



Chair Arm

A. 3D Sketch.

Step 1. If necessary, open your CHAIR file.


Step 2. Click **Right**  on the Standard Views toolbar. (Ctrl-4)

Step 3. Click **3D Sketch**  on the Weldments toolbar.

Step 4. Click **Line**  (L) on the Sketch toolbar. The cursor should change to YZ plane  indicating you are sketching in YZ plane.

Step 5. Sketch a horizontal line, **Fig. 1**.

Step 6. **Right click graphics area and click Select** from menu to unselect Line tool.

Step 7. **Ctrl click Line and side face of Back Leg** to select both. **Release Ctrl key and click Make On Plane**  on the context toolbar, **Fig. 2**.

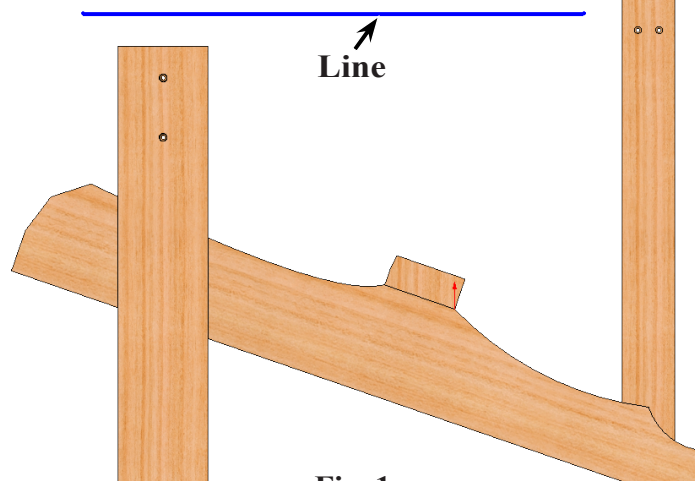
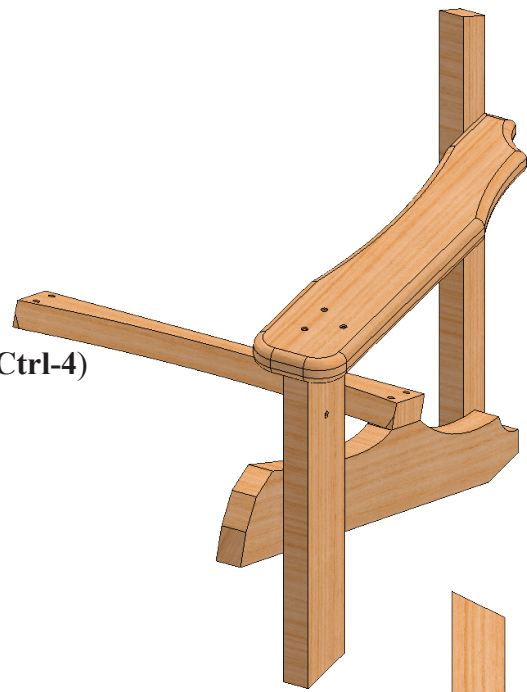


Fig. 1

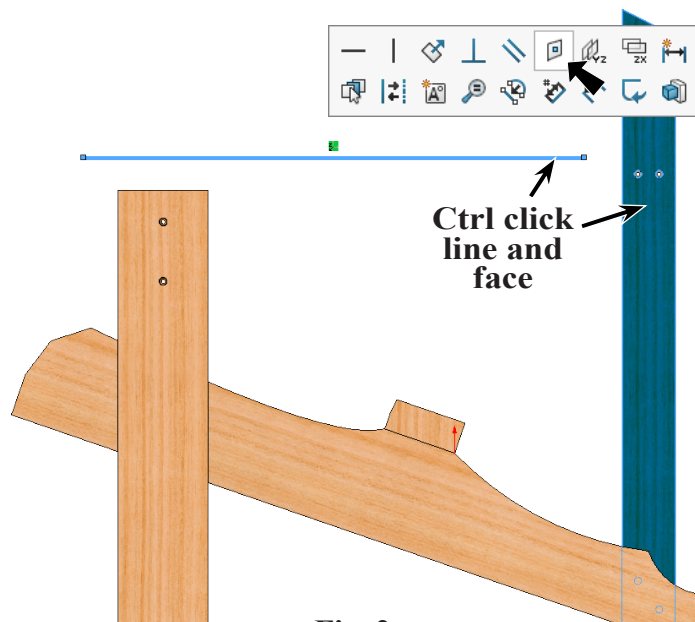


Fig. 2

Step 8. Click **Smart Dimension**



(S) on the Sketch toolbar.

Step 9. Dimension line, **Fig. 3**.

Step 10. **Right click graphics area and click Select** from menu to unselect Smart Dimension.

Step 11. Click **Trimetric**  on the Standard Views toolbar.

Step 12. **Ctrl click both Line and top face of Front Leg** to select both.

Release Ctrl key and click Make On Plane  on the context toolbar, **Fig. 4**.

Step 13. Click **3D Sketch**  on the Weldments toolbar to exit 3D Sketch.

Step 14. Save. Use **Ctrl-S**.

