

Rigging: Laser

SAIL SELECTION: The International Laser Class has three different official rigs. Each sail is designed for sailors of different weights. The Standard Rig was designed for sailors weighing more than 160 lbs and has 76 square feet of sail. The Radial Rig, which has 62 square feet of sail, was designed for sailors in the weight range of 121 to 160 lbs. The 4.7 Rig, which has 50.6 square feet of sail (4.7 square meters of sail), was designed for sailors within the weight range of 77 to 121 lbs. The weight ranges listed above are 'optimal.' This means that a sailor in the prescribed weight range is best suited to sail the matching rig in a variety of wind conditions (3 to 20 knots). A sailor outside of the listed range may sail a different rig in the appropriate conditions. At the UCLA MAC we have both the Standard and Radial Rigs available. The reduced sail area of a Radial Rig allows a novice or lighter sailor the ability to sail without being overpowered in medium winds. The International Laser Class strictly controls how sailboats are rigged during official races. For the convenience of learning to sail, the UCLA MAC Lasers are rigged in a non-class legal manner. To learn more about the Class Legal Racing please visit the North American Laser Class Association at www.laser.org.

Standard vs Radial Rig

The principle difference between the Standard and Radial rig is the length of the bottom section. The Radial rig uses a shorter, bendier lower mast section. The Radial lower mast sections are marked with a thick red stripe and the letter "R" above the boom vang tang for easy identification. Both rigs use the same topmast section and are rigged identically.

The Standard and Radial sails are on separate parts of the sail rack and are labelled accordingly.

Rigging in the Yard

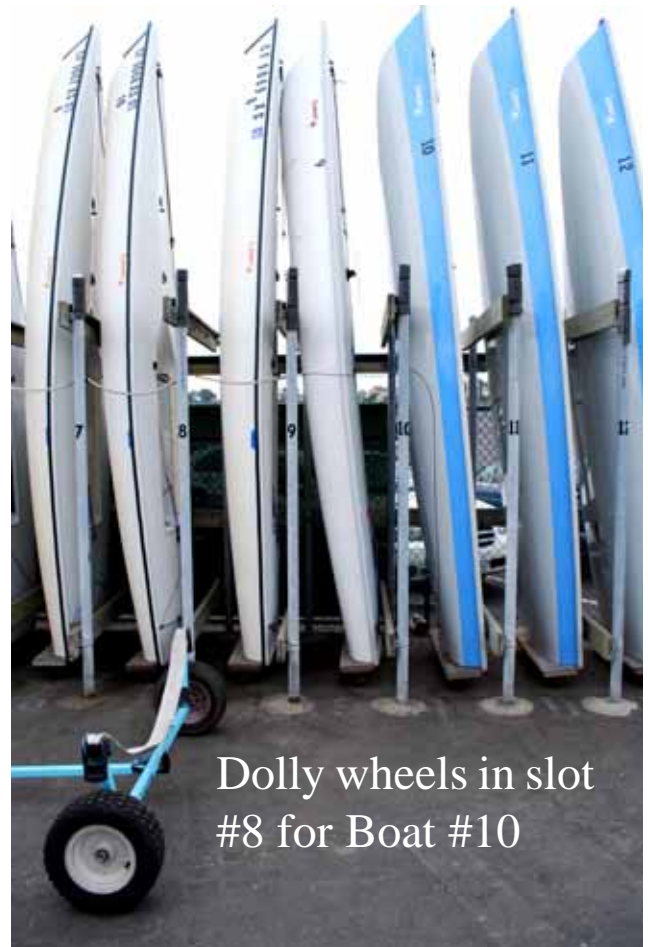
Most of the rigging for the Laser is done in the yard and boat house. You should only move the boat onto the dock and into the water when you are ready to sail. With a little practice you should be able to rig and be off sailing in under 15 minutes.

