

VOL. 6 NO. 4 • ISSUE 34

WEEKEND WOODWORKING

# PROJECTS<sup>®</sup>

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leaf box

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rod rack

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FROM THE EDITORS OF WOOD MAGAZINE



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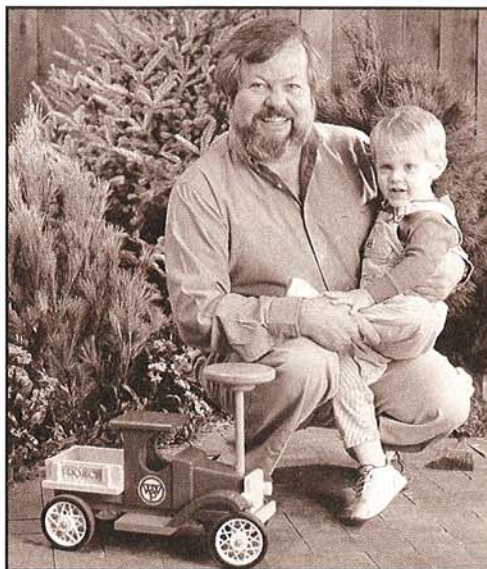


## This truck passed the Cameron test

The good-looking kid straddling the riding truck on this issue's cover isn't just a cute face from a modeling agency. He happens to be Cameron Downing, the first grandchild of our design editor. As the photo at right suggests, Grandpa Jim Downing and Cameron have become good buddies.

Jim now shares that special interest in building toys with the thousands of you loyal grandparents who subscribe to *Weekend Woodworking Projects*®. And it was with Cameron in mind that Jim designed the riding truck for this issue. In fact, Cameron got to test-drive a couple of Grandpa's prototypes before Jim was satisfied with the truck's stability, height, turning radius, and all those other important details. Jim feels confident that when Cameron outgrows this 18"-long toy, there will be many hours of play-time left on it for his new baby brother, Carson.

"One of the big pluses of this truck," Jim said, "is that it fits the one- to two-year-olds. The little tykes with their short legs, diapers, and all can't straddle even the smallest trucks you see in the toy stores. Cameron was just 14 months old when he saw the first version of this truck. And he hopped right on."



Jim Downing holding his grandson Cameron

There's a good chance this new generation of Downing boys will have plenty of exposure to woodworking as they grow up in Des Moines. There must be sawdust in the veins of this family! Great-grandfather Loyal, now retired, and great-grandmother Helen are avid woodworkers. Cameron's dad, Kim, is a freelance technical illustrator and also designed the privacy screen shown on pages 6-8. And then there's Uncle Jamie, who also creates illustrations for our company's woodworking publications. If Cameron and Carson have any interest in wood, they'll have a host of willing teachers.

.....

**Price update.** Our supplier for the travel alarm clock featured in Issue 32 tells us the price of the clock has increased to \$24.95 ppd. For additional information, contact New Products, 15 West Street, Spring Valley, NY 10977.

*Cam Down*

Cover and photograph above: King Au

## WEEKEND WOODWORKING PROJECTS

### OUR PLEDGE TO YOU

Prior to publication, we build every project featured in *Weekend Woodworking Projects* step-by-step in our shop. Then, a seasoned team of editors reviews the how-to directions, technical drawings, illustrations, and Bill of Materials of each project to make sure the instructions we provide to you are clear, concise, and complete.

The Weekend Woodworking Projects Staff

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6

## SCREEN GEM

Here's a three-section divider with plenty of decorating potential for your home. It may be just the ticket for sprucing up a ho-hum living room corner or providing a measure of privacy when guests spend the night on your sleeper sofa.



14

## DECORATIVE TURNED BIRDHOUSES

Branch off in a new direction with your turning talents when you fit your chuck with stock for these diminutive birdhouses.

10

## BANDSAWED BEAUTY

Build this jewelry box for a gift that's as elegant as it is original.

This 9x9" sycamore leaf conceals three generous compartments—each with countless customizing possibilities.



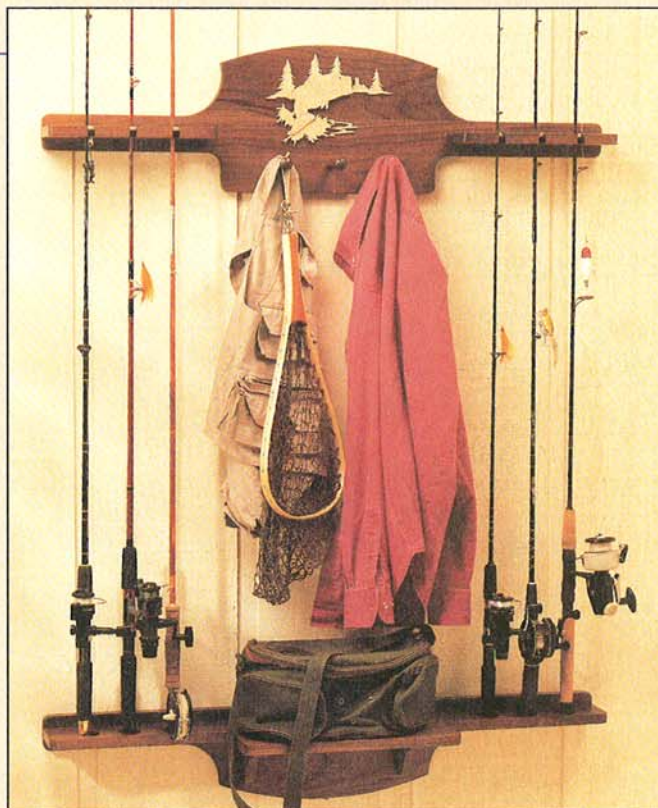




# 17

## THE FISHERMAN'S FRIEND

Bring that fishing gear out of the closet and into the lime-light, where you can proudly display up to six favorite rods and reels. We've even included space for your creel or tackle box and other prized gear.



# 22

## HALF-ROUND TABLE

Somewhere in your home, there's a lonesome wall ideally suited to a table this size.

It's such a breeze to build, you'll probably have half the weekend left to admire your handiwork.

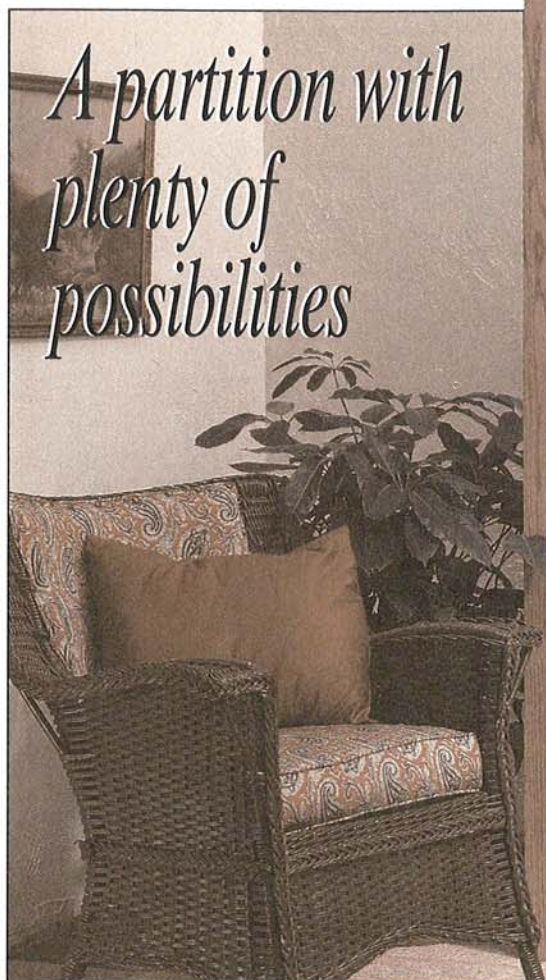
# 26

## PINT-SIZED MODEL T PICKUP

Surely some youngster on your gift list would love straddling this old-timer—it's proportioned as a first riding toy for the diaper set.







*A partition with  
plenty of  
possibilities*

# Screen Gem

*Whether you've got guests coming to camp on your sleeper sofa or you're just sprucing up a ho-hum living room corner, this masterpiece of versatility will make itself indispensable around your house in a hurry. And don't let the curtains discourage you—we've included instructions for them, too.*

## CUT OUT THE FRAME PARTS AND YOU'RE HALFWAY THERE

**1** To make two stiles (A) for each of the three sections, start with three 72" lengths of  $\frac{3}{4} \times 5\frac{1}{2}$ " stock. (We selected red oak.) Rip two stiles to  $2\frac{1}{2} \times 72$ " from each piece. Plane one edge of each stile on your jointer, then rip the opposite edge to a finished width of 2".

**2** For the top rail (B), the middle rail (C), and the bottom rail (D), start with three 48" lengths of  $\frac{3}{4} \times 5\frac{1}{2}$ " stock. Crosscut each into three 16" rough lengths for a total of nine pieces.

**3** Rip three middle rails to  $2\frac{1}{2}$ " wide. Plane one edge of each piece on your jointer, then rip the opposite edge to 2" finished width.

**4** Crosscut the six stiles and the three middle rails to finished lengths of  $70\frac{1}{4}$ " and 14" respectively. Rip the three top rails to  $4\frac{1}{4}$ " wide and the three bottom rails to  $4\frac{1}{2}$ " wide. Then, crosscut all six pieces to 14" long.

*Continued*



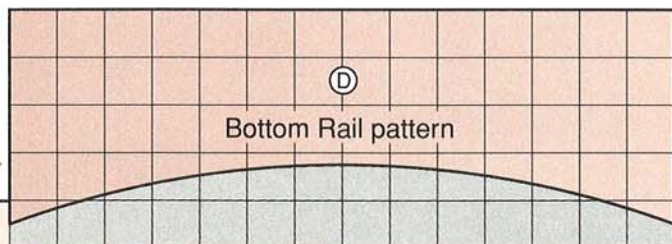


3/4 x 5 1/2 x 72" Oak



3/4 x 5 1/2 x 48" Oak

# CUTTING DIAGRAM (for one section frame)



Bottom Rail pattern

Each square=1"

Cut top pattern to shape after assembling frame

3/8" dowel pins  
1 1/2" long

3/8" dia.  
spring  
7/8" long

5/8" dowels  
14 5/8" long

Sand a  
slight  
chamfer on  
ends of  
dowels

1/4" slot 3/8" deep  
centered on edge

3/8" dowel pins  
1 1/2" long

3/8" holes 13/16" deep  
3/4" brass-plated  
folding screen hinge

31 1/2"

39"

31 1/2"

1/2"

2 3/4"

## BILL OF MATERIALS

| Part            | Finished Size* |          |          | Matl. | Qty. |
|-----------------|----------------|----------|----------|-------|------|
|                 | T              | W        | L        |       |      |
| A stiles*       | 3/4"           | 2"       | 70 1/4"  | O     | 6    |
| B top rails*    | 3/4"           | 4 1/4"   | 14"      | O     | 3    |
| C middle rails* | 3/4"           | 2"       | 14"      | O     | 3    |
| D bottom rails* | 3/4"           | 4 1/2"   | 14"      | O     | 3    |
| E panels*       | 1/4"           | 14 1/16" | 39 1/16" | OPL   | 3    |

\*Note: Cut parts marked with an \* to finished size during construction. Please read all instructions before cutting.

Materials Key: O—Oak; OPL—Oak plywood lamination.

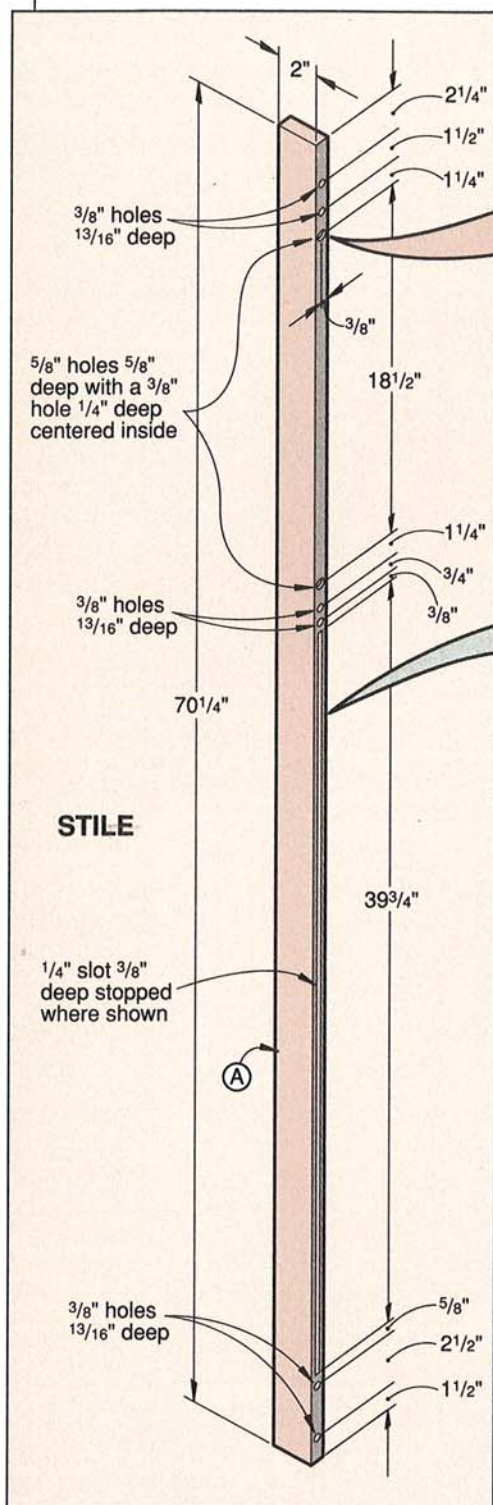
Supplies: Silicone adhesive; 6—3/8 x 7/8" steel springs (approx. size); 36—3/8 x 1 1/2" dowel pins; low-odor, non-flammable contact adhesive; 2 1/4 yds. voile or batiste fabric; 5/8" oak dowels; stain; finish; three pairs 3/4" double-action brass screen hinges with screws.

**TIP** Before you cut your 4 x 8' sheet of plywood, use masking tape to mark one row of three panels A, B, C and the other row 1, 2, 3. After you rip and crosscut the six panels, adhere Panel A to Panel 1, B to 2, and C to 3. That way, the grain on each face of your finished screen will run continuously across the three sections.

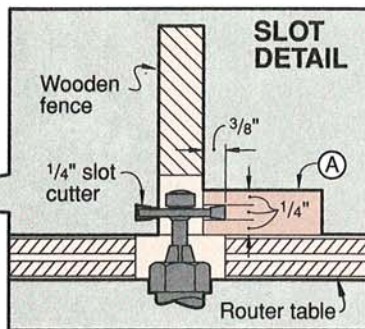
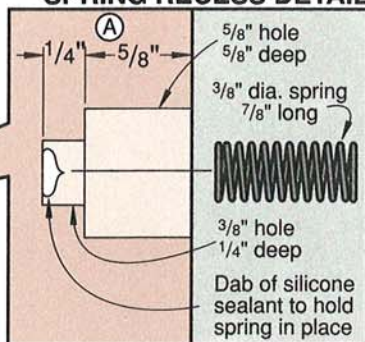
**TIP** To laminate the plywood panels, we used Franklin Countertop Contact Cement, a low-odor, nonflammable adhesive we found at a local home center. We applied two coats to both surfaces with a paint roller, waited until the sheen disappeared, then laid several lengths of scrap dowel between the surfaces to prevent them from making contact until we had the corners aligned. Then, we gradually smoothed the surfaces together, removing the dowels as we went.



# SCREEN GEM



## SPRING RECESS DETAIL



**5** Lay out the gridded Bottom Rail pattern shown on page 7 in full size on a 5x15" sheet of paper. (We keep a roll of butcher paper in our shop for such purposes. If you'd prefer to work from a full-sized pattern, see our offer on page 9.) Make two additional copies, and adhere each copy to a bottom rail. Bandsaw the three arches, keeping the blade outside the line. (We used a 1/4" blade.) Sand to the line using a 1 1/2"-diameter drum sander on your drill press.

## MAKE THE DOWEL JOINTS, GLUE UP YOUR PANELS, AND ROUT THE SLOTS

**1** Set up your dowel jig for 3/8" holes, and drill six 13/16"-deep dowel holes centered on the inside edge of each stile where shown on the Stile drawing. (We used a 3/8" brad-point bit.)

**2** Next, transfer these dowel-hole locations to the nine rails. To do this, first mark the locations of the three rails on the edge of one stile. (Use this one stile to transfer dowel locations to all nine rails.) Insert a dowel center in each

of the six holes on the stile edge. Center each rail between the lines in its appropriate location, and press lightly to transfer the dowel locations onto the rail ends. Turn each rail end-for-end and repeat. Now, use your dowel jig to drill these holes 13/16" deep.

