

The Ezi-build Vane Gear

By Graham Reeves

Graham Reeves has kindly contributed the drawings together with the manufacturing notes and the exploded photograph. The drawings were completed by Mark Dicks to Graham's design. A completed gear is shown here

"Simple and yet efficient"

Sending the drawings to T.P. Graham said "I designed this gear to be as simple in construction as possible, and as efficient in use as any other vane gear. The size of this gear is ideal for all classes from the 36 up to the A class.

Manufacturing Notes:-

Materials

The main materials used in the construction of the vane are 3/8" x 16SWG brass strip and 1/4" diameter brass rod. Both items are available from most model shops.

The body is made from 3/8" Perspex and the dial from 1/8" Perspex, all of which can be sourced from any sign writing company and cut using a simple hacksaw.

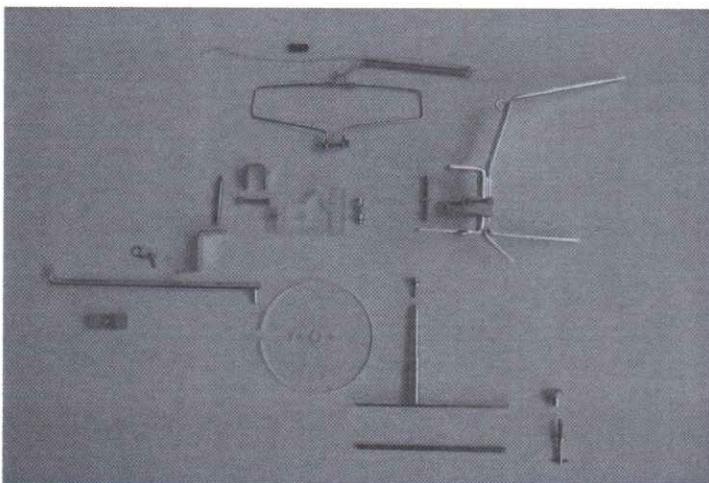
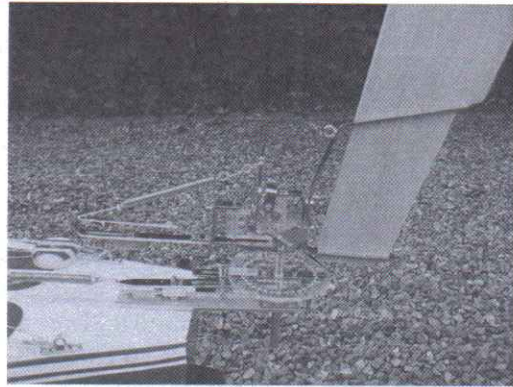
The Guying arm is made from heavy hook wire (16swg) as used for A Class Yachts. The guy slider is from 20 swg wire as used for A Class shrouds. Wire is available from *P J Sails Tel 01202 744101*.

For nuts and bolts I use *E K P Supplies at Barnstaple Tel. 01598 710892*. EKP also supply various metal sections.

If stainless steel is used for construction reduce the strip thickness to 18 SWG which will make a lighter gear.

The builder might like to consider soldering a 1/4" washer below the 1/4" hole in the body frame for a little extra strength.

The pintle is 1/8" dia stainless steel. I have left the fixing of the pintle to the boat to the individual. Some cases will require a pintle to be fixed to an outrigger or when fitting to a deck a flanged tube can be used with the end plugge



If you work to the following drawings the components should look like these !!

Assembly

Make all the parts before starting assembly

Begin assembly by bolting the feather head to the body frame along with the pointer and beating angle bracket. Silver soldering is an option as well as nuts and bolts when alignment is satisfactory. The dial is made up from 1/8" Perspex and should be marked off in increments of 5 and 10 degrees. The dial support arm is silver soldered onto the main shaft.

