

PHOTOGRAPHY FOR WOODTURNERS

by
John Beaver

This article first appeared in *More Woodturning Magazine*, August 2016
Thanks to Dennis Daudelin for his help with the editing.

Editor's note:

Before starting woodturning, John Beaver was a professional photographer and motion picture cameraman/director shooting mostly TV commercials. He specialized in product-driven commercials such as toys, food, and electronics. This was very helpful when it came time to photograph his woodturning pieces. We appreciate John's willingness to share his photographic expertise as it relates to woodturning with us.

Introduction:

Taking good photos of your wood turnings is difficult but important. Whether you sell your work or give it away, often the only reference you have left is a photograph; so you want that photo to be as good as possible. If you are entering craft shows or juried competitions, it is imperative that you have good photos to represent your work in the best possible way. Learning to take good photos can be as challenging as learning to be a good turner. Some of the information here might sound like a foreign language, but I hope you can read through this tutorial and get a basic understanding of the concepts involved in product photography and learn some tricks to improve your photos.

First, I'll review the components you need to get started and how they work; then, I'll discuss how this applies to woodturning. There is a wide range of equipment available at a wide range of costs. It is not necessary to purchase professional level equipment to achieve good results. The four basic pieces of equipment needed are a **camera, tripod, backdrop and lighting**.

Camera:

Digital cameras today are very capable and almost any current camera will be able to get you good results with a few simple adjustments. I will address camera settings below for those of you who wish to take more control over the image, but for those looking for a simple way to shoot there is a great trick for digital cameras. Because the camera wants to average the exposure of everything in the frame, it can be a challenge to make a dark piece bright enough or a light piece dark enough. On top of your camera, or through the menu, there should be an Exposure Value (EV) dial. This dial will have settings from -2 to +2 or greater. Basically you can point your camera at your subject and then adjust the EV up or down until the exposure looks correct. In my opinion, this is the fastest, most efficient way to quickly adjust a digital camera, and not just for wood turnings.

If you prefer to take a little more control over the image, here is some basic information on the more in-depth settings. If this seems overwhelming, just skip down to the section on tripods and read from there.

ISO:

ISO controls your camera's sensitivity to light and is the first thing you should set. The higher the number, the less light you will need. The consequence is the higher the number the grainier or more "dirty" the image will become. Some modern digital cameras can achieve ISO numbers over 16,000 and still look sharp. You will have to determine your camera's capability, but I would recommend staying below ISO 1,600 for most cameras.

F-Stop:

There is a diaphragm in the lens that opens and closes to let light through the lens to the sensor (think of the pupil in your eye). The larger the diaphragm hole, the more light will be allowed through. The typical f-stop scale ranges from f1.4, f2, f2.8, f4, f5.6, f8, f11, f16, f22 and beyond. The smaller the number, the wider the hole--so if it's dark you need a small number, if it's bright you need a bigger number hence a smaller hole to let less light through. The most significant consequence of changing the f-stop is that as the number gets smaller the depth-of-field also decreases. More on depth-of-field later.

Shutter Speed:

Shutter speed is the time the shutter is open to let light through. The less light you have, the longer the shutter needs to be open. You need to balance the shutter speed with the f-stop to get the correct exposure for your camera. Generally speaking, when shooting wood turnings you will end up with a longer shutter speed--in the 1/15 to 1 second range.

Lens:

Whether you are using a zoom lens or a fixed focal length lens, choosing the right lens is important. I recommend a medium focal length in the 50mm-100mm range. Any wider and you will have issues seeing off the edges of your backdrop; any longer will bring a greater challenge in controlling the shot.

White Balance:

What exactly is "white-balance?" If you heat a pure black body (think charcoal in your bar-b-que) as it gets hotter, the color will change starting with reds and yellows and eventually turning to blue. Light sources put off similar colors that our eye automatically adjusts for, but cameras can't. Indoor lighting runs where the black body would be in the range of 2500-3200 degrees kelvin, emitting a fairly yellow hue. Direct sunlight is 5600 degrees kelvin, which is medium blue, and shade with the reflection of the sky can reach up to 9000 degrees kelvin. Setting the white balance adds filters in place that correct those color differences to the base settings of the camera. For the most part, digital cameras can automatically make that correction, so leaving your white balance setting in auto is usually your best bet. Otherwise, you need to match the settings in your camera to the corresponding lighting situation. ***The main consideration here is, if you are using more than one light source, those lights need to be the same, or similar color temperatures.*** If you were to place an indoor light on one side, and let the sun hit the other, the camera will not know which light source to correct to and you will end up with a blue or yellow cast on one side of your piece.

