



INTRODUCTION TO GRAPHICS

Manipulating and masking with paths

Information Sheet No. PS840

If you're new to Adobe Photoshop, it's likely you haven't played around with paths too much. The path tools in Photoshop aren't really like those in vector illustration tools (like Illustrator), which are used principally for the creation of vector objects. In Photoshop, paths can be used (clumsily) for this purpose. But they have a more useful function in image manipulation: masking.

As you became more used to the path tools figure out a few tricks about them, they became part of your routine--an important part because of their flexibility and, particularly, editability.

This Information Sheet will show you how this works, along with some examples of useful path tricks, by walking you through the masking of a simple object in Photoshop using path tools. For this exploration, we'll be masking out the flower from the image below.



To do this, we'll use the basic path tool, plus some shortcuts to help us along the way. When we're done, we'll have a path that we can then turn into a mask to cut out the background.

Creating the path-based object

In order to cut the flower out of this im-

age, you'll use paths to define the flower's edges. You'll do this using Photoshop's Pen tool, and, along the way, using modifier keys to make adjustments to the path as you go so that you don't have to resort to switching tools often during the drawing process.

Here's how it works.

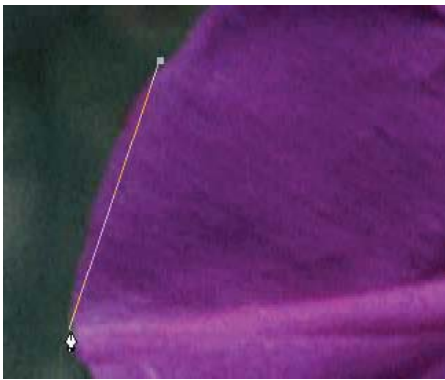
1. Begin by selecting the Pen tool in the Tools palette.



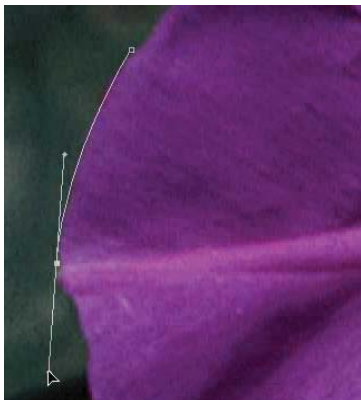
2. Now you're going to begin drawing with the Pen tool to define the boundaries of the object you want to mask out. For the sake of accuracy, blow up your image to 200 percent or more so that it's easier for you to see the precise edges of the object. Then just click somewhere to create your first point on the path. Don't click and drag. Just click.



3. Now we'll add a second point. You can see, as you move your cursor around, that the path follows your cursor. Move your cursor to the place where you want to set your second point. Don't click yet.



4. This, of course, doesn't look right. My petal is curved, and the path segment preview shows a straight line. So instead of just clicking on this point, click and drag simultaneously. The dragging action creates tangent handles, which allow you to control the curve of the path segment. Let go of your mouse button when you have the curve in the shape you want.



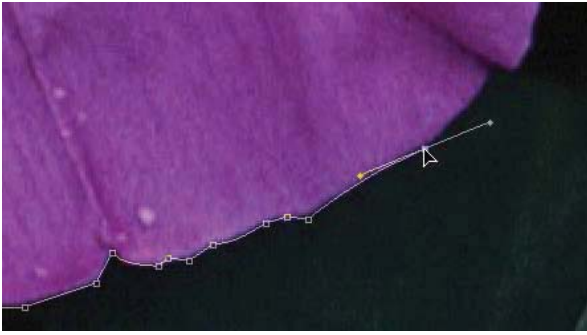
If you mess up, go back and modify the tangents to adjust the curve manually--and without switching tools. To do this, hold down

the Alt key, and click on the end point of a tangent handle you wish to adjust. You can move the tangent in any direction and to any distance in order to get the curve just right.



5. Once you have the curve the way you want it, you can move on to your next point. In this case, however, the tangent created with the previous point gives me a bad curve coming into my next point. So you want to eliminate the half of the tangent that will affect this subsequent point. To do this, hold down Alt and Shift to click on the previous point. Doing this will maintain the curve you previously created but will allow you to "start fresh" on the next curve you want to create.

