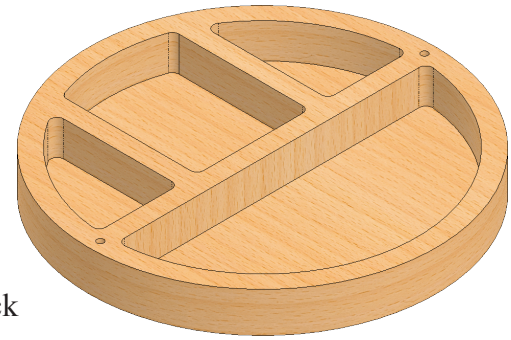
Chapter 2

Jewelry Box
Base



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**.

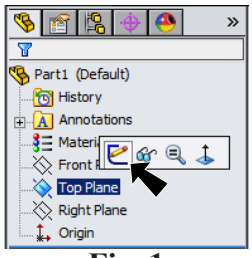


Fig. 1

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**.

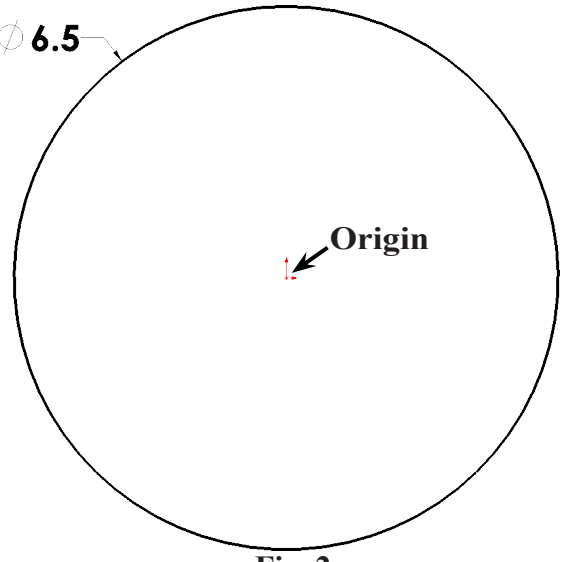


Fig. 2

Step 7. Click **Features** on the Command Manager toolbar.

Step 8. Click **Extruded Boss/Base** on the Features toolbar.

Step 9. In the Property Manager set:
under Direction 1, **Fig. 3**
Depth **.75**
click **Reverse direction**
The **Direction arrow** should point **down**, **Fig. 4**.
This will position Origin on **top** of stock.
Click OK .

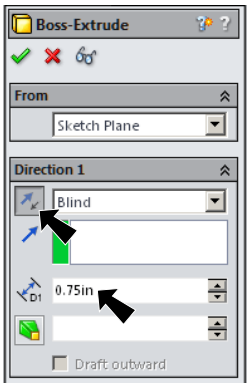


Fig. 3

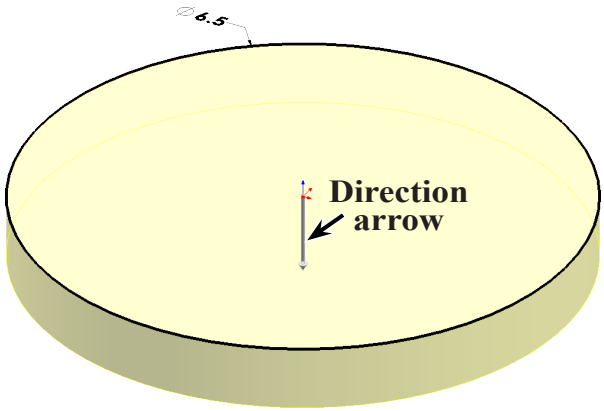


Fig. 4

B. Save as "BASE".

Step 1. Click File Menu > Save As.

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

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C. Pockets.

Step 1. Click the **top face** and click **Sketch** on the Context toolbar, **Fig. 5**.

