
MATting PHOTOGRAPHS

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Cutting and making mats to display photographs seems to be the bane of virtually every student I've ever seen. Indeed many professional photographers cringe at the idea of having to cut mats for a show or client display. It is so onerous a task and with such hideous prospects for wasted time and effort that they will put it off until moments before a portfolio project or exhibition is due and then, in the clutches of a full blown panic, make all of their worst expectations come true in a spasm of self fulfilling prophesy.

Part of the reason is that in the photo world, the making of mats is usually taught as if it were some arcane mathematical incantation requiring a multi-function calculator and the removal of shoes so one has at least the ability to count to ten. This is heightened by the insistence that there is one proper way to do it, one proper look a photograph should have when matted and framed, and partly, I am convinced, by gurus who can make themselves look almost like powerful wizards that they can do it at all when they have made it soooooo incredibly difficult for the student. That they can whip out a mat quickly seems like the highest of magic, and probably black magic at that. It must be something that comes from years of sniffing Fixer.

In the world of traditional fine art an oil painter would sooner fall upon his brush and a watercolorist sooner drink his paint than to accept the idea that there is but one proper way to do *anything*... much less *ALL* things in their chosen medium. But along come the photographers, desperately claiming their medium is as much an art as any other, but who then turn right around and try to assert that there is one proper way to see, one proper way to shoot, one proper look to the image, and one proper way to display the image. Those people need to turn in their self-drawn artist's badges. Such positions have nothing to do with art and everything to do with desperate demagoguery of the current photo-guru *du jour*.

In my opinion they have given up their own artistic vision, assuming they had one at some point, to their equipment or in slavish fawning of some mentor. Whatever it is, it is not artistic; it has no place in the realm of real art where each practitioner is expected to search for their own vision and to then find and master whatever practices, skills, knowledge, and approaches allow them to best render that vision into a viewable, tangible life.

Preparing a work of art for final display is every bit as much of the artistic process as all that went before it. Despite the inexplicable declarations that it is all just about the image and all the rest of it does is help to isolate it from the wall, anyone who has ever seen the same image poorly presented and beautifully presented can easily tell the difference in “feel” the two presentations have about them. I don’t believe you can rescue a bad photo with a wonderfully ornate mat and frame, but I know for sure you can degrade a good one with a bad choice of mat and frame.

My goal here is to take the mystery and misery out of the process. With the right tools it is really quite easy. First however, a disclaimer. The techniques I will discuss here are ones I’ve adopted over the years from a wide number of sources. I mostly fall back on the approaches learned in Art School as a base and then have modified it from there as new materials and equipment have become available. They work for me and so far have worked for most of my students. But I would never try to tell you they are the only way to do it. Try various approaches (in class do whatever your instructor demands no matter how hare brained it may seem) and then for yourself, do what I did. Take the parts that seem to work best for YOU and throw the rest away.

I’m going to try to break down the process more or less in the order it is undertaken. First we will gather supplies and equipment, then plan and measure the mats and mounting board, and then cut and finally assemble them ready for framing. I will demonstrate using simple mats but that is not because I believe it is always the best way to present a photograph. In fact I think it is often pretty boring and the reason many collectors prefer to buy prints from the “bin” and not off of the wall. But it allows you to start simple, develop the skills needed and then you can get as creative and fancy as your own vision takes you.

Just remember, the mat and frame are there to enhance the presentation of the primary object, the work of art. They should help lead your eye naturally away from the environment and into the world of the art. They are not there to outshine it or detract from it by drawing attention from it because, in fact, the mat is far better done than the art work itself.

OK, so let’s get right to it shall we?

EQUIPMENT & SUPPLIES

Before you can get started to have to accumulate all of the equipment and supplies you will need. Here is a list with any issues you need to consider to aid in your purchasing decisions.

EQUIPMENT

- 🗑️ **Mounting Equipment.** If you are planning on permanently mounting your prints to the backing board then you will need the equipment to help with that.

If you like to heat mount then you will need a heated Press (commonly called a “Dry Mount Press”) and a tacking iron. If you prefer to cold mount then you need at least a burnisher or roller (called a “brayer”) although there are also cold mount presses that do a better job for prints up to about 20”.

If you want to wet mount then you will need the supplies and a way to mask off the spray areas.

- 🗑️ **Mat Cutter.** Unless you have superhuman skill and dexterity with a pocket or utility knife, you absolutely need a mat cutter that will hold the blade at the proper depth and angle.

The least expensive is a **Dexter™** Mat Cutter. This hand-held cutting device has cut millions of mats but it does require some additional equipment for it to work properly. In the section on cutting mats we’ll describe the steps needed to use this device. Rule number one however, if you get this mat cutter, is to immediately throw away the instructions that came with it.

The most flexible, but still reasonably affordable solution is the **Logan Compact™** Mat Cutter. If you are not using mats with outer dimensions greater than 20x24 this cutter works extremely well. Logan also makes bigger, better cutters as well. Compared to other professional brands like C&H these are very competitively priced and still very good cutters.

- ☞ **Rule or Scale.** You need a precise metal rule¹ as long as the longest dimension of any board you are likely to cut. I have found also having a smaller one about 18" is also very handy
- ☞ **Straight Edge.** If you are using a Dexter then you need a good **THICK** straight edge to guide the cutter. This should have a cork or rubber backing to help keep it from slipping when you put pressure against it. Trust me on this: you will not like what happens if the cutter rides up over the straight edge and crosses the hand you are using to hold it down.
- ☞ **Sharp Pencil.** You need a good sharp pencil (or fine mechanical pencil) to make the guidelines and reference marks on the **back** of the mat for placement and cutting.
- ☞ **A Bone.** No not for barbequing. This is a small piece of (now) plastic that is tapered and is actually designed to help with folding. But the more pointed end is perfect for smoothing out slight over cuts and rough edges on the mat.