Depth-of-Field:

Depth of Field is the amount of image that is in focus in your picture. Terminology wise, large DOF means more of the picture depth is in focus, while shallow DOF means less of the picture depth is in focus. The things that affect depth-of-field are f-stop, focal length, and distance to subject. As I mentioned before, the higher the f-stop number, the greater the depth-of-field. Generally speaking, wider lenses have greater DOF than longer lenses. (This actually gets more complicated than that, but photographers use this to their advantage when shooting portraits to make the background look soft and fuzzy. Simply speaking, a longer lens will compress the background creating that nice soft look.)

Unfortunately for wood turners, as we get closer to the subject the depth of field diminishes greatly. When framing an 8" bowl it is possible for the front of the rim to be in focus and the back of the rim to be out of focus.

So how do we fix that? The first thing to do is make the aperture smaller (larger f-stop number, like f8 or f11). The second thing to do is move the camera back a bit and then crop the image in your computer. The last adjustment (and this is kind of tricky) is to roll the focus towards the back edge slightly. At any given focus distance, whatever the DOF is, 1/3 of that will be in front of the focus point and 2/3 will be behind the focus point. So if you have 1 foot of DOF and your bowl is 12" deep, focusing 4 inches past the front rim will bring the front and back rims into focus. This is very difficult to control without using an SLR with a manual focus lens. If you want to learn more there are charts and apps available that will tell you exactly what your DOF is at any given combination of settings.

Ideal Settings: Here are my recommended settings for shooting wood turnings.

Low to Medium ISO - 200 to 800

High aperture setting - f8 to f16

Adjust shutter speed or use aperture priority mode and adjust the EV

Medium length lens - 50mm to 100mm

Auto White Balance

Tripod

Because the lights most of you will use for shooting your pieces will require a slower shutter speed, you will need a tripod to make the camera steady. You don't need a fancy expensive tripod, but you do need one. If you are concerned about moving the camera when pushing the shutter release, you can either purchase a cable release or remote control, or just set the self-timer on the camera, take your hands off and let it work.

When setting up the shot with the camera, the best height is one that shows the profile of the piece as well as a little of the top. For bowls I like to be just high enough to show the back rim while still favoring the profile.

Backdrop

The options here are endless, but I highly recommend using either a neutral gray, or a graduated photo backdrop. The cheapest method is to find a nice gray piece of poster board at your local drugstore for a couple of dollars and tape it to the wall creating a small cove. A #09 Varitone Graduated Vinyl Backdrop (white into black) will run you around \$50.00 at Amazon or most professional camera stores (these graduated photo backdrops scratch very easily, so handle them carefully). You could even use a sheet off your bed, but please smooth out the wrinkles.

The primary goal of the backdrop is to enhance your turning. While a specific color may help a singular piece, it could detract from another piece. Blacks and whites work well with most wood, but they have inherent challenges, where grays tend to be the most forgiving. The advantage of a graduated backdrop is it helps give the photo a feeling of depth. Notice the difference in the following photos.



Lights

It is almost always best to light products with a large light source. For most wood turnings, a square 18" to 24" frame of diffusion should work great. The easiest way to move the light around is to have a soft-box mounted on a tripod. Unfortunately, these can get fairly pricey, but you can always make a frame with PVC pipe and attach a white sheet or other diffusion material and accomplish the same thing. Below are some sample set-ups to help give you ideas.



Professional soft-box mounted on tripod.



I keep this box on a shelf in my shop. It doesn't allow for much adjustment but it is a super fast way to get a quick shot. The box is 27" x 27" I placed a graduated back-drop inside and cut a hole in the left side with diffusion taped over it. It doesn't take a fancy light to make this work. I will talk about the white reflection card later.

Lighting:

Lighting is the most important element of photography; and the most difficult. When shooting turned objects, there are four main goals:

1. Make the object bright
2. Make the object attractive
3. Give shape to the object
4. Give depth to the photo.

The challenge is to take a 3D subject and make it appear 3D in a 2D environment. Let me take my points and break them down individually.