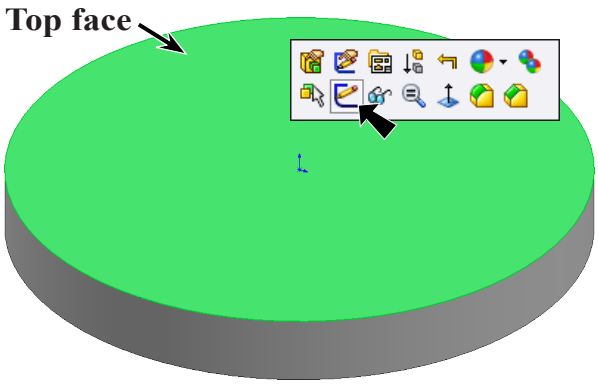

Fig. 5

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

Step 3. Click **Line** (**L**) on the Sketch toolbar.

Step 4. Draw a **vertical centerline up from the Origin** and **horizontal centerline out to left from Origin**, **Fig. 6**. Draw the horizontal centerline last. Before moving cursor ways from line, **right click** line and **select Construction Geometry** on Context toolbar. To terminate chain, double click back on the line you have just drawn.

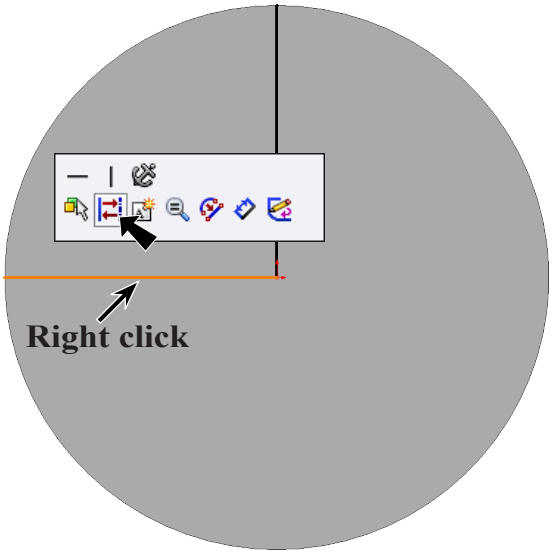

Fig. 6

Step 5. Click **Offset Entities** on the Sketch toolbar.

Step 6. In the Offset Entities Property Manager set:

Distance **.35** **Fig. 7**
click **edge of Base**, **Fig. 8**
uncheck **Bi-directional**
check **Reverse**

The yellow offset should be inside, **Fig. 8**. If in wrong direction uncheck Reverse.

Click **Keep Visible** and OK, **Fig. 7**. The Push Pin on pins the Property Manager open.

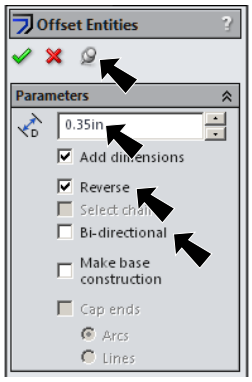

Fig. 7

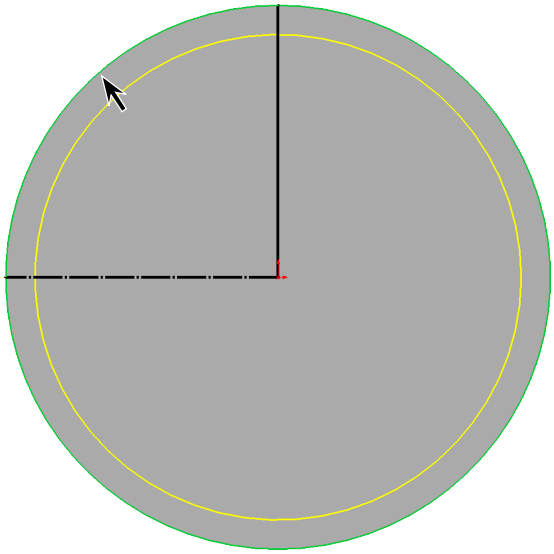
Fig. 8

Step 7. In the Offset Entities Property Manager set:

Distance 1.225 **Fig. 9**
click **horizontal centerline**, **Fig. 10**
uncheck **Reverse**
uncheck **Select chain**

The yellow offset should be above horizontal centerline, **Fig. 10**. If in wrong direction uncheck Reverse.

click OK .

