



Small Shop - Big Results

Take Great Shop Photos – Part 2 (Close-Ups)

By Chuck Behm
Central Iowa Chapter

When it comes to illustrating technical articles with photographs, good close-ups shots of the subject matter in question are indispensable. How to get good close shots of the intricate details of shop work is the focus of this segment of this series.



Photo 1: A good close-up shot



Photo 2: Not so much.

As illustrated in the above photos, there are techniques which work in taking close-ups, and those that don't. The fine detail of the important subject matter is in sharp focus in photo 1 above, while in photo 2, everything is fuzzy. What makes the difference? How can you get good, clear close-ups every time? From a very non-technical point of view, I'll describe what works for me.

As far as the best camera to use, for close-up work, I would recommend a good quality compact point-and-shoot, such as the camera on the left in Photo 3 below.



Photo3: David and Goliath

For a fraction of the cost (\$120 compared to \$2600 for the camera on the right) you can get close-ups every bit as good with the small camera as what its big brother will produce.



Photo 4: Mercury dime with point and shoot



Photo 5: Any better with the big camera?

If you're skeptical about that claim, judge for yourself—the photo on the left above was taken with the little point-and-shoot, while the photo on the right was taken with the big Canon. If anything, the face of the dime in the shot taken with the small camera has more detail – as does the fabric background the dime has been placed upon. This isn't to say that a small camera is the best choice in all situations. If you're going to take a shot of a piano on stage at an outdoor concert, leave the point and shoot at home, and take your big gun. Same for a group photo at a meeting in your shop. Anything further away than a few feet, and you'll appreciate the light-gathering power of a larger camera. But when you get up close to a small target, a bigger camera and lens will not mean better photos.

Armed with the right equipment for the job, how does one go about making the most of the capabilities of a little camera? First and foremost, for close-up shots, get close (really close) to the subject matter being photographed (Photo 6).



Photo 6: Up close and personal

For most of the close-up photos I've had in the Journal I have the lens of the camera less than 6 inches away from the subject matter. For really small subjects, I'll have the lens just as close as I can get it without losing focus—usually at a range of a mere 2 or 3 inches.

I'm sure some of you are thinking, "Why not take the photo further back and crop it?" The answer is the degradation of the resolution you'll get in the cropped photos with every increase in distance. Here are three shots of the same subject, taken from three distances, and the corresponding final photos (with Photos 10 and 12 being cropped).

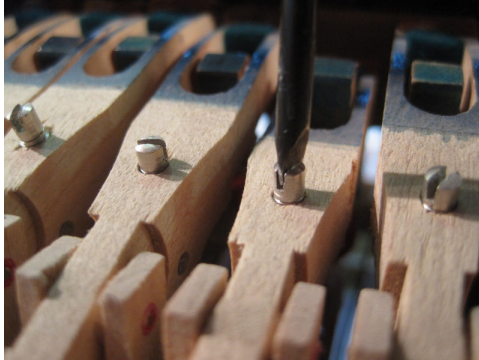


Photo 7: Taken from 3" out – 437 KB



Photo 8: Uncropped – 437 KB



Photo 9: Taken from 9" out – 508 KB



Photo 10: Cropped – 22 KB



Photo 11: Taken from 18" out – 519 KB

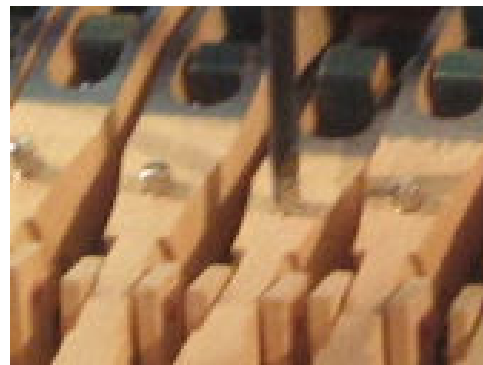


Photo 12: Cropped – 14.3 KB

The cropping was done on Picasa 3, with the Export to Folder setting on an Image quality of Maximum (Very large files, preserves fine detail). Obviously, setting the image quality at a lower setting would result in the end product going from bad to worse. Of course, if you were to take the photo from an in-between point, say 6”, and do just a bit of cropping, the deterioration wouldn’t be as drastic, but the direction of image quality would still be going in the wrong direction.

