Rail Extrude Guide

Ashley Kremenliff
What is the Rail Extrude Tool?

- Uses curves (rails) as a guide for creating smooth shapes
- Anything from fences to lamps to tunnels can be created
Creating a Tunnel (single rail)

1. Create the rail that you would like your tunnel to follow. You can do this using the pen tool, the sketch tool, or spline draw all located in the create tab under elements.
2. On a separate layer, create a surface in the shape that you would like to follow the rail. In this case, we want our object to be tubular, so we’re going to use a disc, but you could use any shape that you’d like to. The radius of the disc should be the radius you want your tunnel to be.
3. Using the move tool and rotate tool, place the disc surface so that it’s located at the start of the rail (both layers have to be visible). Making sure that the “polygons” button at the bottom of the screen is selected, select the surface of the disc to see what direction the surface normal is facing. The “tail” should be facing away from the rail, like it’s a continuation of the rail. If it is not facing the right way, hit “f” to flip the direction of the surface normal.
4. For this example, we want the inside of the tube to be hollow so that it looks like a tunnel on the inside. In order to do this, we’re going to have to boolean subtract from the disc surface so that we just have the outside walls. On a separate layer, create another disc with a slightly smaller radius and just enough depth to protrude both sides of the original disc. Once again, use the move & rotate tools to position the new disc inside the original disc.
5. Once the two discs are positioned correctly, put the new disc’s layer so that it’s in the background and the old disc’s layer in the foreground. On the multiply tab, under combine, click boolean. Make sure the subtract button is highlighted and press okay to boolean subtract. It should look something like this after it’s done. You can delete the disc on layer 3 since we won’t be needing it again.

Shortcut Key: “B”
Creating a Tunnel, cont.

6. What we have now should look something like this.

7. We are now ready to Rail Extrude our tunnel. With the hollow disc’s layer in the foreground and the rail’s layer in the background, go to the **multiply** tab, under **extend**, and click **rail extrude**. See result at right.

Shortcut Key: **Ctrl r**
8. Now that you have your basic shape for the tunnel, you can delete the rail on layer 1 and add some texturing to make it look more like a tunnel. Afterwards, put your object into Layout and render!
Rail Extrude
(multiple rails)

To achieve a more unique look you can also have a surface follow more than one rail. To do this, create two or more rails. There are only two rules to creating these rails; first the starting and ending points must be in the same direction. (For example, if you create the starting point on the bottom and the ending point above it, you must do the same for the second rail.) Second, the rails must be on the same layer. Now, refer to the single rail steps 2-4 to finish!
Review

• Rail Extrude can be used with single or multiple rails.

• The shape being extruded can be any shape or size to achieve your desired result.

• The “tail” of the surface normal should be facing away from the rail before extruding.

• Ctrl “r” to Rail Extrude your shape along it’s rail(s)