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Dave Campbell
Editorial Content Chief, *WOOD* magazine



Adobe Acrobat Reader Troubleshooting Guide

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Almost all printing problems are due to not enough free system resources memory. The files are very memory intensive because they include graphics, text, and photos. Close all other programs/applications and print directly out of the Acrobat Reader program, not your Web browser.

Patterns are not printing full-size

Make sure your printer is set to print at 100 percent, "print to fit" is not checked and "page scaling" is set to "none". These settings are selected in the printer setup or printer options.

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frames^{of} endearment

When it comes to displaying your favorite pictures, presentation counts. Designed to fit three sizes of standard, pre-cut mats, these two designs feature a minimum of material and simple construction for maximum effect. As the examples show, contrasting woods and grain figure combine to create unique frames.



prairie frames

Flat surfaces and simple bevels, rather than intricate molding profiles, put the wood's grain and figure on display in these frames. Shown *far left* and *above*, fiddleback maple is enhanced with a dark aniline dye. In the other two frames, flatsawn and quartersawn woods combine for a subtle contrast in white oak, *near left*, and Honduras mahogany, *below*.





beaded frames

Simple beaded bands flanking a flat field are a perfect vehicle for showing off contrasting wood species. Bubinga beads sandwich lacewood, *above*. The wenge beads complement the dark streaks in the spalted maple field, *right*. At far right, straight-grained ash bordered with cherry looks better and better with age.



Making the beaded frame

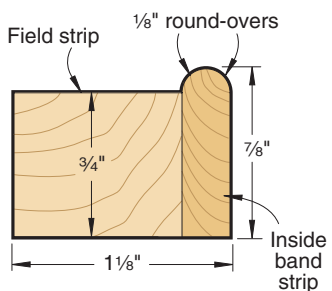
1 Select your species and prepare your stock. You'll need a $\frac{1}{2} \times 1\frac{1}{8}$ " piece for the outside band, a $\frac{3}{4} \times \frac{7}{8}$ " piece for the field, and a $\frac{1}{4} \times \frac{7}{8}$ " piece for the inside band. See the Sizing Guide for the stock length needed for each size of frame.

2 Chuck a $\frac{1}{8}$ " round-over bit in your table-mounted router, and rout the edges of the inside band strip, as shown in **Drawing 1** and **Photo A**. Then change to a $\frac{1}{4}$ " round-over bit, and rout the edges of the outside band strip, as shown in **Drawing 2**. Finish-sand the strips to 220 grit before assembly.

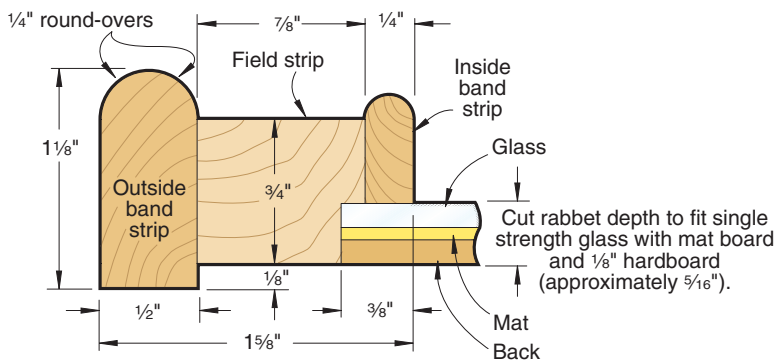


For safe operation and uniform results, use featherboards when routing the band round-overs.

1 BEADED FRAME SUBASSEMBLY



2 BEADED FRAME CROSS SECTION



shop tip



To prevent splitting when nailing the corners, clip the head off a longer brad of the same gauge, and use it to drill pilot holes.

3 Glue and clamp the inside band strip to the field strip, as shown on **Drawing 1**. When the glue dries, chuck a rabbeting bit in your table-mounted router, and rout the $\frac{3}{8}$ "-wide rabbet, where shown on **Drawing 2**.

4 Cut the assembled inside band/field strips into lengths about 1" longer than the dimensions shown under Inner Frame Size in the Sizing Guide. Miter-cut them to the inner frame dimensions. Glue and clamp the inner frame together, checking for squareness. We used a band clamp. When the glue dries, reinforce the corners with wire brads.

