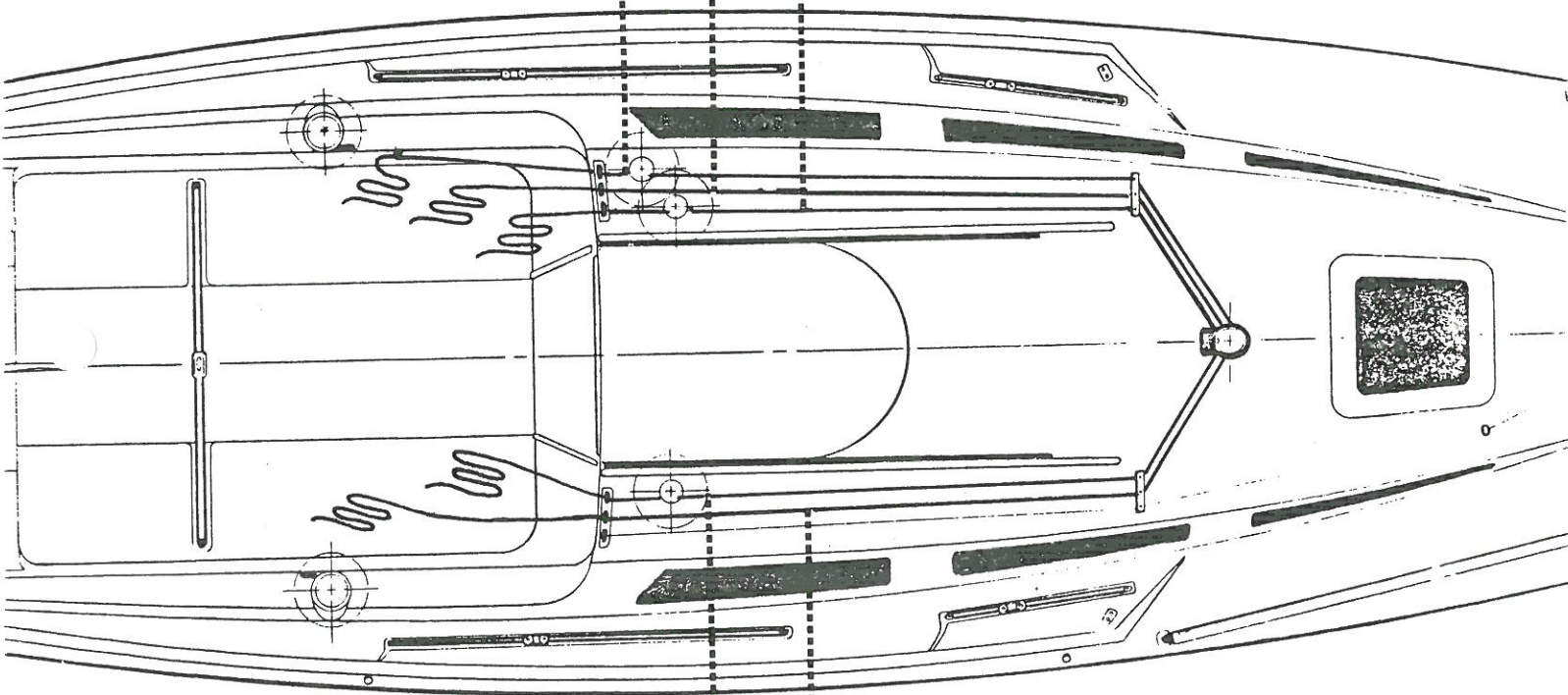


Halyard Routing

STARBOARD JIB HALYARD (WHITE/GREEN TRACE)

MAIN HALYARD & LOCK (WHITE)

PORT JIB HALYARD (WHITE/RED TRACE)



TOPPING LIFT (WHITE)

SPINNAKER HALYARD (WHITE/BLUE TRACE)



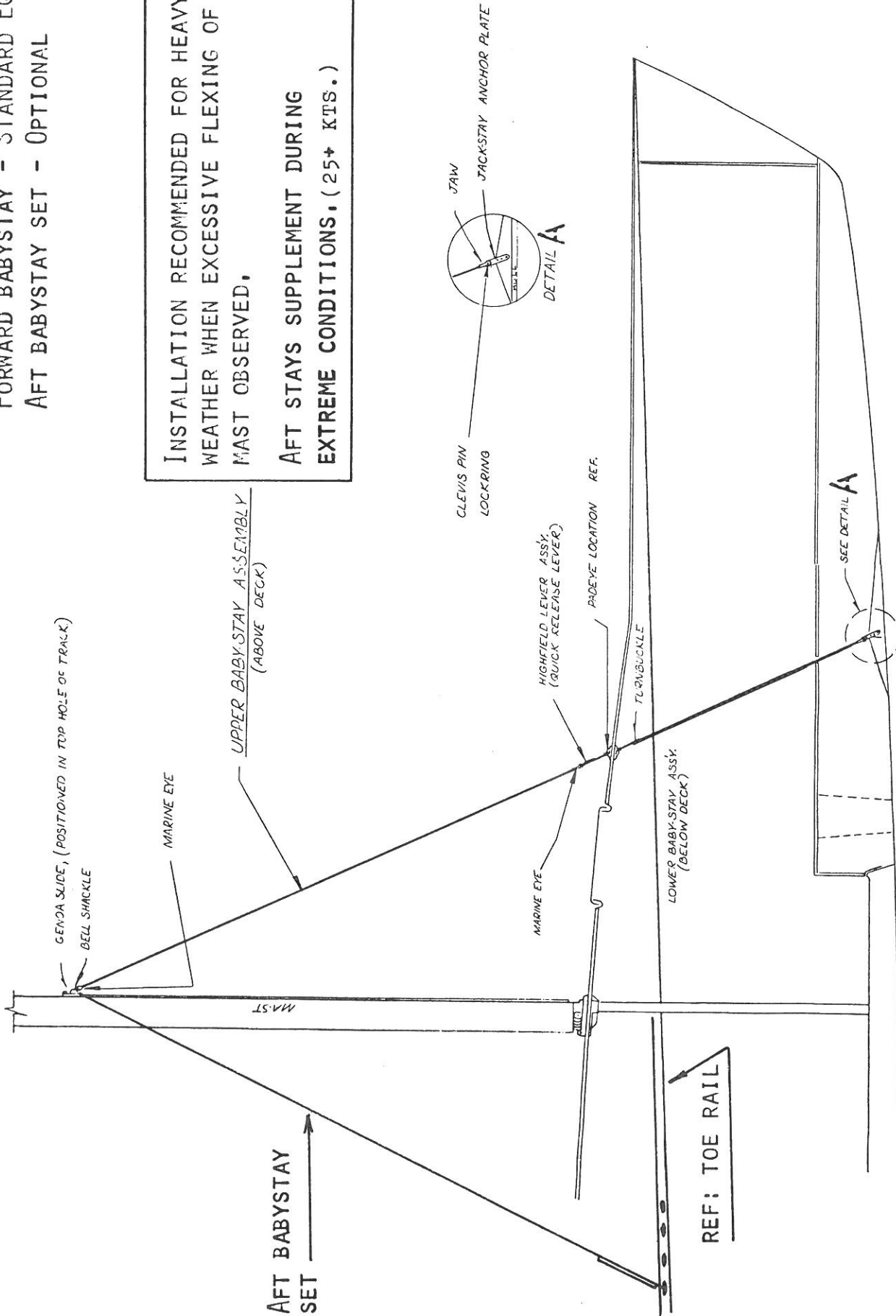
WHEN THE HALYARDS HAVE BEEN LED THROUGH THE FAIRLEADS AT THE AFT END OF THE CABIN TIE A FIGURE 8 KNOT AS SHOWN, IN THE END OF EACH.

Stays - Additional

FORWARD BABYSTAY - STANDARD EQUIP.
AFT BABYSTAY SET - OPTIONAL

INSTALLATION RECOMMENDED FOR HEAVY
WEATHER WHEN EXCESSIVE FLEXING OF
MAST OBSERVED.

AFT STAYS SUPPLEMENT DURING
EXTREME CONDITIONS. (25+ KTS.)



MAST RAISING

1. CAUTION!!! Check overhead for electrical wires or any obstruction which may interfere with the space required to raise the mast to it's full upright position. When on a standard trailer, the mast, without extending wind indicator, etc. is *45 feet 2 inches above the ground.*

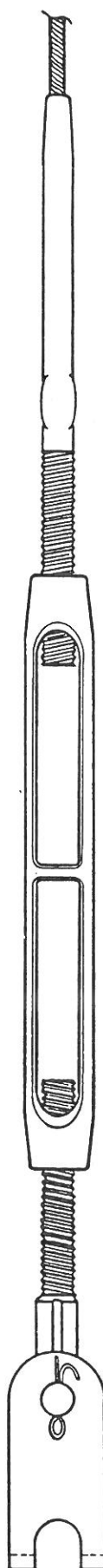
If there are wires of *any kind*, anywhere near the boat, **DO NOT RAISE THE MAST.** Do not attempt to guess whether or not there is clearance. Move the boat to another location away from any wires.

THE MAST IS ALUMINUM AND CONDUCTS ELECTRICITY. CONTACT CAN BE FATAL.

2. Examine all supporting wires, stays, shrouds, etc. prior to raising. Some areas are not accessible when elevated so check for kinks and bends, fraying and general security before starting to raise the assembly.

At the time of first mast installation all standing rigging should be attached to the hull allowing sufficient slack to support the mast at vertical without interference. Upper and lower shrouds should be attached to the chain plates with the turnbuckles installed to a depth at least equal to the diameter of the threads for minimum security. Adjustments for tension will be accomplished later. The backstay should be attached to the backstay adjuster with adjust line uncleated.

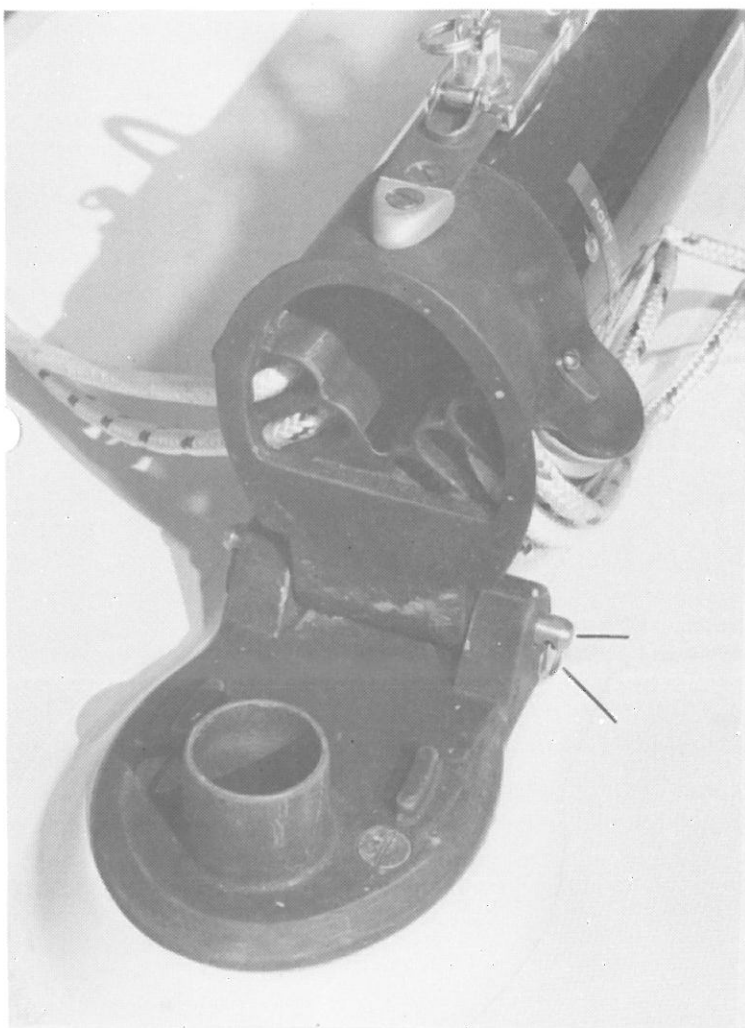
3. Untie all securing lines.
4. If equipped with optional masthead fly, install at this time.
5. Check headstay, shrouds, etc. for freedom of obstacles or probable snags.
6. Place winch handle, spinnaker sheet, snatch block and mast raising bridle on cockpit seat for access.
7. Close hatches.
8. Place mast step pin and lockring near mast step for access.
9. Check that mast is centered on aft roller support assembly.



Upper and lower shrouds should have sufficient slack so that they don't restrict the mast when raised.

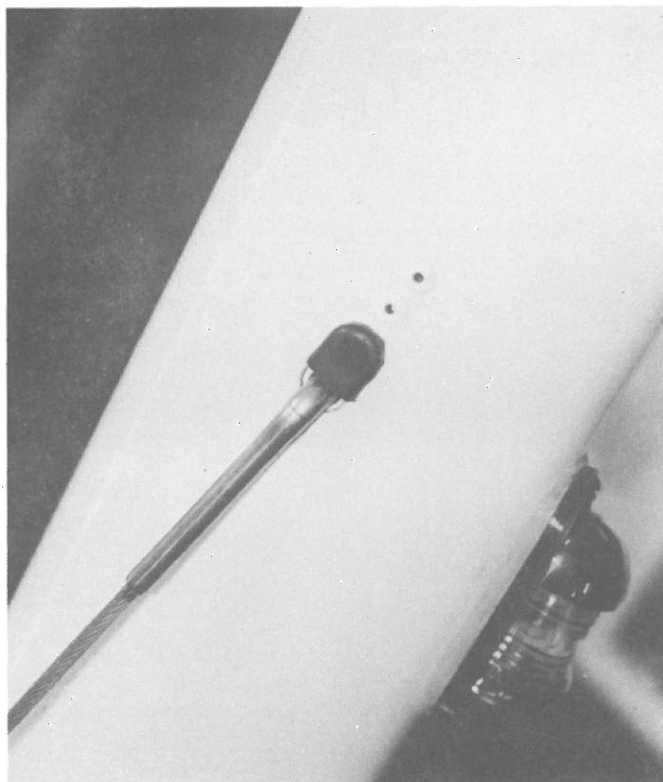
CAUTION: Threads must be installed in turnbuckle to a depth at least equal to the diameter of the threads for minimum security!

10. From bow, slide mast aft, keeping watch that shrouds, etc. are free from snagging winches and other deck hardware. Stop and free anything that may be caught. Sharp bends or kinks in wires could result in failure, with damage or serious injury from a falling mast.
11. When mast base is aligned with mast step casting on deck, press down into position and insert the mast step pin completely through both casting and install lock ring. (SEE Photo)



12. Connect electrical lines at mast base, assuring wire position is and will remain clear of castings during raising of mast. Compressive forces on this assembly will easily cut the wires.

13. Check "T" terminals of shrouds at mast entry points for parallel alignment to mast. Straighten if necessary.



14. Clear Spinnaker Halyard and lead through cheek block on deck, then aft through fairlead to primary winch. Do not cleat at this point. (SEE Section IV.C. for proper halyard routing.)
15. Attach snatch block to the port toe rail forward of the intersection of the headstay (forestay) and the deck.
16. Lead the bitter end of the spinnaker sheet (not the snap-shackle end) through the port genoa sheet car, then through the snatch block on the bow. Place the genoa sheet car approx. 2/3 of the way aft.

17. Locate spinnaker pole with jaws up and tie a small bowline with the end of the spinnaker sheet on the bottom side of the spinnaker pole. Next, attach the spinnaker halyard to the top side of the spinnaker pole using the shackle on the halyard.
18. Attach the mast-raising bridle assembly to the toe rail, mast and spinnaker pole as follows:
Lay out the bridle assembly with the two longest wires (164" each) together in the center. Place one set of the three remaining wires on the port side and the other on the starboard side. Starting from and including the toe rail hole just forward of the stanchion bolt (of the stanchion just aft of the mast step), count forward three holes and attach the 28" wire through the toe rail hole. Continue counting forward, and place

the 19" wire through the 20th toe rail hole. Repeat on other side. Attach 97" wires from both side to the upper spinnaker pole car on the track on the front of the mast. Lock this car into the top hole on the track. Attach the two 164" wires to the bowline in the spinnaker sheet tied at the top of the spinnaker pole.



NOTE: Do not attach bridle directly to the spinnaker pole as the clip will bend and possibly fail with repeated use in this fashion.

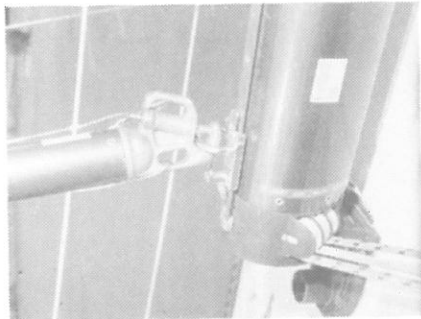
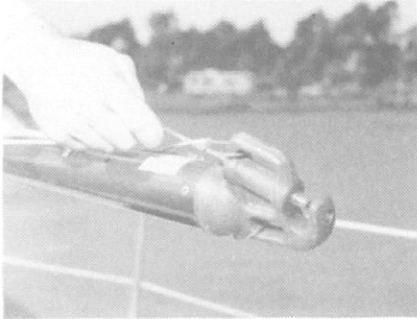
(SEE Detail Illustration of Mast Raising Bridle Installation)



..... Spinnaker Halyard
 ----- Spinnaker Sheet
 ----- Mast Raising Bridle

DETAILS for the routing and installation of lines on pp. 22/23.

19. Lift spinnaker pole into position above the mast and attach to the spinnaker car, with the car locked in the lowest position on the slide.



20. Take up the slack on the spinnaker halyard and the spinnaker sheet. Position pole at an angle less than 90 degrees to the mast. Cleat the Spinnaker halyard.

NOTE: Do not cleat off spinnaker halyard or spinnaker sheet on cam cleats. Lead to standard cleat on the side of cockpit coaming.

