

Movie 4

Puppet Warp

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The Puppet Warp is available from the Edit menu whenever you are editing a normal, non-background layer in Photoshop. This is a truly outstanding new feature for anyone who uses Photoshop for retouching work. While the Liquify filter is great, the main benefits of working with the Puppet Warp tool are that the warp response feels that much more intuitive and responsive. As you edit the pins, the other elements of the photograph appear to warp in a way that can help the warping effect look more natural. The other advantage is that you can edit layers directly in Photoshop without having to do so via a modal dialog. Or rather, it seems to be non-modal whereas in fact the Puppet tool is really still modal – it's just that you are able to work on a layer directly rather than via a dialog interface, as is the case with Liquify.

The only way to truly appreciate Puppet Warp is to watch a movie demo, such as the one on the DVD, or better still, try it out for yourself. Puppet Warp offers three rigidity modes of operation. The Normal mode applies a standard amount of flexibility to the warp movement between the individual pins, while the Rigid mode is more stiff and good for bending things like human hands. The Distort mode provides a highly elastic warp mode which can be good for warping wide-angle photographs.

The Puppet Warp function is based on an underlying triangular mesh. The Normal default Density setting can be changed to show more or fewer points via the Puppet Warp tool Options bar (Figure 1) – the Normal setting is the best one to choose in most instances. The 'More points' allows for more precise warping control but at the expense of speed since the processing calculations are more intense. A 'Fewer points' Density setting allows you to work faster, but you may also get unpredictable or unusual warp results. There is also a 'Show Mesh' option that allows you to show or hide the mesh visibility. The next thing to do is to add some pins to the mesh. These can be applied anywhere, but it is important that you add at least three pins before you start manipulating the layer, since the

Including soft edges

The Puppet Warp mesh is mostly applied to all of the selected layer contents, including the semi-transparent edges, even if only as little as 20% of the edge boundary is selected. And if this fails to include all the desired edge content you can always adjust the Expansion setting to include more of the layer edges.

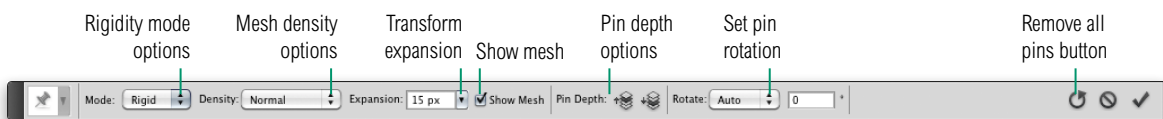






Figure 1 The Puppet Warp tool Options bar.

more pins you add, the more control you'll have over the Puppet Warp editing. The thing to bear in mind here is that as you move a pin, other parts of the layer will move accordingly, and perhaps do so in ways that you hadn't expected. This isn't a bug, this is the Puppet Warp tool intelligently working out how best to distort the layer. As you add more pins to different parts of the layer you will find that you gain more control over the Puppet Warp distortions. The keyboard arrow keys can also be used to nudge the selected pin location, but if you make a mistake with the addition or placement of a pin you can always use the Undo command ( **Z** **ctrl**/**⌘**/**Z**), or hold down the  **alt** key to reveal the scissors cursor icon and click on a pin to delete it. Or, you can simply select a pin and hit the **Delete** key. In order to further tame the Puppet Warp behavior, you can use the Expansion setting to modify the area covered by the mesh, since this can have the effect of dampening down the Puppet Warp responsiveness. This can be considered essential if you want to achieve manageable distortions with the Puppet Warp. The default setting of 2 pixels allows for precise control over the warp distort movements, but this won't help with every image. In the Puppet Warp example that's shown over the next few pages I found it necessary to use a more expanded mesh, since without this the Puppet Warp distortions became rather unwieldy. This was especially noticeable when I tried setting the Expansion setting to 1 pixel or less. If you find that your Puppet Warps feel uncontrolled, then try increasing the Expansion amount.

