

# KEEPING PACE

A Monthly Newsletter Devoted to the art of Darkroom Photography

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## Why Not Make Separation Negatives By Contact?

Have you ever been stumped by the fact that you hated to work from small originals?

Many people hate to consider making large prints from 35mm transparencies. It is easy to understand why. I have been making prints from all sizes for a long time. I understand the problems that can occur.

When I began in the 1940's it was a rarity that we were expected to make a print from anything smaller than 4x5. As a result, all of the registration equipment available in those early days concentrated on contact equipment.

Some of it was rather simple. A contact frame was all that some people needed.

Later on, a sophisticated pressure system was devised and Condit made the best ones anywhere.

Condit made the best vacuum system for the contact method back in the early 1950's and it is still being used.

As the smaller images were developed, better equipment needed to be made in order to stay in the printing field. We began to make enlarged separation negatives in a variety of ways. Some were pin point light sources, some were not. Some used "oil," some did not.

What it boiled down to was this.

The best possible methods began to emerge and some of them are still here with us today. Some systems work great and some don't.

The method of masking was the biggest problem. Where to place the masks?

Obviously, the best place was up in the carrier, but this was inconvenient, so the area above the unexposed

negative was chosen. On the easel.

This method was originally developed by the best lab of it's day, Evans and Peterson.

Eventually, the entire field of Dye Transfer experts began to use the same or a similar system. So did I.

**But, I chose a different path**

I sensed that I was making a mistake and tried something different.

I decided to solve the problems caused by changing the masks in an oil carrier. I mounted the 35mm transparencies in a larger sheet of film, punched that larger sheet of film and proceeded to make separations with the masks in the carrier.

I found that it was easier to change the masks than I first thought.

I made my masks by contact and placed them with the transparency, in "oil" in the enlarger and made my negatives with the mask against the original, thereby eliminating much of the unwanted flare.

This has been my method for the past 20 years. It has been successful.

It is not a convenient method of making separation negatives, but it is the best that I could come up with. The results speak for themselves.

**However, some of my students have been finding some difficulty with this tricky method.**

Using some sort of "oil" that has the same or similar refraction index as glass is a must for the best possible degree of sharpness and cleanliness, but I must admit that it is a hassle when masks must be changed between color exposures when making separations if an oil immersion carrier is used.

Wouldn't it be great if we could somehow make contact separation negatives from these small originals so that the ease of handling could be enjoyed?

**I have a simple solution for you.**

**Make an enlarged dupe transparency, using Kodak's duplicating color film.**

The degree of sharpness can be held, the color balance can be enhanced, the contrast level will be extremely close to the original and the possibility of burning and dodging can be exploited.

You can actually improve the appearance of your original transparency.

Make the dupe on 8x10 material. (Or whatever size you wish to make separation negatives.)

The grain of the dupe material is extremely fine.

**This particular material will not create a generation loss.**

The dupe material is made for just such a process. The curve shapes have been distorted in the dupe material so that an almost "one to one" dupe can be made.

Use E-6 processing.

If you own a Jobo, expose and process your own dupes. Use fresh chemistry. The "one shot" chemistry system that is part and parcel of the Jobo system will produce very accurate dupes.

If you rely on an outside source to make your dupes, keep in very close contact with the technician otherwise you may be disappointed in the results.

Use your small enlarger to produce your dupes.

The best lens that you can afford is also a must.

If you wish, use a glassless carrier. This will eliminate most of the problems encountered when using glass. (except when transparencies tend to bow.)

If you must use glass in order to keep the transparency flat, I would suggest using a silicon "oil" carrier to keep the image flat, dust free, scratch free, and most important, refraction free.

If you wish not to use "oil", Condit also makes an anti-Newton ring glass. This is a great help.

Make sure that you block off all extraneous light from around the slide.

The slide should be examined carefully to make sure of its sharpness and highlight and shadow details.

