

Mounting Instructions for Aries Vane Gear



Comments from your vane gear builder

The job normally takes about 5 hours and two people are needed.

Before starting you should prepare a few tools.

You need:

Drilling machine

4 and 10 mm drills

A pencil and a ruler

Allan Key (6mm)

And some other normal hand tools.

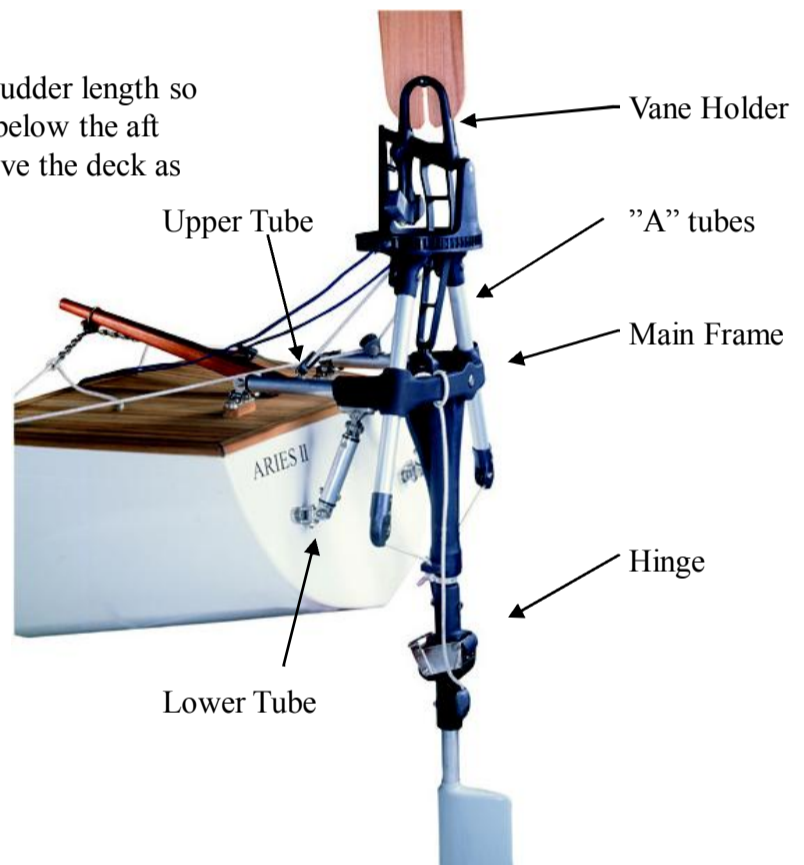
On the next page you will find an overall picture how the mounting of Aries could be, just to give you an idea.

Height of the Vane Gear

The most important detail in the installation is to decide the height of the top pair tubes (we call them upper tubes) above the water. As a guide the gear should be at height so that approximately 100mm of the GRP servo rudder blade projects above the water. This is the optimum but it can be a little higher and considerably lower without ill effect.

Place the vane gear on the grass with the servo rudder mounted and measure the distance from Main Frame to top of servo rudder.

We try to deliver the servo rudder length so that the Main Frame fit just below the aft deck or on smaller boats above the deck as on this picture

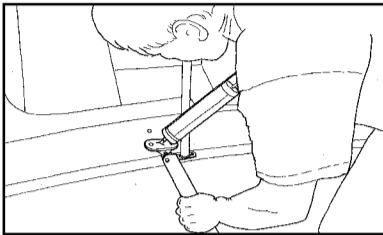


Marking

Mark the holes for the upper brackets. The brackets should be 390 mm apart centre to centre, check and correct the markings.

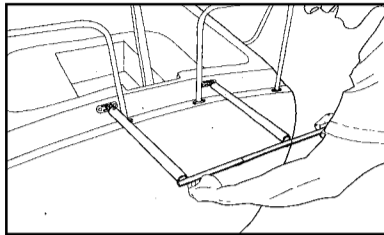
Now drill the holes. Use a 4mm drill first, otherwise the hole might move to one side. Then the final drill – 10mm. Now proceed from no. 1

1



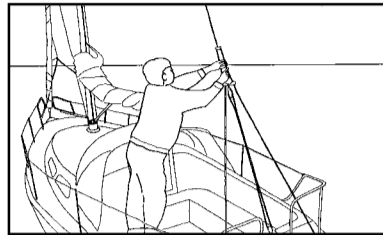
Put some rubber sealants on the brackets.

