

January 1, 1986

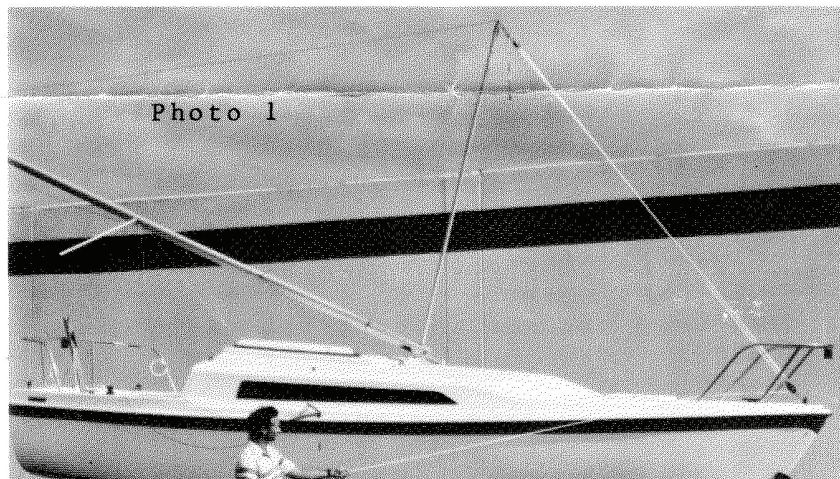
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INSTRUCTIONS  
MAST RAISING SYSTEM FOR THE MACGREGOR 25

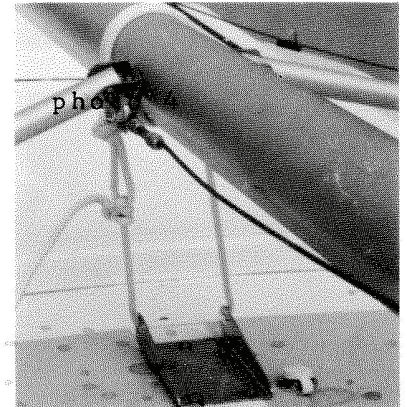
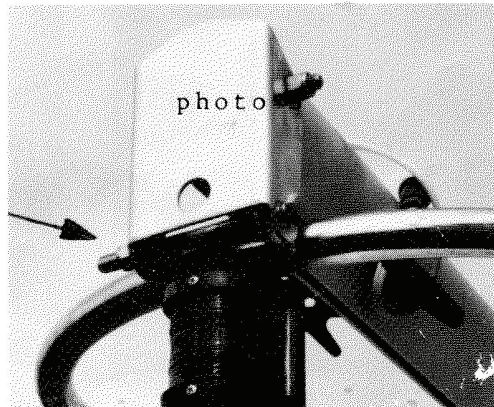
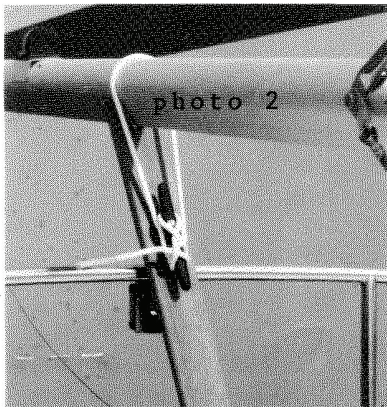
The system consists of the following.

1. A permanently mounted hinges mast step that connects the bottom of the mast to the deck of the boat.
2. A 3 part block and tackle that connects the forward wire stay to the nose of the boat. This allows the mast to be raised with only a few pounds of pull on the line.
3. A light 1 1/2" diameter pole with a jaw on one end and a 3/4" diameter black rod on the other end. This pole is used to put some distance between the forward stay and the base of the mast. This keeps the load on the block and tackle to a minimum as the mast goes up and down.
4. A six foot long pair of side wires that keeps the mast from falling sideways as it goes up and down.