When the dupe is finally made, use your eyes and a loop to examine the results carefully. You have to make sure you have captured all the detail that needed to be captured. Check it for sharpness and detail in both ends of the image, as well as for color balance and color correction.

A small simple enlarger is just that. A simple enlarger. Registration is not a factor yet. But the light source must be even and the lens must be great.

Now, if you have gotten this far, the rest is fairly simple.

You can now proceed.

**What do you need in order to make quality contact separation negatives?**

A solid and flat surface against which the transparency and all of the accompanying sandwich of films must be squeezed against.

The next thing to decide is whether or not you want to expose your sandwich of films through glass, by contact pressure, or through it's own layer of films by using some sort of vacuum. Once you have decided on which method to use, **you now have to be concerned with the light source.**

Should the light source be a bare bulb, with a place to put filters in it's path? Or should the **enlarger** be used as a light source?

Consider the variables. The bare bulb can be modified to include a wheel containing color separation filters (for convenience) and even a specialized light source, such as a 20 volt variable point light source.

If you use the enlarger as a light source, you will find the exposure time for making the various contrast reducing masks to be quite long.

However, the fact that the lens aperture can be controlled, the same series of exposure times can be maintained regardless of the density of the original transparency and even that of the the masks.

If you use a bare bulb (in a Kodak Acorn Light housing) the light source will be much brighter, Filters can be changed by using a simple filter wheel, or sliding filters into place using a filter holder and filter frame.

If you decide to use a 20 volt pin point light source system, the light source must be placed at a considerable distance from the exposing plane otherwise the imperfections caused by the manufacturing of the bulb will be evident and will produce unevenness.

You will have to do some mathematics when ever using this kind of fixed light source system.

But this is a simple matter. If you are poor in math, practice every day. In a short time you will amaze yourself.

If you have made the necessary charts, and have done your homework, you will be able to make separation negatives by contact. They will not only be sharp, but will exhibit no flare at all.

**Any system will have it's merits and demerits.**

Making the matrices should be as simple to make as with any kind of separation negative system, especially if you make all of the necessary color corrections when the dupe is made.

Making a 16x20 print from

an 8x10 negative is only a two time blow-up.

Incidentally, If you should ever think about purchasing an 8x10 enlarger, consider the **Elwood enlarger.**

The Govt. purchased jillions of them during WW2. If you look into the magazine called '**Shutterbug**' you will always find one or two for sale in the enlarger section. Take the light head off, and replace it by making a simple wooden box about 14" x 14" by 16" high. Place 4 electrical light sockets and 4 # 250 enlarging bulbs at the top inside section of the box and make sure that you vent the box.

A false top can be built so that the air can get out, but not the light. A sheet of Opal glass close to the focal plane is all that is needed to complete the new light source.

Paint the inside of the box white in order to make the resulting light level as bright as possible.

This is probably not the best light source in the world, but it is far better then the light source that Elwood used for their enlarger and should be modified so that it does work.

If you wish, a thin filter drawer can be built into the area just above the opal glass.

**Have you ever been frustrated** by the fact that you can not match a color to a clients request when making C prints?

The company that I am now working with makes color prints daily that sometimes require a color match of some sort.

Here is an example of the kind of work we receive.

We receive a layout from our client that is primarily line art. The client needs to have lettering produced in a certain color, with shadows of another color against a background of even another color. All from one piece of art. Of course, we also drop in photographic images, too. This means that we must separate the different elements from each other so that we can isolate each area for making color exposures.

This is not simple color exposures. We have to match the colors from a book of swatches.

Once we have established the different areas and have them isolated, then comes the hard part.

What exposure must we give the internegative, and through which filter?

We can place a colored piece of film in the light path and hope for the best.

The method used by my lab is to shoot different frames

of color swatches using a Hasselblad camera. After shooting 6 rolls of 20 exposure slide film, we end up with 120 different color patches that we can add to the light source.

We are now prepared to make internegatives that will "put us in the ballpark" and allow us to make a print with a fairly close color balance.

