

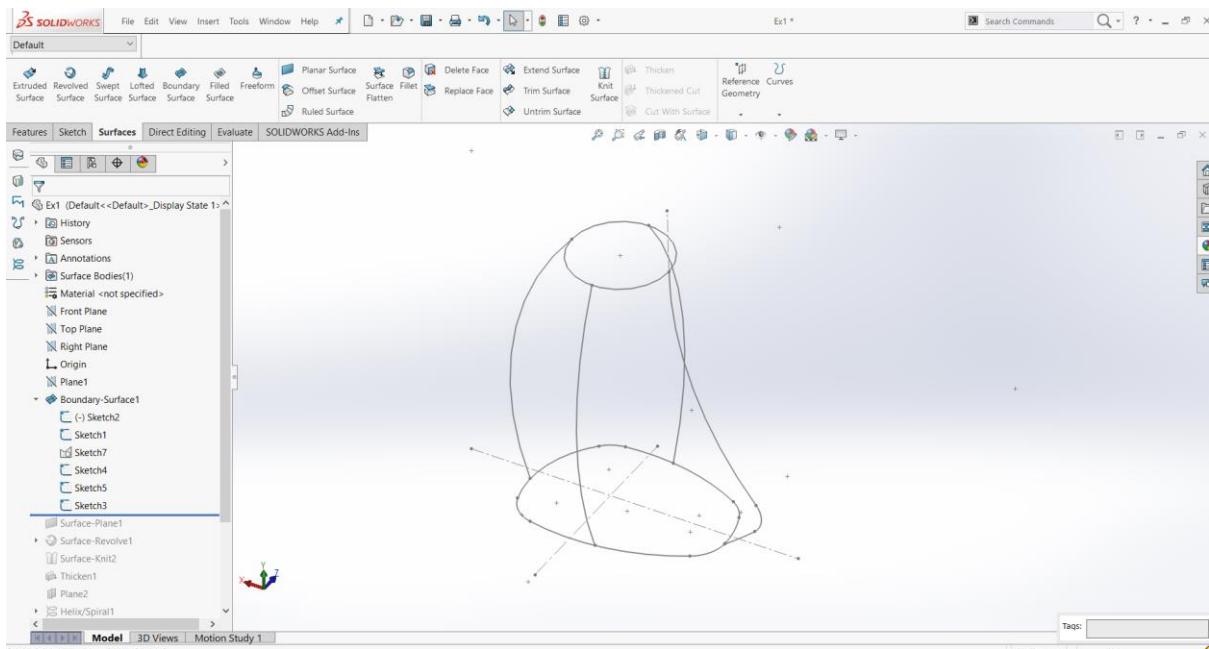
EXERCISE: Bottle

This exercises covers:

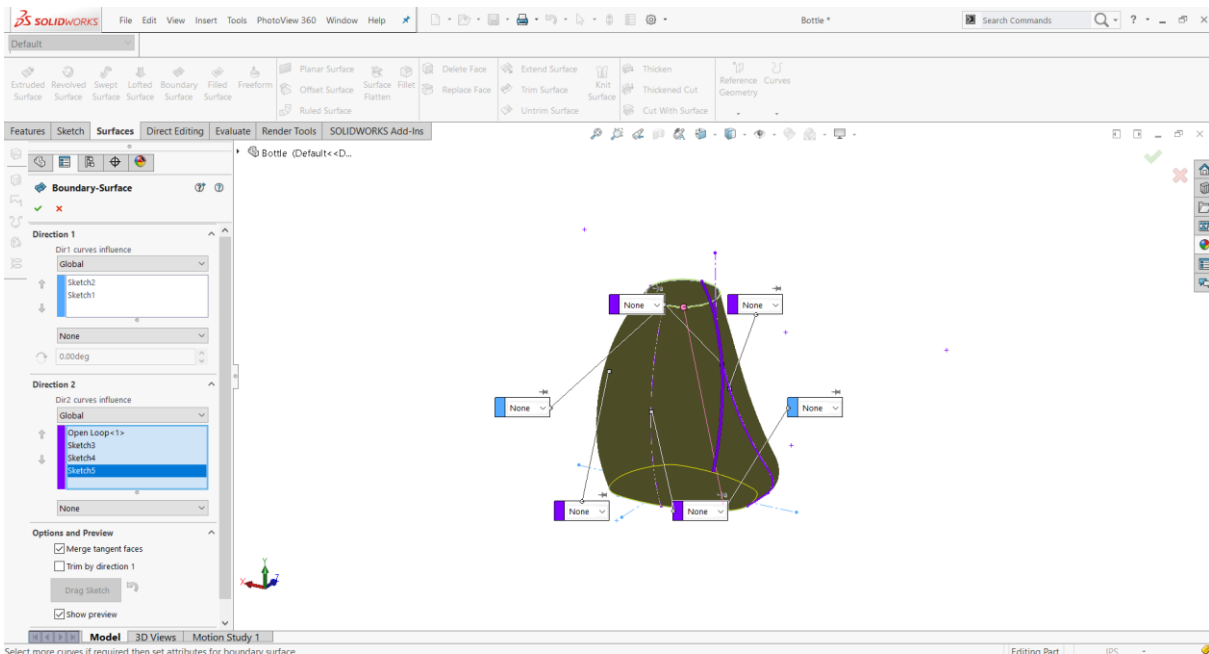
- Boundary Surface
- Planar Surface
- Revolve Surface
- Knitting Surface
- Fillet
- Thickening