A photo of the system is shown below (photo 1)



In the normal trailering position, the rear end of the mast is tied into the "V" in the wood mast support at the rear end of the cockpit (photo 2). The forward end of the mast is bolted to the ears on the forward part of the bow rail (photo 3). A 6' long piece of 5/16" line secures the center of the mast to the mast hinge to keep the center of the mast from bouncing while the boat is being towed (photo 4)

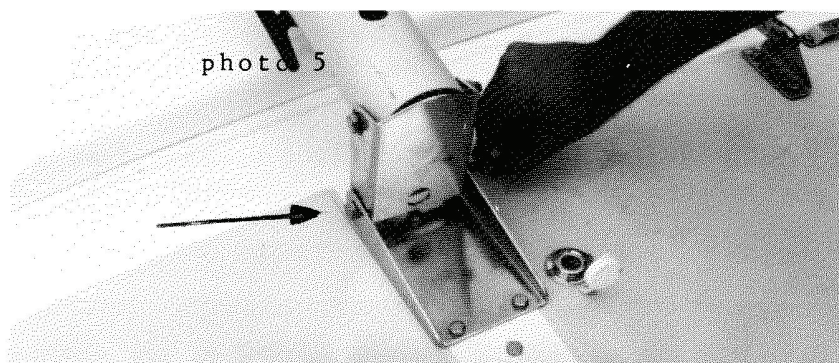




When you are ready for launching, untie the mast from the rear support, and unbolt the front of the mast from the bow rail. The 3/8 x 4 1/2" bolt and lock nut are also used as the mast hinge pin. Don't lose them.

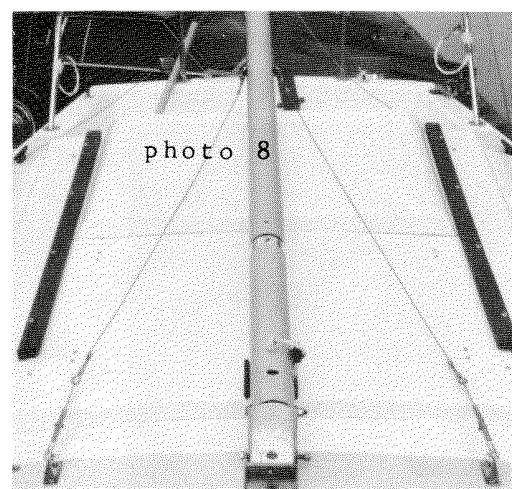
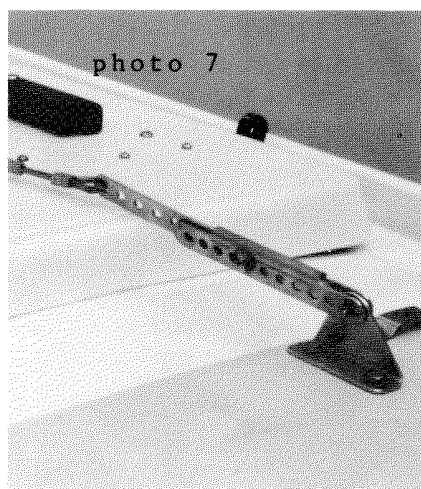
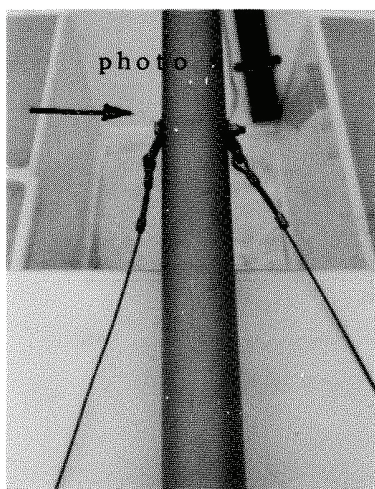
Install the wire side stays, wire back stay and forward stay as shown in the owner's instructions that come with the boat. This normally only has to be done the first time the boat is used. All the mast wires remain permanently connected except the forward one, which is the only wire that has to be released to raise and lower the mast.

With the rear of the mast supported by the wooden crutch in the cockpit, move the forward end on the mast back to the hinge area. (photo 5)



The top part of the hinge always remains bolted to the bottom of the mast. The bottom part of the hinge always remains bolted to the deck. The 3/8" x 4 1/2" bolt and lock nut that secured the mast base to the bow rail is used as the hinge pin (see the arrows in photos 3 and 5). Insert the hinge pin and make sure the lock nut is on tight enough that the plastic seal engages the threads. (You will need two 9/16" end wrenches for this.) It is not necessary to run the nut down tight on the hinge plates. Just make sure the nut is on tight enough so that you can't turn it with your fingers.

Then connect the 6' long side wires that prevent the mast from moving sideways as it goes up. The top end (photo 6) bolts to the mast with a 3/8" x 4" bolt and lock nut. Use the wrenches and tighten this bolt securely. The lower ends connect to the deck with stay adjusters, pins and snap rings (photo 7 and 8).





