

INTRODUCTION TO GRAPHICS

Moving and Selecting Image Content

Information Sheet No.



In simplest terms, selections allow you to single out or isolate pixels from the rest of a document, designating them for some Photoshop process to follow. You can edit, copy and paste, or move selected pixels while protecting the rest of the document from changes. As you select specific content in Photoshop, a marquee or flashing dashed border — often referred to as “marching ants” — will designate the selection edges.

Photoshop allows many options for working with selections. You can select an entire layer or just specific content within a layer. You can save selections, and you can use selections between documents. Just as Photoshop allows you to add, subtract, and transform image information; you can add to, subtract from, and transform selections themselves.

You can make and modify selections in Photoshop with a variety of interchangeable tools and methods. This series looks at selection tools and the various ways you can select, move, and copy content in Photoshop.

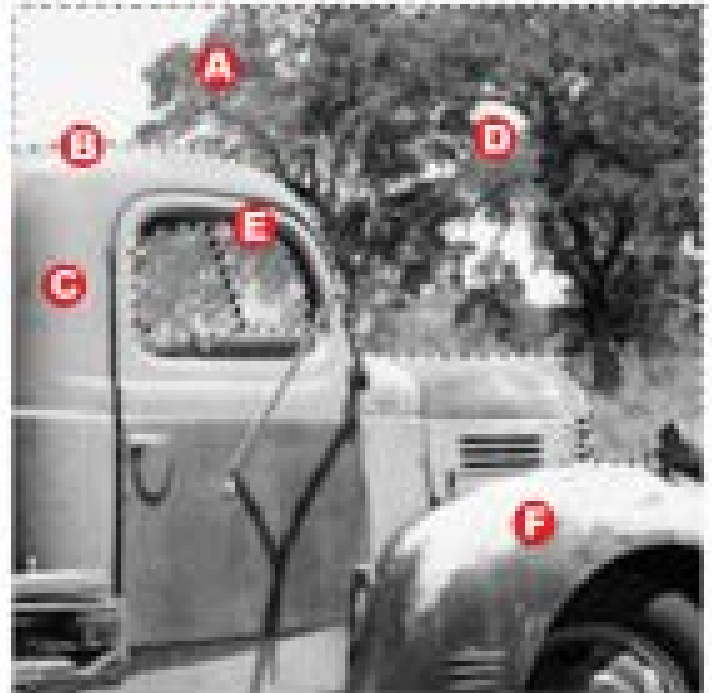
Selection Basics

Selections can be virtually any shape. They can have hard, crisp edges, or they can have soft, feathered edges. You can select with a variety of tools, which can be used independently or in any number of combinations.

Primary selection tools. Located in the top-most section of the Photoshop Toolbox; these include the Crop, Marquee, Lasso, and Magic Wand tools. You can use them in any combination and, alternately, create selections in any variety of shapes by adding to or subtracting from them as you work.

Refined selections. Using vector tools, such as the Pen tool or shape tools, you can convert vector paths into selections. You can also make selections based on color range. Photoshop offers several more sophisticated tools that allow you to extract objects or erase backgrounds, essentially combining the Select and Delete commands for you.

Masks and channels. You can make selections by painting onto masks or channels with any variety of Photoshop brushes and then converting the masks or channels into selections. The Quick Mask option in the Toolbox provides a simple one-click method for converting between selection and mask. All selections saved in Photoshop are stored as alpha channels in the Channels palette.



Each selection tool and selection method offers you specific advantages to be considered or used in combination with your own working style—and given image content. Consider just a few of the options available regarding selection strategies for content in this image, and apply them when considering your own selections:

A - Currently selected content is designated with a selection border. It can be actively edited, moved, copied, deleted, and so on.

B - The selection border defines the edges of selected area(s) and is designated by a marquee, or “marching ants.” (You can hide these for more accurate editing.)

C - Nonselected image areas are essentially protected from editing.

D - You can select sky with the Magic Wand; if you select with Color Range, you can pick up the sky between branches and leaves. In cases like this, in which you need to select the entire background, consider selecting the object rather than the background, duplicate the layer, and try the Extract filter on the object.

E - For objects, such as the truck that has smooth curves and sometimes little contrast

with the background, use the Pen tool and Bezier curves. You might look at contrast in individual channels; more contrast will better enable use of the Magnetic Lasso. Zoom in and add small selections together. You can also easily block in a solid large object like this by using a round brush, 80%-90% hardness, in Quick Mask mode.

F - You can select high-contrast edges, such as the lower edge of the truck fender, with the Magnetic Lasso, or you can add/subtract with the Magic Wand at low tolerance settings.

After you make a selection, you have several basic options:

Save the selection. As in the example, some selections may take time and patience to create; it is always wise to save the selection—even as you go. Save versions of the selection with hard edges before feathering.

Feather selection edges. To soften or fade selections, the rule of thumb is to look around at objects in nature. Object edges rarely appear absolutely crisp and sharp. Applying a slight feather almost always looks more realistic — try even a 0.5 pixel feather.

Move selected content. Use the Move tool to relocate the content within the current layer or between documents. Alt/Opt+Move copies selections.

Copy/cut and paste. Use the Clipboard to relocate content within the current document or to another document. Pasting puts the Clipboard on a new layer. Pasting into a selection applies a layer mask in the shape of the selection.

Edit selected content. Change the content. Create a new layer, and paint in the selection. Create adjustment layers and masks based on the selection for isolated color correction. Run filters on selected areas or on masks.

Deselecting and reselecting a selection. Choose Select > Deselect or click anywhere on the canvas outside the selected area to deselect a selection. To reselect the last selection, choose Select > Reselect. If the last action was to deselect a selection, you can also choose Edit > Undo.

Selecting a Layer or Its Contents

A selection isolates pixels in only the currently selected-or active-layer. Therefore, be sure that you first select the specific layer that you want to edit. When layers contain transparent areas or objects that do not take up the entire layer, you need not reselect their pixels before using selection tools. Photoshop allows you to quickly select a layer's contents at the same time you make the layer itself active for editing. You can select a layer in the following ways:

In the Layers palette, click the layer's thumbnail or title. The layer is highlighted with a brush icon in the left column to indicate it is active. Or, with the Move tool selected, Control/right-click in

the canvas over the content you want to select. A contextual menu appears listing all the layers with content currently under the mouse cursor. Select the desired layer from the list. You can temporarily toggle to the Move tool from any active tool by pressing the Command/Ctrl key. This is not to be mistaken for selecting pixels or layer content. If you do not select any specific content in the layer using the techniques shown in the rest of this series of articles, your actions or changes are applied to the entire layer.

To select only the opaque pixels of the layer and exclude all transparent pixels, do one of the following:

- Command/Ctrl-click the layer in the Layers palette.
- Control/right-click a layer thumbnail in the Layers palette and choose Layer Transparency from the contextual menu.
- If you Choose Select > All on a layer containing transparent areas, a marquee will appear around the entire canvas. If the content of the layer is moved, the selection marquee snaps to the boundary of the object or pixels on the layer.