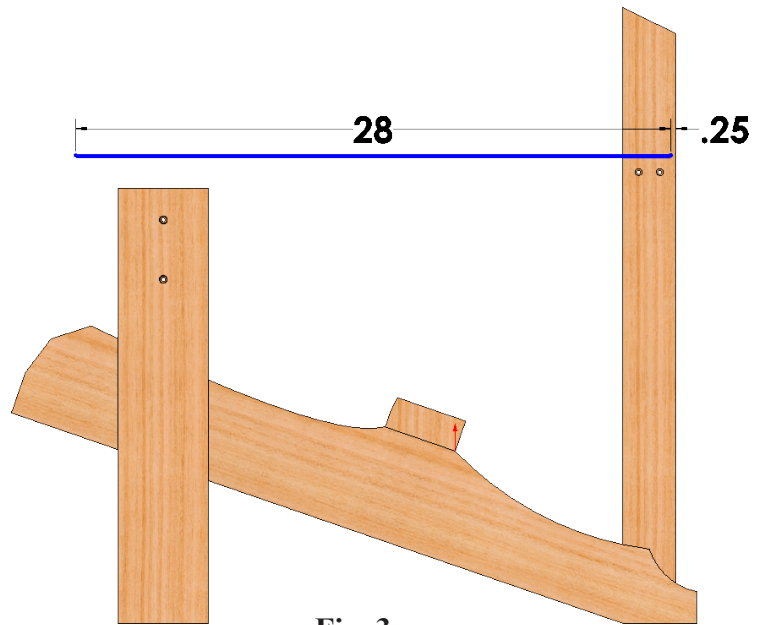


Fig. 3

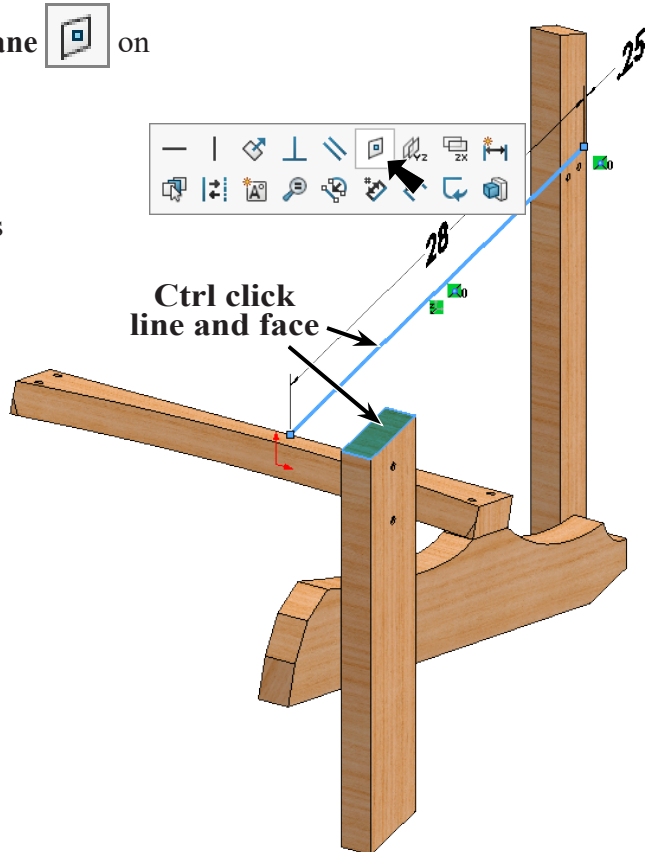


Fig. 4

B. Structural Member.

Step 1. Click **Structural Member**  on the Weldments toolbar.

Step 2. In the Structural Member Property Manager set:

under Standard, **Fig. 5**

My Profiles

under Type:

Chair Wood

under Size:

2 x 6

click **3D sketch line**, **Fig. 6**

under Settings

check **Mirror profile**

Horizontal axis

Rotation Angle  **180°**

press **Tab key**, **Fig. 7**

click **OK** .

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

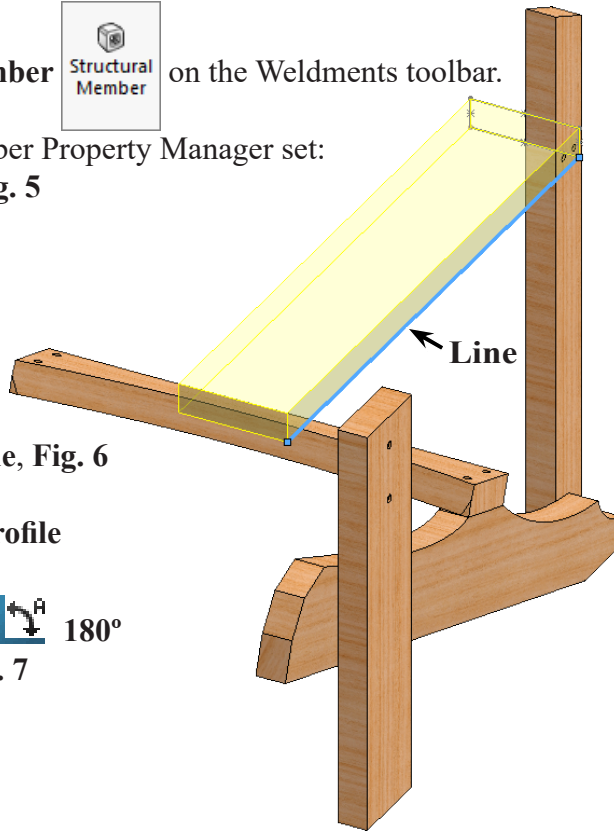


Fig. 6

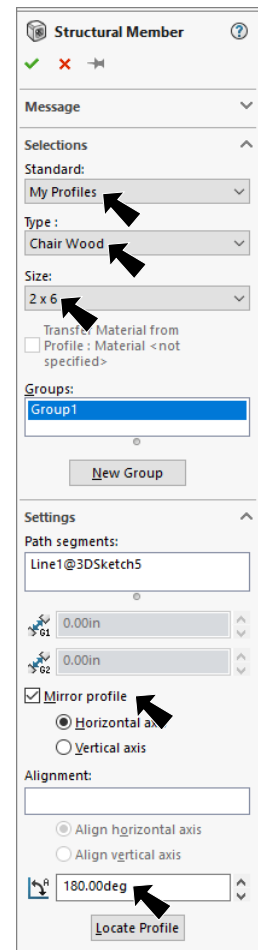


Fig. 5

C. Rename Chair Wood 2 X 6 ARM.

Step 1. **Rename Chair Wood 2 X 6(1)** to **ARM** in the Feature Manager, **Fig. 8**.

