GLOUCESTER YACHTS INC.

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GLOUCESTER 20

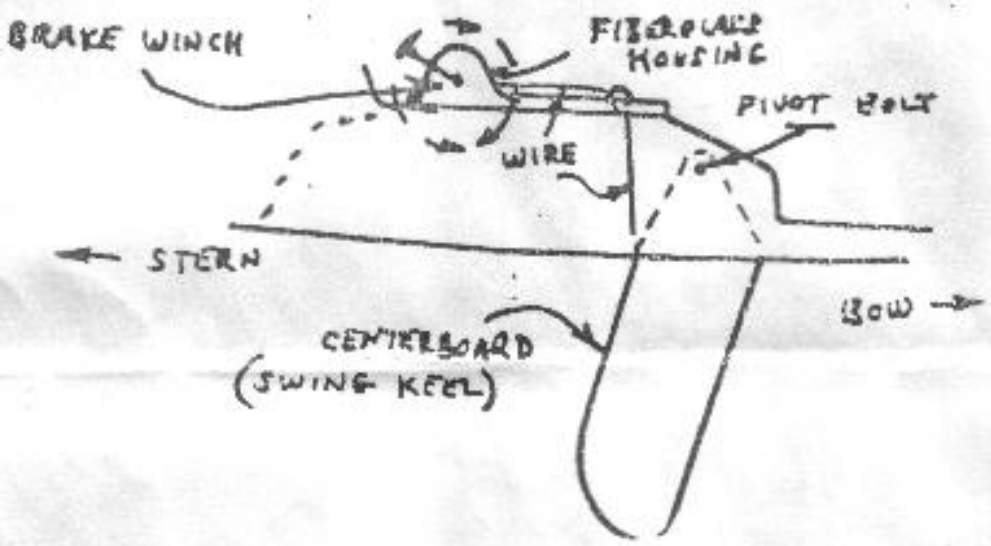
RIGGING AND HANDLING INSTRUCTIONS

Now that you have your Gloucester 20, let us introduce you to the various parts and tell you how to rig and sail her for your greatest safety and enjoyment.

The basic parts of your Gloucester 20 consist of the hull, mast and rigging, centerboard, rudder, tiller, boom, sheets, mainsail and jib.

If you have purchased the swing keel or centerboard model, your centerboard has already been installed at the factory. This is controlled by a brake winch with a wire cable going from the winch down to the centerboard itself. The brake winch is designed so that it will lift the board when it is turned in one direction and will allow the board to lower when turned in the opposite direction. The brake winch and cable are covered by a fiberglass housing to prevent access to the winch as a safety feature.

When sailing, your centerboard will normally be kept in the fully lowered position, except that it can be raised part way when you are reaching (sailing across the wind), or it can be raised almost all the way when you are running with the wind.



If it is ever necessary to completely remove the centerboard from the boat, it must be removed through the bottom of the hull. To do this, turn the boat on its side and pivot the board into its fully down position. The centerboard is pivoted around a bolt in the upper forward corner of the trunk. Remove the cover plates and the pivot bolt to remove the centerboard and undo the shackle which attaches the lifting wire to the centerboard. The board can also be removed by lifting the boat up on a hoist and dropping the board directly down. Support the hull using this method and avoid the possibility of the boat falling on anyone. When reinstalling the centerboard, be sure to bed the pivot bolt with a silicone sealer so it does not leak.

Your centerboard is cast iron which is protected from corrosion by use of a zinc epoxy coating. We suggest examining the board once a year if you are sailing in salt water, or once every couple of years if you are sailing in fresh water to make sure the corrosion coating is still intact. If the coating eventually wears off, it can be repainted using the same material we used when building the boat. This is a Sherwin-Williams paint 630-41-0 Zinc Clad No. 7.

RIGGING THE MAST

If your dealer has not rigged the mast for you, here is how to do it:

1. Your main halyard is a flexible wire with a shackle on one end and a rope tail spliced on the other end. Install this by running the rope tail through the pulleys at the top of the mast from the back side (which has the sail groove running down it) to the front side. Secure the rope tail to a cleat on one side of the mast near its foot, and then secure the shackle to the rope tail so it cannot go up the mast accidentially.

