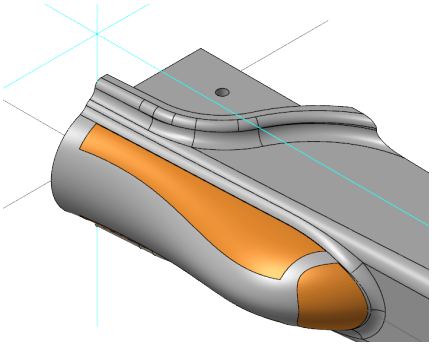
CO2 Rail Car

SOLIDWORKS 16 to Mastercam X9 2016



A. Open File in Mastercam X9.

Step 1. Save your **Body** file in SOLIDWORKS as a **Parasolid (*.x_t)** file.

Step 2. In Mastercam X9, click FILE Menu > Open.

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

Step 4. Change to Isometric View  (**Alt-7**).

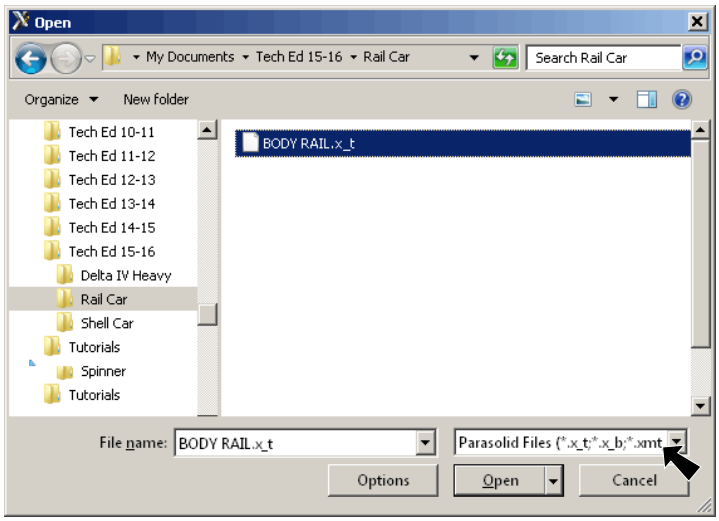


Fig. 1

B. Confirm Units are Metric.

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

C. Save Your File.

Step 1. Click FILE Menu > Save As.

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

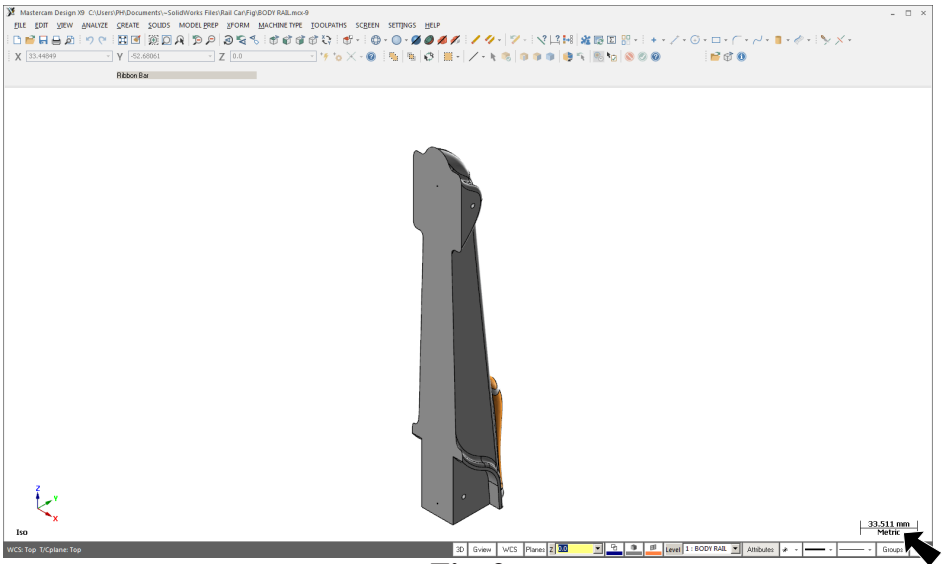


Fig. 2

http://www.cudacountry.net email:cudacountry@hotmail.com

D. Rotate Body Around Axes.

Step 1. Click down arrow of Set Planes in toolbar and click **Top (WCS)**, **Fig 3**.

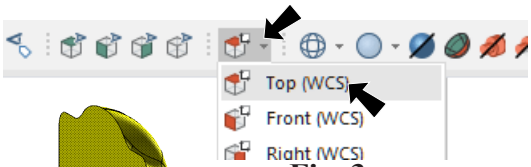


Fig. 3

Step 2. Click XFORM Menu > Rotate.

