



A. Extrude Hub.

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

Step 2. Click **Right Plane**  in the Feature Manager and click **Sketch**  on the context toolbar, **Fig. 1**.

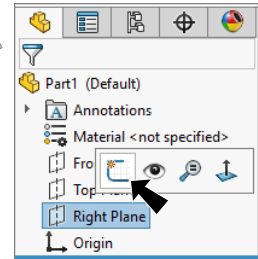


Fig. 1

Step 3. Click **Polygon**  on Sketch toolbar.

Step 4. Confirm **6 sides**  and sketch **polygon** starting at the Origin , **Fig. 2**.

Step 5. **Right click graphics area and click Select**  from menu to unselect Polygon tool.

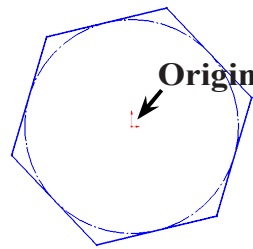



Fig. 2

Step 6. Click **segment** of polygon and click **Make Horizontal**  on the context toolbar, **Fig. 3**.

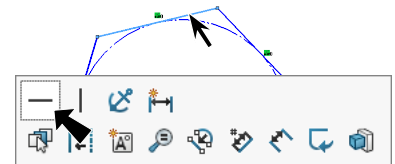


Fig. 3

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

Step 8. Sketch **circle** starting at Origin , **Fig. 4**.

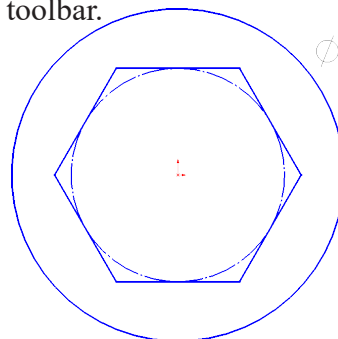


Fig. 4

Step 9. Click **Smart Dimension** (S) on the Sketch toolbar. 

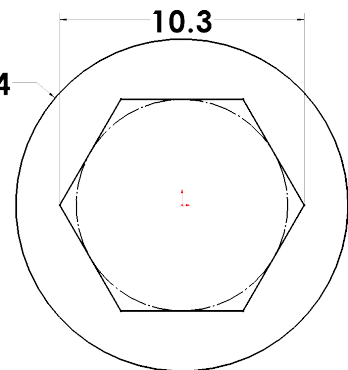


Fig. 5

Step 10. Dimension **diameter 14** and **10.3**, **Fig. 5**.

Step 11. Click **Features**  on the Command Manager toolbar.

Step 12. Click **Extruded Boss/Base**  on the Features toolbar.

Step 13. In the Property Manager set: under Direction 1, **Fig. 6**

Depth  **4**
click OK .

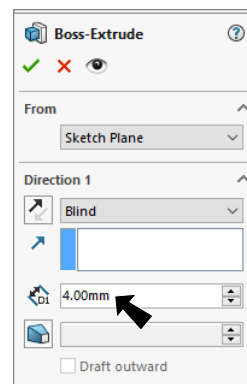


Fig. 6

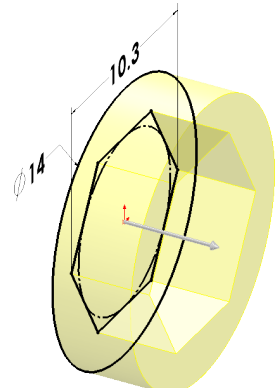




Fig. 7

B. Save as "PAWL".

Step 1. Click File Menu > Save As.

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

C. Extrude Pawl.

Step 1. Click **Right Plane**  in the Feature Manager and click **Sketch**  on the context toolbar, **Fig. 8**.

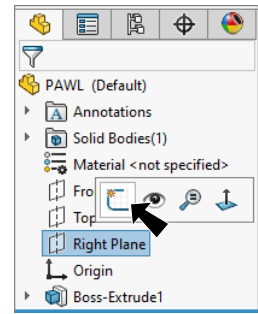




Fig. 8

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

Step 3. Click **Convert Entities**  on the Sketch toolbar.

Step 4. In the Convert Entities Property Manager:
under Entities to Convert, **Fig. 9**
click **cylindrical edge of hub**, **Fig. 10**
click OK .