When rigging, thoroughly inspect your equipment to make sure everything is in good working order. You can use the lawn or the deck of your Laser or even the carpet inside the boathouse (if there is room) for rigging your sail.

1. Select a boat from the rack. Boats numbered 1-8 are for anyone who has completed Sailing II. Boats numbered 9-12 have the "Pro-Rigging" and are reserved for those who have completed Sailing III.



2. Retrieve a Laser Dolly. Place the dolly wheels approximately 3-4 feet to the left of the boat slot (in the middle of the slot two numbers below the one you are taking.)



3. Lower the boat onto a dolly. Ask for help if you need it--- it is much better than dropping the boat on your head! It is best to keep your right hand on the gunwale of the boat and your left hand on the hull while pulling it out of the slot. Once the boat is out of the slot place both hands on the hull, and lock your arms out so that you can walk the boat down onto the dolly. Walk backwards, but be cautious of the dolly so that you do not trip.



4. Gently lower the hull onto your shoulders and then squat down to place the hull onto the dolly strap.



5. Place the bow of the boat onto the curved plastic bow retainer, and then secure the boat using the painter with a series of half hitches. Please see intermediate knot section of the manual for instructions on how to tie a half hitch.



6. Remove the stern dolly (the wood piece with two orange wheels). Place one hand on the stern dolly while pressing your thigh against it when removing the dolly pin. This will stop the dolly from dropping to the ground and breaking. Leave the stern dolly (the wood piece with two wheels) and its pin in the slot the boat came from.



7. Retrieve a boom, top mast section and appropriate bottom section. The spar numbers MUST match the number of the hull.



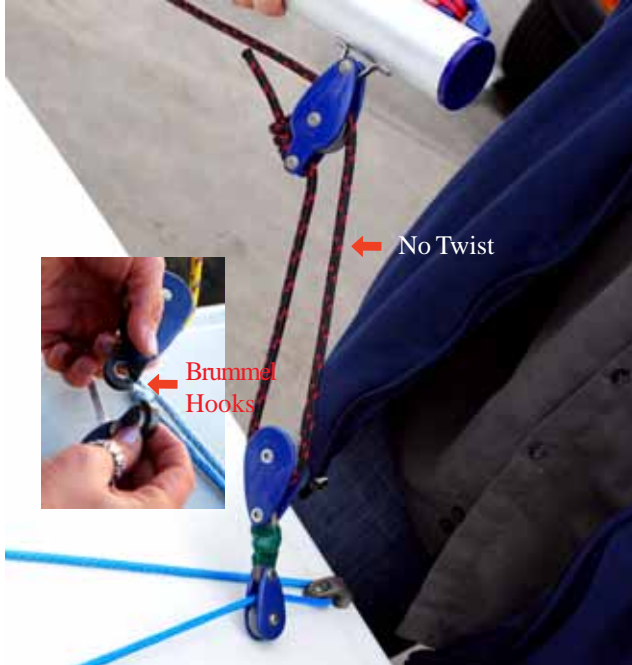
8. **Insert the drain plug** into the transom and seal the hull by turning it clockwise.



