HERON POLE LAUNCHER

These instructions explain how to set up an automatic pole launcher on a Heron. This version of the system is just one of the many variations that are used in the fleet but it works for me.

The picture below shows the pole launched and in action. This shot shows my genoa (10272) wasn't extended far enough and wasn't presenting the full sail area to the wind. Peter V on the other hand had his jib set perfectly.

I subsequently extended my pole which is reflected in the measurements below.

General description

In its stowed position, the pole sits neatly along the boom and, if set up properly, shouldn't hang down much below the boom. It doesn't matter which side you install the pole on. A 4mm cord runs from the aft end of the pole to a pulley on the side of the mast just below the gooseneck and then down to a block and cleat on the bulkhead. Some people run the cord to aft of the main thwart and have a cleat there; this is a matter of personal preference.

There is another cord that runs through a hole in the front end of the pole and exits through a slot in the side of the pole about 50mm from the front. The end of the cord that comes out of the front of the pole is attached to the clew of the jib/genoa. The end that comes out of the side of the pole is attached to the front of the mast at around the height of the gooseneck.

A length of shock cord is secured at both ends of the pole and runs through a small cheek block on the side of the boom close to the gooseneck. This ensures the front of the pole stays close to the boom when it is stowed and keeps the aft end of the pole in position when it is launched.

Another piece of shock cord is attached to the aft end of the pole and enters the boom through a block inserted in the boom adjacent to the aft end of the pole in its stowed position. This shock cord then runs down the inside of the boom to a pulley attached to the inside of the boom just aft of the gooseneck, then back to a pulley just inside the aft end of the boom and then forward to a small hole in the side of the boom just aft of the gooseneck. The shock cord exits this hole and is secured there with a figure eight knot. You need this length of shock cord (effectively 2.5 x the length of the boom) so that it can stretch approximately 1.8m as the pole is launched and then contract when the pole is released to effect automatic retraction. Tell your crew to watch their heads as the pole can come back quite quickly!

Required hardware

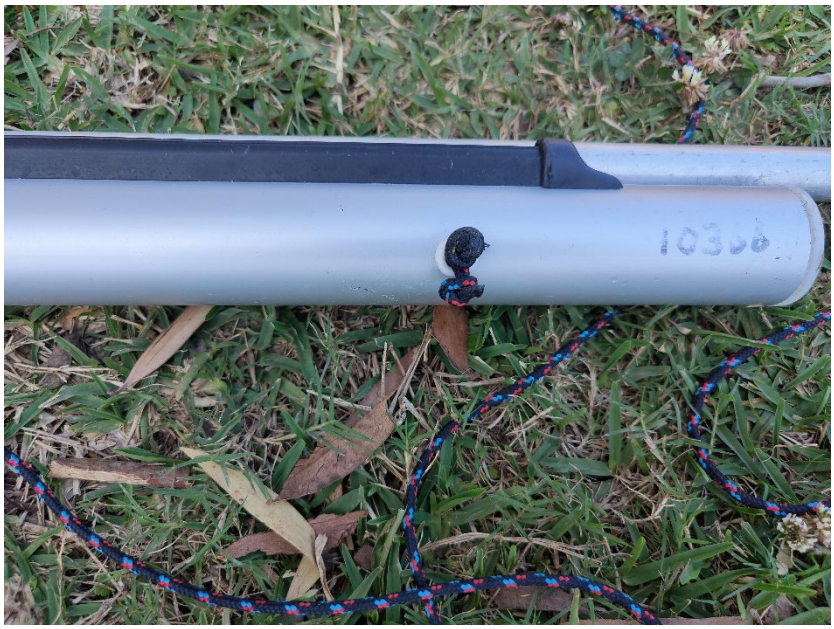
You'll need the following hardware:

- Pole – I use 25mm aluminium tubing from Bunnings with a wall thickness of 1mm. The length in situ is 1860mm;
- Small cheek blocks x 2;
- Small exit block x 1;
- Small pulleys x 2;
- Block and cleat x 1 (for bulkhead);
- Small stainless steel saddle x 1;
- Shock cord x 10m;
- 4mm cord x 6m;
- Dyneema x <1m; and
- Small plastic end caps for pole x 2.

