

CO2 Shell Car Blank

A. New Metric Part.

Step 1. Click File Menu > New.

Step 2. Click **Part Metric** from the list and click OK, **Fig. 1**.

B. Body.

Step 1. Click **Right** (plane) in the Feature Manager and click

Sketch  from the Content toolbar, **Fig. 2**.

Step 2. Click **Line**  (L) on the Sketch toolbar.

Step 3. Starting at the Origin  draw the sketch in **Fig. 3**. Use the inferencing line, the dotted line that appears when you draw the lines to keep the side lines vertical and the bottom line horizontal, **Fig. 3**. Do not add any extra lines. If you make a mistake, use Undo, **Ctrl-Z**.

Step 4. Click **Fully Defined Sketch**  (D) on the Sketch toolbar.

Step 5. Click OK  in the Property Manager.

Step 6. Set the dimensions as shown in **Fig. 4**. To set dimension, double click the dimension and key-in the dimension, then press ENTER. Arrange the dimensions as **Fig. 4**.

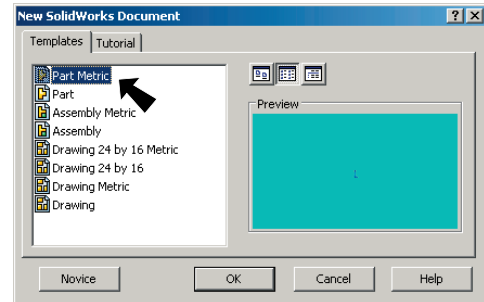
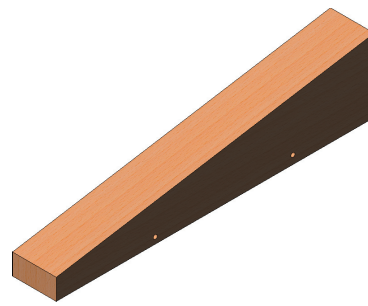


Fig. 1

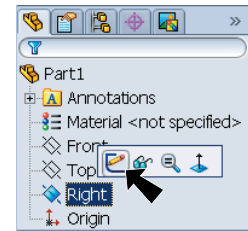


Fig. 2

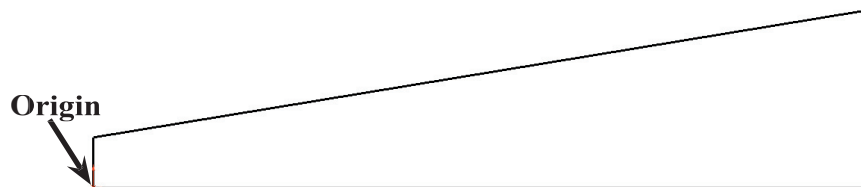


Fig. 3

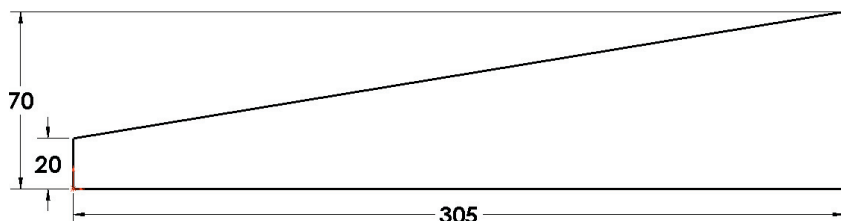
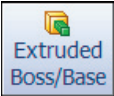


Fig. 4

Step 7. Click **Features**  on the Command Manager toolbar.

Step 8. Click **Extruded Boss/Base**  on the Features toolbar.

Step 9. In the Property Manager, under **Direction 1** set:

End Condition to **Mid Plane**

Depth  to 42

and click OK , Fig. 5 and Fig. 6.

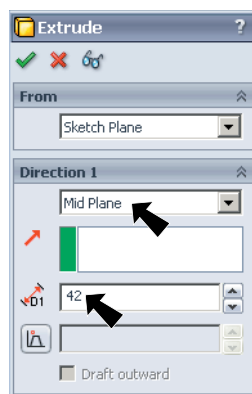


Fig. 5

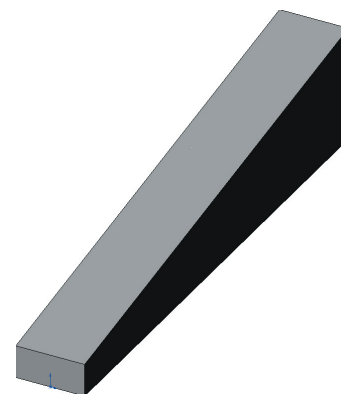


Fig. 6

C. Save as "BLANK".

Step 1. Click File Menu > Save As.