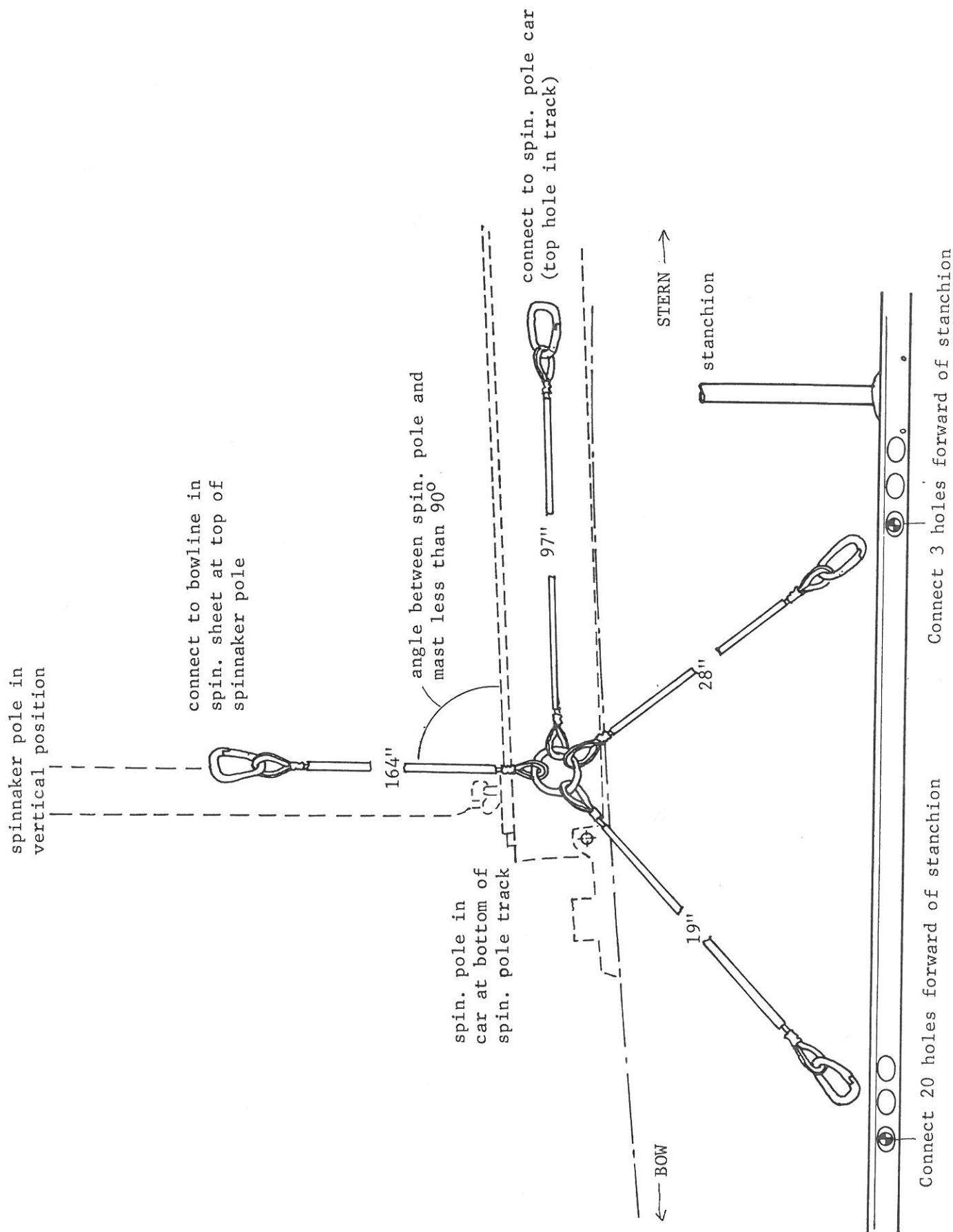
21. Check backstay to make sure it is completely released by slight pulling at the exit sheave on the stern.
22. Check vicinity for clearance from obstructions and anyone in the area should stand clear as the mast is being raised.
23. Using low speed on the primary winch in cockpit, crank the mast up keeping constant watch for shroud clearance. Wind at least 3 wraps of line around the winch.
24. As the mast approaches vertical position recheck internal wiring for clearance from pinching between castings.
25. When mast is in full upright position, cleat off spinnaker "raising" line to the standard cleat on the side of the cockpit coaming.

NOTE: Do not use cam cleats.

26. Check headstay for clearance from shrouds and spreaders. Remove lock ring and pin & place headstay tang in proper hole. Insert pin and ring, rotate lockring into secure position.
27. Remove and stow spinnaker pole, raising bridle assembly, spinnaker sheet, snatch block, and winch handle.
28. Check rig adjustment. (SEE Section IV.K. Mast Tuning)
29. Rig remaining halyards through proper cheek blocks and cleats (see deck sketch) tying figure eight knots in ends. Hook topping lift to outboard end of boom. On gooseneck end of boom, remove ring and pin and align the boom, inserting into gooseneck assembly, insert pin and lock ring. Rotate lock ring into secure position.
30. Connect vang and mainsheet assemblies.
31. Sails may be installed at this time.

MAST RAISING BRIDLE INSTALLATION

o-22



SPINNAKER SHEET ROUTING

1. Ties to top of spinnaker pole with bowline.
2. Through snatch block on fwd end of port toe rail.
3. Leads through genoa sheet car (as shown)
4. Around primary winch at least three wraps.
5. Cleat on standard cleat when raised.

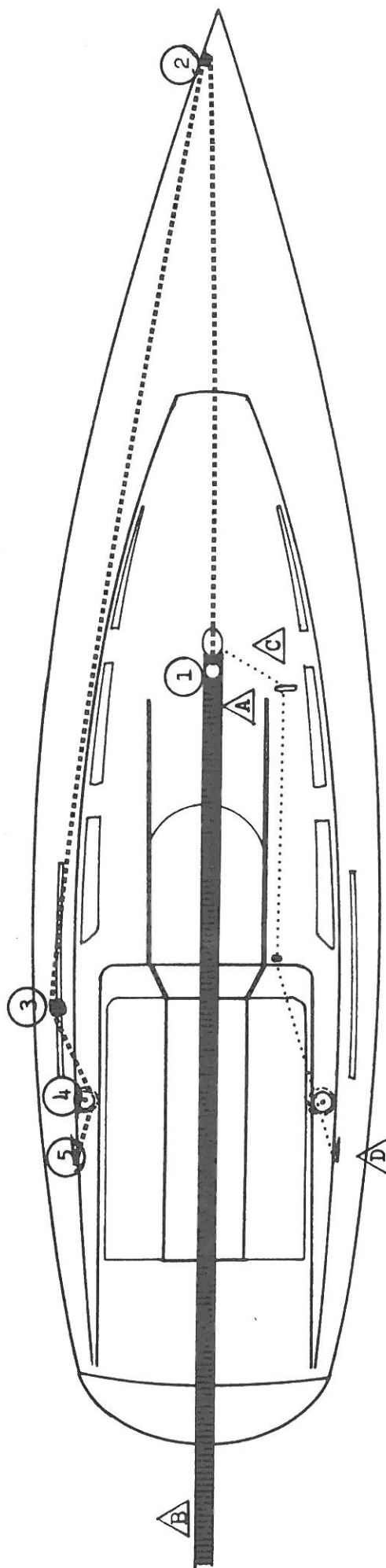
SPINNAKER HALYARD ROUTING

- A. Shackle snaps to top of spinnaker pole.
- B. Leads to spinnaker halyard exit block in mast, then inside mast.
- C. Exits at mast base, through fairleads.
- D. Lead aft to standard cleat by winch for securing (DO NOT use cam cleat)

..... Spinnaker SHEET

..... Spinnaker HALYARD

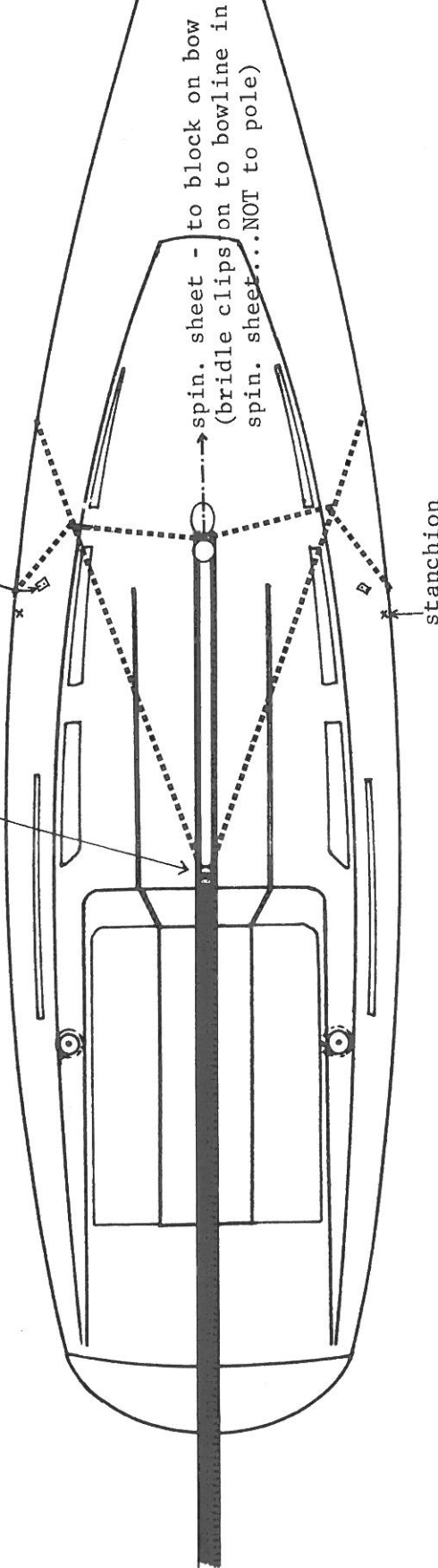
Mast Raising set-up Only



BRIDLE LOCATION

Shown with mast down, spinnaker pole vertical
on track at bottom of mast
(SEE DETAIL on next page for hook-up specifics)

spinnaker pole car in top hole of track
shroud chainplates (bridle goes outside of shrouds)





Mast Lowering Procedure

1. Install forward and aft mast supports (stern w/hooks forward).
2. Remove mainsheet and boom vang assemblies from deck and secure on boom.

Set boom end on life line above primary winch.

Remove gooseneck lock ring and pin, slip gooseneck out of position on mast, set on deck and replace pin and lock ring to mast assembly. Remove topping lift from boom.

3. Store boom assembly below deck.
4. Locate mast raising bridle assembly, spinnaker sheet, snatch block, winch handle and stern mast support in cockpit area.
5. Remove all halyards and topping lift from cleats and cheek blocks except spinnaker halyard which will be used for lowering mast.
6. Coil all halyards and topping lift and secure to mast.
7. Attach mast raising bridle to toe rail as noted in "Raising Procedure".
-  8. Close hatch to companionway.
9. Attach snatch block to toe rail forward of intersection of headstay and deck on the port side.
10. Lead the bitter end of the spinnaker sheet (not snap shackle end) through the No. 1 genoa car on the port side, then through the snatch block on the bow. Check that line is lead under the bridle guide wires.
11.  Locate spinnaker pole, with jaws up and tie the smallest possible bowline on the bottom side of the pole. Attach the bridle assembly to the bowline using the clip. Do not attach bridle directly to spinnaker pole as the clip will bend and may fail after repeated use. Attach the spinnaker halyard to the top side of the pole with the snap shackle.

12. Set spinnaker pole into position just above the deck and attach to the spinnaker car with car in the lowest position on the slide.
13. Take up slack on the spinnaker halyard and spinnaker sheet to position the pole at an angle less than 90° to the mast. Do not cleat off spinnaker halyard or sheet on cam cleats. Lead lines to the standard cleat on the side of the cockpit coaming.
14. Check backstay to assure it is released completely by slight pulling at the exit on the stern.



15. Check vicinity for clearance from any obstructions and OVERHEAD WIRES. Anyone in the area should stand clear as the mast is being lowered. (Recheck for wires anywhere near.)

16. Using low speed on the primary winch in cockpit take up slack on spinnaker sheet until the headstay has sufficient slack to remove its securing the lock ring and pin.

17. Cleat off the spinnaker sheet securely and remove the headstay lock ring and pin, remove headstay, replace lock ring and pin, securing lock ring.




18. Return to the primary winch and uncleat the spinnaker sheet being extremely careful when releasing slowly. As the mast rotates downward the load will increase. Maintain at least 3 wraps of line around the winch with line directed so it will not jump over the winch head.



CAUTION: MAKE CERTAIN NO ONE IS IN A DIRECT LINE WITH THE MAST DURING LOWERING.

19. As the mast angle approaches horizontal, be sure it is guided into the stern mast support and contacts gently.
20. Uncleat, but do not release the spinnaker halyard from cleat on cockpit side, move forward towards spinnaker pole, release both spinnaker sheet and halyard, while supporting spinnaker pole.

21. Remove spinnaker pole from mast and lay on deck. Remove spinnaker halyard and mast raising bridle, then stow in proper location on deck.
22. Disconnect electrical connection at mast base.
23. Remove lock ring and pin at mast base, raise base and reinstall pin and lock ring in mast step on deck.
24. Lift mast at base and move base forward to mast support taking care to avoid snagging wires on obstructions.
25. When properly positioned on supports, tie both ends securely to supports  and stanchion.
26. Coil shrouds and secure. The mast step pin will retain the wires, but they should be tied with a small line to contain them neatly.
27. Coil backstay, tie off with small line and stow in life ring storage compartment.
28. If installed, remove mast head instruments or other devices and stow below deck. Be sure wind instrument is stowed in upright position to avoid leakage of internal liquids.

RUDDER ASSEMBLY

Installation and Removal

1. Two people are required to perform the rudder installation and removal process.

2. Tools required:

One 11/16" socket
Ratchet drive
Short extension for ratchet

(These tools are provided with boat at delivery)

3. Procedure for installation:

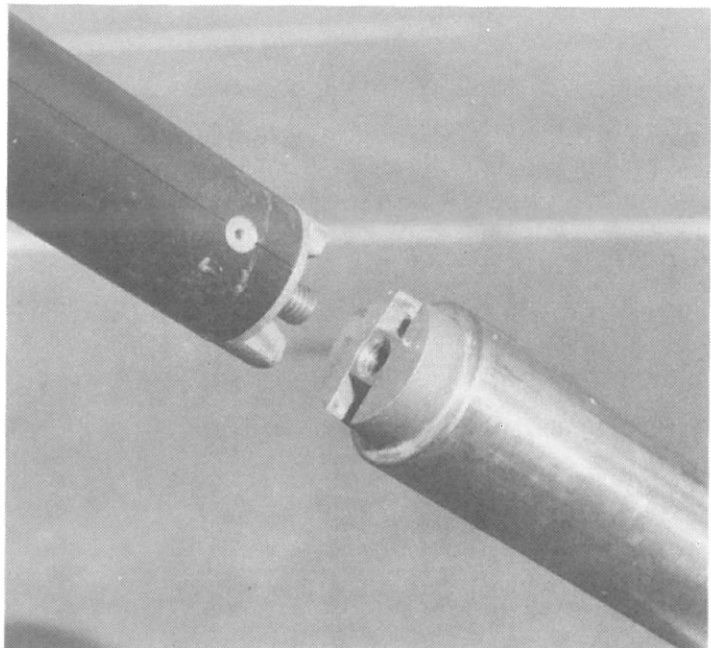
- A. Check for delrin spacer on shaft above rudder blade prior to installing lower rudder assembly.

- B. Slide rudder shaft up into bearing unit with blade aligned fore and aft.

- C. Install tiller unit in bearing unit with arm forward. Note slot and key alignment shown at right.

- D. Engage bolt threads, making sure bolt freely rotates, tighten snugly. Do not overtighten.....

Note: Frequent application of anti-sieze lube is recommended to avoid thread galling and corrosion.



- E. Lower tiller arm and check for free movement of assembly. If there appears to be excessive clearance between unit and hull through-fitting tube assembly, the extra delrin washer supplied may be installed.

4. Procedure for removal:

- A. Raise tiller arm to full "up" position, exposing bolt head.
- B. Loosen (standard right hand threads) bolt, six to eight turns so bolt head clears rudder post head three-eighths to one half inch.
- C. Tap bolt head sharply with mallet or small hammer, or with ratchet head against the short extension used as a drift pin, to break upper shaft assembly away from the lower half.

- D. With assistant below holding lower rudder assembly, loosen bolt completely and the two components will separate fully and may be removed.

CAUTION: Do not lose delrin spacer while preparing for storage.



Fixed Keel - Installation

1. The Hobie 33 fixed keel is secured in position by six studs and nuts and must be properly sealed at installation to prevent leakage.
 - A. Check stud threads for possible damage from shipping and handling by threading all six nuts on and off prior to the actual keel installation.
 - B. When keel is in position and well supported, apply a 1/2" bead of sealant (3M #5200 ONLY) entirely around the keel top, approximately 1/2" inboard of the outer edge. Completely encircle all six studs with sealant also. (See illustration)
 - C. Raise keel into position taking care to align all studs. Install washers and nuts snugly to start and check alignment before tightening.
 - D. Begin tightening the nuts in the sequence shown on the illustration. Repeat tightening sequence three times. Final torque should be as tight as physically possible using the special socket and winch handle. Do not use extension (longer handle) for tightening.
 - E. Remove excess sealant that will have squeezed out from the tightening operation. The hull/keel joint should be faired similar to the adjacent molded radius. Kerosene is a good solvent for clean up of 3M #5200. Exercise caution with flammable liquids.
 - F. Recheck torque of nuts at three and six month intervals at a minimum.

See notice on removal of keel-regarding 3M 5200 on illustration

KEEL - Retractable (optional)

IMPORTANT NOTICE



When keel lid is removed NEVER sail the boat. When moving under power or tow or loading on/off trailer, never exceed idle speed (One MPH max.) Water can be taken aboard. See Launching section.

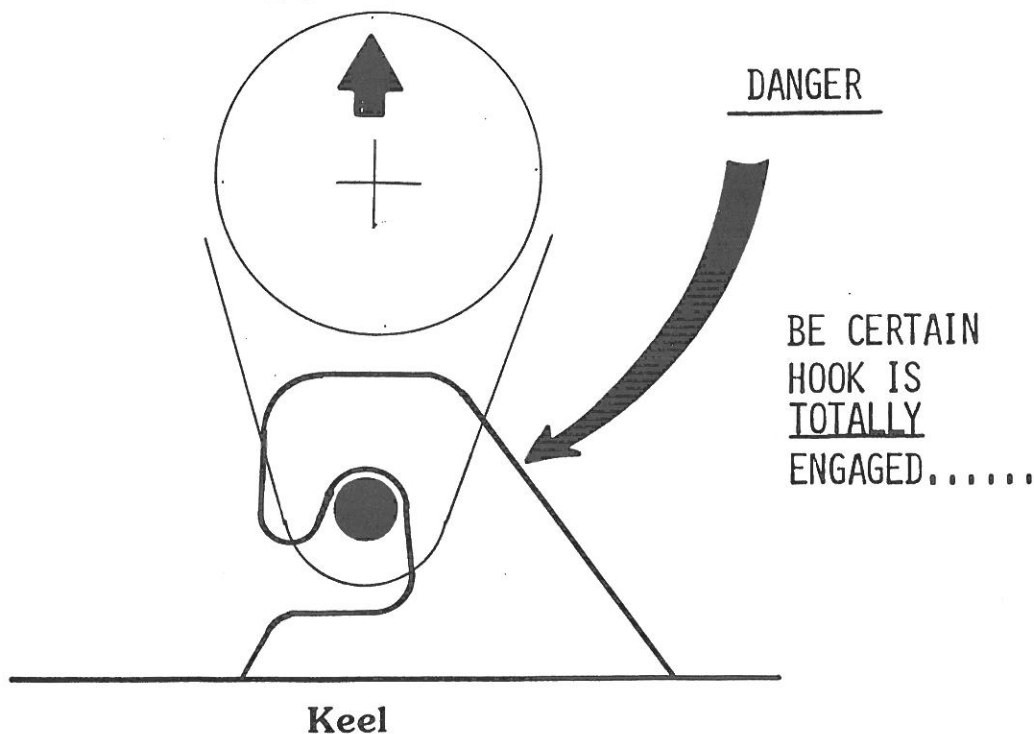
As shipped from the factory, the keel will be installed and in the raised position. It will be resting on the keel pad on the trailer or cradle, partially supported by the keel hoist assembly. This is the position and configuration that is most suitable for transportation. Variation may result in damage to the keel, keel well, or guide post.

