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Bill Krier
Editor in Chief, WOOD magazine

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flip-up
Pen Box

It stores a pair of pens, then hands them to you

Raising the lid lifts the pen and pencil right out of this handsome desktop box. It's perfect for turned wooden pens and pencils—you could even make the box from the same kind of wood as the writing instruments.

Note: The pen box shown accommodates two pens (or a pen and pencil) about ½" in diameter and a little less than 6" long. You can adjust the dimensions for fatter or longer pens.

Make three main parts to start

1 Trim a 2×1⅝×10" blank to 6¼" long. Keep the cut-off piece. We made our box of moradillo, but you could use any exotic or figured domestic hardwood. Draw index marks on one end of the blank, as in the Cutting the Box Top and Bottom drawing *below*.

2 Saw a ¼"-thick slice off the top of the blank and a ⅛"-thick piece off the bottom. Make the cuts with a bandsaw or on a tablesaw equipped with a thin-kerf blade in order to preserve grain continuity on the box as much as possible.

Plane or sand the saw marks off the mating surfaces, and set the top and bottom aside until later.

3 Saw two deep dadoes across the body. See the Lid, Body, and Bottom drawing on *page 6*. To do this, install a ⅜" dado blade on

your tablesaw, and set the cutting depth to 1⅜". Attach an extended fence to the miter gauge. Clamp stopblocks to the fence 5⅛" from each side of the dado blade, and saw the dadoes, as shown in *Photo A* on *page 3*.

4 Saw dadoes in the edge of the lid for the hinges, shown in the Lid, Body, and Bottom and Exploded View drawings on *pages 6* and 7. To saw them, change to a ⁵⁄₁₆" dado blade, and set the cutting depth at ¼".

Install a new auxiliary fence on the miter gauge or move the used one over so you'll have solid wood behind the lid when you cut the dadoes. This will help minimize tearout.

To locate the dadoes accurately, place the body against the fence, and center the dado in the body over the narrower dado blade. Clamp a stopblock to the fence at the opposite end of the body, as shown in *Photo B* on *page 3*. Repeat for the other dado. Verify which edge to cut by checking the index marks, then saw the dadoes in the lid.

Rout the body and make the lid

1 Rout a ³⁄₁₆" round-over along the top back edge of the body (the dadoed side). Do the job on a table-mounted router. To bridge the dadoes, set a fence flush with the router bit's pilot.

2 Using a ½" round-nose bit in the table-mounted router, rout the pen grooves in the body where shown. To rout them, position a fence on the router table ¼" from the bit. Clamp stopblocks to the fence 5⅝" from each side of the bit. Clamp a straight-edged board to the table parallel to the fence, and 1⅝" from it. This will help keep the body against the fence throughout the routing.

Rout the grooves in small depth increments—start at about ⅛" deep and increase the depth by about that much each pass. Make a pass at each depth with each face against the fence to form the two grooves.

3 Now, make the lid hinges. Start with two ¼×⁵⁄₁₆×1⁹⁄₁₆" pieces of stock that match the rest of the parts. You can cut the hinge

CUTTING THE BOX TOP AND BOTTOM

2"

1⅝"

6¼"

Index marks

Cutlines

¼"

⅛"

⅛"

