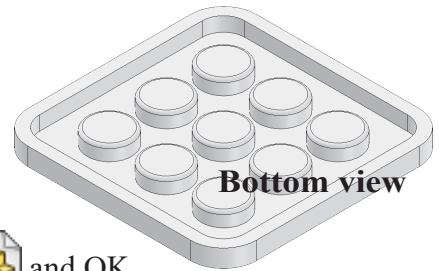


E's Small Car Battery Cover



A. Extrude1 Sketch1 Body.

Step 1. Click **New** on the Standard toolbar, click **Part Metric** and OK.

Step 2. Click **Top Plane** in the Feature Manager and click **Sketch** on the context toolbar, **Fig. 1**.

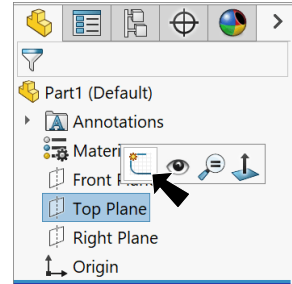


Fig. 1

Step 3. Click **Center Rectangle** in the **Rectangle** flyout on the Sketch toolbar.

Step 4. Sketch center rectangle at the **Origin** , **Fig. 2**.

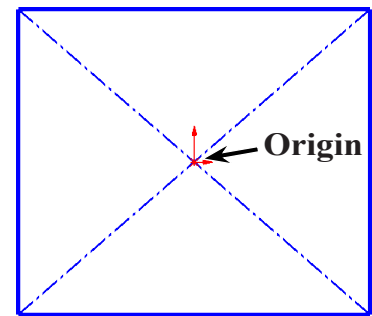


Fig. 2

Step 5. **Unselect Rectangle tool**. To unselect, right click graphics area and click **Select** from menu.

Step 6. **Ctrl click two adjacent sides of the rectangle** and click **Make Equal** on the context toolbar, **Fig. 3**.

Step 7. Click **Smart Dimension** (S) on the Sketch toolbar.

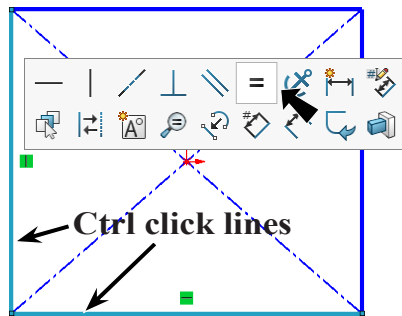


Fig. 3

Step 8. Add **32** dimension, **Fig. 4**.

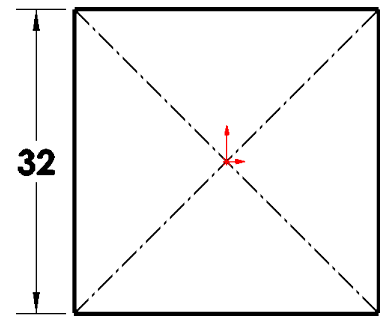


Fig. 4

Step 9. Click **Features** on the Command Manager toolbar.

Step 10. Click **Extruded Boss/Base** on the Features toolbar.

Step 11. In the Property Manager set:
under Direction 1, **Fig. 5**
End Condition **Blind**
Depth **2.5**
click OK .

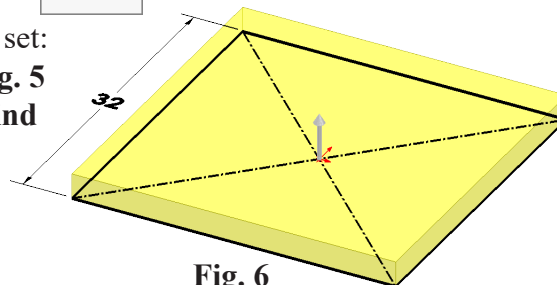


Fig. 6

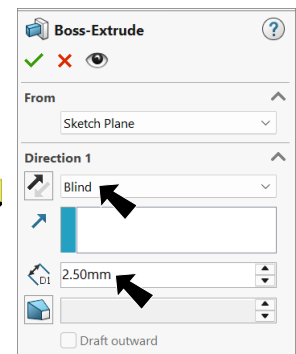


Fig. 5

B. Save as "BATTERY COVER".

Step 1. Click File Menu > Save As.

