



# Object Box Design:

## Selling up into object boxes and object box alternatives

by Chris Paschke, CPF

“Selling up” is a concept all successful picture framers put into practice on a regular basis. Object boxes are simply another project that provides an opportunity for this practice. An old photo or other mementos of a loved one may be taken beyond the realm of mere matting and framing with the suggestion of adding additional objects as accents. Shadow boxes are here to stay; the process and time involved in their execution deserved to be discussed.

The standard shadow or object box is constructed with 4 ply mat board, backing board or foam board, hinged at the joint of bottom to side, or covered with fabric and assembled in separate pieces, lining the sides of the frame with a separate backing. The worst possible scenario might be a time consuming project with its share of problems: mismatched edges, unraveling fabrics, warping backgrounds, unbraced glass or the entire box out of square. Sounds like the nightmare you never hope to have, right?

Of course, the positive side of this headache would be the challenge of the design as well as the attractive profit margin.

Shadow box construction can be simplified by using your dry mount mechanical press or hot/cold vacuum

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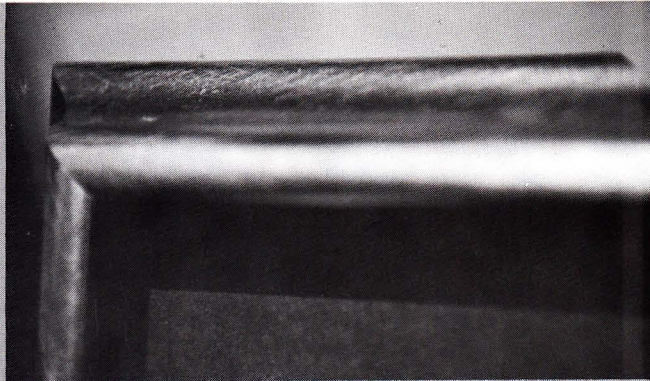


Photo 1a. Detail of a large 2" deep gold leaf moulding used for box construction. Lower left of photo shows 1 1/2" depth of the fabric covered shadow box. The foam box was made with 3/16" acid free foam board.

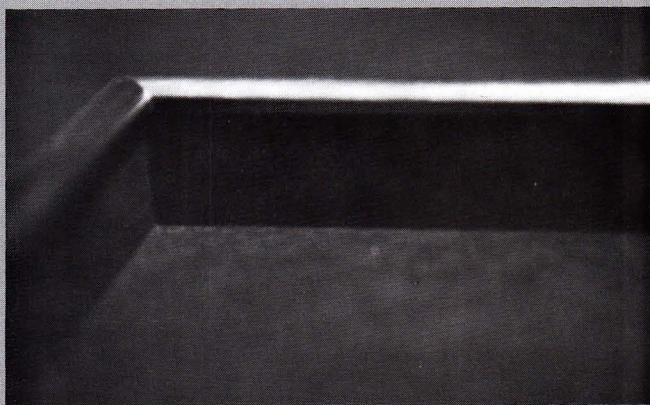


Photo 1b. Detail of inside corner of the fitted box.

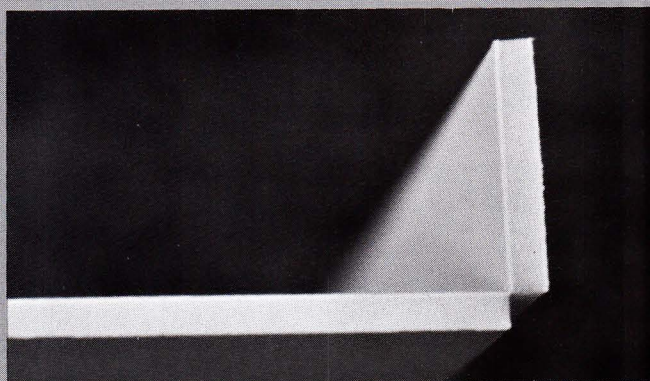


Photo 2. Detail of 3/16" acid free foam board, illustrating the formula. Length or width of the box (across the bottom of the photo), less the thickness of the substrate, plus the height of the sides (vertical at right in photo).

