

Mast Crane Procedure and Safety Practices

In order to ensure your safety, and to prevent damage to your mast, your boat and the mast crane apparatus and dock, please review these procedures fully.

If you are hesitant, enlist the support of your fellow FBYC Members. There is usually always someone around who is more than willing to assist. Do NOT attempt to step your mast if you are unsure, or have an insufficient number of helpers.

During COVID: All people working on a mast stepping team MUST wear a mask. Do your best to distance appropriately where possible, but do not compromise safety. Also, please defer the traditional 'beer after the stepping', until a safer time in the season.

Advance Preparation

The mast crane can be very much in demand at the beginning and end of the season, particularly on weekends. It is important that you prepare your boat and your mast as much as possible in advance of taking your boat to the dock:

- Have your tools ready (pliers, wrenches, screw drivers, etc.)
- If possible, install turnbuckles so they are ready to accept the standing rigging
- Ensure you have completed all required checks on your mast to ensure that electrical and halyards are functional (saves a trip in the bosun's chair later on)
- Take inventory of your mast equipment such as windex, spreaders, VHF antenna, etc.

Identify whether other boats are 'in line' for the service dock.

Set up mast cradles adjacent to the service dock, and transfer your mast from the rack to the cradle, where you can prepare it for stepping. (If possible, set it up in 'range' of the mast crane, so you only have to move it once). Here you can install your spreaders, organize the standing rigging and halyards, and install your windex and VHF antenna, etc. Try to secure standing rigging and halyards with a bungee so they don't swing around during the lift.

Once your mast is ready, bring your boat over to the service dock. Position the boat such that when the crane cable is plumb, it falls more or less directly over the mast step. You may have to shift the boat forward or backward slightly from your initial mooring position.

Attaching the mast to the crane

The mast is attached to the crane using a looped rope which can be found at the base of the crane. On masts with single spreaders, it is typically looped under the spreader, and on dual spreader rigs, typically under the upper spreader. It is ESSENTIAL that the balance point is BELOW the attachment point, otherwise the mast will flip.

As you're cinching the rope to the mast, try to envision how the process will unfold after you've lowered the mast into its step (deck or keel). Ensure all standing rigging is OUTSIDE of the rope, so that you are able to attach standing rigging to the turnbuckles and lower the rope, once the mast is in place. Also ensure that all running and standing rigging is on the proper side of the spreaders and not fouled by other rigging or spreaders.

Also make a decision whether to lift from the front or back of the mast. As it is hoisted, the crane cable does come close to mast top accessories, and you want to minimize the chances of damaging them. Also ensure your decision aligns with which way your boat is facing.

Double spreader masts have some additional complications. Members inexperienced with double spreaders may want to enlist assistance from someone more experienced.

Using the Crane to Raise the Mast

The hook is always stored by securing it to a ring at the base of the mast crane. Remove it and attach the looped end of the attachment rope to the hook on the crane cable. Let the loose end of the rope trail...you will use this to control the mast once you begin raising it.

There is a brake which prevents the mast crane from pivoting. This is located below the winch cable. It must be released to swing the crane around to attach your mast.

Unlock the electrical switch using your club key and turn on the crane motor.

The raise/lower lever is located at the base of the mast.

Minimum number of people you will need before you begin:

One to operate the crane

One to man the guide rope

One on the dock to guide the base of the mast and the standing rigging.

One on board to receive the mast from the dock and guide the mast into position

Note: Larger and smaller rigs may require a few more, or less people to install safely. For example, if your boat has a furling system, someone should manage the furler so that no equipment is damaged and the foil doesn't kink.

Raising the Mast

Position one person on the mast controls, one at the base of the mast to control lower movement of the mast, and one on the rope to control the upper movement. Before you begin, ensure that everyone knows their role, understands what commands will be used, and who is in charge of calling the shots.

Safety Tip: Avoid walking beneath the mast at all times, in case there is ever a failure of the rope or the mast crane cable. Equipment can be replaced but people can't.

Raise the mast slowly and swing it around to your boat. Verify that the mast isn't top-heavy. Watch that the mast cable doesn't interact with your windex – the cable will win! Many windexes have met their demise this way, even before the season starts! During this manoeuvre, recheck that your standing rigging is outside of the rope.

Note: A common mishap when stepping or de-stepping the mast with the crane is shroud ends getting caught under deck hand rails or deck fittings. This can cause some damage that is easily prevented by

checking that all rigging is detached and clear. You can also pad the ends of the standing rigging when putting the rig on or off so the deck, ports and cabin top don't get scratched. The padding usually prevents the rigging from finding its way under deck fittings or hand rails.

Once the mast base has been passed off to the person onboard, they should be the 'in-charge' person calling the commands. At this time assess whether the boat needs to be shifted forward or backward.

Lower the mast slowly into position. At the appropriate time, shift a second person on deck to assist with steadying the mast while wiring is attached, and to guide the forestay into place once the mast has been lowered into final position.

While moving on deck, try to minimize side-to-side rocking as this will make it difficult to keep the mast in place, particularly for deck-stepped masts.

With one person always securing the base of the mast, have the second person attach port, starboard and back stays. Hand tighten the stays to secure the mast in position.

Once you have visually confirmed that everything is in place, instruct the mast operator to lower the cable, and remove the guide rope from the mast. Hand off to a person on the dock, and walk it over to the base of the mast crane. Remove the rope and secure the hook to the ring. Tighten the mast rotation brake. Place the rope at the base, turn off the motor and replace the lock.

Gather your tools and return your boat to your slip. You can fine tune the standing rigging tension back at the slip, and during your 'shake down' cruise when that occurs.

We strongly encourage teamwork during mast stepping and de-stepping season. There is always someone looking for assistance just like you!

Thanks. Have a safe and happy season!