

# Hasler Vane Gears

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Col. H. G. Hasler, Old Forge,  
Curdridge, Southampton



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## HOW TO USE A TYPE MP GEAR

1. These instructions supplement the advice contained in Publication No. V1 and V3MP. It is assumed that these have been read and that the gear has been correctly ordered, mounted and laid out on the boat.
2. The instructions which follow have been divided into four parts :
  - Part 1 Preparing the gear for use.
  - Part 11 Using the gear.
  - Part 111 Adjustment and maintenance.
  - Part 1V Fault-finding check list.

### PART 1

#### PREPARING THE GEAR FOR USE

##### THE SERVO BLADE

3. We recommend that the blade be triced up and then unshipped when the boat is on moorings.
4. To ship the blade for use proceed as follows :
  - (a) Ensure that the tricing line is secured to the boat or bumkin frame with a hitch or stopper knot and that the tripping line has been released from the trip lever. The bight of this line may conveniently be hooked over the separating stud below and abaft the lower vane shaft bearing.
  - (b) Partially insert (or partially withdraw) the retaining pin in the head of the blade until its end is just clear of the slot in the blade.
  - (c) Hold the blade with the retaining pin uppermost and the bottom end of the blade projecting up and aft of the bumkin with the head of the blade aft of the latch gear.
  - (d) Thread the head of the blade down and forward so that it passes under the bumkin frame and under the bight of the tripping line, into the jaws of the servo shaft until the fixed pivot pin in the jaws is hard against the bottom of the slot in the blade.
  - (e) Push the retaining pin fully home. Check that it prevents the servo blade from being pulled out of the jaws.
  - (f) Fit the bight of the tripping line straight through the guide plate on the after edge of the blade.
  - (g) Check that the tricing line is correctly rove. It should lead from the eye on the blade up through the centre hole in the Tufnol block below and aft of the latch gear, thence through the eye on the starboard side of the bumkin frame and to its cleat (if fitted). Its end should be secured with a hitch or stopper knot, so that it is just slack when the servo blade is vertical.
  - (h) Cleat or hitch the tricing line to hold the blade up out of the water.
5. The blade is now held in its jaws but is free to swing down and forward to the operating position when the tricing line is released. This can be done either at once or later when the rest of the gear has been prepared and you are ready to put the gear into operation. If you leave the blade standing out aft do not forget it when manoeuvring in crowded situations or near mooring piles and jetties etc. It would obviously be safer to unship it and bring it inboard, and not to ship it until you are clear.
6. To secure the blade in its operating (vertical) position:
  - (a) Release the tricing line.
  - (b) Haul upwards on the tripping line lanyard to pull the blade fully forward and expose the bight of the tripping line above the top of the servo shaft. The knot of the tripping line should remain inside the tube at all times.
  - (c) Pull up the tripping lever, and hook the bight of the tripping line over the hook, holding it there while you force the lever down until it is held by its nylon clip, ensuring that both parts of the line lead over the sheave at the top of the servo shaft.
7. The blade is now prepared and should be automatically correctly adjusted. (For correct adjustment of tension and sweep see Publication No. V3MP, paragraphs 9 and 10, and paragraphs 48-59 below).
8. If the blade should strike anything solid it will trip and swing aft to clear itself. If this happens unlatch and proceed immediately as described in paragraph 6 above.

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#### THE VANE

9. The vane can be left mounted on the bumkin in safety provided that the latch arm is above the spring plunger and the vane cannot foul any mooring pile, jetty or neighbouring boat. If leaving the boat for any extended period, i.e. several days, it may be safer to unship it and stow it below out of harm's way. But a vane that is stowed where it can be stood on is much more vulnerable to damage than one left mounted and free to swing to the wind.
10. Never tie the mounted vane or restrict its free movement through 360 degrees, or it may be damaged in strong winds.
11. To ship the vane, insert the shaft into the latch shaft, and turn it until its bottom slot drops over the rivet (concealed). It does not matter which of the two possible positions the slot drops into. Insert the pin so that it passes through both shafts, and check that it is not possible for the vane to lift off, with its pin in place.
12. Ensure that the latch gear is unlatched, and the spring plunger is holding the latch disengaged. The vane can now revolve freely without turning the latch arm.

#### LATCH GEAR

13. The latch gear need never be unshipped from the bumkin frame, in normal usage.
14. The latch line and worm line should normally be left rigged unless the complete bumkin frame is unshipped, e.g. when racing or laying up.
15. To rig the worm line and latch line, see the instructions contained in Publication No. V3MP, paragraphs 52 and 53.
16. When checking the gear before use ensure that the worm line is correctly rove with  $\frac{3}{4}$  turn round the jamming sheave, and that the lines are so rove that pulling the port line will move the after edge of the sheave DOWNWARDS.
17. Withdraw the spring plunger to release the latch arm. Check that the latch line is correctly rove and that pulling and releasing it will raise and lower the worm carriage freely, acting against the tension of the worm line. When the ring is on its stud the latch arm should be held up against the bottom of the spring plunger with the worm well clear of the worm wheel. If it is not then shorten the latch line.
18. When the latch arm is held by the spring plunger e.g. when on moorings, or when sailing for a period without using the vane gear, the latch line may be released from its stud.

#### STEERING ROPES

19. The steering ropes should be checked to ensure that they are correctly rove and the sheaves are free running. Look for signs of chafe and remedy the cause if possible.
20. The correct method of laying out the steering ropes and reeving them is explained in Publication No. V3MP paragraphs 26 - 45, and in Publication No. V3MPW (Wheels).
21. The steering ropes can remain fully rove and connected up, even when the servo blade is triced up or unshipped. Alternatively you may prefer to cast them off the tiller when steering by hand for long periods. With wheel steering and a wheel rope drum it is better to leave the ropes set up to maintain the correct adjustment, but the wheel rope drum can be loosened to "unclutch" it.
22. It is perfectly possible to steer the boat by hand with the gear prepared for use and the blade in its operating position, but the steering will feel slightly stiff as you will be swinging the blade in the water. For short periods of hand steering it is better to release or unclutch the steering ropes but the servo blade need not be triced up. For prolonged hand steering we recommend that the blade be triced up out of the water, and unshipped before approaching a crowded harbour.

#### SUMMARISED CHECK LIST FOR PREPARING THE GEAR FOR USE

23.
  - (a) Ship the blade and check tricing and tripping lines.
  - (b) Ship the vane and check that it revolves freely.
  - (c) Disengage the spring plunger and check the worm and latch line operation.
  - (d) Check the steering ropes and connect up.
  - (e) Pull the blade down to its operating position.