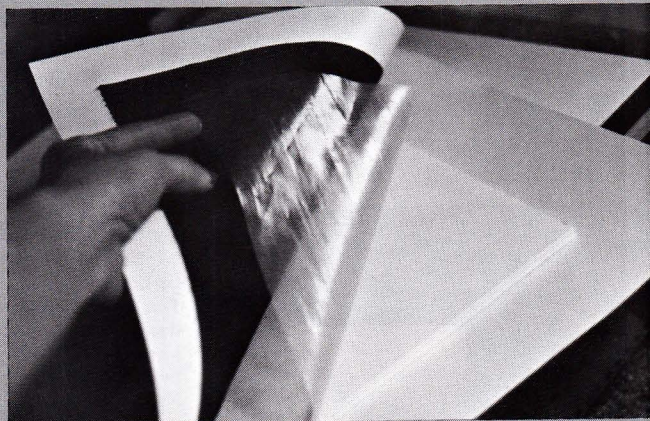


Photo 3. This foam board measures 13 3/8" x 16 5/8" for a basic 11" x 14" shadow box. Cut the fabric and adhesive to at least 15" x 18" to allow for wrapping the cut ends of the box. Layer the piece of foam board, adhesive and fabric into a release paper envelope. Mount at 190°F for two to three minutes in a mechanical or vacuum press.





*continued from page 27*

press to mount the fabric to the boards (photos 1a and 1b). Using  $\frac{1}{8}$ " or  $\frac{3}{16}$ " acid free foam board as a base, pure film adhesive such as Fusion 4000, TM-3, or Flobond, and a professional straightline cutter, shadow boxes become quick to build, easy to sew through for object mounting, and quite profitable. You can even add the cost of mounting the fabric to the box backing and complete the project in less time.

### Formula And Sizing

The entire backing board, as well as the sides, are cut from a single board. Assume for a moment that the completed box will fit into a 11"  $\times$  14" object frame deep enough to allow a  $1\frac{1}{2}$ " box with the standard  $\frac{1}{8}$ " allowance. There is a formula to determine the overall dimensions required for the board.

The width of the board is calculated by the frame width (11"), less twice the thickness of the mounting board ( $2(\frac{3}{16}"$ )), plus twice the depth of the box ( $2(1\frac{1}{2}"$ ). Simply adding the base measurement of the box to the side measurement does not take into account the extra  $\frac{3}{16}"$  created on each side of the base when the foam board is scored and taken up (photo 2).

The length of the board is calculated by frame length (14"), less twice the thickness of the mounting board ( $2(\frac{3}{16}"$ )), plus twice the desired depth of the box ( $2(1\frac{1}{2}"$ ). Based on these dimensions, the  $\frac{3}{16}"$  foam board selected as a backing/mounting board would be:

$$11" - 2(\frac{3}{16}" ) + 2(1\frac{1}{2}" ) = 13\frac{5}{8}" \text{ width}$$

$$14" - 2(\frac{3}{16}" ) + 2(1\frac{1}{2}" ) = 16\frac{5}{8}" \text{ length}$$

For a  $1\frac{1}{2}$ " deep box, which will fit into a 11"  $\times$  14" frame, with a standard allowance, the foam board base must be  $13\frac{5}{8}" \times 16\frac{5}{8}"$ . The formula gets easier as you use it; just remember to subtract the extra width of the mounting board you have selected for a base.

*continued on page 30*

NOVEMBER 1993



Photo 4. Cut the foam board face down, end for end, for all four directions. Make certain not to cut through the face layer of the foam board or the fabric, since these will serve as hinges for the sides of the box.

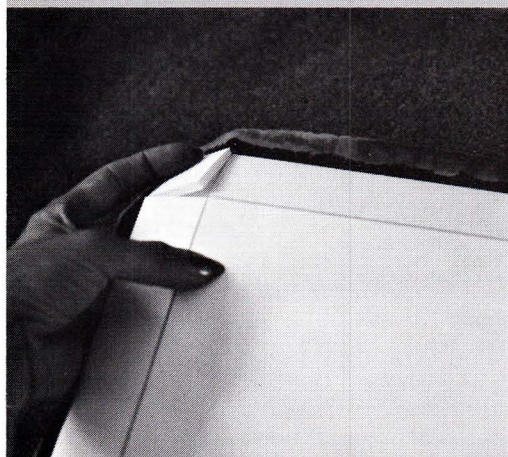


Photo 5a. Pop out the extra corner pieces, leaving the facing paper and fabric uncut. Pop them from the opposite side of the box. Remove the loose corner and discard.