Selecting Rectangular or Elliptical Areas

A common way to make a simple selection is to use the marquee tools, which allow you to select a regular rectangular or elliptical region of the canvas. Making such a selection is often a helpful way to begin a more complex selection or to define the area to begin an edit. For example, if you are creating a rectangular button, select a rectangular area to define the size of the button and then begin to edit the selection. To use the marquee tools, follow these steps:

1. Select a layer.
2. Choose a marquee tool from the Toolbox:
 - Rectangular Marquee
 - Elliptical Marquee
 - Single Row Marquee
 - Single Column Marquee
3. Set the options in the tool options bar for this selection:
 - o Choose how the new selection should be treated in relation to the current selection: deselect the current selection and start a new selection, add to the current selection, subtract from the current selection, or intersect with the current selection.
 - o If you are using the Rectangular Marquee or Elliptical Marquee tool, enter the amount of feathering for the new selection (0 is no feathering), specify whether you want the selection

anti-aliased so that edges are softer, and choose a style for the selection (Normal, Fixed Aspect Ratio, or Fixed Size).

- o If you select Fixed Aspect Ratio or Fixed Size, enter an aspect ratio or width and height.

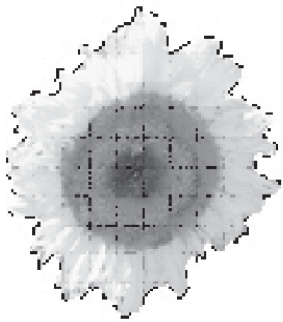
4. Depending on the marquee tool and options selected, do one of the following: **Rectangular or Elliptical Marquee.** Click and drag diagonally across the area you want to select. **Single Row, Single Column, or Fixed Size Marquee selections.** Click in the image to select, and drag to position the marquee.

5. You can now refine the selection further or edit the selection.

Selecting and Moving Image Content: Part 2

Creating Free-Form and Color-Based Selections

Creating Free-Form Selections



To capture irregular shapes, your primary options are the three free-form lasso tools, or you can use a Quick Mask to “paint” the area to be selected. In the first illustration, you can see the irregular edges of the sunflower as selected with the Lasso tool. In the next illustration, note the straight edges of the barn roof as captured with the Polygonal Lasso tool. You

can use the Lasso and Polygonal Lasso tools to freehand trace the outline of the area you want to select. Follow these steps:

1. Select a layer.
2. Choose the Lasso or Polygonal Lasso tool.

3. Set the options in the tool options bar for the selected tool:

- o Choose how the new selection should be treated in relation to the current selection.

- o Enter the amount of feathering for the new selection (0 is no feathering).

- o Specify whether you want the selection anti-aliased so that edges are softer.

4. Depending on the Lasso tool selected, do one of the following:

Lasso. Click and drag around the area you want to select. When you release the mouse button, the selection is automatically closed by



a straight line between the starting and stopping points.

Polygonal Lasso. Click at points around the area you want to select to create straight sides. To close the selection, click back on the first point. (The Polygonal Lasso icon appears with a circle next to it when you are over the point.) You can also Command/Ctrl-click or double-click to close the selection with a straight line between the starting and stopping points.

Using the Magnetic Lasso Tool

The Magnetic Lasso tool goes one step further than other lasso tools by reading the image content you are trying to select and automatically sticking to edge contours as you move along with your cursor-so you don't have to work quite as hard to follow exact edges. Photoshop does this by looking at the contrast between areas where you drag your cursor to determine where the edge boundary should be. The results are not always perfect, and you will need to adjust the options for some objects, but this technique can save a lot of time-particularly if you have clear definition between shapes:

1. Select a layer.
2. Choose the Magnetic Lasso tool.
3. Set the options in the tool options bar for this selection tool:

- o Choose how the new selection should be treated in relation to the current selection.

- o Enter the amount of feathering for the new selection (0 is no feathering)

- o Specify whether you want the selection anti-aliased so that edges are softer.

- o Enter the width from the mouse pointer to be considered as part of the path. If the image is high contrast, use a wide line to ensure a solid edge. If there are a lot of small shapes, use a width larger than 10 pixels.

- o Enter the percentage of contrast between edges in the image to be considered for the path. Use a high percentage for high-contrast images to ensure a tighter fit.

- o Under Frequency, enter a number (1 through 100) for how often anchor points are automatically added along the path. The more points, the tighter the fit, but the more jagged the selection may appear.

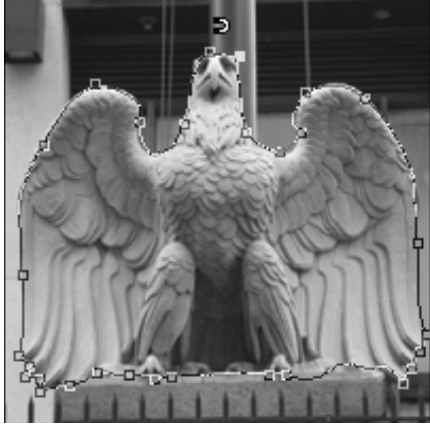
- o If you are using the Magnetic Lasso tool and a tablet, specify whether you want to allow pen pressure to set the width.

4. Click to set the first anchor point in the selection, and then drag around the edge of the object you are attempting to select. A selection path (a solid line) snaps to the edge of the object as you drag. Your settings for Width, Edge Contrast, and Frequency determine how the tool

reads edges and fits your selection.

If you notice that the selection is moving away from the desired edge, try moving more slowly. You can only back up to the last anchor point. Click to manually add anchor points if you are on track, and then continue your selection.

5. To close the magnetic selection, do one of the following:



- **C l i c k** back on the first point. (The Magnetic Lasso icon appears with a circle next to it when you are over the point.)

- **C o m - m a n d / C t r l - c l i c k**, press Return/Enter, or double-click to close the selection with a

magnetic path line directly between the starting and stopping points calculated by Photoshop.

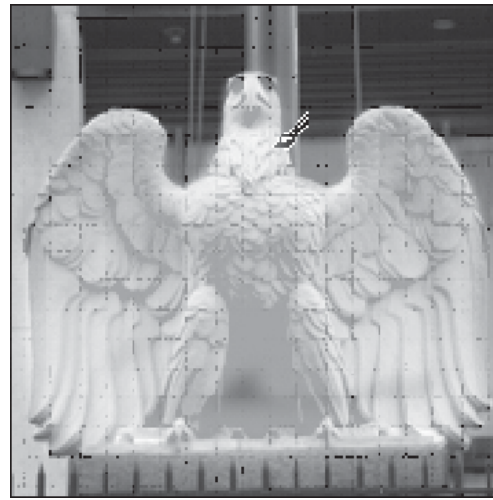
- **O p t i o n / A l t - d o u b l e - c l i c k** to close the selection with a straight line between the starting and stopping points.