Pin rotation

The Rotate menu normally defaults to 'Auto'. This rotates the mesh automatically around the pins based on the selected mode option. However, when a pin is selected you can hold down the  **alt** key and hover the cursor over a pin, which reveals the rotation circle that also allows you to set the pin rotation manually (see Figure 2). Be careful though, because if you happen to  **alt**-click a pin, this will delete it. As you rotate a pin, the rotation value shows in the tool Options bar. This extra level of control allows you to twist sections of an image around a (movable) pin point as well as alter the degree of twist between this and the other surrounding pins. In the case of the puppet image over the page it can give you better control over the angle of the strings. See also Figure 3, which shows you the pin contextual menu options.

Multiple objects

If you have multiple objects on a layer, the Puppet Warp mesh is applied to everything on that layer. However, you can apply separate distortions to each of the layer elements.

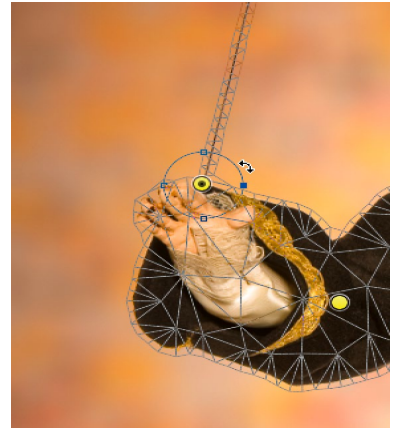



Figure 2 If you hold down the  **alt** key and hover the mouse over an already selected pin, this shows a pin rotation circle that you can adjust to twist the rotation of the selected pin.

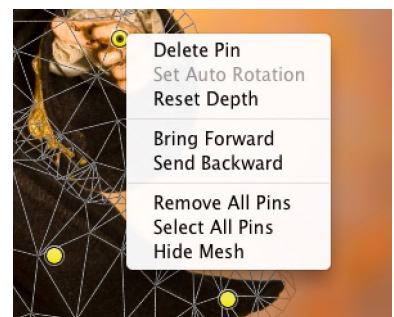


Figure 3 This shows the pin contextual menu, which offers quick access to a list of useful options associated with modifying the pins added using the Puppet Warp feature (**ctrl**-click or use a right mouse-click to reveal the contextual menu shown here).

Pin depth

The pin stacking order can be changed by clicking on the buttons in the tool Options bar. Where a Puppet Warp distortion results in elements overlapping each other, you can decide which section should go on top and which should go behind. You can either click on the move up or move down buttons shown in Figure 4, or use the **U** key to bring a pin forward and use the **B** key to send a pin backward (or use the pin contextual menu shown in Figure 3). Basically, this is a mechanism that allows you to determine whether warped elements should go in front of or behind other elements in a Puppet Warp selection.

Multiple pin selection

You can select multiple pins by **Shift**-clicking the individual pins. Once these are selected, you can drag them as a group using the mouse, or use the arrow keys to nudge their positions. You can **Shift**-click again to deselect an already selected pin from a selection. Note though that operations which affect a single selected pin, such as rotation and pin depth, are disabled when multiple Pins are selected.

While in Puppet Warp mode, you can also use **⌘ A** **ctrl A** (or the contextual menu) to select all the current pins and you can use the **⌘ D** **ctrl D** shortcut to deselect all pins. Also, if you hold down the **H** key, you can temporarily hide the pins, but leave the mesh in view.

Smart Objects

If you convert a layer to a Smart Object before you carry out a Puppet Warp transform, this will allow you to re-edit the Puppet Warp settings (something you can't do with Liquify). You can also use the Puppet Warp feature to edit vector or type layers. However, if you apply the Puppet Warp command to a type or vector layer directly, the Puppet Warp process automatically rasterizes the type or vector layer to a pixel layer. Therefore, in order to get around this I suggest you select the layer and choose **Filter > Convert to Smart Filters** first, before you select the Puppet Warp command.

Now for a quick run through of the Puppet Warp in action, for which I chose to use an image of what else, but a puppet!

