


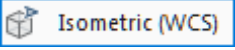
SOLIDWORKS 19 to Mastercam 2020

A. Open File in Mastercam 2020.

Step 1. If necessary, save your **Body** file in SOLIDWORKS.

Step 2. In Mastercam 2020, click File Menu > Open .

Step 3. In the Open dialog box set **Files of type** to **SOLIDWORKS Files**, select your **BODY RAIL** file and click Open, **Fig. 1**.

Step 4. Change to the Isometric View. **Right click** in the graphics window and click  **Isometric (WCS)** (Alt-7).

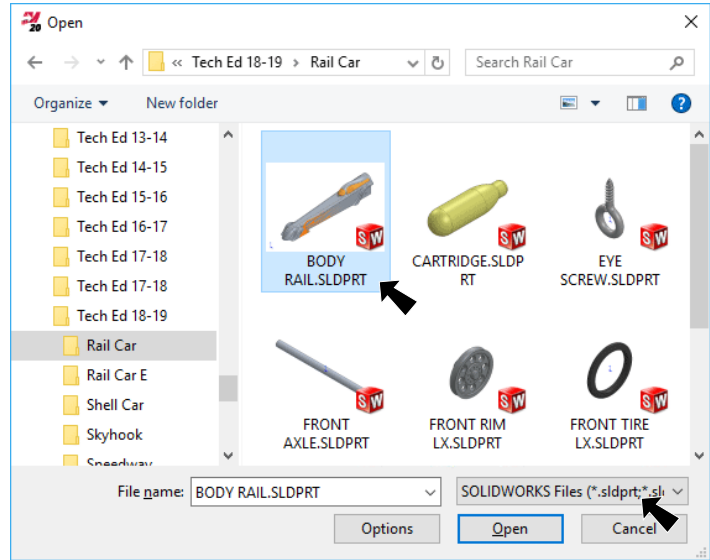
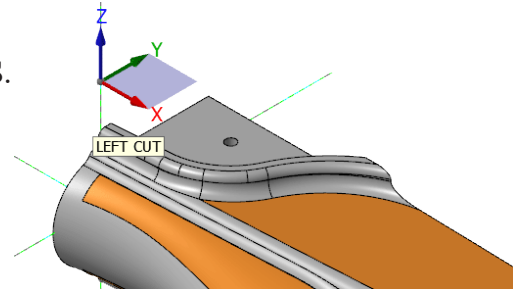


Fig. 1

B. Confirm Metric Units.

Step 1. In the bottom right corner of the display confirm units are **Metric**, **Fig. 2**.

C. Save Your File.

Step 1. **Save As**  (Ctrl-Shift-S).

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

Tip: If SOLIDWORKS file **will not open** in Mastercam, save your SOLIDWORKS file as a Parasolid Binary (*.x_b), then open in Mastercam as Parasolid Binary file.

