

Goals

1. Successfully create a Sweep feature that incorporates guide rails.
2. Extrude multiple sketch profiles using a single command.
3. Create a Revolve feature as a new body.



Instructions

1. Open the existing exercise zip file “Trumpet.zip”.

You can download it here:

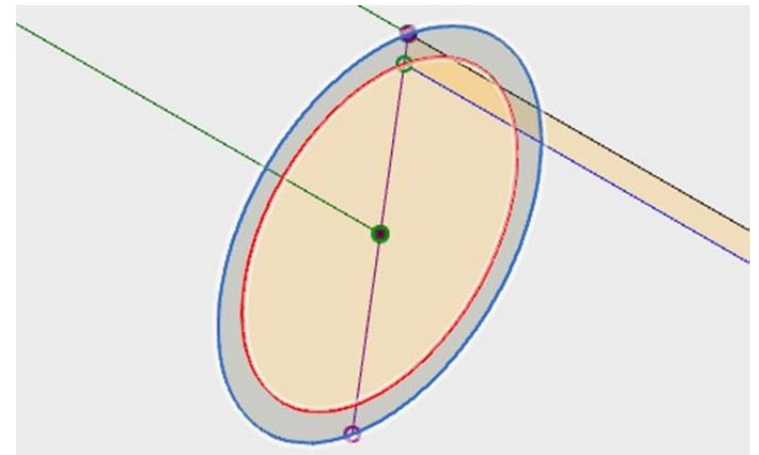
<http://app.solidprofessor.com/webinars/html5/fusion360/Trumpet.zip>

2. Upload the design in Fusion 360’s data panel.



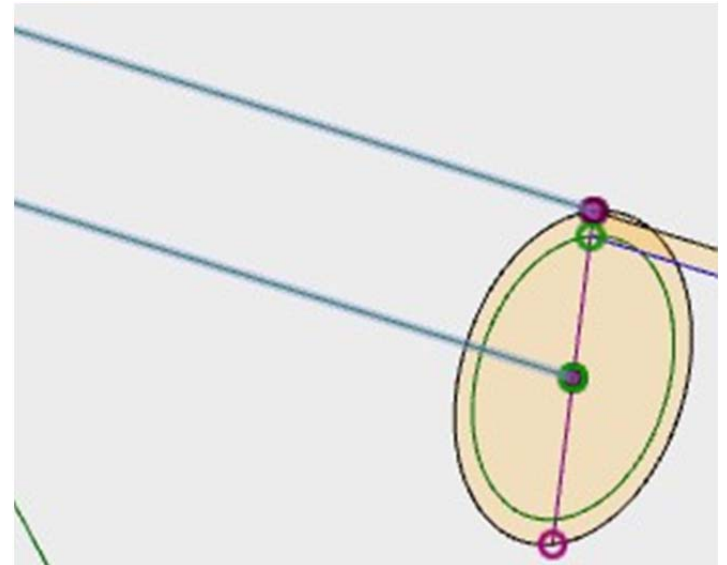
Instructions

3. Activate the Sweep command and create a Sweep feature to complete the body of the trumpet.
 - a. Set the Type to **Path + Guide Rail** and select the profile of the sweep feature. Be sure not to select the inner circular sketch profile, only the outer thin circular sketch profile.