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

C. Fillet1.

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

Step 2. In the Fillet Property Manager set:
select **FilletXpert**, Fig. 7

① **Radius**  **4.6**

click **vertical edge of Battery Cover (1)**, Fig. 8

click **Connected to start face**  **3 edges** on Fillet pop-up

click **OK** .

Step 3. Save  (Ctrl-S).

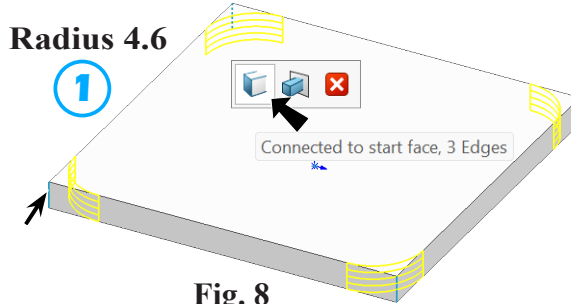


Fig. 8

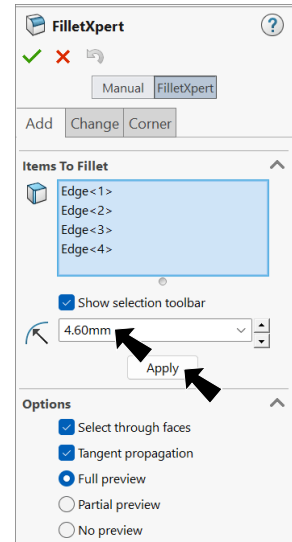


Fig. 7

D. Extruded Cut1 Sketch2.

Step 1. Click **Top Plane**  in the Feature Manager and click **Sketch**  on the context toolbar, Fig. 9.

Step 2. Click **Bottom**  on the Standard Views toolbar. (Ctrl-6)

Step 3. Click **Offset Entities**  on the Sketch toolbar.

Step 4. In the Offset Entities Property Manager set:
under Parameters, Fig. 10

Distance  **1.6**

check **Reverse**

uncheck **Bi-directional**

click the **face**, Fig. 11

yellow offset on inside

click **OK** .

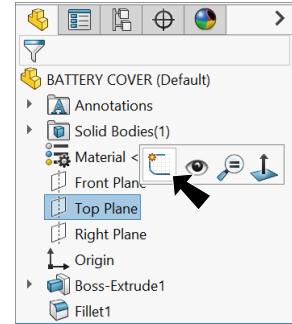


Fig. 9

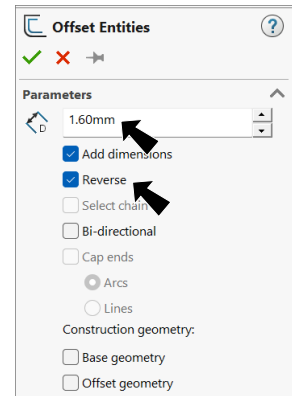


Fig. 10

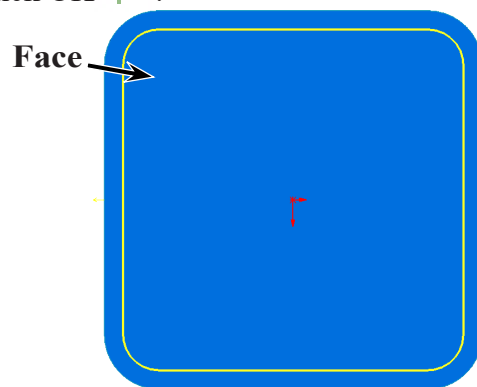


Fig. 11

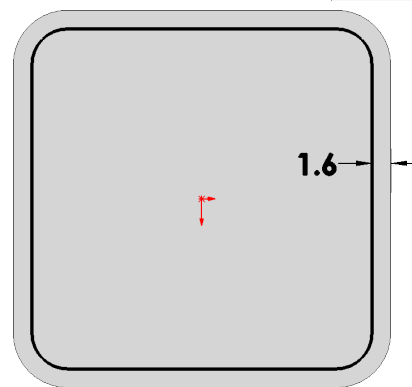

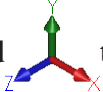
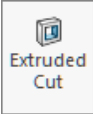


Fig. 12

Step 5. Rotate view to bottom, **Fig. 14**. To rotate view, click **Isometric**  on the Standard Views toolbar (Ctrl-7), then **Shift click the X axis of the Reference Triad**  **two times**.

