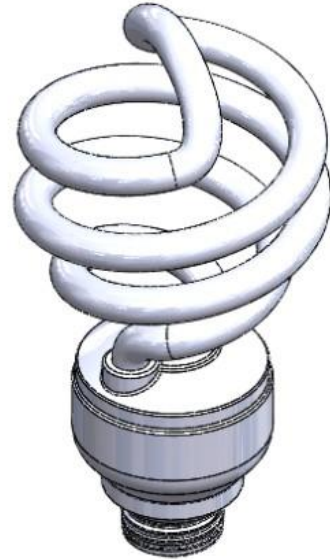


Goals:

1. Create this part from scratch.
2. Use surface features as a reference to generate the path for the swept tube of the bulb.
3. Add threads to the base.

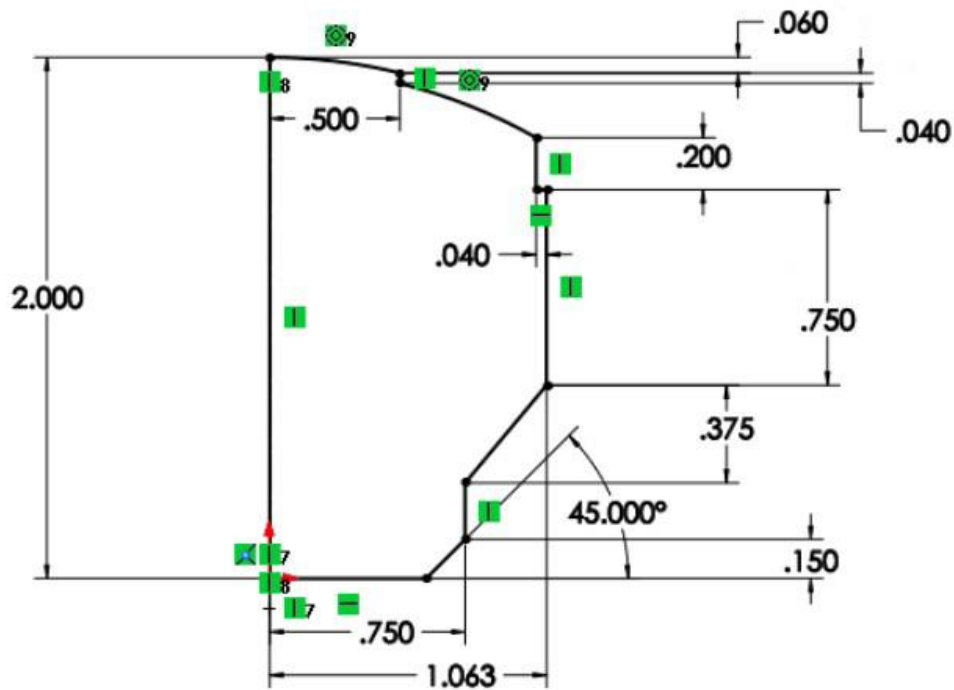


Instructions:

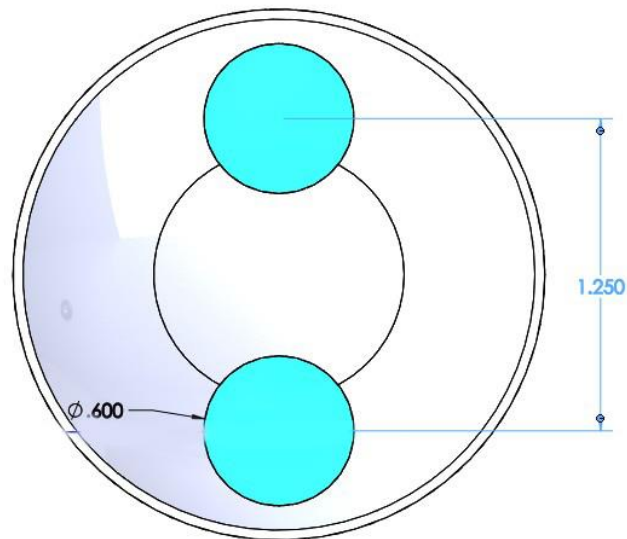
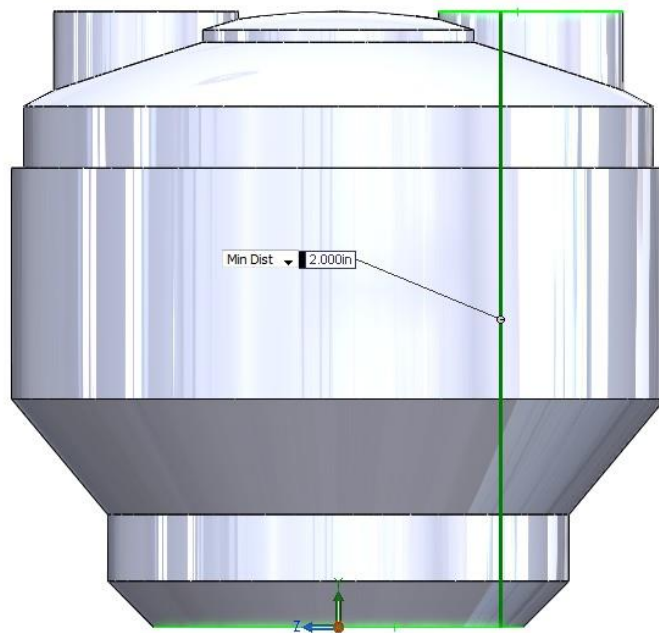
1. Begin a new part file. Set the units to inches, and set the unit precision to three decimal places.

Create a Revolved boss for the base using the sketch shown.

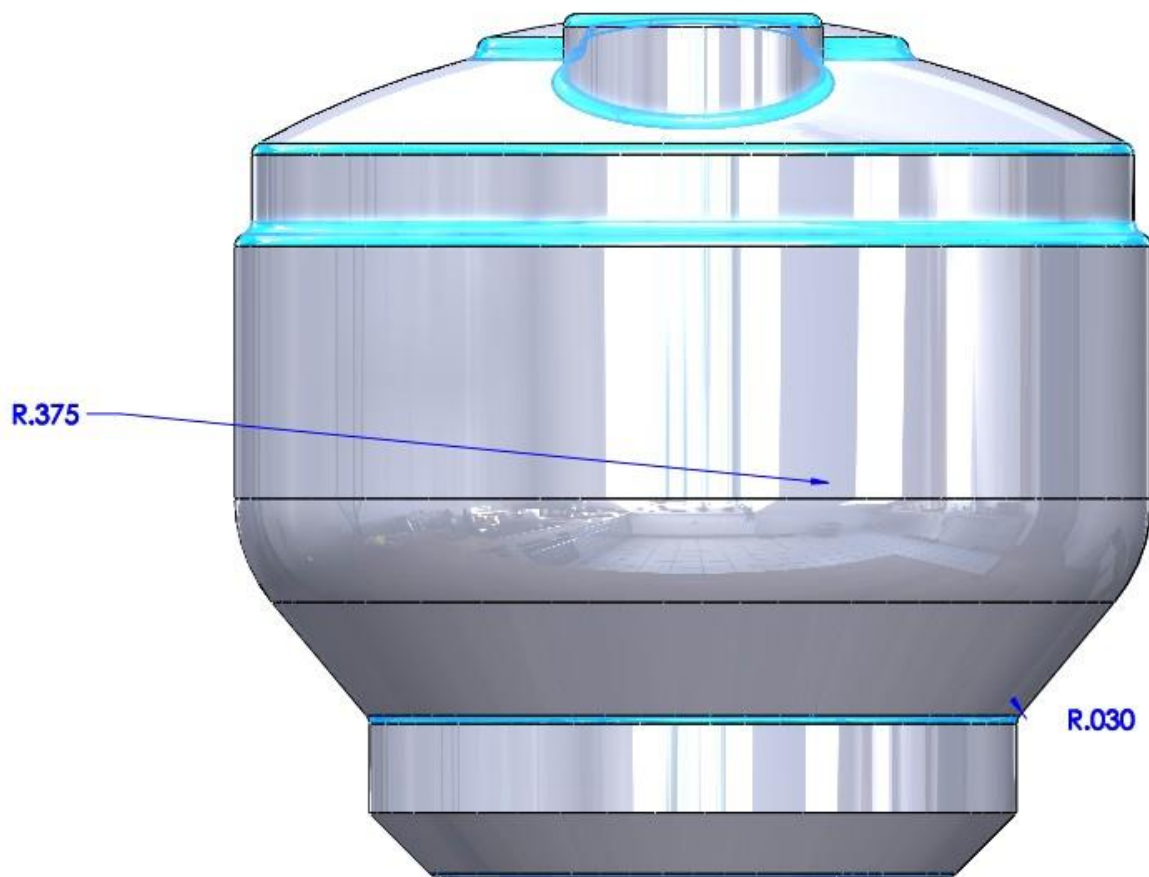
(Hint: Notice that the center point of the concentric arcs has a vertical relation to the origin.)