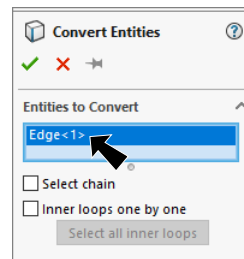


Fig. 9

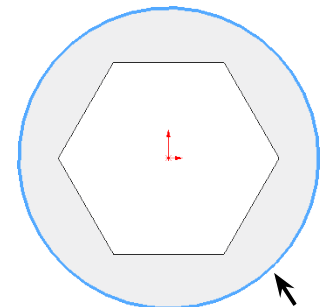



Fig. 10



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

Step 6. Sketch **circle** starting at the Origin , **Fig. 11**.



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

Step 8. Dimension **diameter 32**, **Fig. 11**.

Step 9. Click **Centerline**

 in the **Line flyout**  on the Sketch toolbar.

Step 10. Sketch construction lines (radii) from

Origin  to circle top and left quadrant points , **Fig. 12**.

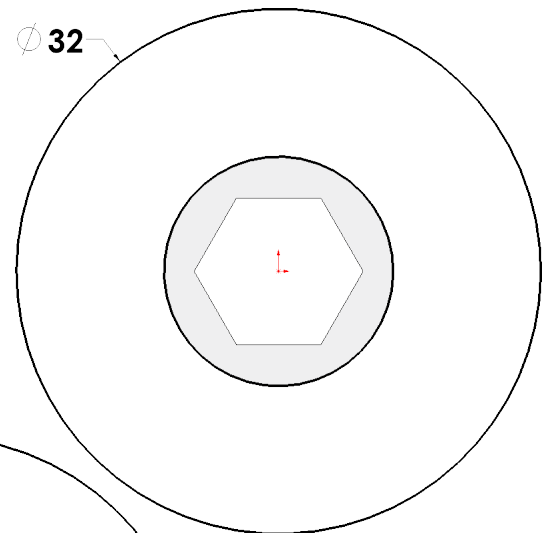


Fig. 11

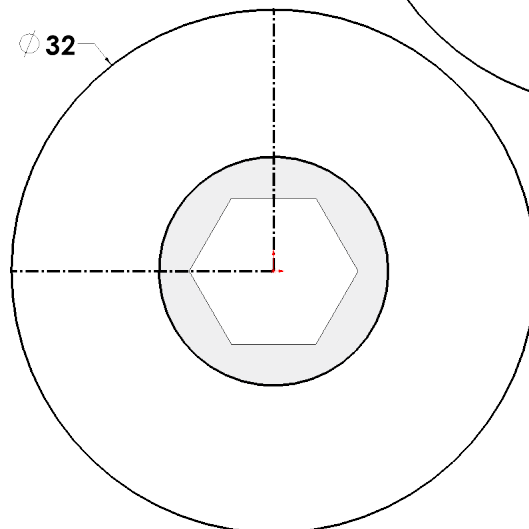


Fig. 12

Step 11. Click **Offset Entities**  on the Sketch toolbar.

Step 12. In the Offset Entities Property Manager set:
under Parameters, **Fig. 13**

Distance  **2**

click **vertical radius**, **Fig. 14**

check **Bi-directional**

click **OK** .

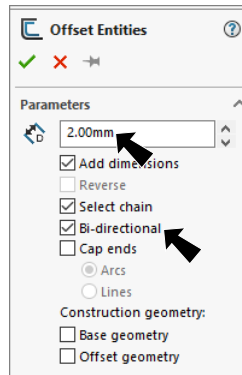


Fig. 13

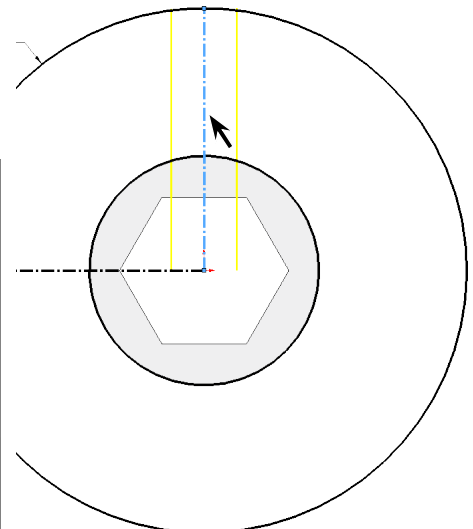



Fig. 14

Step 13. Click **Line**  (**L**) on the Sketch toolbar.

Step 14. Sketch **line** from Origin  at an angle out to left beyond circle and a chained line back to circle, **Fig. 15**.

Step 15. Click **3 Point Arc**  (**S**) in the **Arc flyout**  on the Sketch toolbar.

Step 16. Sketch a 3 point arc between left offset and angled line, **Fig. 16**.