1⅜"
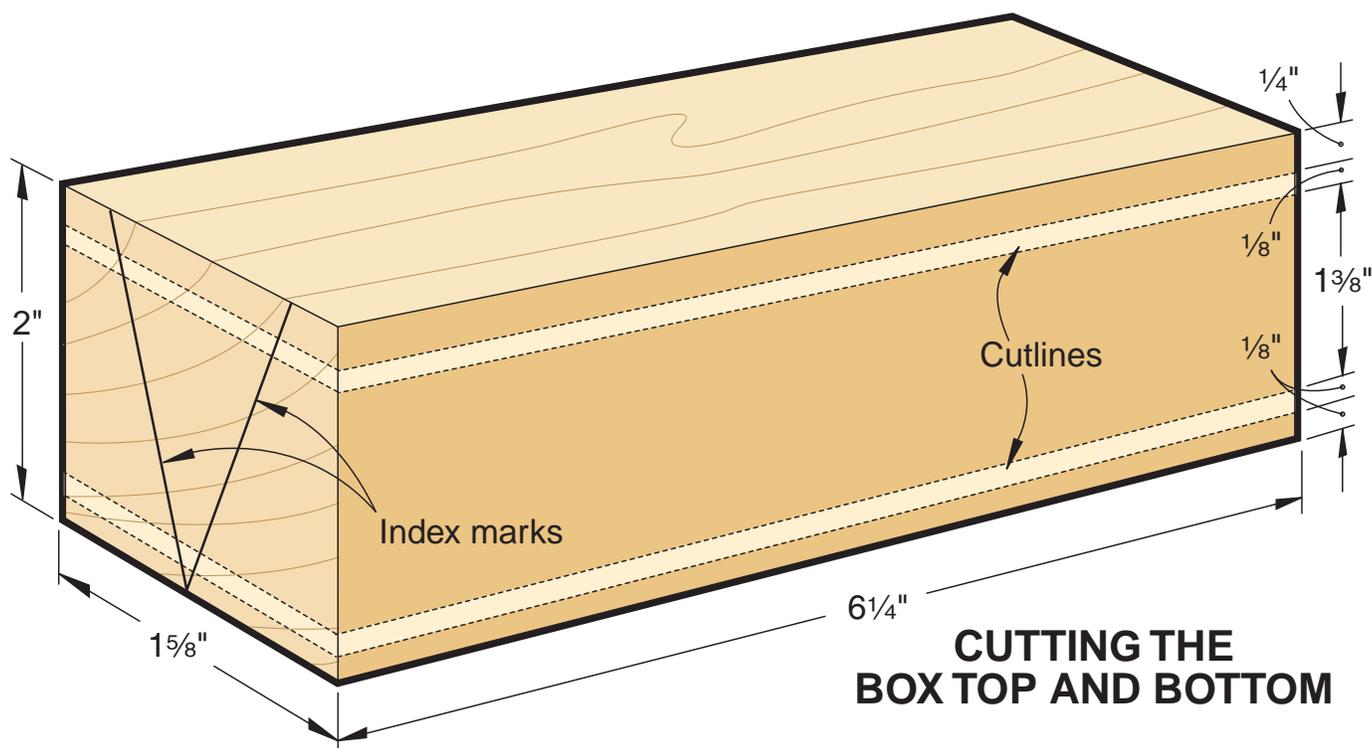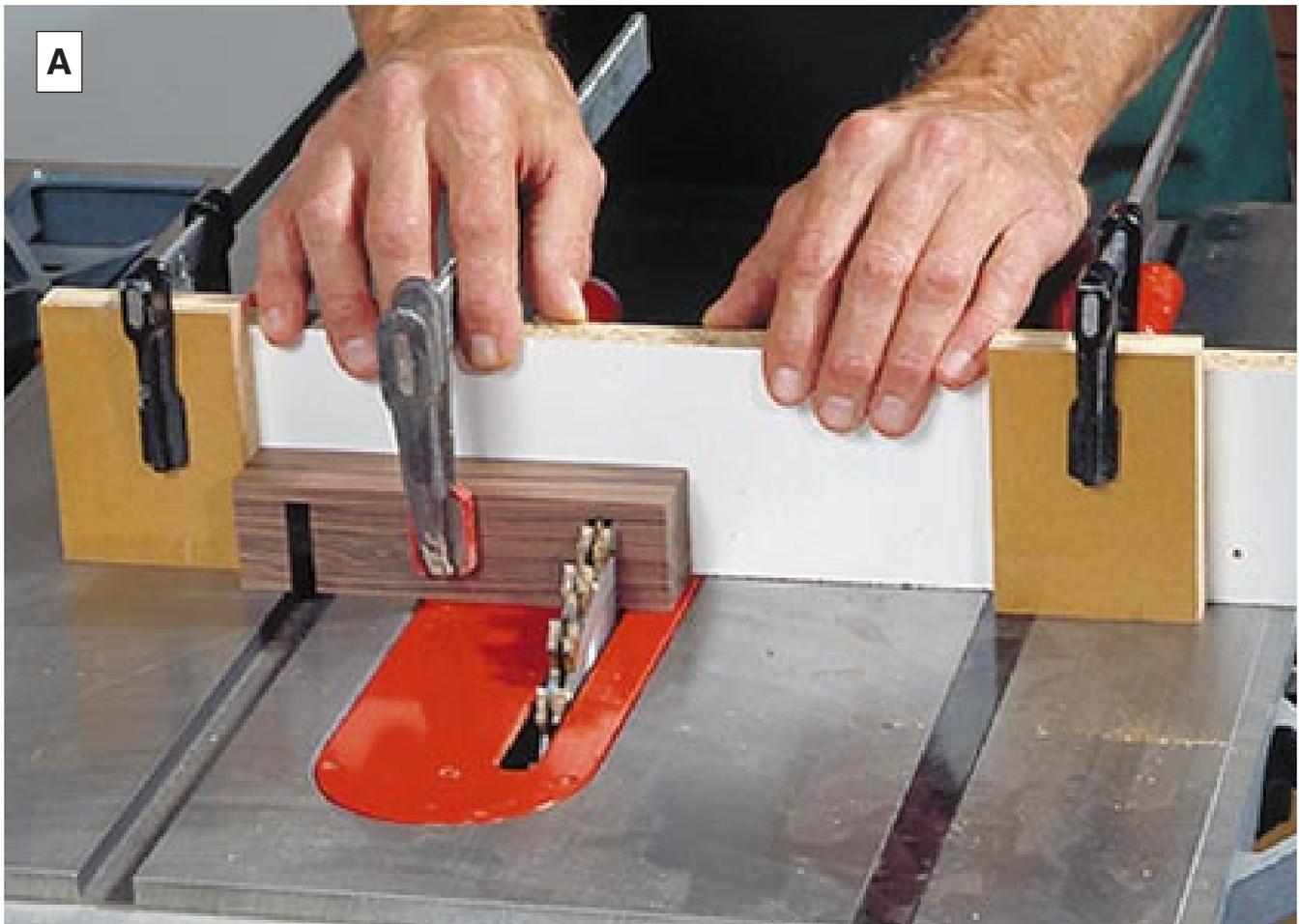
A

