

WEEKEND WOODWORKING

PROJECTS[®]

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telephone

Feisty fighter
plane toy

Chip-carved
snowman

Cup-and-saucer
display cabinet

Carved Noel
decoration



FAUX-GRANITE MANTEL CLOCK

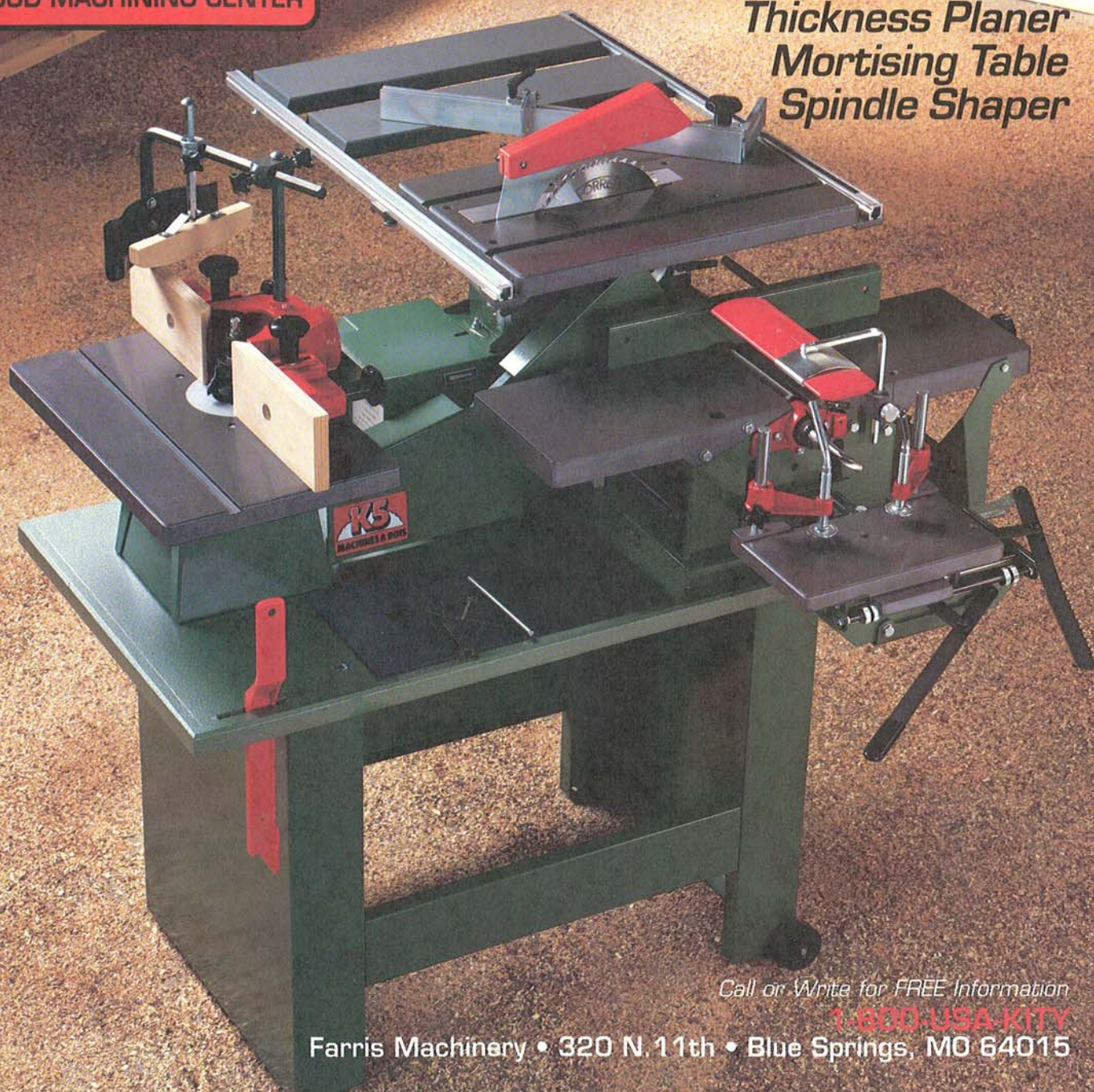
An elegant and timely gift!

FROM THE EDITORS OF WOOD[®] MAGAZINE



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FROM OUR SHOP

Dear Reader,

When I began this issue's editor's column, I paged through a book of quotations looking for a saying or poem that somehow captured the essence of Christmas for woodworkers. This is, after all, the best time of year when we can really show our stuff through the things we so painstakingly craft. Well, I found nothing suited to the occasion either in this or a few poetry books I picked up at the library. Not willing to give up the fight, I slipped the bard's beret on my head, and chisled out a little reason and rhyme. I hope it strikes home with you. It's for all woodworkers who've made holiday gifts from wood. Season's greetings.

The Woodworker's Christmas



*The woodworker turns off his tablesaw,
And gives his apron a shake.
Sawdust falls to the floor of his cluttered shop
In a flurry of golden flakes.*

*On his workbench sits an unfinished shelf,
That needs joining with nails and glue,
There's this, and then three other gifts
On his list of things to do.*

*December can be a busy month
With all the running around
To the lumberyard for oak and pine,
And to the hardware store in town.*

*But come that glorious Christmas morn'
When loved ones gather by the tree,
He sees his handcrafted gifts received
With surprise and heartfelt glee.*

*And so it is with thoughts like these,
He saws and shapes and sands,
Making clocks and shelves and a toy or two,
His finest hour near at hand.*

Jim Harrold

Jim Harrold
Managing Editor

CHECK OUT THESE GREAT TIPS

- Using a friction mat for carving – page 6.
- Painting a faux-granite finish – page 11.
- Shaping spindles with a router – page 20.
- Stabilizing a turning for drilling using a woodscrew – page 23.

Note: To find the tips, turn to the pages and look for the tinted numbers.

6 IN-THE-SPIRIT CARVED NOEL

With a scrollsaw, a carving knife, and a $\frac{3}{8}$ " gouge, you can easily make this charming and delightful yuletide decoration in an evening or less.

8 FAUX-GRANITE MANTEL CLOCK

We've combined the classic look of Roman columns and a gable roof with a striking faux-granite finish to create this dynamic clock design.

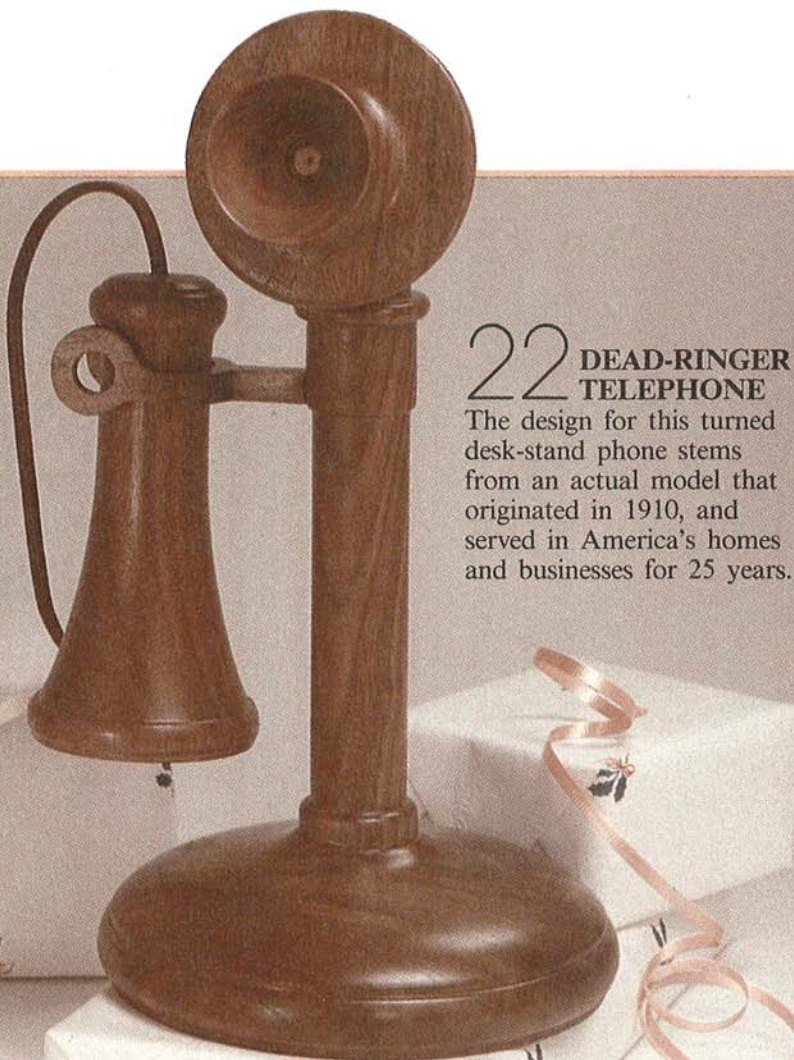
12 FEISTY WWII FIGHTER

Made from walnut, our Second World War fighter offers authentic looks and joy in the making. Place it on a shelf, or in the hand of a deserving youngster.

18 SHELVES WITH A VIEW

Don't hide your beautiful cups and saucers in the dark recesses of your china cabinet. Instead, display them in this attractive cherry wall rack.





22 DEAD-RINGER TELEPHONE

The design for this turned desk-stand phone stems from an actual model that originated in 1910, and served in America's homes and businesses for 25 years.

26 CHIP-CARVED SNOWMAN

Light-duty turning and carving lead to a happy ending with this seasonal decoration. If you don't own a lathe, buy a pretuned snowman from our source.



Elegant and Timely Gifts!

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OUR PLEDGE TO YOU

Before publication, we build every project in WEEKEND WOODWORKING PROJECTS step-by-step in our shop. Then, a seasoned team of editors reviews the directions, illustrations, and bill of materials of each wood project to make sure the instructions we provide you are clear, concise, and complete.

The Staff of Weekend Woodworking Projects®

WPA



IN-THE-SPIRIT CARVED NOEL

Artist and carver Fern Weber prepared this delightful holiday decoration for your woodworking pleasure. It combines scrollsawing and light-duty carving, making it an excellent one-evening project. You'll find a supplier for the needed carving tools listed in our Buying Guide.

FIRST, CUT OUT THE PARTS

1 Rip and crosscut a board to measure $\frac{3}{4} \times 4 \times 12$ ". (We selected butternut for its ease of carving.)

2 Photocopy the NOEL And Holly patterns on page 7. Cut out the patterns with scissors, and adhere them to the board you cut in step 1 with spray adhesive. (You can also trace the patterns directly onto the board using carbon paper.)

3 Drill $\frac{1}{4}$ " start holes in the O and the E of NOEL.

4 Clamp a fine-toothed blade to your scrollsaw (we used a #5 scrollsaw blade). Saw between the NOEL and the holly parts to separate them.

5 Clamp a temporary fence to your scrollsaw or bandsaw table, and resaw the holly parts to $\frac{3}{8}$ " thick. Sand the sawn surfaces.

6 Scrollsaw the NOEL to shape. Next, stop the saw and thread the blade through one of the start holes. Cut out this interior area, and then the other. Make all cuts as smooth

as possible to reduce the amount of sanding you'll need to do later. Now, scrollsaw the holly parts.

7 Remove the patterns from the parts. (We used lacquer thinner.)

NOW, LET'S CARVE

Note: We used a #5 ($\frac{3}{8}$ ") gouge and a bench carving knife to carve our NOEL and decorative holly. If you don't own these tools, you can order them from the source listed in the Buying Guide on page 7.

1 Using a bench carving knife, cut a 45° bevel along the front outside and inside edges of each letter as shown below. Cut with and across the grain, but do not cut into wood-grain. When possible, control your blade with the hand holding the knife, and push against the back of the blade with the thumb of your opposite hand. If the blade slips into wood grain and looks like it may split the wood, back out of the cut and work in the opposite direction. (We used a lap board to hold the workpiece firmly and safely.)

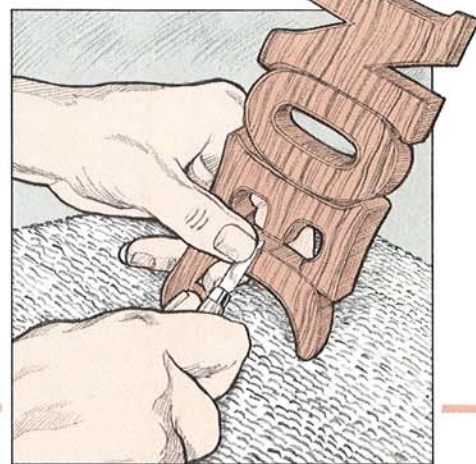
2 Following the dash lines on the NOEL pattern, pencil a line to sepa-

rate the N and O, the O and E, and the E and L where they touch. Using the point of your knife, cut $\frac{1}{8}$ " deep into these lines, and then bevel-cut toward them from both sides. Carvers call this backcutting.

3 Sand the face and cut edges of the NOEL, starting with 220-grit sandpaper and moving to 400 grit.

4 Turn to the holly parts and cut $\frac{1}{8}$ "-deep lines around the penciled berries on the top surface to start the stop cuts. (We used our bench carving knife for these cuts.)

5 Scoop out the scallops on the holly leaves, working from point to point, and from the centerlines toward



the edges. (We alternated tools, using the bench carving knife and a #5 [$\frac{3}{8}$ "] gouge. To reduce slipping while carving, we held the workpieces on a rubberized friction mat.) Backcut to the berries. Next, scallop the back to add shape, but maintain a small, flat area for gluing.

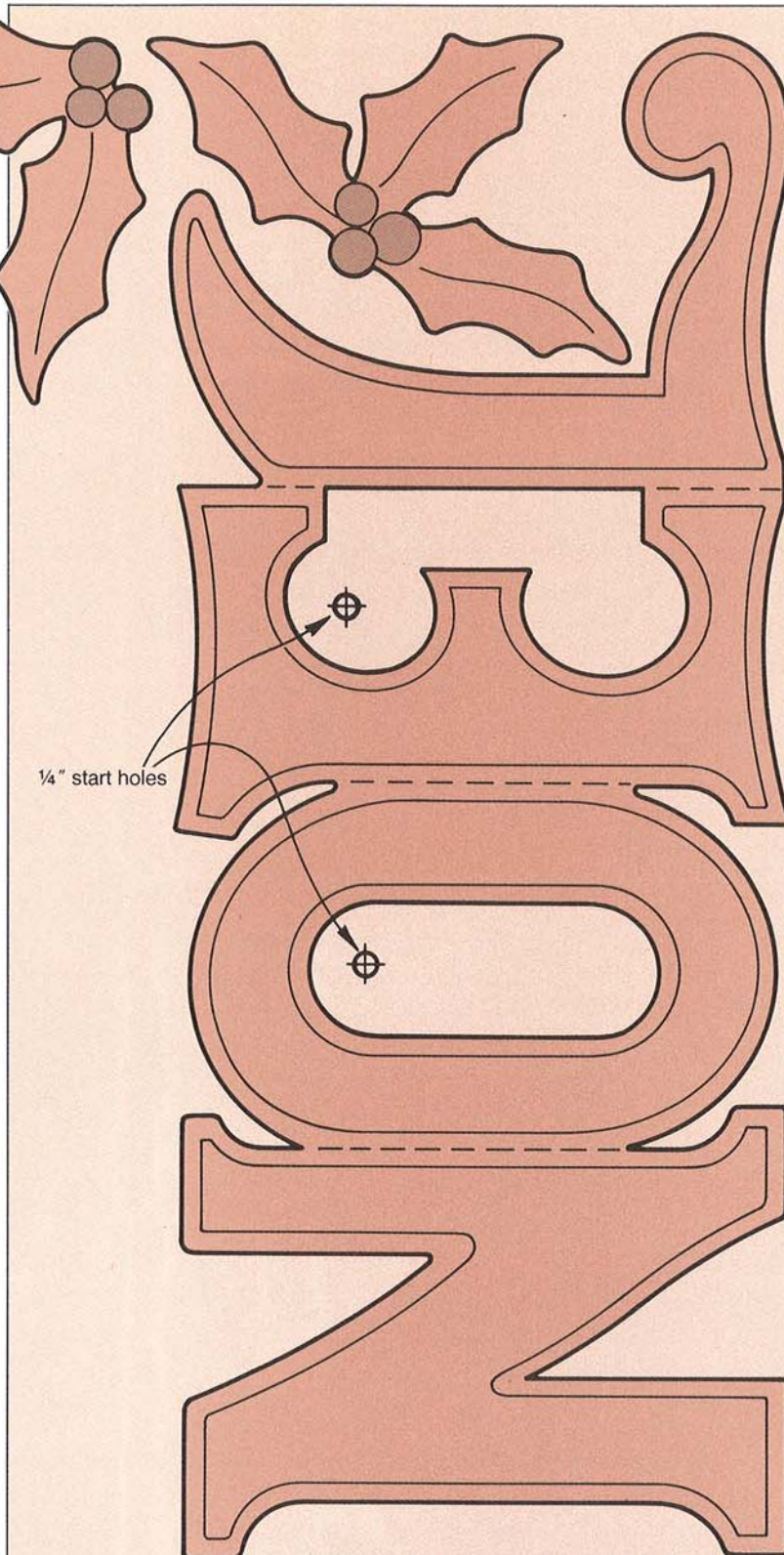
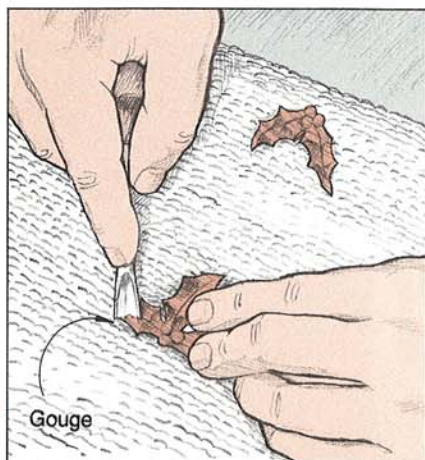
FINISH YOUR CREATION

1 Finish the NOEL. (We brushed on a coat of wood sealer and let it dry 24 hours. Next, we brushed on four coats of polyurethane, rubbing between coats with #0000 steel wool. Finally, we buffed the letters with very fine steel wool and rubbed in Butcher's paste wax.)