Step 6. Click **Features**  on the Command Manager toolbar.

Step 7. Click **Extruded Cut**  on the Features toolbar.

Step 8. In the Cut-Extrude Property Manager set:
under Direction 1, **Fig. 13**

Depth  **2**
click OK .

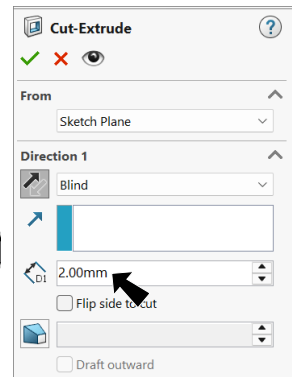
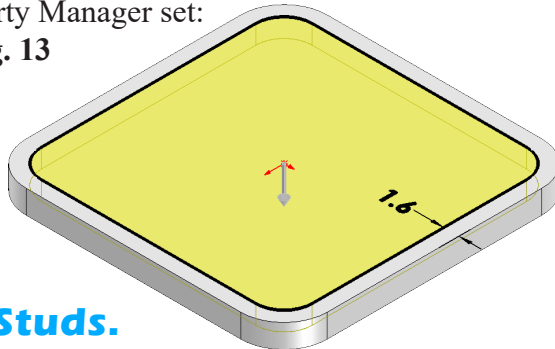



Fig. 13

Step 9. Save  (Ctrl-S).



E. Extrude2 Sketch3 Studs.

Step 1. Click the **bottom inside face** and click **Fig. 14**
Sketch  on the context toolbar, **Fig. 15**.

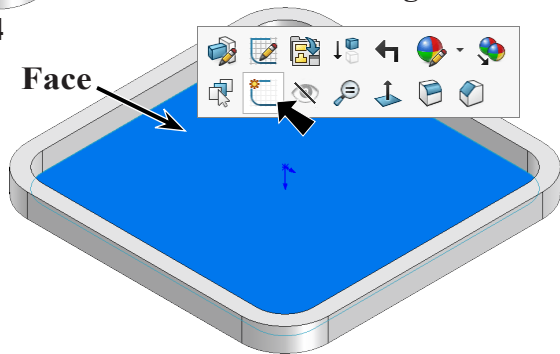



Fig. 15

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

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

Step 4. Sketch **two circles left of Origin** , **Fig. 16**.

Step 5. **Unselect Circle tool**. To unselect, right click graphics area and click **Select**  from menu.

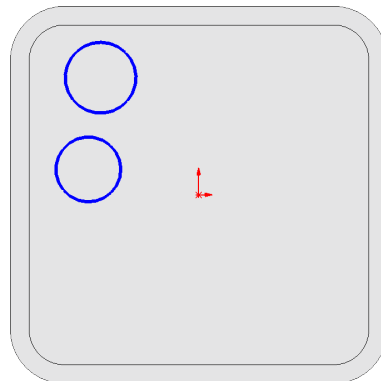



Fig. 16

Step 6. **Drag selection to left to select both circles** and click **Make Equal**  on the context toolbar, **Fig. 17**.

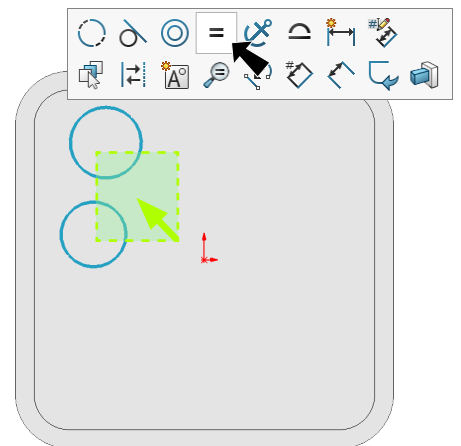



Fig. 17

Step 7. **Ctrl click both circle centerpoints** to select both. Release Ctrl key and click **Make Vertical**  on the context toolbar, **Fig. 18**.

