

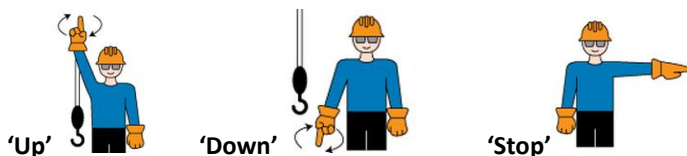
## TBYC Mast Stepping and Hoist Usage

The boat owner is completely responsible for the safe operation of the mast hoist and developing a lifting plan that provides safety for personnel and prevents damage to equipment. Proper and adequate lifting equipment and safe lifting practices shall be used at all times. Ensure the TBYC Launch and Haul Policy has been reviewed. Boat owners who have not used the TBYC mast hoist, or who have no prior experience stepping a mast, must be assisted by an experienced person.

TBYC neither assumes nor accepts liability from the provision of the following recommendations, suggestions, and awareness items. The boat owner is entirely responsible to evaluate application, adapt to the specifics of their situation, boat, and mast, and to ensure a safe process.

1. A discussion with the crew as to what will happen, the roles, and the lifting plan should be undertaken.
2. Anyone not directly involved should be kept away from the hoist and dock.
3. Never stand under a suspended load.
4. Position the boat with mast step about a foot to river side of directly under the hoist cable. Use sufficient springs and dock lines to restrict boat movement.
5. Each mast is different in design, weight, and balance, and there is no one solution for connection. Slings, shackles, rope or other tackle shall be in good repair and of sufficient strength. If rope is used, utilize appropriate knots and be aware any knot significantly reduces overall rope strength.
6. The balance point of the mast need be determined. Provide a secure hoisting harness around the mast located a sufficient distance above the balance point. A starting point for this is generally about 5% of the mast length above the balance point. The intent is a secure lift point where the bottom of the mast is heavier than the top but it can be lifted and controlled by one person, and that the imbalance allows the mast to hang upright once raised without risk of the bottom kicking out or being difficult to control.
7. Depending on lift point location (i.e., not directly under the spreaders), a line may need to be attached to the hoisting harness and secured near the base of the mast to prevent slippage of the lift point during hoisting or lowering. A line attached to the harness is also helpful to retrieve it back down the mast once upright and secured.
8. Be sure the hoisting harness will not become trapped or dislodge any rigging from its attachment to the mast. Don't forget masthead instrumentation.
9. Secure shrouds and halyards to the mast so their weight cannot shift. This is also needed with mast removal.
10. Take time, double check rigging, and communicate clearly so there are no surprises. Ensure shackles are loaded from top 'crown' to the pin, not side loaded and pulling the U-shape wider.
11. Always maintain load on the cable and never manually lift the cable ball weight, which puts slack and resulting winding problems into the cable. Similarly, do not let it rest on the dock or boat.
12. Be aware that as the mast comes off the mast cart it will swing. This is also possible as the mast leaves the boat upon removal. Tag lines may be helpful to control and position the mast, or pull it onto to the mast cart.
13. Ensure the person operating the hoist is familiar with the controls and operation. Establish hand and voice signals, and who will give them. Ideally one person provides direction to the hoist operator, although a call of 'Stop' can be given by anyone and acted on immediately.

These hoisting signals are easily seen and understood:



14. Ensure the hoist cable winds smoothly around the drum, and does not bunch at one spot. This not only can damage the cable, but can collapse or shift and unexpectedly drop the load. If poor cable winding occurs, lower the load to clear and try again. Do not put hands near an operating winch. If found in poor condition, unwind the cable while applying tension to it by hand until problem has been run off the drum, then rewind while still under tension. Wear leather gloves and be aware of potential injury risk from broken wire strands. Do not let wire rope run through the hands.
15. For deck-stepped masts, once the base of the mast has been set on the step, one person should control the base until the shrouds are attached. Moving onto or around the boat can cause the mast base to dislodge from the step.
16. For keel-stepped masts, it is likely signals need be passed from interior of boat to the person operating the hoist. Ensure the route of communication and responsibility. A plan for small incremental amounts of lowering may be helpful instead of just 'down'. Watch for wake from passing boats... if this occurs, stop and provide warning below deck to 'stand clear' of the relative mast/boat movement and pinch points.
17. Once the cap shrouds, forestay, and backstay are connected, the hoist cable should be lowered slightly and rigging re-checked to ensure properly attached and secure prior to lowering and removal of the hoist cable. Only then attach other shrouds.
18. All equipment should be examined for damage, returned to its storage location, and the hoist ring attached back to the dock.

*March 2022*