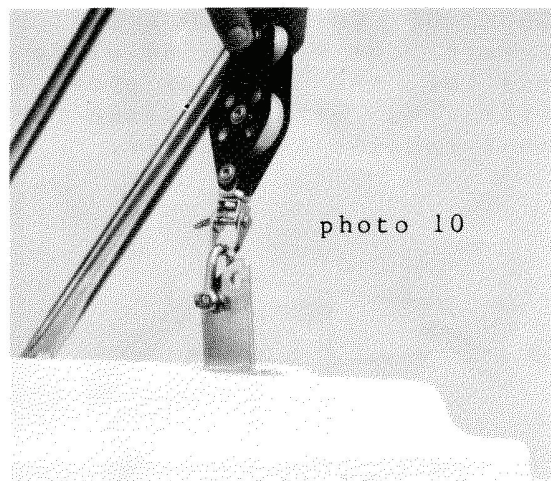
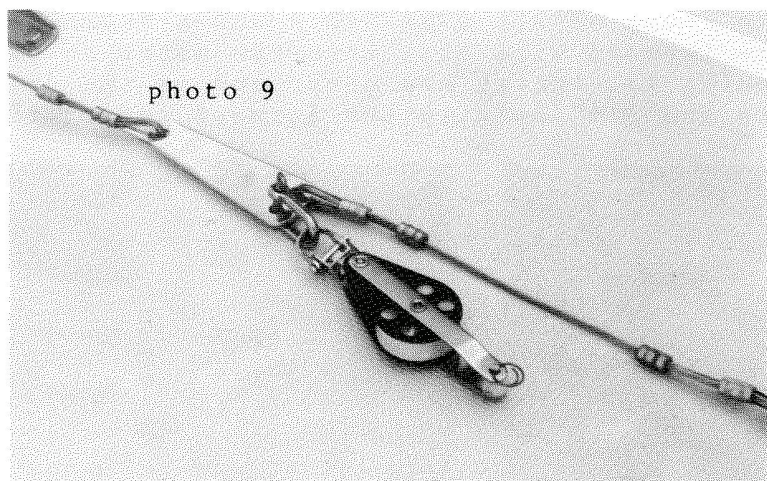
These wires should be snug, but not tight. As the mast goes up, the geometry of the setup will cause them to get tighter. This is done so that the top of the mast, when lowered, can be moved a bit to find its spot in the wooden mast support in the cockpit.

If you keep the boat in the water, and have no reason to raise and lower the mast, the angle brackets on the deck (15" to each side of the mast) should be unbolted from the deck and the bolts put back in their holes. Without the 6' wire side supports, they are toe stubbers.

The 6' side supports are not needed for supporting the mast for sailing, just for raising and lowering the mast. If you do any trailering, or might have to get under a bridge somewhere, leave the angle brackets, and the 6' wires, connected to the deck and mast permanently. They never have to be removed for trailering. (If you prefer to raise and lower the mast without the block and tackle and pole assemblies, you should leave the 6' side wires connected. They will keep the mast from going sideways, and all you have to do is provide the lift to move the mast up and down.)

