Pen Tool Drawing States

The Pen tool provides feedback about its current drawing state by displaying different pointers. The various drawing states are indicated by the following pointers:

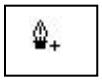
Initial Anchor Point pointer

The first pointer you see when you select the Pen tool. Indicates that the next mouse click on the Stage will create an initial anchor point, which is the beginning of a new path (all new paths begin with an initial anchor point). Any existing drawing paths are terminated.

Sequential Anchor Point pointer

Indicates that the next mouse click will create an anchor point with a line connecting it to the previous anchor point. This pointer is displayed during the creation of all user-defined anchor points except the initial anchor point of a path.

Add Anchor Point pointer



Indicates that the next mouse click will add an anchor point to an existing path. To add an anchor point, the path must be selected, and the Pen tool must not be over an existing anchor point. The existing path is redrawn based on the additional anchor point. Only one anchor point can be added at a time.

Delete Anchor Point pointer

Indicates that the next mouse click on an existing path will remove an anchor point. To remove an anchor point, the path must be selected with the Selection tool, and the pointer must be over an existing anchor point. The existing path is redrawn based on the removal of the anchor point. Only one anchor point can be removed at a time.

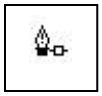
Continue Path pointer

Extends a new path from an existing anchor point. For this pointer to be activated, the mouse must be over an existing anchor point on a path. This pointer is only available when you are not currently drawing a path. The anchor point does not have to be one of the terminal anchor points of a path; any anchor point can be the location of a continued path.

Close Path pointer

Closes the path you're drawing on the starting point of the path. You can only close a path that you are currently drawing, and the existing anchor point must be the starting anchor point of the same path. The resulting path does not have any specified fill color settings applied to the enclosed shape; apply fill color separately.

Join Paths pointer



Similar to the Close Path Tool except that the mouse must not be over the initial anchor point of the same path. The pointer must be over either of the terminal points of a unique path. The segment may or may not be selected.

Retract Bezier Handle pointer

Appears when the mouse is over an anchor point whose Bezier handles are displayed. Clicking the mouse retracts the Bezier handles and causes the curved path across the anchor point to revert to straight segments.

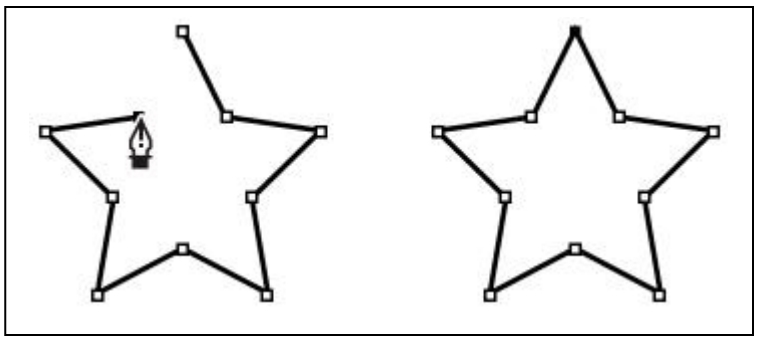
Convert Anchor Point pointer

Converts a corner point without direction lines to a corner point with independent direction lines. To enable the Convert Anchor Point pointer, use the Shift + C modifier keys to toggle the Pen tool.

Draw straight lines with the Pen tool

The simplest path you can draw with the Pen tool is a straight line, made by clicking the Pen tool to create two anchor points. Continue to click to create a path made of straight line segments connected by corner points.

1. Select the Pen tool.
2. Position the Pen tool where the straight segment is to begin, and click to define the first anchor point. If direction lines appear, you accidentally dragged the Pen tool; choose Edit > Undo and click again.
   Note: *The first segment you draw is not visible until you click a second anchor point (unless you've specified Show Pen Preview in the Drawing category of the Preferences dialog box).*
3. Click again where you want the segment to end (Shift-click to constrain the angle of the segment to a multiple of 45°).
4. Continue clicking to set anchor points for additional straight segments



Clicking Pen tool creates straight segments.

5. To complete the path as an open or closed shape, do one of the following:

- To complete an open path, double-click the last point, click the Pen tool in the Tools panel, or Control-click (Windows) or Command-click (Macintosh) anywhere away from the path.

- To close the path, position the Pen tool over the first (hollow) anchor point. A small circle appears next to the Pen tool pointer when it is positioned correctly. Click or drag to close the path.
- To complete the shape as is, select Edit > Deselect All, or select a different tool in the Tools panel.

Draw curves with the Pen tool

To create a curve, add an anchor point where a curve changes direction and drag the direction lines that shape the curve. The length and slope of the direction lines determine the shape of the curve.

Curves are easier to edit and your system can display and print them faster if you draw them using as few anchor points as possible. Using too many points can also introduce unwanted bumps in a curve. Instead, draw widely spaced anchor points, and practice shaping curves by adjusting the length and angles of the direction lines.

