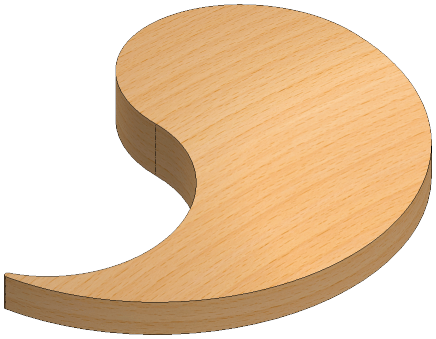
Chapter 3

Jewelry Box
Lid



A. Sketch.

Step 1. Click File Menu > New, click **Part** and OK.

Step 2. Click **Top Plane** in the Feature Manager and click **Sketch** from the Context toolbar, **Fig. 1**.

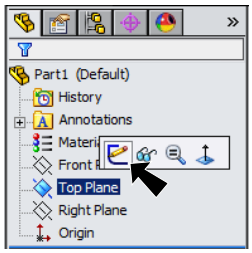


Fig. 1

Step 3. Click **Circle** (**S**) on the Sketch toolbar.

Step 4. Draw a circle starting at the Origin , **Fig. 2**.

Step 5. Click **Smart Dimension** (**S**) on the Sketch toolbar.

Step 6. Dimension **circle diameter 6.5**, **Fig. 2**.

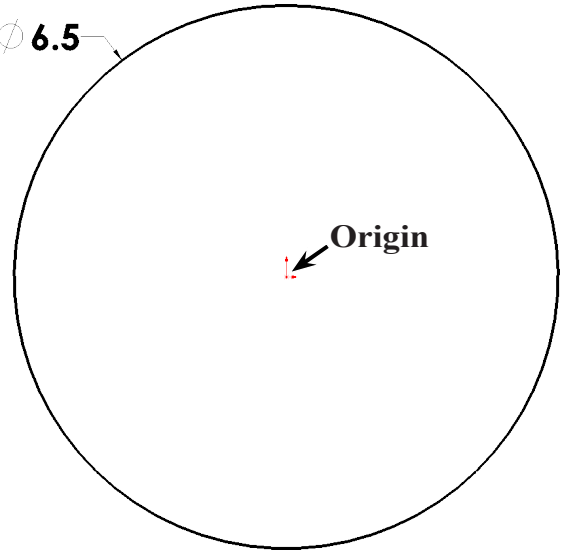


Fig. 2

Step 7. Click **Perimeter Circle** in the **Circle flyout** on the Sketch toolbar.

Step 8. Sketch a perimeter circle from circle to Origin , **Fig. 3**. To sketch circle, click circle and click Origin, then swing perimeter circle to top side of circle and click.

Step 9. Sketch a 2nd perimeter circle from circle to Origin on bottom of circle, **Fig. 4**.