Install an extended miter-gauge fence to saw the deep dadoes in the body.
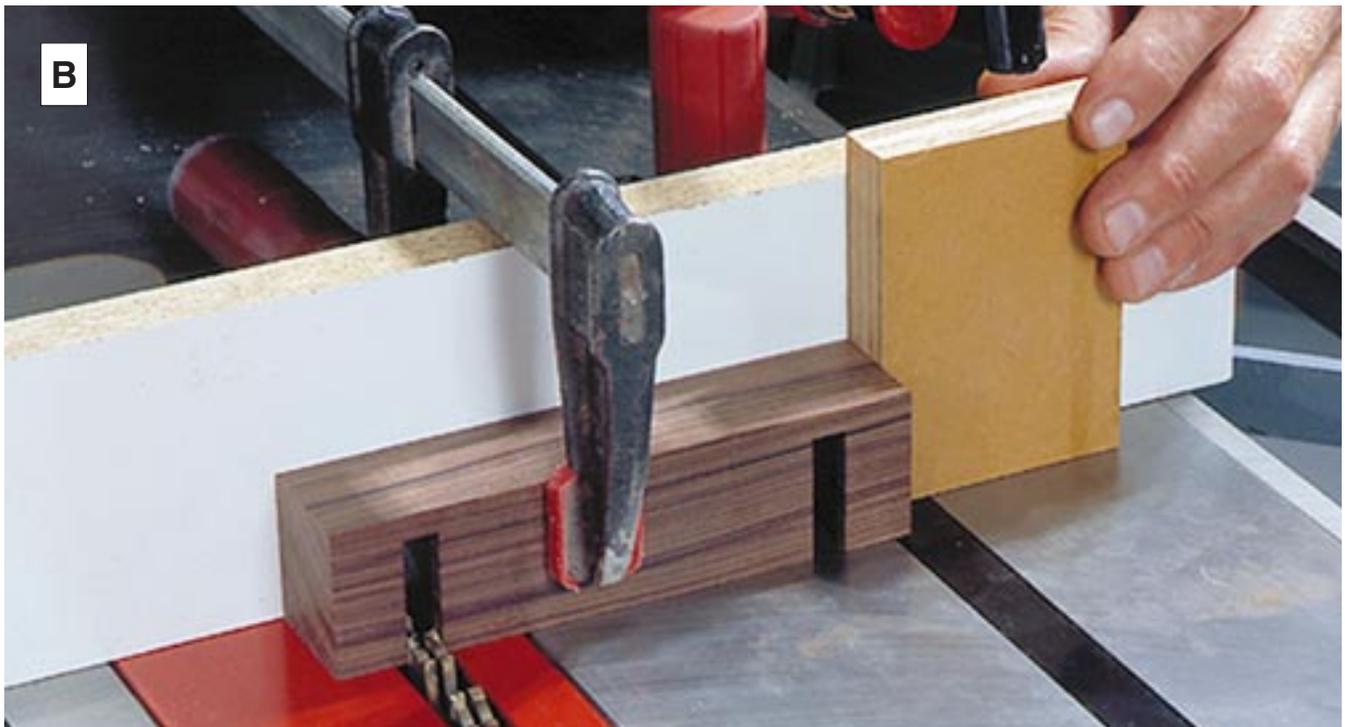
B