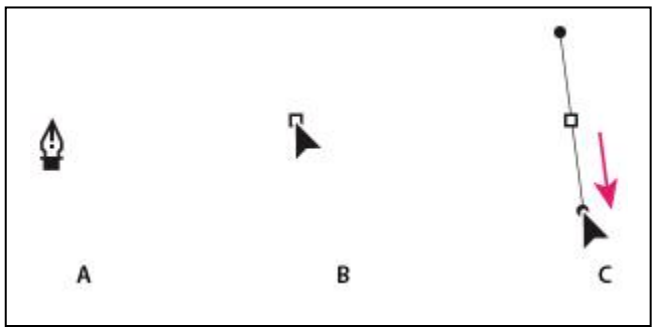
1. Select the Pen tool.
2. Position the Pen tool where the curve is to begin, and hold down the mouse button.

   The first anchor point appears, and the Pen tool pointer changes to an arrowhead. (In Photoshop, the pointer changes only after you've started dragging.)

3. Drag to set the slope of the curve segment you're creating, and then release the mouse button.

   In general, extend the direction line about one third of the distance to the next anchor point you plan to draw. (You can adjust one or both sides of the direction line later.)

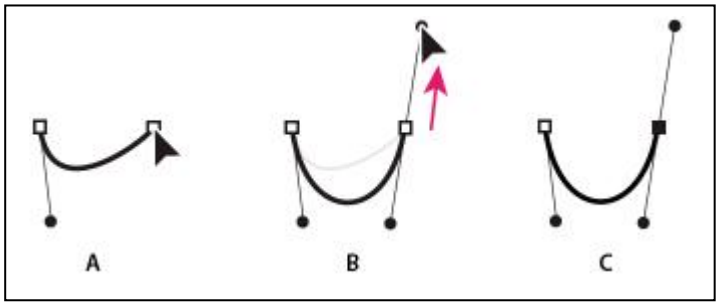
   Hold down the Shift key to constrain the tool to multiples of 45°.



Drawing the first point in a curve
A. *Positioning Pen tool* ***B.*** *Starting to drag (mouse button pressed)*
C. *Dragging to extend direction lines.*

4. Position the Pen tool where the curve segment is to end, and do one of the following:

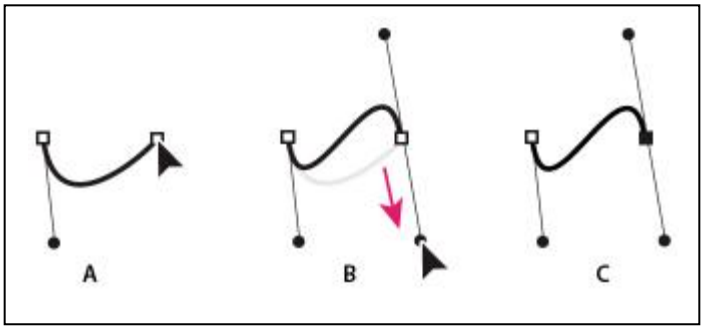
- To create a C-shaped curve, drag in a direction opposite to the previous direction line and release the mouse button.



Drawing the second point in a curve

A. *Starting to drag second smooth point*
B. *Dragging away from previous direction line, creating a C curve*
C. *Result after releasing mouse button.*

- To create an S-shaped curve, drag in the same direction as the previous direction line and release the mouse button



Drawing an S curve
A. *Starting to drag new smooth point*
B. *Dragging in the same direction as previous direction line, creating an S curve*
C. *Result after releasing mouse button.*

5. To create a series of smooth curves, continue dragging the Pen tool from different locations. Place anchor points at the beginning and end of each curve, not at the tip of the curve.

6. To complete the path, do one of the following:

- To close the path, position the Pen tool over the first (hollow) anchor point. A small circle appears next to the Pen tool pointer when it is positioned correctly. Click or drag to close the path.
- To leave the path open, Ctrl-click (Windows) or Command-click (Macintosh) anywhere away from all objects, select a different tool, or choose Edit > Deselect All.

Add or delete anchor points

Adding anchor points can give you more control over a path or it can extend an open path. However, it's a good idea not to add more points than necessary. A path with fewer points is easier to edit, display, and print. To reduce the complexity of a path, delete unnecessary points.

The toolbox contains three tools for adding or deleting points: the Pen tool, the Add Anchor Point tool, and the Delete Anchor Point tool.

By default, the Pen tool changes to the Add Anchor Point tool as you position it over a selected path, or to the Delete Anchor Point tool as you position it over an anchor point.