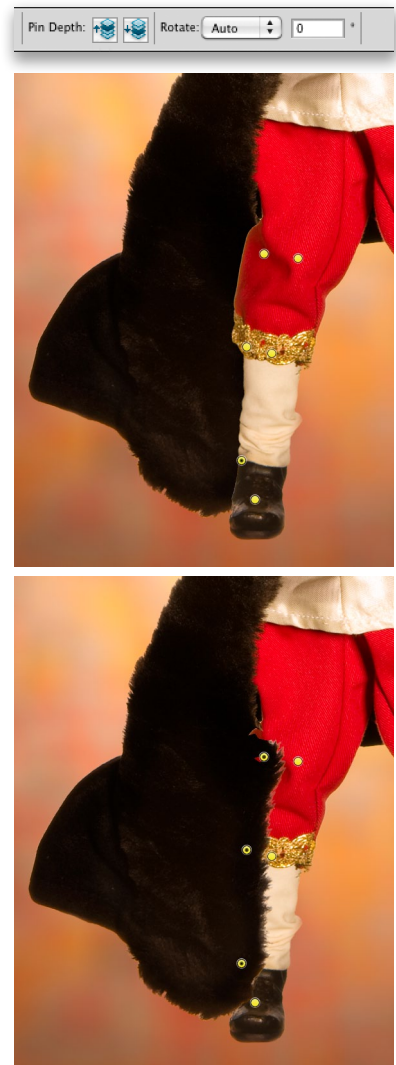
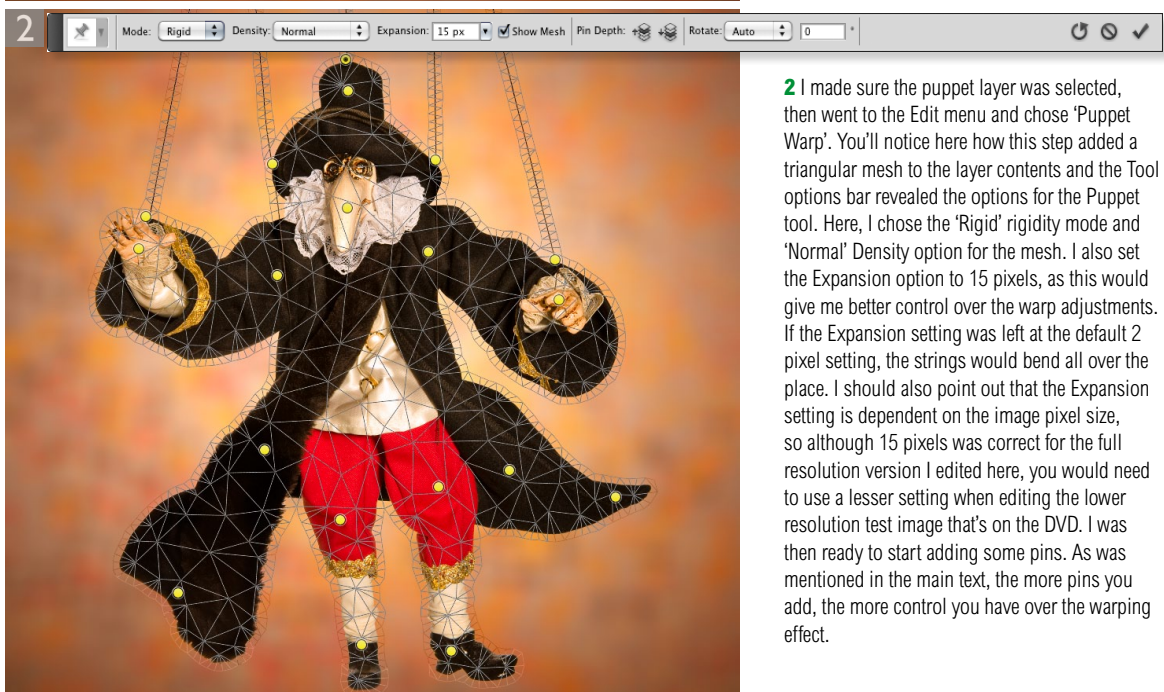
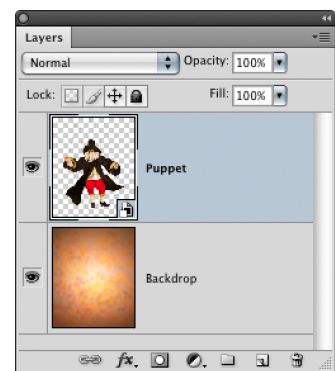


Figure 4 The pin depth controls allow you to move the selected pin positions on a Puppet Warp selection up or down. This allows you to control whether certain image areas slide in front of or behind other areas of the image.