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

D. Cartridge Hole.

Step 1. Click **Wireframe**  on the View toolbar.

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

Step 3. Click the **back face** of the body and click **Sketch**  on the Content menu, Fig. 7.

Step 4. Click **Circle**  on the Sketch toolbar.

Step 5. Draw a circle for the cartridge hole, Fig. 8. Use the vertical inferencing line, the dotted line that appears when you draw to keep the circle directly above the Origin , Fig. 8.

Step 6. Click **Fully Defined Sketch**  (D) on the Sketch toolbar and OK  in the Property Manager.

Step 7. Double click each dimension and set as shown in Fig. 9.

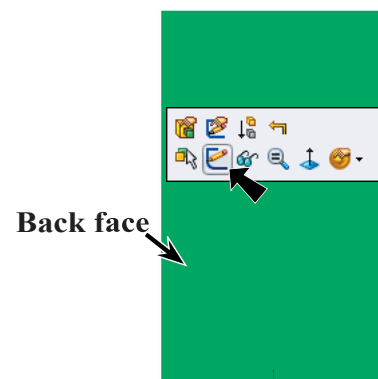


Fig. 7

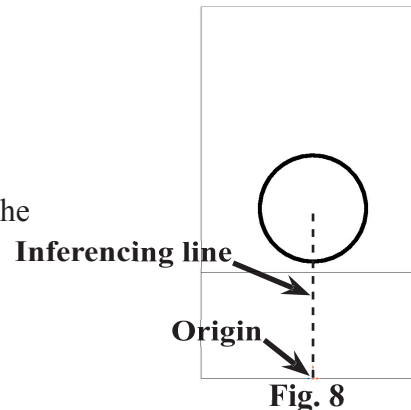


Fig. 8

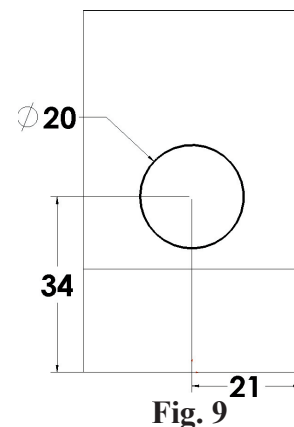
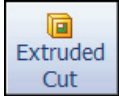


Fig. 9

Step 8. Click **Features**  on the Command Manager toolbar.

Step 9. Click **Extruded Cut**  on the Features toolbar.

Step 10. In the Property Manager, under **Direction 1** set:

Depth  to **52** , **Fig. 10** and **Fig. 11**.

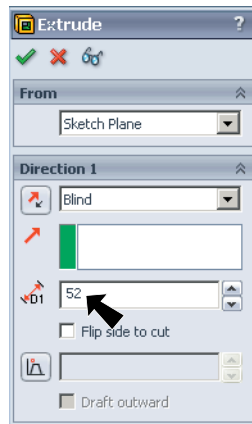


Fig. 10

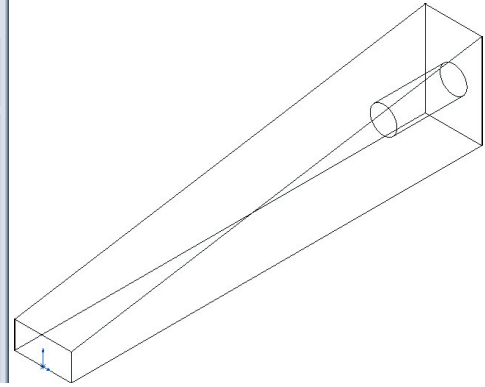


Fig. 11

Step 11. Click **Isometric**  on the Standard Views toolbar. (**Ctrl-7**)

Step 12. Save. Use **Ctrl-S**.

E. Axle Holes.

Step 1. Click **Right** (plane) in the Feature Manager and click **Sketch**  from the Content toolbar, **Fig. 12**.

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

Step 3. Click **Circle**  on the Sketch toolbar.

Step 4. Draw two circles for the axle holes, **Fig. 13**. Draw the back hole slightly above the front hole. **Do not** use the inferencing line, the dotted line that appears when you draw the second circle to keep the circles in-line.

