

STEPPING THE MAST SINGLE-HANDED

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Periodically owners ask for advice on how to do this, so this article is an attempt to help.

Of course there is more than one way of skinning a cat, and there are a number of owners - no doubt younger and stronger and fitter than this septuagenarian, and with the upper body strength of a gorilla - who are entirely happy to stand beside the boat holding the mast upright, and in one operation lift it off the ground and over the deck and put it straight into position in the step and gate. I admire their physical abilities, but I suspect that that method is not for the majority of us; but if you are able to do it, fine.

There are also those who park the boat on the grass, remove the launching trolley, and then capsize the boat (and I hope then prop her up, on her side). Fitting the mast is then easy. But it is heavy and laborious work, and a slow job. And it presupposes that you have a suitable grass surface (or other suitably cushioning surface) available, so that you don't damage your topsides. That method is not for me, either.

Occasional owners have devised A-frames or other lifting rigs to assist. Fine, but I have never found that necessary on a GP14, although I do routinely use a tabernacle together with a lifting strut and a block and tackle on my bigger boat, a 20-ft trailer-sailer yacht.

The method I use requires me to get inside the boat on her launching trolley (or road trailer), and here a note of caution is appropriate. It is a standard dictum that boats are designed to support your weight when they are floating, in which case the upward forces on the hull are distributed over the whole of the bottom of the boat; they are not designed to support your weight when they are on land - whether on a road trailer or launching trolley or otherwise, when the hull is supported in only a limited number of relatively small areas.

However the counter argument is that the wooden Series 1 GP14 is massively over-engineered, and provided the boat is in sound condition and the trailer or launching trolley has adequate supporting surfaces she is amply strong enough to support my weight (mass 12½ stone, or 80 kg). The Series 2 may not be quite so over-engineered, but in my view the design is again amply strong enough to support my weight when on a properly designed trailer or launching trolley, with adequately supportive chocks, and certainly in ten years of owning a Series 2 boat I never had any structural problems as a result of regularly doing so. The ability to get inside the boat makes the job of stepping the mast very much easier.

But if you are very much heavier than I am I can't tell you whether the boat is strong enough; proceed with proper caution. Or, dare I say, lose some weight; but perhaps we shouldn't go down that path!

With plastic GP14s, using the generic term to cover everything from the Mk1 right through to the latest epoxy boats, with all the successive developments in between, the situation is less clear cut. The very earliest fibreglass boats (Mk. 1, and this is possibly fair comment also for Mk 2 and Mk 3) were built when the technology was still young, and was imperfectly

understood. Fibreglass boats of that era, not just GP14s, were a little notorious for structural failure. There were a number of anecdotal cases of chainplates pulling out, and - of more relevance to whether one should get inside the boat on her trailer - of trailers pushing through the bottom of the boat. I myself was party to one such mishap; a friend and I were racing his brand new fibreglass GP14 in Bass Week in the seventies, quite early seventies I think, and while we were pulling the boat ashore on her launching trolley at the end of one of the days' racing we put the launching trolley through the bottom of the boat.

So it is questionable whether the earliest plastic boats are strong enough, although if sufficiently well supported they may be. All I know with any reliability is that around 2009 - 2010, while I was serving on Committee, in the course of discussion on a certain technical issue we were told that the new epoxy boats were stronger than their (polyester) fibreglass predecessors even though their natural build weight was lighter. (In passing, builders were having to artificially increase the weight, beyond what was structurally necessary, in order to comply with the minimum sailing weight requirement of the Class Rules, and it was this point which the discussion was about; Committee wanted to control where and how the necessary weight was added, so that this did not give an unfair competitive advantage.)

So, with the reservation that you must satisfy yourself whether your boat is strong enough to support your weight when on your trailer or launching trolley, here is how I do it.