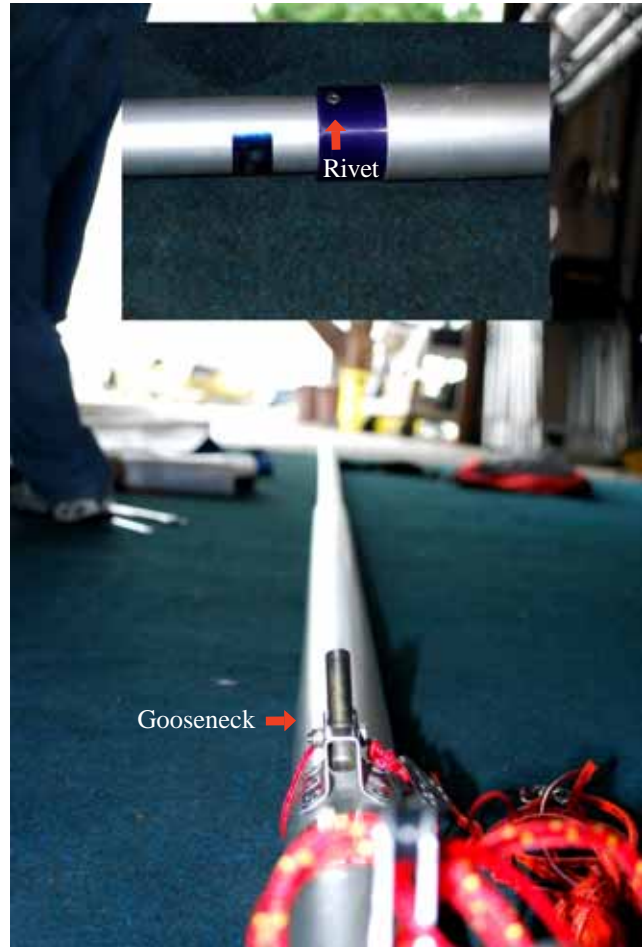
9. **Gently place a daggerboard, tiller and rudder in the cockpit of the Laser.** The numbers on the Blades (daggerboard and rudder) must match the hull of the vessel.



10. **Attach the boom to the traveler** via the brummel hooks (sister clips). Make sure that there is no twist in the mainsheet.



11. Take the top and bottom sections of the mast to the boat house. Insert the top section into the bottom section. **Make sure to align the rivet with the gooseneck** (failure to do this may cause the top mast section to break in half).



12. Retrieve the appropriate sail from the sail rack. Check out a set of battens from the dockmaster that matches your hull number. The top batten is shorter than the middle and bottom battens which are identical in length. **Insert the curved end of the batten into the batten pocket** and then pinch the end of the non-curved batten until it slides down into the batten pocket.



13. **Slide the sail onto the mast** using the luff sleeve. Ensure the body of the sail is on the same side as the gooseneck.



14. Place the bow of the boat into the wind. Take the mast out of the boat bay and place it onto the deck of the boat. **Carefully place the mast into the maststep.** Be careful not to allow the mast to drop or swing as it will damage the gelcoat of the deck. If you are uncertain of your ability to control the mast ask for help. Other sailors and the dockmaster are always available to help.



15. **Place the boom connector onto the gooseneck.**



16. **Attach the clew hook** to the sail. Always pass the hook from the starboard side first!



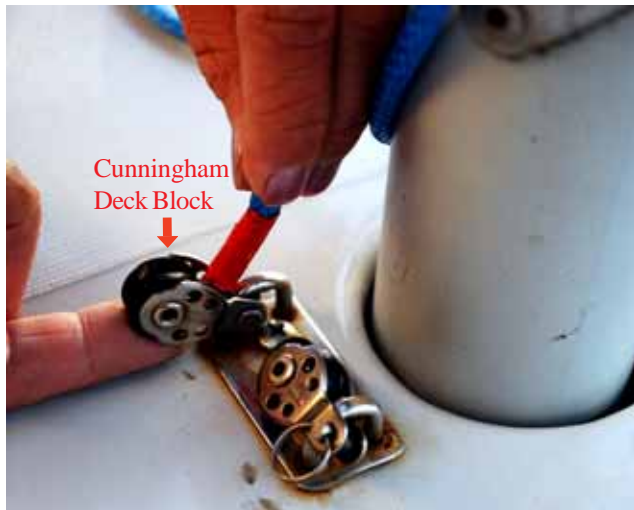
17. **Attach the boom vang** to the boom by placing the vang key into the vang fitting on the boom.



18. **Attach the cunningham.** Pass the thinner spectra line through the cunningham grommet. Use the snap shackle on the Vang to secure the Cunningham.