2 Rough-sand the holly leaves with 100-grit sandpaper to remove any unwanted unevenness.

3 Brush a dark green wash paint (we used acrylic-type crafts paint) over the holly leaves and let dry. Add a few strokes of light green over the dark green on each side of the leaf ridges on the top surface. Next, stroke fine branches of dark green along the ridges. Paint the berries cranberry-red.

4 Mark and lightly sand the contact areas on the backs of the leaves and the NOEL. Glue the leaves on with epoxy. If you wish to hang the NOEL, add a picture hanger to the back. Or, let it stand alone in a place of high visibility where loved ones and friends can enjoy it.



NOEL AND HOLLY PATTERNS

Buying Guide

● **Carving tools.** Bench carving knife #58, \$8.75. #5 ($\frac{3}{8}$ ") gouge, \$12.95. Add \$3.00 for shipping (\$5 outside

USA). From: Freeborn's Woodcarving, 7909 W. 80th Terrace, Overland Park, KS 66204. Telephone 913-642-4976.

● **Supplies:** Epoxy, acrylic paints, finish.

Project Design: Fern Weber, Kansas City, Mo.

Illustrations: Kim Downing; Carson Ode

Photograph: Bill Hopkins



MANTEL CLOCK

A TIMELY GIFT



A return to classic designs of old—that describes the postmodern movement, and the design of our mantel clock *above*. It features oak dowel posts and a moderately molded gable roof and base. For contrast, we applied light- and dark-gray faux paint to the clock front, giving it a granite look familiar to the rich and famous. But we'll never tell them we made the project from scrap wood.

LET'S CUT THE OAK PARTS FIRST

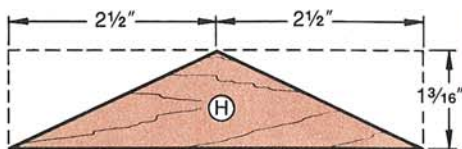
1 With a $\frac{1}{4}$ " round-over bit, rout one edge of a piece of $\frac{3}{4}$ "-thick oak measuring at least $3\frac{1}{2}$ " wide and 18" long. From it, rip a $1\frac{1}{2}$ "-wide strip for the base parts (see the Cutting Diagram on page *opposite*), including the routed edge on the piece. Next, referring to the dimensions on the Bill of Materials and the Exploded View drawing *opposite*, miter-cut one long base piece (A), and two short base pieces (B) from this strip.

2 Plane or resaw a $\frac{3}{4} \times 5\frac{1}{2} \times 18$ " piece of oak to $\frac{1}{2}$ ". Rip it into two $2\frac{3}{8}$ "-wide lengths. Crosscut one of the strips into two $8\frac{1}{4}$ "-long pieces for the plates (C).

3 Using a $\frac{5}{32}$ " Roman Ogee bit, rout the ends and then one edge on the two $8\frac{1}{4}$ " plates. Next, rout one edge on the remaining $2\frac{3}{8} \times 18$ " piece you cut in the previous step for the roof.

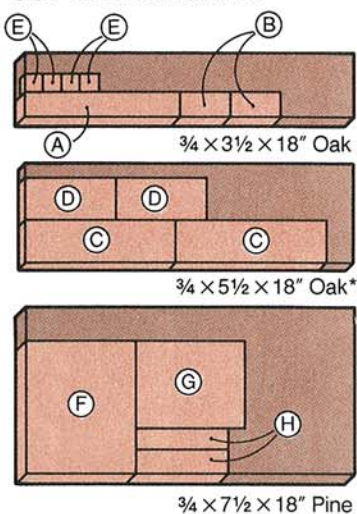
4 To make the roof parts (D), assemble the jig shown on the Push Block drawing on page 10. Set up your tablesaw as shown in the Cutting the Bevel drawing on page 10. If your saw blade tilts to the right, reverse the setup. Next, clamp the $\frac{1}{2} \times 2\frac{3}{8} \times 18$ " oak strip (from step 3) vertically against the cleat on the push block and saw the bevel. See the Roof detail *opposite* for additional information. Turn the piece end for end and saw the bevel on the opposite end. Remove the jig, and put the piece aside.

5 To make the cap and base parts (E) for the columns, rip a 1"-wide strip from the piece of $\frac{3}{4}$ " oak (the one left from step 1). Turn the 1"-wide piece on edge and resaw it to $\frac{1}{4}$ " thickness. Now, crosscut four 1" squares from the strip.

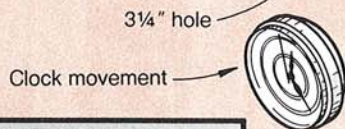


GABLE DETAIL

CUTTING DIAGRAM



*Plane or resaw to 1/2" thickness.



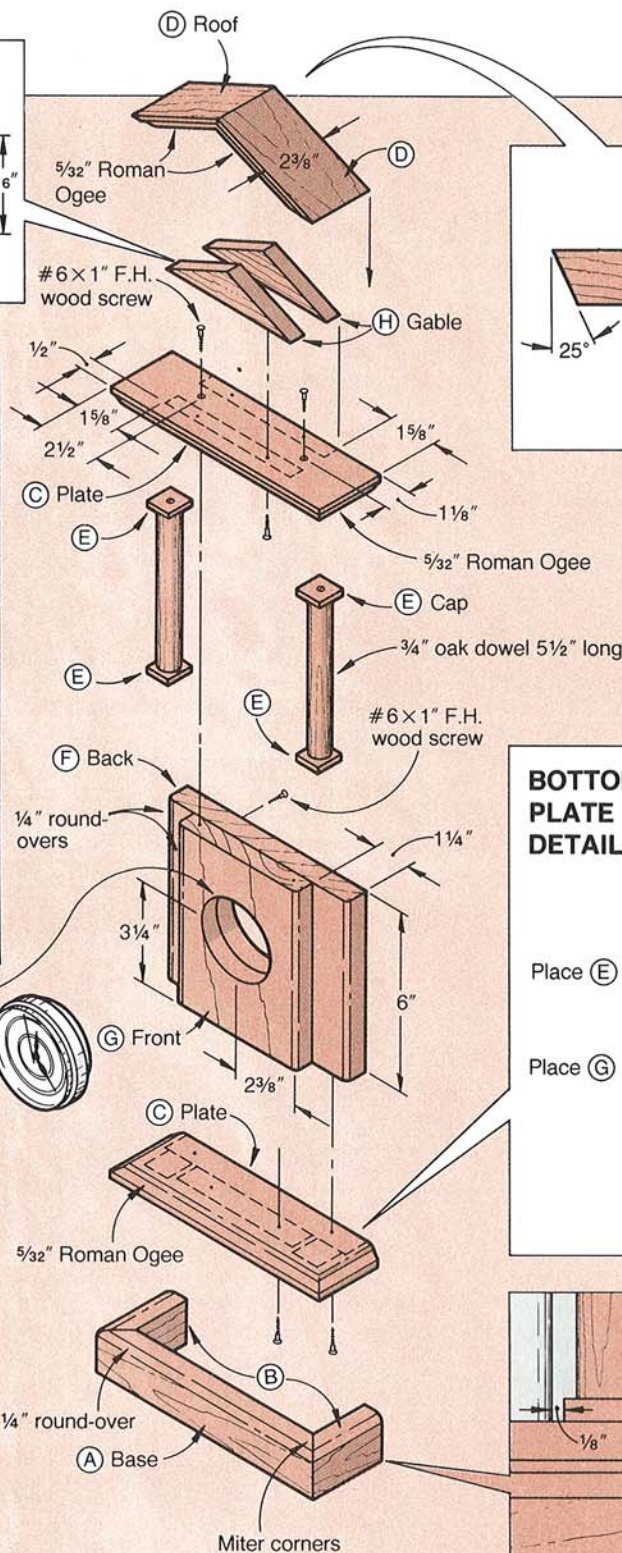
Bill of Materials

Part	Finished Size*			Matl.	Qty.
	T	W	L		
A base	3/4"	1 1/2"	8 3/4"	O	1
B base	3/4"	1 1/2"	2 5/8"	O	2
C plate	1/2"	2 3/8"	8 1/4"	O	2
D* roof	1/2"	2 3/8"	4"	O	2
E base/cap	1/4"	1"	1"	O	4
F* back	3/4"	7 1/2"	6"	P	1
G* front	3/4"	4 3/4"	6"	P	1
H* gable	3/4"	1 3/16"	5"	P	2

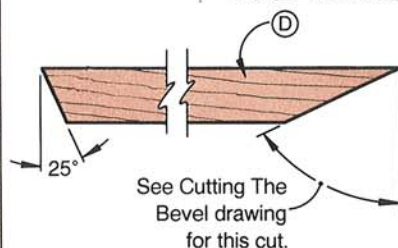
*Parts marked with an * are oversized and cut to final dimensions during construction. Read the instructions before cutting.

Material key: O-oak; P-pine.

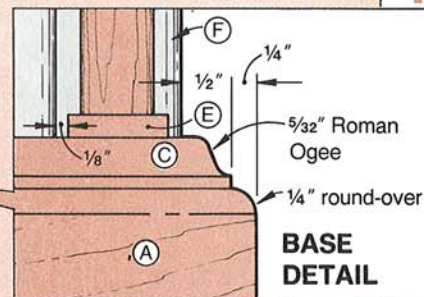
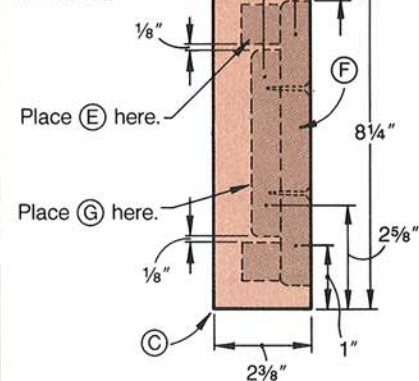
Supplies: 3/4" dowel, 10-#6 x 1" flathead wood screws.



ROOF DETAIL



BOTTOM PLATE DETAIL

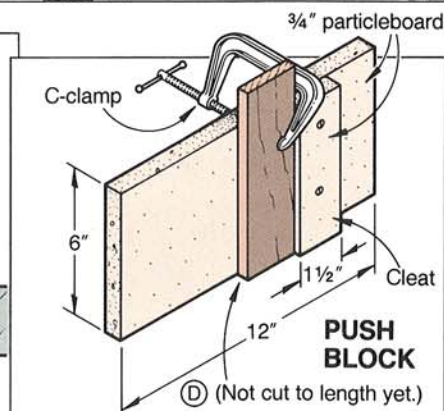
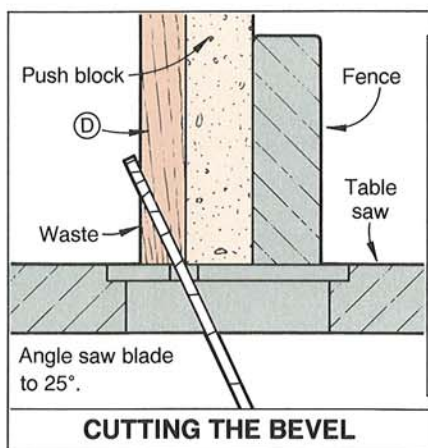
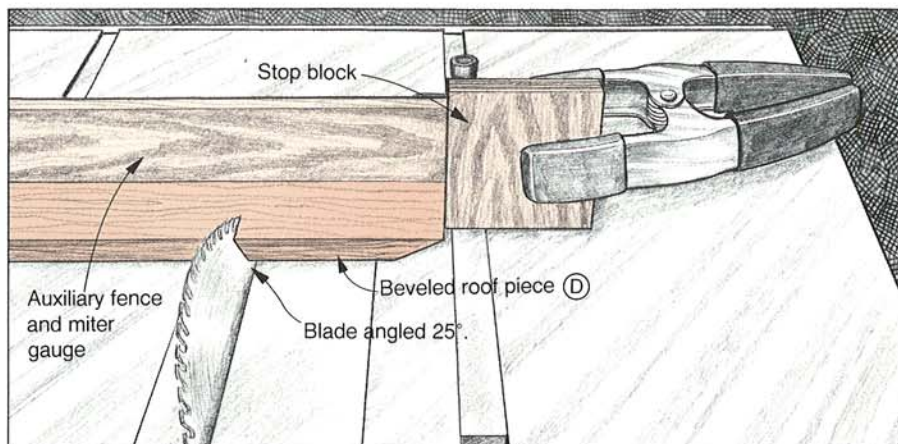


continued

MANTEL CLOCK

6 Crosscut two 5½" lengths of ¾"-diameter oak dowel for the columns. Center, align, and glue one of the ¼ × 1"-oak squares to each end of the columns. Clamp until the glue dries. (We used bar clamps.)

7 Angle the saw blade to 25°, place the miter gauge in the saw table's slot to the left of the blade, screw an auxiliary wood fence to the front of it, and square it with the table. Next, clamp a stop block to the miter gauge/auxiliary fence 4" from the blade, measured at the table surface. Place the roof piece, bottom side down on the table, beveled end against the stop. Bevel-crosscut the roof piece (D) as shown *top right*, and remove it. Turn the remaining piece end for end, and place it bottom side down and beveled end against the stop block. Now, bevel-crosscut it to length the same way.



CUT THE PINE PARTS, AND ASSEMBLE THEM

1 Rip and crosscut a piece of ¾" pine to 7½ × 6½" for the clock back (F). Rip and crosscut a second piece of ¾" pine to 4¾ × 6½" for the clock front (G).

2 Rout a ¼" round-over along the two front edges of the front and the back pieces.

3 Mark the centerpoints for four screw holes in the rear of the clock. Position them 2¼" in from the edges and ¾" down from the top and 1" up from the bottom. Center the front on the back piece, and align them along the bottom. Now, drill and countersink the ¼" pilot holes. Screw the back to the front but do not glue these pieces yet. (We used #6 × 1 flathead wood screws for this.)

