

# Power Rectangle Tool

In this tutorial, you will learn how to create a Power Rectangle and be shown how to:

- Edit Control Points and Handles.
- Edit Parametric Settings.
- Create 3 different types of Rectangles.



## Tool Used In This Tutorial

This tutorial will be accomplished with the following tool:



Power Rectangle tool (**Pwr\_Rect**).

## Creating Power Rectangles

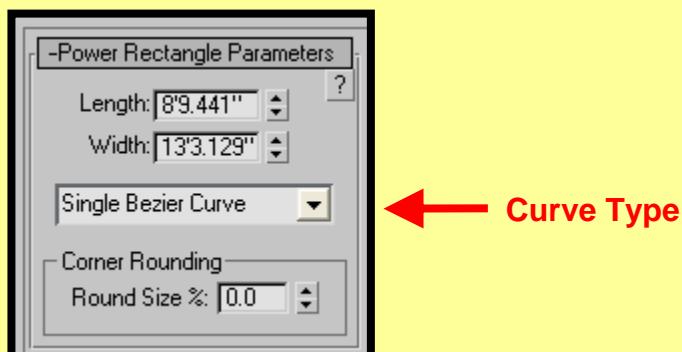
In this section we will discuss how to edit the:

- A) Single Bezier curve
- B) Sketch Lines curve
- C) Sketch NURBS curve

### A) Single Bezier Curve

Let's create a "Single Bezier" Curve.

- 1) Access the Power Rectangle tool .
- 2) Under the Power Rectangle Parameters roll out, select the "Single Bezier Curve" curve type.

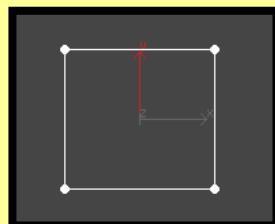


## A) Single Bezier Curve

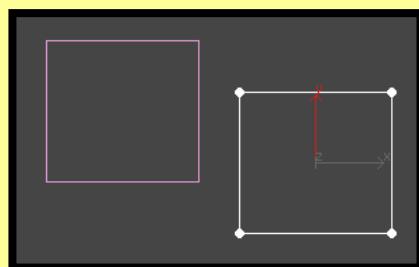
3) Click and Drag in a viewport. A single rectangle shape will appear with the pre-defined “Single Bezier” curve type and any chosen “Corner Rounding” size (in this case was 0).



- You could have also Click once in a viewport. A single rectangle shape will appear with the “pre-defined” rectangle parameter settings.

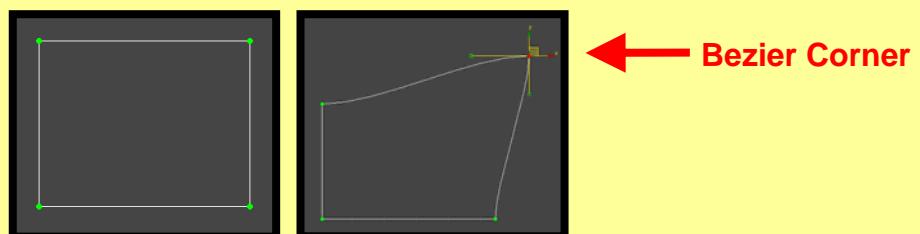


- Once you create a rectangle, by default, the Power Rectangle tool is still active. Without deselecting the Power Rectangle tool, click again in a viewport. A second rectangle shape will appear with the same defined parameters as the previous rectangle.



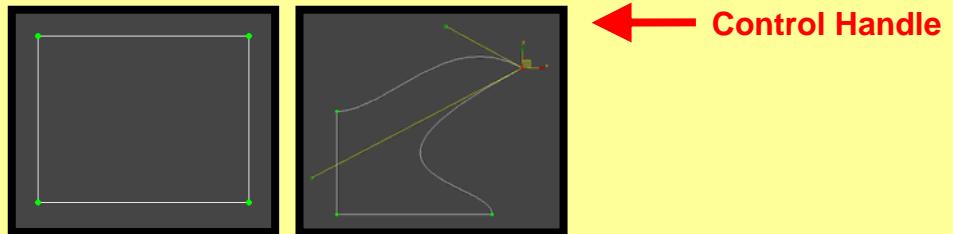
4) You can now select a “Bezier Corner” point and move the point to create a different shape.

