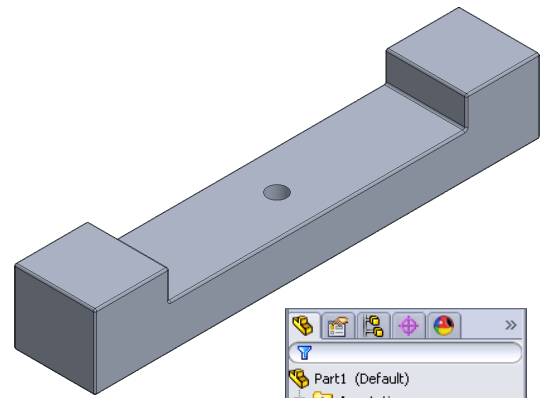




Chapter 13

Beam Base



A. Sketch.

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

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

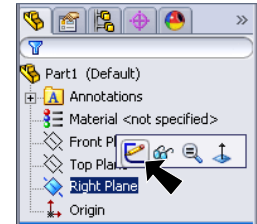




Fig. 1

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

Step 4. Draw **vertical centerline down** from the Origin , **Fig. 2**.

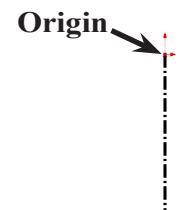



Fig. 2

Step 5. Click **Line**  (L) on the Sketch toolbar.

Step 6. Draw lines as shown, **Fig. 2**. Keep top horizontal line coincident with the Origin.

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

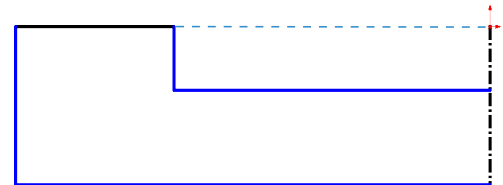


Fig. 3

Step 8. Add dimensions, **Fig. 4**. Double distance dimension across horizontal line. To double distance dimension, click the vertical line and then the centerline, move the cursor to right side of the centerline and click. Key-in 8 and press ENTER.

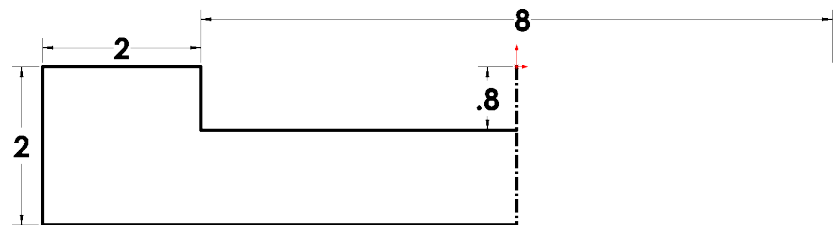



Fig. 4

Step 9. Click **Zoom to Fit**  (F) on the View toolbar.

B. Save as "BASE".

Step 1. Click File Menu > Save As.

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

C. Mirror.

Step 1. **Drag selection around the sketch** to select all entities, **Fig. 5**. To drag selection, click above and to left of sketch and drag down and to right to drag around all.

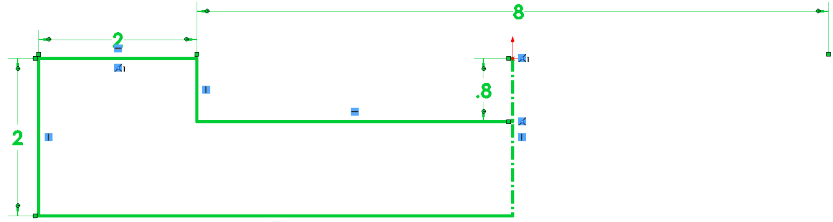
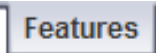


Fig. 5

Step 2. Click **Mirror Entities**  on the Sketch toolbar, **Fig. 6**.

D. Extrude.

Step 1. Click **Features**  on the Command Manager toolbar.

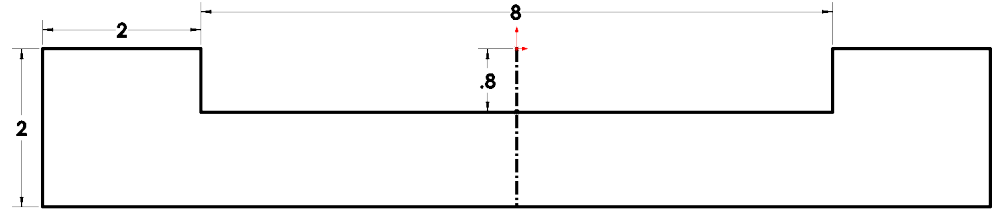




Fig. 6

Step 2. Click **Extruded Boss/Base**  on the Features toolbar.

Step 3. In the Property Manager set:
 under Direction 1, **Fig. 7**
 End Condition **Mid Plane**
Depth  **2.2**
 click OK .