DANGER



The keel assembly weighs 1800 pounds. Use caution when raising or lowering.

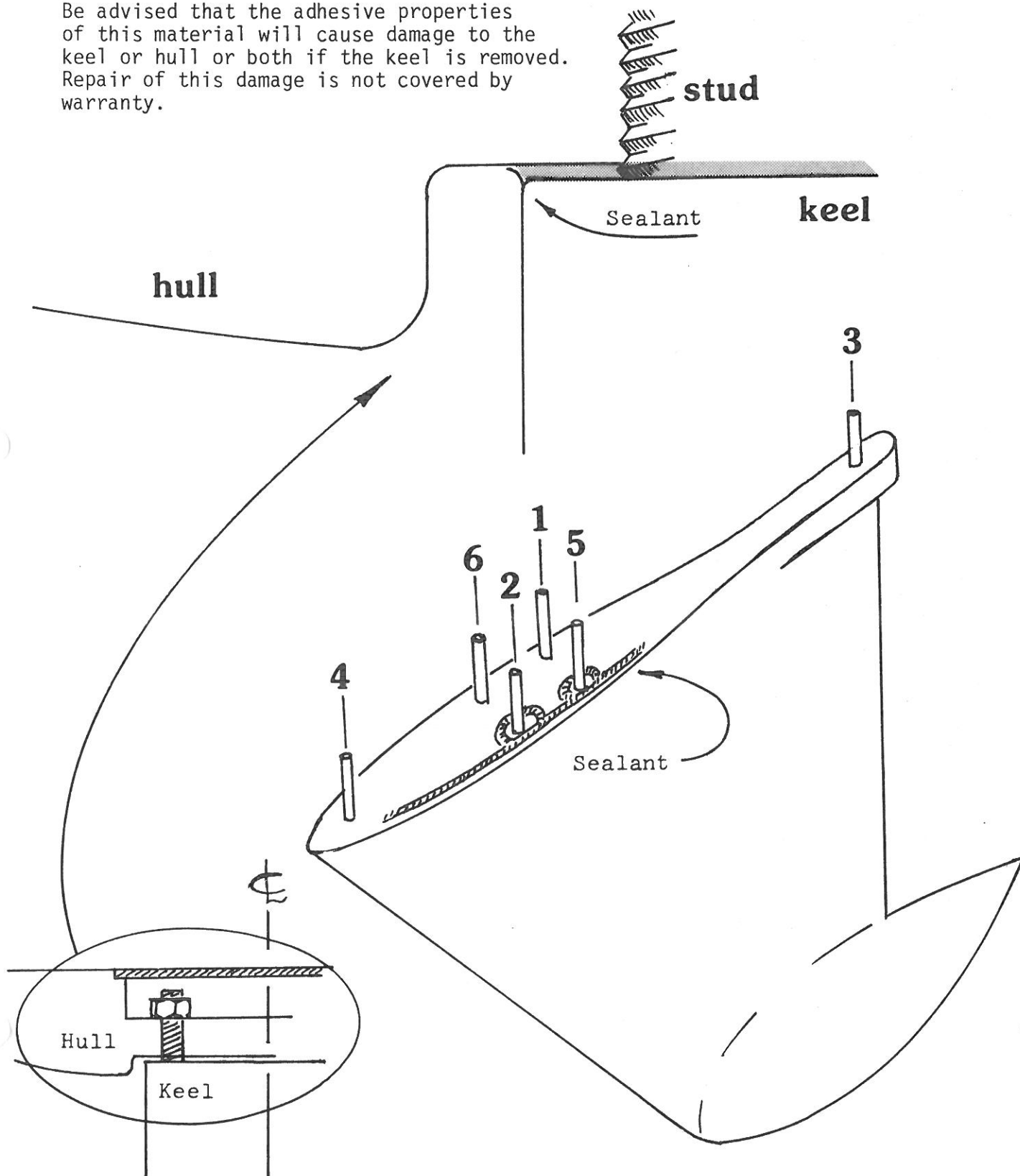
LIFTING BLOCK



FIXED KEEL INSTALLATION - Cont'd

IMPORTANT NOTE:

IMPORTANT NOTE:
To properly seal the keel to the hull to prevent leakage, we use, supply, and recommend 3M #5200 Marine Adhesive Sealant. Be advised that the adhesive properties of this material will cause damage to the keel or hull or both if the keel is removed. Repair of this damage is not covered by warranty.



KEEL - Cont'd.

The winch supplied on the keel hoist assembly utilizes a worm drive against a toothed gear and will not rotate if the winch handle is released. This is a safety feature not available on direct gear drive type winches. We do not recommend alternate designs which may expedite travel however are unsafe with such heavy loads should the handle be released.

Frequently check cable for fraying, kinks, etc. Replace immediately if worn or damaged. Keep fingers, arms, etc. clear of the keel, keel well and post while raising or lowering. Keep well lubricated.

Raising / Lowering

1. Before launching:



Check keel hoist post bottom guide pin to insure position into recess in deck plate. Check upper guide flange bolts for security. If in doubt, release tension on cable, and correct any deficiency prior to hoisting keel.

Double check lifting block engagement into keel lifting hook.

- A. Raise keel clear of trailer support pad. Do not overtighten against keel guide post. It will bend if loaded in this manner, and is unnecessary.
- B. When boat is clear of trailer and securely moored, the keel may be lowered.



NOTE: Keel draft is 5' 6" below the water line. If in doubt of depth, check before lowering.

- C. Check keel bolting flange at guide post on forward end. Raise or lower if necessary to facilitate removal of locking pin from post.
- D. Crank keel assembly downward, continually checking for any binding or unusual noise. Should this occur, stop, determine cause, correct if possible or necessary before lowering further. As keel nears bottom, check alignment of attach plates to fore and aft studs. When alignment is assured, lower totally.
- E. Remove hoist cable and hoist assembly, stow out of way, being careful not to allow lubricant to contact upholstery, etc.

KEEL - Cont'd.

F. Remove guide post assembly by lifting upward into upper sleeve fitting, tilt slightly when clear of keel stud and lower until clear of upper assembly. Upper tube should be removed and secured to post for storage.

G. Securing:

- (1) Install fore and aft bevelled washers/nuts snugly which will assure final alignment.
- (2) Install side washers and nuts.
- (3) Tighten fore and aft nuts, then again to side nuts. Torque down firmly using special tool supplied (socket, extension, socket - adaptable to winch handle).

H. Closing:

- (1) Install keel well cover, centering over flange.
- (2) Install (2) keel well cover bolts assuring rubber washers contact cover first, followed by steel washers and bolt head.
- (3) Tighten bolts progressively fore and aft in increments so that cover seal compresses evenly. Tighten only a sufficient amount to insure adequate seal compression. Should slight leakage occur it may be stopped by slight tightening of these bolts.

2. KEEL RAISING:

NOTE: Do not remove keel well cover at any time prior to mooring.

- A. Remove keel well cover taking care not to lose washers. Stow in secure location.
- B. Install upper guide post assembly.
- C. Remove all four securing nuts (and washers).
- D. Install guide post, sliding upwards into upper sleeve, then down over forward keel stud, through attach flange.
- E. Attach winch post assembly, making sure of deck fitting alignment and upper flange bolting. (Upper bolts will bottom out leaving exposed bolt shank.)

KEEL RAISING - Cont'd.

- F. Attach winch cable block to keel hook. Be certain of proper engagement into keel hoist hook.
- G. Raise keel assembly up to point where locking pin may be installed below keel bolting flange fitting.
- H. Install locking pin.
- I. Boat may now be pulled onto trailer or lifted by other means as necessary.
- J. When boat is settled and aligned on supports, guide post locking pin may be removed and keel lowered onto keel support pad until hoist cable slackens. Take slight tension on cable assembly and boat is ready for movement.

LAUNCHING

Hoist Launching

SINGLE POINT LAUNCHING SYSTEM

The Hobie 33 single point lifting system is designed to facilitate lifting the boat from the water or trailer equipped with extended hull pads, with a mechanical hoist.

To use the lifting system the keel must be securely bolted in the down position and the keel well lid off.



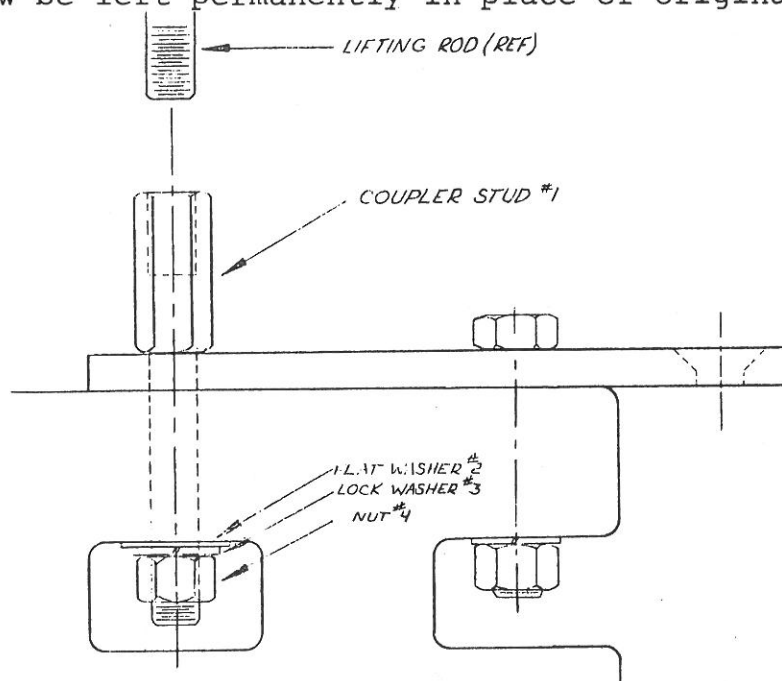
IMPORTANT NOTE: Perform lifting operations only in calm waters with a maximum of four people (AFTER boat is in the water) on board. Keel well water level is critical and may allow water aboard.

The mast may be up or down -- CHECK FOR OVERHEAD ELECTRICAL WIRES before moving or lifting.....

Assure hoist capacity is adequate as a fully rigged and outfitted Hobie 33 may be assumed to be in excess of 4500 lbs. (Safety equipment, etc.)

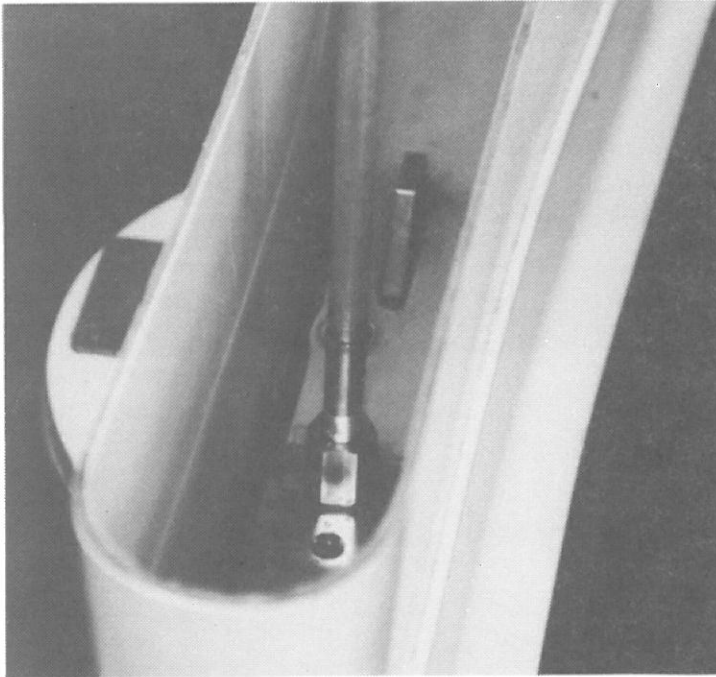
INSTALLATION OF PERMANENT FITTINGS

1. With the boat out of, or in calm water, remove keel well cover and keel lug nuts. Using the keel hoist, raise the keel approximately 18" for access to aft keel plate.
2. Remove forward nut and bolt from aft keel plate and replace with coupler stud and flat washer supplied with lifting system kit. Replace lock washer and nut and tighten securely.
3. Lower keel and bolt down securely with all four lug nuts. This may now be left permanently in place of original bolt.

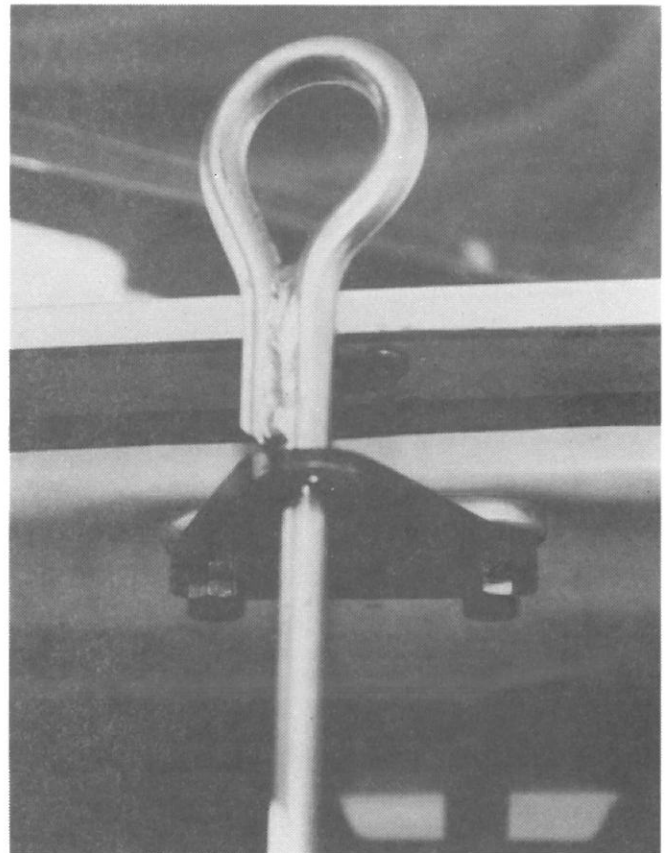


HOIST LAUNCHING - Continued.Installation and use of Lifting Rod Assembly:

1. Remove keel well cover and fully open main hatch.
2. Insert the lifting rod into the triangular upper bracket. Screw the lifting rod carefully into the coupler stud until it bottoms out.



3. Bolt the upper bracket to the upper keel hoist mounting plate with the two bolts provided (1/2" dia.)

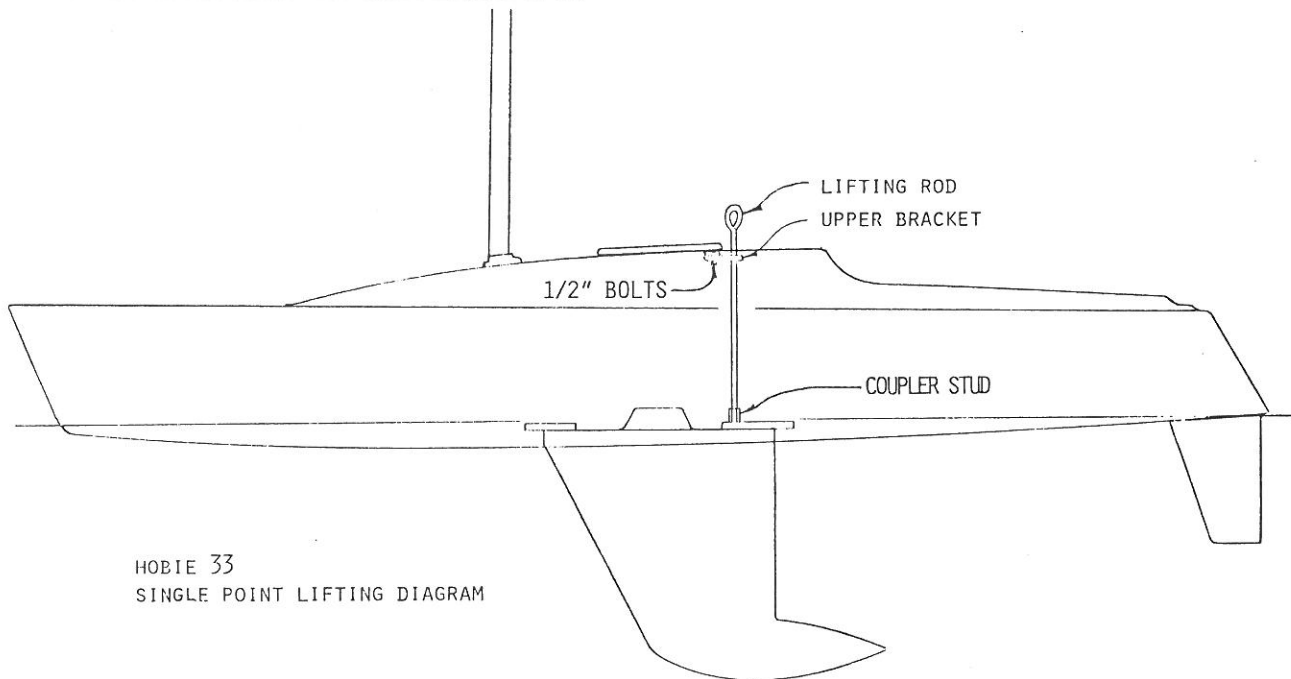


4. Attach external hook into eye of the lifting rod. It is advisable to secure the hook so that slack in the hoist lifting wire/cable will not allow it to disengage until desired.

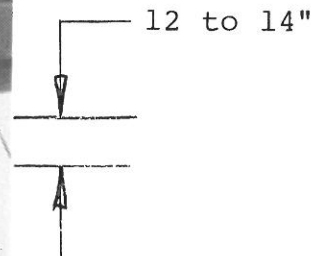
5. Check all around boat to make sure there are no obstacles that would interfere with the lifting operation. Check again for the possibility of LOW OVERHEAD POWER LINES.



6. When lifting the boat, apply tension slowly, checking for a level boat condition. Shift weight as necessary to maintain from level to about five degrees bow down. Always attach external lines to bow and stern before hoisting to provide control of boat movements when shifting positions.

HOIST LAUNCHING - Continued.