SUPPLIES

- ☞ **Mat Board.** Normal mat board is a wood-pulp product made from the nitro-cellulose fibers of wood. It is high in lignin (the natural adhesive holding wood fibers together) and as it deteriorates with age it releases nitric acid that attacks the paper and your print. So what should you use?

I'm so glad you asked...

You should use one of two types of mat board:

- **"Museum board"** is 100% cotton rag content with no acid or lignin present. This is the best.
- **"Conservation board"** is made primarily from the alpha-cellulose element in wood pulp therefore is low in lignin and usually treated and buffered to be acid free.

Both types of board are of higher quality and much easier to cut than normal wood pulp mat board so in addition to saving your print you will get more "mileage" out of your cutter's blades.

¹ We might as well start now to get the terms correct. A "Ruler" is a person who rules over something, like a King or Queen. A straight edged piece of wood, plastic, or metal with measurements on it is a "Rule." A "Scale" is a type of "Rule" that lets you scale things up or down in proportion. As long as it is truly straight, any of these will do.

Mat board comes in “plys” which is a little misleading. All mat board is made of laminated sheets building to the desired thicknesses. The most common size for matting normal photographs is 4-ply board. It is also common to use the same 4-ply board for both the backing/mounting board and the mat itself. But there are options you can take. To save weight in a portfolio often a 2-ply back/mounting board is used. And for larger prints or to create a different look you can use an 8-ply board for the front if you have a mat cutter that can be set for it.

Remember the mount and mat boards should be exactly the same size for a proper mat.

- ✎ **Blades for the Mat Cutter.** Each type of cutter uses its own style of blades. But they cut well only when very sharp. After a few boards they start to dull and then cut poorly with ragged edges. The blades are cheap, so get a lot of them.

NOTE: just because a blade will fit in a cutter does not mean it will work or work well in it. To properly set the cutter head it must have the proper blade in it.

- ✎ **Hinging Tape or Photo Corners.** The tape is used for hinging the front and back of the mat. It is also sometimes used to hinge the print to the backing board if it is not dry mounted. Photo corners are an optional method used to attach the print to the backing board. More on this later.

The traditional material for the tape and hand made corners was book-binder’s linen tape. That is very strong and long lasting, but it has to be moistened to apply and it has a ghastly taste so you will also want to get a ceramic moistener.

An optional but quite workable tape is the so-called “Artists Tape.” This white tape is self sticking, acid free, and easier to use but not as strong as the book binder’s tape. (*Tip: This is a good tape to have in your camera bag anyway because you can use it and when you remove it there is no remaining adhesive residue.*)

Once you have your equipment and supplies together, it is time to start the process. If you are permanently mounting the print to the backing board then you will do it as a first preliminary step, if not it will be done after the mats have been cut. Just in case, we will discuss it here first.

MOUNTING

“Mounting” is the part of the process where the photo (or whatever) is affixed to the backing board (or Mount Board). When over-mats and window-mats are used with hinge mounting or corner mounting techniques it is easier to first cut the mat and then position the print for mounting. If the print is permanently mounted with hot or cold mounting techniques then it is usually mounted first then the mat is measured and cut specifically for the positioning since it cannot be altered once done.

Permanent Mounting Techniques

There are two types of permanent mounting:

- ☞ Wet Mounting and
- ☞ Dry Mounting.

Wet mounting is done, as the name implies, with liquid or semi-liquid adhesives. Most commonly in photography a spray adhesive is used. This is fast and easy and OK for temporary displays but the highly acidic solvents in the adhesives will sooner or later attack your image so this is not a good way to go if you want to create an archival display.

To get a really good bond, you need to spray both surfaces evenly and let them dry. Then they are pressed together. The problem is that when both sides have dried, the bond is **instant** upon contact, so you need to be extremely precise in how you lower the print onto the backing board. Once it connects there is no going back and straightening it.

A variant of this is to use self stick board such as foam core or gator board. The only problem is that whole surface has adhesive on it not just where you want to place the photo. However this is a very popular way of bleed mounting prints especially in commercial portfolios. Here the print is made with a border and then put onto the foam core where border and foam core are trimmed together for a perfect edge. You will need a special cutter if the foam core is very thick.

Dry Mounting opens up some new possibilities. There are two technologies here too:

- ☞ Cold Mounting
- ☞ Heat Mounting

Cold Mounting is most often accomplished using pressure sensitive adhesive sheets. These can be burnished in place with a brayer or run through a special press. The good part is the “tack” of these sheets is pressure sensitive so the image can be repositioned until it is just right then extra pressure finalizes the bond.

Heat Mounting is usually done in a special heating press commonly called a “Dry Mount Press.” It uses adhesive sheets that melt and adhere at specified temperatures. The downside is the cost of the mounting press itself.

For a long time, based on guessing and accelerated testing, it was thought that heat mounting was bad for the photograph due, it was suspected, to the adhesives in the dry mount sheets or maybe the heat itself. Subsequent real-time testing completed and reported on by RIT’s² Image Permanence Institute in the early 2000s has shown that actually no deterioration was attributable to the mounting tissue or heat and instead it actually formed a barrier to acid migration through the back of the mount. Nevertheless traditional wisdom, speculation, and “gut” feeling persists that the heat involved just has to, somehow, hurt the image.

However there is one potential issue that is borne out in real world displays. Solid permanent mounting joins two very different types and weights of materials together. Under conditions of large humidity and temperature swings, the print and the board contract and expand at different rates. If that rate difference is sufficiently severe, then the print, being the weaker of the two, can buckle, or even be torn apart. Heavy papers are not so much of a problem but light weight papers can really end up ruining a presentation when they buckle or tear and are not good candidates for permanent mounting.