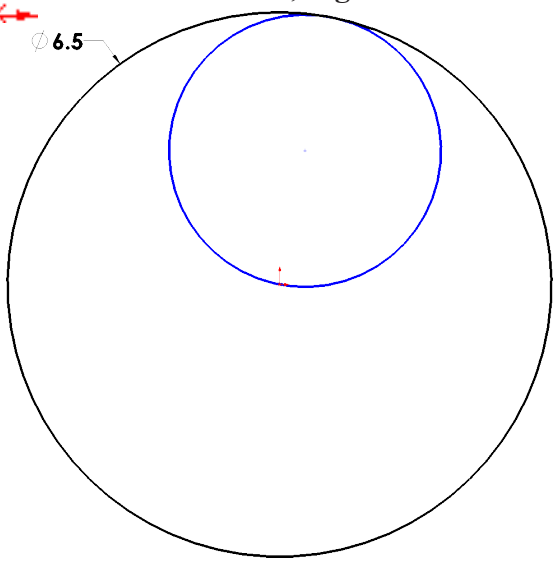


Fig. 3

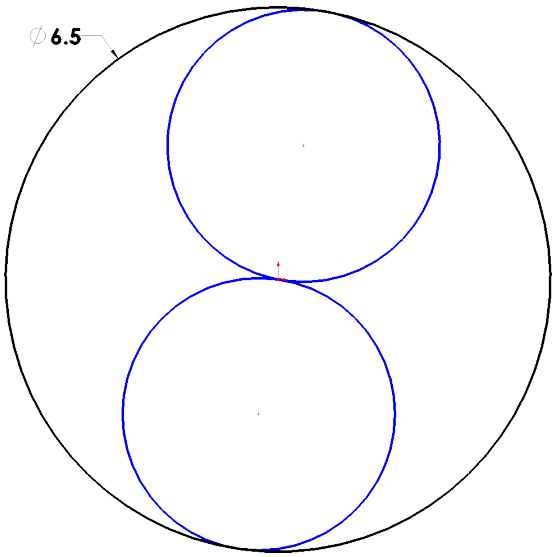


Fig. 4

© Cudacountry.net Tech Ed
http://www.cudacountry.net email:cudacountry@hotmail.com

Step 10. **Right click drawing and click Select** from menu to unselect Perimeter Circle tool.

Step 11. **Ctrl click both center points of perimeter circles and Origin** to select all three. Release Ctrl key and click **Make Vertical** on the Context toolbar, **Fig. 5**.

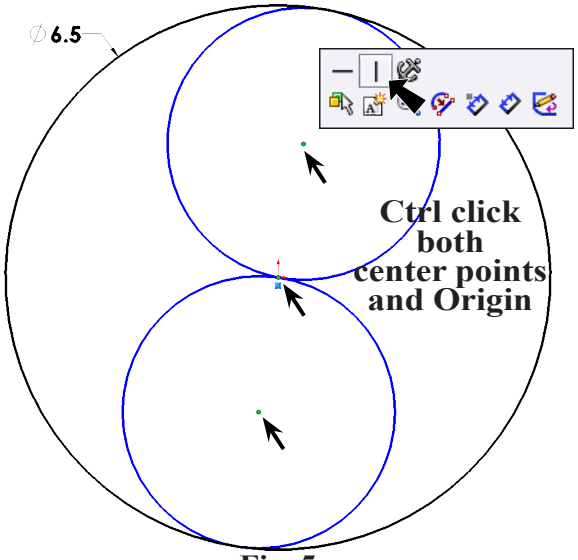


Fig. 5

Step 12. Click **Features** on the Command Manager toolbar.

Step 13. Click **Extruded Boss/Base** on the Features toolbar.

Step 14. In the Property Manager set:
under Direction 1, **Fig. 6**
Depth .75
under Selected Contours
click **two contours**, **Fig. 7**
click OK .
click **Reverse direction**
The **Direction arrow** should point **down**, **Fig. 46**
This will position Origin on **top** of stock.
Click OK .

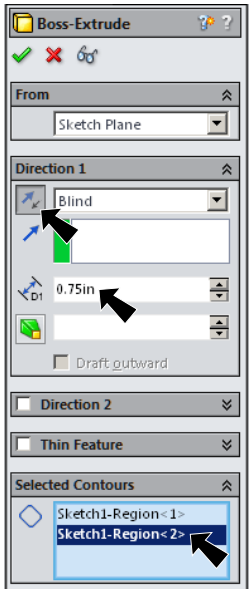


Fig. 6

B. Save as "LID".

Step 1. Click File Menu > Save As.

Step 2. Key-in **LID** for the filename and press ENTER.

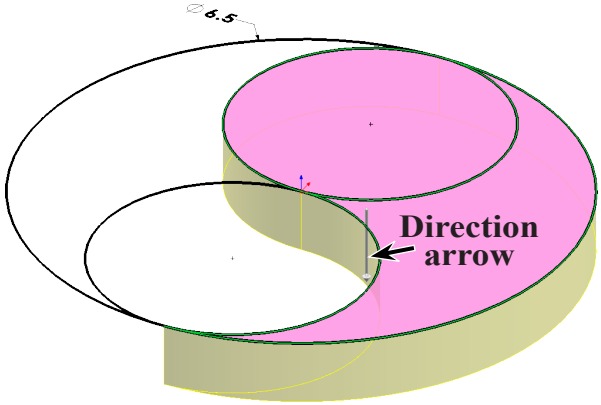


Fig. 7

C. Fillet Edge.

Step 1. Click **Fillet**

on the Features toolbar.