Using Quick Mask to Make a Selection

Using Quick Mask is a unique alternative to other selection methods. Rather than having to trace the border of a desired selection, you can use painting tools to make your selection. Quick Mask mode is based on the process used for editing any mask or channel in Photoshop—painting with black or white to add or remove masked areas—with the added convenience of toggle buttons in the Toolbox to quickly switch between mask and selection. Quick Mask is also unique in that it offers you a color overlay, which by default simulates a Rubylith channel and works as an onionskin layer that you can manipulate independently of the image itself, allowing you to use tools to “draw” your selection as an alpha channel. You can switch to Quick Mask any time from any selection to edit or make changes. You can create great, quick, rough selections or intricately detailed selections that might otherwise be difficult using this technique. To use Quick Mask to make a selection, follow these steps:

1. Choose the Quick Mask Mode option on the toolbar. Your foreground and background colors are switched to black and white.

2. Choose any appropriate size and shaped brush to paint areas you want to select. It will appear as though you are painting-on a semitransparent layer. In the illustration at right the mask is being painted over the image (indicated here by



lighter areas). The mask will appear as a semitransparent red or mock-Rubylith by default. Toggle between foreground and background colors (black/white) to alternate between adding and subtract-

ing from the mask.

3. After you paint your mask, select the Standard Mode button in the toolbar to turn the mask into a selection. Click back to Quick Mask mode to turn the current selection back into a mask and continue editing.

When making precise selections, it is helpful to zoom in to the image as much as possible to see greater detail. To help make Magnetic Lasso selections, increase the difference between edges in the image by adding a Brightness/Contrast fill layer and increasing contrast. Double-click the Quick Mask icon in the Toolbox to set Quick Mask options. You can switch between painting masked versus selected areas and change the color and opacity of the overlay. Though you can make selections with Feathering preset, you may find it advantageous to make selections first and then add feathering and try different settings for your specific conditions.

Photoshop's Magic Wand tool and the Select > Color Range menu option allow you to make selections based on image or pixel color. You can take advantage of large areas of similar color for easy selections, or you can select bits of the same color that are scattered in your image to save time. If the area you want to select contains lots of tonal changes, you might have to play with your settings to get the desired selection.

Using the Magic Wand Tool

You can use the Magic Wand tool to click a single pixel in your image to select that color and similar colors immediately surrounding it or throughout the image. Follow these steps:

1. Select a layer as described in the previous installment.

2. Choose the Magic Wand tool.

3. Set the options in the tool options bar for this selection:

- o Enter the color tolerance (0 through 255) for the selection. This number specifies how

similar a color has to be to the color clicked to be included in the selection. The higher the number, the more tolerant the selection.

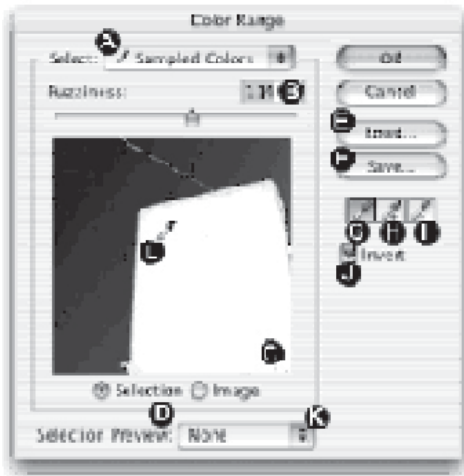
o If checked, anti-aliasing is used to give the edges of the selection a smoother appearance.

o If Contiguous is checked, only pixels touching the selected pixel and within the set tolerance are included in the selection. Otherwise, the Magic Wand tool selects all pixels in the image within the tolerance level.

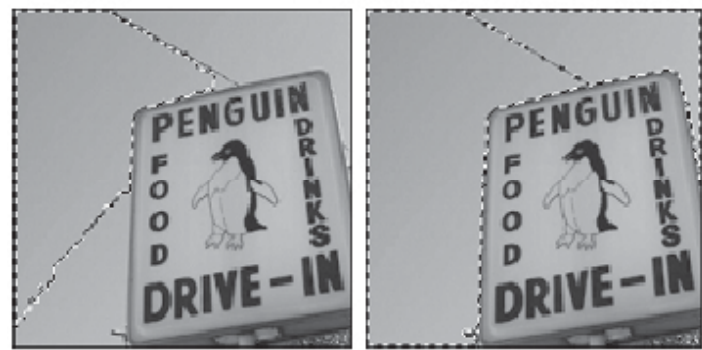
o If Use All Layers is checked, the Magic Wand selects pixels on all layers in the image. Otherwise, the Magic Wand tool works only within the selected layer.

4. In the canvas, click a pixel of the color you want to select. You can change the Tolerance setting you have chosen or simply Shift+click to add to your Selection.

Below at left, a Magic Wand selection with a Tolerance of 25 and Contiguous checked. The selection is stopped by the black line.



At right, a Magic Wand selection with a Tolerance of 150 and Contiguous unchecked. More pixels are selected, and the selection is not stopped by the black line.



Using the Color Range Dialog

You can choose Select > Color Range to make simple color-based selections or to make complex selections reading color subsets and blends:

1. You can first limit the area being considered by making a selection.
2. Choose Select > Color Range to open the Color Range dialog.
3. Click with the Eyedropper on a desired color,

and drag the slider in the dialog. Experiment with various settings and combinations:

A - Choose to select colors directly from the image or to select a particular color, luminosity, or out-of-gamut colors.

B - Click to enter or use the slider to set the level of fuzziness (0 through 200), which is much like color tolerance.

C - **Preview**. Shows the image, the selected area (white indicates a selected area), or a reduced version of the original image.

D - Choose a preview method for the canvas, showing the selection either as grayscale (shown) or the full image.

E - Click to load previously saved settings.

F - Click to save the current settings.

G - **Eyedropper tool**. Click to select a new color. This action deselects other colors currently selected.

H - + **Eyedropper tool**. Click to select a color to add to the current range (Shift+click).

I - - **Eyedropper tool**. Click to select a color to remove from the current range (Opt/Alt+click).

J - If checked, the selection is inverted.

K - Choose a method for previewing the selection in the canvas : None, Grayscale, Black Matte, White Matte, Quick Mask.

L - Use the Eyedropper tool to select colors in the preview area, in the document windows, or from any color swatch in the interface.

4. When you are satisfied with the preview, click OK.

5. Check what you've got with the next desired command. Undo, make adjustments to the dialog options, and make repeated selections with alternate variables. This is one of those tools that require experimentation.

