Starting The Tutorials

- Launch SolidWorks
- Select Resources to open the Task Pane.
- Select Tutorials
Select Basic Techniques

Open Lofts
Hammer Head
Creating a Parallel Plane

Setting Up the Planes

1. Click New on the Standard toolbar and create a new part.
2. Click View and verify that Planes is selected.
3. Right-click the Front plane in the FeatureManager design tree and select Show Axis. The Front plane appears in the graphics area.
5. Set Offset distance to 25 and click OK. A new plane, Plane1, is created in front of the Front plane.

The planes used in a loft do not have to be parallel, but they are for this lesson.
Adding Two More Planes
Sketch on Plane 2

1. Open a sketch on Plane1, and sketch a circle, centered on the origin. It appears as though you are sketching on top of the first sketch. However, the first sketch is on the Front plane, and it is not affected by sketching on Plane1, a parallel plane in front of it.

2. Dimension the circle to 50mm in diameter.

3. Exit the sketch.

4. Open a sketch on Plane2, and sketch a circle, centered on the origin. As you drag, make the diameter of the circle coincident with the vertex of the square. (Watch for the R = 40.0 pointer.)

5. Exit the sketch.
Circle Coincident with Vertices

1. Open a sketch on Plane1, and sketch a circle, centered on the origin. It appears as though you are sketching on top of the first sketch. Moreover, the first sketch is on the Front plane, and it is not affected by sketching on Plane1, a parallel plane in front of it.

2. Dimension the circle to 50mm in diameter.

3. Exit the sketch.

4. Open a sketch on Plane2, and sketch a circle, centered on the origin. As you drag, make the diameter of the circle coincident with the vertex of the square. (Watch for the pointer.)

5. Exit the sketch.
Copy–Paste Sketch from Plane 2 to 3

Copying a Sketch
You can copy a sketch from one plane to another to create another profile.

1. Click Isometric on the Standard Views toolbar.

If a sketch is on the wrong plane, you can change the plane. Right-click the sketch in the FeatureManager design tree or the graphics area, and select Edit Sketch Plane. Select the new plane for the sketch, then click OK in the Sketch Plane PropertyManager.

2. Select Sketch0 (the larger circle).

3. Click Copy on the Standard toolbar.


5. Click Paste on the Standard toolbar.
Lofted Bose–Base Feature

Creating the Loft

1. Click Lofted Boss/Base on the Features toolbar.
2. In the graphics area, click near the same place on each profile (for example, the upper-right side), so the loft path travels in a straight line and does not get twisted. Select the sketches in the order you want to connect them.
3. Examine the preview of how the profiles will be connected.
   - If the sketches appear to be connected in the wrong order, you can use the Move Up or Move Down buttons under Profiles in the Properties Manager to rearrange the order.
   - If the preview indicates that the wrong profiles will be connected, right-click in the graphics area, select Clear Selection, and select the profiles again.
4. Click to create the solid model.
Creating Plane 4
Sketch on Plane 4

Creating a Boss Loft

1. Hold down Ctrl, and drag an edge of the Front plane to create an offset plane behind the original Front plane. The Plane PropertyManager appears.
2. Set Offset distance to 200.
3. Make sure that Flip offset is selected so the new plane is created behind the Front plane, then click OK to create the new Plane.
4. Click Hidden Lines Removed on the View toolbar.
5. Click Normal To on the Standard Views toolbar.
6. Open a sketch on Plane 4, then sketch and dimension a narrow rectangle as shown, which is the profile you use to create the next loft.
7. Exit the sketch.
Lofted Bose–Base Connected Profiles

Prof. Steven S. Saliterman
Flex Feature and Trim Planes
Moving Material Between Trim Planes

Completing the Bend

1. Right-click the tool’s center sphere and select Move Tilt to Plane.

   The center of the model is aligned with the center of the tool.

2. Drag the pointer over an edge of Trim Plane 1. When the pointer
   changes to , click and drag the pointer up and down.

   Only the material between the trim planes is moved.

3. Click .

Congratulations! You have completed the tutorial.

Return to the tutorial overview page.
Finished Hammer Head
Topics Covered in this exercise:
- Creating parallel planes.
- Sketching on specific planes and copying from one plane to another.
- Lofted bose–base feature and connecting profiles.
- Flex feature, moving trim planes and bending material