Step 3. Click the **solid body** to select it, **Fig 4**. Click **End Selection** **(ENTER)** in ribbon bar.

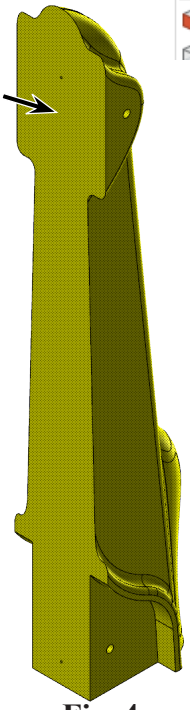


Fig. 4

Step 4. Set: **Move** **Fig. 5**

Number of Steps **1**

Rotation Angle **180**

Click **Apply**.

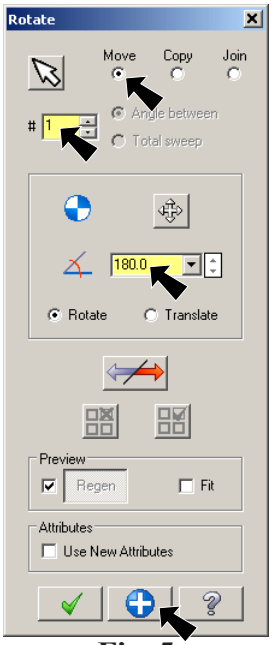


Fig. 5

Step 5. Click down arrow of Set Planes in toolbar and click **Front (WCS)**, **Fig 6**.

Step 6. Click the **solid body again** to select it and click **End Selection** **(ENTER)** in ribbon bar, **Fig. 7**.

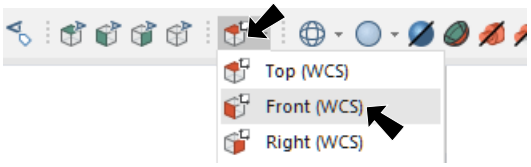


Fig. 6

Step 7. Set: **Move** **Fig. 8**

Rotation Angle **-90**

Step 8. Click OK in Rotate dialog box.

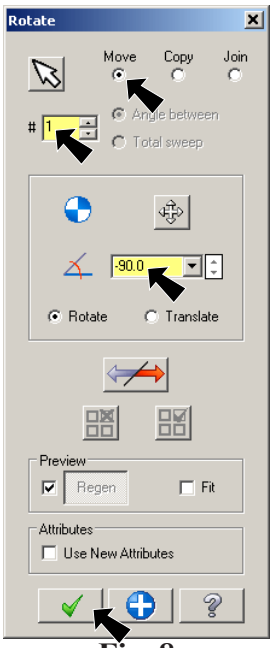


Fig. 8

Step 9. Fit **(Alt-F1)**,

Step 10. **Right click** graphics area and click Clear Colors.

Step 11. Save **(Alt-F S)**.