Increasing or Reducing Selection Areas

After making an initial selection, you can add to or subtract from the selection in a variety of ways. The following modifiers appear at the left side of the Options bar when you choose a selection tool from the Toolbox:



A - New Selection

B - Add To Selection

C - Subtract From Selection

D - Intersect Selections

Using Selection Tools to add to or subtract from a Selection

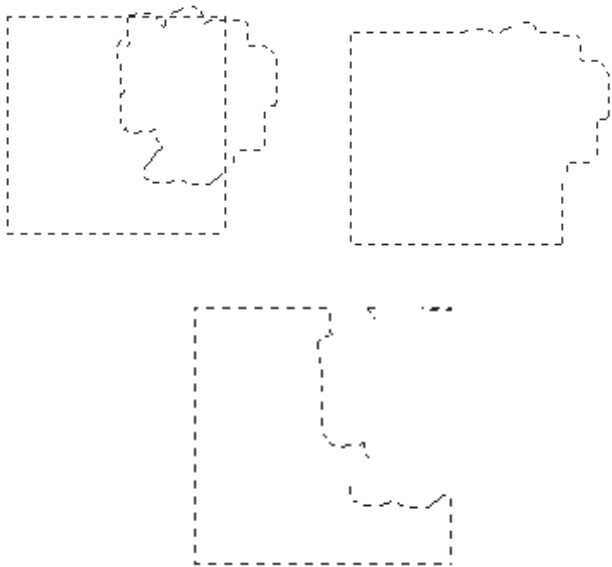
You can use all the selection tools (Marquee, Lasso, and Magic Wand) to add to or subtract

from an existing selection. Depending on the tool you are using, the cursor icon will have a plus (+) next to it when adding or a minus (-) when subtracting. You can add or subtract using the selection tools in two ways:

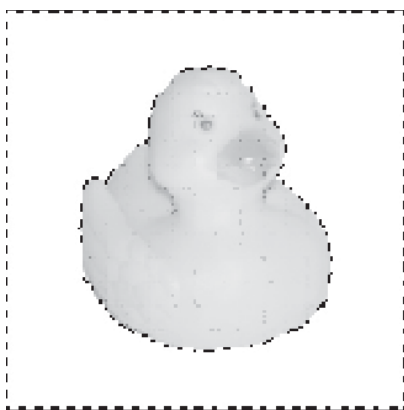
- Choose a selection tool, and then click the Add To Selection or Subtract From Selection button in the tool options bar. Set other options for the selection tool as desired, and then follow the instructions for selecting with that tool. The new selection is added to or subtracted from the original selection.

- Choose a selection tool, set options in the tool options bar, and then hold down the Option/Alt (subtract) or the Shift (add) key while following the instructions for selecting with the current tool. The new selection is added to or subtracted from the original selection.

In the illustrations below, the one at left shows the original selection (square) and the new selection. On the right, the new selection has been added to the original selection. Bottom, the new selection has been deleted from the original selection.



Use selection tools to select the common area between an existing selection and a new selection. When you are creating an intersection, the cursor icon will have an X next to it. Follow these steps:



1. Choose a selection tool, click the Intersect button, and set the other options in the tool options bar.

1. Choose a selection tool, click the Intersect button, and set the other options in the tool options bar.

2. Follow the instructions for the tools being used to make a second selection. Make sure that the new selection overlaps the existing selection; if it does not, no pixels will be selected.

Don't confuse inverting the selection (the Inverse command) with inverting colors. The two processes have similar names and keyboard shortcuts, but produce very different results.

Switching Selected and Unselected Areas

Often it is easier to select the area that you do not want selected than the area you want selected. For example, it is easier to select a flat, colored background that surrounds a complexly shaped object rather than trying to select the object itself. In these cases, you then need to invert the selection to select the desired area. First make a selection, and then choose Select > Inverse. You can then refine the selection further or edit the selection. In the illustration at right, the selection has been inverted. Notice that the selection marquee follows the edges of the canvas.

Feathering a Selection

Photoshop gives you numerous options for modifying selection edges, from convenient options for adding and subtracting pixels to softening or feathering selections. Feathering is the process of softening the edges of a selection, making a gradual fading transition from the boundary of the selection inward. You can set feathering as an option in the tool options bar before making most selections (except with the Magic Wand), but you can also set feathering after making a selection. Follow these steps:

1. Choose Select > Feather...

2. Enter the number of pixels you want to be feathered from the edge of the selection marquee in the Feather Selection dialog. The number you choose depends not only on the amount of fade you want, but also on the size of the actual selection and the resolution of the image.

3. Click OK. The selection is now feathered at the edges.

The content around the center of the image at left has been selected and feathered.



You can really see the effects of the feathering when the selection is deleted, as shown in the image at right. Don't confuse moving the selection marquee with moving the selected content. You can move the marquee using any selection tool, and doing so does not affect the image. You can move the selected content only by using the Move tool.

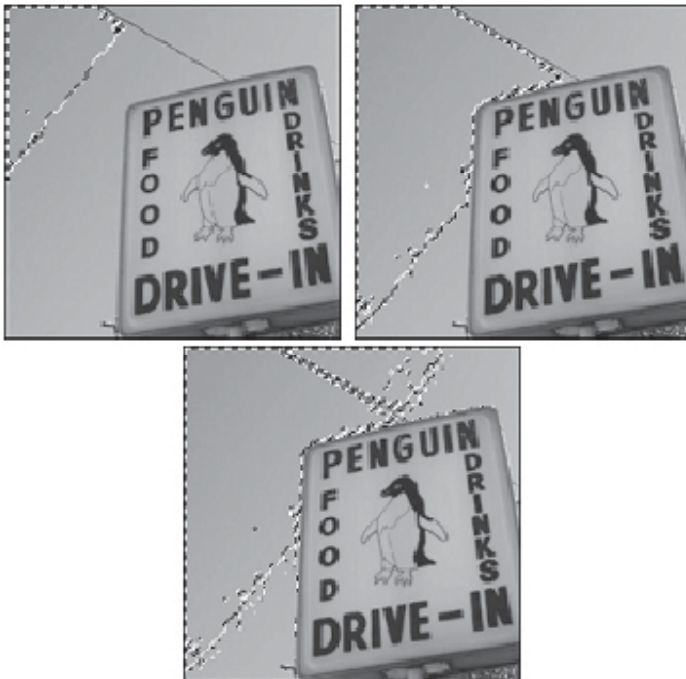
Enlarging a Selection Based on Color

To enlarge an existing selection based on similarities in pixel color you can:

Add contiguous pixels. Choose Select > Grow to expand the selection to include colors immediately around the image based on the selected area and within the set tolerance in the Magic Wand options.

Add noncontiguous pixels. Choose Select > Similar to expand the selection to include colors throughout the image based on the selected area and within the set tolerance in the Magic Wand options.

At left, the original selection to be modified. In the middle, Grow: the selection grows to include similar pixels in the same area. At right, Similar: the selection includes similar pixels throughout the image.