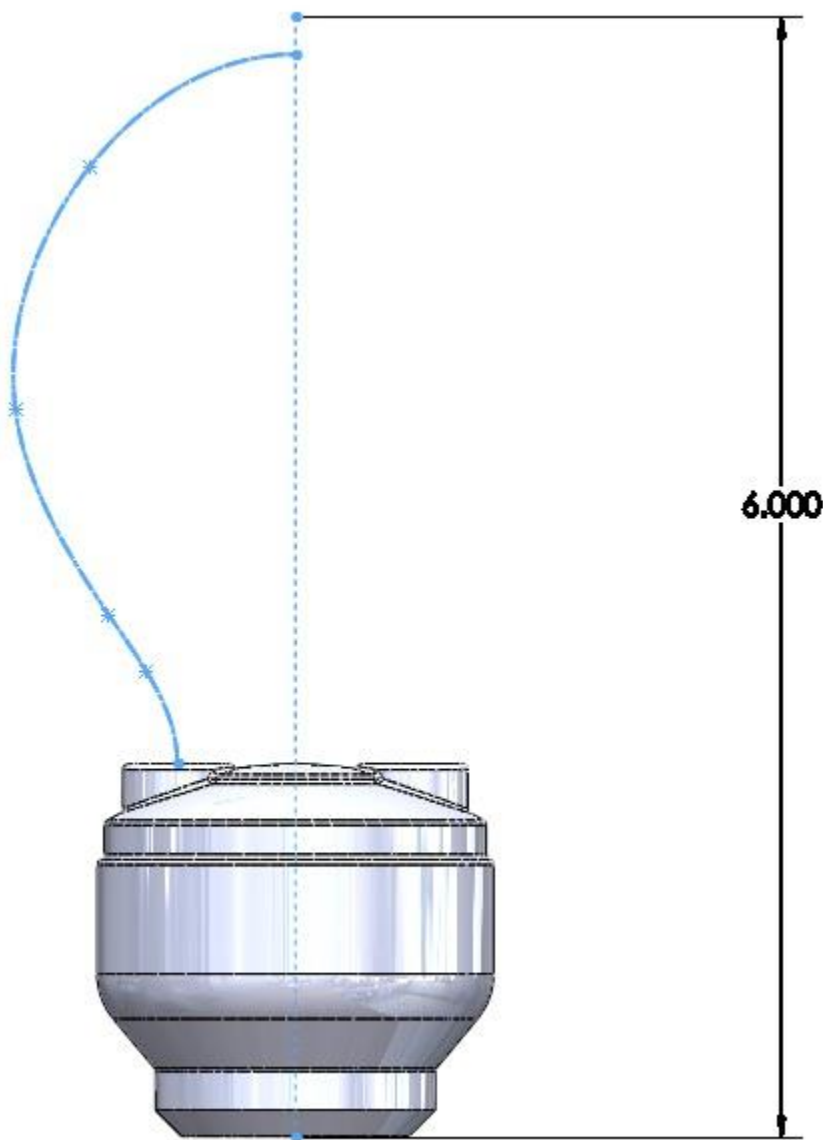
2. With the first Revolved Boss created, create two additional bosses to define the tube connection points using the dimensions shown below.