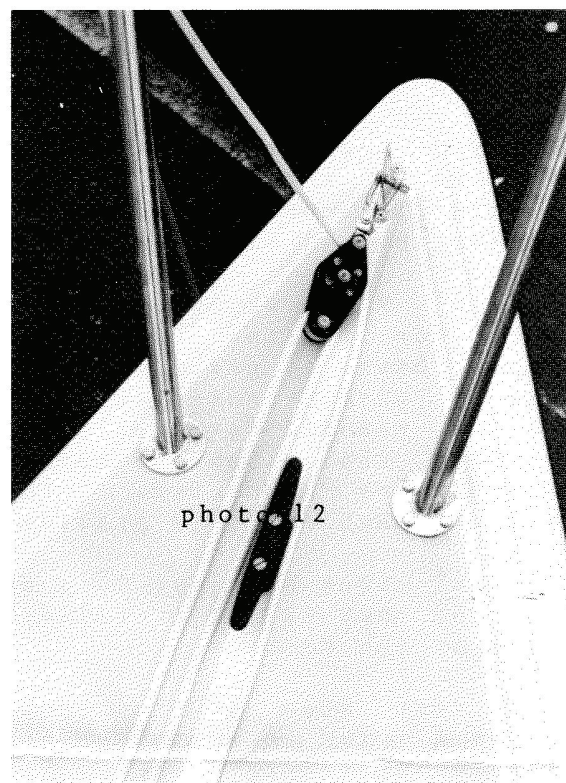
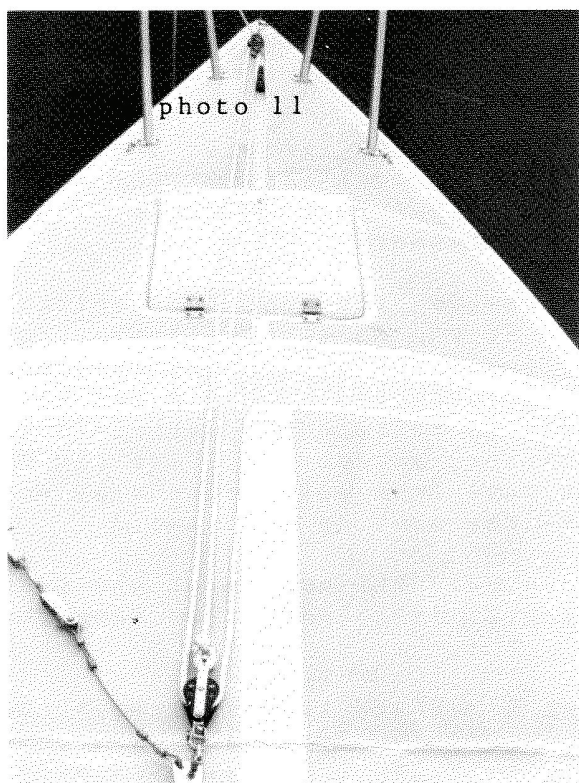
The 6' wires are just long enough that you can move the bottom of the mast to the bow rail for trailering without having to disconnect them from the mast or the deck.

The next step is to hook up the 3 part block and tackle between the forward wire stay to the nose of the boat. Using the small screw pin "U" shaped shackles, connect the blocks to the triangular stainless steel plate on the forward wire stay as shown in photo 9, and to the rear hole in the stainless deck plate in photo 10. The pulleys are not identical. Make sure they are installed as shown in the photos. Make sure the small pins in the U shackles are screwed down TIGHT.



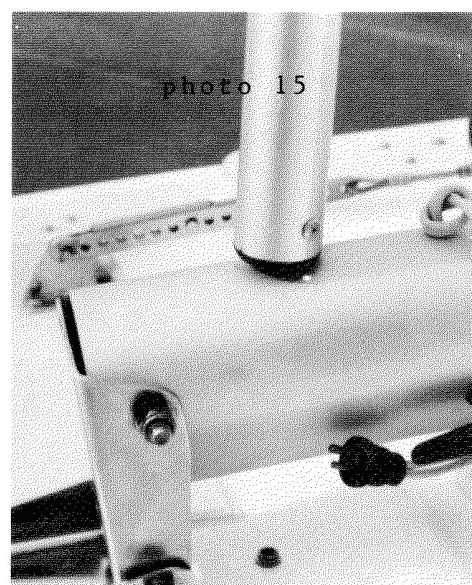
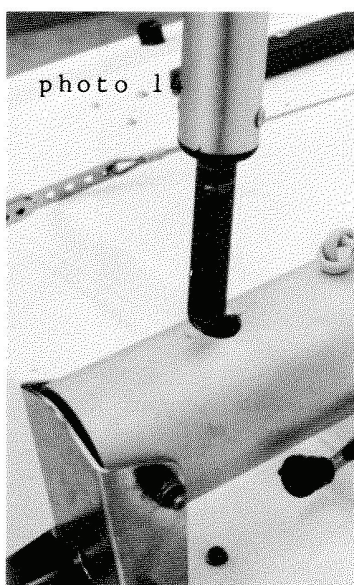
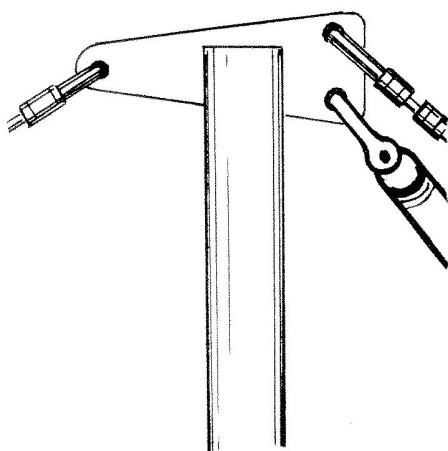
Then string the 5/16", 52' line as shown in photo 11 and 12.





