

# MITERED FRAME & EASEL



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Your favorite art or photograph will look great in this easy-to-build frame resting on a classic, adjustable easel.



reasured photographs and artwork deserve a distinctive place in any home. And this frame and easel combination makes a great place to display those gems.

This project is pretty simple to build. It doesn't require complicated joinery because both the base and the frame are built up from three separate components. The easel is nothing more than a three-tiered base with a support and clamp added to hold the frame in place. The individual components are chamfered to add to the form and character of the easel.

The frame is built by gluing the facing to a backer board and then adding trim around the edges. I made the facing and the trim out of contrasting woods and chamfered the edges to add character.

There are several size options for this project. The 8x10 frame (left frame in the photo above) is featured throughout this article and in the cutting diagram on page 4. Details for the 5x7 version (right frame above) and an 11x14 version are provided on page 5.

## **Building the Frame**

Building the frame for the frame and easel duo is pretty straightforward. To keep it simple, I eliminated the need for splines on the mitered corners by gluing the facing to a backer and then mitering the trim around the assembly. The trim has a rabbeted edge that fits tight against the facing and backer.

**BACKER & FACING.** The backer and the facing are sandwiched together. The backer is <sup>1</sup>/<sub>4</sub>" narrower than the facing. That way, when they are glued together, they form a rabbet to hold the glass and the photograph or artwork in the frame.

The backer pieces are cut to size and fit with butt joints (main drawing). The facing has mitered joints and a chamfer on the inside edge. I cut the facing to width and rough length and then routed the chamfered edge (How-To box below). The facing can be mitered to length and glued together onto the backer, as shown in detail 'a.'

**TRIM.** The rabbeted trim fits around the facing and backer and has a chamfer on the inside front edge (main drawing). Again, it's easiest to do this work before the pieces are cut to length, as in the two right drawings in the box below. I ripped an extra-long workpiece to width for all four sides of the trim. You can rout the chamfer on one edge of the workpiece and then cut the rabbet



on the table saw. Finally, miter the pieces to length and glue them to the backer and facing edges.

**DETAILS.** To finish up, add a piece of glass to the opening. I cut a piece of posterboard to back the photo (detail 'b'). Turn buttons will keep the backing and photo in place.





### **HOW-TO: SHAPE THE FRAME COMPONENTS**



**Facing Chamfer.** It's easiest to rout the chamfer on the facing blanks before mitering the pieces to length.



**Chamfer.** To make the trim for the frame, start by routing a chamfer on the outside edge of an extra-long blank.



**Rabbet.** Cut the rabbet on the inside edge of the trim on the table saw using a dado blade buried in an auxiliary fence.

## **Adding the Easel**

The easel consists of a base and a vertical support that holds a sliding lock to secure the frame in position. The base is assembled from three hardwood blocks — each with a different edge profile. This adds weight and an intricate profile to the easel. A dado in the back of the base holds the vertical support.

**BOTTOM.** The bottom of the base has a wide chamfer with a shoulder at the top. Cut the shoulder and the chamfer on the table saw (box below).

To define the shoulder, I cut a kerf in three sides of the top face. Then, I set the saw blade at  $45^{\circ}$  and cut the chamfer on the edges of the bottom.

**RISER & TOP.** The riser in the center of the base is a rectangular workpiece cut to size with the edges left square. The top has a  $\frac{1}{4}$ " chamfer along the bottom edge. After this workpiece is cut to size, you can rout the chamfer.

BEGIN ASSEMBLY. Once you have the three base pieces cut and shaped, glue them up. Assemble the pieces so they're centered from side to side but flush at the back edge. A few cut-off brads inserted in both faces of the riser will help hold the bottom and top in place as you apply the clamps for glueup. After the glue dries, cut the notch on the back of the base for the vertical support.

**PREPARE THE STOP.** A stop on the front of the base keeps the frame



with trimmed corners and chamfers along the edges. Because the finished piece is so small, I cut the profiles on an extra-wide blank. Just miter the corners first. Then, take the workpiece over to the router table to rout the chamfers on the

the stop free from the waste.

VERTICAL SUPPORT. At this point, you

can go ahead and rip the vertical support for the frame to width to fit the notch you cut earlier.





First. To shape the chamfer on the table saw, I started by cutting a kerf  $\frac{1}{2}$ " from the edge on three sides of the workpiece.

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## **HOW-TO: SHAPING THE BASE**



Second. To complete the chamfer, you need to tilt the blade 45° and raise it to meet the kerf. Then, cut off the waste.



Notch. The notch in the base that holds the vertical support should be cut after the three layers of the base are glued up.

The miters on the top corners of the support are cut on the table saw. After that, it's just a matter of cutting the slot to hold the clamp and drilling pilot holes for the mounting screws in the back.