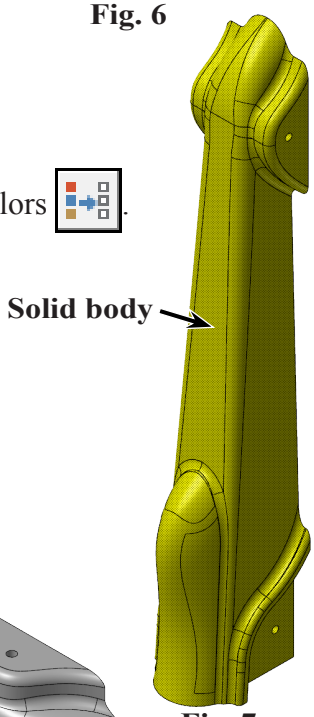


Fig. 7

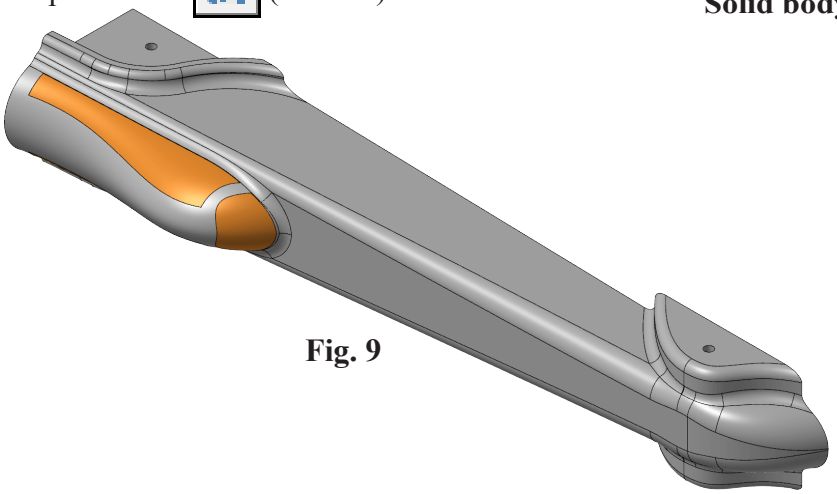


Fig. 9

E. Move to Origin.

Step 1. Display the origin. Use **F9** to show the axes, **Fig. 10**.

Step 2. Click VIEW Menu > Orient > **Flip X for Y**. This rotates the view to view the cartridge hole, this does not rotate part.

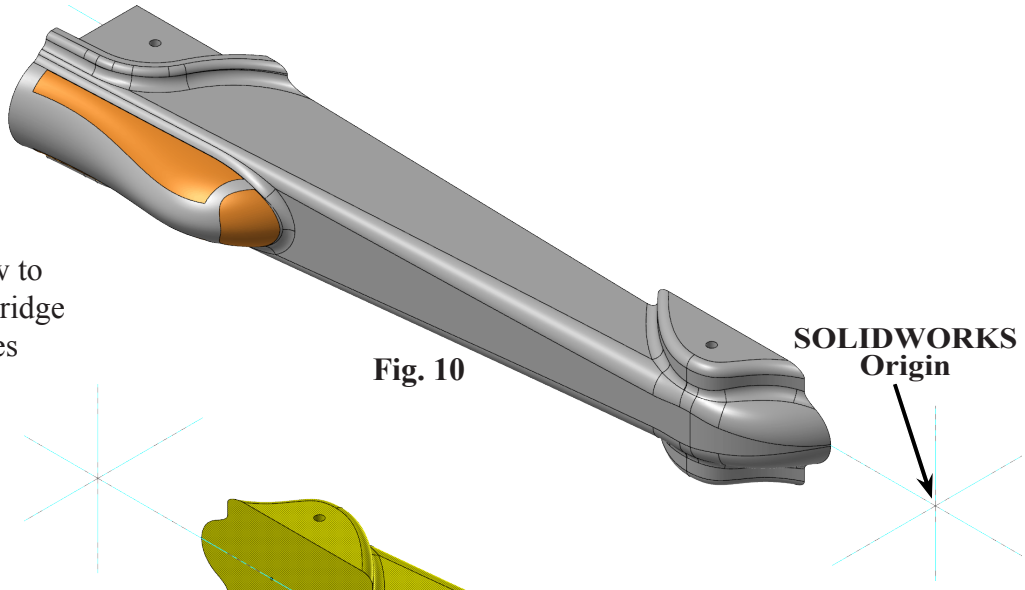


Fig. 10

Step 3. Click XFORM Menu > Move to Origin.

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

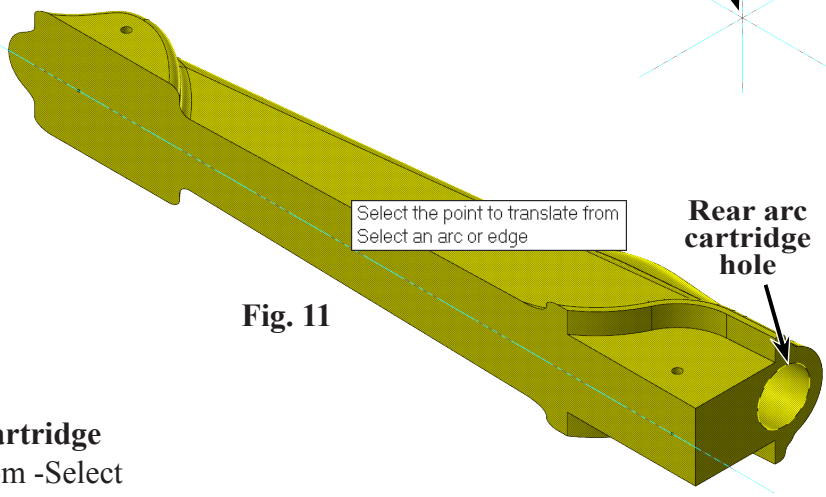


Fig. 11

Step 5. Click **arc of rear edge of cartridge hole** as point to translate from -Select an arc, **Fig. 11**. Be sure to select arc of hole, not outside body arc.

