WOODWORKER'S JOURNAL downloadable plans:

"America's leading woodworking authority"™

In this plan you will be getting:

- Step by Step construction instruction.
- A complete bill of materials.
- Exploded view and elevation drawings.
- How-to photos with instructive captions.
- Tips to help you complete the project and become a better woodworker.

To download these plans, you will need **Adobe Reader** installed on your computer. If you want to get a free copy, you can get it at: **Adobe Reader**.

Having trouble downloading the plans?

- If you're using Microsoft Internet Explorer, right click on the download link and select "Save Target As" to download to your local drive.
- If you're using Netscape, right click on the download link and select "Save Link As" to download to your local drive.

This Turning is for the Birds

Published in Woodworker's Journal "Practical Woodworking: Proven Projects, Tips and Tricks from Fellow Woodworkers"

$7.95

WJ086

If you like turning as much as we do, you'll have a great time with this colorful apple birdhouse. Laminated construction allows you to hollow the house before it's mounted on the lathe and, once you're ready, turning the pine is a breeze.

This Turning is for the Birds

Add a bit of whimsy to your backyard while providing a new home for a family of wayward songbirds. We're taking a wide detour from the usual "four walls and a roof" convention here. All it takes to create this apple is a piece of ordinary 2 x 12 pine lumber and a few hours at the lathe.

Figure 1: *Clamp the birdhouse together by turning the assembly upside-down and setting it onto two bar clamps. Add more clamps as needed.*

Figure 2: *Use a large roughing gouge and run the lathe at a very low speed to turn the blank into the apple shape.*

As winter recedes and crocuses begin pushing their way through thawed soil, songbirds chatter wildly to announce their annual arrival, bringing color and music to our reawakening world. Next spring, why not build a new home for our favorite visitors and spend a few warm hours on the lathe?

Actually, there aren't many birdhouses that can be made on the lathe, but we've come up with a pretty unique alternative to the traditional four walls and a roof. This apple design is easy to build and will always be a pleasure to see hanging from a tree limb in your backyard. Keep in mind that you'll need a lathe with at least a 12" swing capacity.

Some of you might be concerned about the bright red paint we've used on the birdhouse, but don't worry. We checked with a leading bird-watching specialist who referred us to the book "Songbirds in Your Garden," by John K. Terres. According to Mr. Terres, applying a wood preservative to the outside of the birdhouse will prolong the life of the structure, and after letting it dry for three to four days you can paint the house any color you wish.

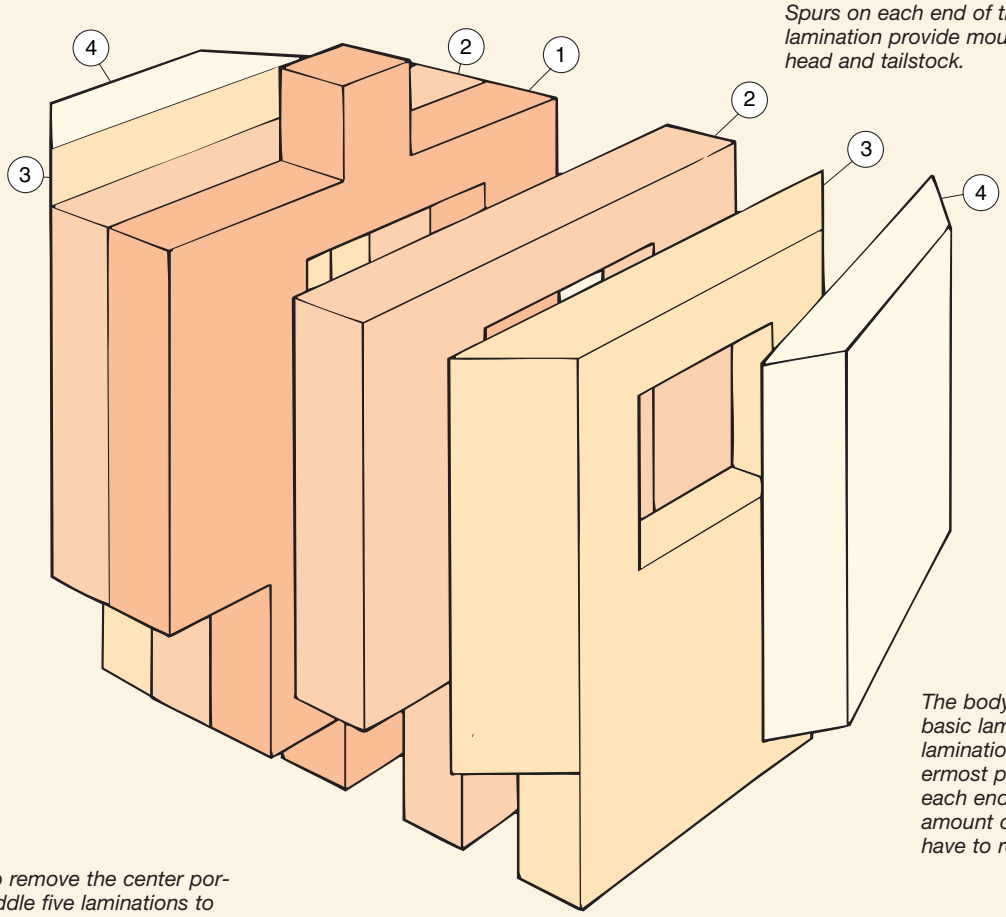
One additional point that experts all agree on when it comes to building a birdhouse is to leave off the perch, which tends to attract less desirable bird species.