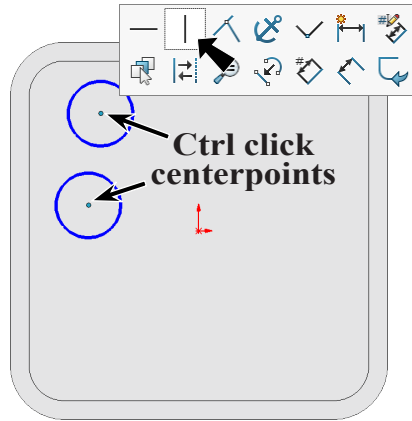




Fig. 18

Step 8. **Ctrl click centerpoint of bottom circle and Origin**

 to select both. Release Ctrl key and click **Make**

Horizontal  on the context toolbar, **Fig. 19**.

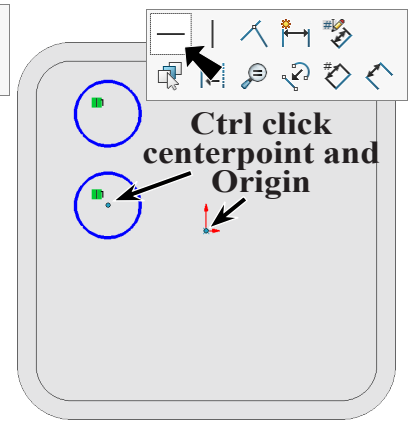


Fig. 19

Step 9. **Click Front Plane**  in the Feature Manager to select plane, **Fig. 20**.

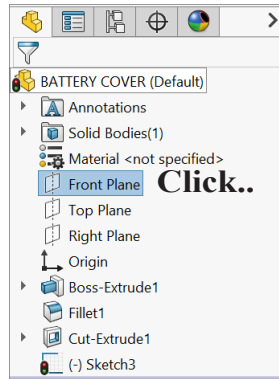


Fig. 20

Step 10. **Ctrl click top circle**, **Fig. 21**.

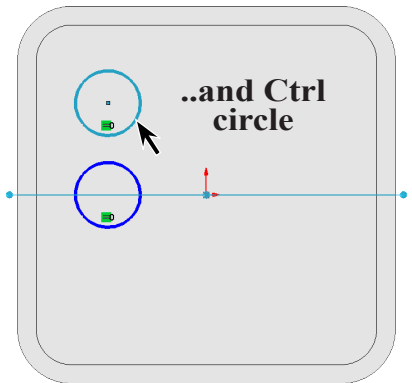


Fig. 21

Step 11. Click **Mirror Entities**  on the Sketch toolbar.

Step 12. Click **Smart Dimension**  (S) on the Sketch toolbar.

Step 13. Add dimensions, **Fig. 22**.

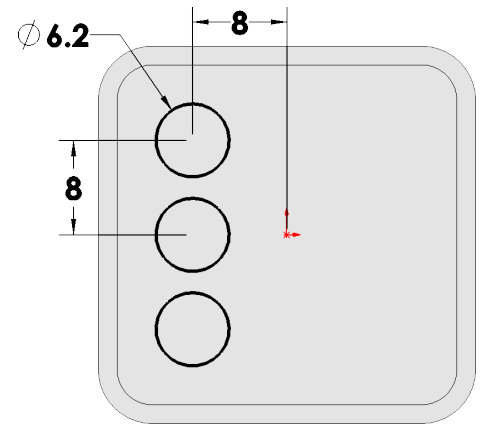


Fig. 22

Step 14. Click **Linear Sketch Pattern**  on the Sketch toolbar.

Step 15. In the Linear Pattern Property Manager set:

under Entities to Pattern, **Fig. 23**

click in  box

click the **3 circles**, **Fig. 24**

under Direction 1

Direction **X-axis**

Spacing 

uncheck **Dimension X spacing**

Number of Instances 

uncheck **Display instance count**

click OK .