Note: *Don't use the Delete, Backspace, and Clear keys or the Edit > Cut or Edit > Clear commands to delete anchor points; these keys and commands delete the point and the line segments that connect to that point.*

1. Select the path to modify.

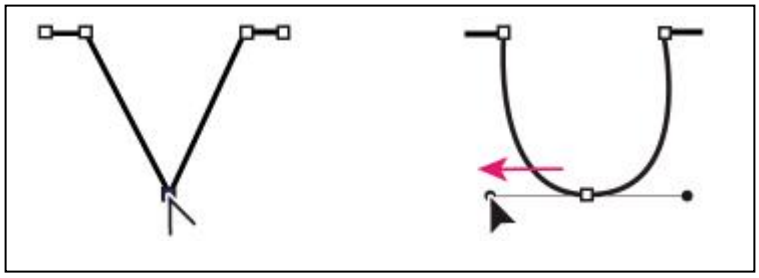
2. Click and hold the mouse button on the Pen tool, then select the Pen tool, Add Anchor Point tool, or the Delete Anchor Point tool.

3. To add an anchor point, position the pointer over a path segment, and click. To delete an anchor point, position the pointer over an anchor point, and click.

Adjust anchor points on paths

When you draw a curve with the Pen tool, you create smooth points—anchor points on a continuous, curved path. When you draw a straight line segment or a straight line connected to a curved segment, you create corner points—anchor points on a straight path or at the juncture of a straight and a curved path.

By default, selected smooth points appear as hollow circles, and selected corner points appear as hollow squares.



Dragging a direction point out of a corner point to create a smooth point.

Move or add anchor points

- To move an anchor point, drag the point with the Subselection tool .
- To nudge an anchor point or points, select the point or points with the Subselection tool and use the arrow keys to move the point or points. Shift-click to select multiple points.
- To add an anchor point, click a line segment with the Pen tool. A plus (+) sign appears next to the Pen tool if an anchor point can be added to the selected line segment. If the line segment is not yet selected, click it with the Pen tool to select it, and then add an anchor point.

Delete anchor points

Deleting unneeded anchor points on a curved path optimizes the curve and reduces the resulting SWF file size.

- To delete a corner point, click the point once with the Pen tool. A minus (-) sign appears next to the Pen tool if an anchor point can be deleted from the selected line segment. If the line segment is not yet selected, click it with the Pen tool to select it, and then delete the anchor point.
- To delete a smooth point, click the point once with the Pen tool. A minus (-) sign appears next to the Pen tool if an anchor point can be deleted from the selected line segment. If the line segment is not yet selected, click it with the Pen tool to select it, and then delete the corner point. (Click once to convert the point to a corner point, and once more to delete the point.)

Adjust segments

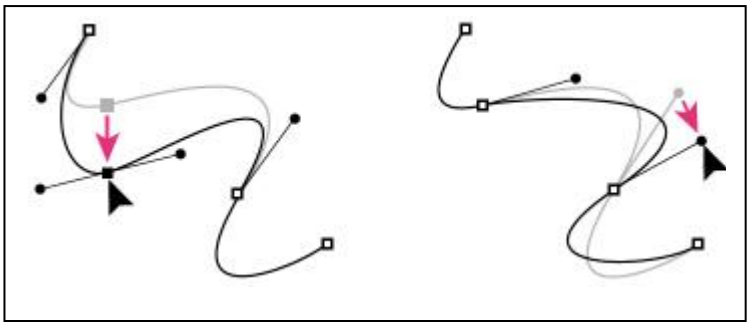
To change the angle or length of the segment or adjust curved segments to change the slope or direction of the curve, adjust straight segments.

When you move a tangent handle on a smooth point, the curves on both sides of the point adjust. When you move a tangent handle on a corner point, only the curve on the same side of the point as the tangent handle adjusts.

- To adjust a straight segment, select the Subselection tool , and select a straight segment. Use the Subselection tool to drag an anchor point on the segment to a new position.
- To adjust a curve segment, select the Subselection tool and drag the segment.

  Note: *When you click the path, Flash Professional shows the anchor points. Adjusting a segment with the Subselection tool can add points to the path.*

- To adjust points or tangent handles on a curve, select the Subselection tool, and select an anchor point on a curved segment.
- To adjust the shape of the curve on either side of the anchor point, drag the anchor point, or drag the tangent handle. To constrain the curve to multiples of 45º, Shift-drag. To drag tangent handles individually, Alt-drag (Windows) or Option-drag (Macintosh).



Drag the anchor point, or drag the direction point.

Convert segments between straight and curved

To convert segments in a line from straight segments to curve segments, convert corner points to smooth points. You can also do the reverse.

- To convert a corner point to a smooth point, use the Subselection tool to select the point, then Alt-drag (Windows) or Option-drag (Macintosh) the point to place the tangent handles.
- To convert a smooth point to a corner point, click the point with the Pen tool.

  The carat ^ marker next to the pointer indicates when it is over the smooth point.