Laminating the Blank

The birdhouse is made of pine, which has reasonable exterior durability and is readily available from local lumberyards. Other good choices include cedar and redwood, but neither of these turn as well as pine. Painting the house should enable the pine to stand up to the effects of sunlight and foul weather for quite a few years before you'll need to retire it and turn a new one.

The turning blank is made up of seven pieces cut from a twelve foot 2" x 12". Each piece, except for the outside two, has its center portion removed so that when the birdhouse is assembled the inside will be hollow. The lengths and widths of the pieces are graduated in size to make the turning easier. The corners of the middle piece (piece 1) are cut away, leaving a 1½"-long extension for mounting the birdhouse assembly onto the lathe's drive center (see *Elevation* on page 81). The outside pieces (pieces 4) and

Birdhouse Exploded View



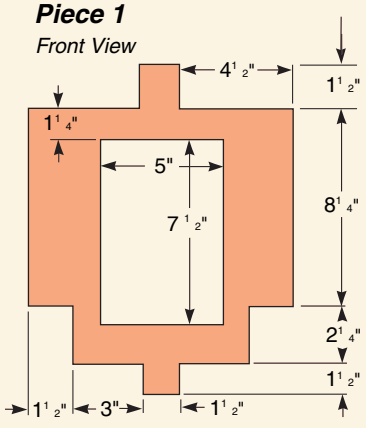
Spurs on each end of the center lamination provide mounts for the head and tailstock.

The body of this project is a basic lamination of seven pine laminations. Chamfer the outermost pair of laminations on each end to reduce the amount of waste stock you'll have to remove with a gouge.

Use a jigsaw to remove the center portions of the middle five laminations to provide for the hollow center. There's no need to remove these areas with more complex techniques on the lathe.

