

Weekend Woodworking Projects™

November 1994

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- Jewelry Cabinet • Bud Vase
- Biplane Toy • Holiday Tree
- Flounder Cutting Board

Build This Kid-Pleasing

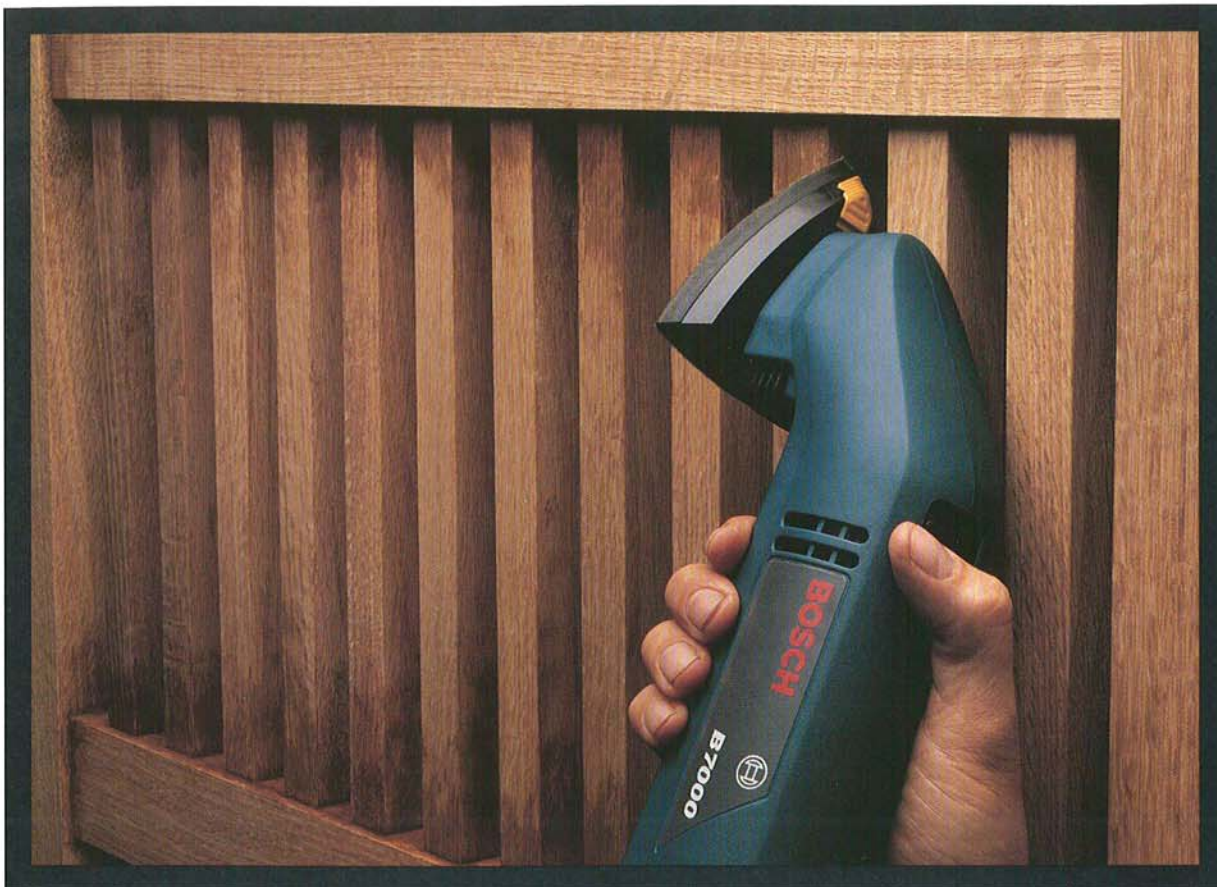
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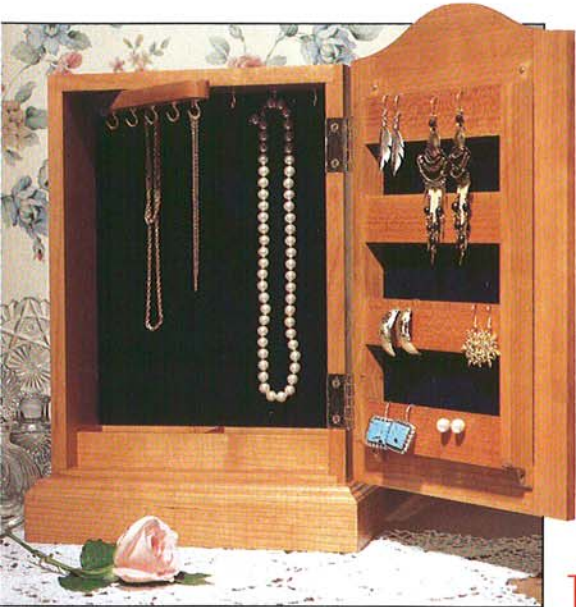


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Weekend Woodworking Projects™



7 JEWELRY CASE

Store rings, watches, earrings, and necklaces in this attractive dresser-top cabinet. Made from black cherry, our project also features a mirrored door and a pleasing interior lining. What a great gift idea!

12 CATCH-OF-THE-DAY CUTTING BOARD

There's something fishy about this kitchen project. That's because the design replicates that well-known inhabitant of the sea floor, the flounder. While adding the maple insert cutting surface, you'll learn plenty about working with router guide bushings and homemade templates.



16 OPEN (DOLL)HOUSE

Little arms and fingers will have an easy time decorating the interior of this charming dollhouse. It's meant to play with, thanks to the open sides and front. Rely on our Buying Guide for a houseful of appropriately sized furniture pieces.

20 DAREDEVIL'S DELIGHT

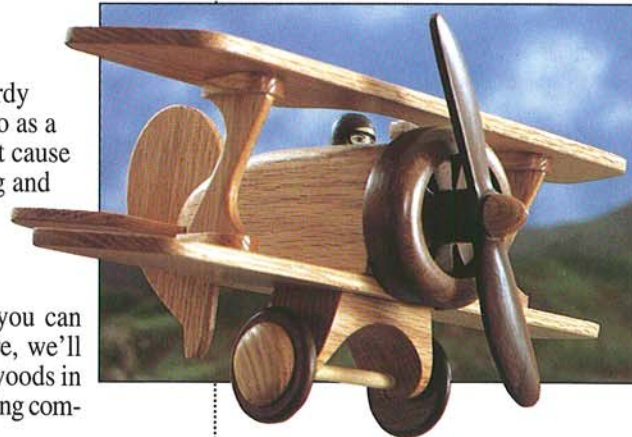
Oak and walnut combine to make this a sturdy and durable toy. More commonly referred to as a biplane, our fun design and directions won't cause you to perform a lot of stunts while building and assembling the parts.

24 LAMINATED BUD VASE

Dazzle onlookers with the special effects you can achieve with this eye-catching project. Here, we'll teach you how to combine a variety of hardwoods in interesting ways, and make a vase container using common copper pipe.

28 DECK-THE-WALLS HOLIDAY TREE

Celebrate Christmas with a different kind of evergreen—one made from hardwoods. And take advantage of the time-saving full-sized patterns found in our pattern insert.



Cover photograph: Perry Struse



Form and function from a fish

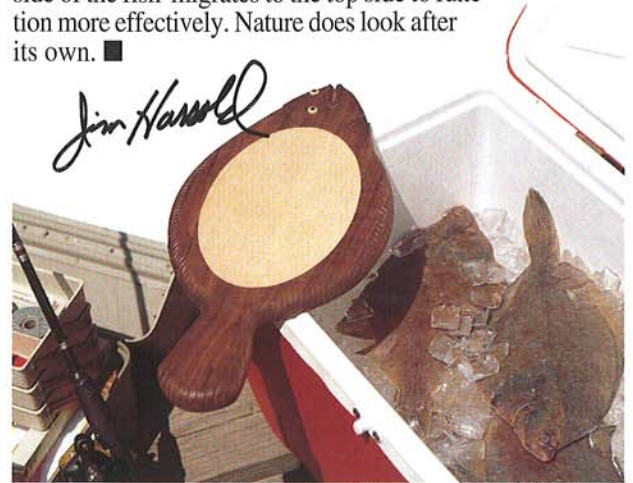
It's funny how some familiar image in a person's life can end up as a woodworking-project design. Every time I go on the road to scout a crafts fair, I run into woodworkers who love to create replicas of such things as shorebirds, flowers, cars, trains, planes, boats—you name it. Typically, these images hold a special place in their memories. I found in my own woodworking a similar item that served meaningfully in my recent past. Let me explain.

Last February, my mother and my fishing-fanatic nephew Phil Moffit from Philadelphia had plans to stay a few days at my home here in Des Moines, Iowa. While my wife Linda and I prepared for their visit, I realized we were short one bed, new guest towels, and, of all things, a cutting board for serving cheese and other snacks.

Of course, for a woodworker to be without a cutting board seems beyond comprehension, but that, I confess, describes my unfortunate condition at that time. Now, since I knew I would need to make one (no self-respecting woodworker would ever buy a cutting board), I sought a design that would work from a practical standpoint, and feature a shape that my visitors might appreciate. My solution? Design and make a cutting board after the lowly salt-water oddity known as the flounder. After all, my mother, my father (now deceased), Phil, and I had spent countless hours together trying to reel in our

share of these elusive fish over the last several decades. And yes, enjoying a tasty seafood dinner was, hopefully, the second half of our group flounder-fishing experience.

It might help to explain that a mature flounder (and its West Coast relative, the halibut) has both eyes on one side of its head, something that gives the fish its true charm. As the fish grows, the eye that would otherwise be on the bottom side of the fish migrates to the top side to function more effectively. Nature does look after its own. ■



Here is my cutting board next to the real thing.

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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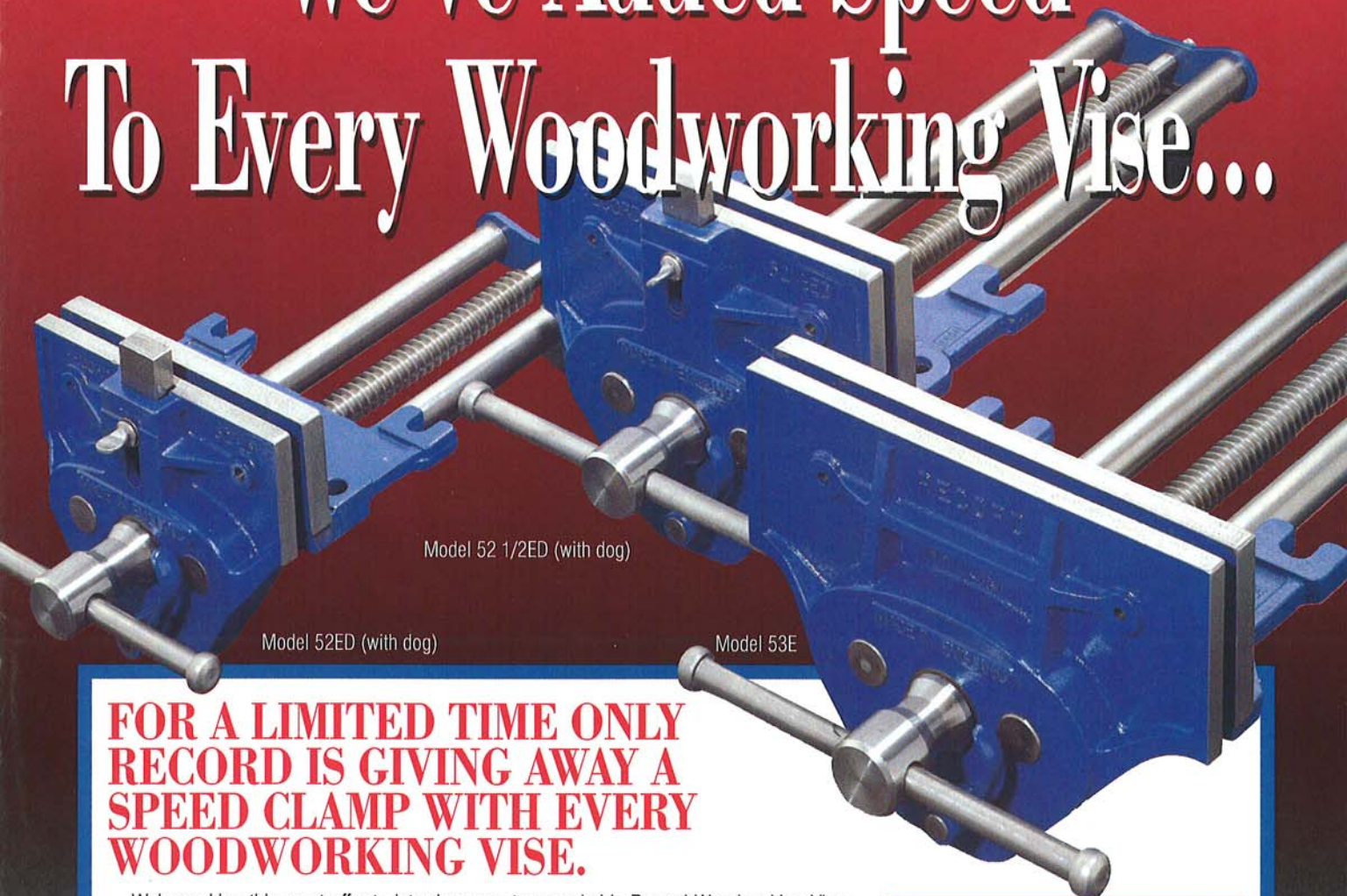
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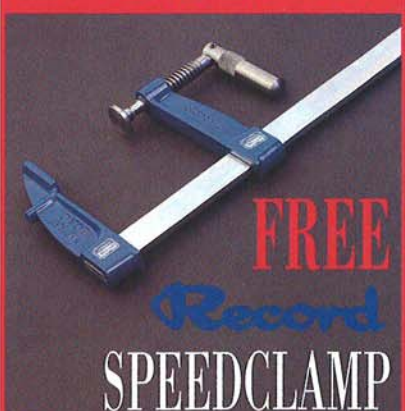


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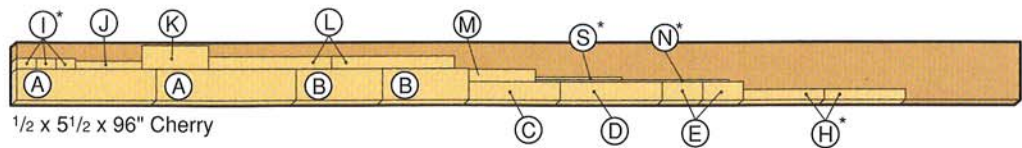


One Gem of a Jewelry Case

We know we've got a popular project on our hands when everyone we show it to "oohs!" and "aahs!" at first sight. That's what we have experienced with this rose-accented jewelry case. Several women who have seen it sitting around our office area told us that they'd love to have one just like it. Imagine the response you'll get when you present this project to its lucky recipient.

Continued

CUTTING DIAGRAM



BILL OF MATERIALS

Part	Finished Size			Matl.	Qty.
	T	W	L		
CARCASE					
A sides	1½"	3"	13¾"	C	2
B top & bottom	1½"	3"	8¼"	C	2
C stretcher	1½"	1¾"	8¾"	C	1
D* front trim	1½"	1¾"	9¾"	C	1
E* side trim	1½"	1¾"	4"	C	2
F back	1⅞"	8¼"	11¾"	H	1
G ballast	¾"	3	7¾"	C	2
RING HOLDER & NECKLACE HANGER					
H front & back	¼"	1"	7¾"	C	2
I ends & divider	⅞"	1"	1⅞"	C	3
J necklace hanger	½"	¾"	6¼"	C	1

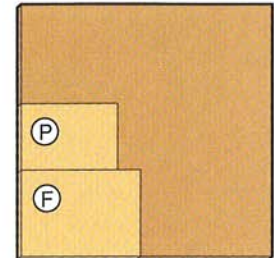
*Cut part to final size during construction. Please read all instructions before cutting.

Materials Key: C—cherry; H—hardboard.

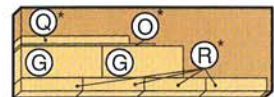
Supplies: ¼" dowel rod, one pair 1½x1" brass hinges, 5/16"-dia. magnetic catch, ⅛x6⅝x9⅜" mirror, #2x½" roundhead brass screws, #8x1" roundhead brass screw, ½" brass washers, ¾" brass cup hooks, ½" brass knob.