19. Pass the other end of the Cunningham to the block at the base of the mast on the port side of the boat.



20. Take the Cunningham line and pass it to the deck cleat (first through the metal fairlead and then into the cam cleat). Place a stopper knot at the end of the line. Please note that rigging the Cunningham correctly is important because it is used to keep your mast attached to the boat when the vessel capsizes!



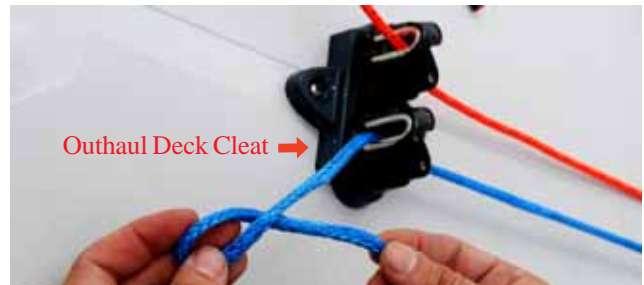
21. Take the outhaul line and pass it through the block secured to the gooseneck fitting.



22. Then take the line and pass it through the outhaul block at the base of the mast on the starboard side.



23. Secure the outhaul line through the starboard cam cleat and create a handle via the daisy chain method as seen in the intermediate knots section of the manual.



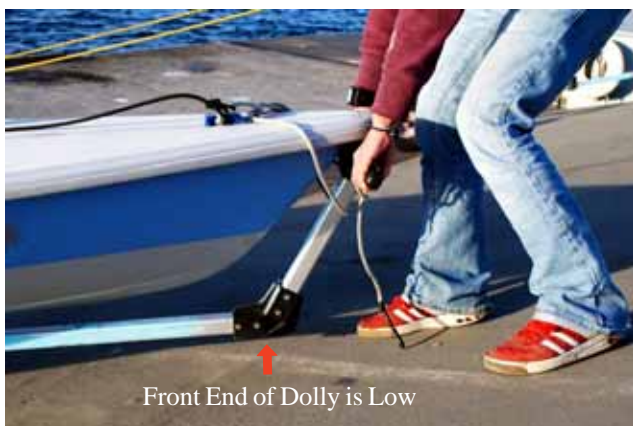
24. Attach the mast retention line which is secured to the gooseneck fitting to the deck fitting at the base of the mast. Please note that for boats 1-8 if the Cunningham is not secured properly the mast will slide out of the mast step and sink when the boat is turtled. For boats 9-12 the Cunningham line will 'help' secure the mast to the vessel, but due to the lower amount of friction achieved by the blocks used in the system an additional line is necessary to keep the mast secure.



25. Uncoil the mainsheet, but do not attach it to the mainsheet block. Instead add a figure eight at the bitter end so that it will not come loose when walking your boat down the ramp. **Walk your vessel down the ramp** stern first. The mast will begin to catch air and will rotate. As long as your mainsheet is not attached the boat will not be pushed off the dolly by the wind. It is best to hold the bitter end of the mainsheet in your right hand so that you can take the slack out of the mainsheet if the wheels of your dolly are close to catching the dragging mainsheet.



