

KEEPING PACE

A Monthly Newsletter Devoted to the Darkroom Arts

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How Large Can You Make Your Separation Negatives?

What kind of an advantage is it, to have full size separation negatives made so that they can be used by contact to make a print.

Consider this, If it is possible to make the negatives large enough, then the second part of the process will not require that an enlarger be used.

For an example:

If a small original (35mm) is to be printed to a 20x24 inch size, it makes much sense to first blow the image up to fit a "big" enlarger.

In my case, my "big enlarger" was always an 8x10. I used different kinds of enlargers, from the lowly Elwood to the more sophisticated Durst Laborator.

I used this large format for most of my 50 years in the business of making professional prints.

However, a transformation in my thinking was awaked.

I remember one day when an original that I received from the ad agency was so dark and off color that I knew I had to use a different strategy to make this final print worth the trouble. What I did was to make all of the contrast masks (including the highlight masks) and built them in to the making of the final separations.

The 2 1/4 image was of two little Island girls gathering some flowers. When I first examined the image I thought that the ad agency had made a mistake. I thought that I had received a small dark piece of film. I knew from experience that if I attempted to make a set of separation negatives of these two little girls and the flowers that they were gathering, that I would end up with a soft and dirty image. Why? The answer is flare. The resultant separation negatives would have had

large areas of shadow detail that would have been lost. The reason was simple. A negative consisting of dark shadow areas would actually have thin areas in these same areas. The result, in the print, dark and muddy images in those areas.

The amount of flare that would be generated would obliterate most of the details in these questionable areas and the result would be terrible.

At this point, I could actually make the separation any size I wished. Since my final print size was just about an 11x14 size, I chose Kodak's Separation #1 as my final set of separation negatives.

Using my 4x5 omega (condenser) and making all of the masks by contact, I was able to make all of the elements necessary to make the negatives with correction for color, and correction for

restoring the highlight areas. I was able to especially increase the overall exposure level so that the image was produced with all of the important elements on the straight line portion of the masking film, the highlight masking film, and especially the straight line area of the Kodak's Separation # 1 film. In other words, I increased the exposure by at least 4 times more exposure than what was considered "normal."

This allowed me to be able to "see" much more detail in the shadows and I then knew that I could make a better print than what was originally considered. The grey scales that I usually employ in the production of such negatives were still valid. I never used the grey scales to produce balance or density exposures to make a print. I only used the grey scale information to determine if my contrast (gamma) was in the ballpark and if I wanted to use the information for balance, I could have. So what was the next step in this discovery?

I now had 11x14 separation negatives in my possession and all I had to do was to use an overhead light source (an Kodak acorn safelight type)

I used a vacuum frame to make a tight contact between the negative and the matrix film. A proper vacuum easel would have worked as

easily. I first made exposures on black and white paper so that I could determine the correct exposure on the matrix film, and the correct balance for the image.

I had purchased a little processing machine from a N.Y. photo store (a stabilization processor) that allowed me to use a black and white paper that has some of the processing chemistry embedded in it's emulsion. This kind of paper required no temperature control, and I was able to produce a print in 15 seconds. For years, I used a system in Carbro where the bromide (B&W Print) was the instrument that contained the density and the color balance.

I used this Carbro technique for many years. I was indoctrinated to using this method of predetermining my exposures and balance. I used this process in order to find the correct exposure (for density) and the correct exposures for color balance. Remember, by making my exposures by contact, this eliminated all of the flare that usually accompanies this kind of image.

I wasn't too surprised by the fact that more detail appeared in the prints than I could actually see in the transparency. I was able to open up the image by increasing the overall exposures.

The exposures on the matrix

film were done with the emulsion of the separation negative also facing down. This meant that I had to expose the separations backwards so that they would read right when the emulsion of the negative was facing down.

The resultant print caused a furor at the agency. They were under the illusion that a print was to be made and that a fortune was to be spent to lighten it and produce some color.

