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Dave Campbell  
Editorial Content Chief, *WOOD* magazine



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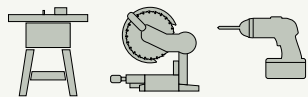
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# Floating Wall Shelves

With attractive shelves this easy to make, you'll soon fill rooms with decorative displays.



## WHAT YOU'LL NEED



■ **Materials:**  $\frac{3}{4}$ " oak plywood,  $\frac{3}{4} \times 3$ " oak,  $2\frac{1}{4}$ "-wide oak crown molding,  $1\frac{1}{8}$ " oak plywood cap molding.

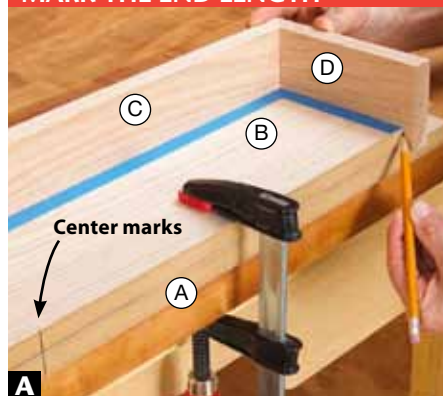
**F**riends who see these shelves will ask you two questions: "How are they supported?" (cleats) and "Can you make one for me?" (no problem). For variety, try the version on page 37.

## Cut and assemble the shelf

**1** Cut the top (A) and bottom (B) to size [Materials List, page 36] from  $\frac{3}{4}$ " plywood. Then, from  $\frac{3}{4}$ " oak, cut the face (C) 2" longer than shown, and ends (D) 1" longer than shown. Miter one end of the front and each end piece.

**2** Apply painter's tape to the front edge and both ends of the bottom (B) to keep glue from sticking to it later. Mark centers of the untaped edge on the bottom and one edge of the top (A).

## MARK THE END LENGTH

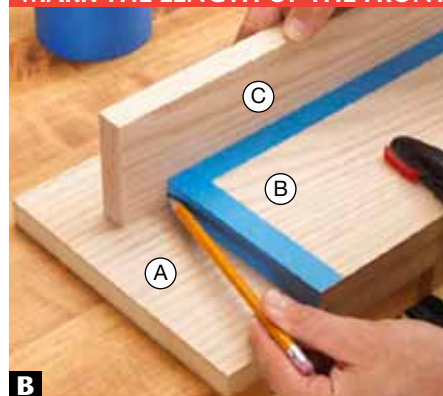


**A** Squeeze the miters together while you mark where to cut the end (D) even with the back edge of the bottom (B).

Align the center marks with the edges flush and clamp both parts to your workbench [Photo A].

