

## Twin Spinnaker Pole System W11012

### String launched with twin guys and twin sheets

Twin spinnaker pole arrangements have been used in various classes for a number of years. An early arrangement was used in Hornets and Scorpions in the 1980's and a push-out/manual twin pole system has been used by Merlin Rockets for about 20 years. A string launched pole is essentially one where the crew pulls on a control line to set the pole. The 505 class in particular was using string launched single ended poles through the 1980's to the early part of this century and around the mid-noughties sailors in Australia and the USA started working on string launched twin pole setups for the 505 to go along with their long poles and mega-spinnakers.

An interesting article was published on Sailing Anarchy a few years ago at <http://forums.sailinganarchy.com/index.php?/topic/101399-zen-and-the-art-of-making-the-505-double-pole-system/> which shows the development of the systems to twin poles and twin guys. The advantage for the 505 is that it enables a wire to wire gybe to be completed successfully in windy conditions without the crew having to stand by the mast wrestling with the pole. The advantage of using twin guys/sheets over using the traditional twinning lines is that it is possible to pre-set the lazy guy so that as it becomes the new guy following a gybe it is no longer necessary to set and release the twinning lines (which takes time).

The Merlin Rocket class jumped on the string launched twin pole band wagon a few years ago. Because of their rig geometry they don't use twin sheets and guys; a non-overlapping jib helps. The advantage for the Merlin is that they have fine sections forward and often lady crews. String launching again means weight can be kept aft if necessary and it also helps the lighter crews. The Flying Fifteen has also adopted twin poles in some numbers in the last few years, using a system very similar to the 505.

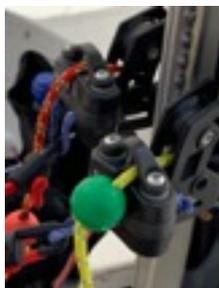
The history in the Wayfarer goes back 20 years or more when an engineer from Hayling Island Sailing Club fitted twin spinnaker poles to the boat he raced with his wife. Arguably, this system put him out of class which at the time permitted only one spinnaker pole and a jib stick. I think there was also an Allen Brothers works boat in 2009 which had twin poles (but based upon the old Hornet system). On the initiative of Mike McKechnie, then the UKWA Racing Secretary, the Wayfarer class rules were changed in 2013 to permit two spinnaker poles. Mike installed the Allen Brothers version of a twin pole system on his boat W10710. That boat has changed hands but was seen on the circuit in 2018 with the same system. I tried a push-out/manual twin pole system on W11012 for a few weeks in early 2015 but abandoned it when we had a big tangle at an open meeting. W88, which is a wooden boat, fitted twin poles in 2016 (Pinnell & Bax did the work). W88 has spinnaker bags (not a chute) so twin sheets and guys was not an option. The system is still in use on

W88 and working well. I fitted my system to W11012, which I sail with my wife, in 2018, used it successfully throughout that season and continue to use the system today (2020). I also saw a similar system fitted by Hartley Boats to W11244 in 2018. Meanwhile, W11283 fitted a sophisticated push out twin pole system in 2019. The system on that boat was designed by a Merlin Rocket sailor and closely follows the Merlin ethos connecting the spinnaker guy to the spinnaker pole downhaul which needs to be tightened after the pole has been deployed to draw the spinnaker clew to the the pole end.

How does the system on W11012 work? We have a duplicate system on each side of the boat. A special fitting, called a Spiro, is attached to the mast which has a pulley on each side. Each pole has a ball fitting at the inboard end through which the launch line runs and a bush at the outboard end. On the



outboard end of the pole launch line there is a ring through which the guy runs. As the pole is deployed, the launch line is cleated in a swivel cleat on the mast. I use the continuous spinnaker sheet as before and each end attaches to one clew of the spinnaker. There is a separate guy on each side of the boat the end of which runs through the ring on the launch line and which also attaches to the clew. The guy is taken through



Swivel cleats for launch line

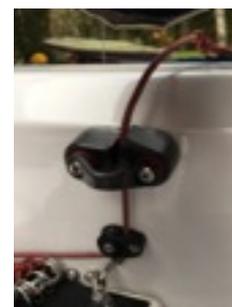
some blocks and then to a 3:1 purchase which runs along the seat to a cleat (the same cleat on the side tank which was used for the sheet/guy in the old single pole system). Originally I fitted just a 2:1 purchase but we have found the greater power of 3:1 makes it easier to adjust the guy under load on a tight and windy reach. I fitted a separate small and light cleat on the thwart to tidy up the sheets although that is rarely used.



The route of the guy (1)



The route of the guy (2)  
The purchase is now 3:1 rather than 2:1



The cleat for the guy

The launch line runs from the outboard to the inboard end of the pole. It then leads to the mast fitting and then down to a cleat fitted to the mast. As the crew pulls the launch line it simultaneously draws the guy close to the outboard pole end and launches the pole.