- *The vertices of a “Single Bezier” curve type are the “Bezier Corner” points.*

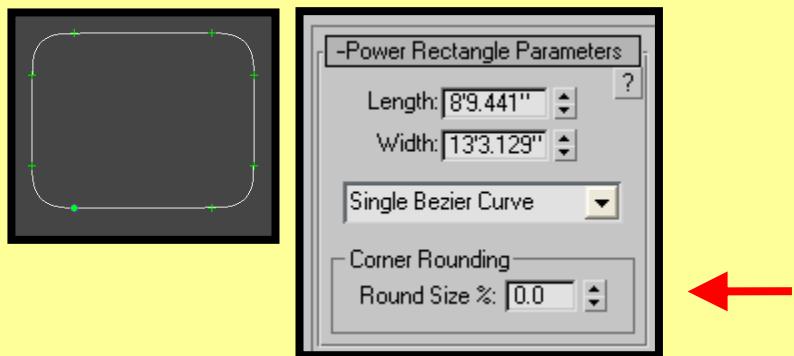


## A) Single Bezier Curve

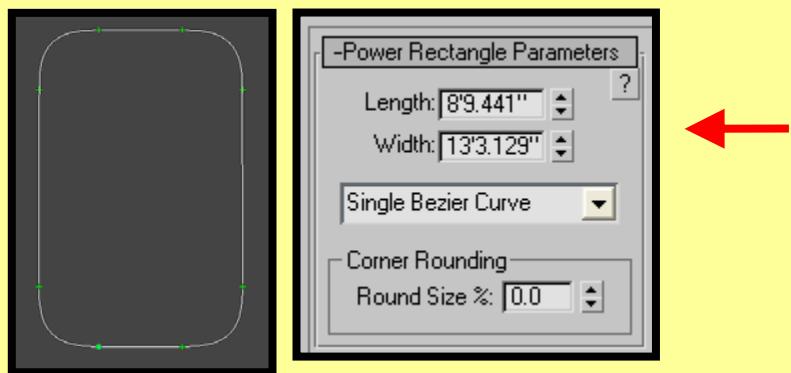
5) You can also grab and move the “Control Handles” to create a variety of curves.



6) Adjusting the “Corner Rounding” parameter will create a Filleting (Rounding) effect on the corners. When you round the corners of a Single Bezier Curve, you create “C1 Bezier” points.



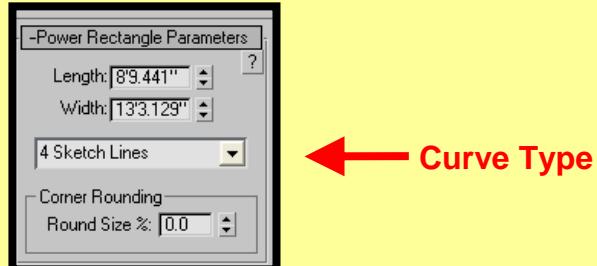
7) You could also change the shape of your rectangle by adjusting the “Length” and “Width” Parameters. The fillet effects will stay intact.



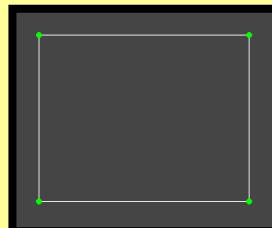
## B) 4 Sketch Lines Curve

Let's create a "4 Sketch Lines" Curve.

- 1) Access the Power Rectangle tool  .
- 2) Under the Power Rectangle Parameters roll out, select the "4 Sketch Lines" curve type.

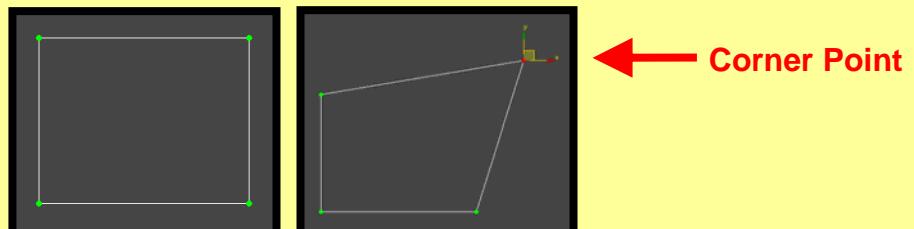


- 3) Click and Drag in a viewport. A single rectangle shape will appear with the pre-defined "4 Sketch Lines" curve type and any chosen "Corner Rounding" size (in this case was 0).