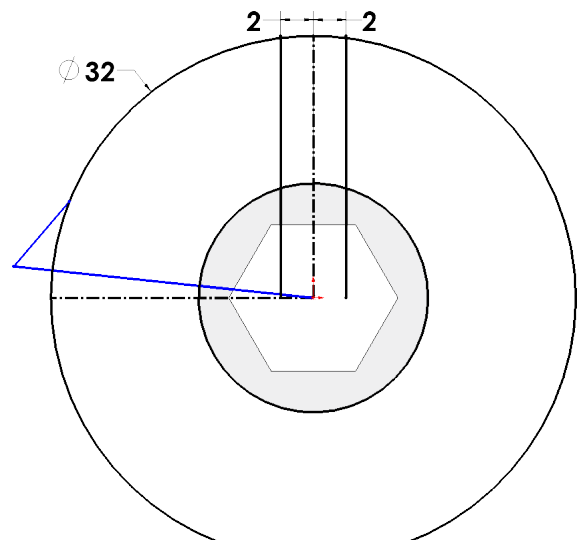


Fig. 15

Step 17. Click **Smart Dimension**  (**S**) on the Sketch toolbar.

Step 18. Add dimensions, **Fig. 17**.

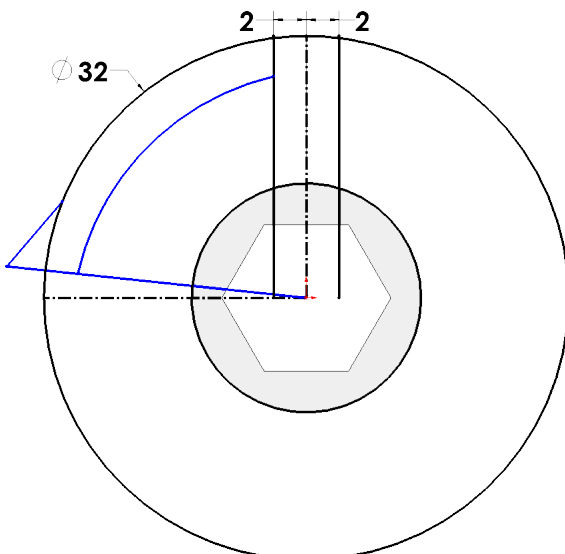


Fig. 16

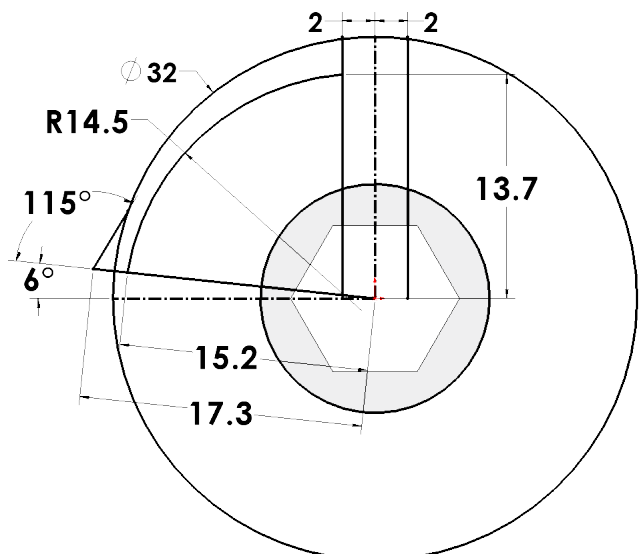
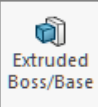




Fig. 17

Step 19. Click **Features**  on the Command Manager toolbar.

Step 20. Click **Extruded Boss/Base**  on the Features toolbar.

Step 21. In the Property Manager set:
 under Direction 1, **Fig. 18**
Depth  **4**
 under Selected Contours
 click the **3 contours**, **Fig. 19**
 click OK .

