

SEMI SCALE 3 BLADED PROP ASSEMBLY

by Mike Midkiff

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Prop Blade (Make 3)(See photo below)

Cut 1/32" ply to rectangle size shown. Cut "V" groove and boil in water for 15 minutes. Wrap in place with twine at angle shown to 1-lb. coffee can. Place in oven at 350 degrees and "Bake" for 15 minutes. Cut 3/16" dowel to length shown and "point" to fit blades. Epoxy blades to dowels.

Spinner. Stack glue oversize discs together with 120-degree segments as shown. Center and drill 1/4" hole thru. Center and drill spinner block with 1/4" drill. Stack block and segments onto 1/4" dowel and glue allow 3/4" of dowel to stick out at both ends to chuck. Chuck in drill and, using coarse sandpaper, shape spinner assembly to final shape. Cut off excess dowel at both ends. Drill 3/32" hole thru center of dowel. Fit prop shaft tube and bush at base end of spinner. Drill out spinner front end to accommodate brass freewheeler tube and assemble.

This info assumes the following:

1. A drill press capable of chucking 1/4" diameter dowel and has a table that is square with the spindle axis or can be adjusted so.
2. Access to a long shank 3/32" drill, 3" minimum length.
3. Tooling "donut" to support the spinner on the point end.
4. A precision protractor and dimensional skills so that segments of 120 degrees (for 3 blades) and 90 degrees (for 4 blades) can be laid out and cut to the required accuracy.
5. Access to .0015" thick brass stock.
6. The 3/32" hole is a fit size for tubing that has 1/16" thick inside diameter. If one is using 3/64" diameter wire for the prop shaft, a piece of shim stock must be used. The shim stock is rolled around the 3/64" prop shaft and stuck into the 1/16" inside diameter tube hole to minimize the shaft wobble.
7. The technique commences by chucking on one end of the dowel, rough shaping the spinner, turn the spinner 180 degrees and chuck on the other end to shape. In doing this 3 or 4 times the concentricity of the spinner shape to the 1/4" dowel is maintained at both ends of the spinner. Use a cardboard template to check the shape periodically.
8. Cut off both dowel stickout ends. Mark the center of the dowel for drilling at both ends. Set the spinner on its base so that the base is square to the 3/32" drill and drill halfway thru. Turn the spinner 180 degrees and stand on its point, then drill through to meet the first drilled hole. One needs to be careful in this step since the spinner shape is held in a "donut" to present itself square to the drill.
9. You got it now. All that you need to do now is assemble the prop shaft and the freewheeler brass tube. Plug in the prop blades and spin that baby and watch 'er run true.

