Issue #22 - JQ9902

User profile: **David Frieder**

Bridging the gap between photography and climbing

While photographing bridges is his main interest these days, it is a relatively recent calling. Dave has an enormous photo collection of many subjects, including urban streets and the Grand Canyon. His interest in photography began at seven years of age when his family moved from Queens to New Jersey. "My father was the manager of my uncle's dry-cleaning business. To get to the city meant crossing the great George Washington Bridge. Back then, there was no lower roadway. I was looking at the 'X' braces keeping the suspender ropes parallel from the main cable down to the floor beams. I was in awe," he said. "They started building the lower roadway. I was in awe again. They raised it from the river and hooked it in place." His passion for bridges was born.

"I am mostly a self-taught photographer, but I have taken many workshops," he notes. Ansel Adams, the great outdoor photographer remains his hero. He was a true Adams disciple, focusing, literally, on trees in New Jersey forests. "The images I like to portray are mostly landscapes, still life, and architecture, working primarily with the large format camera," he said. Dave won first place at the Stratford, Connecticut Art Festival, and he took the top award in 1991*and* 1992 at Westwood, New Jersey's Art in the Park competition. He has also exhibited at galleries in New Jersey and New York.

"John Sexton, who was Ansel Adams's personal assistant, went up on top of the Golden Gate Bridge," Dave says. "Then Ron Wisner, who makes big wooden cameras, went up there. Then the light bulb turned on in my head. Where are there more bridges than anywhere? Right here in New York!"

Dave began darkroom work when he was about seven years old. In 1988, Jeff Nixon, a workshop assistant of Ansel Adams, introduced Dave to John Sexton. *(See issue JQ903 for the User Profile on John Sexton.)* It was after taking several workshops with John Sexton, from 1991-1993, that

Dave was convinced he needed a JOBO processor to develop his negatives. Working in film formats of 2 1/4, 4x5", 5x7", and 8x10", of T-MAX 400, Dave insists that it is a lot easier to do it himself, and relies on the eveness of processing that his JOBO CPP-2 processor with the Expert drums provides. "I use a fairly dilute developer, T-MAX RS, when I'm trying to cut high contrast. Sometimes while shooting, especially in very sunny weather, it is important to be able to control the contrast and shadows," Dave admits.

He started with a sheet film camera on a tripod. But there was a problem. "Bridges vibrate, and the vibrations are transmitted right through the tripod," he said. He switched to a Hasselblad, and a gyroscope came next. That got rid of the shakes. A recent addition to his darkroom is a Durst 8x10" dichroic enlarger.

Dave's face has become familiar to the people who work at the bridges. "The bridge workers and the police have been great in allowing me to go where I want to in order to get the best photos. Of course, I have to wear a hard hat and sign a waiver of insurance in case I hurt myself," he says.

"Photographing bridges is not for the faint at heart," he admits, "You have to know how to feel the steel!" Some of the areas where he sets up his camera are girders only one half to one inch wide, and up to 693 feet in height.

So why risk life and limb on the spans? Dave sees it as a chance to capture beauty and wonder on film. "To me, there are no other man-made structures, with the exception of the Great Pyramids of Egypt, that can compare to a suspension bridge. An operating bridge has so many elements that must be working together at the same time that it boggles the mind. Bridges are engineering marvels," he said.

Dave has a wealth of bridge information he is willing to share it with anyone who asks. Some of Dave's insights are fascinating, such as:

Returning recently from his first time climbing and shooting the Bronx-Whitestone Bridge, Dave has logged this his 15th in a series of about 27 of New York's major spans. The **Bronx-Whitestone Bridge** was completed in 1939 for the New York World's Fair.

The **George Washington Bridge** was completed in 1931, with the lower deck finished in 1962. According to Dave the George Washington Bridge was first conceived in the mid- to late 1880's and was planned to link up with the Queensboro Bridge in New York at 59th Street. The George Washington Bridge was called the Hudson River Bridge at that time.