Step 2. Hide **3DSketch5**. To hide, click **3DSketch5** in

the Feature Manager and click **Hide**  on the context toolbar, **Fig. 8**.

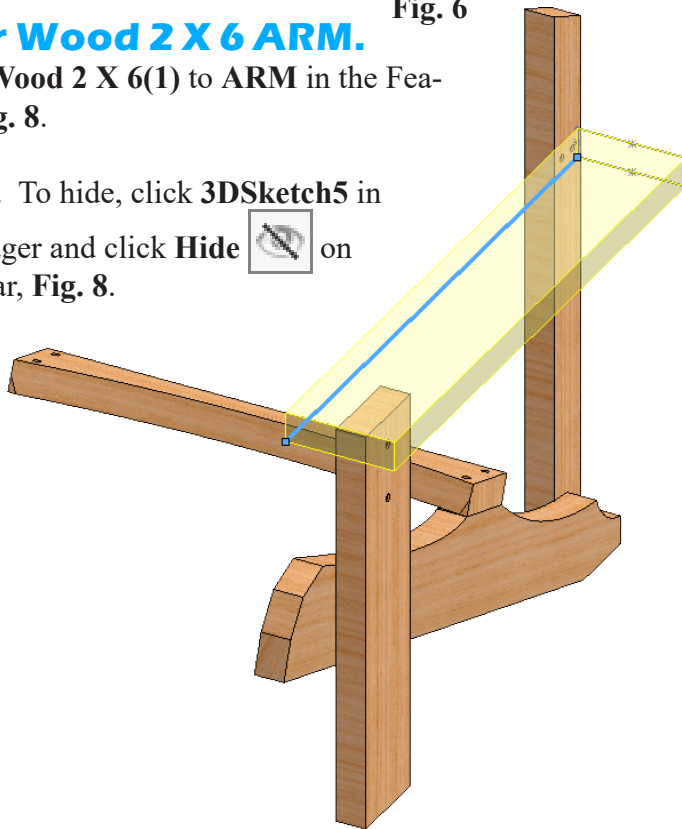


Fig. 7

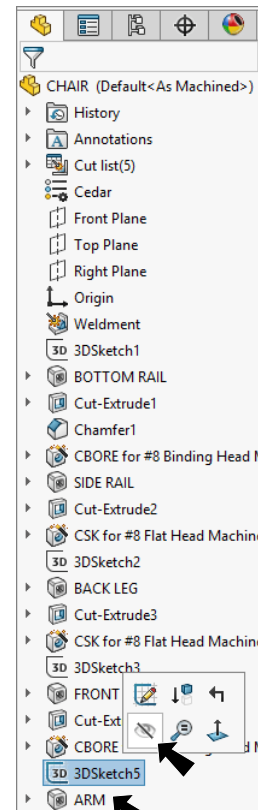



Fig. 8

D. Mapping Wood.

Step 1. Click PhotoView 360 Menu > Edit Appearance.

Step 2. In the Appearances Property Manager:
under Selected Geometry, **Fig. 9**
right click in Selected Geometry box and
click **Clear Selections**
click **Select Features** 
click **Arm, Fig. 10**

click **Mapping tab**  **Mapping**, **Fig. 11**
under Mapping controls

click **Surface mapping** 
Rotation 90

click **Regular mapping size** 

click **OK** .