Replaceable mounting techniques are used after the mat has been cut and assembled so I will cover those in their proper order.

MATTING

“Matting” is the part of the process where a heavy board has an opening cut in it and is then placed over the printed piece. This serves to isolate the print from the surrounding area and also to physically protect the surface from touching or adhering to any glazing in a frame or from abrasion in a portfolio case.

² Rochester Institute of Technology

Originally in the art world the mat was simply cut with square edges. But with the advent of printmaking processes such as etching and engraving, the intaglio press embossed the outline of the printing plate into the paper. Because of this, the edges of the plate had to be beveled or the plate would simply die cut the paper when it was put through a press. This beveled embossing was called the “plate mark.” Even today it is left on as the sure sign of a real intaglio print. It was realized that this beveled “step” led the viewer into the picture better than a straight edge. Suddenly mats for all kinds of paper based art started to have beveled cuts to emulate the plate marks and serve the same purpose of creating a softer transition from mat to image.

In the real art world it has been realized for centuries that the viewer reacts to the entire package of print, mat, and frame. And so traditionally there was some very elaborate mat art done in order to, it was thought, enhance the overall viewing experience and also to ease the transition from the harsh world outside the art work, into the art itself. Gold leaf and ink lines were often applied. Dürer,³ for example, used a lot of ink washes and lines of various thicknesses to, again, create the illusion of depth and draw the eye into the art work. Many were colorful, multi-leveled, and extremely beautiful.

This practice continued into early photography up into the early 20th century. However, in a quest to distinguish themselves from the other arts at a time when Pictorialism⁴ was flourishing in the early part of the 1900s, photographers under the sway of the charismatic “West Coast School” created a scholastic approach to presenting photographs with very set rules: wide white plain mat held in a simple thin black or neutral frame.

It was the Pilgrim version of aesthetics. Although there are prints for which this is the perfect presentation, it became quickly accepted by photographers as THE way it should be done. In my opinion this was the first notch out of their artist’s badge because on the wrong image it is simply boring. A real artist would have looked at it and known better. Artists do things that help enhance the image, whatever that is. They do not worry overly much about scholastic pronouncements of how everyone should approach all images. They leave that for crafts people...

Anyway, for reasons counter to experience this group also bought into the idea that this presentation so isolated the image that you only responded to the photo

³ Albrecht Dürer 1471-1528 a major figure in the art world for integrating northern and Italian art. Known primarily for his engravings and watercolors he also did woodcuts, oil painting, and silverpoint drawings of near photographic detail and accuracy.

⁴ An early school of photographic aesthetics that tried to emulate the look of traditional fine art such as paintings and prints.

and not to the packaging which was there for the sole purpose of protecting the photo from damage and the elements.

Right. Maybe if the viewer also keeps his or her eyes closed.

There were even, for a mercifully short period, proscribed proportions. 8 x 10 contact prints (all the rage for a while. If you were to be considered a "real" photo artist), for example, needed to be used with 18 x 14 mat boards. Period.

Whatever...

Another mat cutting issue that you will have to decide before you start carving away on expensive museum board, is what style of mat do you want for this particular photo. I am not even going to give credence to the idea that all should be done the same way. And although photographers tend to call the two main styles by the same interchangeable names, in fact they are quite different and result in a very different aesthetic with the print. The three styles of mats are:

- ☞ **Over mat**
- ☞ **Window mat**
- ☞ **Floating mat**

Let's define them a little more clearly.

The Over Mat

The Over Mat ideally has an opening that comes precisely to the edges of the image area of your print. Since very few people can actually cut a mat this precisely, the over mat normally comes slightly over the border and into the image area. Some people leave some room for the mat to "crop the image" other just try to bring it into the mat by some minimal amount within the precision tolerances of their mat cutting skills, usually 1/16 or 3/32 of an inch but no more than an 1/8 of an inch.

The problem is that this will cover up the signature on the print so often the Over Mat is signed (and perhaps titled) again by the artist on the mat where it can be seen.

The Window Mat

The Window Mat is used when the artist wants to leave some room around the image area for aesthetic reasons, to show off the paper, to allow room to show the title and signature on the print itself, etc. Here the mat is cut so that there is space on ALL sides of the image area (not just on the bottom and ideally there

will be a little more on the bottom than on the sides and top which should be about equal.

I sign the print then measure the distance from the bottom of the image to the bottom of my signature; add that and a little less for the top to the image's height dimension. I double the top dimension to add to the width dimension of the print. Those increased dimensions become the actual opening dimensions for the mat I'm about to cut.

The Floating Mat

The floating mat is a very special mat that is designed to show off the paper especially if you have used a high grade art paper with a natural or deckled edge. It is a very striking presentation but a major pain to cut and assemble. In the Appendix to this document is a diagram of how a floating mat goes together.

Double (and triple) Mats

Regardless of what style of mat you use, you can also create additional layers of mats. Each successive layer usually shows some of the mat beneath it. This can be done to create colored lines around the mat or to add additional depth to the overall presentation. With additional layers of mats the need for precision cutting increases enormously as any mis-cutting or off angles will show up instantly.

MAT CUTTING

OK, now we finally get into the nitty-gritty part. Cutting the mat has to start with deciding where on the mat board you want to put the opening. Placing it dead in the center creates an interesting optical illusion that the bottom space is actually thinner than it really is. It is as if the visual weight of the image has compressed the space below it. So mats that are custom cut are normally done so with a wider space at the bottom.