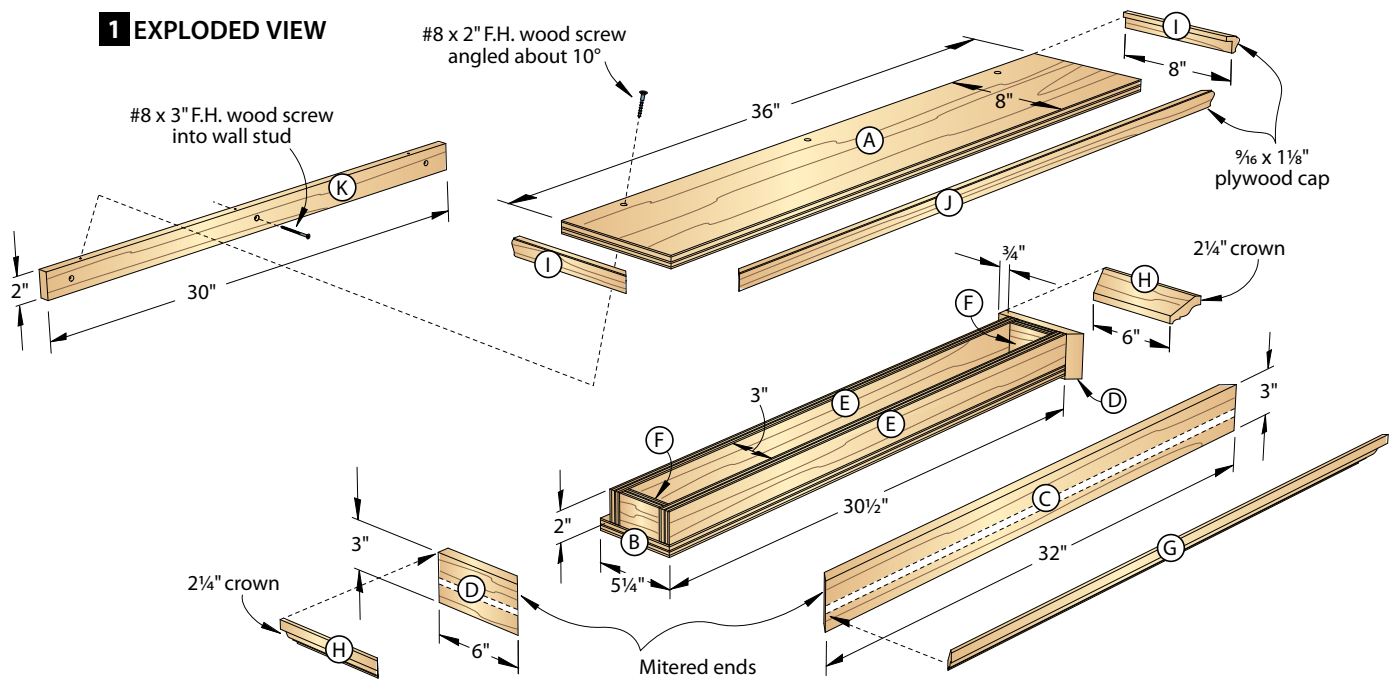
**3** Hold the face (C) against the taped edge of the bottom (B) and one end

## MARK THE LENGTH OF THE FRONT



**B** Place the mitered end of the face (C) against the opposite corner of the bottom (B) while marking the second miter's location.

## 1 EXPLODED VIEW



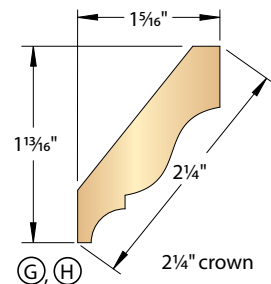
## SHOP TIP

### Give your pencil point knife-edge precision

When the width of your pencil line makes a difference between tight and not-so-tight miters, don't settle for heavy pencil marks. Mount 180-grit sandpaper on a flat surface and quickly sand the point to a chisel shape.



## 1a END PROFILE OF MOLDING



(D) against a taped end of the bottom with their miters together. Mark and cut it flush with the bottom edge [Photo A]. (See the **Shop Tip** above for how to draw ultrafine marks.)

**4** With the face (C) and end (D) miters tight, mark the miter location at the other end of the face [Photo B] and miter-cut it to length. Now hold the miter on the oversize end piece against the front miter, mark it at the edge of the bottom (B) and cut it to length.

**5** Sand the face (C) and ends (D) to 180 grit. Glue and clamp them to the top (A) [Drawing 1], using the bottom (B) as a guide. After the glue dries, pull out the bottom and peel off the tape.

**6** Cut long spacers (E) and short spacers (F) to size; then glue and clamp them to the bottom (B) and ends (D). After the glue dries, glue, center, and clamp the top (A) to the edges of the face (C), ends, long spacers, and short spacers to complete the shelf assembly.

## Add the crowning touch

**1** Compare the dimensions of the crown molding with the dimensions

shown [Drawing 1a]. Cut the front crown (G) and end crowns (H) about 4" over-long and miter one end of each. (Note the left and right end crowns.) For help mitering moldings, see "Cut safe, simple miters" on page 36.

**2** With the shelf assembly (A-F) upside down on your bench, tape the mitered ends of the front crown (G) and one end crown (H) [Photo C]. Then mark the end crown where it's flush with the end (D). Cut the end crown to length.

**3** As you did with the face (C) and end (D), mark and cut the front crown (G) and other end crown (H) to length. Glue and clamp the front crown and end crowns in position.