BILL OF MATERIALS

Part	Finished Size			Matl.	Qty.
	T	W	L		
DOOR					
K top rail	½"	2¼"	6¾"	C	1
L stiles	½"	1¾"	11¾"	C	2
M bottom rail	½"	1¾"	6¾"	C	1
N side stops	¾"	¾"	9¼"	C	2
O top & bottom stops	¾"	¾"	6¾"	C	2
P back	⅛"	6⅝"	9⅜"	H	1
EARRING RACK					
Q stiles	¾"	¾"	10⅝"	C	2
R rails	⅛"	1¼"	5⅞"	C	4
S spacers	⅛"	⅛"	1¾"	C	6



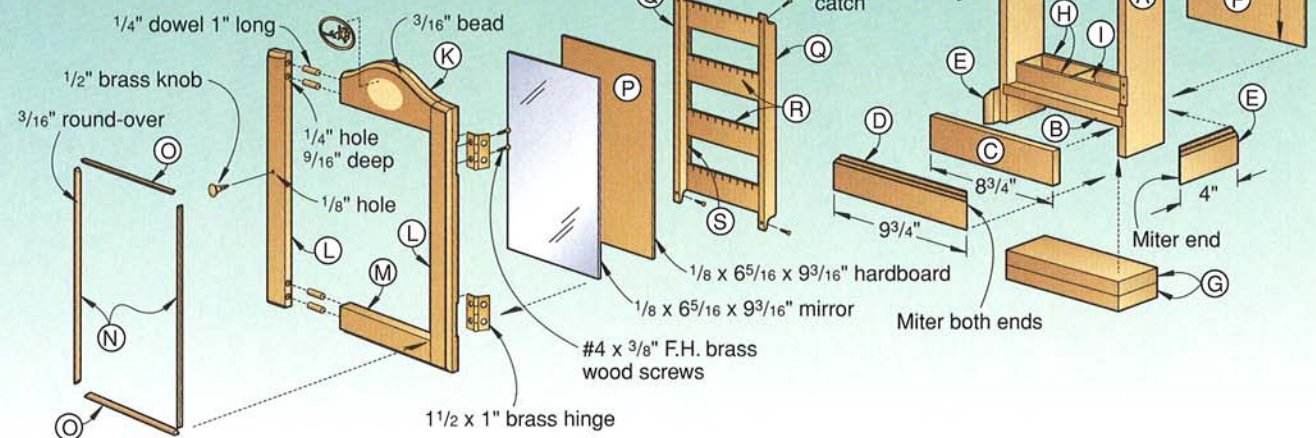
1/8 x 24 x 24" Hardboard



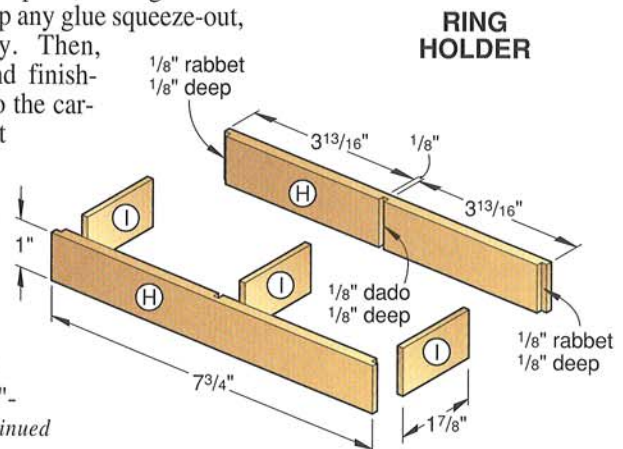
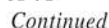
3/4 x 7 1/4 x 24" Cherry

*Plane or resaw to the thickness listed in the Bill of Materials

EXPLODED VIEW



7 From $\frac{3}{4}$ " cherry, cut two pieces to $3 \times 7\frac{3}{4}$ " to serve as ballast (G) for the jewelry case.



One Gem of a Jewelry Case

thick cherry that is $\frac{3}{4} \times 6\frac{1}{4}$ " long. Make a copy of the full-sized pattern on the pattern insert, and adhere the pattern to the workpiece with spray adhesive. Cut the piece to shape, and sand the cut edges smooth. Drill a $\frac{1}{8}$ " hole in

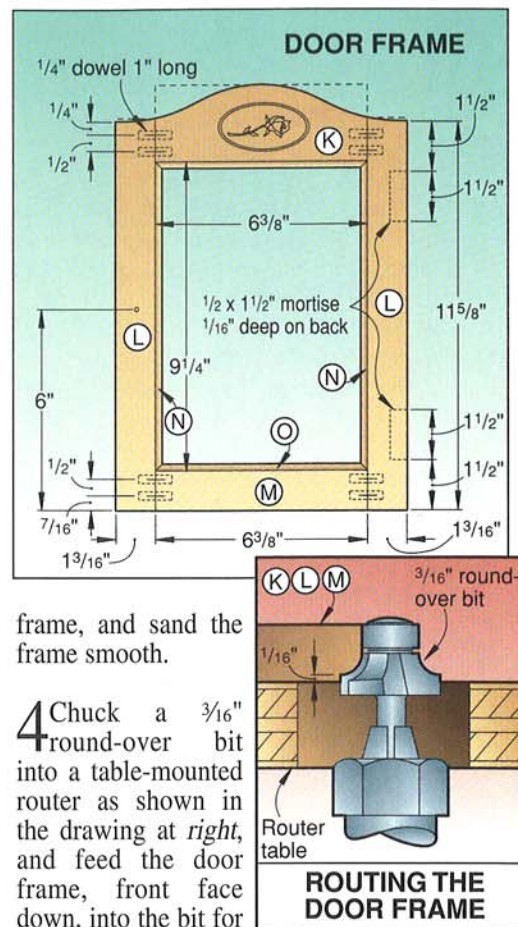
one end of the hanger, and with a finish nail, mark the location of the cup hooks. Remove the pattern, and sand all of the surfaces of the hanger.

Making the Door Comes Next

1 Using $\frac{1}{2}$ " cherry, cut the top rail (K), stiles (L), and the bottom rail (M) to the dimensions listed in the Bill of Materials. Then, on your workbench, arrange the frame members as shown on the Door Frame drawing *above right*. Mark the location of the dowel joints, again using the Door Frame drawing.

2 With a doweling jig, drill $\frac{1}{4}$ " dowel holes $\frac{1}{16}$ " deep at each of your marks. Then, glue and clamp the frame, making sure that it is square. Clean up any glue squeeze-out, then allow the glue to dry. After the glue sets, remove the clamps and sand the frame smooth.

3 Copy the full-sized pattern of parts K and L (see the pattern insert). Adhere the pattern to the frame, making sure that the top of the pattern aligns with the top of part K. (We used spray adhesive.) Cut just to the outside of the pattern line with a bandsaw or scrollsaw, and sand to the line with a drum sander. Remove the pattern from the



frame, and sand the frame smooth.

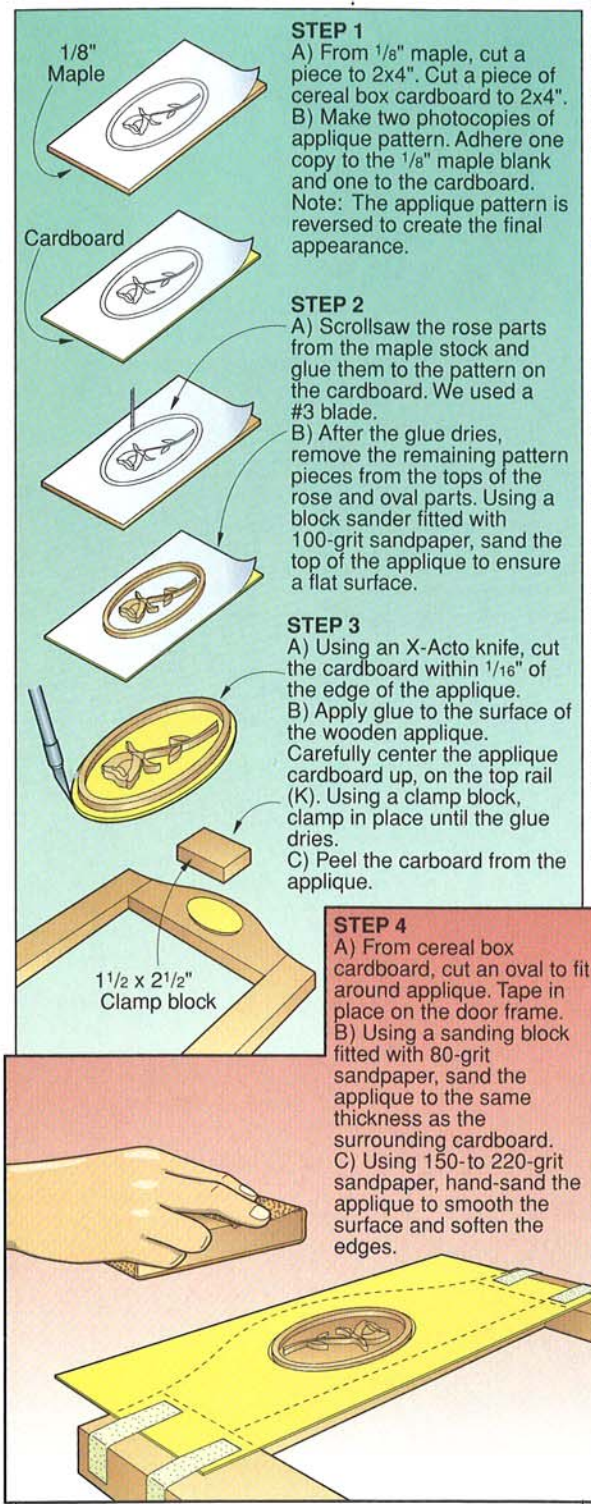
4 Chuck a $\frac{3}{16}$ " round-over bit into a table-mounted router as shown in the drawing at *right*, and feed the door frame, front face down, into the bit for the decorative bead.

5 To make the side stops (N) and the top and bottom stops (O), resaw a $\frac{3}{4} \times 1\frac{1}{2} \times 20$ " piece of cherry to $\frac{3}{16}$ "-wide. Now, lower the router bit used in the previous step $\frac{1}{16}$ " so that it will cut a true round-over. Then, rout round-overs on both edges of this piece. Rip a $\frac{3}{16}$ "-wide strip from each edge you just rounded-over for the stop material.

6 Miter both ends of the four stops to the lengths specified in the Bill of Materials. Then, glue and clamp them to the front inside edge of the door frame, recessing the pieces $\frac{1}{16}$ " from the front edge. Remove any glue squeeze-out, and allow the glue to set up. Later, sand the door smooth.

7 Lay the door frame face down on your workbench. Then, measure the opening, and cut a piece of $\frac{1}{8}$ " hardboard to that size for the door back (P). Set the back aside.

8 To make the rose-within-an-oval wooden applique, see the four steps and accompanying illustrations at *left*. Also, see the full-sized rose applique pattern on the pattern insert found at the center of the magazine.



And Now For the Earring Rack

1 For the stiles (Q), rip a $\frac{3}{8}$ " strip from a $\frac{3}{4}$ ×24" piece of cherry. Then, set your table-saw blade to cut $\frac{1}{8}$ " deep. Set the rip fence to make a $\frac{1}{8}$ " groove $\frac{1}{8}$ " in from one edge of the strip. Make your cut. Then, cut the strip into two equal-sized pieces.

2 Make two copies of the full-sized Earring Rack Stile pattern in the pattern insert. Now, adhere the patterns to the stiles, and cut the pieces to shape. Drill a $\frac{3}{32}$ " shank hole in each end of both stiles where shown on the pattern. Remove the pattern from each stile, and sand smooth.

3 For the earring rack rails (R), rip and crosscut a piece of $\frac{3}{4}$ " cherry to $1\frac{1}{4}$ ×36". Then, resaw a $\frac{1}{8}$ " strip from this piece. Crosscut four $5\frac{7}{8}$ "-long strips from this piece. From the left-over stock, rip and crosscut six $\frac{1}{8}$ × $\frac{1}{8}$ × $1\frac{3}{8}$ " pieces for spacers (S).

4 Using double-faced tape, stack the four rails (R), making sure that all edges are flush. Make a copy of the Earring Rack Rail pattern in the pattern insert, and adhere it to the top rail. With a bandsaw, make the cuts in the side of the rails. Separate the rails, remove the pattern, and sand all parts of the rack smooth.

5 Glue and clamp the stiles, rails, and spacers where shown in the Earring Rack drawing at right. Check for square, then clean up any glue squeeze out, and let the glue dry. Later, remove the clamps and finish-sand.

Let's Do the Final Assembly and Finishing

1 Screw the hinges to the carcass, and then clamp the door in position, allowing a $\frac{1}{16}$ " gap between the bottom of the door and the carcass. Mark the location of the hinges on the door, then remove the clamps. Cut a pair of $\frac{1}{16}$ "-deep mortises into the door. Screw the hinges to the door, then close the door to check for fit. Remove the hardware, and lay the door, face down, on your workbench.

2 Lay a prepurchased $\frac{1}{8}$ × $6\frac{5}{16}$ × $9\frac{3}{16}$ " mirror into the door frame. Then, cover the door back (P) that you cut to size earlier with felt fabric (we used a dark blue color). Lay the fabric-covered hardboard into the back side of the door frame to check for a good fit. Remove the mirror and the hardboard, and set them aside.

3 Cover the carcass back (F) with felt fabric, and test-fit it. Then, remove the back, and set it aside.

4 Turn the carcass upside down, and referring to the Top Section drawing on the pattern insert, mark the centerpoint of the $\frac{3}{4}$ " cup hooks that will screw into the carcass top. Also mark the centerpoint of the hole that will accept the #8 brass screw that will hold the swing-out hanger in place.

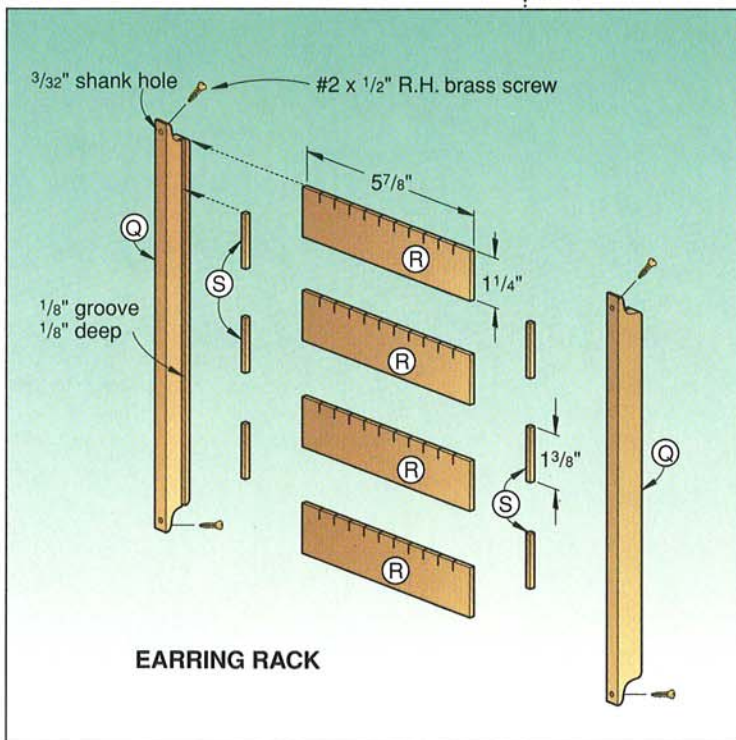
5 Apply the finish of your choice to the jewelry case. We used three coats of Watco Danish Oil Finish.

6 After the final coat of finish has dried, lay the door face down on your workbench, and insert the mirror and fabric-covered hardboard. See Tip at right. Then, center the earring rack over the opening, and secure it to the door with #2× $\frac{1}{2}$ " screws. Now, add the hinges.

7 Screw five cup hooks into the top of the carcass, and the other five into the swing-out hanger. Now, screw the swing-out hanger into place, with a brass washer above and below the hanger. And finally, glue and clamp the back into position, and mount the pull and catch hardware where shown on the Door Frame and Carcase drawings. ■

TIP To keep the mirror from rattling in the frame, we applied a fine bead of silicone between the mirror and frame.

Project Designer: Jim Downing
Illustrations: Roxanne LeMoine,
Troy Doolittle
Project Builder: Chuck Hedlund
Photograph: King Au





Catch-Of-The-Day CUTTING BOARD

Looking for a cutting board with character? How about one that can add to your woodworking skills? Our flounder design, based on a well-known resident of the Atlantic Ocean, brings form and function into the kitchen. Use the fish's tail for a handle when serving cheese and similar snacks, then clean and store the cutting board on the wall for a decorative touch. You'll find machining the recess for the maple insert a lesson in working with guide bushings.

First, Rout a Recess For the Inlaid Cutting Surface

1 Rip and crosscut a piece of $\frac{3}{4}$ "-thick stock to 9×18" for the fish. (We selected walnut.) Then, cut a $\frac{3}{4}$ "-thick piece of contrasting stock to 9×18" for the cutting surface. (We chose curly maple for its fine-grain, durability, and appearance.) Crosscut a 2"-wide piece from this second board, and then plane the remaining piece to $\frac{1}{4}$ " thick. (See Tip no. 1 at right on avoiding snipe.)

Buying Guide

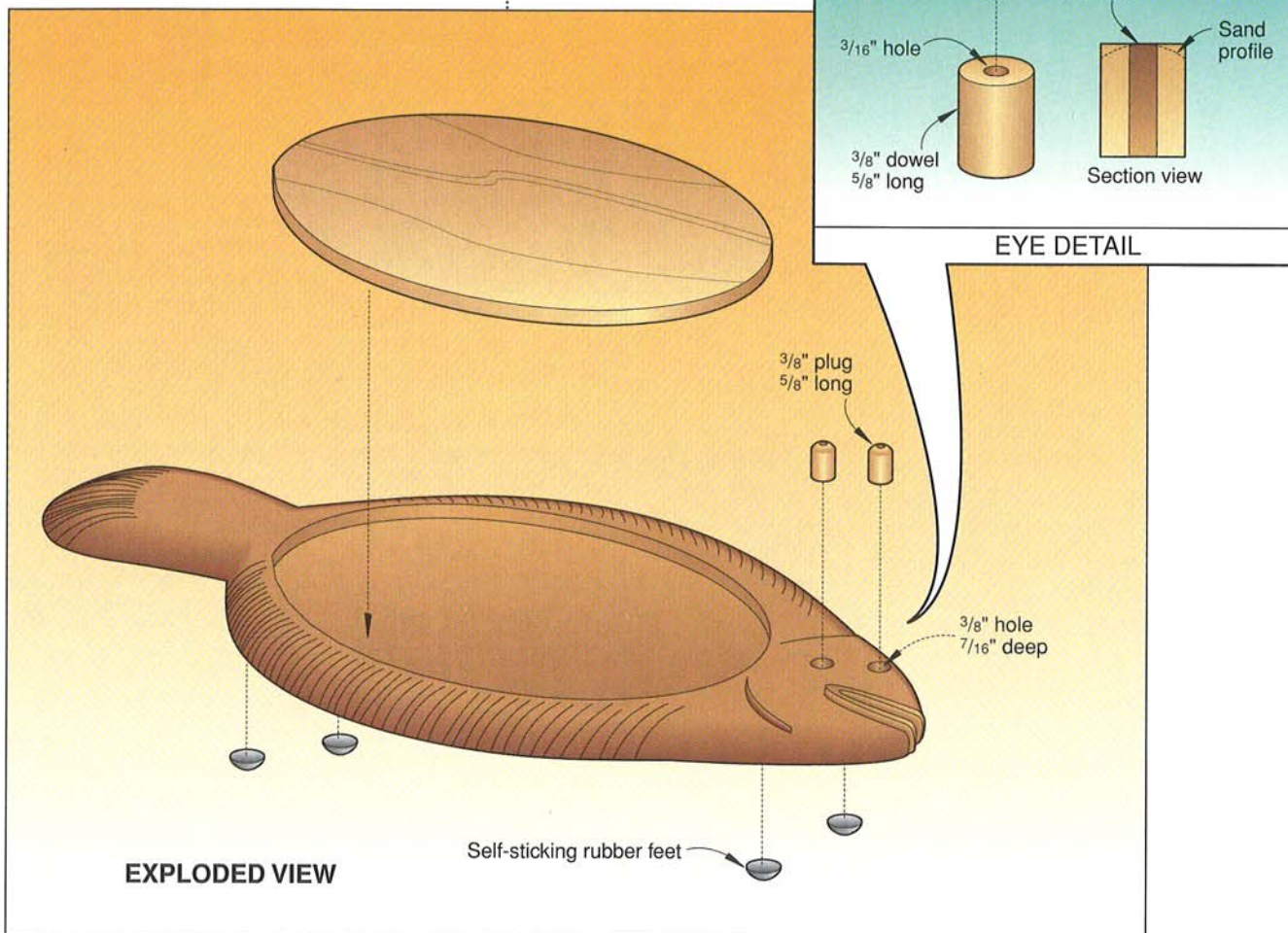
Behlen's Salad Bowl Finish. Contains only FDA-approved ingredients for use with food contact; non-toxic when dry. One pint. Catalog no. 99P27.01. \$7.50 plus \$2.95 shipping and handling. Garrett Wade Co., 161 Avenue of the Americas, New York, NY 10013. To order, phone 800-221-2942.