The reaction that I had received from the agency was very instrumental in making a great change in my methodology. From that point on, when ever I received a very dark and moody transparency from my client, and the final result was that a better print was to be made than what the transparency was promising, I used this same technique. I made enlarged separations to the size of the final print.

One such occasion arrived at my lab one day. It consisted of an 8x10 transparency of the interior of a piano.

The image consisted of many piano strings against a very dark mahogany background. At least 90% of the image was very dark, yet, the strings were in brilliant detail. I made highlight masks first, then I incorporated them into the contrast masks. This meant that I

could produce the entire set of separation negatives with only one sheet of film for each of the three colors. Since the images had to be facing the proper direction, I made sure that the image was reversed in the enlarger carrier before I made the final set of separation exposures.

If I had resorted to making contact separations, they would have looked great, however, the dark areas of the image would have been rendered almost clear on the separation negative. Then if I made a set of matrices to the size of the print by enlargement, the flare caused by the clear areas of the image would "fog" the brilliant strings and the final print would have looked terrible. When the print was delivered, again, I received a lot of attention. "How did you hold all the detail?" I was asked.

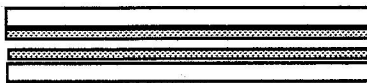
I discovered that explanations to the client were a waste of time. All they wanted was a great print.

How can this process be used to make great prints, whether they be Dye Transfer or even the new Pigment processes. If you want to make large negatives for the Dye Transfer process, you must make the final set of negatives in this order.



Both emulsion down.

In order to accomplish this, the separation negatives must be made reversed so that when exposed emulsion up, then turned around again, they will be in the correct direction. If the separations were to be made for their pigment process, then the final negatives would read right emulsion up. Because when they were exposed emulsion to emulsion;



the bottom sheet (pigment) would again be turned around when transferred to the support material.

The best argument for making such negatives is the result that you will achieve. The print will look sharper and exhibit very little flare. So if you are in the business of making color prints for a gallery showing, I would recommend using this technique. Unfortunately, if you decide to change the size of the image, you will have to start all over again.

However, before we get to the actual steps of making enlarged separations, here are a few reasons why flare exists.

1. The lens

If your lens is dirty or has accumulated dust and junk on the front element, it has the same effect as if you

were shooting a shot through a slightly diffused, diffusion filter.

2. A really bad lens

Some lenses have accumulated dirt and dust between the elements. This is compounding the problem concerning flare.

3. The image itself.

Some images such as snow scenes, or white sheets drying in a soft breeze. The image itself will become a factor in holding details. When making separation negatives via the conventional methods, this type of image is probably the most difficult to hold.

4. The enlarger

There are a number of diffusion type enlargers that when used for making enlarged separations, tend to lose details in the upper parts of the scale.

This leads me to the next step.

When is it feasible to make enlarged images for printing purposes.

If your image is a normal range image with details in both the upper and lower areas, then this image could be used to make enlarged separations. If the image is even darker and has less details in the upper areas, it is an ideal subject for enlarged separations.

Let us travel, step by step, through the maze called separation negatives.

In order to make these large separations we must first find the separation negative material needed for this project.

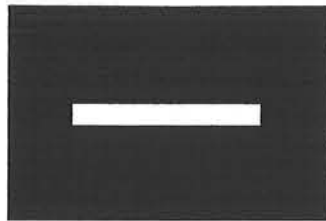
The only film that I am familiar with is Kodak's Separation Neg., Film # 1. This very sensitive material will probably drive a few of you to consider becoming plumbers instead.

I recommend processing one large sheet at a time. The film has a tendency to pick up every abrasion possible. If you try to process three sheets at a time, there will be so many mysterious marks on the film that it will be impossible to get satisfactory results. This will require fresh chemistry for each step. I am assuming that you realize the importance of temperature control and exact and repeatable agitation.

Let us assume that you have found the materials and are ready to proceed. The first thing you must do is to establish the required density range that your enlarger will be able to handle. How is this done? Purchase a 21 step grey scale (step tablet). Since you will be using your densitometer, you won't need the calibrated scale.