**We still must resort to interpolation occasionally.**

This system requires that we standardize our exposure time, light level and filter pack.

This system has it's drawbacks.

I have recently spent a good bit of time trying to achieve a specific color balance in the final print.

Well I have good news for those of you who face this kind of dilemma every day.

**Glen Peterson, formerly of Peterson Color Labs in New York City, has invented a fool-proof system that works like a charm.**

His system is called "Make-N-Match Color System."

It has taken Glen three years to perfect. I know Glen. If he says it works, it works.

With Glen's system, you must make four C prints which will show over 570 hues, tints, shades and basic colors.

In between colors are easily made. Matching a color on the first try is an expected reality.

The system costs \$1990.

If you are in the business of producing photo comps for a living, and need to match colors quite often, this system is a necessity.

**The price is right.**

The money saved by hitting the color on the first try will pay for the system.

The information that Glen Peterson will give you is based on over 50 years of experience in the field of color reproduction.

With this system, you can make over a thousand colors visually different, without a computer and with no further testing, and you can match every one of them.

Can you imagine your delight when you can deliver a job to a tough client, and it stays delivered?

Imagine how good you will feel.

Making the working color chart takes about 4 hours.

If you make a chart from printing inks, as we do in my current lab, you will never be able to accurately match the swatch with conventional photographic materials.

If you use Glen's system and make a set of colors for your client to use for comparison, and he then asks

you to match a color (by number) you will be able to match it on the first try.

The equipment requires that you use a Dichroic color enlarger, with cyan magenta, and yellow filters. You should have a good quality easel meter that is capable of measuring over 3.0 range. I would suggest that the Wallace Fisher meter be used. It has a range of over 6.0.

**Glen supplies the following equipment:**

An Iris diaphragm, which mounts on your lens board,  
A film punch,  
A register board,  
8 metal masks—reversible,  
A 10 step 8x10—grey scale,  
4 Kodalith masks for printing,  
Exposure forms and guides,  
A complete book with directions.

Glen suggests that you make a set of charts for each enlarger that you may possess.

Every enlarger will produce a specific color balance depending on it's own particular circumstances.

Contrast alone, will produce different results in different enlargers.

If you are serious about getting the colors right in a photo-comp job, this is the unit for you.

There is no reason why this same system can't be used to produce matching colors

in a Cibachrome print .

**Another simple but very effective device that Glen is promoting**

is a unique method of balancing 5 different kinds of film when making internegatives. This system is totally different then the computer and software sold by PC Software of San Francisco, CA. Which sells for around \$7000, or even the Technet system that Kodak is selling for about \$10,000. Both of these systems are good, but do cost quite a bit.

Glens system requires no computer. It costs only \$1495.

Glen supplies you with 5 different 35mm color grey scales produced in Kodachrome, Ektachrome, Agfachrome, Fujichrome, and Scotch 3M.

(Remember, silver grey scales are not the correct grey scale to use when analyzing color images.)

An exposing box,  
A Pad of plain sheets,  
An Opaque marking pen,  
Complete instructions.  
You will be making 12 ring-around combination color tests on one sheet of 8x10 internegative film.

If you are interested in obtaining these professional tool, write to:

**Glen Peterson**  
**Glenarby Productions, Inc.**  
**6 Bronxville Lane, Dept**  
**NE**  
**Bronxville, NY 10807**

I have been amazed at the color quality of Fujichrome's Velvia film. I see it quite often where I work. I recently saw a 35mm photograph of Mono Lake, photographed by Art Wolfe. This was for an advertisement for Fujichrome Velvia in the March issue of "Photomethods" magazine, inside cover. I was impressed. I am quite familiar with this famous California lake. It's low level of water has produced strange looking shapes that protrude from the water. This shot is great.

Making a print from this kind of small image must be done with great accuracy. The reproduction in this issue of "Photomethods" is right on.