Detailed modifications

Boom

1. Drill a hole in the side of the boom just aft of the gooseneck. This hole should be on the opposite side to where the pole is going to sit and will be used to secure the end of the shock cord. The hole should be large enough for the shock cord to exit.



On my boom I also terminate the internal outhaul control line through this hole. I've also used a small nylon insert to make it neater and stop chafing.

2. Remove the gooseneck fitting (as you can see from the photo above, I use a laser nylon gooseneck – you'll have to adjust this step if you have a different gooseneck). Once removed, attach a small pulley to the back end of the gooseneck. With the nylon fitting I used a soldering iron to make a hole in the fitting and then lashed a small pulley through that hole. Don't replace the gooseneck fitting yet!

3. Install a small cheek block just inside the aft end of the boom.

You can see the shock cord looping round this block.

4. Cut a hole for an exit block in the side of the boom on the same side as the pole will be installed. The centre of the block should be 1760mm from the front end of the boom. Move to the next step before actually riveting in the exit block in place!

You can see the original hole which was for my set up before I installed a longer pole.

5. Cut a 6.6m length of shock cord and feed it through the hole in the side of the boom that you made in step 1 above.
    a. Tie a figure eight knot in the end of the shock cord and feed the entire length through the hole and towards the aft end of the boom.

b. Feed the cord around the cheek block you installed in step 3 above and back down to the forward end of the boom.

c. Feed the shock cord around the pulley you attached to the gooseneck fitting in step 2 above and then back down the boom to the hole you cut for the exit block.

d. Use a pair of long nosed pliers to retrieve the shock cord through the exit block hole, pass it through the exit block and then rivet the exit block in place.

e. Make sure you tie something to the end of the shock cord so it can't accidently disappear into the boom again!!

6. Replace the gooseneck fitting.

Pole

1. Cut a 1860mm length a of 25mm aluminium tube. You'll find different Heron sailors use different lengths for their poles. I have found this is an ideal length that works with both a jib and a genoa.
2. Drill a hole in the side of the pole about 100mm from the front. This hole will be used to terminate the forward end of the shock cord that runs along the length of the pole so it should be about the same diameter as the shock cord.
3. Cut a 2m length of shock cord and insert one end through the hole you drilled in step 2. Feed the end of the shock cord out through the front end of the pole, tie a figure eight knot and then pull it back so the knot is tightly behind the hole.

4. Cut a slot in the side of the pole close to the front end.

The end of the cord that exits through this slot will be attached to the front of the mast. The other end of the cord exits through the end of the pole and is attached to the clew of the jib/genoa.

5. Insert a plastic end cap in the forward end of the pole. This can be bought from Bunnings and should be flush with the external sides of the pole to avoid catching on anything. As you can see, I've secured mine in place with rivets. Drill a large hole in the end cap so the cord connected to the clew of the jib/genoa can run freely.
6. Cut a 1800mm length of 4mm (or smaller) cord and feed it through the end cap and out through the slot. The end that comes out from the slot will be attached to the front of the mast and the end that comes out of the end of the pole is attached to the clew of the jig/genoa.
7. The end cap for the aft end of the pole is a little trickier to install as it has to terminate the shock cord that exits the boom, the shock cord that runs to the other end of the pole and the 4mm cord that is used to launch the pole.
    a. Cut a 3300mm length of 4mm cord. This will be your launch cord and will need to be longer if you decide to run your launch line further aft than the bulkhead.
    b. You should now have two bits of shock cord (one coming out the side of the boom and the orther from the front of the pole) as well the 4mm launch cord you just cut.
    c. Before inserting the end cap into the aft end of the pole, drill a hole just large enough for the ends to the two lengths of shock cord and the 4mm launch cord to fit through. Push them through the hole on the end cap and tie figure eight knots to stop them pulling back out through the hole in the end cap.

d. This is the time to adjust the length of the two bits of shock cord to enure they have the proper tension. If they are not tight enough the pole will hang losse below the boom and won't retract properly after use.

e. Once complete, the end cap can be inserted and riveted into place.

Make sure you run the shock cord that runs along the pole through the cheek block that you'll later attach to the forward end of the boom otherwise you'll have to dismantle one end later in order to thread the shock cord through.