5 Miter-cut the outside bands to fit around the inner frame, and finish-sand them. Lay the inner frame on your

workbench with $\frac{1}{8}$ " spacers underneath it. Glue and clamp the bands in place, creating a $\frac{1}{8}$ " recess at the frame's back.

6 Cut glass and $\frac{1}{8}$ " hardboard to fit the rabbeted opening. Stack the glass, precut mat, and hardboard in the frame. Drill screw pilot holes, and attach the turnbuttons. See the Buying Guide for our turnbutton source. We used two turnbuttons on only the long sides of the small and medium frames, and two turnbuttons on all sides of the large frame.

7 For a wall-hung frame, attach a saw-tooth type picture hanger to the frame's back after the finish is applied. To make your frame freestanding, make a copy of the appropriate stand from the *pattern pack*. Adhere it to a piece of $\frac{1}{2}$ "



B With the end of the stand flat on your benchtop, tip the frame against it, adhering the stand to the tape on the back.

stock with spray adhesive, and saw and sand the stand to shape. Mark the center of the hardboard back and the top of the stand. Stick a piece of double-faced tape to the back, and temporarily adhere the stand to the back, as shown in **Photo B**. Remove the back and attached stand from the frame, and drill pilot and countersunk shank holes for the screws. Separate the stand from the back, remove the tape, and screw the stand in place, as shown on **Drawing 3**.

8 Prime the back with spray primer, then finish with two coats of satin black spray paint. Remove the turnbuttons and apply two coats of clear satin finish to the frame, sanding lightly with 220-grit sandpaper between coats.