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

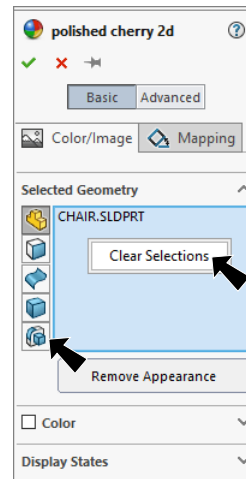


Fig. 9

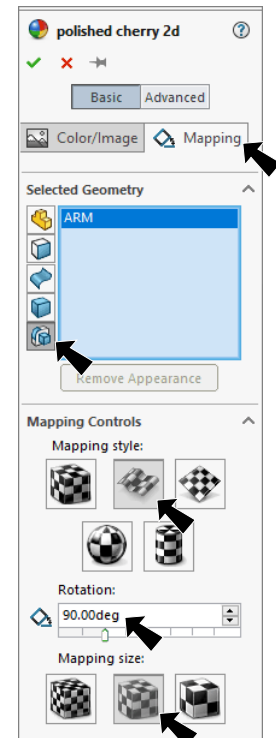


Fig. 11

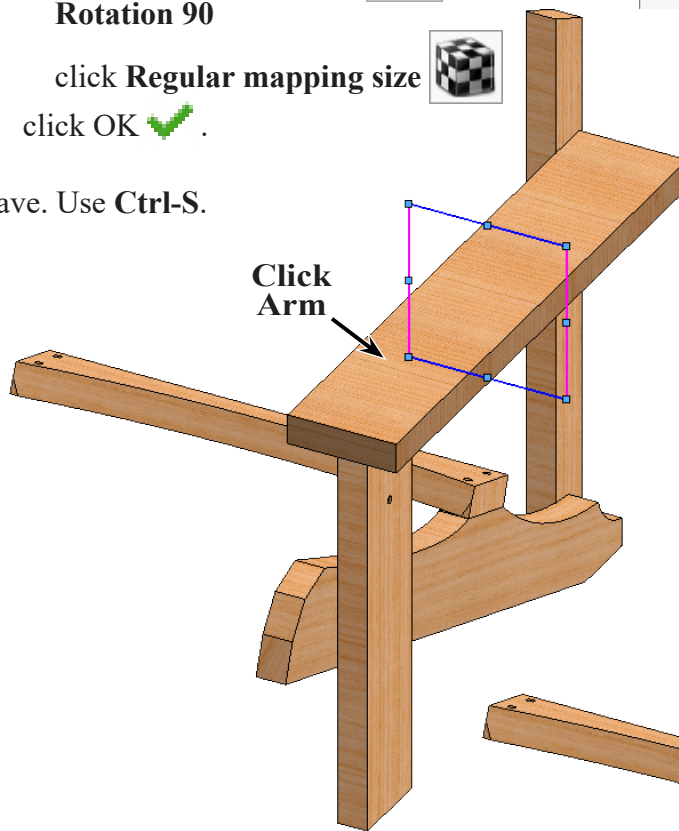


Fig. 10

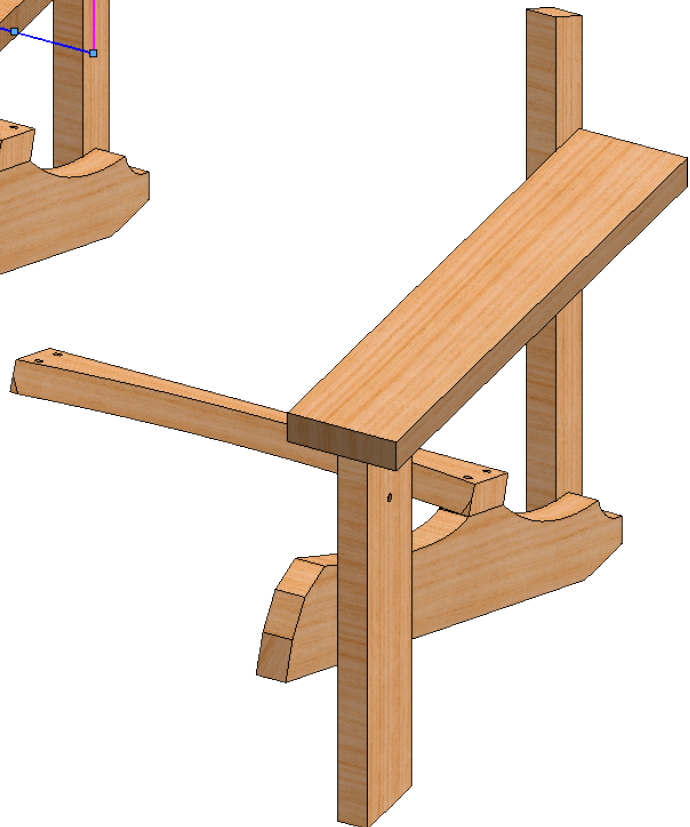





Fig. 12

E. Extruded Cut.

Step 1. Click **top face** of **Arm** and click **Sketch**  on the context toolbar, **Fig. 13**.

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

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

Step 4. Sketch **three 3 Point Arcs**, **Fig. 14**.
Keep arc endpoint away from midpoint of Arm body edge.

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

Step 6. Add dimension, **Fig. 15**.

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

Step 8. Sketch the **3 lines**, **Fig. 16**.