The body dadoes help when setting stopblocks for sawing hinge dadoes in the lid.

C

Tape on the end of the file protects the lid when filing the screws flush.

blanks from the cut-off end of the blank.

4 Tape the pieces together edge to edge. Then, referring to the Hinge Arm Full-Size Pattern on *page 8*, sand pen recesses where shown. (We did this with sandpaper wrapped around ½" dowel rod.)

5 Glue the hinges into the lid dadoes. (We used epoxy.) Position the hinges perpendicular to the lid in both directions. (See the Exploded View and Side Section View drawings.)

6 After the epoxy cures, sand off the squeeze-out on the top and back of the lid. You can pare away squeeze-out on the inside of the lid and sides of the hinges with a sharp chisel.

7 Drill a $^5/_{64}$" hole $^5/_8$" deep at the middle of each hinge, centered on the edge of the lid. Enlarge the holes through the hinge arms to $^7/_{64}$", and countersink them shallowly—shallow enough that the screw slot will be above the surface.

8 Drive a screw into each hole, and file the heads flush with the arms, as shown in *Photo C*. Tape the tip of the file to keep it from gouging the wood.

Write the last chapter

1 Mark the location of the hinge pin on each end of the body. Refer to the Side Section View and Exploded View drawings for placement.

2 Place the lid on the body, and slide a shim about $^1/_{32}$" thick between them. (We used cardboard from the back of a notepad.) Clamp the parts together, keeping the edges and ends flush.

3 Drill the hinge hole on each end. Clamp the body/lid assembly to a fence on the drill-press table for accurate drilling, as shown in *Photo D*. Unclamp the assembly.

4 Glue the bottom to the body. Double-check your alignment marks before gluing for the best grain match.

5 Finish-sand the top and inside of the body, the underside of the lid, and the hinge arms. Clamp the lid to the body again, with the shim in place, and drive in the hinge pins. File the pin ends flush with the body. Unclamp, and remove the shim.

6 Sand the sides and ends flush, and finish-sand all exterior surfaces. (We sanded with progressively finer grits, ending with 320.) Break the sharp edges slightly by block-sanding.