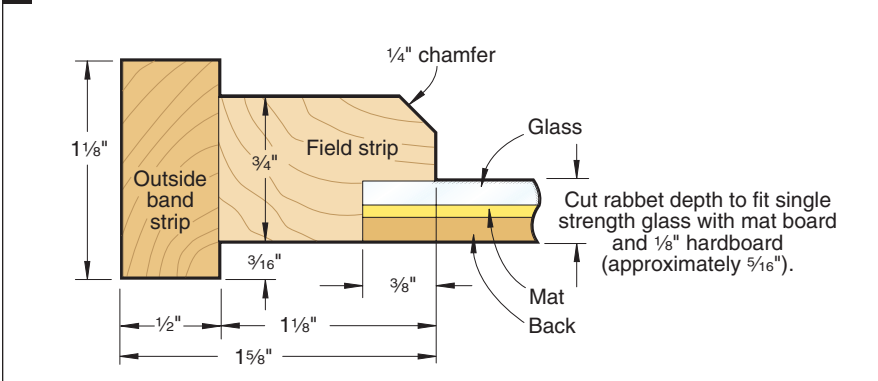
Try the prairie frame

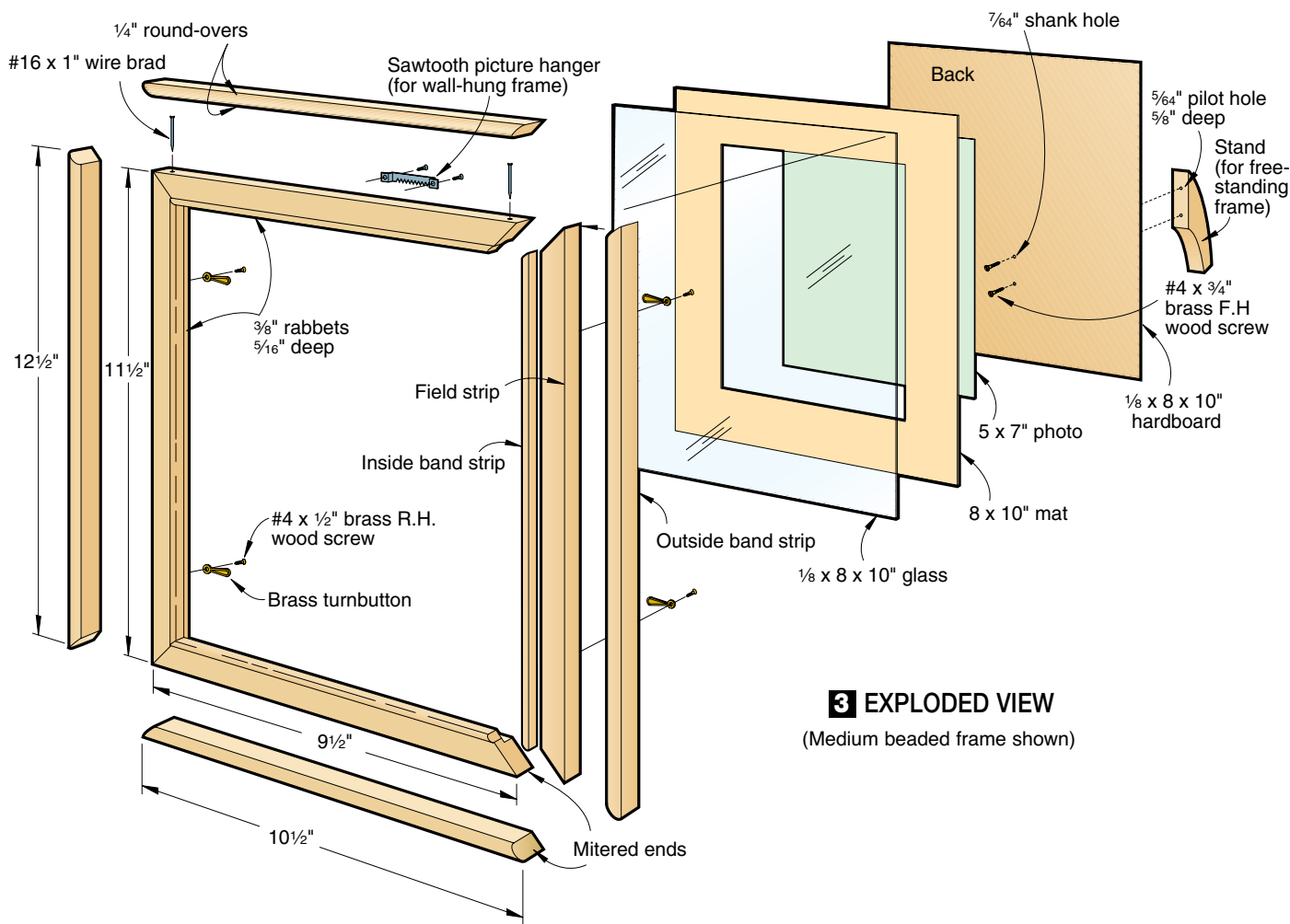
1 Select your species and prepare your stock. You'll need a $\frac{1}{2} \times 1\frac{1}{8}$ " piece for the outside band and a $\frac{3}{4} \times 1\frac{1}{8}$ " piece for the field. See the Sizing Guide for the stock length needed for each different size of frame.

2 Chuck a chamfer bit in your table-mounted router and rout the edge of the field strip, where shown on **Drawing 4**. Then change to a rabbeting bit, and rout the $\frac{3}{8}$ " rabbet. Finish-sand the field strip.

3 Cut the field strip into lengths about 1" longer than the dimensions shown under Inner Frame Size in the Sizing Guide. Glue and clamp the inner frame together, checking for squareness. When the glue dries, reinforce the corners with wire brads, as in Step 4 of the beaded frame instructions and the shop tip.

4 PRAIRIE FRAME CROSS SECTION





3 EXPLODED VIEW
(Medium beaded frame shown)

4 Miter-cut the outside bands to fit around the inner frame, testing the fit of each piece as you proceed. Finish-sand them to 220 grit. Lay the inner frame on your workbench with $\frac{3}{16}$ " spacers underneath it. Glue and clamp the bands in place. The spacers create a $\frac{3}{16}$ " recess at the frame's back.