Step 2. In the Fillet Property Manager:
select **FilletXpert**, **Fig. 8**
Radius .035
click **vertical edge**, **Fig. 9**
click OK .

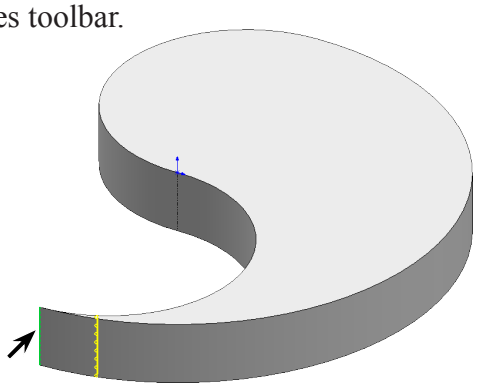


Fig. 9

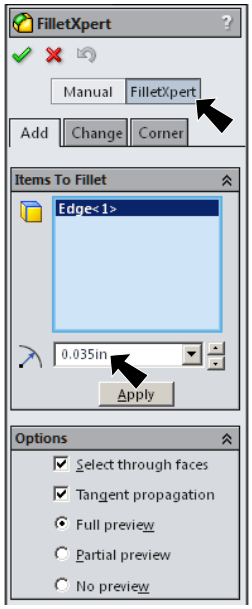


Fig. 8

D. Revolved Cut.

Step 1. Click **Front Plane** in the Feature Manager and click **Sketch** from the Context toolbar, **Fig. 10**.

Step 2. Click **Normal To** on the Standard Views toolbar. (**Ctrl-8**)

Step 3. Click **Centerline** in the **Line flyout** on the Sketch toolbar.

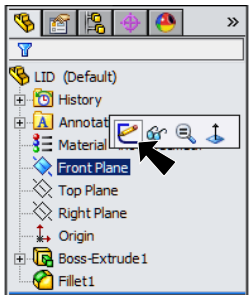


Fig. 10

Step 4. Draw a **vertical centerline down from the Origin** , **Fig. 11**.

Step 5. Click **Centerpoint Arc** (**S**) in the **Arc flyout** on the Sketch toolbar.

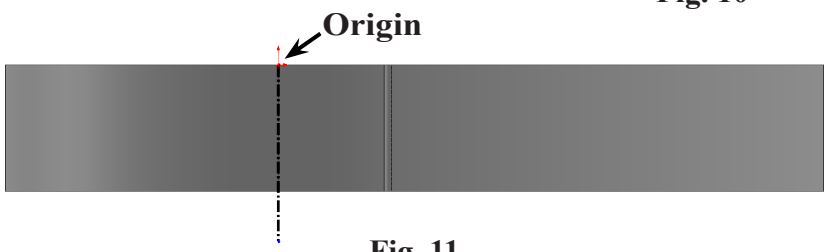


Fig. 11

Step 6. Sketch a centerpoint arc centered on centerline to Origin and around to right. To sketch arc, click the centerline for arc centerpoint. Click **Origin** for first endpoint and swing arc clockwise and click for second endpoint, **Fig. 12**.

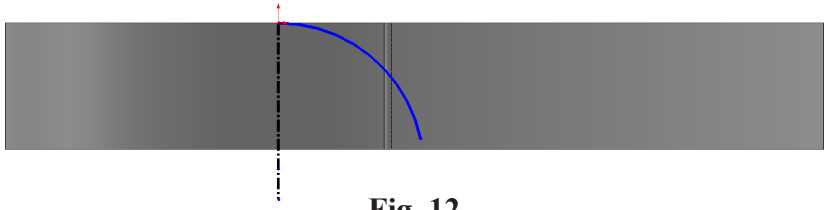


Fig. 12

Step 7. Click **Line** (**L**) on the Sketch toolbar.