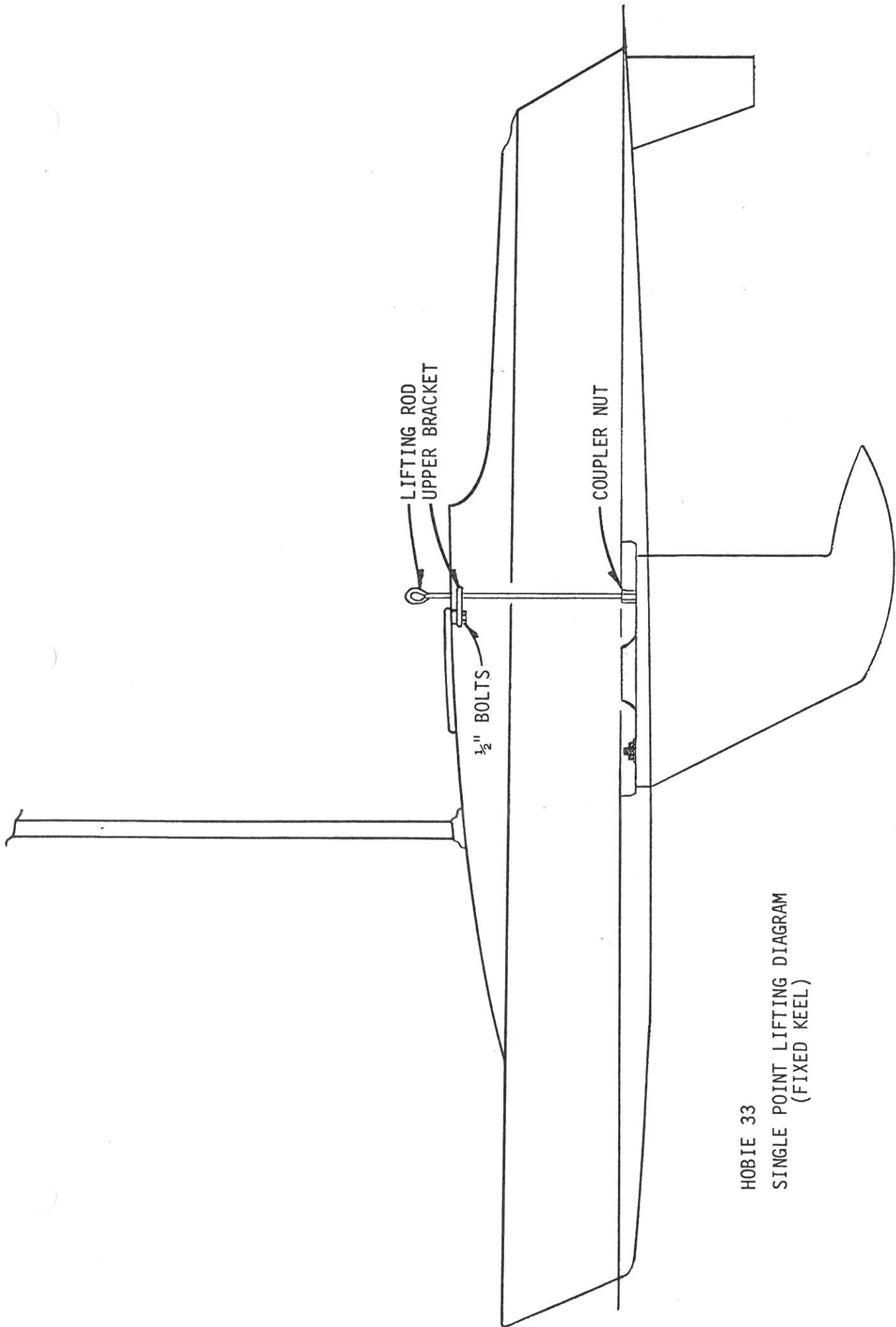
7. Lift boat clear of trailer and hold there for trailer removal.



8. When trailer is clear and control lines are manned, the boat may begin repositioning.



CAUTION: Under no circumstances should anyone be underneath the boat during this operation..



HOBIE 33
SINGLE POINT LIFTING DIAGRAM
(FIXED KEEL)


Trailer Launching



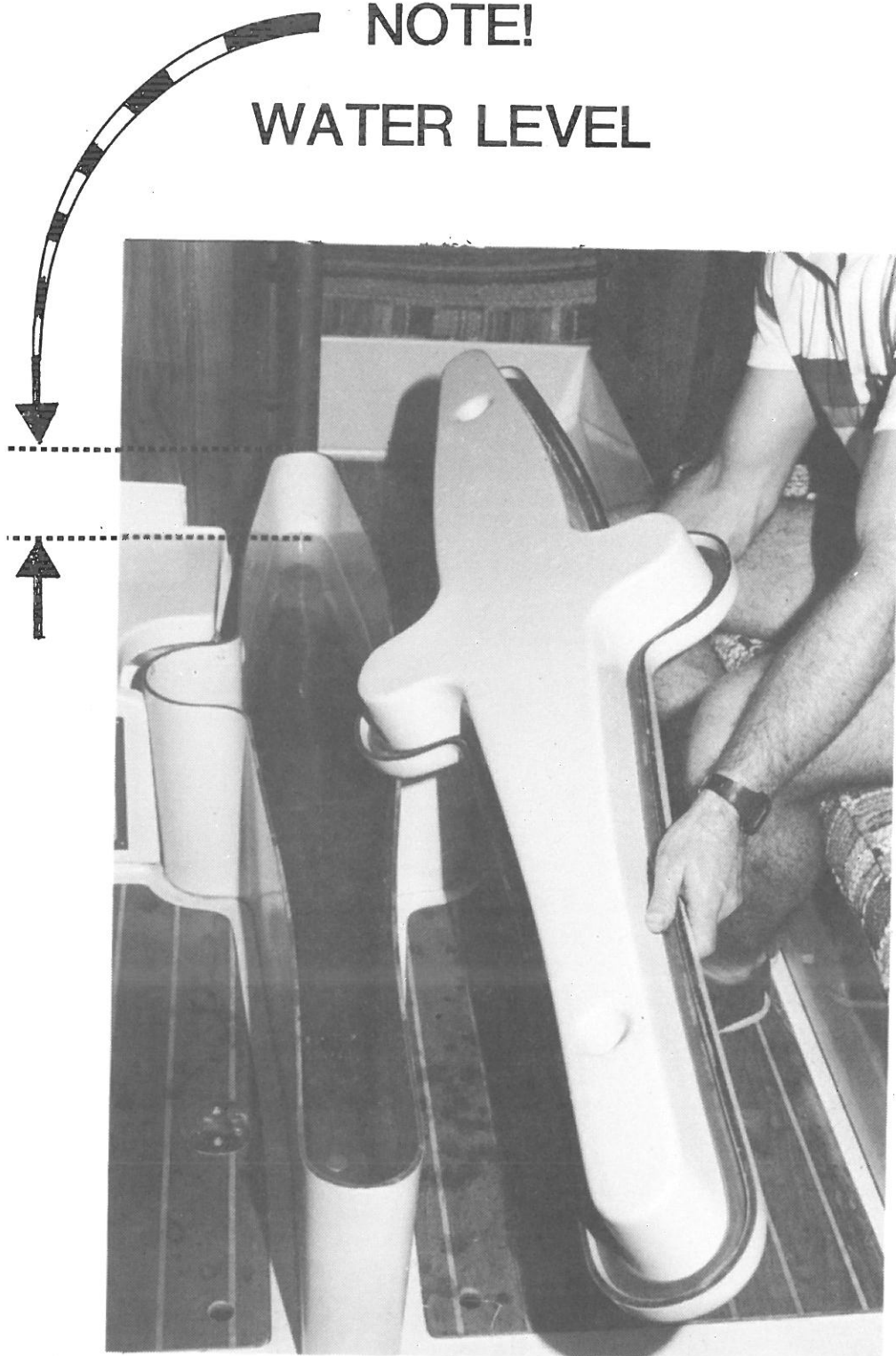
WARNING - DANGER

PRIOR TO LAUNCHING THE MAST WILL BE RAISED AS PART OF THE PREPARATIONS CHECK THE ENTIRE AREA FOR LOW OVER-HEAD POWER LINES BEFORE PROCEEDING MAKE SURE THE AREA IS CLEAR NOT ONLY IN THE VICINITY USED FOR MAST RAISING, BUT THE ROUTE FROM THERE TO THE ACTUAL LAUNCH RAMP MUST BE FREE FROM ELECTRICAL LINES OR ANY OTHER OBSTACLE THAT IS LESS THAN THE MAST HEIGHT OF 45 FEET 2 INCHES. WIRES SHOULD BE GIVEN MUCH GREATER CLEARANCE.

1. LAUNCHING

1. Prepare the boat for launching prior to locating on the actual launch ramp. Difficulties and delays can block others activity. Courtesy is expected.
2. A. Remove all tie down straps, and fasten boat painter. A relatively long line is recommended since the boat will be in fairly deep water when it leaves the trailer.
- 
 B. Do not release winch line until the boat is in the water. Some ramp inclines are steep and/or rough and it is possible to launch prematurely resulting in damage to the boat.
- C. Step the mast in accordance with proper procedures.
- D. Install the rudder/tiller assembly.
- E. Back trailer to the left is possible as this gives better visibility to the driver. Never leave the towing vehicle unattended on the ramp with only the parking brake set. Set the transmission in "park" or first gear in addition to the parking brake.
- F. Back into the water only far enough to float the boat freely off the trailer pads. Back the winch line off slowly and have a helper hold the boat painter, preferably from dry ground or the dock to which the boat will be secured.

NOTE!
WATER LEVEL



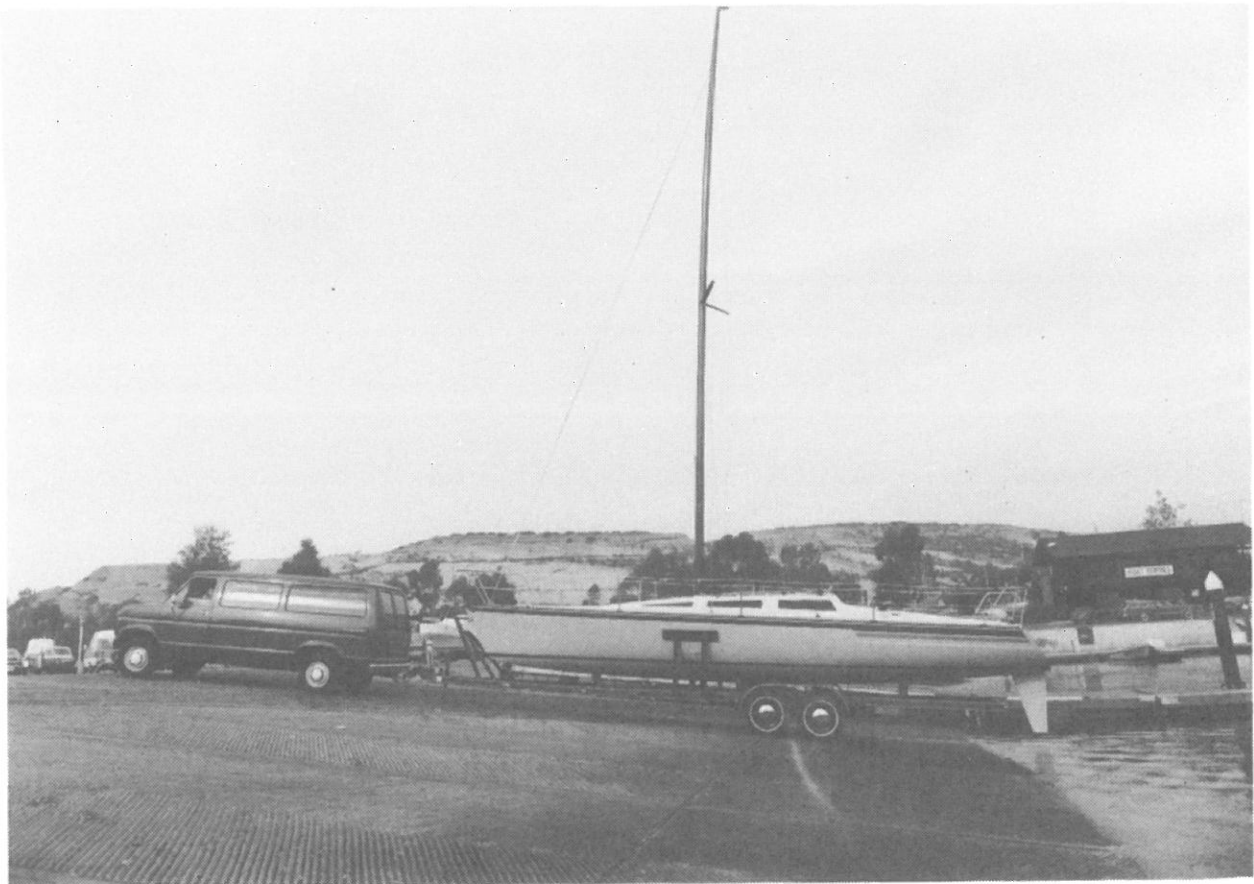
IMPORTANT NOTICE

WHEN LAUNCHING OR RETREIVING THE BOAT FROM THE TRAILER THE RETRACTIBLE KEEL MODEL WILL HAVE THE KEEL UP AND THE KEEL WELL LID OFF. REMEMBER THAT WATER CAN BE TAKEN IN IF MOTION EXCEEDS ONE M.P.H., OR THE WATER CONDITIONS ARE ROUGH OR CHOPPY.

G. When the boat is secured to the dock, the keel may be lowered. Read and understand this procedure clearly. Only after the keel well lid is installed, you may proceed to attend to the matters of sails, etc.

H. The trailer should have all tiedown lines trimmed up so they will not drag under the wheels when moving to the storage area.

*Area clear of wires, obstacles *Mast up and secure
*Rudder installed *All tiedowns off *Water smooth



Sails

I. The Hobie 33 has three basic sails and one spinnaker available:

A. Main

B. Genoa (s) #1 (100%) and #3 (155%)

C. Spinnaker (1.5 oz.) Triradial

II. Installation, raising, lowering and storage;

A. Main - We recommend the mainsail, once installed on the be left there, covered for ease of handling and storage.

(1) Partially unfold the mainsail, locating the three attach points; the head, tack, and clew.

(2) Attach the main halyard shackle to the head and secure the pin.



- (3) Insert the luff rope and raise about 2".



- (4) Insert the guide into the entry slot and raise up several inches into narrower sail track.



- (5) Take up slack sufficiently in main halyard to hold sail in this position for further attachments.
- (6) Attach boom to fitting on mast, securing pin. Attach aft end of boom to thimble on wire lead from backstay.
- (7) Slide foot of sail into boom slot all the way aft.
- (8) Attach shackle to clew of sail and secure pin.
- (9) Attach outhaul shackle to clew of sail and secure pin.
- (10) Sail may be raised with main halyard, taking care to avoid hanging up on any rigging, winches, etc.
- (11) The outhaul slack may be taken up at this time.

Mainsail - Cont'd.

The mainsail for the Hobie 33 has been designed for all conditions. Depending upon the sailmaker, the mainsail may have a better lower or higher wind range.

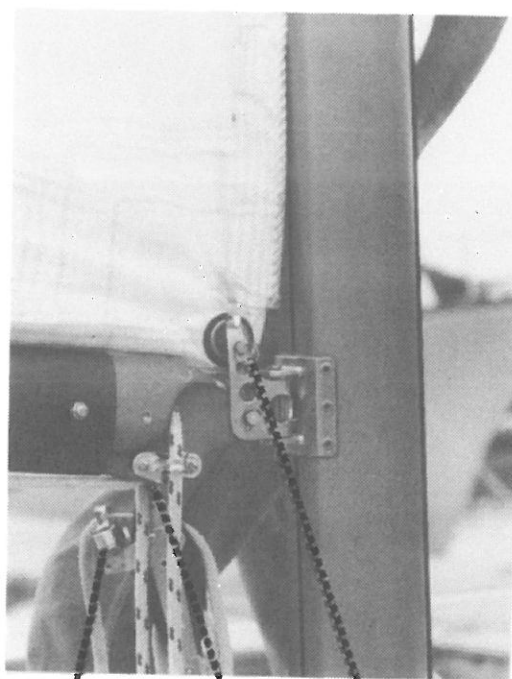
A good rule of thumb for trimming the Hobie 33 mainsail is to have the top batten parallel with the boom. The mainsail cunningham should be applied to only remove the wrinkles on the luff.

Outhaul tension should be adjusted according to wind strength. The higher the wind strength, the tighter it should be.

The mainsail is equipped with reefing points, and easily operated reefing lines within the boom. It must be emphasized to reduce sail if the boat is overpowered. Generally it is best to sail the boat between 20 and 25 degrees.

Reefing

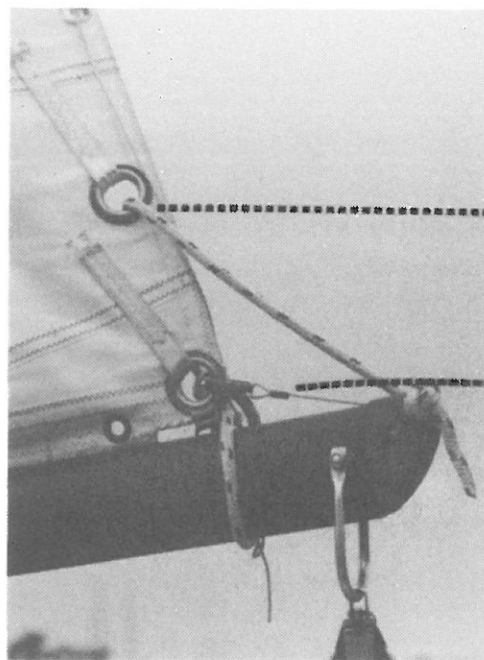
The normal full sail attachments are shown below. Note the reefing lines are in place for the first and second reef points.



Gooseneck pin

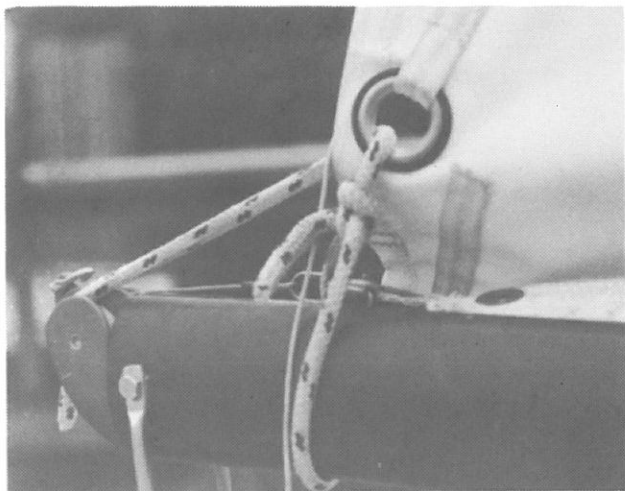
Reef control line
(stbd. shown)

Outhaul line



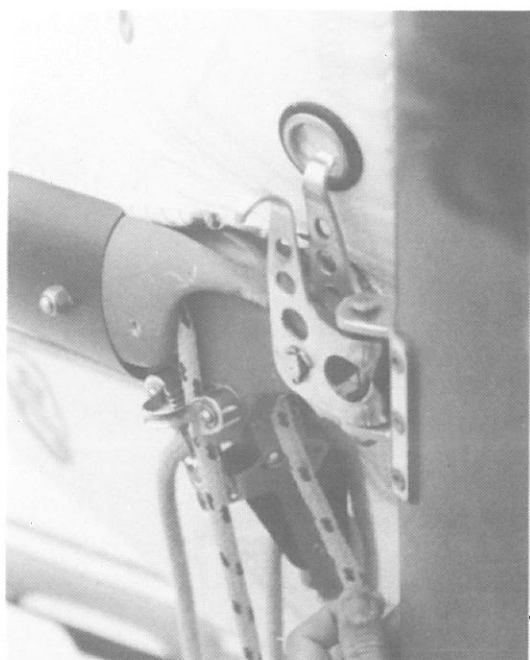
First reef
"ready"

Outhaul

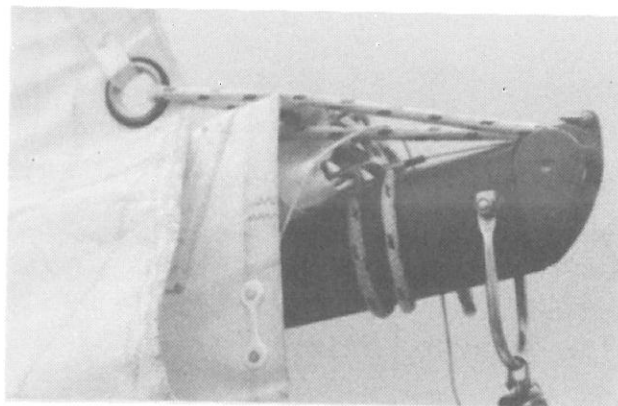


First reef line shown attached and ready for use. Line exits end of boom, up through grommet, downward under boom, up other side and tied off.