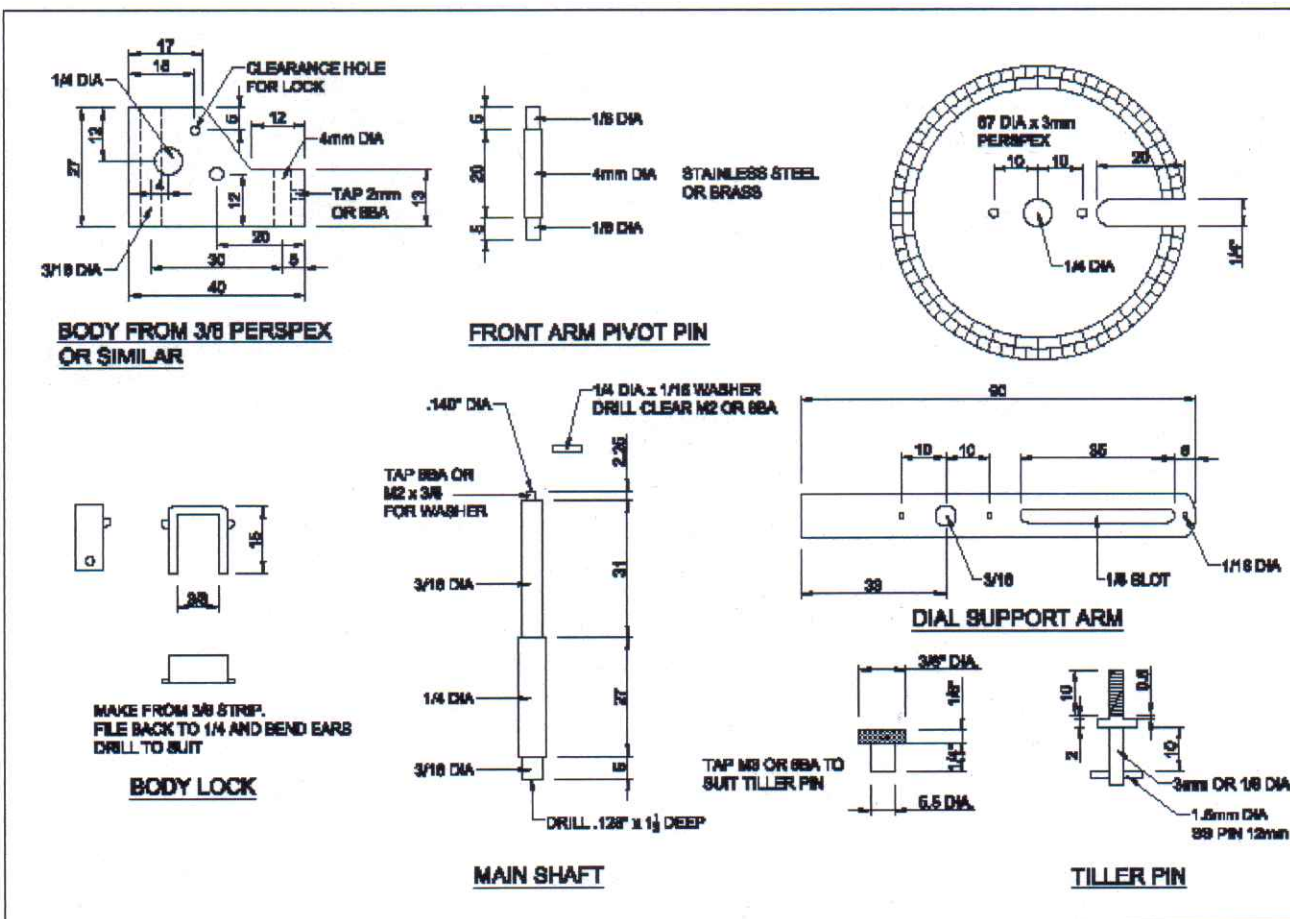
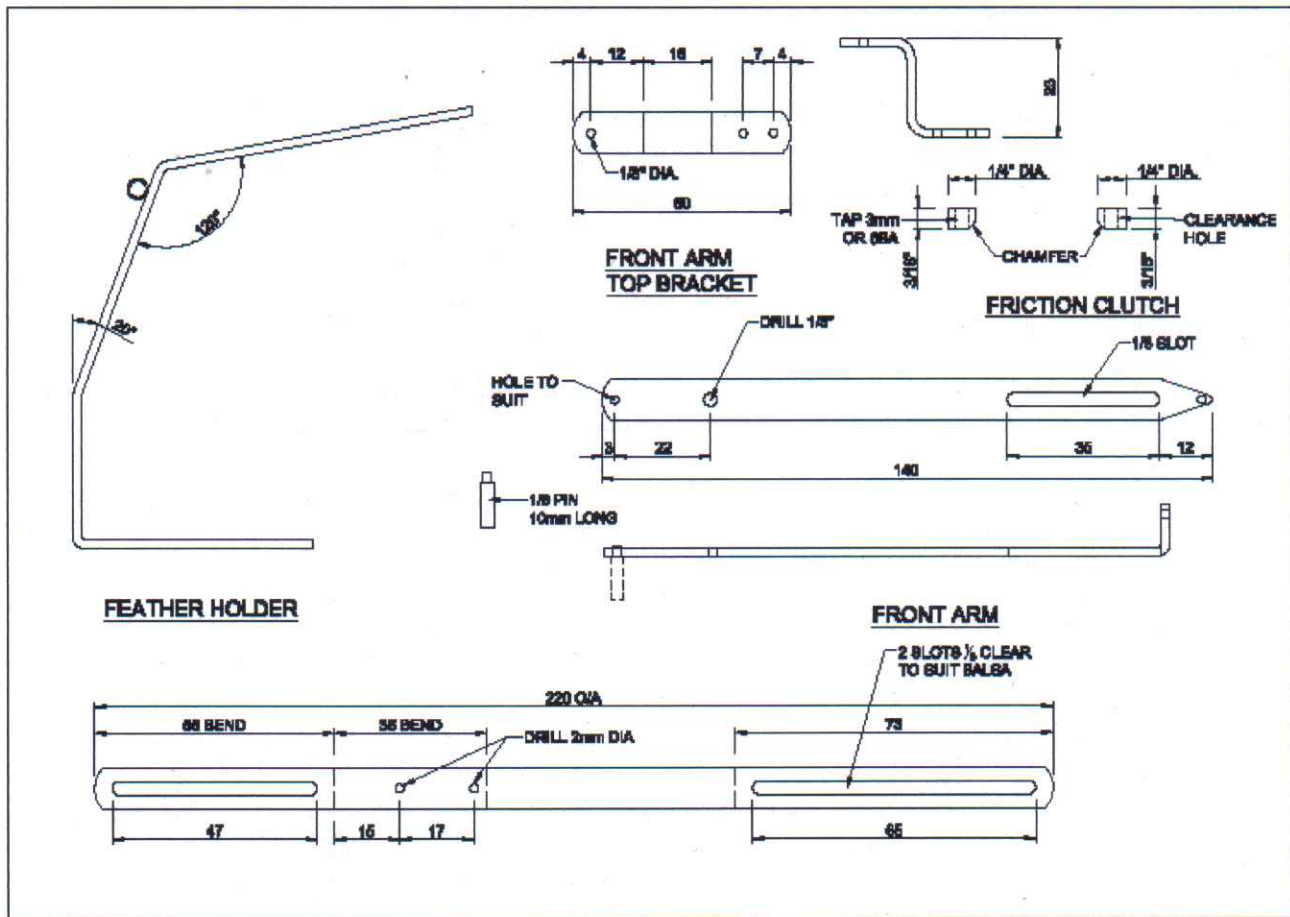
Don't forget, when bending the guying arm, fit the slider first.