The George Washington Bridge was the first large scale suspension bridge. The G.W.B.'s dead weight allowed for construction without a warren stiffening truss. (Dead weight is the weight of the bridge itself, and traffic is considered live load.) The G.W.B.was the first large scale suspension bridge to use four, mind you three foot, in diameter, main cables. It was also originally designed to be encased in stone and masonry by Cass Gilbert, who did the Woolworth Building. As it was the depression, they left the stone work off and saved a million dollars.

The **Brooklyn Bridge**, built in 1883, was the first suspension bridge in the world to use galvanized steel wires for its main cables. The chief engineer was the well-known John Augustus Roebling, who designed many other bridges.

The **Williamsburg Bridge**, built in 1903, was the first suspension bridge to use all steel in its construction.

The **Manhattan Bridge**, finished in 1910, was the first all steel bridge to use flexible towers and modern bridge-building technology, such as the use of suspender ropes looping over main cables on cable bands.

The **Queensboro Bridge**, also known as the 59th Street (but physically closer to 60th Street), was built in 1909. It was the first and only bridge in New York City to be built as a double cantilever-truss bridge. Its upper deck was originally built for trains, the major form of transportation in the early part of the century.

The **Verrazano Bridge** is 60 feet longer that the Golden Gate in San Francisco, a staggering 4260 feet between towers!

More of his bridge trivia includes: The 59th Street Bridge doesn't really connect to 59th Street in Manhattan. Or that the Bayonne Bridge is 25 inches longer than its twin brother in Sydney, Australia. Or that one of the main cables on the George Washington Bridge consists of 61 strands, with each strand made up of 434 wires, with each wire being 5 millimeters in diameter. These cables can withstand the pull of 180 million pounds. The Queensboro Bridge celebrated its 91st birthday this Spring, and the Brooklyn Bridge turned 116 years old this May!

"Most people think of a bridge as just something to get from one place to another, but it has curves. Like a woman," observes Dave. Few people have probably ever looked at a bridge and thought of a woman, nor had the desire to risk the precarious heights to capture an image on film. "People think I'm nuts. But heights, to me, are like walking on the ground. Something is driving me to do something that no one else can do," confesses Dave. Not many would attempt, as Dave has, walking a one-inch beam atop the Queensboro Bridge carrying 60-70 pounds of camera equipment. Or standing atop the ornamental steel balls atop the Manhattan bridge so he could capture the feel if the bridge under the clouds. They are his passions... photography and bridges.

Dave confesses that he's got a long way to go to complete this project. With a goal of shooting 27 of New Yorks major spans, having just begun #15, he feels it could take up to 10 more years to accomplish. His ultimate goal is to put all of his work into a coffee table book that represents these important landmarks in a way we have never seen them before. The next time you journey across one of these massive structures ***really*** take a look at it - maybe you'll see Dave perched upon a steel girder!

How Safe Are Your Safelights?

by Ken Owen

Testing your safelight. Now there's a really exciting topic. And yet, it is something each of us should be doing, at least once a year. Safelight filters fade, papers have increased sensitivity, sometimes we rearrange the layout of our darkrooms. All of these things can change how our safelights perform.

Before we get into the details of how to test your safelights, don't start thinking "My safelight is perfectly safe!" No safelight is perfectly safe. Each of them will eventually fog the material for which they were designed, given enough exposure. It's even more reliable than a rain dance. As you may have heard rain dances never fail, provided you do them correctly and long enough!

The test that follows is a simple way to determine just how long you can keep your photographic paper exposed under the safelight in your darkroom, without any fog effect. There are three steps involved. First we are going to give a short exposure to a sheet of photo paper with an enlarger. Then the safelight exposure begins, followed by yet another exposure to the enlarger light.

You might be asking just why there is an enlarger exposure involved in a safelight test. This is due to an effect that occurs with exposure: photo paper becomes *more sensitive* after a short exposure to some light, first removed. So we are going to test for safelight fogging before and after an enlarger exposure.