Second reef line, opposite side may also be set up in advance identically.

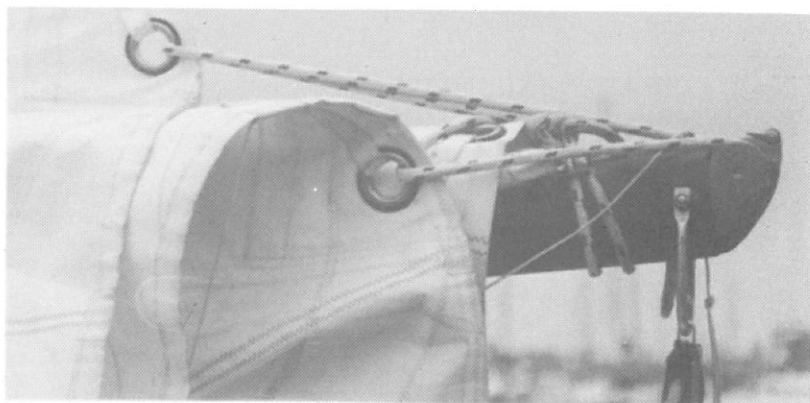


Forward end of boom/sail shown in first reef position. Pin removed after sail lowered, grommet installed on gooseneck hook. Slack taken up by halyard. Note reefing line secured in cam cleats.



Aft end of boom shown with first reef point made above and second reef point made as shown lower left.

Subsequent reef points made with alternate (first) reef line, etc.



REEFING - Cont'd)

The reefing operation is a very easy adjustment to make. The mainsail is lowered to the proper angle and the line on the back is tightened, reducing overall sail area.

The reefing operation should be done from the weather side of the boat without having to move more than one person. We would suggest that the crew be hiking on the weather rail and that one person turn around and lower the mainsail. The forward crew, as the mainsail is being lowered, should be pulling on the reefing lines at the gooseneck. While this is being done, the skipper should be paying close attention to his course and that the mainsheet is adjusted to make the reefing operation easy. Being able to reef quickly and without much motion is a definite plus in racing.

After reefing, excess sail can be tied down around the boom with small lines through the midsail grommets. This is definitely recommended at the second and third reef points.

B. GENOA and JIB

Your Genoa and Jib are designed to make the Hobie 33 as fast as possible in the different wind strengths.

The Genoa is designed for light air and is a very versatile sail. The halyard should be pulled just to eliminate the wrinkles only. The Genoa leads are easily accessible and can be adjusted to the proper setting either before the Genoa is raised or while the sail is up and luffing.

The Jib is a smaller sail than the Genoa and is designed for stronger winds. Again, the luff tension on the Jib is extremely important. Only enough tension on the luff to eliminate the wrinkles is necessary.

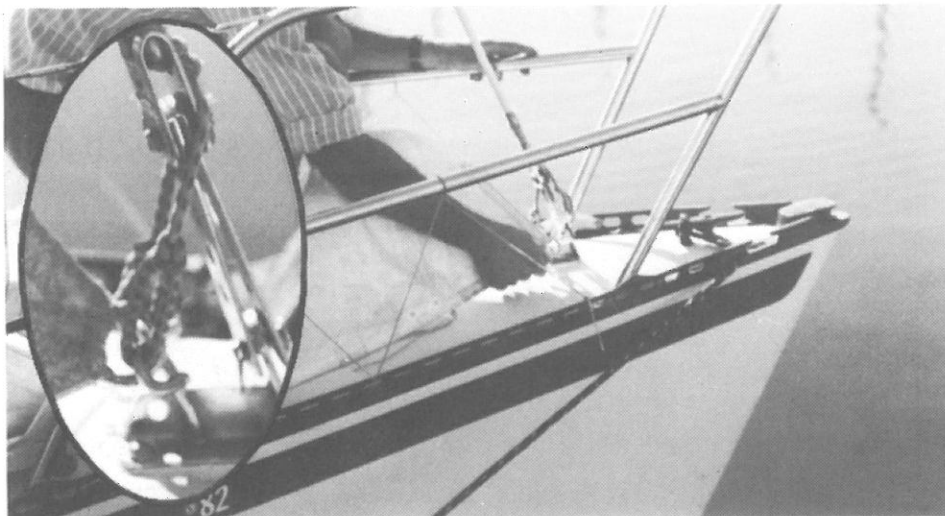
The forward Jib lead track is positioned to allow maximum effectiveness of the Jib. If your Jib has a reef point, the sail is capable of being reduced in size to a small storm type sail. The reefed Jib is for winds of over 20 to 25 knots where the boat is overpowered. This sail can be used effectively when racing when it is reefed. We recommend that when reefing the Jib, only one person go forward to the bow. Again, the less crew movement the better during a sail change or reef.

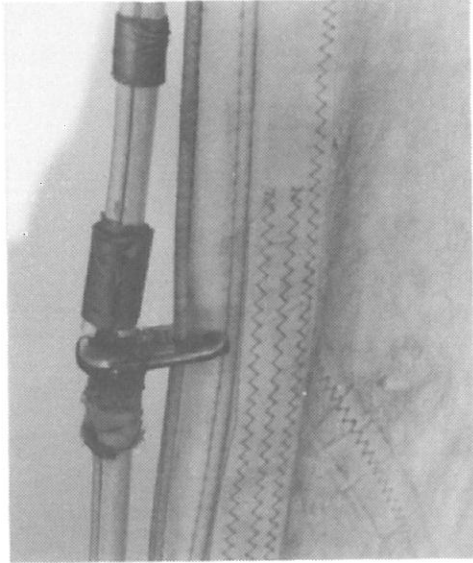
INSTALLATION - Genoa and Jib

1. The process of installation of the Genoa and Jib sails is essentially identical.
2. The sail should be kept in it's sailbag until ready for use.
3. Locate the sail on the deck at the bow and unfold only enough to locate the head, tack and clew. Place the tack forward, near the headstay plate.



4. Attach the tack by installing the grommet over the hook on the headstay plate. A short length of shock cord is recommended to be tied to the tack, around the link plates and looped onto the hook on the same side. (See inset)



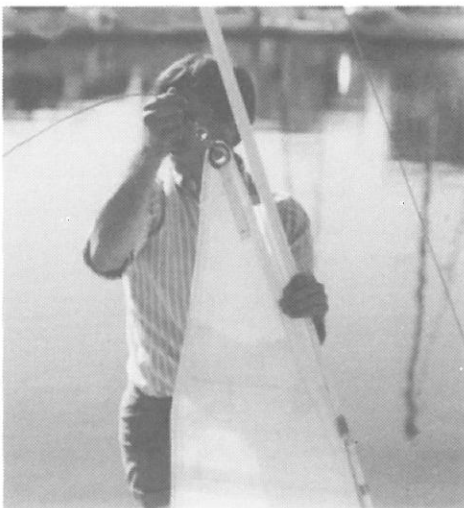


5. Feed the luff tape upwards and through the 'pre-feeder body' as shown on the left.
6. Continue with the luff tape into the "Headfoil" (Registered Trade-mark) assembly. The feeder body has a convenient funnel shape to guide the luff tape.

Note: The luff should be inserted into the slot on the same side as the tack is hooked.



Notice the location of all (3) halyards, available for use at all times.



7. Attach the halyard to the grommet at the head of the sail.

Have an assistant take up the slack in the halyard just enough to hold the sail in position at this time.

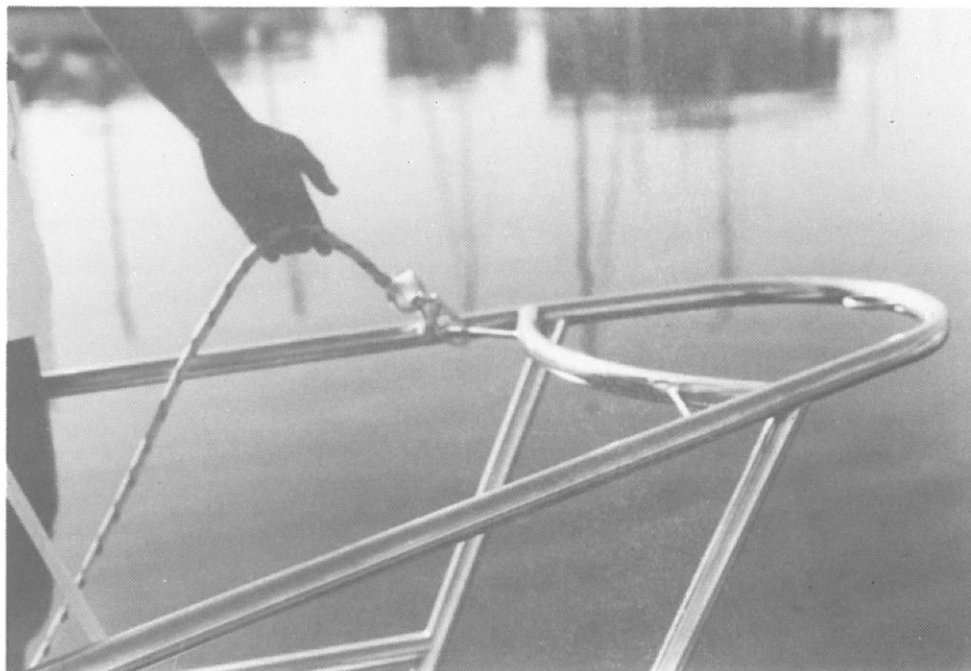
8. Attach both sheets to the clew grommet with bowline knots. Be sure both halyards are clear of obstacles and tangles, with excess slack taken up.



9. Changes of sail while underway can be made easily by installing the next (Jib, Genoa) sail similar to the foregoing, and raise it prior to lowering the first. Note earlier remarks relative to which slot in the foil the sail was installed, and it's hook. Once the second sail is in place, the first can be lowered without loss of sail at any time. This takes some practice, but is quite beneficial when racing.

Spinnaker installation.

- A. The bow pulpit has a ring surrounding the foremost end, being specifically to accomodate the spinnaker for launching. There are also small attach points for connection of lines for ready availability. (Spinnaker halyard, etc.)



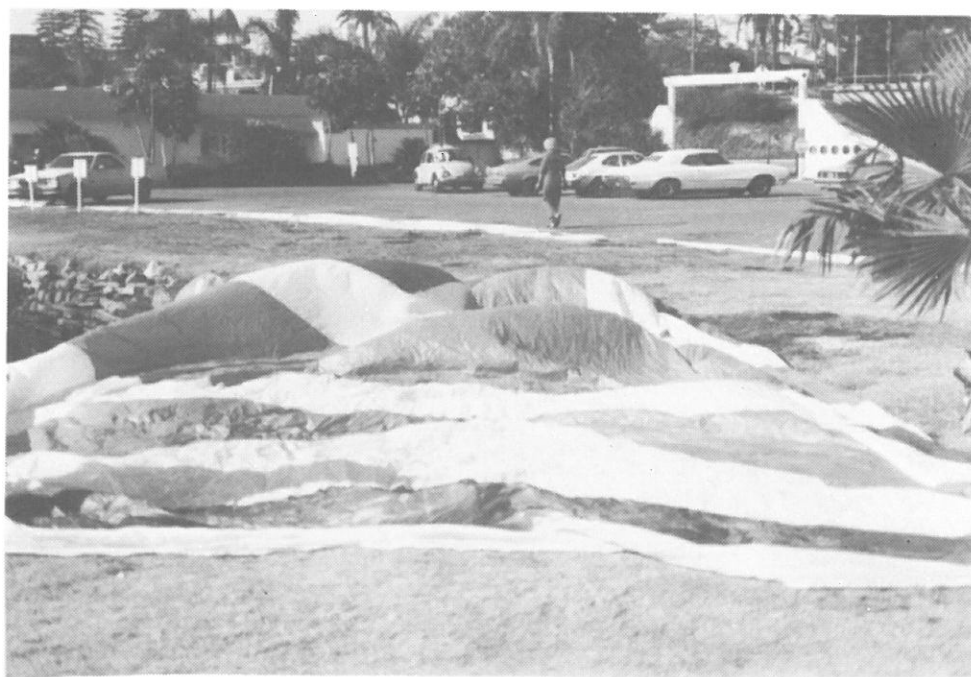
- B. Position the spinnaker bag into the ring as shown for access. The cover should be tied to the bag by a small lanyard to prevent losing it at removal.



C. Spinnaker

It is recommended the spinnaker be spread and repacked for assurance that it is ready for use when needed.

- (1) Remove from bag and spread fully in a suitably large, clean area which is free from anything that could snag the material.



- (2) Position yourself at the center of the foot and begin pulling the head toward yourself with spread arms, gathering the sail evenly on either side of your body



- (3) Continue gathering in until about four to six feet remain extended from the head, and start pulling in the sides, (tack and clew) until about the same amount remains.



- (4) At this point locate the sail bag in front of you and start tucking the sail into it, leaving the head, tack, and clew out about 12 to 14 inches. Rearrange as necessary to position the three attach points 90 degrees from each other, with the material smoothed out as shown.



- (5) Snap on the cover and recheck to assure that the head is in the center position. The sail is now ready for storage until needed.



The spinnaker is an all purpose sail capable of being used in a variety of wind conditions. The spinnaker should always be kept dry and free from salt. We recommend rinsing the sail frequently and letting it dry on a lawn or still environment. Never let it flag in the wind.

When setting the spinnaker one person will be at the bow with the spinnaker bag installed as shown, and with the sheets all ready. They will connect both sheets and the halyard (which should be kept attached to the bow pulpit at all times). The foredeck person should be required to do all spinnaker setting. The cockpit crew will be required to keep it flying and jibe the sail effectively.

When dropping the spinnaker it is always good to have one person in the interior of the boat and another at the lifelines to aid in pulling the sail down. Try not to get the sail wet. As the spinnaker comes down the foredeck person should stow the pull and make sure all sheets are clear.

GENERAL SAIL CARE (See maintenance section - cleaning, etc.)

Storage

Bagged sails are protected from external elements and hazards.

We recommend the mainsail be furled on the boom and covered with a durable boom bag. Some prefer to remove the sail completely which is acceptable, but excess handling does expose it to dirt, etc.

RECOMMENDED MAINSAIL STORAGE METHOD

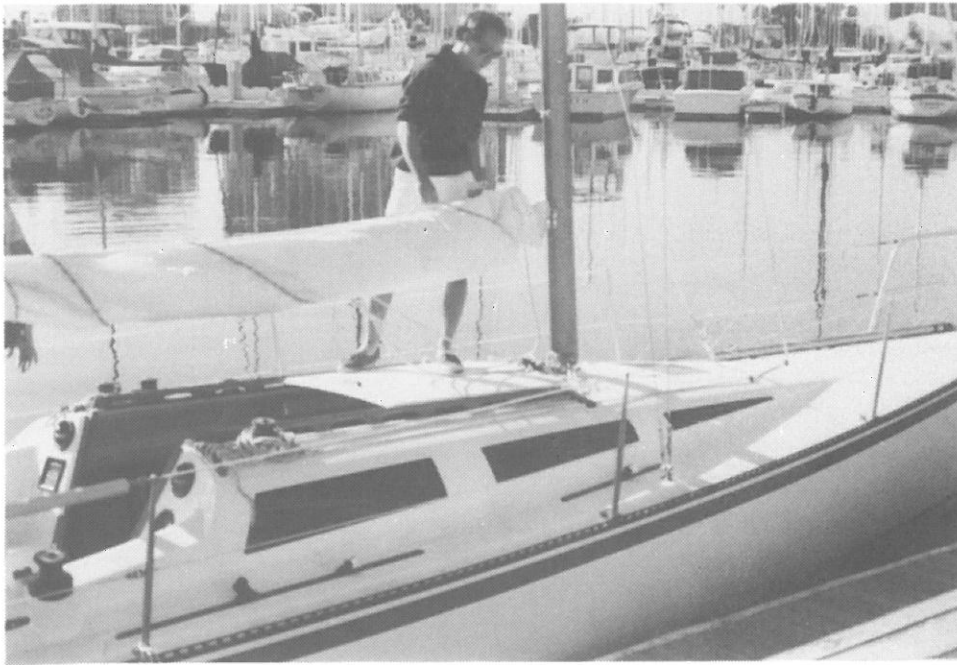
- A. Fold approximately half back over the boom.
Sail should be dry before storage.



- B. Roll material evenly toward boom.



C. Wrap line moderately loose around rolled sail and boom.



D. Cover with boom bag.

Note boom support
attached to backstay.

Motor

I APPLICATION

The motor lifting assembly provided with the Hobie 33 consists of a motor mount which raises and lowers the motor by use of a block set, a pivoting motor mount and hull closures for both the up and down positions.

The motor collar must be specified for one of the following outboard motors:

Honda 10
Evinrude and/or Johnson 6, 7.5, and 10.

Other motors may be acceptable but collars for the shaft housing are not currently available.

II INSTALLATION AND OPERATION

1. Motor is installed onto support bracket and tightened temporarily.
2. Lifting block set installed with snap-shackle end attached to the backstay extension as shown at right. Install "S" hook into loop on bracket arm.
3. Raise motor high enough to install lower shaft collar. Lower again into hull opening and reposition motor for collar alignment at opening.
4. Raise motor assembly again to up position, checking pivot cable length for shaft clearance during travel. Adjust as required.



FROM DOWN, OPERATING POSITION

RAISE, TILT FORWARD, LOWER



IMPORTANT NOTE:

Be sure all fuel lines and tank are secure, free from snags, sharp objects, etc. Check frequently for leaks AND secure connection of overboard exhaust system.