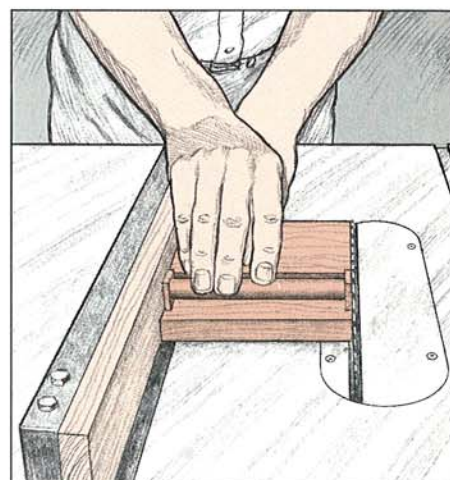
4 Saw the clock front/back assembly and the two columns to final length. (We trimmed ours by setting

the rip fence 6" from the blade, and crosscutting the clock front/back assembly and the two assembled columns at the same time as shown at *right*.) Hold the columns snugly to the assembly while trimming.

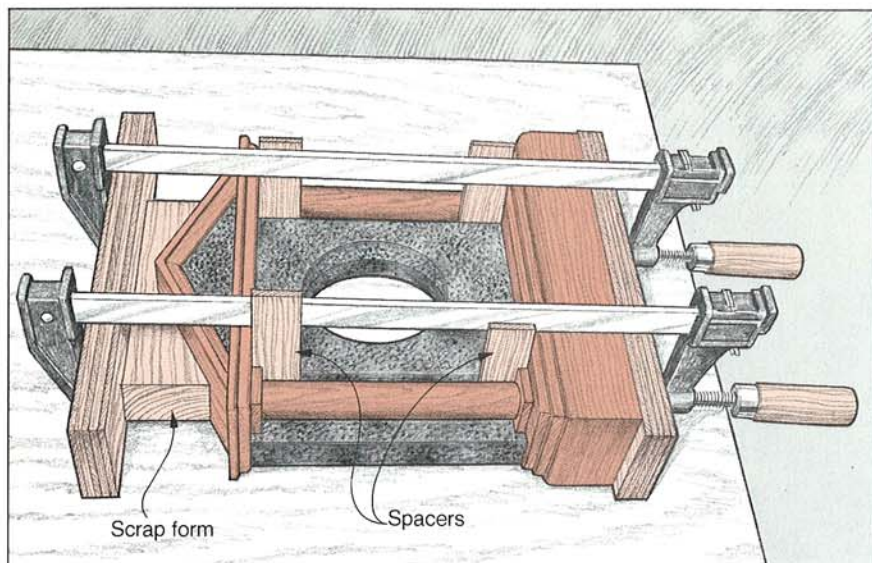
5 Using dimensions on the Exploded View drawing, mark the centerpoint for the ¾"-diameter hole for the clock movement on the front/back assembly. Form the hole using a circle cutter and drill press, or drill a ¼" start hole and then scroll-saw the ¾" hole to shape. (We tested our cutter setting on a scrap piece to ensure the correct size.)

Note: We sized the hole to fit the clock movement listed in the *Buying Guide*. If you use a different movement, size the hole to fit it.

6 From the remaining piece of ¾"-thick pine, rip and crosscut two 2 × 5½" pieces for the triangular-



shaped gable pieces (H). Next, lay out the shape of the gable on a face of one of the pieces using the dimensions found on the Gable detail. Stack the two pieces together with double-faced tape. Bandsaw or scrollsaw the parts to shape, sawing just outside the line, and then sanding to the line. (We used a stationary belt sander.) Now, separate the parts and remove the tape.



7 Finish-sand all of the wood parts. (We used 100-grit sandpaper on the pine parts to prepare them for painting, and progressively finer [150- to 220-grit] sandpapers to smooth the oak.)

ASSEMBLING AND FINISHING COME NEXT

1 Glue and assemble the mitered base pieces (A,B). (We used yellow woodworker's glue and clamped the pieces in a corner clamp to hold them while the glue set.)

2 Using the dimensions on the Bottom Plate detail on page 9, mark the centerpoints for the screw holes on the underside of the bottom plate. Drill and countersink the holes. Next, mark the centerpoints for the screw holes in the top plate where shown on the Exploded View drawing, and drill and countersink both holes.

3 Glue the bottom plate, molded edges up, to the assembled base. Center it from side to side and align the back edges of both parts, as shown on the Base detail on page 9. Clamp the assembly with small, spring-type clamps.

4 Lay the front/back assembly on its back on a flat work surface. Position the base assembly against the bottom of it. Poke an awl through

the drilled holes in the plate and mark the pilot holes in the bottom of the front/back assembly. Drill these $\frac{1}{16}$ " pilot holes $\frac{3}{8}$ " deep. Now, position the top plate, mark, and drill the mating pilot holes in the top of the front/back assembly.

5 Disassemble the clock front/back assembly. Paint the front surfaces and side edges. (We used Plasti-Kote Fleck Stone two-step paints to produce the look of granite—Gotham Gray for the front; Manhattan Mist [darker gray] for the back. You first apply a base coat of paint, let it dry, and then apply a clear acrylic topcoat. You may find Fleck Stone paints sold by Target, Sutherlands, Wal-Mart, and many well-stocked art supply stores. Or, mail-order from the source listed in our Buying Guide.) Also, spray the face on one of the gable pieces with the Manhattan Mist paint. After the topcoat dries, reassemble the front and back parts.

Note: *If you elect to use only one color of paint, do not separate the front and back pieces for painting.*

6 Finish the oak parts. (Before applying the finish, we masked off the surfaces of parts where glue would be applied during assembly. Next, we applied two coats of lacquer, and sanded with 320-grit sandpaper af-

ter each coat dried.) Finally, remove the masking tape from the parts.

7 Lay the clock parts on a flat surface. Glue and screw the front/back assembly to the base plate. Apply glue to the tops and bottoms of the columns, position them on the clock back, and insert spacers (we sawed four $\frac{1}{8}$ "-thick strips about 3" long from $\frac{3}{4}$ " scrap) between the column caps and bases and the edges of the front piece. Glue and screw the top plate to the front/back assembly.

8 Trace the outline of one of the V-shaped gable pieces onto a piece of scrap. Saw the V out of the scrap. Glue the gable pieces to the top plate where shown. Glue the roof pieces in place. Now, place the V-shaped form you made over the roof, and clamp the assembly as shown above. After the glue dries, remove the clamps from the clock.

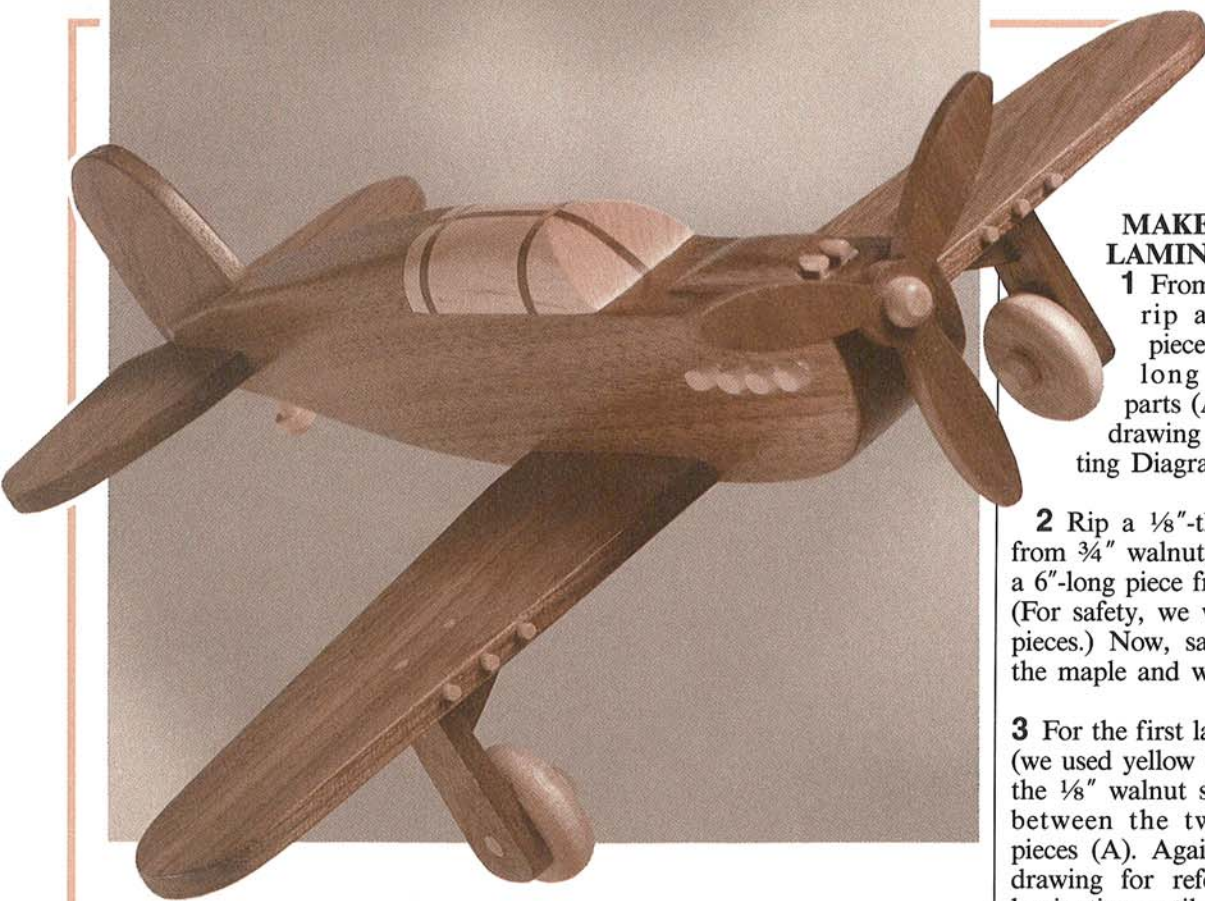
9 Insert the clock movement into the center opening, gently pressing it until the flange rests flush against the front. Now, place the clock on your mantel or shelf, and proudly show off your prized creation.

Buying Guide

● **Clock.** Quartz movement, style G, 4" dial, requires two AA batteries. Order product no. 71053. Price: \$20 postage paid. From Klockit, P.O. Box 636, Lake Geneva, WI 53147. Phone 800-556-2548; outside continental U.S. call 414-248-1150.

● **Paint.** Fleck Stone 2-step Faux Granite paints by Plasti-Kote Company, Inc. Kit no. 44, Manhattan Mist; no. 45, Gotham Gray. Other colors available. Price: One kit, \$16.25, two kits, \$32.50 postage paid. From: The Art Store, 600 Harding Rd., Des Moines, IA 50312. Telephone: 800-652-2225.





MAKE THE COCKPIT LAMINATION FIRST

1 From $\frac{3}{4}$ " maple scrap, rip and crosscut two pieces $\frac{3}{4}$ " wide by 6" long for the cockpit parts (A). See the Cockpit drawing *opposite*, and Cutting Diagram on page 16.

2 Rip a $\frac{1}{8}$ "-thick strip 12" long from $\frac{3}{4}$ " walnut, and then crosscut a 6"-long piece from it for strip (B). (For safety, we work with 12"-long pieces.) Now, sand the surfaces of the maple and walnut pieces.

3 For the first laminating step, glue (we used yellow woodworker's glue) the $\frac{1}{8}$ " walnut strip (B) lengthwise between the two 6"-long maple pieces (A). Again, use the Cockpit drawing for reference. Clamp the lamination until the glue dries.

4 Crosscut the cockpit to separate the first two sections, using dimensions found on the Cockpit drawing. Next, crosscut two $1\frac{5}{8}$ "-long pieces from the remaining $\frac{1}{8}$ "-thick walnut strip for the (C) parts. Sandwich these $\frac{1}{8}$ " strips between the three cockpit sections in the order shown on the drawing, glue, and clamp.

5 Plane or resaw the lamination to $\frac{5}{8}$ " thickness. Plane or rip the edges of the lamination to a final width of $1\frac{1}{4}$ ", trimming equal amounts from both edges so the thin walnut strip remains centered.

6 Copy the Cockpit Side pattern on page 14, cut it out, and adhere it to one edge of the lamination, aligning the pattern on the side with the two cross walnut strips, and along the bottom edge. (We used spray adhesive.) Make the 45° cut on the front of the cockpit. Turn the cockpit on its side, and bandsaw or scrollsaw along the top line, cutting outside the line. Crosscut it to length.

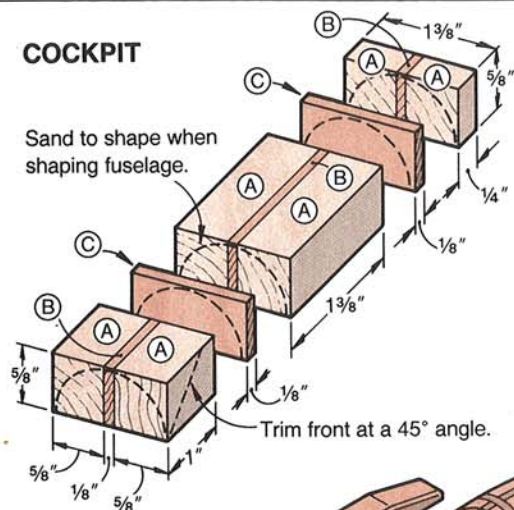
FEISTY WW II FIGHTER PLANE

FOR PLAY OR DISPLAY

Bandsaw owners, here's a project customized to your woodworking interests. It features lots of patterned shapes, all fitting neatly together to form a World War II fighter.

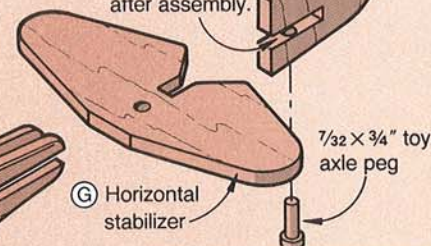
COCKPIT

Sand to shape when shaping fuselage.



(F) Vertical stabilizer

7/32" hole 1/2" deep drilled after assembly.

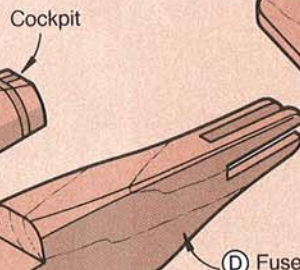


(G) Horizontal stabilizer

1/8" dowels
5/8" long

(I) Machine gun mount
1/8" hole

Cockpit

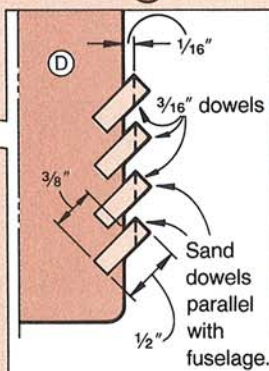


(D) Fuselage

(H) Propeller
7/32" hole
1/2" deep

Sand to break all hard edges.

3/16" dowel 1/2" long
3/16" hole 3/8" deep drilled at a 45° angle.
2 1/2" dado 3/16" deep
7/32" hole
1/8" holes
(E) Wing



EXHAUST
PIPES DETAIL

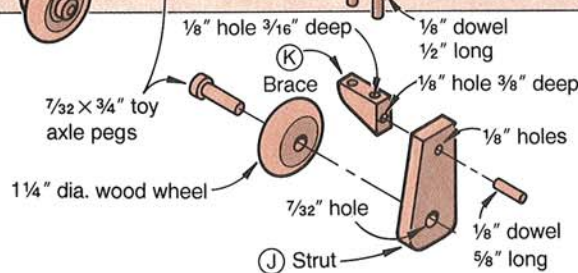
NEXT, BUILD THE FUSELAGE

1 From 3/4" walnut stock, rip and cross-cut two pieces 2 1/4" wide by 12" long. Glue these two pieces together face to face with the edges and ends flush to form the fuselage blank (D). Clamp the lamination.