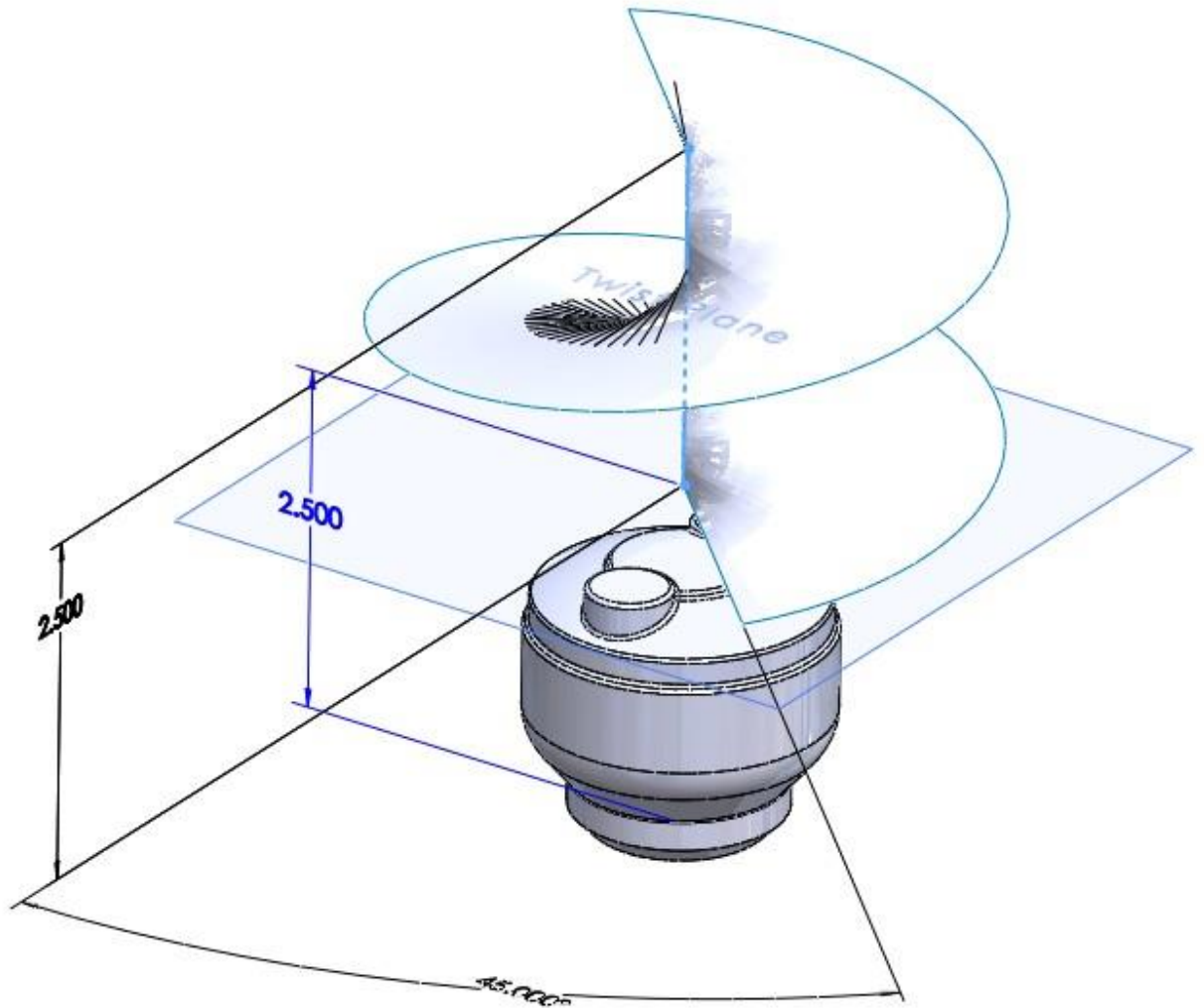
3. Add Fillets to the base using the dimensions shown.