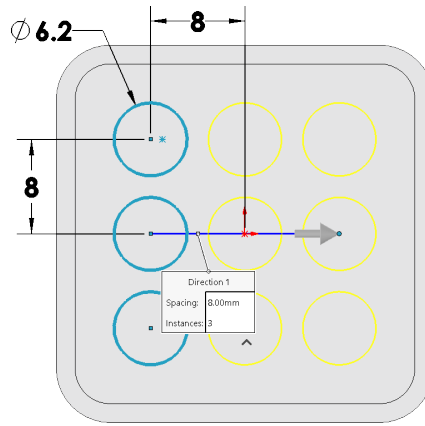


Fig. 24

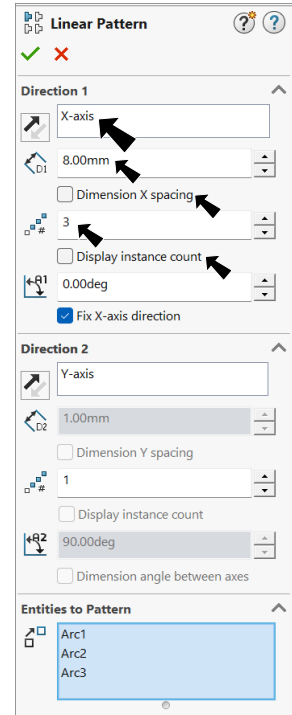

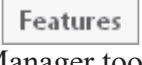


Fig. 23

Step 16. Use **Previous View**  on the Standard Views toolbar. (**Ctrl-Shift-Z**) to return to previous rotate view.

Step 17. Click **Features**  on the Command Manager toolbar.

Step 18. Click **Extruded Boss/Base**  on the Features toolbar.

Step 19. In the Boss-Extrude Property Manager set:

under Direction 1, **Fig. 25**

End Condition **Through All**

click OK .

Step 20. Save  (**Ctrl-S**).

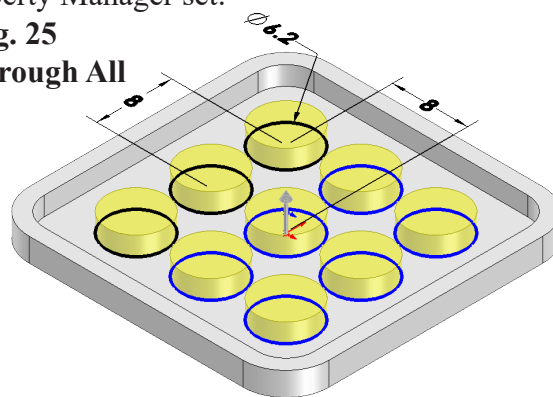


Fig. 26

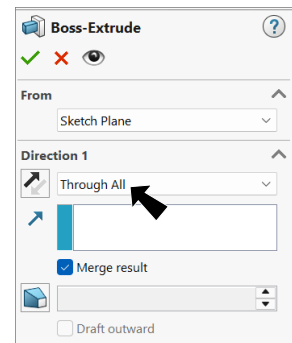



Fig. 25

F. Fillets2.

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

Step 2. In the Fillet Property Manager set:
select **FilletXpert**, **Fig. 27**

② **Radius**  **.4**

click a **top edge of stud**, **Fig. 28**

click **Internal to feature**  **8 edges** on the Fillet pop-up

click **OK** .

Step 3. Save  (**Ctrl-S**).