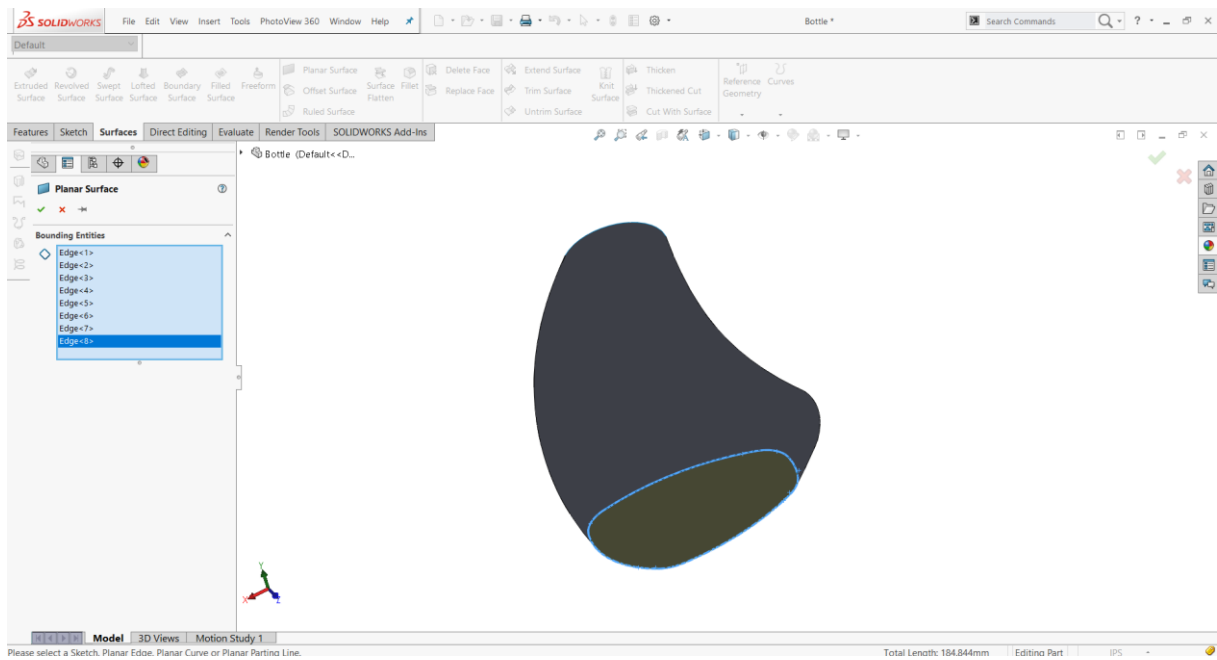
1. Open file Bottle.



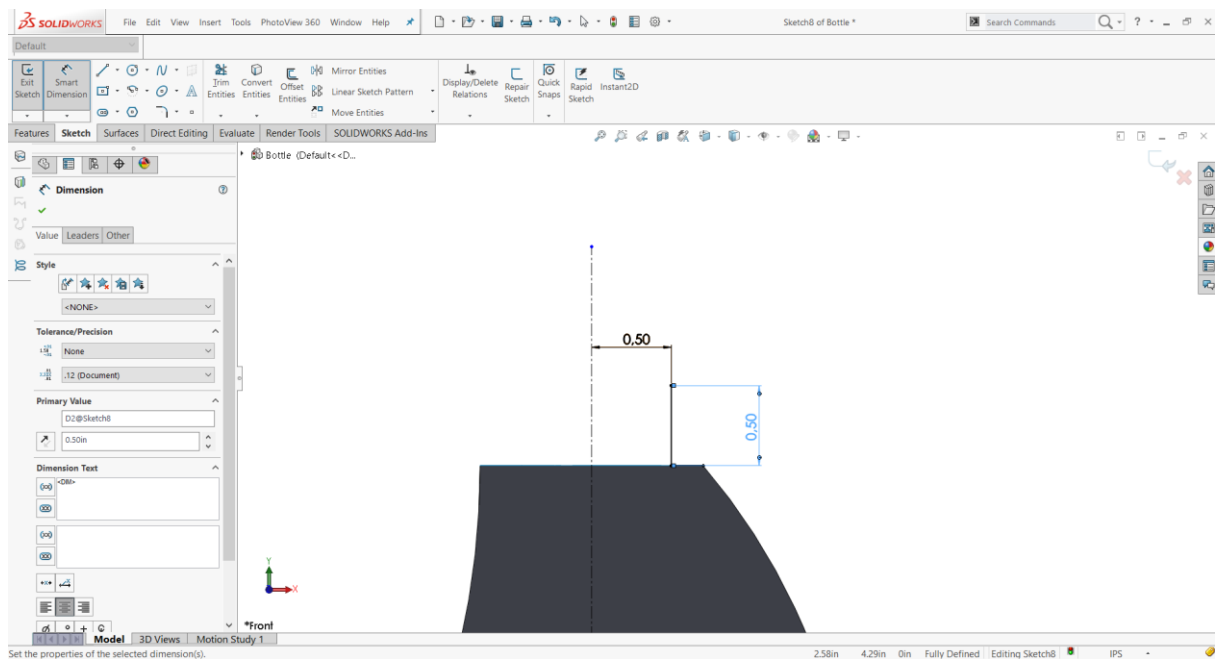
2. Use **Boundary Surface** (Lofted Surface also works). For Direction 1 select two profiles as shown and for Direction 2 (Right click in the Direction 2 block and select Selection Manager – Open Loop) four curves that connect those two profiles.



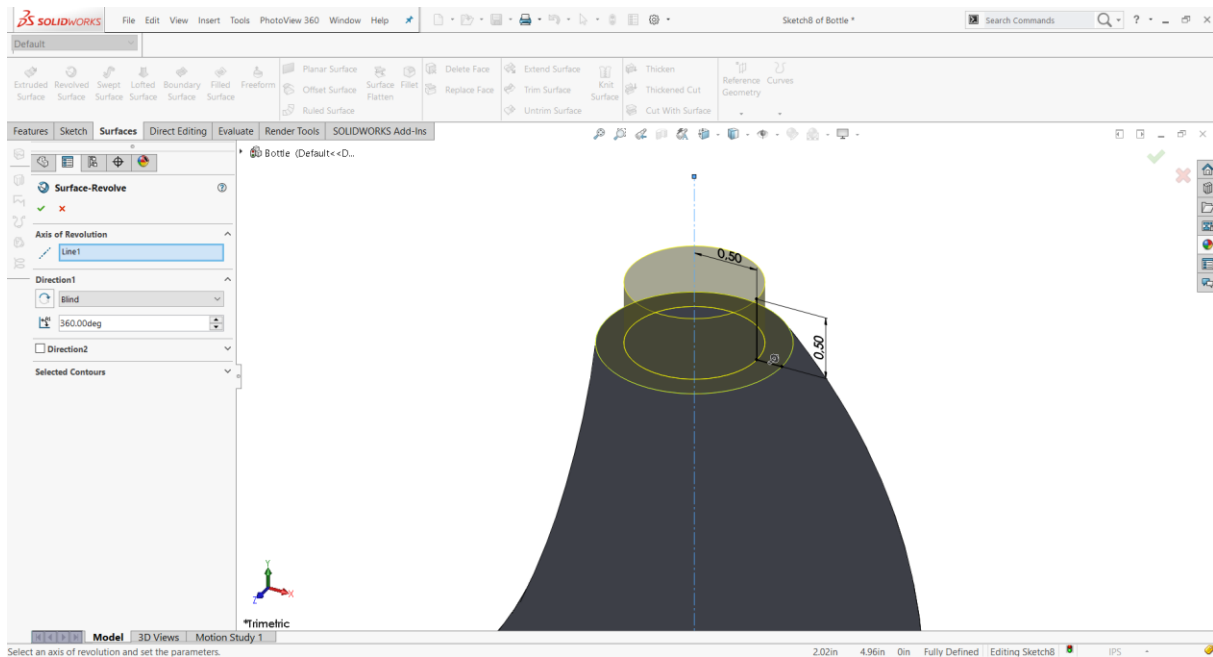
3. Choose **Planar Surface** and select all edges at the bottom to create a new surface.