TO UP POSITION, PLUG IN HOLE

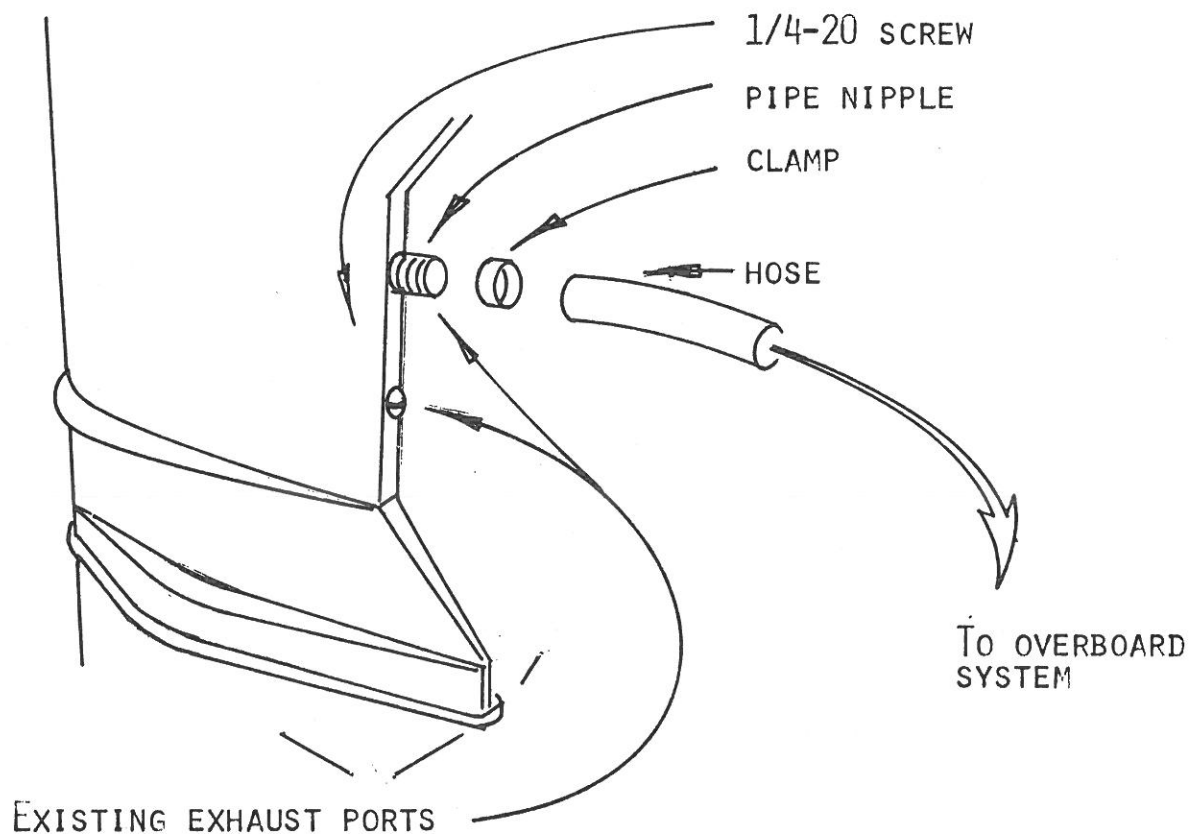


EXAMPLE MOTOR MODIFICATION

LOW SPEED EXHAUST

PURPOSE: TO PRECLUDE OXYGEN STARVATION TO MOTOR FROM LOW SPEED EXHAUST PORTS EXITING INTO MOTOR COMPARTMENT.

1. TWO EXISTING EXHAUST PORTS (HONDA EXAMPLE) MODIFIED AS SHOWN:
 - A. UPPER HOLE; DRILL $7/16$ AND TAP $1/4$ -PIPE, INSTALL NIPPLE.
 - B. LOWER HOLE; TAP $1/4$ - 20 THREADS, INSTALL $1/4$ -20 SCREW.
 - C. INSTALL HOSE, CLAMP, AND ROUTE TO EXIT PORT ON STBD. SIDE OF ENGINE COMPARTMENT.



REF: HOBIE PARTS KIT #7010-2000

HONDA MOTOR - INSTALLATION

NOTICE OF POSSIBLE INTERFERENCE TO REVERSE SHIFTING BY
MOTOR SUPPORT ASSEMBLY:

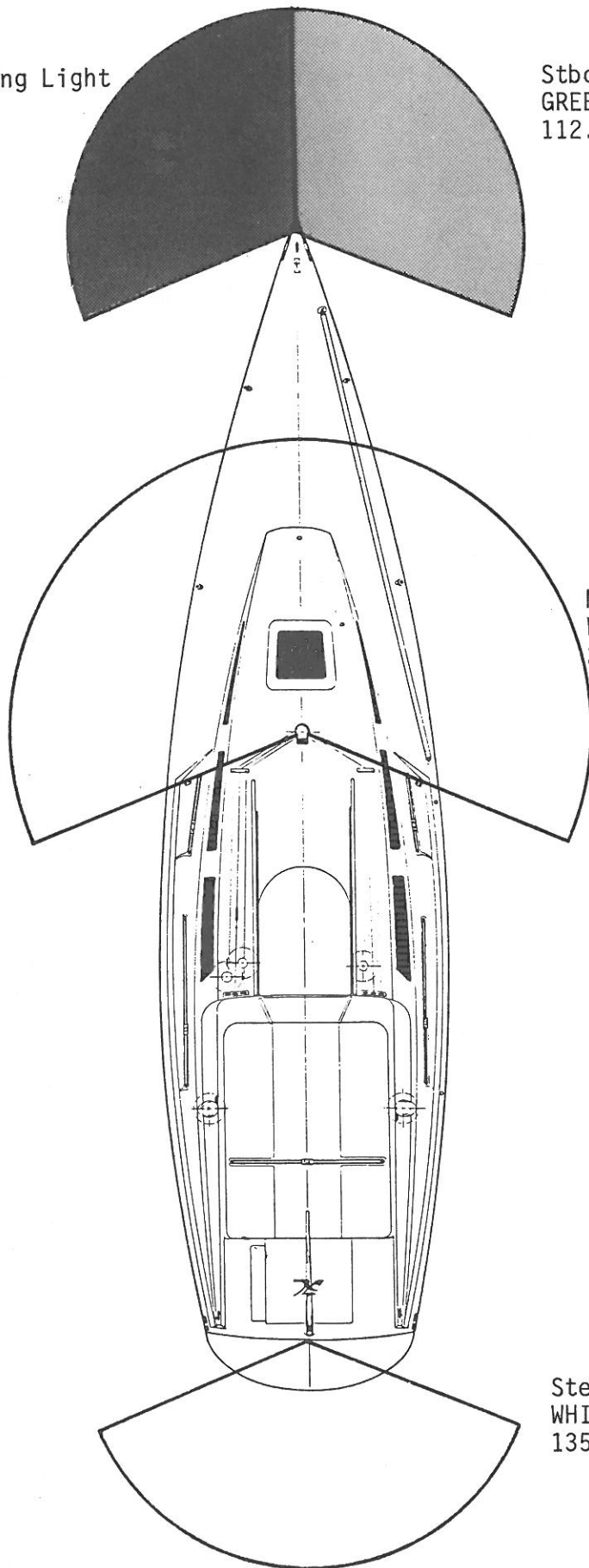
- A. SHOULD THE SHIFT ARM CONTACT THE SUPPORT BRACKET WHEN
SHIFTED TOWARD THE REVERSE POSITION, ADJUSTMENT WILL BE
REQUIRED:
 - 1. REMOVE MOTOR COVER
 - 2. LOOSEN SHIFT ARM ADJUSTMENT BOLT (10 MM WRENCH)
 - 3. ROTATE ARM SLIGHTLY TOWARD REVERSE POSITION
 - 4. RETIGHTEN ADJUSTMENT BOLT
 - 5. REPLACE COVER, CHECK FOR CLEARANCE.

Navigation Lights

o-59

Port Running Light
RED
112.5°

Stbd. Running Light
GREEN
112.5°

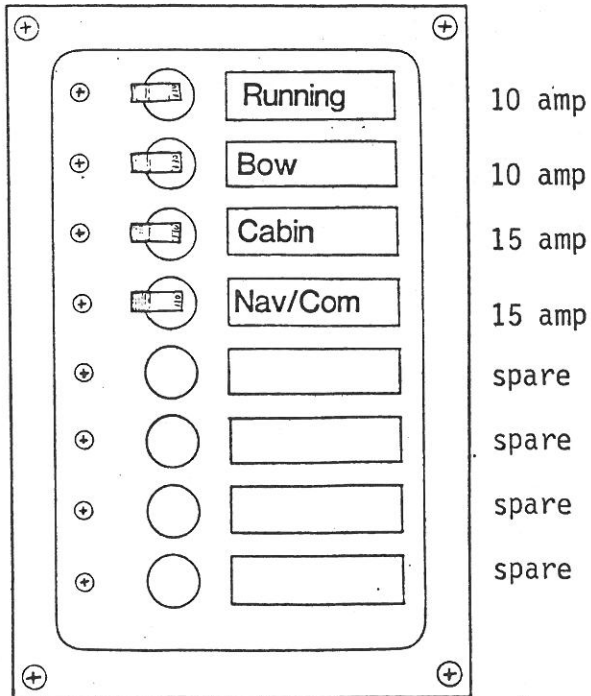


Mast Light
WHITE
225°

Stem Light
WHITE
135°

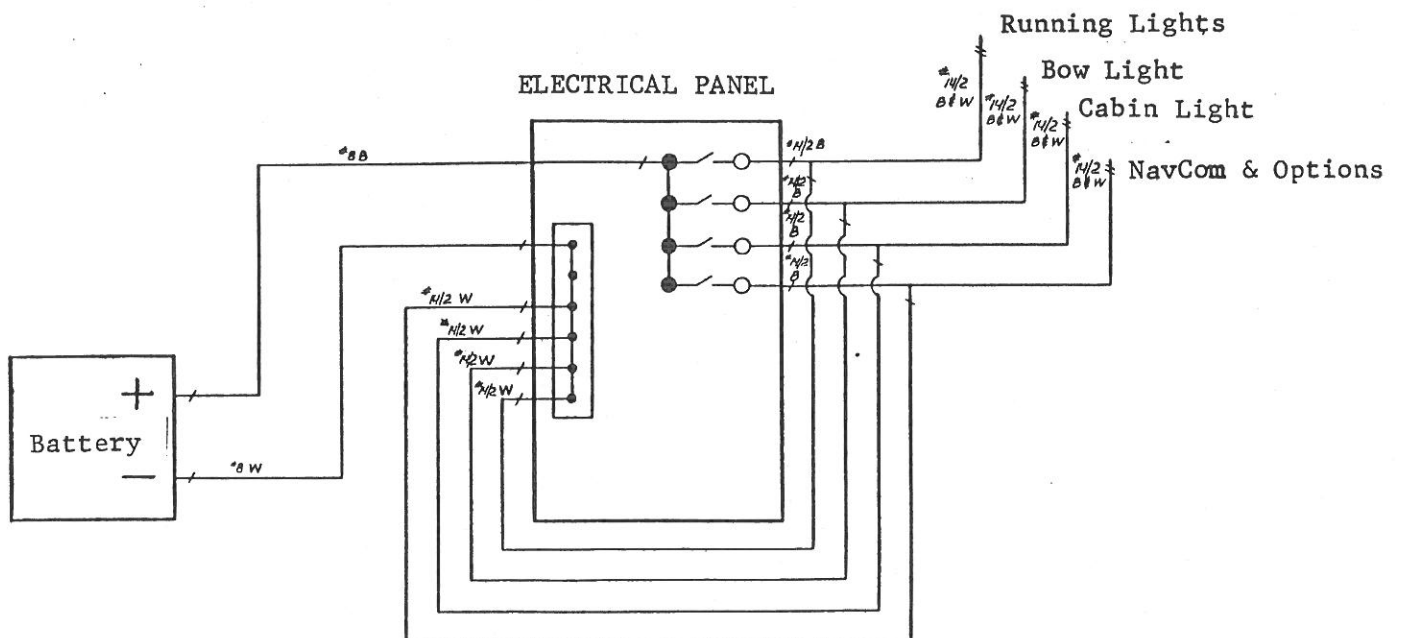
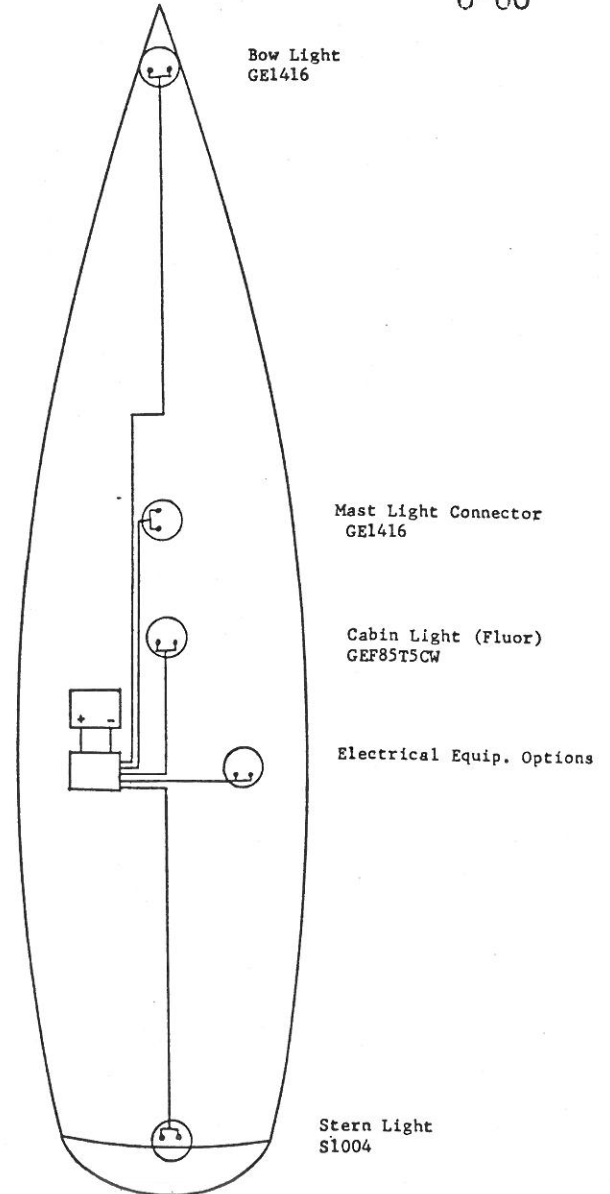
Wiring Details

Electrical Panel



12VDC Battery

Electrical Panel



DOCKING

There are many techniques in docking, or leaving the dock, and you will soon determine the methods most suitable for you. The boat being a monohull with a fairly large rudder, will turn quite rapidly. The trick is starting the turn at the right time to arrange a "straight-in" approach, particularly valuable if the slip is narrow.

It is advisable to use the motor for entry and egress from the docking area, however it is frequently done under sail.

While the Hobie 33 is an ultralight design of around 4000 lbs. which compares to other boats this length as significantly light, it will coast a surprising distance and sometimes with surprising velocity long after it would be expected to slow. One or two knots will coast the Hobie 33 anywhere from 50 to 200 feet depending upon conditions.

Trial and experience in open areas is recommended to familiarize yourself in varying sea and wind conditions. Your accurate perspective of this will provide benefits later.

MOORING

One of the major attributes of the Hobie 33 is the design feature of the optional retractable keel, which offers the portability and easy trailer loading. However, mooring is a common practice for boats this size by those fortunate enough to have access to a slip.

When moored in a slip where tie down cleats exist on both sides of the boat, the best location is away from the dock on all sides, leaving sufficient slack in all lines to allow for surge, tide, etc. without unnecessary strain on the lines and boat. Fenders are recommended on the side nearest the dock and to prevent damage, imperative if tied only to one side of the dock.

Always tie bow and stern if you are going to be away from the boat.

Long term mooring means long term wet... While the Hobie 33 is made from the highest quality materials available today, protection is still advised. This is most commonly done by bottom-paint, known as anti-foul paint. There is a variety of these available that will prevent marine growth and even possible blistering of the gel-coat surface - even in fresh water. Follow the paint manufacturers instructions carefully for the best results.

Mast Tuning

Shroud Adjustment

Upper mast section bowed to port side..

= Upper shroud too short on Starboard side.

A - Lengthen starboard shroud

B - Shorten port side same.

Lower mast section bowed to starboard side..

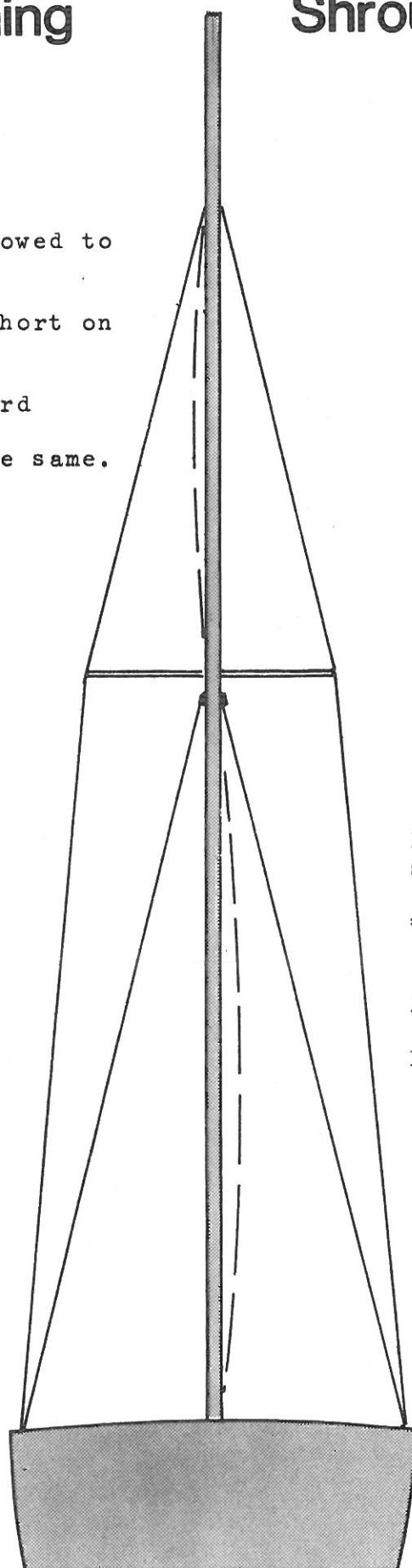
= Lower shroud too short on Port side.

A - Lengthen port shroud

B - Shorten starboard side same.