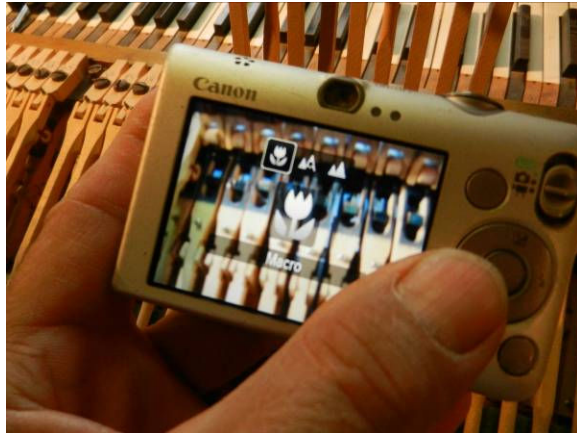


Photo 13: Macro setting

For a photo taken at close range, set your camera on its “Macro” setting (Photo 13), and zoom out (lens retracts). Don’t zoom in (lens extends) or the photo most likely will go out of focus.

This segways into another question – that of taking the photo from a greater range, but zoomed in. This will actually work, but I would only recommend it if you’re using a tripod. If you’re holding the camera by hand (such as shown in Photo 6), and especially if you’re taking the shot with one hand while doing something else with the other, getting in close to the subject matter makes it easier to get the shot, in that you are less likely to have a photo with the shakes (Photo 14).

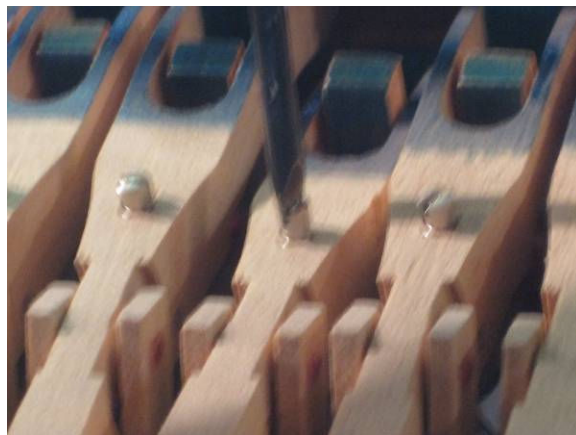


Photo 14: The shakes.

Even with image stabilization technology, it’s hard not to have the “shimmies” when shooting a close-up from a greater range. The further out the camera and the

smaller the focus area, the greater the problem with keeping the target centered and still. (This is similar to the difficulty in holding a pair of binoculars still while looking at an object a long ways away. Slight movements in the binoculars result in large swings of the field of vision.)

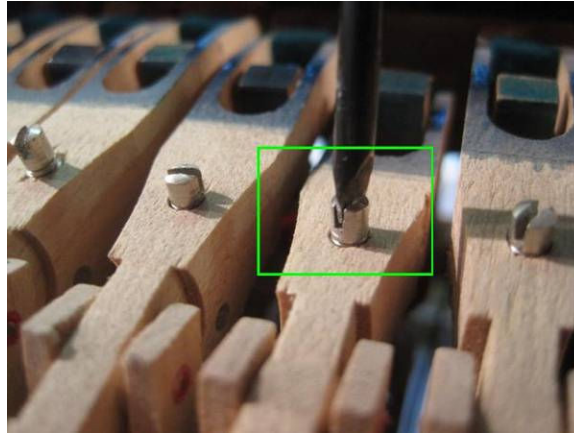


Photo 15: Ready. Aim. Fire.