2 Make a simple router template for cutting both a recess in the fish and the inlaid piece. To do this, start with a 9×18" piece of $\frac{3}{4}$ "-thick plywood. Transfer the full-sized Oval Template (solid line) shown on the pattern insert to the center of the template. Bandsaw a diagonal entry kerf, then saw out the oval, keeping your blade inside the line. Next, glue and clamp the entry kerf. After the glue has dried, drum-sand the sawn edge to the line.

3 Lay the template over your walnut board, aligning all edges. Then, attach it at the corners using 1 $\frac{1}{4}$ " flathead wood screws (counter-sunk). Next, bandsaw into three pieces the waste oval. (See Step 1 on the Full- Sized Oval Template located on the pattern insert.)

4 Fit your router with a 1 $\frac{1}{4}$ "-o.d. guide bushing and a $\frac{1}{4}$ " straight bit set to cut 1" deep. (This allows for the $\frac{3}{4}$ " template thickness and a $\frac{1}{4}$ "-deep recess.) Now,

TIP Tip no. 1—To avoid sniping (or gouging) at the end of a board run through a thickness planer, go with boards a few inches longer than what your project requires. Then, crosscut the sniped portion from the board prior to cutting it finished size.



Catch-Of-The-Day CUTTING BOARD

route around the inside edge of the template in counterclockwise direction. Then, rout out the interior of the recess, following Steps 2, 3, and 4 accompanying the pattern.

5 Remove the waste pieces. Next, switch to a $\frac{5}{16}$ " straight bit set to the same 1" depth. Rout the perimeter of the recess in a counterclockwise direction. (See the Routing the Recess drawing below.) This will give you a cleaner edge for the $\frac{1}{4}$ "-thick maple inlay.

Next, Machine and Inlay the Cutting Surface

1 Remove the template from the walnut board. Then, center it between the ends of the $\frac{1}{4}$ "-thick inlay stock, and reattach it. Using

double-faced tape, adhere the inlay stock to a larger piece of scrap plywood that's clamped to your workbench. Change to a $\frac{5}{8}$ "-o.d. bushing, and switch back to your $\frac{1}{4}$ " straight bit, setting it to cut 1" deep. Carefully rout around the perimeter to create the oval inlay. As before, switch to your $\frac{5}{16}$ " straight bit, and rout the oval to make a crisp, precise edge.

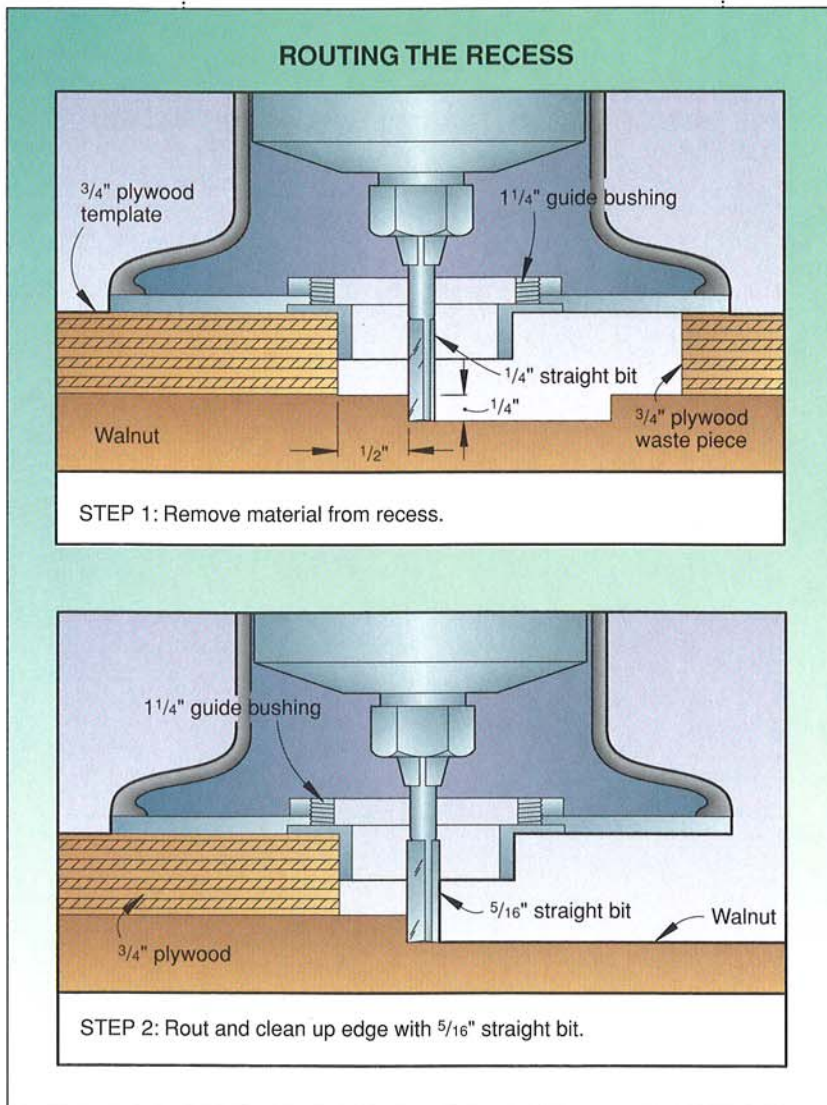
2 To prepare the oval inlay for insertion into the recess, sand a slight chamfer along the bottom edge of the inlay piece. To do this, fit your drill press with a 2"-diameter drum sander, and tilt the table about 10° as shown opposite page.

3 Test-fit the inlay piece, being careful not to let the inlay get stuck in its recess before you have a chance to apply glue. Sand if necessary, then apply a uniform layer of glue to both mating surfaces. Now, tap the inlay gently into place using a mallet and a piece of pine or other soft scrap-wood. After the glue has dried completely, sand the inlay flush with the walnut stock.

Cut Out, Carve, and Finish Your Flounder

1 Copy and cut-out the Full-Sized Flounder pattern shown on the pattern insert. Center the oval on the pattern over the inlay, and adhere the pattern to your stock. Next, bandsaw the flounder to shape, keeping your blade just outside the line. Now, drum-sand to the line, then remove the pattern.

2 Fit your table-mounted router with a $\frac{1}{4}$ " keyhole-slotting bit, and rout the back face where shown on the pattern. Next, switch to a $\frac{1}{2}$ " round-over bit, and rout the top edge of the flounder all the way around. If desired, flatten the round-over, using the sectional profiles shown with the pattern as a guide. Now, sand the rounded edges. (We used a contour or "flap" sander on our drill press, but you can also block-sand. For an even more tapered edge that's truer to life, we gently sanded the edges of the fish with a stationary



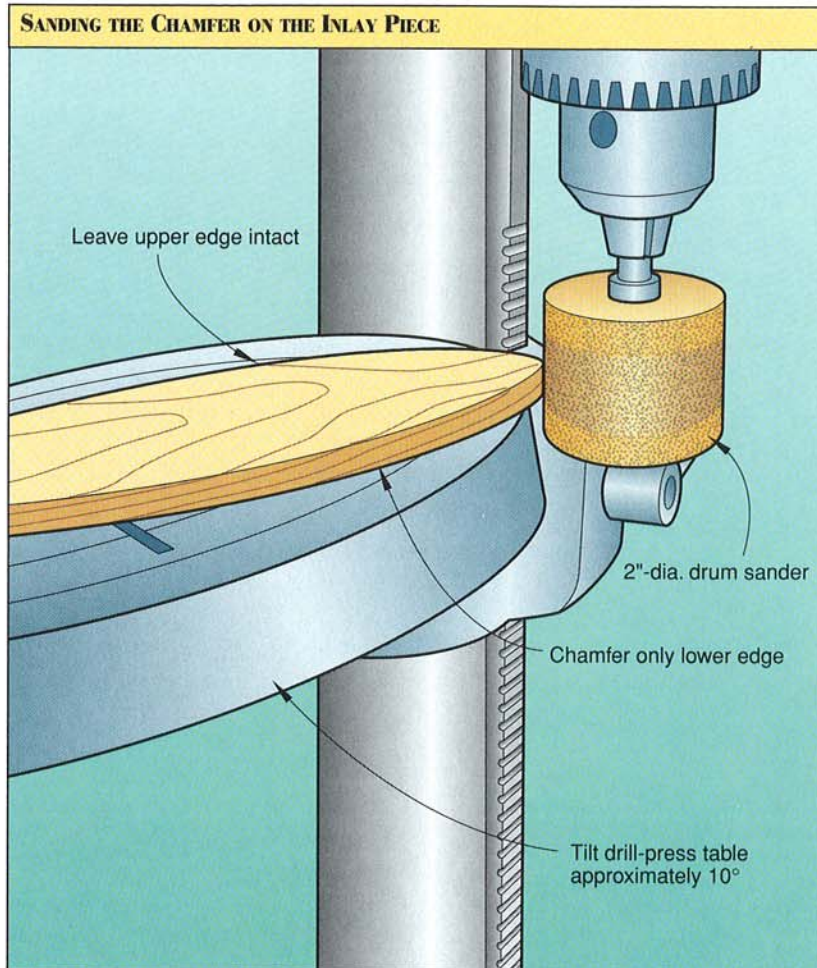
belt/disc sander, rocking it on its top edge as we removed material. This approach requires a lot of care and checking.)

3 Using the Flounder pattern as a guide, pencil in the mouth and gill slits on the workpiece. Next, using a straight-edged carving knife, carve the mouth and gill slits to shape by first making $\frac{1}{8}$ "-deep stop cuts. (A *stop cut* is an incision, usually at 90° to the work surface, made along a pattern line. It allows you to carve to the line without chipping out wood beyond it.) As you move the blade toward the curved edge of the workpiece, allow it to cut to $\frac{3}{16}$ " deep. Next, remove the waste wood behind the cut by slicing up to the stop cut using a gouge, chisel, or your carving knife. Continue refining the gills and protruding mouth using files and sandpaper. Make the surfaces as smooth and blemish free as possible.

4 Lay out the fin cutlines along the edges and tail fin. Next, carve out the fin cutlines, working your way around the fish. (We used a 1-mm no. 12 V-tool. A woodburning tool would work well here, too, and would speed up the detail work a great deal.) These grooves should reach $\frac{1}{16}$ " deep so that they stand out in the finished piece.

5 Lay out the eye-hole centerpoints where shown on the pattern. Next, drill a pair of $\frac{3}{8}$ " holes $\frac{1}{2}$ " deep. (We used a brad-point bit on our drill press.)

6 To make the eyes, first drill two $\frac{3}{16}$ " holes $\frac{1}{2}$ " deep in the 2"-wide piece of leftover $\frac{3}{4}$ "-thick maple stock. (See the Eye Detail accompanying the Exploded View drawing.) Next, cut $\frac{5}{8}$ " lengths of $\frac{3}{16}$ " walnut dowel stock, and glue these into the holes. (See Tip no. 2 *right*.) After the glue dries, sand the dowels flush with the maple. Using a $\frac{3}{8}$ " plug cutter in your drill press, cut $\frac{5}{8}$ "-long plugs centered over the dowels. Then, resaw the $\frac{3}{4}$ "-



thick maple stock to $\frac{5}{8}$ " to free the plugs. Sand a slight round-over on the top ends of the plugs, then glue them into the holes, leaving about $\frac{1}{16}$ " of protruding stock.

7 Finish-sand all surfaces of the cutting board. (We used our random-orbit palm sander with 220-grit sandpaper for the flat surfaces. On the contoured areas, we hand-sanded and used our flap sander.) Now, apply several coats of salad-bowl finish. (We applied five coats total, allowing each to dry. After the final coat, we wiped the board completely dry. To order a salad-bowl finish, see our Buying Guide.) Once the finish has dried, apply four self-sticking rubber feet. (You can purchase these at a home center or hardware store).

How To Care For Your Cutting Board

To keep your cutting board clean, wash it with a soapy washcloth, then rinse and towel it dry after each use. (Never soak it in dishwasher or place in a dishwasher.) Re-oil occasionally. ■

TIP no. 2—Since dowel diameters vary these days, we suggest that you check the actual diameter of your dowel stock before drilling and adjust the bit size accordingly. As an alternative, you can cut $\frac{3}{16}$ " plugs from leftover walnut stock. We recommend cutting plugs from the end grain because it absorbs more of the oil finish and thus affords more contrast with the surrounding maple stock.

Project design: Jim Harrold
Illustrations: Roxanne LeMoine
Project Builder: Chuck Hedlund
Photograph: Perry Struse



Open House

Reader Jim Christian of Vancouver, Washington, designed this dollhouse strictly for kids. The open sides and front make it easy for little arms and fingers to do some all-important interior decorating. If you like the quaint, old-fashioned furniture we used as props in the photograph, see our Buying Guide on page 17 to order the full-sized plans.

BILL OF MATERIALS

Part	Finished Size			Matl.	Qty.
	T	W	L		
A back wall	1/2"	22"	21"	BP	1
B floors	1/2"	12"	22"	BP	2
C front walls	1/2"	5 1/4"	18 7/8"	BP	2
D roof panels	1/2"	12 1/4"	12 1/2"	BP	2
E upper partition	1/2"	8"	10 7/8"	BP	1
F lower partition	1/2"	8"	9"	BP	1
G* window rails	1/8"	5/8"	2 1/4"	M	12
H* 2nd-story stiles	1/8"	5/8"	19 1/16"	M	8
I* 1st-story stiles	1/8"	5/8"	2 1/16"	M	8
J* 2nd-story shutters	1/8"	1"	3 1/2"	M	4
K* 1st-story shutters	1/8"	1"	4 1/2"	M	4
L chimney	3/4"	4"	23"	M	1

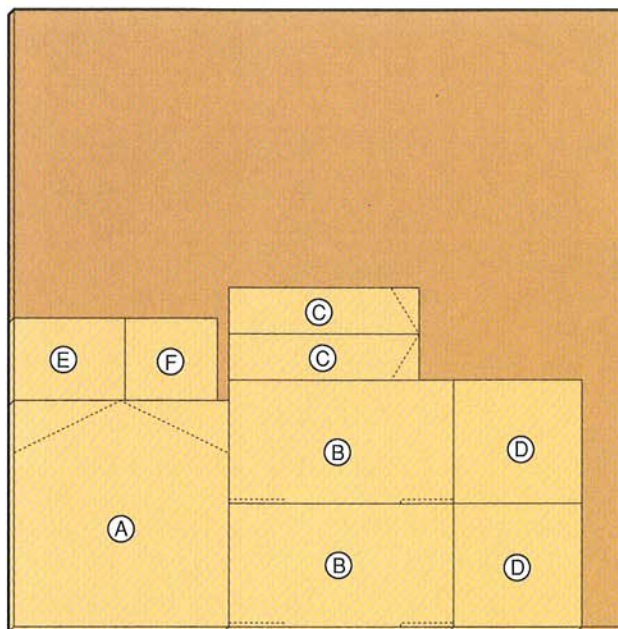
*Cut parts to final size during construction. Please read all instructions before cutting.

Materials Key: BP—birch plywood; M—maple.

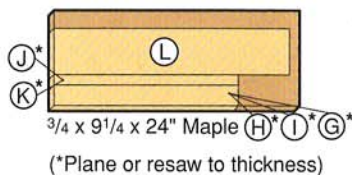
Supplies: 4d finish nails, masking tape, aerosol enamels, finish.