2. Your jib halyard looks just like the main halyard, except if it is shorter. Install this by running the rope tail through the small pulley located about five feet below the top of the mast, so that the rope tail lays along the mast, and the wire down the side of the pulley which is out from the mast itself. Secure the ends as you did for the main halyard, using the cleat on the opposite side of the mast.

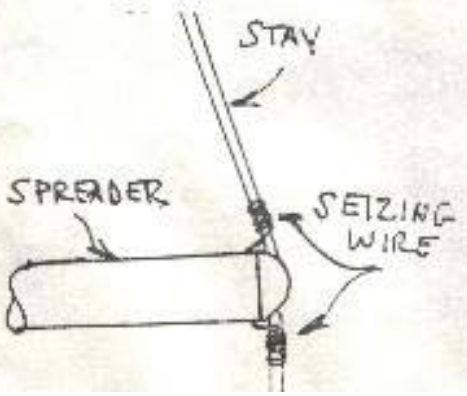
3. The backstay consists of the longest wire with a turnbuckle on the lower end. The upper end fastens to the tang on the back side of the mast head using the clevis pin and ring which is supplied on the stay.

4. The forestay is the next longest wire, and this attaches to the mast tang on the forward side of the mast just above the jib halyard pulley. The turnbuckles on all the stays, which are provided to allow adjustments, are always at the lower ends.

5. The two short wires attach to tangs just below the tubular sockets which house the spreaders. These are your lower shrouds.

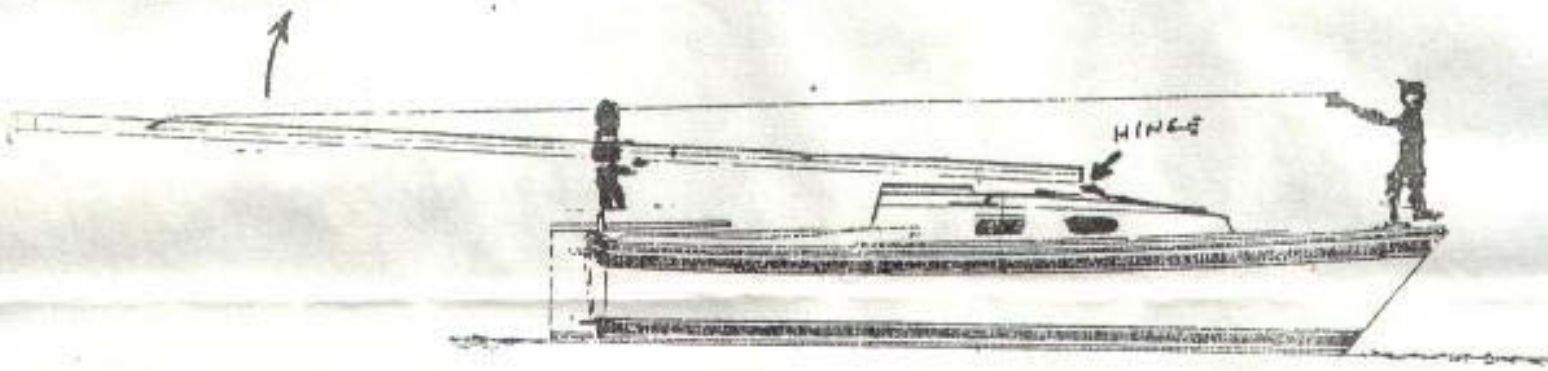
6. The remaining two stays are your upper shrouds. They attach to the tangs on the sides of the mast opposite the tang which the forestay is attached to.

7. The aluminum tubing spreaders attach to their sockets, and are secured with a bolt and locknut or a cotter pin. The upper shrouds pass over the outboard ends of the spreaders, and must be secured to the spreaders using the soft seizing wire which is provided. After seizing the wire to the spreader, we suggest covering this joint with plastic tape to prevent accidentially tearing your sail.