2



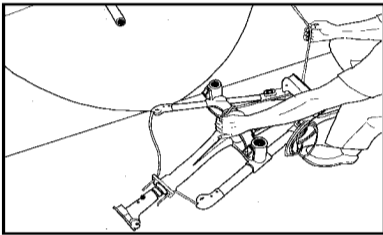
Tighten the bolts on the brackets so much that the tubes can keep in position. Make the distance 390 mm between the tube ends.

3



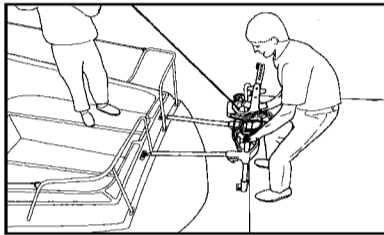
Fix a block somewhere above the transom.

4



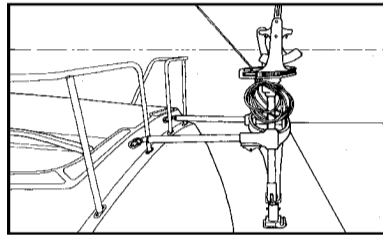
A line from the block is fixed to the gear like on the picture.

5



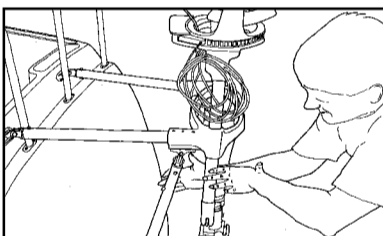
Two persons. One holding the line, the other holding the gear.

6



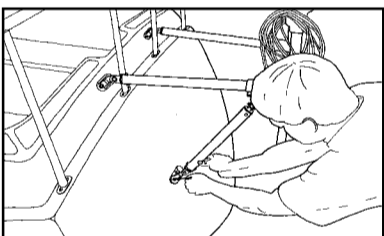
Adjust the line until the gear is level. (It will not affect the steering if the gear is not exactly 100% level).

7



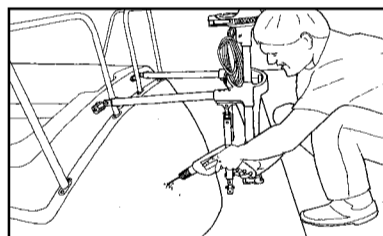
Mount the lower tubes on the gear.

8



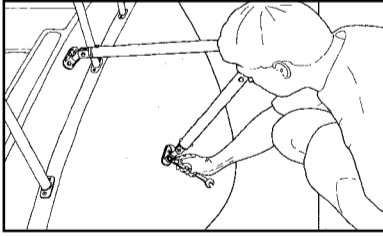
Put the tube against the hull. The lower tubes should straddle a bit, we suggest distance between lower tubes to be 400-500 mm at hull. Mark the holes.

9



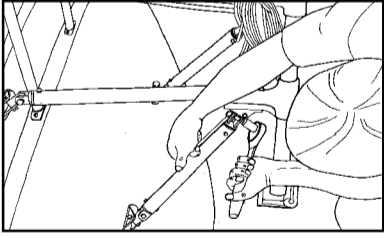
Drill the holes the same way as before.

10



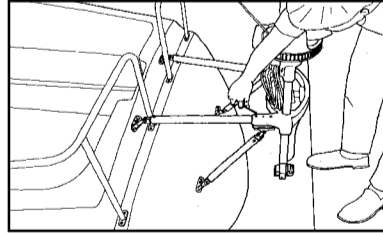
Fix the lower mounting brackets to the transom (remember the sealant).

11

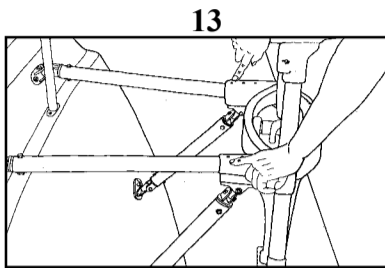


Tighten all bolts on the mounting brackets.

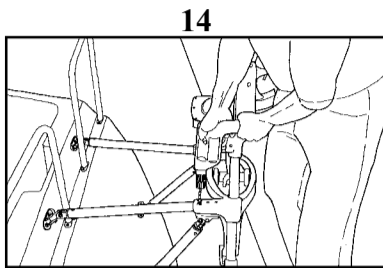
12



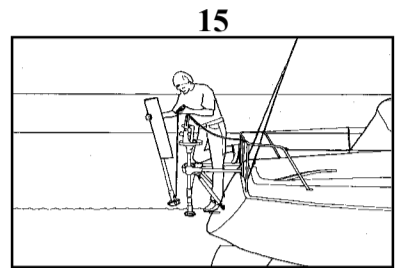
Tighten also the 4 grub screws (alan screws). Then remove the line holding the gear.



