

Rigging a Traditional Gunter (Gaff) Rigged Heron

The traditional Heron rig is set up so that the mainsail is carried on three spars - a mast, gaff and boom. These notes outline how to rig a Heron with this spar configuration.

There are a number of variations in fittings and systems found on Herons. Hopefully, these notes will provide sufficient information to work out how things fit together.

Step 1 – Raise The Mast

1. Identify the top and bottom of the mast.

- 1.1. The very bottom of the mast has a square or rectangular shape (tenon) that fits neatly in a socket on the deck just forward of the cockpit (the mast step).
- 1.2. The top of the mast has wires (stays) attached that support the mast.
- 1.3. The wires and/or ropes used to haul up the sails (halyards) run through pulleys which are at or near the top of the mast.

2. Tidy up the halyards.

- 2.1. Often, the part of the halyard that will carry load when the sails are up is made of wire, while the part that only carries load when rigging (the tail) is made of rope.
- 2.2. There are two sets of halyards on a Heron – the halyard for the jib (the sail at the front of the boat) and the halyard for the gaff.
- 2.3. A conventional jib halyard runs through a pulley on the front of the top of the mast. The pulley may be attached to the top of the mast by a short length (strop) of wire. If the mast is hollow aluminium tube, the jib halyard may run into the front of the mast through a pulley and run down the centre of the mast. The halyard tail will then exit from a hole in the mast near the base.
- 2.4. A conventional gaff halyard will run through the mast from the back to the front. Again, the halyard may run into a hollow aluminium tube mast through a pulley and run down the centre of the mast, exiting near the base.
- 2.5. Before rigging, the halyard ends should be tied off so that the halyards are flush against the mast and not tangled with the stays. Take care not to pull the ends of internal halyards into a hollow mast.

3. Identify the stays.

- 3.1. The side stays (or shrouds) are usually attached to the sides of the top of the mast. The side stays are always made of wire.
- 3.2. The rigging forestay is attached to the front of the mast. It is usually made of light wire or cord. The rigging forestay has an eyelet or loop at the bottom.

4. Raise the mast

- 4.1. Turn the boat so that the bow is pointing into the wind.
- 4.2. Lay the mast longitudinally on the boat so that the mast is on its back i.e. the rigging forestay is on the upper side. The bottom of the mast should be between the mast step and the bow and the top of the mast should overhang the back end (transom or stern) of the boat.
- 4.3. Make sure that the stays are free and not twisted around the mast.
- 4.4. Attach the side stays to the chainplates. The chainplates are stainless steel loops or plates that can be found on the outer sides of the hull around 30 centimetres aft (towards the stern) of the forward edge of the cockpit. The side stays are usually attached to the chainplates with shackles.

- 4.5. Lift the mast and place the mast base tenon in the mast step. Pull the rigging forestay towards the bow of the boat. This is easier when carried out by two people.
- 4.6. Attach the rigging forestay to the bow fitting. This is usually done by using cord looped several times through the bow fitting and rigging forestay eyelet. The cord is tied off with half hitches. The rigging forestay should be left quite loose.
- 4.7. Check that all shackles are tight and that the stays are not excessively twisted. If a side stay is twisted, undo the rigging forestay, lower the mast, undo the side stay, take out the twist, reattach the side stay and raise the mast again.

Step 2 - Rig the Jib.

1. Identify the front edge, top and bottom of the jib.

- 1.1. The jib has a wire in a sleeve that runs down its front edge (or luff). This wire is the forestay and takes the strain of the rig when sailing. There are eyelets at each end of this wire.
- 1.2. The cloth at the top of the jib (head) is cut at a more acute angle than the cloth angles at the bottom (foot) of the jib.

2. Attach the forestay to the bow and halyard.

- 2.1. Attach the eyelet on the bottom of the forestay (near the jib foot) to the bow fitting using a shackle or pin.
- 2.2. Attach the eyelet at the top of the forestay (near the jib head) to the end of the jib halyard that exits through the front of the pulley on the front of the mast. This is usually done with a shackle.

3. Raise and secure the jib

- 3.1. Pull on the other end of the jib halyard to raise the sail.
- 3.2. When the jib is raised, secure the halyard at the base of the mast to keep the sail up. This is often done simply by running the rope halyard tail around a cleat and back through the halyard eyelet several times, and then tying off the rope with half hitches.
- 3.3. The forestay in the jib should be tight.
- 3.4. The aft corner of the jib (clew) is then attached to the control ropes (jib sheets). There is a sheet for each side of the boat (usually two halves of the same piece of rope). The sheets are usually shackled or tied to the jib and are then taken back to the eyelets (or fairleads) on either side of the cockpit. Tie a figure of eight knot in the end of each sheet.
- 3.5. There are usually cam cleats on the fairleads that are used to hold the sheets. Tighten the sheet on one side and cleat it so that the jib does not flap.

Step 3 – Prepare the Gaff and Mainsail.

1. Identify the front (luff) and top (head) of the mainsail.

- 1.1. The luff of the mainsail has a rope (bolt rope) along it, either sewn directly to the sail or placed in a sleeve that runs down the luff. The bottom (foot) also has a rope along it. The luff of the mainsail is much longer than the foot.
- 1.2. The angle of the cloth at the head of the sail is more acute than the angles at the foot.

2. Check that the battens are in the mainsail.

- 2.1. The battens are fibreglass or wooden stiffeners that are placed in pockets in the mainsail. There are three battens in the mainsail.

2.2. Make sure that each batten is secured in its pocket. The lower two battens are often sewn into the sails, leaving the top batten as the only one that needs to be tied in.