Buying Guide

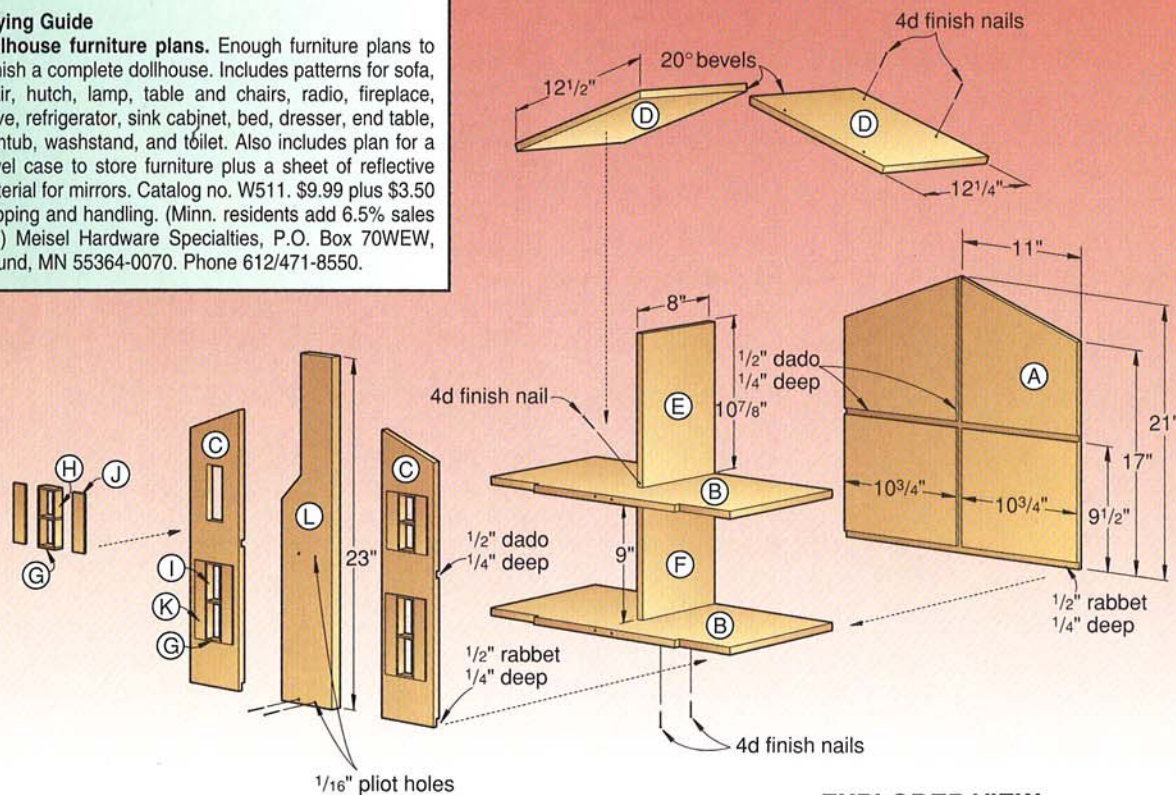
Dollhouse furniture plans. Enough furniture plans to furnish a complete dollhouse. Includes patterns for sofa, chair, hutch, lamp, table and chairs, radio, fireplace, stove, refrigerator, sink cabinet, bed, dresser, end table, bathtub, washstand, and toilet. Also includes plan for a travel case to store furniture plus a sheet of reflective material for mirrors. Catalog no. W511. \$9.99 plus \$3.50 shipping and handling. (Minn. residents add 6.5% sales tax.) Meisel Hardware Specialties, P.O. Box 70WEW, Mound, MN 55364-0070. Phone 612/471-8550.



1/2 x 60 x 60" Baltic Birch Plywood

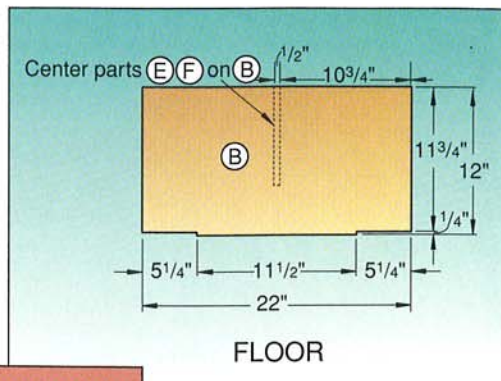


CUTTING DIAGRAM

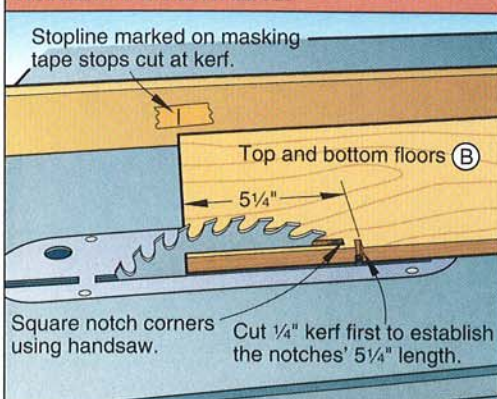


EXPLODED VIEW

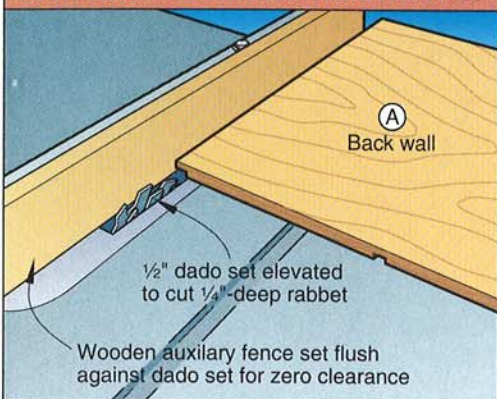
Open House



NOTCHING THE FLOOR EDGES



CUTTING RABBETS USING ZERO-CLEARANCE FENCE



First, Cut Out and Machine the Plywood Parts

1 From 1/2" material, cut the back wall (A), the two floors (B), and the two front walls (C) to the dimensions listed in the Bill of Materials for the dollhouse project. (We selected Baltic birch plywood, which comes in 60x60" sheets, because it accepts paint well.)

2 Lay out the roof angle on the top ends of the back and front walls (A and C). See the Exploded View and Front Wall drawings. Set your tablesaw miter gauge to 20° from square (rotated counterclockwise), and angle-cut these three parts.

3 Lay out 5 1/4"-long notches along the front edge of both floors (B) where shown on the Floor drawing above. Next, elevate your blade to 1/4", stand each floor on edge, and cut a kerf to establish the length of each notch. Then, set your rip fence to the width of the floor minus 1/4". Mark a stop line on the fence as shown above left to stop the cut at the 1/4"-deep kerf. Then, rip each notch to width, stopping the saw when the blade enters the 1/4"-deep kerf. Handsaw to finish.

4 Lay out and cut the dadoes and rabbets in the back and front walls (A, C). To do this, fit your tablesaw with a 1/2" dado set, and elevate it to 1/4". To cut the rabbets, attach a wooden auxiliary fence to your rip fence as shown above left, and set it for zero clearance (or no clearance between the dado set and the fence).

5 From your remaining plywood stock, cut the two roof panels (D) to 12 1/4 x 12 1/2" and the upper and lower partitions (E, F) to finished size. Next, tilt your tablesaw blade to 20° from vertical, then bevel-cut one end of each roof panel to 12 1/2" long. (For safer, cleaner bevel cuts, we set our rip fence on the side of the blade opposite its direction of tilt, then ran the pieces through.)

6 Lay out and cut the windows in both front walls (C) where shown and dimensioned on the Front Wall drawing at right. (We used our scrollsaw, although a portable jigsaw with a fine-tooth blade will work, too.) Now, finish-sand all plywood parts.

Next, Make the Window Frames, Shutters, and Chimney

1 To make window-frame stiles and rails (G, H, I), first resaw a 2x18" piece of 3/4"-thick stock to 5/8" thick. (We chose maple and used a pushstick for safety.) Next, rip four 1/8x5/8x18" strips from the edge of this piece. To do this, position the stock and set your rip fence to cut the first 1/8"-thick strip. Trace an indexing mark on your saw table opposite the fence along the edge of the stock, then cut the first strip. To cut the remaining strips, reposition your stock flush with the indexing mark, then reset your fence. Now, sand these strips smooth.

2 Measure the actual dimensions of your four window openings. Based on these dimensions, calculate the lengths of the window frame parts. (See the Window drawing opposite page.) Next, from your 1/8x5/8" strips, bandsaw 12 window rails (G), eight 2nd-story window stiles (H), and eight 1st-story window stiles (I) to fit your window openings. (Our parts measured 2 1/4", 1 1/16", and 2 1/16".)

3 Rip the remainder of your 2x18" piece of maple to 1x18". Resaw two 1/8x1x18" strips from the face of this piece, then sand them smooth. Next, bandsaw four 2nd-story shutters (J) to 3 1/2" long and four 1st-story shutters (K) to 4 1/2" long.

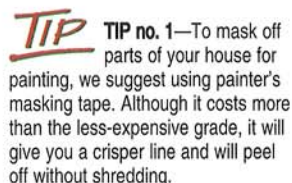
4 Finish-sand any window frame parts or shutters that still need it. Then, glue and clamp the window frames into their respective rough openings where shown on the Window drawing. (**Note:** The frames should protrude 1/8" beyond the front faces of the walls.) Remove any glue squeeze-out.

6 Rip and crosscut the chimney (L) to 4x23" from ¾"-thick stock. Then, lay out and bandsaw the angled notch where dimensioned on the Chimney drawing at *right*. Now, finish-sand the chimney.

1 Glue, clamp, and nail the house parts together, removing all glue squeeze-out as you go. (We used 4d finish nails where shown on the Exploded View drawing, drilling $\frac{1}{16}$ " pilot holes first.) To do this, start by attaching the lower floor (B) to the back wall (A). Allow the glue to dry, then add the lower partition (F) and upper floor (B). Now, add the upper partition (E). (We toenailed these in place where shown on the Exploded View drawing.)

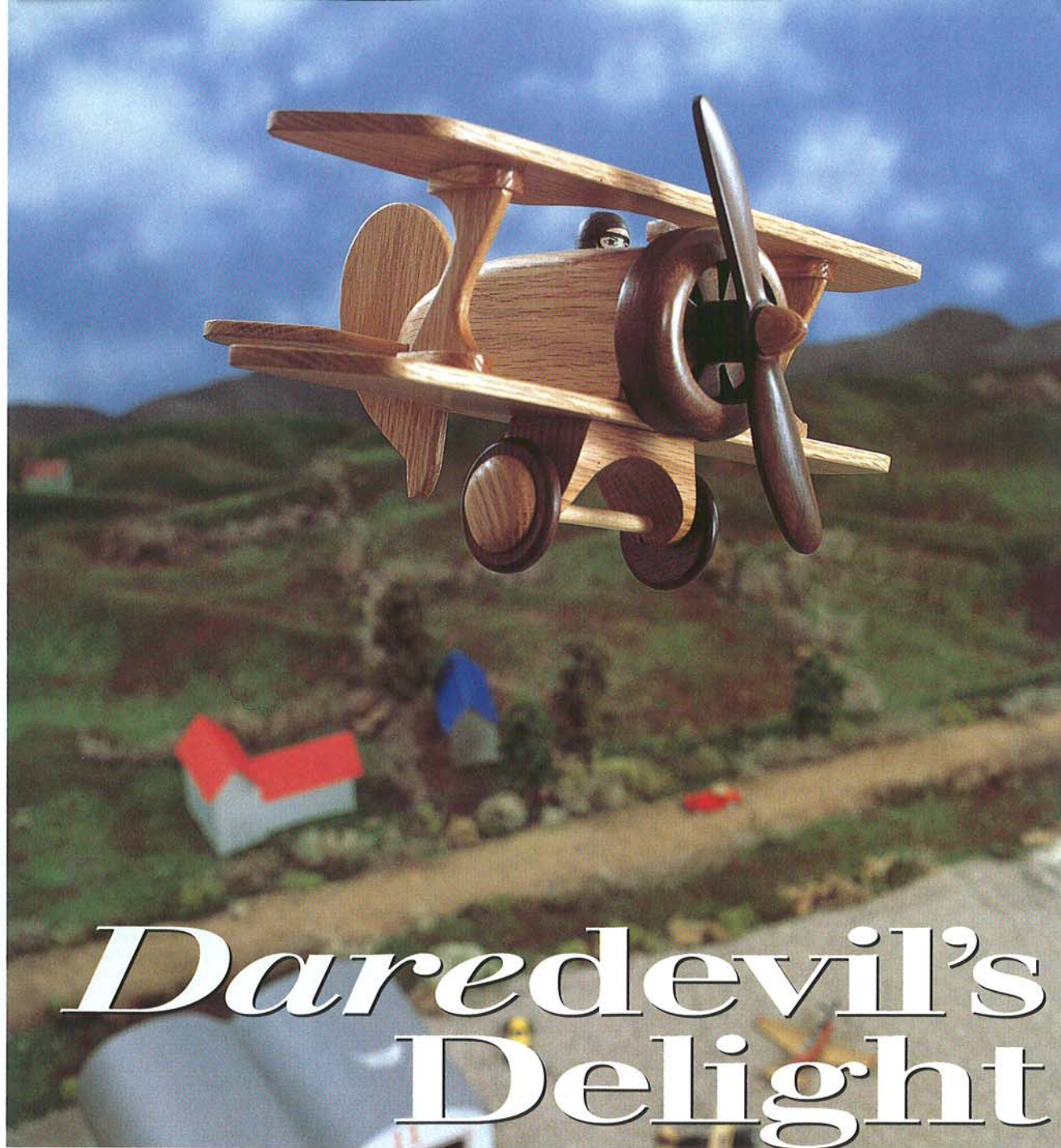
3 After the glue has dried, remove the clamps. Next, set all nails, and fill the holes. When the filler has dried, finish-sand any surfaces that still need it.

5 After all paint dries, decorate your dollhouse using wallpaper and floor coverings made especially for these. (We bought ours at a local crafts store and adhered them using 3M Spray Mount, a spray adhesive.) To order plans for furniture that is scaled to fit this house, see our Buying Guide on *page 17*. With everything in place, tie a big red bow around the dollhouse and give it to someone special. ■



Project design: Jim Christian, Vancouver, Wash.
Illustrations: Lorna Johnson, Troy Doolittle
Project builder: Chuck Hedlund
Photograph: Perry Struse





Daredevil's Delight

Kids will stand in line to test-fly this personality-plus biplane. Its cartoony appearance and stout construction allow for hours of aerial enjoyment, not to mention a few hairy touch-and-go landings. Oak and walnut provide just the right contrast throughout the design, and you'll find that our full-sized patterns remove the turbulence from your adventure in aircraft construction.

Laminate the Fuselage, and Machine It To Shape

1 To make the fuselage (A), cut three pieces of $\frac{3}{4}$ "-thick stock (we used oak) to $2\frac{1}{2}$ " wide by 6" long. Glue and clamp the three pieces face-to-face, with the edges and ends flush. Later, scrape the dried glue off one edge and sand that edge flat. Now, rip the opposite edge for a $2\frac{1}{4}$ " finished width.

2 Trim both ends of the fuselage lamination (A) for a $5\frac{1}{2}$ " finished length. (We used a miter-gauge extension for support.)

Continued

BILL OF MATERIALS

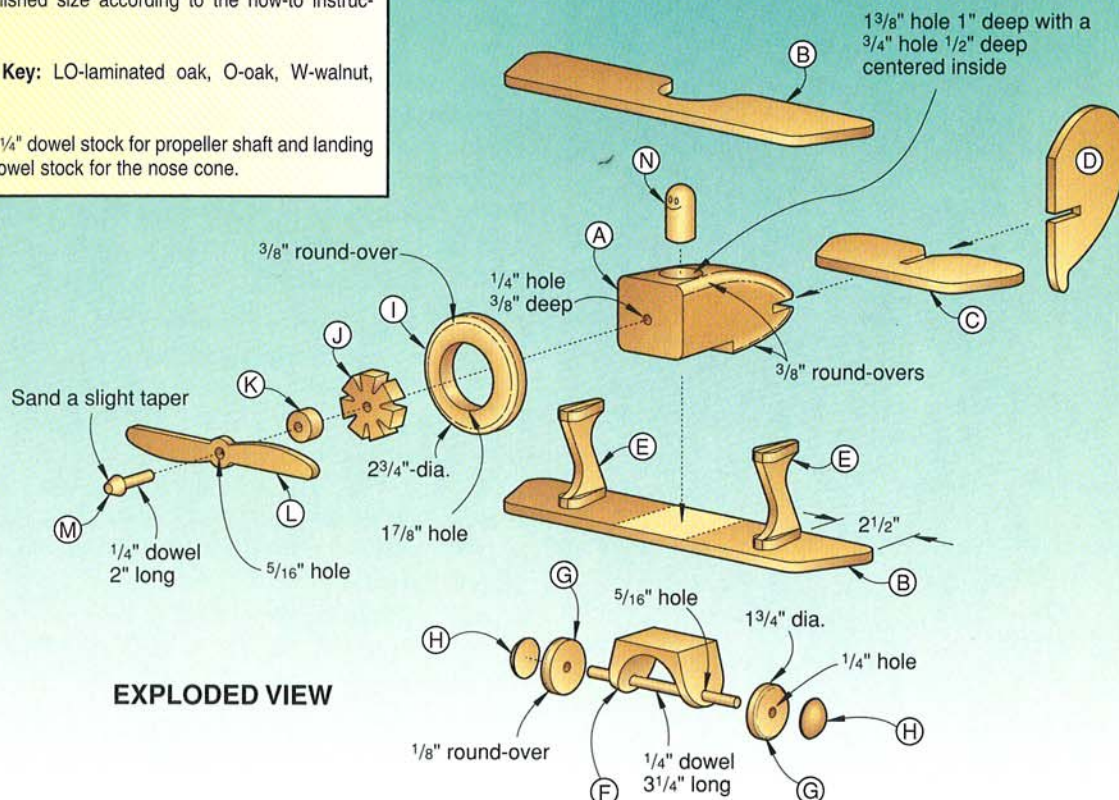
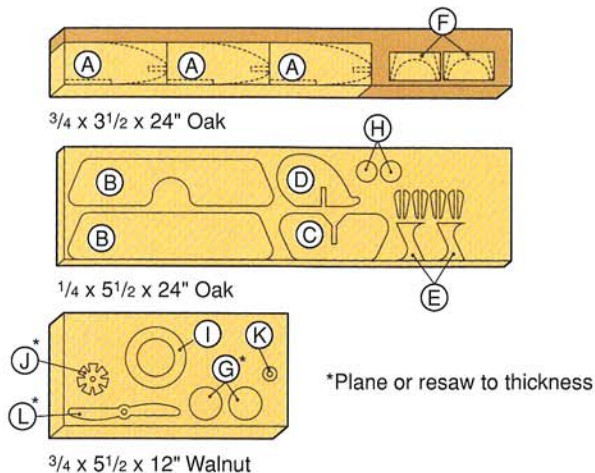
Part	Finished Size			Mtl.	Qty.
	T	W	L		
A* fuselage	2 1/4"	2 1/4"	5 1/2"	LO	1
B wings	1/4"	2 1/2"	11"	O	2
C elevator	1/4"	2 1/2"	5 7/8"	O	1
D rudder	1/4"	2 3/4"	4 1/4"	O	1
E struts	1/4"	1 1/2"	2 1/2"	O	2
F* landing gear	1 1/2"	1 1/2"	2 3/4"	LO	1
G wheels	1/4"	1 3/4" dia.		W	2
H wheel covers	1/4"	1 1/8" dia.		O	2
I cowling	3/4"	2 3/4" dia.		W	1
J engine	1/2"	1 3/4" dia.		W	1
K engine cover	1/2"	3/4" dia.		W	1
L* propeller	1/4"	3/4"	6"	W	1
M nose cone	1/2"	5/8" dia.		O	1
N* pilot	3/4" dia.		2 1/8"	M	1

*Initially cut parts marked with an * oversized. Then, trim each to finished size according to the how-to instructions.