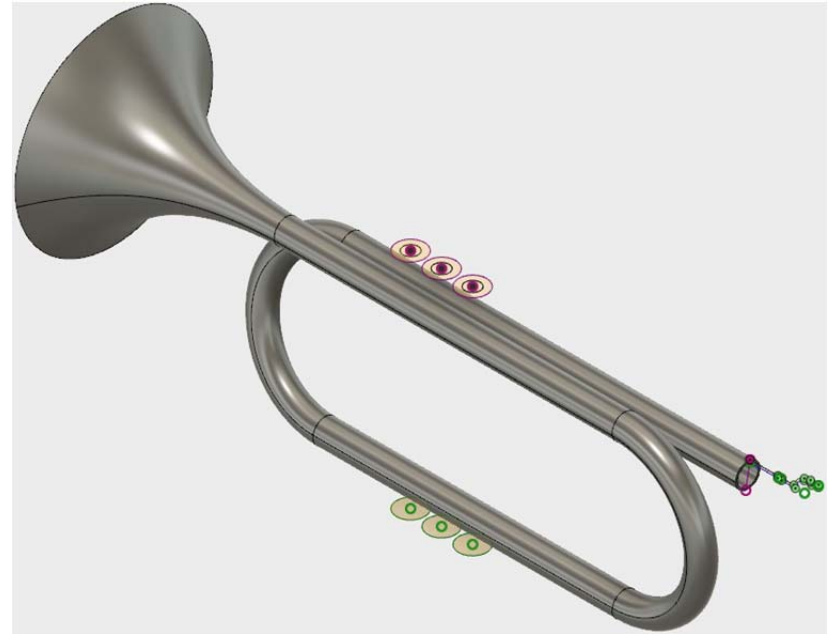
Instructions

- b. Next, select the sketch connected to the center of the circle as the path. Be sure to select all of the sketch segments along this path.



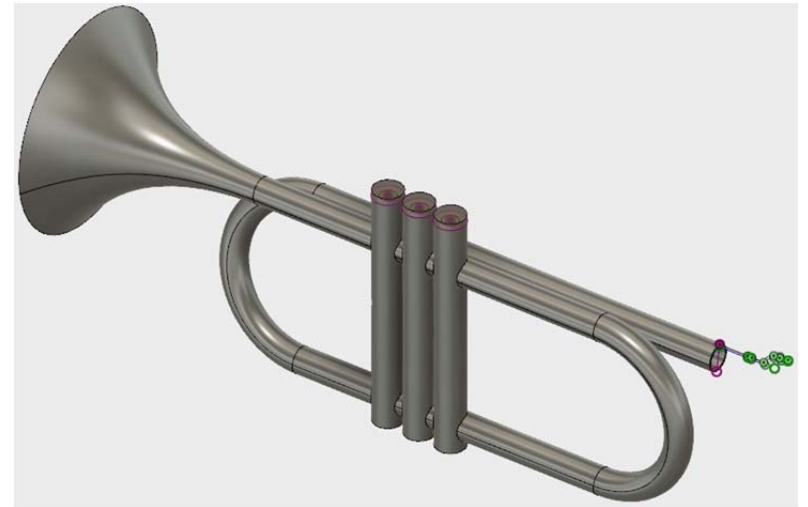
Instructions

- c. Select the sketch connected to the outer edge of the circular profile as the guide rail. Continue selecting all sketch segments along this path as the total guide rail.



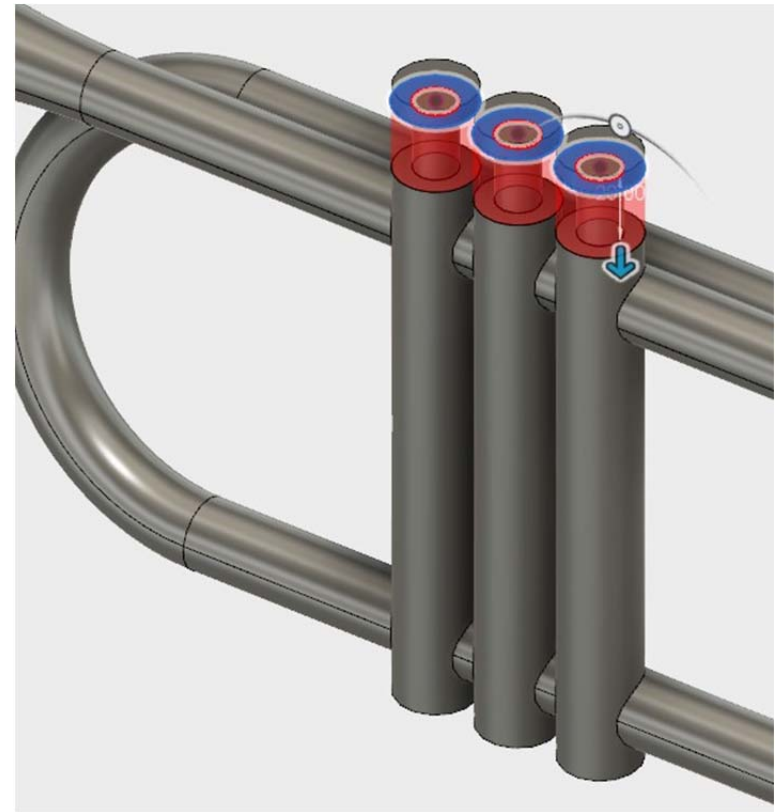
Instructions

4. Extrude the trumpet keys **185 millimeters** and set the operation to “Join” to combine this geometry with the previous sweep feature