STEPPING THE MAST

BEFORE STEPPING THE MAST, BE SURE TO CHECK FOR OVERHEAD POWER LINES! Before raising the mast, be sure that both ends of the halyards are secured near the base of the mast and that both ends of the jib halyard and spinnaker halyard, if you have one, are forward of the main spreaders, and that the wire part of the main halyard is aft of the main spreaders and the rope part is forward of the spreaders. This will avoid having to straighen them up after the mast is up.



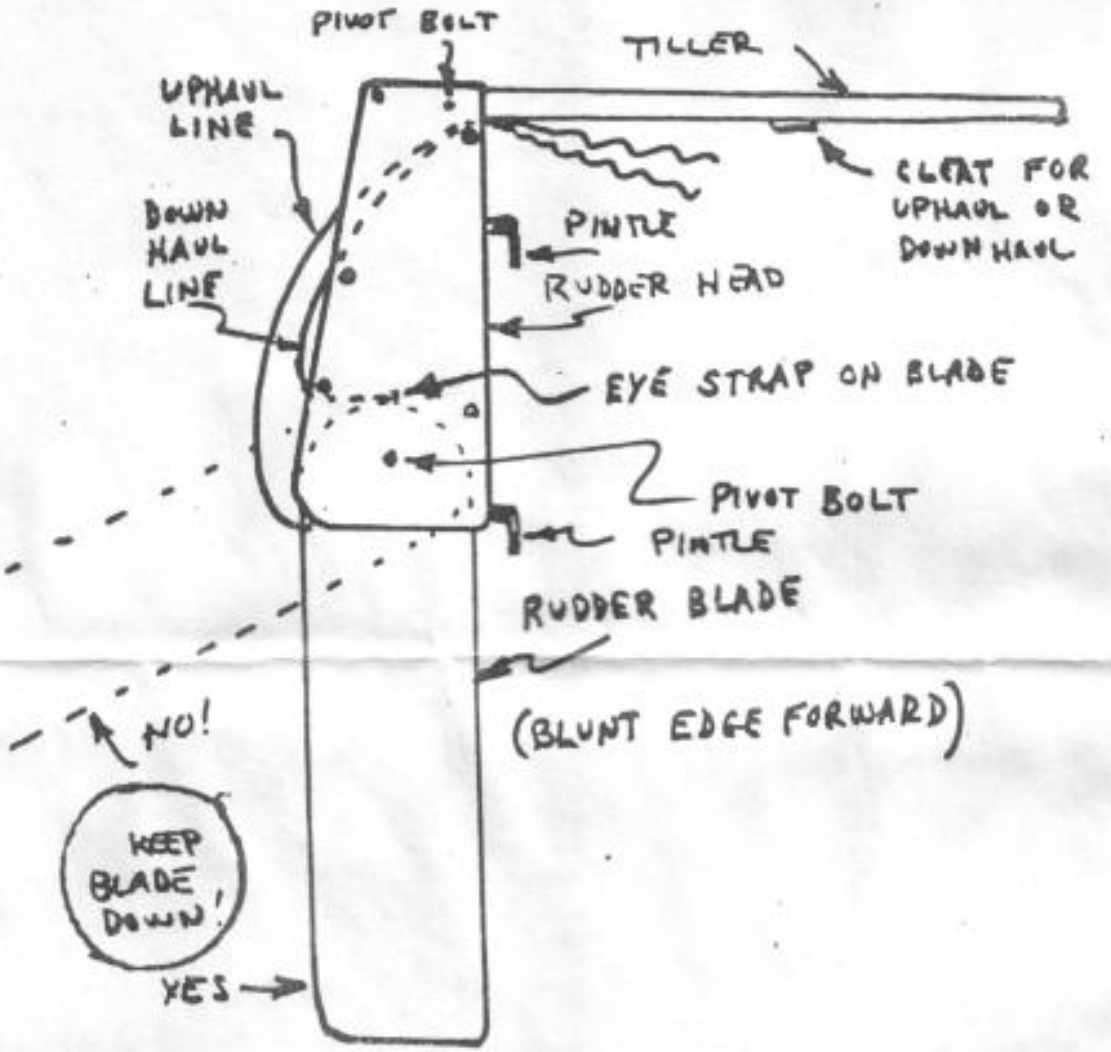
The mast should be spproximately plumb to the waterline and should not lean over the bow or over the stern. The forestay and backstay should be carried quite snug. The tension between the upper and lower side stays, or shrouds, should be adjusted so the mast is straight athwartships when sailing in a good breeze. In general, the shrouds should always be kept rather taut, but they do not have to be exceptionally tight.