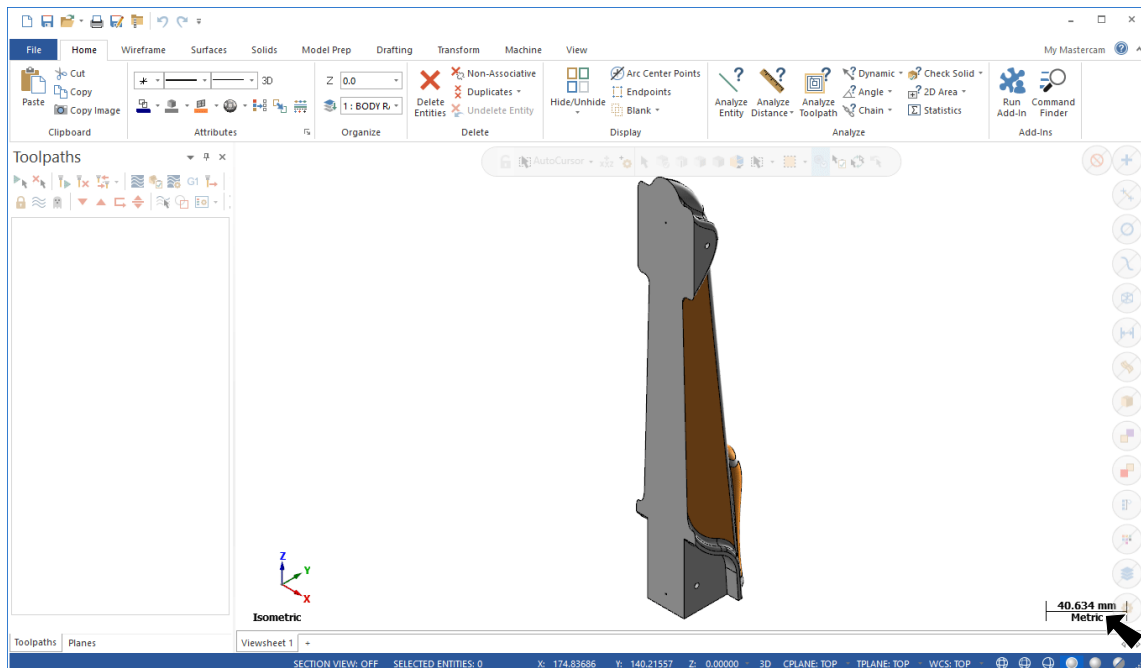


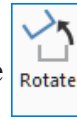
Fig. 2

D. Rotate Body Around Axes.

Step 1. Confirm **TOP CPLANE** in Status bar at bottom of the graphics window, **Fig 3**.



Step 2. On the Transform tab **Transform** click **Rotate**



Step 3. Click the **solid body** to select it, **Fig 4**. The solid will highlight when selected. Click **End Selection** (ENTER).

Solid body

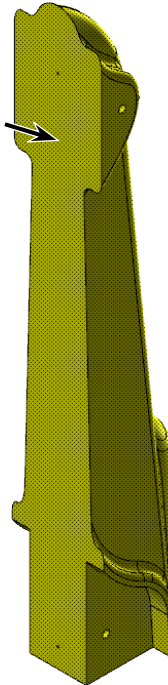


Fig. 4

Step 4. In the Rotate function panel: under Method, **Fig 5**

Select **Move**

Number 1

Angle 180 and press **Tab** key

Click **OK and Create**

New Operation

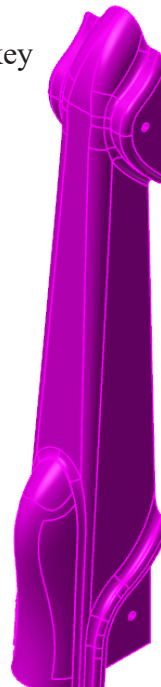
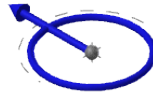
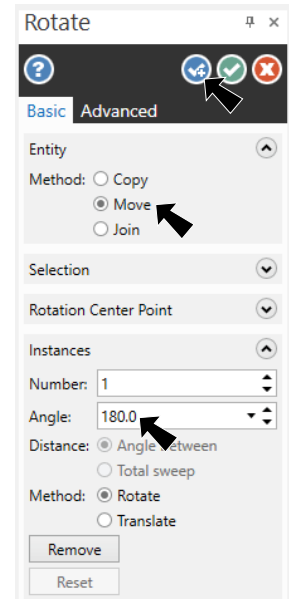


Fig. 6



Step 5. Click **CPLANE** in Status bar at bottom of the graphics window and click **Front** from the menu, **Fig 7**.