Most photo purists insist on using large format cameras. They are looking for detail in all of it's purity. They are probably right, but this one picture alone seems to put these claims aside. I still feel that the larger the image the better the reproduction, but this image could make a liar out of me.

I recently returned from a trip to Deal, NJ. A student of mine has a collection of color prints on his walls throughout his home. They consist of images shot by Ernst Haas and Elliot Porter.

These were shot using different kinds of 35mm film.

The prints may be a bit grainier than a large format system but they contain all of the elements that make for top notch photography. **Design, color, and mood.**

My student makes Dye Transfer prints and uses an Automatic Jobo. He processes his contrast masks, separation negatives and his highlight masks using this great system. The fact that it is an automatic processor allows him to do other chores in his darkroom. . The developing times for Kodak's T-Max 100 film is 4:30 at 20.5 °C. The contrast balance is amazingly accurate.

In fact, while the machine is busy developing the contrast masks, he is busy exposing his highlight masks, and when they are being processed, he is busy exposing the final T-Max separation negatives.

The amount of time saved is substantial. Joe Holmes uses the larger version of the Automatic Jobo. He uses additional processing tubes which he loads up and as soon as the first tube is finished, the second one is placed into position. He carefully keeps the tubes in order and keeps loading the Jobo. This allows for many prints to be processed without worrying about dilution

or replenishment of the chemistry. It is a "one shot" processing system.

I have been using the **Ilford Cap 40** with very good results. The amount of prints that it will process with one mixture of chemistry depends on the size of the prints and the condition of the chemistry. A very slight change will take place between the first print and the last print. If you should happen to process more prints than you were supposed to, you will notice a graying of the image as it dries. This is caused by the bleach and the fixer not going to completion.

I have saved a few prints by re-inserting the questionable prints back into the bleach and fix stage of the system. However, I don't recommend this approach except as a last resort.

**Have you ever wanted to make a print of a person's head, and you wanted to silhouette it against a white background?**

In dye transfer, this presents a problem. There are three separate exposures on three sheets of matrix film.

If you decide to silhouette the head by conventional dodging techniques, forget it. It won't work. There is no way that you can silhouette the head exactly the same way for all three

exposures. You will end up with a great rainbow effect. Unless you use a different approach.

If you make your dodging mask on a sheet of film and position it in the carrier so that it will do the job correctly, place it on the register pins and it will repeat it's position each time it is used. If you make a cut out using opaque materials, or rubylith film, you will produce a sharp edge. If you wish a softer edge, place three sheets of clear film over the negative, in the enlarger, then add a sheet of diffusion material, (such as fixed out Translite film) and last, but not least, the frisket.

Make a print with the lens almost wide open. This will allow the negative to print in focus, but the cut out mask will have a soft and out of focus edge.

If necessary, dodging a small area with "cosine" dye will accomplish the same thing. Use a sheet of clear film and place it over the negative, on register pins.

Use a brush to add the dye to the clear sheet in the exact area needed, then use it on all three sheets of film, one at a time.

If you use a green # 61 filter to examine the "retouching" you can "see" how much correction will take place.

When making Dye Transfer prints you will sometimes run into this kind of a problem.

There are two problems that will arise when making prints from transparencies. The image of a person wearing black or dark clothing, posing against a white and textured, light colored wall.

#### Problem # 1

The light wall tends to become flattened when conventional masks are made to control the transparencies overall contrast.

#### Problem # 2

The dark clothing loses detail in the dark areas because of the flare in the enlarging system, and needs much masking.

**How does one control such an image without destroying one area or the other.**

Here are some of the solutions that I used for many years.

#### #1

The first problem is solved in the following fashion:

The image is not contrast masked at the beginning of the negative making procedure. It is masked at the end of the negative making process.

This is called "post masking."

If you make straight negatives, in balance, of course, the highlight areas will not be as affected as they would have by pre-masking.

