Pen Photography
Concept and Practice

Contributed by: Eric Rasmussen

A.K.A "Sylvanite"

www.penturners.org

Here are a few examples using props that can add excitement to your pen photographs.

Photography by Eric Rasmussen

Introduction

I can't tell how many times I've seen a thread in the Show-Off-Your-Pens forum begin with the statement "Sorry about the poor photo...". As long as viewers get a sense of what the pen looks like, isn't that good enough? After all, we're pen turners, not professional photographers. So, why spend time and effort to learn another craft? Why care about pen photography?

Well, if you're reading this, you probably have some answer to the last question already. Here are a few of mine.

1. If you post a clear and attractive picture of your pen in the Show Off Your Pens forum, then others are more likely to comment. If, on the other hand, your photograph doesn't show the pen clearly then people won't be able to determine the quality of your work. No matter how nice your pen appears in person, viewers will likely just move on.

    If you are proud enough of your pen to want to show it off, then don't you also want to display it to its best advantage? I hate to be crass, but if you aren't willing to put the effort into taking a good photo, then others won't bother to reply.

2. Do you sell your pens online, or have a website gallery? If so, you need good photos. When people can't tell how nice your pens really look, they won't become customers.

3. Do you want to sell at art shows? The best (most profitable) venues are juried shows. An attractive portfolio is a vital part of your application. You are unlikely to be accepted if you can't take good photos of your pens.

In short, photography, like sharpening, is one of those skills you need to develop to support your penturning.

Unfortunately, I can't give you a simple recipe for taking pen pictures. Photography has wide latitude as an art form, and there is no single correct approach to taking a picture. There is also no absolute measure of photo quality. What appeals to one viewer, may not interest another.

What I'd like to do in this tutorial, is explain some fundamental photographic concepts, and describe how they affect my approach to pen photography. Once you understand the factors involved, you'll be able to develop your own unique photographic style.

I'm going to do things in reverse order, however, and begin with the practice of photography, and follow that up with additional details about the concepts. I think things will be more interesting that way. People like to jump right in and start doing - and that's a great way to learn.

All text, pens, diagrams, and photographs are by Eric Rasmussen, a.k.a. "Sylvanite".

Chapter 1 - Putting Concept into Practice

I'm going to start right off with a virtual walk-through of a sample pen photography session. I won't go into great detail on any particular concept, but rather describe how they influence my choices when taking a picture of a pen. I'll go through the steps of composing, lighting, and taking a pen photo, explaining what decisions are made along the way and how I make them. For greater detail on any single topic, you can delve into the corresponding section further on. I hope that makes sense to you.

Choosing Equipment

I want to make things as simple as I can, so I'm keeping the gear to a minimum. You don't need a high-end camera and a lot of expensive studio equipment to take a decent picture. For this demonstration, I've chosen a relatively inexpensive point-and-shoot camera:

Figure 1-1: The camera used for this photo session.

This is a Canon Powershot SX-160 IS that I picked up over a year ago for about $70. There's nothing special about this particular model, it's just one of the cheaper cameras that still has manual controls. The SX-160 only saves pictures in JPEG format - it doesn't have a "Raw mode".

I'll keep the studio equipment basic too. I've restricted it to a light tent, two 26W CFL lights, and a tripod.

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Composition

I'm going for a simple composition as well — just a plain white background. For this exercise, I've placed the pen flat on white mat board, angled across the frame and towards the camera. A pinch of Museum Wax holds the pen in place and keeps it from rolling over. For more details, including thoughts on different layouts, props, and backgrounds, see Chapter 10 - Composition.

Figure 1-2: *Pen on mat board.*

I put the matboard inside the light tent, so that I could photograph it at roughly a 45 degree downward angle.

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Perspective

I usually place the camera 2 to 2.5 feet from the pen in order to get suitable perspective. This camera, however, doesn't focus well at that distance (it *can*, but I'd have to zoom out and crop the photo in post-processing). Therefore, I shot from about 3 feet away where I was able to zoom in and fill the frame (a focal length of about 40mm).

Figure 1-3: *Pen in light tent with camera 3 feet away.*

Lighting

A little shadow under the pen adds depth to the photo, so I chose to back-light the pen. I placed the primary light above, behind, and to the left of the light tent, aimed at the rear and left walls.

Figure 1-4: Primary light.

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The secondary light serves two purposes. First, it illuminates the front of the pen (otherwise the blank would be in shadow). Second, it creates the "shine line" on the top. A little reflection serves to add depth and it also calls out the glossy finish. I positioned this light to shine on the upper front edge of the right wall of the light tent.

Figure 1-5: Secondary light.

You can see that I've taped a couple small pieces of mat-board to the light tent. By blocking the light this way, I've controlled the size and shape of the surface reflection. If I had lit the light tent wall evenly, there would be no shine line at all. I used mat-board because I have a bunch of it laying around, but anything opaque (construction paper, fabric, cardboard, etc.) works.

Now the pen is well lit, with a soft shadow and a highlight. Because the reflective metal components are inside the light tent, they are evenly illuminated and show their detail nicely.

White Balance

I used "auto" white balance this time, and it worked out well. If it hadn't, I'd have switched to "daylight", "5500K", or custom white balance.

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Depth of Field

I wanted the pen to be completely in focus, from end to end. I've already set the distance and focal length (in the "perspective" section above), so I need to control depth-of-field with the aperture setting. There are depth-of-field calculators available online, but experimentation works too. With this camera, at 3ft, zoomed to 40mm focal length, an aperture of f/5.6 will easily give sufficient depth-of-field. Don't get hung up on the specific f/stop number. Were I using a APS-C sensor camera at the same spot, I'd get about the same depth-of-field at f/22 (or f/32 with a full-frame 35mm camera). With some experience, you'll get a sense of what what works for your camera.

ISO Setting

For minimum noise, I set the camera to ISO 100.

Shutter Speed

Given the aperture and ISO already chosen, a shutter speed of 1/10 sec yielded proper exposure. You can use a camera's built-in meter, or just trial-and-error. I set the shutter speed to what looked good in the display, took a test shot, and then adjusted.

Shooting hand-held at that shutter speed would result in blur from camera shake, so I mounted the camera on a tripod (actually, I'd use a tripod anyway as that makes for easier adjustments to the composition). Even on the tripod, pressing the shutter release jiggles the camera, so I set the self-timer for 10 seconds. That is long enough for any motion to settle out.

I should have turned off the built-in image stabilization, but I simply forgot to. Image stabilization is great for hand-held shots but can actually introduce blur when the camera is on a tripod. If I had used a DSLR camera, I would also have enabled "mirror lock-up", to eliminate another source of camera shake.

Focus

Remember, Depth-of-Field extends farther behind the focal point than in front. Therefore, I focused slightly in front of centerband.

Taking the Shot

Even though the focal point was not in the center of the frame, I used the camera's auto-focus. I simply turned the camera to where I wanted to focus, held the shutter release halfway until focus locked, then re-composed and pressed the rest of the way. Then I let go and stood still until tripod steadied down and the camera took the picture.

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Post Processing

I used Photoshop Elements to post-process the image. I don't, however, want to get into a discussion of photo editing here (I've already done a series of library articles on that). Suffice it to say that I:

- Cropped,
- Adjusted Levels,
- Cloned-out dust specs, spots on the background, and some museum wax that showed,
- Resized,
- Sharpened, and
- Saved for web.

The Final Result

Figure 1-6: The final result.

The process I've shown is not by any means the only way (nor necessarily the best way) to take pen photos. Others have different approaches and different preferences. I hope this simplified explanation helps people improve their pen pictures.

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Chapter 2 - Troubleshooting

Traditionally, the "troubleshooting" section appears at the end of a manual, but I'm placing it second. If you've jumped right in to taking pictures, then you probably want tips for improvement next. This way, you won't need to read through all the concept sections to find the specific pointers you need.

Noise

Did your photo turn out pixelized? That is, instead of smooth clear colors, does it look grainy? If so, you probably used too high an ISO Setting. Try lowering the value. The lowest setting the camera supports will most likely produce the least noise. A second possibility is that your photo is underexposed. If you try to brighten an underexposed photo in post-processing, you'll introduce noise.

Part of the pen is in focus but other parts are blurry

The depth-of-field is insufficient. You can increase the depth-of-field by using a smaller aperture (higher f/stop). This may require switching to aperture priority or manual exposure mode.

Photo is blurry throughout

This is most often the result of camera shake during exposure, but can also be caused by improper focus. Check to make sure the camera is capable of focusing at the distance you're using.