2 Remove the clamps, and rip 1/8" from each face of the blank to reduce its thickness to 1 1/4". Trim its width to 2" and length to 11".

3 Copy the Fuselage Top and Side patterns on page 16 and 17. (We

used a photocopier to make copies of all patterns.) Cut the rectangular patterns along the dash lines with scissors. Next, adhere both patterns to the fuselage blank, aligning the dash lines with the front and bottom edges of the blank. Make sure you center the patterns and that the tail on both patterns points toward the same end on the blank.



(J) Strut

Bill of Materials					
Part	Initial Size*			Matl.	Qty.
	T	W	L		
A	3/4"	3/4"	6"	M	2
B	3/4"	1/8"	6"	W	1
C	3/4"	1/8"	15 1/8"	W	1
D fuselage	3/4"	2 1/4"	12"	W	2
E wing	3/16"	3"	12 1/2"	W	1
F vert. stabil.	3/16"	2 1/4"	2 3/4"	W	1
G hort. stabil.	3/16"	2 1/4"	5 1/8"	W	1
H prop	3/16"	3 1/2"	3 1/2"	W	1
I gun mount	3/16"	3/4"	2 1/8"	W	1
J strut	3/16"	1 1/8"	2"	W	2
K brace	3/16"	3/4"	1"	W	2

*Cut parts to final size and/or shape during construction. Please read all of the instructions before cutting.

Material key: M-maple; W-walnut.
Supplies: 1/8" dowel, 3/16" dowel, finish.

continued

PLANE

4 Using a try square, and the patterns for reference, locate and mark the hole centerpoint for the propeller peg on the front end of the blank. Drill the $\frac{7}{32}$ " hole $\frac{1}{2}$ " deep as shown *top right*.

5 Mount a dado on your tablesaw to cut a $\frac{1}{4}$ "-wide groove $1\frac{1}{2}$ " deep. Stand the fuselage on the tail end. Next, adjust the fence to center the dado on one of the pattern slots, and using a scrap piece of wood, push the fuselage across the dado blade as shown at *right*. Reset the fence, turn the piece, and cut the second slot.

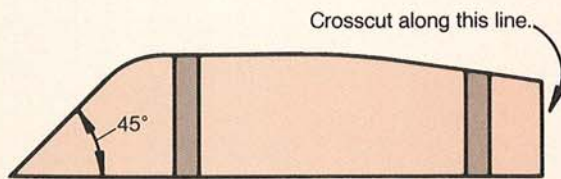
6 Lower the dado blade to $\frac{3}{16}$ ". Using the saw's miter gauge, form the $2\frac{1}{2}$ "-wide notch for the wing in the underside of the fuselage.

7 Remove the dado from your tablesaw. Mount your standard blade, elevate it $\frac{1}{2}$ " above the table, and crosscut the top of the fuselage at the line marked ZZ on the top pattern. To create the cockpit notch, bandsaw the nose and the top of the fuselage up to the crosscut you just made. Sand both notches. (We used a 1" belt sander on these areas.)

8 To drill the holes in the fuselage for the exhaust pipes, make the jig shown on page 15. Mark guidelines on the sides of the jig to align with the centerpoint of the $\frac{3}{16}$ " hole.

9 With a try square and pencil, extend the vertical centerlines of the four exhaust holes down the side of the fuselage. Next, position the jig on the pattern side of the fuselage, aligning the first hole centerline with the centerline on the jig. Clamp the jig. Drill the angled hole $\frac{3}{8}$ " deep as shown on page 15. Drill the remaining three holes.

COCKPIT SIDE PATTERN



10 Flip the fuselage over, and using the pattern dimensions, mark the exhaust hole centerpoints on that side. Now, drill those holes using the dowel jig.

11 Bandsaw the sides of the fuselage (rear half) to shape, following the cutlines on the Top pattern. (We sawed on the line.)

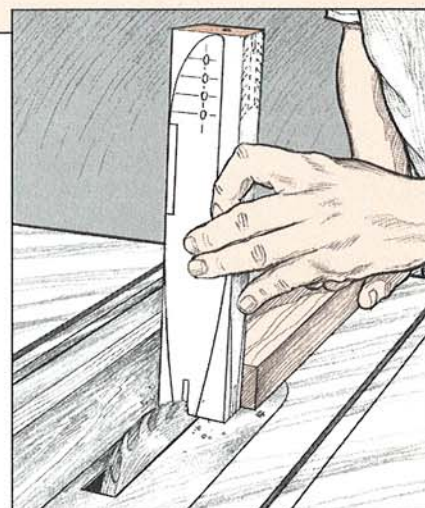
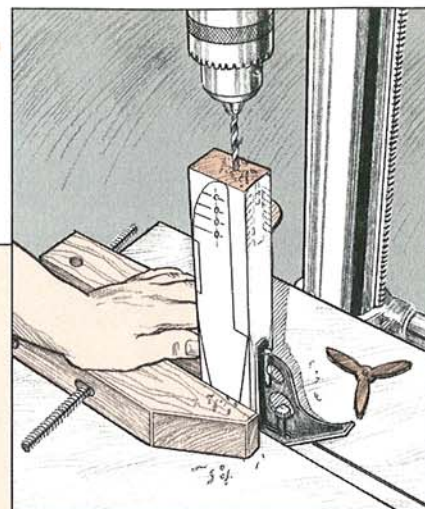
THE WING, WHEELS, AND TAIL PARTS COME NEXT

1 Plane or resaw a piece of $\frac{3}{4} \times 3\frac{1}{2} \times 30$ " walnut to $\frac{3}{16}$ " thick.

2 Make a copy of the wing (E), both stabilizers (F,G), the propeller (H), and the machine gun mount (I) patterns found on page 16 and 17. Make two copies of the wheel strut (J) and brace (K) patterns. Include centerlines and hole centerpoints on the patterns. Cut out the patterns, following the dash lines.

3 Arrange the patterns on the $\frac{3}{16}$ " walnut piece (see the Cutting Diagram for how we laid them out). Adhere the patterns to the piece. Drill the holes through the wing, propeller, and wheel struts. Using a scrollsaw or bandsaw, cut away the rectangle with the wing pattern and put it aside temporarily. Now, saw the other parts to shape.

Note: The diameter of toy axle pegs may differ from various suppliers. Size the mating holes to fit the pegs you will be using.

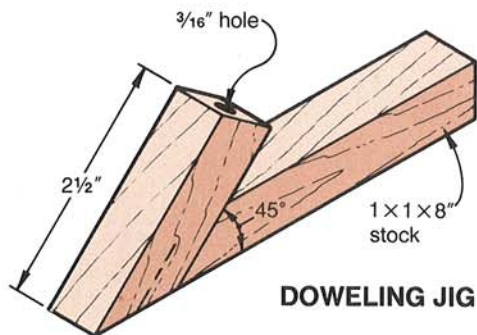


4 Mark the centerpoint for the $\frac{7}{32}$ " hole in the bottom of the vertical stabilizer but do not drill it yet.

5 Drill the $\frac{1}{8}$ " holes in the wing's leading edge. (We clamped it on edge in a woodscrew clamp and drilled the holes with our drill press.) Bandsaw the wing to shape.

6 Adhere the Machine Gun Mount Side View pattern to the side of the piece you cut out in step 3. Mark the hole centerpoints on the leading edge, clamp it in a woodscrew clamp, and then drill the two $\frac{1}{8}$ " holes, $\frac{3}{8}$ " deep. Now, bandsaw or sand the piece to the profile of the Side pattern. Sand the edges.

7 Remove the patterns from the sawn pieces. (We used lacquer thinner to dissolve the adhesive.) Finish-sand the remaining parts. Sand the cut edges to break the hard edges.

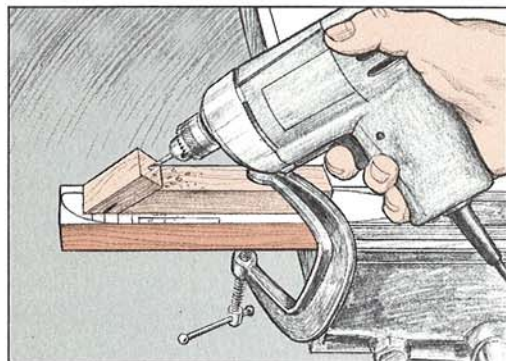


Step 1: Cut a 1×1×8" piece.

Step 2: Crosscut a 2½" length at 45° from the piece.

Step 3: Drill a ⅜" hole through the center of short piece.

Step 4: Glue short length to long piece.



NOW, ASSEMBLE AND FINISH THE PLANE

1 Center and glue the cockpit to the fuselage (see the Exploded View drawing on page 13 and the Top pattern on page 16 for position). Clamp the parts until the glue dries.

2 Glue one brace (K) to each wheel strut (J), aligning the parts along the top edge, and centering the braces over the ⅛" hole drilled into the struts. (We placed the glued parts on a piece of scrap and drove 4d finish nails alongside to hold them together while the glue dried.) Next, carefully drill through the ⅛" holes in the strut and ⅜" deep into the braces. (We held the parts in a wood screw clamp to keep them from separating while drilling.) Now, crosscut two ⅝" lengths of ⅛" dowel and glue one length in each of the holes you just drilled to strengthen the joints.

3 Remove the patterns from the fuselage. Sand the cockpit to shape and the taper on the fuselage. See the Cockpit drawing for our suggested profile. (We scribed the round profile on the front of the cockpit to guide us as we sanded.) Also, note on the Fuselage Top pattern how the fuselage tapers from 1¼" wide at the bottom to 1⅝" at the top. (We penciled a fine line along the top edge of the fuselage, ⅛" in from each edge, and then carefully sanded the taper to this line. We did this shaping on our stationary disc/belt sander, and then finished by hand-sanding with progressively finer-grit sandpapers.)

4 Crosscut eight ½" lengths of ⅜" dowel. Glue them in the exhaust holes in the fuselage. (When gluing parts, we wiped off any glue squeeze-out with a damp cloth before it set up.) After the glue sets, sand the ends of the dowels parallel to your plane's fuselage as shown on the Exhaust Pipe detail on page 13.

5 Test-fit the horizontal and vertical stabilizers in the slots cut in the fuselage tail. Adjust if necessary. Remove the parts, apply glue to the contacting surfaces, and reassemble. After the glue has dried, drill the ⅞" hole ½" deep into the horizontal stabilizer where marked.

6 Cut the shafts on four ⅞"×1⅝" toy axle pegs to ¾" long. Glue a peg in the hole you just drilled in step 5. The extending portion of the peg serves as the plane's skid.

7 Crosscut six ¼" lengths of ⅛" dowel, and two more ⅝" lengths. Glue the ¼"-long dowels in the holes drilled in the leading edge of the wing. Now, glue the ⅝" lengths in the holes in the machine gun mount on top of the fuselage.

8 Test-fit the wing in the ⅜"-deep dado in the fuselage bottom. Adjust wing width if necessary. Now, center the wing in the dado, and drill through the ⅞" hole, and ⅝" into the fuselage body.

9 Position and glue the landing gear subassemblies to the underside of the wing (centered under the ⅛" holes) where shown on the Exploded View. After the glue dries, carefully drill through the two sets of ⅛" holes from the wing's topside and ⅜" deep into the braces and struts. Crosscut four ½" lengths of ⅛" dowel, and then glue them in the holes you just drilled.

10 Glue the wing to the fuselage. Next, glue an axle peg in the wing and fuselage hole. Now, clamp the assembly until glue dries.

11 Glue the machine gun mount to the top of the fuselage and clamp.

12 Finish the assembled plane, the propeller, and the wheels. (We applied two coats of sanding sealer and two coats of lacquer, sanding after each application with 320-grit open-coat sandpaper.)

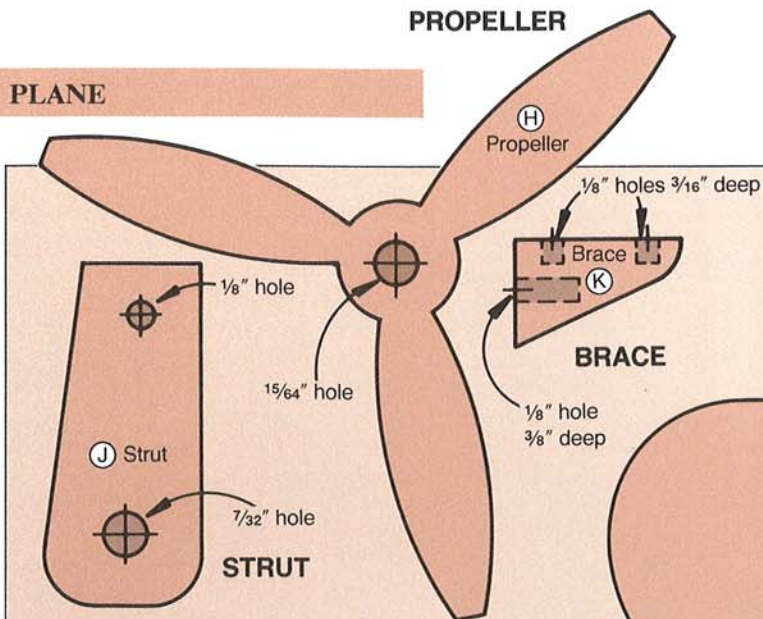
13 Insert the axle pegs through the holes in the 1¼"-diameter wood wheels (see the Buying Guide on page 16), and then glue the ends in the ⅞" holes in the struts. Do not glue the wheels—you want them to turn freely. (See the Exploded View drawing for additional detail.)

14 Insert an axle peg through the hole in the propeller, and then glue it in the hole in the fuselage nose. Insert the peg far enough so the prop turns smoothly but does not wobble. Touch up the ends of the unfinished axle pegs with a coating of finish. Now, don your flight jacket, gloves, helmet, and goggles, and you're ready for takeoff.