Materials Key: LO-laminated oak, O-oak, W-walnut, M-maple.

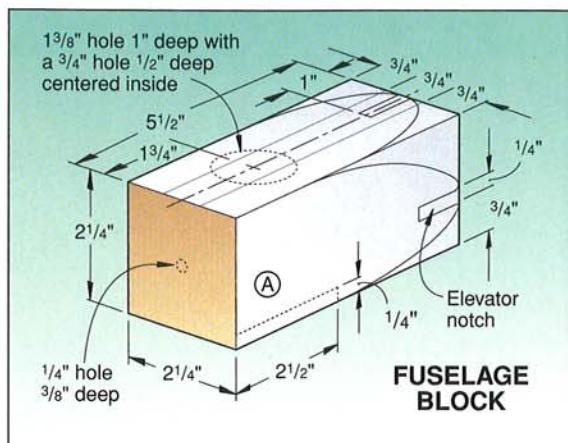
Supplies: 1/4" dowel stock for propeller shaft and landing gear; 5/8" dowel stock for the nose cone.

CUTTING DIAGRAM



EXPLODED VIEW

Daredevil's Delight



3 Adhere a photocopy of the full-sized fuselage Top and Side View patterns to the fuselage lamination, using spray adhesive. See the pattern insert. (You could also transfer the marks to the lamination with carbon paper.)

4 Using a Forstner or spade bit, drill a 1 3/8" hole 1" deep in the top edge of the fuselage for the cockpit. Switch bits, and drill a 3/4" hole 1/2" deep centered inside the 1 3/8" hole. Now, drill a 1/4" hole 3/8" deep centered in the front end of the fuselage.

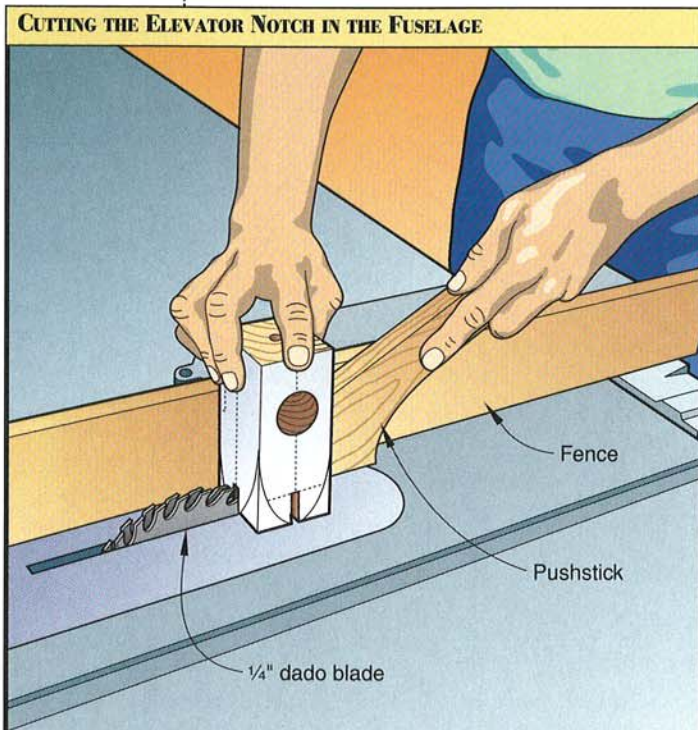
5 Fasten a miter-gauge extension to your miter gauge, and mount a 1/4" dado blade to

your tablesaw. Using your miter-gauge extension for support, cut a 2 1/2" rabbet 1/4" deep across the bottom edge of the fuselage for the lower wing.

6 Remove the miter gauge and switch to a 1/4" dado blade. Raise the blade 1" above the table surface. Now, adjust the fence and blade according to the elevator notch location on the pattern. With the fuselage blank standing on end, use a wide pushstick to cut the elevator notch as shown *bottom left*. Adjust the fence and cut the rudder notch the same way.

7 Tape a scrap piece of 1/4"-thick stock in the lower-wing rabbet to hold the piece level. Then, bandsaw the fuselage tail section to shape. To do this, cut along the Top View pattern lines first, adhere the waste pieces to the fuselage with double-faced tape, and then bandsaw along the Side View pattern lines. Remove the waste pieces, and sand the fuselage smooth.

8 Rout 3/8" round-overs along the edges of the fuselage where shown in the Exploded View drawing. When routing, position the pilot of the router bit to guide along the surface adjacent to the cockpit hole. Otherwise, if you run along the same surface, the bit's pilot will hit the cockpit hole and rout unevenly. Remove the scrap spacer from the lower-wing rabbet.



Transfer the Patterns, and Cut More Parts To Shape

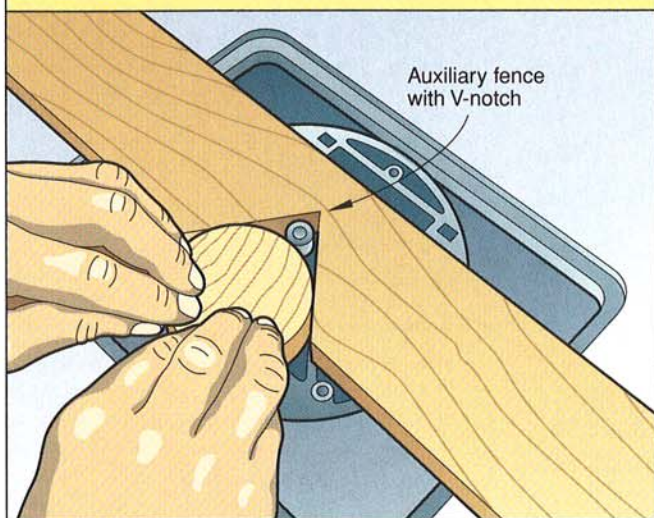
1 Transfer the full-sized patterns for the upper and lower wings (B), elevator (C), rudder (D), and struts (E) to 1/4" stock. (You'll find these patterns in the pattern insert in the center of the magazine.) Using a bandsaw or a scroll-saw, cut the pieces. Note that the upper and lower wings are the same size and shape except for the cockpit cut-out in the upper wing.

2 Cut the eight wedge-shaped pieces for the strut's, top and bottom. Glue two pieces to the top and bottom of each strut to complete the making of the two (E) parts.

3 To form the landing gear (F), first laminate two 3/4x1 1/2x3" pieces together. Next, from this lamination, cut a piece that measures 2 3/4" long. Now, adhere the full-sized Front View and Side patterns to this landing-gear blank. Drill a 5/16" hole through the blank. Cut the end and front view patterns to shape.

4 Using a circle cutter in your drill press, or your bandsaw or scrollsaw, cut the 1 3/4"-diameter wheels (G) to shape from 1/4" walnut stock. If you cut the wheels to shape with a bandsaw or scrollsaw, you'll need to drill a 1/4" hole centered in each. If you use a circle cutter, the 1/4" pilot bit will form the hole. Now, sand a 1/8" round-over along the outside edges of both wheels. To do this, see the Tip on sanding consistent round-overs located on this page at *far right*. It's one you'll be able to use in numerous other woodworking applications.

ROUTING THE COWLING USING A V-NOTCH FENCE



5 Cut the wheel covers (H) to shape from 1/4" stock. Sand the wheel covers to the shape shown on the Parts View pattern.

6 Center and glue a wheel cover (H) on each wheel (G).

Make a Mighty Engine

1 Mark the inside and outside diameter for the cowling (I) on a piece of 3/4"-thick walnut. (See the Exploded View drawing.) Cut the outside diameter to shape, and then rout a 3/8" round-over along the outside edge. To do this safely, we used a table-mounted router and an auxiliary fence with a V-notch cut in it as shown *above*. Cut the inside diameter.

2 Transfer the full-sized engine pattern (J) onto 1/2" stock, and cut the engine to shape.

3 Use a compass to scribe a 3/4"-diameter circle on a piece of 1/2" stock for the engine cover (K). Drill a 1/4" hole in the center of the

marked circle, and then bandsaw or scrollsaw the engine cover to shape.

4 Transfer the full-sized propeller pattern (L) to 1/4" walnut stock. Drill the 5/16" hole in the center of the propeller, and then cut the propeller to shape. Sand opposite edges on each propeller edge for a more authentic look.

5 Cut a 1/4" dowel to 2" long for the propeller shaft. Then, cut a piece of 5/8" dowel stock to 1/2" long for the nose cone (M). Use a handscrew clamp to hold the 5/8" dowel piece steady, and drill a 1/4" hole 1/4" deep centered in one end of it. Glue the 1/4" dowel into the hole in the 5/8"-dowel nose cone. Using the 1/4" piece of dowel as a handle, sand the nose cone to the shape shown in the pattern insert.

6 To make the pilot, use a toy person or a 2 1/8" length of 3/4" dowel, with one end sanded to the dome shape shown in the pattern insert. Using acrylic paints or felt markers, draw a face and helmet on the pilot (again, refer to the pattern insert).

Now, For the Final Assembly

1 Glue the lower wing (B) to the fuselage (A). Then, glue the struts (E) and top wing (B) in place. Center and glue the landing gear (F) to the bottom surface of the lower wing.

2 Center and glue the engine to the front of the fuselage, aligning the 1/4" hole in the engine with the one in the fuselage. Next, glue the cowling (I) in place around the engine. Now, insert the propeller shaft and attached nose cone through the propeller, and glue the end of the propeller shaft into the airplane body. Leave just enough of a gap for the propeller to spin freely.

3 Glue the rudder and elevator to the airplane's chubby fuselage.

4 Glue one end of the landing gear axle dowel into one of the wheels. Slide the dowel through the landing gear and glue the other wheel in place. Finally, glue the pilot in the cockpit, and apply a clear finish (we used Deft aerosol lacquer). ■

TIP To sand consistent round-overs on wheels, run a bolt the same diameter as the axle hole through a washer and the wheel's axle hole. Slide on another washer and tighten the assembly with a nut. Now, chuck the bolt in your drill press and sand the edges of the wheels with a sanding block.

Project Design: Richard Gard
Illustrations: Roxanne LeMoine,
Troy Doolittle
Photograph: King Au



Laminated *Bud Vase*

If you like the kind of woodworking project that teaches a technique, you've come to the right place. While building the eye-catching bud vase shown here, you'll learn how to laminate contrasting woods for an exciting visual impact. For the waterproof container within the vase, we used a piece of copper pipe and cap. Later, try these techniques on a creative design of your own.

Form the Core Of the Vase

1 Using tubing cutter, a hacksaw, or a band-saw fitted with a metal-cutting blade, cut a length of $\frac{3}{4}$ " I.D. (inside diameter) copper pipe to $7\frac{3}{4}$ " long. Solder or epoxy a $\frac{3}{4}$ " copper cap onto one end. Later, fill the capped pipe with water to check for leaks.

2 To make the core base (A) and the core top (B), first laminate two $1\frac{1}{2} \times 6$ " long pieces of $\frac{3}{4}$ " oak face-to-face. Rip the resulting block to $1\frac{3}{8}$ " square. Then, cut the base to $2\frac{1}{2}$ " long and the top to 2" long.

3 Draw diagonals to find the center of each block, and drill a 1" hole $1\frac{5}{8}$ " deep at this location in the core base. Drill a $\frac{7}{8}$ " hole through the center of the core top.

4 With the ends of the core top and the top end of the copper tube flush, use epoxy or gap-filling instant glue to adhere the core top to the top end (opposite the capped end) of the copper tube.

5 Coat the walls of the hole in the core base with panel adhesive or caulk. Slide the capped end of the copper pipe into the hole. Place the assembly on your tablesaw fence or some other straight edge to align the outside faces of the core top and base. Use a square to check that the blocks are square to the tube as shown in the Aligning the Core Top and Base Blocks drawing.

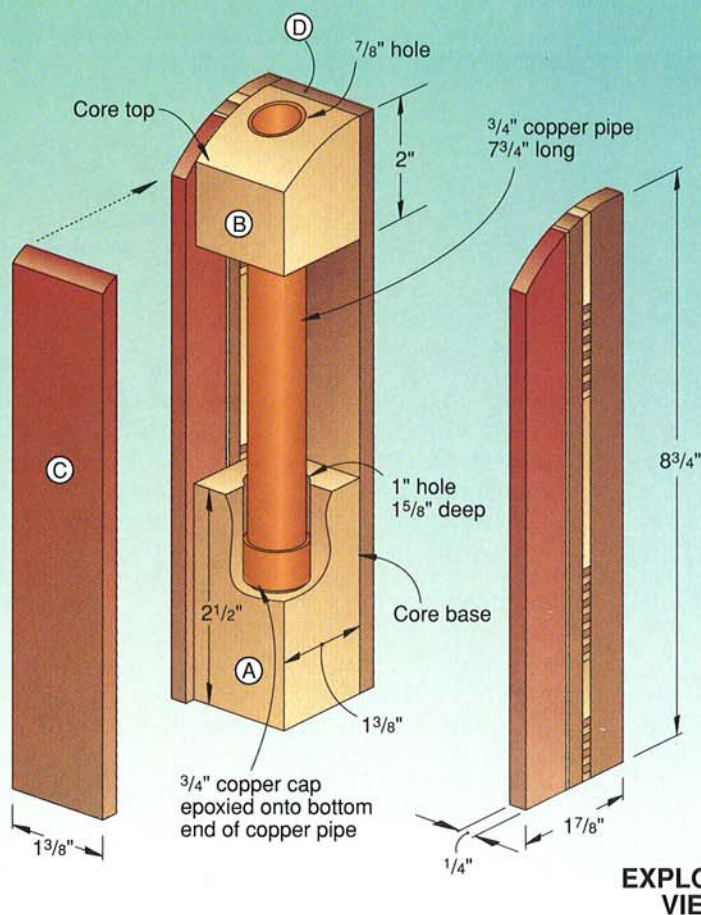
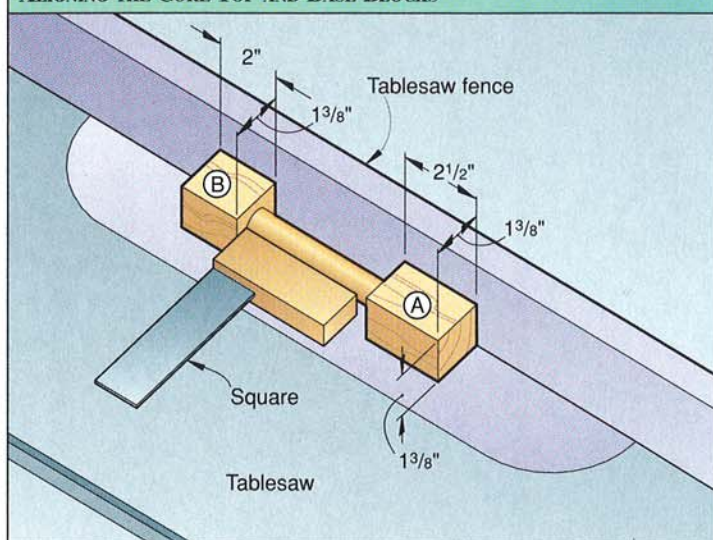
6 From $\frac{1}{4}$ " stock (we planed thicker stock to this thickness), cut the nonlaminated front (C) and the back (D) to size. (We cut one piece from cardinal wood and the other from wenge. See the Buying Guide for our source of hardwoods.) Keeping the edges and ends of each piece flush with the core top and base (check with a square), glue and clamp the front and back pieces to the vase core assembly (containing the copper pipe and cap).

Here's How To Laminate the Decorative Sides

1 Start with six pieces of maple measuring $\frac{1}{8} \times 2 \times 12\frac{1}{4}$ " for the light side strips (E) and six pieces of walnut the same size for the dark side strips (F). (Using a tablesaw, we resawed the thin strips from thicker stock. And, although we used walnut and maple, any contrasting woods, including exotic hardwoods, will work.)

Continued

ALIGNING THE CORE TOP AND BASE BLOCKS



EXPLODED VIEW

BILL OF MATERIALS

Part	Initial Size			Mati.	Qty.
	T	W	L		
A core base	1 3/8"	1 3/8"	2 1/2"	LO	1
B core top	1 3/8"	1 3/8"	2"	LO	1
C front	1/4"	1 3/8"	8 3/4"	C	1
D back	1/4"	1 3/8"	8 3/4"	WE	1
E	1/8"	2"	12 1/4"	M	6
F	1/8"	2"	12 1/4"	WA	6
G	1/8"	1 1/2"	3/4"	L	2
H	1/8"	1"	3/4"	L	1
I	3/4"	9/16"	8 3/4"	WE	1
J	1/8"	3/4"	7/8"	M	1
K	1/8"	3/4"	2 1/2"	M	1
L	1/8"	3/4"	1 3/8"	M	1
M	3/4"	7/8"	8 3/4"	C	1
N	3/4"	1/16"	8 3/4"	M	1
O	3/4"	1/4"	8 3/4"	WE	1

Materials Key: LO—laminated oak, C—cardinal wood, WE—wenge, M—maple, WA—walnut, L—lamination

Supplies: 3/4" I.D. (inside diameter) copper pipe 7 3/4" long, 3/4" copper cap, epoxy or instant glue, panel adhesive or caulk, clear finish.

Buying Guide

Wood kit. Enough oak, walnut, maple, wenge, cardinal wood, and copper pipe with cap for one vase. Kit no. WP11941, \$15.95 ppd. Five vases, kit no. WP11945, \$39.95 ppd. Heritage Building Specialties, 205 North Cascade, Fergus Falls, MN 56537 or call 1-800-524-4184 to order.