Step 6. Click the **solid body** again to select it and click **End Selection** (ENTER)

Step 7. In the Rotate function panel: under Method, **Fig 8**

Select **Move**

Angle -90 and press **Tab**

Click **OK**

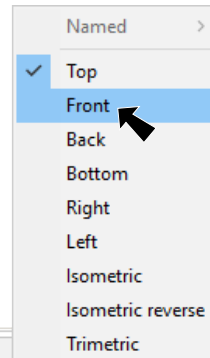
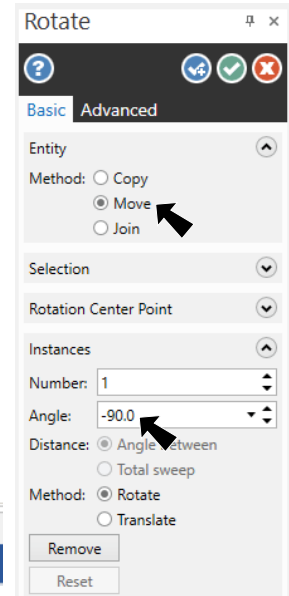


Fig. 7



Step 8. **Right click** the graphics window and click **Fit**



Step 9. **Right click** the graphics window and click **Clear Colors**



Step 10. Save (Ctrl-S).

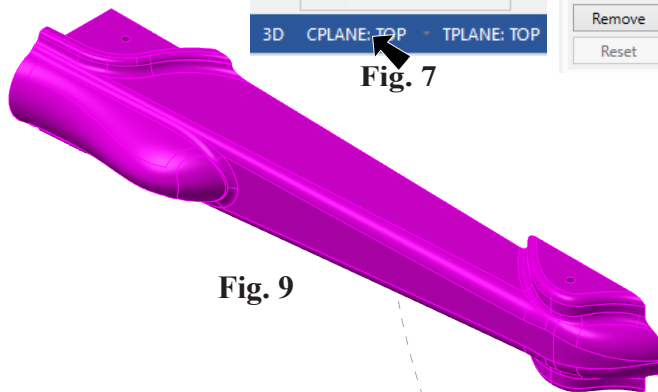
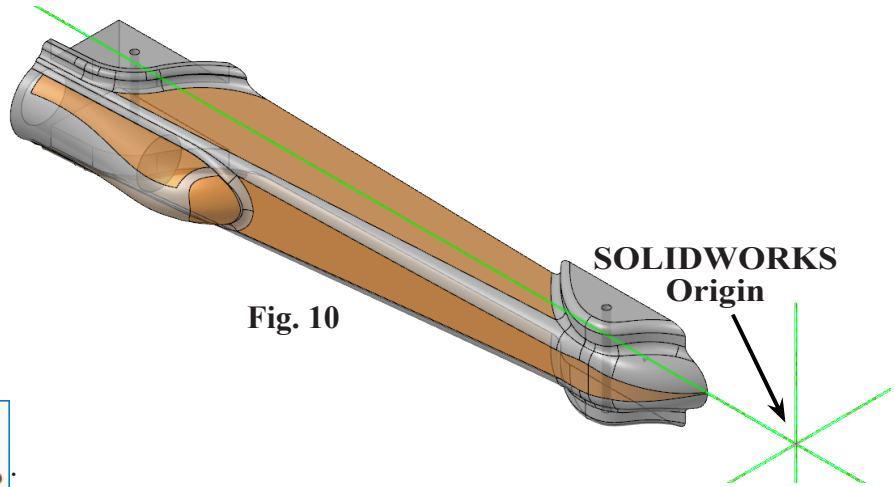


Fig. 9

E. Move to Origin.

Step 1. Use **Ctrl-T** to toggle **Translucency**.

Step 2. Display the Origin.
Use **F9** to toggle axes,
Fig. 10.



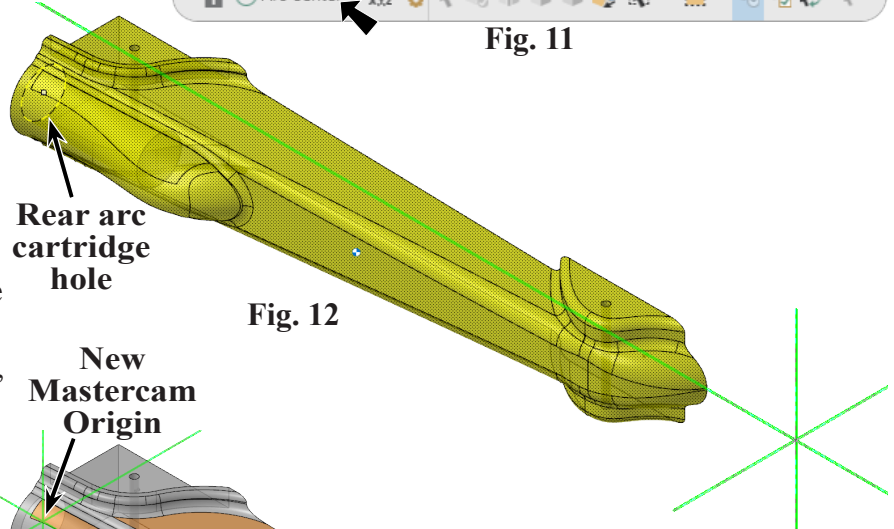
Step 3. On the Transform tab
Transform click



