

JUST WING IT!

Richard Dlugo

One of the simple pleasures in my life is to sit out on my deck, where I can see several bird feeders in my back yard and enjoy watching the little winged wonders munch at the seeds and suet I put out for them. Woodturners often take cues from nature in the forms they produce on the lathe, quite often from plant life. Today, let's take a suggestion from nature's air force and create a little winged marvel. We won't try to make it true to life like some experienced carvers do, seeing to every detail of every feather, but more of a stylized version that we can have some fun with.

The bird is made of wood; wire is used for its legs. Two blanks will be needed. One will be sized for the body and head (*Figure 1*), and the other will be used for the wings (*Figure 2*). The wings will be cut away from the turning and glued onto the body.

Body

Start with the body. Prepare a blank that is 1 1/4" (32mm) square and about 7" (18cm) long. As shown in *Figure 1*, the body and head are turned from the same blank. Mount the block between centers and turn a tenon that will be held in a four-jaw chuck (*Photo 1*). To the right of the tenon is the head section, which should be left square for now. The remainder of the block is for the body.

Turn the body and while it is still supported on the lathe, drill holes for the neck and feet as shown in *Figure 1*. Drill a 1/4" (6mm) hole for the dowel that will hold the head on, and two 5/64" (2mm) holes in the bottom for attaching the wire legs. The position ▶



Two blanks per bird

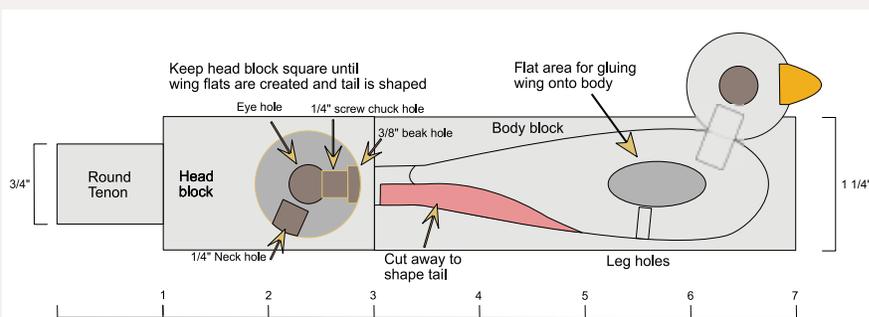


Figure 1. One turning blank for the bird's body and head. Start with a piece 1 1/4" square by 7" long.

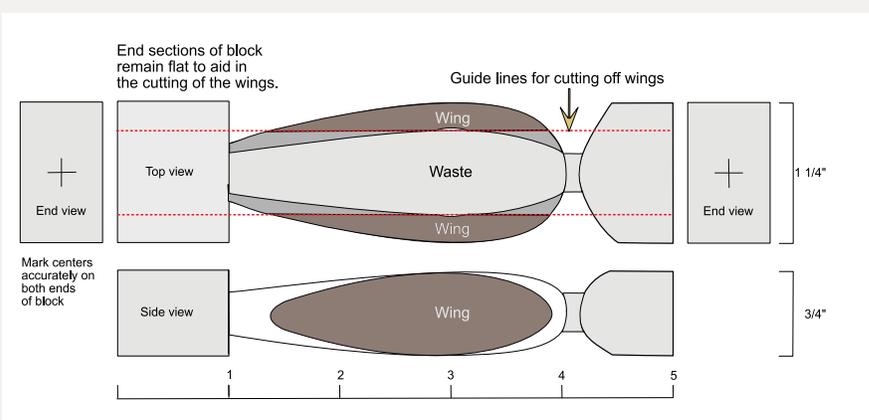


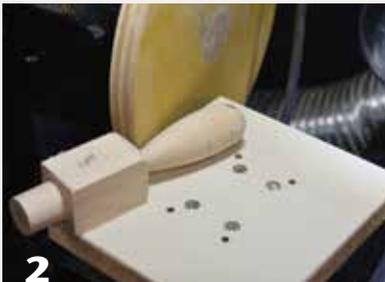
Figure 2. One turning blank for the wings. Start with a piece measuring 1 1/4" x 3/4" x 5". The non-square blank means flats will remain after turning, which allow for safe cutting on the bandsaw.