Check the shutter speed and lens focal length. The rule of thumb for handheld shots is that the shutter speed (in a fraction of a second) must be the inverse of the focal length (in mm) or faster. For example, if you're using a 60mm lens, your shutter speed must be 1/60 sec or faster.

If you are using a tripod and a slow shutter speed, turn off image stablization, enable mirror lock-up (if applicable), and use a self-timer or remote shutter release. These settings will help minimize camera vibration.

Photo has a yellow, green, or blue tint

The white balance is incorrect. This is a common problem I see with photos posted on the IAP. While it can be corrected in post-processing, it is also relatively simple to fix when taking the picture. Check your camera manual to see how to set the white balance. Either pick the correct setting for your lights, or take a custom reading.

Colors look washed out

The photograph is most likely overexposed. This frequently happens when using a dark background. If you are shooting in manual mode, try a faster shutter speed, narrower aperture, or a lower ISO setting. If you are using an auto exposure mode, you can set the exposure compensation to a negative value (start at -1 and go from there).

Colors looks dark or muddy

The photograph is most likely underexposed. This is common when using a white background.If you are shooting in manual mode, try a slower shutter speed, wider aperture, or (as a last resort) a higher ISO setting. If you are using an auto exposure mode, you can set the exposure compensation to a positive value (start at +1 and go from there).

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Glare

Glare is not necessarily a bad thing. It provides the "specular highlights" which give the viewer clues to shape and are necessary for a 3 dimensional appearance. Bright, distracting, washed-out highlights, however, are a problem. Although it is sometimes possible to reduce glare with a polarizing filter, a more general solution is to diffuse your light source. Glare comes from a small light source reflecting off a small area of the pen. If you make the light source larger, so that it reflects of a larger area, you'll cut the glare. A [light tent](#) (which provides illumination from all around the pen) is effective for eliminating glare.

Glossy finish doesn't show

This problem is actually a lack of glare. You need a small bit of direct surface reflection to show off a glossy finish. The solution is the exact opposite of the one above. You need to reduce the size of a light. If you are using a [light tent](#), try moving one of your lights closer — so that it doesn't illuminate the tent wall completely. Alternatively, you can block part of the tent wall by taping something opaque (such as cardboard or construction paper) to it.

Dark areas

Black (or otherwise dark) areas on metal pen components are typically reflections from a direction that is unlit. To fix this, you need to provide light from all around the pen. The simplest way is to use a [light tent](#).

Unwanted reflections

Glossy props and chrome hardware sometimes reflect things one doesn't want in a photo — such as a window, the room, or even the photographer. If you are not using a light tent, or if your tent has an open front, you can eliminate these reflections by covering windows, adding reflectors, and/or putting a front wall (with a hole just big enough for the camera lens to see through) on your tent.

Chapter 3 - Equipment

A photography instructor I once knew liked to remark that what's behind a camera is much more important than what's inside it. Although professional photographers spend a lot of money on their equipment, you can get good results at minimum expense. It just takes understanding and a bit of creativity.

Camera

Some of the pen pictures in this tutorial were taken with a "prosumer" grade DSLR (digital single lens reflex), and some with a point-and-shoot camera. The DSLR is nice because it has controls and features that make it easier to operate — therefore I can get the desired result more quickly. With care, however, the point-and-shoot camera does a fine job too. Take a look at Chapter 10 - Composition, and see if you can identify which photos were taken with which camera.

The camera's controls are more important than which type it is. I strongly recommend that it have a full manual mode, or at least an aperture priority mode. If you can't control the aperture, you won't be able to achieve the desired depth-of-field and you'll have difficulty getting a good pen photo. Make sure that the camera and lens can focus at the desired shooting distance as well.

A suitable camera doesn't have to be very expensive. Some cell phones even have these controls now.

About Megapixels

My first digital camera had a fixed resolution of 640 x 480 pixels — about 1/3 megapixel (MP), and it was quite adequate for taking photos for the world-wide-web. Display resolution has increased since then, but not as much as camera resolution has. Some pro models have as much as 50 megapixel resolution and it's common to see point-and-shoot cameras with 16 MP sensors. So, just how many megapixels do you need?

If your goal is to post pen pictures in the "Show-Off-Your-Pens" forum, then you should realize that the IAP photo hosting guidelines restrict you to less than 1 megapixel. It's nice for a camera to have higher resolution than that (so you have some allowance for cropping) but much more is simply overkill. Conventional wisdom says that 8 MP is sufficient for an 8x10 print. Just how big an enlargement are you planning to make?

For web photos, pretty much any modern digital camera will have much greater resolution than necessary. Therefore, you shouldn't worry about the number. If you are serious about photography, you'll find that sensor quality is much more important than the number of dots.

Lens

If your camera is a point-and-shoot model, then you don't have to worry about what lens to get. You'll just use the one it comes with. A DSLR or mirrorless camera, however, will typically have interchangeable lenses. You'll need to select an appropriate one. You'll need a lens that can fill the frame with your pen from where you choose to shoot, and is capable of focusing at that distance.

I've frequently seen people recommend a "macro lens" for pen photography, but I don't believe that is necessary. I've used a macro lens, a professional quality zoom lens, and a kit zoom lens for pen photography. To be honest, I have difficulty telling the difference in the final picture. As long as they meet the requirements above, all three take a fine photo. A zoom lens is also more versatile than a macro lens so it will be more generally useful.

Tripod

Unless you're using very bright lights, or strobe lights, you'll need a tripod to hold the camera steady (actually, I use a tripod even then). A good tripod doesn't have to be expensive, it just has to be steady. I'm still using one I bought as cheaply as possible when I was in high school.

Lights

If you're strapped for cash, you can simply take your photographs outdoors. The light on an overcast day is quite similar to indoor lighting with a light tent. If you want to take pictures at night, or when the weather is uncooperative, however, then you'll need to get some studio lights.

Inexpensive CFL (compact fluorescent) light kits are available from multiple sellers, or you can cobble up effective lights using CFL bulbs and clamp reflectors. I recommend buying the bulbs that are made for photography — not the "daylight" bulbs at home improvement stores. There is no standard governing CFL bulbs sold for home lighting. Different bulbs often produce significantly different colors of light. Look for lights with a rated [color temperature](#) of 5000K or 5500K. These will most closely match the "daylight" [white balance](#) on most cameras.

I do most of my pen photography with two lights on stands. Occasionally, I'll use three.

Light Tent

If you start right off with discreet lights and no diffuser, you'll probably be disappointed with the results. Pen hardware is predominantly cylindrical which makes it very difficult to light evenly. I recommend buying or building a "[light tent](#)" (there are multiple examples of homemade tents on the IAP). You put the pen inside the tent and shine the lights on the walls from the outside. The tent itself becomes the light source for the pen. Because light comes from all around the pen, the curved surfaces are fully illuminated.

You can employ discreet diffusers and reflectors instead of a light tent if you prefer. That will give you more control, but they are more complicated to use effectively.

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Props and Backgrounds (etc.)

You can use pretty much any props and backgrounds you like. I frequently use acrylic pen stands and mat-board. See Chapter 10 - [Composition](#) for some advice. You'll probably also need something to hold everything in place. Being round, pens tend to roll away from where you want them. Products such as "Museum Wax" or "Tacky Wax" work well, but can stain porous surfaces. Lately, I've taken to using small bits of kneaded eraser, which don't hold as firmly as the wax, but don't leave marks either.

Dust and fingerprints are a constant irritant when taking pen photographs. Anti-static dryer sheets or sprays can help minimize dust. A soft polishing cloth will remove fingerprints and maximize the shine of gloss finishes. Just be careful not to touch anything with your bare hands afterwards. I sometimes wear thin cotton gloves (disposable ones are inexpensive) when posing my pens.

Chapter 4 - Camera Settings

I'd rather discuss general photographic concepts than the physical camera controls, but there are some choices you need to make when setting up for a pen photography session. You'll have to select what exposure mode to use, the desired file format, and a few other things. The exact mechanism varies with the camera, so refer to your manual for details.

Exposure Mode

Modern digital cameras often come with a bewildering array of exposure modes. Fortunately for us, most are not applicable to studio pen photography. Here are some notable choices:

Manual

Full manual exposure is my usual preference. In this mode (typically designated with an "M"), one must explicitly choose the aperture (f/stop), shutter speed, and ISO setting that will be used. Given that I want to have control over all three when taking pen pictures, it's easiest for me to simply dial-in the exact values I desire.