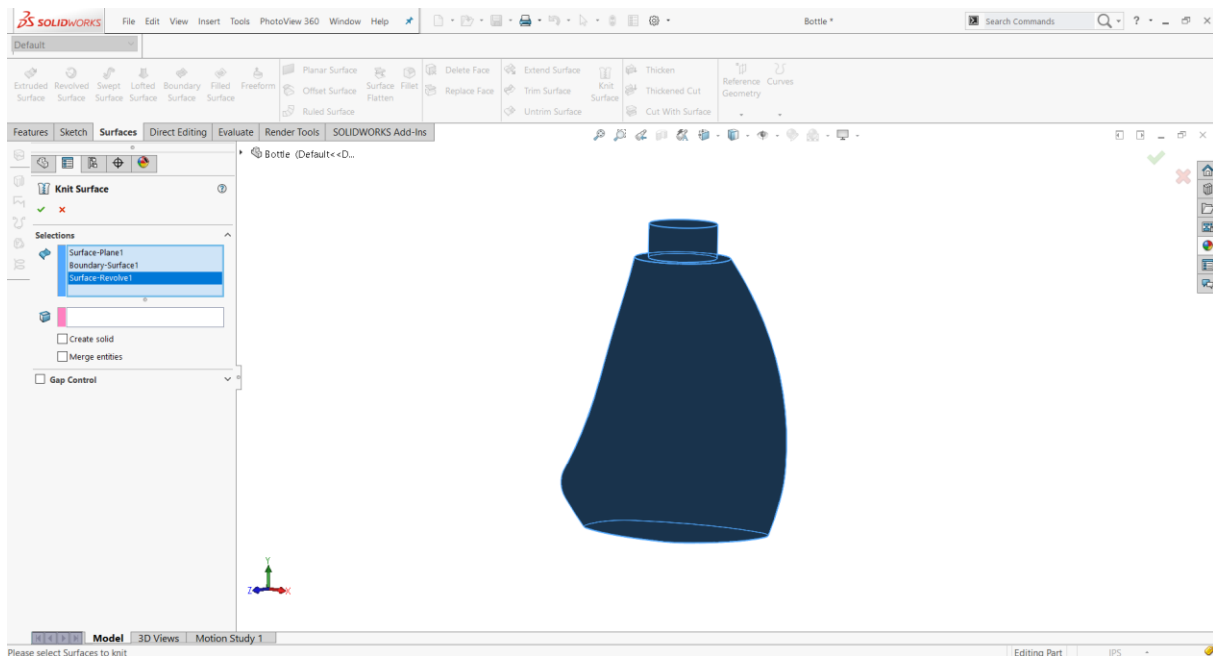
4. On the Front Plane create the following **sketch** (2 lines). Use Pierce relation between the point of the horizontal line and the horizontal edge.



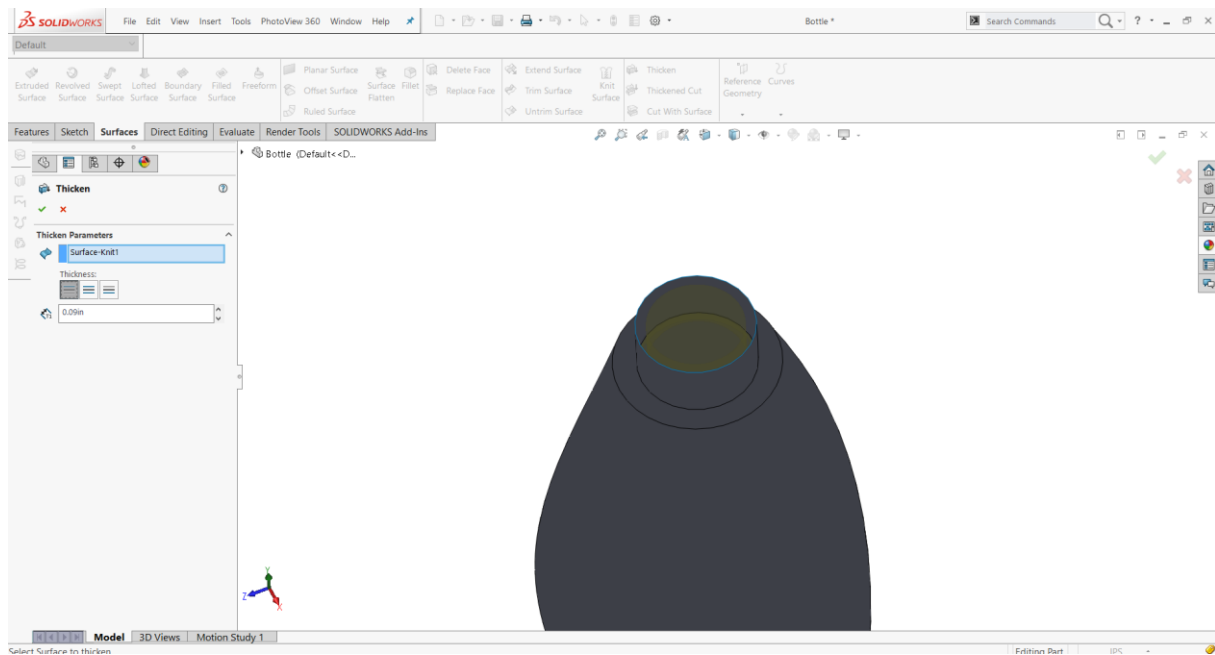
5. Use **Revolve Surface** and create the following surface.