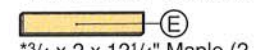
3/4 x 3 1/2 x 12" Oak



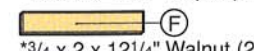
*3/4 x 3 1/2 x 24" Wenge



*3/4 x 3 1/2 x 24" Cardinal wood



*3/4 x 2 x 12 1/4" Maple (2 pieces)



*3/4 x 2 x 12 1/4" Walnut (2 pieces)



*3/4 x 3 1/2 x 24" Maple

(*Plane or resaw to thickness)

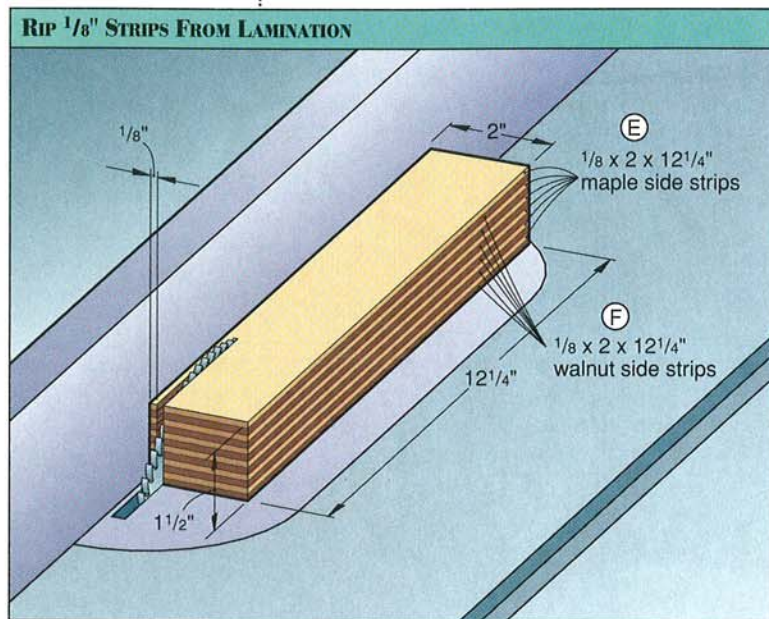
CUTTING DIAGRAM

Laminated *Bud Vase*

2 Spread even coats of glue, and clamp the thin maple and walnut pieces face-to-face for an alternating light/dark look, keeping the edges and ends flush. Let the glue dry.

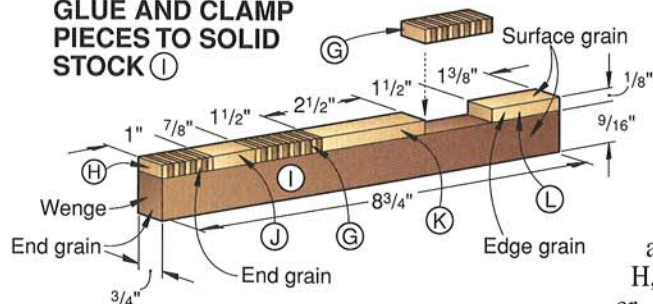
3 Scrape one edge (not face) of the lamination to remove the glue squeeze-out, and then plane or joint that edge flat.

4 Using your tablesaw, saw a $\frac{1}{8}$ "-thick by $12\frac{1}{4}$ " strip from the laminated block as shown below. (Saw more strips if you plan to make several vases—up to six.)

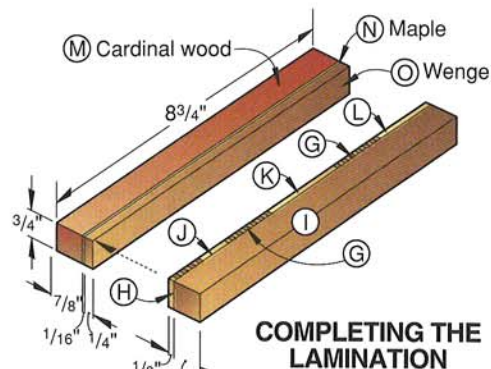


5 Now, crosscut three $\frac{3}{4}$ "-long sections from the laminated strip you just cut. Using your bandsaw, cut along the joint line of one of the three sections to create a 1"-wide section. We'll call the two wider side laminations G, and the remaining 1"-wide lamination H. (See the drawing below for reference and to later help you join all the pieces together.)

GLUE AND CLAMP PIECES TO SOLID STOCK (I)



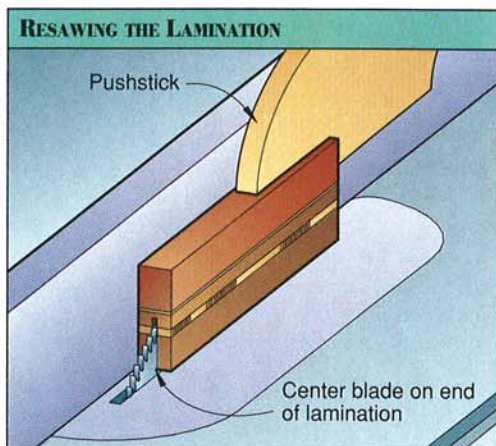
6 Cut a piece of wenge (I) to $\frac{3}{4} \times \frac{9}{16} \times 8\frac{3}{4}$ ". Then, cut three pieces of $\frac{1}{8}$ "-thick maple to the sizes shown at left and in the Bill of Materials for parts (J,K,L). Glue and clamp pieces G, H, I, J, K, and L together (we used spring



clamps and made sure that all joints were tight). Later, remove the clamps and lightly sand the laminated edges flat.

7 Cut to size the remaining pieces (M, N, O) using cardinal wood, maple, and wenge. Then, glue and clamp them to the other pieces where shown in the drawing above.

8 Resaw the lamination in half as shown in the illustration below.

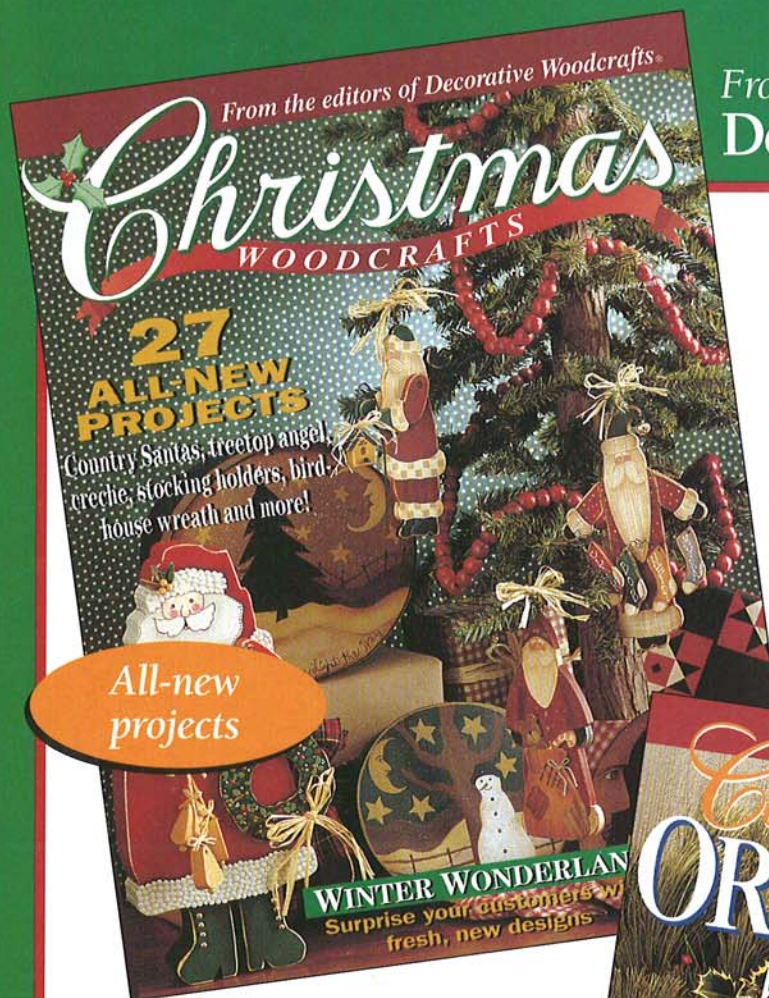


9 Glue these two laminated strips to the vase assembly. Using a stationary belt/disc sander, sand the four faces smooth and to the same thickness. Be careful not to round over the corners.

Finishing Up

1 Using a bandsaw fitted with a $\frac{1}{8}$ " blade, a hacksaw, or your belt or stationary belt/disc sander, contour the top end of the vase.

2 Finish-sand the vase, and add a couple coats of satin polyurethane. Later, fill the copper pipe about half-full of water, insert the flower of your choice, and give it to someone special to cherish always. ■



From the editors of
Decorative Woodcrafts®

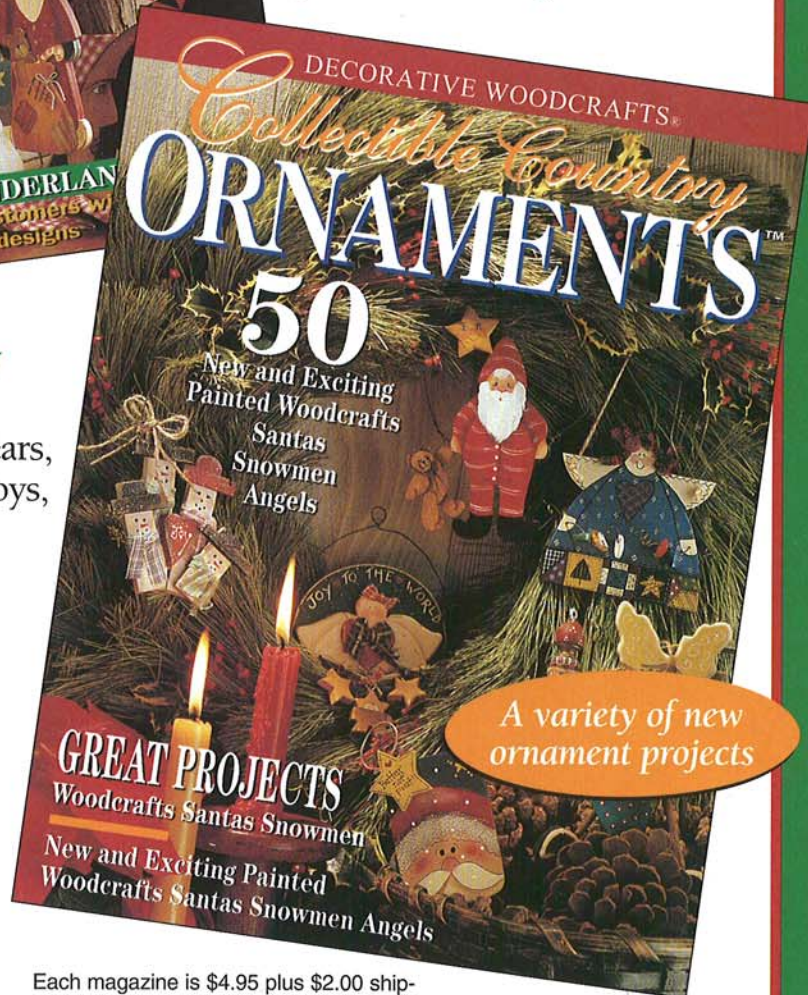
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Deck-the-walls Holiday Tree

This season, celebrate Christmas with a different kind of evergreen—one made from hardwoods! Our stylized tree brings together walnut, mahogany, and maple in one, attractive, unified design. Have a bare wall that could use a little perking up? Then try this decoration out for size. Enlarge or downsize our patterns to suit your special needs. For added beauty, consider hanging small ornaments from the boughs.

Make Your Tree One Bough at a Time

Note: We used 5/4 (five-quarter or 1 1/16") stock for this project. You can also go with 3/4", provided that you downsize the dowel rod for the trunk to 1/2". For best results, ensure that the wood you work with lies flat.

1 Photocopy the parts for the full-sized Holiday Tree pattern found on the pattern insert. (We found that copies made on 11x17" paper work best for the larger parts.) Trim off the waste around the patterns with scissors.

2 Stick the bough patterns to your wood (we used genuine Honduras mahogany) with spray adhesive.

3 Using either a 1/8" or 1/4" blade in your band-saw, saw the boughs to shape, cutting just outside the cutlines. Now, sand to the cutlines using disc and drum sanders to eliminate saw marks and achieve the final shape. As you complete the pieces, lay and dry-fit them on a flat surface. Make alignment marks across each bough joint for easier orientation when realigning and gluing the bough parts later.

4 Transfer the location of the 3/4" hole to the bottom edge of the lowest bough where shown on the pattern. Center the hole from edge to edge. Secure the lowest bough in your bench vise, and use a brad-point bit to bore the 3/4" hole for the tree's dowel-rod trunk.

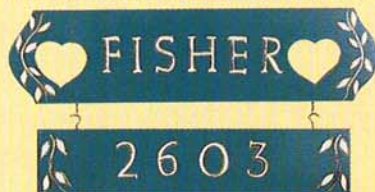
5 Trim a length of walnut dowel for the trunk to the size shown in the Exploded View drawing. Check the dowel's fit in the hole that you drilled in the previous step.

6 Adhere the pot base and rim paper patterns to a 5 1/2 x 12" piece of 5/4 stock; adhere the pot interior patterns to 3/4" scrap stock (we used walnut). Bandsaw the pieces to shape.

7 Temporarily join the pot base and rim piece together using double-faced tape. Now, place these pieces in the vise, and locate and bore the hole for the dowel-rod trunk. Separate the pieces.

8 Apply the star pattern to a 5/4 scrap piece of contrasting wood (we used maple), and cut it to shape. Sand smooth. (We folded sandpaper around a wood strip to sand the edges.) Remove all patterns with acetone or lacquer thinner.

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Deck-the-halls Holiday Tree

Assemble the Parts, and Finish the Tree

Note: To allow time to fit the bough pieces for the most pleasing look, we used slow-set epoxy.

1 Place waxed paper onto a flat piece of $\frac{3}{4}$ " plywood that's large enough to hold the entire tree.

2 Now, mix slow-set epoxy glue and, starting with the star and the

GLUING, TAPING, AND NAILING TREE PARTS TOGETHER



CUTTING DIAGRAM



$1\frac{1}{16}$ x $7\frac{1}{4}$ x 36" Mahogany

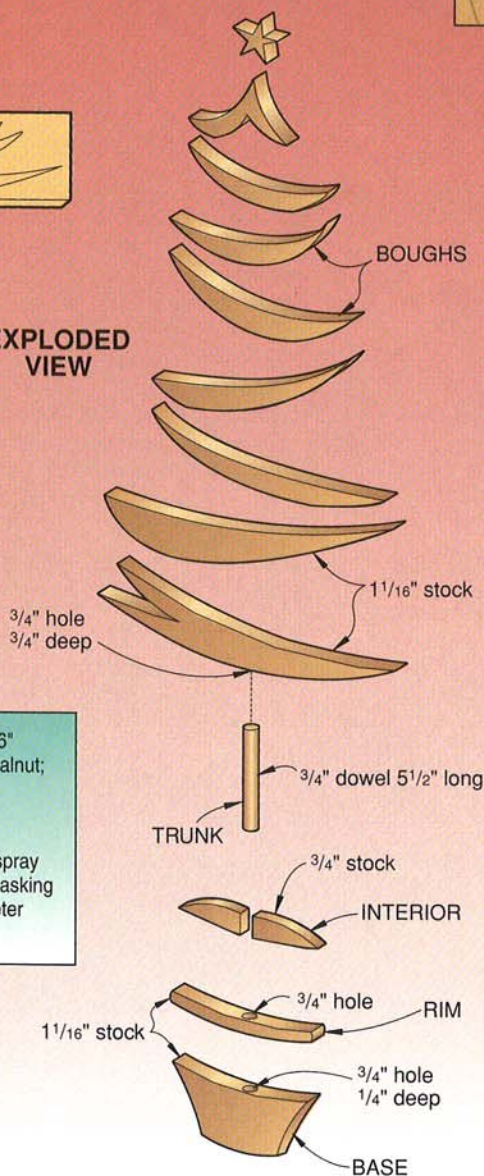


$1\frac{1}{16}$ x $5\frac{1}{2}$ x 12" Walnut



$\frac{3}{4}$ x $1\frac{1}{2}$ x 12" Walnut

EXPLODED VIEW



Stock required: $1\frac{1}{16}$ x $7\frac{1}{4}$ x36" mahogany; $1\frac{1}{16}$ x $5\frac{1}{2}$ x12" walnut; $1\frac{1}{16}$ "-thick scrap maple; $\frac{3}{4}$ x $1\frac{1}{2}$ x12" walnut.

Supplies: Slow-set epoxy, spray adhesive, 4d finish nails, masking tape, clear finish, $\frac{3}{4}$ "-diameter walnut dowel rod.

Project design: Jim Boelling
Illustrations: Roxanne LeMoine, Troy Doolittle
Project builder: Jim Boelling
Photograph: King Au

uppermost bough, coat the mating surfaces, pressing them together. Temporarily clamp the pieces with masking tape, and drive 4d finish nails into the surrounding plywood to keep the parts in place as shown *above*. Repeat this process with the remaining boughs. (Remove excess epoxy with a rag dampened in acetone.)

3 Glue the pot rim and base pieces together, aligning the holes. Glue and insert the trunk dowel into the pot. Now, glue the pot interior pieces, one on each side of the trunk.

4 Carefully epoxy and fit the pot assembly into the hole in the lowest bough, again securing these parts with 4d finish nails as you did with the rest of the tree. Once the epoxy cures, remove the assembled tree from the plywood, and sand both the front and back, starting with 80-grit sandpaper.

5 Accent the joint lines of the boughs, star, and base/rim using a hobby or utility knife. Cut first with the blade angled 15° from vertical to the left; then, cut with the blade 15° to the right. Clean and smooth the resulting V-shaped grooves using folded sandpaper. Sand slight round-overs on all top edges of the tree.

6 Finish the tree. (We applied three coats of clear aerosol lacquer to both sides of the project.) To hang ornaments from the tree, cut small, shallow kerfs on the ends of the boughs to accept strings tied to the ornaments.

7 Hang the tree by the V-notch in the top bough and on a finish nail driven into a wall stud. Adjust the tree until it hangs straight, and keep it there with a loop of masking tape (sticky side out) placed behind the base. ■



In a durability test, the competitor's hammer lasted 60 seconds. If you happen to need one for longer than that, buy a Stanley hammer.

This picture tells the story better than any words can. In our overstrike tests, the Stanley hammer outlasted the competitor's brand by a 4 to 1 ratio.*

You see, after years of research (and a whole lot of sleepless nights) our engineering department concluded that jacketed, solid-core fiberglass is more durable than the compression-

molded variety some of our competitors use to make their hammers.