The proportions were traditionally to be approximately 2 units on the top and sides and 3 on the bottom. This generally served to place the image area in the optical center of the mat instead of at the geographic center. The artist could then decide what those units should be for any given work of art.

Unfortunately that approach only works fairly well when not only the mat but also the frame is being custom made and can be made to any size desired.

Everything can easily be made proportional then. But when art work is placed in standard-sized frames or uses standard sized mat boards, their aspect ratio is not always proportional to the image to allow the mat and frame to correspond to that ideal.

When that happens, which for the photography student is most of the time, the question of placement, i.e. finding the optical center of a non-proportional mat, becomes paramount. It has resulted in some bizarre (to me) approaches to the problem.

Over the years in photography I have seen all manner of arcane math applied to the problem and watched photographers and especially students struggle to work out the precise placements with a calculator or scrap paper. But way back in art school a really simple method of finding the optical center was demonstrated and I have used it since then. Refer to the illustration in the Appendix.

(NOTE: although in these instructions I am referring to print dimensions, that is also true for the larger opening dimensions for a true window mat.)

The concept is simple. Before you start make sure you have two pieces of board that are the same size. One will be the backing/mounting board (if you have not already permanently mounted the image on a board) and the other will be the mat itself.

Take the following steps (while referring to Appendix 1):

Step	Action	Result/Note
1	Place the image (or measuring the dimensions of the desired opening and using those) in the upper left hand corner of the BACK of the mat board	Make all of your marks on the back of the mat board. We will be cutting from the back to the front.
2	Measure the remaining distance across the top (from the right edge of the image to the right edge of the mount board) to get the "X" measurement,	Note: you are NOT measuring the print or opening but the distance remaining from the edge of the print to the edge of the mat board.
3	Divide that in two ($X/2$) and make a line top to bottom at the $X/2$ distance in from each side edge.	This centers the image side-to-side. I often use a "Follett Rule" that has a moving guide to divide measurements instead of having to measure them
4	Measure the remaining distance from the lower left edge of the print to the	

	lower left edge of the mounting board to get the “Y” measurement.	
5	Make a small mark on the mount board at the lower left edge of the print or opening	
6	Divide Y in two ($Y/2$) and make a mark on the bottom right edge of the mat $Y/2$ from the bottom	If we used this as our bottom placement we would be geometrically centering the image. But we want to raise it to the optical center so we need to do something tricky.
7	Take your large straight edge and lay it across the board so that the left side is on the mark at the lower left of the print and the right side is on the mark at the $Y/2$ distance.	This will be a diagonal with the left side higher than the right side.
8	Make a mark on the $X/2$ line on the right side of the board where the straight edge crosses it.	This mark will indicate the bottom line for the opening.
9	Use a T-Square to draw a line across the board at this mark or measure the distance from the bottom of the mat to this mark and make another mark at the same dimension on the other side. Draw a line across the mat board here.	This will have determined the optical center. However never forget that YOU are the artist and can raise or lower the print placement to suit your own vision for the image.
10	Measure the height of the print or opening up from the bottom line and with a T-Square or by marking both sides with this dimension, draw a line across the mat board here.	You now have the outer edges of the mat opening drawn on the back of the mat board.

You are now ready to cut the mat.

Using the Mat Cutter

With the exception of the Dexter cutter, when you buy a new mat cutter (and this is especially true for you guys) READ THE MANUAL!

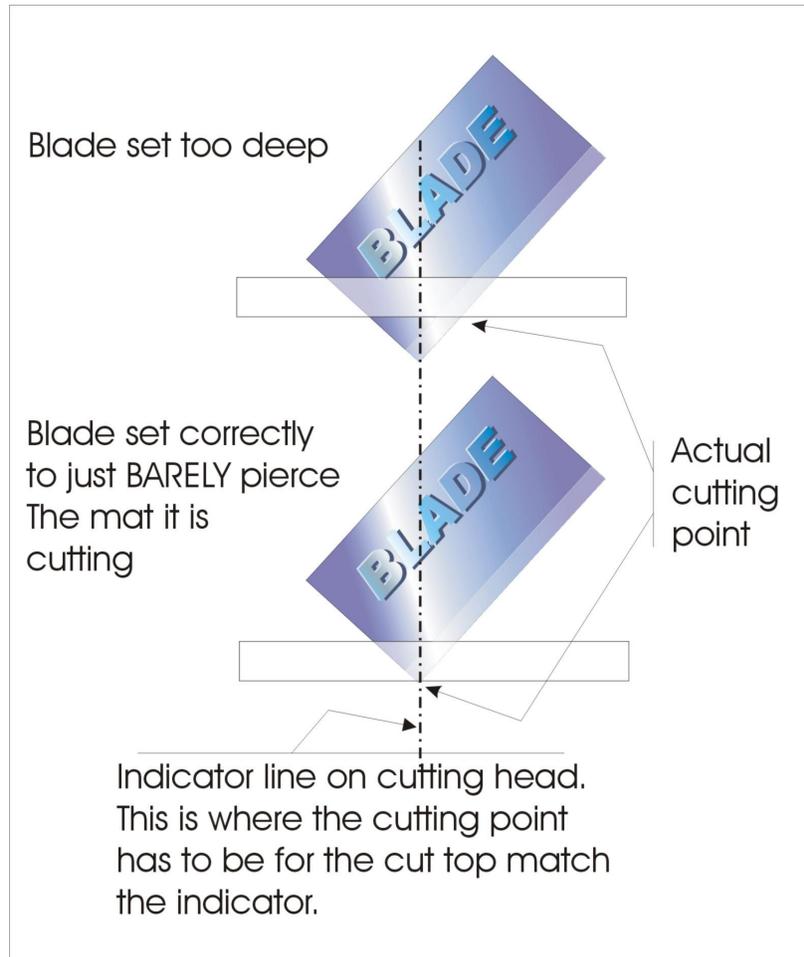
There are several points which are often not properly emphasized in the instructions or in demonstrations of mat cutting but they are crucial to the proper cutting of the mat and avoiding over cutting of the corners.