Step 8. Sketch **three lines** to close sketch, **Fig. 13**.

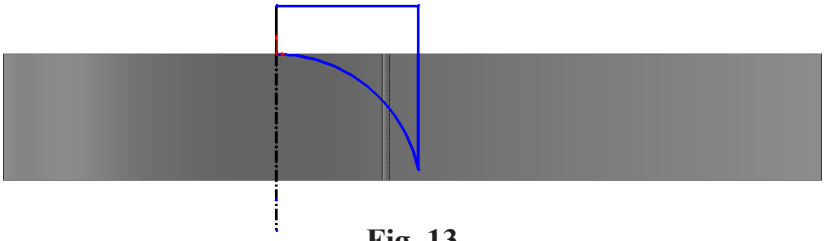


Fig. 13

Step 9. Click **Smart Dimension**

(**S**) on the Sketch toolbar.

Step 10. Add dimensions, **Fig. 14**. Dimension the radius last.

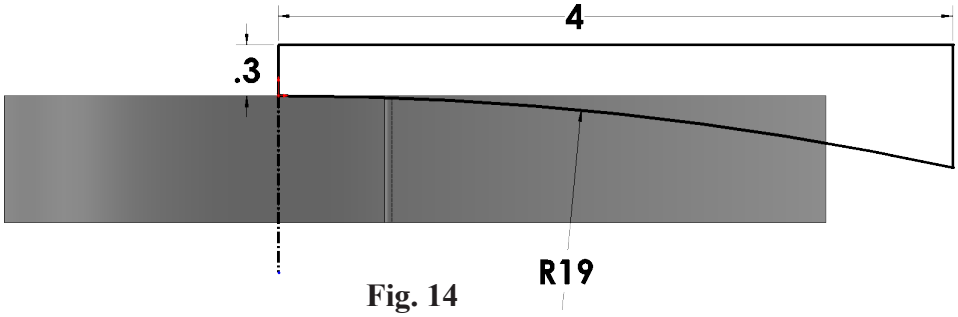


Fig. 14

Step 13. Click **Features**

on the Command Manager toolbar.

Step 14. Click **Revolved Cut**

on the Features toolbar.

Step 15. In the Cut-Revolve Property Manager click OK .

Step 16. Save. Use **Ctrl-S**.