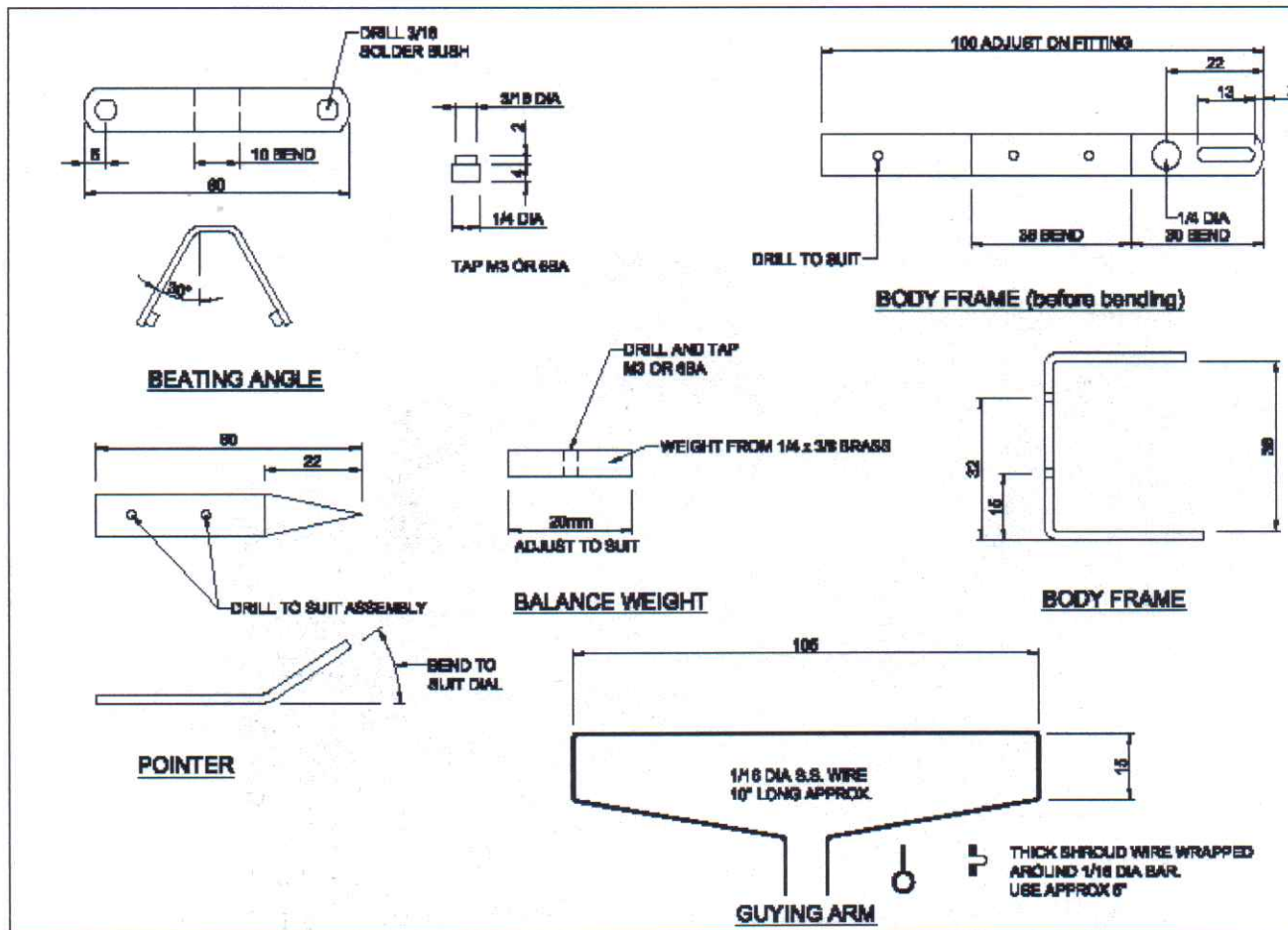
Assemble the remaining parts including the guying arm and spring as in the photograph. Once the unit is fully assembled it is important to balance the weight of the feather against the rest of the mechanism.