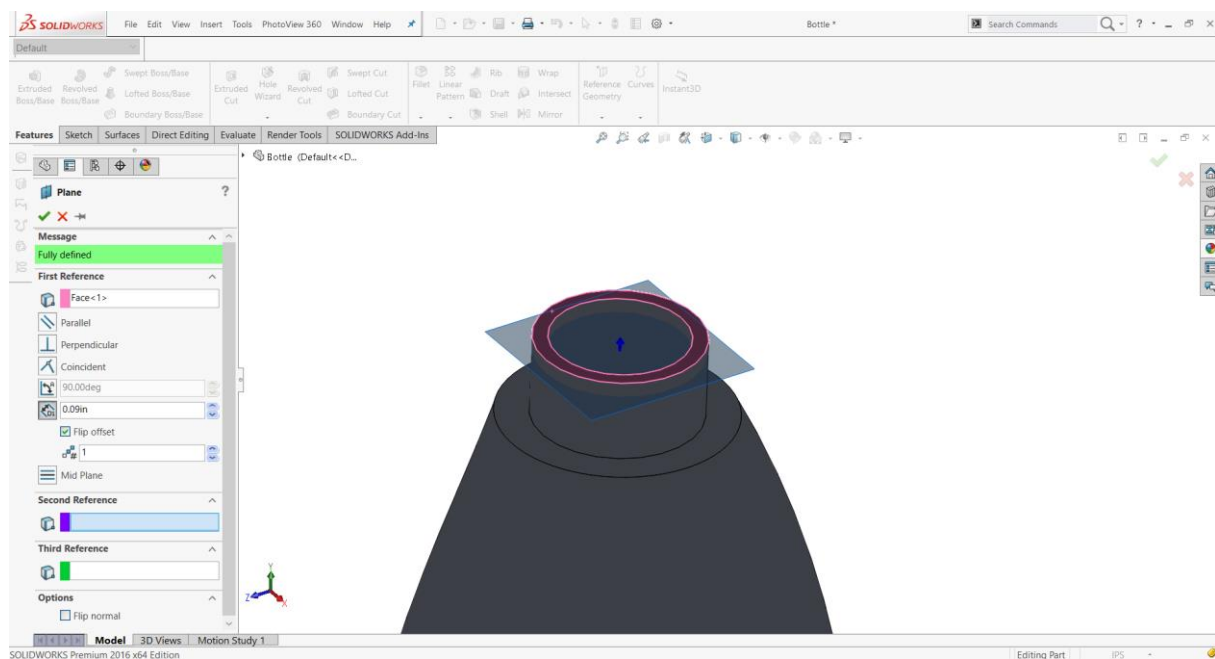
6. Knit the all surfaces into one by using **Knit Surface**.



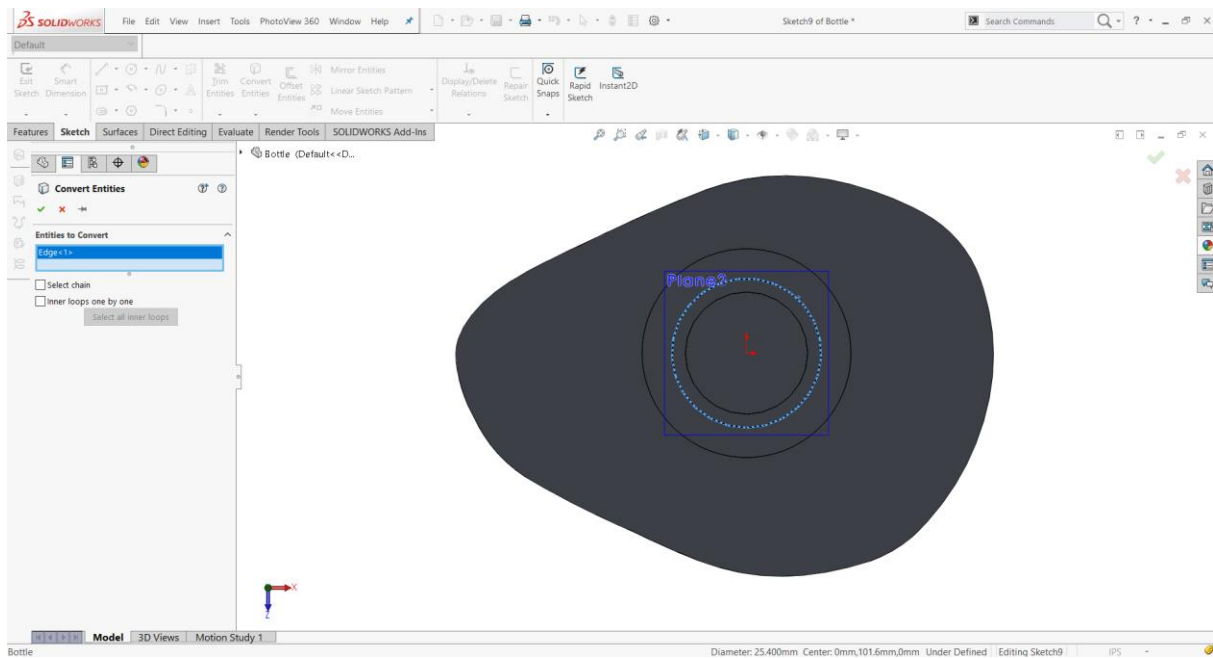
7. Use **Thicken** tool with thickness 0.09in with direction to the inside of the bottle.



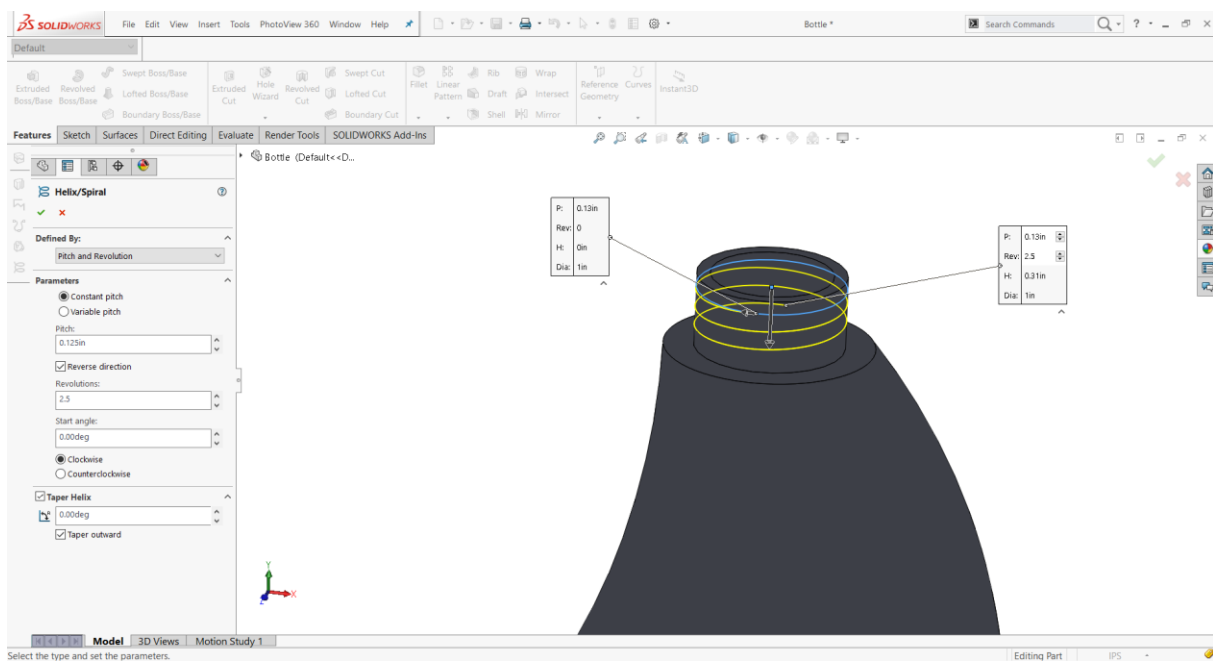
8. Create a **new Plane** with 0.09 in Offset Distance from the top face of the neck.