1 The first step was to add the puppet image as a separate layer. One can use the Puppet Warp tool on a complete layer, but it's really designed to function at its best when editing a cut-out layered object such as a type, vector layer or, as in this case, a cut-out pixel image layer. Before doing anything else though, I converted the targeted layer to a Smart Object.



2 I made sure the puppet layer was selected, then went to the Edit menu and chose 'Puppet Warp'. You'll notice here how this step added a triangular mesh to the layer contents and the Tool options bar revealed the options for the Puppet tool. Here, I chose the 'Rigid' rigidity mode and 'Normal' Density option for the mesh. I also set the Expansion option to 15 pixels, as this would give me better control over the warp adjustments. If the Expansion setting was left at the default 2 pixel setting, the strings would bend all over the place. I should also point out that the Expansion setting is dependent on the image pixel size, so although 15 pixels was correct for the full resolution version I edited here, you would need to use a lesser setting when editing the lower resolution test image that's on the DVD. I was then ready to start adding some pins. As was mentioned in the main text, the more pins you add, the more control you have over the warping effect.



3 I was now ready to start warping the layer. All I had to do was to click to select a pin and drag to reshape the image. The interesting thing to note here is that as you move one part of the layer, other parts adjust to suit.

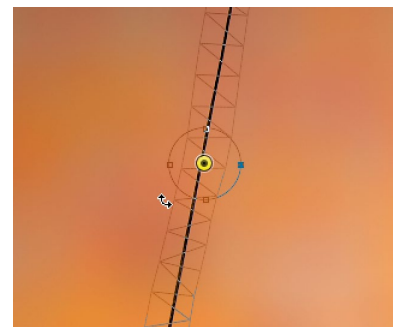


4 As I clicked and moved the pins I was able to create the desired distortion effect. In this close-up view you can see I had moved an arm so that it intersected one of the coat tails. In this instance it was necessary to click on the move upward Pin Depth button (circled) to bring the sleeve of the puppet's left arm in front of the coat tail.

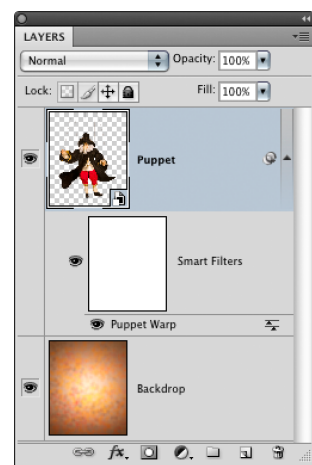




5 What is particularly interesting with this image (and you'll notice this better if you work with the demo image that's on the DVD) is how as I moved different parts of the puppet's body, the puppet strings moved accordingly. In order to counter this, I clicked on the pins that were at the bottom and top of the strings and rotated them to remove the curvature. With some of the strings, such as the one highlighted here, I added an extra mid point and rotated this to make the string even straighter.



6 When I was done, all I had to do was to hit the **Enter** key. Now, because I had prepared this layer as a Smart Object you'll notice how the Puppet Warp adjustment was added as a Smart Filter in the Layers panel. This meant that if I wanted to re-edit the puppet warp settings, I could do so by double-clicking the Puppet Warp Smart Filter and carrying on editing.



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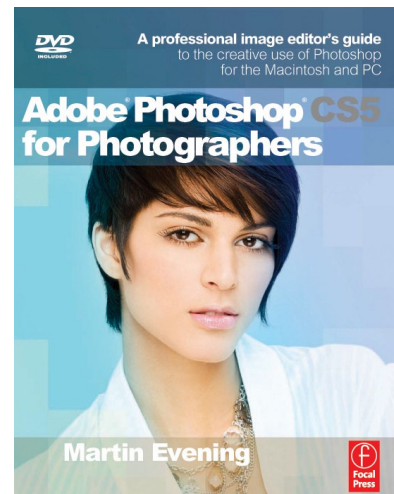
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Adobe Photoshop CS5 for Photographers is published by Focal Press.

ISBN: 0780240522005

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