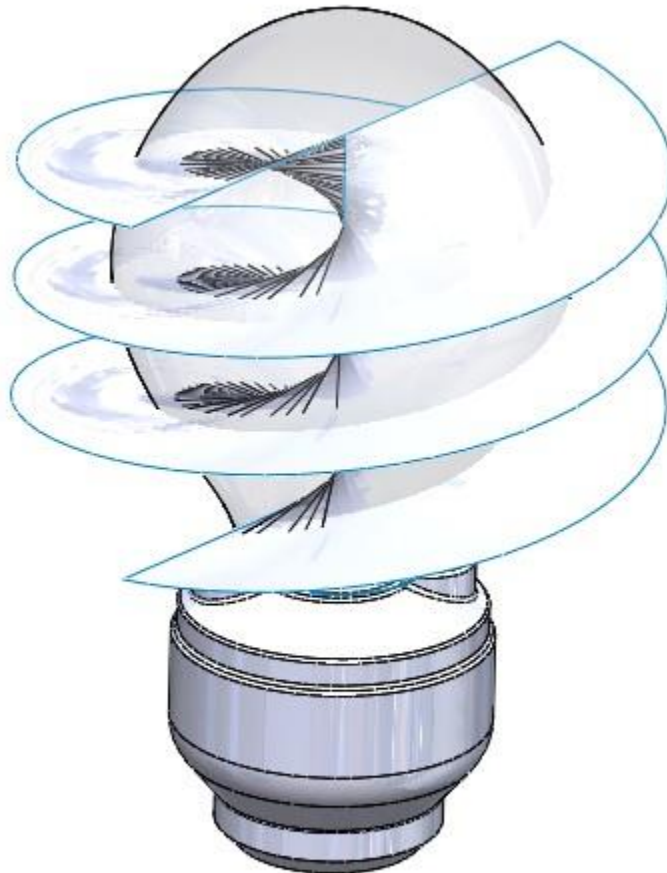
4. Create a revolved surface to define the outer shape of the bulb. The bulb height should be between 5.5 and 6 inches from the bottom of the base to the top of the bulb.



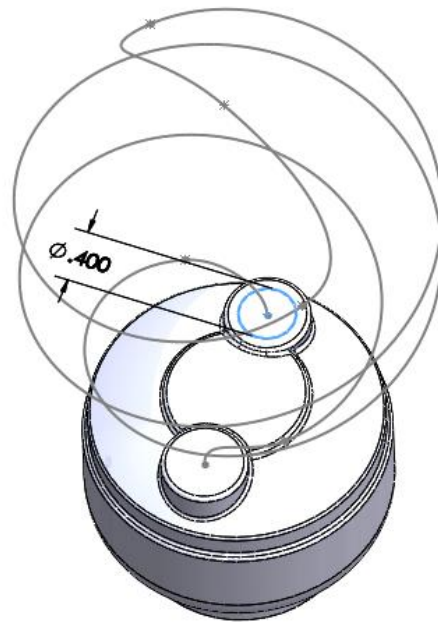
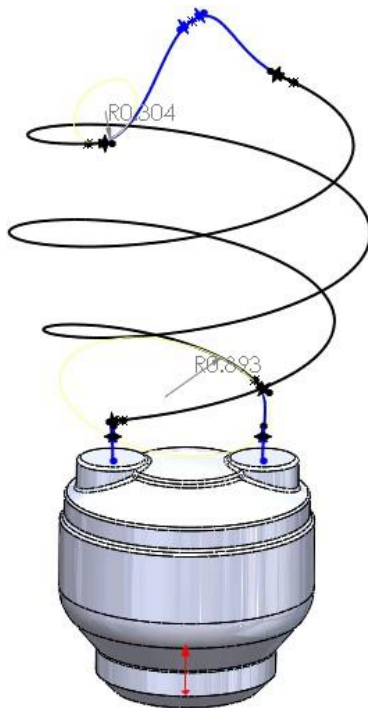
5. Create a swept surface to define the pitch of the bulb that twists 1.5 turns and fits the dimensions shown.



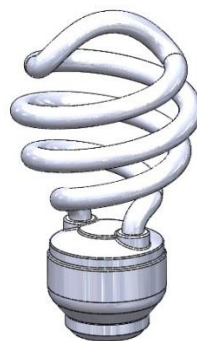
6. Copy the surface and rotate it 180 degrees. The end result here should be 3 surface bodies (2 Swept and 1 Revolved) and 1 Solid body.