Step 6. Fit  **(Alt-F1)**,

Step 7. **Right click** graphics area and click Clear Colors  **(Alt-R C)**.

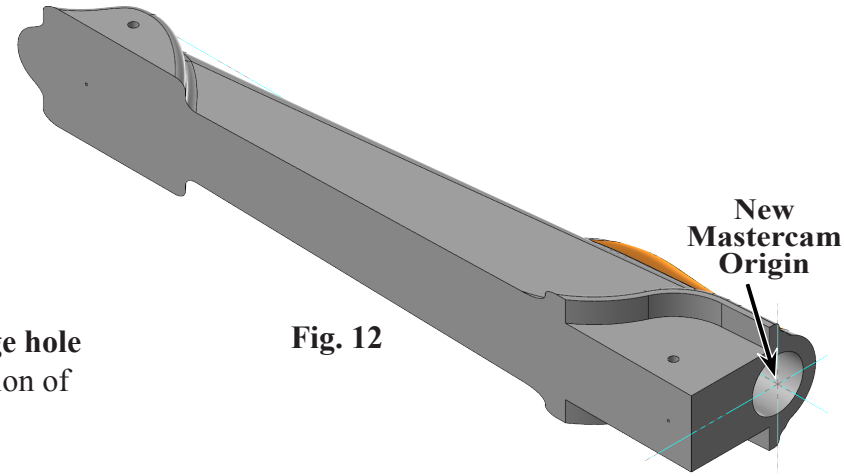


Fig. 12

Step 8. Confirm **center of cartridge hole at rear of car** as new position of origin, **Fig. 12**.

Step 9. Toggle axes off. Use **F9**.

Step 10. Save  **(Alt-F S)**.

F. Create Check Solid at Nose.

Step 1. Change to Isometric View (**Alt-7**).

Step 2. Fit (**Alt-F1**),

Step 3. Click the down arrow of the Set Planes button in the toolbar and click **Right (WCS)**, **Fig 13**.

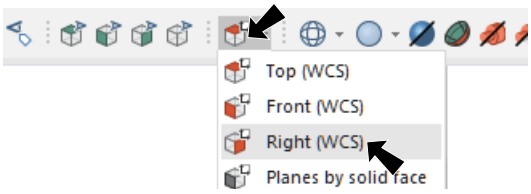


Fig. 13

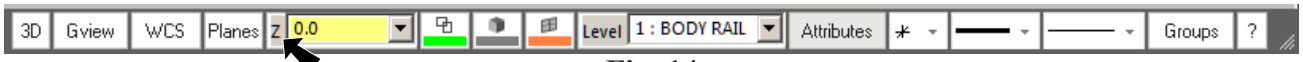


Fig. 14

Step 4. Click **Z Depth** Z in the Status Bar at bottom of graphics area, **Fig. 14**.

Step 5. Click the most forward point of the Body, **Fig. 15**. This will set the **Z depth to 265**

Z 265.0 .

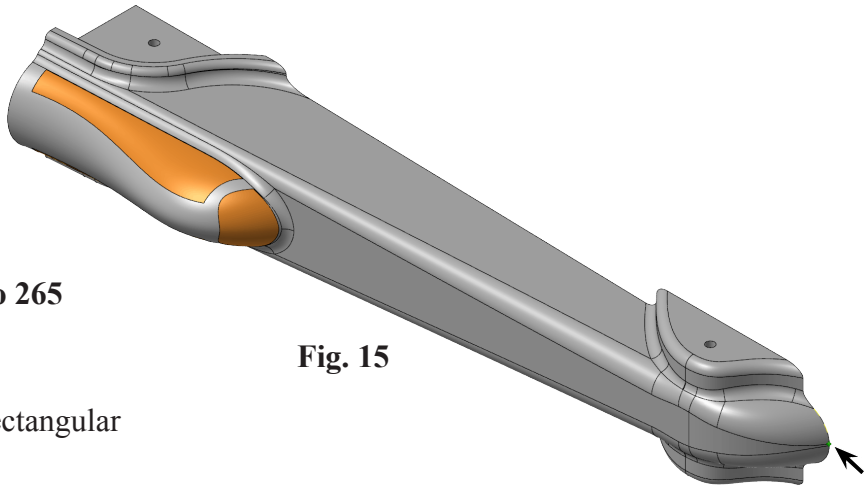


Fig. 15

Step 6. Click CREATE Menu > Rectangular Shapes.

Step 7. Set: **Base Point** **Fig. 16**

Width **30**

Height **30**

Click **center Anchor point**

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

Click OK .