5 Now, to add the glass, mat, back, turnbuttons, hanger or stand, and finish to your prairie frame, follow Steps 6, 7, 8 of the beaded-frame instructions. 🌲

Written by **Jan Hale Svec** with **Kevin Boyle**
Project designs: **Kevin Boyle**
Illustrations: **Roxanne LeMoine**; **Lorna Johnson**
Photographs: **Baldwin Photography**

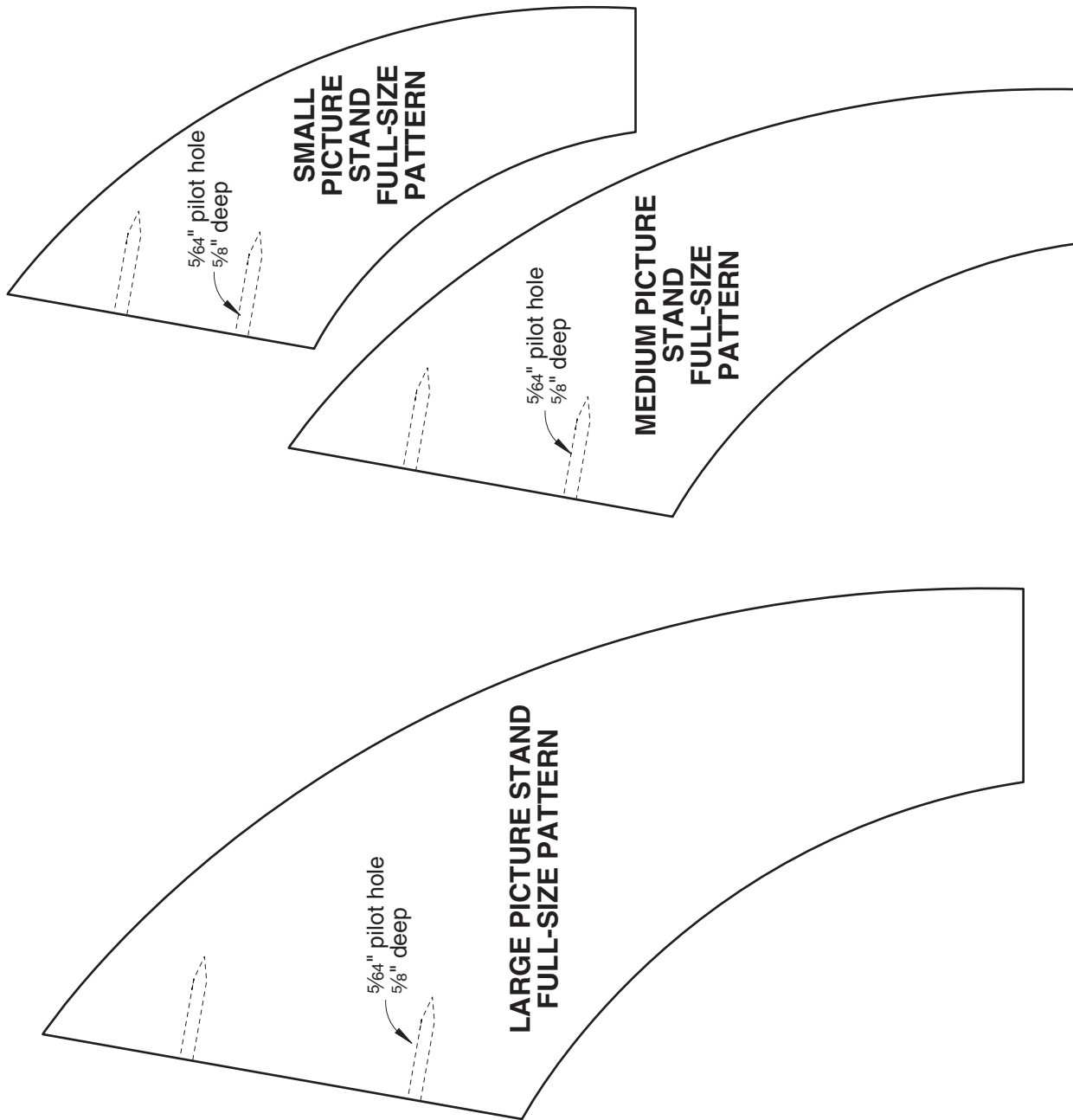
sizing guide

FRAME	STANDARD MAT	PHOTO SIZE	MAT OPENING	OVERALL FRAME SIZE	INNER FRAME SIZE	STOCK LENGTH
LARGE	11 x 14"	8 x 10"	7 1/2 x 9 1/2"	13 1/2 x 16 1/2"	12 1/2 x 15 1/2"	65"
MEDIUM	8 x 10"	5 x 7"	4 1/2 x 6 1/2"	10 1/2 x 12 1/2"	9 1/2 x 11 1/2"	51"
SMALL	5 x 7"	3 1/2 x 5"	3 x 4 1/2"	7 1/2 x 9 1/2"	6 1/2 x 8 1/2"	39"