The contrast of the negatives will be increased slightly, but that will be corrected at the end of the negative making procedure. The detail in the highlight areas will remain as detailed as possible.

Highlight masks are also made as accurately as possible.

From the best detailed highlight mask, make a duplicate mask, (called a specular mask) using **Kodak's LPD 4 or Duponts CRR4.**

These films will allow you to make a very thin but very detailed copy of the highlight area. Use this mask on all three separation negatives when making the matrices. The highlight detail will be enhanced.

#### #2

The second part of the problem is solved in the following fashion:

A "**sudden black**" mask is made in order to open up the details in the dark clothing.

Make a Kodalith of the image, so that the clothing stays open and clear in the dark areas, but almost everything else becomes black.

Place this Kodalith over the transparency and proceed to make a new "negative", using Pan Masking film.

Process this sheet of film in a developer, such as D-11. The image will be of the dark clothing only. The orientation will be that of a negative.

Add this "negative" to the separation negatives, one at a time when making the matrices. The result will be that the clothing will be open and detailed, yet appear black.

The white wall will be clean and show all of the texture.

The overall principal masks made at the end of the process are made as follows:

Using Pan Masking film, developed to about a 15% range, and exposed so that the detail in the shadow areas is just barely visible.

One mask made in contact with the Cyan printer, and one mask made in contact from the Magenta printer.

Use the masks in this fashion:

When making the Cyan matrix, use the mask made from the Cyan printer for 80% of the exposure time and the mask made from the Magenta printer for the balance of 20%.

When making the Magenta matrix, use the mask made from the Cyan printer for 100% of it's time.

When making the Yellow matrix, use the mask made from the Magenta printer.

The use of the masks in a split fashion will enhance the flesh colors and any other "warm" colors.

I can assure you that this is no pipe dream. I used this technique many times.

A similiar technique can be used with color negatives. Cibachrome prints can also be helped.

A technique that Kieth Logan has used successfully has been to make a strong contrast mask, but don't use it until you have first made an exposure to capture the details in the high end of the picture, then adding the mask to the transparency and re-exposing the same sheet of Cibachrome paper so that the shadows open up.

I have tried this method. It works. There is more than one way to skin a cat.

**A variation of this Post Masking trick is this.**

Make a positive mask on Kodalith film so that just the deepest shadows appear. When making the post masks, add this thin, but black mask to the separation negatives when making the mask exposures. This will keep the deepest shadows from getting smokey.

The amount of "tricks" that can be used in print making is almost unlimited.

In making Ciba prints, if you want to make any color much brighter, isolate the area in question by exposing a sheet of Pan Litho film through the opposite filter. For instance, a red apple can be isolated by making an exposure through a green filter, The apple will be clear.

If you wanted to brighten the apple, first make your normal exposure, then add this mask to the transparency and give the image an additional exposure through a red filter.

If you use a different filter, you can make a change in color as well as density to the apple. The amount of possible changes are unlimited.

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For those of you who have wanted to attend one of my classes, but were not able to, I may have a solution for you. I have initiated a "home study course."

This means that I will be willing (and able) to make up a 15 lesson course for Dye Transfer and a 12 lesson course for Cibachrome. These courses will allow the student to take as much time as needed to complete each lesson.

This system was once used by the famous twelve

photographers that started a correspondence school and did a great job. The twelve photographers included some very important names in the field of photography.

In my case, the teacher will be me.

I have already formulated the different lessons. They will be intricate lessons and I will expect each student to totally understand, and complete.

Each lesson will be critiqued.

If any of my readers are interested, let me know. I will send you a brochure with the facts and figures.

In the meantime, I am still selling my wares.

The Ciba Book is still \$135, and the Video package on Dye Transfer is still \$200.

The Book on Photo Composition is still \$50

The newsletters are still \$60 per year.

For those of you who are concerned about the scanner invasion, don't worry about it. The only ones who should be concerned are the larger commercial labs involved in reproduction work. Good Luck.

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