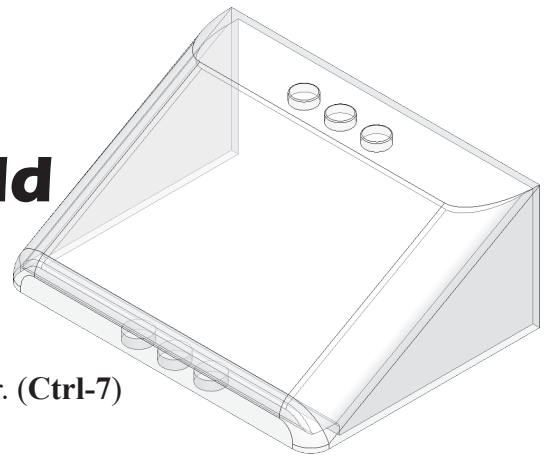


E's Small Car Windshield

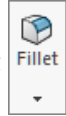


A. Fillet 1.



Step 1. Open your **Windshield** part file.

Step 2. Click **Isometric**  on the Standard Views toolbar. (**Ctrl-7**)

Step 3. Click **Features**  on the Command Manager toolbar.

Step 4. Click **Fillet**  on the Features toolbar.

Step 5. In the Fillet Property Manager set:
select **FilletXpert**, **Fig. 1**

- ① **Radius**  **4**
click **front edges (1)**,
Fig. 2
- click **OK** .

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

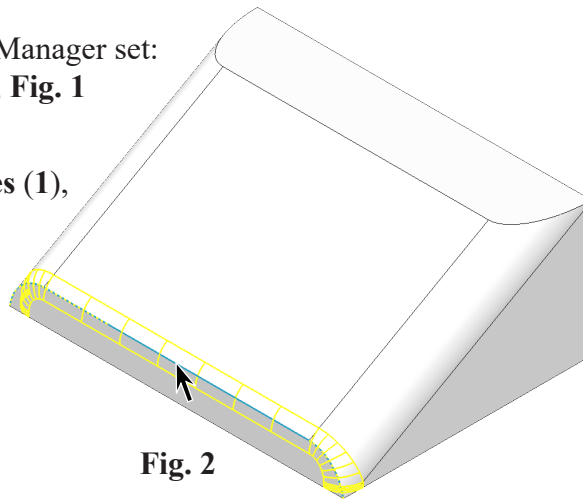


Fig. 2

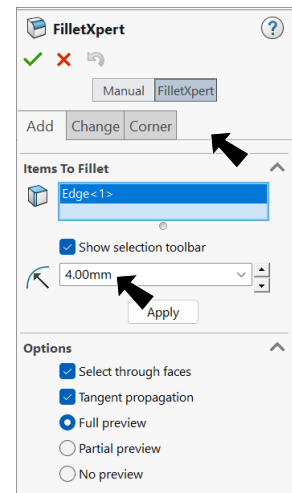


Fig. 1

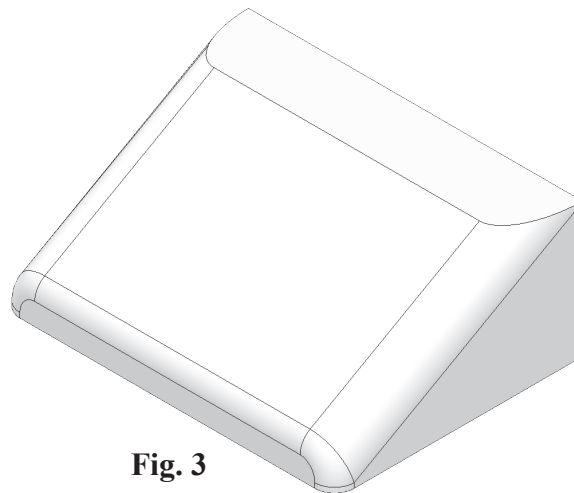



Fig. 3

B. Extrude1 Sketch1.

Step 1. Click **Right Plane**  in the Feature Manager and click **Sketch**



on the context toolbar, **Fig. 4**.

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

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

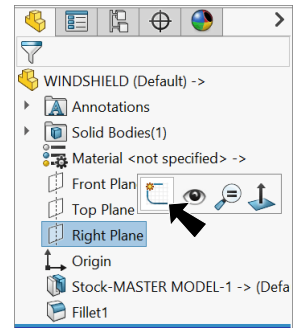


Fig. 4

Step 4. Sketch **rectangle coincident bottom front vertex**, **Fig. 5**.

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

Step 6. Add dimensions, **Fig. 6**.