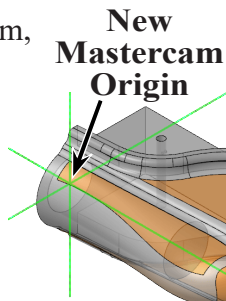
Step 4. Press the **C** key on keyboard to configure Auto Cursor behavior of your cursor to snap to **Arc Center**, **Fig. 11**.



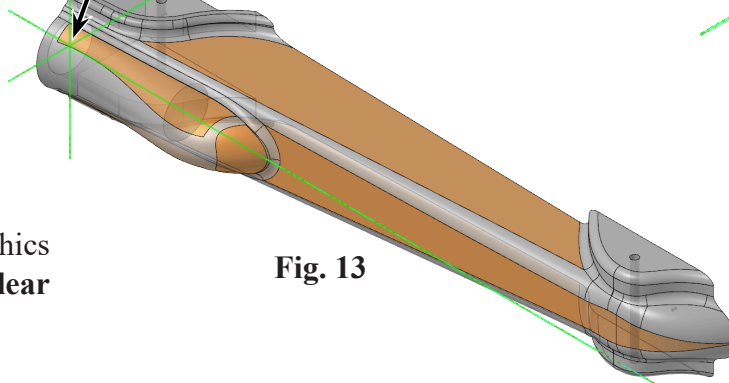
Step 5. Click **arc of rear edge of cartridge hole** as point to translate from, **Fig. 12**. Be sure to select arc of hole.



Step 6. **Right click** the graphics window and click **Fit** (Alt-F1).



Step 7. **Right click** the graphics window and click **Clear Colors**.



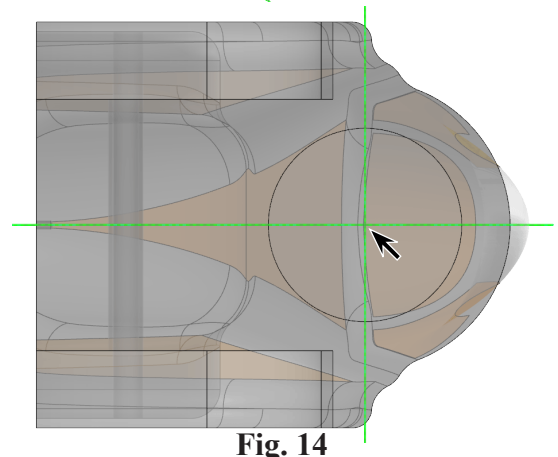
Step 8. Confirm **center of cartridge hole at rear of car** as new position of Origin, **Fig. 13**.

Step 9. Save  (**Ctrl-S**).

F. Confirm Origin.

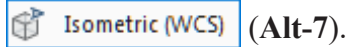
Step 1. **Right click** in the graphics window and from the menu click **GView > Left (WCS)**.

Step 2. Confirm Origin is in **center of cartridge hole**, **Fig. 14**.



F. Create Check Rectangle.

Step 1. Change to the Isometric View. **Right click** in the graphics window and click



Step 2. Use **Ctrl-T** to toggle **Translucency**.

Step 3. Toggle axes off. Use **F9**.

Step 4. Click **CPLANE** in Status bar at bottom of the graphics window and click **Right** from the menu, **Fig 15**.

