Macro and Close-Up Photography

Notes

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Developed for the
Park West Camera Club

Equipment

There are many ways to achieve macro and/or close-up photographs:

- Many cameras with built-in lenses have a close-up/macro feature in the camera. It has limitations but will get you great shots without spending the big bucks.

- Many lenses used with interchangeable-lens cameras are able to focus with-in a few feet of a subject either by simply rotating the focusing collar to its closest setting or by pushing a button or turning a dial to enter the close-focus mode.

- For the best opportunities you will have to spend more money to buy macro/close-up equipment. In order of low to high price, they are:

- Close-up filters, also known at close-up lenses or lens diopters, attach to the front of your lens using the screw threads (usually) on the front of most lenses;

- Tele-converters, also known as tele-extenders, have glass elements inside their tubes. They fit between the lens and the camera body. They reduce sharpness and cut down on the light reaching the sensor.

- Extension tubes are hollow tubes that fit between the lens and the camera body. They do not noticeably reduce sharpness or light levels. They do prevent the lens from focusing at far distances.

- Macro lenses are the most expensive way to achieve macro photos, but they offer the best image quality.

Camera Settings

There are several things you must realize when taking close-up and macro shots.

- the closer you get to the subject, not only the greater the magnification of the subject, but the greater the magnification of any movement (camera shake, subject motion, etc.);

- the closer you get to the subject, the shallower the depth-of-field (DoF) at any given f-stop (aperture);

- the closer you get to the subject, the more difficult it becomes to light that subject.

Aperture — the aperture you will need to use is usually midway between the largest and smallest openings on the lens. After you take a few practice shots, check the DoF on the camera's LCD screen. You may then adjust the aperture to achieve greater or shallower DoF to meet your needs or taste.

Shutter Speed — the shutter speed you will need to use must be fast enough to freeze any motion in the image (this can be movement of the subject and/or movement of the camera). There are several ways to achieve this. First, use a tripod and cable/remote release to eliminate camera movement. Second, use a faster shutter speed. To do this you might have to raise your camera's ISO setting. Just remember, the higher the ISO, the more electronic noise you introduce into the image. Use your judgement to determine when enough is too much. Third, use flash to freeze the motion. Just be careful that shadows caused by the flash and the lens don't cover the subject. A camera's built-in flash, nor a flash in the camera's hot shoe, provide good lighting when you are near your subject. Specialty brackets and macro-flash (ring lights) can help in these situations.

Shooting Tips

- Chuck's rule #1 for all photography — Y*ou are never in the right spot to take the picture!* Therefore, move around. Move left and right. Move higher and lower. Move in and out. Move all the way around the subject. Etc., etc., etc.

- Try to compose the subject and get the proper exposure **in the camera**. Yes, you can "fix it in Photoshop." But you're better off getting it correct in the camera.

- Practice at home using small, non-moving objects, like coins, stamps, jewelry, child's toys, whatever, before you try to shoot a flower waving in the wind, or a butterfly or just about anything else outdoors. It's like the old joke about getting to Carnegie Hall—the punchline is "practice, practice, practice."

- Adjust your settings to get what you want. Check your LCD screen often. Look at the histogram to make sure there is minimal over-exposure. *Expose To The Right*. Turn on the "blinkies" for the same reason. Zoom in to the maximum image size to check for exact focus.

- Separation from the background is always a good thing in a photograph. Because of the extremely shallow DoF, backgrounds will be out of focus. But don't forget to check that there are no distracting bright spots or attractive colors to draw your eye away from the subject.

- Although not as important as in other kinds of photography, don't forget the rules of photographic composition (including, but not limited to, the rule of thirds, mergers with borders, overlapping of subjects, and the list goes on).