**3** Drill holes for the curtain rods by first chucking a 5/8" brad-point bit into your drill press. On three of the stiles, drill 5/8" holes 5/8" deep where shown on the Stile drawing and the Spring Recess detail at left. In the three remaining stiles, drill 5/8" holes 1/4" deep.

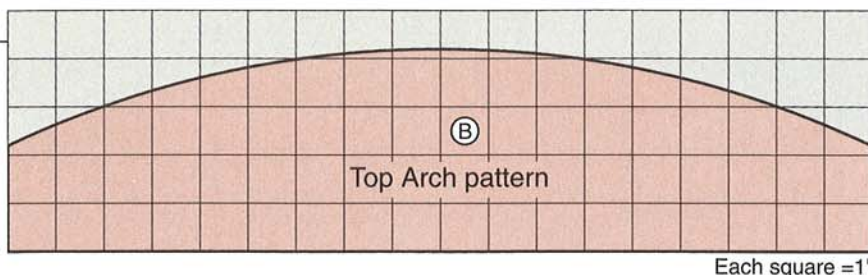
**4** To make the spring recesses, switch to a brad-point bit of the same diameter as your springs, and center the recesses in the 5/8x5/8" holes you drilled in the first set of stiles. Drill the recesses deep enough so the top of the spring will be flush with the edge of the stile. (Our springs, which we found at a local hardware store, measure 3/8x7/8" long. Since our curtain-rod holes were already 5/8" deep, we drilled 3/8" holes 1/4" deep for a total depth of 7/8".)

**5** Glue the six springs into the recesses using silicone adhesive. (We used Plumber's Goop, an adhesive sealant we found at a local hardware store.) Crosscut six 14 1/2" curtain rods from 5/8" dowel stock. (We used oak.) Sand a slight taper around one end of each to fit the spring-loaded hole. (We used our stationary belt sander.) Then, sand the six rods smooth.

**6** To make the panels (E), rip a 4x8' sheet of 1/8"-thick oak plywood into three pieces of 16" rough width. From each of these, crosscut two pieces to 42" rough length for a total of six pieces. (See our two tips on page 7.) Use contact adhesive to laminate three pairs of two pieces, making sure to apply the adhesive to the rough face of each piece. Now, trim your three laminated panels to 14 1/16x39 11/16" long. (*Note: Before cutting the slots in the next step, check the actual thickness of your laminated panels to see if you need to adjust the slot width.*)

**7** Rout slots for the panels in the stiles and the middle and bottom rails where shown on the Exploded View drawing. To do this, fit your table-mounted router with a 1/4" slot-cutting bit, and set up the fence for a 3/8"-deep cut as shown on the Slot detail above. Then, lay out and rout the slots. Use a 1/4" chisel to square the ends of the stile slots.





## ARRANGE THE PARTS INTO THREE SETS, THEN GLUE UP THE FRAMES

**1** Group the parts into three sets, each including a panel, two stiles, and a top, a middle, and a bottom rail. Remember to arrange the panels so the grain will match. Using twelve  $\frac{3}{8} \times 1\frac{1}{2}$ " dowel pins for each, dry-assemble the sections to check for fit, and adjust as necessary.

**2** To assemble each section, glue six dowel pins into the appropriate holes on one stile. Apply glue to the other ends of the dowels, then attach the three rails. Fit a panel into the slots in the two rails and stile. (To allow for seasonal expansion and contraction, do not glue the panel in place.) Glue six dowels into the holes on the other stile, and glue these dowels into the corresponding rail holes, making sure to fit the fourth panel edge into the slot. Clamp each section using bar clamps, and check for square.

**3** Next, lay out and cut the arch at the top of each section. To do this, first lay out the gridded Top Arch pattern shown above in full size on a  $5 \times 18$ " sheet of paper, then make two additional copies. Adhere a copy to the top rail and stiles of each section. Cut the arches to shape, keeping your blade outside the line. (We used our portable jigsaw with a fine-tooth blade.) Now, sand to the line. (Use a portable belt or disc sander for this.) Finish-sand all surfaces using 120-, 150-, and then 220-grit sandpaper.

## NOW, FIRE UP THAT SEWING MACHINE TO MAKE THE CURTAINS

**1** To make the three curtains, start with  $2\frac{1}{4}$  yards of light fabric such as voile or batiste. (We chose beige voile, which we found at a local fabric store.) Cut a  $25\frac{1}{2}$ " length for each curtain, keeping the fabric at its  $44/45$ " width (a standard measurement). Fold the  $44/45$ " edges in  $\frac{1}{4}$ ", and hem them where shown on the Curtain drawing at right.

**2** Next, fold over  $2\frac{1}{4}$ " of fabric at each end. Fold in  $\frac{1}{2}$ " at the end of each  $2\frac{1}{4}$ " overlap, and hem. To make the ruffle at the top and bottom, flatten the resulting  $1\frac{3}{4}$ "-wide casings, and stitch the entire width  $\frac{3}{8}$ " from each fold. This will leave a  $1\frac{3}{8}$ "-wide sleeve for the  $\frac{5}{8}$ "-diameter curtain rod. (Note: Although the opening is

only 20" high, we made our curtains 21" long because the diameter of the two rods eats up an inch of fabric length.)

## APPLY FINISH TO YOUR THREE SECTIONS, THEN ASSEMBLE THEM

**1** Apply the stain and finish of your choice to the screen sections and curtain rods. (We brushed on Minwax Golden Oak stain, let it stand for 10 minutes, and wiped off the excess with a clean cloth. We let the stain dry, then repeated this procedure. To stain the curtain rods, we first screwed a screw eye into one end of each and hung them up. After the stain on all parts had dried overnight, we sprayed on three coats of Deft satin aerosol lacquer, hand-sanding between coats with 320-grit sandpaper on the flat surfaces and 000 synthetic steel wool on the contoured edges. See our tip about synthetic steel wool at right.)

**2** Allow the finish to dry overnight, then hinge the sections together using three  $\frac{3}{4}$ " double-action brass-plated screen hinges between each pair of sections. (We used three pairs of Brainerd #0130XC—one pair per package—which we found at a local hardware store.) To do this, align the mating edges of each pair of sections, and position the hinges where shown on the Exploded View drawing. Then, lay out and drill pilot holes using a brad-point bit. (Our hinges came with  $\#6 \times \frac{3}{4}$ " wood screws, so we drilled  $\frac{3}{32}$ " pilot holes  $\frac{3}{4}$ " deep.) Now, screw on the hinges.

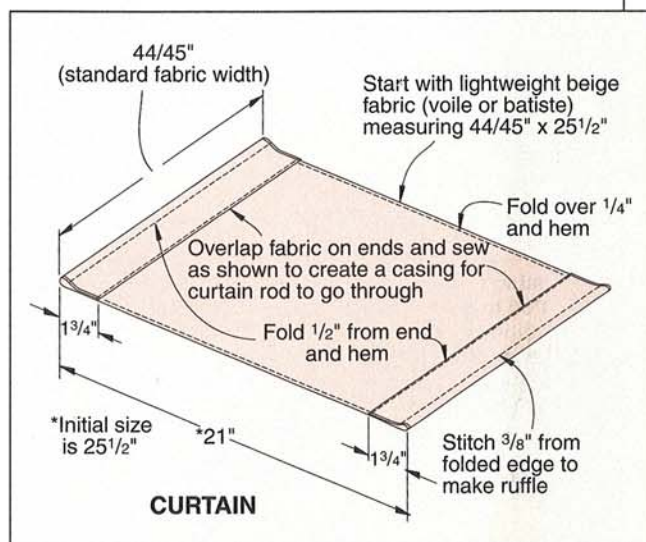
**3** Match the tapered curtain-rod ends with the spring-loaded holes in each opening. Insert rods into both sleeves on each curtain, bunching the fabric as you go. Press each tapered rod end into a spring-loaded hole, and pop the other end into place in the opposite hole. Smooth the bunched curtains for a uniform appearance. ■

To order full-sized patterns for the top arch and bottom rail, send \$1 for handling and a self-addressed, business-sized envelope with 52 cents postage to:

Screen Gem Pattern  
Weekend Woodworking  
Projects  
1912 Grand Ave.  
Des Moines, IA 50309-3379

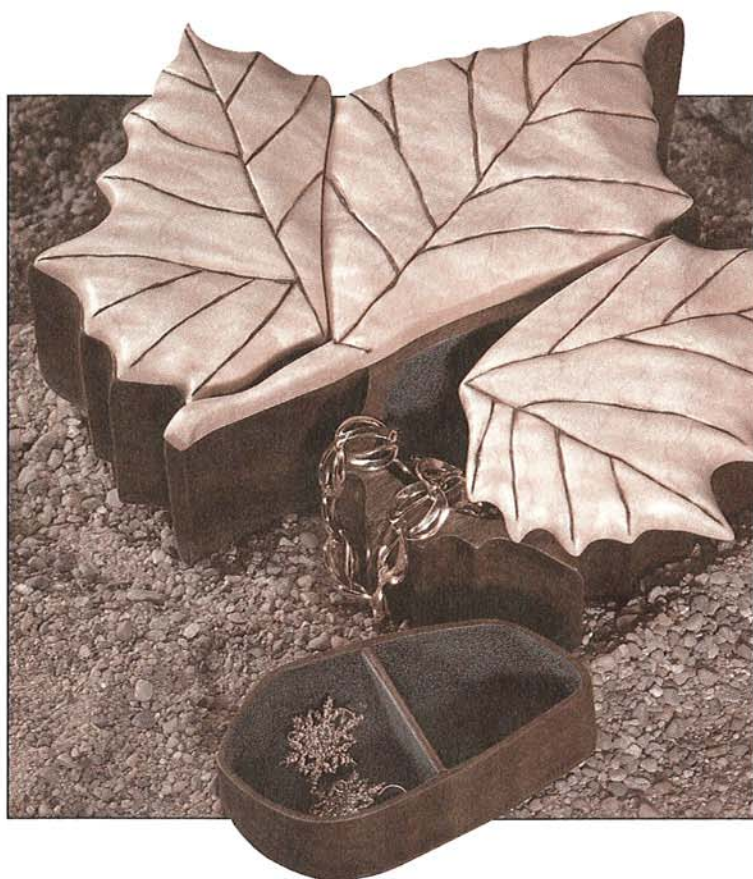
**TIP** For leveling the finish on delicate surfaces, we recommend 3M Synthetic Steel Wool or a similar product, which you can buy at your local hardware store or home center. It outlasts steel wool and won't leave a filament residue.

Project design and illustrations:  
Kim Downing  
Project builder: Chuck Hedlund  
Photograph: King Au





# Bandsawed Beauty Of a Jewelry Box



*Inspiration from a sycamore leaf led Jim Boelling, a frequent contributor to this magazine, to create this spectacular bandsaw box. You can get the same impressive results using Jim's techniques to saw the base, build the trays, contour and detail the lids, and flock the interior.*

## FIND A GOOD BLANK, THEN BANDSAW THE BOX AND CAVITIES

**1** First, select a bowl-sized turning blank at least 9" square and 2" thick. (We chose a 2×10×10" walnut blank. See our Buying Guide for a mail-order source.) As an alternative, you can laminate thinner stock.

**2** Make three copies of the full-sized Leaf pattern shown on page 13. (We photocopied ours.) After belt-sanding your blank to get a clean, smooth surface, adhere one copy to the face. (See our first tip on page 12.) Fit your bandsaw with a sharp 1/8" blade, and saw out the leaf, keeping your blade outside the line. Now, cut the entrance/exit kerfs where shown on the pattern. Carefully saw out the three cavities, keeping the blade inside the line.

**3** Using quick-set epoxy, epoxy the kerfs together, and clamp. (**Note:** We used quick-set epoxy for all gluing operations.) When the epoxy has cured, sand all inside and outside surfaces smooth. (We started with 1/2"- and 1"-diameter drum sanders on our drill press, then hand-sanded with 150-grit sandpaper.)

## NOW, BUILD THE TRAYS AND TRAY SUPPORTS

**Note:** Make trays for as many of the three cavities as you wish. Use the following steps to make each tray and support. We made trays for the two outside cavities.

**1** Adhere one face of the core you removed from the cavity to an auxiliary 2×4 block using double-faced carpet tape. Use your bandsaw and fence to saw two 1/8"-thick slices off the face of



**SUPPLIES:** Quick-set epoxy, double-faced carpet tape, finish, oil-based enamel, paste wax.

#### BUYING GUIDE

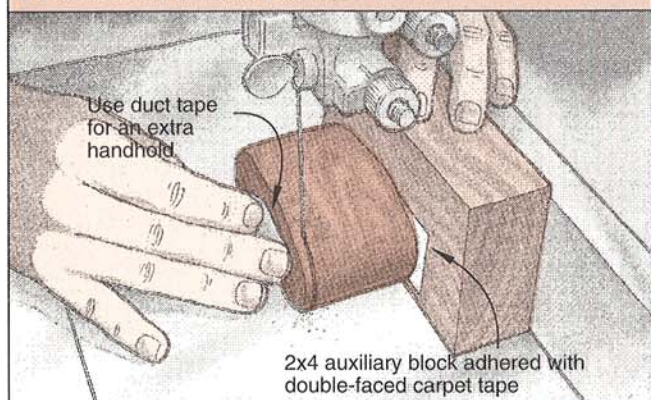
•**Walnut Bowl Blank.** 2×10×10". Catalog no. CB15. \$16.95 plus \$4.75 shipping and handling. Constantine's, 2050 Eastchester Rd., Bronx, NY 10461. Phone 800/223-8087.

•**Flocking Kit.** Includes flock gun and 2-oz. bag of Christmas Green flocking material (enough to cover 10 sq. ft.). Catalog no. 3249. \$7.98 plus \$4.95 shipping and handling. (Minn. residents add 6.5% sales tax.) Meisel Hardware Specialties, P.O. Box 70-WEW, Mound, MN 55364-0070. Phone 612/471-8550.

the core—one for the tray bottom and one for the lid liner—as shown *below*. (We adhered a piece of duct tape to the slice as a handhold.)

2 Remove the core from the auxiliary block, and lay it faceup on your bandsaw table. (See our second tip on *page 12*.) Cut an entrance/exit kerf, then carefully saw out the core, keeping the wall thickness as close to  $\frac{1}{8}$ " as possible. Epoxy and clamp the kerf, then allow the epoxy to cure. Save the core to make tray dividers.

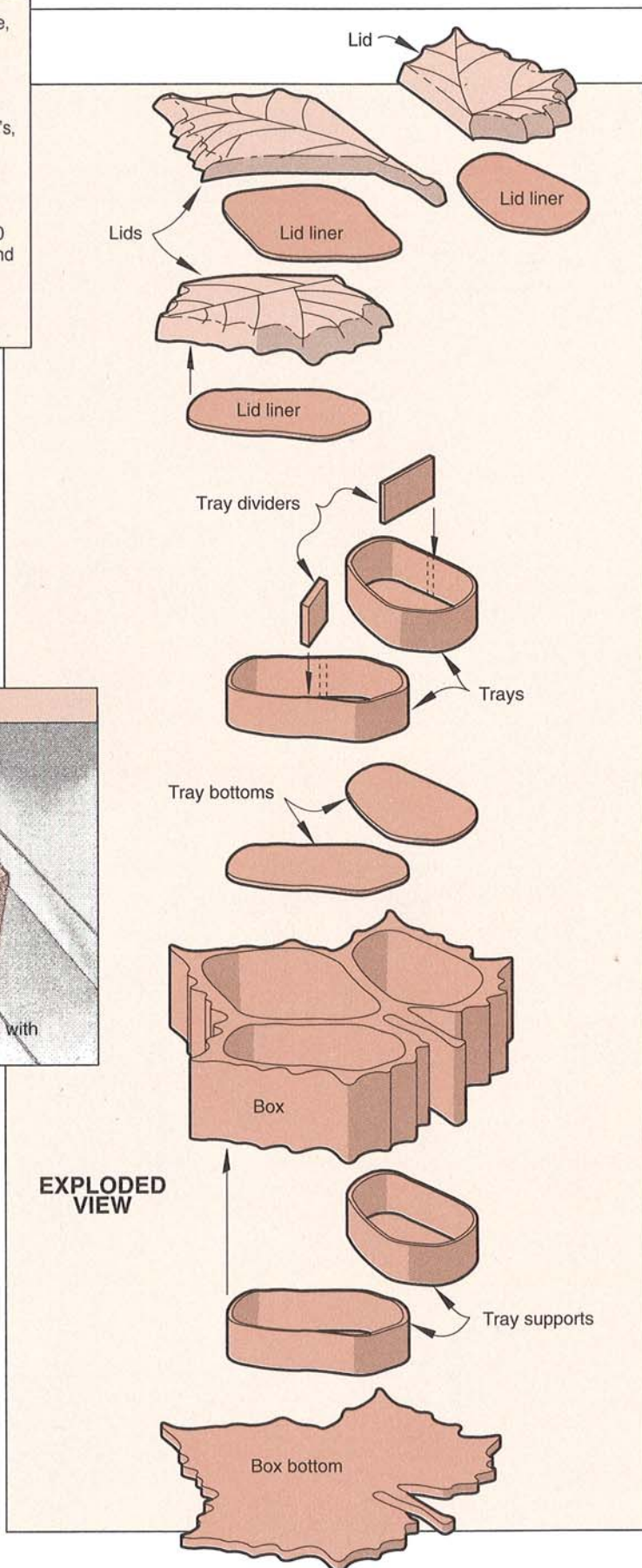
#### BANDSAWING A TRAY BOTTOM



3 To make the tray and tray support, bandsaw the shell you cut out in the previous step into two slices of equal thickness as shown on *page 12*. (Ours measured  $1\frac{3}{16}$ " thick.) Epoxy and clamp the tray bottom to one of the two slices to make the tray. Now, epoxy the other slice into the bottom of its original cavity as a support for the tray. Use wood putty to fill any crevices between the support and cavity. (We used a screwdriver to daub FI:X Patch Wood into the crevices, then carefully removed the excess.)