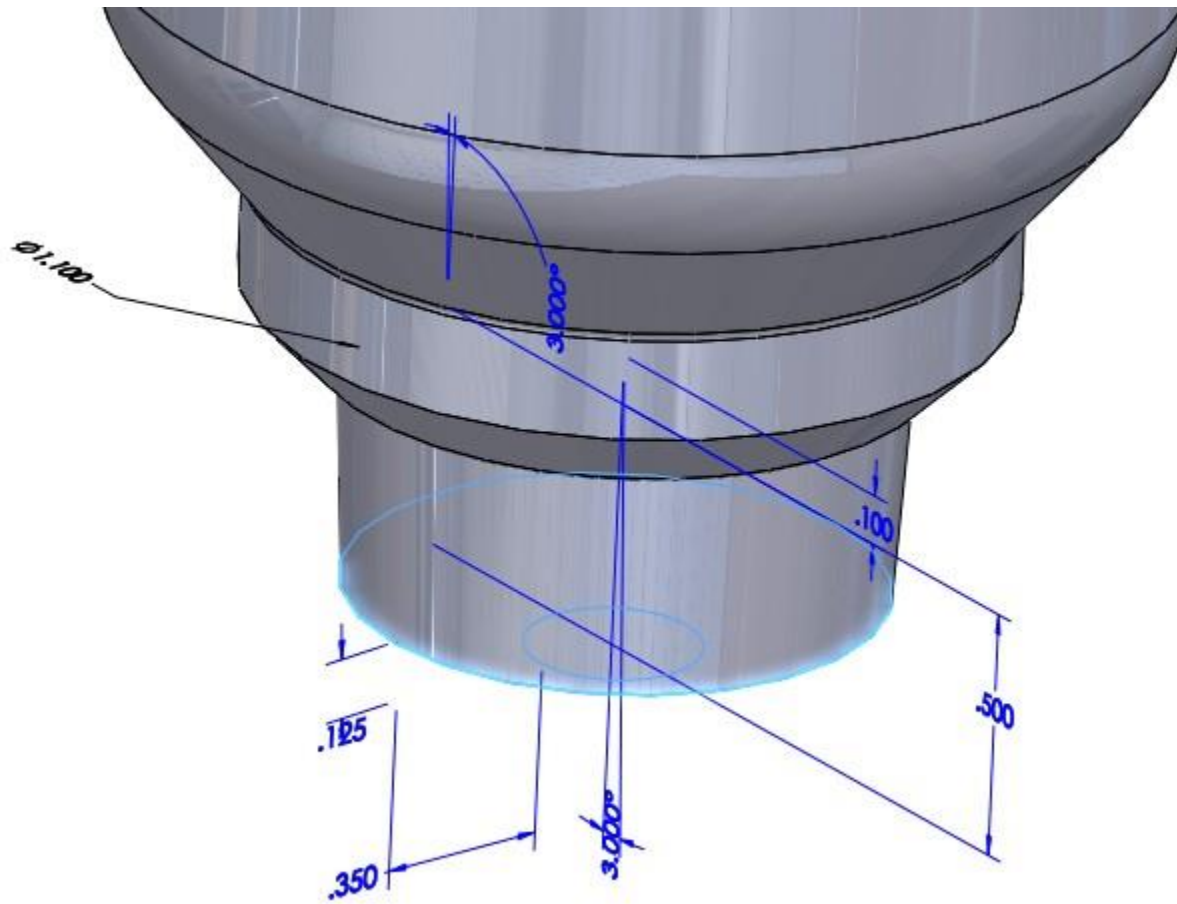
7. Create an intersection curve between the three surfaces. Use splines to connect the intersect curve to the base. This will be the sweep path for the bulb tube. Ensure the minimum radius of curvature for the path is always greater than .3 in. Create a second circular sketch for the sweep profile that uses the dimensions shown.



8. Sweep the tube.



9. Create the base geometry where the threads will be located. Use the dimensions shown.



10. Create the swept cut for the thread. Use the dimensions shown. The helix for the thread should complete 4 revolutions with a pitch of .125 inches. Add a fillet to the thread with a radius of .02 inches.