Aperture Priority

If, however, your camera does not have a manual mode, or if you simply aren't comfortable with it, look for "aperture priority" mode (usually signified with an "Av" icon). In this mode, you choose the aperture (f/stop), and the camera picks the shutter speed. Some cameras also select the ISO setting value whereas others let you do it. The reason you want to specify the f/stop is so that you can control the depth-of-field.

Landscape

What if your camera doesn't have aperture priority mode? In that case, a promising alternative is "Landscape" (usually signified by a mountain icon). In this mode, the camera will choose all three exposure settings. "Landscape" may seem counterintuitive, but when photographing outdoor scenes one typically wants deep depth-of-field. Therefore, this mode tends to favor smaller apertures — which is what you want for a pen photo.

Macro

Several people recommend "Macro" mode (look for a flower icon) for taking pen photos, but I don't. Unless it is necessary in order to achieve focus — which I seldom find to be the case — I don't see any advantage to macro mode. There's no conventional target depth-of-field for close-up photography, so there's no guessing what aperture a camera will choose in this mode. If you can't control the aperture, you can't control depth-of-field. You might as well just put the camera on "auto".

Exposure Compensation

If you are photographing in an auto-exposure mode (i.e. not manual), and you have a white or black background, you will probably wind up with a photograph that is correspondingly under- or over-exposed. The reason for that is the camera tries to balance the exposure to an average medium gray. A light or dark background will skew the light meter reading, causing the camera to select an exposure that is incorrect for the pen.

Personally, I find it easier to switch to manual mode and set the exposure I want, but it's also possible to fix this problem via "exposure compensation". You specify how many "EV units" you want to over- or under-expose (relative to the average exposure), and the camera modifies its selection accordingly. For example, if you are shooting with a white background, you could make the camera overexpose by +1 to +2 EV units. If you have a black background, you tell it to underexpose by -1 to -2 EV units.

Each EV unit is equivalent to a change of one full f/stop, or to doubling/halving the shutter speed.

Settings for Tripod Use

If you are using continuous (i.e. not strobe) lighting, then you're probably going to wind up shooting pen photos with a slow shutter speed. To avoid blur, you'll need to put the camera on a tripod. Here are a few other settings you should be aware of and might want to employ:

Self Timer or Remote Control
Even with a tripod, just having your hands on the camera can lead to blur from camera shake. Therefore, I recommend either using a camera's self-timer, or a remote control to release the shutter. A 10 second delay is usually sufficient for any vibration to damp down. Also, unless your floor is unusually rigid, don't walk around during the exposure. The tripod will transfer any floor vibration to the camera.

Image Stabilization
Although image stabilization is great for handheld shots at slow shutter speeds, it is not good for tripod-mounted photos. When there is no camera movement to compensate for, the stabilization mechanism can actually hunt for motion — and induce blur. When shooting on a tripod, it's best to disable any image stabilization the camera (or lens) provides.

Mirror Lock-Up
If you happen to have a Digital-Single-Lens-Reflex (DSLR) camera, look into "Mirror Lock-Up". These cameras feature a mirror that reflects the image through the viewfinder. When you press the shutter release, the mirror flips up out of the way immediately before the shutter opens. Although the mirror is light and small, and damped as much as possible, this movement can produce enough vibration to affect your photo. For the best results with long exposures, you need to enable mirror lock-up. This will raise the mirror before you actually take the shot.

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File Format

In the giving and taking of digital photography advice, I frequently see (or hear) someone assert that shooting in "RAW" mode is necessary for good results. Unfortunately, I also see (and hear) a lot of misconceptions as to why. I thought I'd describe how "Camera Raw" photos and photo editing actually work — and hopefully reduce some of the misinformation out there.

Let's begin with a description of what a digital camera does when it creates a digital image from an exposure.

1. First off, the camera's sensor records the amount of light (as seen through red, green, and blue filters) that falls on each picture element (or "pixel").

2. We see colors as we expect them, but the camera sensor sees them as tinted by the ambient light. To correct that, the camera applies a formula for "white balance". That way, colors appear more like what the eye perceives.

3. The camera also applies a "recipe", such as "landscape", "portrait", or "standard" to further adjust the image. The "landscape" recipe, for example, typically adjusts colors to accentuate blues and yellows (so our photos have a prettier sky). It also sharpens the image more to call out the details. "Portrait" recipe shifts the colors to better portray skin tones, and sharpens less. "Standard" recipe typically favors greens and reds more, and applies moderate sharpening. Many cameras will have other recipes as well, and some allow the photographer create custom ones.

4. Then the camera converts the photo to the target file format, and stores the image. Information can be lost two ways during this stage. If the file format has less "color depth" than the sensor captured, then the image will lose some dynamic range. If the file format is compressed, then (depending on the compression scheme and the amount of compression) image quality may be reduced. A camera that stores images as 16-bit TIFF files typically suffers no loss, but a highly compressed JPEG image might show visible differences (in contrast and color depth). It's a trade-off between image fidelity and file size.

So, what is RAW? Simply put, a raw image is one that is saved straight off the camera sensor (from step 1 above, without any subsequent processing). The camera usually includes additional data about the white balance and recipe it would have used — but that manipulation has to be done off-camera during post processing. In essence, when editing a raw image, you have to do the photo processing that the camera does for a regular image. Today's cameras are getting quite good at automatic image processing, but if you are proficient at using Photoshop (or other such programs), then you might be able to do a better job. If not, then shooting in raw mode won't help you.

Some real advantages of editing RAW images:

- My current DSLR has a 14-bit color depth in each color channel. That is, it records over 16000 increments each in red, blue, and green. JPEG images only store 8-bits per channel (or 256 levels each). When converting from 14-bit color to 8-bit, you lose a lot of in-between shades. Some editing steps are better done before this conversion. If, for example, the exposure was slightly off, one could adjust brightness while more detail is present. One can also adjust shadow or highlight detail so that they persist when converted.

- With the right software, one can try out the camera's different recipes and see which looks best.

- With greater color depth, sharpening algorithms do a better job and produce fewer artifacts. Therefore, judicious sharpening before converting to 8-bit color can yield better results.

- If one is going to make large prints from an image, Photoshop allows editing in 16-bit color depth, so no detail is lost at all. If the target media is web based, however, 8-bit conversion will be necessary at some point.

Some fallacies about RAW images:

"*RAW images have greater resolution*".
That is just plain false. My current camera, for example, can save both in RAW and JPG format in three sizes. The number of pixels (i.e. resolution) is exactly the same in either format.

"*RAW images permit additional editing controls*".
That isn't true either. In Photoshop (and Photoshop Elements), one can "Open As Raw", and the RAW editing controls are present, even if the original image was in a different format.

"*RAW images can correct for improper exposure*".
That is only true to a limited extent. I've seen people claim they can correct for a 2-stop exposure error, but in my experience highlight detail is gone with a 1-stop [overexposure](). No amount of post-processing is going to retrieve it. Trying to recover [underexposed]() shadow detail introduces a lot of noise.

Raw image manipulation is about doing a better job editing a photo in post-processing than the camera can do internally. It doesn't otherwise provide a great advantage. Sometimes I shoot in RAW mode, and sometimes I shoot in JPEG mode. I can get decent photos either way.

Focus

Some cameras have multiple focus points, and you can select which one (or ones) you want the camera to use. Most, however, simply focus at the center. Why is this a problem? Well, remember that [depth-of-field]() extends farther behind the focal point than it does in front. Therefore, one wants to focus approximately 1/3 of the way from the closest point of the pen. That is the best way to get the pen completely in focus.

One option is to use manual focus. Simply turn auto-focus off and do it yourself. Unfortunately, most of us are not very good at focusing — especially those with poor eyesight. The controls for manual focus on point-and-shoot cameras are often difficult to use, which compounds the problem.

If your camera has selectable focus points, and one happens to be at the right location, go ahead and use it. If not, there is a simple alternative.

Autofocus cameras typically have a 2-stage shutter release button. The focus and exposure settings lock in when you press the button halfway down. The shutter doesn't release, however, until you press it all the way. Therefore, you can point the camera so that the desired focus point is in the center of the frame; press the shutter release halfway and hold it there; re-frame the shot how you want it; and press the button the rest of the way. If you are using a [self-timer](), take your hands off the camera, stand still, and wait for it to take the photo.

Chapter 5 - Exposure

Some time ago, I was in the hospital for tests and had to wear a gown that tied in the back - with nothing on underneath. That is not, however, the topic here. No, by "exposure", I mean controlling how bright ones photograph turns out. An overexposed photo is too light. An underexposed photo is too dark. A correctly exposed photograph looks exactly as bright the photographer intended.