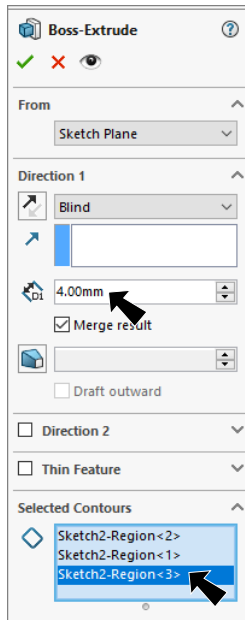


Fig. 18

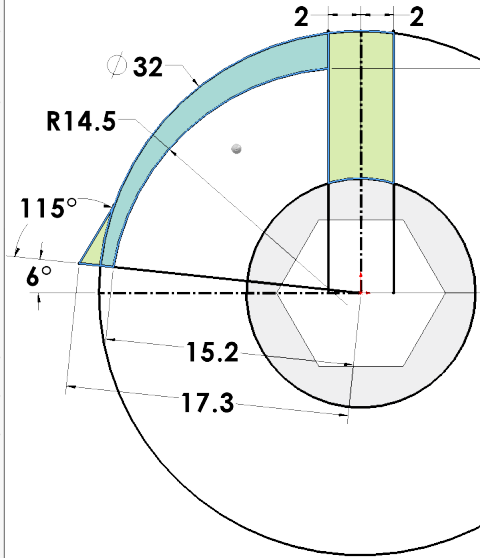







Fig. 19

D. Circular Pattern.

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

Step 2. Click **Circular Pattern**  in the **Linear Pattern** flyout  on the Features toolbar.

Step 3. In the Circular Pattern Property Manager set:
 under Features and Faces, **Fig. 20**
 click **Boss-Extrude2** in graphics area, **Fig. 21**
 under Parameters
 click in **Pattern Axes** box
 click **cylindrical face of hub**
Number of Instances  **3**
 check **Equal spacing**
 click OK .

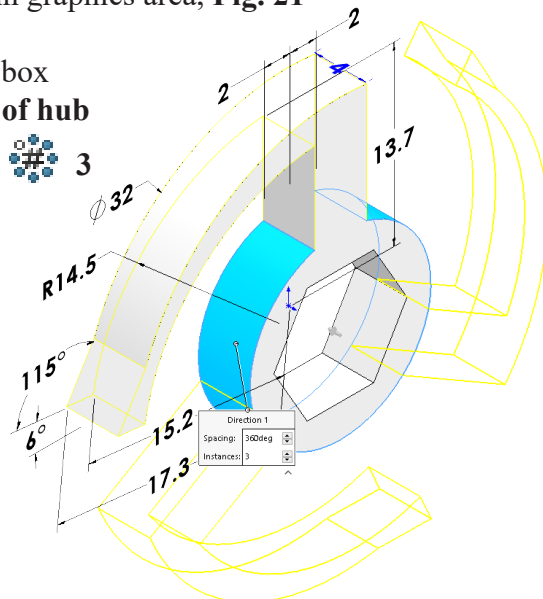


Fig. 21

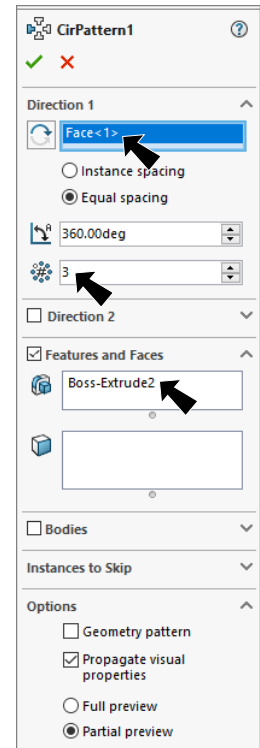
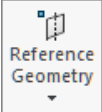



Fig. 20

E. Mate References.

Step 1. Click **Reference Geometry**  on the Features toolbar and **Mate Reference** from the menu.

Step 2. In the Mate Reference Manager: under Primary Reference Entity, **Fig. 22** click **cylindrical face**, **Fig. 23** click OK .