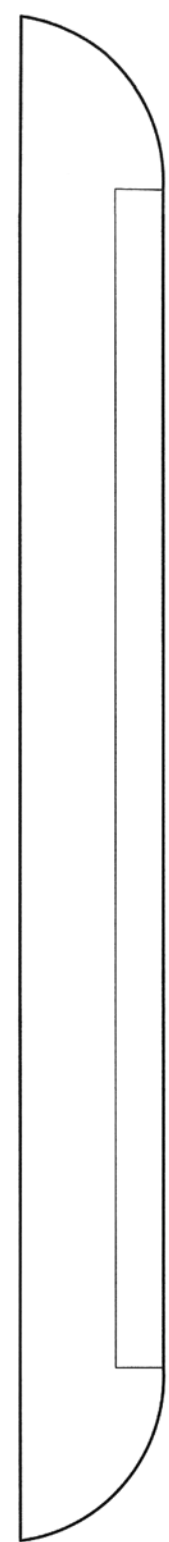
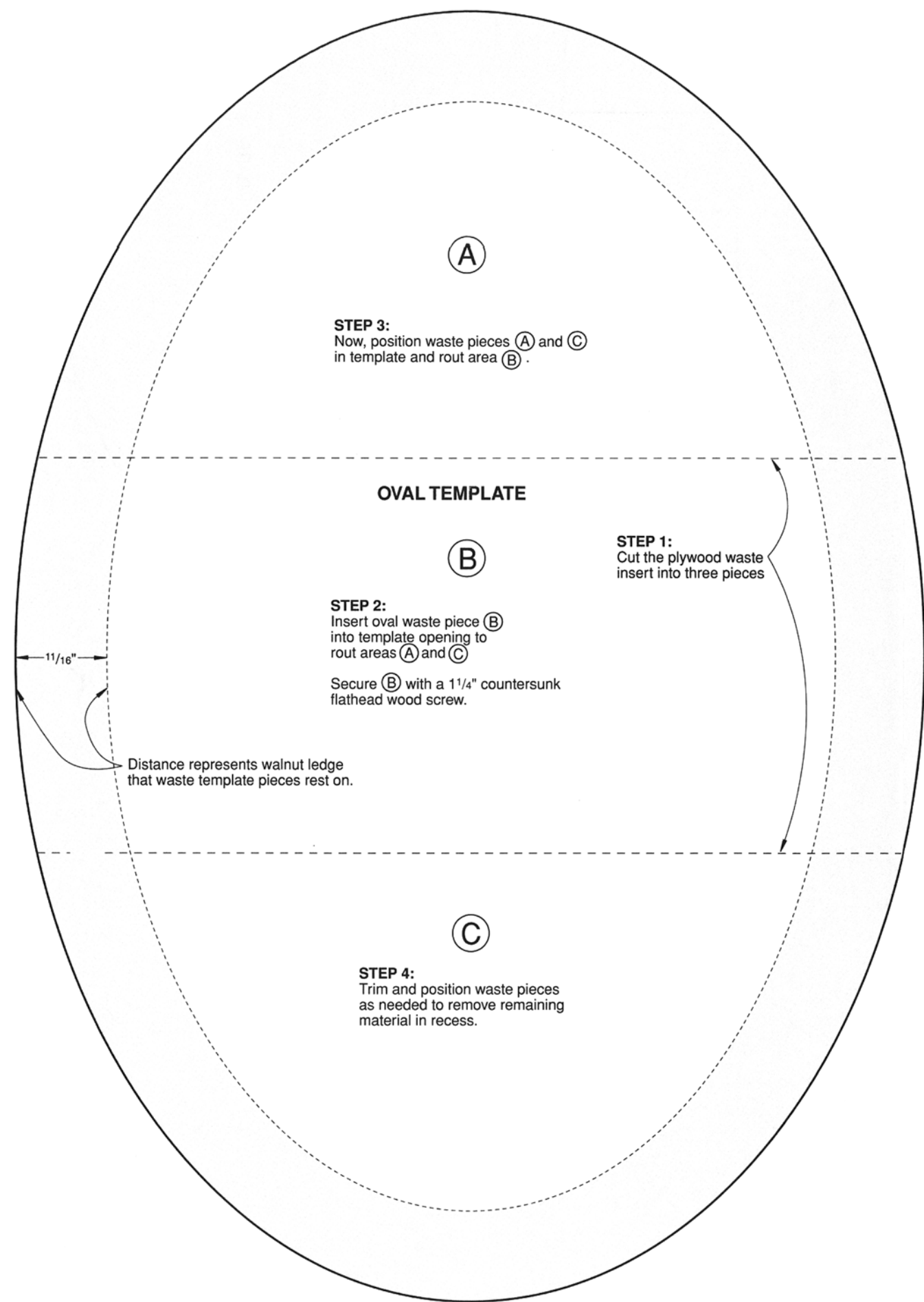
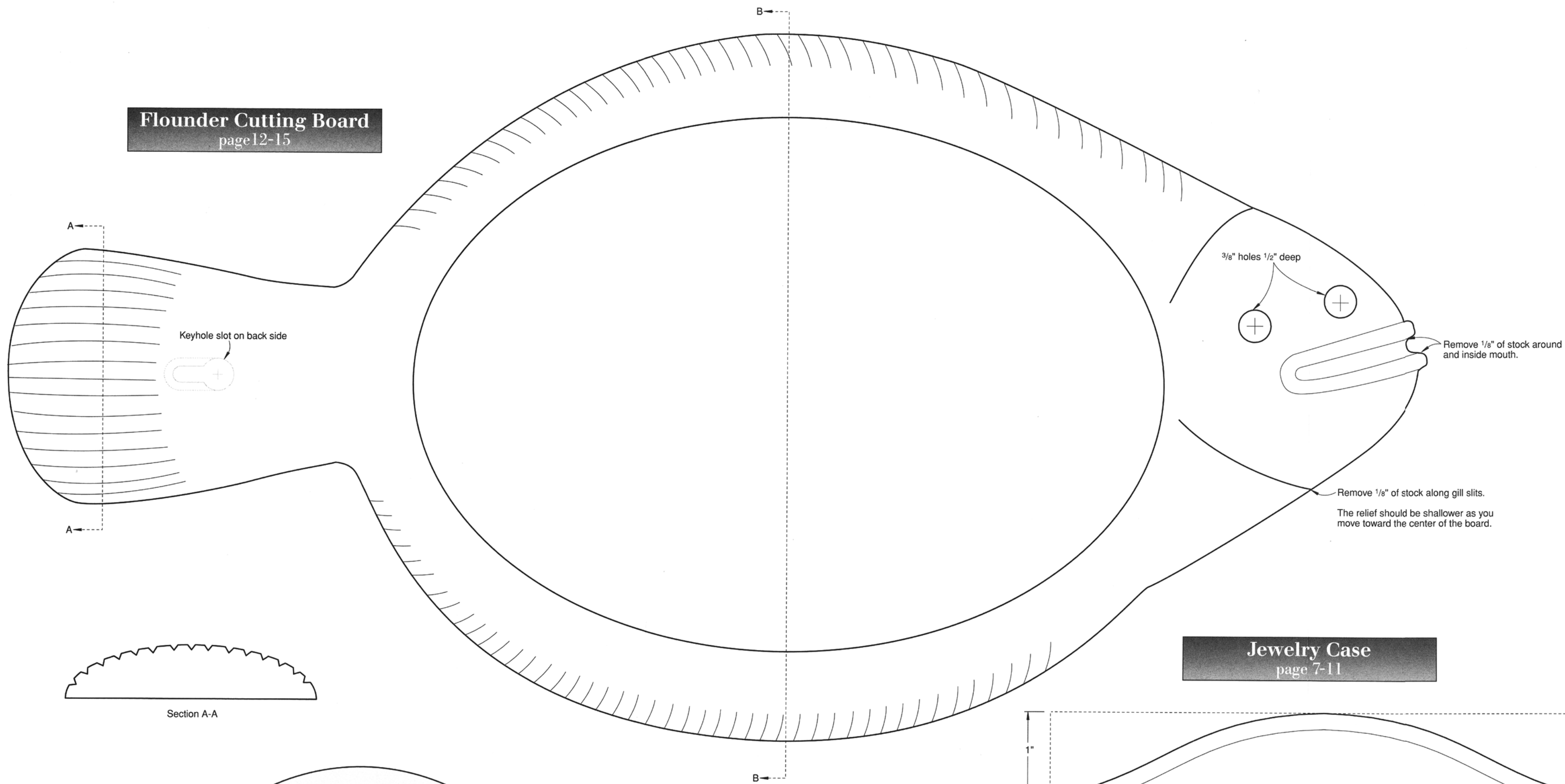
That's the Stanley philosophy. Don't quit working until your product is perfect. You'll find this kind of dogged determination across the board at Stanley. In everything we make. Like a garage door insulated to reduce noise. Or a closet organizer made

with steel planks instead of wire so it doesn't wrinkle your clothes.

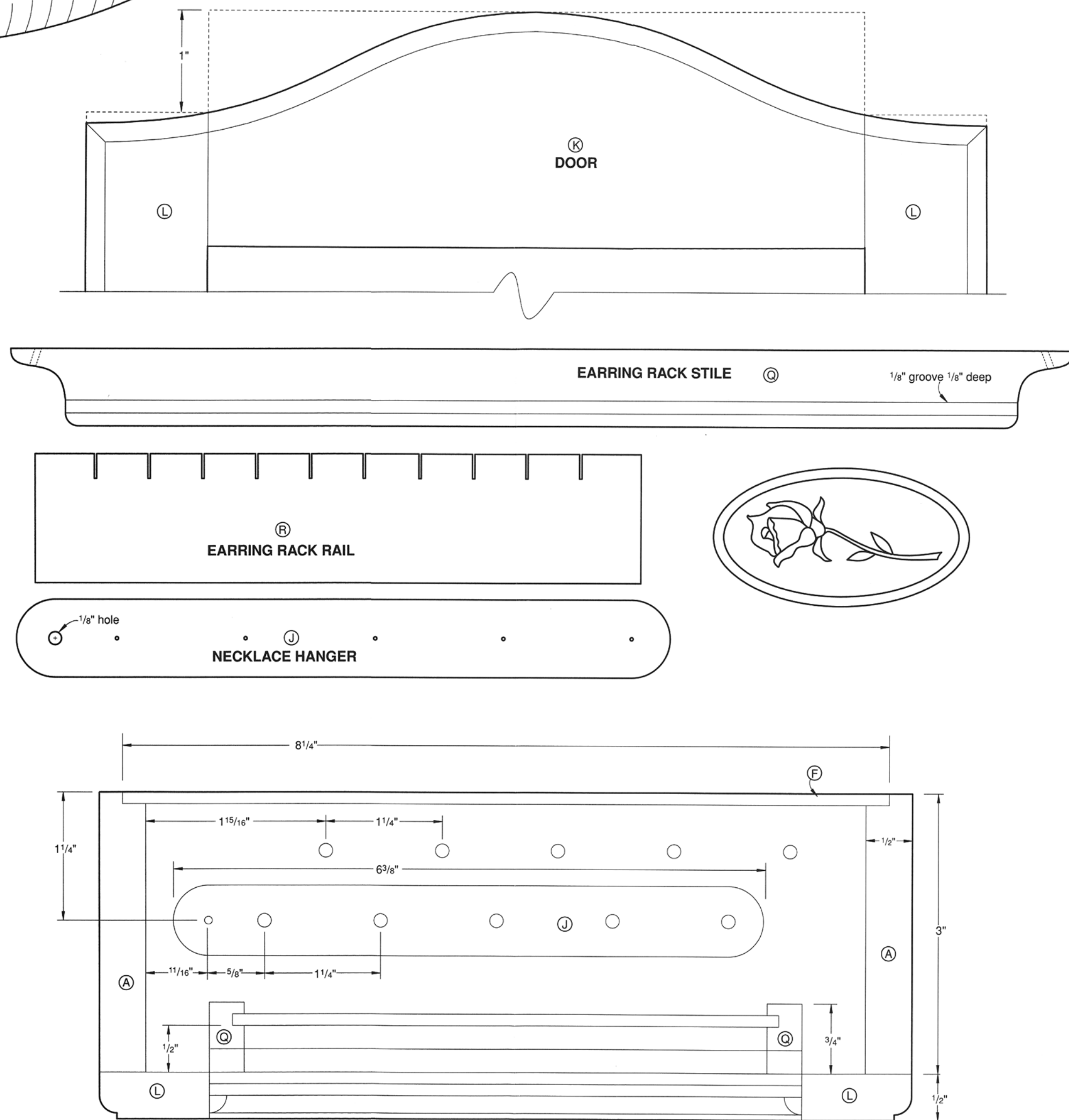
It's innovative thinking like this that's kept us ahead of the competition for more than 150 years. At Stanley we're not happy simply churning out products. We're only happy when our products are better than anyone else's.

STANLEY
helps you do things right.