Signs of underexposure include:

- Loss of shadow detail.
- An overall dark appearance.
- Low contrast, which produces a dull, or "muddy" tone.

Signs of overexposure include:

- Loss of detail in the highlights — which we call "blown out".
- A general pale appearance.
- Colors look pastel or "washed out".

A correctly exposed pen photograph will show good detail in both the shadows and the highlights, and have rich, vibrant colors.

There are three settings that control exposure in todays digital cameras: aperture, shutter speed, and ISO setting.

Aperture

Just like the iris of the human eye, which opens and closes in response to brightness, the camera lens contains an adjustable "aperture" that controls how much light passes through. A wide aperture setting admits more light; a narrow aperture less. Aperture setting is measured by "f/stop". A lower f/stop means a wider aperture. A higher f/stop means a narrower aperture. Many people find this confusing, as higher values admit less light.

F/stops are numbered in a way that makes sense mathematically, not intuitively. That's because f/stop is a ratio of the lens focal length to the aperture radius (which is why it's called "f/"), The amount of light the aperture lets through is proportional to the square root of 2 so f/stops are conventionally numbered: f/1, 1.4, 2, 2.8, 4, 5.6, 8, 11, 16, 22, 32, etc. Many camera lenses permit adjustments between these values, but each full f/stop increase lets in half as much light (remembering that higher f/stop value means smaller aperture). So (keeping ISO constant), if you want to maintain a given exposure, for each single increase in f/stop, you need to multiply the shutter speed by 2 (double the exposure time).

An important effect of aperture is [depth-of-field](#). The narrower the aperture (higher f/stop), the deeper the DoF. The need to keep a pen entirely in focus will determine which f/stop you choose. I can't recommend a specific f/stop number, as the value you'll need will depend on your camera and lens. Just experiment until you find the aperture that works for you.

Shutter Speed

The camera body has a "shutter", which opens to expose the image sensor to light, and closes again when done. The duration that the shutter is open is the shutter speed. It is measured in seconds (or in a fraction of a second). The longer the shutter is open (the slower the shutter speed), the brighter the exposure.

Slow shutter speeds can lead to blur if the camera or the subject move at all. The general rule of thumb is that to prevent camera blur, the shutter speed must be at least the reciprocal of the lens focal length. For example, if you're using a 50 mm lens, your shutter speed must be 1/50 sec or faster.

Shutter speeds are also typically listed in approximate halving value. That is, … 2sec, 1sec, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/250, 1/500 etc. That way, each change in value is equivalent to one f/stop change in aperture. Just like aperture, however, modern cameras often permit in-between values.

Unless you're using strobe (flash) lighting, you'll probably find that you need a shutter speed that is too slow for handheld photos. In that case, you'll need a tripod (or equivalent) to hold the camera still.

ISO Setting

In film photography, different films have different sensitivity to light. That sensitivity is designated by ASA (American Standards Association) or ISO (International Standards Organization) value. This designation is carried into digital photography as the "ISO Setting", and it is typically adjustable. Higher values result in a brighter exposure. Each time you double the ISO Setting value, you get an exposure change equivalent to one f/stop wider aperture, or to a shutter speed that is twice as long.

That adjustment, however, comes at a price. Imagine you like to listen to two radio stations. One of them is nearby and you receive a clear, strong signal. The other one is distant and the signal is faint. In order to hear both at the same volume, you'll need to boost the weak signal more than the good one. When you amplify it, you introduce noise and distortion.

The same thing goes for a digital camera. Pretend that you take two pictures — one under bright light and one under dim. You can amplify the signal coming off the camera sensor so that the second image is equal in exposure to the first, but you're going to introduce noise and distortion. Just how much get depends on the amount of amplification and the quality of the sensor.

Here are a couple of photos that illustrate the noise that using a high ISO value can introduce. I have friends in the fiberglass business who asked me to photograph one of their projects — a round dormer window frame. They took me to the development where the windows were installed just as the sun was setting. I had very little time to set up and let the camera choose the exposure.

The camera selected an ISO setting of 3200. I knew even before taking the photo that I wouldn't be happy with the result, shown in Figure 5-1.

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Figure 5-1: Image shot at ISO 3200.

Looking at the reflection of the sky in the glass, or at the underside of the fiberglass window frame, you can easily see the digital noise (a.k.a. "pixelization").

So, I went back another day (when the sun was still up) and tried again, this time manually setting an ISO value of 100. That produced Figure 5-2.

Figure 5-2: Image shot at ISO 100.

There's very little noise in the second photo. The reflection in the window is evenly toned, and the fiberglass surface colors look smooth. These aren't pen photos, but the principle is the same. You'll get better pictures with less noise if you stick to low ISO values.

Digital camera sensors are getting better and better. Some suffer very little image degradation, but it's still there. Professional quality camera bodies can handle high values, but many consumer cameras visibly lose image quality at ISO 400 (or even lower). For the best photographs, you'll generally want to use the lowest ISO setting you can. For most digital cameras, that's ISO 100. If you have trouble getting a good exposure at ISO 100, you should first try to add more light. If you can, use a tripod and a slow shutter speed. Increase the ISO setting only as a last resort, and do so sparingly.

Chapter 6 - Depth of Field

Have you ever taken a picture of your latest pen, only to find that can't get the whole thing sharp? No matter where you focus — the nosecone, the clip, or the centerband — some part always winds up blurry?

Figure 6-1: *Focused at the nosecone.*

Figure 6-2: *Focused at the clip.*

Figure 6-3: Focused at the centerband.

If so, you've fallen victim to shallow "depth-of-field".

What is "Depth-of-Field" (DoF)?

Simply put, it is the distance between the closest point and the farthest point in a photo that are both in focus. The greater that distance is, the deeper the depth-of-field.

There is no single correct depth-of-field, but the traditional approach is to keep the photograph's subject in focus, but nothing else. That helps draw the viewer's attention where you want it. In landscape photography, one often wants very deep DoF, so the entire scene is in focus. In portrait photography, one often wants shallow DoF, so that only the subject's eyes are in perfect focus. For pen photographs, one typically wants the depth-of-field to encompass the entire pen — but not more.

I've often seen people recommend you place the pen parallel to the camera body. That's an attempt to get the whole pen in focus within a shallow depth of field. Unfortunately, that means compromising your photo composition to match your camera settings. A better solution is to compose your photo for visual impact and set your camera controls for the desired depth of field.

Depth-of-Field is a Function of Three Things

There are other minor factors, but Depth of Field is primarily controlled by:

Distance
> The farther away from the camera, the greater the DoF. You can't get very far away from a pen though, so increasing distance isn't very useful in pen photography.

Focal length
> The shorter the lens' focal length, the greater the DoF. Shorter focal lengths, however, also yield wider field-of-view. That means you have to get closer to frame your shot, which negates much of the depth-of-field advantage (as well as changing the photo perspective). Therefore, focal length isn't the right tool for controlling DoF in pen photography either.

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Aperture

The smaller the [aperture](#) (higher f/stop value), the greater the DoF. This is the correct way to control depth-of-field.

The above three pictures of this snakewood cigar pen were all taken with a wide aperture (in this case f/2.8) and exhibit shallow depth-of-field. Figure 6-4, however, was taken from the same distance using the same lens, but with a narrow aperture (f/16).

Figure 6-4: Photo with deep depth-of-field.

The entire pen is now in focus. In other words, the depth-of-field fully encompasses the pen.

Don't read too much into the absolute f/stop numbers above. The actual value you need will vary with focal length (which depends in part on the camera you are using) and distance. Just understand that if your DoF is too short, you need to reduce the aperture. And remember that higher f/stop numbers yield smaller apertures.

Camera Features Related to Depth-of-Field

Depth-of-Field preview

Cameras generally focus (or let you focus) with the lens aperture wide-open. That is when DoF is shortest and the image is at its brightest, making it easier to see where the focal point really lies. That does not, however, show you how your photo will actually turn out. To see that, some cameras have a "DoF preview" function. You push a button and the lens aperture "stops down" to the shot setting. Then you can view the final depth-of-field. When switching to a smaller aperture, the image will be darker (although some camera displays correct for that) as well.

Depth-of-Field scale

Many lenses (especially interchangeable ones) have a DoF scale printed right on the top. As you turn the focus ring, the focus distance indicator changes. Right above that are markings that show what the depth-of-field will be for various f/stops.