7 Apply a clear oil finish overall. (We finished the box shown with Deftoil Danish oil finish, clear natural.) ♣

D

Insert a cardboard spacer between the body and lid when drilling hinge holes.
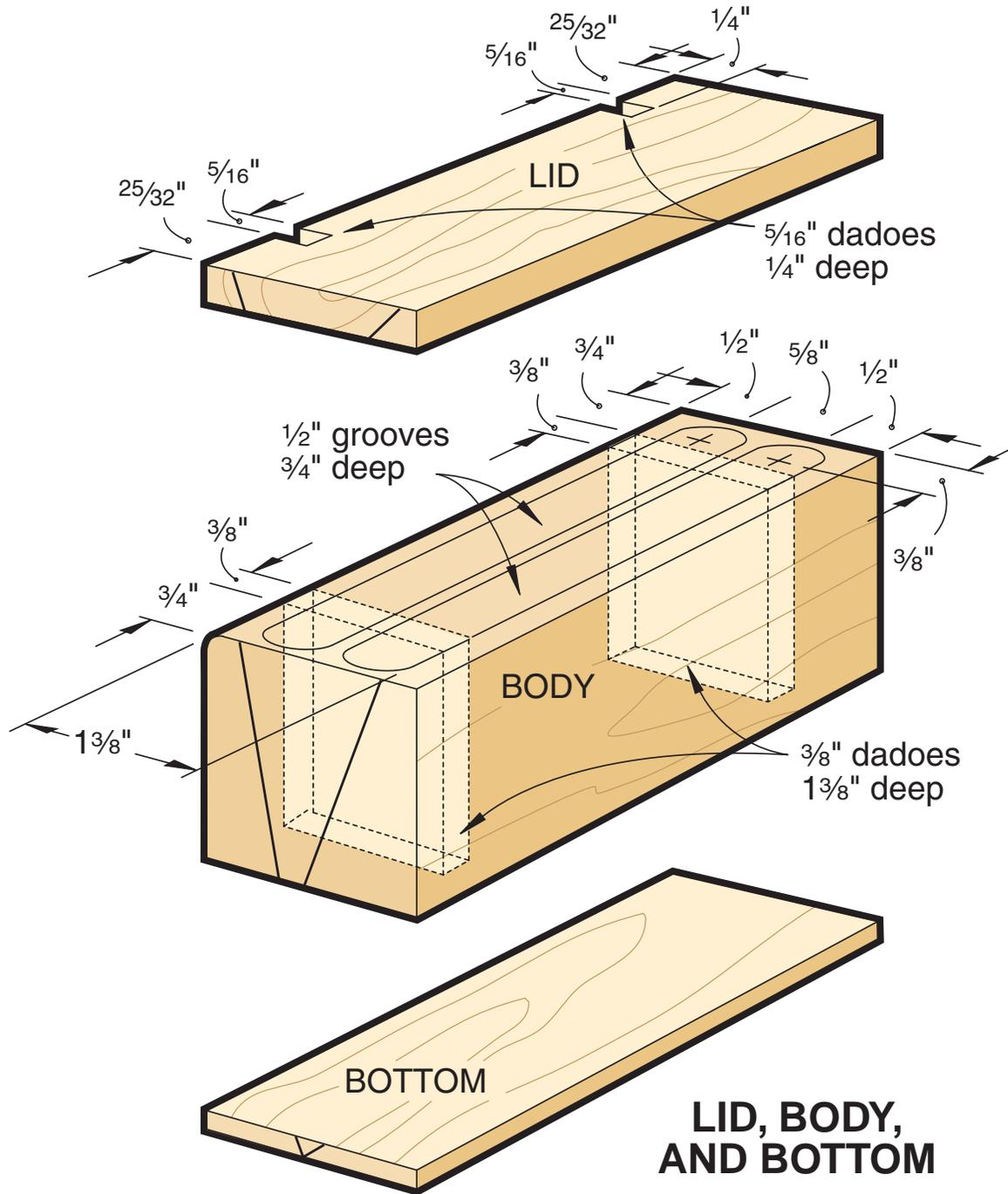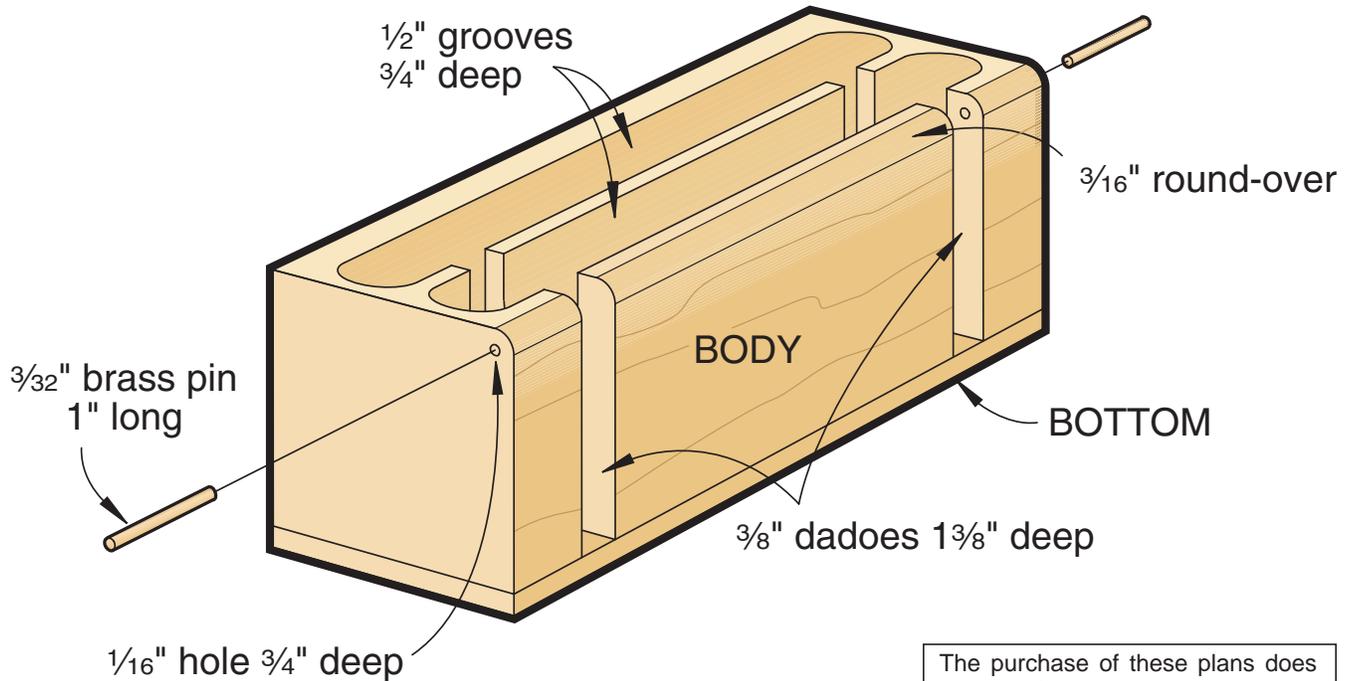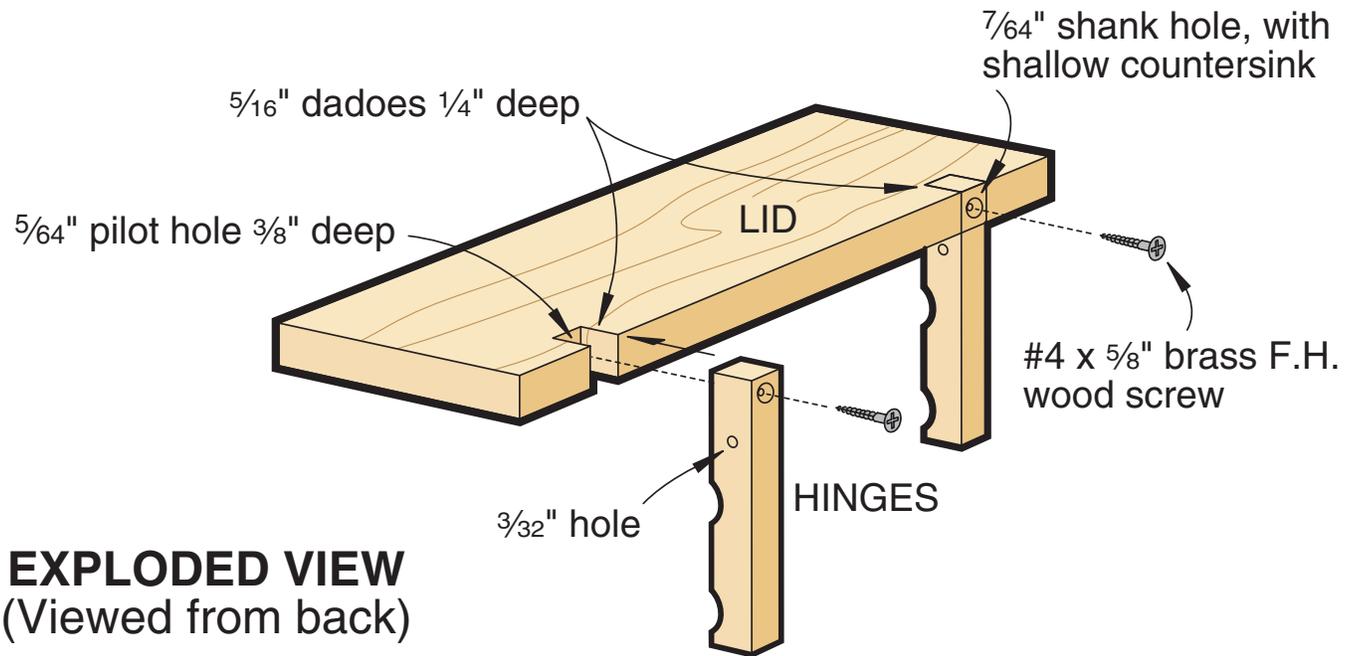
LID