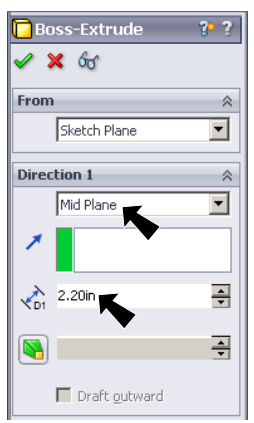


Fig. 7

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

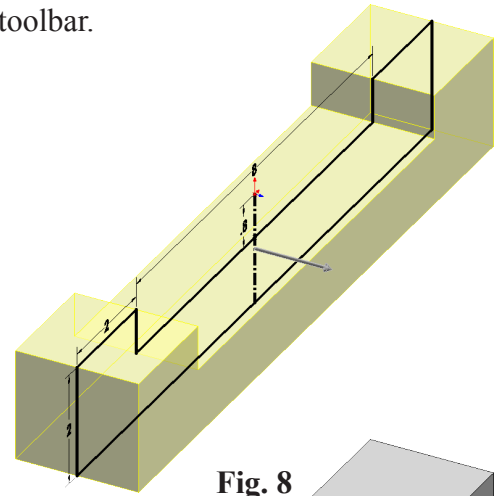


Fig. 8

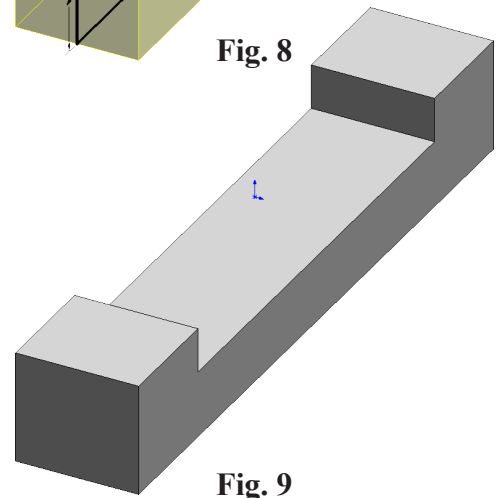



Fig. 9

E. Hole Wizard 33/64" Hole.

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, on the Type tab set:
under Hole Type, **Fig. 10**

click **Hole** 
under Standard:
select **ANSI Inch**
under Type:
select **Fractional Drill Sizes**
under Size:
select **33/64**
under End Condition
End Condition **Through All**

Click **Positions** tab  at
top of the Property Manager.

First, click top face next to Origin
to select face and then click Origin

 to place hole, **Fig. 11**.

Click OK .

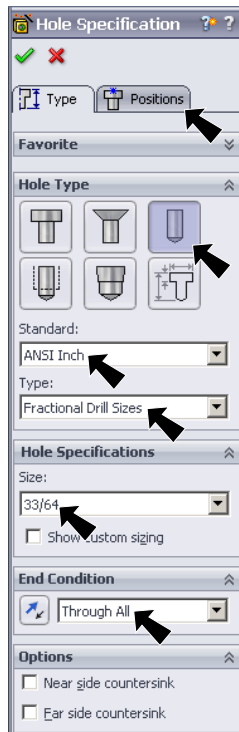


Fig. 10

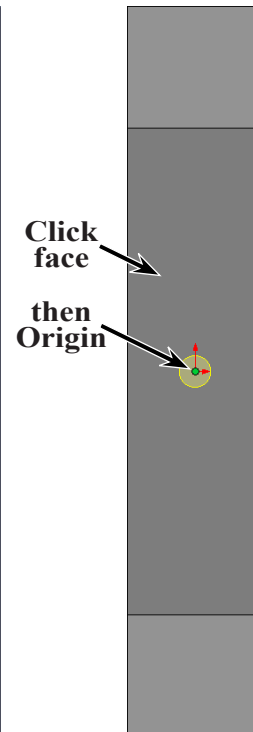


Fig. 11

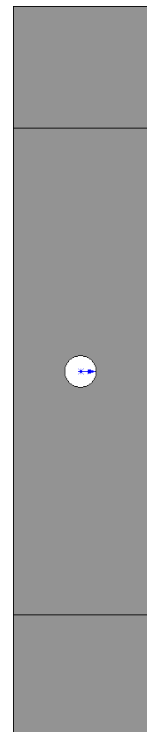



Fig. 12

F. Fillets.

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

Step 2. Click **Fillet**  on the Features toolbar.

Step 3. In the Fillet Property Manager set:
select **FilletXpert**, **Fig. 13**

Radius  **.05**
select **Full preview**

drag a selection around part to select all edges, **Fig. 14**
click edges of hole to unselect edges, **Fig. 14** and **Fig. 15**.

click **OK** .

