

Instructions for making Fishing Line Hinges, Rev 2, 1/25/2022

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Hinging with 20# fishing line is a fairly easy process.

What you need is a "T" pin or equivalent, 20# test fishing line, and thin CA glue.

Optional items would be a ruler, pencil/pen, and some tape.

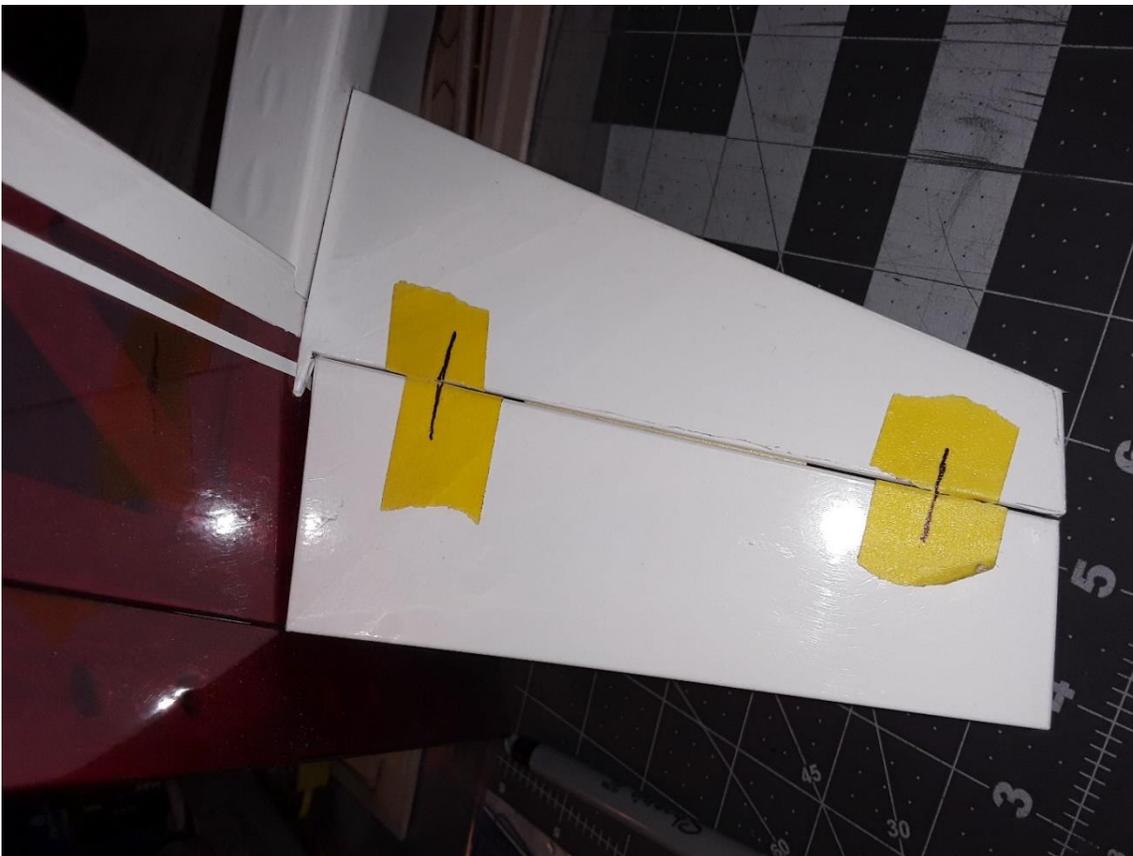
The Round Hinge Jig is being offered by Willy Nillies and is shown in these instructions. It's a handy little tool and simplifies making the holes.

I prefer to start by measuring the surface to be hinged and deciding how many hinges I need to use.

For the 250 gram planes, I use 4 for the Elevator and 2 on the Rudder of a tail dragger with the gear bracket, 3 on the rudder for a trike gear setup.

I place hinges $\frac{3}{4}$ " to 1" in from the tips of the surfaces and the rest are evenly spaced along the hinge line.

Locate the positions of your holes and mark them so that the two surfaces will align when the fishing line is inserted. In the picture below, I show the back has a piece of tape holding the Surfaces together. The small pieces have the location marks.