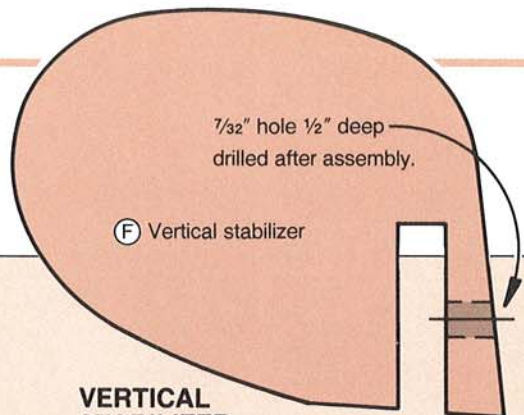
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PLANE

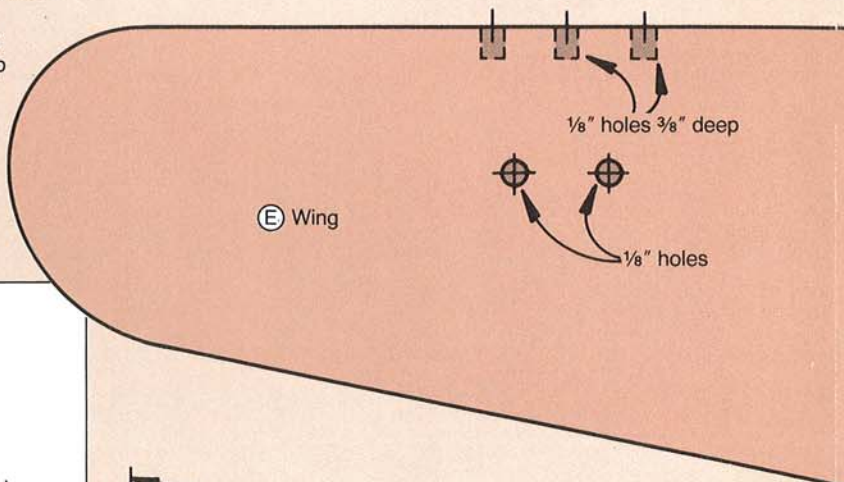
PROPELLER



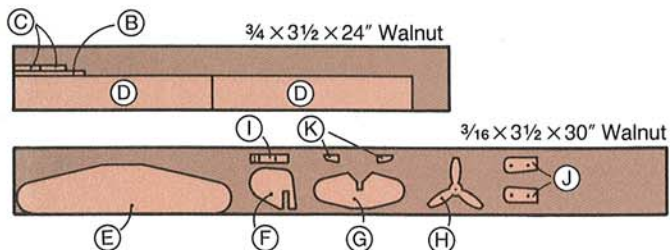
VERTICAL STABILIZER



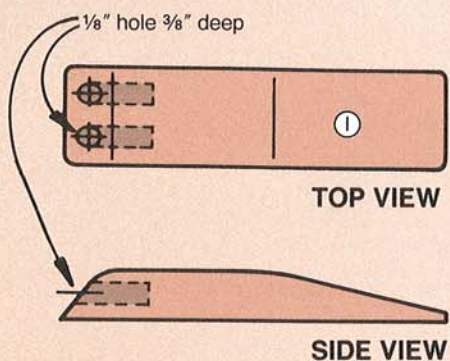
Wing



CUTTING DIAGRAM

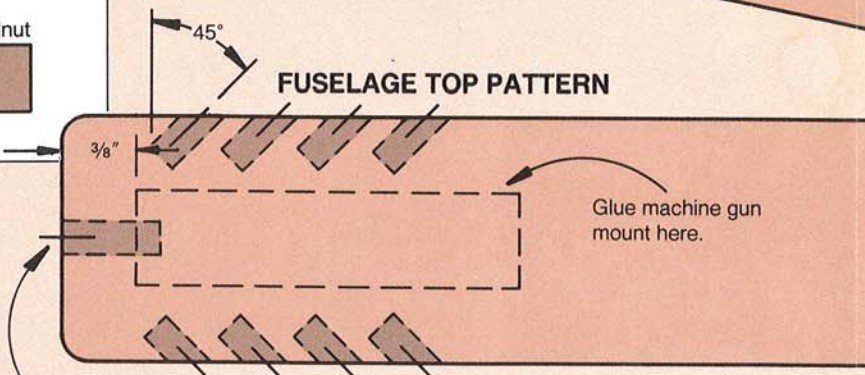


MACHINE GUN MOUNT

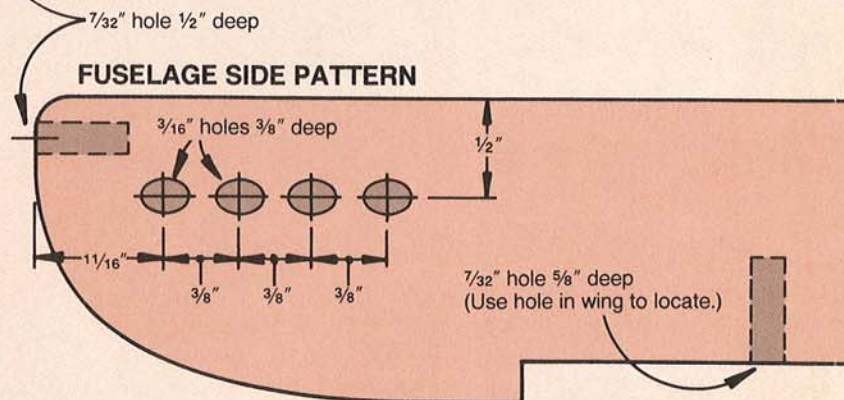


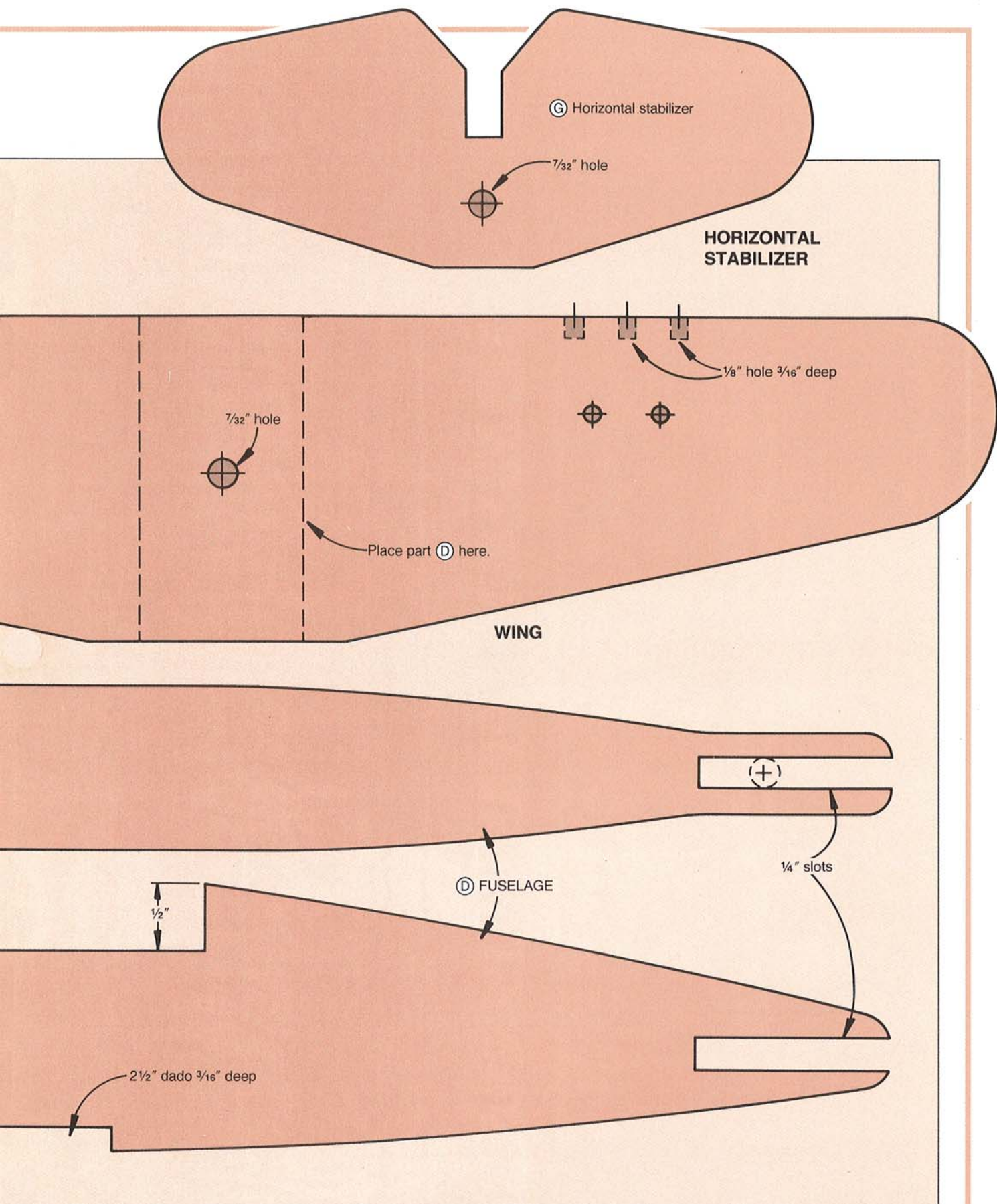
FULL-SIZED PATTERNS

FUSELAGE TOP PATTERN



FUSELAGE SIDE PATTERN





SHELVES WITH A VIEW

A SHOWCASE FOR COLLECTIBLE CUPS, SAUCERS, AND PLATES



Too often, shelving units found at local retailers offer only generalized functions. They don't dare specialize. With our handsome display shelf, we took the road less traveled. The grooved shelves enable saucers and plates to stand upright. Routed cherry spindles along the front create decorative frames for showing off your collectibles.

CUT THE CASE PARTS

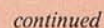
1 Using the dimensions listed on the Bill of Materials *opposite*, rip and crosscut two pieces of $\frac{3}{4}$ " stock (we used cherry) for the case top and bottom (A). Next, cut two shelves (B), two sides (C), and one valance (D). (We initially cut this piece $\frac{1}{2}$ " longer, and then cut it to fit after dry-assembling our case.) See the Cutting Diagram *opposite* for how we laid out and cut the parts from our cherry stock.

2 Mount a $\frac{3}{4}$ " dado blade to your tablesaw and elevate it to cut $\frac{1}{4}$ " deep. (We tested setting on scrap to ensure shelves fit the grooves.)

3 Using the dimensions on the Exploded View drawing, lay out the location of the dadoes on the inside face of the two sides. Next, set up the rip fence. Now, with your miter gauge, crosscut the first groove into the inside face of both side pieces. Reset the fence and cut the second groove in both sides.

4 Dry-assemble the shelves and sides, and temporarily clamp. Place this assembly on top of the bottom piece, center it from side to side, and using a square, mark the location for the dadoes at each end on the bottom piece. Next, mark the dadoes in the top piece.

5 Set the dado blade to cut $\frac{1}{4}$ " above the saw table. Move the rip fence about 1" from the blade. Clamp a stop to it, and set it behind the saw blade so that it limits the length of the dado crosscut to 5". Using the miter gauge to guide the pieces, and starting from the back edge, cut the dadoes where marked on one end of the top and bottom pieces. Move the fence to the other side of the blade, reset the stop block at 5" again, and dado the opposite ends on these pieces. Chisel the ends of the dadoes square.



SHOWCASE

6 Scribe a $1\frac{1}{4}$ " radius on the front corners of the top and bottom pieces. Bandsaw these corners to shape and sand the cut edges.

7 Using a $\frac{3}{8}$ " beading bit, rout along the bottom front edge and ends of the top and bottom pieces where shown on the Exploded View drawing. Do not rout along the back edges of these two pieces.

8 Test-fit the valance (D) at the top of the shelf/side assembly. Mark the length, and then crosscut the piece. Now, disassemble the shelves and sides.

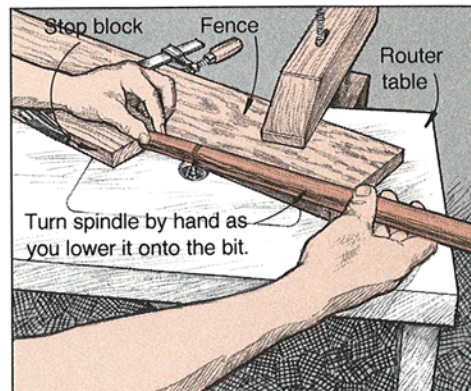
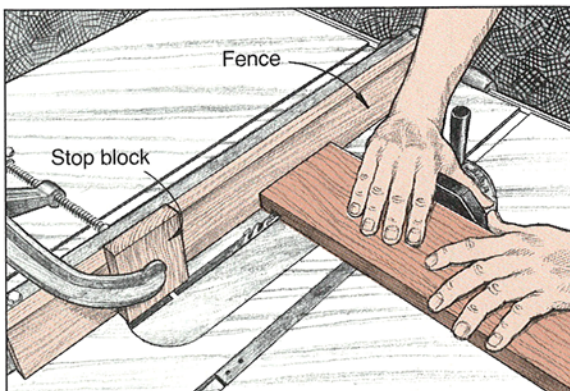
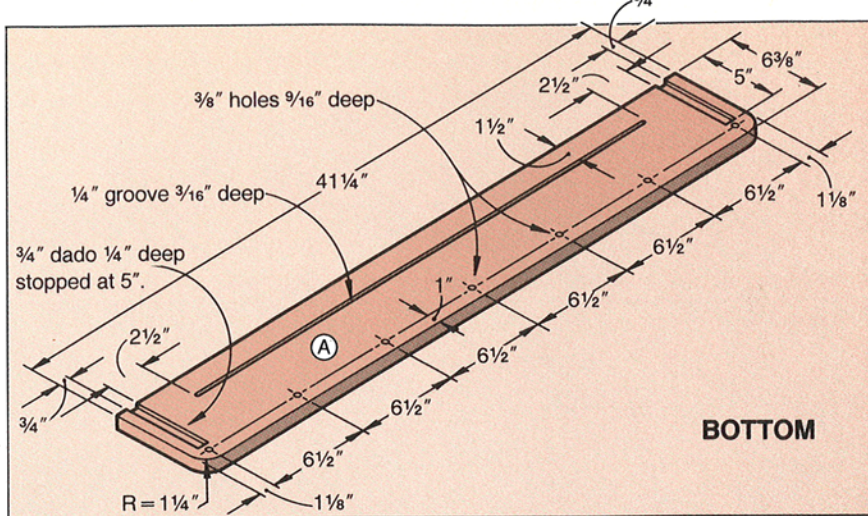
9 Switch to either a $\frac{1}{4}$ " veining or core box bit and adjust it to cut a $\frac{3}{16}$ "-deep groove. Attach the guide fence to your router, and set it to cut the groove $1\frac{1}{2}$ " in from the edge. Now, rout a plate groove along the back edge in the top surfaces of both shelves. Stop the grooves $2\frac{1}{2}$ " from the ends. Rout a plate groove in the bottom piece the same way, stopping $2\frac{1}{2}$ " from the dadoes.

NEXT, PREPARE THE VALANCE AND TOP

1 With a rule and compass, and using the dimensions on the Valance drawing and Arch detail on page 19, lay out the radii for the six arches. Carefully scrollsaw or bandsaw the arches to shape, and sand the sawn edges. (We used a drum sander.) Save several of the cutouts to use when assembling the piece later.

2 Rip the valance to $2\frac{3}{4}$ " wide as shown on the Arch detail.

3 Lay out centerpoints for the seven holes in the top surface of the bottom, using the dimensions listed



on the Bottom drawing. Do the same for the mating hole centerpoints in the bottom edge of the valance. (Refer to the Valance drawing for positioning details.)

4 Chuck a $\frac{3}{8}$ " bit in your drill press. Next, clamp a fence to your drill press table $\frac{3}{8}$ " from the centerpoint of the bit. Turn the valance on edge, and drill the $\frac{9}{16}$ "-deep holes. (We set the depth adjustment on the drill to ensure the correct depth.)

5 Move the fence to 1" from the center of the bit and clamp. Now, drill the seven holes $\frac{9}{16}$ " deep in the bottom piece.

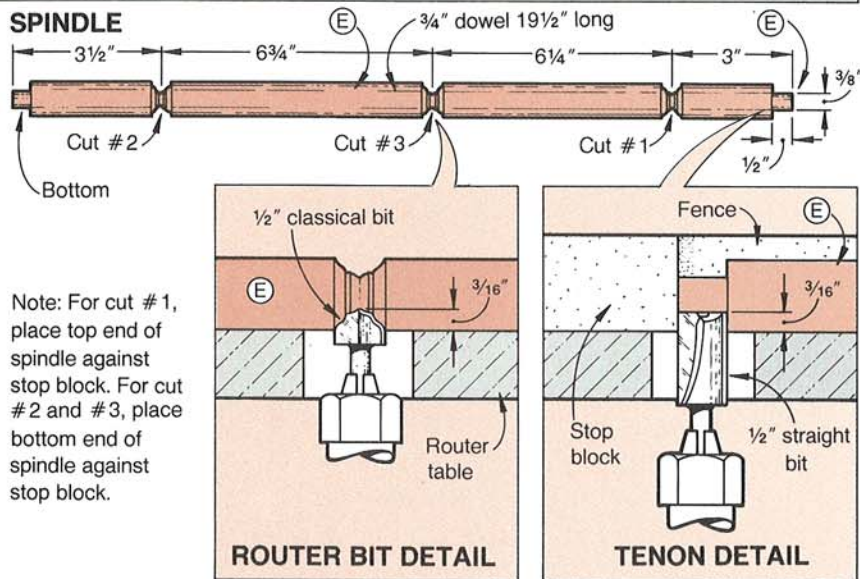
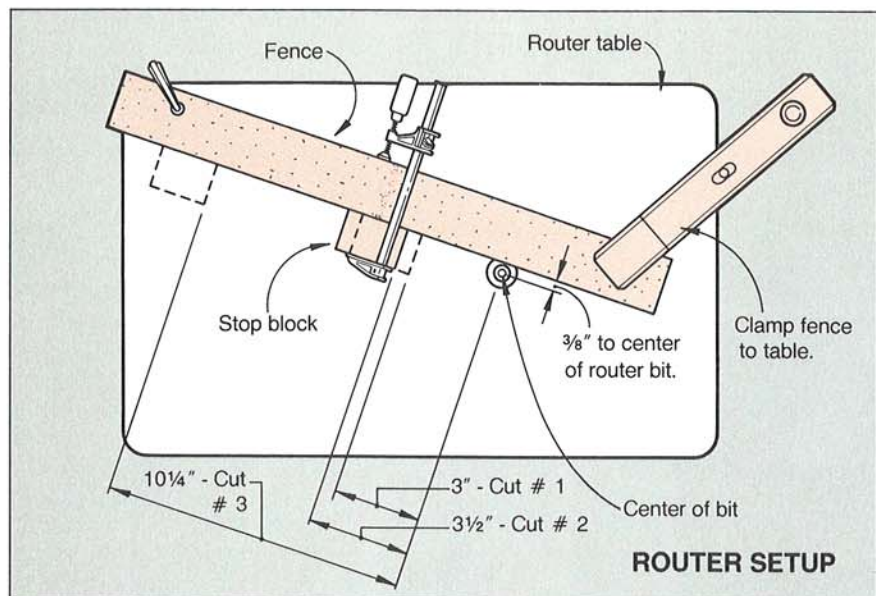
6 Lay out and drill the three holes in the top face of the top where indicated on the Exploded View drawing and the Screw Hole detail.