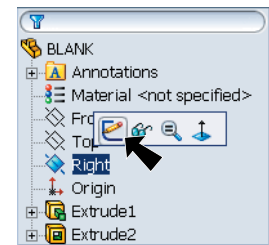


Fig. 12

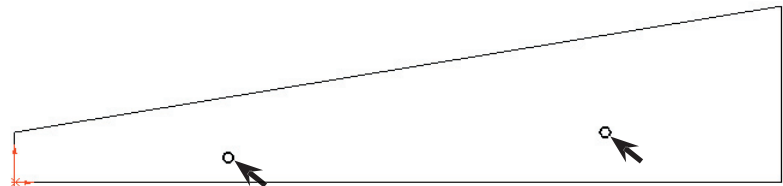


Fig. 13

Step 5. Click **Fully Defined Sketch** (D) on the Sketch toolbar. In the Property Manager set:



under **Horizontal Dimensions**, Fig. 14



click in the Datum box and click the **bottom right corner** of the body, Fig. 15

under **Vertical Dimensions**



click in the Datum box, Fig. 14 and click the **bottom right corner** of the body, Fig. 15

under **Dimension placement** select:

Below sketch

Right of sketch, Fig. 14 and click OK

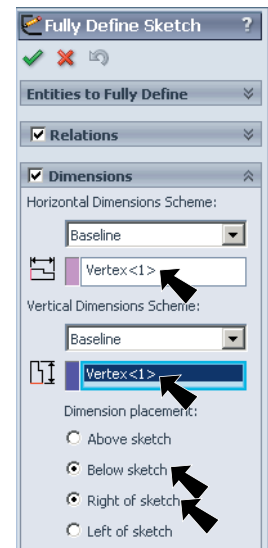


Fig. 14

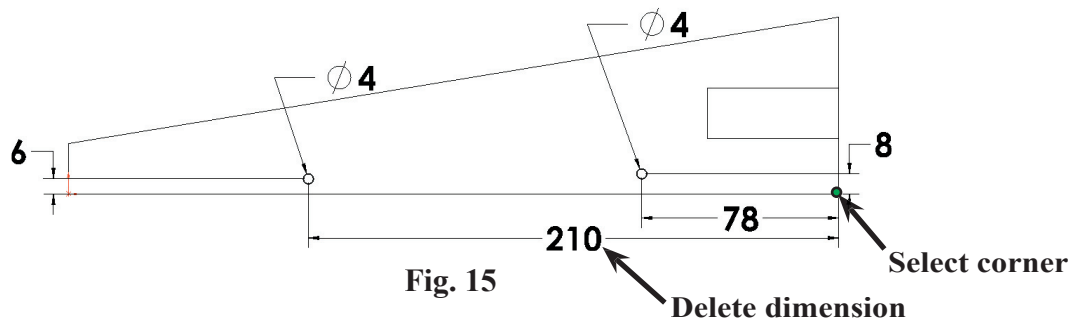


Fig. 15

Step 6. Set the dimensions as shown in Fig. 15.

Step 7. Delete the dimension between the front wheel and the back edge, Fig. 15. To delete dimension, click the dimension and press the delete key.

Step 8. Click **Smart Dimension** on the Sketch toolbar.



Step 9. Add a **132 horizontal dimension between the two axle holes** as shown in Fig. 16. To Smart dimension click each hole, then move the cursor down off the sketch and click. Key-in 132 for the dimension and press ENTER.

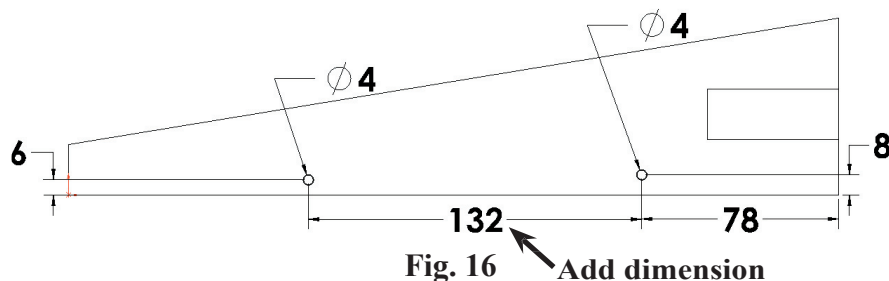
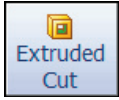


Fig. 16

Step 10. Click **Features**  on the Command Manager toolbar.