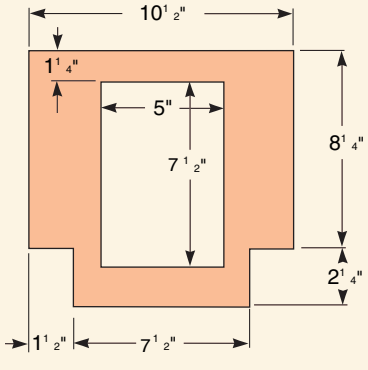
Piece 1

Front View



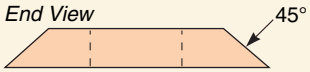
Pieces 2

Front View

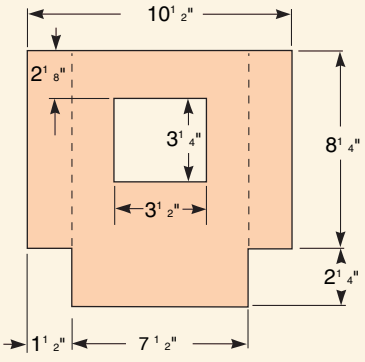


Pieces 3

End View

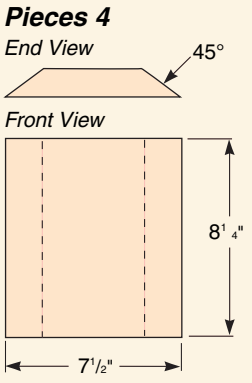


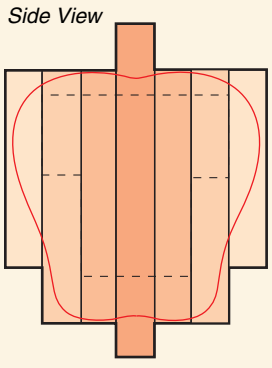
Front View



MATERIAL LIST – *Birdhouse*

		T x W x L
1	Middle (1)	1½" x 10¼" x 13½" (Pine)
2	Body #1 (2)	1½" x 10¼" x 10½" (Pine)
3	Body #2 (2)	1½" x 10¼" x 10½" (Pine)
4	Outside (2)	1½" x 7½" x 8¼" (Pine)
5	Leaf (1)	1/4" x 4½" x 8" (Pine)
6	Stem (1)	3/4" x 3" (Branch)
7	Eyehook (1)	2" long (Brass)





Take note of where the inner hollows come closest to penetrating the side walls, and mark these spots on your blank to prevent cutting through the walls while turning it to shape.

Figure 3: *The wall is thinnest at the shoulder near the bottom of the apple, so it's important to keep this area marked to prevent overcutting.*

those immediately inside them (pieces 3) have vertical edges ripped at a 45° angle.

As much as possible, cut around the knots in the plank (especially large, loose knots), although knots in the interior area of the five inside pieces of the birdhouse (pieces 1, 2 and 3) will be cut away when you hollow each piece.

Lay out the hollow area on the five interior pieces as shown in the *Exploded Drawing* on the facing page, then drill a 1/2" hole into the waste in order to insert a jigsaw blade. Remove the waste areas with the jigsaw and a fine-cutting wood blade.

Assemble the birdhouse with Resorcinol or polyurethane glue, which are both completely waterproof. Spread a liberal amount on both sides of the five interior pieces and on the inside face of the outside pieces. Stack the seven slabs in order and set them upside down on two bar clamps (see *Figure 1*). This aligns everything perfectly. Use additional clamps around the assembly as needed. Resorcinol is a slow setting glue, so put the birdhouse aside for a full day if you use this glue before mounting it on the lathe.

Turning the Birdhouse

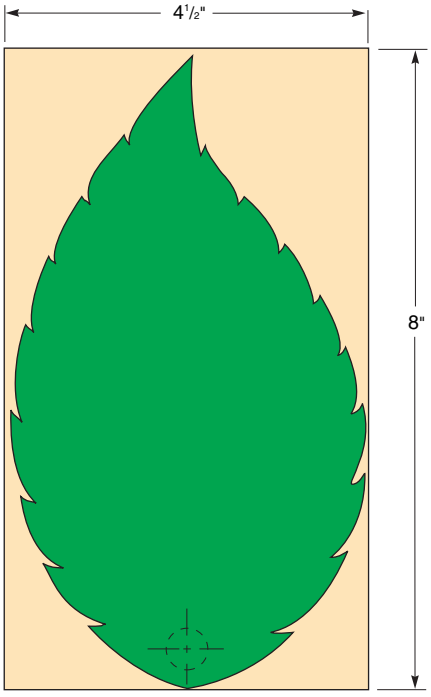
Find the center point on the top and bottom extensions of the birdhouse assembly so the blank can be mounted on the lathe. Before mounting, however, remove the four corners on the lower section of the birdhouse with a handsaw. This just quickly reduces the amount of material you'll need to remove during the turning. Mount the birdhouse on the lathe and begin turning the blank into a cylinder with a large roughing gouge (see *Figure 2*). Continue using a large roughing gouge to taper and round the cylinder into the apple shape, but be careful not to cut away too much material at the shoulder near the bottom end of the apple (see *Figure 3*). Use a skew chisel for the final

clean-up pass, then sand the apple through to 150 grit.