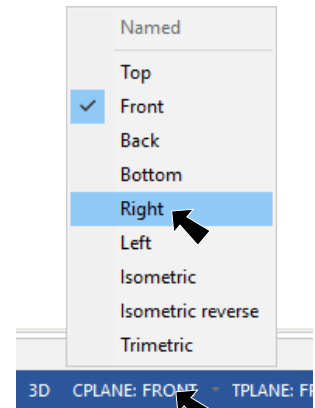
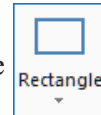


Fig. 15

Step 5. On the Wireframe tab **Wireframe** click Rectangle



Step 6. In the Rectangle function panel:

under Dimensions, **Fig. 16**

Width 40

Height 40

under Setting

Check **Anchor to center**

Click the **most forward vertex** of the Body **Fig. 17**.

Click OK .

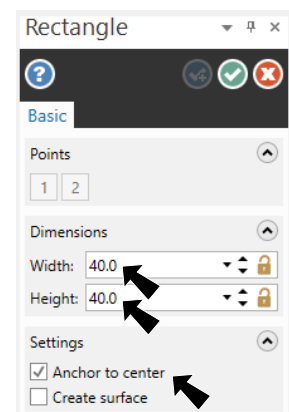


Fig. 16

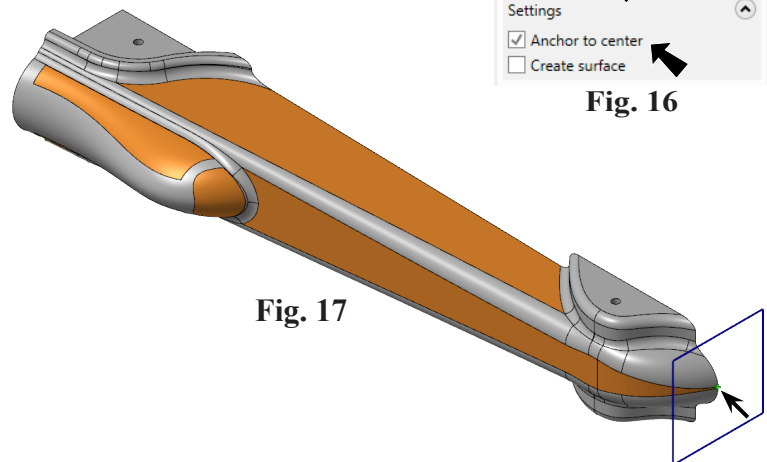

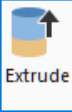



Fig. 17

G. Create Check Solid.

Step 1. On the Solids tab  click **Extrude** .

Step 2. Click Chain  in Chaining dialog box, **Fig 18**.

Step 3. Click **rectangle** to chain, **Fig 19**.

Step 4. Click OK  in Chaining dialog box.

Step 5. In the Solid Extrude function panel:
under Operation, **Fig. 20**

Select **Create body**
under Distance

Distance 5 and press **Tab**

The direction arrow should **point to rear**, **Fig. 21**.


If arrow points in opposite direction, click **Reverse All** ,

Fig. 20.
Click OK .

Step 6. Save  (**Ctrl-S**).