Place the scale in the center of an opaque sheet

exposed and processed litho film. Score it and cut out an area to hold the scale.



Place the grey scale in the opening and tape it in place.

Then, using your favorite enlarger, project the scale onto an 8x10 sheet of matrix film. Stop the lens down and proceed to make a series of different exposures so that at least one of them will be our usable guide.

Process this one sheet of matrix film in a normal A& B developer. After drying it, soak it in a tray of Cyan dye and then transfer it to a sheet of prepared receiver sheet of paper.

This next step is most important.

Examine the results through a red (29) filter.

Try to find where the grey scale loses tone in both ends of the cyan scale image.

When you find the steps, mark them.

Then, remove the original grey scale from the enlarger and find the exact 2 steps that you have marked and read them with a densitometer. The density range you determine at this point is the density range that your

separation negative must have in order to affect a reasonable reproduction of your favorite slide.

This first step is the most important step you will ever have to judge and work with.

Remember, all enlargers are different.

Even those that are manufactured by the same company.

The variables that make this phenomenon occur are built into the system as follows.

The lens can contribute different degrees of contrast. The color of the lens, the color of the light source, the differences in electrical voltage, the water used in formulating your developing chemistry.

The list goes on and on. So the first thing you must do is to find the density range requirement of your own enlarger. This done, the next step is to establish a gamma of development for your negatives. Gamma .75 is a normal starting point. Now comes the difficult part of the masking process.

If you know that gamma .75 will be used to make the separation negatives, then you must calculate the degree of contrast your mask must have.

If you know that your contrast requirement for your separation negatives is 1.20, then you must determine the density range (**DR**) of the **mask plus the transparency** so that when you process the negatives to a gamma of .75, the result will be a 1.20 range for the negative.

However, we have a small problem to overcome. Since we are going to process our separation negative at a gamma of .75, what must the combined mask and transparency be?

Simple.

Divide the 1.2 range by the gamma of development (.75) the answer is 1.60.

So now our requirement of the transparency and mask becomes 1.60. I have called it the **Combined Mask and Transparency**, or **CMT**.

The transp.2.00 DR.
CMT Req.1.60
the difference is40..Now
if we divide the **difference
by the original density
range** the answer is .20.

This means that if we correctly expose a sheet of Kodak's pan masking film and process it to a gamma of .20 and add it back to the transparency it will have reduced the transparencies overall contrast to a point where it can be exposed and processed at a gamma of .75 and produce a viable separation negative.

Seem a little complicated? Well it is. This is one reason why my chapter on masking in my book on Dye Transfer is so important.

However, Let us get on to the next problem.

Before we make any principal masks, (contrast masks) we must first make a highlight mask, or a set of highlight masks. These masks are made so that the flattening effect of the highlight areas caused by the principal mask, can be protected or even enhanced by the use of a highlight mask.

A simple *one step mask* can be made using Kodak's Kodalith film Type 3. This mask is exposed for a very short time and processed in a stronger developer such as Kodak's D-11 or D-19. This film should only capture the extreme details in the highlight areas.

Little black lines and dots are all that is needed. The deepest density should not exceed .60.

This mask is placed over the transparency. Then the contrast mask is exposed, and then the highlight mask is laid aside.

This one simple mask will work most of the time. However, when the highlights are filled with various colors and require even more accurate portrayal of the highlight areas it makes sense to

make three separate highlight masks with each one being exposed through the three separation filters. Use Agfa's P-911. This film is panchromatic.

This is a better way, however more time consuming, to produce great prints. So the procedure then is to first make a set or a single highlight mask. Incorporate this mask (or masks) into the production of the contrast mask.

The 2 or 3 contrast masks can be simply exposed using 2 separation filters or more and possibly a mixed system called split exposure masks. Which means that various colors are used to obtain special effects.

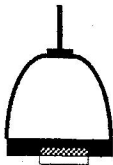
This is a complicated professional system. If you want to know more about this system of masking, I have a book that describes the various techniques possible.