Modifying a Selection

To capture an exact area, you must use a variety of methods to make your selection and then further refine and modify the selection. You can continually modify selections at any time while working with them. At left, the original selection to be modified, in the middle a 10-pixel border is selected, while at right the selection is

smoothed to 20 pixels.

Photoshop offers you four basic selection modifiers.

To select a border based on a selection. Choose Select > Modify > Border..., enter the size of the desired border, and click OK. The selection is changed to a border of the set thickness around the position of the original border.

How To smooth a rough selection. Choose Select > Modify > Smooth..., enter the amount of smoothing you want (higher numbers create smoother selections), and click OK. The selection will flatten sharp picks and dips within a jagged selection by the amount you indicated. Smooth is most effective in RGB mode.

How To enlarge the size of the selection. Select > Modify > Expand..., enter the number of pixels to enlarge the selection, and click OK.

How To reduce the size of the selection. Choose Select > Modify > Contract..., enter the number of pixels by which to reduce the selection, and click OK.

Selection marquees that have been feathered have rounded edges at the corners. To avoid the clipping or rounding of corners associated with expanding and contracting selections, you can switch to Quick Mask and choose Filter > Other > Maximum or Filter > Other > Minimum. At left, the selection is expanded by 10 pixels, at right it's contracted by 10 pixels.



Moving the Selection Marquee

You can move the selection marquee independently of the actual image content, which allows you to make a selection in one layer or area and then transfer the selection to another layer or area without affecting the content. At left, the selection is moved, but the content remains in the same place. Warning: Don't confuse invert-

ing the selection (the Inverse command) with inverting colors. The two processes have similar names and keyboard shortcuts, but produce very different results.

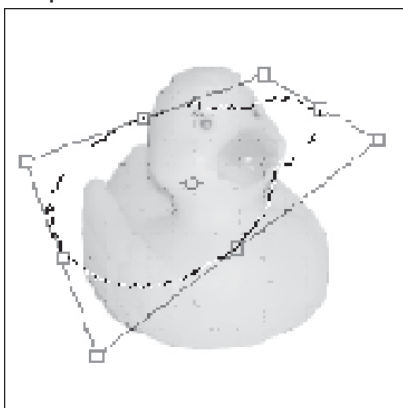
- To move the selection marquee within a layer, choose any selection tool and select the New Selection button in the tool options bar. Now either click and drag anywhere within the selection or use the arrow keys to move the selection.

- To move the selection marquee to another layer, simply select the target layer using one of the methods discussed in earlier articles.

- To move the selection marquee between open Photoshop documents, choose any selection tool and select the New Selection button in the tool options bar. Now click anywhere within the selection and drag it from the original document into the target document's canvas. The selection is placed into the currently selected layer of the target document. The selection marquee is still available in the original document as well.

Transforming the Selection Marquee

You can transform a selection marquee: you can scale it, skew it, distort it, and add perspective to it. You transform a selection marquee on a bounding box in much the same way that you transform content, but only the selection marquee is affected, not the selected content. To transform the selection marquee, follow these steps:



1. Choose Select > Transform Selection to display a rectangular bounding box around the entire selection.

2. Make one or more of the following transformations to the marquee:

- To move the entire selection marquee, click and drag within the bounding box except at the exact center.

- To adjust the reference point (which sets the center for transformations), click and drag it to the desired location.

- To scale the selection marquee, click and drag an edge of the bounding box. Click corner points to resize both horizontally and vertically at the same time.

- To symmetrically scale the selection marquee around the reference point, Option/Alt-click and drag an edge or a corner point of the bounding box.

- To rotate the selection marquee around the

reference point, click and drag just outside the bounding box.

- To skew the selection marquee, Shift-Command-click/Shift-Ctrl-click and drag an edge of the bounding box.

- To distort the selection marquee, Command/Ctrl-click and drag any of the edges or corner points of the bounding box independently.

- To symmetrically distort the selection marquee around the reference point, Option-Command-click/Alt-Ctrl-click and drag edges or corner points of the bounding box.

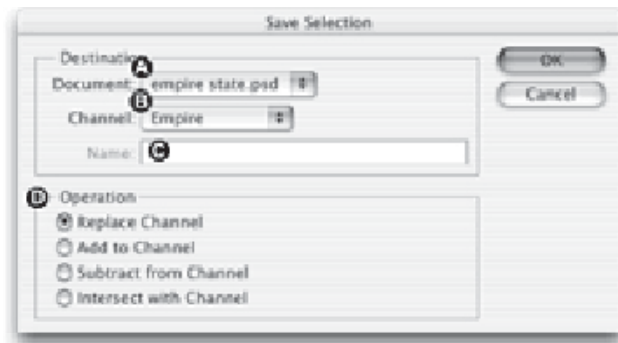
- To add perspective to the selection marquee, Control/right-click and select Perspective from the contextual menu. Click and drag on an edge or a corner point to change the selection's perspective.

3. Click the Commit button in the tool options bar or press Enter/Return to accept the transformations. Click the Cancel button or press Esc to cancel transformations and leave the selection unchanged.

Saving a Selection

Although many of the selections you make will be temporary, you may also find that making precise selections takes considerable effort. Preserving selections to save yourself work in redoing them — should you change your mind or consider another option down the road — might just become part of your routine one day. You can save selections for use between documents; this is particularly helpful in production work or running actions on multiple images. To save a selection, follow these steps:

1. Make a selection.
2. Choose Select > Save Selection....
3. Set options in the Save Selection dialog.



A - Specify whether you want the selection saved in the current document, an open document duplicated from this document, or a new document.

B - Select an existing channel to save the selection in, or choose to save the selection in a new channel. If you are creating a new document, New will be the only choice for channel.

C - If you are creating a new channel for the selection, enter its name.

D - If you are adding the selection to an existing channel, choose the operation for how the new selection should be placed in the channel.

4. Click OK.

· If you choose to start a new document, an untitled document is opened with the new channel.

· If you choose to add the selection to another channel, the selection is now a part of that channel.

· If you choose to start a new channel for the selection, the channel is added to the document in the Channels palette.

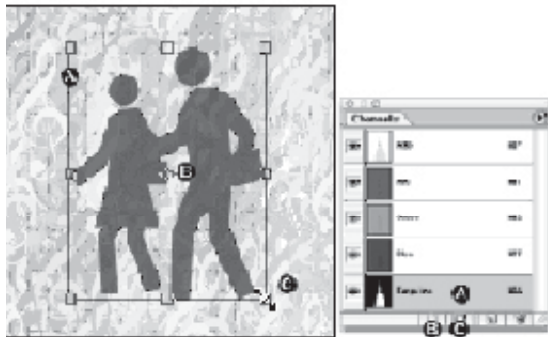
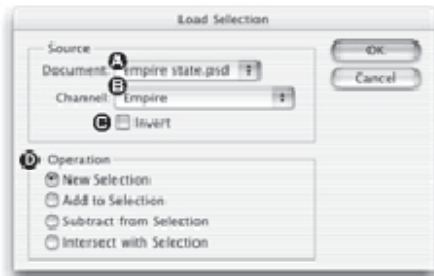
Loading a Selection

To load a selection, follow these steps:

1. Select a layer into which to load the selection. You can also make an initial selection.

2. Set options in the Load Selection dialog.

3. Click OK. The new selection is on the canvas.



A - Choose the open document you want with the desired selection channel.