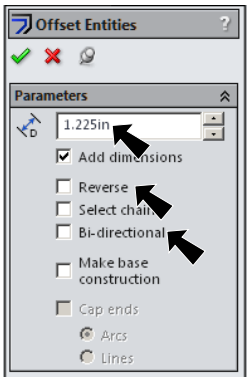

Fig. 9

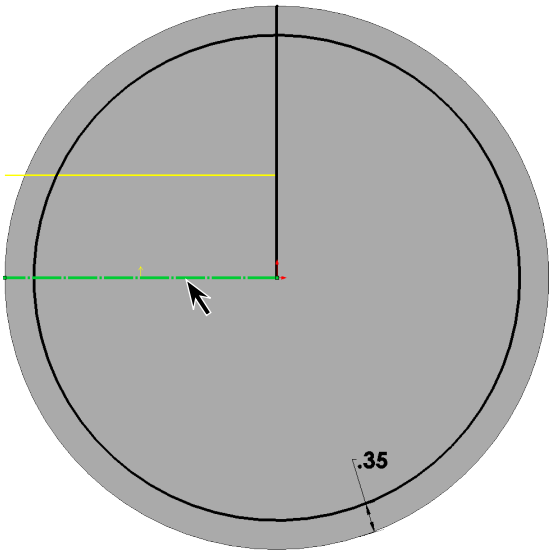

Fig. 10

Step 8. In the Offset Entities Property Manager set:

Distance .175 **Fig. 11**
check **Bi-directional**
click **offset line and vertical centerline**, **Fig. 12**
click OK **twice**.

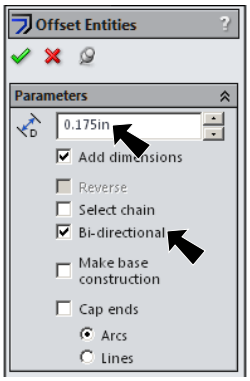

Fig. 11

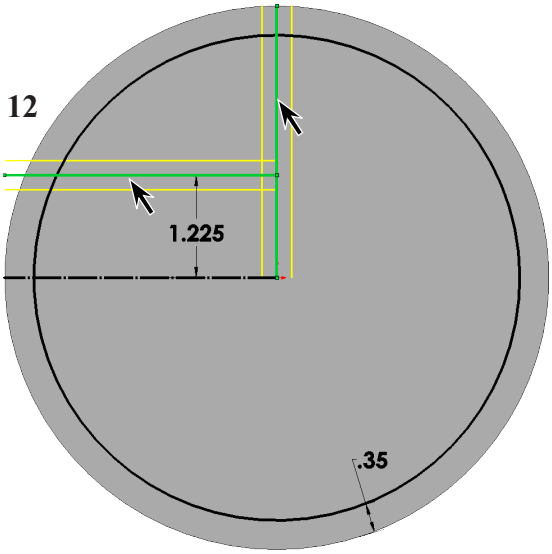

Fig. 12

Step 9. Drag a selection to select **all lines**, **Fig. 13**.

Step 10. Click **Mirror Entities** Mirror Entities on the Sketch toolbar, **Fig. 14**.