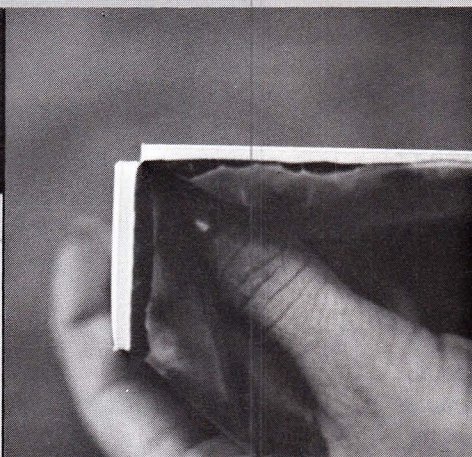
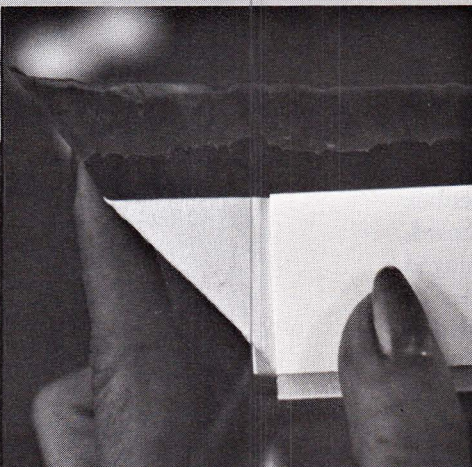


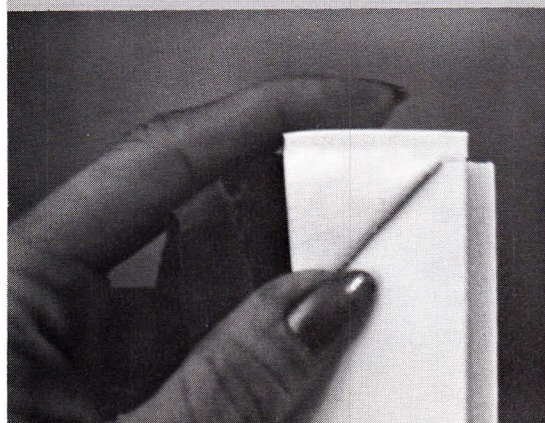
Photo 5b. Fold up the four sides to examine the box. This shows a view from the end with one side folded down.



6a



6b



6c

Photo 6a. If the fabric is soft and thin and might unravel, a folded 45° angle might be best. This photo shows an untrimmed view from the face of the box. Tuck the extra fabric into the folded corner to trim, turn back, and tape or glue in place. Photo 6b. A view of the folded side corner of the box with a 45° tab prepared to be turned. Note the excess adhesive remaining on the edges of the fabric for later finishing. Photo 6c. Turn the tab around the corner and tack into place. Do not overfold or you will lose the 90° corner inside the box.