6. So now, using these techniques, you can continue to place points and paths around your object. But what happens if, along the way, you somehow manage to place a bad point into the path shape? That will ruin the mask. Well, without switching tools, you can adjust your points manually simply by holding down the Control key and clicking on the problem point. This allows you to reposition it without altering any tangents that might be involved in the shape of the path segment in question.



Incidentally, if you have multiple points to select and move, and you want to do them at the same time, hold down Shift and Control keys to select multiple points. Then hold down the Control key and drag on any point, and all of the other selected points will be dragged along with it.



8. At this point, you can go in and correct any shortcomings in your object. You can place additional points just by clicking somewhere on the path with the pen tool, then manipulate those points further using the Command key shortcuts. When you're done with the cleanup, you're ready to create your mask.



7. So those are the basic techniques for saving time when creating path-based objects--just a single tool along with the few modifier keys to get you through the entire job.

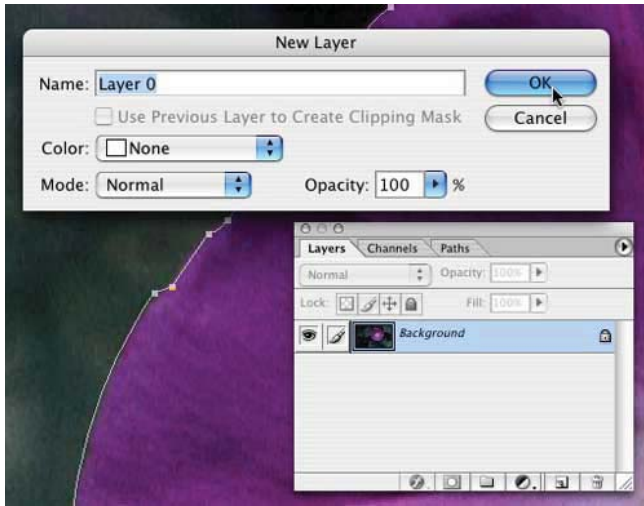
Continue adding points and curves along your object's boundaries until you reach the end. Then place the final point in the same spot as the original point you placed. You'll see a little circle appear on the cursor when you hover over the first point, indicating that when you place that last one, it will close the path up, and you'll be finished.

Turning the path into a mask

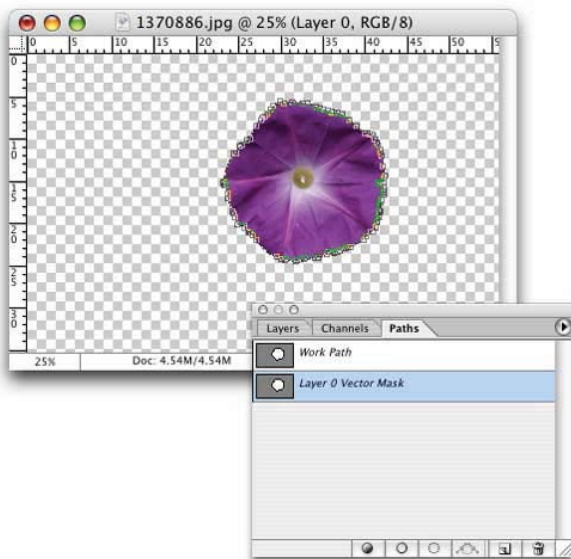
So now you have a couple options open to you in terms of how you're going to create your mask. First, you can simply turn your path into a selection then clear away the background. Second, you can use the path you just created as a vector mask. There are advantages to both options.

First, if you're creating a mask at all, it's more likely than not that you want the background to be transparent, rather than just white. So, if you're working on a flattened image with a "Background" layer, you will need to convert that background into a regular layer. To do that, open up the Layers palette and simply double-click the background layer.

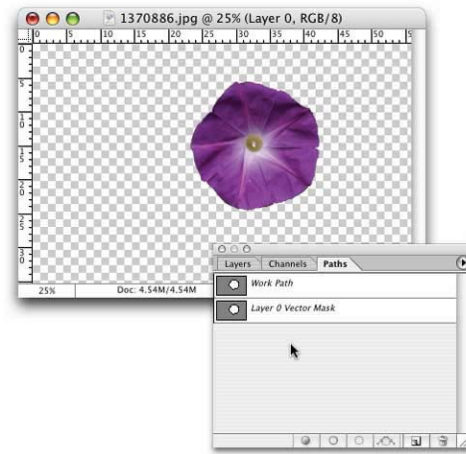
This will call up a dialog asking you to name the new layer you're creating I'll just leave mine with the default name of "Layer 0."