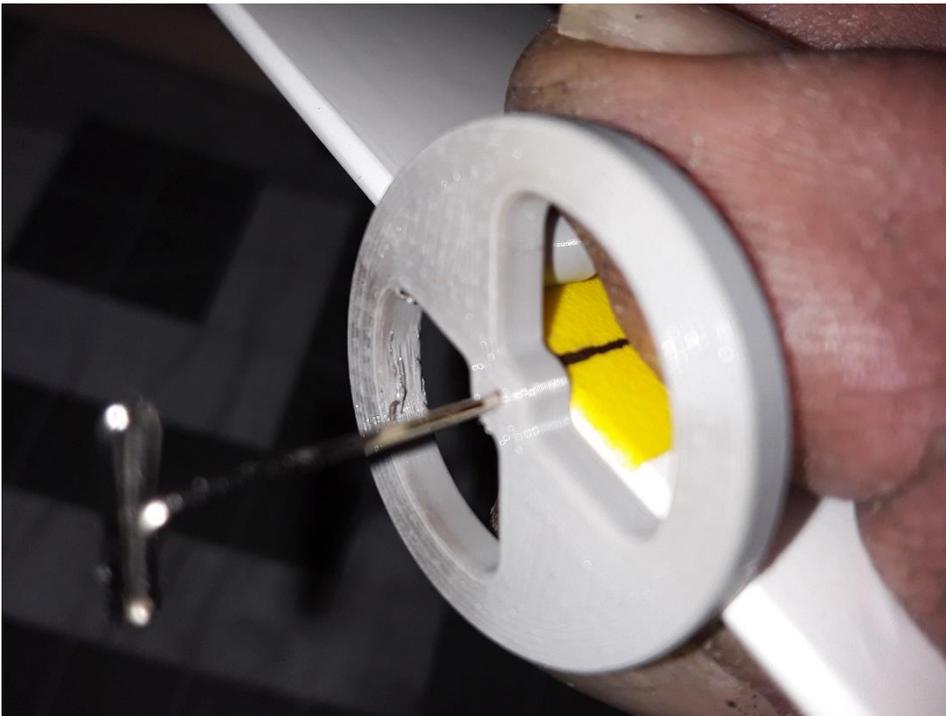


Alternatly, you could tape the two surfaces together as shown below for marking and making the holes.



Aligning the holes centered on the Surface edge is key to a nice hinge line. Some people can “eyeball” the location very well.

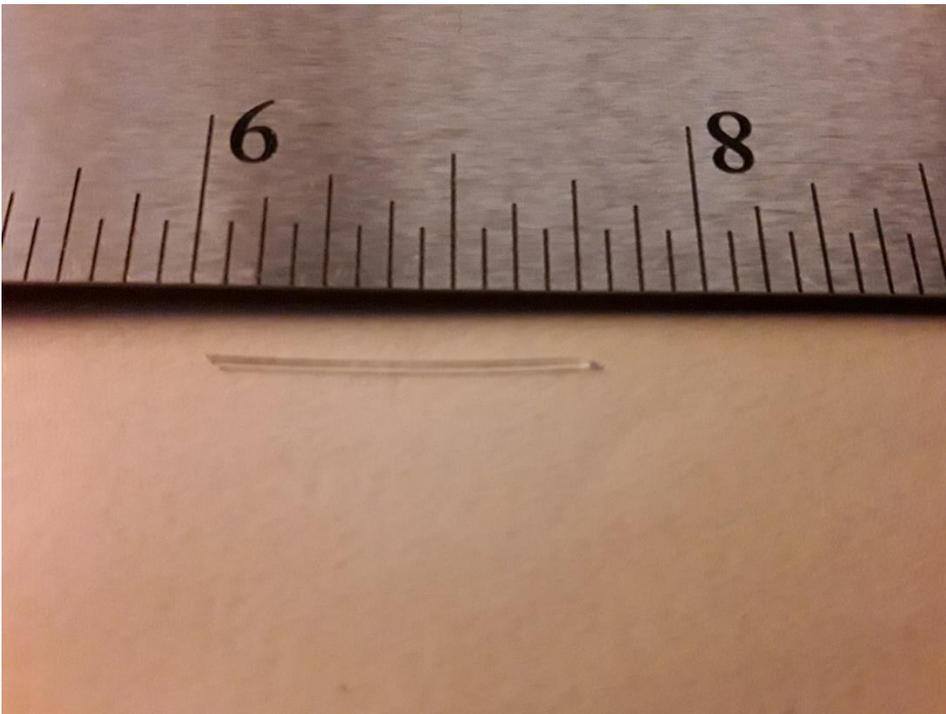
As an aide in getting your holes centered, there is a “Round Hinge Jig” STL in the “Files” section of the Willy Nillies forum that can be 3D printed and works well.



