

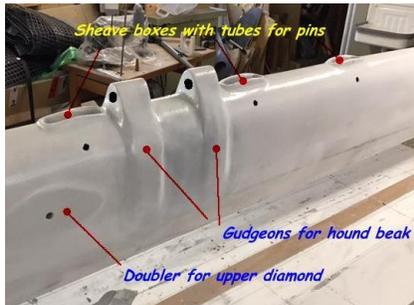
## LIST of Differences between the Mark I and Mark II Waters WingMasts

The bolt rope option, while still possible, is replaced by an installed track for the Mk.II design, so that batt-cars can be used .. something that many sailors prefer for easy raising and lowering when dealing with a large mainsail. Personally, I prefer the finer tail and added efficiency of the bolt rope design, which I find can be made to work up to about a 12m (40ft) mast, though this is probably the practical limit. It should be noted that if your experience with bolt ropes is poor, you need to ask yourself if the mast concerned was rotating or not. Just by adding rotation to your mast will *significantly* add ease to the way your sail can be raised and lowered, as it takes off a *lot* of friction at the side of the slot. But I agree, even with a rotating mast, that has its limits and a 40ft luff is mine. Over that, definitely plan on using a track. (I should clarify that the option for a track is also included in the Mk.I manual but the bolt rope detail is only shown in the Mk.1 manual)



Other strength issues also kick in for the larger Mk.II.

First, the Mk.II features a heavier, integrated mount to take compression at the pivoting ball.



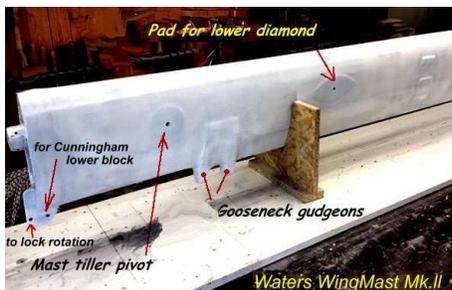
The Mk.II replaces the fixed beak at the hounds (which is fine up to 33ft (10m) masts), with a pivoting one that reduces stress in this critical part.

The Mk.II also accommodates more internal halyards as are common for larger boats with a wider range of foresails to be flown.

The Mk.II also uses a mast rotation tiller that is more typically connected to blocks on the deck or cabin top to give maximum versatility for fine tuning, whereas the Mk.1 shows a tiller connected to the boom as a limit to its relative angle with the mast .. a system that works fine for the less critical mast angles of the Mk.I design.



The Mk.II also shows a streamlined spreader design for less air drag.



The Mk.II shows a more traditional gooseneck mount that is strongly built on to the mast wall, whereas on the Mk.I, the recommended boom is a rotating one that is connected to a shaft through the mast, not unlike the original Farrier one, except that the crank is removable to avoid a 2<sup>nd</sup> hole in the mast for the slide-in handle, that can weaken the mast and add

further construction complexity for the CF mast.

Finally, to handle the extra halyards, the sheave box at the top of the Mk.II mast is of a different design to contain more sheaves for the extra halyards.

Having outlined these differences, it's important to note that there is no technical reason that any of these optional design features cannot be interchanged between the Mk.I and the Mk.II designs, so if you want to take your pick of features, you can purchase both manuals for just \$100 over the current cost of the Mk.II manual, but still with approval to build one mast. If you wish to be able to build a mast of both designs, you will need to sign a waiver and purchase a Manual for each mast. If you wish to build more than one mast to either of the designs, please contact the designer to work out a Royalty arrangement that will be of more benefit to you than buying a Manual for each.



It should also be noted that when it comes to reefing with a wingmast like this, much consideration should be given to using a *custom designed storm mainsail*. It has been found that a tall, slim stormsail with an aspect ratio of about 6:1 works extremely well behind a rotating mast, with the mast now becoming about 20% of the total chord of the mast-sail combination .. so approaching more to a fixed wing. This provides a way of reducing area and heeling, but without giving up the upwind efficiency that a rotating wingmast can offer and on tests, an upwind speed of about 80% of the full sail performance was achieved with only 1/4 of the mainsail area. So, once you have your Waters



Wingmast installed, instead of deep reefing a large main, consider changing to a short foot storm maim, that is both easy to stow away and more relaxing to use while still sailing fast.

Waters Wing Masts



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