Because of the geometry you have to move the pole topping lift sheave up the mast to a point just below the genoa halyard mast sheave. There are twin pole uphauls

which join together just as they enter the pole topping lift sheave. Pole height is then adjusted in the normal way.

The poles are retracted by shock cord elastic. One end attaches to the inboard end of the pole. The elastic enters the boom through a pulley at a point just aft of where the inboard pole end will sit when the pole is stowed. The elastic then runs up and down the length of the boom a few times before it emerges through a pulley on the opposite side of the boom and connects to the inboard end of the other pole. It is important that this elastic is both thick (5 or 6mm) and tight.

There is a second piece of elastic (8mm) which runs from the aft end of the boom around the front of the mast at a point 3-4 feet above the gooseneck and back to the aft end of the boom on the other side. There is a small block attached to each pole at its inboard end which runs over this elastic. This elastic is designed to be a rail down which the pole runs as it retracts. It serves a twofold purpose; (a) it keeps the pole end a bit more under control as it retracts mitigating the risk of it hitting the helm or crew between the eyes, and (b) it supports the pole preventing the inboard end from dropping below the boom and becoming tangled up in the mainsheet.



General arrangement showing the elastic rail



The bead bracelet

There is a third piece of elastic which I use. On each pole is a bead bracelet. This slides fore and aft along the pole as the pole is launched or retracted. The bracelet is connected to elastic which enters the boom at its forward end. The elastic runs to the aft end of the boom and returns to emerge on the opposite side where it connects to the bracelet on the other pole. This serves two purposes; (a) it keeps the inboard end of the pole tidy when it is stowed and stops it banging against the mast and boom which can cause a real din, and (b) the downward tension on this elastic when the pole is deployed encourages the ball at the inboard end of the pole to come out

of the mast fitting when the launch line is released from its cleat which helps the pole retract.

I launch and retrieve the spinnaker. The crew launches and retracts the pole. On a gybe one of us pulls the lazy sheet on the windward side so the spinnaker rotates around the boat during the gybe as the windward pole is retracted.

What are the disadvantages and lessons learned?

1. There's a lot of string and elastic and the mast fittings are expensive (£250-300) although W10710 uses a version designed by Allen Brothers and 30mm blocks attached to the existing spinnaker pole mast eye which saves cost.
2. On W11012 the pole launch lines which are tapered have twisted as you launch the pole. This means that the ring which runs along the guy as the pole is launched then twists the guy and occasionally we have struggled to draw the spinnaker clew to the end of the pole (like an elephant, this problem is hard to describe but you would recognise the problem if you saw it). I changed the launch lines to a different make of line but that didn't truly solve the problem. We eventually solved the issue by fully pulling out the launch line each day and making sure it is untwisted before we go sailing.
3. Originally, my system was designed to do without downhauls. That's the reason why I've fitted a block on the gunwale each side further forward than the shrouds. The 505's do without downhauls. I used to race a Sonata without a spinnaker downhaul. A consequence of having no downhaul is you can get a bit of pole bounce.
4. Finally, when you gybe, there's a risk of the pole which is retracting dropping below boom level and either hitting the crew/helm or getting caught up the wrong side of the mainsheet half way along the boom. This was a problem in the Merlins too and they got over it by reinstating the elastic rail which ran from the mast front a couple of feet above the pole eye on the mast to the back of the boom and which the spinnaker pole used to run back along to stow in the old push-out/manual systems. I have adopted the same system. It is a bit more time consuming to hoist the mainsail now but the elastic rail has cured the other retraction problems.

I do think the advantages outweigh the disadvantages. My crew is able to launch and retract the pole easily and probably in half the time she used to spend. This gives us gains at every operation, especially at launch and on a reach to reach gybe. For obvious reasons there hasn't been much sailing in 2020 but I still have clear memories of a couple occasions in 2019 when the twin sheet/twin guy approach paid dividends, both at windy gybe marks at Shoreham and at Greystones in rough seas, when our ability to gybe the spinnaker and deploy the new spinnaker pole which was automatically set for a close reach without having to worry about grappling with the pole at the mast or reset the twinning line let us steal a significant march on our nearest competitors.

Here are some links to some YouTube footage of twin poles. The first of these is of W11012 gybing while the others are of a 505 and a Scorpion. The footage of

W11012 was taken in the Spring of 2018 before we fitted the elastic rail to support the pole better as it retracts.

<https://www.youtube.com/watch?v=94IOSM0Xxm0>

<https://www.youtube.com/watch?v=N4l8vIMsUyc&t=59s>

<https://www.youtube.com/watch?v=pJxoUnDwIH4>

<https://www.youtube.com/watch?v=eJZQWyZb7Cc>

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October 2020