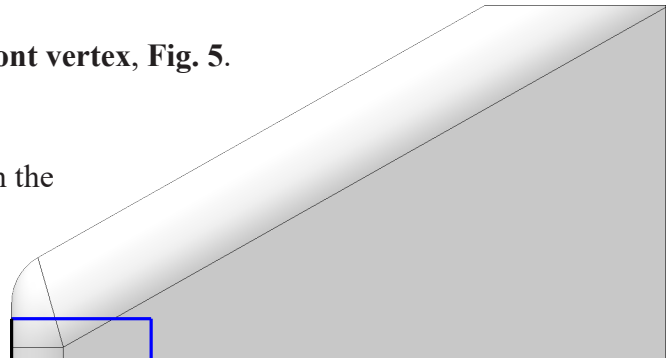

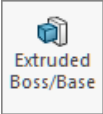


Fig. 5

Step 7. Rotate view to bottom, **Fig. 8**. To rotate view, click **Isometric**  on the Standard Views toolbar. (**Ctrl-7**), then **Shift click Z**

axis of Reference Triad  **twice.**

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

Step 9. Click **Extruded Boss/Base**  on the Features toolbar.

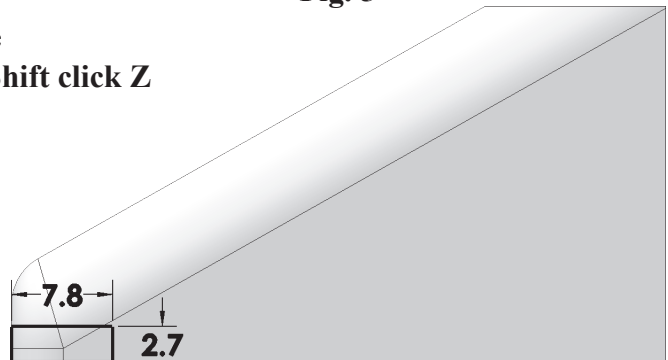


Fig. 6

Step 10. In the Boss-Extrude Property Manager set:

under Direction 1, **Fig. 7**

End Condition **Up To Next**

under Direction 2

End Condition **Up To Next**

click **OK** .

Step 11. Save  (**Ctrl-S**).

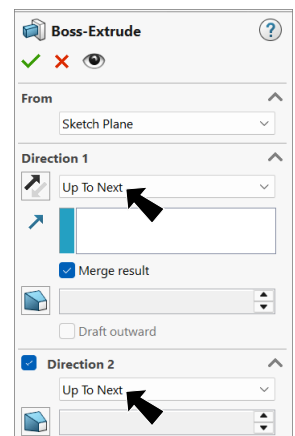


Fig. 7

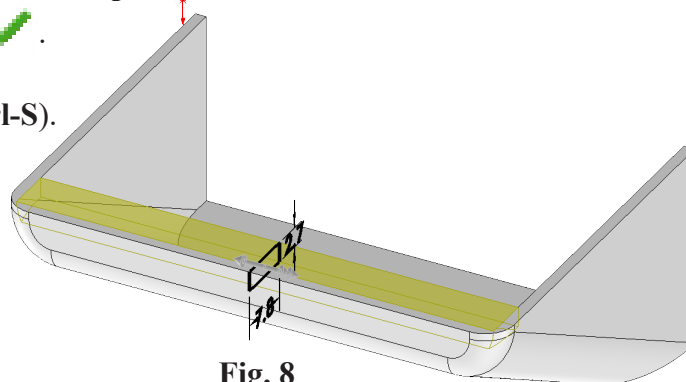


Fig. 8


C. Extruded Cut 1 Sketch 2 Stud Holes.

Step 1. Click the **top face** and click **Sketch**


 on the context toolbar, **Fig. 9**.


Step 2. Click **Circle**  (S) on the Sketch toolbar.

Step 3. Sketch **circle**, **Fig. 10**.

Step 4. **Unselect Circle tool**. To unselect, right click graphics area and click **Select**  from menu.