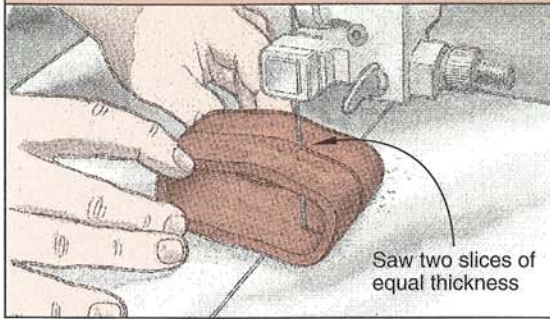
4 When the epoxy has cured, sand the outside walls of the tray. (We used a 1" drum sander on our drill press.) Remove enough stock to allow approximately  $\frac{3}{32}$ " clearance on all sides for the interior flocking.

*Continued*





## BANDSAWED BEAUTY



**TIP** We recommend adhering patterns with 3M SprayMount or a similar spray adhesive. It's much neater to work with than rubber cement, and it rubs off easily. You can buy it at crafts and art-supply stores.

**5** Fit your table-mounted router with a  $\frac{1}{8}$ " piloted round-over bit, and rout the bottom edges of the tray. Then, sand the outside walls and bottom of the tray smooth using 150- and then 220-grit sandpaper. (We used our palm sander.)

**6** To make a tray divider, adhere the interior core from your tray/support cutout to an auxiliary 2x4 block using double-faced carpet tape. Now, turn it on its edge, and bandsaw a  $\frac{1}{8}$ "-thick slice off the face. Lay this slice flat, and bandsaw it as wide as your tray is deep. (Ours measured  $1\frac{3}{16}$ " wide.) Bandsaw the divider to  $\frac{1}{4}$ " longer than the tray's center width. Then, bevel the ends as necessary to fit the inside tray contours. (We used our stationary disc sander.) Epoxy and gently clamp the divider into position. (We used duct tape.)

### THE LIDS ARE EASIER THAN THEY LOOK

**1** To make the lid sections, start with a 9" square of  $\frac{1}{2}$ "-thick contrasting stock, preferably something with a pronounced grain. (We chose curly maple.) Select a top face, and adhere a pattern to it. Bandsaw the outside shape, keeping the blade outside the line.

**2** Lay the maple lid facedown on your bench. Position the box on the lid (also facedown), and trace each cavity outline onto the bottom face of the lid. Remove the box, then epoxy and clamp each liner (from Step 1 in the previous section) into its respective position on the lid. When the epoxy has cured, carefully bandsaw between the liners where shown on the pattern to separate the lid into three pieces.

**3** Adhere the three lid sections in place on the box using double-faced carpet tape. Sand the outside edges of the lid sections, blending them to the box edges. (We used a Dremel tool with a 60-grit band on a  $\frac{1}{2}$ "-diameter drum sander.) Now, delicately round over the sharp edges and corners. (We used a 3M medium-grit flap sander on our drill press.)

**4** To create the leaf's wavy, irregular surface, use a  $\frac{1}{2}$ "-diameter drum sander to make high and low spots. (Again, we used our Dremel tool with a 60-grit band on the drum sander.) Make the ridges and depressions as random as possible, and strive for smooth gradations rather than abrupt ridges. (We found that it helped to study some real leaves while surfacing our lid sections.)

**5** Using a copy of the full-sized pattern and carbon paper, trace the vein lines onto the lid sections. Now, burn or carve the veins. (We used a wood burner with a skew tip. If you prefer to carve or cut the veins, use a hobby knife or a Dremel tool with a  $\frac{1}{8}$ "-diameter cone-shaped cutter.) Hand-sand the veins smooth, and feather out any sharp ridges using progressively finer grades of sandpaper. (We used 120-, 150-, and then 220-grit sandpaper.)

### ADD THE BOTTOM, THEN FINISH AND FLOCK YOUR BOX

**1** To make the bottom, start with a 9" square of  $\frac{1}{4}$ "-thick walnut. Sand both surfaces smooth. Epoxy and clamp the piece to the bottom of the box before sawing. When the epoxy has cured, carefully bandsaw around the perimeter of the leaf, removing as much waste as you can without sawing into the box walls. Now, sand the bottom edges to gently blend the bottom to the walls. (Again, we turned to our Dremel tool and  $\frac{1}{2}$ "-diameter drum sander.)

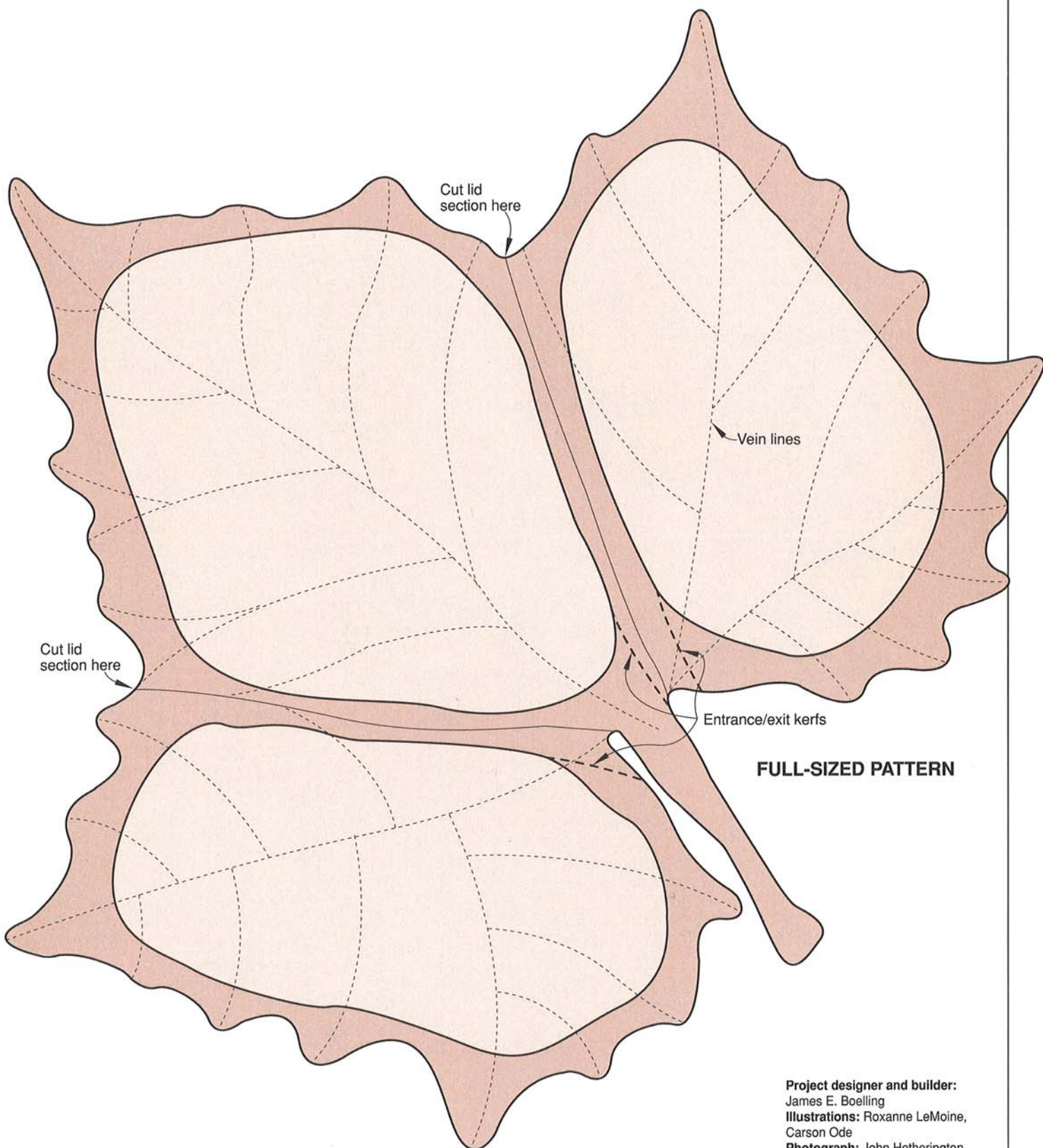
**2** Apply the finish of your choice to all parts except the lids. (We sprayed all surfaces, including the cavities and trays, with two coats of Deft satin aerosol lacquer. After flocking the interior, we applied two coats of finishing wax to the exterior, polishing after each coat.)

**3** To flock the cavities and tray interiors, first brush an oil-based, semigloss enamel onto the desired surfaces one section at a time. (We used a medium-green enamel to match our flocking.) Blow the flocking into the paint using a flock gun. (See the Buying Guide for a mail-order source for a gun and flocking.) Do this over a box or bag so you can recover any overspray.

**4** Trial-fit the lids in their cavities, and sand the liner edges as necessary to obtain a slightly loose fit. (We used our Dremel tool.) Now, sand the liner faces smooth. Finish the lids using the same approach you used for the box exterior. ■

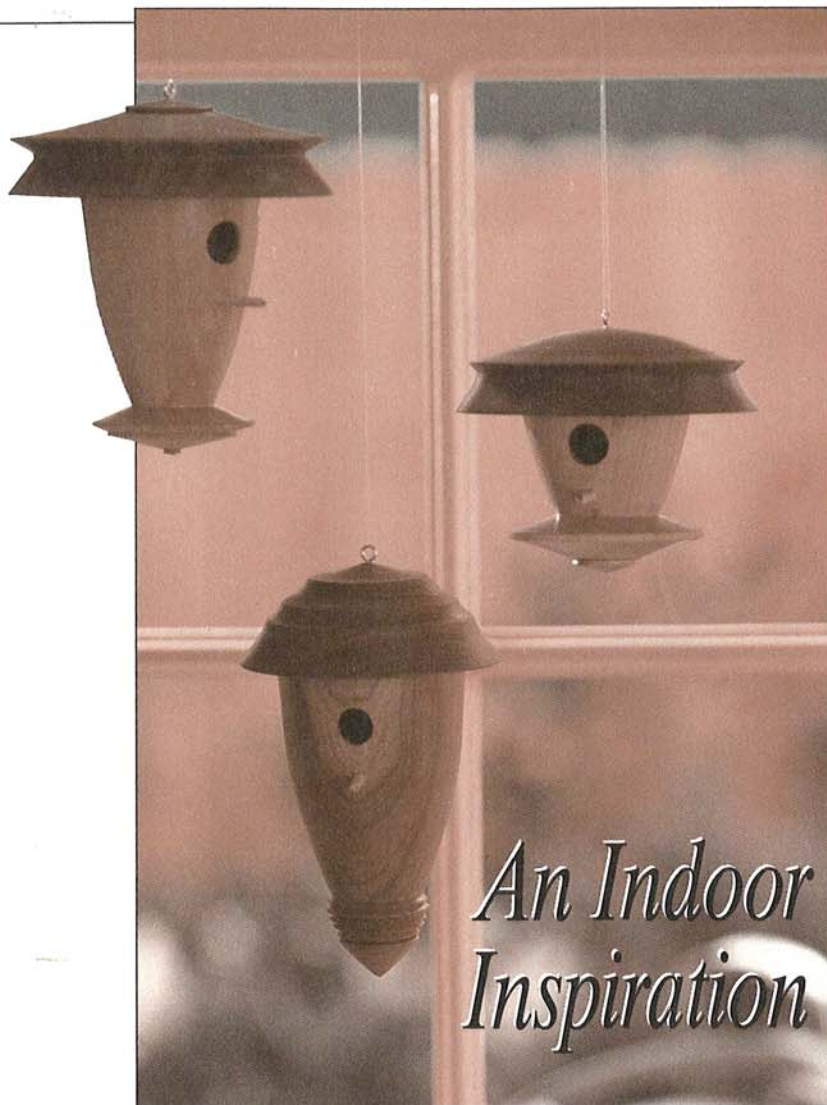
**TIP** Use a splash of acetone or lacquer thinner to remove double-faced carpet tape from your stock.





**Project designer and builder:**  
James E. Boelling  
**Illustrations:** Roxanne LeMoine,  
Carson Ode  
**Photograph:** John Hetherington





# Decorative Turned Birdhouses

*Even if they don't attract any tenants, you can take pleasure in the fine lines of these miniatures. Intended for their good looks and not for actual nesting, these turned projects will add a bit of excitement to any room. Our simple faceplate block makes it a snap to turn out a whole cluster in a couple of evenings.*

## START BY MAKING A HOMEMADE CHUCK

**Note:** If you already have a three-jawed chuck, you can skip this section and proceed directly to the next section.

**1** Using a compass, mark a 3¼"-diameter circle on a piece of stock 1½ to 2" thick. Bandsaw the block to shape. Drill mounting holes, and screw the disc to your 3" faceplate.

**2** Start your lathe, and round down the block to the same diameter as your metal faceplate. Next, turn the outside face of the block flat.

**3** To drill the 1¼" mortise in the block, mount a 1¼" Forstner bit in a Jacobs chuck mounted in your tailstock. Set your lathe at its slowest speed, and drill a 1¼" hole 1" deep centered in the end of the block. If you don't have a Jacobs chuck (also called a key chuck), turn on the lathe, and mark the exact center of the end. Remove the faceplate/block assembly from the headstock, and drill the hole on your drill press. (To steady the block and keep the top end perpendicular to the bit, we secured it with a handscrew clamp.) For wobble-free turning later, the hole must be perfectly centered in the block. Whether you drill the hole on your lathe or drill press, center the spur of your 1¼" bit directly over the marked centerpoint. Your lathe or drill-press speed should be about 250 rpm to prevent overheating the bit. Remove the faceplate/chuck assembly from the headstock spindle.

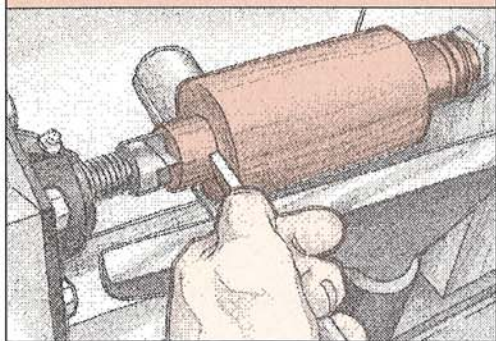
## NOW, FORM THE BIRDHOUSE BODY

**1** Crosscut a 2½" turning square to 5" long. (See the Buying Guide for a mail-order source.) Draw diagonals on each end of the square to find centers. Mount the turning square between centers on your lathe. Use a skew or gouge to round down the square to a cylindrical shape. Then, as shown *above right*, turn a 1¼" tenon 7/8" long to fit snugly into the 1¼" hole in the chuck. (We used an outside caliper to measure the tenon.) Stop the lathe frequently to check the fit of the tenon in the faceplate block. If you turn the tenon too small, you'll need to start over.