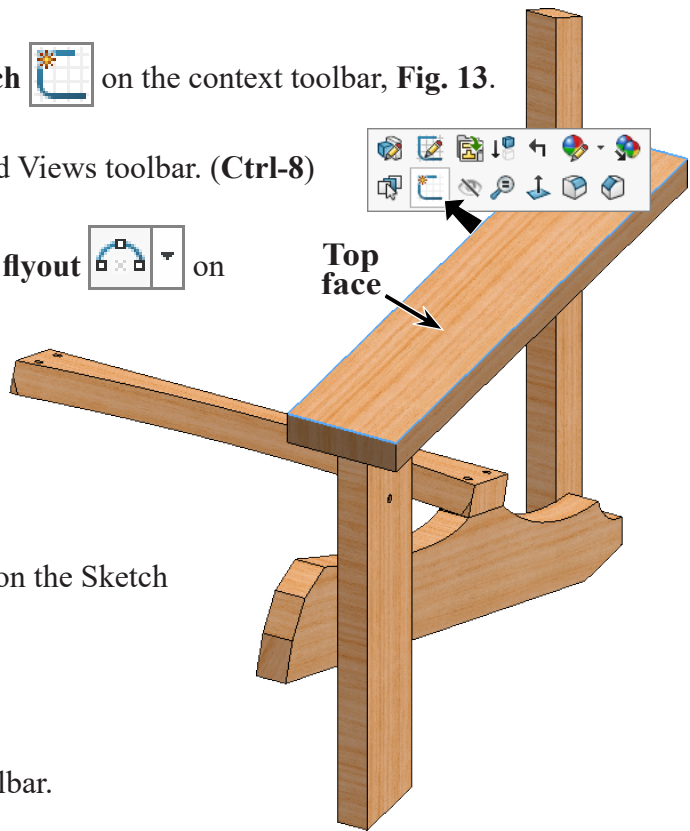


Fig. 13

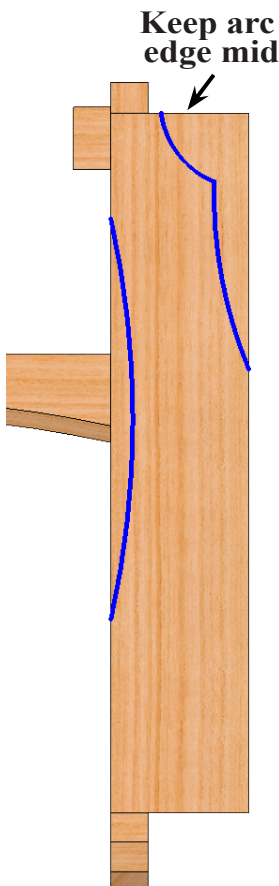


Fig. 14

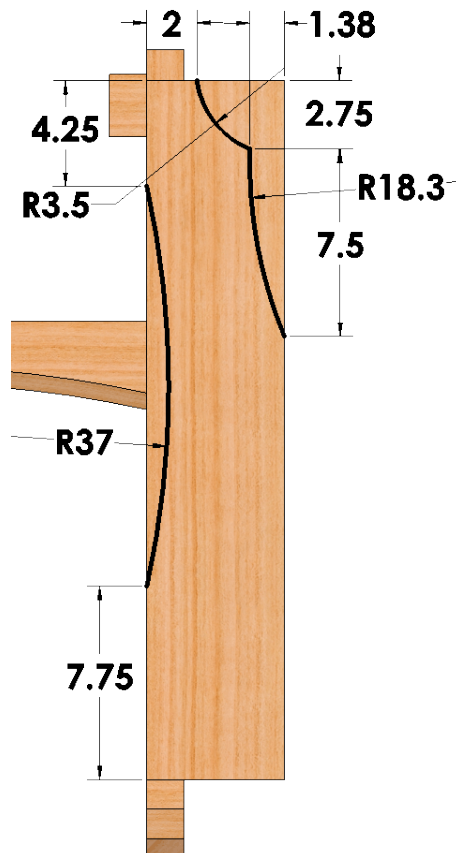


Fig. 15

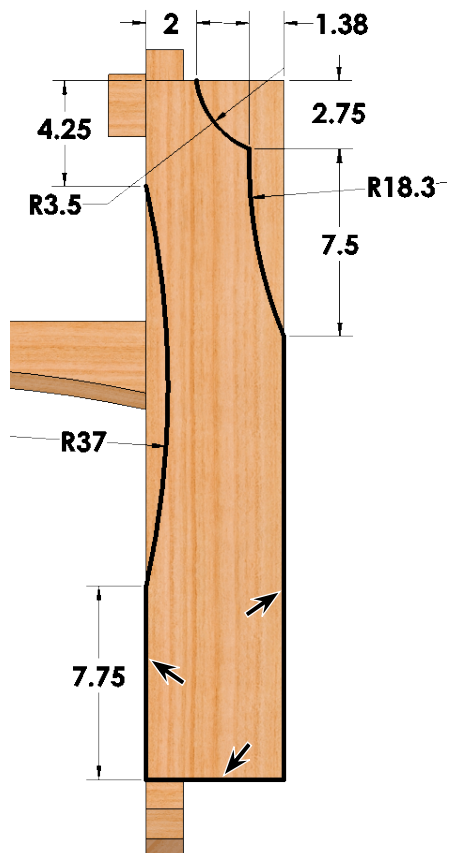


Fig. 16

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

Step 10. In the Sketch Fillet Property Manager set:
under Fillet Parameters, **Fig. 17**

Radius  **1.75**

click the **two corners**, **Fig. 18**

click OK  twice.

Step 11. Click **Extruded Cut**  **Extruded Cut**
on the Weldments toolbar.

Step 12. In the Cut-Extrude Property Manager set:

under Direction 1, **Fig. 19**

End Condition **Through All**

The Direction arrow should point towards area to be cut away, **Fig. 20**. If arrow is pointing in wrong direction, check **Flip side to cut**, **Fig. 19**.

under Feature Scope

unselect **Auto-select**

click **ARM** in graphics area, **Fig. 20**

click OK .

Step 13. Save. Use **Ctrl-S**.

