

Self-Steering designs by Walt Murray

URL <http://www.mindspring.com/~walmur/Self-Steering/>

Last revision -Nov /Dec 2003 Added new designs and reduced file count by removing some old designs. Some files may not be transferred or may be corrupted until I get the job finished.

Don't miss this forum if you are interested in self-steering

<http://www.cruisenews.net/cgi-bin/windvane/windvane.pl>

Notes 1- 10

Note - 1

Vane-- The vane is made from any light and stiff material. I have had good results using fir plywood or white cedar. I also have used fiberglass covered insulation foam. Others have used plastic panel material. The 1/4 inch plywood one I show makes a rugged one and is light enough.

The bolting arrangement gives a solid and stiff mount with for minimal weight.

Note - 2

Vane carrier-- The vane carrier is bent up from 1/4 by 1 inch aluminum bar stock as is sold in hardware stores. I expect it is one of the 6000 series extruded material that is anodized for sales appeal. However, I find very little corrosion on mine after several years exposure to salt air. Stainless would be a better choice for sea going and would not need to be more than 1/8 inch or 3mm for the same stiffness.

Note - 3

Vane support fitting-- This looks more complicated than it is. Start with a 2 inch PVC tee fitting and locate the holes for the pivot shaft. Drill them with a small drill. About 1/8 inch and then use a longer 1/4 inch drill to open the holes and make sure they are aligned. Make rough cuts on each side and install the vane carrier. Using the carrier as a guide continue cutting to form the stops so the swing is limited to about 45 degrees.

Note - 4

The mast support tube --Is a length of 2 inch PVC pipe cut to be high enough for the vane to clear the deck and any boom overhang. If need be on your boat it could be braced off to the stern rail or deck with a collar fitting to allow rotation and still cut down on vibration of a long pole.

Note - 5

Mast support assembly-- There are several unique features in this assembly. First, the base is fastened to the platform with screws installed so that they grip both the outer fitting and the 3 inch pipe. The upper 3 inch cap is cut to a free fit on the mast support pipe and a cut off bit of a 2 inch fitting is used to support the mast at his point. The lower end of the mast support pipe is fitted with a similar stop to prevent the mast from lifting. A rough sanding belt or such is used to provide a grip to the course setting line. Notice that this line does not make a complete 360 degree turn around the mast pipe.

Note - 6

Platform and hangers-- The platform is a simple piece of 3/4 plywood or some substitute you might have. It can be any shape to fit your boat and several have been built using bent steel or aluminum tubes. I like the idea of using ordinary copper plumbing fittings and pipe. Using 3/4 type L pipe soldered with the new lead free solders gives a basis for a substantial frame. Paint it with aluminum paint and it will look like it was made of stainless and cost far less.

Note - 7

Push rod and fitting-- This is another item that is up to you for choice. I show a simple aluminum rod but almost any light stiff rod would do. Light aluminum tubes or a fiber glass fishing rod would be fine. One end needs to have the ability to swivel for the course setting.

CPVC pipe in 1/2 inch size with caps as shown in [sheet 25](#) on the "[Advanced](#)" page.