25⁄32"

5⁄16"

25⁄32"

5⁄16"

1⁄4"

5⁄16" dadoes
1⁄4" deep

½" grooves
¾" deep

3⁄8"

3⁄4"

½"

5⁄8"

½"

3⁄8"

3⁄8"

3⁄4"

BODY

1 3⁄8"

3⁄8" dadoes
1 3⁄8" deep

BOTTOM

**LID, BODY,
AND BOTTOM**

5⁄16" dadoes 1⁄4" deep

7⁄64" shank hole, with shallow countersink

5⁄64" pilot hole 3⁄8" deep

LID

#4 x 5⁄8" brass F.H. wood screw

3⁄32" hole

HINGES

EXPLODED VIEW
(Viewed from back)

1⁄2" grooves 3⁄4" deep

3⁄16" round-over

BODY

3⁄32" brass pin 1" long

BOTTOM

3⁄8" dadoes 13⁄8" deep

1⁄16" hole 3⁄4" deep

HINGE ARM
FULL-SIZE PATTERN
(2 needed)

5⁄16" | 1⁄4"

3⁄32" hole

3⁄4"

1 9⁄16"

R=1⁄4"

5⁄8"

1⁄16"

Lid

Hinge pin

Hinge arm

END SECTION VIEW

TOP VIEW

Lid

Hinge pin

Routed grooves

Centerline

Hinge arm
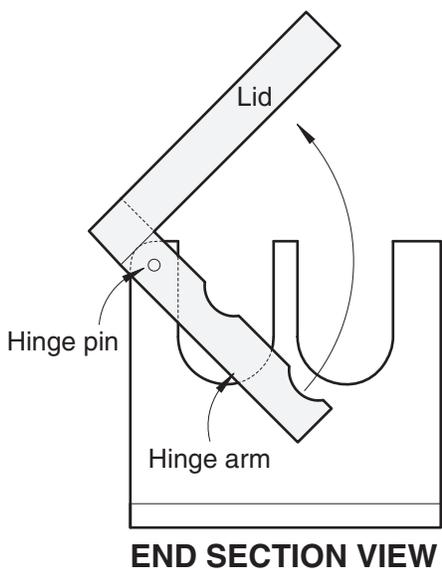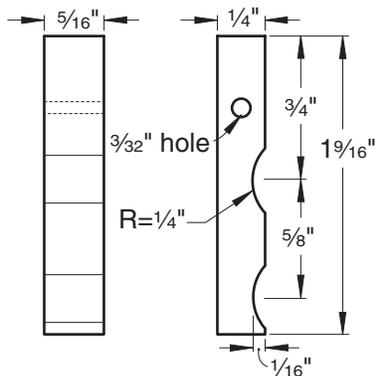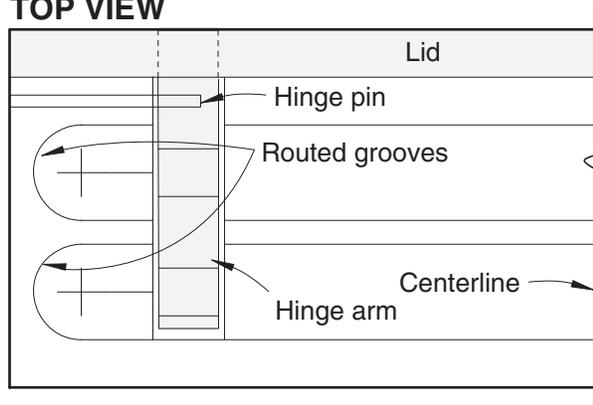
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1⁄4 1⁄2 3⁄4 1"

SCALE
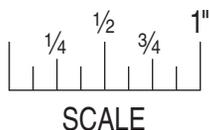
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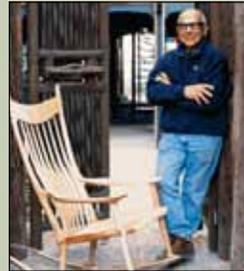
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