The slot in the support can be made on the router table (page 6). Two screws hold the support to the base, as shown in detail 'b.'

FRAME CLAMP. The frame clamp is also a small piece with several short cuts and chamfers, so again, it's easier to work with an oversized blank. I cut the blank to width this time and then cut a bevel on the end of the piece. Once you've completed this, you'll need to go back to the router table to rout the chamfers on the edges. Then you can cut <sup>9</sup>/<sub>32</sub>"-deep notches at the back of the clamp to form a tongue. Finally, cut the clamp free. There's more information in the How-To box below.

You'll need to drill a hole through the middle of the tongue on the clamp to hold the screw that attaches it to the support. This sounds like it could be a challenge, but take a look at the photo below for an easy way to do this.

FINISH ASSEMBLY. The clamp is fitted with a cut-off 10-24 brass machine

screw. Cut the screw to 11/2". Epoxy on the end of the screw holds it in place in the clamp. Then, add a washer and a brass thumb nut (drawing on page 3).

FINAL DETAILS. When it came time to finish the frames, I applied General Finishes' Java Gel Stain to the easel and frame trim. To bring out the figure of the curly maple, a coat of General



Clamp the Frame Clamp. The small clamp needs to be drilled precisely. Secure it to the drill press table using a handscrew.

Finishes' Seal-a-Cell was wiped onto frame facing. Then everything was coated with lacquer.

The easel is designed to hold the frame either horizontally or vertically - depending on your photo or artwork. All you need to do now is decide which of your photos or artwork to display.

N	AATERIALS &	SUPPLIES	
Д	Backer Top/Bottom (2)	<sup>1</sup> ⁄ <sub>4</sub> hdbd 2 x 8	
В	Backer Side (2)	¼ hdbd 2 x 14	
С	Facing Top/Bottom (2)	<sup>3</sup> ⁄ <sub>8</sub> x 2 <sup>1</sup> ⁄ <sub>4</sub> − 12	
D	Facing Side (2)	<sup>3</sup> ⁄ <sub>8</sub> x 2 <sup>1</sup> ∕ <sub>4</sub> - 14	
Ε	Trim (1)	5∕8 x 1 - 60 rgh.	
F	Base Bottom (1)	<sup>3</sup> ⁄4 x 4 - 12	
G	Base Riser (1)	<sup>3</sup> ⁄ <sub>4</sub> x 3 <sup>1</sup> ⁄ <sub>4</sub> - 10 <sup>1</sup> ⁄ <sub>2</sub>	
Н	Base Top (1)	<sup>3</sup> ⁄ <sub>8</sub> x 3 <sup>1</sup> ⁄ <sub>2</sub> - 11	
	Frame Stop (1)	<sup>1</sup> ⁄4 x <sup>1</sup> ⁄4 - 10 <sup>1</sup> ⁄2	
J	Vertical Support (1)	3∕8 x 1 - 20	
K	Clamp (1)	³⁄₄ x 1 - 1½	
•	(4) <sup>7</sup> / <sub>8</sub> " Brass Turn Buttons w/Screws		
•	(2) #6 x 1 " Brass Fh Woodscrews		
•	(1) 10-24 x 2 " Brass Machine Screw		
•	(1) #10 Brass Flat Was	her	

- (1) #10 Brass Thumb Nut

### **CUTTING DIAGRAM**



NOTE: Parts E, H, I, and J are planed to thickness ALSO NEEDED: One 12"x24" sheet 1/4" hardboard



Beveled Front. First. locate the bevel on the front of the clamp by marking a point  $\frac{3}{8}$ " from the bottom of the workpiece.



**HOW-TO: MAKING THE FRAME CLAMP** 

**Chamfers.** The chamfers on the edges are cut on the router table. Use a miter gauge for the end and angled chamfers.



Tongue. The final steps are to cut the notch to form the tongue on the clamp, and then cut it free from the blank.

## **DESIGN OPTIONS**

## **5x7 Version**

E Trim (1)