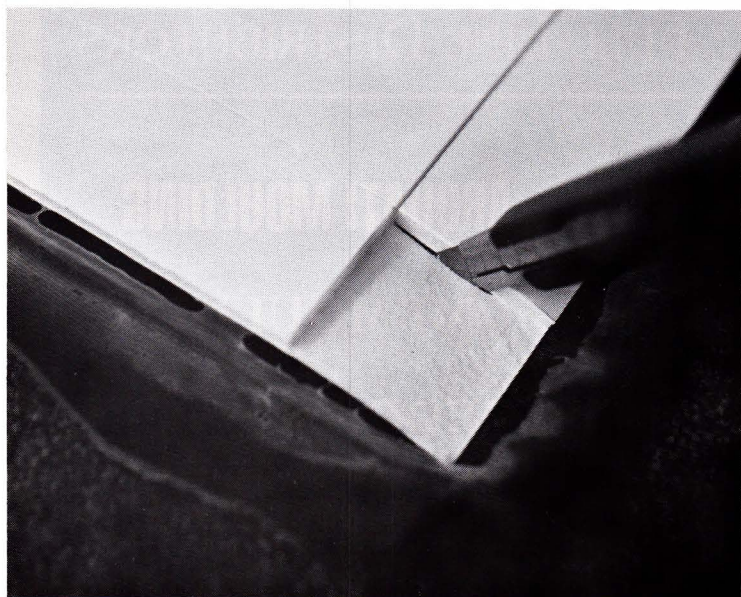


Photo 7a. Heavier fabrics may be cut and the tab turned if it will not unravel; care must be taken to prevent loose threads. Cut one side along a remaining foam board edge with a sharp knife. You may wish to turn and tack the selvage edge of the fabric prior to affixing the corner miters.

*continued from page 28*

### Mounting And Trimming

In preparation for mounting, both the adhesive and the fabric need to be cut larger than the backing board so that the edges of the fabric may be turned over the raw edges of the foam board box when finishing. For our example, the fabric and adhesive should measure at least 15" x 18" to allow for adequate turnback.

Take the foam backing board and layer with a sheet of pure adhesive and the fabric to be mounted (photo 3). Tack the fabric in place and place the unit in a release paper envelope.

Always remember to predry your materials, excluding the adhesive, prior to mounting in a mechanical press. This will remove any excess moisture. This step is eliminated when using a vacuum press by the actual pulling of the vacuum. This same procedure may be used with spray mounting, cold vacuum frames and pressure sensitives, though the speed and dependability of heat mounting allows for greater profits.

Mount the fabric at 190°F for two to three minutes, remove from the press and let cool under weight,

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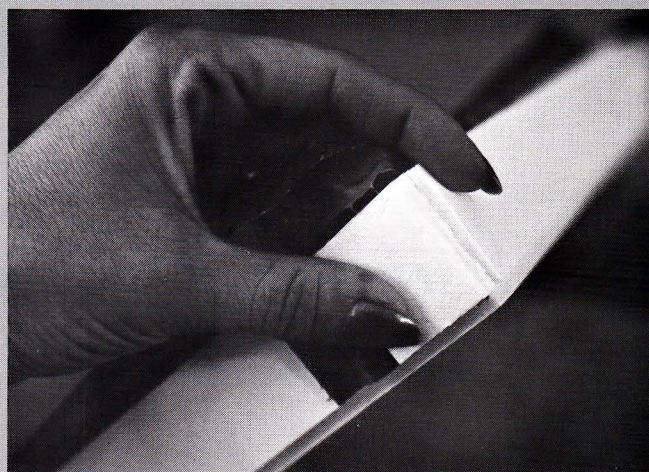


Photo 7b. Turn the tab and square the inner corner of the box to 90°. Be careful not to pull the tab entirely to the foam edge, as a  $\frac{3}{16}$ " allowance remains, offsetting the corner. The inner corners do not touch the outer.



Photo 7c. Burnish the tape firmly in place.

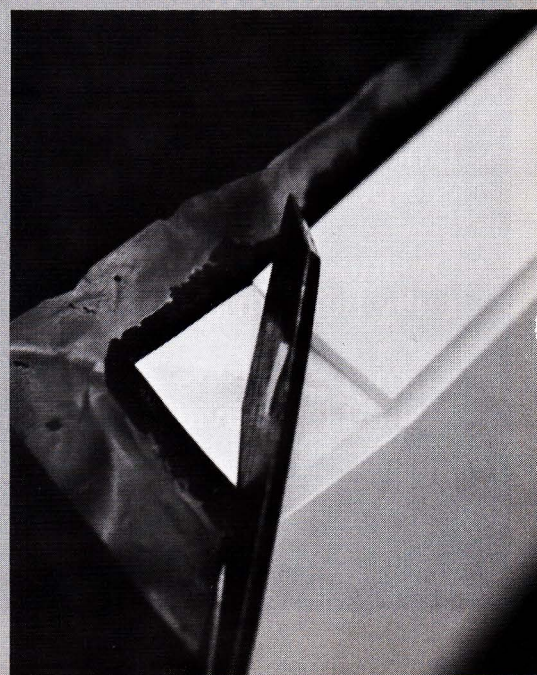


Photo 8. Bulk may be trimmed from the corners prior to the final assembly for the 45° turnback corner.