The first step is to check that the rigging is correct. In particular, check that the shrouds are correctly aligned at the hounds (i.e. where they attach to the mast), with tang ends correctly entered into the mast or shackles not capsized (the method of attachment varies, depending on the age of the rig). Similarly a quick visual check for other problems. If you have been towing by road, you will probably have been using shock cord or other ties around the mast to prevent the rigging flapping around while you tow; most of these will be out of reach once the mast is stepped, so remove them now! If you don't make those checks, sooner or later you will step the mast only to find that it has to come down again because of a problem aloft. A problem aloft that initially tended to afflict me about once per season with one of my boats was one of the shroud tang ends being capsized where it entered the mast, so when the mast was stepped the shroud wouldn't fit!

If you don't use a burgee halliard, and instead have the burgee (or the racing flag) permanently mounted, Chris Hearn adds the recommendation to fit it at this stage. You don't want to be "one of those in the boat park tipping the boat on her side just to add it later!"

In passing, having either the burgee or the racing flag permanently mounted (rather than having it on a halliard) is a popular modern practice, and in this writer's view it is a practice to be deplored. One obvious consequence is that the burgee or racing flag is often then left flying 24 hours a day throughout the season, which is why so many of them appear faded and ragged. It also means that (unless you drop the mast) you cannot switch between racing flag and burgee according to whether you are racing or cruising - so if you do both it means that either you claim to be racing when you are not, or that you fail to display the required rectangular "distinguishing flag" while racing. And you are unable to strike the racing flag after you cross the finish line; but once you have crossed the line you are no longer racing, so you should be no longer displaying a racing flag. That collection of objections may perhaps convince you to do the job properly, mounting the burgee or racing flag on a halliard, in a seamanlike fashion

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At the same time, check that there is nothing tied round the mast low enough to obstruct it going into the gate; if there is, untie it at this stage.

Now prepare the inside of the boat, so that the forward end of the cockpit is unobstructed and you will have room to place the mast on the floorboards first, and to then move it into position. Depending on the configuration of your toestraps, it may be very helpful to disconnect the forward tostrap on the side you are going to use, and fold it back aft over the thwart so that it is out of the way; however that is not convenient on all boats, and it is not essential - it merely makes the job easier.

Now set up the mast vertical, standing on the ground. I find it convenient to use a trailer wheel to assist with this; butt the heel of the mast against the trailer wheel to keep it on the ground, and walk the mast up until it is vertical.

If there is no wind, “vertical” in this context means as accurately vertical as you can achieve, so that the mast feels balanced; if there is a modest (and reasonably steady) wind, lean the mast into the wind slightly, so that it again feels balanced. If it is blowing hard, or if it is very gusty, either wait for a lull or choose a better day!



For the record, the person stepping the mast in the photos is myself, less than two months before my 78th birthday, in September 2020. And, yes, I must do something about that paunch; it is embarrassing!! The boat, *A Capella*, is very well known in the cruising fleet, and was built for me, as a highly bespoke cruising GP14, by Tim Harper in 2005/6. After ten years of ownership, during which I day-cruised her extensively, I passed her over to my godson when I largely retired from dinghies in favour of the yacht; he is on scene, but behind the camera.

I am a creature of habit, so I personally always do this on the same side of the boat. That is largely because the next stage (when the mast is lifted into the boat) can be a little tricky, so every little detail of familiarity helps. There is no preference between the two sides, but I happen to use the port side.

Having got the mast vertical, adjacent to the trailer wheel, now lift it forward – while still keeping it vertical, and close to the side of the boat – until it is about level with the forward end of the side bench.



Now, still holding it with one hand to keep it vertical, get aboard the boat. You can afford to use one hand to help you climb aboard, but your other hand is needed to keep the mast vertical.



Now the big lift, and this is the most difficult part of the operation ...

I stand facing the mast, at right-angles to the boat, with my legs apart. Grip the mast with both hands, with one hand as low as possible; the upper hand cannot be placed too high because you are about to lift it several feet, but you want the hands as well separated as possible. You may need to slide your hands down the mast during the lift, one at a time, but try to keep this to a minimum, and always keep the two hands well separated. The aim is to lift the mast straight up in the air, keeping it vertical all the time, then bring it inboard - keeping it well clear of the deck, and then lower it onto the floorboards between my feet.