NOW, LET'S SHAPE THE SPINDLES

1 Crosscut seven $\frac{3}{4}$ " cherry dowels to $19\frac{1}{2}$ " long. (See the Buying Guide for our mail-order source of the cherry dowels.)

2 Chuck a $\frac{1}{2}$ " classical bit into your table-mounted router and elevate the tip of it $\frac{3}{16}$ " above the table surface. Clamp a fence to the router table $\frac{3}{8}$ " from the center of the bit, as shown on the Router Set-up drawing *opposite*. (We made the fence so it extended only 7" beyond the right of the bit. This allowed us to easily handle the dowel and turn the end of it with our fingers.) Next, clamp a stop block to the fence 3" from the center of the bit.

3 To make decorative cut 1 shown on the Spindle drawing and Router Bit detail *opposite*, first place the spindle against the fence with its top end against the stop block. While holding the bottom end of the spindle about 1" above the table, turn on your router, and then slowly lower the spindle onto the spinning bit to start the cut. Rotate the spindle with your fingers, gradually lowering it onto the bit, to complete the cut, as shown *above*. (We practiced this procedure on a scrap dowel first.) Make the same cut on the other six spindles.



4 For decorative cut 2, clamp the stop block 3 1/2" from the center of the bit. Turn the spindle end for end (bottom end against the stop block), and make the cut using the procedure described in step 3. Rout all seven spindles at this setting.

5 For decorative cut 3, clamp the stop block 10 1/4" from the center of the bit. Place the bottom end of the spindle against the stop block and rout it. Rout the remaining spindles.

6 Switch to a 1/2" straight bit and set up your router table as shown in the Tenon detail above. Rout tenons on both ends of each spindle.

YOU'RE READY TO ASSEMBLE AND FINISH

1 Finish-sand all parts. (We started with 150-grit and graduated to 220-grit sandpaper.) Sand a slight taper to the spindle tenons to aid fitting. Dry-assemble all parts to check their fit. Adjust sizes if necessary.

2 Glue and clamp the shelves to the sides. (We used white woodworker's glue and wiped off squeeze-out with a damp cloth before it set up.) Check squareness of the shelves and the sides.

3 Glue, and clamp the sides into the bottom. Square the assembly.

4 Glue the bottom tenons of the spindles in the holes in the bottom. Glue and insert the top tenons of the spindles into the holes in the bottom edge of the valance, and then glue and clamp it against the top front edges of the sides.

5 Glue and clamp the top to the valance and to the sides. (We used the scrap arch cutouts saved earlier in the arches, and scrap blocks to protect the project when clamping.)

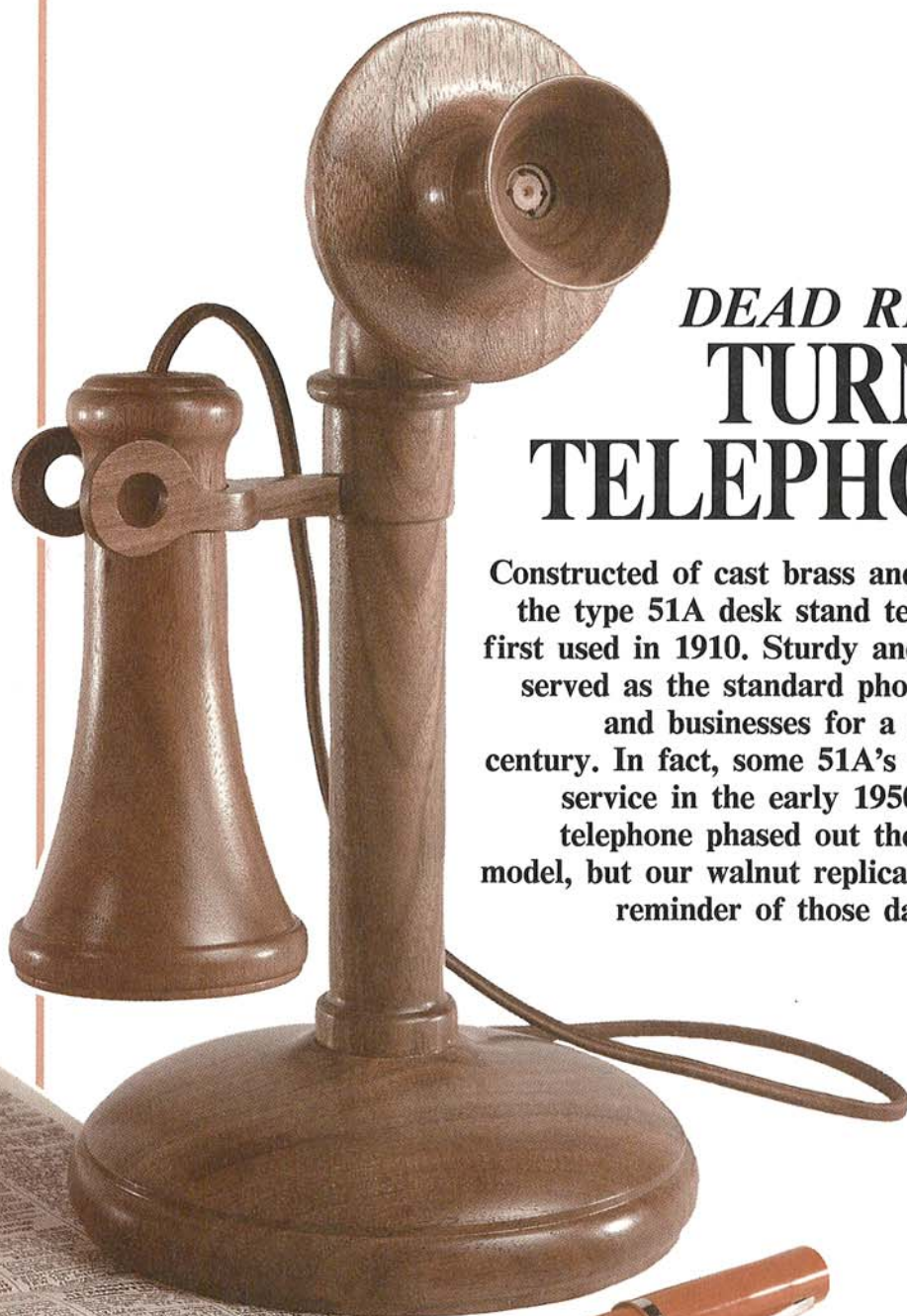
6 Drill 7/64" pilot holes through the predrilled holes in the top and 1/2" deep into the valance. Drive #8 x 1" flathead wood screws into the holes. Now, using a 3/8" plug cutter, cut three plugs from cherry scrap. Glue the plugs in the holes, and sand them flush with the top.

7 Apply the finish of your choice. (We wanted a natural cherry look, so we applied two coats of lacquer, sanding with 320-grit sandpaper.)

Note: To safely hang a project of this weight, we recommend that you attach two, and preferably three, loop-type mirror hangers to the top. Position them so you can drive the wall screws into wall studs.

Buying Guide

● **Cherry dowels.** Package of seven 3/4" diameter, 36" long. Order no. 9122. \$19.25 plus \$4.95 shipping. From: Meisel Hardware Specialties, P.O. Box 70, Mound, MN 55364-0700. Telephone: 1-800-441-9870.



DEAD RINGER TURNED TELEPHONE

Constructed of cast brass and later steel, the type 51A desk stand telephone was first used in 1910. Sturdy and reliable, it served as the standard phone in homes and businesses for a quarter of a century. In fact, some 51A's were still in service in the early 1950's. The dial telephone phased out the desk stand model, but our walnut replica stands as a reminder of those days gone by.

Note: You'll need thick stock for the telephone parts. If you don't have the necessary stock, use turning blanks and squares, or laminate thinner material to size.

FORM THE TEMPLATES AND TURN THE BASE

1 Using a photocopy or carbon paper, transfer the full-sized base, stem, transmitter, and receiver templates shown on page 25 to poster-board. Cut the templates to shape. (We used an X-acto knife).

2 Rip and crosscut a piece of $2 \times 7 \times 7$ " walnut stock or laminated block and find the centerpoint on one face. Using a compass, scribe a $6\frac{1}{2}$ "-diameter circle around the centerpoint. Now, bandsaw the blank round for the telephone base (A). (See the Exploded View drawing on the page opposite.)

3 Center your 3" faceplate on the bottom face of the base blank. Mark the centerpoints, drill the mounting holes, and then screw the blank to your faceplate as shown on the Base drawing. Thread the faceplate to your lathe's headstock. Next, turn the base, checking the shape frequently against the Base template. (We used a $\frac{1}{2}$ " gouge, parting tool, and a lathe speed of about 1,000 rpm when turning the telephone base.)

4 Stop the lathe and clamp a hand-screw clamp to the faceplate to hold it steady. Drill a $\frac{1}{4}$ " hole 1" deep in the side of the base for the cord where shown on the Base template.

Bill of Materials

Part	Finished Size*			Matl.	Qty.
	T	W	L		
A base	1 7/8"	6 1/4" dia.		W	1
B stem	1 3/8" dia.		9 1/16"	W	1
C trnsmr.	3 1/4" dia.		3"	W	1
D receiver	2 3/4" dia.		5 1/2"	W	1
E switch hook	1"	1 11/16"	3 1/4"	W	1
F swivel	1/4"	1"	1 5/8"	W	1

Material Key: W-walnut or laminated walnut

Supplies: Cloth-covered cord (2 ft.), #14 x 5/8" brad.

5 If you have a key chuck for your tailstock, use it to drill a 1/2" hole 1" deep centered in the top face of the base. If you don't have a chuck, complete the rest of this step, and then drill the hole on your drill press. At a speed of about 1,200 rpm, sand the base smooth with 180- and 220-grit sandpaper. Remove the faceplate from the base. Fill the screw holes on the bottom of the base with walnut-colored wood putty.

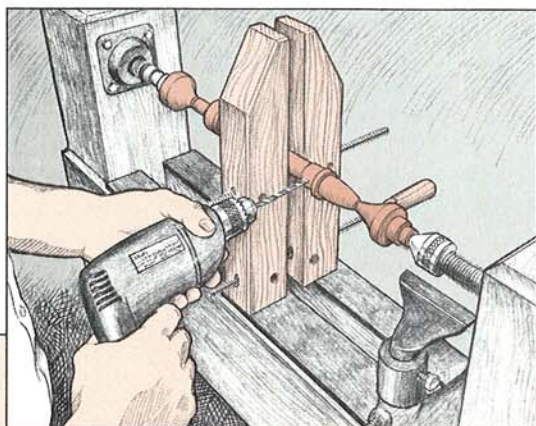
SHAPE THE STEM

1 Crosscut a 12" length from a 2" walnut turning square for the stem (B). Draw diagonals on each end to find the center. Set the lathe speed at about 1,200 rpm. Next, mount

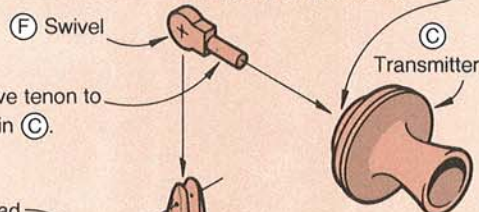
the turning square between the lathe centers, and then turn it to 1 3/8" diameter cylinder. (We used a 1/2" gouge for this).

2 Turn the stem to shape, using the Stem template as a guide. (We used a parting tool to form the tenon at the bottom end and set the depth of the different areas, and finished shaping the piece with a 1/2" skew.) Measure with an outside caliper when forming the 1/2" tenon on the bottom end of the stem so it fits snugly in the hole in the base.

3 Turn off the lathe and hold the stem steady with a handscrew clamp as shown at left. Mark the centerpoint for the switch hook, and drill a 1/4" hole 1/2" deep. Sand the stem, and then part the piece.



1/4" hole 1/2" deep centered on back of transmitter.



Sand or carve tenon to match hole in (C).

#14 x 5/8" brad

Sand or carve tenon to match hole in (B).

1/4" hole 1/2" deep

(B) Stem

(E) Switch hook

Epoxy end of cord in hole.

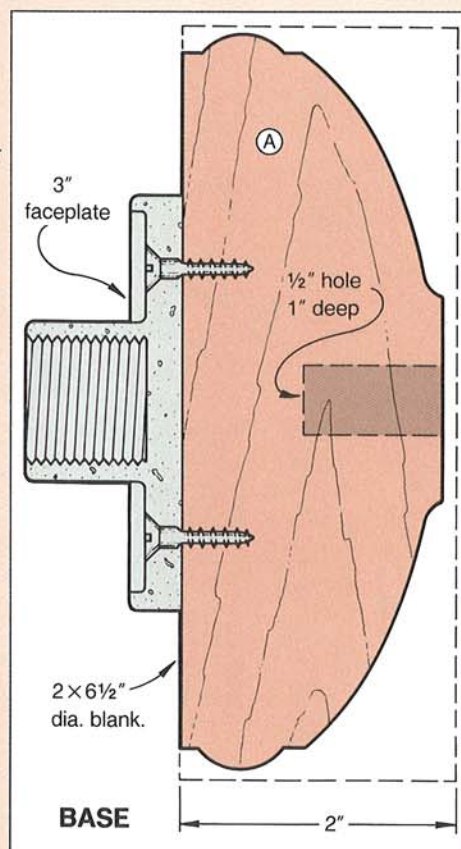
(D) Receiver

(A) Base

1/2" hole 1" deep

Epoxy end of cord in hole.