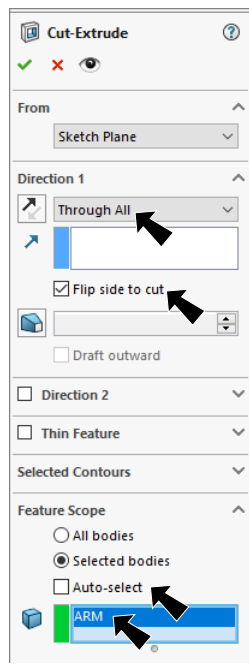


Fig. 19

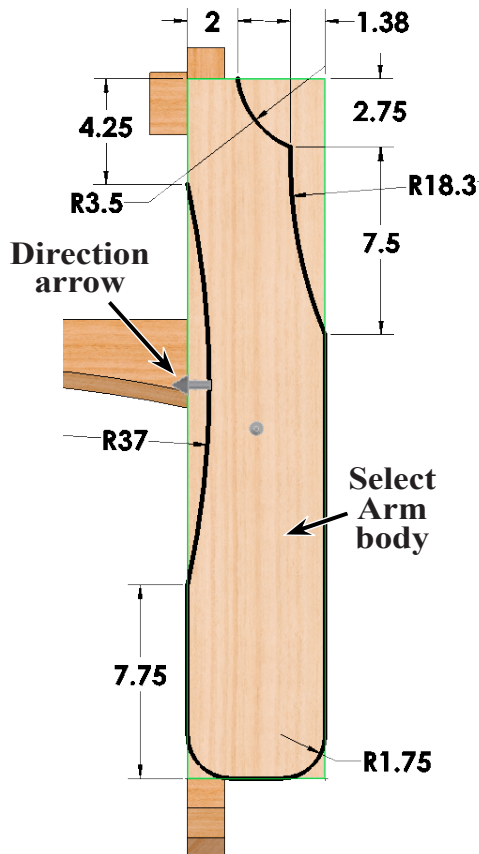


Fig. 20

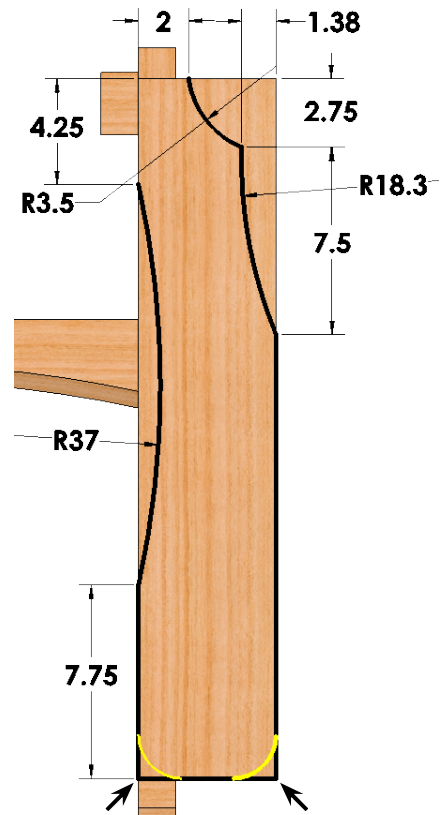


Fig. 18

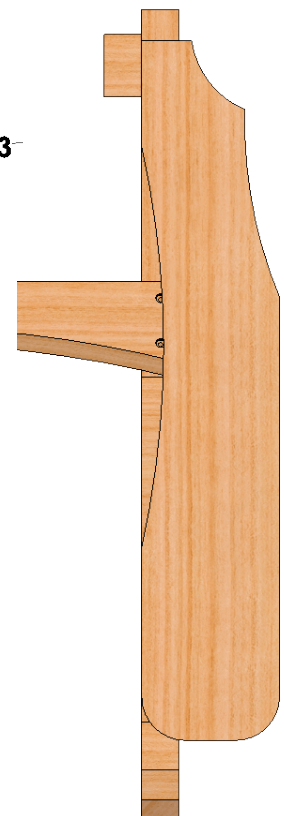







Fig. 21

F. Hole Wizard Counterbore.

Step 1. **Isolate Arm Feature.** To Isolate, expand Cut list folder  in the Feature Manager. **Right click Cut-List-Items5**  and click **Isolate** on the context toolbar, **Fig. 22**.

Step 2. Click **Top**  on the Standard Views toolbar. (**Ctrl-5**)

Step 3. Click **Hole Wizard**  on the Weldments toolbar.

Step 4. In the Property Manager, under Hole Type, **Fig. 23**
 select **Counterbore** 
 under Standard:
 select **ANSI Inch**
 under Size:
 select **#8**
 under End Condition:
Through All
 under Options
 check **Under head countersink**
 Under Head Countersink 
Diameter .33

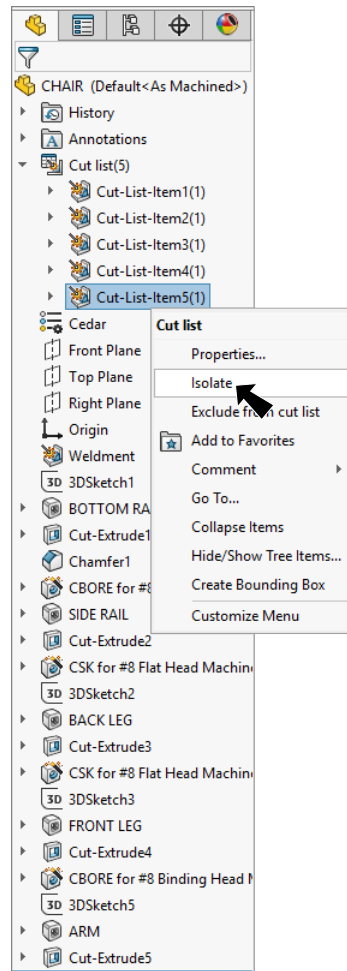


Fig. 22

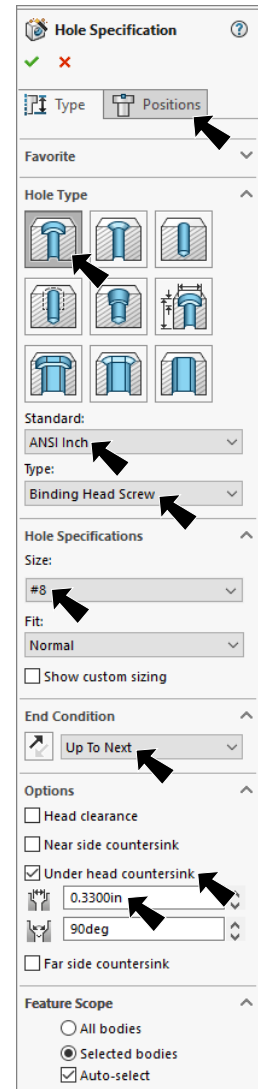


Fig. 23

Step 5. Click **Positions** tab  at top of Property Manager.

Step 6. Click **3D Sketch** button at bottom of Property Manager, **Fig. 24**.

Step 7. Click top of Arm at Front Leg 3 time to place 3 holes, **Fig. 25**.

Step 8. **Right click graphics area** and click **Select** from menu to unselect Point tool.


Step 9. **Ctrl click the two Points** on left to select both. **Release Ctrl key** and click **Make Along Z**  on the context toolbar, **Fig. 26**.



Fig. 25



Fig. 26

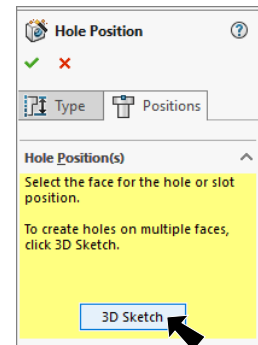
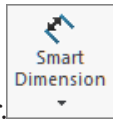


Fig. 24

Step 10. Click **Smart Dimension** (S) on the Sketch toolbar.



Step 11. Add dimensions, **Fig. 27**.

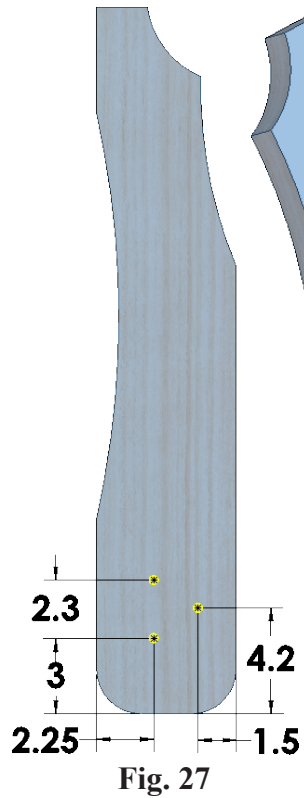


Fig. 27

Step 12. Rotate view to view **bottom side face of Arm**, hold down middle mouse button (wheel) and drag to rotate view, **Fig. 28**.

