Reflecting about Reflections

How professionals photograph shiny objects

BY JOHN SISKIN

The basic principle behind shooting very reflective subjects, from motorcycles to jewelry, is the same: you need to light what the subject reflects more carefully than you need to light the subject itself. Think of the subject as a mirror and you'll understand why.

So the basic tool for lighting a reflective subject is basically a white room, which photographers call a "tent." The tent is a white translucent container; because it is larger than the subject, its surfaces can be evenly lighted. You can use many kinds of tents. The one I use, for small objects, is a clothes hamper from Ikea (the Skubb, in Ikea lingo). When I shoot a large reflective subject such as a motorcycle, I need to create a very large tent.

I do this with white seamless paper, the same stuff used for backgrounds.

There are a variety of ways to light a tent. Small tents usually are lit from the outside. But if you are using a large tent, you may actually have the lights inside the tent. In addition, you do not have to light a tent evenly; you can light from one side to create gradation. If you light from inside the tent, its material doesn't need to be transparent because light will bounce off the inside of the tent. Note the set-up for the motorcycle shot (Figure 1). You can't even see the subject very well from outside a tent; the idea is to let just the camera into the white space of

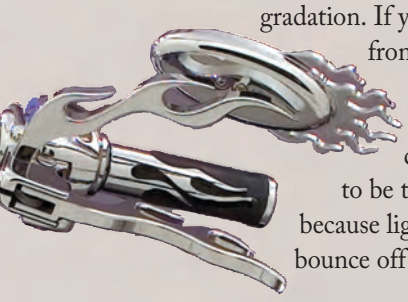

Figure 1. Motorcycle, diagram, and setup

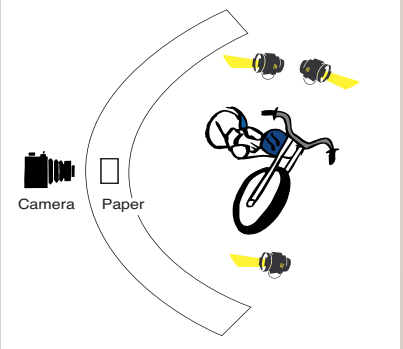

Figure 1. *The final shot of a Harley Davidson motorcycle. Because of the chrome and shiny paint, this subject requires special care in lighting. You can see from the diagram (illustrated on the left) how the tent is built around the bike.*

Figure 2 and setup

Figure 2. *This silverware is lit with light directly from a strobe. The light is harsh with very poor midtones.*

Figure 3 and setup

Figure 3. *Here the silverware is lit by a 3×3-foot soft box. The silverware shows some gradation and the shadows are better. The reflection of the soft box is obvious in the bowl of the spoon.*

Figure 4 and setup

Figure 4. *In this shot, an umbrella/light-panel combination is used to make a much larger light source. You can see the difference in the bowl of the spoon and the handles of the utensils.*

the tent. For this to work with a large subject, the camera and the subject have to be set up first, then you set up the seamless paper that makes the tent. You can use your viewfinder to figure out where to cut the paper.
All this can be difficult with a large subject, though it is pretty simple with a small object. It does make it possible to shoot a reflective subject with a minimum of specialized equipment and in a studio without a cove. The main difficulty is the awkwardness of setting up a really large tent. I used several C-stands and a lot of spring clamps for the motorcycle shot.

In the next few shots, different light sources are used on the same subject. You will see how making the light source larger makes a reflective object (silverware, in this case) look better. I tried to keep the background at about the same density, so the differences you see are caused by the way light is handled rather than by the amount of light. Silverware makes a good subject for testing this kind of lighting because the various shapes show how light affects the subject.

In the first demonstration image (Figure 2), I only used a reflector on the light, so the light source is just the strobe tube. Notice how hard the reflections and shadows are in this shot; a small light source creates a hard highlight and a hard shadow. While this might be acceptable at a party, with a reflective subject the effect is really bad. One of the basic properties of light is that when you spread it over a larger area (as you do with umbrellas and soft boxes), the subject is lit from all points of whatever device you used to spread the light. This creates light with softer shadows and longer gradation between highlight and shadow. Of course, there is another concern with a reflective subject—it reflects the light source, making the look of the light source part of the subject.

Soft boxes

The next tool that I tried was a soft box (Figure 3). I used a 3×3-foot soft box, and you can see that it makes a big difference in the way the silverware looks, especially the shadows. You can also see a big white box reflected in the subject. This can be adjusted to make a given subject look better, but any reflective subject will reflect the soft box itself. The reason for using a soft box is that it creates a larger and more even reflection than reflectors alone. I often use umbrellas to make light sources larger, but I do not use them with reflective subjects because they reflect the umbrella ribs and the strobe head, which doesn't look good. A large soft box can do a very good job for many small metallic subjects, especially objects with irregular surfaces, such as jewelry. You can control the subject's dimension by adjusting the placement of the soft box.