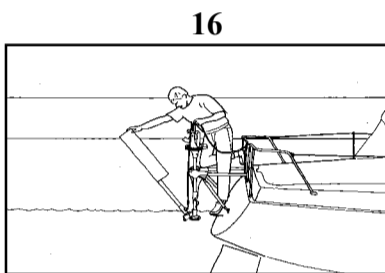
Now remove the two forward grub screw.



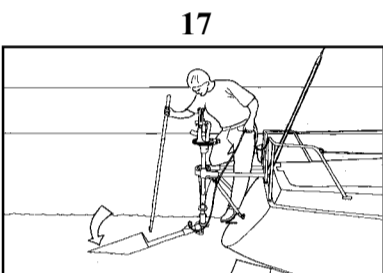
Drill a site for the screw. Don't worry about drilling too deep, the tube has 6 mm wall. Use 8 mm drill. This is to prevent the gear from being able to slide backwards. Mount the grub screw again, do the same procedure on the aft ones.



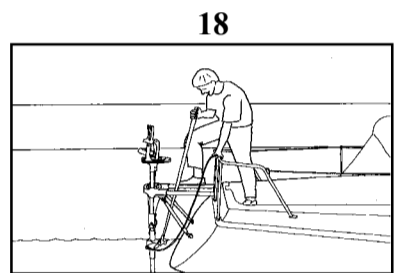
Now time for placing the servo rudder.



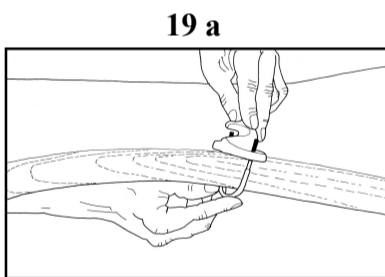
Hold the rudder out like this and release it.



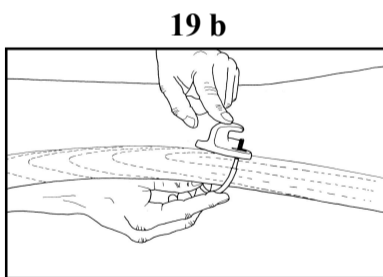
Press the rudder into place with the boathook.



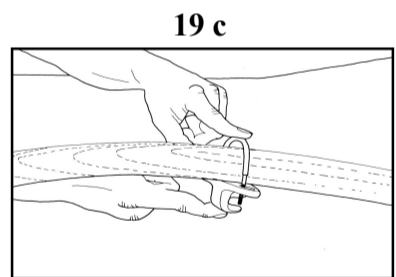
To remove the servo rudder, press with the boathook.



You can mount the tiller clamp top pointing forward,

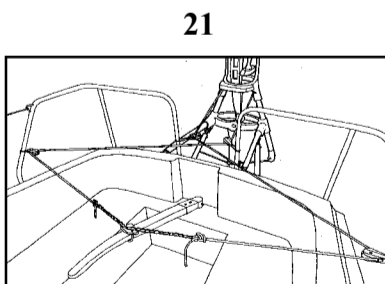


... or pointing back ...

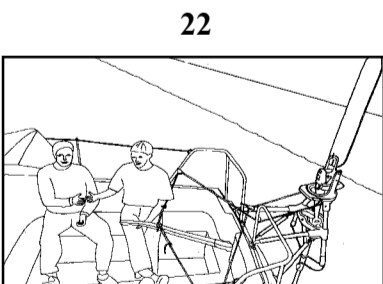


... or even under the tiller.

The distance from tiller clamp to rudder stock should be 60-100 cm. Try sailing for best result.



More blocks can be used, no problem.



The job is done, time to go sailing.

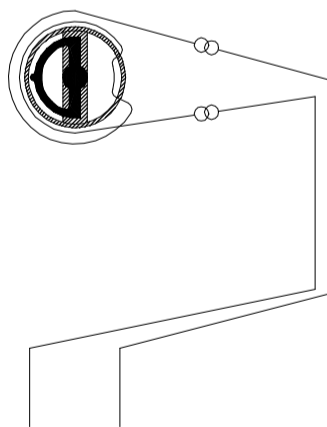
NB: THE SAFETY LINE ON THE SERVO RUDDER IS ATTACHED TO THE VANE GEAR AT ALL TIMES!

If You Have Wheel Steering



Run the lines parallel on one side (you can choose). Connect the steering lines with lines from drum with shackles.

The Aries universal block is optional. You can also use normal blocks.



Schematic line setup