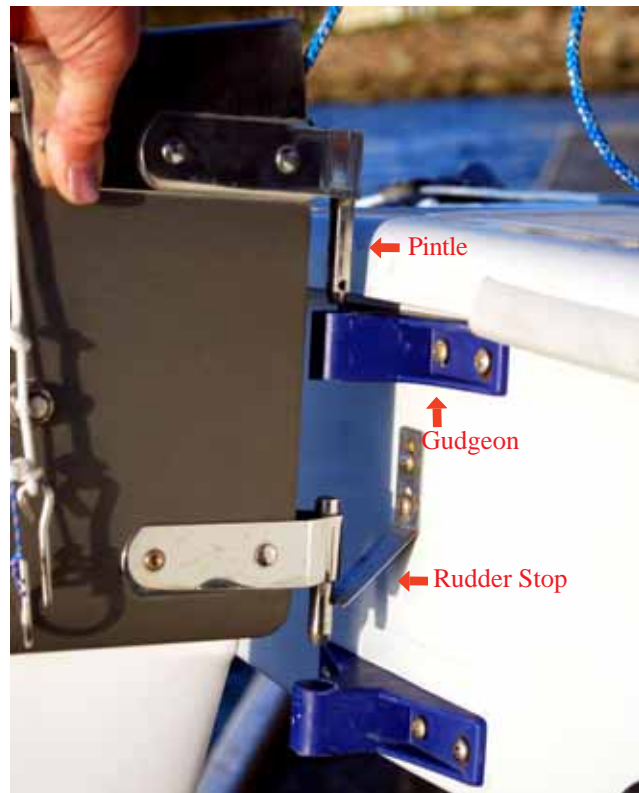
26. **Keep the front end of your dolly low** as you approach the bottom of the ramp. If you raise the front end of your dolly high the stern of the boat will scrap against the dock as you reach the end of the ramp.



27. **Angle your boat** so that the stern is just at the edge of the dock, but not over the water.



28. **Attach the rudder** of your boat by inserting the pintles into the gudgeon. Make sure the rudder stop is securely over the lower pintle section so that the rudder will not be lost during a capsize/inversion.



29. Place the tiller under the aft traveler line but above the forward traveler line. Then put the tiller into the rudder head and tighten the rudder downhaul.



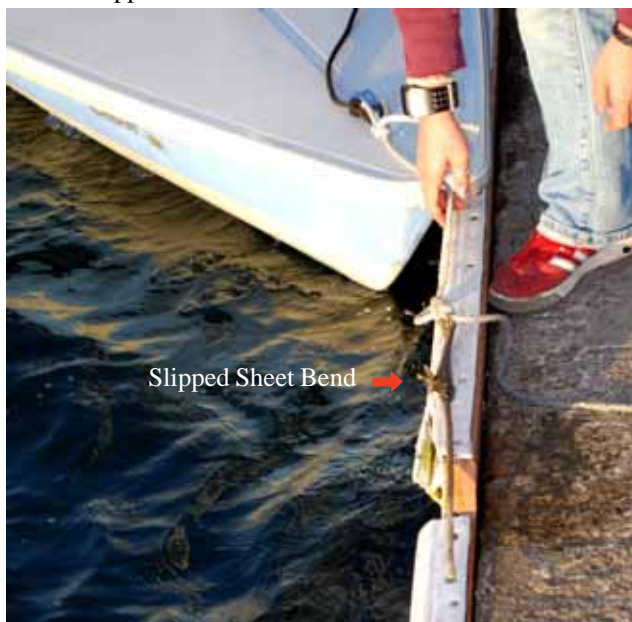
30. **Push the dolly wheels up to the edge of the dock** where the wheels touch the wooden lip.



31. Untie the painter and gently **lift the bow** of the boat up until the stern is floating in the water. Then push the boat out until you can gently lower the bow into the water. Use your legs to lift not your back.



32. **Tie the painter to the dock** with a slipped sheet bend. See the intermediate knot tying section for instructions on how to tie a slipped sheet bend.



33. Insert the daggerboard into the daggerboard trunk.



34. **Attach the daggerboard retention line** from the bow to the daggerboard.



35. **Pass the mainsheet through the mainsheet block** and secure using a double overhand knot. The mainsheet only passes through the mainsheet block in one direction. You will know you have passed it through the correct direction if you can hear the ratchet click as you sheet in. If there is no clicking sound while you are sheeting in then either you have passed the mainsheet through the incorrect side or the ratchet block as been set to "off" and must be adjusted.



36. Check your rigging and make sure the mainsheet is running free and the tiller is clear. Adjust your sail controls for the expected wind conditions. Launch and enjoy the water!