When focusing your camera, hold the shutter down halfway while the lens adjusts, and make sure it is showing the focus to be on the intended target (Photo 15). If not, release the shutter and try again. Then, when squeezing the shutter, do so with an easy finger, not a stabbing motion (imagine you're a sniper in a tree, gently pulling the trigger—not Rambo spraying bullets as he's leaping through a window). If you have trouble with this, set your camera on 2 second delay, then focus and shoot. (It's helpful if you hold your breath while the shutter is being tripped.) Whatever method you use, if you are using a small camera with a small viewing screen, be sure to put the photos on your computer and blow them up to double check focus – sometimes they'll look good on the small camera screen, but be a bit blurry on the computer screen, and need to be reshot.

The other setting I would recommend for close-up work (in fact for almost all shop photographs), is the “flash off” setting (Photo 16). Whenever possible, use multiple light sources (uncovered windows, overhead lights, spot lights set at various angles) for illuminating your subject matter, and don't use the flash.



Photo 16: Flash off.

The trouble with using the camera's flash is that the resulting photo will often have deep shadows, and tend to be washed where you want the greatest detail. Compare the flash photo below (Photo 17) to the same shot taken without the flash (Photo 18). Notice the grain of the wood of the repetition levers disappears under the glare of the flash. Not so with the less intense lighting – a greater amount of detail and texture show.

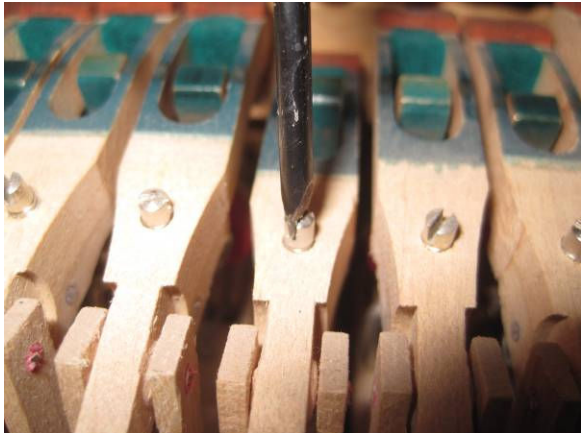


Photo 17: Flash



Photo 18: No flash

To make it clear my feelings on the topic, let me just say that in the entire run of the Small Shop series, there is not a single photo which was taken with a flash setting.

One final positive aspect of taking close-ups at a close camera range is the greater emphasis that you will obtain on the intended subject of the photo. Look over the following set of photo, and see if you see what I'm talking about (before you continue to read, please).



Photo 19: Focal point well established.



Photo 20: Focal point unclear.

In Photo 19 the lens of the camera was about 3" from the subject matter (the screw being turned in with the flange screwdriver). Photo 20 was shot from a range of 18" and cropped down to a similar area of view.

Besides the obvious difference in image quality (look at the surface detail on the head of the screw in the photo to the left – it disappears in the photo on the right), notice the screw in the background which is partially turned out. In Photo 19 it's out of focus,

while in Photo 20, it's as focused as the screw and screwdriver in the foreground. Why is this important? Because in the photo on the left, you instinctively know what you're supposed to be looking at. In the photo on the right, it's more of a question. Have you ever been handed a photograph to study, where you have to ask, "What am I supposed to be looking at here?" Too much detail in focus can make it confusing what's important and what's not.

Why does this effect occur with the closer camera range? In Photo 19, the background screw is nearly twice as far away from the lens as the screw in the foreground. To the camera, it's way out of range. In Photo 20, taken at a range of 18", the background screw is only a fraction of the distance further away ($1/6^{\text{th}}$) to the camera, they are pretty much in the same spot.



Photo 21: Capstan close-up

To show you just how nicely this effect works, consider Photo 21 of a polished capstan. With the background blurred (you can still make out the wire brush to clean the wings of the capstan) it's clear that the focal point is the capstan itself. The eye is automatically drawn to the clear image of the brass, and only later notices the background details.

If you find yourself in the Midwest, be sure to stop by. The coffee pot is on.

Chuck Behm is the owner of River City Piano Restorations in Boone, Iowa. He can be contacted at behmpiano@gmail.com.