Focusing

Remember that depth-of-field increases with distance. That means it will extend further beyond the point of focus than in front. Therefore, you should [focus](#) about 1/3 of the way from the front of your pen rather than at the midpoint.

About "Sharpness"

In photographic terms, "sharpness" really means lens resolution. That is, does the lens produce a blurry image, or one with crisp details?. Some lenses are definitely better than others, but none are perfect. They all produce sharper results in the middle of the frame, and less so in the corners. They are sharper at moderate [apertures](#) (typically around f/8) than at minimum or maximum f/stop. Zoom lenses are generally sharpest at their midrange, and fall off at the extremes. Therefore, some people recommend you not use the smallest apertures your lens offers.

Don't let sharpness claims concern you too much though. The effects are minimal — especially if you are taking pictures to post on the internet. Almost all modern camera lenses have much greater resolution (sharpness) than needed for that. Lens technology has come a long way since Willard Van Dyke and Ansel Adams founded "Group f/64". They chose that name because their photographic style favored extremely deep depth-of-field, which they achieved by choosing the smallest aperture on their cameras (f/64). They didn't let sharpness drop-off bother them, and neither should you.

Chapter 7 - White Balance

What color was George Washington's white horse? As the joke goes, the correct answer is "gray" (technically, there is no such thing as a "white horse"). A photographer, however, might reply "it depends on the color of the ambient light". You see, there is really no such thing as "white light" either. The color of sunlight changes throughout the day, and is affected by clouds, shade, and nearby objects. Artificial (incandescent, fluorescent, LED, and strobe) lights are all different colors as well. The human mind, however, is surprisingly adept at taking the surrounding light into account and interpreting objects that we expect to be white as looking white.

What is "White Balance"?

A camera, unfortunately, doesn't know what "white" is supposed to be. It may be quite good at guessing correctly in common circumstances, but frequently gets things wrong in pen photos. To take a properly toned photograph, one has to tell the camera what color the light is. That is termed "white balance"

Improper white balance is the most common problem I see with photos posted in the "Show Off Your Pens" forum. I've constructed some (non pen) pictures to illustrate what choosing the wrong white balance can do to a photo.

Figure 7-1 shows an image containing four photos taken in direct sunlight with different white balance settings. The "daylight" setting is good. "Tungsten" gives the picture a blue (cold) cast. "Cloudy" and "Shade" are close, but slightly on the yellow (warm) side
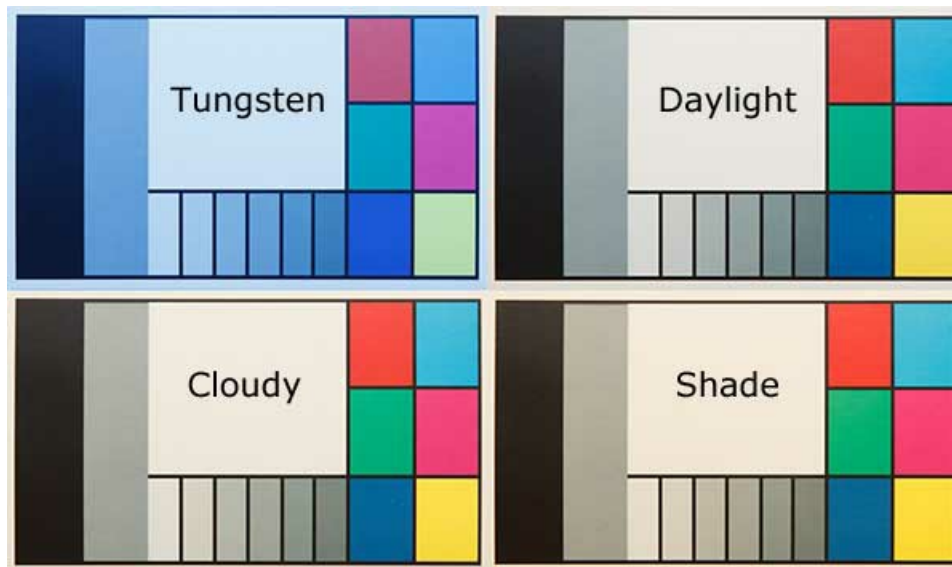

Figure 7-1: Images photographed under direct sunlight.

The photos in figure 7-2 were shot on an overcast day. The "cloudy" setting looks right. "Tungsten" is too blue. "Daylight" is a bit cool. "Shade" is a tiny bit warm.
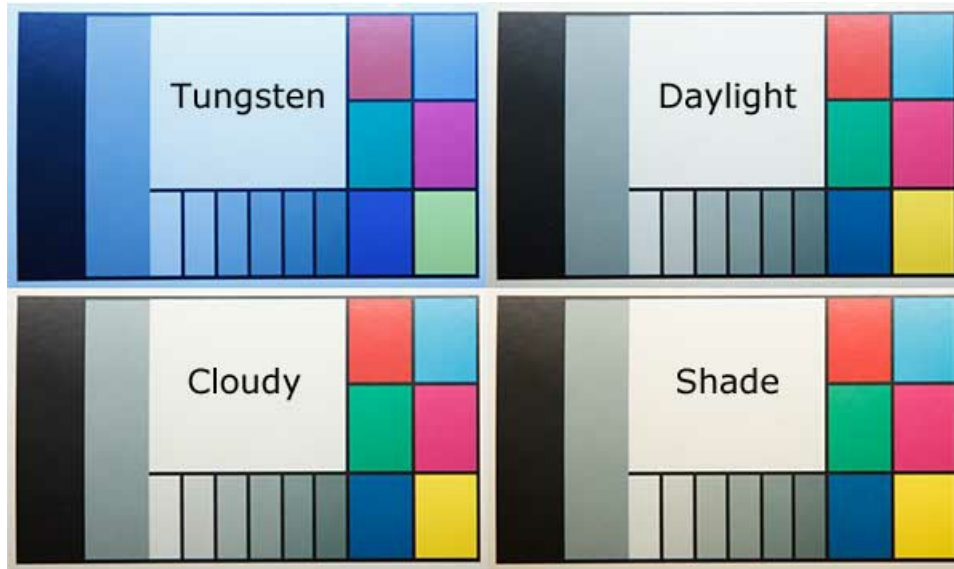

Figure 7-2: Images photographed under an overcast sky.

Figure 7-3 was photographed in the shade on a sunny day. "Tungsten" is even colder. "Daylight" and "Cloudy" may be close, but have a slight blue cast.

Figure 7-3: Images photographed in the shade on a sunny day.

Finally, I moved indoors, and took the pictures in Figure 7-4 under a quartz light. The "tungsten" white balance setting is correct. All the other settings look way too brown.
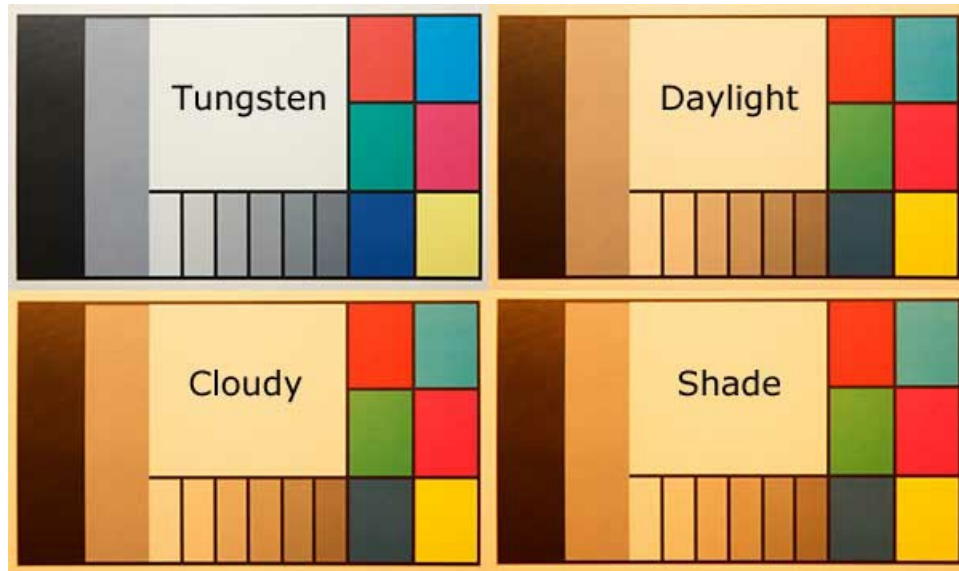

Figure 7-4: Images photographed indoors, under quartz halogen light.