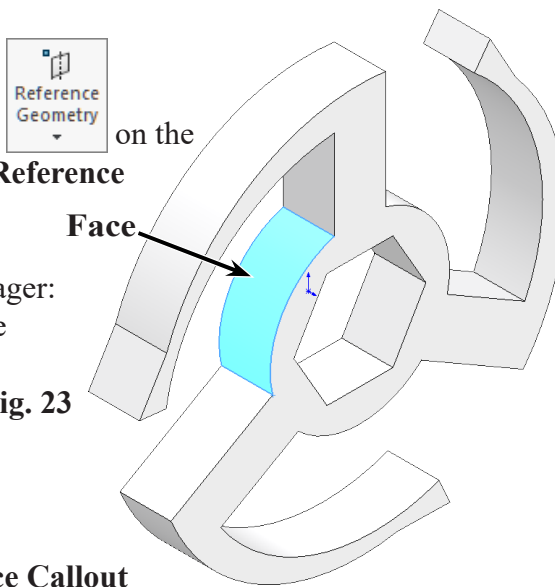


Fig. 23

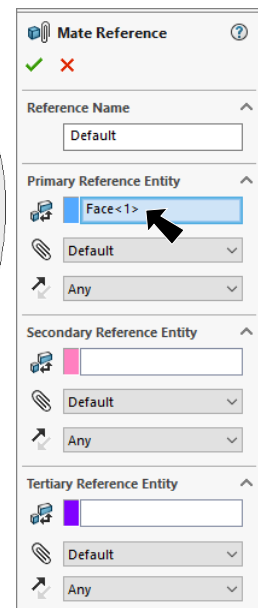





Fig. 22

F. Appearance.

Step 1. Click part, click **Appearance Callout**  on the context toolbar and click **PAWL** , **Fig. 24**.

Step 2. In the Appearances Task pane, expand **Plastic**, click **High Gloss** and in the lower pane select **white high gloss plastic**, **Fig. 25**.

Step 3. In the Appearances Property Manager set:
 under Color, **Fig. 26**
 set **RGB values**
R 185
G 182
B 227
 click OK .

Step 4. Save  (**Ctrl-S**).

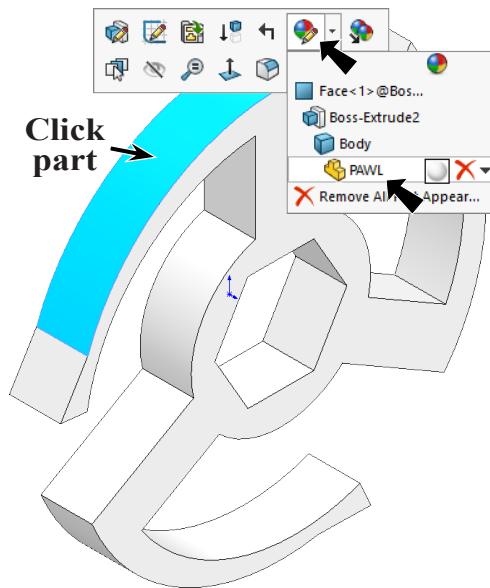


Fig. 24

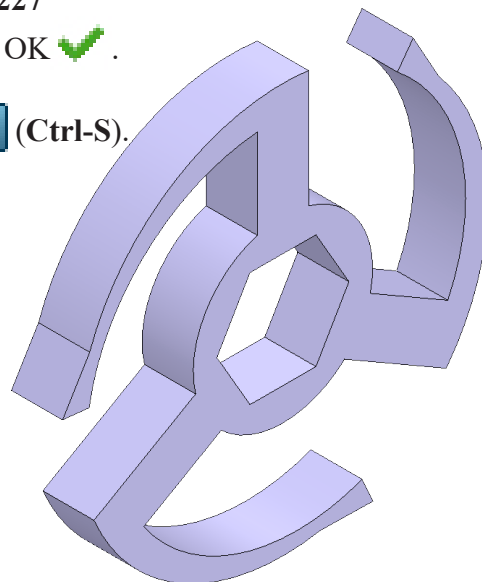


Fig. 27

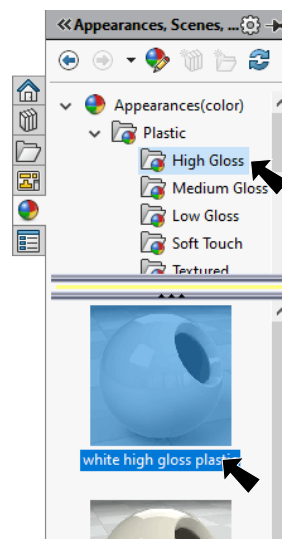


Fig. 25

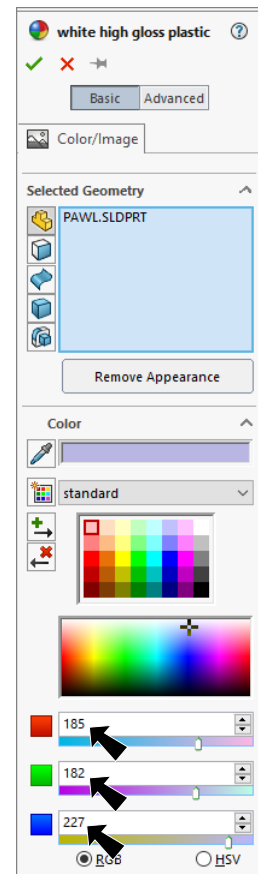


Fig. 26