Port

Stbd

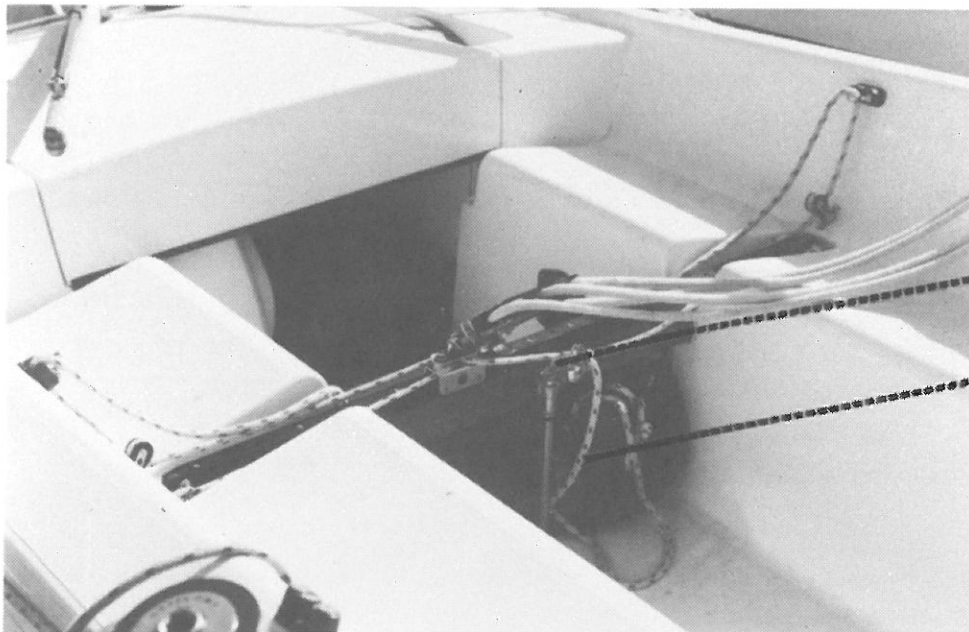


Backstay

o-63

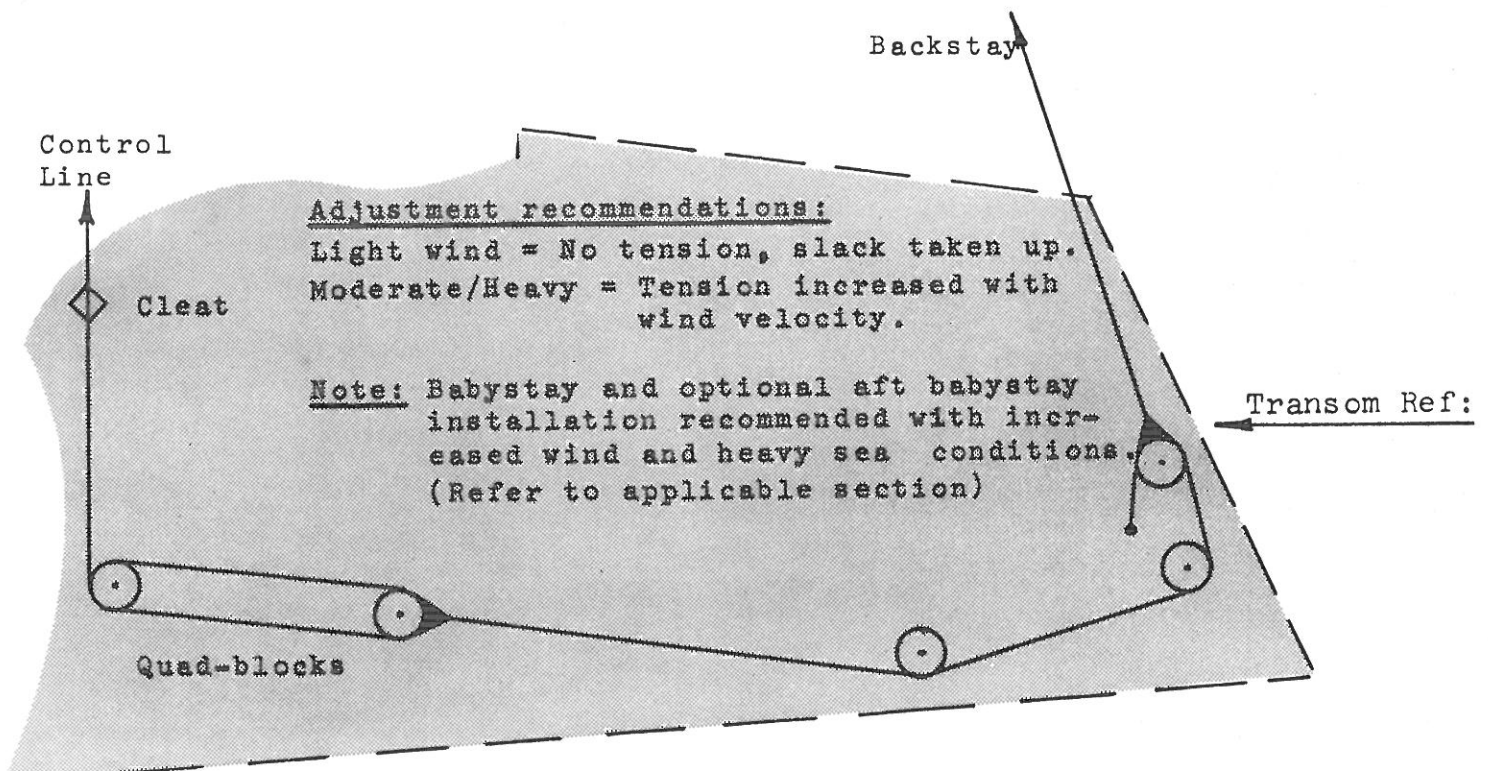
BACKSTAY CONTROL

Located immediately forward of the main traveler is the tension control line for the backstay. It's mechanical advantage provides easy adjustment.



Swivel cleat

Control line

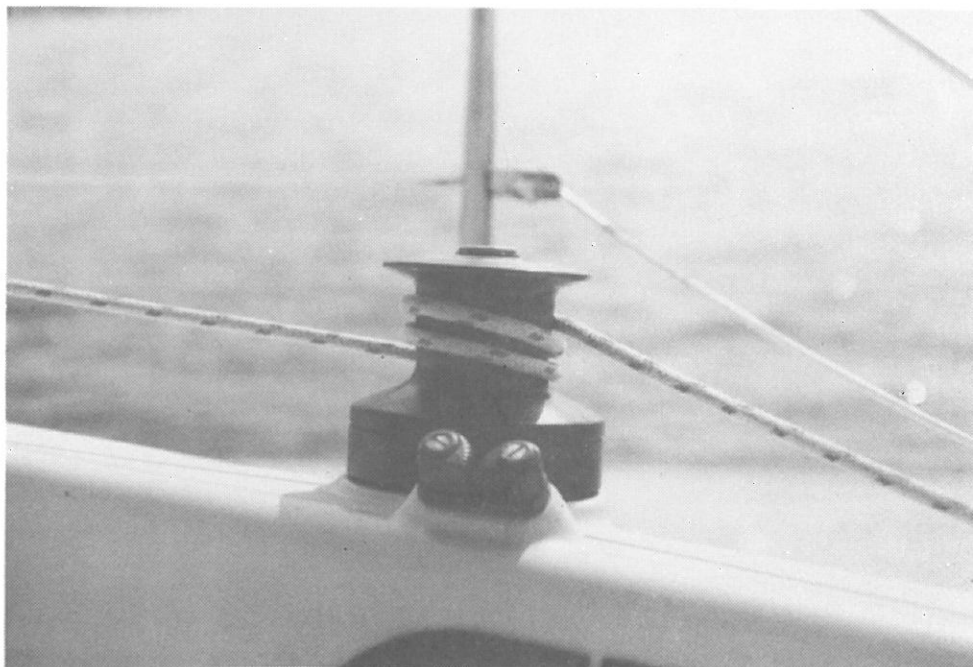


Schematic - Backstay
Tension control

MISCELLANEOUS OPERATION TIPS.....

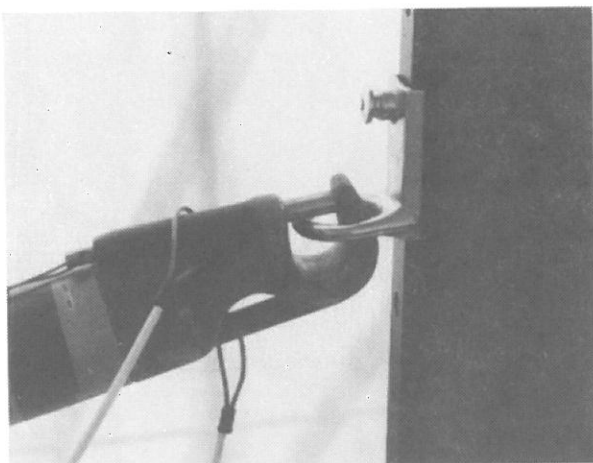
WINCH OPERATION

Always lead the line clockwise around the winch head, from the bottom (loaded) to top (loose end).

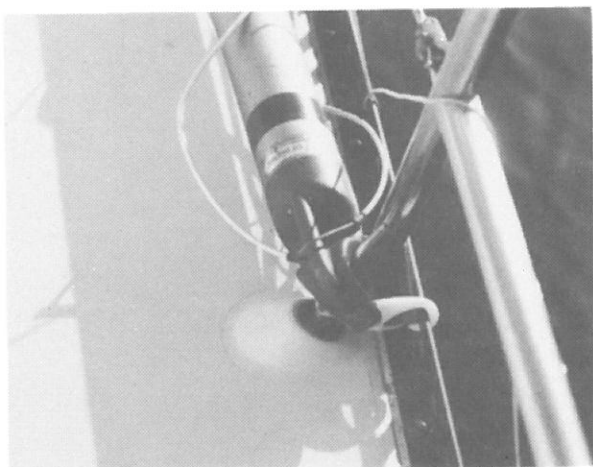


Another "always" to keep in mind - for your safety, keep all lines clear of your body, neatly stowed whenever possible. This photo is obviously set up, but...

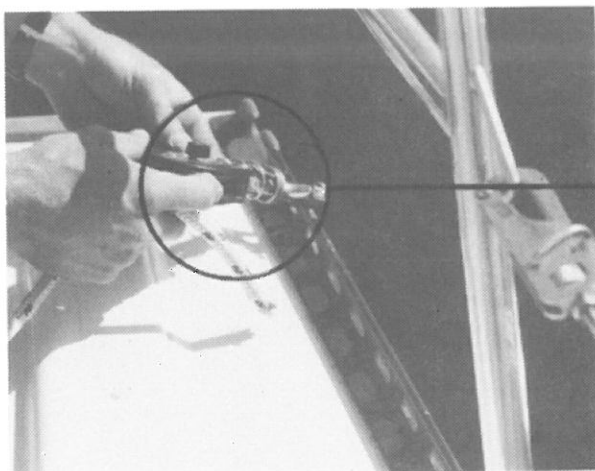


MISC. TIPS - CONT'D.

Spinnaker pole ALWAYS attaches with jaws UP - It can be broken if installed otherwise.

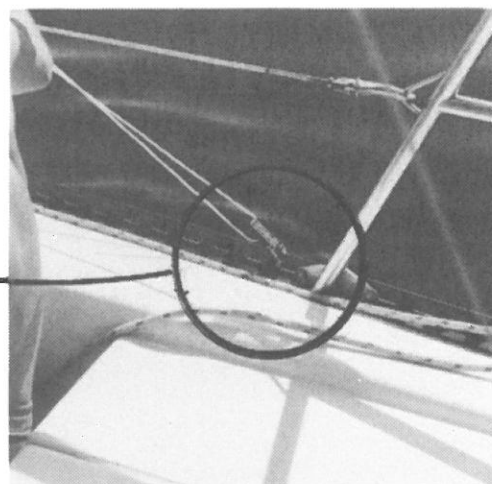


Always secure spinnaker pole when not in use, to stanchion support.



The large snatch blocks attached to toe rail for spinnaker/genoa sheets can be replaced with;

These small mini-blocks for very light air use. Sheet of approx. 1/8" dia. line.

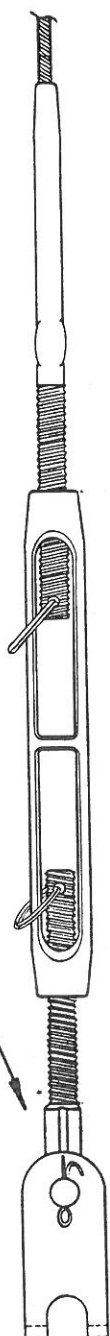


MISC. TIPS - CONT'D.SHROUD WIRE
TURNBUCKLES

ATTN
JAN Miller
831-761-4421



Be sure Ring-
Locks are
totally
inserted

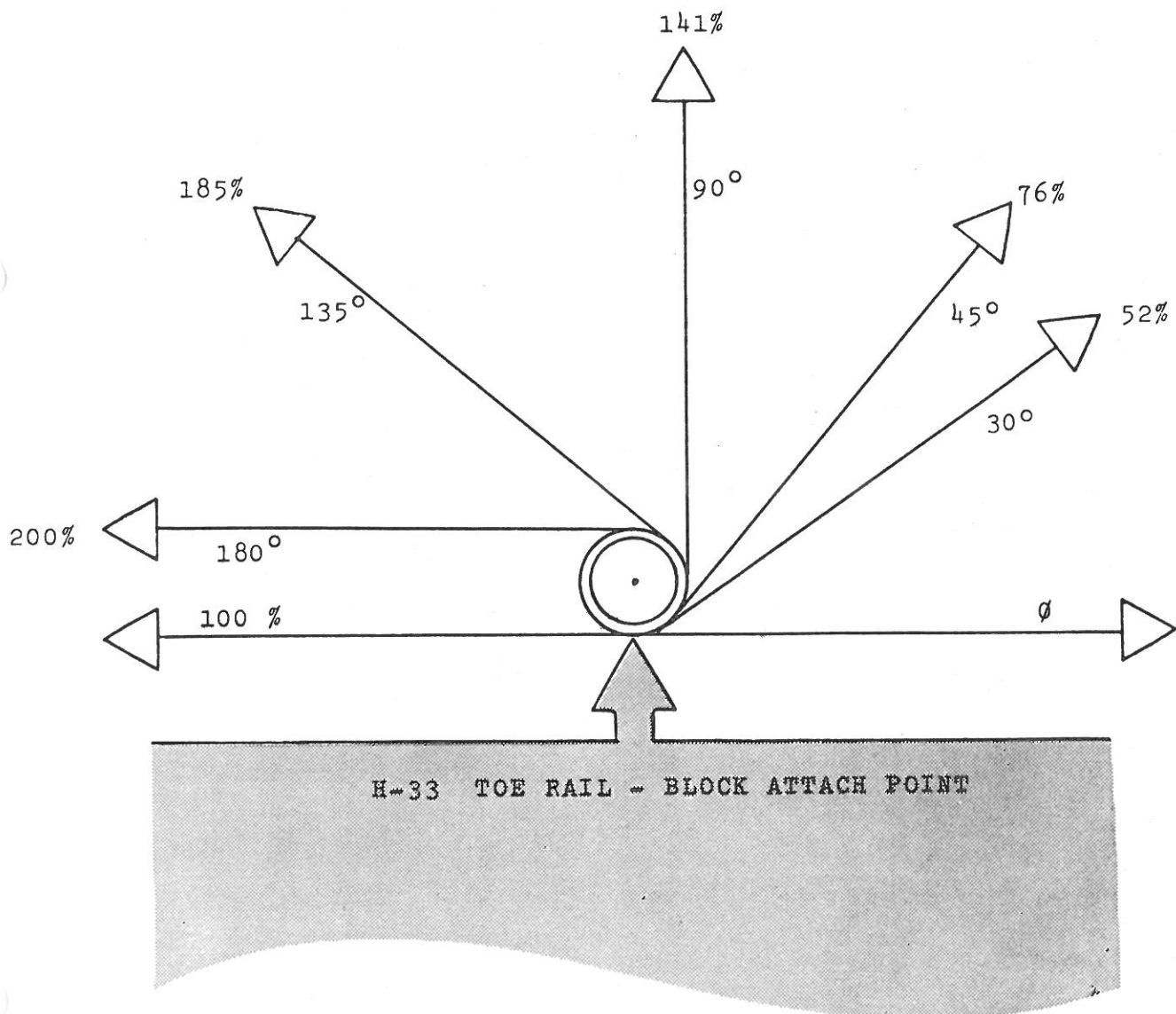


Tape over Ring-
Locks and cotter
pin for double
security and
safety from snags.



MISC. TIPS - CONT'D.

As a line turns further around a block, the load on the block attach point increases. As shown, a line straight through exerts no forces on the rail which the block is mounted. A ninety degree turn however applies 141% of the line load to the rail.



A regular maintenance program and attention to cleanliness will contribute to maximum life of your boat and it's components.

In designing the Hobie 33, materials were selected which have proven to admirably withstand the effects of the elements. In time however, even the strongest and most protected materials will deteriorate in appearance and even structural integrity.

This section outlines maintenance procedures which will add longevity to the need for replacement of parts and add to insure years of safety and pleasure from the Hobie 33.

Hull and Deck

1. WASHING AND WAXING

After salt water sailing, the entire boat should be thoroughly hosed down with fresh water, with special attention to winches, blocks, and rigging. Use a soft brush and mild detergent to scrub the deck. Abrasive cleaners should be used only when necessary to remove caked in dirt and salt. Use abrasive cleaners on non-skid areas only. Waxing the smooth deck and hull surfaces with a good fibreglass or liquid wax will add lustre and make cleaning easier.

2. ANTI-FOULING PAINT

Hulls left in the water for long periods of time are subject to marine growth and blistering, which reduce efficiency of the hull. If the boat is to be moored in the water, a coat of anti-fouling paint should be applied. Your dealer can recommend the anti-fouling paint which is most appropriate for your local environment. (See "MOORING")

3. RUST REMOVAL

Rust spots can be removed from fibreglass by wiping them with a highly diluted solution of oxalic acid, or other fibreglass stain removers commonly available at marine hardware stores. These compounds are available in crystal or paste form and should be used as directed.

Hull and Deck - continued.4. PLEXIGLASS

Use glass cleaner or Plastic polish and soft cloth for windows and forward hatch cover. Never use brushes or abrasive cleaners as they will scratch and damage the surface. Should scratches occur, plastic surfaces can be restored to a degree with "Mirroglaze" or similar plastic polish and buffing carefully. Avoid solvents.

5. TEAK WOOD

Teak rails and floorboards should be oiled with special teak oil products available at your marine dealer. It becomes obvious when the wood surfaces become white in color. Care should be taken to not get teak oil on other adjacent materials such as fibreglass as action from the sun will cause a yellow stain to appear on these surfaces. Also, as it is oil, it will be difficult to remove from upholstered materials. Severely bleached teak surfaces can be restored by light sanding and application of teak oil.

6. STAINLESS STEEL

While stainless steels are relatively impervious to rust, it can and does appear when the material is not frequently cleaned. Most of these deposits do not originate from the parent material, rather from accumulation of oxides on their surfaces. Most generally it will be noted on wires near their termination into swaged fittings, etc., as this is conducive to collection of moisture draining down wire lengths. The moisture contains many contaminants which can quickly develop into the rusty appearance.

Cleaning should be done with a soft cloth and any good metal cleaner/polish. A brush will aid in cleaning deposits from stranded wire components. Should actual corrosion, with metal being pitted or noticeably eroded, have the part checked by your dealer for possible replacement.

Interior

1. VINYL HEADLINER

Use vinyl cleaner and a soft cloth. Application of protective coatings such as "Armorall" or similar product. This not only makes the material more dirt resistant, but protects it from cracking, etc.

2. UPHOLSTERY

The cushions in the Hobie 33 are of the same type material used in current furniture manufacture, and is "Scotchgard" treated. It should be cleaned with mild soap and water. Do not use excessive amounts of water as this is not necessary and will serve only to extend drying time.

Interior - Continued.

9. All fibreglass materials below deck should be treated the same as described in the foregoing for deck and hull.

Major Components

1. RUDDER

The rudder bearings need no lubrication. The tapered mating surfaces of the upper/lower shafts, the threads in the lower shaft and on the connecting bolt should be cleaned and coated with a heavy consistency silicone lubricant (such as Dow-Corning 111) at least twice a year to prevent corrosion. If removal for trailering is frequent, an anti-sieze compound is recommended in all threaded areas as stainless steel is prone to galling.