Before you actually get started with the safelight tests, be sure to go into your darkroom, turn off all your lights, wait 5 to 10 minutes, and start looking for light leaks. Make sure you have any lights outside your darkroom *on* if they would ever be switched on when you are using the darkroom. You want real world testing. If you find any light leaks, fix them first. There's not much point testing your safelights for fogging if the real source of the problem is outside the darkroom.

I did my tests with 3½ x 5" paper, cut down from 8x10's, and used an old single-size easel of that size. You should evaluate what easel you have available for the test, because you need to mask it so you get a long, narrow rectangle slightly less than half the width of your paper. You will be doing two tests on each sheet, and having white space between them is helpful in evaluating the results. If you are using the JOBO Varioformat easel, you can use half a sheet of 8x10", and use the two different 4x5 covers on one half of the easel to provide the "before" and "after" exposures. The rest of you will simply have to get a little creative with whatever easels you have handy, or even make one from a piece of thin cardboard, like that packed in with photo paper.

You can also use a sheet of cardboard to cover the print as you expose different sections of it to the safelight. I made three exposures under my safelights: four minutes, two minutes and one minute. I started with about ¼ of the paper sticking out from under the cardboard. Then for the next exposure, I moved the cardboard about half way down the paper. Finally for the 1 minute exposure about ¾ of the paper was protruding from under the cardboard.

One more thing you need to prepare is a way to determine the correct orientation of the paper. Otherwise you may not be able to tell which exposure is which. I use a simple hand-held paper punch, and make a notch in the top, right hand edge of the paper, rather like the notches on 4x5" film. But you can do just as well by snipping off a corner with a pair of scissors. Just remember to always cut off the same relative corner.

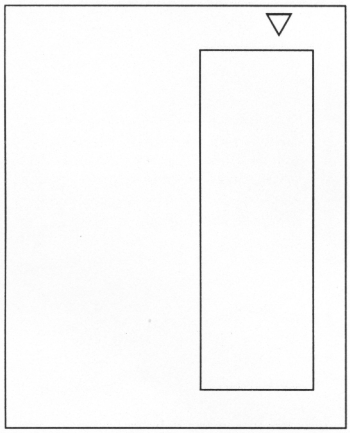
Once you have your easel prepared with its custom-made mask, it's time to determine your base exposure. You want a very light density. If it's as dark as an 18% gray card, it's probably too dark. You are trying to determine some subtle shades of exposure. If your basic enlarger exposure is too dark, it may mask the shading you are looking for. Start by stopping your lens down to its minimum aperture and use a very short exposure time. Try a series of exposures to see a range of densities. In my case using an empty negative carrier, and exposing black and white paper, I ended up with 0.7 seconds at *f*16.

Once you have your base exposure determined, you are ready to begin. Start by turning *off all safelights* in your darkroom. You don't want any of them to confuse your test results. Place your notched sheet of paper into the easel and make your first basic enlarger exposure. Now remove the paper from the easel and place it under the safelight on your countertop, or place a large sheet of cardboard on top of your developing trays to simulate the same location where it will spend most of its time under the safelight. In my case, I placed it on top of my paper trimmer to see if the extra safelight I use there was safe or not.

Now begin your series of timed exposures under the safelight. Use a timer or stop watch to try to keep the timing accurate and consistent, especially if you will need to do multiple tests. Remember you may need to run a separate test for each type of paper you use, and you may have multiple safelights in your darkroom to test.

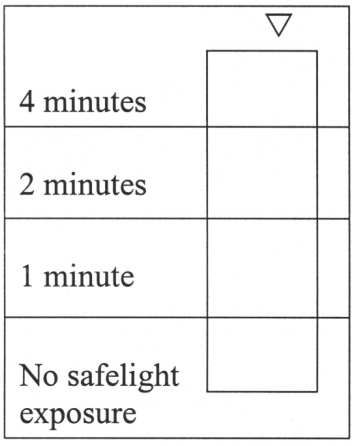
After you have completed the safelight exposures (remember to leave a totally unexposed section on the print), turn off all your safelights, return to the easel, and put the paper in, oriented the "opposite" way from your first enlarger exposure. This is where that notch in the paper really is needed since you are working in total darkness. Make your second enlarger exposure, and process the print as you would normally.