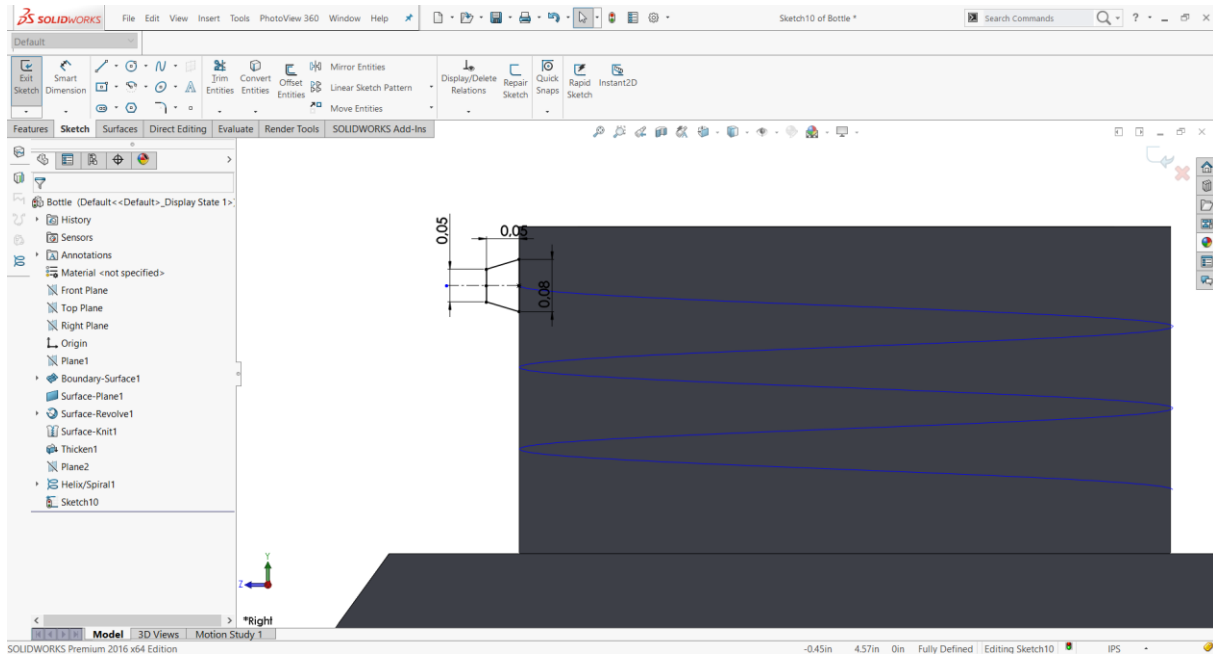
9. Create a **sketch** on the new plane by converting the upper circular edge.



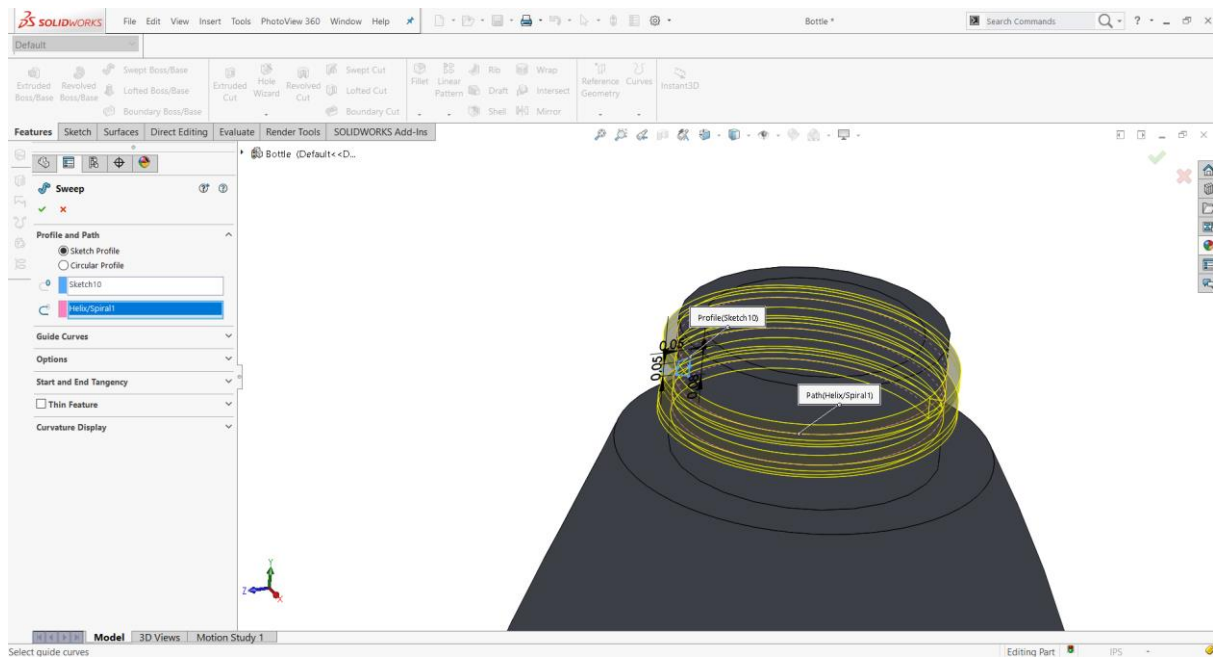
10. Create a Sweep Path for the Thread by using **Helix/Spiral** as shown.