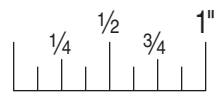
Supplies: #4x1/2" brass roundhead wood screws, #4x3/4" brass flathead wood screws, #16x1" wire brads, turnbuttons, sawtooth picture hanger, 1/8" hardboard, single-strength glass, glue, primer, paint, finish. Precut mats in standard sizes are available at art supply and craft supply stores and frame shops.

Buying Guide: You can order no. 6293 brass-plated turnbuttons, Meisel Hardware Specialties. Call 800/441-9870.

Do you have a special picture to frame, one that won't fit into a standard frame and precut mat? The article "Mount Up" on page 78 gives you all the information you need to do a professional job of matting and mounting your artwork, no matter what size frame you make. We even share the technique for cutting your own glass.



To ensure full-sized patterns are correct size, your printer should be set to print at 100% (not fit to page). Measure full-sized patterns to verify size.



SCALE

mounting up

Rick Smith, a custom picture framer at the Tandem Brick Gallery in Des Moines, Iowa, says it costs about \$25 to \$35 to have an 8×10" photo or piece of artwork professionally mounted in a frame that you provide. "There are many options, though, such as type of mat, non-glare glass, and archival material, that can run up that figure," he notes. "For instance, ultraviolet [UV] filtering glass costs twice as much as regular glass. For a rare photo or expensive piece of art, it's well worth the cost."

Because you're probably not going to frame Picasso sketches, you just may want to save some money and do it yourself. It doesn't take special skills, and the tools and materials are readily available. If you're planning to make the frames, here's what you need to know to follow through.

Getting started

Do-it-yourself framing requires some basic tools and supplies. Let's take a look at them, then see how they go together.

- **Mat cutter.** A handheld, bladed tool that cuts the image window in the mat. It can be as simple as an X-acto knife or more precise, such as the angled-blade model shown in the photo *below*. It costs about \$15.
- **Straightedge.** A thick, straight length of metal with a non-skid back to guide the mat cutter. Or you can use a metal ruler.
- **Ruler.** A standard flat rule with legible markings for measuring
- **Pliers.** Use the adjustable-jaw type for pushing in brads.
- **Awl.** A pointed tool

If you make your own frames, why not do the mounting, too? Here's all you need to know to get started.

for piercing a wood frame for brad starter holes. The awl also can be used for burnishing (smoothing) bevel edges on mats.

- **Glue.** A glue stick works fine for mounting the kraft paper dust cover when closing up the picture package. You also can use double-faced tape.

- **Mat.** Made of a heavy paperboard, usually in a variety of colors and textures, mats surround the image area of the photo or artwork and protect it from touching the glazing (the glass or acrylic). Normally, mat material contains a high rag content to make it acid-free (labeled "ph neutral"). Acid-free material prevents deterioration of the photo or artwork. Art supply stores carry pre-cut mats in a variety of traditional sizes and colors, or will custom cut a mat to fit the image you have.

- **Mounting board.** The same heavy-weight paperboard as mats, mounting boards can be acid-free as well because the photo or artwork is mounted on it.

- **Backing board.** Usually made of a stiff cardboard to strengthen the mounting board, backing boards more recently are made from rigid foam-core stock approximately 1/4" thick or thicker. They come in white and many colors, and in full sheets or pre-cut sizes.

- **Dust cover.** Cut from kraft paper (like a grocery bag), dust covers are adhered to the back of a frame to keep out dust and give it a finished look. It also comes in black.

- **Acid-free tape.** Small pieces of this tape adhere the photo or artwork to the mat or mounting board, so it's normally of acid-free, linen cloth. There also is acid-free, double-faced tape.