Radius .4

②

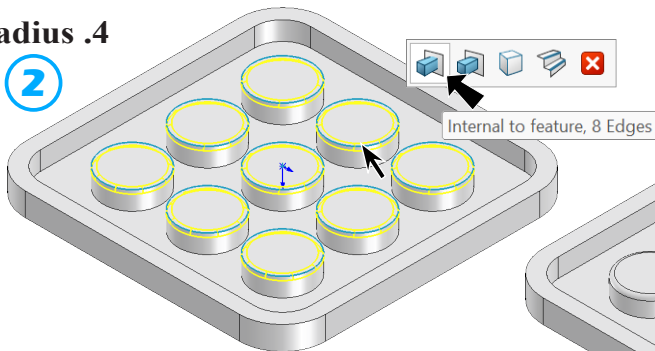


Fig. 28

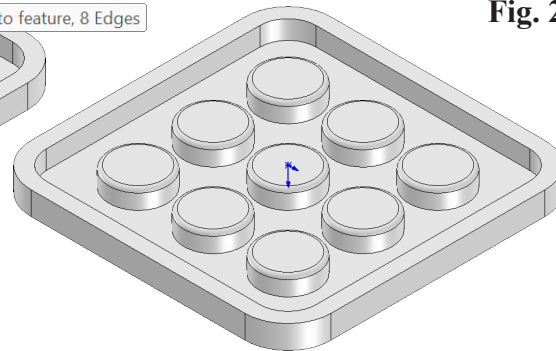


Fig. 29

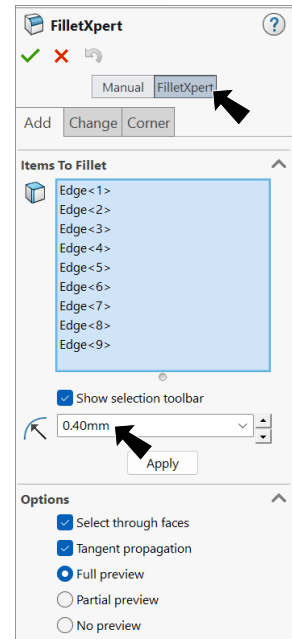




Fig. 27

G. Appearance: White Plastic.

Step 1. Click the Battery Cover to select part, click **Appearances Callout**  on the context toolbar and click **Battery Cover** , Fig. 30.

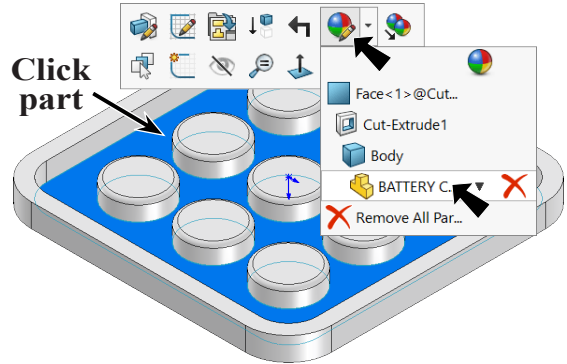


Fig. 30

Step 2. In the Appearances Task pane, expand **Plastic**, click **Medium Gloss** and in the lower pane select **white medium gloss plastic**, Fig. 31.

Step 3. In the Appearances Property Manager click OK .

Step 4. Save  (Ctrl-S).

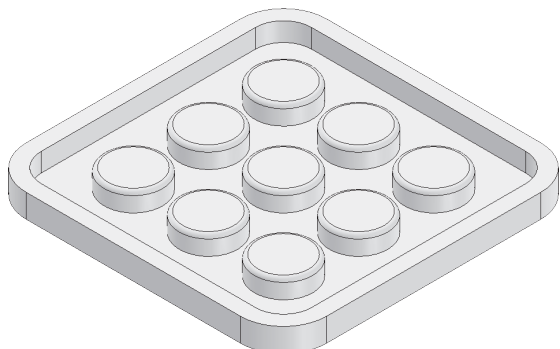


Fig. 33

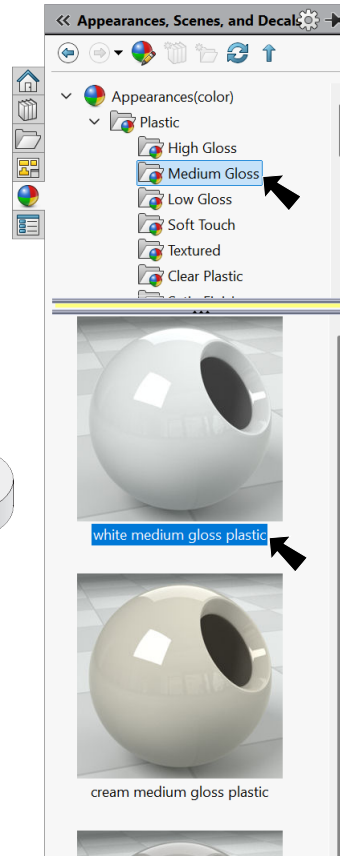


Fig. 31

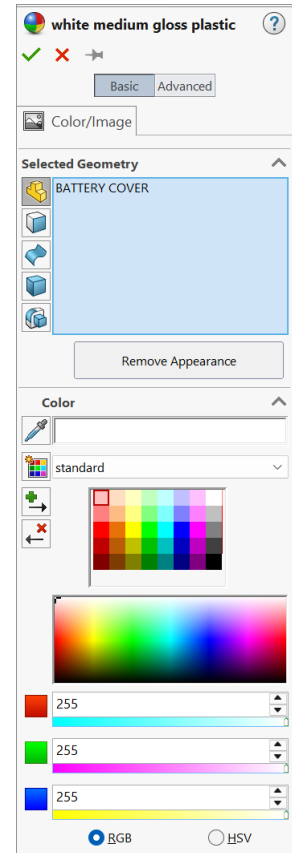


Fig. 32