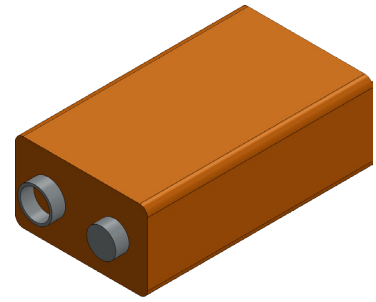




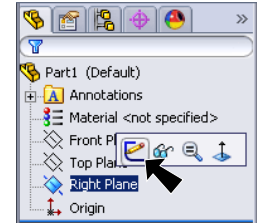
# Solar Car Battery 9 Volt




## A. Battery.

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**.

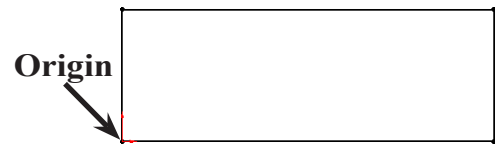


**Fig. 1**

Step 3. Click **Rectangle**  (S) on the Sketch toolbar.

Step 4. Draw a rectangle starting at the Origin , **Fig. 2**.

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



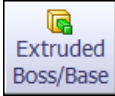
**Fig. 2**

Step 6. Set the dimensions as shown in **Fig. 3**.

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

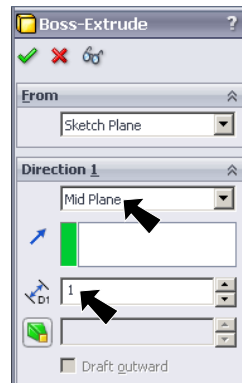


**Fig. 3**

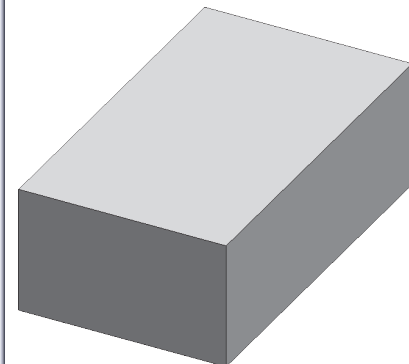
Step 8. Click **Extruded Boss/Base**  on the Features toolbar.

Step 9. In the Property Manager set:  
under Direction 1, **Fig. 4**  
End Condition **Mid Plane**

**Depth**  **D1** **1**  
click OK , **Fig. 5**.



**Fig. 4**



**Fig. 5**

## B. Save as "BATTERY 9 VOLT".

Step 1. Click File Menu > Save As.


Step 2. Key-in **BATTERY 9 VOLT** for file-name and press ENTER.

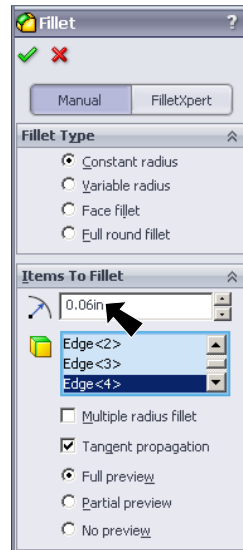
### C. Fillets.

Step 1. Click **Fillet**  on the Features toolbar.

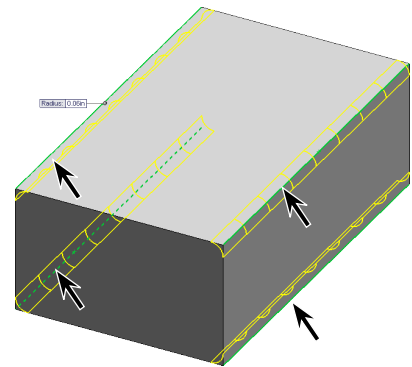
Step 2. In the Fillet Property Manager set:

**Radius**  **.06, Fig. 6**

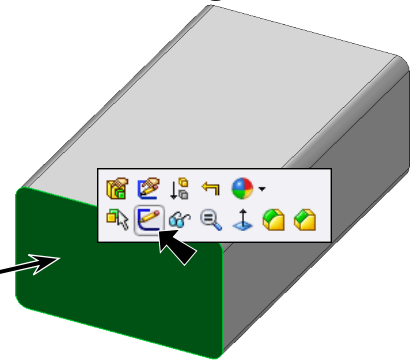
in drawing click the **4 edges, Fig. 7**  
click **OK** , **Fig. 8.**



**Fig. 6**



**Fig. 7**



**Fig. 8**

### D. Terminals.

Step 1. Click the **front face** of the battery  
and click **Sketch**  on the Content menu, **Fig. 8.**

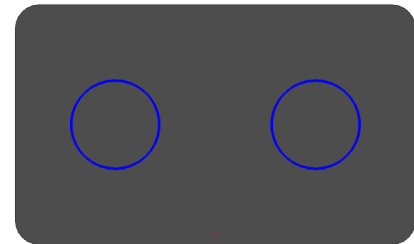
Step 2. Click **Normal To**  on the Views toolbar (**Ctrl-8**).