To create Figure 4, I used a large light panel as the light source. I held the panel over the set and placed an umbrella above the panel. So the light bounced off the umbrella and then went through the light panel, which creates a very large, even light source. Light panels are basically a large piece of cotton or nylon cloth drawn over a frame. If you use them with only a regular reflector on the light, or with a set of barn doors, you get a large light source that is very hot in the center (or wherever you put the light). If you bounce the light off an umbrella first, the light is more even, like a very large soft box. The light panel I used is 3.5¥6 feet; if you use it with an umbrella it makes a very soft, even light source. You can see how this makes a much more even light on the silverware. The difference is particularly noticeable on the handles and on the fork.

Fill cards

In the next shot (Figure 5), I added a fill card that went around the outside of the spoon. It was difficult to position the fill card properly, especially as it was getting difficult to get to the camera viewfinder. You can see how much this changes the light on the bowl of the spoon. You can also begin to see the reflection of the camera in the spoon. The card, which is really another wall of the tent, fills in the reflection in the bowl of the spoon. A blue card would create a blue reflection, so the material we use for the fill card is important. I often use a gold reflector for a portrait, but I won't use that color with a reflective subject. Still, on the shot without the reflector, the little bit of black that is in the handles adds a little more pop in the handles and monograms on the image in Figure 4. You also might notice that I repositioned the light with the umbrella further to the right of the camera. This gives the shot a little more gradation from top to bottom.

Seamless paper

In Figure 6, I used a piece of white seamless paper, as I did with the motorcycle. There is very little reflection in the spoon that is not filled with light from the paper and the fill card, which I used in the last shot. Lighting from the sides of the paper gives you a different ability to create a gradation across your subject. This control can give you a special ability to customize the light to the subject. I did a catalog of brass wind instruments this way and it worked very well because I could adjust the light differently for a trombone or a trumpet.

You can see in the set-up shot that the paper comes up from one side of the table and comes up and over the table. One advantage of this design is that it is relatively easy to access the camera and the product. I think that this approach can be very effective for a variety of subjects

Figure 5 and setup

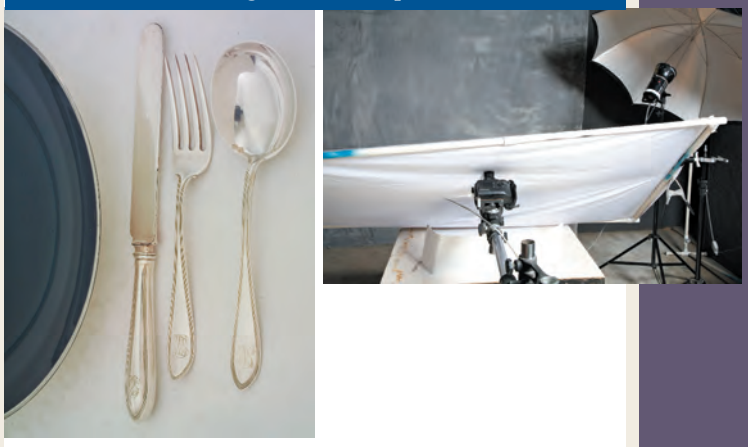

Figure 5. *I added a fill card to the light in Figure 4 and moved the umbrella closer to the edge of the light panel.*

Figure 6 and setup

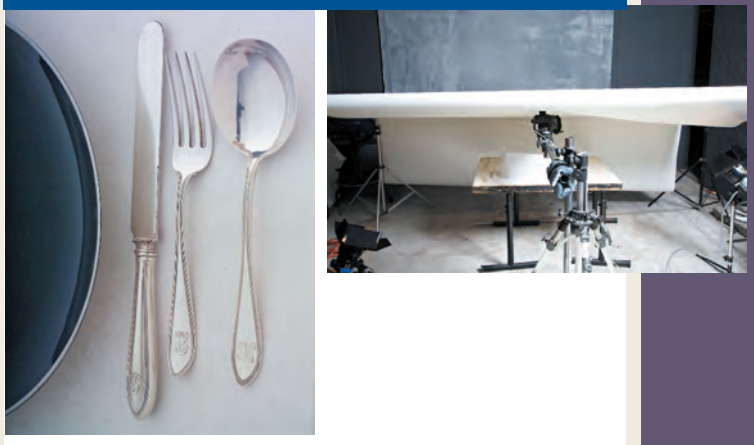

Figure 6. *This shot uses seamless paper, as with shot of the motor_cycle in Figure 1. Seamless paper provides an even light with good control over gradation. The fill card is still in the shot.*