Drag selection

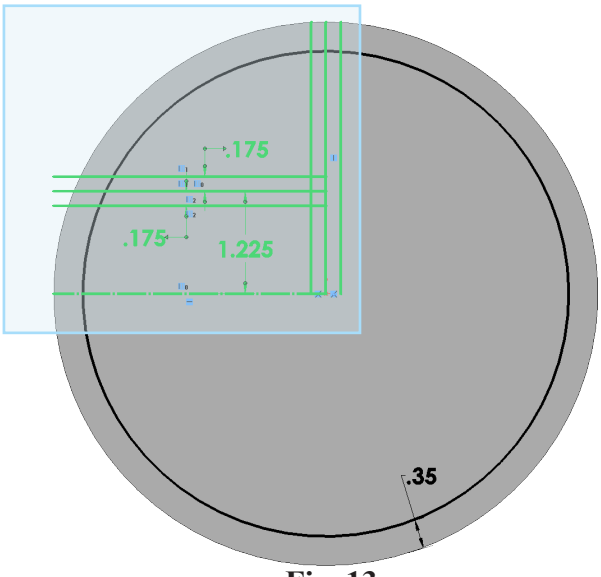

Fig. 13

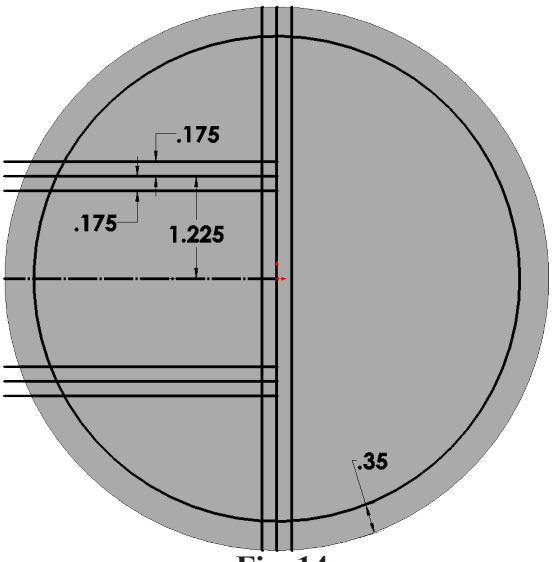

Fig. 14

Step 11. Click **Isometric** on the Standard Views toolbar. (**Ctrl-7**)

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

Step 13. Click **Extruded Cut** Extruded Cut on the Features toolbar.

Step 14. In the Cut-Extrude Property Manager set:
under Direction 1, **Fig. 15**
Depth D1 **.65**
under Selected Contours
click **5 contours**, **Fig. 16**
click OK .

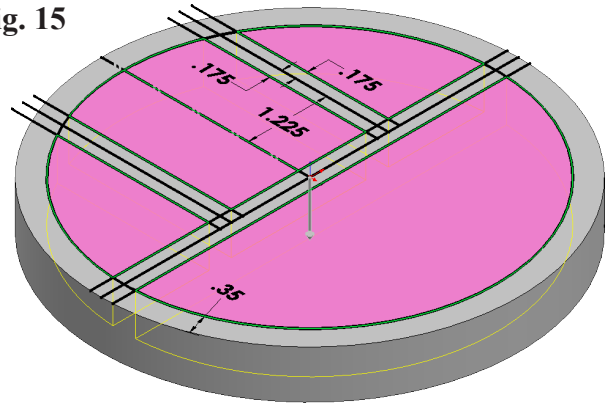

Fig. 16

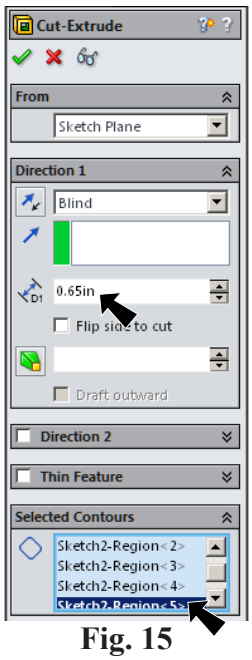

Fig. 15

D. Fillet Edges.

Step 1. Click **Fillet** Fillet on the Features toolbar.