After you dry the print, make some notes on its backside to indicate which paper, which safelight, and any other pertinent information you might need. Do it right away before you get confused as to which print belongs to which safelight or paper. You could also identify each print by making more notches along the edge of the paper as a code.



Now carefully examine the print. When I first examine my prints, using some old safelights I have had for 30 years or more, I can easily see the seven minute section (1+2+4 minutes) as being fogged. Upon closer examination I could also see the increased density of the three minute section (1+2 minutes). On one of my tests I think I also see the line at the one minute exposure, but it is so faint and similar to the zero exposure section, I don't think I really need to worry about it.

Now what do you do with all this information? Let's assume you find similar information to what I experienced above. You have two obvious choices, and there may be others as well. The first choice is to do something about the safelight, such as repositioning it, or reducing its brightness. Maybe you can use a different lamp inside it to make it safer. If you have a Maxilux or some other safelight with a fixed light output, you may need to reposition or aim it in a different direction. Your second choice is to make a constant decision to keep the exposure time under the tested time limit. For instance when I cut paper under the safelight, I always make sure I position it emulsion side down, and keep the total time under one minute. But I probably should move it farther away just to be safe.

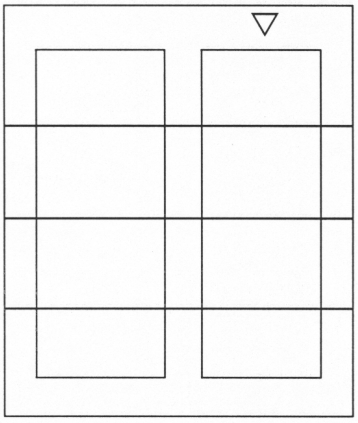


One member of our staff found that one of those famous-name sodium vapor lights was so bright it was fogging the highlight details in their prints. It may have been safe when it was designed 20 or 30 years ago, but now the papers are too sensitive for it.

So what are you waiting for? Go into your darkroom and begin the testing. It may improve your print results.

Use a shape like this (*fig. I*) for your basic enlarger exposure. Be sure to punch or snip a marker on one edge of the paper to reference which way the paper is positioned each time. Label this right hand column "after" because it will show the result of safelight exposure after the enlarger exposure.

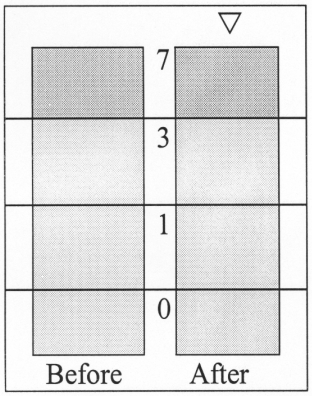
Once you have the first enlarger exposure on the paper, you need to do a series of safelight fog exposures. For color papers, you might use shorter times after initial testing to really refine your results. (*fig. II*)



Following the series of safelight exposures, make the second enlarger exposure. Label this one "before" since the safelight exposure came before the enlarger exposure.

This sample *(fig. IV*) would show that the safelight wouldn't fog this paper until after an exposure in excess of 3 minutes.

(Left top image = fig. I, left middle = fig. II, left bottom = fig. III, right image = fig. IV)



Processing Ilford 3200 Film

By Sam Proud

While manufacturers of films do a fine job in providing the photographer with good technical data, they can't be expected to list all the different developers and dilutions. Sometimes the photographer has to test the film and developer combinations for himself. A question came up a few weeks ago when one of our customers called and asked about the new Ilford 3200 speed film and if we had any technical data on development times using Tetenal Ultrafin Plus developer. Since I had a couple of rolls in the fridge I thought that I could kill two birds with one stone.

Here are some ideas on how you can conduct your own development tests plus some information on Ilford's new film developed in Tetenal Ultrafin Plus.