Mark and turn body

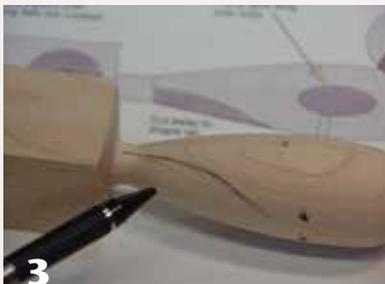


1 Mark the head/body blank, delineating each section. Begin by turning only the body; leave the head section square. Drill holes for the neck and feet, as shown in *Figure 1*.

Shape the body



2 After turning the body shape, sand flats on the sides of the bird's body. The square section that will later become the head registers the workpiece firmly on the disk sander table. The sanded flats provide a gluing surface for the wings.



4 Mark and cut away the underside of the bird's body. Note the still-square head section is held securely in a wooden handscrew clamp for safe bandsawing.

of these holes can vary, depending on how you intend to pose the bird. If you pose the bird in a more upright position, then drill the neck hole more forward. If it's going to be more level and facing forward, then drill the neck hole back a bit. The leg holes are positioned near the center of the bird.

Draw some reference marks indicating where the wings will be glued on. Remove the blank from the chuck and create flats between these marks, one on each side of the body. If you have a disk sander lay the block on the sander table, as shown in *Photo 2*, and gently touch the side of the body to the disk to create a small flat, just large enough to glue on the wings. If you don't have a disk sander, you can turn your lathe into one, as in *Photo 2*, with a small table that fits into the banjo and sandpaper adhered to a disk mounted on a faceplate or chuck. You could also create the flats by hand using a hand-held sanding block.

Draw a curved line beneath the tail as shown in *Figure 1* and *Photo 3*. Take the blank to the bandsaw and remove the stock under the line (*Photo 4*). The square head block will enable you to move the blank safely through the bandsaw. Never try to cut round, unsupported wood on the bandsaw, as that would pose a significant safety hazard.

The tail and underside of the body need to be shaped and sanded. You can choose to do most of the shaping while the body is held on the lathe or remove the piece and carefully hold it in hand to shape it. Using a rotary tool with a small sanding drum (*Photo 5*) is an easy way of doing this, but if you have some carving burs, you may be able to speed up the roughing job. If you use carving burs and hold this tiny body in your hands, be sure you wear a carving glove in case the bur runs off the wood and heads for your fingers. This sanding operation can get a little dusty, so be sure you are

wearing a dust mask and directing the dust away from yourself.

Wings

The process shown here will create two symmetrical wings, each with a flat and domed side. The flat side will be glued onto the flats that were created on the body.

Prepare a blank for the wings measuring $1\frac{1}{4}'' \times \frac{3}{4}'' \times 5''$ (32mm \times 19mm \times 13cm). Be accurate in determining the center mounting points for this piece so that the wings will come out evenly. Accurately mark and divot the centers on the ends of the wing block (*Photo 6*). Mount the block between centers, mating up the divots with the drive and tailstock center points. As the block turns, you'll be hitting and missing, just as if you had started to round down a turning square (*Photo 7*). The piece is pretty small, so working with a speed in the 2000s makes for less vibration. However, don't turn at a lathe speed you're not comfortable with.

Turn the block so that the back of the wing taper is longer than the front and so the ends of the wings are cut deeper than the straight reference lines that will be used to cut the wings off.

Sand the domed wing surfaces and then prepare them for cutting away on a bandsaw. For safety sake, I wrapped the block with blue painter's tape (*Photo 8*) so that when the wing pieces

Carve and sand



5 A rotary tool with a small drum sander makes quick work of final shaping and sanding the bird's body.

are cut away, they will be kept in place and won't accidentally come into contact with the blade.

Set your block against the bandsaw fence (*Photo 9*), so you can cut a nice straight line through the wings at the saw marks. Saw off the first wing. Turn the blank over so the opposite side is against the fence. Adjust the fence position so that you will saw off the second wing at the same thickness as the first one.

When the sawing is finished, you should have two symmetrical wings (*Photo 10*) with the taper on the back of the wing being longer than the front taper. Sand the back and edges of the wings so that they are smooth.