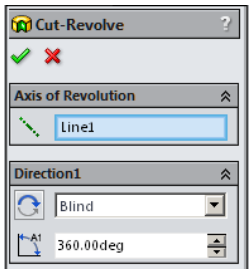


Fig. 15

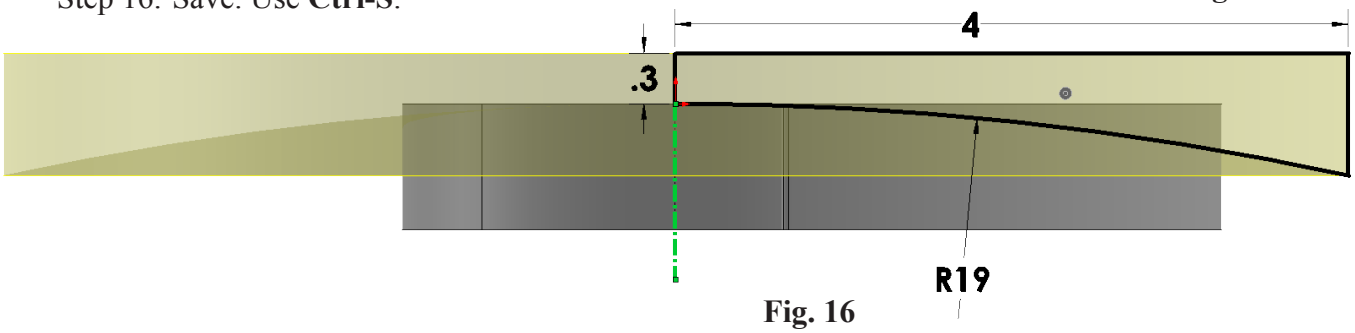


Fig. 16

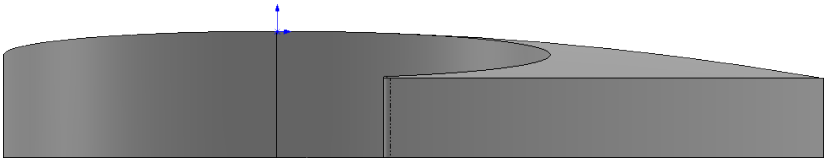


Fig. 17

E. Pin Hole.

Step 1. Click **Bottom** on the Standard Views toolbar. (**Ctrl-6**)

Step 2. Click **Hole Wizard** Hole Wizard on the Features toolbar.

Step 3. In the Property Manager set:
under Hole Type, **Fig. 18**
click **Hole**
under Standard:
select **ANSI Inch**
under Type:
select **Drill sizes**
under Hole Specification:
Size: 1/8
End Condition **Blind**
Blind Depth Hole **.35**

click **Positions tab** Positions.

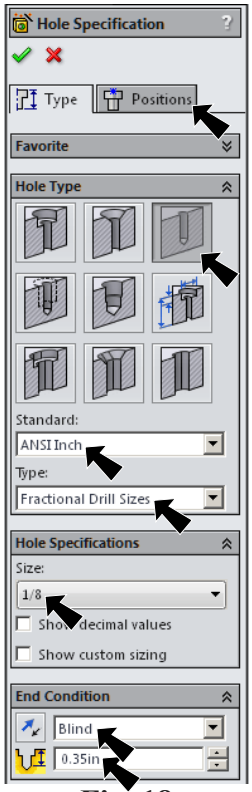


Fig. 18

Step 4. Click **bottom face** one time as face for hole and click **bottom face below Origin** one time to place Point, **Fig. 19**.

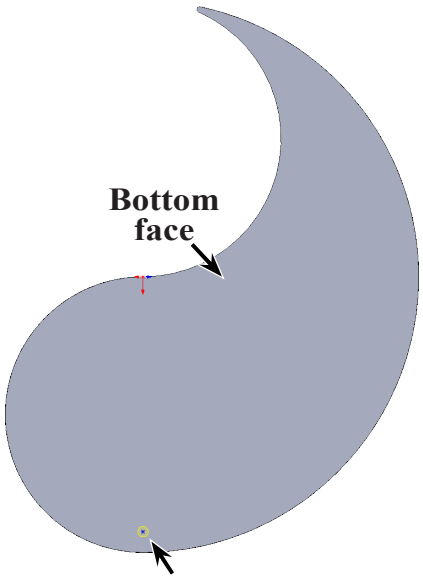


Fig. 19

Step 5. **Right click drawing and click Select** from menu to unselect Point tool.

Step 6. **Ctrl click the Point and Origin** to select. Release Ctrl key and click **Make Vertical** on the Context toolbar, **Fig. 20**.