CAUTION: When your mast is up, check before moving the boat around, particularly when it is still on its trailer, to make certain there are no overhead power lines. or other wires which may come in contact with the mast or rigging. Each year fatalities occur due to electrocution caused by mast and power lines making contact.

To raise your mast, locate the mast on the cabin top with the masthead out over the stern, and the mast foot on the foredeck. Attach the backstay to the eye on the aft deck. Attach either both upper shrouds or both lower shrouds to the chainplates on the side deck. The uppers go to the outboard holes the lowers to the inboard holes. Standing in the stern, lift the mast and move it aft, having a second person hold the mast foot down. Mate the mast foot to the tabernacle on the deck by inserting the pin near the bottom of the mast into the slot in the tabernacle. Once engaged, push the mast forward and upward into a vertical position. The second person can then connect the forestay to the upper hole at the bow. Once this connection is made, the mast will be stable and will stand by itself, and the remaining shrouds can be attached to the hull at your leisure.

RUDDER INSTALLATION

To install the rudder, merely slip the rudder pintles into the gudgeons on the transom. The tiller can be bolted to the rudder after passing the tiller under the traveler.



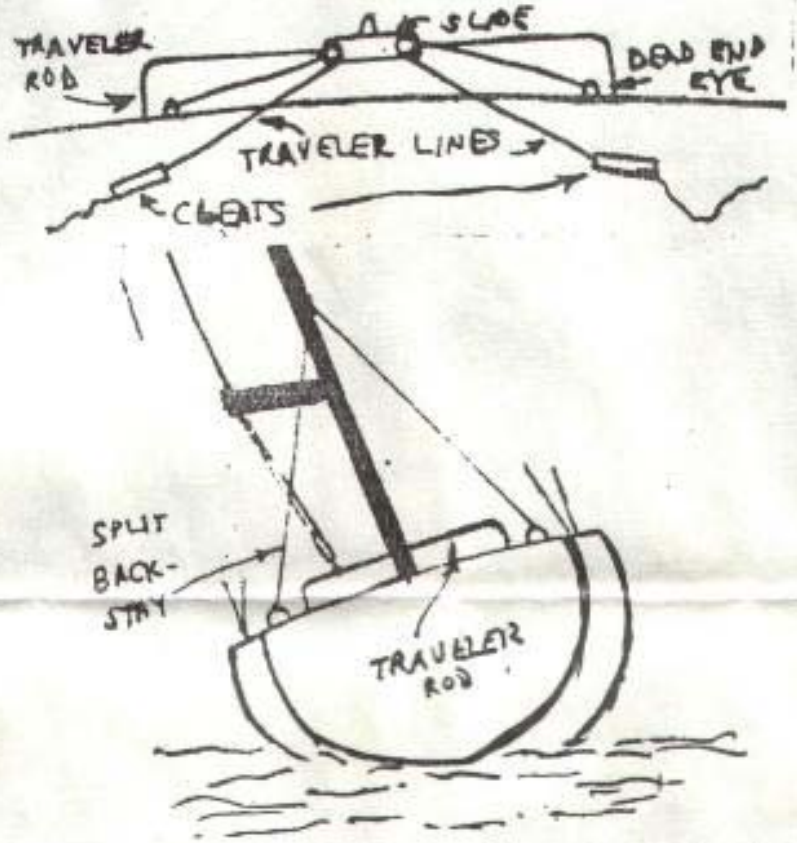
RUDDER & TILLER OPERATION

Your rudder is of the pop-up design so that you can sail into beaches and shallow areas without having to unship it completely from the boat. It extends considerably below the fixed keel of the boat. Therefore, if your centerboard is up, the rudder blade will run aground first when approaching shallow water. Your rudder blade is controlled by an uphaul line and a downhaul line. If you should touch the bottom, let the downhaul line go from the cleat on top of the tiller.