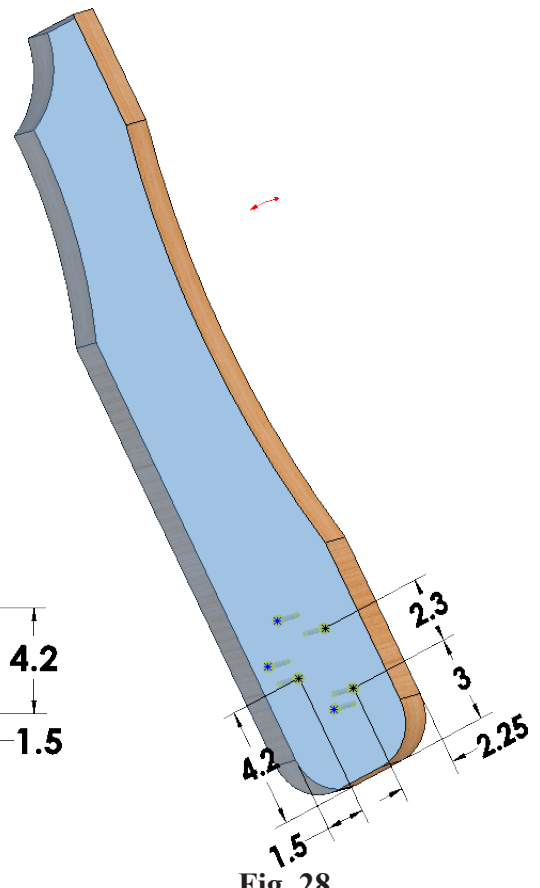



Fig. 28

Step 13. Click **Point**  on the Sketch toolbar.

Step 14. Click **bottom side face 3 times** to **place 3 Points**, **Fig. 28**.

Step 15. **Right click graphics area** and click **Select** from menu to unselect Point tool.

Step 16. **Ctrl click Point on inside and Point on outside face** to select both Points. **Release Ctrl key** and click **Make Along Y**  on the context toolbar, **Fig. 29**.

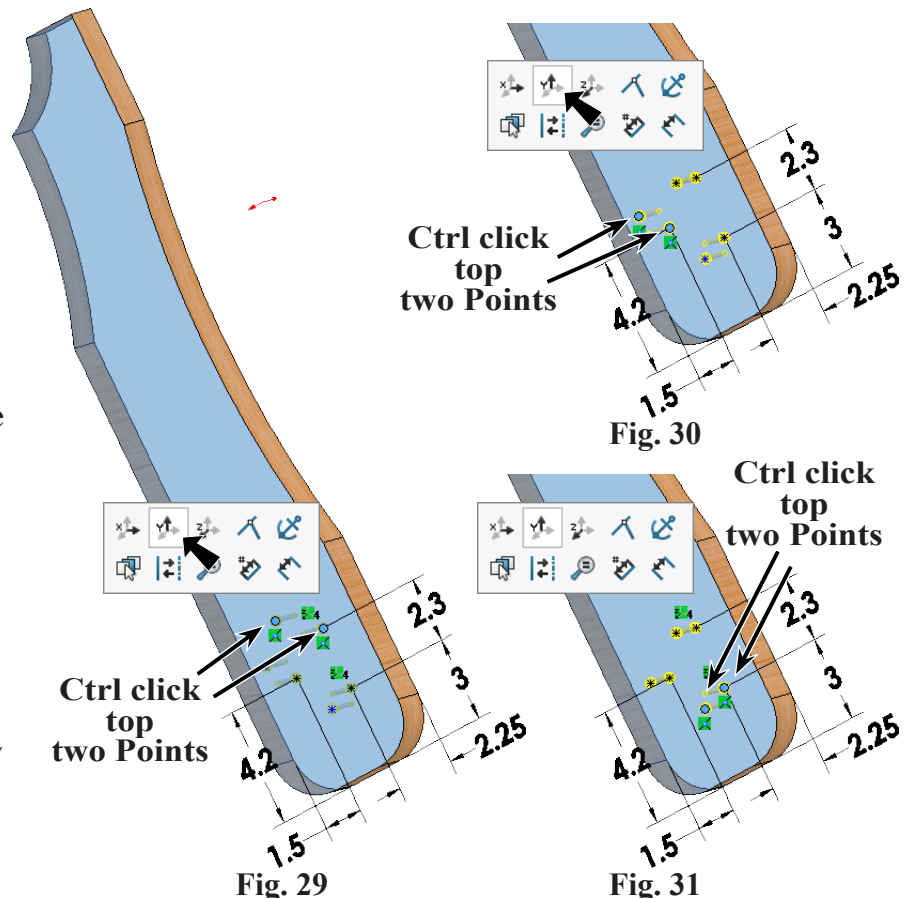



Fig. 29

Step 17. Repeat twice on the 2nd and 3rd set of Points, **Fig. 30** and **Fig. 31**: **Ctrl click other Points on inside face and outside face** to select both Points. **Release Ctrl key** and click **Make Along Y**  on the context toolbar.

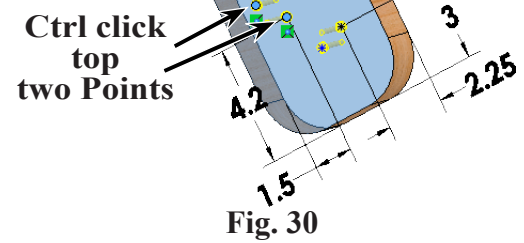



Fig. 30

Step 18. Click **OK**  in the Hole Wizard Property Manager.