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### **MATERIALS, SUPPLIES & CUTTING DIAGRAM** A Backer Top/Bottom (2) <sup>1</sup>/<sub>4</sub> hdbd. - 2 x 5 • (1) 10-24 x 2 " Brass Machine Screw B Backer Side (2) <sup>1</sup>/<sub>4</sub> hdbd. - 2 x 11 • (1) #10 Brass Flat Washer C Facing Top/Bottom (2) <sup>3</sup>⁄<sub>8</sub> x 2<sup>1</sup>⁄<sub>4</sub> − 9 • (1) #10 Brass Thumb Nut <sup>3</sup>/<sub>8</sub> x 2<sup>1</sup>/<sub>4</sub> - 11 D Facing Side (2) <sup>5</sup>∕<sub>8</sub> x 1 - 48 rgh. 1/2" x 3" x 48" Curly Maple (1 Sq. Ft.) NOTE: Plane to 3/8" thick F Base Bottom (1) <sup>3</sup>⁄₄ x 3<sup>1</sup>⁄₂ - 9 C C D D <sup>3</sup>/<sub>4</sub> x 2<sup>3</sup>/<sub>4</sub> - 7<sup>1</sup>/<sub>2</sub> G Base Riser (1) ¾ x 3 - 8 H Base Top (1) <sup>3</sup>⁄<sub>4</sub>" x 5<sup>1</sup>⁄<sub>2</sub>" x 48" Poplar (1.8 Bd. Ft.) <sup>1</sup>/<sub>4</sub> x <sup>1</sup>/<sub>4</sub> - 7<sup>1</sup>/<sub>2</sub> I Frame Stop (1) F G Н J Vertical Support (1) ¾ x 1 - 17 K Clamp (1) <sup>3</sup>/<sub>4</sub> x 1 - 1<sup>1</sup>/<sub>2</sub> NOTE: Parts E, H, I, and J are planed to thickness • (4) <sup>7</sup>/<sub>8</sub>" Brass Turn Buttons w/Screws (2) #6 x 1 " Brass Fh Woodscrews ALSO NEEDED: One 12"x12" sheet 1/4" hardboard

## 11x14 Version

	<b>MATERIALS, SUPPLIES &amp; CUTTING DIAGRAM</b>				
A B C	Backer Top/Bottom (2) Backer Side (2) Facing Top/Bottom (2)	<sup>1</sup> / <sub>4</sub> hdbd 3 x 11 <sup>1</sup> / <sub>4</sub> hdbd 3 x 20 <sup>3</sup> / <sub>8</sub> x 3 <sup>1</sup> / <sub>4</sub> - 17 <sup>3</sup> / <sub>4</sub> x 2 <sup>1</sup> / <sub>4</sub> - 20	<ul> <li>(1) 10-24 x 2" Brass Machine Screw</li> <li>(1) #10 Brass Flat Washer</li> <li>(1) #10 Brass Thumb Nut</li> </ul>		
E F G	Trim (1) Base Bottom (1) Base Riser (1)	<sup>-7</sup> <sub>8</sub> x 3 <sup>-</sup> 7 <sub>4</sub> - 20 <sup>5</sup> ⁄ <sub>8</sub> x 1 - 80 rgh. <sup>-3</sup> ⁄ <sub>4</sub> x 5 - 17 <sup>-3</sup> ⁄ <sub>4</sub> x 4 <sup>1</sup> ⁄ <sub>4</sub> - 15 <sup>1</sup> ⁄ <sub>2</sub>	<sup>1</sup> /2" x 4" - 84" Curly Maple (2.3 Sq. Ft.)		
H I J	Base Top (1) Frame Stop (1) Vertical Support (1)	<sup>3</sup> ⁄ <sub>8</sub> x 4 <sup>1</sup> ⁄ <sub>2</sub> - 16 <sup>1</sup> ⁄ <sub>4</sub> x <sup>1</sup> ⁄ <sub>4</sub> - 15 <sup>1</sup> ⁄ <sub>2</sub> <sup>3</sup> ⁄ <sub>8</sub> x 1 - 26	<sup>3</sup> /4" x 8" - 84" Poplar (4.7 Bd. Ft.)		
K •	<ul> <li>K Clamp (1) <sup>3</sup>/<sub>4</sub> x 1 - 1<sup>1</sup>/<sub>2</sub></li> <li>(4) <sup>7</sup>/<sub>8</sub>" Brass Turn Buttons w/Screws</li> <li>(2) #6 x 1" Brass Fh Woodscrews</li> </ul>		NOTE: Parts C, D, E, H, I, and J are planed to correct thickness ALSO NEEDED: One 12" x 24" sheet 1/4" hardboard		

## SHOP NOTEBOOK

## **Easel Slot**



In order to accommodate different sizes of frames, the easel is designed with an adjustable clamp. The clamp simply slides in a slot in the vertical support arm, as illustrated on page 3. You'll find that this slot is quite easy to create using a  ${}^{3}_{16}{}^{"}$  straight bit at the router table. Since the vertical support arm is <sup>3</sup>/<sub>8</sub>"-thick hardwood, I decided that it would be best to rout the slot in two passes, raising the height of the bit in between.

Begin the process by drawing stop and start lines on the fence of your router table, as you see in Figure 1. Then with the bit raised about half way, lower the workpiece onto the bit at the start line and rout to the stop line. To complete the slot, simply raise the bit so it will go all the way through the workpiece, and once again, rout from the start line to the stop line. This is shown in Figure 2.