1. Make the object bright.

If this was the only goal, we could just use the flash on top of the camera and take the picture. The problem is this would leave you with a very flat looking photo or a harsh reflection from the flash in the center of the piece.



Direct flash showing harsh reflection.



With flat lighting the bowl has no depth

2. Make the object attractive.

We need some kind of light to make the object bright, but how do we make it attractive? When a light source hits your turning it is going to reflect off the turning and generally leave a highlight somewhere on the piece. So now we do what I call “fishing” with the light. Move the light around until the highlight is in a pleasing place while still showing the grain and beauty of the wood. If you have a flat or open bowl, this is fairly simple, as the highlight will tend to reflect down onto the table, but if you have a small closed-rim vessel, or hollow form, the highlight will want to reflect directly into the camera; so you have to move the light around until you find the most pleasing spot to place the highlight. So where is the most pleasing place for the highlight to be? Generally speaking, I like to place the highlight in the upper left corner of the piece. If I do this with a rectangular light, it looks like the piece is sitting next to a window, and the highlight becomes very natural. We’ve all seen the classic drawing of an apple where they have drawn a highlight in the upper left corner. Placing the light approximately 90 degrees from the camera is a great place to start to accomplish this.



The white highlight gives the apple shape.



Notice how the light looks like a window reflection.

3. Give shape to the object.

The reason placing the light straight in front of the subject makes it flat, is the lighting is too even. To give shape to a round object we need to have darker and lighter sides, and a little shadow. By placing the light 90 degrees to the camera, we end up with one side of the turning brighter than the other and a visible shadow on the table. Allowing the piece to have one side brighter than the other helps give it that round feeling. Consequently, the shape of the shadow helps the viewer’s eye see the depth of the piece, enhancing the feeling that it is round.



With the light next to the camera the highlight is too close to the front of the bowl.



Highlight in appropriate place - notice light is 90 degrees to the camera



Same as above but light was raised to diminish the reflection.



But what if the dark side is too dark? The obvious solution is to place a second light on the dark side, but I find the highlight from the second light is distracting and I don't like having two shadows on the table. I prefer to only have one highlight, so I use a white card (poster board or foam core board work great for this) and place it opposite the light to reflect the light back onto the piece. This allows me to brighten the dark side with a much softer reflection.



White card reflecting light onto dark side. Notice how it brightens the bowl without adding a second shadow.

4. Give depth to the photo.

Trying to make a photo have depth is a constant challenge for photographers. In the simple environment of a set-up for wood turnings, this is particularly difficult. Allowing the shadow to be visible in the shot helps, but the easiest way is to use a graduated backdrop. The graduated backdrops start light and fade to dark giving the impression of depth. If you don't have a graduated background, blocking some of the light off the background behind the vessel will also help add depth to the photo.

Here are four more tips to help you achieve the best results when photographing your turnings:

Tip #1: Dust your piece before taking the photos. The camera will show dust that your eye can't see.

Tip #2: Make sure your photos are straight and level. Most photo programs will allow you to adjust the horizon if you've shot it crooked.

Tip #3: If you really want the light reflection to feel like a window, put 2" wide black tape in the shape of window mullions on your diffusion frame. This will make the highlight look exactly like a window.

Tip #4: If you have a piece that you are going to finish super glossy, it might be easier to take pictures of it before it gets too glossy so the light reflections are softer.

I hope this article gave you a basic understanding of the most common principles of photography and how they apply to photographing your turned objects. Experiment with these ideas and see how they can improve your images!

GOING THE EXTRA MILE

Sometimes it is appropriate to take your turning off the backdrop and place it in an environment. Choosing the right scene can help the viewer quickly understand the intent of your piece.



This is a nice shot of a Norfolk Island Pine vase by my friend Dennis Richardson



Lighting the same vase from the inside makes the shot more dramatic and highlights the translucence.



Using lighting to highlight the negative space



Placing the ring on a hand to show size



Using a beach scene to showcase this “wave” bowl



A side angle adds definition to this piece



The setting sun and ocean add drama to this simple “wavy” sculpture



Placing these turned mushrooms in the grass helps identify them quickly



The warm fire is a perfect contrast to this snowman



The marble walls of the Getty Museum were the inspiration for this bowl

This is a complimentary copy of this article and not for
distribution without written consent of the author.

John Beaver, 2016