**2** When the tenon fits snugly into the hole in the faceplate block, use a bead of hotmelt adhesive to adhere the birdhouse body blank firmly to the faceplate block. (**Note:** Avoid putting adhesive into the 1¼" hole or on the tenon, or you'll have a tough time separating the

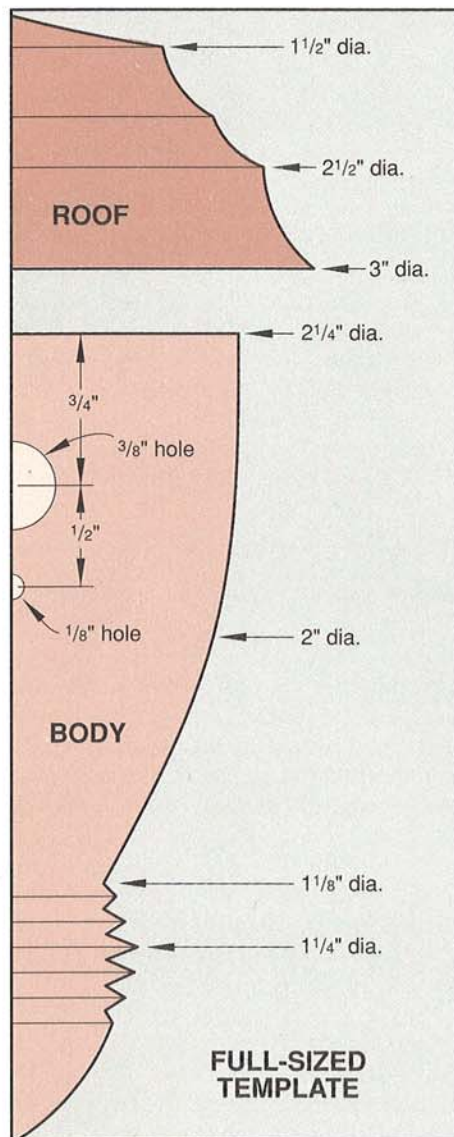


## TURNING THE BIRDHOUSE BLANK TENON



waste stock from the faceplate block later. Since we wanted to reuse the faceplate block for future birdhouses, we didn't use a permanent adhesive such as woodworker's glue.)

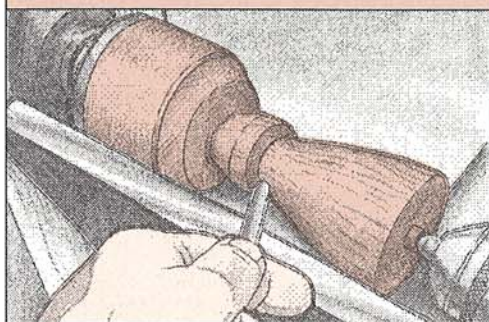
**3** Using the full-sized Body template shown below (or a template created from one of the optional designs in the photograph), turn the



birdhouse exterior to rough shape as shown below. (We used  $\frac{1}{4}$ " and  $\frac{3}{8}$ " gouges for the smoothly curved area.) Do not turn the ridged lower portion to shape just yet. Leave enough stock for support when hollowing the inside of the birdhouse in the next step.

**4** Back the tailstock away from the end of the birdhouse body. Now, working from the end of the body blank, hollow the body as shown *bottom center*. (We used a  $\frac{1}{4}$ " gouge and turned the birdhouse body until

## SHAPING THE BIRDHOUSE EXTERIOR

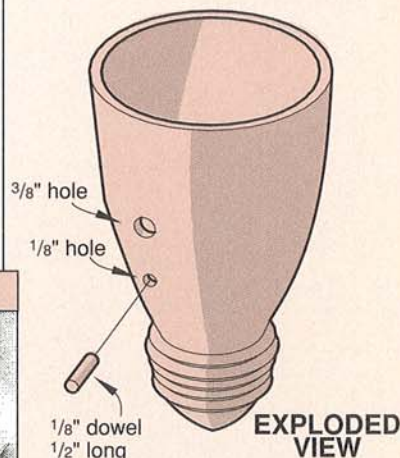
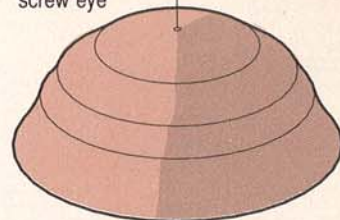


the wall thickness measured about  $\frac{1}{8}$ " thick. If you're new to turning, you may want to keep your wall a bit thicker at first.)

**5** Remove the faceplate/birdhouse assembly from your lathe. Mark the hole centerpoints where dimensioned on the Body template. Support the birdhouse body using a handscrew

*Continued*

#217 X  $\frac{1}{2}$ "  
screw eye



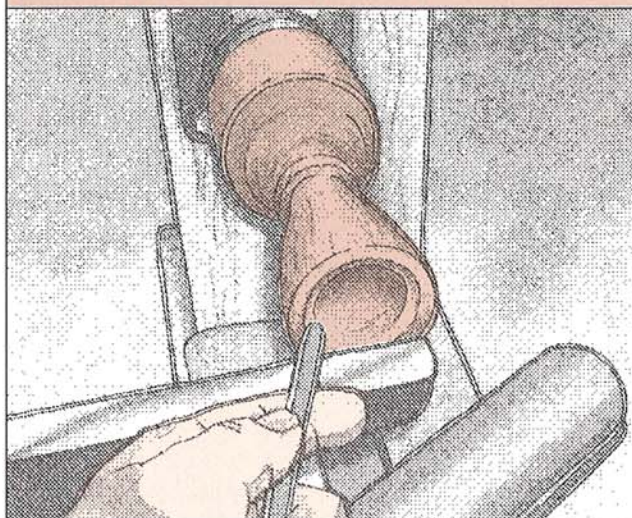
**Supplies:**  $\frac{1}{8}$ " dowel stock, screw eye, monofilament fishing line, finish.

## Buying Guide

### •Turning Square Assortment.

Five  $2\frac{1}{2} \times 2\frac{1}{2} \times 12$ " turning squares (cherry, mahogany, maple, poplar, and walnut) for the birdhouse body. (Use your own stock for the roof.) Stock no. WEW493, \$27.95 ppd. Constantine's, 2050 Eastchester Rd., Bronx, NY 10461. Phone 800/223-8087.

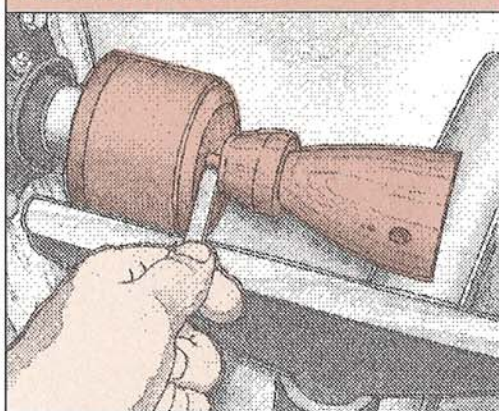
## HOLLOWING THE BIRDHOUSE BODY





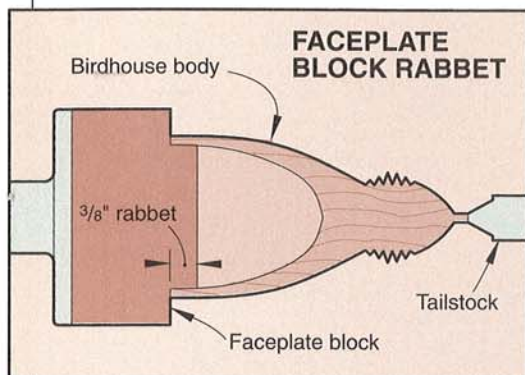
# TURNED BIRDHOUSES

## PARTING THE BIRDHOUSE



clamp, and drill a  $\frac{3}{8}$ " hole for the entrance and a  $\frac{1}{8}$ " hole for the perch. (We used brad-point bits on our drill press.)

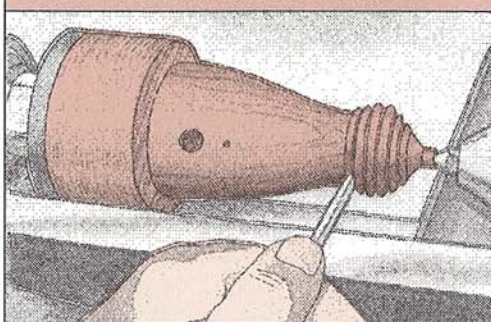
**6** Use a parting tool to part the birdhouse body from the faceplate/block assembly as shown above. Twist off the remaining scrap stock from the faceplate/block assembly, and remove any adhesive from the faceplate block and birdhouse body. If you have a hard time removing the scrap stock from the faceplate block, use your parting tool to turn it off.



**7** To finish forming the base of the birdhouse body, first turn a  $\frac{3}{8}$ "-deep rabbet on the end of the faceplate block where shown at left. Test-fit the body until it fits snugly onto the rabbet tenon. Slide the tailstock up to the bottom of the birdhouse, and carefully align the cone center with the exact center of the bottom. Finish turning the decorative base to shape as shown below and as dimensioned on the full-sized Body template. (We used a small skew to form the ridges.)

**8** Remove the tool rest, increase the lathe speed to about 1,500 rpm, and sand the birdhouse exterior. (We used 180-grit sandpaper.) Then,

## TURNING THE DECORATIVE BASE

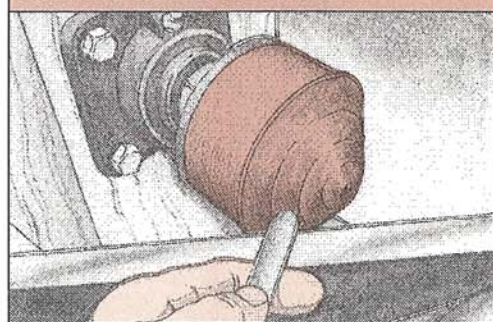


put the tool rest back in position, and turn the bottom end (next to the cone center) to a point to finish the birdhouse body.

## TURN THE ROOF, THEN ASSEMBLE AND FINISH YOUR HOUSE

**1** Mount a  $1\frac{1}{2}$ "-thick piece of scrap stock on a  $3$ " metal faceplate. (We used two  $3$ " metal faceplates for this project—one for the faceplate block used to turn the body section and a second with an auxiliary faceplate for turning the

## TURNING THE ROOF TO SHAPE



roof. This allowed us to go from one part to the other without having to remove the wooden auxiliary faceplates from the metal faceplates each time.) Turn the wooden auxiliary faceplate to the same diameter as your  $3$ " faceplate.

**2** For the roof blank, use a compass to mark a  $3\frac{1}{2}$ "-diameter circle on a piece of  $1\frac{1}{2}$ "-thick stock. Now, bandsaw the disc to shape.

**3** Center and adhere the roof blank to the auxiliary faceplate. (We used hotmelt adhesive). Using a gouge, turn the roof to shape as shown above and on the full-sized Roof template on page 15. Now, twist the roof from the auxiliary faceplate, and remove the adhesive from both. If you can't get a grip on the roof to remove it, use a parting tool to cut into the faceplate directly behind the roof.

**4** Mark the top center of the roof with a scratch awl, and screw in a  $\#217 \times \frac{1}{2}$ " screw eye. Now, cut a  $\frac{3}{4}$ " length of  $\frac{1}{8}$ " dowel stock, and glue it into the perch hole.

**5** Apply the finish of your choice. (We sprayed on two coats of Deft aerosol lacquer.) When the finish has dried, hang your birdhouse using monofilament fishing line. ■

**Project design:** Russell Haidet, Salem, Ohio  
**Illustrations:** Roxanne LeMoine, Carson Ode  
**Project builder:** Marlen Kemmet  
**Photograph:** King Au



*Hook  
into this  
fantastic  
rod rack*

# The Fisherman's Friend

*If you're a fisherman who has everything—  
and nowhere to store anything—take  
heart. With this handsome piece hanging in  
your den or basement, you'll have a haven  
for six rods and reels, a creel or tackle box,  
and that favorite vest that's never had the  
good luck washed out of it.*



## FIRST, EDGE-JOIN AND BANDSAW THE BIG PARTS

**1** To make the upper back (A), the lower back (B), and the shelf (C), start with 96" and 72" lengths of  $\frac{3}{4}$ " $\times$ 7 $\frac{1}{4}$ " stock. (We selected walnut.) Using the Cutting Diagram for reference, rip and crosscut the pieces for these parts to the following dimensions: 2 $\frac{5}{8}$ " $\times$ 43", 3 $\frac{1}{8}$ " $\times$ 19", and 5 $\frac{3}{8}$ " $\times$ 23" for the upper back; 3 $\frac{5}{8}$ " $\times$ 43" and 4 $\frac{5}{8}$ " $\times$ 19" for the lower back; and 2 $\frac{5}{8}$ " $\times$ 43" and 4 $\frac{5}{8}$ " $\times$ 22" for the shelf. 

**2** Use your jointer to plane the mating edges of all pieces where shown on the Exploded View drawing. Mark these mating surfaces. Now, edge-glue and clamp the upper back, lower back, and shelf. Wipe off any glue squeeze-out with a damp cloth, and allow the glue to dry.

**3** Rip and crosscut two brackets (D) to 4 $\times$ 4" and two rod retainers (E) to 3 $\frac{1}{2}$ " $\times$ 12" where shown on the Cutting Diagram. Draw a  $\frac{1}{2}$ " radius at each front corner of the retainers where shown on the Rod Retainer drawing on page 19, and bandsaw to shape.

*Continued*



# FISHERMAN'S FRIEND

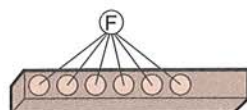
## BILL OF MATERIALS

| Part            | Finished Size* |               |        | Mati. | Qty. |
|-----------------|----------------|---------------|--------|-------|------|
|                 | T              | W             | L      |       |      |
| A* upper back   | 3/4"           | 10 1/2"       | 42"    | EW    | 1    |
| B* lower back   | 3/4"           | 7"            | 42"    | EW    | 1    |
| C* shelf        | 3/4"           | 8"            | 42"    | EW    | 1    |
| D brackets      | 3/4"           | 4"            | 4"     | W     | 2    |
| E rod retainers | 3/4"           | 3 1/2"        | 12"    | W     | 2    |
| F discs         | 1/4"           | 1 15/32" dia. |        | M     | 6    |
| G disc handles  | 1/8"           | 3/8"          | 1 3/8" | W     | 6    |

\*Edge-join this part during construction. Please read all instructions before cutting.

**Materials key:** W—walnut; EW—edge-joined walnut; M—maple.

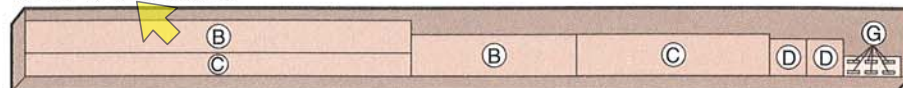
**Supplies:** #8 x 1 1/2", #8 x 2 1/2" flathead wood screws; 3 1/2" walnut Shaker pegs; adhesive-backed felt; tung-oil finish; fast-drying polyurethane spray.



