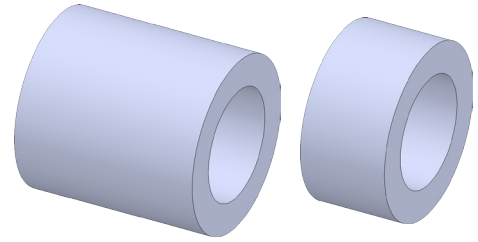




CO2 Shell Car Spacers




A. Spacer.

Step 1. Click File Menu > New, click **Part Metric** and OK.

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

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



Step 4. Sketch two circles starting at the Origin , **Fig. 2**.

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

Step 6. Dimension circle **diameters 3.2 and 5**, **Fig. 2**.

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 set:
under Direction 1, **Fig. 3**
End Condition **Mid Plane**
Depth  **5.3**
click OK .

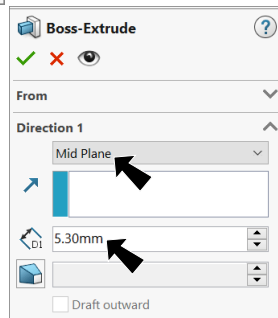


Fig. 3

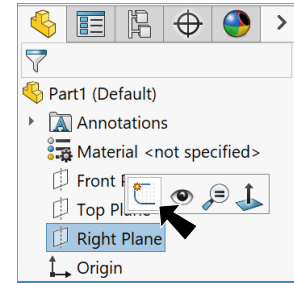


Fig. 1

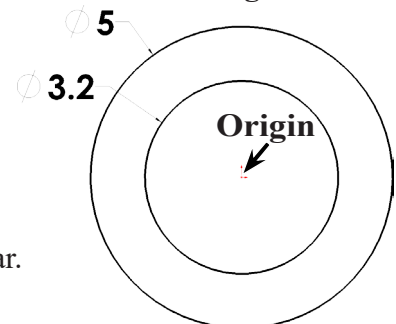


Fig. 2

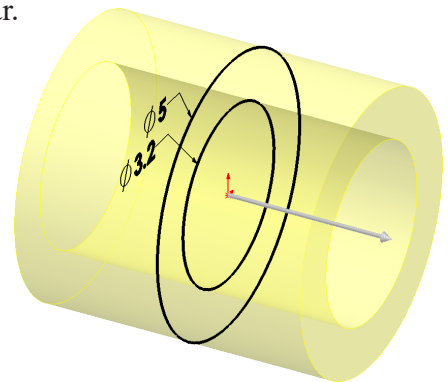


Fig. 4

B. Save as "FRONT SPACER".

Step 1. Click File Menu > Save As.

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

C. Mate References.

Step 1. Click **Right Plane**  in the Feature Manager to select Plane, **Fig. 5**.

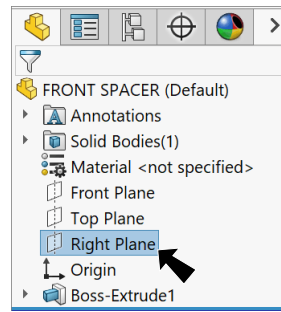


Fig. 5

Step 2. Click **Reference Geometry**  on the Features toolbar and **Plane** from the menu.

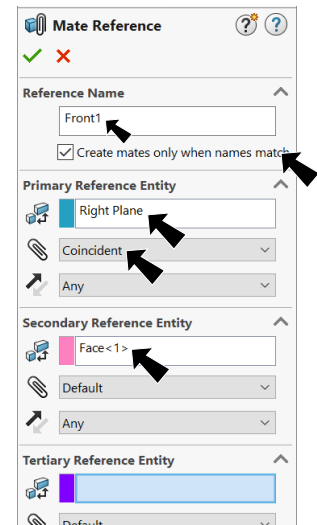


Fig. 6

Step 3. In the Mate Reference Manager:
 under **Reference Name**, **Fig. 9**
 key-in **Front1**
 check **Create mates only when names match**
 under **Primary Reference Entity**

Mate Reference Type  **Coincident**
 under **Secondary Reference Entity**

click in Entity box 

and click a **cylindrical face**, **Fig. 7**

click OK .

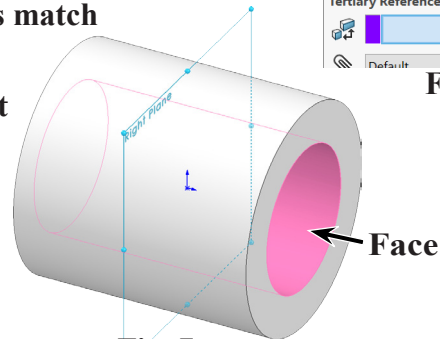



Fig. 7

D. Material Nylon.

Step 1. **Right click** **Material**  in the Feature Manager and click **Edit Material**, **Fig. 8**.

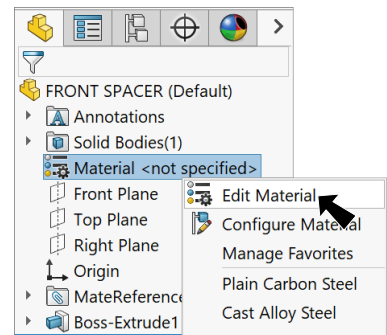


Fig. 8

Step 2. Expand **Plastics** in the material tree and select **Nylon 101**, **Fig. 9**. Click **Apply** and **Close**.

E. Save as "REAR SPACER".

Step 1. Save.

Use **Ctrl-S**  to save **FRONT SPACER**.

