

There is a dictionary of terms at the end of the basic instructions. We have tried to define every word that we use that is not in common usage.

Basic overview -- You will need a friend, pliers, two wrenches that will adjust to 7/16", and one hour. You will be placing the boat in a stable position, putting up the mast, hanging a rudder on the back of the boat, attaching the lines that control the sails, putting up the sails, launching the boat, and beginning years of fun sailing. Read the directions that follow and then start at the beginning to rig your boat.

PREPARING THE MAST

There are two, three foot long aluminum tubes or spreaders, and six wires that must be attached to the mast. You will need your pliers. You will also need six shackles with clevis pins and safety rings, the two pieces of wire that are one foot long, and the two cotter pins. From the sailbag, you will need the two halyards. They are 45 feet long and 1/4 inch thick and 50' x 1/4".

- 1) Place the mast on the ground so that you can walk all around it and work on it.
- 2) About half way up the mast there are two sockets into which the spreaders fit. The open end of the spreader is placed into the socket and turned so that the tiny holes in the socket line up with the tiny holes in the spreader. The spreader is held in place by inserting a cotter pin all the way through the holes and spreading the tip of the cotterpin so that it cannot fall out.
- 3) On the bottom of the sockets for the two spreaders there are tabs with holes. There are two stays that are only about half length in comparison to the others. On one end of these two short wires you will find a shroud adjuster. On the other end there is a strap fork. The shroud adjuster has a clevis pin in it. Remove the clevis pin from the shroud adjuster and use it to attach the strap fork to the mast. (We put the clevis pin in the wrong end of the wire. Take it off and use it with the end it belongs on. Fasten the fork to the tab below the spreader.)
- 4) There is a stay that consists of three parts. It is one long wire and two short wires fastened together to form a "Y". At the head of the mast there is a "U" shaped tab that swings back and forth on a pin. There is one on the front of the head and another on the back of the head. You want the one on the back. (The back is the side of the mast with the groove in it.) Remove the clevis pin from the tab, line up the holes in the tube eye and the tab, and reinsert the pin. You should now have a wire that attaches to the head of the mast, runs down the mast most of the way, and then splits into two wires. Both of these wires extend past the end of the mast.
- 5) There is a stay that is not the same length as the remaining other two. It has a tube eye that attaches to the front of the head in the same manner as the back stay was just attached.

6) There are two stays remaining that are the same length. Remove the clevis pins from their respective shroud adjusters. Use those pins to attach their respective strap forks to the tabs located on either side of the mast just below the head of the mast. The tabs may be tight against the mast. If this is the case, you may insert a screwdriver and bend them out as much as 20° so that you can insert the pins and fasten a safety ring in place. After fastening to the tabs, guide each wire straight to the end of the spreader on its side of the mast. The wire must lie in the groove at the tip. Fasten the stay in place with one of the foot long pieces of wire. It is wise to put a piece of waterproof tape over this spreader to prevent the wires from tearing the sails.

7) To avoid confusion, most sailors attach the main halyard on the right and the jib halyard on the left. There are two sets of pulleys in the head of the mast. The halyards are inserted, side by side, so that they run over the pulleys from the front of the mast to the back. Near the base of the mast there are two jam cleats. Tie both ends of the jib halyard to the left cleat. Tie both ends of the main halyard to the cleat on the right side. (Jib halyard is 50').

RAISING THE MAST

You will need seven clevis pins, seven shackles into which these pins will fit, seven safety rings, one friend, and possibly a pair of pliers.

1) Position the mast as follows. The sail slot is pointing up. The foot of the mast is over the mast step on the deck. The middle of the mast is resting on the bow pulpit so that it will not slide off to one side. The head of the mast is way out in front of the boat.

2) Remove both pins from the mast step and set them so that they will not roll away. Line up the holes on what is now the lower side of the mast with the front holes on the mast step and insert the pin. Attach safety rings. Plug in the wires.

3) Walk to the head of the mast. Find the forestay. It is the stay hanging from the bottom of the head of the mast. Make sure that it is under anything that is attached to the mast and over the bow pulpit. Use a shackle and a clevis pin and attach the shroud adjuster to the bow chain plate. The shackle goes around the "U" bolt. The forks of the shroud adjuster go inside the forks of the shackle. The clevis pin goes through all four holes. Attach a safety ring. The shroud adjuster is operated by moving the circular nuts. Move the lower nut almost to the safety ring. You want to have maximum length when raising the mast so that all the wires will reach.

