



Animation on a Path

app: Studio MAX 6.0
date: February 2005
by: Dave Schultze
at: PDave@schultzeworks.com

1 What Up

Animation via the keyframe method is easy to do.



With the **Auto-Key** feature, MAX simply watches where an object is at two different points in time and then calculates the “tweening,” or positions in-between. The resulting change is a **straight line** interpolation and movement.

2 Draw the path

a Any 2D shape can be used for a path, whether its a simple circle/ellipse or a crazy-complicated bezier curve (as per Illustrator) that you draw point by point.

For this example, we will use a bezier curve for the path and animate a camera for the object.

b Start by going to the **create tab** panel.

c Select **shapes** and make sure it says **splines** below.

d Click on the **Line** button and check the settings below:

e You want **Interpolation** to read **Adaptive**.

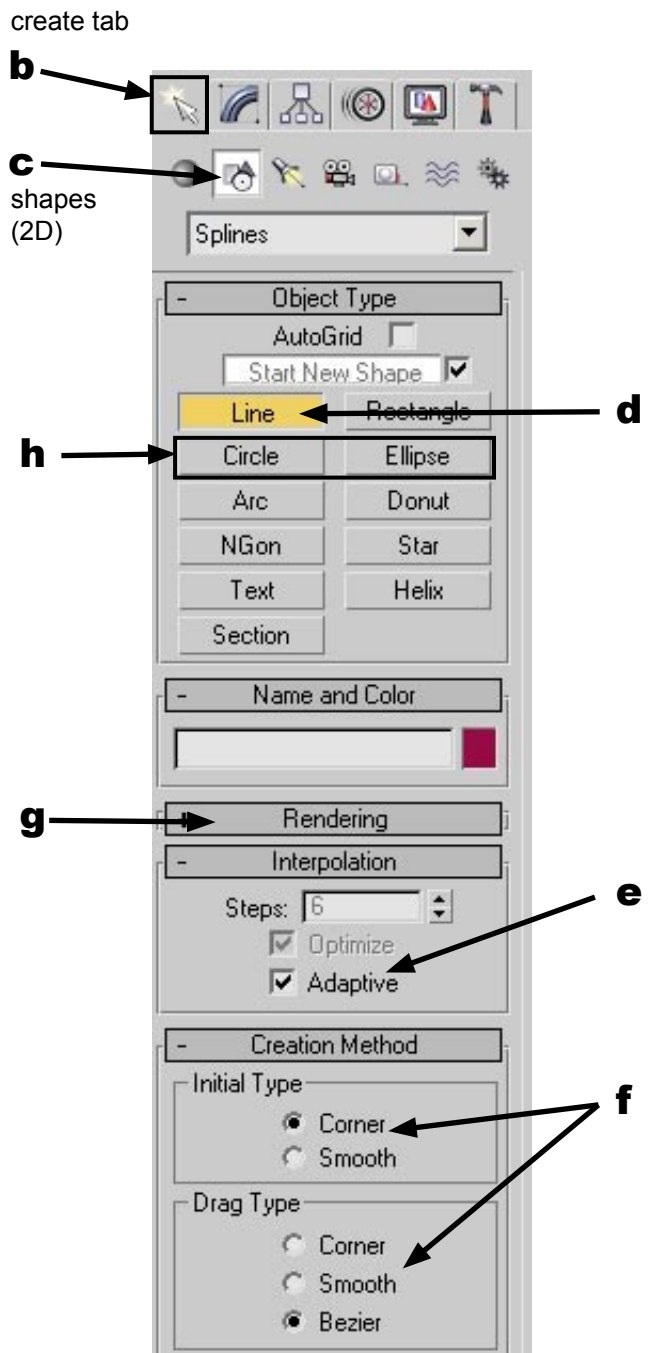
f **Creation Method** should be **Initial:Corner** and **Drag:Bezier** to get the results you would expect from working in Illustrator.

NOTES

g The path will not render unless you tell MAX to do so. You probably don't want it to render, but if you do, just adjust the settings under the 'Rendering' roll-out.

h This example assumes you need lots of tweaking and control for your path. If a simple circle or ellipse will do the job, use them instead! Skip all this path & spline editing nonsense.

What if you want the object -- or camera -- to follow a curve? For this we use a **path controller**.