First, always have a piece of mat board UNDER the mat you are cutting. If you do not you are very likely to get a ragged cut which looks terrible.

The second, and probably most important issue, is the depth of the blade, that is, how deeply it is cutting below the cutting head.

If the blade is set too deep the edge of the blade, where the cutting point is, does not line up with the indicator lines on the cutting head of the mat cutter and you have no idea where it is actually cutting because you cannot see it.

Plus, you will be cutting deeply in the piece of mat board under your mat causing the blade to wear faster and you to have to push or pull the cutting head harder. This increases the chances of you slipping when you near the end of the cut.



All of this adds up to the extreme likelihood that one way or the other you will over cut the corners of the mat.

Assembling the Mat.

Replaceable Mounting Techniques

For fine art, archival display purposes, the most common mounting technique is called "**Hinge Mounting.**" Hinge mounting affixes the print to the backing board (mount), and the mat to the mount via tape hinges. This allows all parts of the package to swell and contract due to heat and humidity as independently as need by to avoid buckling and even tearing. It also allows the print to be removed and placed in a different matting/frame combination down the road if something should happen to the original.

A variation of this uses **album corners** to hold the photo on the mount. These are corner pieces that were originally used in scrap books and photo albums to avoid pasting the photos and other pieces onto the page. They are now available made of archival (meaning acid free) materials and adhesives.

Some photo schools teach one version, others teach the other one. The amusing thing is how each seems to feel theirs is the proper artistic and archival way to do it. None of them seem to have consulted other artists who have been matting and mounting prints for many hundreds of years. It is not all that uncommon to see a fine art work on paper (etching, engraving, pencil drawing, water color, pen and ink, etc.) taped in place to the back of the mat. It is allowed to hang free to minimize buckling but little additional work is done before it is placed in a frame.

In fairness, artist's portfolios are not normally shown as mounted or matted prints but as the paper-based art work alone, separated by tissue or in plastic sleeves. That is partially because artists often reserve issues of matting and framing until the final location of the print is determined and the whole package is custom made for that location.

However, where showing matted prints is more the norm or is expected, the proper way to hinge mount a print to a backing board as has been practiced by serious artists for a very, very long time. A Diagram of this approach is shown in Appendix 3

Ah yes, and that brings us back to the issue of using Album Corners to mount your print. For reasons that utterly escape me, it seems to be all the rage now. The biggest problem is they do not generally have very good adhesive. They will hold just fine in a mostly closed album but I now have two prints on my wall from other photographers which are now fallen down in the mats and out of sight because the album corners they used failed to hold the print or had their glue give out while simply hanging on the wall.

That possibility is unacceptable to me. But there are other reasons I do not like them. If the mat is not cut properly then the corners will show through the window. If anything screams out as unprofessional that has to be it.

My personal opinion is that if you want to make a scrap book go ahead and use the corners; but if you are matting and framing art work use the proper hinging technique.

Of course in a class and for a grade you need to do whatever the instructor requires even if that is to use the album/photo corners. But if that is the case, then, when class is over, take it home and re-do it correctly. I tell my own students to do whatever they want. But if the print comes loose while I'm transporting it to grade it then it will receive a failing grade.

Although this is a handout on cutting mats, I would be remiss to not at least mention some issues of framing and display, as well as tell you about a couple of other popular display techniques.

FRAMING

One you have your photo matted there is one more thing you need to do before you can hang it on the wall; you have to put it in a frame. As we mentioned earlier, a lot of photo gurus insist that thin black metal section frames are the only way to do it properly. That is a position with which I could not possibly be more in disagreement. Yes, there are times when it is perfect. But the image, the mount, and the location where it will be displayed are all variables that will have greater or lesser influences on how well the photo looks.

The metal section frames did have one huge thing going for them: they were archival and did not have any inherent issues with acid or lignin. Unfortunately wood frames do.

You can now get greater varieties of metal frames but you can use the wood ones too if you take the trouble to put a barrier in the "rabbit" (the channel routed into the frame and into which you set the frame) such as plastic tape or a plastic sealant and then let it thoroughly dry for several days.

What has also been discovered recently is that a growing problem in our industrialized world is that the increasing levels of acids in the air from smoke and other pollution sources, will migrate through the BACK of the frame, leach through the backing board and now start to work on the print. It is now

recommended that you use a barrier sheet as the final backing in the frame. Several purveyors of archival supplies sell them in standard framing sizes.

One last question remains: to glaze the framed print with glass or an acrylic product such as Lexan or Plexiglas. Each has its benefits and the decision has to way the benefits against the problems on a case by case basis.

Glass tends to be optically cleaner. Yes, you can get optical quality acrylic but you don't want to even think about the price. But acrylic is a lot lighter. That means for very large prints, putting glass in the frame means you want to be VERY certain of the attachment to the wall.

Both glass and acrylic can be scratched but glass is tougher by far. Acrylic like any plastic product generates static electricity and tends to just attract dust like a magnet. Cleaning a dusty acrylic pane ultimately starts to put micro scratches in the plastic surface which, in time, will create a diffusion filter over the print.

If you do frame with acrylic keep it clean with a damp cloth. There are special non-abrasive cleaners for it. Do not use normal glass cleaner products since they sometimes contain solvents that can damage the plastic or create impossible-to-remove streaks.