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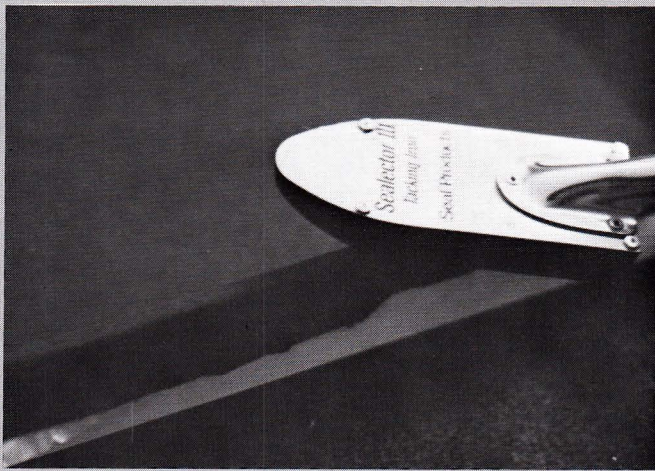
preferably cool plate glass. The times and temperatures may vary slightly, depending on the type or thickness of the fabric and board used, as well as the type of press used. Slightly longer dwell times are needed for vacuum presses to allow for the added procedure involved.

Set the mat guide or squaring arm adjustment on your mat cutter to cut the width (1½" in this sample) with the vertical, or straight cutter blades. Adjust the blade depth so you do not cut completely through the foam board, but just deep enough to leave the surface paper as well as the newly mounted fabric intact (photo 4).

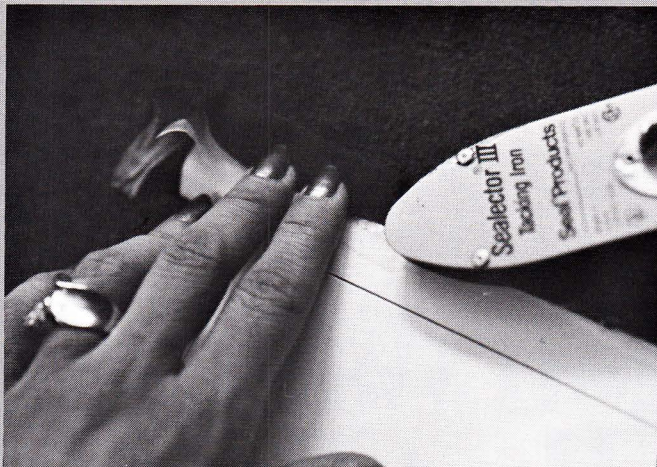
Cut end for end, all four directions, from the back of the box. This works well if done before mounting the fabric, since then there is no fabric to bunch against the mat guide. The scores into the back of the foam board do not affect the mounting on the reverse side of the base.

Pop out the excess corner pieces and fold up the four sides and examine the box (photos 5a and 5b). The corners can be mitered in a number of different ways. If you use a soft, flexible fabric which has the tendency to unravel (cotton, linen, silk), the corner may be easily folded into a 45° corner, and then back along one side to be firmly taped or glued (photos 6a, 6b, 6c).

Be careful not to overfold and lose



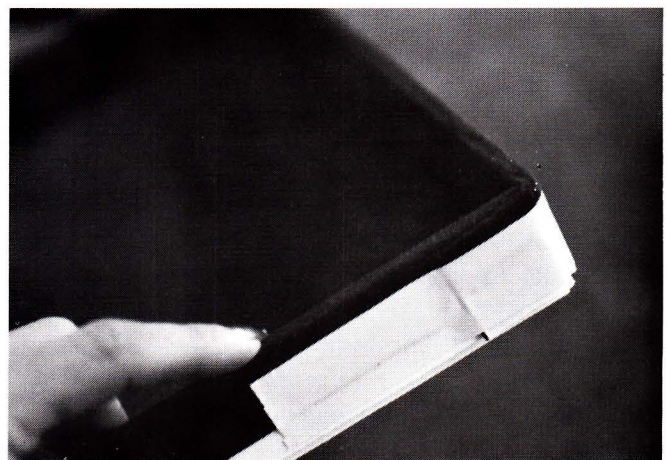
**Photo 9a.** Tacking the excess fabric already backed with adhesive is completed with a tacking iron by hand. Reinforce the visual end of the board prior to setting the turnback. Always work from center to corners and pull from the center of the box towards the back.