Step 2. In the Fillet Property Manager:
select **FilletXpert**, **Fig. 17**
Radius **.125**

click a **vertical edge of a pocket**, **Fig. 18**

click **Connected to end internal loops**, **11 Edges** on the Fillet pop-up toolbar, **Fig. 18**

click OK .

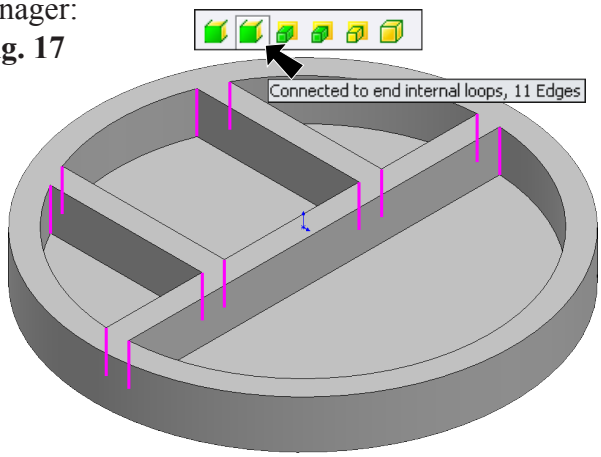

Fig. 18

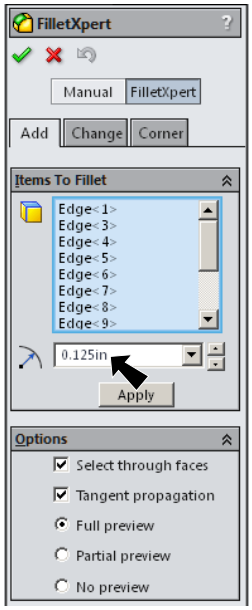

Fig. 17

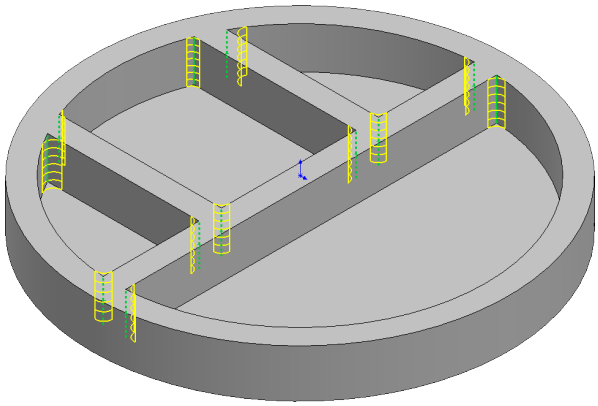
Fig. 19

E. Pin Holes.

Step 1. Click **Top** on the Standard Views toolbar. (**Ctrl-5**)

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

Step 3. In the Property Manager set:
under Hole Type, **Fig. 20**
click **Hole**
under Standard:
select **ANSI Inch**
under Type:
select **Drill sizes**
under Hole Specification:
Size: 1/8
End Condition
Through All

click **Positions tab** Positions.