IMPORTANT: When sailing, your rudder blade should be kept full down and the only time it should be in any other position is when you are leaving or approaching a shallow water area. When the blade is not fully down, be sure not to steer too violently, this puts a terrific load on the rudder parts and may result in failure. If the rudder blade is allowed to swing up even a few inches, you will notice that the boat steers with a much heavier feeling and is not nearly as nice to sail as it is with the blade all the way down. Be sure to keep the blade all the way down!

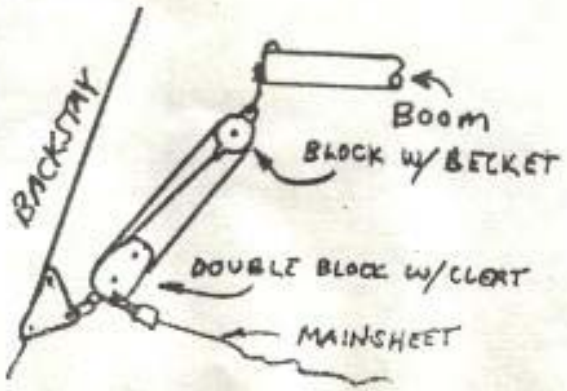
TRAVELER

If your boat is equipped with a traveler, the first time you rig your boat, you will have to attach the traveler control lines. These are braided lines of 1/4" in diameter. Secure one end of each of these lines to the eye on the transom. Then, pass the line through the sheave in the traveler slide and pass the other end through the black cleat on the after bulkhead, securing the end with an over0 hand knot. These lines enable you to control the position of the traveler slide. This slide should be kept amidships in light and medium winds and should be allowed to slide leeward by easing both lines when the wind becomes stronger and the boat tends to heel over too much.

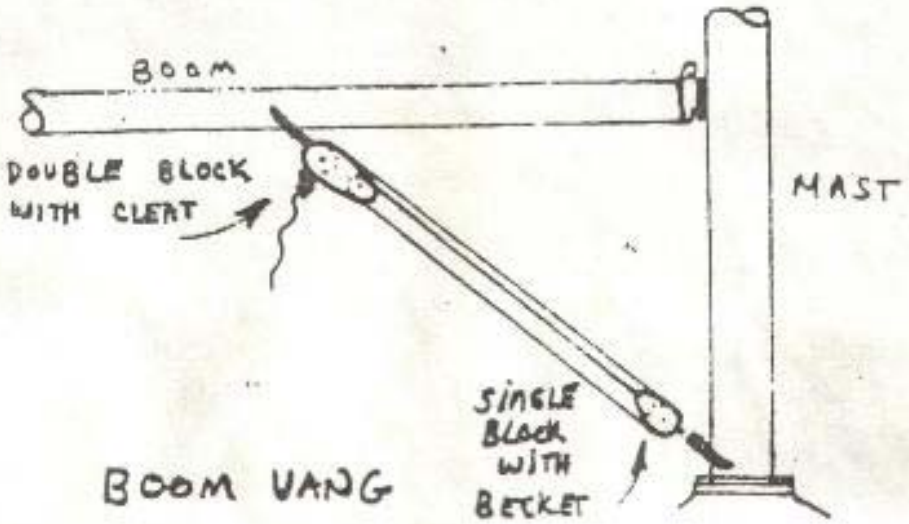


Next, rig the boom by attaching the gooseneck to the mating part of the mast, using the clevis pins and ring provided. Attach the single mainsheet block to the end of the boom, and the double mainsheet block with the built in cleat to the triangle plate near the bottom of your backstay.