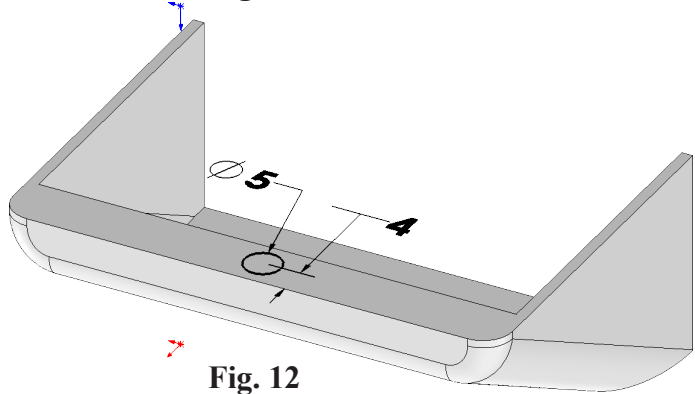
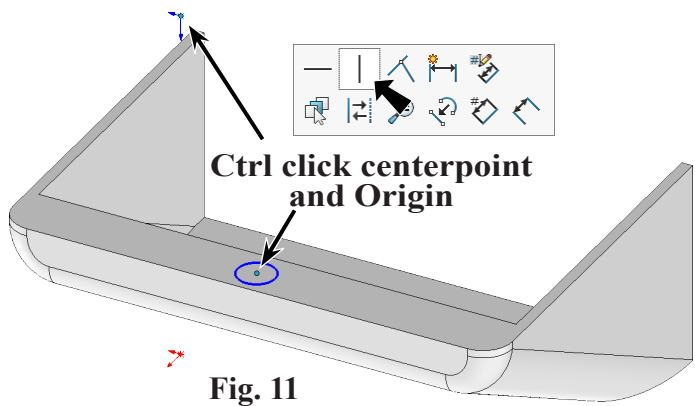
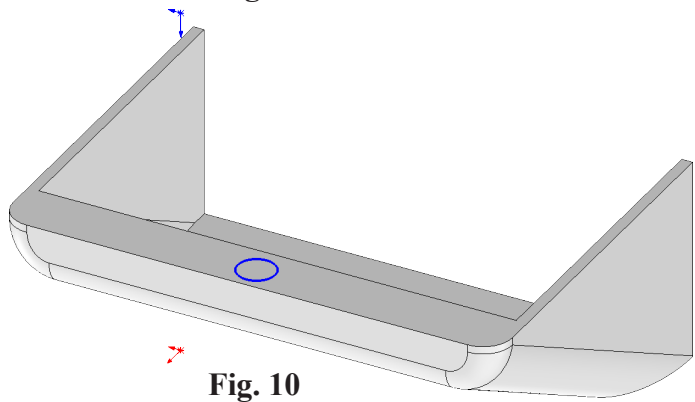
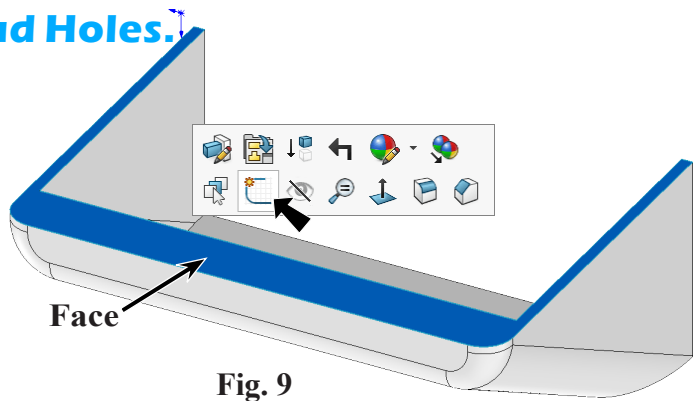
Step 5. **Ctrl click centerpoint of circle and**

Origin (blue)  to select both. Release Ctrl key and click **Make**

Vertical  on the context toolbar, **Fig. 11**.



Step 6. Click **Smart Dimension**  (S) on the Sketch toolbar.

Step 7. Add dimensions, **Fig. 12**.



Step 8. Click **Offset Entities**  on the Sketch toolbar.

Step 9. In the Offset Entities Property Manager set:
under Parameters, Fig. 13

- Distance**  **.2 (clearance for stud)**
- uncheck **Reverse**
- uncheck **Bi-directional**
- under Construction geometry
- check **Base geometry**
- click **circle**, Fig. 15
- yellow offset circle on outside - base geometry (construction) on inside**
- click OK .