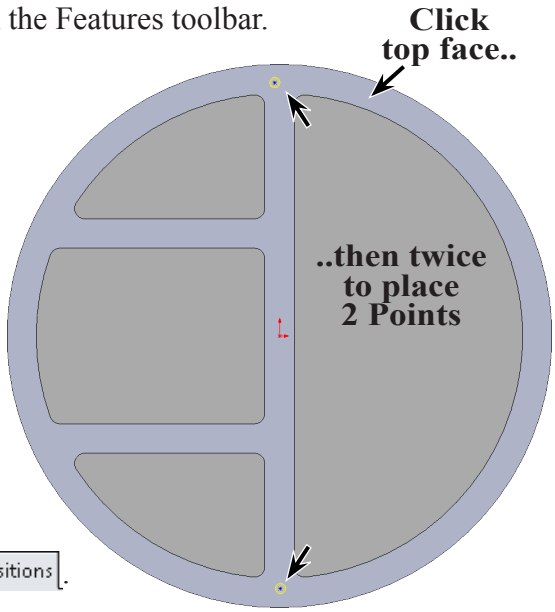

Fig. 21

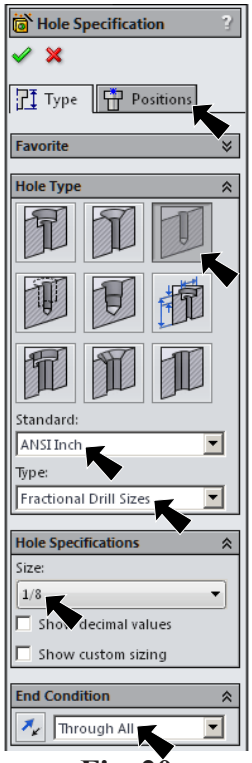

Fig. 20

Step 4. Click **top face (not a pocket)** one time as face for holes and click twice to place **2 Points**, **Fig. 21**.

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

Step 6. **Ctrl click the two Points and Origin** to select.
Release Ctrl key and click **Make Vertical** on the Context toolbar, **Fig. 22**.

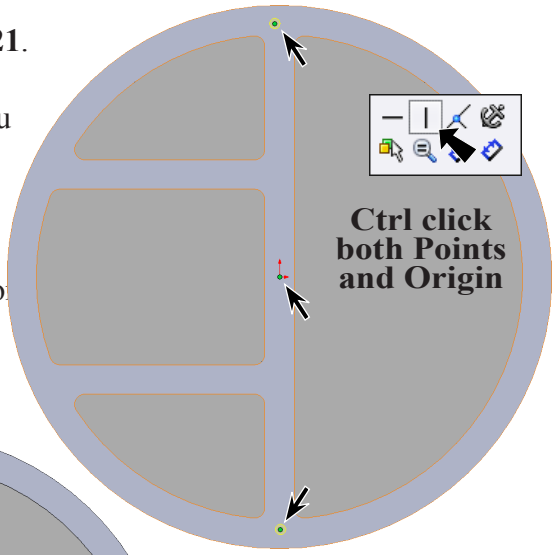

Fig. 22

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

Step 8. Add dimensions, **Fig. 23**.

Step 9. Click OK in Hole Property Manager.

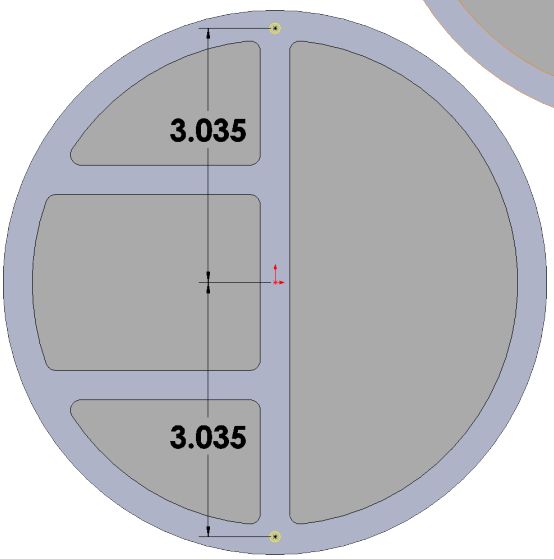

Fig. 23

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. 24**.

Step 3. **Expand Woods** in the material tree and click **Beech**, **Fig. 31**. Click **Apply** and **Close**, **Fig. 25**.