*NB. Hands are not yet in the optimum position;
photographer was a fraction ahead of me!*

Two very important points to note:

- If you have nicely varnished decks it is imperative to keep the mast off the deck, to avoid damage to your pristine varnish. Even more important is the risk, if you lose control, of the mast crashing down on the deck hard enough to actually break the plywood.
- If at any point you feel the mast is getting out of control, perhaps due to wind, or to misjudging the balance, put it down immediately:
 - If the loss of control arises before you have brought it inboard, put it straight back down onto the ground; if necessary (if you feel you are seriously losing control) you can afford to do this moderately hard.
 - If the loss of control arises after the heel of the mast has cleared the deck, if at all possible get it down onto the floorboards (between your feet) as quickly as you like, but if you need a staging post before you can safely get it there the forward end of the side bench is less vulnerable than the deck.



Now that both you and the mast are inside the boat, and the mast is vertical, the rest is easy. In either order, while still keeping the mast vertical I now reposition my feet so that I am standing either side of the centreboard case, facing forward, a little abaft the mast; and I rotate the mast if necessary so that the forward face is actually facing forwards. Then it is a simple matter to lift the mast into position, still keeping it vertical, and push it forward in the slot, and (temporarily) close the gate.



Now attach the standing rigging. Assuming that your shroud lengths are correctly adjusted you won't need to re-set them each time you step the mast, but if you are setting up the shrouds for the first time see the tuning guides in the Members' Library.

With a modern race rig you won't be able to attach the shrouds without first opening the gate and letting the mast come part way out of the slot; but before doing that it is good practice to attach the forestay in order to limit how far aft the mast is allowed to come. There is of course a limit to how far is possible, reached when the mast hits the centreboard handle, but this puts an unfair load on both parts, so it is good practice to use the forestay to stop the mast just before this happens. Now attach your shrouds, using the correct holes in the adjusters if that is the adjustment system your boat uses, and then tighten the forestay; on the modern rig it is normally attached by a lanyard, so tighten this lanyard. You probably still can't close the gate, unless you apply brute force to push the mast forward - this is what achieves the desirable pre-bend in the modern rig - but once you have hoisted the genoa and set up the correct tension on the genoa halliard the gate will close easily.

With a vintage rig the situation is a little different. A good starting point is to assume that the mast is not going to bend significantly, and that it is meant to go into the slot with the gate closed. The shroud lengths should usually be appropriate to achieve that, with modest tension in the standing rigging and the jib halliard. If the shrouds are already set to length it may help to allow the mast a short way out of the open gate while you attach the shrouds, but once that is done there will probably be no significant effort needed to push the mast home into the slot and close the gate. The forestay on the vintage rig may well be attached (and the length adjusted) by a rigging screw, although there is no fundamental reason why a lanyard should not be used. But once that is done, if you haven't already set up the lengths of your shrouds, be prepared to experiment to adjust the rig for the best overall sailing performance.

Finally, if you disconnected one of the toestraps don't forget to now reinstate it.

Unstepping the mast is of course the reverse of the above.

In a discussion on the Class Association Forum Chris Hearn contributed: **'I use that method on my wooden Series 2.**

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'I like the boat to be a little "bow down" on the trolley, so that any windage tends just to bring it vertical, rather than on top of me. And when lowering into the boat I also find it easier to locate the foot before letting the mast back into the gate, which a "bow down" boat helps a bit. Before the shrouds and forestay are attached this makes it easy for mast to enter the gate. Then jump out and loosely attach forestay as you describe – (if forestay is too tight you won't be able to attach shrouds in the right position) – several people use a bit of bungee in addition to the lanyard – this also stops the forestay going "too loose" once full rig tension is applied.

'Finally I personally also make sure the twinning line is in position behind (i.e. forward) of the mast foot – not such a big deal to re-run it afterwards, but every little helps.'