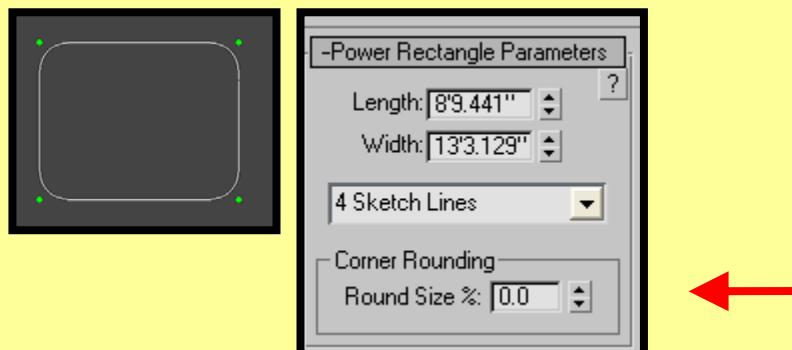


- 4) Select a "Corner" point and move the point to create a different shape.

- The vertices of a "4 Sketch Lines" curve type are the "Vertex Corner" points.

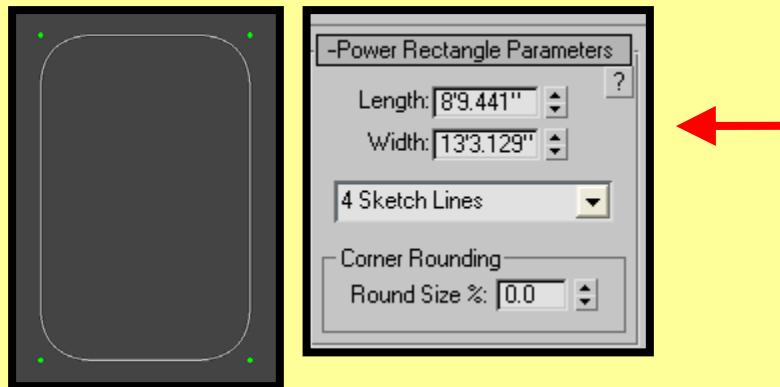


- 5) Adjusting the "Corner Rounding" parameter will create a Filleting (Rounding) effect on the corners. When you round the corners of a "4 Sketch Lines" curve, you create "Smooth Corner" edit points.



## B) 4 Sketch Lines Curve

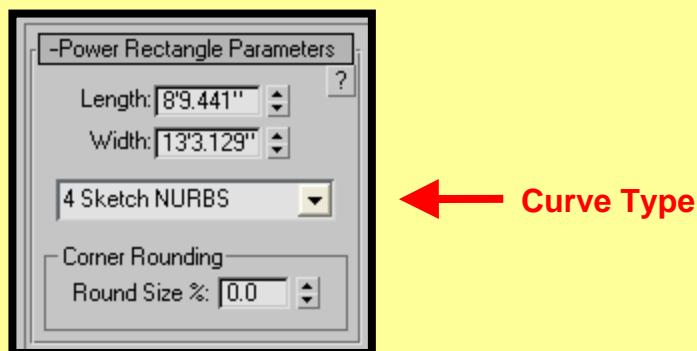
7) You could also change the shape of your rectangle by adjusting the “Length” and “Width” Parameters. The fillet effects will stay intact.



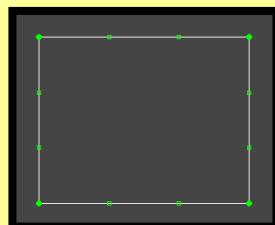
## C) 4 Sketch NURBS Curve

Let's create a “4 Sketch NURBS” Curve.

- 1) Access the Power Rectangle tool .
- 2) Under the Power Rectangle Parameters roll out, select the “4 Sketch NURBS” curve type.