**4** Cut the end caps (I) and front cap (J) about 2" longer than shown. Then make a cap-mitering jig to fit your miter-saw. To do this, cut two 16"-long strips from 3/4" plywood scraps, one 1 1/2" wide and the other 1 1/4" wide. Stack and glue the strips with their edges and ends flush, then cut miters on both ends.

**5** With the mitering jig on your saw [Photo D], miter one end of the left and right end caps (I) and the front cap

(J). Butt the miters on one end cap and front cap, then mark the front cap length [Photo E]. Cut the front cap to length on the mitering jig [Photo F]. Now mark the end caps and cut them to length. Glue and clamp the end caps and front cap in position on the top (A).

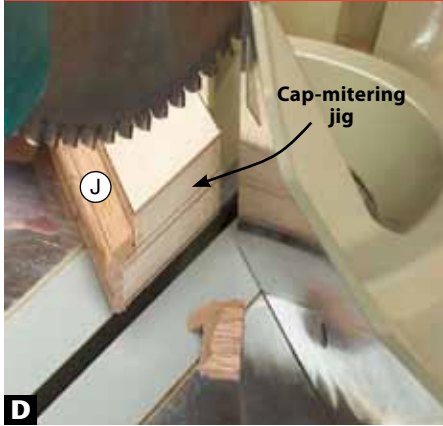
## ADD THE CROWN MOLDING



**C** After mitering the front crown (G) to length, butt that against the end-crown (H) miter and mark the end crown length.

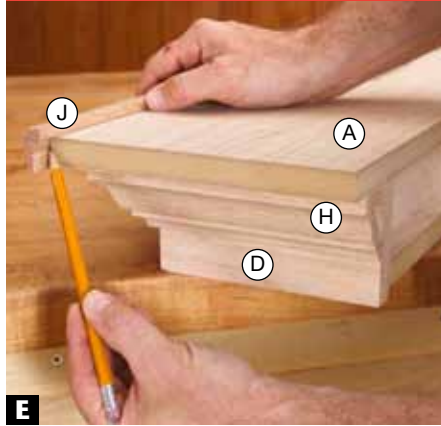


## CUT BEVELS ON THE CAPS



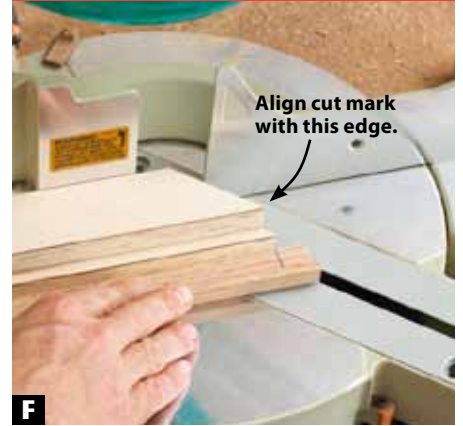
**D** The two-piece jig holds the molding blank and backs up miter cuts. Alter the jig dimensions as needed to fit your molding.

## MARK THE CAP TO WRAP THE TOP



**E** Hold the mitered opposite end of the front cap (J) flush with a corner of the top (A) and mark the wide portion of the cap.

## LINE UP THE MARK FOR YOUR CUT



**F** Line up the cut mark with the end of the cap-mitering jig, and rotate the workpiece onto the jig before making a cut.

## Mount the shelf

**1** After the glue dries, finish-sand parts to 180 grit. We applied Varathane Dark Walnut stain and two coats of satin wipe-on polyurethane.

**2** Cut a hanger cleat (K) to size, and mount it level on a wall using #8x3"

screws reaching into studs. (Substitute drywall anchors, if necessary.)

**3** Temporarily hold the completed shelf against the wall-mounted hanger cleat (K) and drill three countersunk 1/8" pilot holes through the top (A) and into the wall cleat (K). Angle the

drill bit slightly to help the chuck clear the wall. Touch up the stain and finish around the countersinks as needed. Then drive screws to install the shelf on the hanger cleat. Now gather up your display items and show them off along with your new shelf.