4) There are two chain plates on each side of the boat near the middle of the head of mast. You are going to use the front one on each side. Go to the tab at the shroud adjuster to the chain plate in the same manner as you attached the forestay. Attach only the long side stay and make sure that the shroud adjuster is fully extended on each side of the boat. Long (upper) side stays are in line with mast from top to bottom when viewed from side.

- 5) Use the pin in the mast step as a fulcrum and lift the mast into position. Hold the mast in place by pushing straight back on it. While one person is holding the mast the other person should insert the back pin on the mast step. It may be necessary to carefully sway the mast to get the holes to line up. Do not let go!!!
- 6) The back stay is the one with the "y" in the middle. There is a chainplate on each side of the back of the boat. Attach the back stay to each of the chainplates just as you attached the forestay. Remember: If the shroud adjusters are not fully extended the stays may not be long enough.
- 7) There are two stays remaining. These are the sidestays. Attach them to the chainplates on each side of the boat that have not yet been used.
- 8) Stand 50 feet from the boat and decide which stays to tighten using the following criteria:
 - a) Is the mast standing straight? Leaning back is acceptable. Leaning forward is not.
 - b) Is the mast straight from side to side?
 - c) Is the mast pulled to one side in the middle by one of the short wires?
 - d) Are all the wires snug?

Turn the lower nut on the shroud adjuster to adjust it. Turn the upper nut to lock the adjuster in position.

RIGGING THE BOOM AND MAINSHEET

You will need two single block pulleys (with shackles), one fiddle block with becket and cams (with shackles), one 45' x 3/8" line, one boom, one 3/16" x 4' line, one tiny shackle, and no tools.

- 1) Within a few feet of the bottom of the mast, there is a wide space in the slot. There is a tubular piece of metal on the end of the boom that fits into this slot. With the slot on the boom facing upward, insert the tube into the slot and lower it until it stops. The assembly that allows the boom to pivot where it meets the mast is called a gooseneck.
- 2) At the back end of the boom there are two holes on the top side. Attach a shackle to the upper and more aft hole. Attach that same shackle to the short wire that is hanging from the backstay. The boom should now be hanging between the backstay and the mast.
- 3) There are two bales on the boom. Attach the two single block pulleys to the bales by removing the safety rings and clevis pins and reattaching them.
- 4) Just behind the opening to the cabin there is a metal track with a slider in it. Play with the slider and the ropes until you understand how to make it move back and forth. (The sliding mechanism is used to move the mainsheet out of the way so that you can more easily enter the cockpit. To use the device as a "go fast" read about mainsheet travellers and the slot effect in sailing books.) In the slide there is a center hole. Attach the shackle on the bottom of the fiddle with becket and cams to the middle hole.

- 5) Tie the mainsheet to the becket, as near the end of the mainsheet as is comfortably possible. Take the other end...through the back pulley on the boom from the front to the back...through the upper pulley on the fiddle block from the back to the front...through the front pulley on the boom from the back to the front...through the lower pulley on the fiddle block from the front to the back and on through the cams. Pull on the line until it is all through the cams. Pull on the line until it is all through and you can, if you pull any further, put pressure on the boom.
- 6) There is a line that is 4' x 3/16". It is the downhaul. Under the gooseneck there is a loop to which you should tie one end. The other end will be fastened to the cleat that is straight down from the gooseneck when the sail is all the way up.

THE RUDDER -- ASSEMBLING AND ATTACHING

You will need the rudder, the tiller, and two wrenches that can be used to move a 7/16" nut or bolt head.

- 1) You must remove the bolt from the handle. The rudder has a hole at the upper back corner through which this bolt should fit. Insert the head of the rudder into the handle, line up the holes, and insert and tighten the bolt. When the head of the bolt and the nut are touching the metal the bolt is tight enough. Overtightening will restrict the action of the hinge.
- 2) There is a line that holds the rudder down in the water. It goes from the rudder to the small black cleat. This line should be tight so that the rudder is firmly held forward and down into the water.
- 3) There are two pins that fit into two loops on the back of the boat. The pintles are the pins on the rudder. The gudgeons are the loops on the back of the boat. Together they form the hinge upon which the rudder swings. Insert the pintles into the gudgeons and swing the rudder back and forth until it is all the way down.