3/4" x 2" x 16" Maple

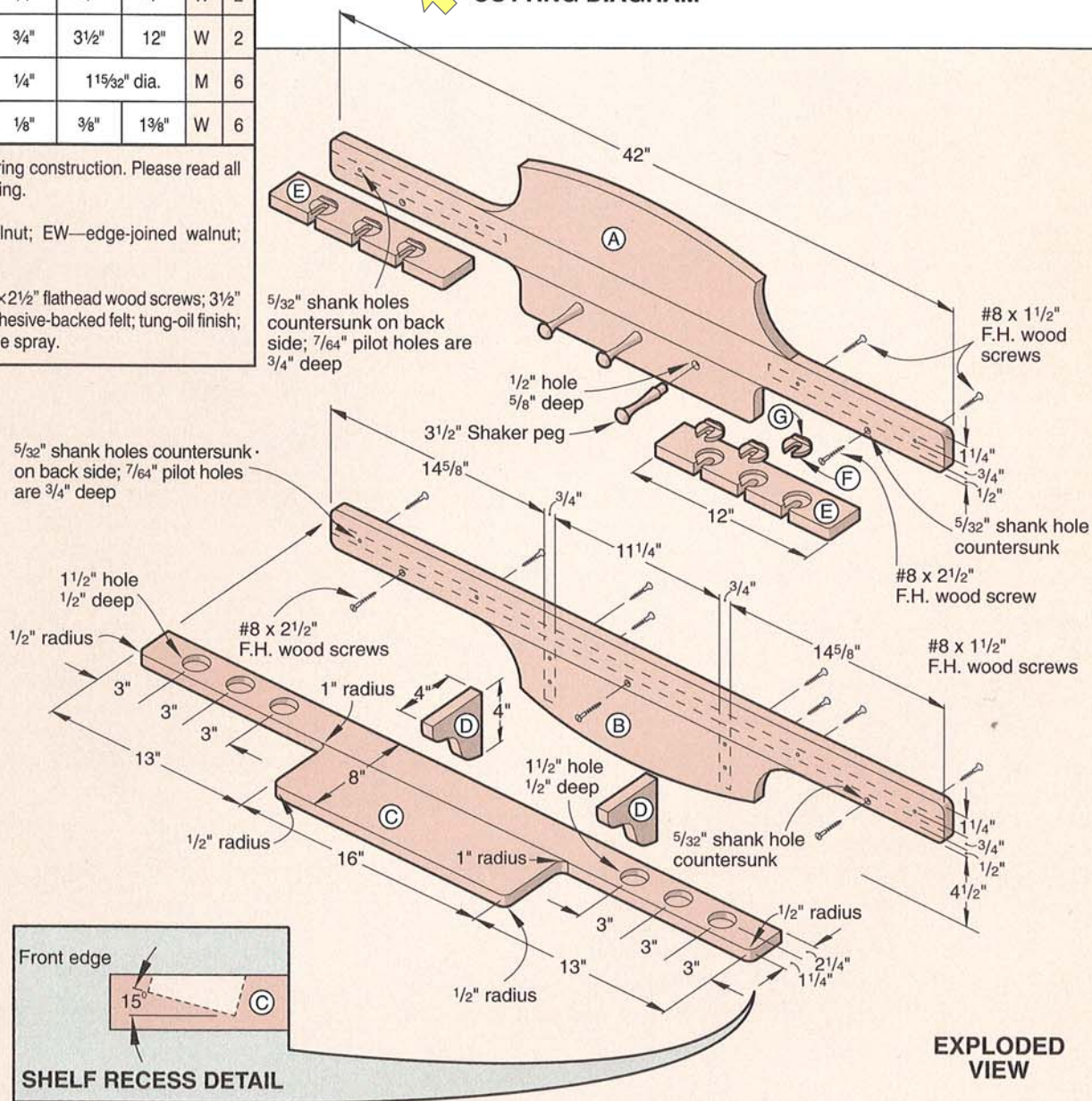


3/4" x 7 1/4" x 48" Walnut



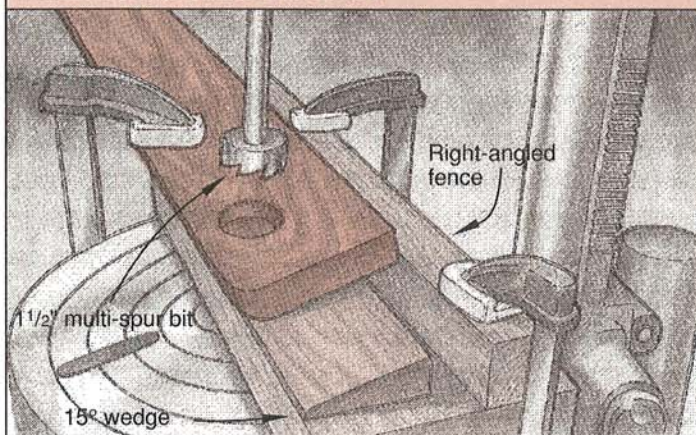
3/4" x 7 1/4" x 72" Walnut

## CUTTING DIAGRAM





## DRILLING THE SHELF RECESSES



4 Stack the two brackets using double-faced carpet tape. Lay out the gridded Upper Back, Lower Back, and Bracket patterns shown on page 21 in full size on large sheets of paper. (We keep a roll of butcher paper in our shop for this purpose. If you'd rather work from full-sized patterns, see our offer on page 21.) Cut out and adhere the patterns to the stock. (We used a spray adhesive.) Now, bandsaw the pieces to shape, keeping your blade outside the line. (We used a 1/4" blade.)

5 Chuck a coarse-grit, 1"-diameter drum sander into your drill press, and sand the bandsawed parts to the line. Now, follow up with a fine-grit drum sander.

6 Lay out and countersink shank holes on the back face of the upper back and lower back where shown on the gridded patterns and as dimensioned on the Exploded View drawing. Position and clamp the shelf, brackets, and rod retainers, then drill the pilot holes to the dimensions shown. (We used our drill press for the shank holes, our portable drill with a depth stop for the pilot holes, and brad-point bits for both.) Now, unclamp the parts.

7 Lay out and bore three 1/2" holes 5/8" deep on the upper back for the Shaker pegs where shown on the gridded pattern. (We used a Forstner bit in our drill press.)

## MAKE THE ROD-HOLDING RECESSES, THEN ASSEMBLE YOUR RACK

**Note:** For a simpler rod-holding alternative, see the Catch Option detail on the Rod Retainer drawing at right.

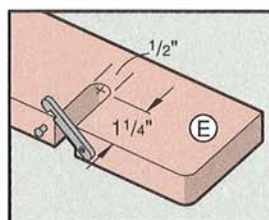
1 Lay out the recesses on the shelf where shown on the Exploded View drawing. Cut a 15° wedge from a 3×18" piece of 3/4"-thick scrap. To do this, tilt your tablesaw blade to 15° from perpendicular, set your fence 3/4" from the blade, and bevel-cut the piece. Make a right-angled fence from two 18" lengths of 1 1/2"-thick scrap as shown above right. Position and clamp it to your drill-press table. Clamp the wedge and a 3/4×3 1/2×18" scrap piece to the fence to test your depth setting. Chuck a 1 1/2" multi-spur bit into your drill press, and bore test holes to adjust the depth on the deep side of the recess to 1/2". Now, clamp the shelf and wedge to the fence as shown, and bore the six recesses. (We set our drill-press speed at 250 rpm.)

2 Lay out and bore the three recesses in each rod retainer where shown on the Rod Retainer drawing. (We first bored some 1 1/2"-diameter test holes in a piece of scrap to adjust the depth to 1/4". After we bored our rod retainers, we bored seven more recesses in this scrap piece, marked these recesses "good," and saved the piece for later use.)

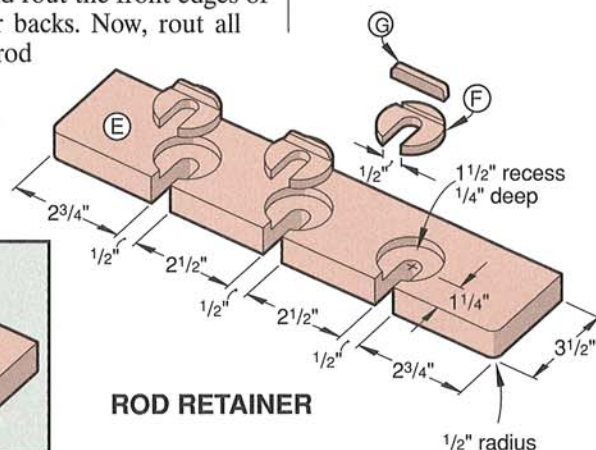
3 Bore a centered 1/2" hole through each recess in the rod retainers. (We used a Forstner bit and a backup board to prevent tear-out.) To cut slots in the rod-retainer recesses, fit your table-saw with a fine-toothed blade, and set the blade height to 1 1/4". Use your combination square to lay out the slots on the back face of the rod retainers where shown on the Rod Retainer drawing. Attach a wooden auxiliary fence to your miter gauge, and stand each rod retainer on its front edge against the fence. Align the blade with the lines you laid out, clamp the rod retainer to the fence, and cut the slots.

4 Fit your table-mounted router with a 1/16" round-over bit, and rout the front edges of the upper and lower backs. Now, rout all edges of the shelf, rod retainers, and brackets except those on the mating surfaces.

**TIP** To separate stock pieces adhered with double-faced carpet tape, splash a bit of acetone or lacquer thinner on the edges, and allow it to penetrate the adhesive.



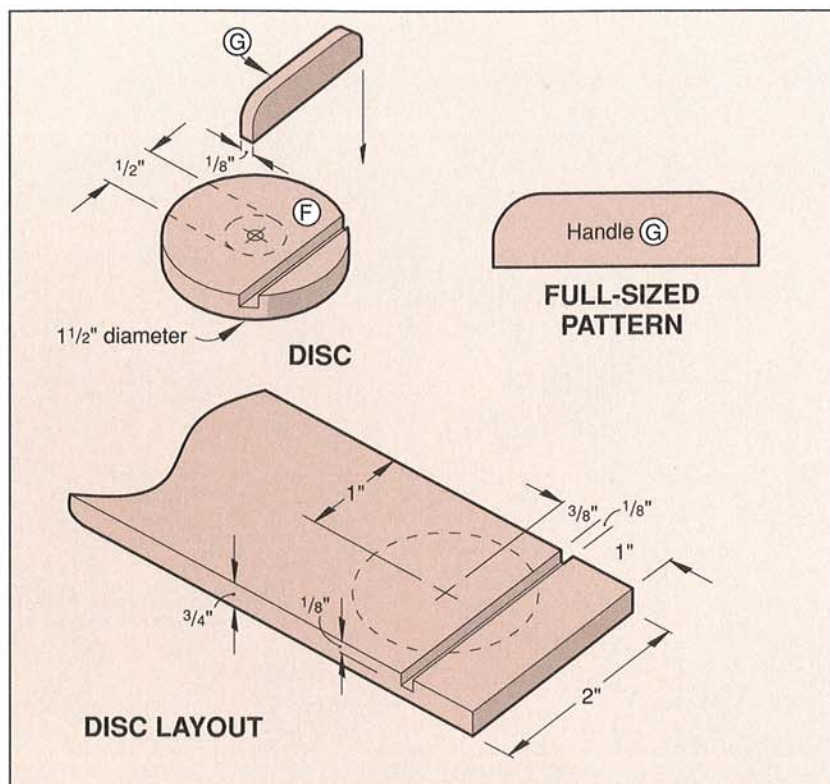
CATCH OPTION



ROD RETAINER



# FISHERMAN'S FRIEND



**5** Finish-sand all parts. (We used a palm sander with 100-, 150-, and then 220-grit sandpaper.) Next, sand three 3 1/2" walnut Shaker pegs with 1/2"-diameter tenons. (We found ours at a local hardwood lumber store.) Glue them into the holes on the upper back. Then, assemble all parts using glue and #8x1 1/2" flathead wood screws.

## NOW, MACHINE THE ROD-HOLDING DISCS

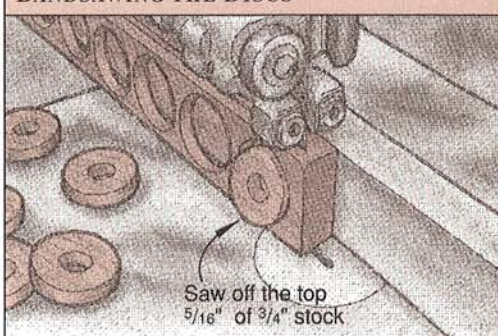
**1** On a 3/4x2x16" piece of contrasting stock, lay out six or seven discs (F) as dimensioned on the Disc drawing above. (We chose maple and laid out seven discs so we'd have a spare.) To do this, mark a line 1" from the end and every 2" thereafter. At each mark, use your combination square to lay out a perpendicular 1/8"-wide handle slot across the face and both edges. Then, lay out a centerpoint for each disc where shown. (**Note:** In laying out your discs, make sure that the handle slots run across the grain.)

**2** Cut the discs using a circle-cutting bit in your drill press. First, turn the vertical edge of the bit to the inside to cut a clean disc (rather than a clean hole). Next, adjust the diameter to 1 1/2". Set the depth of cut to 5/8", then run a couple of test discs to check the diameter and depth.

**3** Enlarge the 1/4" holes made by the circle-cutting bit to 1/2". (We used a Forstner bit.) Now, use your tablesaw and miter gauge to cut the 1/8"-wide handle slots 1/8" deep. To do this, set your blade height to 1/8", and attach an auxiliary wooden fence to your miter gauge.

**4** Next, use your bandsaw and fence to slice off the discs to a thickness of 5/16" as shown below. Insert the discs in the seven "good" recesses on the scrap piece you bored in Step 2 of the previous section. Sand one face and then the other until the discs are flush with the surface.

## BANDSAWING THE DISCS



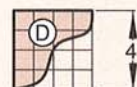
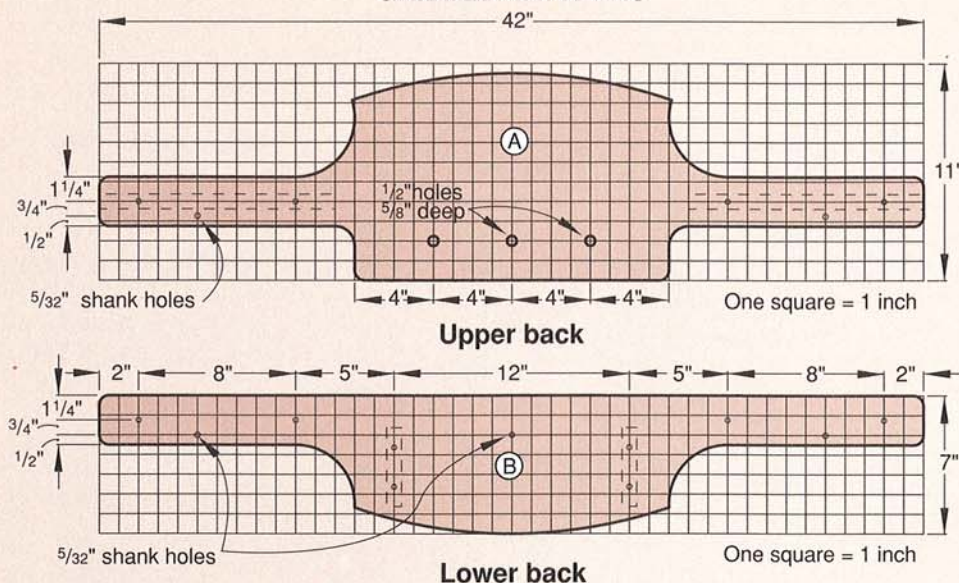
**5** Make the disc handles (G) by first ripping and crosscutting a 2x12" piece of leftover walnut stock. Use your bandsaw and fence to saw a 1/8"-thick slice off the face. Sand the piece smooth on both faces, then crosscut it in half. Stack the halves using double-faced carpet tape. Adhere three copies (or four if you made seven discs) of the full-sized Disc Handle pattern shown above left to one face. (We photocopied ours and adhered them using a spray adhesive.) Saw the handles to shape, separate the pieces, and glue a handle into each disc slot.

**6** When the glue has dried, sand the disc edges (including the handles) until they turn freely but still fit snugly in the recesses. (We chucked a 1/2" dowel into our drill press and fitted each disc onto the end of it as shown opposite. Then, we hand-held a sanding block with 120-grit sandpaper and ran our drill press at 500 rpm.) Now, sand the handle edges as necessary. (We used our stationary disc sander.)

**7** Next, bandsaw the 1/2"-wide slot in each disc. (We attached a 1x1 1/2x12" auxiliary wooden fence with the edge up to our bandsaw miter gauge as shown opposite. We adhered a strip of



## GRIDDED PATTERNS



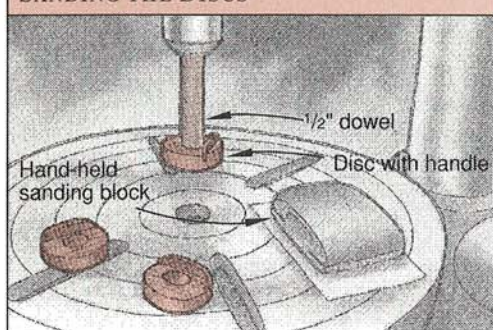
One square = 1 inch

### Bracket

If you'd like full-sized patterns for parts A, B, and D and for the scroll-sawed scene you see on our rack, send \$2 and a self-addressed, business-sized envelope with 52 cents postage to:

The Fisherman's Friend  
Weekend Woodworking Projects®  
1912 Grand Ave.  
Des Moines, IA 50309-3379

### SANDING THE DISCS



double-faced carpet tape across the fence and then sawed a kerf two-thirds of the way through the fence and tape. We adhered each disc to the tape facedown, butting the handle up against the back face of the fence and aligning one edge of the hole with the kerf. We bandsawed one side of the slot on all discs, then repositioned the fence to saw the other side.)

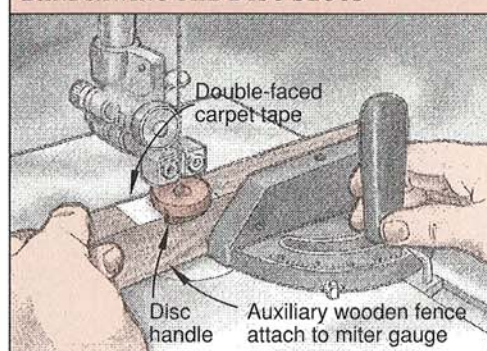
### YOU'RE NEARLY READY TO DISPLAY YOUR GEAR

**1** Apply the finish of your choice to the rack and the discs. (We brushed a tung-oil finish on the rack, wiped off the excess, and allowed it to dry for six hours. We repeated this procedure until we had applied three coats, allowing the third coat to dry overnight. Then, we sprayed on a coat of fast-drying semigloss polyurethane as a sanding sealer. We sanded lightly with 320-grit sandpaper, then sprayed on two additional coats, sanding between coats. We used 000 synthetic steel wool to smooth the contoured surfaces. Finally, we sprayed the discs with two coats of fast-drying polyurethane.)

**2** Allow all parts to dry overnight. Then, scroll-saw a decorative scene if you wish, and adhere it to the center of the upper back. (To order full-sized patterns and instructions for our leaping bass scene, see the offer *above right*. We sprayed our scroll-sawed pieces with two coats of fast-drying polyurethane. When the polyurethane had dried, we mounted them using Franklin Countertop contact cement, a low-odor, nonflammable adhesive we bought at our local home center.)