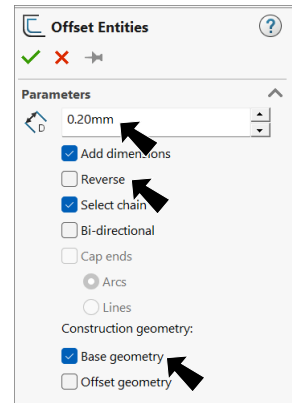


Fig. 13

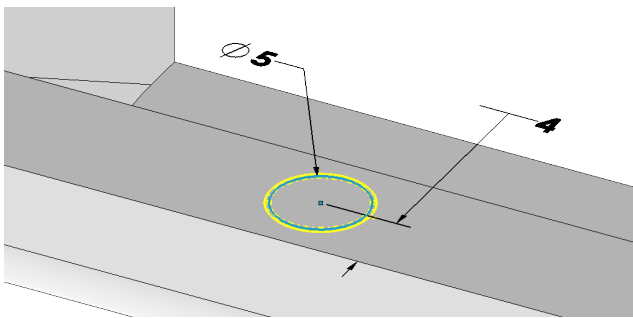


Fig. 14

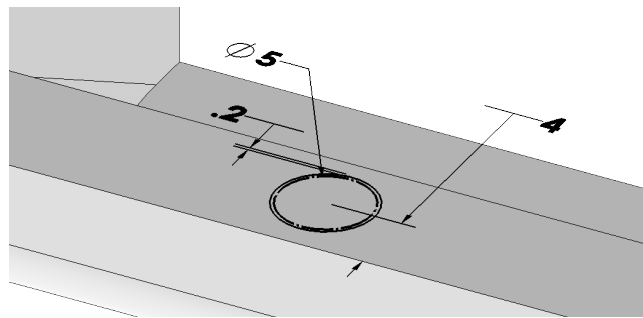
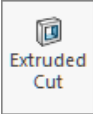


Fig. 15

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

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

Step 12. In Cut-Extrude Property Manager set:
under Direction 1, Fig. 16

End Condition **Blind**

Depth  **2**

click OK .

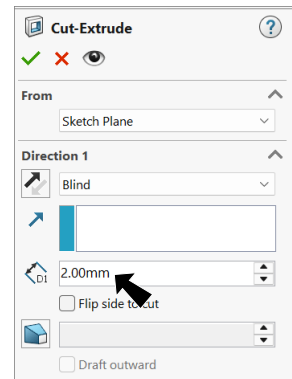


Fig. 16

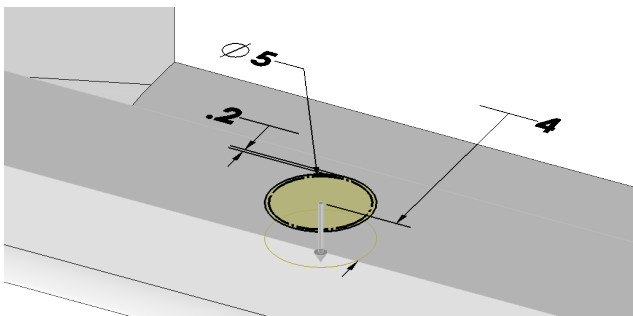


Fig. 17

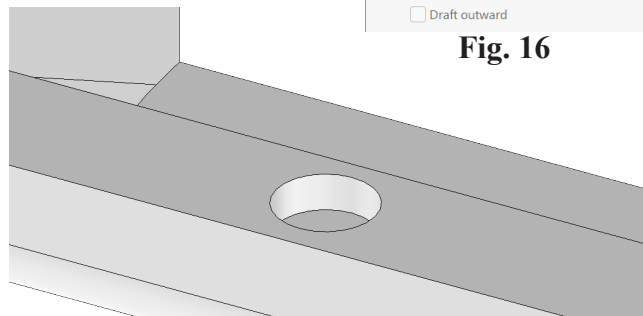


Fig. 18

Step 13. Save  (Ctrl-S).

D. Linear Pattern1 Stud Holes.

Step 1. Click **Linear Pattern**  on the Features toolbar.

Step 2. In the Linear Pattern Property Manager set:

under Direction 1, **Fig. 19**

click a **front edge**, **Fig. 20**

Spacing  **8**

Number of Instances  **2**

under Direction 2

check **Symmetric**

under Features and Faces

click in  box

click **Cut-Extrude1**

click OK .

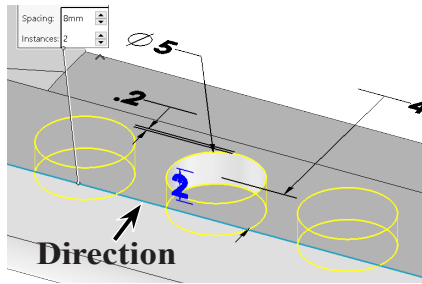


Fig. 20

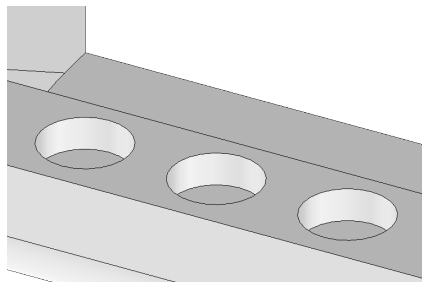


Fig. 21

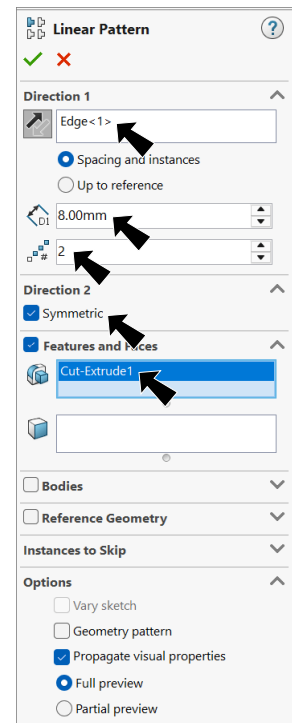


Fig. 19


E. Extrude2 Sketch3 Stud.

Step 1. Click **Isometric**  on the Standard Views toolbar. (Ctrl-7)

Step 2. Click the **top face** and click **Sketch**  on the context toolbar, **Fig. 22**.