RAISING THE SAILS

→ We will put up the mainsail first, then the jib, the genoa goes in basically the same place as the jib so we will remove the jib before adding the genoa.

Main -- You will need one halyard shackle, one piece of line 4' x 3/16", three battens, one mainsail.

- 1) Unfasten the halyard on the starboard side. Tie the halyard shackle to the end of the line that is on the back side of the mast. Refasten the lines to the cleat. NEVER LET GO OF EITHER END OF THE HALYARDS. The end you let go of will either blow out sideways 10' from the boat or run up the mast and unthread itself from the pulleys.
- 2) Tie one end of the 4' line to the grommet in the clew of the sail. This line is now called the pigtail.

- 3) There is a rope in the foot of the sail (bolt rope) that slides inside the track on the top of the boom. Start with the clew and insert it into the opening at the gooseneck end of the track. When all of the sail is inside the track insert the pin in the gooseneck through the grommet in the tack of the sail. Thread the pigtail through the forward hole in the end of the boom and lead the line around the cleat. Tug on the line until the sail is slightly stretched and then loosen it until the stretch lines just disappear. Cleat it.
- 4) Remove the halyard from the cleat and attach the halyard shackle to the grommet in the head of the sail. Insert the bolt rope into the slot and raise the sail a couple of feet. Run your fingers the length of the rope to make sure that it is not twisted around the sail.
- 5) There are three battens. They slide into the slots on the back edge (roach) of the sail. Make sure that the tip of the batten is in the center of the elastic strap or it may slip off to one side. The tension created by the elastic is what holds the batten from falling out.
- 6) Raise the sail all the way to the top of the mast. Cleat the halyard. Coil the extra halyard and insert it between the halyard and the mast. The tension will hold it in place.
- 7) Pull down on the downhaul and cleat it so that the sail looks full.

Jib -- You will need one halyard shackle, one large shackle, and the 60' x 3/8" line.

- 1) Find the middle of the 60' line. Fold the line at that point and push it through the grommet in the clew of the jib. Push enough through to form a 6" loop. - Pass both ends of the line through the loop and keep pulling until the loop is pulled back snug against the two lines. There should be two equally long lines tied to the back corner of the jib.
- 2) There are four pulleys mounted on the deck that are held up by springs. Place the jib on the deck in front of the mast and feed one line (jib sheet) through the forward pulley on one side of the boat. Feed the other sheet through the front pulley on the other side. Drop the remaining line into the doorway to the cabin.
- 3) Use the large shackle and attach the tack of the sail to the same "U" bolt that is holding the forestay.
- 4) Attach the halyard shackle to the end of the halyard on the front of the mast. Attach the halyard shackle to the head of the jib. The canvas loops with the snaps that are attached to the luff of the jib are called jib hanks. Attach the jib hanks to the forestay so that they can guide the jib up the wire. Haul the jib up and cleat it.

Genoa -- Same as the jib only use a 45' sheet and the back set of pulleys. Make sure that the sheets go outside of the stays.

USING THE WINCHES AND CLAM CLEATS

Wrap the jib sheet around the winch one or two times. When you pull on the sheet the ratchet should click. When easing the sheets the winch will not move so you have that friction to help you hold the line. Never let anyone get his fingers very close to the winch. The pinch in the winch can be painful at best a lost finger at its worst. If you don't want to hold the line, guide it back to the clam cleat. Place the line in the cleat and it will hold itself.

page 0
RIGGING TERMS -- BANDIT 19

BALE --- a loop of metal that is attached to the boom.

BATTEN --- a stiffener for the back edge of the sail - made of fiberglass

BECKET --- a strap or pin that a rope can be tied to

BOW PULPIT --- the metal tubing on the front of the boat

CHAIN PLATE --- a "U" bolt that stays are attached to

CLEVIS PIN --- a threadless bolt

CLEW --- back bottom corner of each sail

FIDDLE BLOCK --- a double pulley where the pulleys are not side by side but on top of each other

FOOT --- bottom

FORESTAY --- front wire that holds the mast up

HALYARD --- holds the sail up

HALYARD SHACKLE --- a special shackle that has an extra pin to hold the halyard when the shackle is open

HEAD --- top

JAM CLEAT --- a cleat with a point on each end

LUFF --- the front edge of a sail

MAST STEP --- holds the foot of the mast - a stainless steel plate

SAFETY RING --- a small circle of spring steel

SHROUD --- stay

SHROUD ADJUSTER --- a device that is used to shorten or lengthen the stay

SPREADER --- holds a stay away from the mast - a pole or tube

STAY --- a wire that holds the mast

STRAP FORK --- a simple fork on the end of a wire with holes for a clevis pin

TACK --- lower front corner of a sail

TILLER --- the handle for the rudder

TUBE EYE --- a stainless fitting that is a tube over the end of a wire that extends beyond the end of the wire and flattens out. The flat part has a hole in it to attach clevis pins.