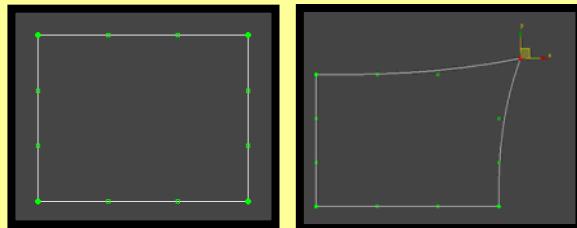
- 3) Click and Drag in a viewport. A single rectangle shape will appear with the pre-defined “4 Sketch NURBS” curve type and any chosen “Corner Rounding” size (in this case was 0).



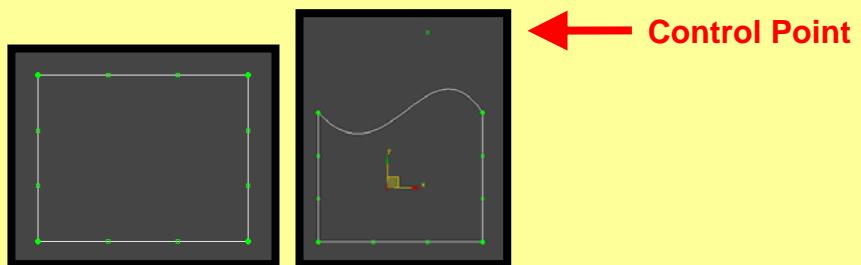
## C) 4 Sketch NURBS Curve

4) Select a “Corner” point and move the point to create a different shape.

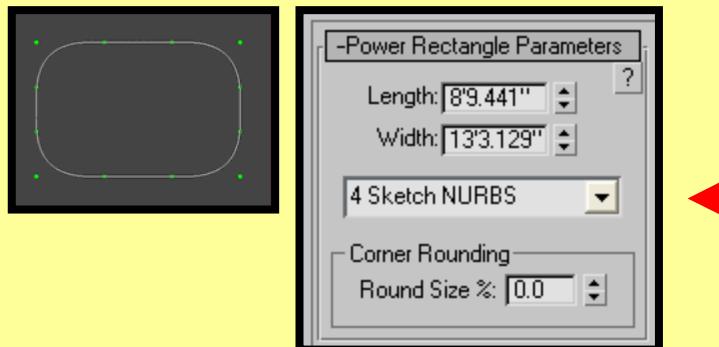
- The vertices of a “4 Sketch NURBS” curve type are the “Degree 3 NURBS curves” points.



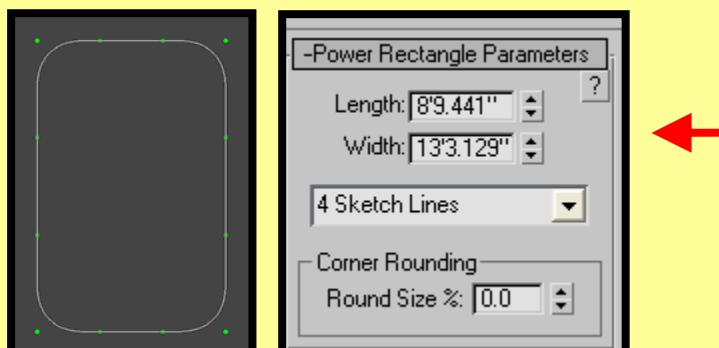
5) You can also grab and move the “Control point” to form a variety of curves.



6) Adjusting the “Corner Rounding” parameter will create a Filleting (Rounding) effect on the corners. When you round the corners of a “4 Sketch NURBS”, you create editable “Smooth Corner” points and “Control Points”.



7) You could also change the shape of your rectangle by adjusting the “Length” and “Width” Parameters. The fillet effects will stay intact.



## Summary

In this tutorial, you were shown how to create Power Rectangles using:

- Single Bezier curve
- Sketch Lines curve
- Sketch NURBS curve

Also, shown how to modify the rectangle shapes through Control Points, Corner Rounding, and Length & Width parameters.



Power Rectangle tool (**Pwr\_Rect**).