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

Step 4. Sketch **circle on top face**, **Fig. 23**.

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

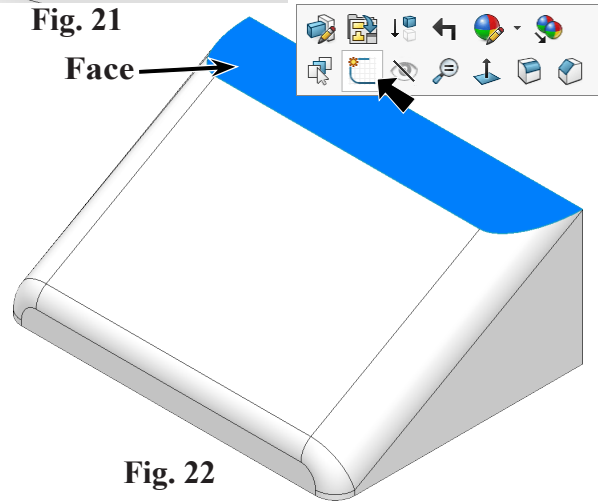


Fig. 22

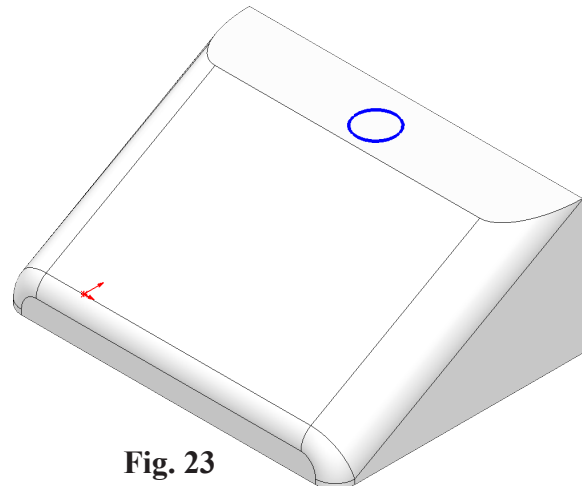




Fig. 23

Step 6. **Ctrl click centerpoint of circle and Origin**

(blue)  to select both. Release Ctrl key and click **Make Vertical**  on the context toolbar, **Fig. 24**.

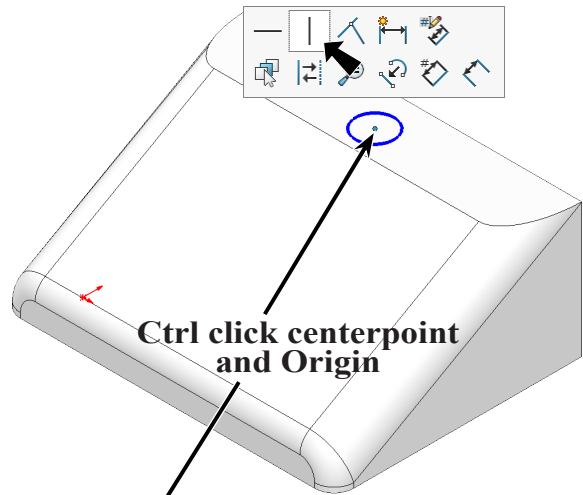
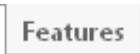
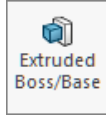


Fig. 24

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

Step 8. Add dimensions, **Fig. 25**.

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. 26**
End Condition **Blind**

Depth  **1.8**
click OK .

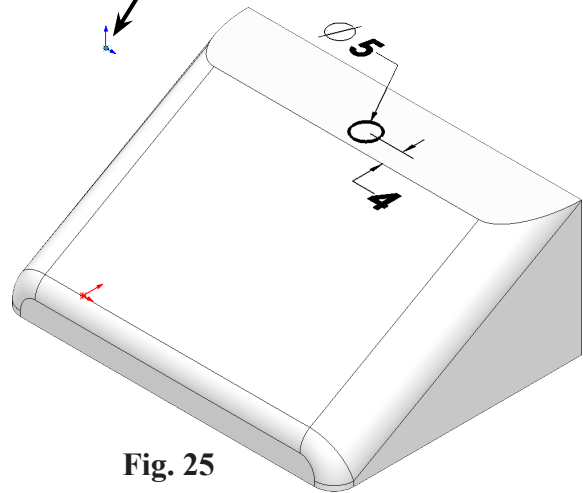


Fig. 25

Step 12. Save  (Ctrl-S).

