

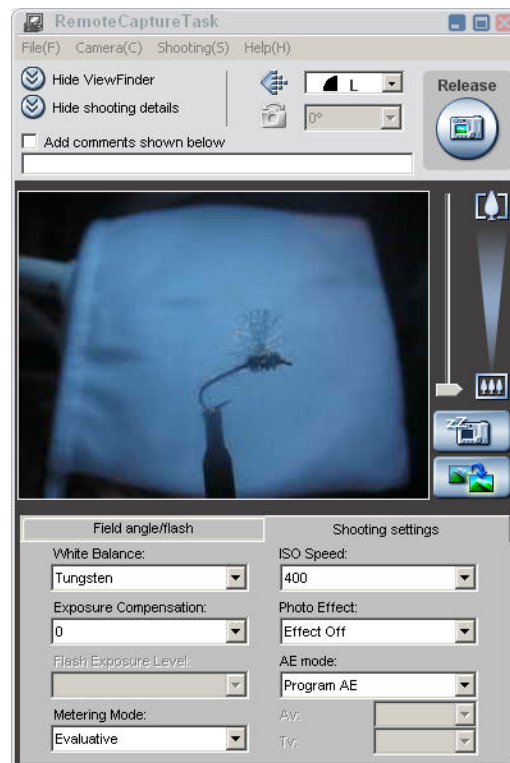
## IMPROVING YOUR FLY TYING TECHNIQUES WITH PHOTOGRAPHY

Carl M. Smolka (carl.smolka@verizon.net)

To improve your tying techniques, it is helpful to inspect your work and for those of us with aging eyesight, small flies can present a reasonable challenge. If you own a point and shoot digital camera and have an interest in improving your tying skills, you can take some reasonable good photographs of your work and using zoom features, inspect and improve upon your techniques. This will also give you the opportunity to add a photo when you share your recipes with fellow fly tiers. As the end game is to get to pictures of flies and not to learn photography, I will avoid the deep dive into the wonderful world of F stops and aperture settings but will share what the automatic settings on my camera indicated after the shot was taken.

I have read a number of on-line articles about techniques for doing this and have fiddled with a number of approaches including light boxes, as well as devices that mount near my tying vise and rotate in and out of position so I could take pictures of the various tying phases or video tying processes, but I was never satisfied with the quality and was not about to invest in a high end digital SLR camera to replace my old 35mm equipment currently collecting dust on the shelf. The problem was simply how to take reasonable pictures of flies with the Canon Power Shot S410 Digital Elf that is usually in my fishing shirt pocket using some of the tools that came with the camera. Unfortunately, this meant actually reading the manual for the first time and learning its capabilities. My first digital camera, a Canon S110 Digital Elf, fell victim to drowning while stocking on the Brighton Dam tail water section. It also had similar features and I will state that I am not knowledgeable on the capabilities of other brands of digital cameras but you may discover yours has similar capability.

Good lighting and a stable camera are critical to a good photo. Use a tripod and some way of triggering your shutter without moving the camera. In addition to doing the normal post processing of images captured by the camera, the software that came with either Canon model included the ability (Remote Capture) to trigger the shutter from a PC. To use this feature, the camera is connected to a laptop with a USB cord and the software task window duplicates the viewfinder on the camera and the application allows control of most camera functions as shown in the two windows below.



To hold the flies in something other than a tying vise, some tippet material is looped over the hook and passed through a small plastic tube which is held about 2" from the front of the lens (the minimum distance this camera can focus) with a small alligator clip on a ball joint glued to a plastic bracket attached to the camera tripod mount. The bottom loop of the tippet is weighted sufficiently to keep the fly correctly positioned on top of the tube. Details of this device are shown in the appendix (Fly holder).

This assembly of camera, tripod, and mounted fly is then inserted into a small (12" x 12" x 12") enclosure that diffuses light. These can be made from sanded Plexiglas, cutting a side out of an empty gallon plastic milk container, or purchased (EZcube™). A lamp from the top and a couple of lamps from both sides mounted on a track plugged into a dimmer switch provide the lighting and a small mirror mounted to the base of the tripod provide some reflected illumination for details on the bottom of the fly. Having a dimmer switch with an adjustable slider allows you to set the brightness and then just switch the lamps on an off for doing the actual shot. If you buy color corrected/ particular temperature photo bulbs with a life span of around 3 hours, minimizing the on time can be a good thing. Details of the lighting and control are also shown in the appendix (Base and lighting). I use Home Depot bulbs.