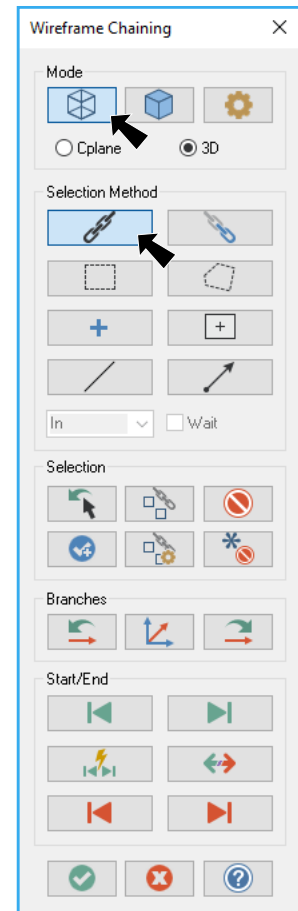


Fig. 18

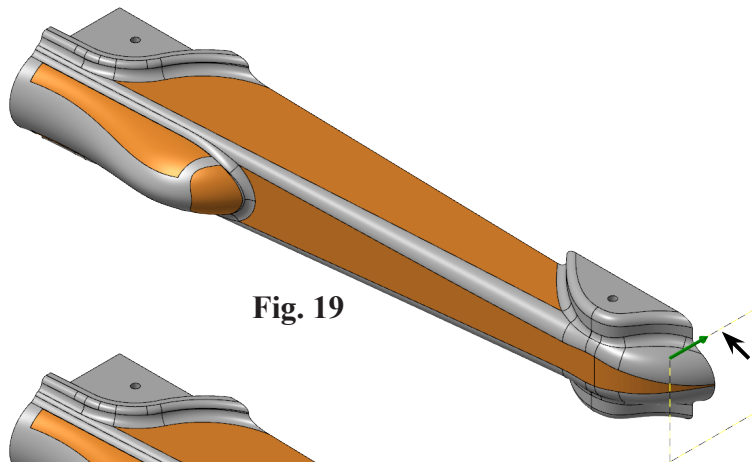


Fig. 19

Fig. 21

**Direction
arrow**

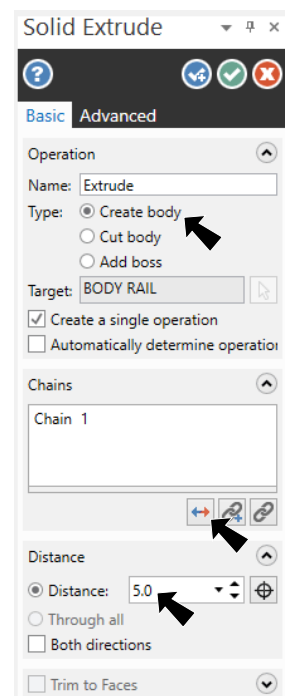




Fig. 20

H. Create WCS LEFT CUT Plane.

Step 1. Toggle axes on. Use F9.

Step 2. Display the **Planes Manager**. To display, click **Planes** tab  at the bottom of Ops Manager.

Step 3. In the **Planes Manger**:

Click **Create a new plane**  drop down and select **Relative to WCS > Top**, Fig. 22.

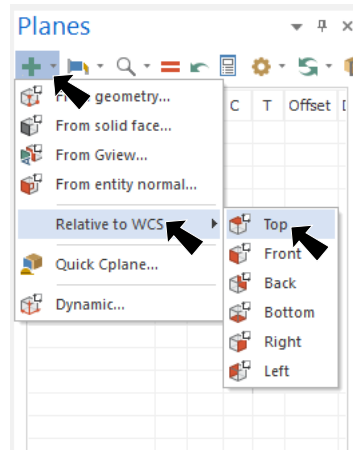


Fig. 22

Step 4. In the **New Plane** function panel:

Key-in **LEFT CUT** for name, Fig. 23

Origin X 0

Origin Y 0

Origin Z 34 and press **Tab**

Click **OK** .

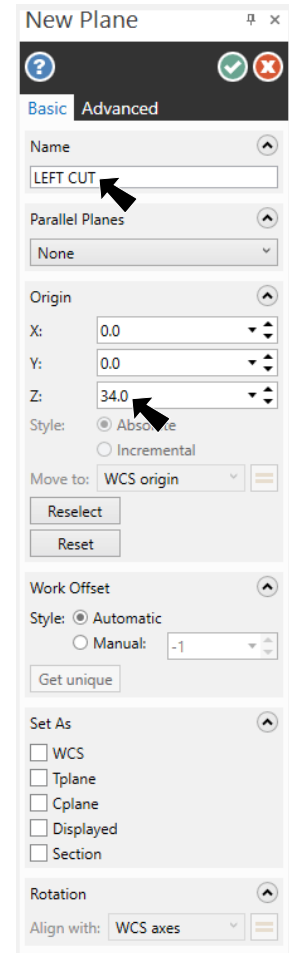


Fig. 23

Step 5. Back in the **Planes Manager**:

Click **Set All** , Fig. 24.