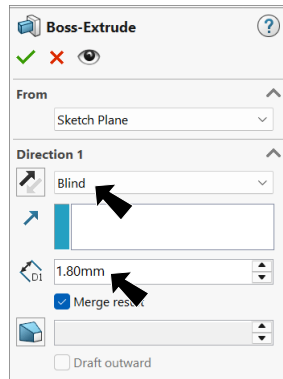


Fig. 26

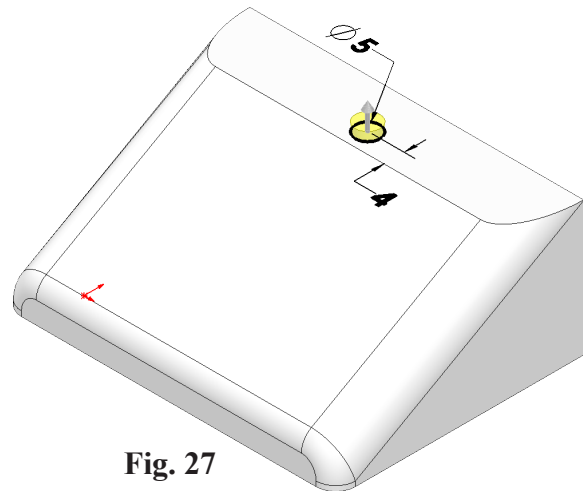


Fig. 27

F. Linear Pattern2 Studs.

Step 1. Click **Linear Pattern**  on the Features toolbar.

Step 2. In the Linear Pattern Property Manager set:

under Direction 1, **Fig. 28**

click **rear edge**, **Fig. 29**

Spacing  **8**

Number of Instances  **2**

under Direction 2

check **Symmetric**

under Features and Faces

click in  box

click **Extrude2**

click OK .

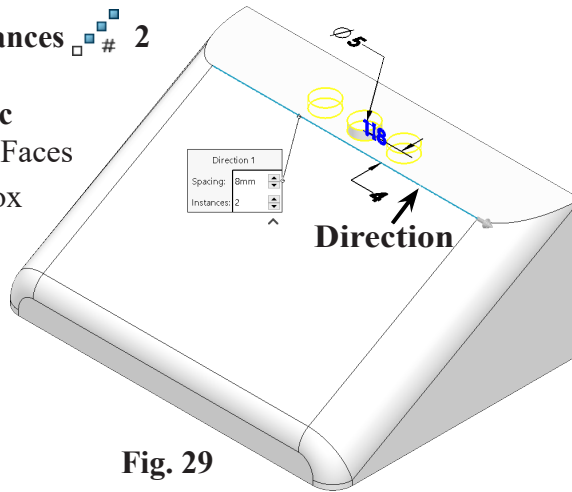


Fig. 29

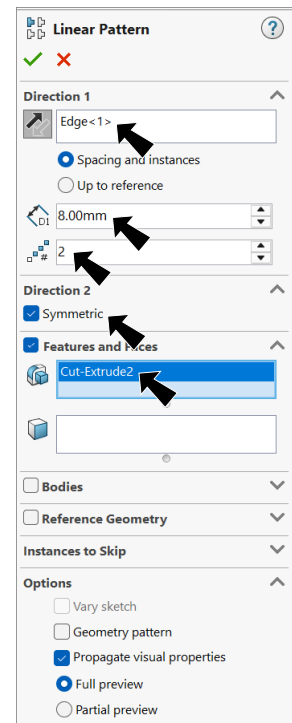


Fig. 28

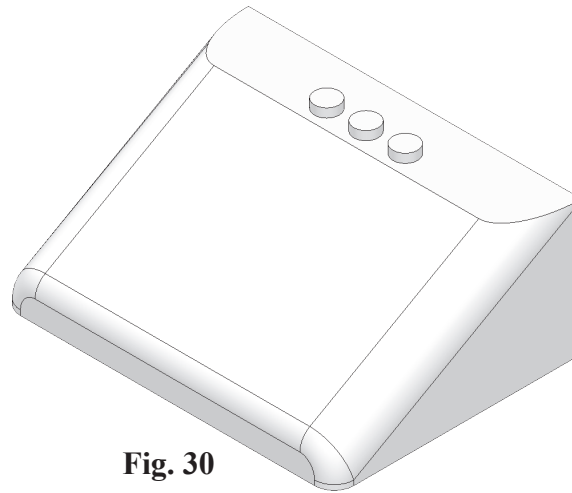



Fig. 30

G. Fillets 2-3.

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

Step 2. In the Fillet Property Manager set:
select **FilletXpert**, **Fig. 31**

- ① **Radius**  **.2**
click **circular edge of studs (3)**, **Fig. 32**
click **Apply**