Step 3. Click **Circle**  (**S**) on the Sketch toolbar.

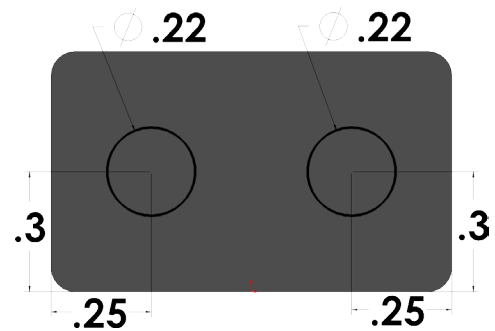
Step 4. Draw two circles for the battery terminals, **Fig. 9.**

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

Step 6. Dimension as shown in **Fig. 10.**



**Fig. 10**



**Fig. 10**

## E. Offset Entities.

Step 1. Click **Offset Entities**  on the Sketch toolbar.

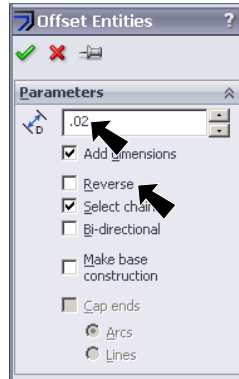
Step 2. In the Offset Entities Property Manager set:

**Distance**  **.02** **Fig. 11**

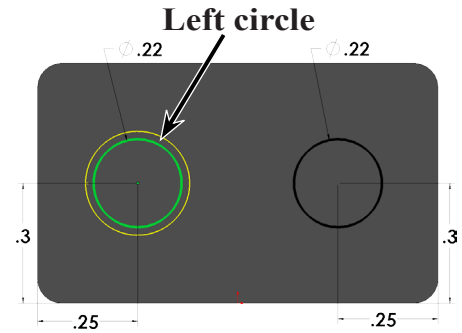
click **left circle** in sketch, **Fig. 12**.

The yellow offset should be outside the original green circle, **Fig. 12**. If it is not, check **Reverse**.

Click **OK** .

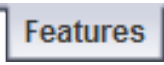


**Fig. 11**




**Fig. 12**

## F. Extrude Terminals .

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

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

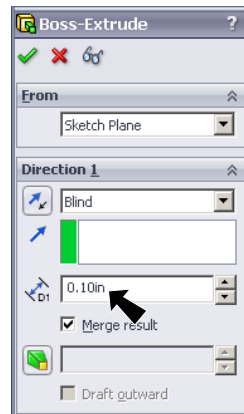
Step 3. Click **Isometric**  on the Standard Views toolbar. (**Ctrl-7**)

Step 4. In the Property Manager set:

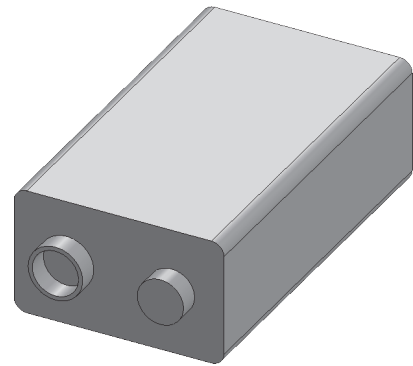
**Depth**  **.1**

click **OK** , **Fig. 13** and **Fig. 14**.

Step 5. Save. Use **Ctrl-S**.





**Fig. 13**



**Fig. 14**

## G. Battery and Terminals Appearance.

Step 1. Click the **top face** of the battery to select the part, click **Appearance Callout**  on the Content menu and click **BATTERY...** , Fig. 15.

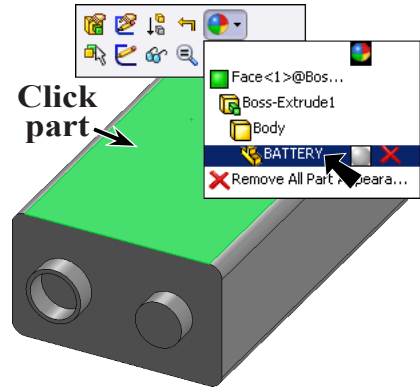


Fig. 15

Step 2. In the Appearances Task pane, expand **Plastic**, click **High Gloss** and in the lower pane select **white high gloss plastic**, Fig. 16.

Step 3. Back over in the Appearances Property Manager, under Color: click **Orange** swatch, Fig. 17 and Fig. 18

click **Keep Visible**  and **OK** , Fig. 17.

The Push Pin  on allows selection of other material for terminals.