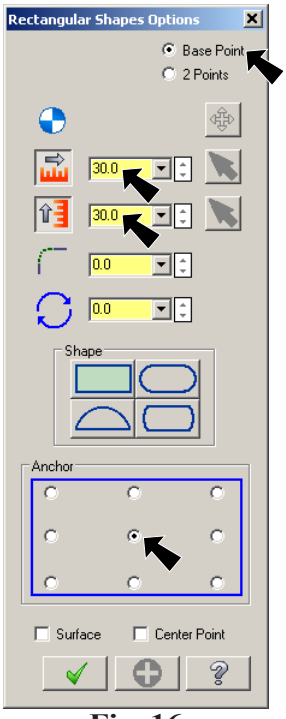


Fig. 16

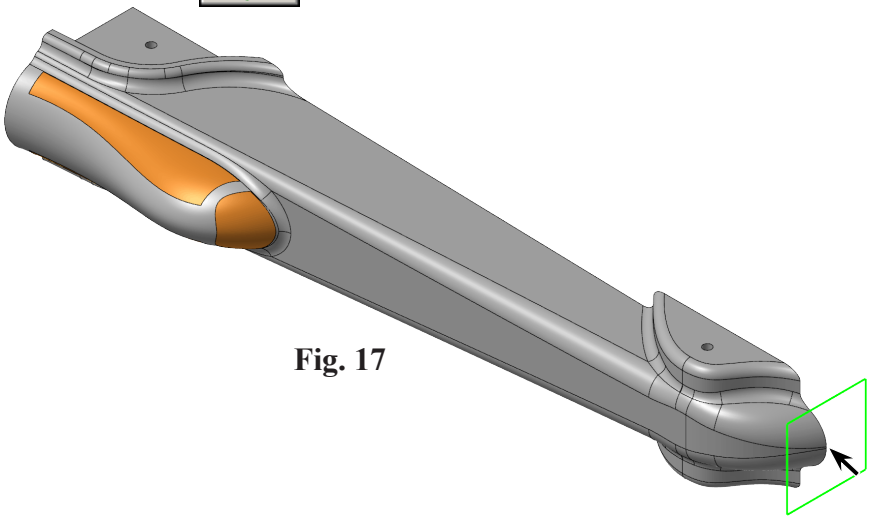


Fig. 17

Step 8. Click Solid color swatch  in Status Bar at bottom of graphics area, **Fig. 18**. Key-in **94 for orange** color number and press ENTER.

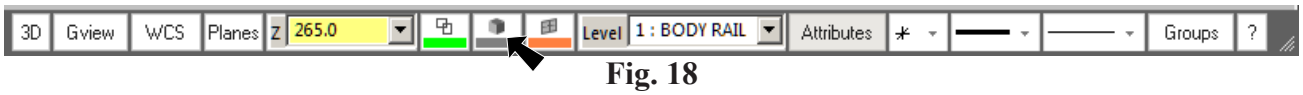


Fig. 18

Step 9. Click SOLIDS Menu > Extrude.

Step 10. Click Chain  in Chaining dialog box, **Fig. 19**.