# Cut safe, simple miters

This method for cutting crown molding works as easy as 1-2-3 with no tricky miter saw setups.

**1** Cut a 3"-wide piece of 1/2" MDF long enough to span your miter saw table. Then apply pieces of double-faced tape to the underside of this support strip.

**2** With the crown molding angled upside down and its mounting edges against the miter saw table and fence, attach a support strip to hold the crown molding in position (*below left*).

**3** Cut kerfs in the support strip at both 45° angle settings and remove the center section. Lay the crown molding in position with the cut marks about 1/8" from the support-strip miters to allow for the kerf width. Cut parts to size (*below right*). **Note:** When using a miter saw this way, start the saw with the blade up, make the cut, then switch off the motor and allow it to stop before lifting the blade. This prevents a spinning blade from tossing small cutoffs.

## ATTACH A SUPPORT STRIP



When attaching the crown molding stop strip, apply double-faced tape so it adheres to the fixed outside edges of the miter saw table, not the rotating part.

## CUT CROWN CONSISTENTLY



When the crown molding doesn't extend along one side of the crown molding stop, add a spacer there to keep the spinning blade from moving the stop.

## Materials List

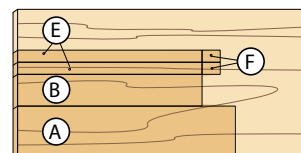
Part	FINISHED SIZE			Matl.	Qty.
	T	W	L		
A top	3/4"	8"	36"	OP	1
B bottom	3/4"	5 1/4"	30 1/2"	OP	1
C* face	3/4"	3"	32"	O	1
D* ends	3/4"	3"	6"	O	2
E long spacers	3/4"	2"	30 1/2"	OP	2
F short spacers	3/4"	2"	3"	OP	2
G* front crown	7/16"	2 1/4"	34 5/8"	OC	1
H* end crowns	7/16"	2 1/4"	7 5/8"	OC	2
I* end caps	9/16"	1 1/8"	8 3/16"	OPC	2
J* front cap	9/16"	1 1/8"	36 5/8"	OPC	1
K hanger cleat	3/4"	2"	30"	O	1

\*Parts initially cut oversize. See the instructions.

**Materials key:** OP—oak plywood, O—oak, OC—oak crown molding, OPC—oak plywood cap

**Supplies:** #8x2" flathead wood screws (3), #8x3" flathead wood screws (3).

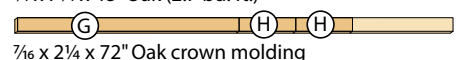
## Cutting Diagram



3/4 x 24 x 48" Oak plywood



3/4 x 7 1/4 x 48" Oak (2.7 bd. ft.)