The size of the entry hole in a birdhouse is critical to attracting specific species. To attract nuthatches, chickadees and titmice, drill a 1¼" hole. A larger or smaller hole will attract other bird types, possibly even nuisance birds that you'd rather not have around. Steady the apple in your lathe and drill the 1¼" entry hole squarely into one outside lamination (piece 4) with a holesaw. Now, cut a 1/16"-deep line 1½" from the bottom of the birdhouse with the tip of your skew chisel. This will serve as a cutting line for separating the bottom from the apple—a necessary feature on all birdhouses for cleaning out the old nest each spring.

Make a few pencil marks across the skew cut line to help you realign the parts later. Support the birdhouse with one arm while it's still mounted on the lathe and begin cutting the bottom off the apple. Use a very sharp handsaw (preferably a Japanese saw) and follow the kerf to guide the saw straight across the apple. Cut a few inches at a time, rotating the apple when the blade breaks through to the hollow inside. Once the bottom is separated from the apple body, take a few passes with a hand plane to fit the two pieces back together again.

With the bottom set in place on the apple (remember to align the pencil marks you made across the kerf), drill four counterbored pilot holes for #8-2" screws through the bottom and up into the side walls of the house. Drill these holes at a slight angle to keep the screws solidly within the thickness of the walls. Secure the two parts together with weather-resistant screws, then file and sand the joint smooth. Now drill several 1/4" holes into the side and bottom of the apple (see *Elevation Drawings* on page 80) to allow for air circulation and water drainage.



Make the leaf from 1/4"-thick white oak and drill a 1/2"-diameter by 1/8"-deep hole at the mark near the base end in which to epoxy a dowel.

Cut off the top and bottom extensions and smooth these areas with a small disc sander. Now drill a 1/4" hole through the top of the apple and install the eye bolt. Slip a washer onto the bolt before inserting it in the hole, then add a second washer and the nut inside the birdhouse.

Adding More Birdhouse Details

Use a band saw or coping saw to cut out the leaf (piece 5) from 1/4"-thick white oak following the pattern shown above. Next, drill a shallow 1/2"-diameter hole near the base end of the leaf and epoxy a 2½"-long by 1/2"-diameter dowel into it. Form the stem (piece 6) from a small branch in your backyard. Find a dry branch that's a little bigger than 1/2" in diameter. Now drill angled 1/2" holes in the top of the apple to hold the leaf and the stem. These hole positions are completely arbitrary, so do whatever you feel looks best. Shave one end of the stem to fit in the hole, but don't glue either piece to the apple just yet.

Finishing the Apple

Coat the outside of the birdhouse, leaf and stem with a penetrating wood preservative to repel water and reduce the chance of mildew forming on the damp wood. Products for decks and outdoor furniture, like General Finishes Outdoor Oil, are perfect for the first soaking coat on the apple. Set the birdhouse aside for at least four days so the oil hardens and dries thoroughly.

High-gloss enamel paint is the best weather-resistant finish. It's harder than satin paint or any clear finish and tougher against the effects of ultraviolet light. If you use spray paint, stuff the entry hole with tissue before applying two coats of red to the apple, and paint the leaf a nice forest green.

Once all the parts are painted, remove the bottom and squeeze a thin line of silicone caulk around the rim of the apple, then reattach the bottom. This will prevent any water from leaching into the birdhouse and prematurely rotting the wood. Now epoxy the leaf and stem into their holes on top of the birdhouse. Leave the completed birdhouse in the garage for a couple weeks to insure that all fumes from the paint are gone.

Hanging Advice

Experts advise that the best way to hang a birdhouse is with two strings, tying them from the eyehook to a tree limb so the house is eight to fifteen feet off the ground. Tying the strings about eighteen inches apart on the limb reduces the amount of sway. You should also be sure to turn the entry hole away from the prevailing winds and place the house in a shaded area. Doing all these things will surely make life much more comfortable for the feathered residents of your newly built backyard summer home.