Flounder Cutting Board
page 12-15

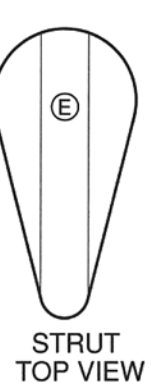
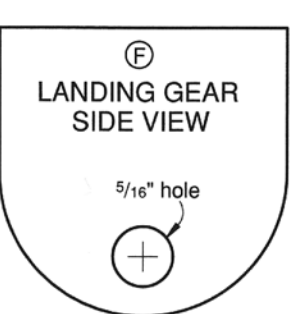
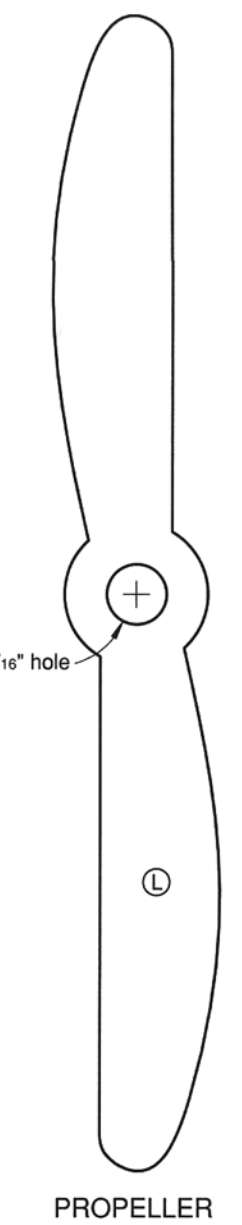
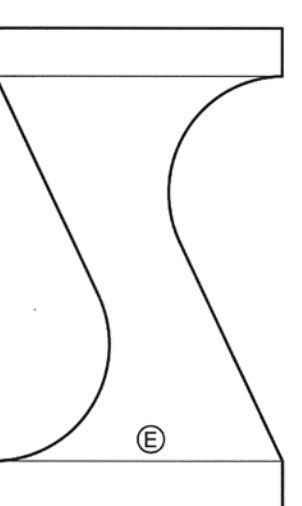
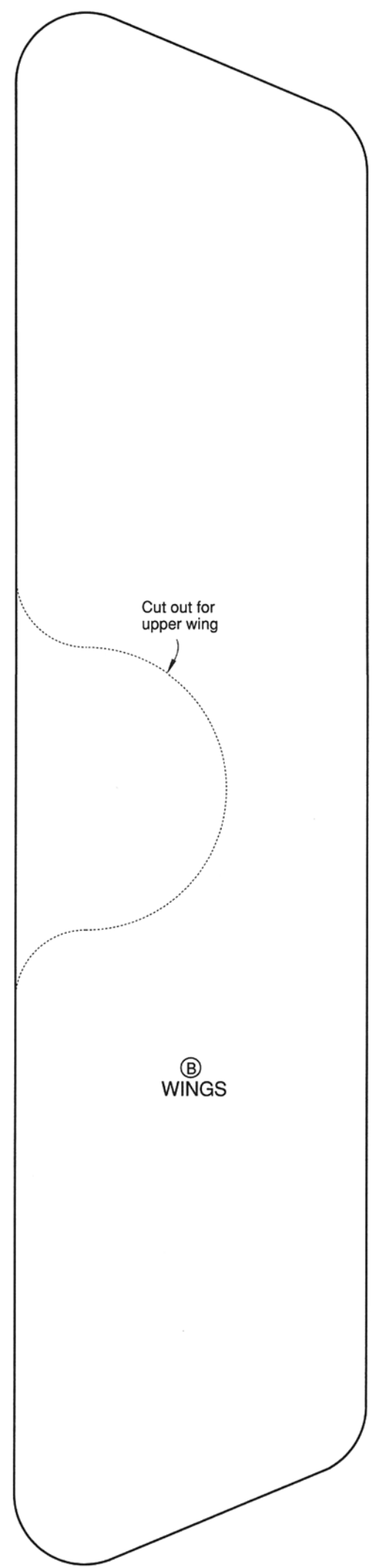
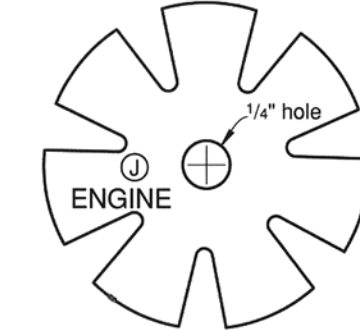
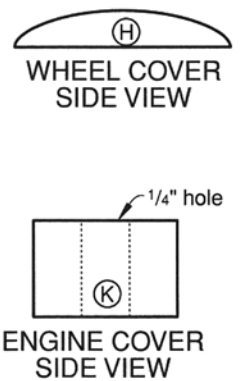
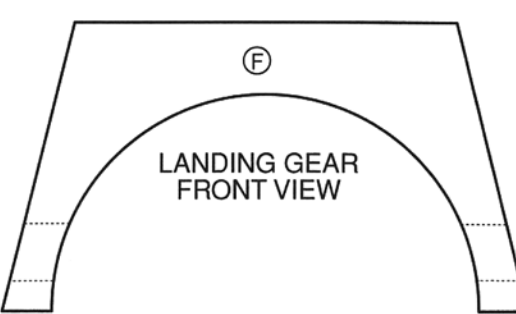
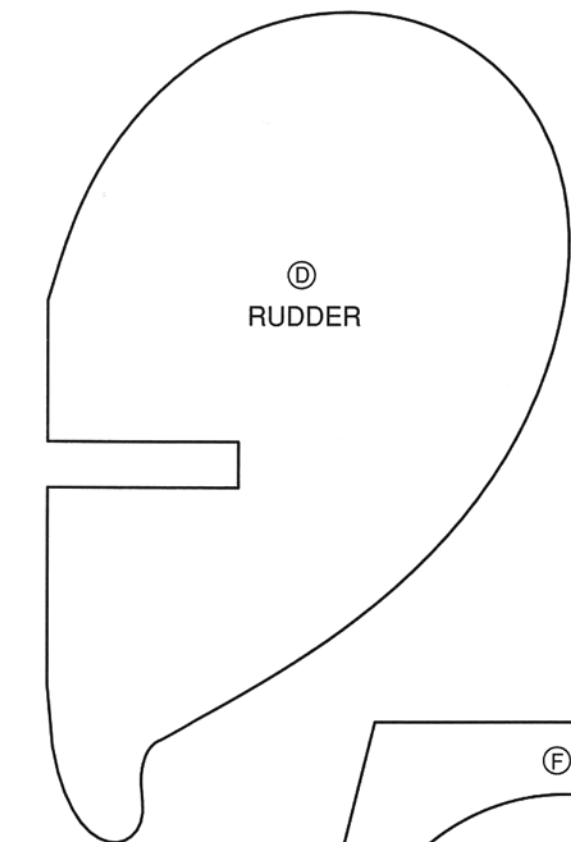
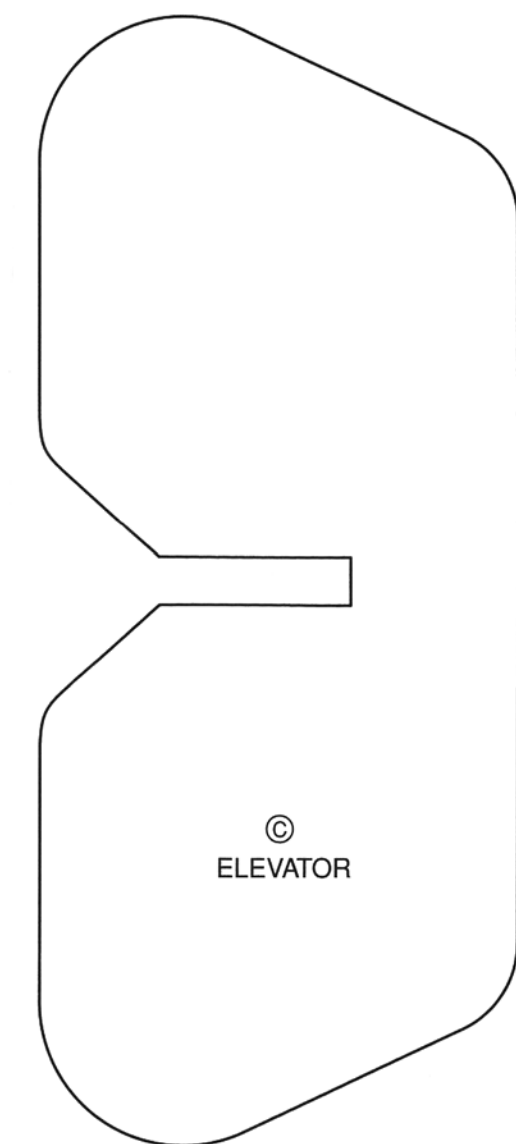
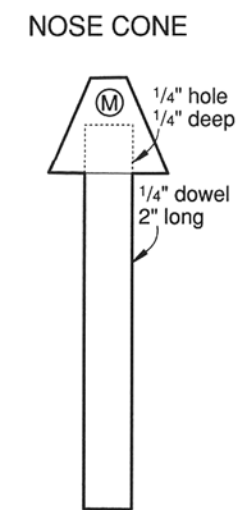
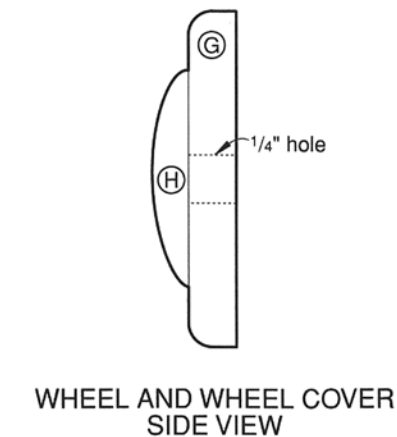
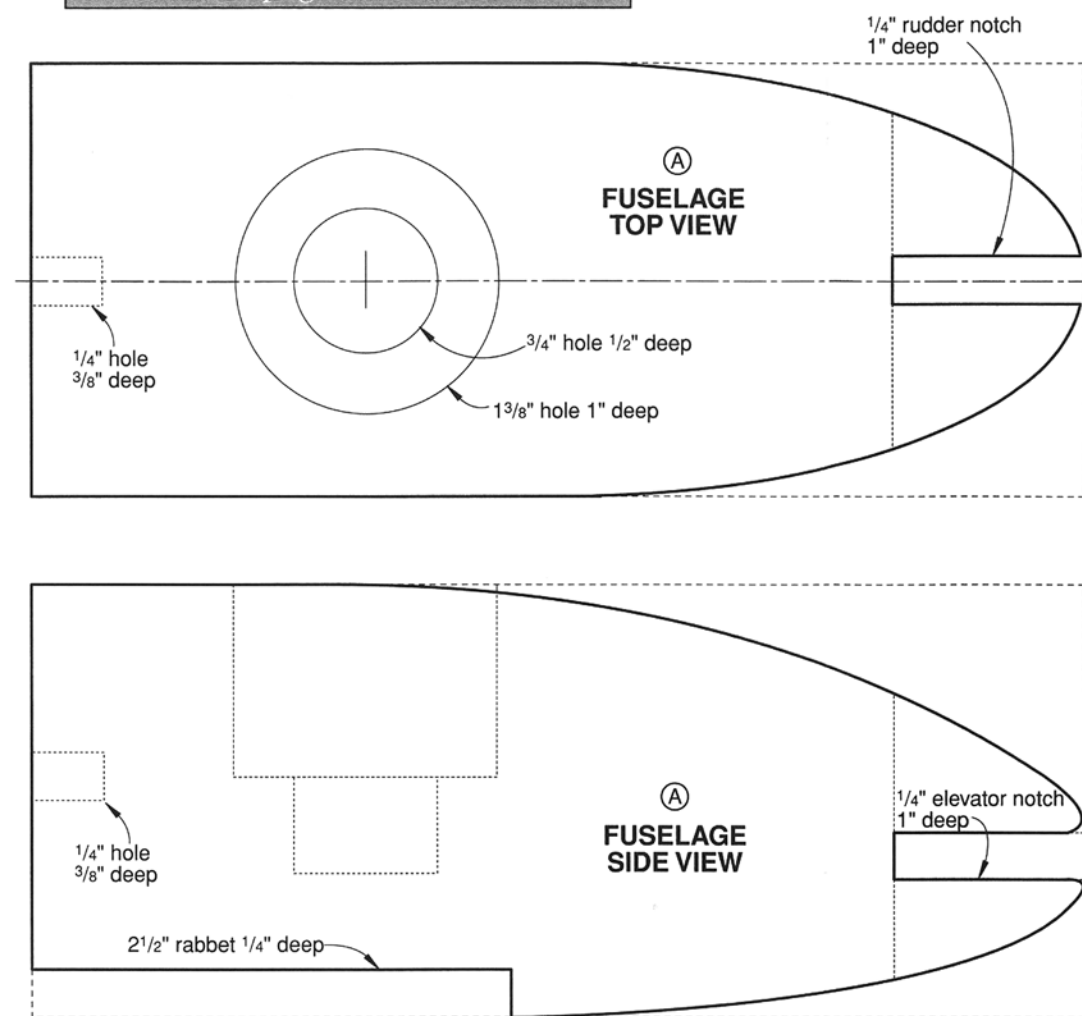


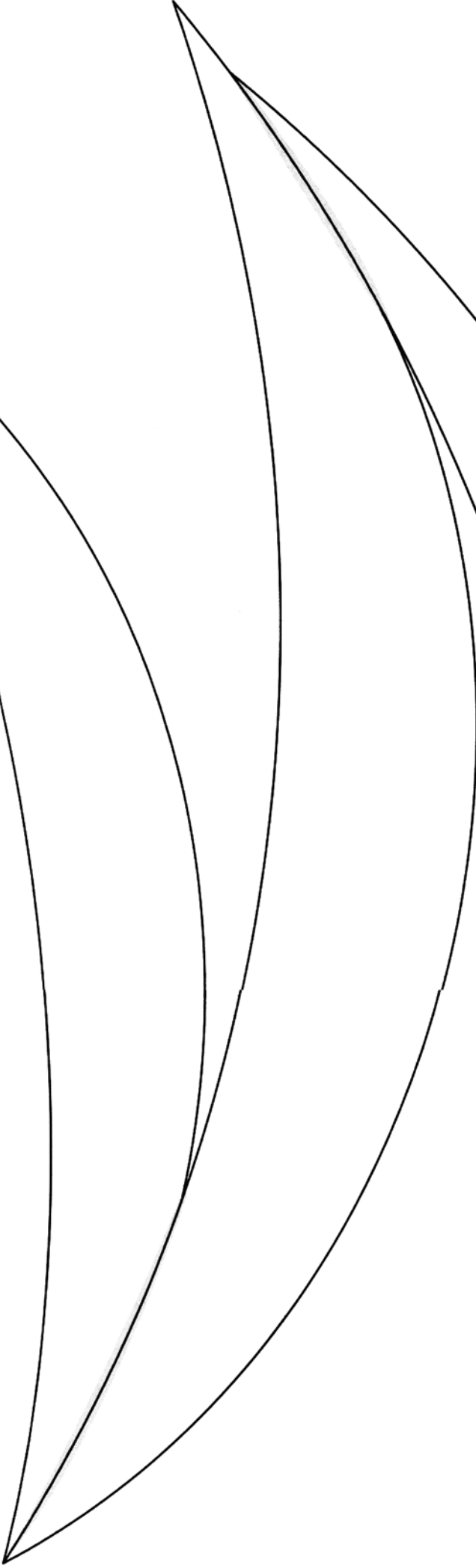
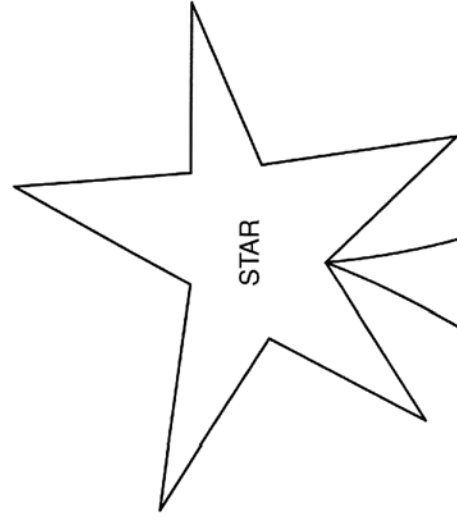
Jewelry Case
page 7-11



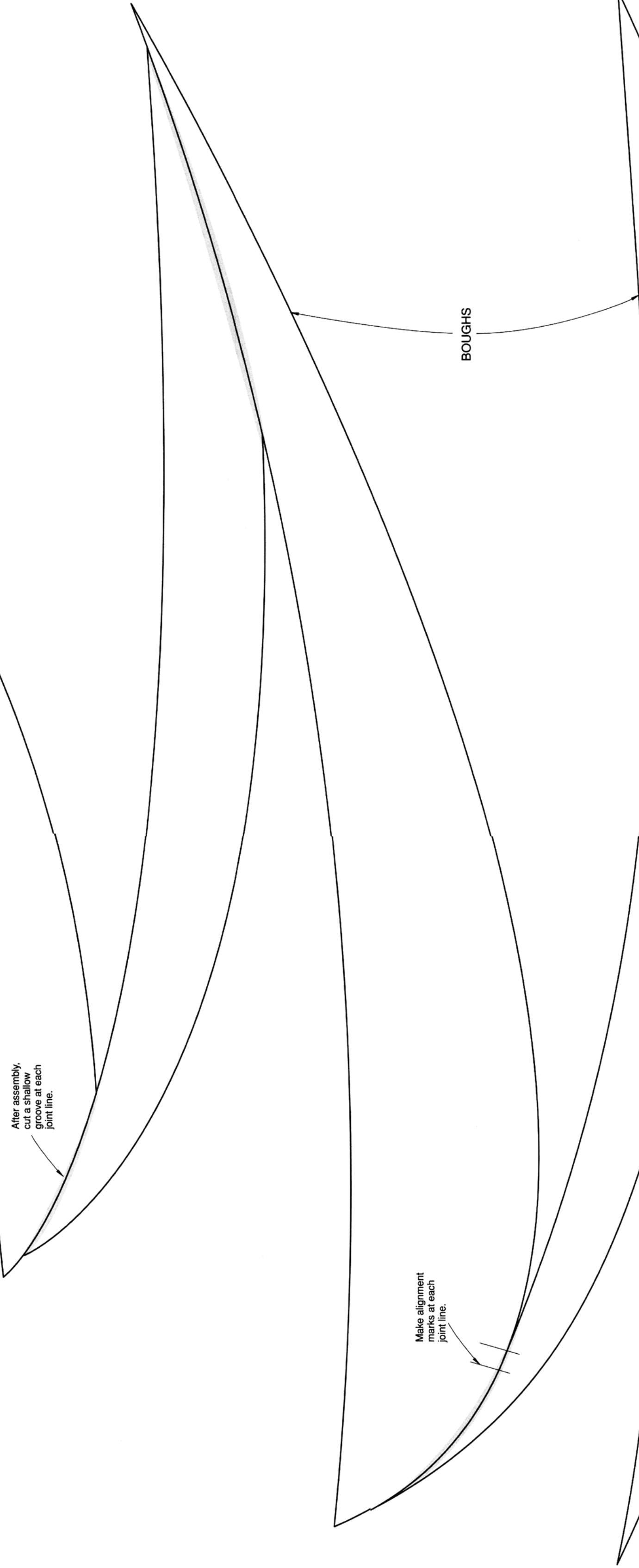
TOP SECTION
(This drawing is for reference only
and is not drawn full size)

Toy Biplane
page 20-23





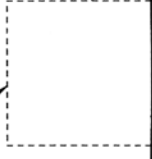
After assembly,
cut a shallow
groove at each
joint line.



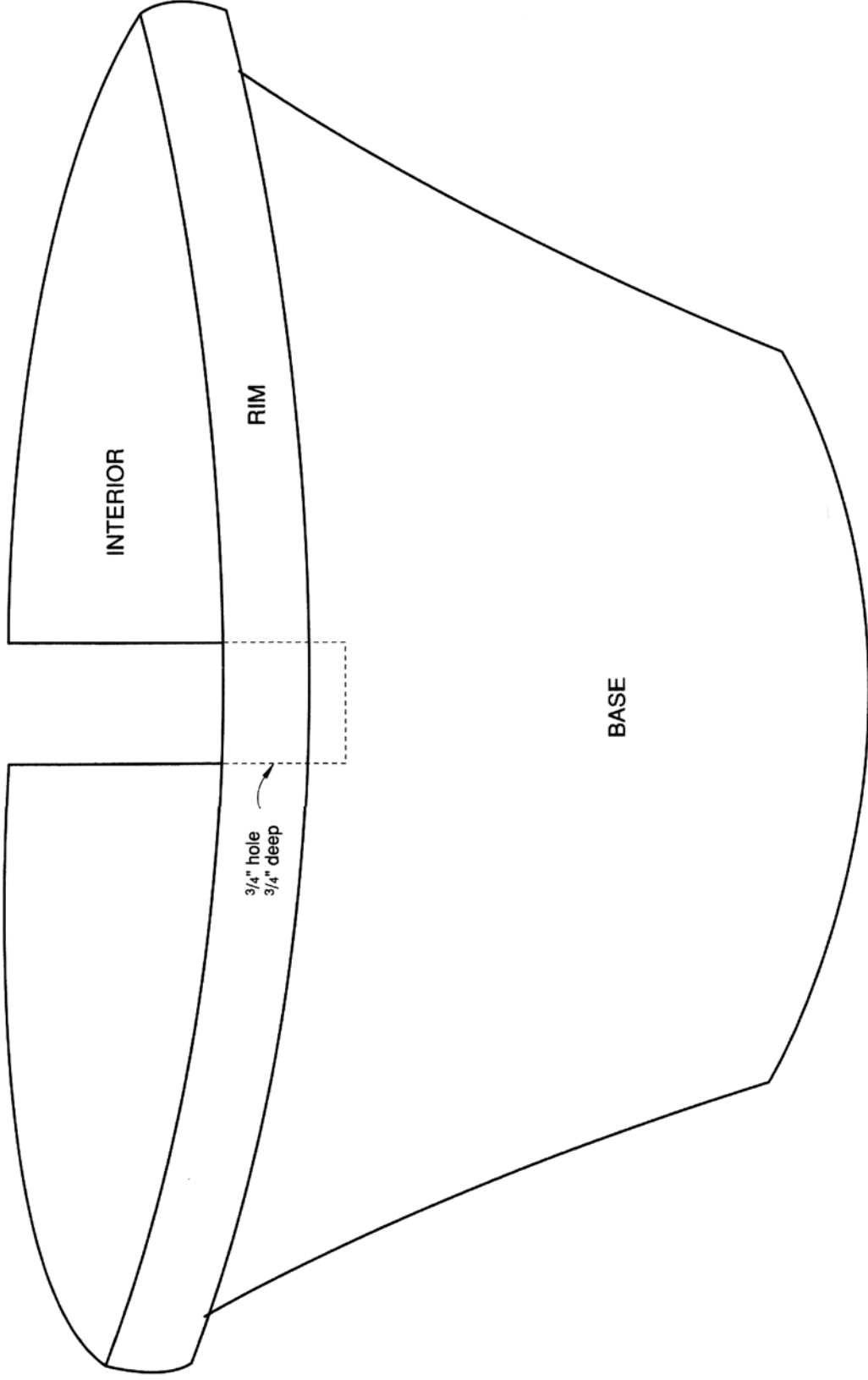
Make alignment
marks at each
joint line.

BOUGHS

Trunk hole



3/4" hole
3/4" deep



INTERIOR

RIM

3/4" hole
3/4" deep

BASE