**3** Line the bottoms of the shelf recesses with adhesive-backed felt. (We used kelly-green felt, which we found at a local crafts store.)

### BANDSAWING THE DISC SLOTS



**4** Locate three consecutive studs in the wall you've selected. Lay out and drill 5/32" countersunk shank holes through the front faces of both assemblies (two holes on the upper back and three on the lower back) where shown on the gridded patterns. Drill 7/64" pilot holes 1 3/4" deep in the studs, and mount the rack using #8x2 1/2" black flathead wood screws. ■

**Project design:** Bob Colpetzer,  
Clinton, Tenn.

**Illustrations:** Roxanne LeMoine,  
Carson Ode

**Project Builder:** Chuck Hedlund

**Photographer:** King Au





*An easy-to-build project  
with just eight pieces*

# Space-Saving Half-Round Table

**G**ot a narrow hallway or a crowded kitchen that's cramping your style? This simply styled piece will solve your problem. And it's such a breeze to build, you'll probably have half the weekend left to admire your handiwork.

## LAMINATE THE THREE LEGS, THEN MAKE A JIG TO TAPER THEM

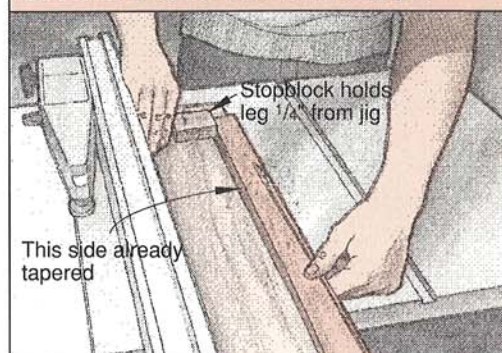
**1** From a  $\frac{3}{4} \times 7\frac{1}{4} \times 96$ " piece of stock, rip and crosscut six pieces to  $\frac{3}{4} \times 1\frac{1}{2} \times 28\frac{1}{4}$ " to make three legs (A). (We selected poplar for the legs, leg supports, and gussets.) Glue and clamp three pairs of pieces face-to-face. Wipe away any glue squeeze-out with a damp cloth, and allow the glue to dry.

**2** To cut a  $\frac{1}{4}$ " taper  $23\frac{1}{4}$ " long on all sides, first make a jig from  $\frac{3}{4}$ "-thick plywood. To do this, rip and crosscut a piece to  $6 \times 33$ ", then make the cutout where shown on the Leg Jig drawing at right. (We used our bandsaw.)

**3** Fit each leg in turn into the jig, and set the rip fence on your tablesaw to cut flush with the jig edge. Cut two adjacent sides on all three legs. Then, position a straight-edged,  $\frac{3}{4}$ "-thick block on the jig where shown in Step 2 on the Leg Jig drawing, so that the foot of an untapered side of the leg will protrude out  $\frac{1}{4}$ " from the jig edge. Nail the block in place, then use the jig to taper the other two sides of the legs as shown below.

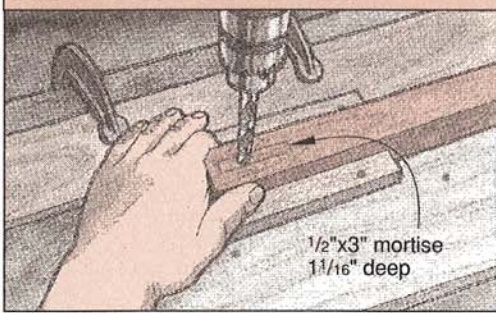
**4** On one face of the untapered end of each leg, cut a  $\frac{1}{2} \times 3$ " mortise  $1\frac{1}{16}$ " deep where shown on the Leg drawing opposite. (**Note:** If you don't intend to paint the legs, be sure to mortise the face-grain side of the middle leg and the edge-grain, glue-jointed side of the two side legs.) To do this, lay out the three mortises, clamp a fence to your drill-press table, and set the depth stop on your drill press. Then, make a simple jig out of  $\frac{3}{4}$ "-thick scrap strips as shown above right to hold the leg snugly. Drill overlapping holes using a  $\frac{1}{2}$ " brad-point bit until the sides of the mortise are smooth, then square the ends using a  $\frac{1}{2}$ " chisel. Now, sand all leg surfaces smooth.

### CUTTING LEG TAPERS WITH THE JIG





## DRILLING OUT THE MORTISES



### MAKE THE LEG SUPPORTS AND ATTACH THEM TO THE LEGS

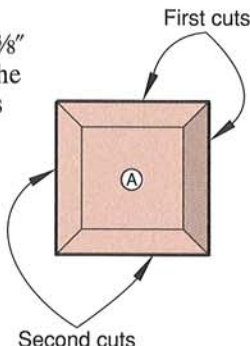
**1** To make the two leg supports, rip a 48" length of  $\frac{3}{4}$ "-thick stock to 4" wide. From this piece, crosscut the long support (B) to 31" long and the short support (C) to 13".

**2** Cut tenons on both ends of the long support and on one end of the short support as dimensioned on the Tenon detail *below right*. (We used a dado head on our tablesaw and attached an auxiliary wooden fence to our miter gauge.)

**3** Drill and countersink six  $\frac{5}{32}$ " shank holes in the back face of the long support where shown on the Exploded and Bottom View drawings on *page 24*. (We used a brad-point in our drill press.) To do this, find the center of the support, and mark a point 1" in from both the top and bottom edges. Mark two similar points  $\frac{3}{4}$ " from the tenon shoulder near each end.

**4** For the gussets (D), rip and crosscut two 4x19" pieces from  $\frac{3}{4}$ "-thick poplar stock. Move your rip fence to the left side of the blade, and set it  $\frac{3}{4}$ " from the blade. Tilt the blade to 40° from square. Stand the gussets on end, and clamp them to the face of a 10x15" piece of  $\frac{3}{4}$ "-thick scrap stock so the ends are flush with the bottom edge of the scrap piece. Holding the scrap piece against your rip fence as a sliding auxiliary fence, bevel-cut one end of the gussets. Unclamp them, and remove both fences. With your blade still set to 40°, lay the gussets flat, and use your miter gauge to bevel-cut the same face of the other ends to 18½" long. These cuts will give you bevels of 40 and 50°.

**5** Counterbore ten  $\frac{3}{8}$ " holes 2" deep in the edges of the supports and gussets where shown on the Bottom View drawing. (We used a brad-point bit and clamped a fence to our drill-press table.)



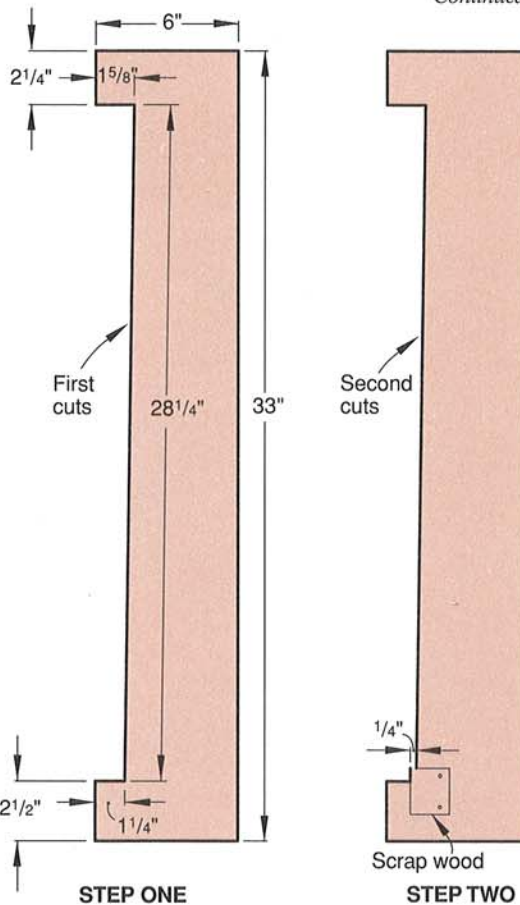
**6** Using your combination square, transfer the centerpoints of the ten counterbores to the top edges of the leg supports and gussets. Next, place each piece against your drill-press fence, and drill  $\frac{9}{64}$ " shank holes through to the counterbores. Now, sand the leg supports and gussets smooth.

**7** Dry-assemble the legs and supports to check for fit. Adjust as necessary, then glue and clamp. Wipe off any glue squeeze-out.

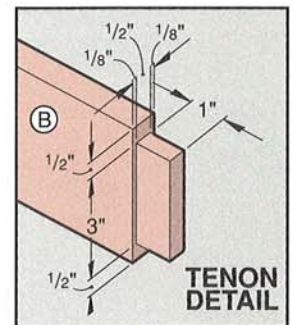
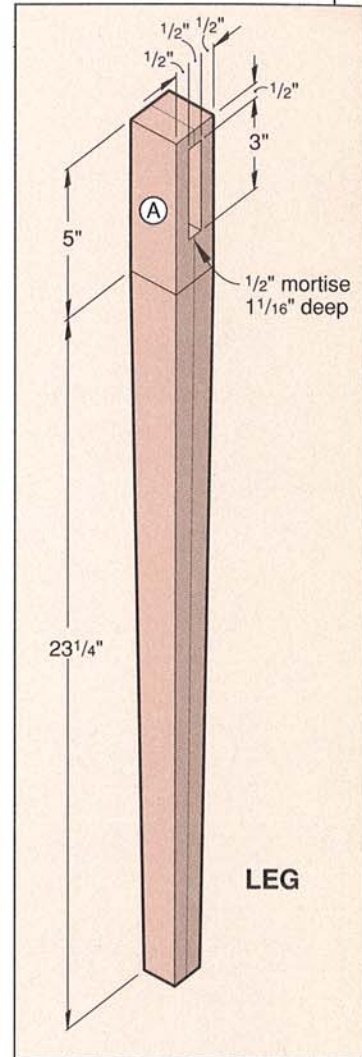
### NOW, ASSEMBLE AND FINISH THE LEGS, SUPPORTS, AND GUSSETS

**1** When the glue has dried, unclamp your leg/support assemblies, and dry-assemble them upside down on your bench. Square and clamp them using a corner clamp. Now, drill  $\frac{7}{64}$ " pilot holes to a total depth of 1¼" through the two centered shank holes on the back face of the long support. Glue and screw the supports together using #8x1¼" flathead wood screws.

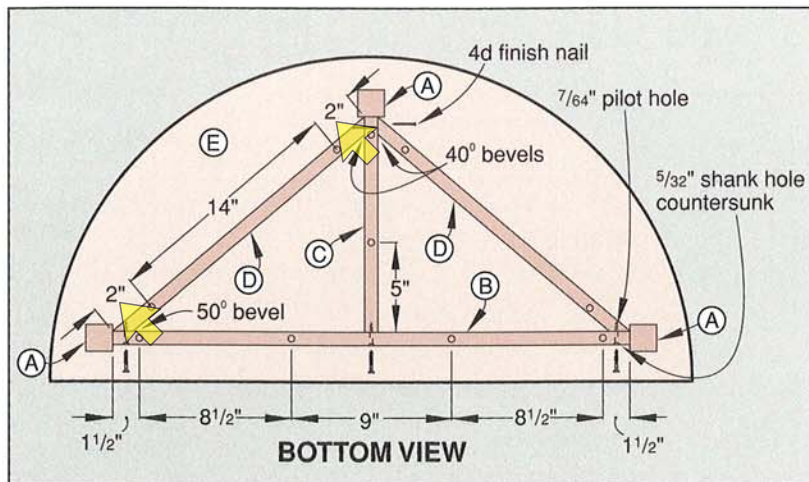
*Continued*



LEG JIG







**BOTTOM VIEW**

**TIP** If you don't have a set of trammel points, make one by cutting a piece of scrap to  $\frac{1}{2} \times \frac{3}{4} \times 20$ ". Drill a  $\frac{7}{64}$ " shank hole centered near one end of the  $\frac{3}{4}$ "-wide edge, and drive a #4  $\times 1$ " screw all the way through it. Mark a centerpoint 18" from the point of the screw, and drill a  $\frac{5}{16}$ " hole through the piece. Insert a short, sharp #1 or 2 pencil through the hole until the point protrudes to the same length as the screw.

**2** Clamp the two gussets into position where shown on the Bottom View drawing. Using a depth stop on your portable-drill bit, drill  $\frac{7}{64}$ " pilot holes through the shank holes to a total depth of  $\frac{1}{4}$ " at each end of the long support.

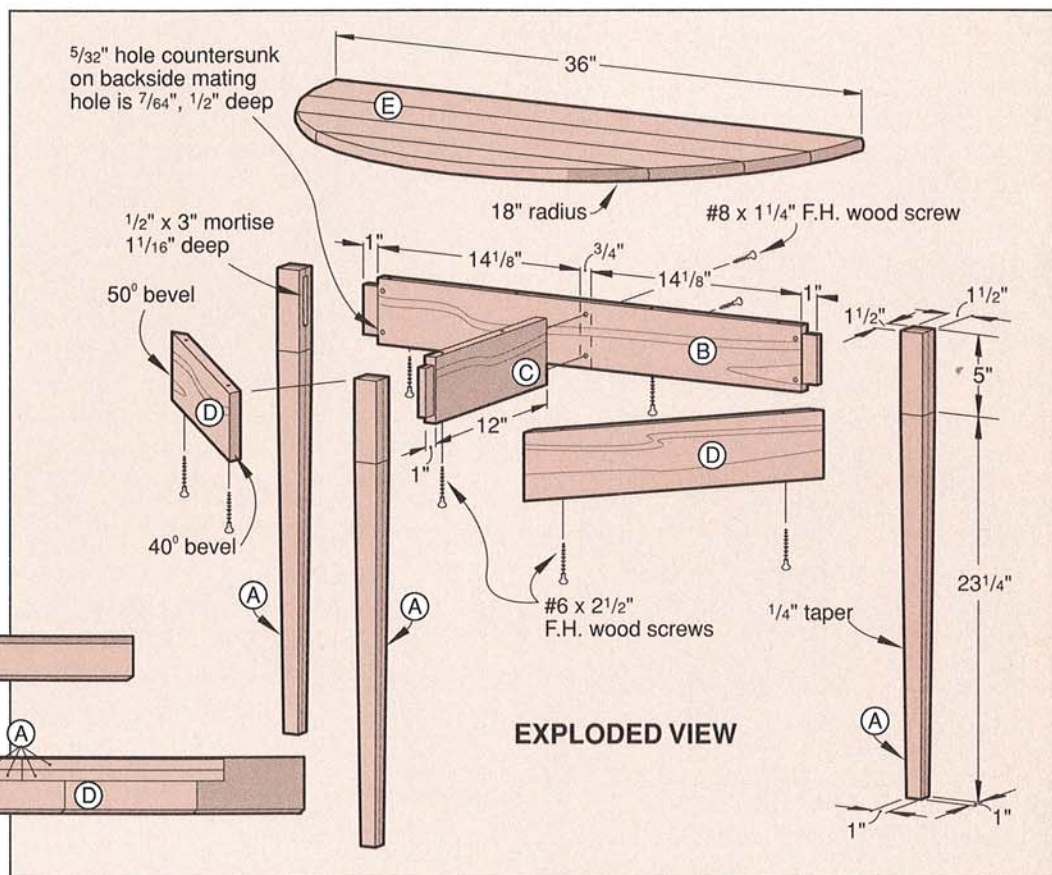
**3** Unclamp the gussets, and apply glue to both ends. Attach them to the long support using four #8  $\times 1\frac{1}{4}$ " flathead wood screws. Use 4d finishing nails to attach the other ends to the short support, then set the nails and fill the holes.

**4** When the wood filler and glue have dried, sand the filled holes. Now, apply finish to the leg/support assembly, avoiding those surfaces that will mate with the tabletop. (We started with a coat of primer, then painted ours with a medium-blue, oil-based semigloss enamel.)

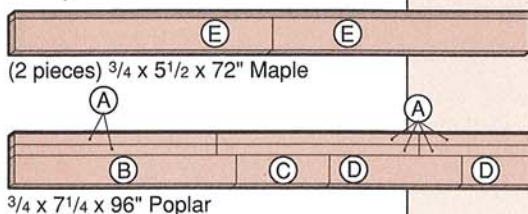
## GLUE UP YOUR TABLETOP, THEN BANDSAW THE PROFILE

**1** To make the tabletop (E), plane one edge of two 72" lengths of  $\frac{3}{4} \times 5\frac{1}{2}$ " stock on your jointer. (We chose hard maple.) Then, crosscut two 36" lengths, which will leave you two slightly shorter leftover pieces. Rip the unjointed edge of three pieces to  $4\frac{5}{8}$ " wide and the same edge of the fourth piece (one of the shorter ones) to  $5\frac{1}{8}$ " wide. Now, plane the ripped edges to  $4\frac{1}{2}$ " and 5" wide respectively.