The head

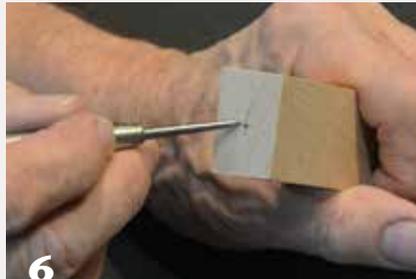
The head is made from the remaining section of the body block (*Photo 11*).

It is a small 1" (25mm) sphere, turned in two mountings. The first uses the tenon created for turning the body and is for shaping and drilling the front of the head. The second mounting will be a reverse mounting of the head on a screw chuck so that the

back of the head can be finished and sanded smoothly.

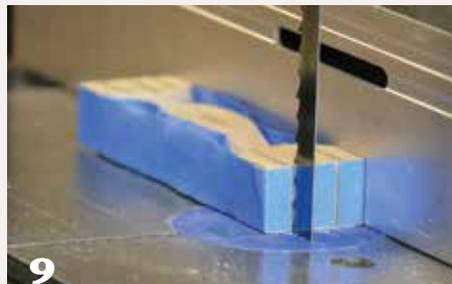
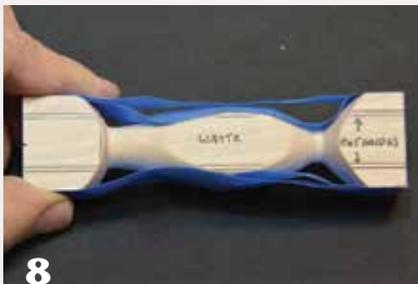
Turn about three-quarters of the head sphere, leaving enough stock at the back to provide sufficient strength for drilling. Use bradpoint drills for all the holes, so your bit ▶

Turn the wings



6 Mark and center punch the ends of the wing blank. This non-square blank will leave flats after turning, so the wings can be cut away safely at the bandsaw.

Cut wings at bandsaw



8 Blue painter's tape helps to contain the small wings after they are sawn from the blank. Final-shape and sand the wings after they are cut free.

Turn and drill head



11 Remount the unturned head blank. Turn most of a sphere, but leave some supporting wood for drilling. First drill a larger hole for the beak, then a smaller hole within the first for reverse-mounting on a screw chuck to finish turning the back of the head.

Colored pencil segments for eyes



14



15



16

With the head still partially turned, mark eye location and drill holes to accept short segments of a colored pencil. Glue and tap in the pencil pieces, using the toolrest underneath for added support.

won't wander on the curved surface and so the edges of the holes will be smooth.

For determining the roundness, I use a homemade measuring gauge (Photo 12). To make the gauge, cut two fully rounded holes of the same diameter close to each other, then simply saw away one of the holes at its center. Now you can place the half-hole up against the turning to see how close to round you have turned it.

Using a drill bit in a tailstock chuck, drill a $\frac{3}{8}$ "- (10mm-) diameter hole $\frac{1}{4}$ " (6mm) deep (Photo 13). Because the head will be reverse-mounted after parting it off, drill a $\frac{1}{4}$ "-diameter hole $\frac{1}{2}$ " (13mm) deep within the center of the beak hole. This is so you can remount the head later on a $\frac{1}{4}$ " screw chuck to finish the back of the head (not shown here but fully explained in the accompanying video—see link at the end of this article).

Draw a line around the head so you can mark the position of the eyes (Photo 14). If your lathe has an indexer, use it to position the height of the eyes symmetrically on each side of the head. Or just use a flexible tape measure to mark their position equally.

Create the eyes using small $\frac{1}{4}$ "-long cutoffs from a round colored pencil of your choice (Photo 15). This results in a dash of color for the "pupil" of the bird's eye. Measure the diameter of the pencil, chuck a matching drill bit in your drill, and drill holes for the eyes.

Now support the head from the underside with your toolrest, put a dab of cyanoacrylate (CA) glue in one of the eye holes. Hold the eye piece with thin pliers and gently tap it into the hole (Photo 16). The eyes should be inserted just a bit proud of the head surface. A little spray of CA activator will help secure it. Do the same for the other eye. Be sure the glue has set so it won't splash at you when you turn the lathe on. Use gentle cuts to shape the eyes flush with the head.