Most people don't have a densitometer in their personal darkroom. However, by using a Colorline 5000 or Colorline 5100 as a reference densitometer, you can determine development times for most film and developer combinations. The whole project will take a bit of time and effort on your part, but it's well worth it later on.

The first step is to make a series of exposures on your test film. You will need a step wedge, or density tablet, as it is sometimes called. A step wedge is a small strip of material that is black at one end and changes density in fixed increments, reaching white at the other end. For this test, I used a 12-step wedge manufactured by Stouffer Photo Equipment of South Bend, Indiana. The step wedge is centered and mounted on an 8x10" 18% photo gray card to help reduce any flare or reflections that could affect a camera's light meter.

I shot 3 rolls of the Ilford 3200 film at EI ratings of 1600, 3200 and 6400 speeds so I could determine development times for each speed. The film can be shot as low as EI 400 and up to 12500, but for this test I was shooting for the middle range.

To start the test, prop the card up, make sure that it is evenly illuminated, with no hot spots or reflections. Place your camera on a tripod, and fill as much of the frame from side to side as possible. Take a meter reading, and make any necessary adjustments to the camera. If your camera has a manual mode, use it to ensure that the exposure values stay constant from the first exposure to the last. Using a tripod ensures that the step wedge remains in the center of the negative for the entire roll. This will make reading the log density easier, and require no movement of the probe when you take your density readings. Make your exposures, and rewind the film back into the canister, leaving the tongue out. If you're doing multiple rolls, be sure to mark each roll with the speed you used.

Rather than develop the entire roll, I prefer to do clip tests on my test film. If I have to try a different development time, I still have the original exposures to work with. The only change you will be making is the development time. I generally process four frames at a time for a clip test. To be able to measure four frames in the dark I make a template out of cardboard or mount board cut to six inches in length. To measure out your film, place one end of the template against the film canisters opening and pull the film across the template to the other end and cut the film.

The hardest part of this whole process is determining a starting point for the development time. I wish I could say that there was some formula you could use but unfortunately there is not. The best suggestion I can give is to consult that film's data sheet and try to pick a developer that has the same characteristics as yours. For this test, I selected the Tmax 1:4 time of 8:30, as published by Ilford in the technical table, as my starting time. I chose it because Tmax and Ultrafin are both tabular grain developers that can be diluted 1:4. If you are not sure what developer the manufacturer recommends that is similar to yours, then a bit of guesswork will be involved. A trick that has worked for me is to take all the times published, throw out the highest and lowest times, and come up with an average time for my starting point.

Process the film as you normally do, using the development time you selected, and allow it to dry. Use a permanent marker to write the development time on one end of the film for future reference. Now it's time to take the readings.

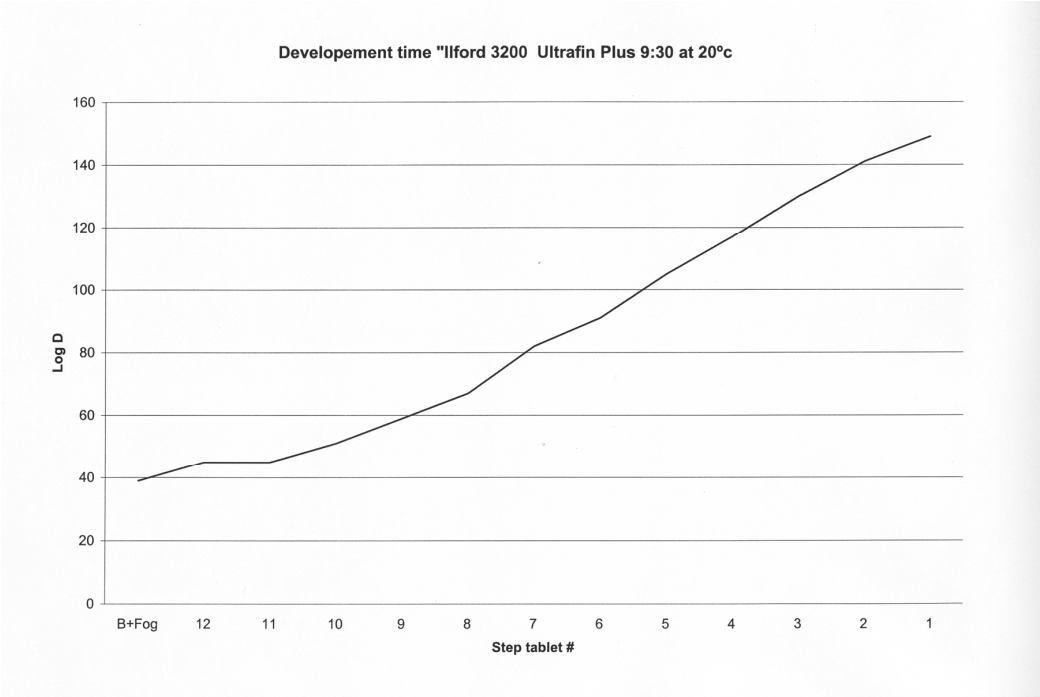
There are four steps to obtaining a relative density reading. Each step must be done in order, and the instructions followed exactly, or your readings will be useless. First select an unused channel on the ColorLine and make sure it is set for Black and White, and the spot probe is selected