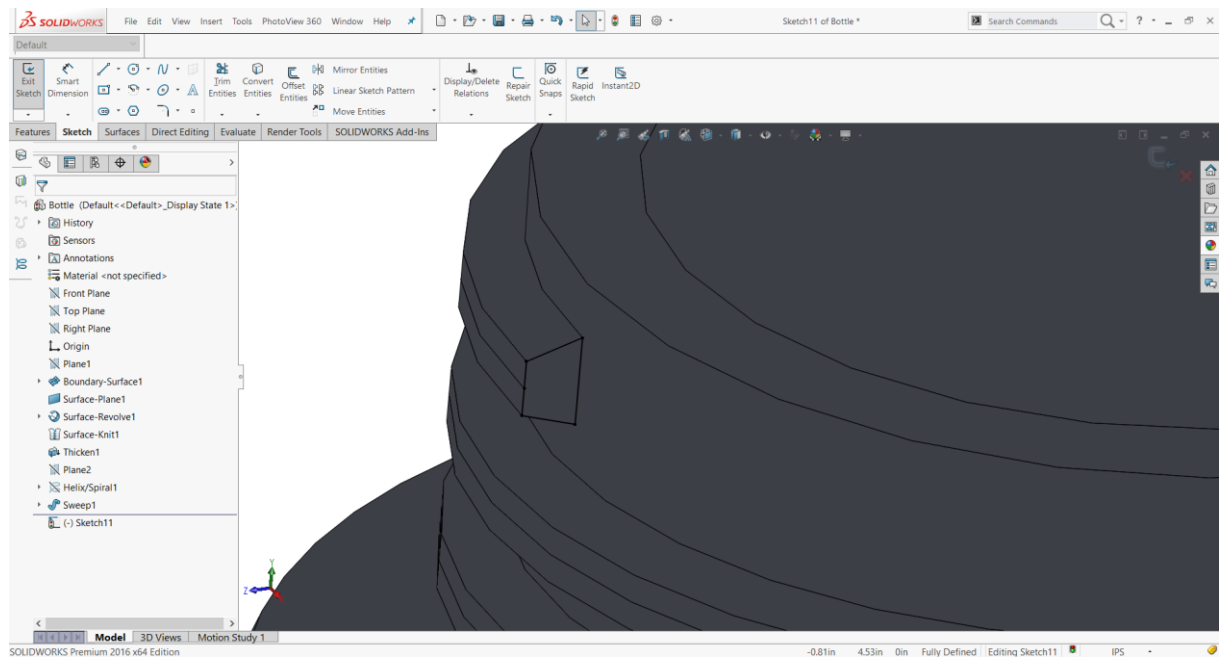
11. On the right plane create the following **sketch**. Add Pierce relation between midpoint of the vertical line (0.08in) and path.



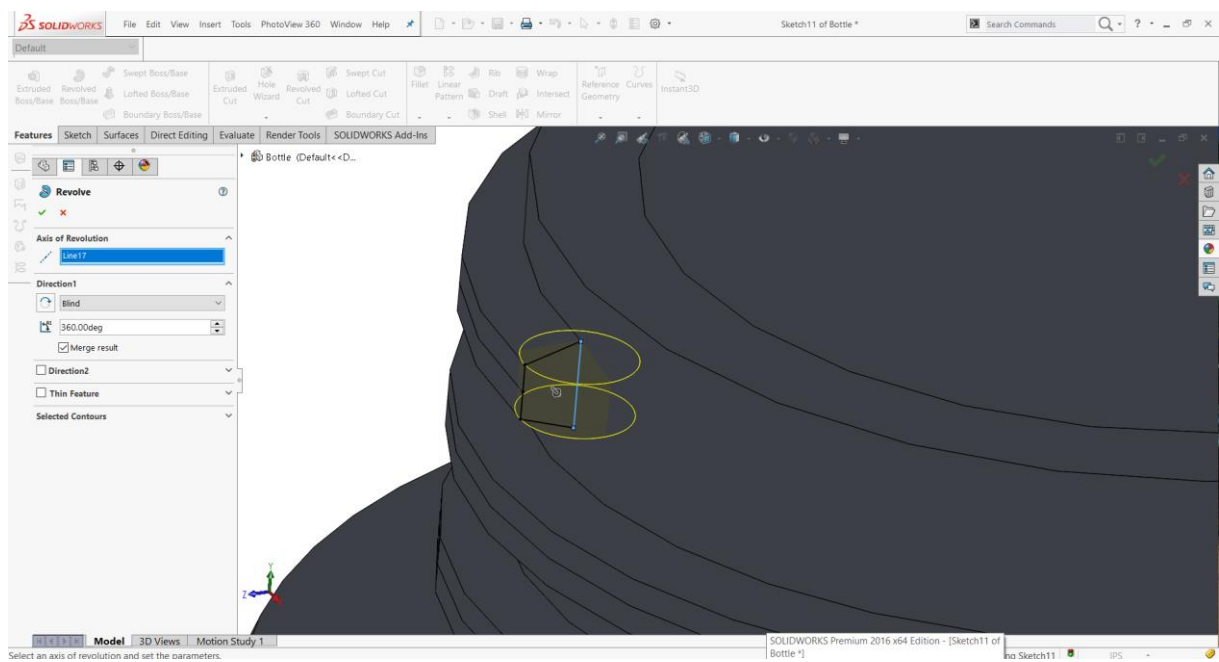
12. Use a **solid Sweep** and sweep the profile along the path to create the thread.