DISPLAY

The display considerations of digital imagery do not vary much from, that of other technologies. Both silver and ink based prints are attacked by UV light and atmospheric contaminations from acidic aerosols such as smoke and smog. However their proportion of influence is reversed. While silver prints suffered most from UV and slightly lesser from acid environments, for digital prints the reverse is the case.

UV radiation still does damage the print so care should be taken to keep it away from fluorescent light fixtures and direct sunlight. But the big issue is atmospheric contaminations. Do everything you can to seal the framed package against this. Use a barrier sheet and seal the frame back as they do at a frame shop with acid free paper taped to the back of the frame and covering the openings around the side.

Lots of people like to use UV resistant glass or Acrylic and they are both very good although more expensive. Some also like to use non-glare varieties of glass and acrylic and here there is some controversy.

The problem is that normal glass or Plexiglas (a brand of acrylic) or even Lexan has a highly reflective outer surface. If it is used as glazing over a dark print or a

dark mat it becomes almost like a mirrored surface making it hard to see the image.

But non-glare product scatter the incoming light to kill reflections and in doing so also weaken the blacks and deep tones in the print making it look flatter and less contrasty than it actually may be.

The choice is a hard one. My thinking on it is that when I can I do not use non-glare glass or acrylic so I can let the viewer see the real tonalities in the print better. But if it is going to be hung where there are serious reflection issues such as a lobby of a building, then there is little choice but to use the nonglare products if you want anyone to be able to see the image at all.

OTHER DISPLAY METHODS

While most photographs end up matted as we have discussed, there are some other ways to display work. Less common varieties include using techniques borrowed from the craft world such a decoupage or resin encapsulation where you can mount a photograph on nearly anything. But those deserve their own handout and I am not an expert in it be far so you need to do some research to see how it is done and done well.

But there are a few that show up with some regularity in fine art venues such as galleries and museums though they are a little unwieldy for a portfolio.

Diasec Mounting

Diasec was invented by a Swiss photographer who to this day will not reveal how it was done. Unfortunately for him, it took no time for enterprising people to reverse engineer and then duplicate the process. He would have been far better off and probably far wealthier had he licensed the process. Oh well...

Diasec involves face mounting a print with optically clear, archival adhesive onto a quarter inch or thicker sheet of acrylic. It is a demanding process but the results can be absolutely stunning when used with the right prints.

Usually there is also a backing plate (often aluminum) and then a piece of wood on the back to which the hanging hardware is attached.

Although you can buy all the components of the process, Diasec style mounting is normally not a do-it-yourself sort of project and there are places that specialize

in it. As you can image it is not inexpensive but the results can, as I said, be stunning.

Gallery Wrap

I love the pretense of this name. It is literally nothing more than copying the approach oil painters use to stretch canvas. In the art world the canvas is stretch first and then used as a painting surface. Here a print is first made on canvas and then the canvas stretched around a set of canvas frame stretchers.

There are several issues that come up. The first is that for the painter, after stretching the canvas is then shrunk using a hide glue coating that makes it tight as a drum head without any wrinkles at all. Trying to pull a canvas that tight whether for painting or an existing photograph cannot be done without either tearing the canvas itself or causing corner wrinkles. So it is never pulled as tight as a painting would be and consequently can continue to stretch a little and sag over time.

Secondly, a traditional oil painter does not normally leave the raw edge around the stretchers exposed. In more traditional work the canvas, stretcher and all, was inserted into a frame but without any glazing to protect it. This worked because a fully dried oil painting is a very tough surface. Ink jet prints are not nearly as durable.

Even most modern art oil paintings would put thin wooden strips (like lath strips) around the painting to cover up the raw edge and give it a finished look, it was considered unfinished and unprofessional to display a piece with the raw edges showing.

There are images that look stunning on canvas but like any thing it can quickly become a gimmick when used indiscriminately. There are a whole line of frames that are made precisely for framing stretch canvas.

Bleed Mounting on Foam Core, Gator Board or Masonite™.

Bleed mounting (a mount where there are no border showing and the edges of the photo lines up with the edges of the backing material) is common in

professional portfolios and I'm seeing it more often in galleries because, I think, it is different than the normal matted prints.

Most foam based backing material can be purchased with a self adhesive side. Usually the board is slightly larger than the final print and then print and board are trimmed together to create a perfect edge. This is almost impossible to do if you have the print and the board cut separately. Lining them up is incredibly difficult.

To mount on a more substantial material like Masonite definitely gives some heft to a print but it also adds quite a bit to the weight of accumulated images. Normally the print is either spray or wet mounted onto the Masonite. A better grip of the adhesive is provided on the rough side of the Masonite.

The problem is that Masonite cannot be cut with a normal mat cutter so as a rule the pieces are cut separately and then glued together. But all of the issues of alignment I mentioned above now come into play with a vengeance.