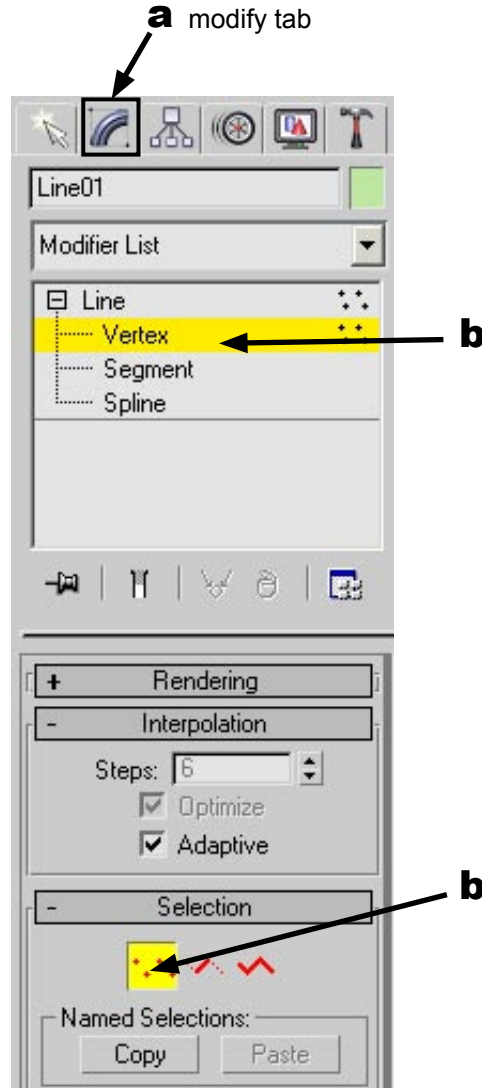
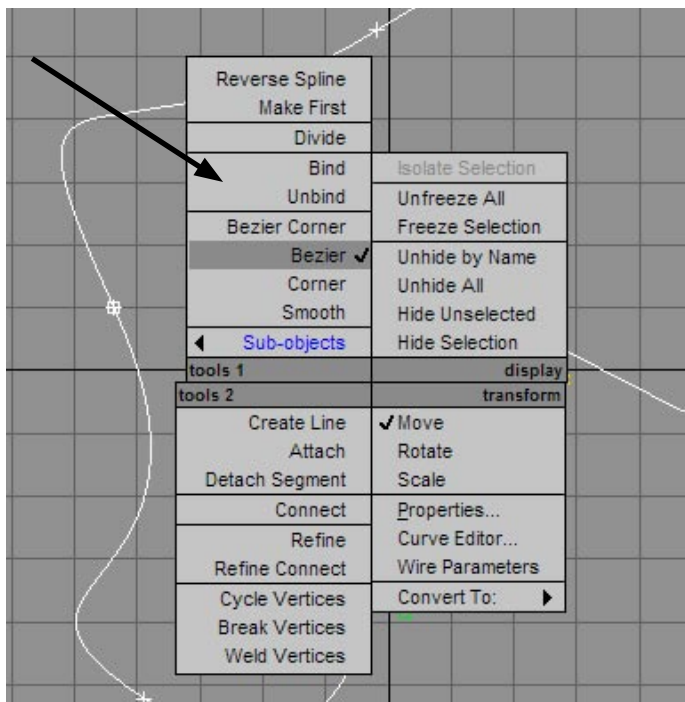
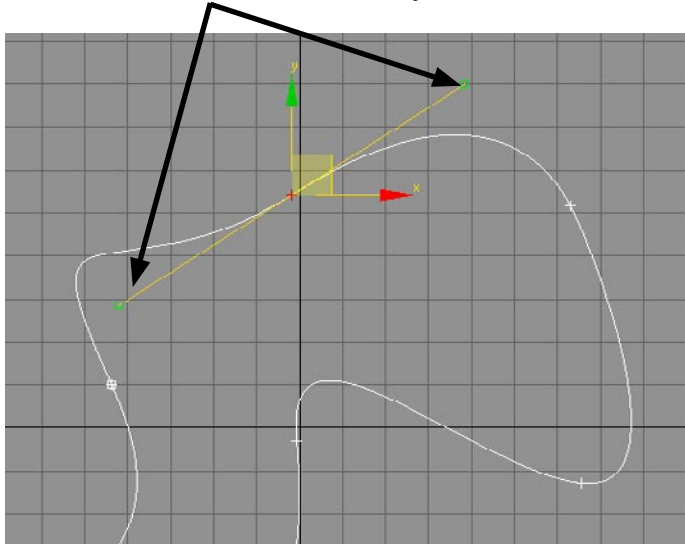


Animation on a Path

app: Studio MAX 6.0
date: February 2005
by: Dave Schultze
at: PDave@schultzeworks.com

3 Edit the path

- a** Once any item is made via the **Create Tab**, it can always be tweaked via the **Modify Tab**.
- b** To activate the **vertices** of the curve for adjustment, we need to select them at the **sub-object** level. (You can click either of the two places **(b)** highlighted.)
- c** Now, simply pick one vertex and tweak the handles until you are happy. Use the move command to push the entire vertex around, not just the handles.



DAVE TIPS

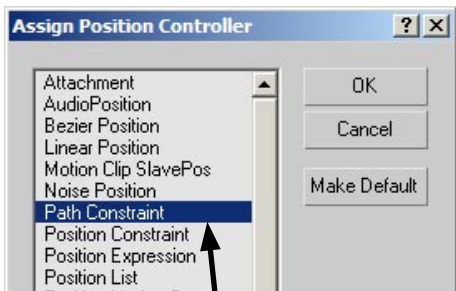
- ▶ You can also right-click at any vertex and change from one type to another, i.e. **smooth** to **corner**.
- ▶ Shortcuts: Press **1**, **2** or **3** to cycle selection between vertex, segment, or entire spline.
- ▶ Don't forget to exit the edit spline mode, or weirdness and confusion will reign. Click the button **(b)** to toggle off.
- ▶ Layout the path in top view, then switch to a side view to add vertical tweaks.



Animation on a Path

4 Connect camera to the path

- a** Now that the curve-path is complete, lets attach the object to the path to control its motion. We will use the **Motion Tab**.
- b** Create (or select) a **Target Camera** in the top viewport. It does not matter where you place it.
- c** Under **Assign Controller**, click on **Position**.
- d** Now, click on the (unlabeled) **Select Controller** button. This will let us re-assign all position data to the path. The pop-up will look like this below.



- e** Select **Path Constraint** and click OK to close.
- f** With the camera still selected, click on the **Add Path** button and then select the curve you created in any viewport. It will now animate!

MORE FUN OPTIONS:

- g** Use the **Look at Target** to force the camera to keep any other object (whether still OR moving!) centered in its view.

Is the camera moving weird? Play with the settings in this bottom section

You can go back and edit the curve path at any time. The camera will stay attached.