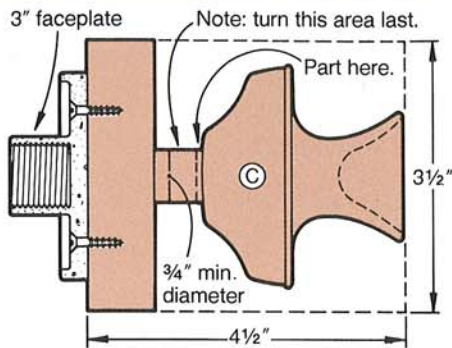
1/4" hole 1" deep



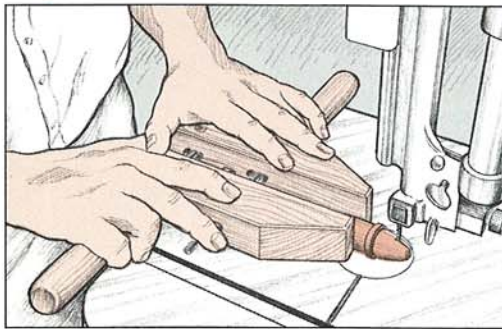
BASE

continued

TELEPHONE



SHAPING THE TRANSMITTER



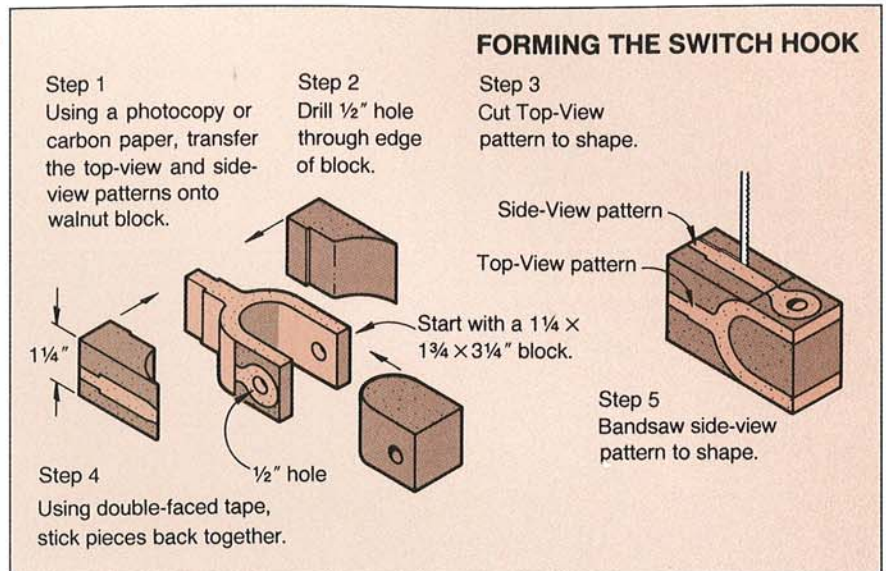
4 Bandsaw a $\frac{1}{4}$ "-wide slot 1" deep in the top end of the stem using the technique illustrated above.

WE'RE READY TO TURN THE TRANSMITTER

1 Rip and crosscut six $\frac{3}{4}$ "-thick pieces of walnut to 4" square. Glue and clamp the pieces face to face aligning the edges and ends to form the transmitter lamination.

2 Using a compass, mark a $3\frac{1}{2}$ "-diameter circle on the top surface of the lamination. Next, following this line, bandsaw the transmitter blank as round as you can.

3 Center a 3" faceplate on one face of the cylinder, drill pilot holes, and screw the faceplate to it. Next, using the Shaping the Transmitter drawing above for reference, and the posterboard Transmitter template you made earlier, turn the transmitter (C) to shape. (We used a speed of about 1,000 rpm and a $\frac{3}{8}$ " gouge and parting tool.



4 Finish-sand the transmitter using progressively finer sandpapers. Part the transmitter from the faceplate.

5 Drill a $\frac{1}{4}$ " hole $\frac{1}{2}$ " deep centered in the back of the transmitter.

YOUR FINAL TURNING

1 Cut a 7" length from a 3" turning square or lamination. Mark diagonals on each end to find the centers, and then mount the stock between centers on your lathe.

2 Now, turn the receiver (D), also called an earphone, to shape. (We used a parting tool and $\frac{3}{8}$ " gouge.) Check its shape with the Receiver template as you turn.

3 Sand the receiver, and then make the parting cuts. Move the part to your drill press and drill a $\frac{1}{4}$ " hole 1" deep in the center of the top end for the cord.

CUT THE SWITCH HOOK AND SWIVEL TO SHAPE

1 Cut a $1\frac{1}{4}$ "-thick block of walnut to $1\frac{3}{4}$ " wide by $3\frac{1}{4}$ " long. Next, follow the five-steps on the Forming the Switch Hook drawing above, to form the switch hook (E). Now, carefully hand-sand the part.

2 Form a $\frac{1}{4}$ "-round tenon $\frac{7}{16}$ " long on the end of the switch hook to fit into the $\frac{1}{4}$ " hole in the stem. (We cut around the stem with our carving knife, and then carved off

the corners to form the tenon.) Glue the switch hook tenon in that hole, and square the hook to the stem.

3 To form the swivel (F), plane or resaw a small piece of walnut to $\frac{1}{4}$ " thick. Transfer the Swivel pattern to your stock and bandsaw or scrollsaw the swivel to shape. Next, carve or sand the $\frac{1}{4} \times \frac{1}{4}$ " tenon to fit the hole drilled into the transmitter. Finish-sand the swivel.

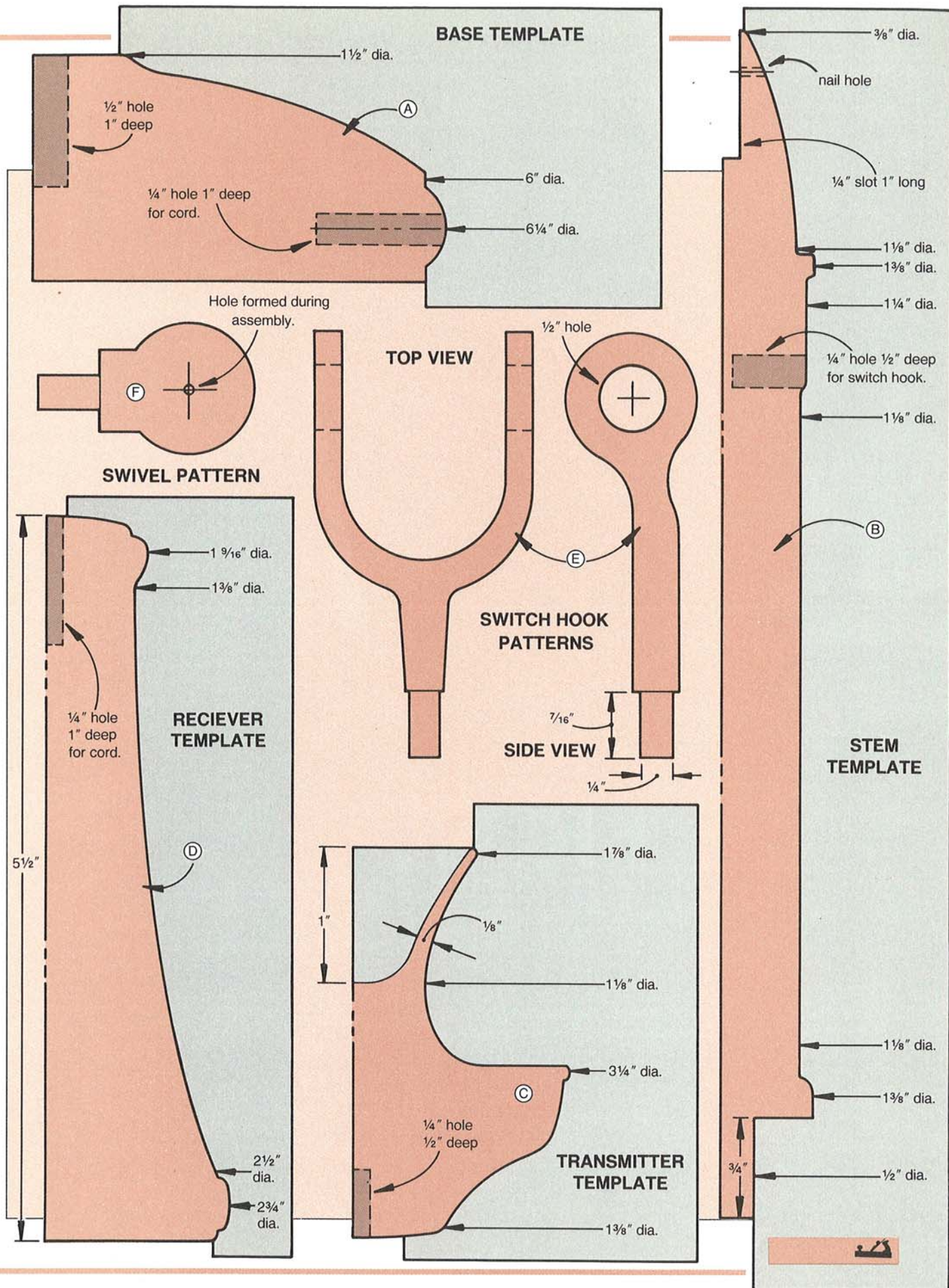
4 Clip the head off a #14 $\times \frac{5}{8}$ " brad and chuck it into your portable drill. Position and center the swivel in the notch in the stem. Now, using the brad, drill a hole through the stem and swivel.

ASSEMBLE AND FINISH YOUR PHONE

1 Glue the stem in the base and the swivel in the transmitter. (We used yellow woodworker's glue.) See the Exploded View drawing for alignment of the parts.

2 Apply the finish. (We applied three coats of lacquer, sanding with 320-grit sandpaper between coats).

3 Epoxy one end of a fabric-covered electrical cord in the hole in the receiver, and the other end into its base. Insert the brad through the stem and swivel. Apply a dab of instant glue to the brad to hold it in place. Now, you're ready to display your handiwork for all to enjoy.





FROSTY

THE CHIP-CARVED SNOWMAN

When the weather turns for the worse, why not turn for the better by shaping this handsome, decorative snowman in the cozy confines of your shop. Then to complete, chip-carve the bulbous body and head, and paint. Using our turning template will help ensure your immediate success.

Note: To make our snowman, we started with a $2\frac{1}{2} \times 2\frac{1}{2} \times 6$ " basswood turning square and a $\frac{3}{8} \times 2 \times 2$ " piece of scrap basswood. You may order a turned snowman and piece of basswood ready to carve from the source listed in our Buying Guide on page 29. If you order the kit, skip this first section.

FIRST, TURN THE SNOWMAN TO SHAPE

1 Mark the centers on the ends of a $2\frac{1}{2} \times 2\frac{1}{2} \times 6$ " basswood turning square. (We drew diagonal lines from the corners with a straightedge and pencil.) Next, mount the square between centers on your lathe and turn it to a $2\frac{1}{2}$ "-diameter cylinder using a $\frac{1}{2}$ " gouge. (We ran our lathe at 800 rpm for this.)

Note: If you wish, exaggerate the snowman's proportions to your own liking. You can also turn a larger snowman by using a larger square.

2 Next, trace a copy of the Snowman Template on page 28, including the segment dividing lines, along one edge on a piece of posterboard. (We used carbon paper.) Hold this up to the cylinder, turn on the lathe, and transfer all of the lines to the turning with a pencil as shown *opposite, top*. Cut out the shaded area of the template with scissors.

3 Return to the lathe with a parting tool and cut into the turning to the prescribed depths at the lines you just marked. (We ran our lathe at 1,250 rpm for this.) When parting the body segments, stop $\frac{1}{8}$ " from the final prescribed depths. Adjust your calipers to the measurements shown on the Snowman Front View on page 29, and check each cut. Add $\frac{1}{8}$ " to the parting dimensions for the three body segments. (We'll cut V-grooves later at these locations after removing more of the excess material.)

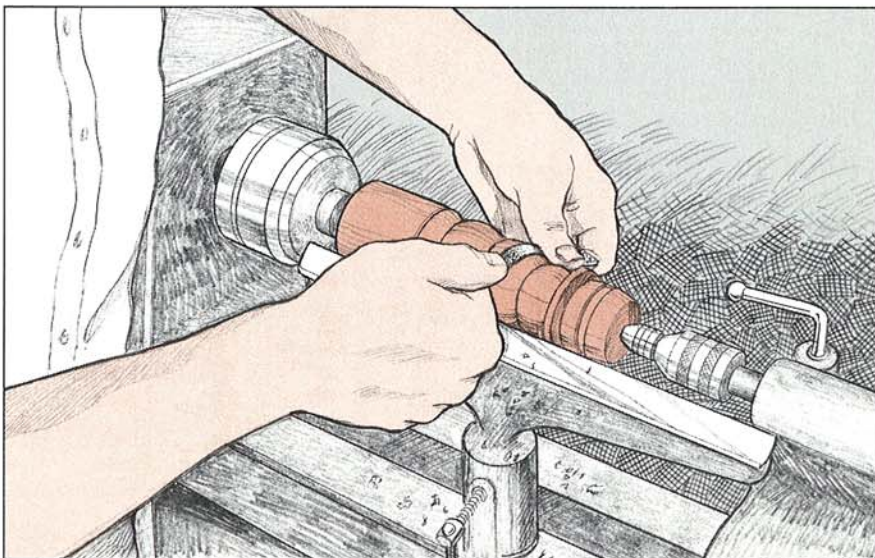
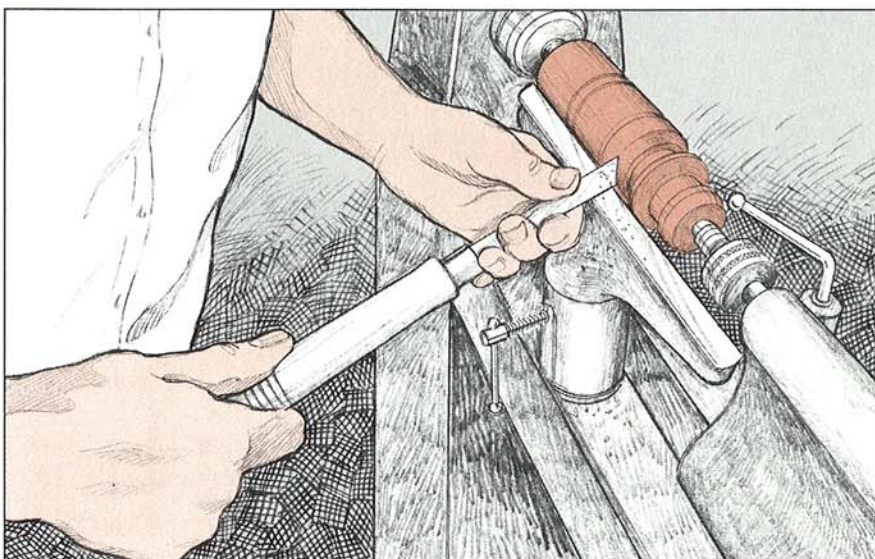
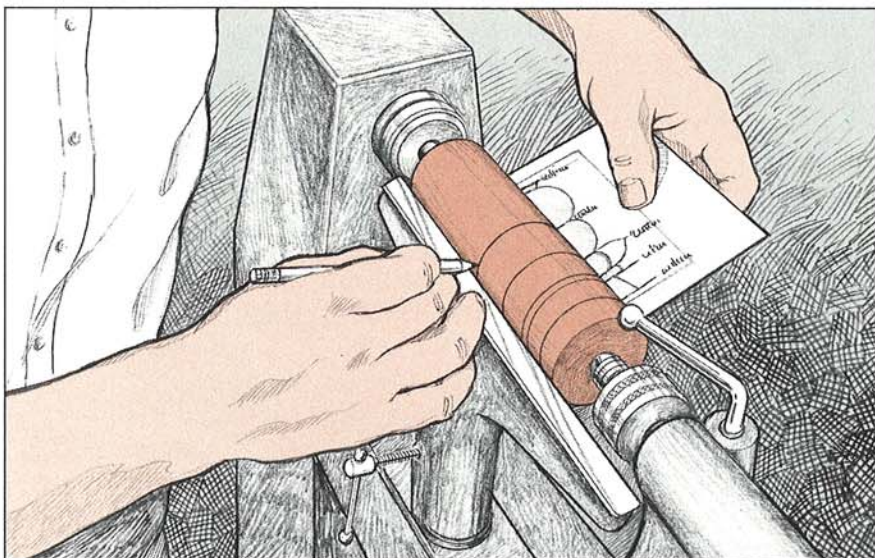
4 Beginning at the top or hat, start shaping the hat, narrowing the taper toward the brim. Cut a shallow V-groove $\frac{1}{8}$ " up from the brim to mark the hatband location. Next, move below the brim and shape the rounded head. Check the diameter. Work the point of the skew into the neck/body joint and form a rounded V-groove to the correct diameter ($1\frac{1}{4}$ "). Gently rotate the skew's handle to make the rounding cut. (See drawing *center right*.) Go back and shave the hat brim to 2" diameter. Frequently check the work area with an outside calipers until you achieve the correct depth.

