



Brush Setting and Masking

When painting on a layer mask, brush hardness and diameter are critical to producing an accurate mask—changing one without the other is a recipe for failure. Think about the relationship between these two settings and you just might want to go back and rework your old images.

For this tutorial, we'll assume that you already know how to create and use layer masks. That way, we can concentrate on the details of which brush settings should be used when editing a mask.

Determining hardness settings

The hardness setting of a brush should match the edge quality of the object you're attempting to mask. If the edge of the object is crisp and in focus, you need a Hardness setting near 100%; on the other hand, if the object is out of focus or in motion (causing motion blur), you'll need a lower hardness setting. The blurrier the edge of the object, the softer the edge of your brush should be to match the edge quality of the object.

I rarely use the Brush Preset Picker that you access by clicking the Brush Preview in the Options Bar at the top of your screen. Instead, I use keyboard shortcuts, which are faster and more efficient. For instance, to increase or decrease the Diameter setting for the active brush, type] (right bracket) or [(left bracket), respectively, and to change the Hardness setting, add Shift to the above keyboard shortcuts. With these keyboard shortcuts, you can cycle through Hardness settings of 0%, 25%, 50%, 75%, and 100%.

Changing diameter affects hardness

When you change the Diameter of a brush, it will look as if its Hardness has also changed—even though the actual Hardness setting hasn't. Here's why: Consider that the Hardness setting is expressed as a percentage, where 50% means that 50% of the brush width will be opaque before it starts to become translucent and produce a soft edge. If your brush Diameter is 100 pixels and the Hardness is set at 50%, then half the width of the brush will be opaque (50% of 100 pixels = 50 pixels) and the other



Same size brush with Hardness settings of (from top to bottom): 0%, 25%, 50%, 75%, and 100%

half (again 50 pixels) will cause the brush to fade out with a soft edge. Switch to a 50-pixel brush and you end up with half as much space used for the fadeout because 50% of 50 pixels is 25 pixels for the opaque region and an equal amount for the fadeout zone. Larger brushes have softer edges because more space is available for the fadeout zone.

Working with various brush sizes

This can cause problems when you're using a semihard-edged brush because you might use a large brush for most of your painting and then switch to a smaller brush when you run into a tight area, such as a corner. If you leave the Hardness set-



From top to bottom: 50-pixel brush/50% Hardness; 100-pixel brush/50% Hardness; 50-pixel brush/0% Hardness

ting the same, there will be a visual difference between the areas created with the larger and smaller brushes.

To solve this problem, consider reducing the Hardness of your brush when you switch to a smaller brush. For instance, when switching from a 100-pixel/50% Hardness brush to a 50-pixel brush, be sure to switch the Hardness setting to 0% to maintain the same apparent hardness. Here's the math: 50% of 100 pixels is 50 opaque pixels, leaving 50 pixels for the fadeout. To get 50 pixels of fade-out on a 50-pixel brush, you'd need a Hardness setting of 0% to allow all those pixels to be used for fadeout.



Mask created using three brush sizes with identical hardness settings (left); result of touching up the mask with the Blur tool to produce a more consistent edge (right).

Fine-tuning the results

Anytime you paint on a mask with different sized brushes, I suggest you view the resulting mask directly by holding the Option (PC: Alt) key and clicking directly on the Layer Mask thumbnail in the Layers panel. Then, if you notice any transitions in the areas where you changed brush sizes, consider painting over them with the Blur tool (R) to blur any areas that look too crisp. Using this technique, you can usually correct for those times when you forgot to adjust the Hardness setting to compensate for the brush size. ■

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