B - Choose the channel from which to load the selection.

C - Check to invert the selected area.

D - If you have an existing selection already on the canvas, choose the operation for how the new selection should be treated in relation.

Loading a Selection from the Channels Palette

You can also reload selections directly from the Channels palette. Save a selection as an alpha channel, bypassing the Save Selection dialog, by

clicking the Save Selection As Channel button.

A - Highlight the alpha channel that contains the selection.

B - Load the channels as selections.

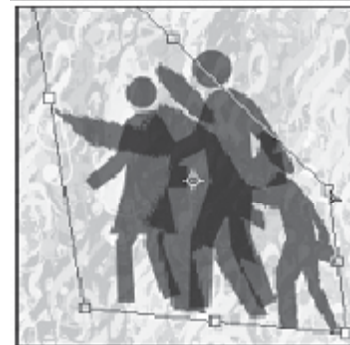
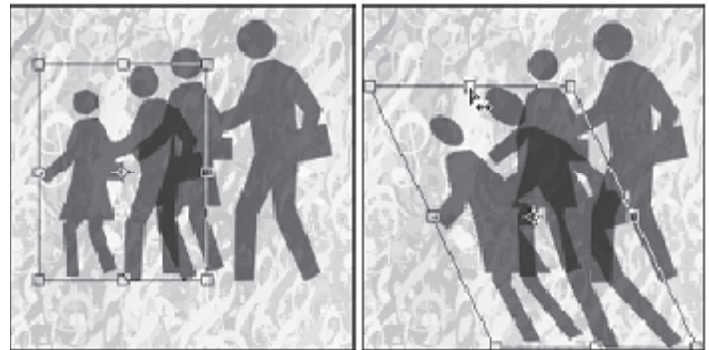
C - Save the selection as a channel.

1. In the Channels palette, click the alpha channel that contains the saved selection. The canvas will show the black and white of the alpha channel. White is the selected area.

2. Click the Load Channel as Selection button [ButtonSelectToPath.tif]. The selection will be displayed in the canvas. Select the Combined channel to view the image again.

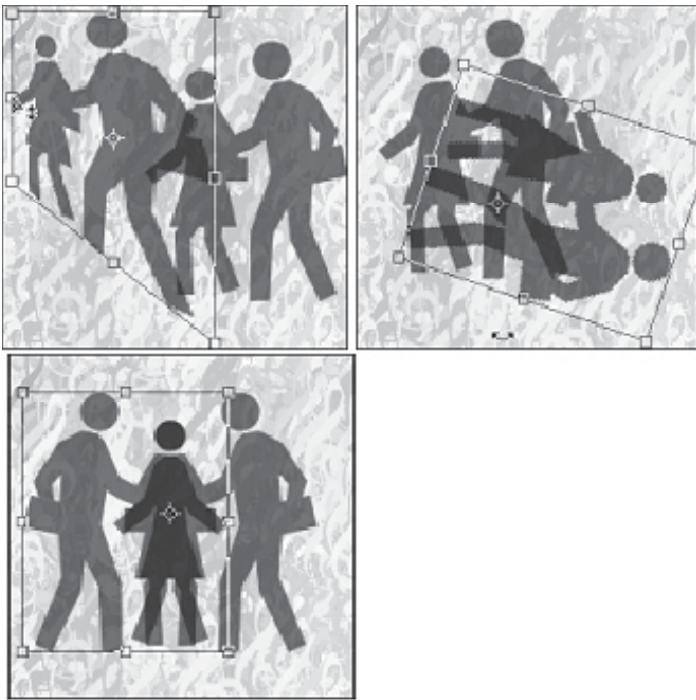
After copying, pasting, extracting, or otherwise isolating an object or image content, you may find yourself wanting to manipulate it-wanting to transform it-to better fit your intentions or its surroundings. Photoshop allows you to transform content by scaling, skewing, distorting, or adding perspective to the selected object or layer.

You can apply transformations using menu commands or by using transformation pseudo tools. Accessed via menu command, these pseudo tools allow you to intuitively drag control points (C) on a bounding box (A) displayed around the content being manipulated. Several transformations use a movable reference point (B) on which they base their transformation. Click and drag this icon to reposition the reference point. For example, a Rotate command will rotate around this reference point. You can also reposition



Top Left: Scale, adjust from corners. Add Shift to constrain.
Top Right: Skew, sides adjust and remain parallel.
Bottom: Distort, adjust from sides and corners.

content while transforming. In all the following examples, the original silhouette at 65% opacity is copied and the duplicate transformed to give you a reference for what was done.



Top Left: Perspective, adjust from sides and corners.
 Top Right: Rotate, with reference point shifted off center.

Bottom: Flip, horizontal with reference point shifted off center.

Using the Free Transform Pseudo tool

The most common way to make transformations is to use the Free Transform pseudotool, which allows you to make any of the transformations. Which transformation you make depends on where you click or which keyboard or menu modifiers you choose. To use the Free Transform pseudo tool, follow these steps:

1. Select a layer to transform. You can also select specific content on the layer. If no content is selected on the layer, the transformation is applied to the entire layer.

2. Choose Select > Transform Selection to display a rectangular bounding box around the entire selection.

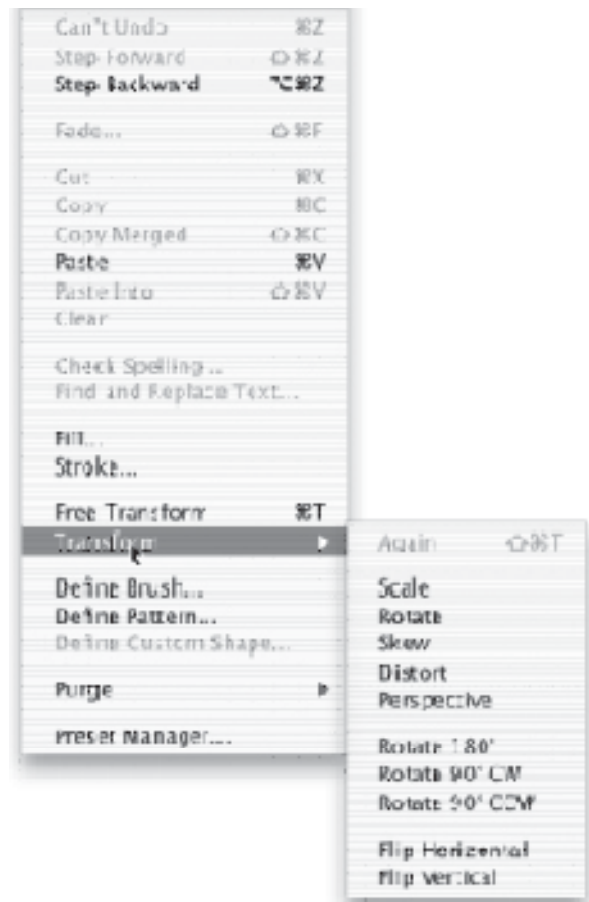
- 3.