Reeve the mainsheet as shown in the diagram below, using a bowline to secure the end to the block on the boom, and tying a figure eight or overhand knot in the other end of the mainsheet to prevent the sheet from accidentially unreaving.



If you have purchased the vang, this is attached to the boom and by a shackle to the bail on the mast near its foot. The vang is normally tightened down according to the wind velocity. Use little tension in light airs and greater tension when the wind is stronger.



RAISING THE JIB

The jib tack is secured by a shackle to the lower hole in the bow chainplate. Then the sail snaps are put on the forestay. The halyard is attached to the head of the sail by its shackle.

To attach the jib sheet to the sail, use a ring hitch at the midpoint of the sheet. Lead one side of the jib sheet through the fairlead mounted on the sliding track on the port side of the cabin top and then through the fixed eye on the cam cleat near the aft end of the cabin. Lead the other half of the jib sheet similarly through the starboard sliding and fixed eye. Put overhand or figure eight knots in the ends of the jib sheets to keep it from running through the eyes.

The jib sheet will be inside of both side stays when using the standard working jib. Before raising the jib, glance aloft to make sure the halyard is not fouled and make certain the boat is heading more or less into the wind.

To fit the mainsail, install battens into the batten pockets. There are three battens in the 20 mainsail. The upper and lower battens are approximately 24" long and the middle batten is 30" long. When the battens are inserted into their pockets, an elastic in the inner end of the pocket will hold the battens in place against the roach of the sail. Run the mainsail out along the groove in the boom and attach the corners of the sail to the boom. The tack is attached to the gooseneck by a pin or the gooseneck and the clew is attached by an outhaul line and secured to the cleat near the end of the boom.

Attach the outhaul line to the cringle in the corner of the sail using a bowline then pass the line through the eye in the end of the boom and secure it to the cleat so that the foot of the sail is just snug. Next, attach the halyard shackle to the headboard of the mainsail and insert the boltrope at the headboard into the groove making sure the sail itself is not twisted.