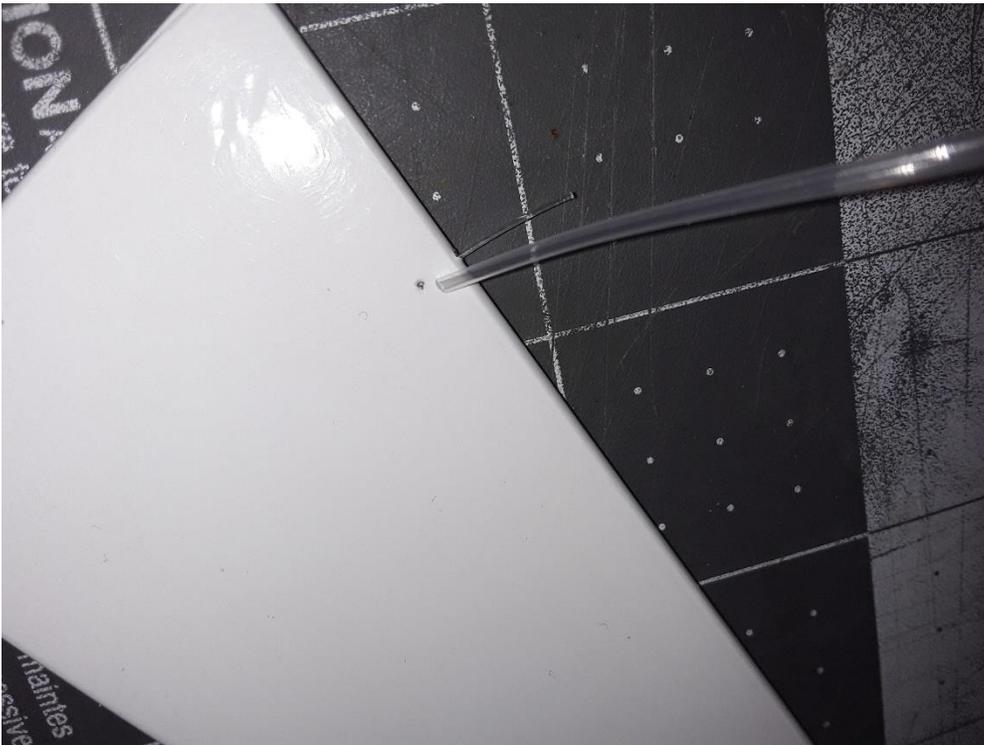
Push the pin in approximately $\frac{3}{8}$ ” to create the holes for the fishing line at each location. A Pin vice and a #106 drill (.023”) work nicely as well.



I've found that putting a second cross hole approximately $3/16$ " from the edge and intersecting with the Hinge hole makes it a lot easier to apply the adhesive and keeps the CA out of the hinge line. You can see the holes in the picture above.



Cut pieces of line to approximately $3/4$ inch as shown. I like to wipe down the section of fishing line with Acetone or Thinner to ensure there are no oils from the manufacturing process. Some folks have also ran the line through some fine sandpaper before cutting to length to rough up the surface. I haven't done it myself and have not had a problem. It's up to you the builder to decide.



Insert the sections of line in the first surface and place a drop of thin CA at each hinge. The CA will wick into the hole along the section of line. Wipe off any excess from the surface with Acetone or Fingernail polish remover.

Install the surface being hinged and check alignment. Deflect the surface 30 to 45 degrees and add a drop of thin CA to each hinge. Application from the hinge line is shown in the picture. If you have added the cross holes, use them instead. Be sure to wipe the excess off the surface as explained above.



Flex the surface to ensure easy movement and do a pull test to ensure you have good adhesion. Congratulations! You have installed fishing line hinges!