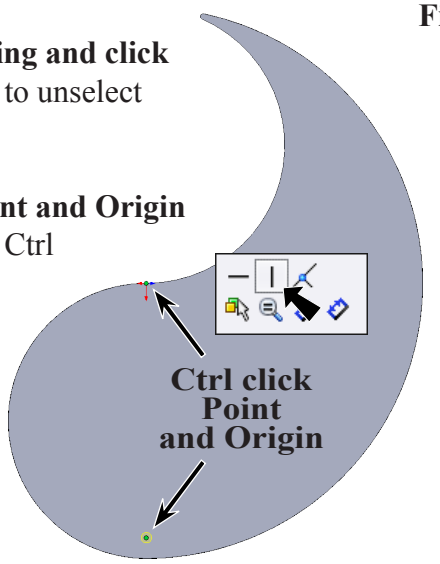


Fig. 20

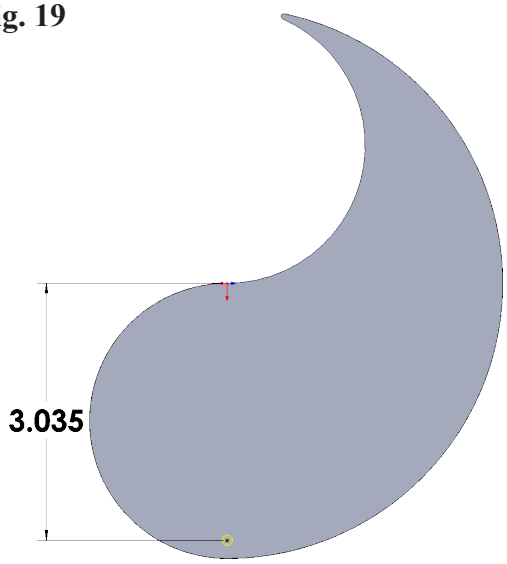


Fig. 21

Step 7. Click **Smart Dimension** Smart Dimension **(S)** on the Sketch toolbar.

Step 8. Add **3.035** dimension to Origin, **Fig. 21**.

Step 9. Click OK in Hole Property Manager.

F. Material Beech.

Step 1. Click **Isometric** on the Standard Views toolbar. (**Ctrl-7**)

Step 2. **Right click Material** in the Feature Manager and click **Edit Material**, **Fig. 22**.

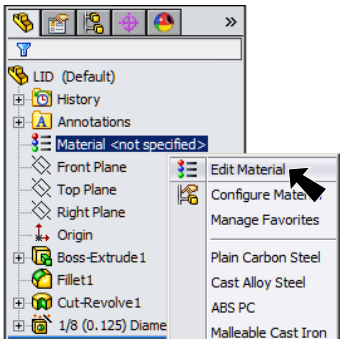


Fig. 22

Step 3. **Expand Woods** in the material tree and click **Beech**. Click **Apply** and **Close**.

Step 4. Save. Use **Ctrl-S**.

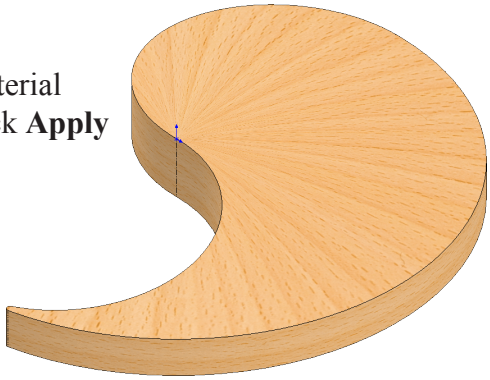


Fig. 23

G. Appearance.

Step 1. Click the Lid to select the part, click **Appearances Callout** on the Context toolbar and click **Lid**, **Fig. 24**.

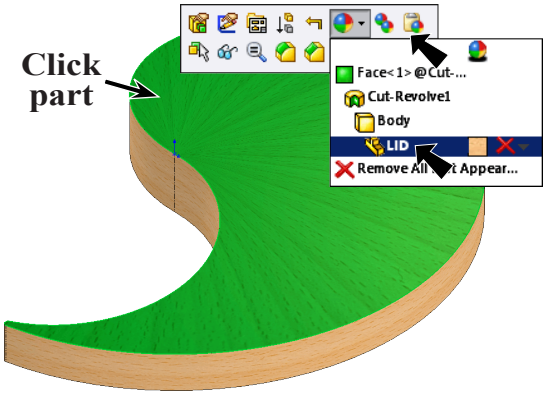


Fig. 24

Step 2. In the Appearances Property Manager:

click **Keep Visible** and OK, **Fig. 25**. The Push Pin on allows selection of another appearance for face.