Tie a good bowline knot in the end that goes to the upper pulley. Now pull the pulleys as far apart as possible without losing the end of the line into the bottom pulley.

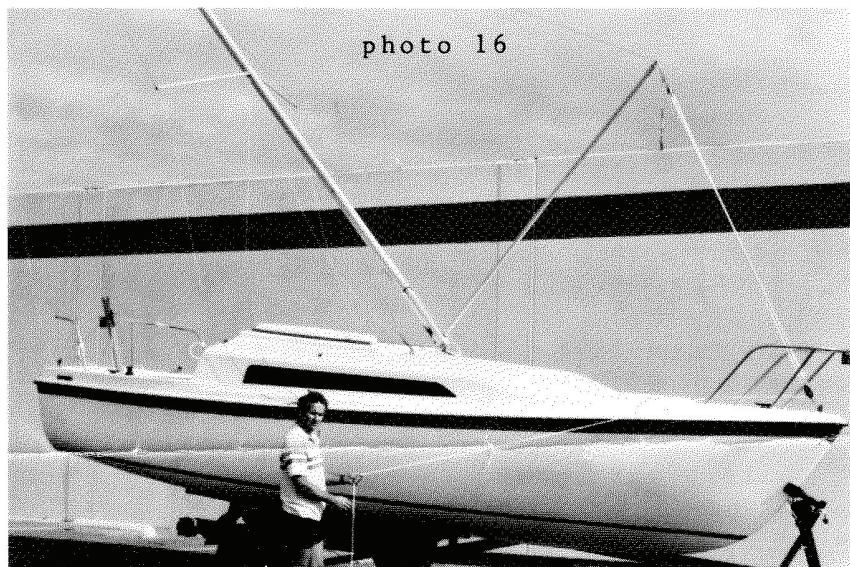
LOOK UP TO MAKE SURE THAT YOU ARE CLEAR OF ALL OVERHEAD POWER LINES. Now insert the triangular plate on the forward wire stay into the notch on the end of the pole as shown in drawing 13. Stick the other end of the pole (the end with the black rod) into the 3/4" hole in the forward end of the mast (photos 14 and 15).





Make sure the pole is all the way in. There is a second hole in the bulkhead inside the mast. The rod end of the pole must go through this hole also, or pole will fall over sideways when you try to raise the mast. This gets noisy and dangerous. If the pole isn't all the way in, the mast can come down HARD.

Now look around to make sure all mast wires are clear and free of tangles. Again, MAKE SURE YOU ARE CLEAR OF ALL OVERHEAD POWER LINES AND THAT THE MAST WON'T HIT THEM WHEN IT GOES UP OR WHEN YOU HAVE TO MOVE THE TRAILER AFTER THE MAST IS UP. Raise the mast by pulling on the line (photo 16).



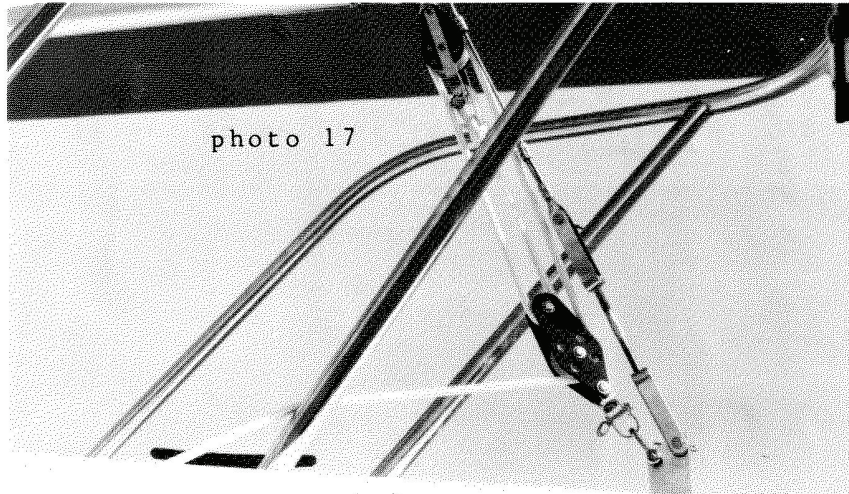
It goes up easy. If the boat is in the water, stand on the forward deck and pull on the line. If it is on its trailer, stand on the ground beside the nose of the boat and pull it up. The pulleys are on swivels, so you can pull from any direction. Don't stand under the mast, under the forward wire stay, under the rope block and tackle, or beside the pole sticking out of the mast. If the mast falls, these are not the places to be.

