

Greg Maxson / Precision Graphics

Illustrating the metal surfaces of this circular saw required Greg Maxson to create overlapping blends. For the blade, Maxson began with an ellipse filled with a dark gray. Next, he created two blending objects, one filled with the same dark gray as the ellipse and the other (on top) filled with a light gray. Maxson blended these to create the highlight and shadow. He used the Reflect tool to create a copy of the

blend for the bottom half of the blade. He copied the dark gray ellipse and used the ellipse to mask both blends. For the round grip, Maxson created five blend objects, and blended between them to form the grip's surface. He masked these blends with an object built by connecting ellipse shapes (the cylinder and the circular face at the end of the cylinder) to form the grip.

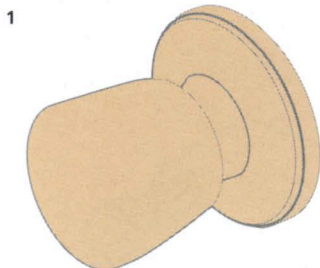
Unlocking Realism

Creating Metallic Reflections with Blends

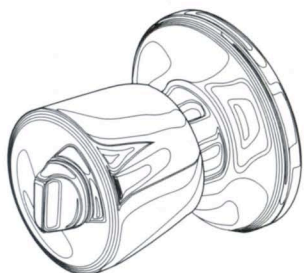
Overview: Form the basic shapes of objects; create tonal boundaries for future blends that follow the contours of the objects; copy, scale, recolor and adjust the anchor points of tonal boundaries; blend highlights and shadows.



B. NEAL/THOMAS • BRADLEY ILLUSTRATION & DESIGN



Designing the basic objects and choosing a base tone (Note: Gray strokes added to distinguish objects)



Creating tonal boundaries for future blends by following the contours of the objects

Achieving photorealism with Illustrator may appear prohibitively complex and intimidating, but with a few simple rules-of-thumb, some careful planning and the eye of an artist, it can be done. Brad Neal, of Thomas•Bradley Illustration & Design, demonstrates with this image that you don't need an airbrush to achieve metallic reflectivity, specular highlights or warm shadows.

1 Preparing a detailed sketch that incorporates a strong light source, and setting up your palette.

Before you actually start your illustration, create a sketch that establishes the direction of your light source. Then, in Illustrator, set up your color palette (see the *Drawing & Coloring* chapter). Choose one color as a “base tone,” the initial tint from which all blends will be built, and fill the entire object with that value. After you create the basic outlines of your illustration, work in Outline mode to create separate paths—following the contours of your objects—for each of your major color transitions. After completing the initial line drawing of the lock set, Neal visually, and then physically, “mapped” out the areas that

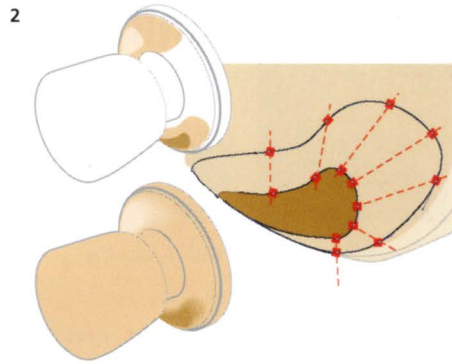
would contain the shading. He added a few highlights and reflections in the later stages of the project, but the majority of blends were mapped out in advance.

2 Using your color transition paths to create blends.

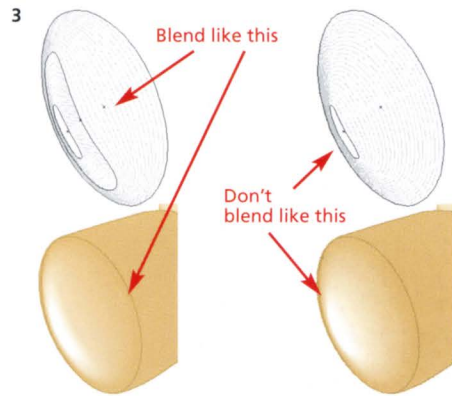
Next, use the contouring paths you've created to map out your tonal boundaries. Choose one of the objects and fill it with the same color and tonal value as its underlying shape. In the Neal locks, this initial color is always the same color and value selected for the base color. Then, copy the object and Paste In Front (Edit: Paste In Front). Next, fill this copy with a highlight or shadow value, scale it down and manipulate it into the correct position to form the highlight or shadow area. You can accomplish this step by one of two methods: by scaling the object using the Scale tool, or by selecting and pulling in individual anchor points with the Direct-selection tool. In order to ensure smooth blends without ripples or irregular transitions, the anchor points of the inner and outer objects must be as closely aligned as possible and should contain the same number of points. To then complete this highlight or shadow, use the Blend tool to *point map* (see the intro to this chapter for details). The blend in Figure 2 required eight in-between steps. If your blend isn't smooth enough, then use the Direct-selection tool to select anchor points on the key objects and adjust their position or Bézier handles until the blend smooths.

3 Blending in smaller increments. Some blend situations may require more than two objects to achieve the desired look. For instance, to control the rate at which the tone changes or the way an object transforms throughout the blended area, you may wish to add an intermediate object and blend in two stages, instead of one.

4 Using blends to soften hard transitions. Always use blends when making tonal transitions, even when you need a stark contrast shadow or highlight. A close look at Neal's shadow reveals a very short but distinct blend.



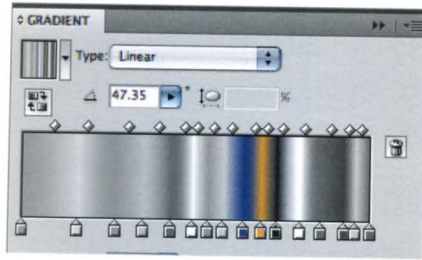
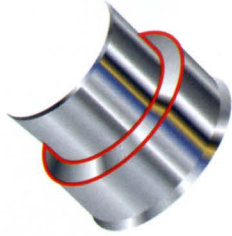
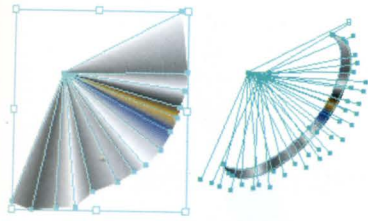
Pasting In Front a scaled down and adjusted copy with the same number of aligned points



Adding an in-between contour to help control the rate and shape of blends; blending with too few contours flattens the image



Long, close-up, and Outline close-up views of highlight and shadow transitions



Rick Simonson

For his remarkable feat of photorealism with this illustration of a microscope, Rick Simonson used blends and gradients to mimic reflections in metal. To make some of the metal sections that reflected multiple colors, he began by drawing with the Line tool. After drawing a line, he selected one end with the Direct Selection tool and left the other anchor point unselected. He dragged on the selected point, adding the Option/Alt key to duplicate the line in the start of a fan shape—the unselected anchor remaining in place. He repeated adding new lines at varying distances from each other, and coloring them, until he had enough lines to

equal all the color changes in the reflection. He then selected all the lines and chose the Blend tool with Smooth Color selected in the tool's Options. With the keyboard shortcut ⌘-Option-B/Ctrl-Alt-B, he created a blend object from the lines. Next Simonson drew the object he required for a part of the microscope on top of his newly blended object. With both objects selected, he chose Object > Clipping Mask > Make (⌘-7/Ctrl-7). For other complex reflections, Simonson created gradients with multiple color stops that colored the objects to match up with those made from the blends.