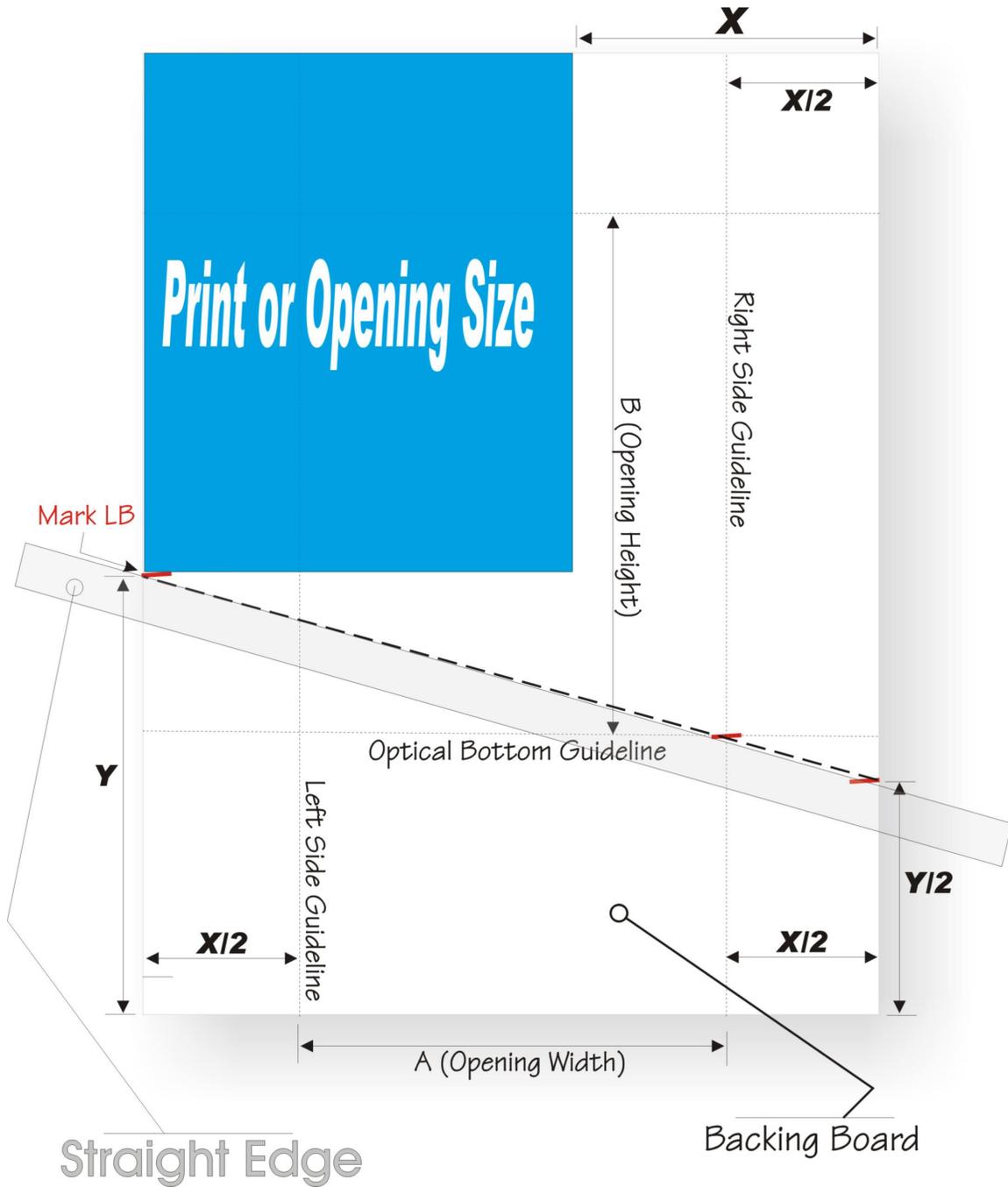
My recommendation is that unless you have practiced to where you are very good at it, stay with a foam board product.

APPENDIX

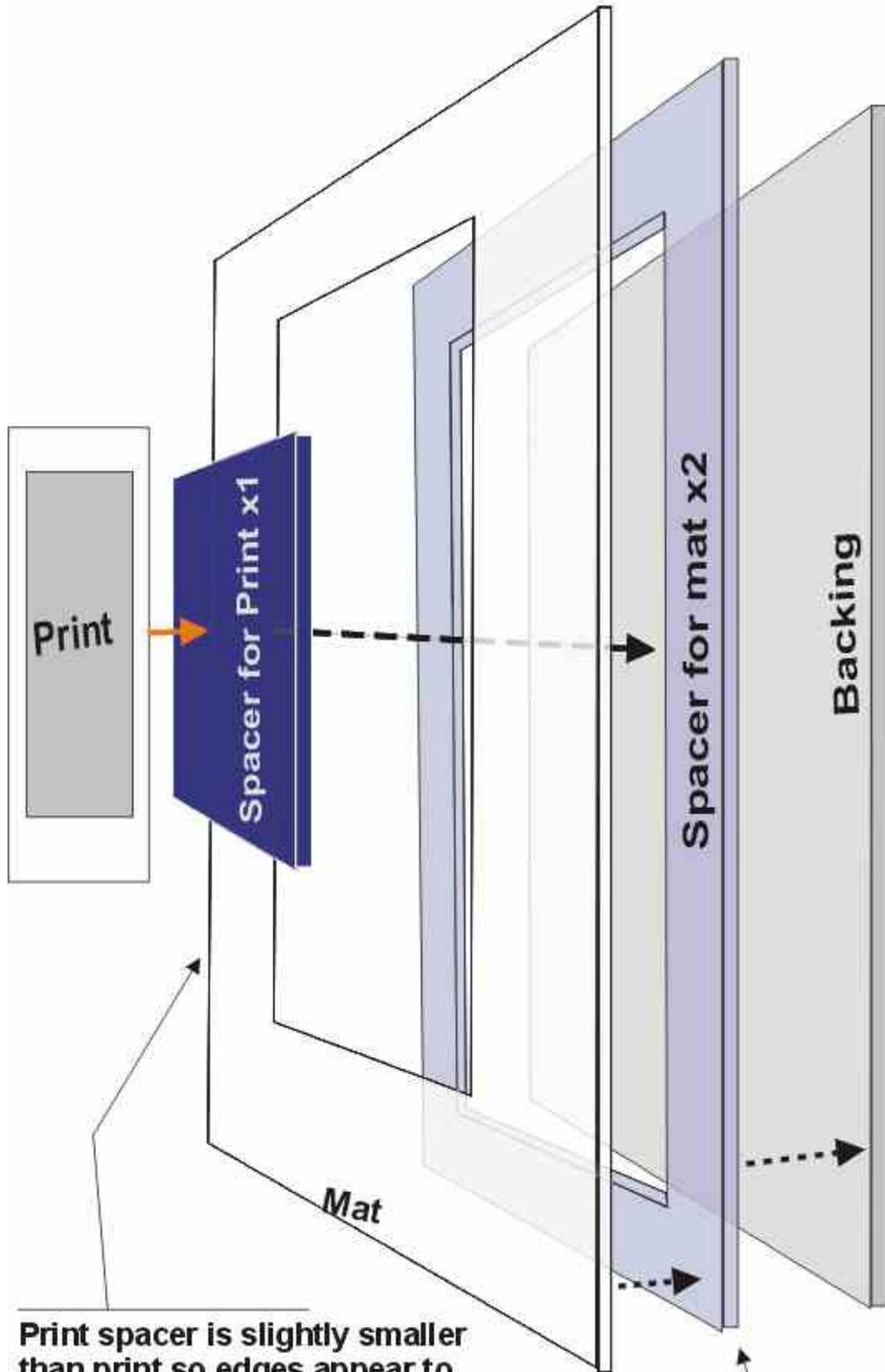
Following are the diagrams mentioned in the text.