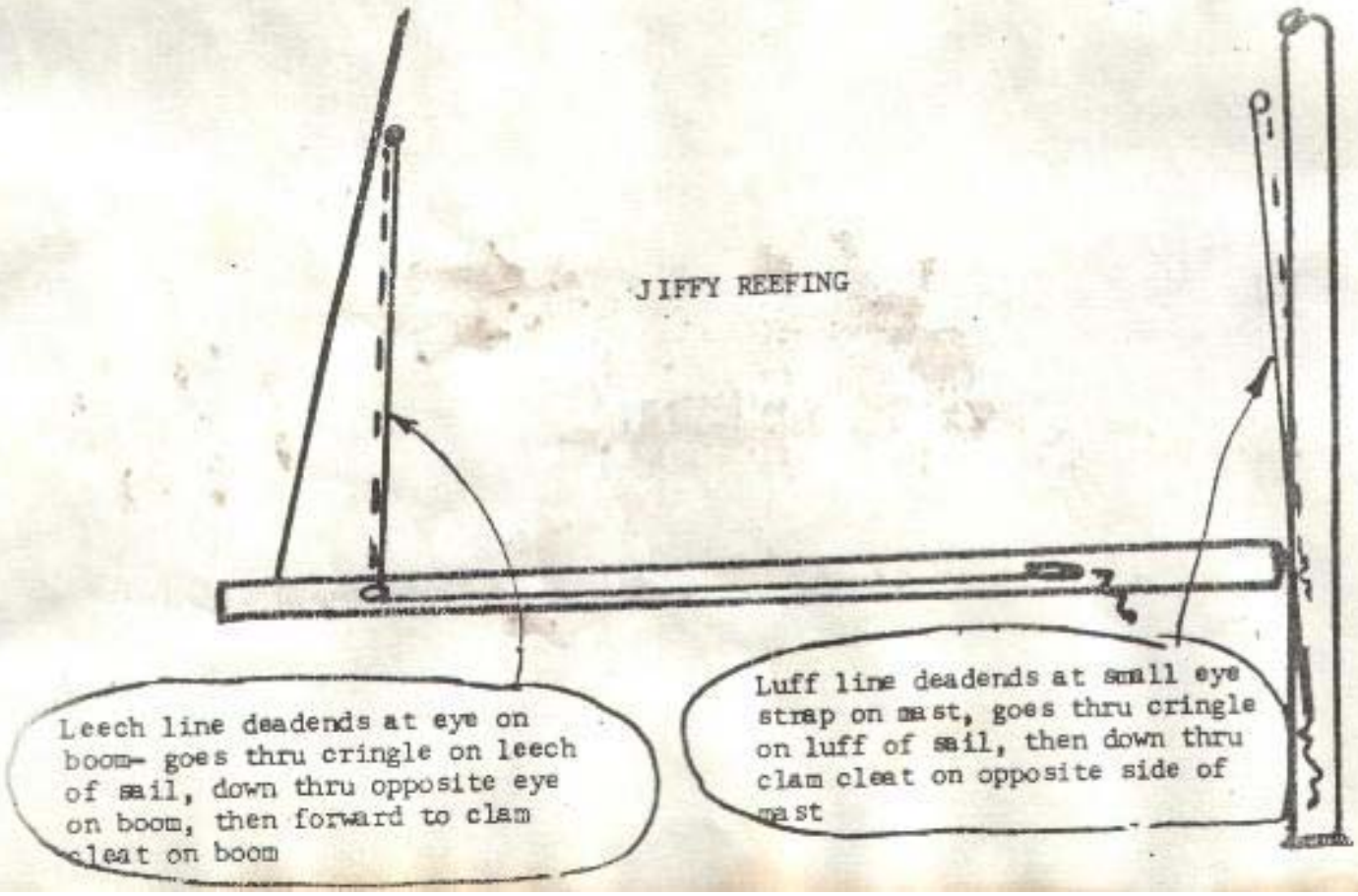
Before hoisting the mainsail, make sure the boat is heading into the wind.

After examining the halyard to make sure it is not fouled and releasing the mainsheet, boom vang, if you have one, and downhaul, hoist the main to the top of the mast by pulling on the halyard which runs through the cleat at the bottom of the mast. Hoist the jib in a similar manner and cleat the jib halyard to the cleat on the starboard side of the mast. You will find it convenient to store the halyard tails by coiling them and stuffing them under the part of the halyards just above the cleats on the mast.

The final operation in setting the mainsail is to rig the downhaul line from the small eye strap on one side of the mast through the cringle in the sail just above the boom, and to the small block cleat opposite the eye strap. Cleat it with moderate tension to pull any wrinkles out of the sail.

JIFFY REEFING

If your boat is equipped with jiffy reefing equipment, the following diagram will help to explain how this is set up. As part of your jiffy reefing equipment, you have two 1/4" diameter lines, one considerably longer than the other. The longer line is the leech line and the shorter line is the luff line. To rig the leech line, pass one end forward through the clam cleat near the forward end of the boom. Tie a stopper knot forward of the cleat, then take the other end of the line aft along the boom, up to and through the cringle located up the leech (trailing edge) of the mainsail, then down to the corresponding eye on the other side of the boom. Secure the end of the line to this eye with a bowline. Dead-end the luff line on the small eye strap located just below the boom on the mast. This line will go up through the cringle along the luff (leading edge) of the sail then back down through the clam cleat located on the mast just below and to one side of the boom.



To reef the mainsail, the leech line is tightened so that the cringle in the leech of the sail goes right down to boom level and the cringle in the luff of the sail also comes down to boom level. To do this, of course, the main halyard has to be slacked off, lowering the entire sail. We have found that most satisfactory way of doing this is in the following order:

1. Release the boom vang, if you have one.
2. Slack off the mainsheet completely so the sail flaps like a flag.
3. Tighten up the leech line all the way as mentioned above.
4. Lower the main halyard down until the luff cringle is 8-12" above the boom, then secure the main halyard.