Choose the appropriate enlarger lens for the film format. Place the film in the negative carrier, turn off the lights and press the lamp button. Adjust the enlarger height so that each section of the step wedge and the space between the frames are large enough to cover the sensor of the Colorline. Make sure that you center the Colorline's probe directly under the lens. You may want to mark with a grease pencil your enlarger's height on the column for future reference. Open your lens to its maximum aperture and zero out any filtration.

Remove the negative from the negative carrier and place the carrier back into the enlarger. With the lights off, press the DENSI and then the SET buttons. This will put the Colorline into its density mode. With the light falling directly on the probe, calibrate the Colorline to zero. Push the set button and the LCD display will now read LogD 0. You have calibrated or nulled the densitometer to zero; it will now read any changes from that point.

You may now remove the carrier and place the film back into it. Some enlargers have such large negative carriers that the edge of a four frame film clip will not protrude out from the side of the negative carrier. If this is the case with your enlarger, then you can attach a strip of paper, using scotch tape, to the end of the negative strip. The paper will allow you to push or pull the negative through the negative carrier so that the each step in the series passes over the probe. It is important that you not move the probe from its center position during the readings. Stop and

record the readings for each step in the series, and write the LogD values along with the corresponding number on the step tab. You may have to wait a few seconds after moving the negative to allow the Colorline to stabilize to get an accurate reading of that particular segment. Sometimes the Colorline may continue to fluctuate between two values. When this happens, round up to the higher density value. This will not significantly affect your final readings. Once you have read all the steps tabs slide the negative so the space between frames is now covering the probes sensor and take a reading. This last reading is your "base plus fog density" and is an important factor when you figure out your plots.



Take a piece of graph paper, and on the bottom number your steps 1 to 12 evenly spaced across the paper. On the right side of the paper start at zero and go up in increments of 5 till you reach your highest reading. Plot each step value that corresponds to the density number on the side of the paper, and the step number at the bottom. Draw a line between the plot marks. If your development time is correct, you should note that the plot line goes evenly up the Log D scale from the corner on the lower left hand side to the upper right hand corner. You will note the bottom or top of the plot line may taper off slightly. This is normal and expected in a good plot line.

The graph below shows the results of development for Ilford 3200 speed film when processed in Ultrafin Plus for 9:30 at 20° C (68° F). The angle of the plot is fairly typical of a normal black and white film. If the plot you draw looks much steeper than this, indicating higher contrast, you will need to reduce your development time to flatten it out somewhat. If the line is flatter than this one, you will need to increase your development time to generate higher densities and contrast.

By using this method of testing, you should be able to figure out an accurate, normal development time for any film and developer combination, or even modify times to produce the specific results you desire.