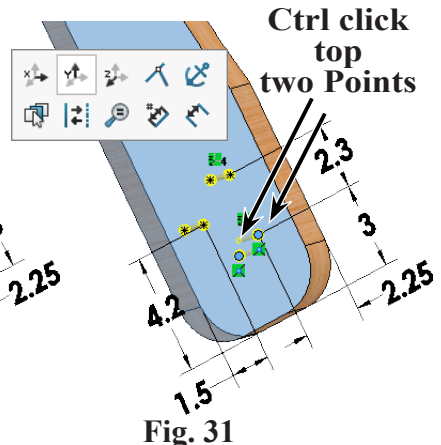


Fig. 31

Step 19. Save. Use **Ctrl-S**.

G. Fillet Edges.

Step 1. Click **Trimetric**  on the Standard Views toolbar.

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

Step 3. In the Fillet Property Manager set:
under Fillet Type, **Fig. 32**

select **Constant Size Fillet** 

under Fillet Parameters

Radius  **.5**

Right click a top edge of Arm and click **Select Loop** from menu, **Fig. 33**.

Right click a bottom edge of Arm and click **Select Loop** from menu, **Fig. 34**.

Click **Flip Loop Direction Arrow**, **Fig. 35** - arrow should point across Arm.

Click **OK** .

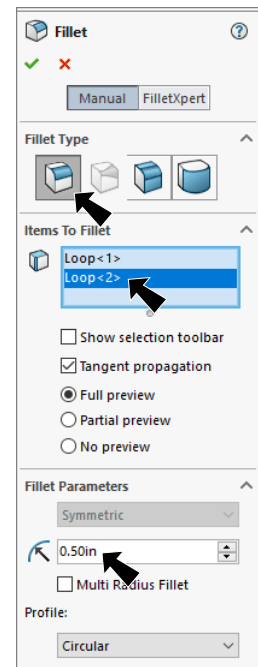


Fig. 32

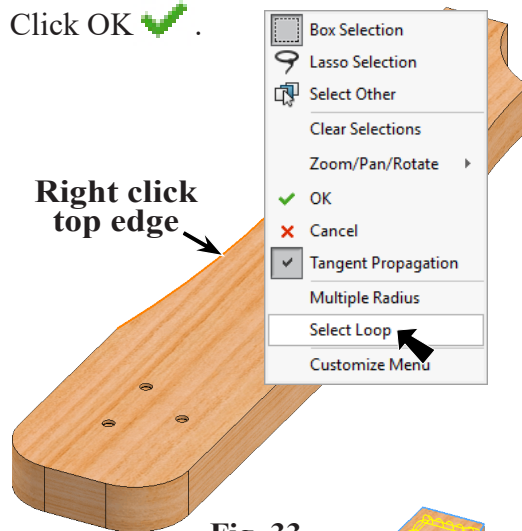


Fig. 33

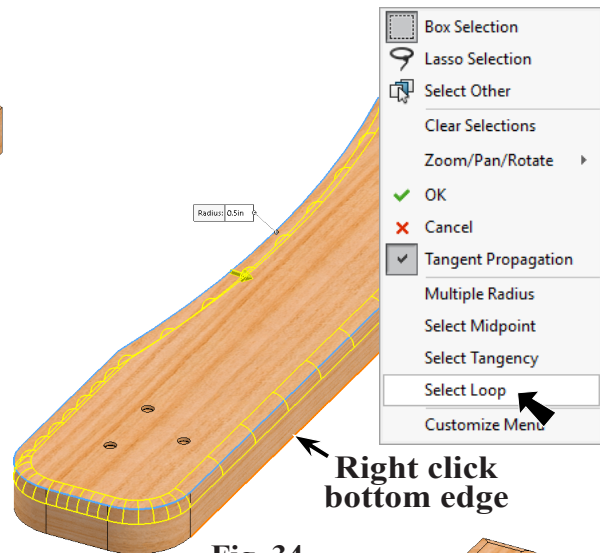


Fig. 34

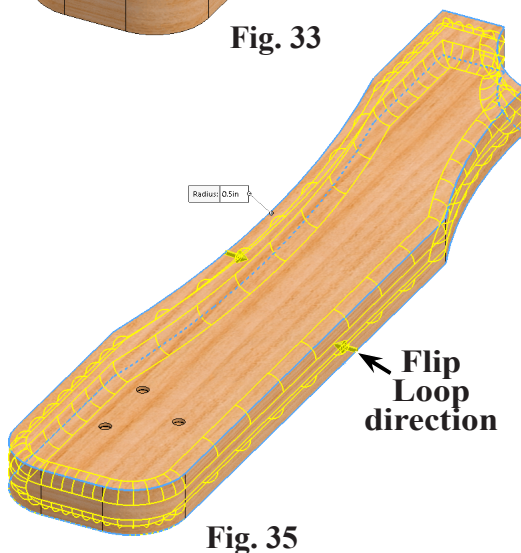


Fig. 35

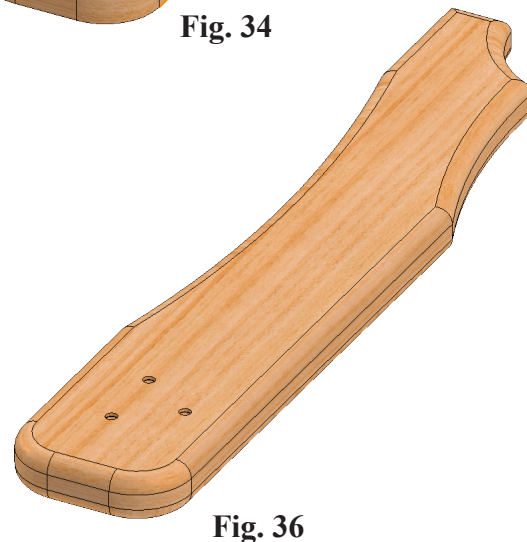


Fig. 36

H. Exit Isolate.

Step 1. Click **Exit Isolate** button, **Fig. 37**.

Step 2. Save. Use **Ctrl-S**.

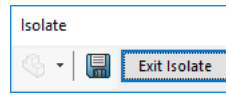


Fig. 37



Fig. 38