Figure 7 and setup

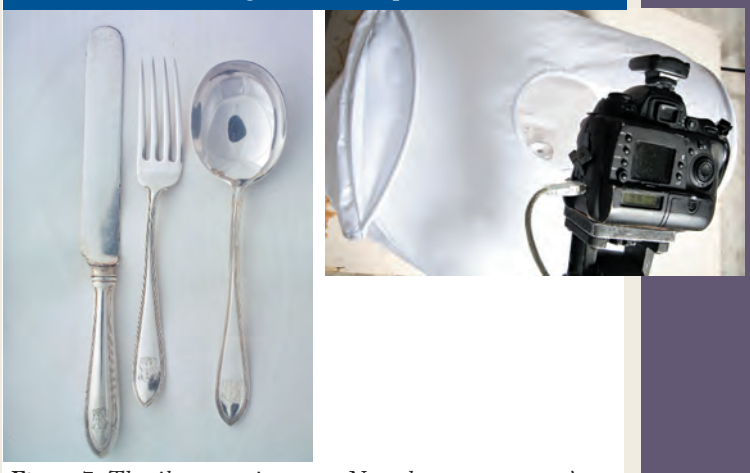

Figure 7. *The silverware in a tent. Note that my tent wasn't big enough for the plate.*

Figure 8. *Faceted stone shot in a tent. While you can see detail, the stones don't sparkle.*

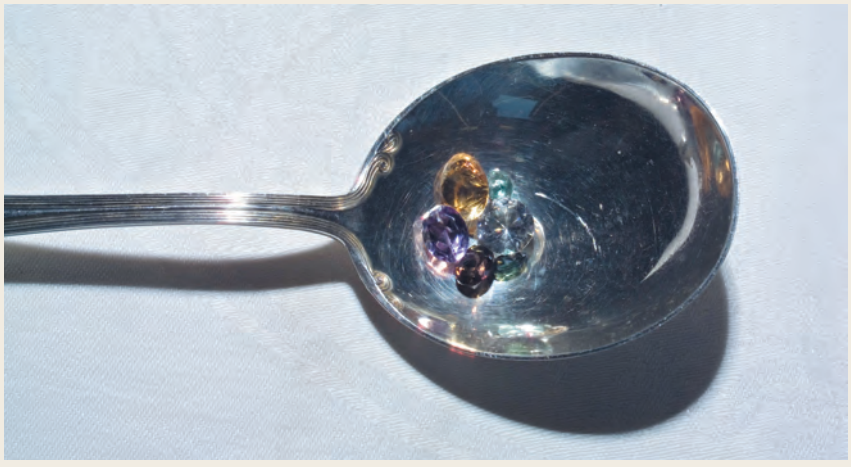

Figure 9. *The same stones shot in direct light. The stones show more sparkle, but the light isn't good for the spoon.*

because of control and access. White seamless is an important lighting tool, as well as a background. The paper is available from Studio Specialties and other manufacturers, and comes in widths of 4.5, 9, and 12 feet. The 4.5-foot width works well for many situations, but in this case, because the spoon has such a wide angle of view, the 9-foot width works better.

Tents

Finally, I did a shot with my "tent" from Ikea (the Skubb, Figure 7). Unfortunately, it wasn't big enough for me to place the plate in with the silverware. Also, as with all tents there was some limit to where you can put the camera. In the shot you can see the camera in the bowl of the spoon, in the handles of the fork and spoon, and in the blade of the knife. This makeshift tent is a quick and simple way to light a variety of objects, but you have less control than you would with the other setups we've looked at, and there is always a limit to the size of the subject.

There is one more concern about using any sort of a tent—some objects look better if you light them with a small hard light. This is particularly true of faceted stones, like diamonds or other jewels. A soft even light makes a stone look lifeless, without sparkle. I did a shot with a few stones in a tent (Figure 8) and then with a hard light (Figure 9). While you wouldn't normally see these sorts of stones in a spoon, you can see that the stones in the hard light have more sparkle. Often, in order to make a piece of jewelry look good, you need to use both hard and soft light. This same problem applies to opals as well as faceted stones, but you won't have a problem with most other stones with a curved surface.

Other methods

There are other methods of controlling the light reflected off surfaces. A method used to photograph cars is to shoot in a cove—a large white area without hard corners; all of the corners have been smoothed into curves. (A problem with coves is maintenance—they need to be painted frequently.) Another approach is to use a spray that dulls the subject, such as Krylon Dulling Spray. You can usually buy dulling spray at the larger photo retailers; it's a good tool to have. Unfortunately, you can't always get dulling spray off a product, so be careful. Fortunately, for a large number of subjects from jewelry to motorcycles, you can control reflections with just lighting tools: tent, soft box, light panel, and seamless paper.

I hope this introduction to photographing reflective surfaces helps you with whatever shiny surfaces you need to photograph. ■

John Siskin is a commercial and fine-art photographer specializing in product images and portraiture, as well as macro and architectural photography. He has taught photography for more than 25 years. He currently teaches lighting and portraiture photography at BetterPhoto.com. His Web site is www.siskinphoto.com.