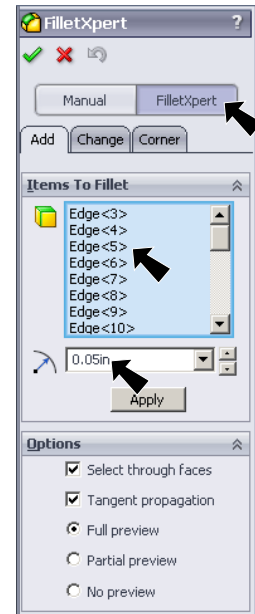


Fig. 13

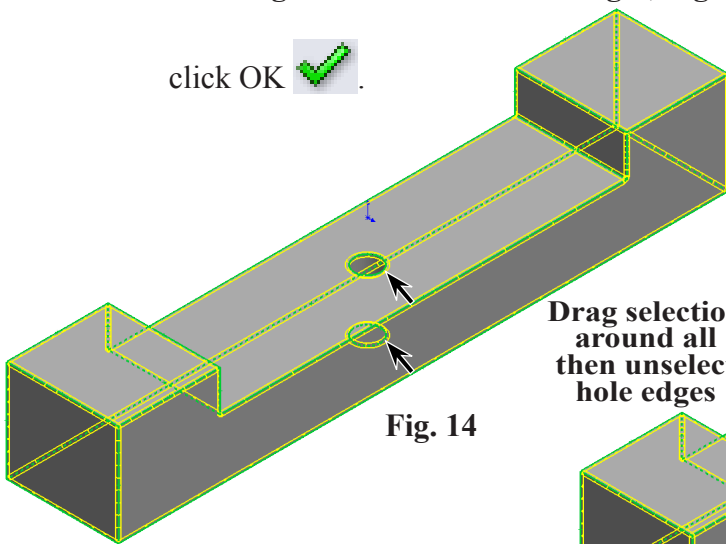


Fig. 14

Drag selection around all then unselect hole edges

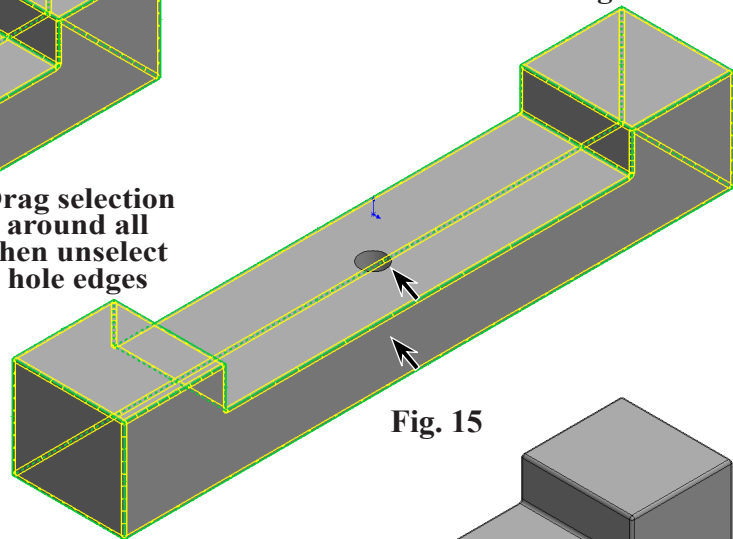


Fig. 15

G. Material Aluminum.

Step 1. **Right click Material**  in the Feature Manager and click **Edit Material**, **Fig. 17**.

Step 2. **Expand Aluminum Alloys** in the material tree and select **1060 Al-loy**. Click **Apply** and **Close**.

Step 3. Save. Use **Ctrl-S**.

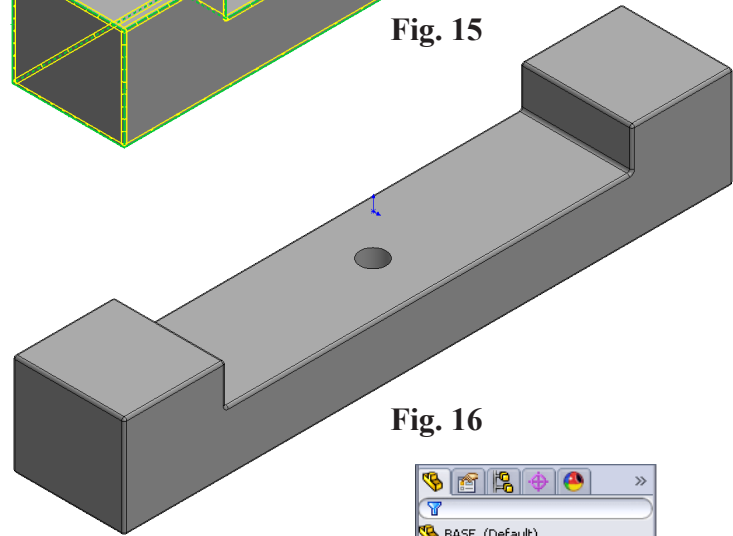


Fig. 16

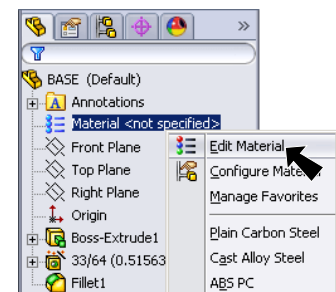


Fig. 17