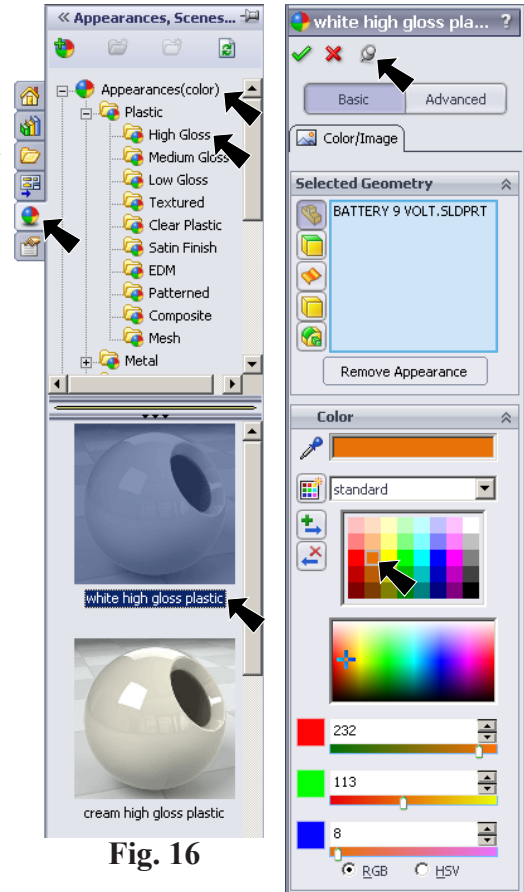


Fig. 16

Fig. 17

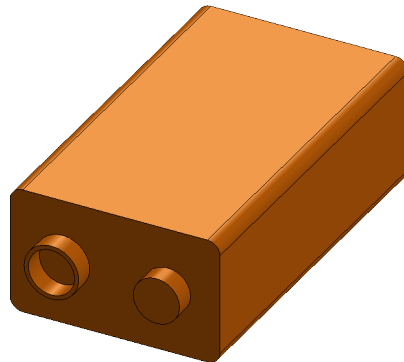






Fig. 18

Step 4. In the Appearances Property Manager, under Selected Geometry click **Select Features** , **Fig. 19**

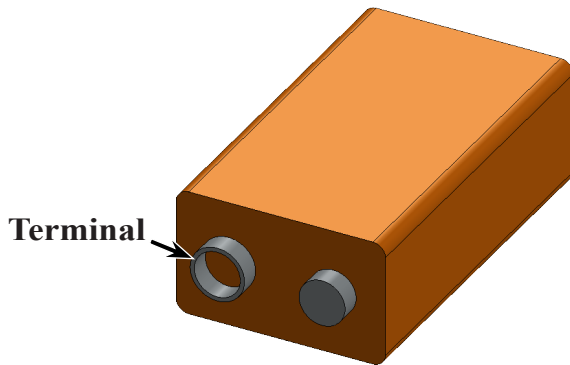
click **one of the terminals**, **Fig. 20**.

Step 5. Click **Appearances, Scenes, and Decals**  tab to display the Task pane, **Fig. 21**.

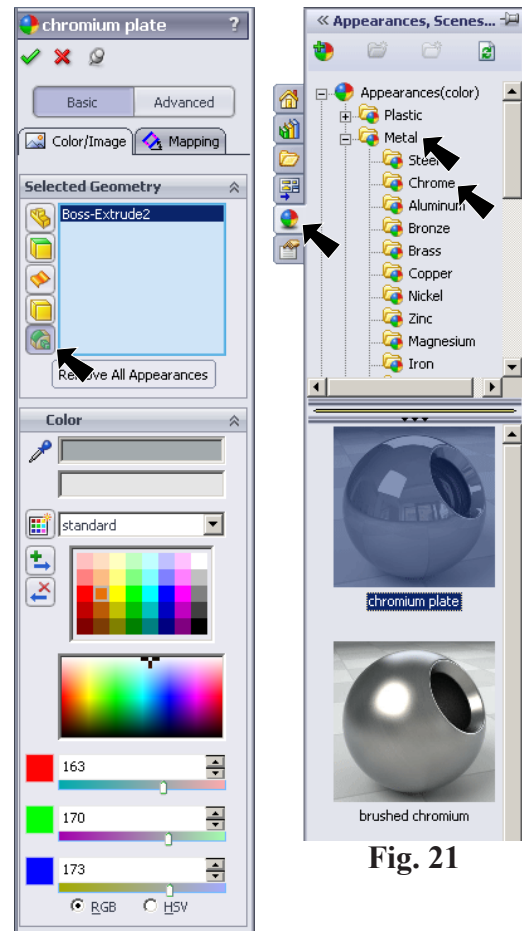
Step 6. In the Appearances Task pane, expand **Metal** and click **Chrome** and in the lower pane select **chromium plate**, **Fig. 21**

click OK  and click Cancel .

Step 7. Save. Use **Ctrl-S**.



**Fig. 20**



**Fig. 19**

**Fig. 21**