Glazing tops the image

• *Glass.* Window glass works fine. It's sold in common thicknesses of $\frac{3}{32}$ " to $\frac{1}{2}$ ". The $\frac{3}{32}$ " thickness—standard window glass—performs okay for the glazing in picture framing. (See the sidebar "Glass cutting—it's slick!" on the *next page*.) Special picture-framing glass is $\frac{1}{16}$ " thinner than regular glass. You'll find it available (at framing shops and glass suppliers) in several grades: standard clear, premium clear or ultraclear, non-glare, conservation clear (it blocks ultraviolet light rays), and a special conservation non-glare.

• *Clear acrylic.* It also comes as non-glare. Cost is about half that of top-grade picture glass, but it does scratch. It also attracts dust, so don't use it over artwork done in pastel, pencil, or charcoal because it will deteriorate the work. But it reduces the weight when used over large posters or other sizable artwork.

Hardware to hold

• *Brads.* These small nails, up to 1" long, are pushed into the rabbeted recess at the back of the wooden frame to hold the contents in place. A commonly employed size is #18, $\frac{5}{8}$ " long.

• *Glazer's points.* Exactly like the points used in window glazing, these points can be set with a screwdriver. Another version, called framer's points, are flat metal tabs, often flexible. To use these, though, you need a special tool. Professionals use a point driver—similar to a staple gun—that costs about \$70. A simpler point inserting tool is about \$40.

• *Turn buttons.* Screwed into the back of the frame, these flattened, tear-drop shaped buttons (shown on *page 77*) can be pivoted back and forth for quick placement and replacement of the contents without tools. Use of these precludes a dust cover.

Hardware to hang

• *Screw eyes.* Traditional hardware, screw eyes (typically $\frac{3}{4}$ " long) are looped, threaded screws to which you tie hanging wire on frames up to 16x20". One goes on either side of the frame about one-third of the way from the top. You'll want to use self-adhesive rubber bumpers on the frame bottom to keep the picture parallel with the wall.

• *Strap hanger/D-ring.* Able to carry more weight than screw eyes, strap

hangers/D-rings are metal tabs with a D- or triangle-shaped ring. After fastening them to the frame with self-tapping wood screws about 6" down from the top frame edge, you string picture wire between them and secure it.

• *Saw-toothed hangers.* Metal bars with a notched edge, saw-toothed hangers are used in place of hanging wire for lighter frames. They're the easiest to install and adjust for level.

• *Hook hangers.* These metal hangers are installed on a wall with a small nail, and incorporate a hook over which you loop the frame's hanging wire. It's best to use these in pairs, stringing the picture wire over each to distribute the weight and keep the picture from shifting.

• *Picture wire.* This twisted, small diameter wire stretches between the hangers

Strap hanger/
D-ring

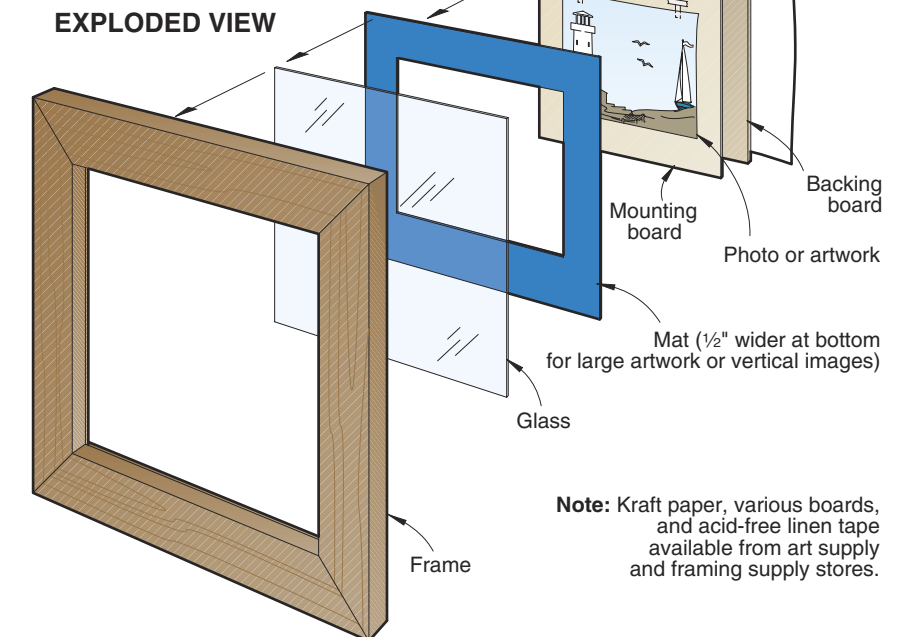
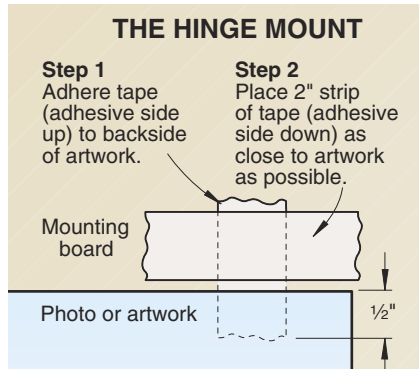
Screw eyes