Pull the rope tight, and tie the end of the line securely to the cleat on the forward deck

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Now connect the bottom end of the turnbuckle to the forward hole in the chainplate at the nose of the boat as shown in photo 17.



Make sure all the pins are securely in place and the cotter pins are opened and secured. Tighten down on the turnbuckle so the rig is snug. Secure it with its cotter pins. One nice thing about this setup is that you will not have to adjust the turnbuckle after it is once set. The pulleys provide sufficient power to stretch the rig enough to remove the pin. (This is the only disconnect that you have to make for raising and lowering the mast.)

When you sail, you can leave the block and tackle in place. Just coil the loose end of the line and drop it down the forward hatch. Some sailors take the loose end to the cockpit to a cleat and use the block and tackle to tension the rig for better sail shape when sailing into the wind. It can also be completely removed from the forward wire stay and used as a boom vang.

Always connect the lower end of the forward wire stay to the chainplate. Don't depend on the rope and the cleat to support the mast while sailing. Rope is fine, but stainless steel is better. (If rope is left too long in the sun, it loses a lot of strength.)

To lower the mast, reverse the process. Again, watch for power lines. Before you lower it, put the wooden mast support in its holders in the cockpit. Otherwise the mast will come down on the cabin hatch and maybe mar the finish.

Remember, the load gets greater as the mast gets lower. Be prepared. Get a good grip on the line and don't be fooled by the very small loads while the mast is close to the up position.

You can steer the top of the mast into its wooden cockpit support by pushing or pulling sideways on the line between the pulleys. Tie the back end of the mast securely to the wooden crutch, and make sure the thumb



screws in the cockpit brackets are pressed into the wood to keep the wooden support from jumping out. Bolt the mast hinge to the bow rail (photo 1) with the 3/8" x 4 1/2" bolt and lock nut used for the mast hinge. Never remove the 3/8" x 4" bolt and nut that holds the top half of the hinge to the mast. This part of the hinge always stays on the mast. Make sure the 4 1/2" bolt is tight. Use the 9/16 wrenches. You will not believe the chaos if the front end of the mast gets loose while you are trailering. Always use the bolt and a lock nut. If you tie the mast to the bow rail, a sudden stop could catapult the mast into your car or even into the car ahead of you. Again, the bolt is better than rope. Extra rope tie downs are always a good precaution.

To keep the center of the mast from bouncing up and down while trailering, tie a 6' line from the mast to the deck half of the mast hinge (photo 2) Pull the mast down about 3". This will not hurt it.

Once again, for trailering, it is not necessary to disconnect any of the rigging except the bottom end of the turnbuckle on the forward wire stay. The 3 part mast raising block and tackle can even remain connected, along with the 6' side support wires. Tie them all up securely so they can't drag on the ground, hook up on a passerby or get tangled in your trailer wheels. The wire rigging is strong, and if it hooks up on something, there will be a lot of pieces left behind.

You can, of course, raise and lower the mast without the pole. You can still use the block and tackle and the 6' side wires, but it will be necessary for someone to stand in the cockpit and get the mast started up. It takes more pull on the line to do it this way, but if you have two people, it is a lot faster. Remember, without the pole, when you lower the mast, and the mast is about 2/3rds of the way down, the loads on the rope gets astronomical and it is virtually impossible to keep it from coming down hard. It is best to have someone on the cabin top to take up some of the load as it comes down.

You can raise and lower the mast without the pole or block and tackle. Close the sliding hatch, and stand on the cabin top, as far aft as possible, and raise it, walking forward as it goes up. It is a one person job, and much easier if the 6' side wires are connected as described previously.

We leave you with one repeat warning. People have been killed or badly injured as a result of masts or support wires coming into contact with overhead power lines. Be watchful whenever you rig, launch, trailer or do anything else with your boat that might involve contact with power lines. If there is a threatening power line anywhere near areas where you sail, call or write to the power company and try to get them to move it or bury it. Notify us and we will also lean on them. The warning stickers on the mast and the repeated warnings in boat instructions may get boring, but power lines are life threatening risks.