**2** Arrange the four pieces as shown on the Tabletop drawing *opposite*. (**Note:** Place the 5"-wide piece on the outside and one of the two longer pieces on the inside.) Number the bottom faces consecutively (1, 2, 3, 4) where

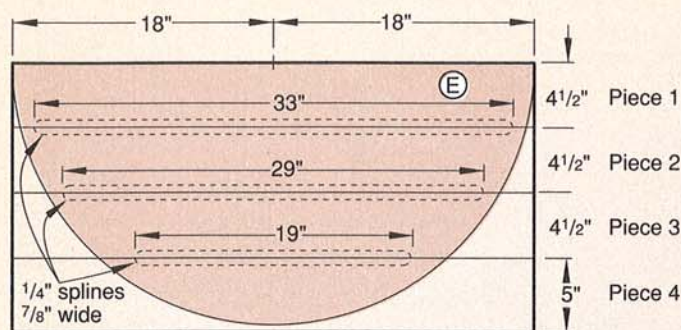


**EXPLODED VIEW**



**CUTTING DIAGRAM**





TABLETOP

shown on the drawing, then mark the pairs of mating edges A, B, and C.

**3** Make "loose" tongue-and-groove joints by first fitting your router with a  $\frac{1}{4}$ " slot-cutting bit set to cut a centered  $\frac{1}{2}$ "-deep groove in the edge of your stock. Rout grooves in the mating edges of each piece to the dimensions shown on the Tabletop drawing.

**4** To make the splines (also called "loose tongues"), rip a  $\frac{7}{8}$ "-wide strip of  $\frac{1}{4}$ "-thick plywood for each pair of mating grooves. Make the splines  $\frac{1}{2}$ " shorter than their respective grooves. Glue each spline into one of its grooves, then glue it in turn into the mating groove. Now, clamp the assembled tabletop, and wipe off any glue squeeze-out with a damp cloth.

**5** When the glue has dried, cut the 18" profile. To do this, first clamp the tabletop facedown to your bench. Mark a centerpoint on the outside edge of Piece 1 (the edge that will form the flat side of the half-circle). Then, clamp a piece of  $\frac{3}{4}$ "-thick scrap up against this edge. Set

your trammel points to 18", and position the steel point right at the edge of Piece 1 (in the crack between it and the scrap piece). Now, draw the radius. (If you don't have a set of trammel points, see our instructions for making a simple set in the tip *opposite*.)

**6** Unclamp the tabletop, and cut out the profile on your bandsaw, keeping your blade outside the line. (If you don't have a bandsaw large enough to handle the tabletop radius, a portable jigsaw and a steady hand will suffice.) Now, sand to the line. (We used our stationary disc sander and an auxiliary table.)

**7** Fit your router with a  $\frac{1}{2}$ " piloted round-over bit, and elevate the bit so the top of the cutting element—not the pilot bearing—measures  $\frac{3}{8}$ " below the router base. Rout both edges of the radius. Now, sand all tabletop surfaces smooth. (We used 100- and then 150-grit sandpaper for all surfaces, then used 220-grit sandpaper on the edge and top face. We used a portable belt sander and then a palm sander on the flat surfaces and hand-sanded the edge.)

**8** Apply the finish of your choice to the tabletop. (See our tip *at right*. We brushed Minwax Colonial Maple stain on all surfaces, let it stand for 10 minutes, then wiped off the excess with a clean cloth. After the stain had dried overnight, we sprayed all surfaces with three coats of Minwax Fast-Drying Satin Polyurethane, sanding between coats with 320-grit sandpaper.)

**TIP** Depending on your wood and stain choices, you may want to apply a coat of wood conditioner before staining. This will help prevent blotching or streaking caused by uneven stain absorption, which can be a problem even with some hard maple.

## BILL OF MATERIALS

| Part                | Finished Size |        |         | Mtl. | Qty. |
|---------------------|---------------|--------|---------|------|------|
|                     | T             | W      | L       |      |      |
| A legs              | 1 1/2"        | 1 1/2" | 28 1/4" | PL   | 3    |
| B long leg support  | 3/4"          | 4"     | 31"     | P    | 1    |
| C short leg support | 3/4"          | 4"     | 13"     | P    | 1    |
| D gussets           | 3/4"          | 4"     | 18 1/2" | P    | 2    |
| E* tabletop         | 3/4"          | 18"    | 36"     | EM   | 1    |

\*Note: Edge-join this part during construction. Please read all instructions before cutting.

**Materials Key:** PL—poplar lamination; P—poplar; EM—edge-joined maple.

**Supplies:** #6×2 1/2" and #8×1 1/4" flathead wood screws, 4d finishing nails, semigloss latex enamel, stain, polyurethane finish.

## ASSEMBLE AND ENJOY YOUR TABLE

**1** Center the leg/support assembly on the bottom face of the tabletop so that the three legs are equidistant from the edge. (Ours measured approximately 1 1/2" from each edge.) Clamp it in place, and mark the ten pilot-hole locations by sticking a slender scratch awl or sharpened piece of coat hanger down through the counterbores and shank holes.

**2** Remove the leg/support assembly, and drill the ten  $\frac{3}{32}$ " pilot holes  $\frac{1}{2}$ " deep where marked on the tabletop bottom face. (We used our drill press and a brad-point bit.) Then, attach the assembly to the tabletop using #6×2 1/2" flat-head wood screws. ■

**Project design:** James R. Downing  
**Illustrations:** Roxanne LeMoine, Carson Ode  
**Project builder:** Francis Carr  
**Photograph:** John Hetherington



# Pint-Sized Model T Pickup

## CUT OUT THE FRAME FIRST, THEN ADD THE HOOD AND COWL

**1** From a  $\frac{3}{4} \times 7\frac{1}{4} \times 24$ " piece of stock, rip and crosscut the frame (A) to the dimensions listed in the Bill of Materials. (We selected clear pine.) Now, sand all surfaces smooth. (We used our palm sander with 150-grit sandpaper.)

**2** From an 18" length of  $2 \times 6$ , crosscut two  $4\frac{1}{2}$ "-long pieces to make the hood (B). Rip one edge of each to  $3\frac{3}{8}$ " wide (this will remove one milled edge), then glue and clamp them face-to-face. When the glue has dried, lay out the profile on one side (face) of the laminated block where shown on the Hood and Cowl drawing on page 28. Bandsaw the profile to shape, keeping the blade outside the line. Now, lay out the sides on the top edge, and bandsaw the sides to shape. Now, sand to the line on all three surfaces. (We used our stationary disc sander.)

**3** To make the cowl (C), rip and crosscut a  $1\frac{1}{2} \times 4 \times 4$ " square from a 12" length of  $2 \times 6$ . Repeat the bandsawing procedure described in Step 2 above to saw the cowl to shape.

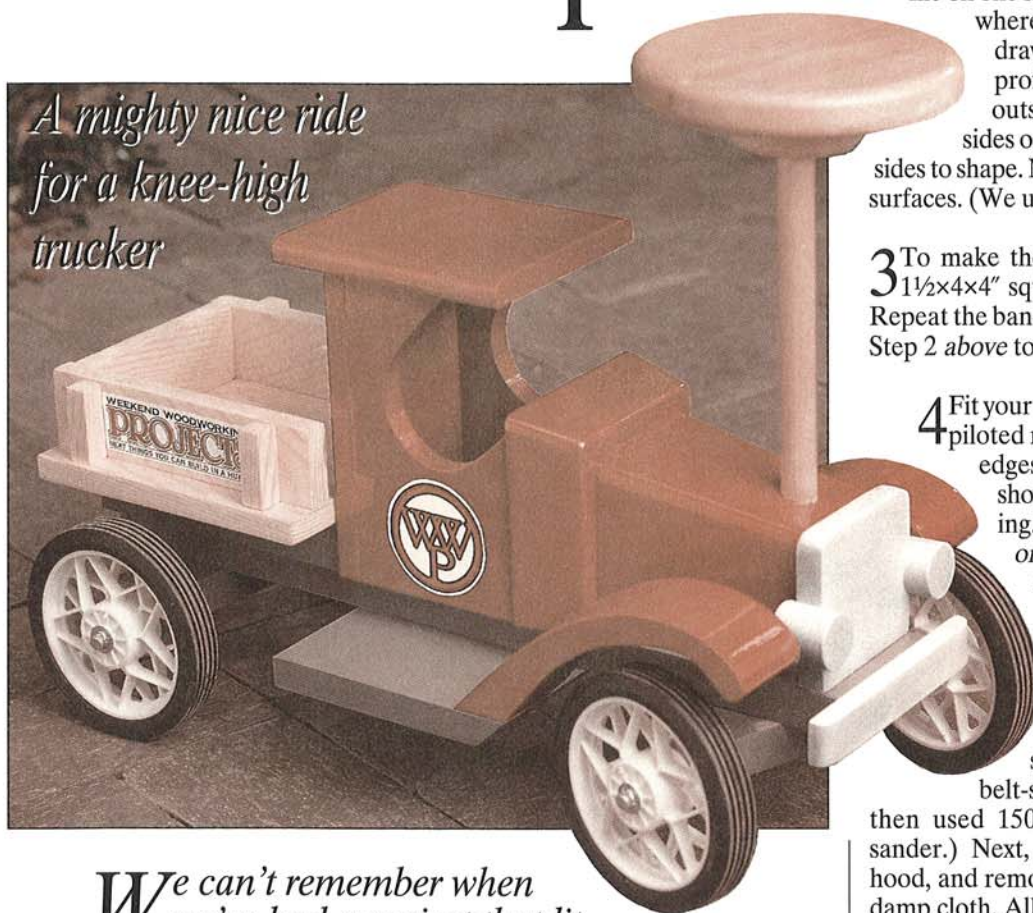
**4** Fit your table-mounted router with a  $\frac{3}{8}$ " piloted round-over bit, and rout the top edges of the cowl and hood where shown on the Hood and Cowl drawing. (**Note:** Do not rout the corners on the back end of the hood or back face of the cowl.)

**5** Sand a slight round-over on the top and sides of the cowl front face. Next, sand all surfaces of the hood and cowl smooth. (We used our stationary belt-sander to round over the cowl, then used 150-grit sandpaper in our palm sander.) Next, glue and clamp the cowl to the hood, and remove any glue squeeze-out with a damp cloth. Allow the glue to dry.

**6** Glue and clamp the hood/cowl assembly to the frame  $\frac{3}{4}$ " from the front end. When the glue has dried, mark a centerpoint  $\frac{7}{8}$ " back from the front end of the hood. Bore an  $1\frac{1}{16}$ " hole through the hood and frame. (We used a Forstner bit in our drill press.)

*Continued*

*A mighty nice ride  
for a knee-high  
trucker*



*We can't remember when we've had a project that lit up the little ones' eyes like this old-timer. For a toddler—especially one who's not quite steady on two legs—this steerable, easy-to-straddle rig is the perfect hallway hauler.*



# BILL OF MATERIALS

| Part |                | Finished Size |             |          | Matl. | Qty. |
|------|----------------|---------------|-------------|----------|-------|------|
|      |                | T             | W           | L        |       |      |
| A    | frame          | 3/4"          | 3"          | 16 1/4"  | P     | 1    |
| B    | hood           | 3"            | 3 3/8"      | 4 1/8"   | PL    | 1    |
| C    | cowl           | 1 1/2"        | 4"          | 4"       | P     | 1    |
| D    | doors          | 1/2"          | 3 1/2"      | 6"       | P     | 2    |
| E    | cab wall       | 1/2"          | 3 3/4"      | 6"       | P     | 1    |
| F    | roof           | 1/2"          | 4 1/4"      | 5"       | P     | 1    |
| G    | spacer         | 1/2"          | 1"          | 2 3/4"   | P     | 1    |
| H    | bed            | 1/2"          | 6 1/4"      | 6 1/4"   | P     | 1    |
| I    | sides          | 1/2"          | 1 1/2"      | 6 1/4"   | P     | 2    |
| J    | tailgate       | 1/2"          | 1 1/2"      | 4"       | P     | 1    |
| K    | stakes         | 1/2"          | 1/2"        | 17 1/16" | P     | 4    |
| L    | beams          | 1/2"          | 1"          | 6"       | P     | 2    |
| M    | crossbeams     | 1/2"          | 1"          | 2 5/8"   | P     | 2    |
| N    | fenders        | 1 3/4"        | 2 3/4"      | 6"       | ML    | 2    |
| O    | radiator       | 1/2"          | 2 3/4"      | 3"       | P     | 1    |
| P    | bumper         | 1/2"          | 3/4"        | 5"       | P     | 1    |
| Q    | running board  | 3/4"          | 5 1/2"      | 8"       | M     | 1    |
| R    | axle housings  | 3/4"          | 2"          | 5 7/8"   | M     | 2    |
| S    | lower pan      | 1 1/16"       | 2 3/4"      | 2 1/4"   | ML    | 1    |
| T    | steering wheel | 3/4"          | 5 1/2" dia. |          | M     | 1    |
| U    | collar         | 3/4"          | 2 1/2" dia. |          | M     | 1    |

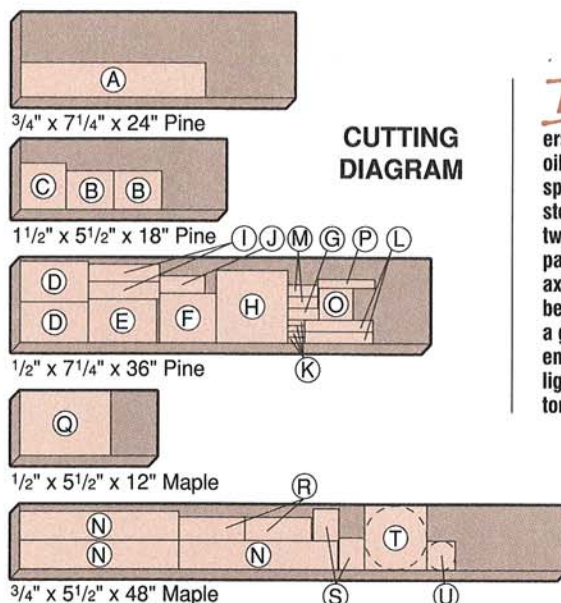
**Materials Key:** P—pine; PL—pine lamination; M—maple; ML—maple lamination.

**Supplies:** Quick-set epoxy; #4 x 1 1/4", #6 x 5/8", #8 x 1 1/4", #8 x 1 1/2" F.H. wood screws; 1" steel mending plates; gloss oil enamel; semigloss oil enamel(s); polyurethane finish; 5/8" hardwood dowel stock.

## Buying Guide

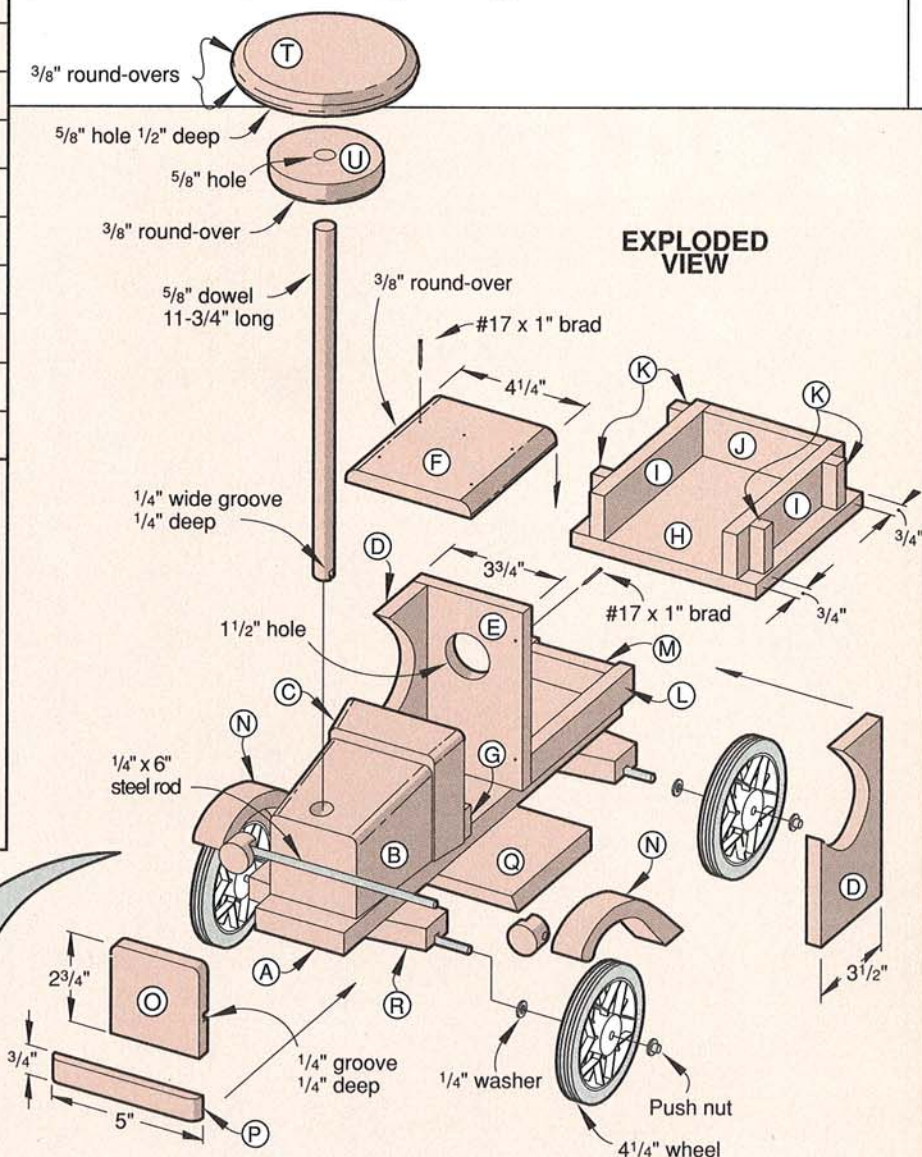
**Wheel and Axle Kit.** Includes four plastic-spoked wheels with rubber tires; 3—1/4" steel rods for axles and front-end support rod; 4—1/4" push nuts. Catalog no. 3255. \$9.69 plus \$4.95 shipping and handling. (Minn. residents add 6.5% sales tax.) Meisel Hardware Specialties. P.O. Box 70-WEW, Mound, MN 55364-0070. Phone 621/471-8550.