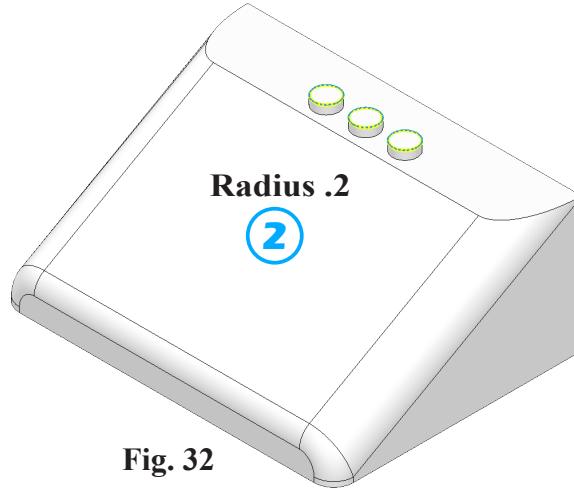


Fig. 32

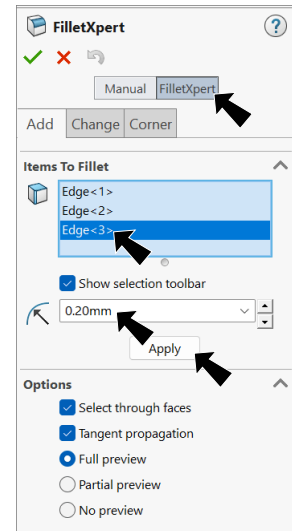






Fig. 31

Click **Back**  on the Standard Views toolbar. (**Ctrl-2**) and **Down Arrow key** 
and **Left Arrow key** .

- ② **Radius**  **1**
click **forward edges of Extrude1 at body and top rear edge of Extrude1(3)**, **Fig. 33**
click **OK** .

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

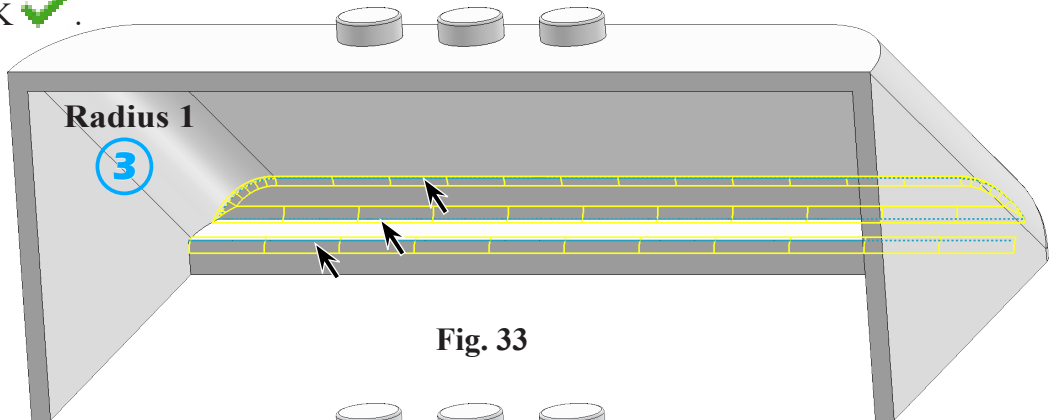


Fig. 33

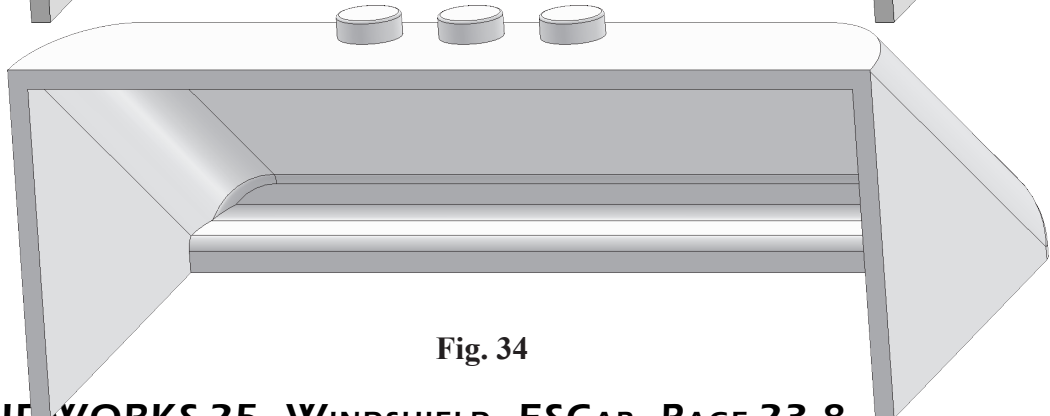




Fig. 34

H. Appearance : Clear Translucent Plastic.

Step 1. Click **Isometric**  on the Standard Views toolbar. (Ctrl-7)

Step 2. Click the Windshield to select part, click **Appearances Callout**  on the context toolbar and click **Windshield** , Fig. 35.