4. Make one or more of the following transformations:

- o To move the entire selection, click and drag within the bounding box.

- o To adjust the reference point (which sets the center for transformations), click and drag it to the desired location.

- o To scale the selection, click and drag an edge of the bounding box. Click corner points to resize both horizontally and vertically at the same time.



- o To symmetrically scale the selection around the reference point, Option/Alt-click and drag an edge or a corner point of the bounding box.

- o To rotate the selection around the reference point, click and drag just outside (but not touching) the bounding box.

- o To skew the selection, Shift-Command-click/Shift-Ctrl-click and drag an edge of the bounding box up or down.

- o To symmetrically skew the selection, Option-Command-click/Alt-Ctrl-click and drag an edge of the bounding box up or down.

- o To distort the selection, Command/Ctrl-click and drag edges or corner points of the bounding box.

- o To symmetrically distort the selection around the reference point, Option-Command-click/Alt-Ctrl-click and drag edges or corner points of the bounding box.

- o To add perspective to the selection, Control/right-click and select Perspective from the contextual menu. Click and drag an edge or a corner point to change the selection's perspective.

5. Click the Commit button in the tool options bar or press Enter/Return to accept the transformations. Click the Cancel button or press Esc to cancel transformations and leave the selection unchanged.

Using Commands and Pseudo tools

You can also access each transformation pseudo tool independently on the Transform submenu. This allows you to focus on making one kind of transformation without worrying about whether you have your mouse in the right position or the right keyboard modifier pressed. To transform using commands and pseudo tools, follow these steps:

1. Select a layer to transform. You can also select specific content on the layer. If no content is selected on the layer, the transformation is applied to the entire layer.

2. Choose Edit > Transform and then one of the options in the submenu. You can select different pseudo tools to work with while making transformations, using either the Edit > Transform menu or the contextual menu.

Again. Choose to repeat the previous transformation.

Scale. Choose to use the Scale pseudo tool. Click and drag an edge of the bounding box to resize. Click corner points of the bounding box to resize both horizontally and vertically at the same time. Press Option/Alt to scale symmetrically.

Rotate. Choose to use the Rotate pseudo tool. Click and drag just outside the edges of the bounding box to freely rotate the selection.

Skew. Choose to use the Skew pseudo tool. Drag an edge of the bounding box up or down to skew. Press Option/Alt to skew symmetrically.

Distort. Choose to use the Distort pseudo tool. Drag edges or corner points of the bounding box. Press Option/Alt to distort symmetrically.

Perspective. Choose to use the Perspective pseudo tool. Click and drag an edge or a corner point to change the perspective.

Rotate 180°, 90° CW, or 90° CCW. Choose to turn the entire selected region.

Flip Horizontal Or Vertical. Choose to reverse the area in the indicated direction.

3. Click the Commit button in the tool options bar or press Enter/Return to accept the transformations. Click the Cancel button or press Esc to cancel transformations and leave the selection unchanged.

Using the Transform Tool Options Bar

Even though they are not real tools (at least they are not in the Toolbox), all transform pseudo tools have options in the tool options bar that allow you to make transformations numerically. Follow these steps:

1. Select a layer to transform. You can also select specific content on the layer. If no content is selected on the layer, the transformation is applied to the entire layer.

2. Select a transform pseudo tool from the Edit > Transform submenu, or choose Edit > Free Transform.

3. Set the options in the tool options bar.



A - Reference Point Location. Click one of the open squares to set the relative position of the reference point in relation to the bounding box.

B - Reference Point Horizontal and Vertical Position. Enter an exact position for the reference point in the canvas.

C - Use Relative Position For Reference Point. Click if you want the units for horizontal and vertical to show the position of the reference point location relative to its initial location.

D - Set Horizontal and Vertical Scale. Enter the width and height (as percentages) for the bounding box.

E - Link Scales. Click if you want the horizontal and vertical values to remain relative to each other.

F - Set Rotation. Enter a value (-180 through 180) in degrees to specify the angle of the selection.

G - Set Horizontal And Vertical Skew. Enter values (-180 through 180) in degrees to specify the amount of twist to be applied to the selection.

H - Cancel Transformation. Click to reject transformation changes.

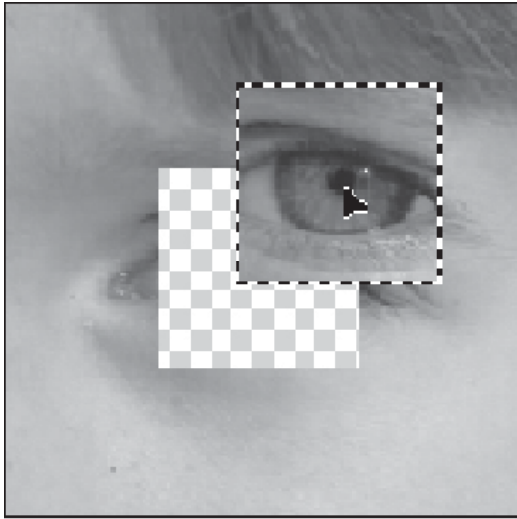
I - Commit Transformation. Click to accept transformation changes.

Moving selected content may sound like a primary function in Photoshop, yet the logistics are most often carried out in a less straightforward way-copying and pasting, extracting or deleting backgrounds, and then moving objects and layers as opposed to moving selected content. Moving selected content between images is both a memory- and a time-saver. Copying while moving (dragging) selected content is an oft-overlooked tool in photo retouching.

Dragging and Dropping Content

Once an area has been selected, you can use the mouse cursor to drag the selected content anywhere on the document's canvas (or even to a different document) and drop it in a new location. This is not as important on most computers today, but this process is less memory-intensive than copy and paste. The content in the image to the left is being moved across the screen. To drag and drop content, follow these steps:

1. Select an object or specific content you want to move. If no content is selected on the



layer, the entire layer is moved.

2. Choose the Move tool.

3. Do one of the following:

- o To move the content to another open Photoshop document, click within the selection and drag it to the canvas of the target document. The content is placed in a new layer immediately above the previously selected layer. This will not remove the content from the originating document. Hold down the Shift key to center pixels in the new layer.

- o To move the content to another application, first make sure that the application will accept graphic input. If it does, open a document in that application, switch to Photoshop, click within the selection, and drag it to the document window of the target application.