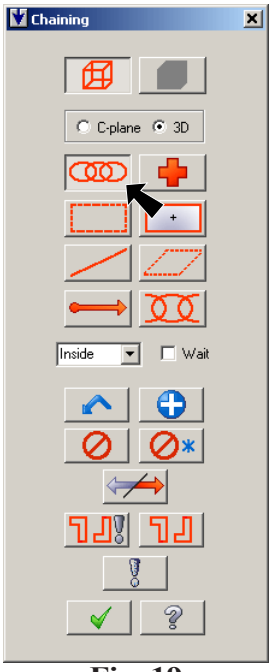


Fig. 19

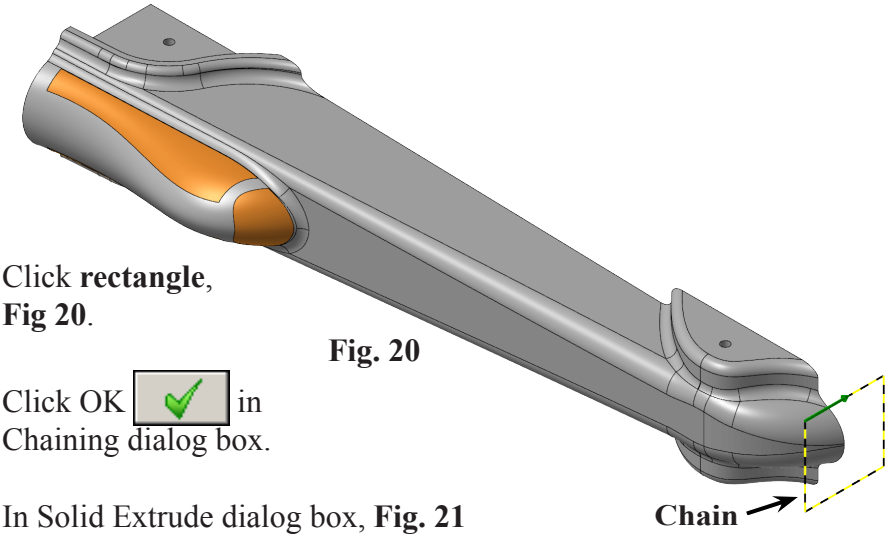


Fig. 20

Step 11. Click **rectangle**, **Fig 20**.

Step 12. Click OK in Chaining dialog box.

Step 13. In Solid Extrude dialog box, **Fig. 21**
Select **Create Body**
Set **Distance 5**
The direction arrow on Solid Extrude chain should point towards the Body, **Fig. 22**.
If pointing in opposite direction, click **Reverse All**  , **Fig. 21**.
Click OK  .

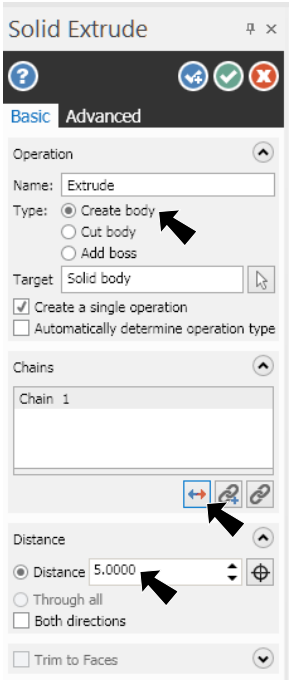


Fig. 21

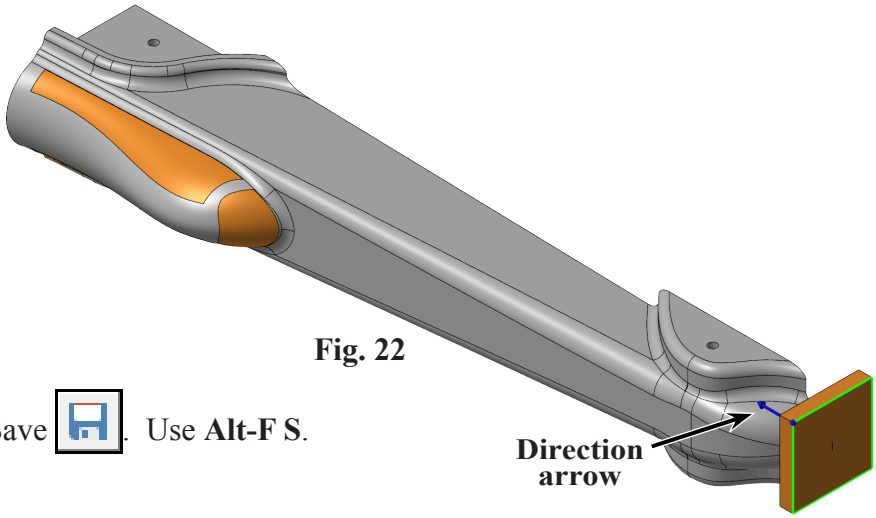


Fig. 22

Step 14. Save . Use **Alt-F S**.

G. Create WCS LEFT CUT.

Step 1. Click **WCS** in the Status Bar at the bottom of the graphics area and **Plane Manager** from the menu, **Fig. 23**.

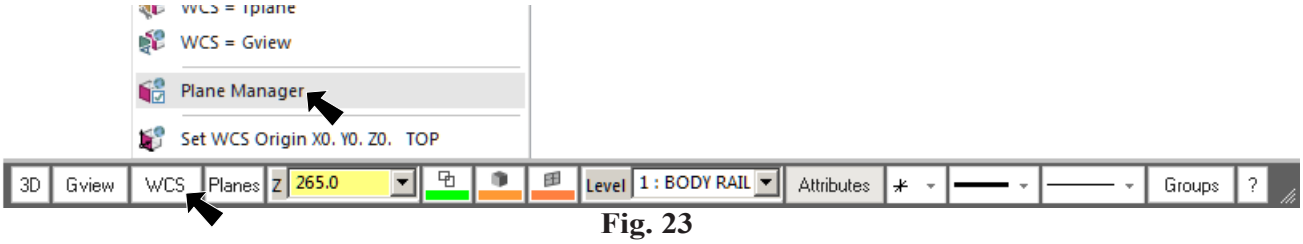


Fig. 23

Step 2. With the Top plane selected, click **Copy** button in the Plane Manager dialog, **Fig. 24**.