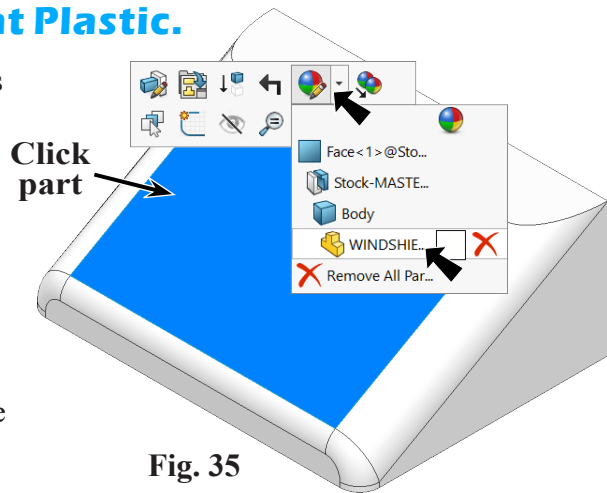



Fig. 35

Step 3. In the Appearances Task pane, expand **Plastic**, click **Clear Plastic** and in the lower pane select **translucent plastic**, Fig. 36.

Step 4. In the Appearances Property Manager click OK .

Step 5. Save  (Ctrl-S).

Tip: If necessary turn on **Enable selection through transparency**. To enable, click **Options**  on the Standard toolbar. Under System Options, Selection, check **Enable selection through transparency**.

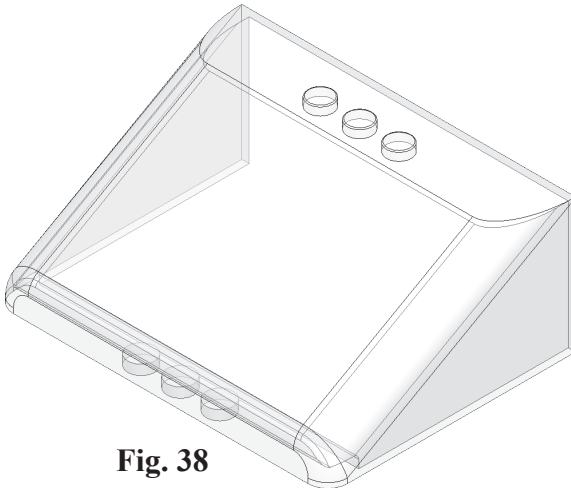


Fig. 38

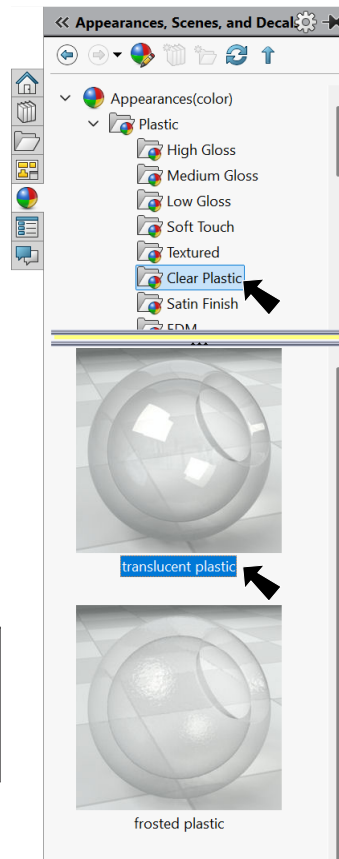


Fig. 36

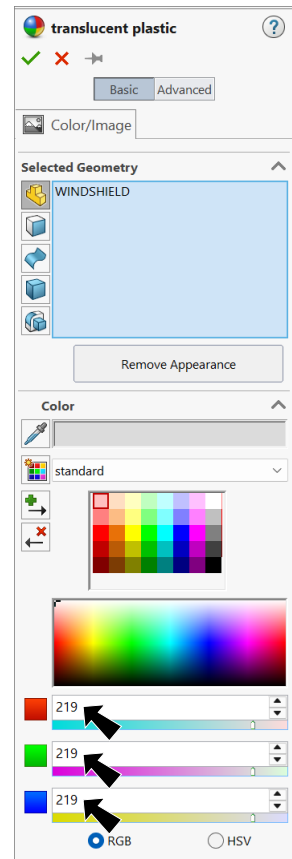


Fig. 37