- o To move the selected content within the same layer, simply click within the selection and drag the content to the desired position. You can continue to move the selected content without dropping it until you deselect it or select another layer. The content being moved will leave a hole in the layer, either transparent or filled with background color.

Dragging and Dropping from another Application

Photoshop can also receive input from other applications. To drag and drop from another application, do one of the following:

- o To move a bitmap image, click the image in the application and drag it into the canvas of an open Photoshop document. The content is placed in a new layer immediately above the previously selected layer.

- o To move a vector image from Illustrator, select the vector image(s) and drag into an open Photoshop document window. The unrasterized vector image appears on a new layer with a bounding box to which you can apply transfor-

mations, or you can specify options in the tool options bar. Click the check mark or press Enter to render the vector image at the image's resolution.

- o To move text, select the text and click and drag it to an open Photoshop document window. The text is rasterized at the image's resolution. To move as text, you need to copy and paste it into a text layer.

Drag-Copying a Selection

If you are duplicating an object within the same layer, simply copy it while dragging to its target location to save time. This is an invaluable way to remove blemishes quickly. Follow these steps:



7. Select the layer with the content to be duplicated, and then select specific content on that layer.

8. Choose the Move tool, and then, in the canvas, Option/Alt-click and drag. One of two things will happen:

- § If you selected a layer, the content of the layer is duplicated into a new layer.

- § If you selected content within a layer, the content is duplicated as a selection on the same layer.

9. When you release the Move tool, the duplicated content is set. The original content remains in its initial position.

Press Option/Alt and drag a selection (left) to duplicate it while moving (right).

Copying and Cutting Selected Content

Whether you copy or cut, you are actually placing information in temporary memory on the Clipboard. Just as in other applications with which you might be familiar, cutting removes selected information, and copying duplicates the selected information-in Photoshop this information can be pixels, vector information, or text. When copying pixels in Photoshop, you can either copy what is on a selected layer or copy all of what you see in a selection (and below it) by copying "merged" pixel information.

Content is moved to the Clipboard whenever you copy or paste a layer or a selected part of a

layer, but only one selection at a time, and every time you copy or paste, the previous selection is replaced in the Clipboard. However, you can paste this selection from the Clipboard as many times as desired. To move selected content to the Clipboard, do one of the following.

- o Choose Edit > Copy to move the selected content to the Clipboard but leave the original intact.

- o Choose Edit > Cut to move the selected content to the Clipboard and delete the original.

- o Choose Edit > Copy Merged to move the selected content on all layers to the Clipboard.



A portion of the image or layer is selected (left). Copying will have no visible effect on the image. Cutting, however, will leave a hole (or fill) in place of the selected content (center). On a Background layer, the fill will be in the color specified as the background color in the Toolbox. When you copy and immediately paste the selection in the same document, it is positioned exactly above where it was. If you choose to cut and paste, the pasted selection will not be aligned (right).

Pasting in Place

Pasting content in Photoshop is generally the second half of a process, as you must first have content in your Clipboard—copied from within a Photoshop document, from another application, or from the operating system as with a screen capture. With content already copied, you have several options. What you paste depends on the resolution of the original.

If you are copying and pasting in the same document, without deselecting, your copied

content will be pasted in the same position as the original... on a new layer directly above the original content. As soon as you deselect the area from which you are copying, the information on the Clipboard is document independent and is treated just as if you were working in a new document.

Pasting to another Document

To paste the content of the Clipboard into a different document, open the document and then do one of the following:

- o Choose Edit > Paste. The image in memory is placed in the middle of a new layer, inserted immediately above the active layer in the selected document.

- o Make a selection and choose Edit > Paste. The image is placed in a new layer, centered over the selection area.

- o Make a selection and choose Edit > Paste Into. The image is placed in a new layer above the active layer, centered in and masked by the selection.

Pasting from another Application

You are not limited to copying and pasting just within Photoshop. You can also copy images (bitmap and vector) or text in or from other applications and then paste that content into a Photoshop document. Pasting from another document depends more on where and how you copy the content than on the pasting itself.

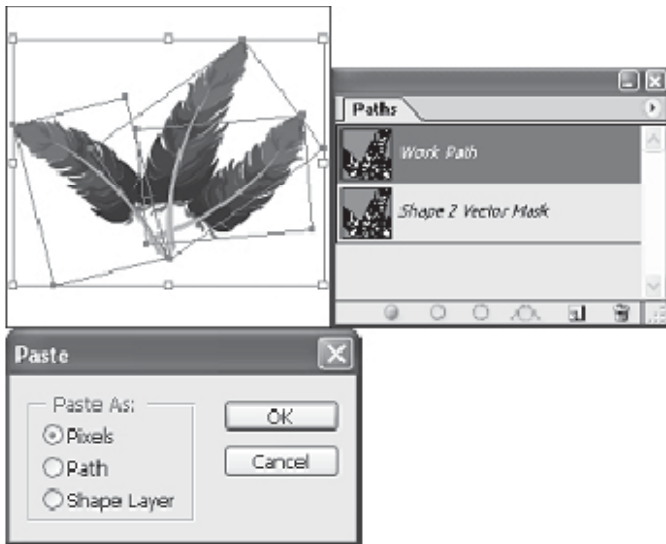
- o Generally, pasting from another application is as described in the previous section. Your resolution depends on the source document and application.

- o Pasting text requires you to choose the Type tool, create a text box, or insert your cursor in the document and paste. You can set formatting before or after pasting.

- o If you are not getting the results or resolution you need from the copy-and-paste process, explore the (other) application's export formats.

Pasting a Vector Image from Another Application

Photoshop allows you the option of preserving vector information (paths) you copy from other applications. You can also allow Photoshop to convert or transform the vector data from your Clipboard into pixels or vector shapes. Vector paths from other applications can be edited, filled, stroked, turned into shape presets, and printed from Photoshop with PostScript characteristics intact. When you paste a vector image selected and copied from another application such as Adobe Illustrator, you are presented with a dialog that gives you three choices:



The art is selected and copied (top left) from Adobe Illustrator. The Paste dialog (center) gives you the choices for pasting as Pixels, Path, or Shape Layer. If you select either Path or Shape Layer, you create a work path or a vector mask (right).

If you paste the vector art as pixels (bottom), it will be surrounded by a bounding box so that you can scale it as vector information one last time before rasterizing into pixel data. If the vector art is pasted as paths (center), the paths can be resized, stroked, or filled. You can save the path using the Paths palette. If you paste the vector art as a Shape layer (right), the paths take on a fill in the selected foreground color; notice that you also lose all detail in the vector artwork.

Each of the options available in Photoshop for pasting vector artwork has distinct creative or design possibilities, from print considerations to future use and versatility. For example, you can paste a company logo or a vector signature into Photoshop and use it repeatedly as a custom shape. All the color and detail of complex vector artwork can be further stylized with tools available in Photoshop that are not generally available in vector-editing applications.