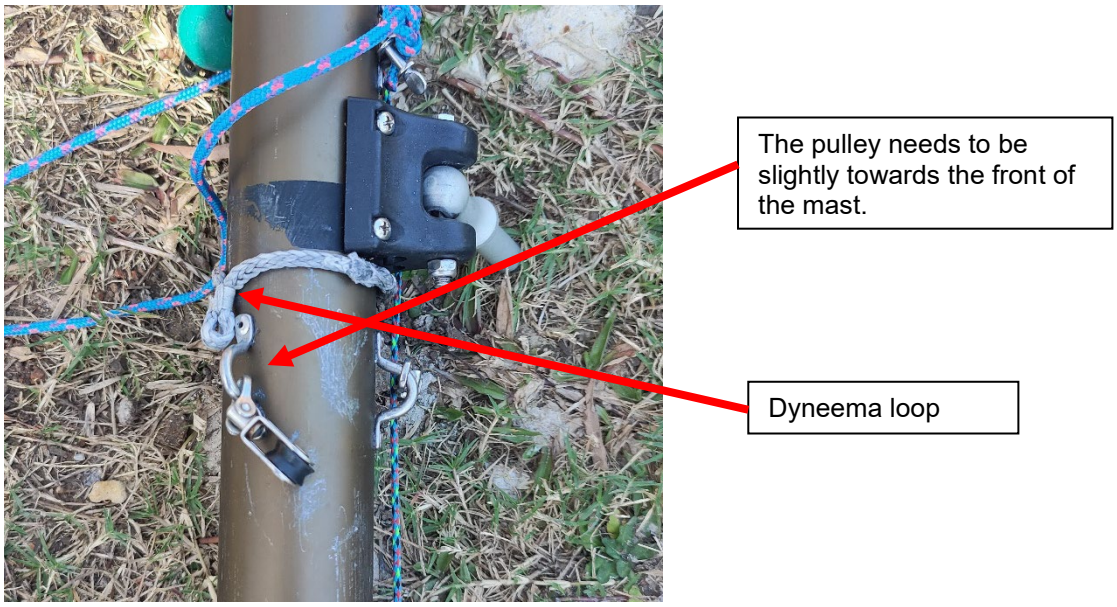
Putting pole and boom together

1. The pole is already tethered to the boom by way of the shock cord that runs up and down the inside of the boom.
2. To complete the attachment, rivet the small cheek block (that you threaded on to the shock cord running along the pole) to the outside of the boom just aft of the gooseneck. This needs to be on the same side as the pole.

As you can see from this picture, this block supports the front of the pole when stowed and keeps the aft end of the pole in position when launched. Shock cord is used as when the pole is launched the aft end of the pole needs to be forward of the gooseneck.

Mast

1. Rivet a stainless steel saddle to the same side of the mast as the pole and just below the height of the gooseneck. It should also be slightly towards the front of the mast. Attach a swivel pulley to this saddle. The launch cord will be fed through this pulley and then down to the block and cleat on the bulkhead immediately below.



2. Make a dyneena loop and slide it up the mast to just above the saddle and pulley. Use whipping twine to create a smaller loop in the dyneema to which you will attach one end of the cord that runs through the front end of the pole. I use a spring shackle on the end of the cord to make this easy.

Bulkhead

1. The last installation step is to install a block and cleat on the bulkhead immediately below the pulley on the mast.

Be careful with the placement of this block and cleat as it needs to be clear of the vang and any other control lines in the area,

Rigging

When rigging the boat, the following additional steps are needed to connect the auto launch pole.

1. Feed the launch cord which is secured to the aft end of the pole through the pulley on the side of the mast and down through the block and cleat on the bulkhead. Make sure its clear of the vang and any other controls.
2. Connect the end of the cord coming out of the slot at the forward end of the pole to the dyneema loop on the front of the mast.
3. Connect the end of the cord coming out of the forward end of the pole to the clew of the jib/genoa. I simply tie this to the shackle attaching the jib sheets to the jib.
4. Make sure the front end of the pole in its stowed position is alongside or even slightly forward of the mast. This avoids the possibility of the pole getting stuck on the back of the mast (or even launching on the wrong side of the mast) when you yank on the launch cord.

Operation

1. To launch the pole you simply pull on the launch cord until the aft end of the pole is as far forward as it will go. The end of the pole should be hard against the pulley on the side of the mast.

2. To retrieve the pole you simply un-cleat the launch cord and the shock cord will contract and the pole will automatically return to its stowed position.