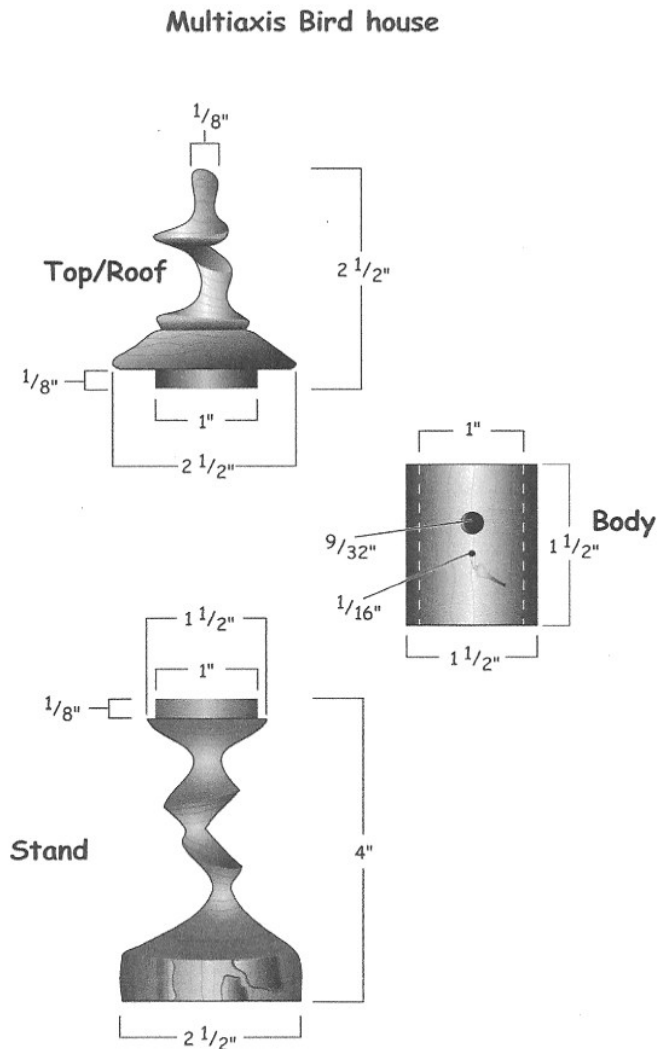

Turning a Multi-Axis Birdhouse

Introduction

The multi-axis birdhouses that I turn are generally about 7" tall and are designed to be free standing. The birdhouse itself is usually 1 1/2" tall and 1 1/2" in diameter and made from a tree branch. I leave the bark on the exterior for a natural look, while drilling out the center on the drill press. The birdhouse sits on a multi-axis stand and is capped with a multi-axis roof. I complete the birdhouse with an entrance hole and a perch, and then glue a small bird on the perch.



Components

- Top/Roof – 2 ½” high, 2 ½” diameter at the rim and 1/8” at the top.
- Birdhouse Body – 1 ½” high and 1 ½” diameter.
- Stand – 4” high 2 ½” diameter at the base and a 1” tenon at the top.

All measurements are relative, since you may want to make your birdhouse larger or

Tools

I do most of the multi-axis turning with a ¼” skew chisel and 3/8” spindle gouge.

Additional tools include a ½” skew chisel, a thin parting tool

Birdhouse Body

1. I begin with the body. I look for interesting bark covered branches about 1 ½” in diameter.
2. Cut the branches 1 ½” to 2” lengths on the band saw.
3. The lengths are hollowed out with a 1” drill bit on the drill press. I usually predrill a smaller hole before drilling the 1” hole to reduce the stress on the small length of branch.
4. I then drill a 9/32” hole in the top half of the hollowed out body for the birdhouse entrance and a 1/16” hole below the entrance for the perch.
5. If not using the body immediately, I seal with sanding sealer the interior and ends of the body to prevent splitting.
6. When not using a natural looking body, I turn and drill the body on the lathe. After parting the body off the lathe, I drill the entrance and perch holes on the drill press.

If I find interesting branches I will make a number of bodies for

Stand

1. I rough out a 5" or 6" blank and turn a 2" tenon 3/8" wide for chucking.
2. After chucking the blank, I true up the end and turn a 1" diameter tenon 1/8" in length. This tenon will go into the bottom of the birdhouse.
3. I then turn the platform for the birdhouse to sit on. This platform is at the top of the stand at the tailstock end of the blank. If the platform is turned with the blank fully seated in the chuck, it will be on the same axis as the foot of the stand. However, sometimes I like to offset the blank before turning the platform so that the birdhouse is perched off to the side of the center axis.
4. I use a four-jaw chuck and mark on the chucked up blank the number of each of the 4 jaws.
5. I begin the multi-axis turning by loosening the grip of the jaws and tilting the blank 1/8" at jaw number 1.
6. After turning and sanding the platform, I loosen the jaws and reseat the blank.
7. To turn the next axis you need to slightly tilt the blank at jaws number 2.
8. After turning and sanding this section, I repeat the process at jaws number 3.
9. I keep rotating the jaws and tilting the blank until I am ready to turn the foot of the stand.
10. For the foot, I have the blank fully seated in the chuck. Turn and sand the foot, then part it off the lathe.

You must sand each axis before proceeding to the next axis.

You will need to lower your speed as your turning becomes more fragile.

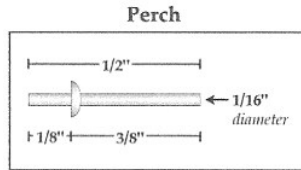
Top/Roof

1. The top is a blank 4" to 5" in length and is turned in a similar manner as the stand, except instead beginning by turning a platform with a 1" tenon. I turn a small finial.
2. After turning the finial, I rotate the blank in the chuck in the same manner as the stand.
3. The slope of the roof and the 1" tenon at the base of the top is turned with the blank fully seated.
4. I under cut the slope of the roof for a more dramatic effect.

Remember to sand each axis.

Perch

1. I turn the perch from scrap wood. The perch is approximately $\frac{1}{2}$ " in length and $\frac{1}{16}$ " in diameter.



Turning a Multi-axis Box

Making a multi-axis box is similar to turning a multi-axis birdhouse, except that the body of the piece is replaced with a round box. The box is approximately $2 \frac{5}{8}$ " in diameter and $1 \frac{5}{8}$ " high. I usually have the top sit inside the edge of the box on a small recess. The base of the box has a 1" diameter recess $\frac{1}{8}$ " deep. This recess is for mounting the box to the stand. To turn the box, mount a 3" blank into a four jaw chuck. Shape the outside of the box and hollow the inside.

After turning, hollowing and sanding jam chuck or, as I prefer, use a four-jaw chuck to expansion chuck the box. Refine the base and turn a one inch recess $\frac{1}{8}$ " deep to mount the box on the stand. Sand and finish.