As you can clearly see, the white balance setting makes a tremendous difference. Getting it right is essential to taking a good pen photo. It is often possible to correct white balance either with filters, or in post-processing, but if you set things right up front, you won't have to.

Camera Settings for White Balance

You may have to check your camera's instruction manual to find it, but most current digital cameras (beyond the simplest point-and-shoot models) have a way to set the white balance. Common values include:

Daylight
> For direct sunlight, but remember that the sun's color is not constant. This is an approximate value.

Shade
> For sunny days but when the subject is in shadow. It is really lit by the sky, which gives it a blue tint.

Cloudy
> For overcast conditions.

Fluorescent
> For older fluorescent tube lights which have a distinct green cast. Unfortunately, there typically is no setting for white tinted compact fluorescent light (CFL) bulbs. Future cameras may add that function, but today's CFL bulbs produce varying colors (and spectra) of light.

Tungsten
> This approximates older light bulbs with incandescent filaments or quartz halogen lighting. It may also work for "soft white" CFL and LED household lights.

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Flash

For photographic strobe lights.

Color Temperature

This setting allows you to input a specific value (in degrees Kelvin). That number is based on physics concept known as "black box radiation". A full explanation is beyond the scope of this tutorial — suffice it to say that lower numbers indicate a yellow colored light and higher values represent bluer tints. If you happen to use photographic specialty lights with a known color temperature, you can set the white balance accordingly.

Custom

For the case when none of the other settings quite work out. In other words, typical circumstances. The exact procedure for setting a custom white balance is camera-specific, but usually involves pointing the camera at something neutral toned (such as a sheet of white paper or a "gray card") and taking a measurement. The camera then knows the ambient light tone and sets the white balance for subsequent shots accordingly. I suggest you get familiar with this process, as it is key to proper white balance — especially if you use CFL bulbs.

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Chapter 8 - Perspective

Robert Heinlein once penned "Age does not bring wisdom, but it does give perspective".

Although I like the quote, it has nothing to do with this topic. No, I'm going to talk about photographic perspective. Here are a few demonstrative pictures of a pen patterned after M.C. Escher's "Reptiles".

The photo in Figure 8-1 was taken with the camera very close to the pen (six inches or less). Notice how big the nosecone looks compared to the finial, and how much longer the lower barrel looks than the upper barrel.

Figure 8-1: Photo taken close-up.

I shot the picture in Figure 8-2 from about eight feet away. See how the pen looks fat and stubby. The lower barrel appears short for a cigar-style pen.

Figure 8-2: Photo taken from far away.

And for the photo in Figure 8-3, I placed the camera about two and a half feet from the pen. Now the proportions of the pen look much more natural. The lower barrel is visibly longer than the upper barrel and the other components look normal.

Figure 8-3: Photo with natural looking perspective.

Photographers call this phenomenon "foreshortening", which literally means "shortening of the foreground". Many people say it is caused by the focal length of the lens used, but it is really just a matter of distance between the camera and the subject.

So, what is the right amount of foreshortening? The answer to that is "however much you want". I often see people recommend that you put your camera in "macro mode" and get as close as possible, but that yields a distorted view like Figure 8-1 above. I usually like my pen pictures to match how the pen looks in person. Given that I typically hold a pen in my hand to look at it, that means taking pen photos from the same distance. For me, that's around 2 to 2 1/2 feet away.

When I'm setting up equipment to photograph a pen, I first lay out the pen and props (if any) and then position the camera. As I just mentioned, I most often put it between 2 and 2.5 feet away. Then I'll choose the focal length (either by picking a fixed length lens, or by using a zoom lens) that frames the pen appropriately.

The exact focal length is not important. It will vary depending on the size of the pen, the composition of the photograph, and (particularly) the size of the camera's sensor. Changing the focal length doesn't alter the perspective — just the magnification.

Chapter 9 - Lighting

The Light Tent

If you browse through the IAP library and Pen Photography Forum, you'll find several references to commercial light tents, light kits that include tents, and other things that work as light tents, as well as instructions for building one yourself. There's lots of information on what a light tent is, and how to get one, but nothing about why you would want it in the first place.

So, what makes a light tent desirable? Why do we use them for pen photos? The answer has to do with the way pens (especially the metal components) reflect light. The physics of reflection is actually quite simple.

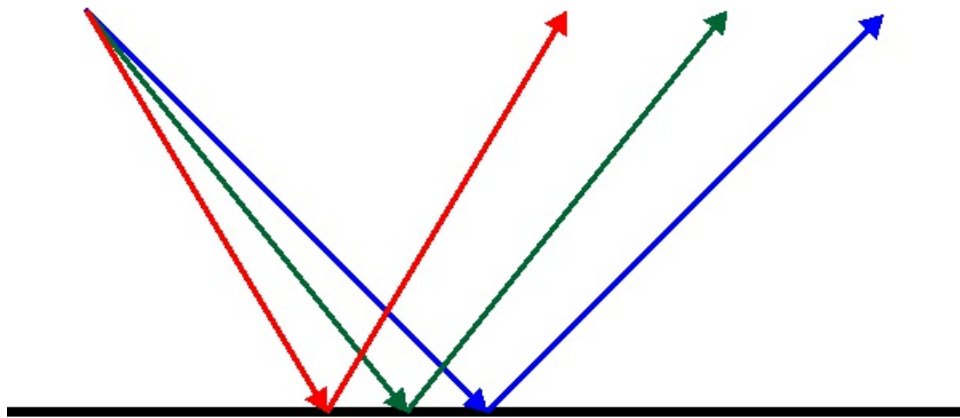*Angle of Incidence = Angle of Reflection.*

Figure 9-1: *Light reflecting off a flat surface.*

That's all. When light strikes a reflective object, it bounces off at the same angle. The actual photographic application, however, can get very complicated. Complicated enough to fill a book - and in fact, many books have been written on the subject. I'll try to be somewhat more brief.

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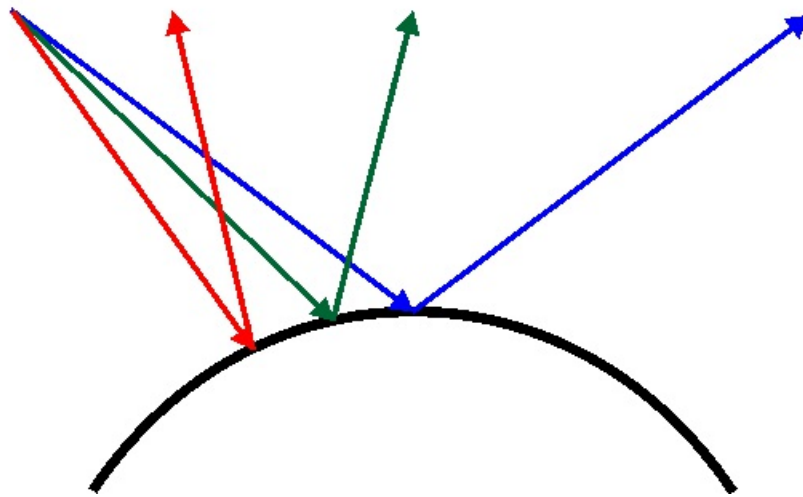Consider how reflection works on a curved surface.

Figure 9-2: Light reflecting off a convex surface.

When light from a single location meets a convex reflector, it is scattered across a wide range of angles. A camera will only see a small portion of it.

Conversely, when looking at a convex reflection, we see (or a camera sees) images reflected from a wide range of angles.
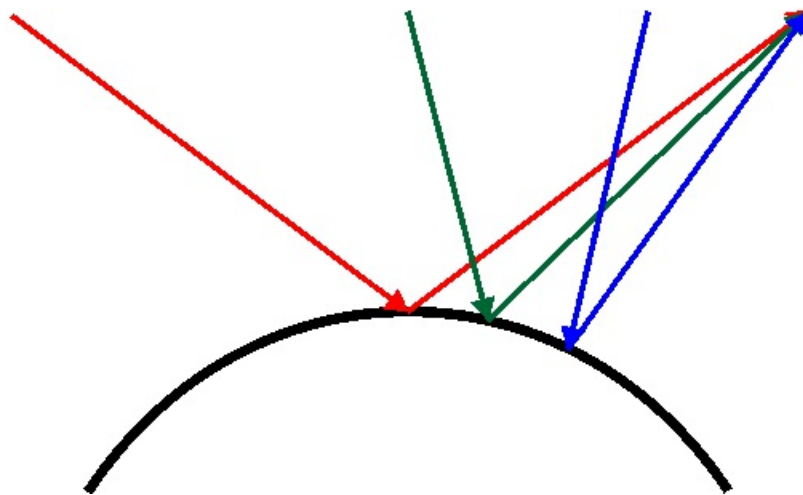

Figure 9-3: Light reflected from a convex surface.