## CUTTING DIAGRAM

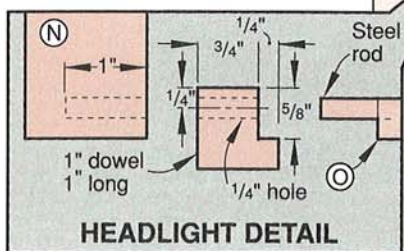


**TIP** We sprayed the cab, cowl, hood, and fenders with three coats of bright red, oil-based, gloss enamel. We sprayed the pickup box and steering-wheel assembly with two coats of polyurethane. We painted the frame, running board, axle housings, and beam/cross-beam assembly with two coats of a gray, oil-based, semigloss enamel. We used two coats of a lighter gray enamel for the radiator, headlights, and bumper.

## EXPLODED VIEW

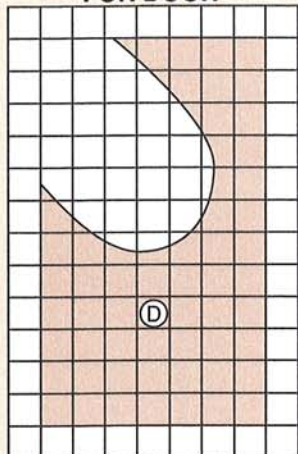


## HEADLIGHT DETAIL





## GRIDDED PATTERN FOR DOOR



One Square = 1/2 Inch

## BUILD THE CAB AND THE PICKUP BOX

**1** For the cab doors (D), rip and crosscut two 3 1/2 x 6" pieces from a 1/2 x 7 1/4 x 36" piece of stock. (We used pine.) Stack them using double-faced carpet tape. Lay out the gridded Door pattern shown at left in full size on a piece of paper, and adhere it to one face. Bandsaw the window, then sand the window edges and separate the pieces. (We used a 1"-diameter drum sander on our drill press.)

**2** Make the cab rear wall (E) by ripping and crosscutting a 3 3/4 x 6" piece of 1/2"-thick stock. Bore a 1 1/2"-diameter hole for the rear window centered 1 1/4" from the top, then sand the edges. (We used a Forstner bit and then a 1/2"-diameter drum sander in our drill press.) To make the roof (F), rip and crosscut 1/2"-thick stock to 4 1/4 x 5". From the same material, cut the cab spacer (G) to 1 x 2 3/4".

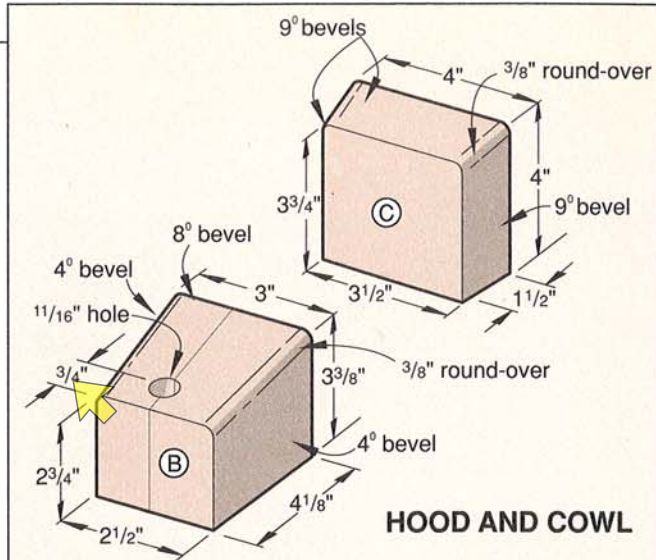
**3** Fit your table-mounted router with a 3/8" piloted round-over bit, and rout the two edges of the roof where shown on the Exploded View drawing. Sand all surfaces of the cab pieces smooth. (We used 150-grit sandpaper to hand-sand the rounded edges and palm-sand the flat surfaces.)

**4** Glue and nail the rear cab wall to the doors. (For all nailing operations, we used #17 x 1" brads, setting them and filling the holes.) Glue and nail the spacer between the doors, then glue and nail the roof to the doors and rear wall. Allow the glue to dry.

**5** Glue and clamp the cab assembly to the frame and cowl. Wipe away any glue squeeze-out with a damp cloth.

**6** To make the pickup box, start with leftover 1/2 x 7 1/4" pine stock. Bandsaw the bed (H), the sides (I), the gate (J), the stakes (K), the beams (L), and crossbeams (M) to the dimensions listed in the Bill of Materials.

**7** Sand all surfaces smooth. Next, glue and nail the sides to the tailgate. Center



## HOOD AND COWL

this assembly on top of the bed, then glue and nail. Now, glue and clamp the four stakes where shown on the Exploded View drawing.

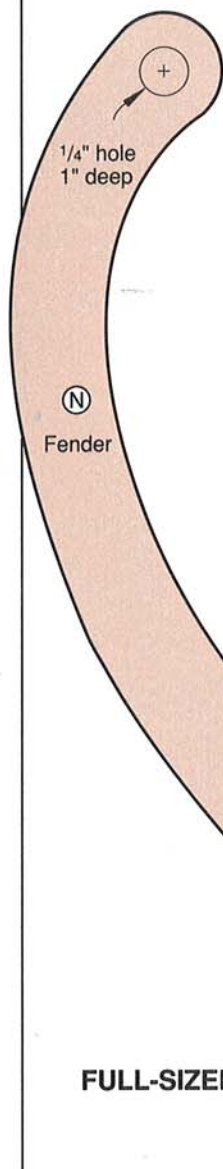
**8** Glue and nail the crossbeams between the beams, recessing the rear crossbeam 1/4". When the glue has dried, butt the beam assembly up against the rear cab wall, and glue and clamp it to the frame. Allow this glue to dry. Then, glue and nail the pickup box to the beam/crossbeam assembly.

## NOW, FASHION THE FENDERS AND OTHER FRONT-END PIECES

**1** To make the fenders (N), start with a 1 3/4 x 5 1/2 x 36" piece of hardwood stock. (We chose hard maple.) Rip and crosscut three pieces to 2 1/2 x 14". Glue and clamp the pieces face-to-face. When the glue has dried, plane or resaw 1/4" of material from each face to leave a total thickness of 1 3/4". Make two copies of the full-sized Fender pattern shown at left, and adhere them to one face of the laminated block. Bandsaw the fenders to shape, keeping the blade outside the line. (We used a 1/8" blade on our bandsaw.)

**2** Mark a centerpoint on the inside edge of each fender where shown on the Fender pattern. Then, drill a 1/4" hole 1" deep on each. (We used our drill press and a brad-point bit.)

**3** Make the radiator (O) by first ripping and crosscutting a 2 3/4 x 12" piece from 1/2 x 7 1/4" pine stock. (For safety's sake, we'll cut the radiator to length in a later step.) Bandsaw the bumper (P) to 3/4 x 5" from the same material. Draw a 1/2" radius on the top edge of each bumper end, and bandsaw the ends to shape.



## FULL-SIZED PATTERN

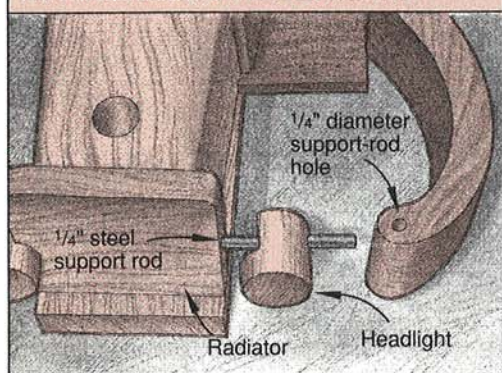


**4** To make the headlights, first cut a 12" length of 1" dowel. (To make handling easier, we notched and drilled both ends of this 12" piece, then cut the headlights to length.) Using your bandsaw, cut a 5/8"-long notch on each end where shown on the Headlight detail on the Exploded View drawing. Now, drill a 1/4" hole centered 1/4" from each end. (We used a handscrew clamp to hold the notch face perpendicular to the bit.) Bandsaw a headlight from each end of the dowel. Now, sand all surfaces of the fenders, radiator, headlights, and bumper smooth.

## TIME TO ASSEMBLE THE FRONT END

**1** Crosscut the running board (Q) to 8" from a 5 1/2"x12" piece of 1/2"-thick maple stock. Then, bevel-cut one edge at 45° to a finished width of 5 1/8". Sand all surfaces smooth. Now, lay out screw holes on the running board bottom face where shown on the Bottom View drawing on page 30. Position and clamp the running board to the frame, and drill the shank and pilot holes as dimensioned. Unclamp, then glue and screw the running board to the frame.

### DRY-ASSEMBLING THE FRONT END



**2** To mount the fenders on the running board, first clamp the tail end of each fender to the front end of the running board using a small handscrew clamp. (**Note:** Apply the clamp to the top of the fender tail end and the beveled edge of the running board. These two surfaces are nearly parallel.) Make sure that the 1/4" holes on the fender edges are on the inside. Drill and countersink 7/64" shank holes in the running board at a 45° angle where shown on the Bottom View drawing. Then, drill 5/64" pilot holes in the fender to a total depth of 1 1/2". (We used our portable drill and brad-point bits.) Attach the fenders using #4x1 1/2" flathead wood screws,

then remove the clamps. (**Note:** Do not glue on the fenders until final assembly in Step 5 below.)

**3** Unscrew one fender from the running board, and insert a 1/4"-diameter 6"-long steel support rod into both fender holes. (See our Buying Guide for a mail-order source.) Re-attach the fender, and measure the height of the rod above the frame. Measure the same distance up from the bottom of the radiator, and mark the rod position on the radiator back face. Fit your table-mounted router with a 1/4" straight bit, and rout a 1/4"-deep groove (to house the rod) across the radiator back face. Now, crosscut the radiator to 3" long. Bandsaw a 1/4" radius at each top corner, and sand the radiator smooth.

**4** Remove one fender and the rod, then dry-assemble the radiator, the headlights, the rod, and the fenders as shown below left. Adjust the fit of each part as necessary. When everything fits, disassemble the parts. Epoxy the rod into the radiator groove, and allow the epoxy to cure. String a headlight onto each end of the rod, then glue and clamp both headlights to the radiator.

**5** When the epoxy and glue have dried, apply glue to the back face of the radiator, and insert the rod end into the still-attached fender. Nail the radiator to the hood, then insert the other end of the rod into the loose fender. Now, glue and screw the loose fender to the running board. Unscrew the other fender, apply glue, and re-attach it. Center the bumper on the front end of the frame, then glue and nail it.

## NOW, BUILD THE UNDERCARRIAGE

**1** To make the two axle housings (R), rip and crosscut a piece of 3/4"-thick maple stock to 2x12". Next, fit your table-mounted router with a 1/4" straight bit, and set it to cut 1/4" deep. Rout a centered axle groove in the face of the stock, then crosscut the two housings to 5 7/8" long. Mark a centerpoint on the face of the front axle housing, and bore a 5/8" hole through it for the steering post. (We used a Forstner bit in our drill press.)

**2** Lay out the 3/8" tapers on both pieces where shown on the Bottom View drawing. Before you cut the tapers, position the rear housing on the frame where shown, square it to the frame, and clamp. Drill the four shank and pilot holes

*Continued*

**TIP** For sanding contoured cutouts such as the window and the undersides of the fenders, we recommend using a drum sander in your drill press. Use a stationary disc sander to smooth outside edges on the steering wheel and collar. These tools help you avoid sanding flat edges on rounded surfaces.

**TIP** We recommend 3M Spraymount or a similar spray adhesive for adhering patterns to stock. It's much neater than rubber cement and rubs off easily. You can find it at art-supply and crafts stores.



# PINT-SIZED PICKUP

**Project design:** James R. Downing

**Illustrations:** Roxanne LeMoine,  
Carson Ode

**Project builder:** Francis Carr

**Photograph:** King Au

where shown and as dimensioned on the Bottom View drawing. Unclamp the rear housing, bandsaw the tapers on both housings, and sand them smooth. Now, glue and screw the rear housing to the frame using #8×1¼" flathead wood screws.

**3** For the lower pan (S), bandsaw two pieces of leftover maple stock to ¾×3×2½". Glue and clamp the pieces face-to-face. When the glue has dried, bandsaw the laminated block to 1½" thick. Now, bandsaw the flange on one end where shown on the Lower Pan detail on the Bottom View drawing.

**4** Lay out the lower pan on the bottom face as dimensioned on the Lower Pan detail. Bandsaw the pan to shape, keeping your blade outside the line. Sand to the line, then sand round-overs on the flange corners. Now, sand all surfaces smooth.

## ASSEMBLE THE STEERING AND GIVE YOUR RIG SOME WHEELS

**1** To make the steering wheel (T) and steering-wheel collar (U), use a compass to lay out 2½"- and 5½"-diameter circles on your ¾"-thick maple stock. Bandsaw the two discs, keeping your blade outside the line. Now, sand to the line.

**2** Fit your table-mounted router with a ⅜" piloted round-over bit, and rout both steering-wheel edges and the bottom edge of the collar. Sand all surfaces smooth. Center the collar on the bottom of the wheel, then glue and clamp.

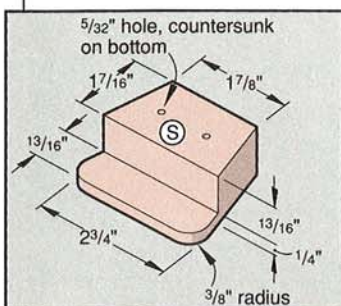
**3** For the steering post, cut ⅝" hardwood dowel stock to 11¾" long, and sand it smooth. Now, mark a centerpoint on the bottom face of the collar, and bore a ⅝" hole 1¼" deep. (We used a Forstner bit in our drill press.) Sand the hole smooth. Now, epoxy the steering post into the collar hole, wipe off any excess, and allow the epoxy to cure.

**4** Rout a centered ¼" groove ¼" deep in the other end of the steering post. (We used a Forstner bit on our drill press to bore a ⅝" hole through a scrap piece of 2×4. We inserted the post into the hole until the end was flush with the bottom of the 2×4. Then, we routed the groove in the 2×4 and post using our table-mounted router, a ¼" straight bit, and a fence.)

**5** Cut two 8¾" lengths of ¼" steel rod for axles. Using push nuts, mount a wheel on each end of both axle rods, first sliding two ¼" flat washers onto each rod. (See the Buying Guide for wheels, steel rods, washers, and push nuts.) Position a washer against each wheel hub, then insert an axle into the groove in each housing. Mount two 1"-long galvanized steel mending plates over each axle by first drilling ⅜" pilot holes ⅝" deep in the axle housings where shown on the Exploded View. (If your local hardware store doesn't carry mending plates in this size, buy some small angle braces, and cut your own.) Now, drive #6×⅝" flathead wood screws.

**6** Insert the steering post through the hood hole and into the front axle housing. Fit the post groove around the axle, then epoxy the steering post to the axle housing and the axle. Wipe off any excess, and allow the epoxy to cure.

**7** Position the lower pan behind the front axle housing so that it restrains the housing and also allows an adequate turning radius. (The back end of our pan measures 4⅜" from the frame front end.) Mark the location, and clamp the pan in place. Now, drill ⅝" shank holes and ⅞" pilot holes to a total depth of 1½". Remove the clamps, then glue and screw the pan to the frame using #8×1½" flathead wood screws. ■



LOWER PAN DETAIL