5 Move down and turn the middle body segment. Next, cut the rounded V-groove between the middle and lower segment. Finally, cut the rounded V-groove between the lower segment and base. Now, hold the template against the turning to check its shape. Make any corrections needed.

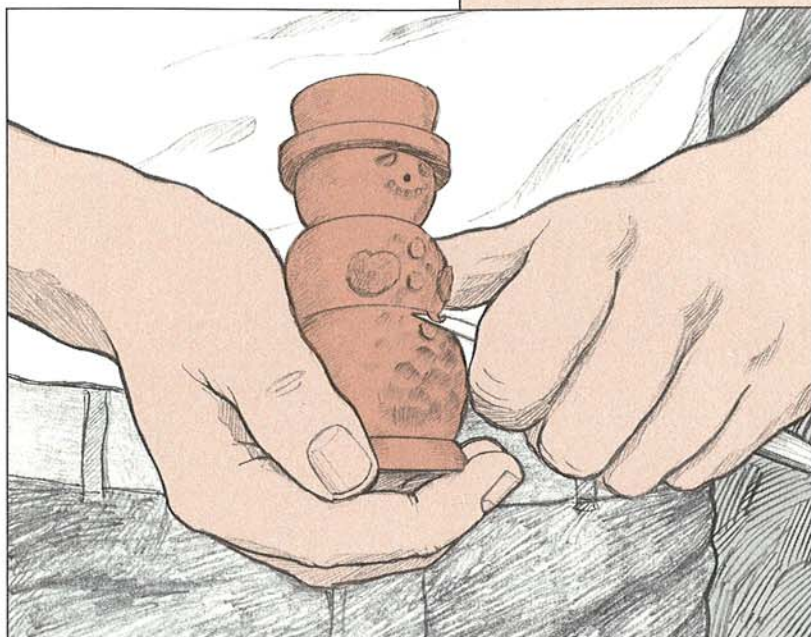
6 Sand the snowman while it spins on the lathe as shown *below right*. (We ran our lathe at 1,500 rpm and sanded first with 150-grit sandpaper, then graduating to 220- and 320-grit sandpaper.) With your parting tool, turn the waste areas at each end to $\frac{1}{4}$ ". To ensure the snowman will sit flat without rocking, turn a slightly concave bottom up to the $\frac{1}{4}$ " tenon. Remove the turning from the lathe, and cut off the top waste. Use a $\frac{3}{8}$ " chisel to cut off the remaining tenon in the concave bottom. Now, sand both of the ends smooth.

NOW, CARVE YOUR SNOWMAN

1 Using a pencil and the Snowman Profile Drawing for reference, mark the locations of the eyes, teeth, buttons, mittens, and hole for the broom handle. Locate the center-point between the eyes and teeth and make a mark for the carrot



Continued

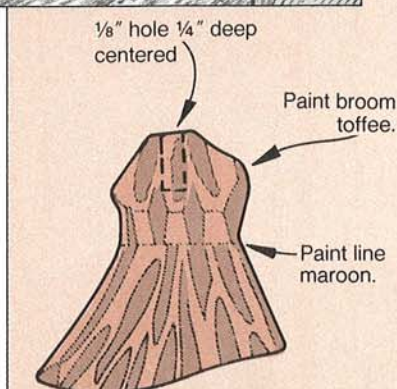


nose. Using a $\frac{1}{8}$ " drill bit, bore a hole at this location $\frac{1}{4}$ " deep. Carve the end of a $\frac{1}{8}$ " dowel to resemble a carrot, and cut this end off at $\frac{5}{8}$ ". (We used a bench carving knife.) Test-fit the nose piece in the hole, and then set it aside until later.

2 Cut around the outlines of the mittens, coal buttons, teeth, and eyes to form stop cuts. (We used a fine V-groove tool and bench carving knife.) The stop cuts let you remove the wood surrounding these parts when chip-carving in order to create relief.

3 Next, with a bench carving knife or flat gouge, chip-carve around the outlined parts and create a faceted surface on the body and head segments. See the drawing above. Do not carve the hat. (We made our carved facets $\frac{1}{4}$ " to $\frac{3}{8}$ " long.)

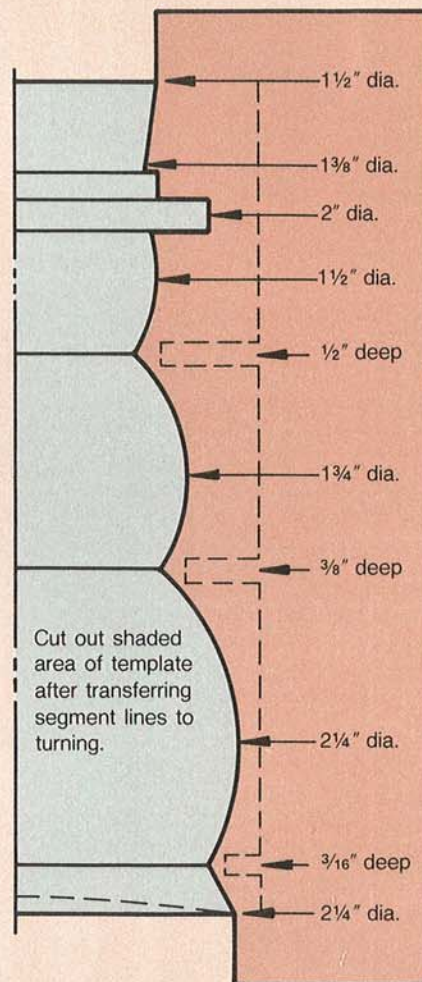
4 Carve very small ($\frac{1}{16}$ to $\frac{1}{8}$ ") facets on the surfaces of the mittens, coal buttons, teeth, and eyes.



BROOM PATTERN

5 Poke a starter hole with an awl between the thumb and fingers of the right mitten. (See the Snowman Front View). Now, chuck a $\frac{9}{64}$ " bit into a portable electric drill, and drill a $\frac{3}{4}$ "-deep hole at a 30° angle to the body.

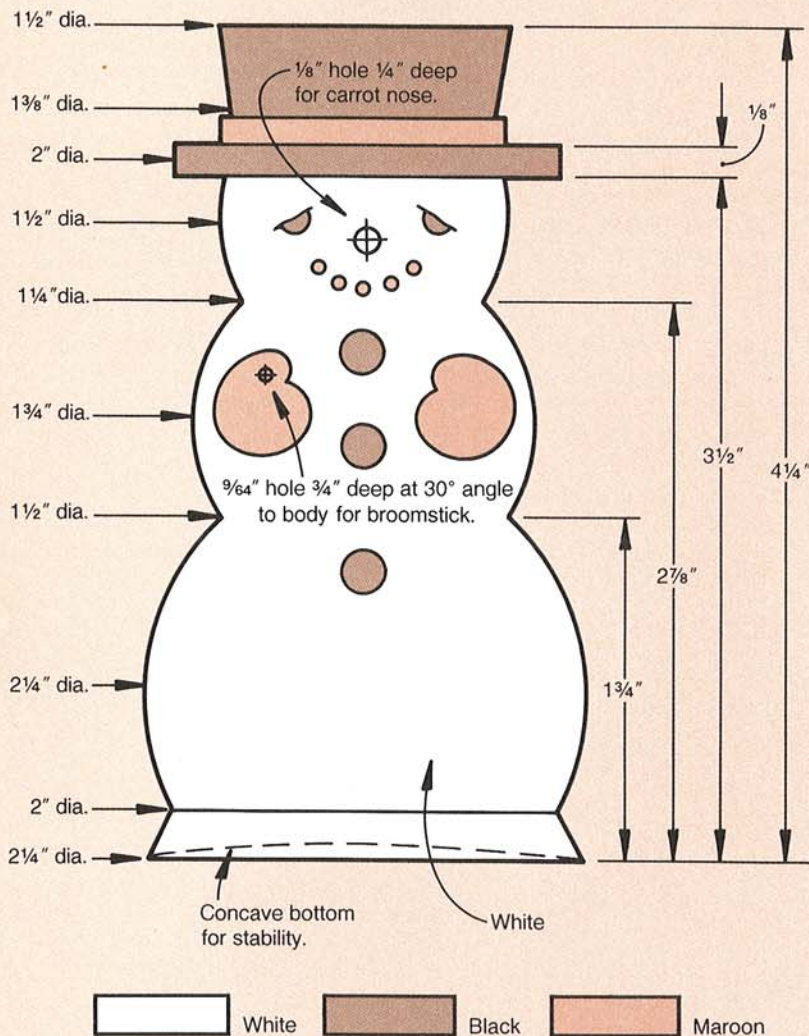
6 Copy the Broom Pattern shown above, onto paper and then trace or adhere it to one side of the $\frac{3}{8}$ "-thick scrap piece of basswood. Drill a $\frac{1}{8}$ "



SNOWMAN TEMPLATE

hole $\frac{1}{4}$ " deep in the edge where indicated on the pattern. Next, cut out the broom piece on a scrollsaw or bandsaw, and chip-carve around it, especially the edges, to give it a more natural shape. Now, start carving the straw texture into your broom's surface with a V-groove tool. (To create the irregular pattern of the broom straw, we cut several grooves measuring $\frac{1}{4}$ " to $\frac{3}{4}$ " long and at slightly different angles.)

SNOWMAN FRONT VIEW (FULL-SIZED)



7 From 1/8" dowel, crosscut a 2 1/2"-long broom handle. Glue one end of the dowel in the broom. Test-fit the broom handle's point into the hole in the snowman's mitten. Lightly finish-sand all pieces without disturbing the faceted look.

Note: We did not glue the broom handle into the snowman. This way it will be easier to replace should it accidentally be broken or lost.

LIVEN UP YOUR SNOWMAN WITH COLORFUL PAINT

1 First, brush a base coat of ivory-colored paint over the entire snowman. (We used acrylic paints made by Ceramcoat and available at most well-stocked crafts supply stores.) Paint the hat black. While these coats dry, you can paint the nose red-orange, the broom toffee (dark tan), and the broomstick maroon-red, or choose your own colors.

2 Once the broom dries, paint a fine maroon-red line across its mid-section to represent the binding holding the straw together. When the paint on the snowman dries, paint the hatband and mittens maroon-red. Paint the coal eyes, teeth, and buttons black. Let dry. To intensify the colors, you may wish to apply two coats of these paints.

3 After the paints dry, glue the carrot in the nose. Insert the broom handle in the hole drilled for it.

4 Now, stand your snowman on a sheet of paper and apply a coat of acrylic or semi-gloss clear polyurethane finish. (After that dried we also wiped on a coat of Watco's Satin Dark liquid wax and wiped it off immediately in order to create highlights and a washed look.) After the wax dries, apply a second coat of clear finish to the snowman.

5 For Frosty's scarf, cut a 12" to 14" length of 7/8"-wide cloth or ribbon (we used a colorful red and green plaid) and tie it around the neck. Trim the ends to desired length. Now, look around for a shelf on which to proudly display your newly created holiday decoration.

Note: If you would like to make the snowman into a hanging ornament, turn a small screw eye into the center of the hat. Other options include replacing the stove-pipe hat with a stocking cap, enlarging the project or making a variety of sizes, and using small twigs for arms.

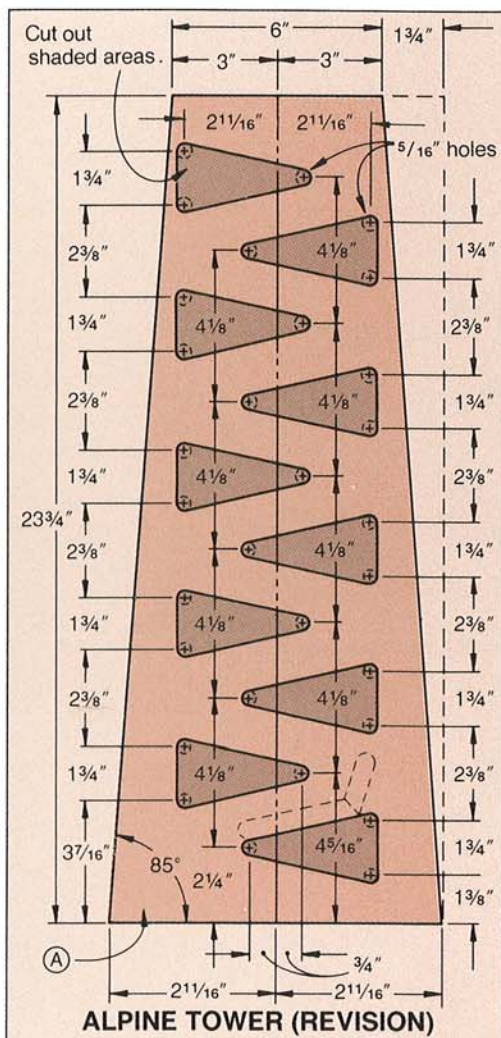
BUYING GUIDE

● **Basswood turning square and scrap.** Price: \$10 postage paid. From: Ron Mackey, 6007 N. 14, Lincoln, NE 68521. Phone: 402/467-2982.

SUPPLIES: 1/8" dowel, acrylic paints, finish, 7/8 x 12" piece of cloth.



READER'S CORNER



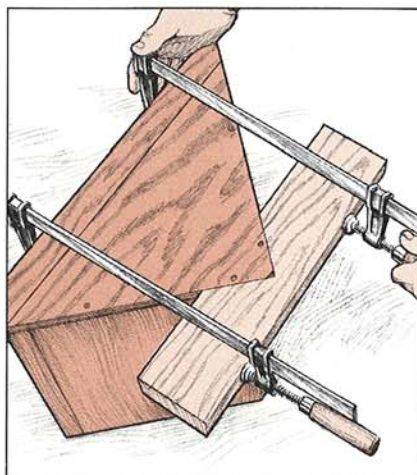
We stand corrected

As the old saying goes, "Six munces ago I cudn't even spell injuneer and now I are one." Whoever layed out the triangular holes in the tower for the Alpine Ride action toy must have used a rubber scale.

If drilled and cut as dimensioned, the car wouldn't get off the first ramp. Luckily, my eyeball caught the odd layout marks before ruining the first of two towers.

I enjoy your magazines and projects very much. They keep the family happy and put some zip into my retirement. Keep up the great work.
Bill Koogle, Riviera, Arizona

Bill, you're right. When we built our tower, it worked great, but we missed the boat when placing the correct measurements in the magazine. We apologize to you and to others who have experienced trouble with this project. The illustration at left has the correct dimensions. Readers, please correct the dimensions on the Tower drawing on page 11 of issue 16.



There's always another way

In your issue 15 of *WEEKEND WOODWORKING PROJECTS* on page 26, you show a method for clamping trim to the corner cabinet using glued-on blocks. I did it in a much easier way. As shown in my sketch [see left], I used a piece of stock measuring $\frac{3}{4} \times 3 \times 14$ " and made a V-shaped notch. Use as many clamps as are required to make it work.

John R. Sergo, Lyons, Illinois

John, on behalf of the readers, thanks for the tip. I applaud your idea because of the little time needed to make the clamping jig, and it doesn't affect or harm the project.

High praise

I think it is great that you offer aids like this [our full-sized patterns] to help us complete projects in your magazine. I plan on building five of the maps for nieces and nephews. I think they will help with their school lessons. The buying guides are a big help, too. I also appreciate the clear plans and directions you have in your magazine.

Francis C. Smith, Topeka, Kansas

Francis, you've made our day. I hope we can make yours with more great projects and patterns in future issues. Thanks for writing. --JH

Because this is your magazine, it's important that you have an opportunity to sound off. Here, you can register your suggestions, criticisms, and, if you wish, a kind word. We may not be able to publish every letter, but we'll get in what we can. Send your letters to:

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