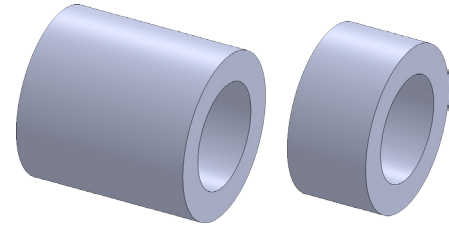






## CO2 Shell Car Spacers



### 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**.

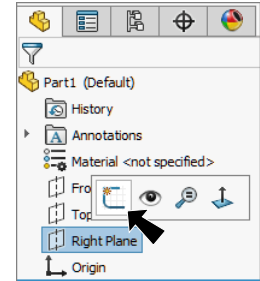


Fig. 1

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

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

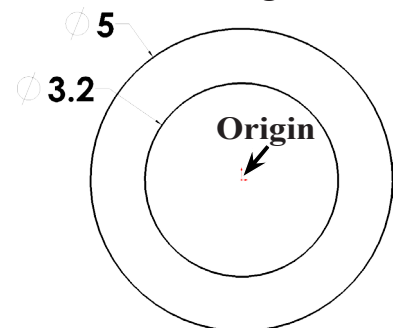
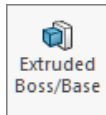




Fig. 2

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

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

Step 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 .

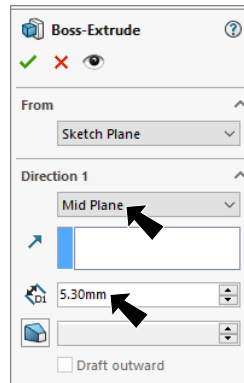


Fig. 3

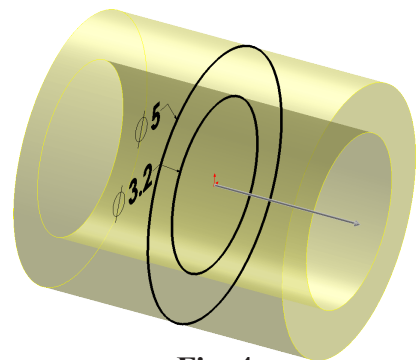


Fig. 4

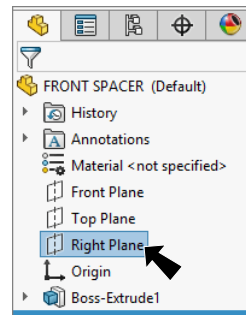
### B. Save as "FRONT SPACER".

Step 1. Click File Menu > Save As.

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

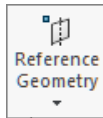
### C. Mate References.

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.



Step 3. In the Mate Reference Manager:  
under **Primary Reference Entity**, **Fig. 6**

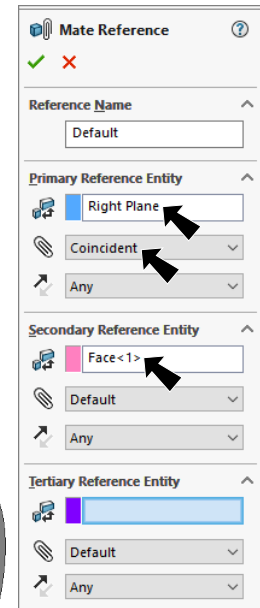
**Mate Reference Type** **Coincident**

under **Secondary Reference Entity**

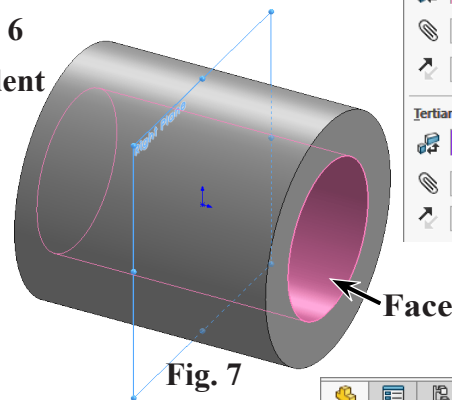
click in Entity box

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

click OK.