Now, here we are, with the masks now combined with the transparency, and we are ready to get going. Remember, we will need registration pins and punches for all parts of this procedure. From the production of the contact highlights, the contact contrast masks and the carrier in the enlarger as well as the easel **Register all the way.**

We make our test exposures using meters and hope that we can produce an accurate

test so that we can finally produce a full set of negatives.

The equipment necessary for the next stage is quite simple. A light source hanging from above the work table and a simple vacuum frame or easel equipped with the necessary registration pins. That's it. No enlargers or lenses.



Vacuum frame

The next question is this. Do you want to make Dye Transfer prints? Or are you inclined to making Pigment prints? The choice is yours.

If you decide to make Dye Transfer prints, then a simple black and white paper exposing system will suffice. Once you have established the correct density and color balance, the next step is to determine the difference in speed between the paper and the matrix film. If you decide in favor of a pigment process, then here are a few tips for you.

You can purchase the necessary color pigments from Charles Berger at UltraStable 500 Seabright Ave. Ste 201

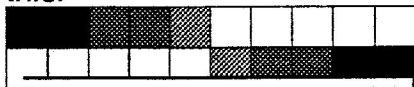
Santa Cruz, CA 95062
Phone 408-427-3000.

The pigments are great, and they will work fine with continuous tone images. Here is a very important thing to know. All of the pigment sheets are not in the same speed. In other words, if a 20 second exposure is fine for the cyan with a specific negative, the exposure for the magenta and yellow will not be the same. Here is a solution that will help.

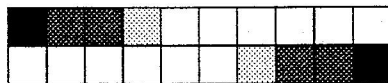
Purchase two 21 step grey scales, and place them in opposite positions, as follows:



Then, taking one color at a time, expose a strip of grey scales to each colored pigment sheet. The results should look something like this.



not this.



When you get a perfect exposure write it down. They will range all over the place.

Let us assume that an exposure of 10 seconds was fine for the cyan, but the exposure for the magenta was 15 seconds and the yellow

needed 20 seconds to make a good result, then these factors of 1.5 and 2.0 are to be considered the base exposures.

If you decide to make black and white test exposures and find that your paper balance is 15, 22, and 40. then the factor of 1.5 is multiplied by the magenta paper exposure of 22 for a total of 33 seconds and the factor of 2.0 is multiplied by the paper exposure of 40 for a total of 80 seconds exposure. Seems illogical? Not on a long shot. If the pigments are not one to one to one, then modifications must take place.

Dodging and burning are simple effects to conjure. If a specific area needs to be lightened, then tissue paper taped to the glass of the frame can be used and it will be accurate since it will repeat the action on all three sheets of film.

The beauty of making dye transfer prints this way is that there is no difference in the exposures between the three colors, as that have already been subjected to this procedure when making the separation negatives. The prints will be the sharpest you have ever see (not including the latest scanner and laser systems) and this is because the flare factor has been reduced or removed in this system.

Making Pigment prints using the pigment sheets supplied by the UltraStable Co. is a great way to get introduced to the pigment process formerly known as Carbro.

One great printer in San Francisco, Rene Pauli, coats his own pigment sheets and produces his own prints for display in the most prestigious galleries in the country. He makes his own enlarged separation negatives in his kitchen. His work is fantastic. He has about the best version of third dimensional effect in a print that I have ever seen. The main piece of equipment that you will need if you decide to make Dye Transfer prints is the **transfer table**. The light source can be a simple light source hanging from the ceiling. If you decide to go the pigment direction, then the most important tool is the **light source**. An ultra violet light source is required to expose the pigments. These pigments have been sensitized to a light source that is used by most lithographers. In fact, you can purchase a used plate maker from any number of litho supply companies for as little as \$250. Then, of course, you will still need the transfer board.

If any of these procedures fit your budget or inclination, go to it.

The Dye Transfer Process. It is alive and very well. However, there are little annoying items that must first be developed, and they are:

1. Is a Dye Transfer Association going to be formed?
2. Will there be a small yearly fee involved?
3. Will there be a base that can answer any question about the process?
4. Will the questionnaire that will be sent out reach you?
5. In what sizes will the matrix film be produced?
6. Will the dyes be more archival than Kodak's dyes?