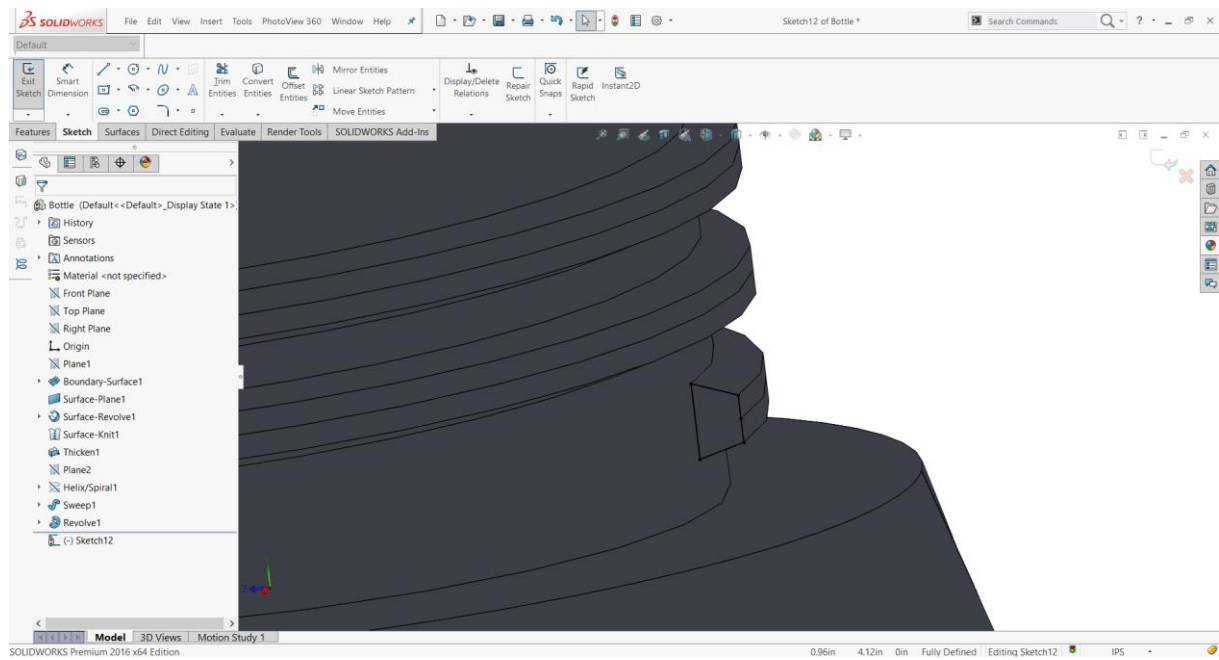
13. Create a new **sketch** by converting the face at the end of the thread.



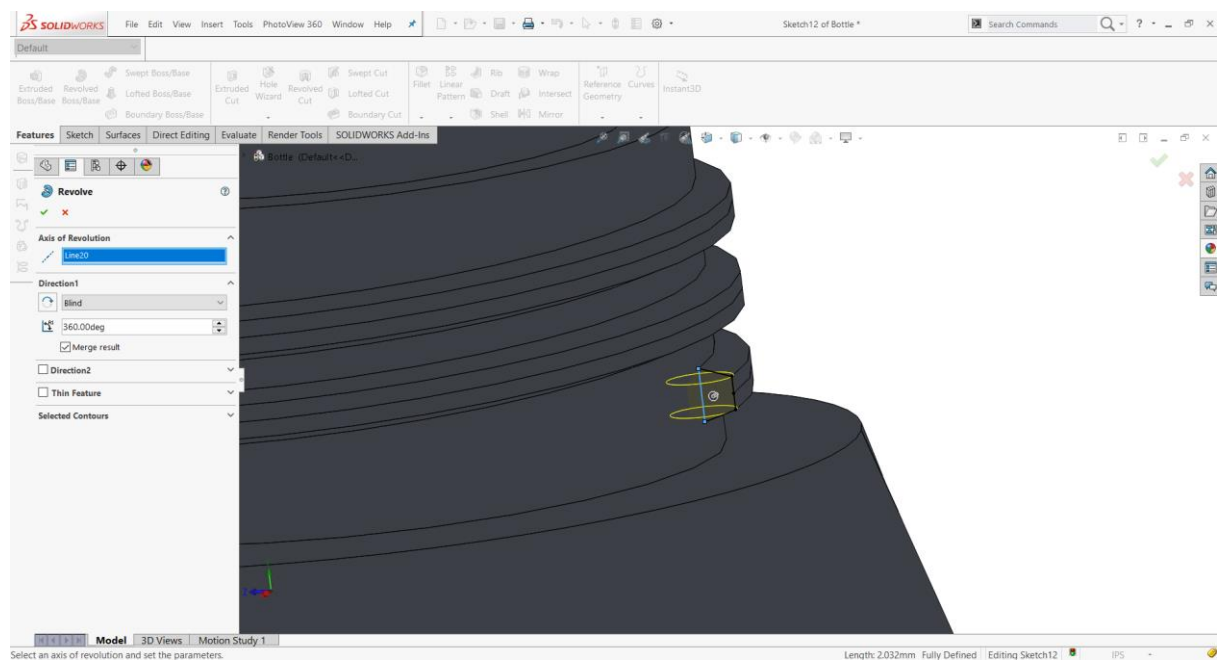
14. **Revolve** the previous sketch around the vertical line (0.08in) to round off the ends.



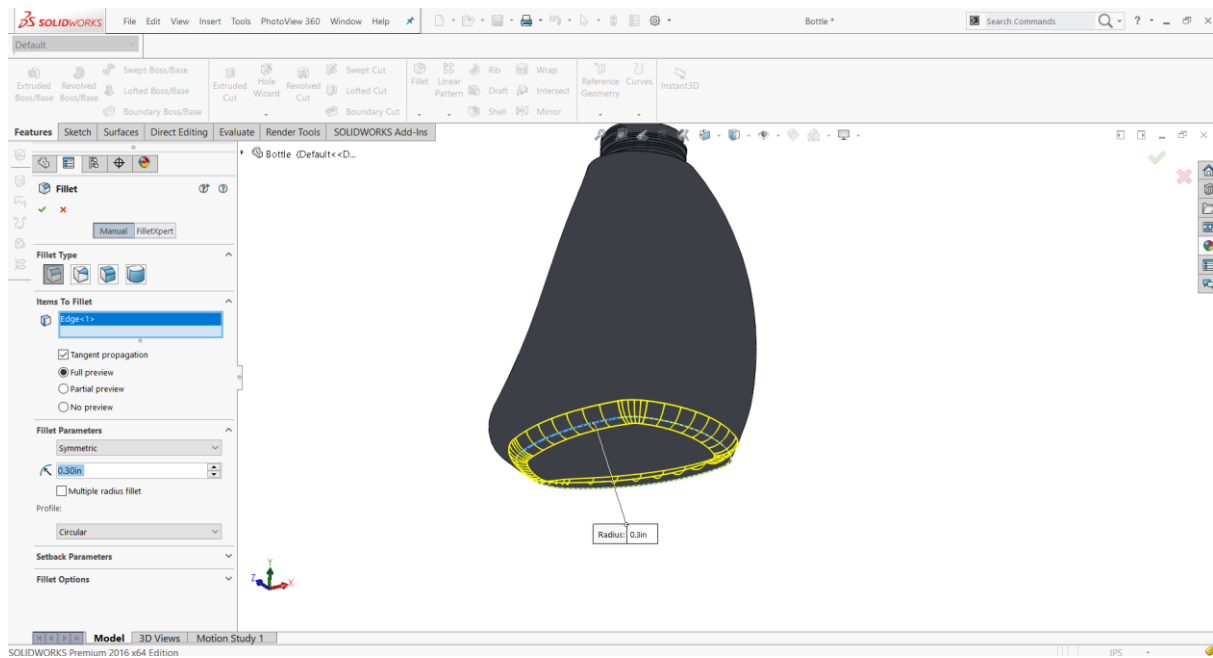
15. Repeat the process from the step 13 for the second end of the thread.