**Photo 9b.** Turn the fabric to the back of the box and tack into place. Be careful not to tack excess adhesive from the iron onto the visual surface of the box. Continue to check the iron for residue.



**Photo 9c.** By tacking the turnback first, the tab turns cleanly and is ready to be taped.



**Photo 9d.** With the turn tab and tape in place, use a burnisher and check the 90° corner.





the clean 90° corner within the box. If you are using a heavy fabric that will not easily unravel or fray, or is too stiff to turn back, cut along one side of the fabric at the edge of the foam and turn the flap back to tack into place (photos 7a, 7b, 7c).

The excess material that remains may be turned and tacked over the end of the box to the back, either prior to or after the completion of the tab closures. The corners may need to be trimmed to eliminate excess bulk (photo 8). Folding the excess fabric over the edge prevents the possibility of any raw board being exposed beneath the rabbet (photo 9 a, b, c, d). This fold over may be either heat set, if adhesive remains, or taped.

#### Adhesives

Using a pure film adhesive will ensure the best results as long as the proper TTPM (time, temperature, pressure, moisture) ratios are followed. When using thin fabrics the same principles apply as with fabric wrapped mats (see "Foam Board Freedom", PFM November 1991).

Since the adhesive has no tissue core, the maximum bonding potential of the fabric to the substrate is allowable. Keep in mind, however, that too much heat for too long could cause adhesive saturation of the fabric.

Pure film adhesive will mount just about any material to any substrate. Some fabrics remain nonabsorbent, however, and although held to the board will peel off if pulled. Acetate lining, velour, and Scotchgard™ upholstery fabrics are among those that will not absorb adhesive.

When lining a shadow or object box with these types of fabrics, be sure not to use silicone glue to mount objects directly to the backing. Although the lining is held to the box, the weight of an object—even one very light—attached to the lining will eventually pull the lining from the box backing.

Always use mounts designed to be held through the backing, or sew the object in place through the back.

Using foam board as the box substrate makes sewing through the backing quick and easy.

#### Profit Potential

Once you have taken into consideration all of the confusion explanations, formulas and hints you have tackled with this dry mounting method of creating object boxes, you will naturally begin to see the benefits.

Any time we can take existing equipment and familiar procedures and apply them to new projects to save time and energy, more money will be made. Once the process becomes second nature, you will always be adding fabric to the base substrate of your object boxes.

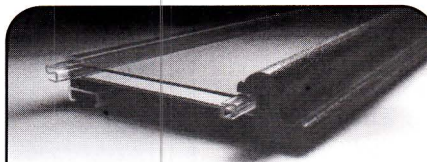
The visual effect is soft and elegant, and may be personalized to

your customer. Yet is quick for you to do, and may be quoted at a higher price, even if for no other reason than the added fabric, mounting charge and design elements involved. Besides, if it looks more expensive, then it must be.

Don't be afraid to sell up. Remember, showing a triple mat almost always guarantees the sale of a double, but showing a double may only sell a single.

The same concept can be applied to shadow boxes. Showing one lined with linen or velvet, with the suggestion of accent momentos, may at least sell less costly velour with those same collectibles. But showing a mat board backing with no suggestion of adding other keepsakes may only sell you a matted antique photo.

## Spacers..?

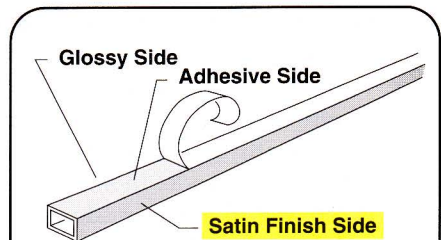


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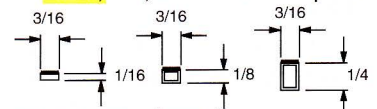


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