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

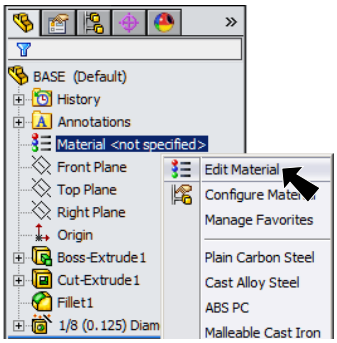

Fig. 24

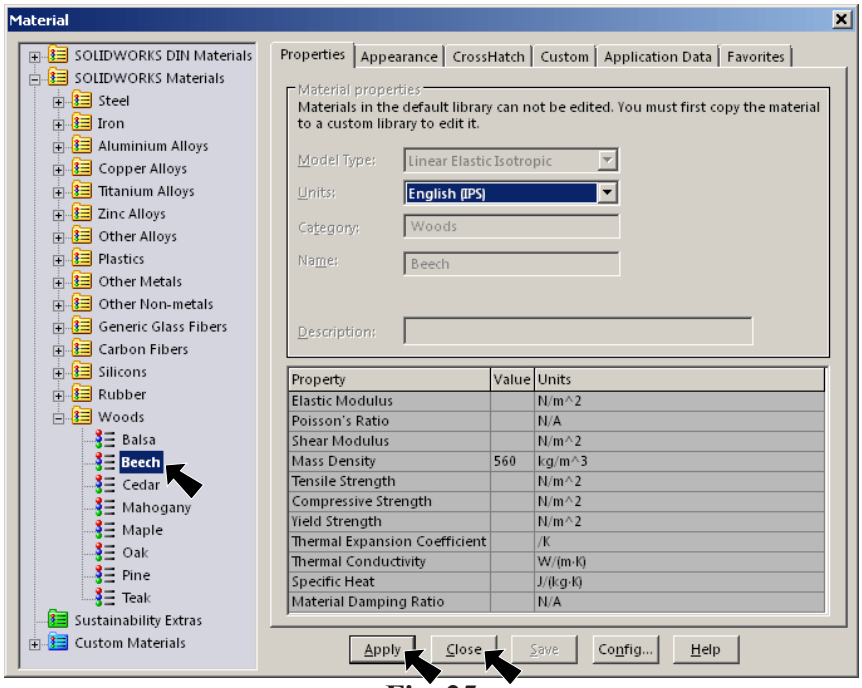

Fig. 25

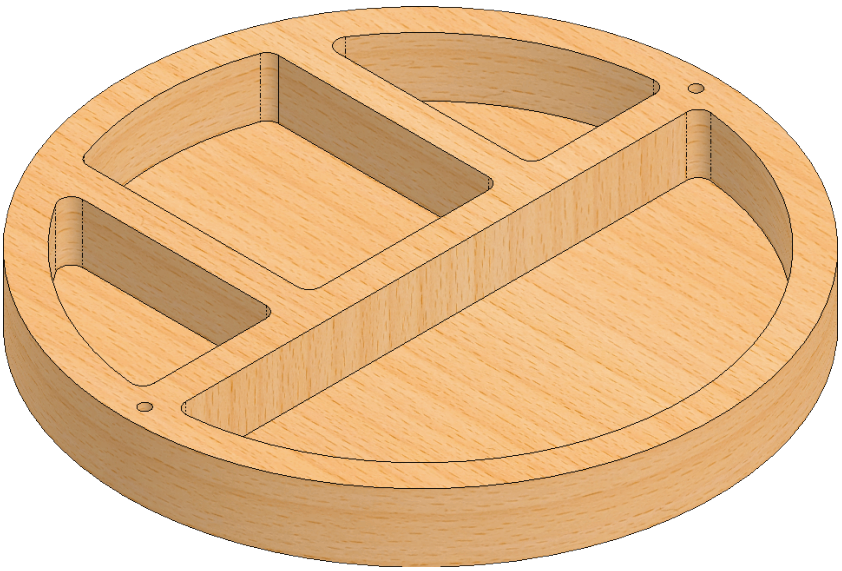

Fig. 26