and goes over the wall hook to suspend the framed piece. Do not use wire to hang a mirror or a very heavy picture. These should be hung on strap hangers directly over hook hangers.

How to assemble a picture-package

What framers refer to as the "picture package" (see the drawing *below*) consists of the glazing, the mat, the photo or

continued on page 80



Note: Kraft paper, various boards, and acid-free linen tape available from art supply and framing supply stores.

mounting up

artwork, the mounting board, a backing board, and kraft paper as a dust cover to seal it. Here's how to put it all together.

1 Cut the mat

Select a mat sized to fit your frame, or cut one from larger stock. Measure the image area of your artwork, allowing for a small border around it if you wish. With a pencil, lightly draw the cutout lines on the back of the mat (erase them later). Depending on the size of your



image area and your preference, you might want to make a 1/2" wider border at the bottom of the mat. This is especially true for large (greater than 11x14") or vertical-image pictures.

Now, clamp down one end of your straightedge so that the mat cutter follows the pencil line. Begin the cut 1/8" beyond the intersecting lines, and end it the same distance past the next intersection. (With a mat cutter's angled blade, this completes the cut on the face side.) Follow this procedure for the three remaining sides

2 You're ready to build the picture package

Lay the artwork face up on a clean work surface. For snapshots and inexpensive work, simply adhere two pieces of dou-



ble-faced tape several inches apart at the top of it. Then position the mat over the image area and press in place. For valuable art or treasured photos, use the "hinge" method shown in the drawing on the *preceding page* to secure the mat to the mounting board, then sandwich the artwork between them. Next, build up the rest of the picture package, and set the frame over it to check for fit. If it's okay, turn the unit over.

3 Secure it

Using adjustable pliers and a scrap of mat board for a jaw pad, begin inserting the brads into the frame about 3" apart and 1" in from each corner. Keep them as tight as you can against the backing board. (If you like, you also can "pre-drill" brad holes with the tip of a sharp



awl.)

4 Seal it up

For the dust cover, cut an oversize piece of kraft paper. Run a wide smear with a glue stick all around the frame back (or



use double-faced tape). Then lay down the dust cover, being careful to keep it taut. After you trim off the excess with a razor blade or craft knife, you'll be ready to install the hanging hardware. 🌱

Glass cutting— it's slick!

There's really nothing much to cutting glass in your own workshop. To start with, you'll need a glass cutter (a serviceable one is about \$5) and mineral spirits. Then you must have a straight-edge, such as a metal ruler; glass cleaner; and two spring clamps—plus eye protection

First, clean the glass. Next, place it on a flat, clean, cushioned surface, and clamp the ruler to the glass where you want to make the cut (actually a score line). Now, see the photos *below*.



With the straightedge clamped in place, brush mineral spirits on the glass. Holding the glass cutter as shown and starting at one edge of the glass, draw it firmly across to the other edge.



To easily and safely separate the glass, first turn the piece over and set it down carefully. Then, turn the cutter handle down, and use it to tap edge to edge on the visible score line. The glass will separate cleanly as you move along.

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Photographs: Baldwin Photography

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