Step 3. Rename TOP-1 to **LEFT CUT**. To rename, slowly click the plane name and key-in the new name, **Fig. 25**.

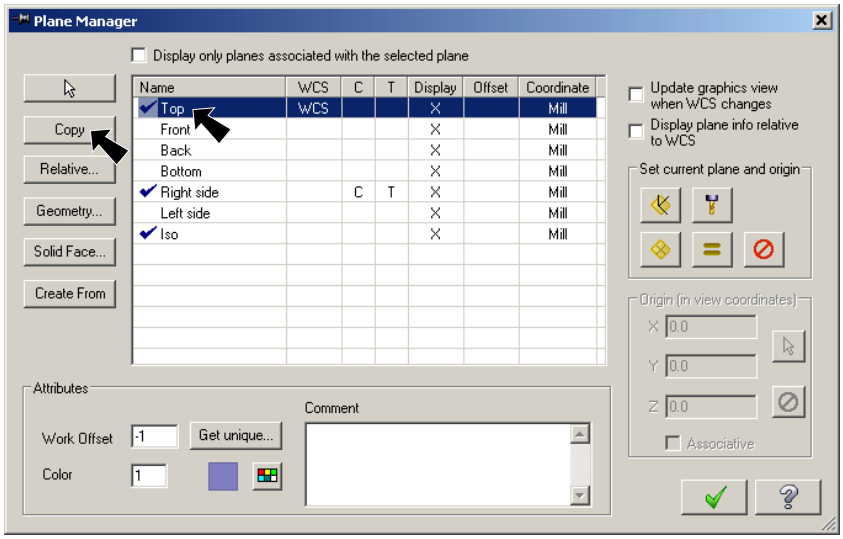


Fig. 24

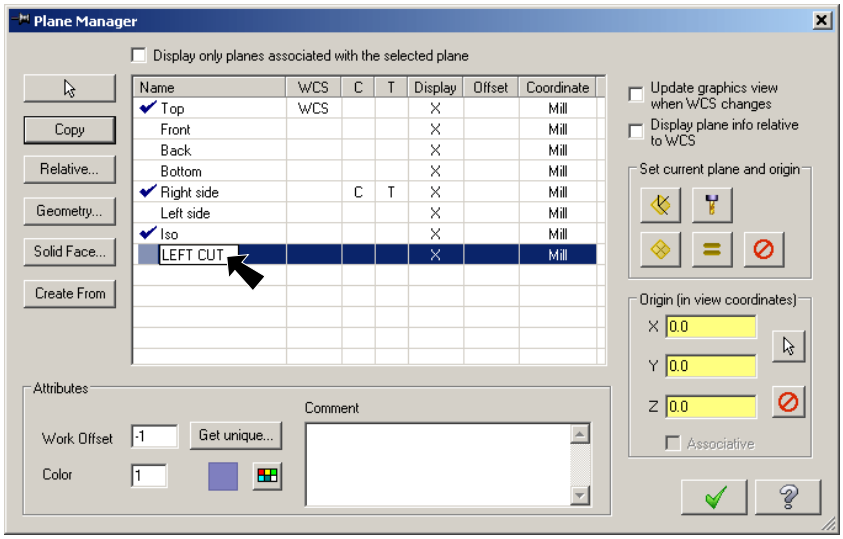


Fig. 25

Step 4. Set:

Origin X 0
Origin Y 0
Origin Z 34
Fig. 26.

Step 5. Click **Set All** button  , **Fig. 26**.

Step 6. Click OK  .

Step 7. Confirm the origin. Use **F9** to show the axes, **Fig. 27**.