The answers to all of these questions will be handled by Dr. Jay Patterson. He will order the material, store it at his warehouse and ship it from same. This great effort by the good "Dr. Jay" will not soon be forgotten. His steadfastness in the face of an almost obstinate Kodak company has made the continuation of the most manipulative color print process possible. There is no other process that can make the tiny minute corrections that are demanded by this process.

The name of Dr. Patterson's company is "The Dye Transfer Co."

What else could it be called?

My activities will be directed towards helping those that need the assistance in producing great prints.

Walk into any gallery and notice that the largest amount of color prints on exhibit are still type C prints (Ugh)

The next in line are the Ciba prints. Some that I have seen are quite beautiful. Then there are the Dye Transfer prints. These prints have a "look" that no other process has. They are not as sharp as a Ciba print, nor are they as detailed as a scanned carbon print, but they have a glow about them that seems to scream out at you and say, "Here I am."

Incidentally, most galleries are honest and hard working companies that will represent you and give you a fair cut from the overall sale. But some of them will be out to make money on your effort without giving you the proper amount of percentage.

An honest gallery will split the price of your print with you getting 60%. Some will even work with a 50% split. But there are some that will take 60% and more from the sale and make more money on your efforts.

Finding an absolutely honest gallery shouldn't be that hard. Contact those people who have been exhibited and ask what kind of percentage they are getting from their sales.

I know from personal experience what a gallery goes through. I remember inviting the whole world to see an exhibition of 30 Cibachrome prints of images by Tom Kelley and Josef Meunch. We had champagne, and many little finger sandwiches.

The cost to us was well over \$1000. The sales were not as active as I thought they would be. We sold one print for \$2000. At 50% we still didn't break even. In fact, we lost money on every opening, especially when it rained.

But I enjoyed the fact that we had the finest prints in town hanging on our walls. We made all of them. The reviews were great. This gallery experience lasted for 2 years. Then I threw in the sponge. I realized then that the life of a gallery owner was not for me.

I felt then, that if I was able to get a 50% return on my work, it was worth it.

Tell someone else with the fortitude it takes to run the gallery and all of the advertising it takes and for the free lunch some people only came for to stay in this field. It was an experience.

In order for a gallery to be interested in the kind of work you do, you must present a theme of some sort. Many people like to just show their work in an unorganized way, but for the true gallery hunter, the images must be involved in a theme of some sort. The simple everyday themes such as puppy love and cute animals have been cooked until they are inedible. But more adult themes such as were beautifully described by the famous photographers during the great depression, managed to hold interest even until today. To me, art photography is a simple thing to explain. It is not cute or crazy looking images that stick to the palette of art buyers.

For the most part, the old images of the great photographers are famous because of their historical value. But beautiful images begin first with composition, then with the theme they are trying to portray. The pictures of Mathew Brady are not valuable because they are beautiful, but because they are historic.

The old painters of centuries past developed their ability to convey a story encompassed in a shape that held your attention, because of the artistic composition it held.

I am an old fuddy duddy when it comes to art. The latest magazine covers that have been produced by the

digital systems usually leave me cold. When I was in the commercial field, I took great pride in a print that I made for a billboard such as those used by Marlboro . We made images that looked real and were not phoney. Our food shot prints left you hungry. Our car prints made you want to buy that particular car. It was a great game, but we, as professional color printers had much to do with the artistic values that photography needed.

The great efforts made by the early commercial photographers, such as Avedon, Penn, Halsman, Meunch, and many others, were the backbone of the photographic art field.

I don't remember seeing too many galleries during the 1940's through the 1970's.

The few exhibits I saw were shown by the companies that these images were made for

Times have changes. Today, it is fashionable for great photographic art to be displayed on the walls of homes. Not because they are historic, but because they are true art.

My best wishes to you all.

Bob Pace
2823 Amaryllis Ct.
Green Valley NV 89014

Phone 702- 896- 2515

Fax702-897-4295