One camera control has to do with the resolution/compression of the picture and where you ultimately set this is dependent upon how large of a picture with reasonable detail you would like to have as your result. At the largest resolution (2272 x 1704 pixels) and minimum compression (Superfine) on my camera, the file size was about 2 MB and provided sharpness with the fly filling the entire laptop screen clearly showing my talent at crowding the head. With the smallest resolution (640 x 480 pixels) and compression left at (Superfine), the file size was 125 KB and would be acceptable for a 1" x 2" thumbnail for a recipe. The only other controls changed were: Macro function ON, internal flash OFF, ISO at 400 and white balance to the type of lighting (tungsten, fluorescent, daylight) used- tungsten in my case. By increasing the intensity of the light with the dimmer, the F stop (lens aperture) of the camera went from f2.8 to f7.1 (this is a decrease in the size of the aperture (lens opening) and a result determined by reading the properties of the picture taken, not a setting accessible on this automatic camera) which increases the depth of field. Depth of field determines the range of distance from the lens the picture will remain in focus – if you notice that the front of the fly is in focus and the rear a bit fuzzy, you would need to try to increase your depth of field. If, however the background is also in focus with your fly and this is undesirable, you would want to decrease the depth of field and blur the background to make your fly stand out. As a point of reference, all the photos in this article have been compressed to no more than 36 KB. Good luck, good photos, and improved tying.

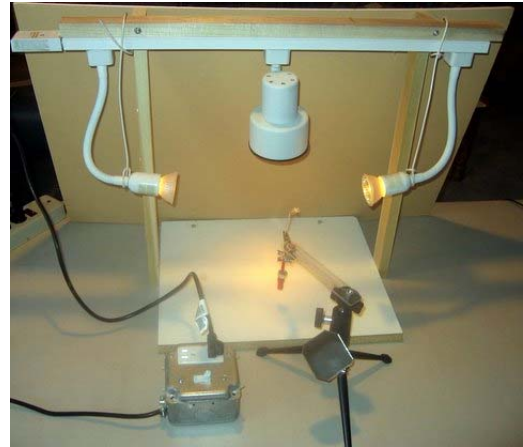


## Appendix: Construction details

**Base and lighting:** A 14" x 16" piece of MDF or plywood forms the base. Two vertical 1" x 2" x 19" pine posts support a horizontal 1" x 2" x 27" pine rail to which the 27" section of lighting track is attached. Two gooseneck fixtures with 50W bulbs and a cylindrical fixture with a 45W bulb are attached to the track. The cord on the end of the track is plugged into the utility box with the dimmer control. This photo shows the 12" x 12" x 12" EZcube™ on top of the base and the tripod inserted through the front opening. This light diffuser could also be made out of pieces of plastic sheet sanded to "frost" the surface or some form of white plastic container that was translucent enough to pass sufficient light.



**Lighting details:** With the diffuser removed, you can see that the lights are positioned to direct light on the fly. To keep the goosenecks from gradually straightening, a couple of pieces of #12 gauge electrical wire are wrapped around these fixtures and the track to hold the position of the lights.



**Light intensity control:** The utility box includes a standard SPST dimmer switch and a duplex outlet. The black wire from the power cord is connected to one pole on the dimmer switch. A black wire connects the second pole on the dimmer switch to one of the two brass screws on the side of the duplex outlet. The white wire from the power cord is connected to one of the two silver screws on the other side of the duplex outlet. The green (ground) wire is connected to the green screws on both the dimmer switch and the duplex outlet. The cord from the track light is plugged into one of the two outlets. The slide on the side of the dimmer switch controls the intensity of light and once set, the lights can simply be turned on and off with the switch.



**Material source:** Harbor Freight Tools had a sale on these gizmos and it provided all of the metal parts necessary to modify the tripod.



**Fly holding arm:** The 1" x 6" piece of 1/8" Plexiglas was drilled with a 1/4" hole on one end to fit over the camera mounting screw and drilled with a 7/16" hole on the other end to accept one of the larger ball bases from the gizmo to which the pivot bar and alligator clip attach. I heated the ball base with a torch and pressed it into the 7/16" hole which provided sufficient adhesion. A 3/8" strip of the same Plexiglas was super glued, on edge along the bottom center to stiffen the strip. One leg of the tripod was drilled and tapped to accept a 10-32 x 1/2" machine screw to which one of the smaller ball bases from the gizmo was attached. To this ball base, a second pivot bar and ball are clamped to hold a 2" x 2" plastic mirror used to reflect light upward on the bottom of the fly.



**Fly holder:** The fly holder was made from a 3/32" OD single wall plastic fly tyer's tube (HMH, Brunswick ME) through which a loop of tippet material was pulled using a bobbin threader. On the bottom, a test clip adapter (Radio Shack 270-3348) is clipped to provide tension on the tippet loop. Slipped over the test clip adapter is a single 3/8" hex nut. Depending on the weight of the fly, additional nuts can be added. One could also use hackle pliers, a hemostat, a spring, a rubber band or other items to provide tension. These clips were fairly cheap, easy to attach and will accommodate 1/4" hex nuts as well.