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Figure 9-4 shows a pen (made with segmented amboyna burl, turquoise tru-stone, african blackwood, and aluminum) lit with two studio lights. The primary light is above, behind, and to the left of the pen. You can see the crisp shadow it creates. The second light comes from the front-right side of the photo. It is comparatively dim and serves to "fill in" the shadow.
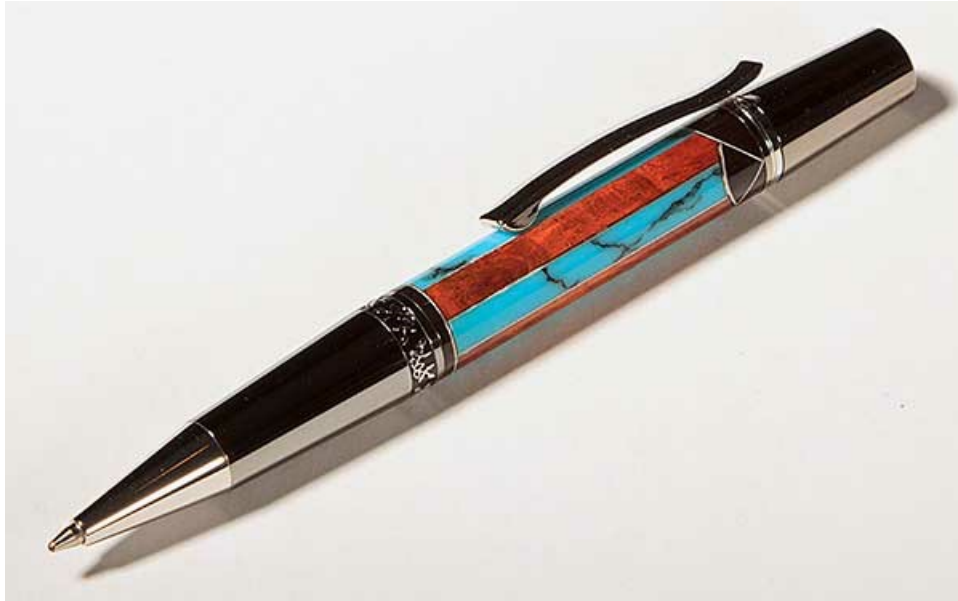

Figure 9-4: Pen photographed under direct lighting.

The pen blank is lit well enough to see, but the curved metal components are nearly all black. Most of that area is a reflection of the unlit studio.

The photo in Figure 9-5 was taken the same way except that the pen is inside a light tent.

Figure 9-5: Pen photographed in a light tent.

A light tent is essentially a dome over the pen that provides (at least some) illumination from all visible angles. This is what photographers refer to as a "large" light source. Note that the shadow under the pen is still present, but it is very soft. Because light strikes the metal components from all angles, some light is reflected back to the camera across the entire convex surface.

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The second photo is not perfect by any means, but it is a much better portrayal of the pen than Figure 9-4. The large dark spots are gone. The detail in the pen hardware is now clearly visible, as is the metal segmentation in the pen barrel.

Simply put, a light tent yields more complete illumination of curved reflective surfaces. That's why we like to use them for pen photography. There are other ways of producing "large" light, but a tent is simple, inexpensive, and practical.

Lights

The simplest and least expensive lighting system around is simply to use available light. Remember, I said that the tent serves as a "dome … that provides illumination from all visible angles". Well, that's a pretty good description of outdoors on an overcast day.

Bright sunshine will yield harsh shadows and uneven reflections similar to the first photo, but a sky covered in clouds produces lighting more like the second.

The weather, however, does not always cater to our schedules. If you want to take pen photos at night, or when it's raining (for example), you'll need to get some studio lights and set up indoors.

Although there is a seemingly endless assortment of lights available, you can take good pen pictures with a fairly simple and inexpensive setup. I have multiple softboxes, monolights, diffusers, and reflectors, but I frequently photograph pens with only 2 low-cost compact fluorescent (CFL) light stands. (which can be had for under $100).

Tip: use the same type and [color temperature](#) bulbs, preferably ones color-corrected for photography (5000-5500K). Let the bulbs warm up for several minutes before shooting so that their color has a chance to stabilize.

More important than the type of lights used, is their placement. Generally, I recommend against using a camera's built-in flash. Direct frontal light is not going to yield the illumination you want for a pen photo. In the pictures above, and in the photography walk-through in the "Practice" chapter, I used two 26W CFL lights on lightweight stands. Continuous lighting (as opposed to flash) like this can help you see the effect of light placement before you actually take the photograph.

If you were to illuminate all the walls of a light tent evenly, you would produce a flat, dull image. Shadows and highlights are necessary visual clues to perceive 3 dimensional objects. The trick is to get the right amount of shadow and highlight in the appropriate places. Toward that end, light location and relative intensity are key.

Backlighting produces a dramatic and attractive shadow in front of the pen, so consider placing the primary light behind and to the left of the light tent.

Figure 9-6: Primary light.

That leaves the front of the pen unlit as well, however, so we need another light to the right and in front. A light of equal intensity, unfortunately, will wash out the shadow we just created. Therefore, we need to dim it down a little, making it a "fill light". That can be done by using a lower wattage bulb, a less effective reflector, a diffuser, blocking the light with a "go-between" (a.k.a. "gobo"), or simply moving the light farther away.

In Figure 9-5 above, I moved the fill light farther away from the tent. The front and right light tent walls were evenly illuminated. That resulted in a pen photo with no "shine line". Although the pen barrel detail is good, the photo lacks highlights that would show the gloss finish.

Figure 9-7 shows a closer light placement, with the addition of 2 go-betweens.

Figure 9-7: Secondary light with go-betweens.

Taping pieces of mat board to the light tent caused the wall (on the inside) to be brighter in one spot than in others. That yielded a highlight on the pen that shows off the glossy finish. This was the arrangement used for the photo in Chapter 1 - Practice.

Don't think that this is the only, or even the best way to position lights. The combinations are endless. Feel free to start with a similar arrangement, but by all means, experiment with the number and placement of lights, diffusers, and go-betweens. You'll be surprised at how much it changes the appearance of your photos.

Chapter 10 - Composition

Composition is one of the most difficult aspects of pen photography. It's certainly the least exact. After all, photography as an art form is highly subjective. What appeals to one person does not to another. What one audience (say professional photographers) prefers, another (such as fellow penturners) may not. Composition has to meet your aesthetic objectives and get your message across while showcasing your pen.

Compositional Goals

So, what makes a pen photo "good"? What do you want your photo to achieve? Generally speaking, one wants to first attract the viewer's attention. Somehow, it has to snag people's interest. Otherwise, they'll just pass it by. Then, it needs to draw the eye into the photo. Once you've got somebody looking, you don't want them to slip away. Elements in the picture should lead them inward, not out of the frame. Finally, the photo should center attention on the subject. You want people to concentrate on the pen, not extraneous objects.

To me, a simple test of a pen photograph is whether or not it makes the pen "look big". I don't know how to quantify that objective, but the best pictures I see on the IAP make the pen stand out. They appear, well, big.

One way (but certainly not the only way) to make a pen look bigger is to zoom in. For example, I've cropped the photo in Figure 10-1 to show only the barrel (which is made from furled sailcloth tied with a turk's head knot).

Figure 10-1: *Photo cropped to just the pen barrel.*

Pen Presentation

To capture a viewer's interest, you need to present the pen in an attractive position. How often have you seen a picture with the pen laying horizontally? That may be the simplest way to photograph a pen, but it is also the least interesting. Horizontal pens look static and lifeless. Vertical pens appear similarly still. In general, placing a pen diagonally will result in a more dynamic image.

Likewise, angling a pen towards or away from the camera gives a greater sense of depth to the picture. It lends the photo a feeling of direction, making the pen seem more active. I frequently see people advising others to shoot a pen straight from the side (to reduce focus issues), but that often makes for a dull image. Don't sacrifice your composition simply to avoid technical concerns.

Figure 10-2 shows a picture of a pen (made from aluminum millings cast in colored resin) placed diagonally in the frame, and turned toward the camera.

Figure 10-2: Pen photographed in a diagonal orientation.