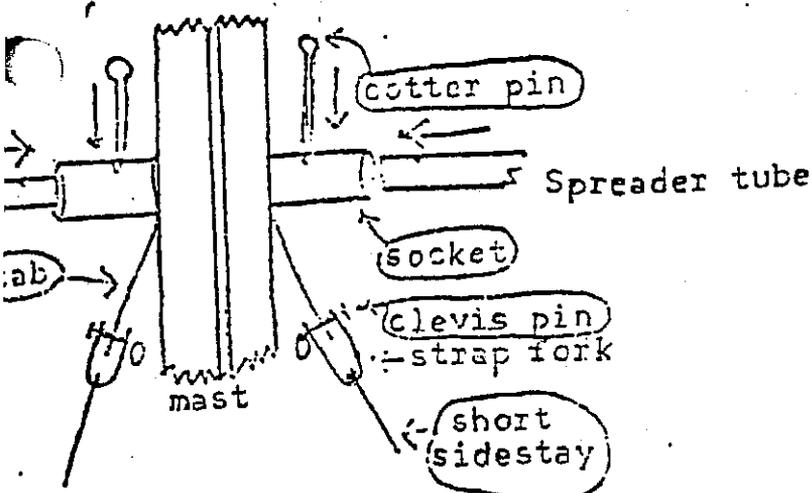


FIG. 1
 spreader and short
 sidestay assembly

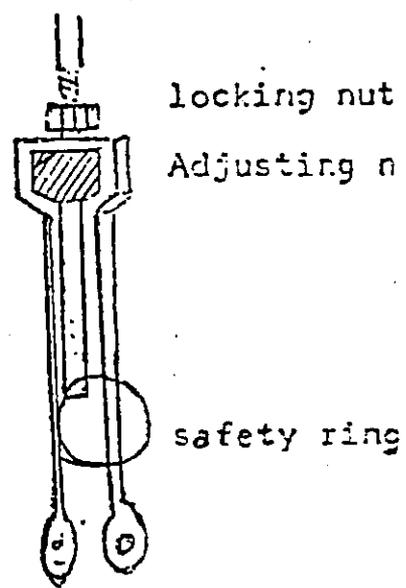


FIG. 2
 shroud adjuster