This is done with the gear in the broken (unlocked) position as for beating. Hold the gear horizontally so that it can rotate freely about the pintle. Adjust the sliding counter weight until the vane body lies in a horizontal plane. Remember that you will need to re-adjust should you change the feather – for instance changing from a 36 yacht to an A Class yacht. This would require a larger feather

Help Line: Should you run into difficulty or require advice please telephone me on 07799 416274

Graham Reeves





Many thanks for this Graham and good luck to all budding Vane builders. No doubt Graham will be pleased to hear how many members "have a go" We are sometimes asked for an opinion as to which type or design of vane is best to buy or use, the problem is they are so infrequently available which often makes it "Hobsons choice". Quality of construction and engineering should be a good indicator but even a second hand vane may cost around £100 or more, when you realise the labour time to build something like this you will know why! There are of course alternative designs for which some plans are available and we will endeavour to give a further illustration in a following T.P. A very worthwhile booklet on the subject titled *Vane Steering Gears* by A Wilcock was taken from a series of articles which appeared in *Model Boats*. Perhaps we should endeavour to make a further reprint available if there is sufficient interest indicated by members. ?? Ed.

VANE STEERING GEAR AT GOSPORT

WE have been told by readers that our account of the performances at Gosport is very much against the Vane gear. Well, we went to the International Regatta there, fully prepared to find that the Vane gear in the expert hands of Mr. Sam O. Berge would show us such model sailing as we had never before witnessed.

Both German and Norwegian boats were fitted with this device, but the German yacht's gear hardly ever functioned well. At times the gear on Mr. Berge's boat acted admirably, but whenever a slightly harder puff came, though the gear could be seen through binoculars to be functioning, yet it was not sufficiently powerful to control the boat and prevent her broaching. It is possible that this was due to the boat as much as the gear.

One noteworthy point is that both the boats on which it was fitted were full-keelers with very raked rudderposts. This type are most difficult to handle with a Braine gear also. Whether an upright or nearly vertical rudderpost would improve the functioning of the Vane is another point, and we are inclined to think it would.

It is perfectly true that Mr. Berge won at Fleetwood last year with the same boat and gear as he came second this time, but there are a number of other factors which undoubtedly influenced matters. Conditions at Fleetwood were not so tricky as they were at Gosport this year, which consequently provided a more difficult test for the steering gear and handling of the yachts, and the Vane gear did not emerge with glory. We think that Mr. Berge won his position this year because he is a very expert skipper and his boat is very fast in light weather, and that had he used a Braine gear he would have done still better. Though his Vane won him a number of windward boards, he might equally well have won many of these without it, and it is certain that he lost many running and reaching boards because of it. In our opinion "Prinz Charming" performed well in spite of her Vane gear, not because of it. To form a final conclusion, we should like to see how a fin-and-skeg boat would perform under similar conditions with a Vane.

An early opinion of Vane sailing from *Marine Models*, December issue 1936