FUNGI FIGHTERS

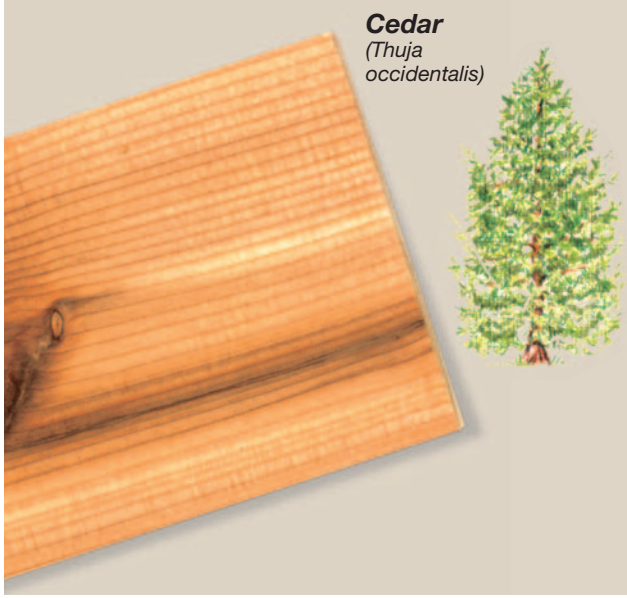
When building outdoor furniture you really have just two choices—you can paint most any wood and expect it to last for years, or you can build with species having high resistance to decay, such as redwood, cedar and cypress. Too often people choose ordinary woods for exterior use, finishing them in a penetrating oil, only to be disappointed when their project quickly deteriorates. If you have doubts, try a little experiment. Build two stools—one out of redwood and the other from birch—and set them outside. You'll soon notice the birch stool decaying while the other stool develops a beautiful patina. Why do some species resist decay while others go to pieces?

The answer is found deep in the wood cells where decay is caused by fungi spores, a simple form of plant life found virtually everywhere in our air and water. Fortunately, certain species are less hospitable hosts than others. These woods have unique extractives in their heartwood that are capable of repelling or killing fungi.

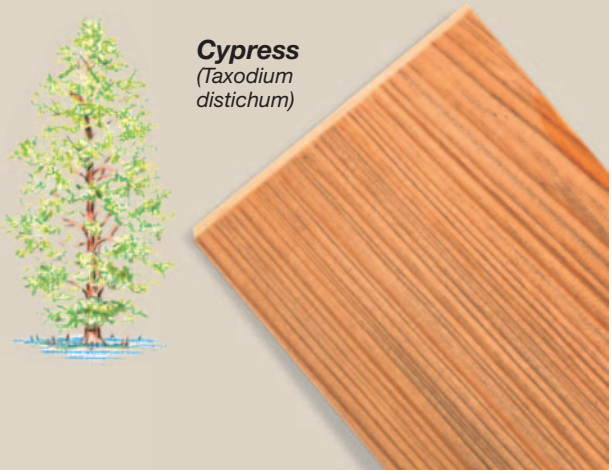
In the absence of these extractives, fungi quickly gets into the wood and actually dissolves the cell walls to begin the rotting process. As long as conditions for growth are present, fungi will continue destroying the internal structure of the wood. Necessary ingredients for fungi growth include a moderate temperature, oxygen and moisture. If any of these conditions aren't met, fungi growth will subside or stop altogether. In fact, some species avoid decay by repelling water, thus depriving fungi of one essential element for growth. It's important to remember that sapwood is generally more prone to decay, even in circumstances less favorable to fungi growth, because it lacks the fungi-fighting extractives found in heartwood.

Redwood
(Sequoia sempervirens)

Resistance to decay means, of course, that the process is slowed down. Unfortunately, it's never eliminated. All species differ in the type and concentration of their extractives, and this significantly influences their rates of decay. Some of the best decay-resistant woods, such as teak and mahogany, are expensive and difficult to find. If you need a hardwood with reasonable exterior qualifications, white oak is a good choice. However, all woods eventually decay as their protective extractives weaken. The difference is that species like cypress, redwood and cedar last a generation, while most woods barely survive one season.



Cedar
(Thuja occidentalis)



Cypress
(Taxodium distichum)