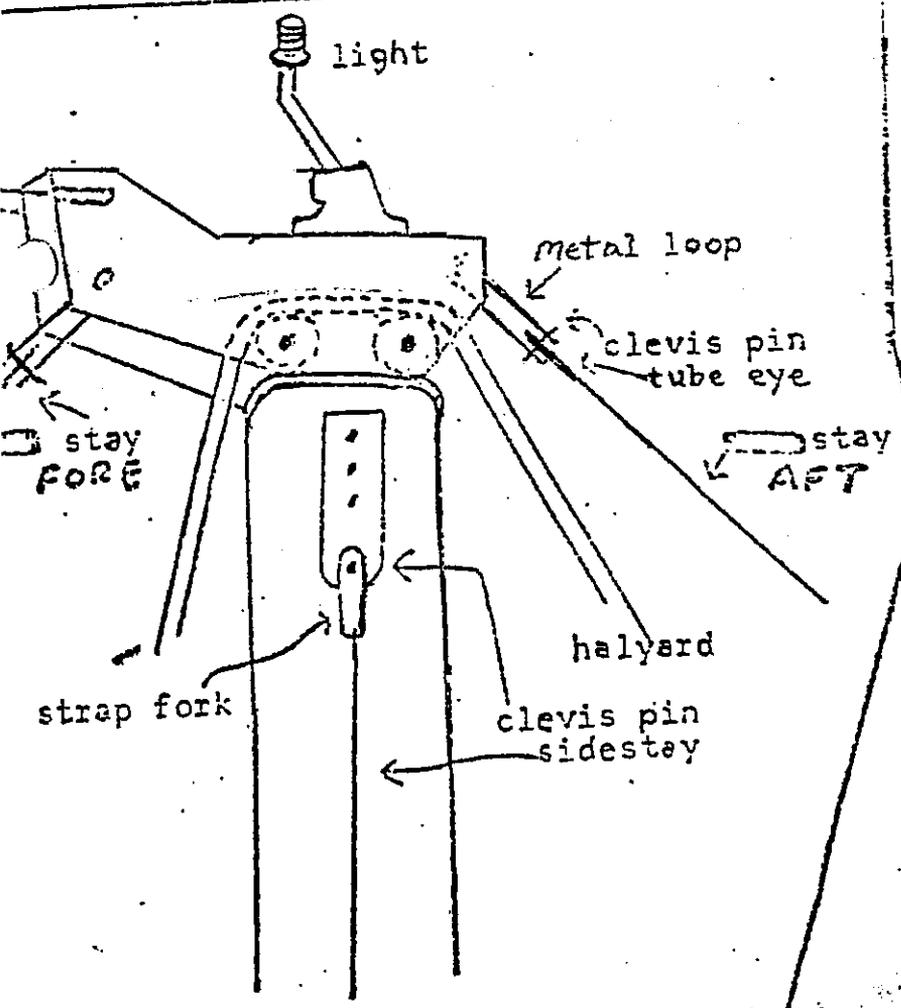


FIG. 3
 masthead assembly and
 stay attachments

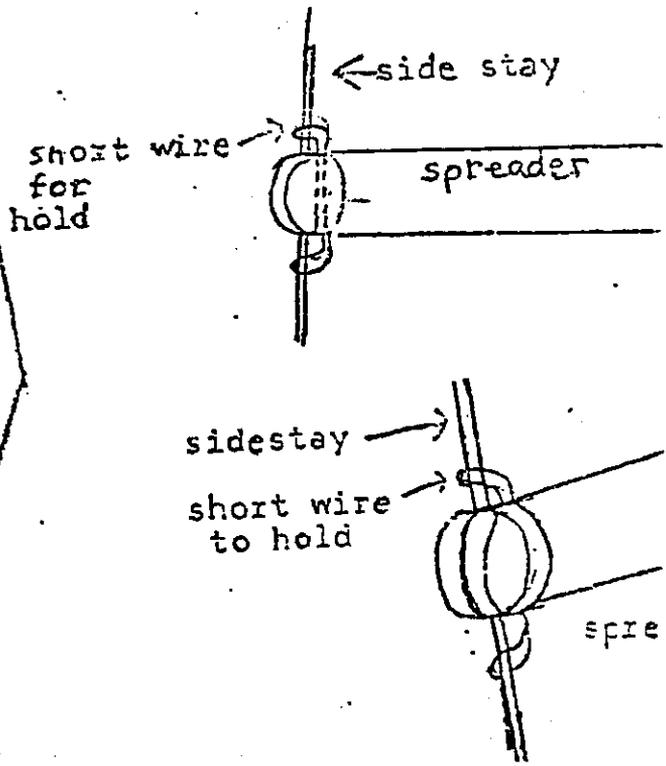


FIG. 4
 Fastening sidestay into