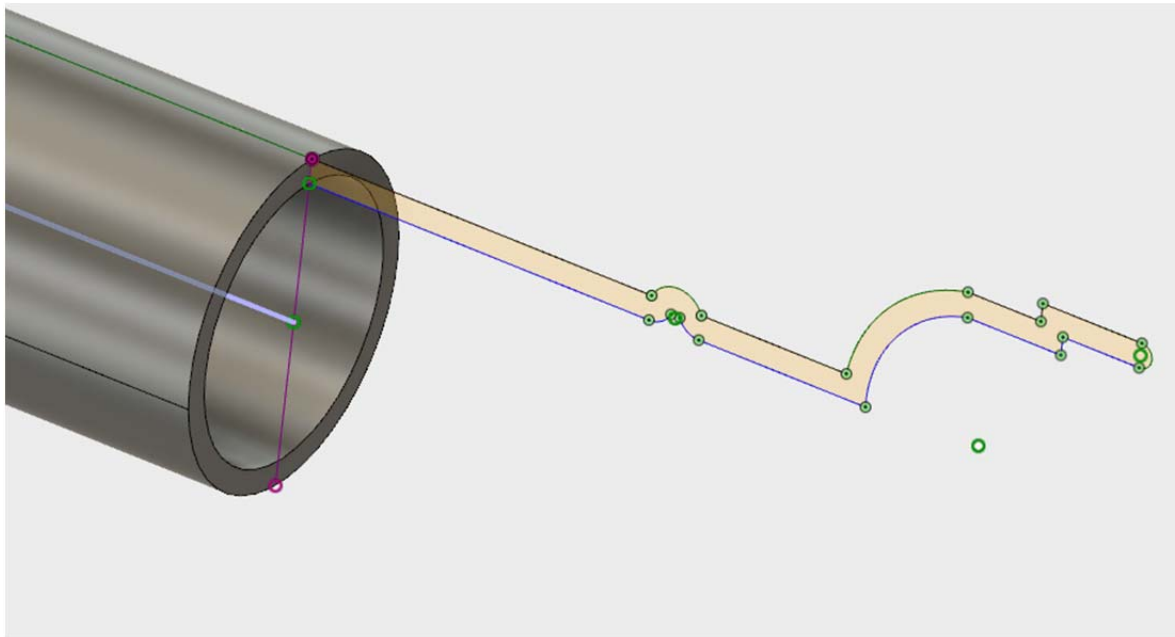
Instructions

5. Next create the cut out of the shafts on the keys with an extruded cut at a distance of **-20 millimeters**.



Instructions

6. Finally use a revolve feature to complete the mouthpiece.
 - a. Select the sketch as the profile.
 - b. For the axis select the sketch that acted as the path of the sweep.
 - c. Be sure to set the Operation to “New Body” so that this feature creates the mouthpiece as a separate body.



Self-Check:

1. Set the material for the body by right clicking on the body in the Browser, and selecting “Physical Material.”
2. Navigate to the “Metal” folder in the dialog box, and then drag “Brass” onto the main body, and “Silver” onto the mouthpiece body.
3. To find the mass of the trumpet, right click on the component “Trumpet” at the top of the Browser and select “Properties”. What is the mass of the model?

Self-Check:

Did you get a value of **3873.579** grams? If so, great job!

If not, make sure the following were done correctly:

- “Brass” was set as the material for the body, and "Silver" was set as the material for the mouthpiece.
- All of the correct paths and guide rails were selected to create the Sweep feature.
- Make sure the extrusion depths were set to the correct values.
- Check the document's units.