7/16 x 2 1/4 x 72" Oak crown molding

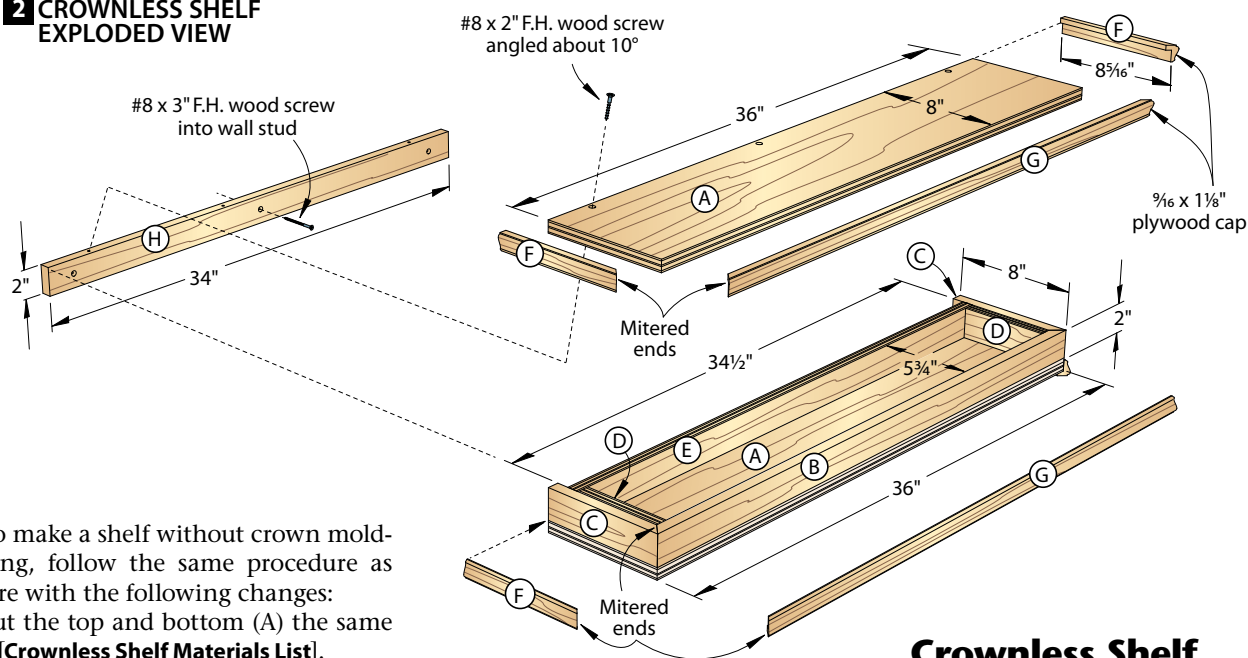


9/16 x 1 1/8 x 72" Oak plywood cap



# Build an even easier shelf

## 2 CROWNLESS SHELF EXPLODED VIEW



To make a shelf without crown molding, follow the same procedure as before with the following changes:

■ Cut the top and bottom (A) the same size [Crownless Shelf Materials List].

■ Glue the front (B) and ends (C) to the bottom (A) [Photo G], then add the back spacers (D) and back (E) before gluing the top (A) in place [Drawing 2].

■ Glue and clamp end and front plywood caps (F, G) to the edges of both the top and bottom (A). 🌳

Written by **Bob Wilson** with **Jeff Mertz**  
Project design: **Jeff Mertz**  
Illustrations: **Roxanne LeMoine; Lorna Johnson**

## Crownless Shelf Materials List

Part	FINISHED SIZE			Matl.	Qty.
	T	W	L		
A top/bottom	3/4"	8"	36"	OP	2
B* front	3/4"	2"	36"	O	1
C* ends	3/4"	2"	8"	O	2
D back spacers	3/4"	2"	5 3/4"	OP	2
E back	3/4"	2"	34 1/2"	OP	1
F* end caps	9/16"	1 1/8"	8 5/16"	OPC	4
G* front caps	9/16"	1 1/8"	36 5/8"	OPC	2
H hanger cleat	3/4"	2"	34"	O	1

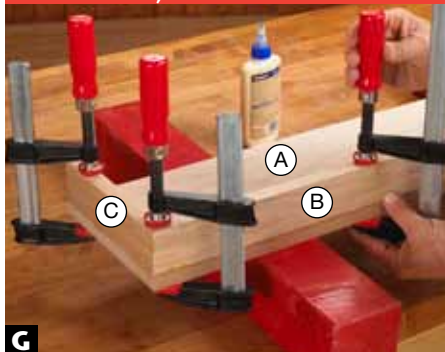
\*Parts initially cut oversize. See the instructions.

**Materials key:** O—oak, OP—oak plywood, OPC—oak plywood cap.

**Supplies:** #8x2" flathead wood screws (3), #8x3" flathead wood screws (3).

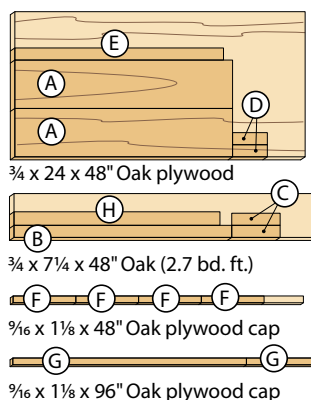
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## GLUE ENDS, FRONT TO BOTTOM



Both the front (B) and ends (C) mount flush with the top/bottom (A). Plywood caps (F, G) later will hide the exposed plywood edges.

## Cutting Diagram





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