 spreader tip

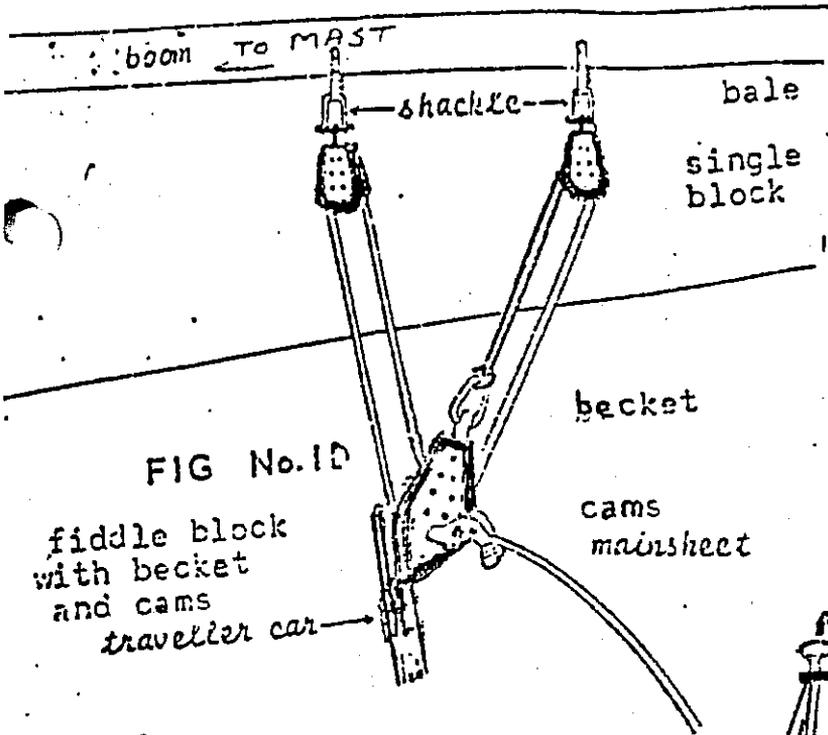


FIG No. 10

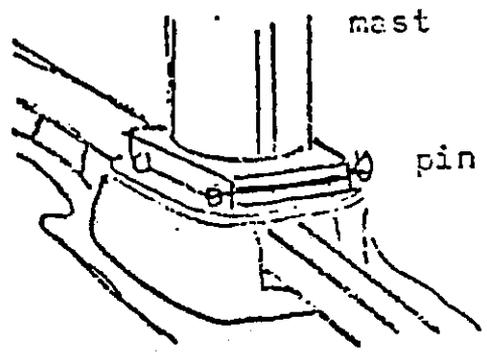
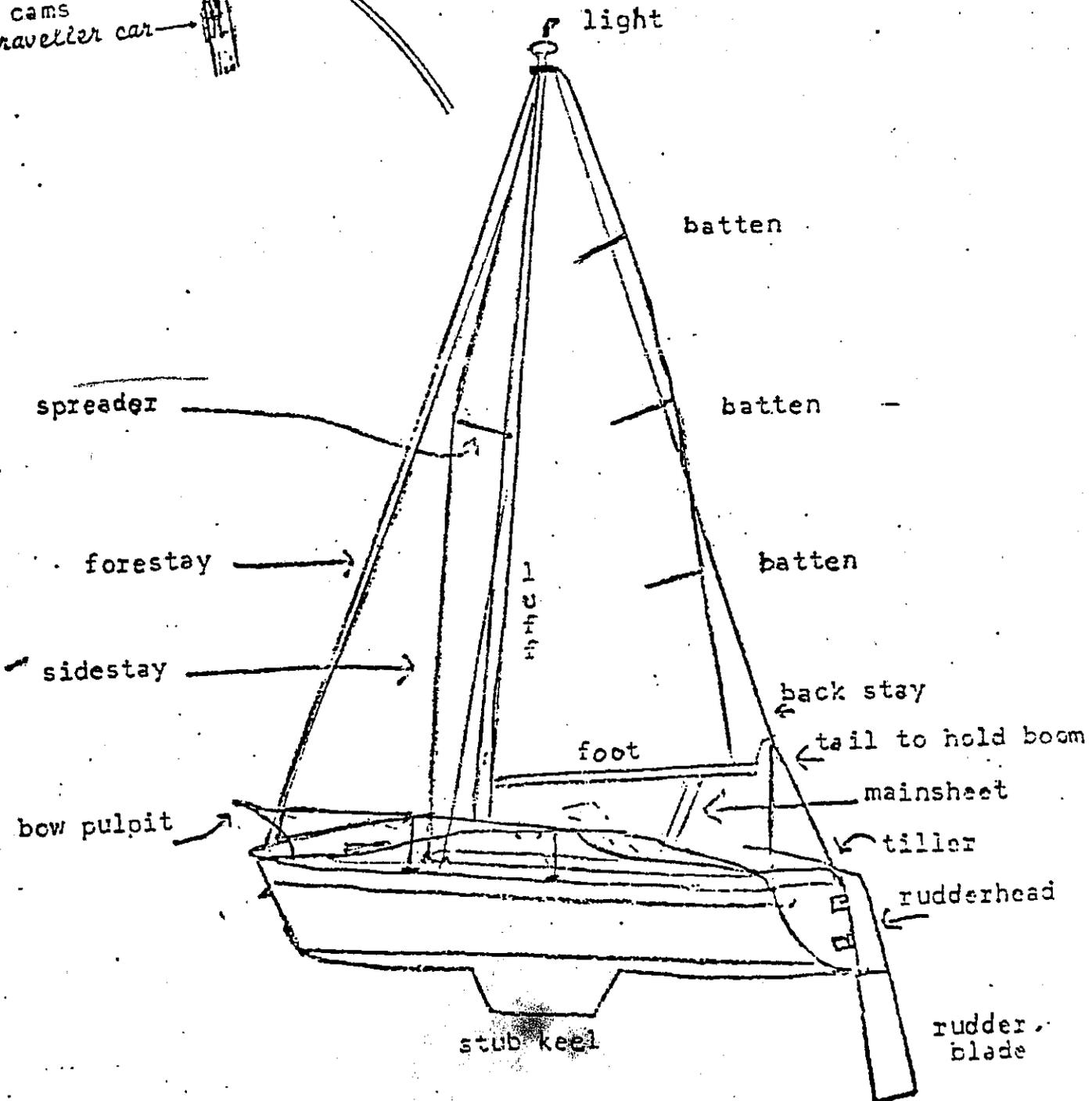