The last drill hole is for the dowel that will connect the head to the body. Drill a $\frac{1}{4}$ " hole in the bottom of the head positioned as shown in Figure 1. Part off the head and reverse it onto a $\frac{1}{4}$ " screw chuck. Now finish and sand the sphere.

Legs and feet

Make the legs (Figure 3, Photo 17) using #12 solid electrical wire. Using wire allows the flexibility of keeping the foot small and yet being

able to bend the legs so a group of birds could be displayed in varying positions.

Copper wire is soft and dents easily if you grip it with bare steel pliers. To prevent that, attach a short strip of electrical tape to each of the plier's gripping jaws. Cut the wire into 3" to 4" (8cm to 10cm) strips, then carefully strip off all the insulation, trying not to scratch the wire itself. Rough up the wire with sandpaper before

Leg details

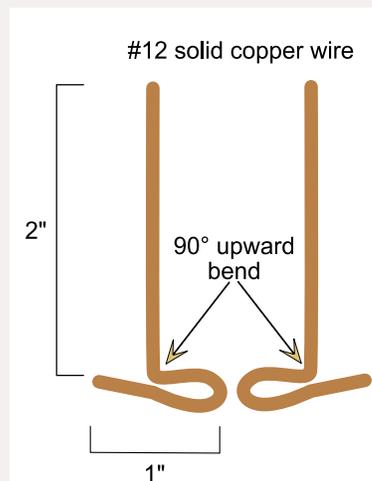


Figure 3. Cut legs to the size needed for your design.

you start to bend it so the paint will adhere better.

Create the front of the foot by bending a loop around the shaft of a screwdriver (*Photo 18*) and continue the bending until you achieve the shape of the foot as shown. The back of the foot (hallux) should be on the opposite sides of each leg so you have the appearance of left and right feet. When the foot is finished, then bend the leg up perpendicular to the foot.

Paint the legs with a spray paint that will adhere well to metal. Apply several coats and rotate the legs between coats so all surfaces are sprayed equally. Allow sufficient time for the paint to cure before handling them.

Beak

The beak can be made from a dowel or small piece of scrap. It should be $\frac{3}{8}$ " in diameter to match the hole you drilled in the head earlier. You could leave the beak pointed (*Photo 19*) or use a small saw to cut the mouth open for those birds that you want to sing.

Assembly

Assemble the wings to the body using hot-melt glue or your favorite glue. Attach the beak to the head and then attach the head to the body. Try swiveling the head to get different expressions.

Experiment with inserting the legs, snipping and bending them so that the bird stands up properly and gives the look you want to achieve. There is no exact measurement of where to put the legs so the bird balances. The variables of the weight of wood and the final shape you produce will all come into play in balancing the bird.

Coloring and finishing

Depending on your own design preferences, you may choose to just use

nature's colors of different woods for color. Or you could paint them with acrylics or an airbrush. Bare wood can be nicely finished with an application of your favorite oil.

I hope you have fun making one and hopefully a nest full of these. Pose them on your favorite shelf and enjoy playing with them. Remember to not feed them too much! ■

Richard Dlugo began turning in the 1970s to fulfill a need for wooden toy parts. In the last ten years, he has become very active as an artistic turner. You can view his other toys at richarddlugo.com/toys. He is most grateful for the sharing of ideas, inspirations, and techniques between woodturners at all levels. This article is meant to give back some of that sharing. You can reach Richard at richard@richarddlugo.com.

Cut and bend wire legs



17



18

The copper core of 12-gauge electrical wire, stripped of its sheathing, works great for the bird's legs. Shape the legs by wrapping the wire around a screwdriver, using electrical tape on your pliers to protect the easily dented copper.

Turn a beak



19

The bird's beak can be turned to a rounded or pointed end, or for a singing bird with the appearance of an open beak, saw a small wedge into the end of the blank. Glue the beak into the bird's head.

You read the article—now see the video!

This article has an accompanying online video in which Richard Dlugo further illustrates the making of these whimsical bird forms. See all of Richard's hints and tips on the subject by visiting tiny.cc/DlugoBirds or scanning the QR code with your mobile device.