The exterior surfaces of the rudder blade are gel-coated fibreglass and should be treated in the same manner as the hull underwater surfaces.

2. KEEL

The keel should be checked at least twice a year per the following:

Via the keel hoist assembly, raise the keel approximately half way up. Remove all four studs, washers, lug nuts. Inspect all threads, exterior and bearing surfaces for contamination and corrosion. The athwartships castings and fore and aft mounting plates should also be cleaned, inspected and coated with a heavy silicone lubricant (as referenced #1 above).

The keel well sacrificial zinc anodes should be checked for deterioration and replace as necessary. These will and are intended to diminish in size progressively with exposure.

It is good practice to regularly check the keel lug nuts for security, particularly following hard or extended sailing.

The external surfaces of the keel assembly are gel-coated fibreglass and should be treated in the same manner as the hull underwater surfaces.

Major components - continued.3. SAILS

For added life and appearance, sails should be cleaned regularly. Salt is abrasive to sail cloth and should not be allowed to build up. Rinse sails in fresh water periodically to remove salt deposits.

Sails can be washed in a mild detergent and warm water to maintain their appearance. It is important to rinse out detergent thoroughly. Spots can be removed with a soft scrub brush. Most sails are Dacron material and can be affected by chemical cleaning. Carefully read labels on "spot" cleaners. "K2R" type materials are acceptable, but caution is advised.

Sails must be thoroughly dry before storage. It is best to lay them flat on deck or a lawn to dry. Bright sunlight will speed drying and contribute to natural bleaching. Never flag sails to dry them. This breaks down the resin sizing and fibers and reduces sail life.

"Leaf" fold sails in sections about 18" wide parallel to the foot of the sail. If sails are damp, don't stuff them in the bag, spread them out to dry first. Cover the main sail with an acrilan cover if rolled and tied to the boom. If the main sail is to be folded, remove the battens first.

Frequently check sails for general wear in all areas, especially at points of stress and where rigging contacts the cloth. Taping of rigging contact points is recommended as it will reduce wear and the possibility of tearing.

Miscellaneous

1. BATTERY

Keep terminals clean. Corrosion accumulates rapidly on contacts made of lead and will actually insulate by separating the two mating parts with a barrier of corrosion. Baking soda in a water solution is a good cleaner and neutralizer of acids. Rinse well and dry, following with a coating of heavy grease.

Batteries need recharging... Check the voltage output frequently. Always check voltage prior to sailing. You may need this valuable source of power and dead batteries are useless. When recharging, even with a trickle charger, be sure the area is adequately ventilated, or remove the battery to an open area for charging. Always support the battery on blocks of wood or other suitable support. Never recharge with the battery sitting on bare concrete. Always keep topped off with distilled water.

Miscellaneous - Continued.

2. FIRE EXTINGUISHER



While this item is listed in the safety section, it is noteworthy as a maintenance-essential component of the boat.

Fire extinguisher(s) must always be in good working order. Have them checked regularly by a professional. Your life could depend on it....

3. KEEL WINCH/HOIST ASSEMBLY



Keep all moving parts well lubricated. Check for fraying of cable and integrity of blocks, bearings, fittings. Replace any part in question. This assembly supports 1800 pounds and deserves careful handling and attention.

4. BILGE PUMP



Occasionally check for proper operation when it is not a necessary function. It is a good idea to cover the end of the suction hose with a screen filter to keep contaminants out of the pump. Check hose clamps for security.

5. LIGHTS and ELECTRICAL PANEL

Check all lights for function prior to leaving the dock as changing bulbs at sea can be a frustrating experience. At least twice a year remove lens covers and check for corrosion of contact points, both electrical and physical. A light coating of grease will prevent bulbs from becoming a permanent part of the fixture.

Check the backside of the electrical panel for security of wire attachments and possible corrosion. While in this area, check the hose attachment for the overboard sink drain. A tight connection is essential to prevent water from backflushing into this area, particularly since it is very close to the electrical panel.

6. GENERAL TIPS





Rigging: Periodically check all fittings for wear and stress signs. Keep clean and change when in doubt as to structural integrity.

Cotter pins and lock rings at turnbuckles should be taped and checked frequently for wear and security. Tape wears and could leave sharp edges exposed, which could tear sails and your skin...

Miscellaneous - continued.

Mast: H-33 masts will be either hard anodized or painted with polyurethane paint. This material is catalyst activated and is quite durable, requiring little maintenance other than cleaning just like any painted surface. Waxing with a good automotive wax will keep it looking fresh and lustrous. Scratches can be touched up with with automotive type acrylics or enamels. The two-part polyurethane material used is expensive and not packaged in small quantities at this time. Careful handling should obviate the need for touch up, i.e. Tie stored halyards etc. so fittings do not bang against the surface when rocking about at the dock.

 **Spreaders:** Inspect spreaders and attachments for signs of fatigue and loosening. It is very important these be secure at all times. The spreader arms, like all rigging and supporting members should be kept clean as dirt and salt will transfer to the sails, causing excess wear and contamination.

 **Stove:** Read and follow the manufacturers instructions. While your choice of stove type may have varied, the most common is alcohol. These work quite well, but do have certain hazards depending on the style. Manufacturers' instructions are explicit and should be followed to the letter.

Electronics and other equipment: Again, read carefully all manufacturers instructions and follow them exactly for operation and maintenance. This equipment is usually always very expensive to repair or replace. When properly cared for, should give years of good service

OUTBOARD MOTOR

1. The manufacturers instruction manual should be read and the comments therein are worthy of your attention. There are some tips that will help toward a long life for your motor:

Flushing - Particularly when operated in salt water, the engine should be flushed with fresh water. Most manufacturers have flush fittings which make this a relatively easy task. A typical example is shown (for the Honda: Ref: P/N AHM-PP-1002).

HONDA**INSTALLATION
INSTRUCTIONS**

Accessory

**OUTBOARD MOTOR
FLUSH KIT**
H/C 131738
P/N AHM-PP-1002

Application

ALL

Publications No.

PII 4433 8208

Issue Date

AUGUST 1982

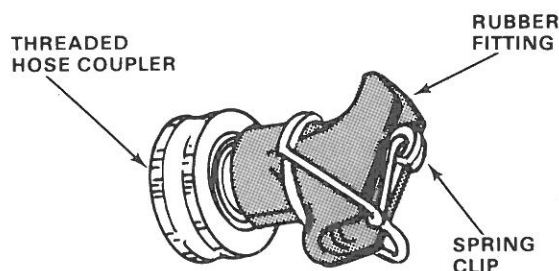
CAUTION: To maintain cooling system efficiency, flush the outboard motor with fresh water after each use in salt water.

PARTS LIST

- 1 Rubber fitting
- 1 Spring clip
- 1 Threaded hose coupler
- 1 Unthreaded hose coupler

FLUSHING PROCEDURE

1. Place the spring clip on the rubber fitting as shown, and insert the appropriate coupler.

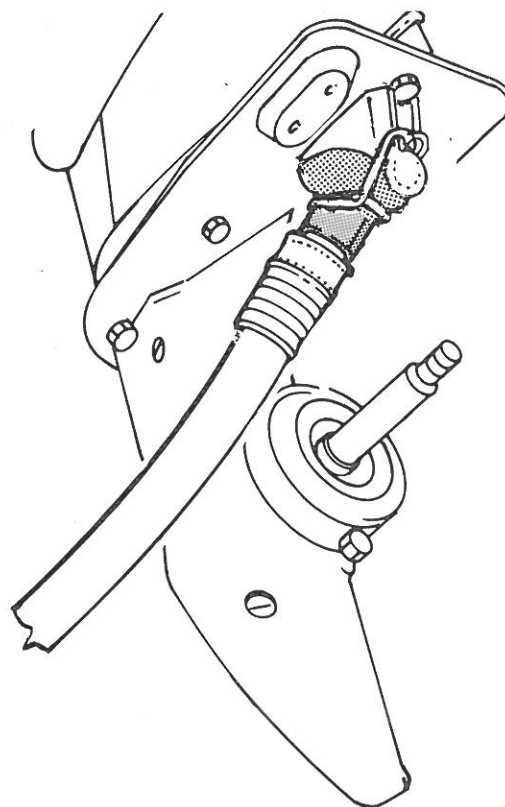


Two hose couplers are supplied. The threaded coupler will screw onto an ordinary garden hose. The unthreaded coupler is for use with a hose that does not have threaded fittings.



2. Attach a hose from a fresh water faucet to the coupler.

3. Remove the propeller from the outboard motor, and clip the rubber fitting over the water intake as shown.



4. Turn on the fresh water supply to the hose.
5. Start and run the engine in neutral for 10 minutes.

CAUTION: Running the engine without water can cause serious engine damage due to overheating. Be sure that water flows from the water check hole while the engine is running. If not, stop the engine and determine the cause of the problem.

- Is the water faucet turned on?
- Is the flush kit properly attached?
- Is the water intake screen clogged?

Outboard motor - Continued.

Oil changing: Manufacturers' recommendations should be followed. It is noteworthy that short duration runs which are common to sailboats getting clear of or into the harbor, generally are of such limited time that the motor does not run at elevated temperatures long enough to extract the contaminants that are introduced into the crankcase when it cools. These form acids that reduce bearing life, therefore most manufacturers recommend more frequent oil changes due to the many warm/cold cycles experienced compared to hours of constant running.

Overboard exhaust system: The Hobie 33 has a low, or idle speed overboard exhaust ventilation system which should be connected to your motor. The method for the Honda modification is shown on the following page. The purpose of this is to vent the above water exhaust out of the motor compartment as it may deplete the intake oxygen sufficiently to stall the motor.

(Note: The purpose of this above water vent is to allow exhaust gases to exit the housing at idle or low speeds, where exhaust pressures are lower than required to expend them at the pressures exhibited even at this shallow depth.)

WINTERIZING

For extended storage, the hull should be well supported in the cradle or on the trailer. If other means are anticipated, please contact Hobie Cat for detailed information as to stress points, etc.

If the boat will be subjected to heavy snow loads, make sure the levels do not reach depths causing excessive compression on the deck.

The battery and motor should be removed, following the manufacturers' instructions for long term storage.

FIBREGLASS TOUCH-UP AND REPAIR

Unless you have experience in this area, we recommend all fiberglass and gel-coat repair work be left to qualified people. See your local marina and/or Hobie dealer.



1751 PLACENTIA AVENUE
COSTA MESA, CALIFORNIA
92627
AREA CODE (714) 646-0244

THE FOSS COMPANY // POLYURETHANE FOAM

January 15, 1983

To Our Valued Customer:

Attached is a copy of our standard customer letter which explains the advantages of Foss rudders and their proper care. Many boat Manufacturers use this letter in their owner's kits or write the information into their own literature. Use of this letter has proven to virtually eliminate warranty claims and owner anxiety.

Foss rudders have a reputation of being light weight and very strong. However one form of abuse, exposure to excessive heat, can cause cosmetic damage. Ambient heat alone will not damage a rudder. Our tests have shown that some dark colors will generate extremely high temperatures in the rudder.

This problem is compounded as the colors get darker, the sunlight becomes more direct, and the humidity and wind diminishes. Wind and humidity remove heat from the part.

When a rudder reaches these high temperatures, the core of the rudder, which is largely gas, can expand and cause cracking of the edge seam or blistering in the surface. This cracking is cosmetic only and does not affect the strength of the rudder. The urethane core will not absorb water. The cosmetic damage caused by these dark colors can alarm an uninformed boat owner.

We have always strongly urged our customers to use white or light colored bottom paint on their rudders to avoid any possibility of this cosmetic damage. There are also other advantages of light colors on a rudder. Racing enthusiasts like white because they can see weeds or other objects which may catch on the rudder.

If a customer insists on a dark color, we strongly urge that the rudder be covered with white paper, white cloth, or white paint when the boat is stored out of the water, as we can not warranty the cosmetics when they are exposed to heat. You may again wish to bring this information to your dealer's attention as they prepare to commission boats this spring.

Each owner should be encouraged to periodically inspect for damage from grounding or electrolysis.

Please feel free to call us if you have any questions.

Sincerely,


George W. Coon, Jr.



1751 PLACENTIA AVENUE
COSTA MESA, CALIFORNIA
92627
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THE FOSS COMPANY // POLYURETHANE FOAM

January 28, 1983

YOUR FOSS FIBERGLASS & URETHANE RUDDER

The Foss Company has been producing sailboat rudders for over 20 years for most major boat companies. The fiberglass blade with it's rigid urethane core makes an extremely strong dependable rudder.

The near neutral bouyancy of your rudder helps the performance of your boat by reducing total weight, as well as reducing the moment of inertia in the stern. Near neutral bouyancy also is helpful should the rudder ever need to be removed for steering system repairs. The boat does not need to be hauled out of the water to remove the rudder.

Tough fiberglass and urethane plastic used in the construction of your rudder is nearly indestructable. The urethane core is composed of a strong rigid closed cell urethane. Water, diesel, solvents, or marine borers will not damage your rudder blade.

When you paint your rudder the first time, particular attention should be paid to the paint manufacturer's instructions for preparing the surface. Solvent washing is not enough. The rudder must be sanded heavily to remove a heavy coating of mold release. We recommend white paints be used. White is a popular color as it is easy to see weeds and other debri which can catch on your rudder.

Surface repairs may be performed by cleaning, drying and roughing up the damaged area, and applying bondo or any similar filler with a putty knife. Should a small blister appear, it may be filled with resin or cut away and repaired. Once the patch has dried, it may be sanded smooth and painted directly with bottom paint or any coating you desire.


We do not recommend the use of dark colors on your rudder, as they generate heat when the boat is out of the water in the sun. Since the rudder is made of celular material this heat can cause dimentional changes and cosmetic damage. If the rudder is painted with a dark color it should be shielded from the sun with a white wrapping when the boat is out of the water. The rudder warranty excludes damage caused by heat.

You should make periodic inspections of your rudder and look for possible damage from grounding or electrolysis.

Should you have any questions about your rudder, feel free to call us at (714) 646-0244 or (813) 577-0478.

TRAILERING

TRAILER CONFIGURATION


 Hobie Cat supplies a trailer specifically designed to properly support the Hobie 33. It is essential that the hull be supported exactly as specified (Ref: Drawing pp. T-4). Anything less or different could result in serious structural damage to the hull and keel assembly.

Hobie Cat cannot assume any liability for damage resulting from inadequate or incorrect support of the boat during loading, transportation and storage.

LOADING YOUR TRAILER

The weight of the boat, equipment, and additional gear should never exceed the manufacturers rated weight capacity. Proper distribution of the load is of vital importance. Too much weight on the hitch will cause "tail-dragging" of the towing vehicle, impairing steering and raising headlights into the eyes of oncoming traffic. Too little or negative weight on the hitch, and the trailer will sway or fishtail. Movement of gear inside the boat will generally correct uneven loads. The tongue weight should be between six and ten percent of gross vehicle weight, and never less than seventy-five pounds.

TOWING

 Extra caution is necessary when towing any trailer. The heavier the rig, the more time required to accelerate, pass and stop. For this reason, the maximum speed for vehicles with trailers is less than without a trailer in most states. A long rig requires a larger turning radius. Curbs and obstructions should be given a wide clearance. Most boats on trailers obstruct the rear view of the driver. When this happens, an additional rear view mirror on the right side of the towing vehicle is required by law. The trailer boatman should be familiar with traffic and highway laws relating to the towing of trailers. Towing a Hobie has particular hazards that should be mentioned. A Hobie is very wide. Obstacles should be given plenty of room when you are passing them. For long distance towing to prevent excessive drag, or in areas exposed to strong or gusty winds, all hatches, drop slides, mast, wires, and everything on top of the boat should be well secured.

Tie downs should be of sufficient size to handle surge type loads. The boat MUST be tied down on four sides, and the bow winch line should be loosened or removed. If left tight the line (cable) will eventually fail, and this is not a legal tie-down in most states.

LAUNCHING AND RETRIEVING (See Hoist/Trailer Launch Section)

MAINTENANCE

Lights: Most states require two red taillights on the rear that may be combined with the stop and turn signals. Vehicles over 80" in width require clearance lights. If lights are dunked, waterproof fixtures should be used. If water is allowed to enter, the lamp may crack and short out the entire system. Water also promotes corrosion. Always carry spare lamps. The wire coupling to the towing vehicle should be high enough to stay dry. Never rely on the trailer hitch for ground. Four pole connectors should be used.

WHEELS

Tires should ALWAYS be inflated to manufacturers recommended pressure. Always carry a spare wheel and a jack that fits the boat trailer. If wheel bearings are always dunked, waterproof bearings and caps should be considered. If water is allowed in the hub, lubricating grease will float away and bearings will burn out or seize, causing damage and a safety hazard. Waterproofed bearings should be inspected prior to each boating season, others, more often. Special care should be given when traveling on unimproved roadways with dust, rocks, and holes.

FRAME AND ROLLERS

Rust should not be allowed to accumulate. Remove rust and repaint with anti-rust paint. Some trailers offer galvanized coatings to prevent rust. Rollers should roll freely, and should not have checks, breaks and flat spots.

TOWING VEHICLE

Most vehicles are limited in towing capacity. Towing heavy loads places extra demands on the engine, transmission, brakes and other systems vital to the vehicle. Towing "packages" are available through most auto dealers and should be considered for the Hobie 33. The typical and recommended trailer for the Hobie 33 supports 7000# (the boat, equipped, weighs approximately 4500/5000#) The unladen trailer weighs 1590#, has tandem wheels, front caster, double brakes, keel pan, side guides with ladder, front rollers, innerrails, truck lights, winch stand w/brace.

HOOKING UP TO TOW VEHICLE

After placing the trailer coupler over the ball on the tow vehicle make sure the snap latch on the coupler is all the way down and locked. It is good practice to try and lift the trailer off the ball once the coupler is in locked position to assure that the ball is securely in its socket.

SAFETY CHAIN



Connect the safety chain to a rigid bumper brace or through the loop, or hole provided with your particular hitch.

If your trailer has a double safety chain, it is recommended that you cross under the brake actuator from the left side of the trailer to the right side of your hitch for one hook up and the opposite for the other side.

BRAKES

Brakes should be checked and adjusted as necessary, in accordance with the manufacturers specifications. Careful maintenance of the brake system is important and it should be noted that NO manufacturer of brake systems for boats will warrant them due to the known environment they are exposed to.

We also recommend completely flushing the hydraulic system at least once a year, to eliminate moisture, sludge and other contaminants.

HULL SUPPORT PADS

Frequently check the condition and adjustment of the hull support pads for dirty, worn or missing padding and poor contact to the hull. Both cosmetic and structural damage are possible to the boat/s hull.

LUG NUTS

Check frequently for security. Nuts should be torqued to 90/95 ft. lbs.

NOTICE:

A copy of the latest Digest of State Boat Trailer Laws may be obtained free by writing the Boating Industry Association at 401 North Michigan Ave. Detroit, Michigan 60611. This complete report will tell which states require licenses, fees involved and where to apply, trailer lighting requirements, maximum trailer speeds and other miscellaneous laws that may affect your travels.