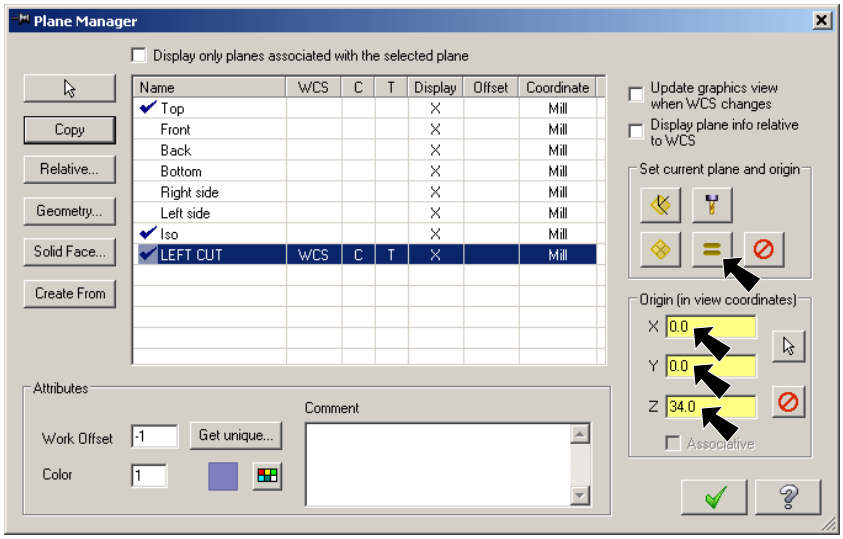


Fig. 26

Step 8. Save  . Use **Alt-F**

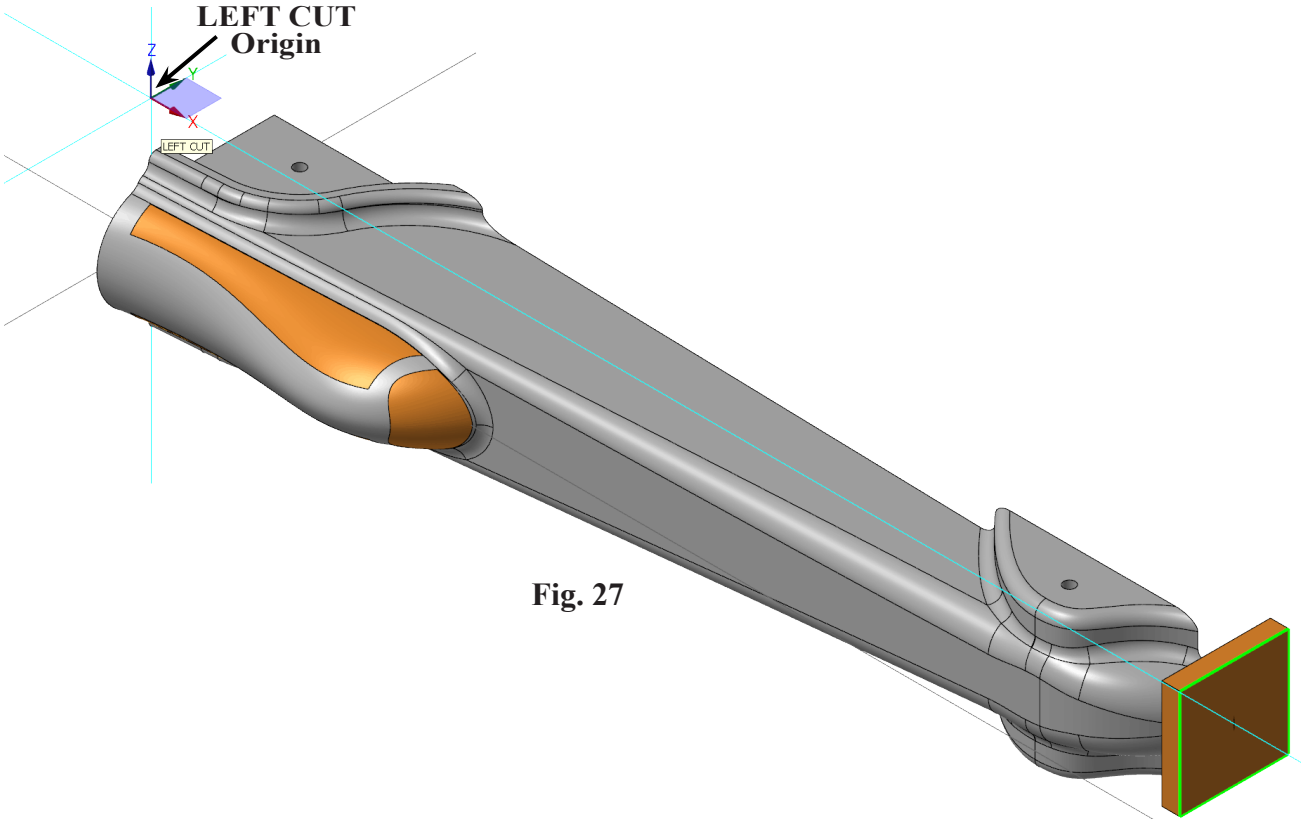


Fig. 27