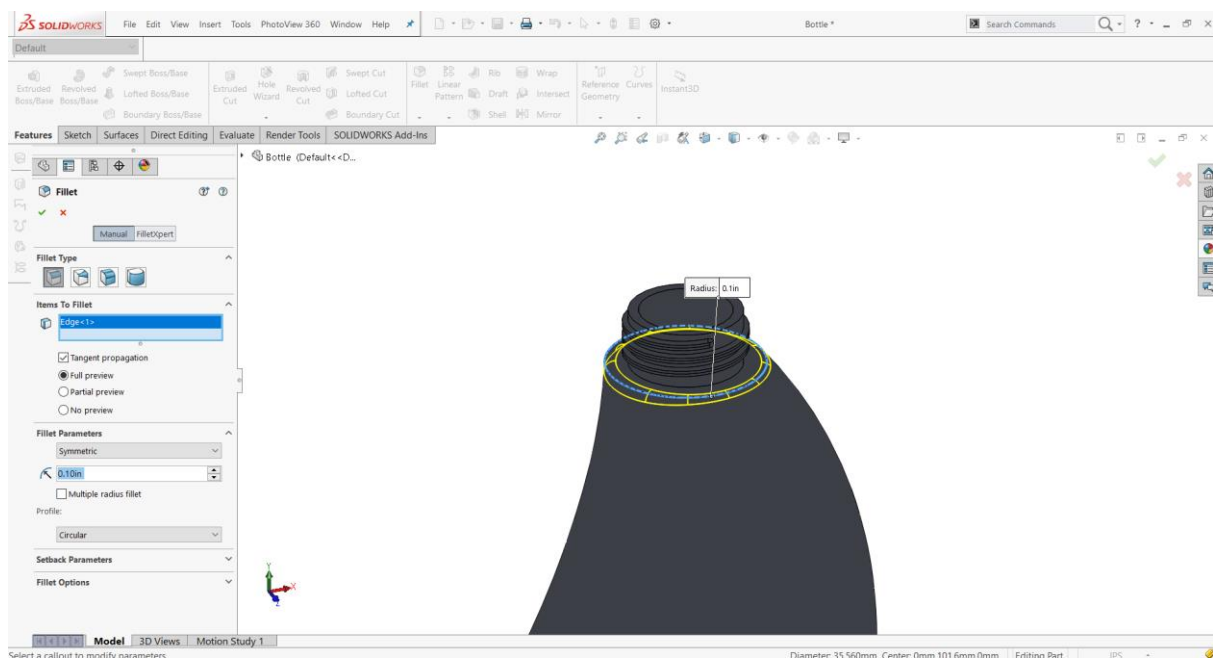
16. Repeat the process from the step 14 for the second end of the thread.



17. Use a **Fillet** and round the bottom edges with radius 0.30in.

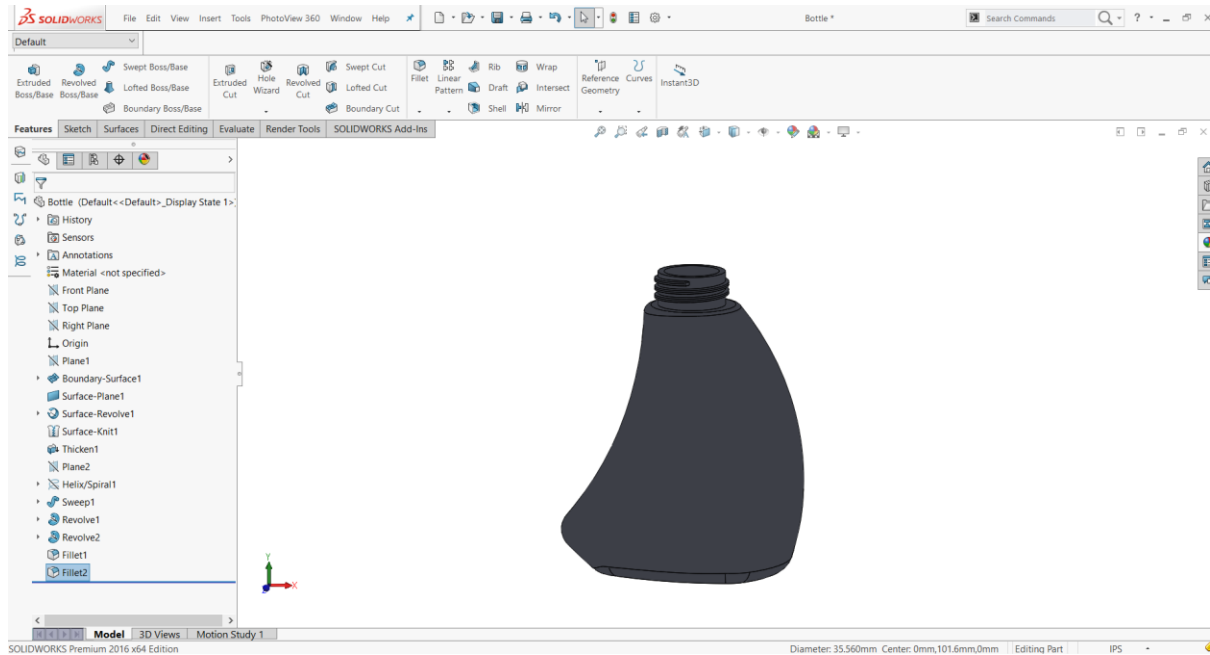


18. Use a **Fillet** and round the upper edge with radius .1in.



If your work looks something like this one below you have made it!

CONGRATULATION!!!



OPTIONAL: Apply the appearance to the model by your own choice