Keep Those Negatives Popped

By Ctein

Film popping is a persistent source of trouble for those of us who don't religiously use glass negative carriers (yes, I admit it). As your film basks in the toasty glow illuminating the negative stage, it expands. As it expands, it flexes, buckles, and shifts position. If you focus your image when the film is cold, it will be out of focus when the film warms up. If you focus when the film is warm, it may be out of focus after the film cools down during the time between when you focused the image and when you began exposing print paper. Obtaining precisely reproducible print sharpness without a glass carrier is impossible for many people.

Although I usually work with a glassless carrier, I manage to get precise focus with an exceptionally simple trick I hit upon over twenty years ago. I don't adjust my focus until I've given the film plenty of time to warm up and stabilize, and I don't turn off the enlarger until after I've made my print exposure. If you start doing the same thing, I guarantee you far less wasted paper due to unsharp prints.

To accomplish this trick, you will need an under-the-lens filter holder and a sheet of cardboard. Cut out a piece of cardboard that will fit into the filter holder. The next time you print, don't turn off the enlarger lamp after you've got the focus finally set. By doing this, you are only giving the film a chance to cool down and move out of position. Instead, put the cardboard dark slide into the filter holder to block off the light. Then you can safely load the paper into your easel with the enlarger lamp on. It won't take more than a few seconds to turn off the enlarger light, pull the dark slide, and start the exposure; there is not enough time for the film to cool off and shift focus.

I've been doing this for every single exposure for over two decades. It's the next best thing to printing with a glass carrier, and there are fewer hassles with dust and cleaning.

You can purchase POST EXPOSURE by Ctein, at any fine bookstore or any camera store that carries photography books (if they don't have it in stock, they can order it for you) or directly from Focal Press (800-366-2665). You can also order an autographed copy directly from the author. Send a check or money order made out to "Ctein" for $29.95 + CA sales tax (if applicable) + $4.00 shipping and handling for US and Canadian orders to: Ctein, 42 Skyline Drive, Daly City, CA 94015 Along with the check or money order, include a sheet of paper with your name, address, phone number and email address, and the name you want the book made out to if it's different from the addressee.

Lamp Preheating

by Ken Owen

If you have ever tried to make two color prints in a row, and had a problem with consistent color, your problem may not have been the chemical process, nor the processor, nor even the enlarger itself, but the enlarger lamp. Similar to Ctein's comments about consistent techniques regarding popping negatives, there is also reason to develop consistent techniques to maintain the color output of your enlarging lamp. The problem is that a cold lamp has a different color than a "warmed up" lamp.

If you have an analyzer, you can demonstrate this for yourself. Just switch on your enlarger, focus, frame, and do all the other things you would normally do. Now null your analyzer using an appropriate spot in your projected image. Once the analyzer is nulled, turn off your enlarger lamp for a few minutes, but be careful not to move your analyzer probe. Now switch the enlarger back on and quickly notice that the analyzer is NOT NULLED any more. Chances are you will see three to five cc's of color shift, generally in yellow. Once the enlarger lamp is on for about 20 to 30 seconds, the analyzer will probably return to its nulled reading.

What this really shows is that you can work with one of two different lamp colors, either using the cool lamp settings or the warmed lamp settings. But you must create a consistent technique to be able to count on the results. Ctein suggested leaving the lamp on to preheat the negative, so it

won’t pop during the exposure. I advocate the same technique for preheating the lamp, to establish a consistent color result from your prints.

The cool lamp approach is fine if all your exposures are shorter than 15 seconds or so, you only make one image at a time and you are willing to wait two or more minutes between exposures for your lamp to cool down again. The real problem comes if you try the cool lamp technique when making ten or twenty copies of a single print. Your first four or five prints will be made with a cool lamp. But then the lamp will begin to accumulate warmth from the succession of exposures and begin to shift in color to its warmed characteristics.

That’s why I advocate the warmed lamp approach. It’s generally easier to maintain consistent results by preheating the lamp before the exposure. You are probably checking the focus, the framing, and your various settings with the lamp switched on anyway. Now just move quickly to get that print in place, using the cardboard lens blocker described by Ctein, and you can count on the lamp to produce the consistent results you wanted to achieve in the first place.