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

Step 12. Click **Isometric**  on the Standard Views toolbar.

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

End Condition to **Mid Plane**

Depth  to 42

click OK , Fig. 17 and Fig. 18.

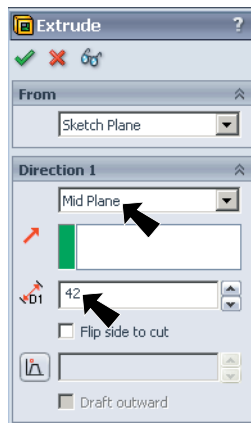


Fig. 17

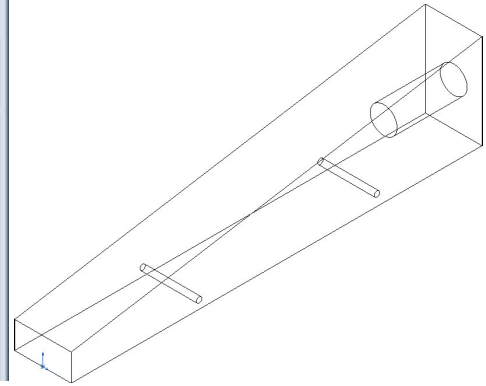


Fig. 18

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

F. Appearance.

Step 1. Click **Shaded With Edges**  on the View toolbar.

Step 2. Click Edit Menu > Appearance > Material.

Step 3. Scroll down the Materials and expand **Woods** (click the +), Fig. 19. Select **Balsa** and click OK .

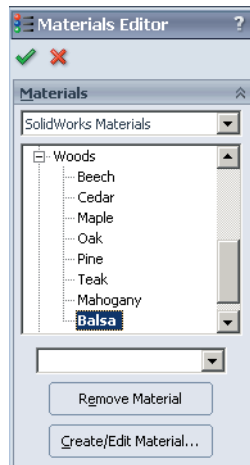


Fig. 19

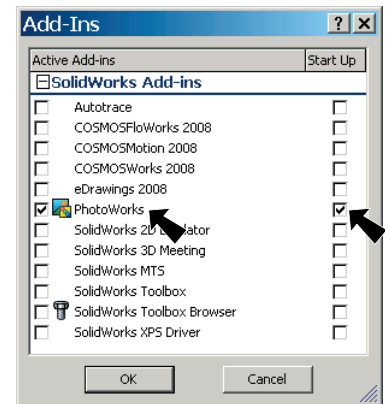


Fig. 20

G. Enable PhotoWorks.

Step 1. If necessary, turn on PhotoWorks: click Tools Menu > Add-Ins.

Step 3. In the dialog box scroll down to **PhotoWorks** and place a check in the check box under **Active Add-Ins** and **Start-Up**, Fig. 20. Click OK.

H. Rotate Mapping.

Step 1. Click PhotoWorks Menu > Appearance.

Step 2. In Appearances:

click **Mapping** tab 

set **Rotation** to 90

click OK , Fig. 21.

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

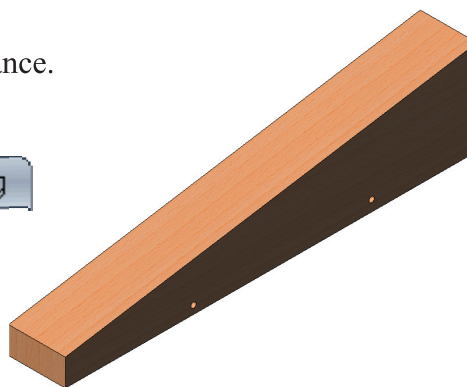


Fig. 22

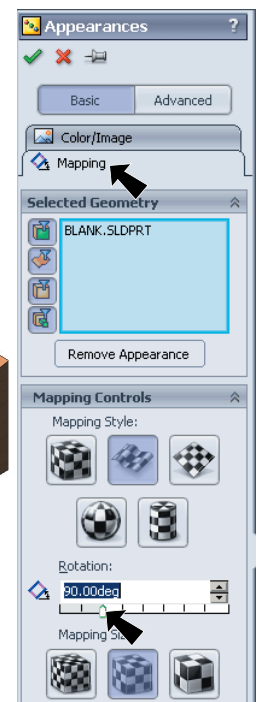


Fig. 21