Camera Angle

Equally as important as the position of the pen, is the direction from which you photograph it. Most of us will unthinkingly try to take the picture from directly overhead. Again, this is usually the least attractive view. It yields a sense of disuse and lifelessness. The next most common approach, is a 45 degree downward angle. While generally acceptable, it is also rather ordinary.

I often photograph my pens from a lower, but not quite level, angle. That makes the pictures a little unusual, and therefore more eye-catching. Try shooting from a variety of camera locations, and see what stands out for you.

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Props

It's perfectly OK to take a pen photo without any props at all. In fact, many penturners like it that way. We want to see the pen, not other stuff. It can be difficult, however, to pose the pen attractively without setting it on something. In that case, I recommend keeping the prop simple. You don't want it to distract from the pen. Many of us use clear acrylic pen stands for that purpose. Figure 10-3 shows the "Angels and Demons" pen (a tribute to M.C. Escher) on a pen stand.

Figure 10-3: Pen propped on clear acrylic pen stand.

A popular option with capped pens is to lay the cap flat and prop the other half up on it. That often works very well. For an example, see Figure 10-6 below.

Most professional photographers (and many buyers), however, like to see a pen in some context. They'll recommend adding props such as a bottle of ink, or a letter in progress. There's a lot of merit in such advice, but I'll make two suggestions. First of all, make sure the props fit the theme of the photo. You want them to harmonize with the pen. Second, make them simple or subtle. The goal is to show off the pen. Props that draw the viewer's attention away from the pen don't add to the photo — they detract from it.

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Figure 10-4 incorporates a thematic prop. The pen is made from antler and crushed turquoise. A piece of whitetail deer antler gives the pen context and serves as a stand.

Figure 10-4: Photo with thematic prop.

Notice how the left tine leads your attention from the corner of the photo up to the pen. This is an example of "drawing the eye into the photo" as mentioned above.

Backgrounds

A photograph's background should not distract from the pen. There's nothing wrong with a plain, neutral background. A flat white (or light gray) background is very popular. I often photograph pens on regular white mat board. Figure 10-4 was taken on a piece of brown mat board with a pattern that reminds me of leather. Note that the background is out of focus at the top of the image. That helps center attention on the pen, rather than being a distraction.

A gradient background (one that gets progressively lighter or darker) can also be quite attractive. It adds a feeling of depth to the photograph. You can achieve the effect with lighting, or by using a background material that gets progressively darker. Photo supply stores sell gradient paper for that exact purpose. Figure 10-5 shows a pen made from cast brass shavings on lightly textured gray mat board lit to produce a gradient background.

Figure 10-5: Photo with a gradient background.

Just as with props, a thematic background can compliment the pen. My advice is the same — make sure it harmonizes with the pen and isn't so busy that the background draws attention to itself. Figure 10-6 is an example photograph featuring a pen in the shape of a belaying pin. The pen body is propped up on the cap, and to compliment the nautical theme, it's laying on a marine chart. I picked a chart with subtle colors and detail that would not clash with the pen.

Figure 10-6: Pen propped on cap with a thematic background.

Another very striking option, is to use a reflective background. Clear glass, black acrylic, and mirror surfaces will produce different amounts of reflection. That can both show off more of a pen (areas visible in the reflection), and fill in the image without props as with the "Made in the USA" pen photo shown in Figure 10-7

Figure 10-7: Photo with a reflective background.

The "Rule of Thirds"

The craft of photography has many (sometimes conflicting) guidelines, and one of them is known as the "rule of thirds". Remember, this guideline is not universal, and there are many times when it is better ignored than followed, but it can be useful. Imagine drawing lines across a photograph, dividing it into thirds horizontally and vertically (like a tic-tac-toe game).
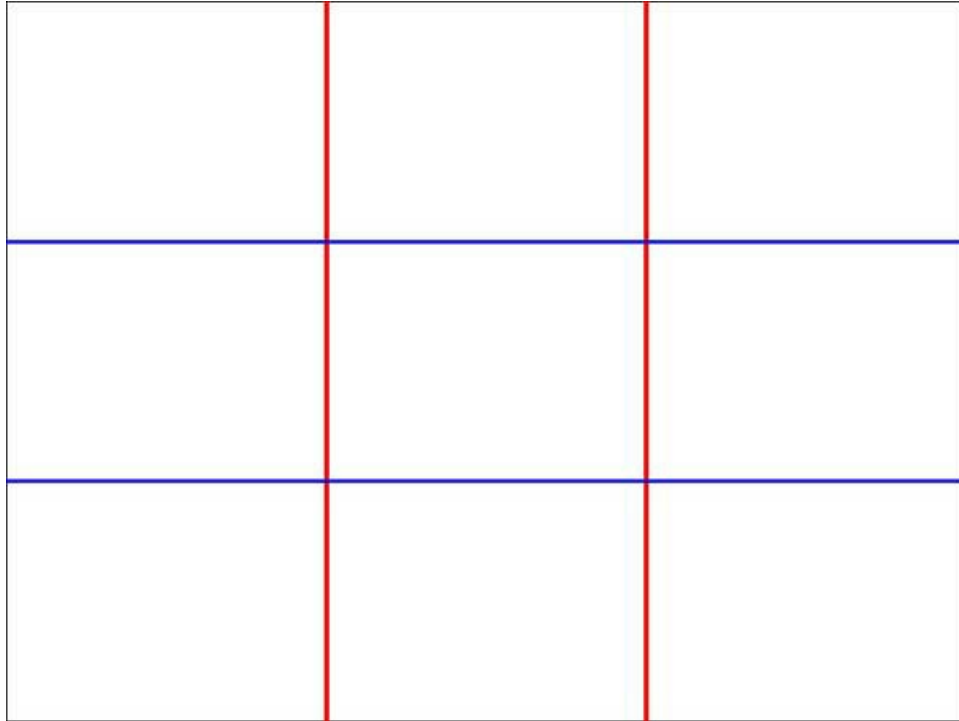

Figure 10-8: *The Rule of Thirds.*

The rule-of-thirds states that a photograph will probably be more interesting if you place the subject on one of the four points where the lines intersect. If your photo has two subjects, then they will likely look best if they are located at diagonally opposite intersections.

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Figure 10-9 illustrates that placement.

Figure 10-9: Photo illustrating the Rule of Thirds.

This is not a pen picture (actually it's poison ivy - so don't touch), but you can see that the two plants are located at opposite intersections. One is 1/3 of the way from the top and left. The other is 1/3 of the way from the right and the bottom.

Employing this rule in pen pictures is more subtle, but I deliberately used it Figure 10-10 below. Notice that the blue swirled pen barrel lies on the upper left rule-of-thirds intersection. When looking at the picture, I find that my eye is naturally drawn to that location. This is an effective way to show off the blank.

Figure 10-10: Pen photo utilizing the Rule of Thirds.

Unrelated to the rule-of-thirds, the nearly horizontal reflection in serves as a "floor" to the composition, which helps keep the eye from wandering off the photo. It also shows off the pattern in the underside of the blank. The background is a reflection of a piece of mat board I set far enough behind the mirror that it's printed pattern would be out of focus. That yields a slightly mottled appearance that is unobtrusive without being bland.

A Little Bit of Everything

Finally, Figure 10-11 shows a pen picture that draws from most of the topics discussed above.

Figure 10-11: *Pen Photo incorporating several of the above elements.*

This is a click-pen made from "re-bar" (steel reinforcement rod used in concrete). It is positioned diagonally across the photo, with the nosecone turned towards the camera. It is shot from a fairly low camera angle.

The pen is propped up on a piece of raw (and somewhat rusty) re-bar for a "concrete worker's pen" motif. The rust adds a little bit of color to offset the completely gray pen. They are sitting on a mirror and I was careful to lay the re-bar such that it wouldn't pull the viewer's attention out of the frame. I placed a concrete block where it would reflect off the mirror and carry the construction theme into the background. It's close enough to be recognizable, but far enough away to be slightly blurred — so as not to distract from the pen. If you imagine rule-of-thirds lines on the picture, you'll notice that the lower-left intersection lies on the bright part of the pen barrel, where the eye is naturally drawn.

The image is perhaps a bit busy, but I feel that it works, and showcases the pen in a way that would appeal to those in the construction industry. What do you think?

Conclusion

I hope that this tutorial has been instructive. Now it's time to use what you've learned and go take some photos of your own pens. Don't be afraid to strike out and try out new approaches. Good luck and have fun.

Sincerely,
Eric Rasmussen, a.k.a. "Sylvanite"