Now, if I want to use your path as a vector mask, go to Layer > Vector Mask > Current Path. The advantage of this technique is that it leaves the mask editable for later on, which might be important in the event that you find a flaw in the mask that you need to fix up. Here's the result.



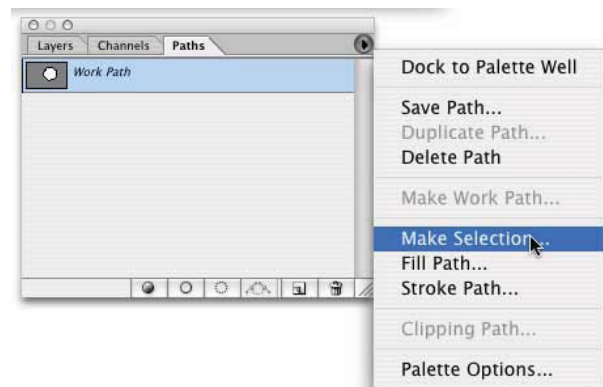
Note that when you create the vector mask at first, you will continue seeing the path along the edges, which can obscure your view of the mask. To hide it, just go into the Paths palette and click away from the vector mask path listed there. With no path selected, you'll be able to see your mask clearly.



Then, if you need to make changes, just reselect the vector mask path in the Paths palette, and you can then go in and modify the shape all you want. The mask will change as you make changes to the path.

The alternative is to turn the path into a selection and then simply clear away the background pixels. The negative of this method is that if you've cut off too much of the edge of the original object, there's no going back, except by undoing the action. The benefit is that it allows you to go in easily and use the eraser tool to clean up and soften the edges of the mask. It can also allow you to feather the edges of your selection to help soften the edges and blend in the object with whatever background you plan to put in. To use this method:

1. Go to the Paths palette, and select the path you've created.
2. Choose the flyaway menu in the top right of the Paths palette, and choose "Make Selection: from the list of available options.



3. In the dialog that pops up, set the feathering and antialiasing you want. Set your feathering to 0 because you can always add feathering later.

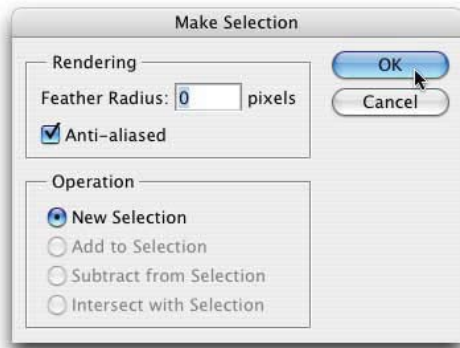
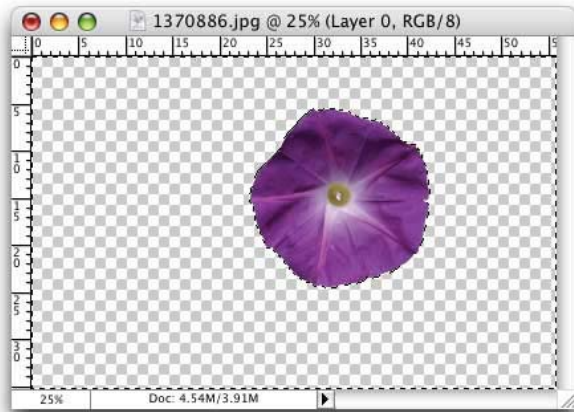


image by using the eraser tool on the mask itself--erase the mask, reveal the image.



4. When the selection is made on your canvas, go to Select > Inverse to invert the selection.

5. Then hit the Delete key on your keyboard to clear the canvas of everything other than the object.



Alternately, you can also go to Layer > Add Layer Mask > Hide Selection to make a modifiable mask based on the inverted selection.

The nice thing about this alternate method is that it does leave the original pixels in tact, which creating a mask that can be modified using nothing more than the paint brush tool.

To modify the layer mask once you've created it, select a regular paint brush tool, and then click on the mask itself in the Layers palette. Then paint onto the canvas to hide more of the object, or use the eraser to reveal more. For example, in the image below, you've begun drawing more of the background back into your masked