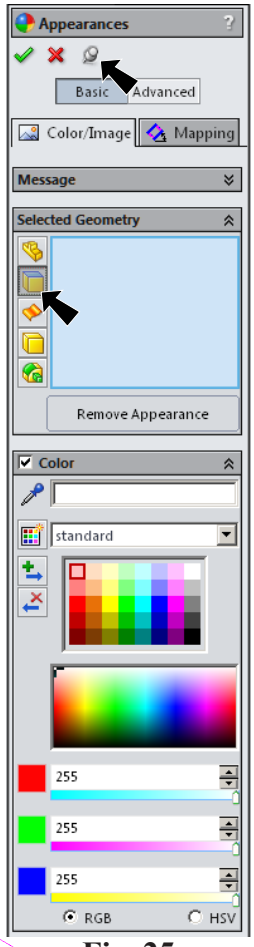


Fig. 25

under Selected Geometry, **Fig. 25**

click **Select Faces**

click **top face of Lid**, **Fig. 26**.

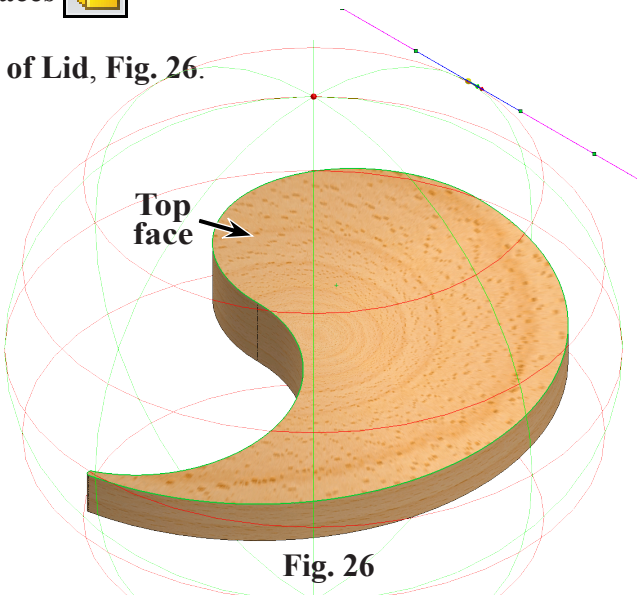


Fig. 26

Step 3. Click **Mapping tab** at top of Property Manager, **Fig. 27**
under Mapping Controls

click **Planar mapping**
Rotation 90

click OK and then click Cancel .

Step 4. Save. Use **Ctrl-S**.

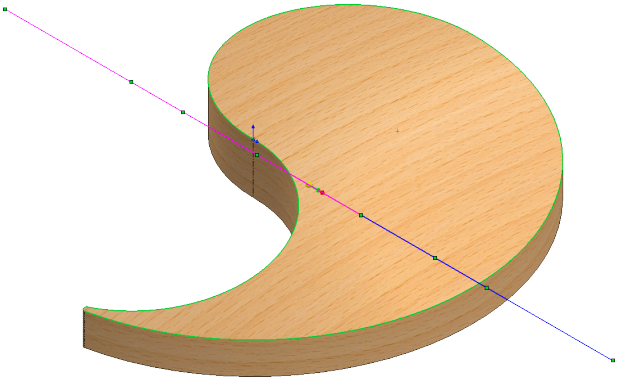


Fig. 28

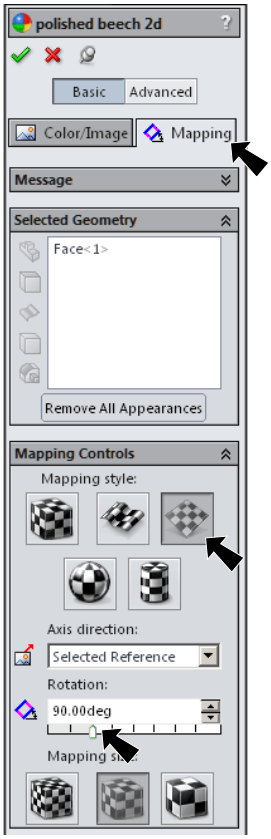


Fig. 27

Fig. 29