Lesson: Create the ball joint solids

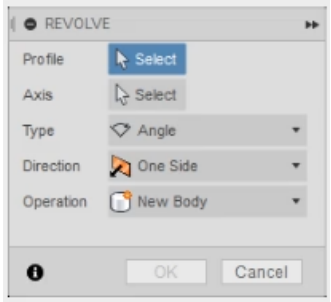
In this lesson, you will convert the ball joint sketches into solid bodies.

Learning Objectives:

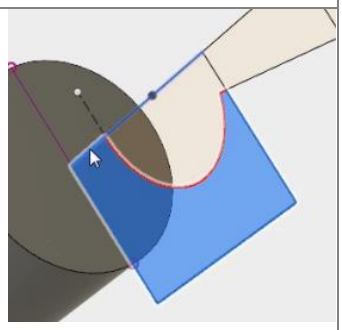
- Create a revolve with the new component option.
- Create an empty component.
- Convert a body to a component.

Step 1: Create the ball joint solids

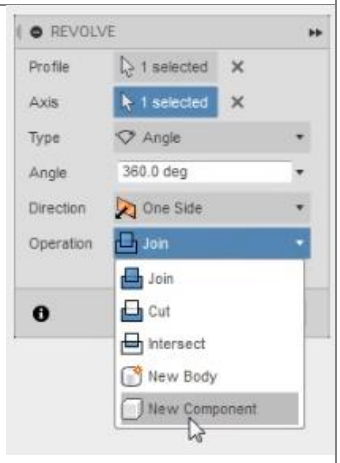
1. Carry on with the file from the previous example. In the Browser, rename Sketch 4 to “Ball Joint”. Create a new sketch on the front plane. Select Create> Revolve to display the Revolve property panel.



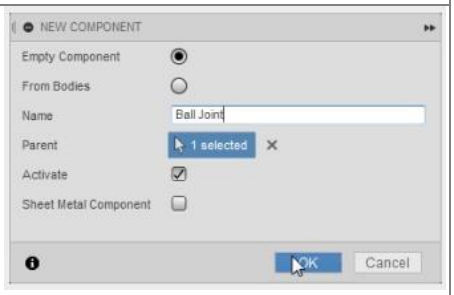
2. Select the area for profile and the inner lines for the axis.



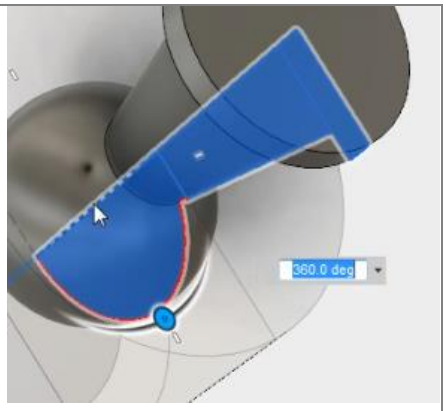
3. Select New Component so that the new body does not join the lamp arm. Click OK and notice the new component in the Browser. Rename the component “Ball Joint Socket”. In the Browser, right click on the Ball Joint Socket and select Ground so that it stays fixed in place. Again in the Browser, click the light bulb icon next to the Ball Joint sketch to show the sketches.



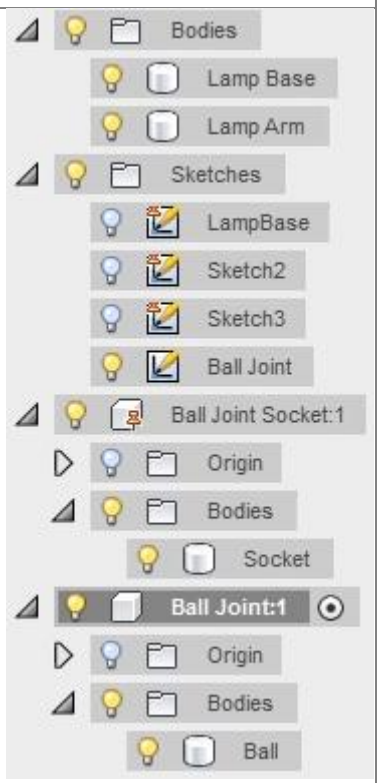
4. Select Assemble> New Component to display the New Component properties panel. Deselect the Parent option and click on the top level in the Browser. In the property panel, rename the component “Ball Joint”. Click OK.



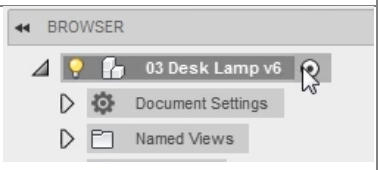
5. Select Create> Revolve to display the properties panel. Select three regions for the ball profile and the inner edge for the axis. Select New Body in the Operation dropdown menu. Click OK.



6. Rename the bodies in the Browser to avoid confusion. “Lamp Base”, “Lamp Arm”, “Socket”, and “Ball” are the new names for the four bodies. Clicking on the names in the Browser illuminates the parts on the Canvas.



7. Activate the top level of the Browser by clicking on the radio button next to 03 Desk Lamp v6.



8. Select the Lamp Base and Lamp Arm in the Browser, right click and select Create Components from Bodies. This creates new enties for each in the Browser. Right click on each of these new entries and Ground them so that they do not move in the Canvas. Save the file.