Step 2. Click **File Menu > Save As**.

Step 3. Key-in **REAR SPACER** for the filename.
 You now have two spacers files, **FRONT** and **REAR**.
 Next, we change **Mate** name and length of **REAR SPACER**.

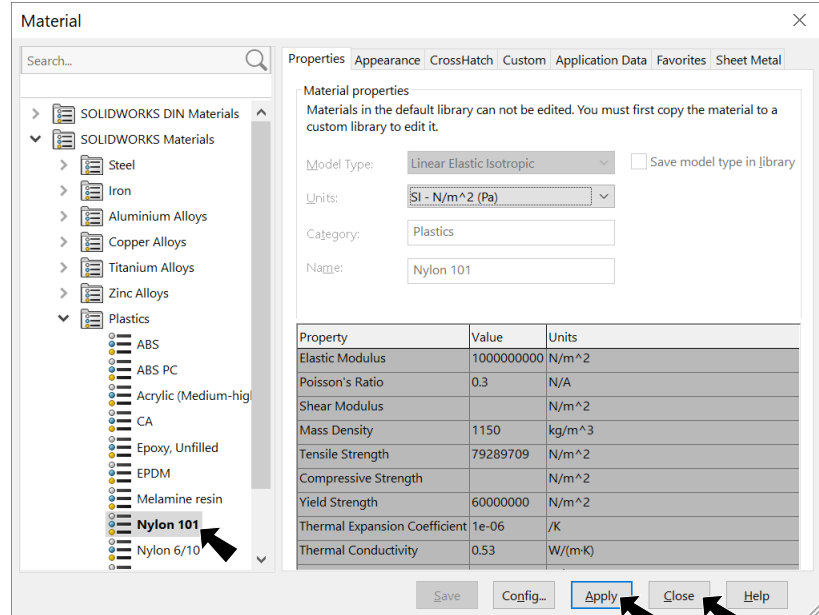


Fig. 9

F. Edit Mate Reference.

Step 1. Expand **MateReferences** in the Feature Manager, **right click Front1** and click **Edit Definition** in the context toolbar, **Fig. 10**.

Step 2. In the Mate Reference Manager set: under Reference Name, key-in **Rear1** click OK.

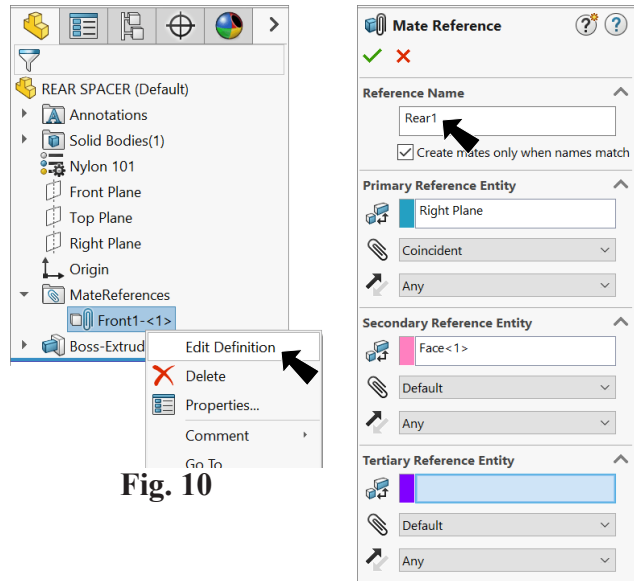


Fig. 10

Fig. 11

G. Change Extrude Depth.

Step 1. Click **Boss-Extrude1** in the Feature Manager and click **Edit Feature** on the context toolbar, **Fig. 12**.

Step 2. In the Boss-Extrude1 Property Manager set: under Direction 1, change **Depth** to **2.5** click OK.

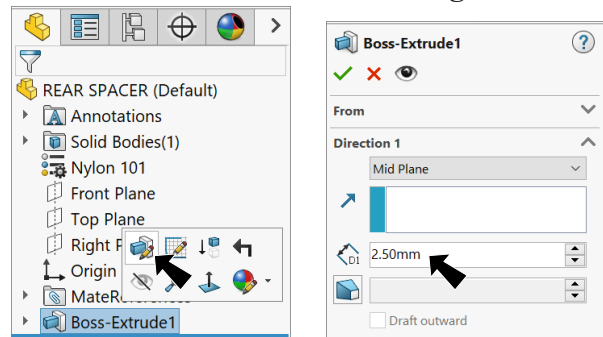
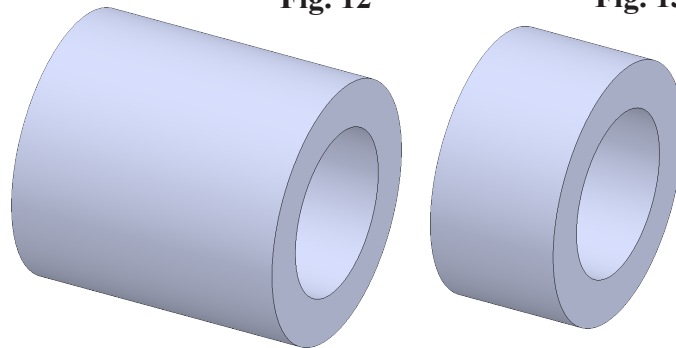


Fig. 12

Fig. 13

Step 3. Save (Ctrl-S).

You should have 2 spacers:
FRONT 5.3
REAR 2.5



Front 5.3 mm

Rear 2.5 mm

Fig. 12