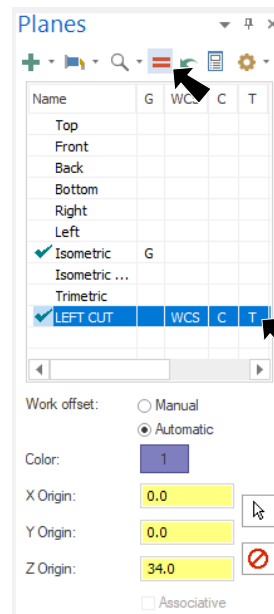


Fig. 24

Step 6. Confirm **LEFT CUT** Origin, Fig. 25.

Step 7. Save  (Ctrl-S).

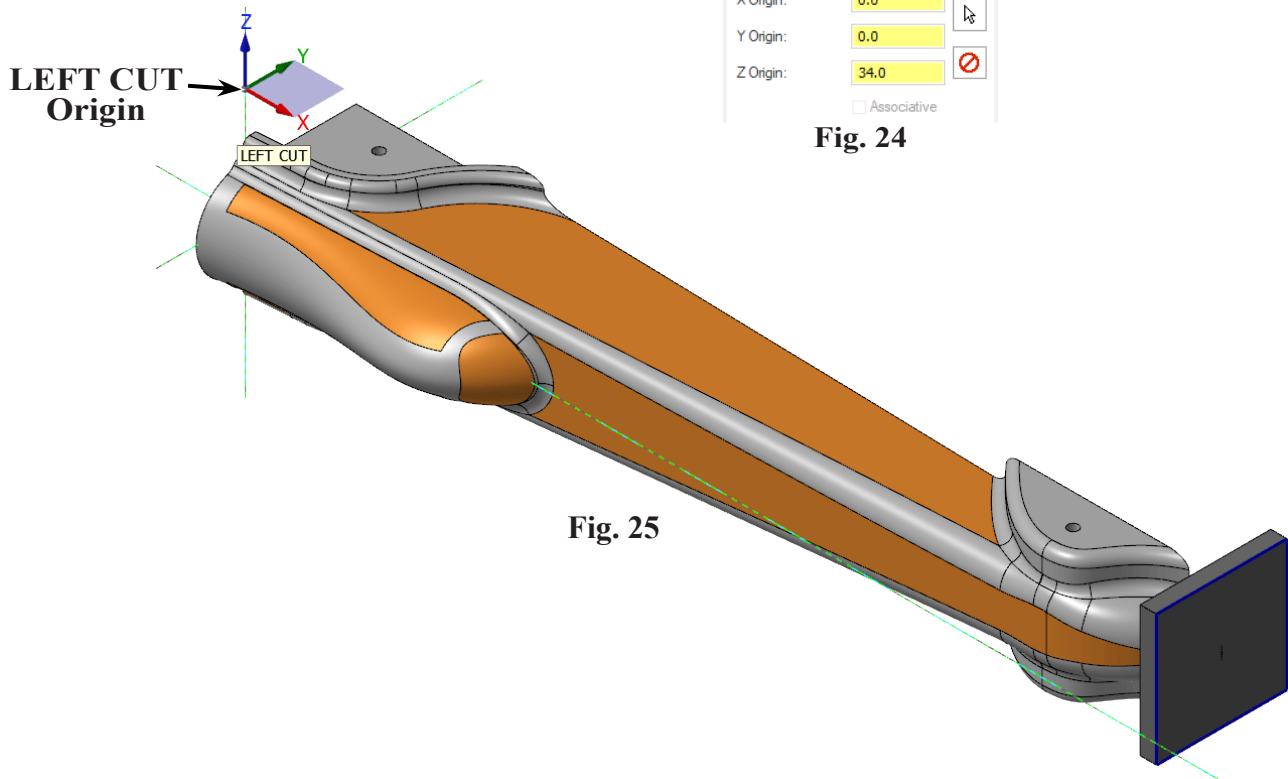


Fig. 25