Take up on the luff line to pull the wrinkles out of the leading edge of the sail. Finally, trim in the mainsail and tighten the vang, if you have one.

With a little practice, you will find that this can be done without the boat appreciably slowing down and in a manner of less than a minute. To unreef the mainsail, preform the above steps in the opposite order, releasing the luff line first hauling up the halyard then loosening the leech line and trimming the mainsail again.

SCREENS

If your window screens have not been installed, you should install them as follows: 1) Open the window, 2) Remove the rubber gasket completely. 3) Remove the plastic insert which runs around the edge of the window under the gasket which the screen frame will replace. 4) insert the screen. 5) Reinstall the rubber gasket.

TRAILERING

When trailering your Gloucester 20, we strongly advise easing the brake winch slightly so that the weight of the swing keel is carried on the trailer rollers or bunks. Otherwise the severe jolting loads and vibration which can occur during travel, particularly over rough roads, could cause breakage of the wire or other parts of the hoisting mechanism.

MOTORING

A small outboard will power the Gloucester 20 nicely. We suggest a 4 h.p. motor. Be sure to secure the motor firmly to the transom and use a safety line to prevent the loss of the motor if your clamps should loosen or should you hit a submerged obstruction and the motor should come off the boat. A standard shaft motor will work on the 20, but a long shaft is preferred.

SAILING TIPS

You are now ready to sail your Gloucester 20. You will find that it has a great deal of stability. Normal caution, such as easing the traveler to leeward and releasing the mainsheet in very strong gusts, should prevent knockdowns in even the strongest winds. If you find the wind so strong that you seem to be over-powered, lower your jib and sail the boat under mainsail alone or reef the main-sail as previously explained.

The Gloucester 20 balances very well. In a gentle breeze, the boat should virtually sail itself. When the wind blows harder, let the main traveler out so the boom pulls more from the side of the boat than from the middle of the boat. You should keep the traveler amidship in light to medium air.

Keep the boat moving and do not pinch when sailing to windward. The high aspect ratio centerboard and rudder blade will stall at low speeds and become less efficient, resulting in excessive sideslipping if you let your forward speed drop off when sailing to windward.

SAFETY

The Gloucester 20 with its ballast is about as safe as a boat of this type can be. Nevertheless, proper seamanship and safety precautions should always be followed to avoid accidents.

Wearable life jackets should always be aboard and should be worn whenever winds are brisk and while single-handling the boat under ANY conditions.

To avoid being knocked down when sailing in strong winds, always hold the mainsheet in your hand, rather than cleating it, so it can be eased instantly in strong puffs.

CAUTION: Whenever your are sailing in strong winds, be sure to close and secure tightly the opening ports. If these are left open there is a possibility that a knockdown might allow water to enter the boat through these ports.

To stop the boat for any reason, head it directly into the wind and release both mainsheet and jib sheet so that there is not pressure on the sails.

Practice stopping the boat in open water before attempting to land at a pier in this fashion. If you are not sure of your ability to perform this manuver, lower your sails and make your landing under power.

The basic or advanced sailing techniques are beyond the scope of this brief rigging manual, but there are a number of good books available on the subject. We suggest that you make use of these if you are inexperienced, and/or sail with more experienced friends, if possible, so that you can improve your skills and get the most enjoyment from your boat.

LIST OF SUGGESTED BOOKS

THIS IS SAILING.	Richard Stelgat Osbourne
RACING DINGHY HANDLING	Ian Proctor
SCIENTIFIC SAILBOAT RACING	Ted Hood
THE SCIENCE OF SAILING	Bill Robinson
BILL ROBINSON'S BOOK OF EXPER SAILING	Bill Robinson
RACE YOUR BOAT RIGHT	Arthur Knapp
TECHNIQUES OF SMALL BOAT RACING . .	Stuart Walker
SAILING TO WIN	Bob Bavier
TACTICS OF SMALL BOAT RACING . . .	Stuart Walker