FIG. 5
mast step



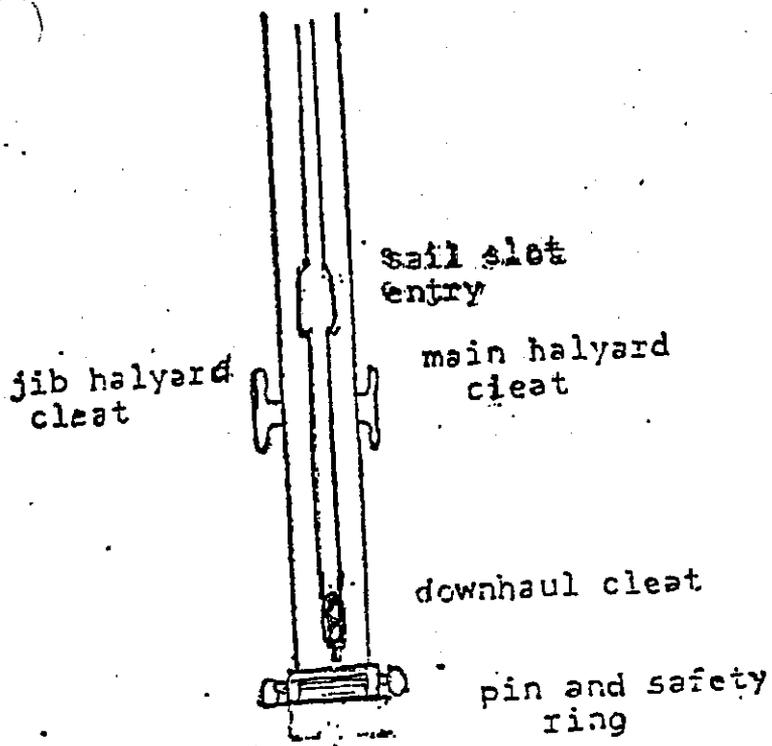


FIG. 7
back view of mast

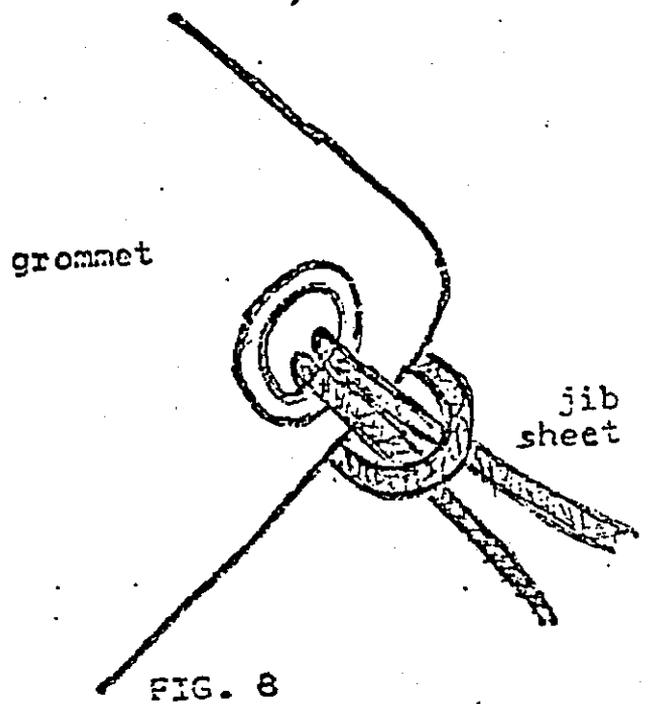


FIG. 8
fastening sheets to sails

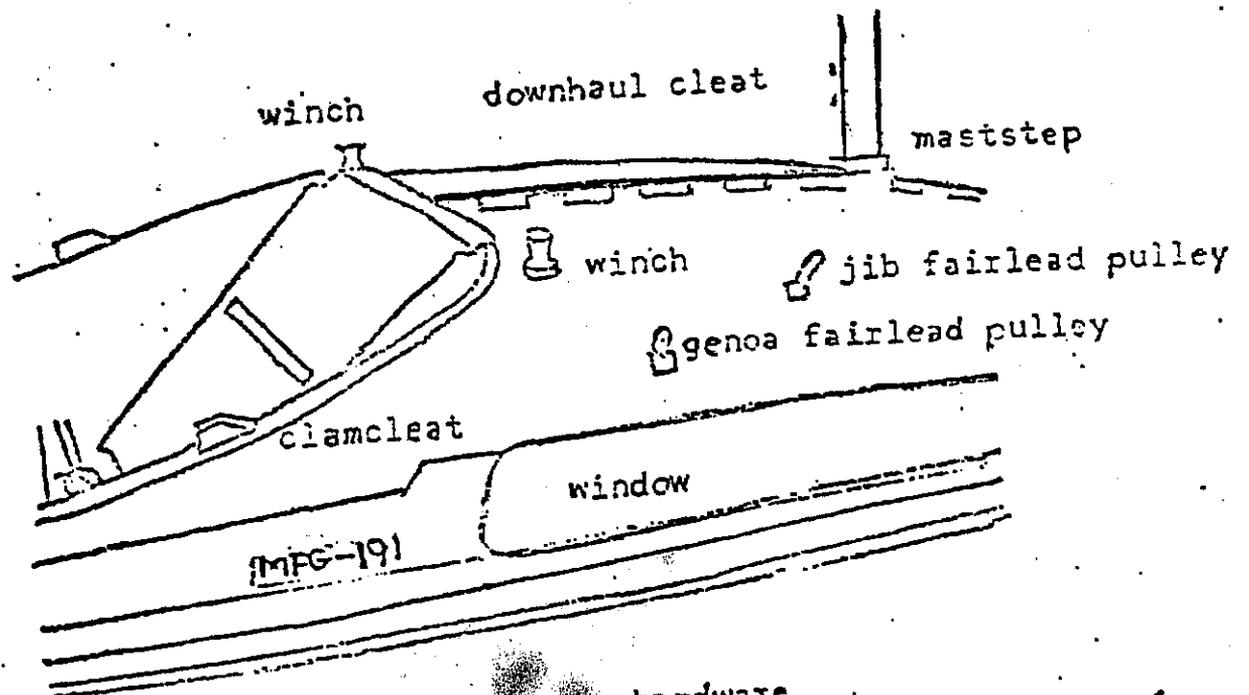


FIG. 9 deck hardware

CAUTION

PROTECT YOURSELF FROM ELECTRICAL CONTACT

The aluminum mast and stainless steel stays are conductors of electricity.

If sailing in times of electrical storm activity, head immediately to shore. A sailboat metal mast or stays being high off the water will attract lightning. If caught in an electrical storm do not allow your body to be in contact with any metal parts.

When rigging the boat and raising the mast or launching look around and up for electrical power lines. If a mast bumps into an uninsulated wire electrocution may occur to a person touching the boat, trailer or car attached to the trailer.

Many small, and particularly man made lakes, have power lines across open bodies of water. Some of the time these power lines have orange warning devices attached at intervals. However, many power lines are not so identified making these dangerous power lines virtually impossible to be seen. Look on shore for towers or poles that may support the shore termination of these lines. Be careful, be vigilant---the life you save may be your own.

Always make sure your mast does not make contact with electrical transmission lines. Contact can mean serious injury.

PLEASE READ!