1. Finding the Optical Center for Cutting the Mat Opening.
2. Floating Mat Assembly Diagram
3. Diagram of Proper Hinge Mount

Finding the Optical Center of a Mat Opening



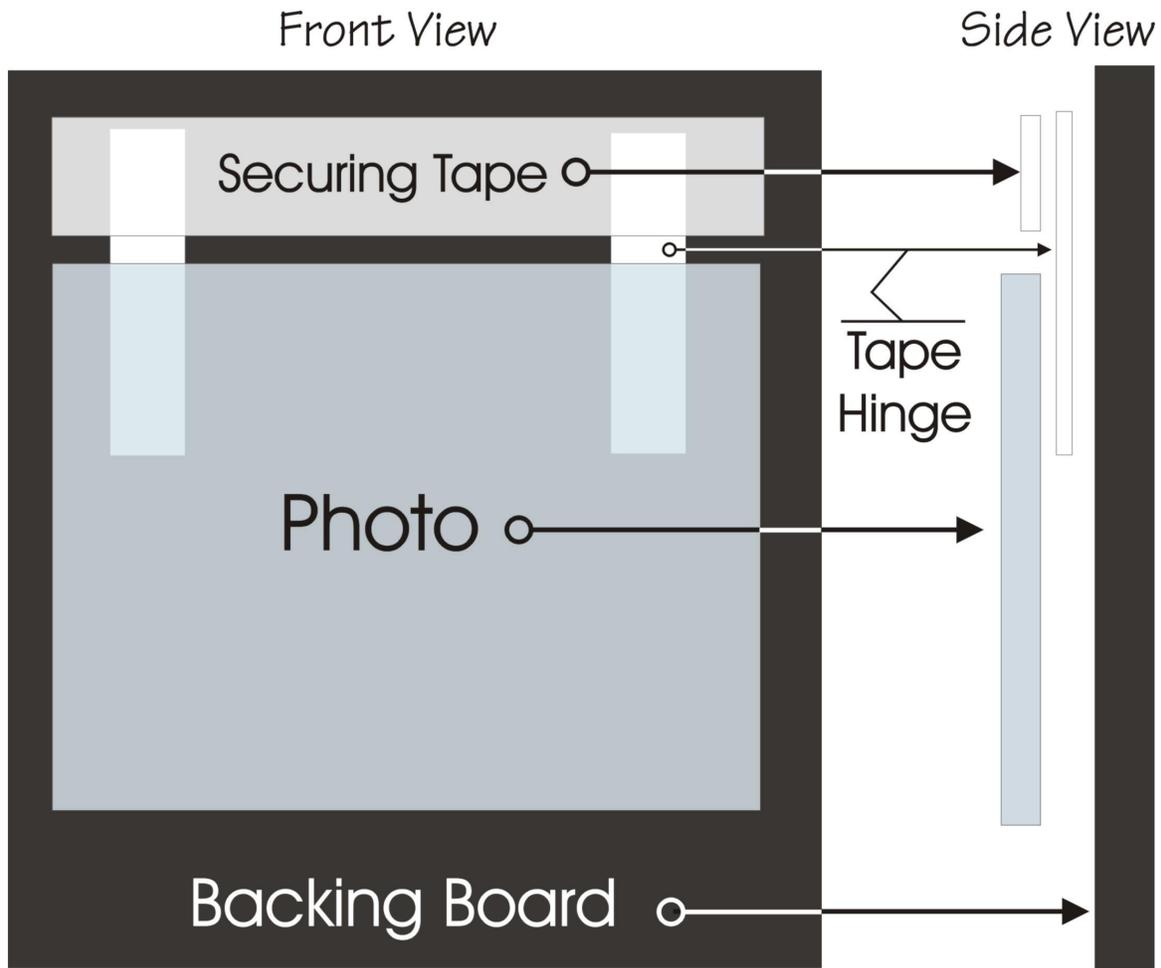
Assembling a Floating Mat



Print spacer is slightly smaller than print so edges appear to float above backing

Mat spacer is 2x so that it is thicker than the print spacer.

The Proper Way to Hinge Mount a Photo



Follow these steps:

1. Affix Tape hinges to the back of the print
2. Place print in proper position on backing board. I use the mat itself as a guide.
3. Run a piece of securing tape over the exposed hinges to affix print and hinges to the backing board.