3. Identify the lower and upper ends and front and back of the gaff.

- 3.1. The lower end of the gaff has plates (jaws) on each side. The plates can be made of wood, metal or plastic.
- 3.2. The upper end of the gaff has some way of attaching the head of the mainsail. This is often just a hole through the gaff through which cord can be tied.
- 3.3. The back of the gaff has a channel or groove cut into it.
- 3.4. The front of the gaff has a device for attaching the gaff halyard around one third of the way up from the lower end.

4. Attach the mainsail to the gaff.

- 4.1. Starting at the head of the sail, slide the bolt rope into the channel in the gaff.
- 4.2. Pull the sail up the gaff until it is around 10 centimetres from the top, or near a mark that has been made in the gaff.
- 4.3. Tie off the head of the sail at the top of the gaff using several loops of cord and half hitches. Fine tuning of the position of the sail on the gaff will be done in a later step.
- 4.4. Place the gaff and mainsail along the cockpit of the boat, with the upper end of the gaff hanging over the stern and the lower end and jaws near the mast. The forward edge of the gaff must be facing upwards.

Step 4 – Raise the Gaff and Mainsail.

1. Attach the gaff halyard to the gaff.

- 1.1. Attach the end of the gaff halyard that exits from the aft side of the mast to the gaff. This is most commonly done by placing a loop in the end of the halyard into a slot in the front of the gaff. A pin or bolt is then placed through holes in each side of the gaff and the loop in the halyard.

2. Raise the gaff and mainsail.

- 2.1. Make sure that the jaws are either side of the mast. There may be a tie cord attached to the jaws to secure the gaff to the mast. This is optional as pressure from the halyard should keep the base of the gaff against the mast.
- 2.2. Pull on the other end of the halyard to raise the gaff. Take care that the jaws continue to straddle the mast. The gaff should be raised to a point where it is hard up against the mast.
- 2.3. Secure and tie off the gaff halyard at the base of the mast. As with the jib halyard, this is often done simply by looping the halyard tail around a cleat and running it back through the halyard eyelet several times before making half hitches.

3. Check the height of the mainsail.

- 3.1. With the gaff hard up against the mast, the bottom of the sail should be just above the black band on the mast. If there is no black band, the bottom of the sail should be about 2/3 of the way up the track (if a track is present) on the aft side of the mast. If there is a fixed boom attachment point on the mast, the bottom of the mainsail should be just above it.
- 3.2. If the bottom of the sail is not at the right height, lower the gaff and adjust the position of the top of the sail on the gaff to compensate. Raise the gaff and check the height. When the height is right, mark the gaff so that the right sail height is achieved each time.

Step 5 – Attach the Boom

1. Prepare the boom

- 1.1. The boom is the spar that is attached to the bottom (foot) of the main sail. It is made of aluminium tube or wood.
- 1.2. The boom has a track or groove on its upper surface.
- 1.3. The forward end of the boom has a device (the gooseneck) to attach the boom to the mast.
- 1.4. The aft end of the boom has a pulley on the lower side to take the mainsail control rope (mainsheet).

2. Attach the boom to the sail and the boom to the mast.

- 2.1. Starting at the aft end of the sail, thread the foot bolt rope into the forward end of the boom's channel or groove.
- 2.2. Attach the boom to the mast. This is often done with a slide on the boom that fits into a track on the mast. The lever on the slide can be turned to the side to raise the pin in the slide when putting the slide in the track. Returning the lever to the centre will lock the slide by releasing the pin into a hole in the track.
- 2.3. Attach the forward corner (tack) of the mainsail to the gooseneck. This is most often done by screwing a threaded pin through metal plates either side of an eyelet in the sail.
- 2.4. Attach the aft corner (clew) of the mainsail to the boom. Sometimes, this clew is simply tied off using a cord. However, there is often a system to adjust foot tension while sailing. This may require a control line to be shackled to the clew. This line will lead to a pulley system purchase and a cleat on the underside of the boom.

Step 6 - Attach Other Lines

1. Attach the mainsheet

- 1.1. The mainsheet is the main control rope for the mainsail.
- 1.2. One end of the mainsheet is tied to the transom (stern) beam at a point about 20 centimetres from the centre of the beam. There is usually a saddle (a bent stainless steel strip secured by a screw at each end) or a hole in the beam at this point.
- 1.3. The mainsheet is then fed through the pulley on the end of the boom and back to the transom on the other side of the centre.
- 1.4. There is usually a pulley or eyelet at this point. The rope is fed through the pulley or eyelet and back into the boat.
- 1.5. There is usually a pulley on the aft end of the centreboard case through which the mainsheet is finally taken. This pulley is often a ratchet block. Make sure that the rope is going through the pulley the right way (ratchet sounds when the mainsheet is pulled on, sheave locks when the mainsheet is let off).
- 1.6. Tie a figure of eight knot in the end of the mainsheet to stop it running out through the pulley.

2. Attach the boom vang.

- 2.1. The boom vang is usually a pulley purchase system that attaches to a point on the boom about 30 centimetres back from the gooseneck.
- 2.2. The other end of the vang is attached to the base of the mast or a point on the bulkhead or kingpost (vertical support under the mast) at the forward end of the cockpit.

- 2.3. The vang is essential to stop the boom rising and is necessary for safe sailing.
- 2.4. The vang can attach by a shackle, hook or sliding key and socket arrangement.

3. Attach the luff lacing

- 3.1. The luff of the mainsail is attached to the mast using light cord wound around the mast and through the eyelets in the sail. The cord is usually permanently tied to the highest eyelet in the sail luff. It is tied off near the gooseneck with half hitches.