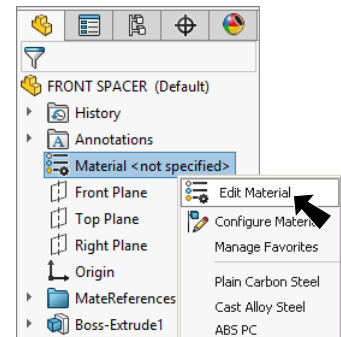
**Fig. 6**



**Fig. 7**

### D. Material Nylon.

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



**Fig. 8**

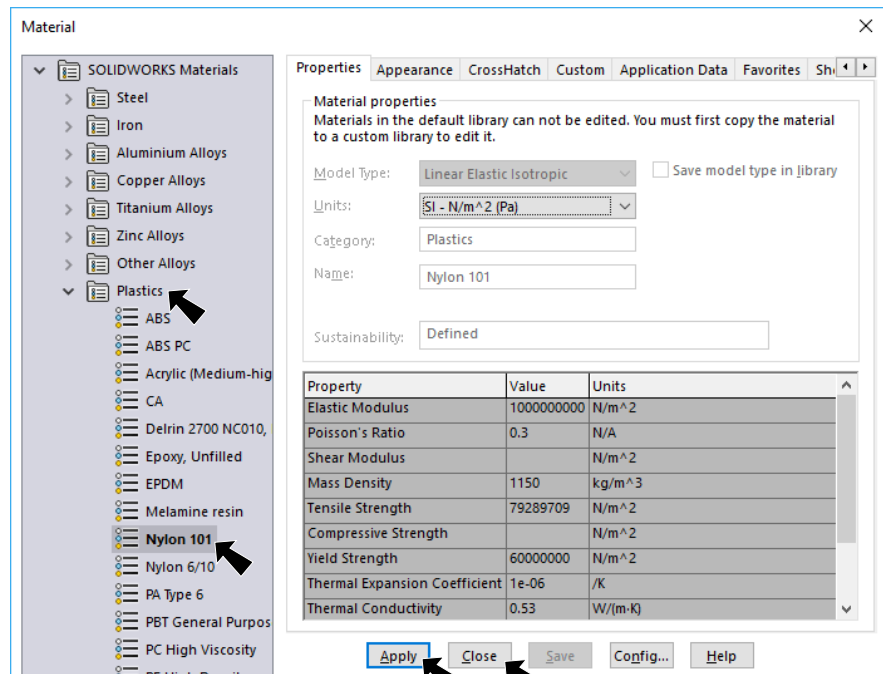
Step 2. Expand **Plastics** in the material tree and select **Nylon 101**, **Fig. 9**. Click **Apply** and **Close**.

### 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 length of **REAR SPACER**.



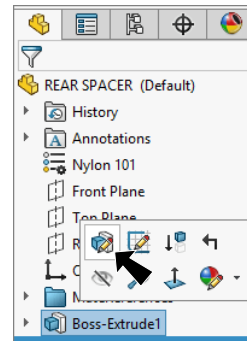
**Fig. 9**

## F. Change Extrude Depth.

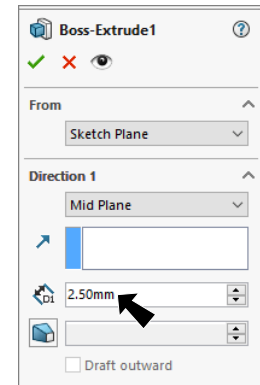
Step 1. Click **Boss-Extrude1** in the Feature Manager and click **Edit Feature**  on the context toolbar, **Fig. 10**.

Step 2. In the Boss-Extrude1 Property Manager set: under Direction 1, **Fig. 11**

change **Depth**  to **2.5**  
click OK  .



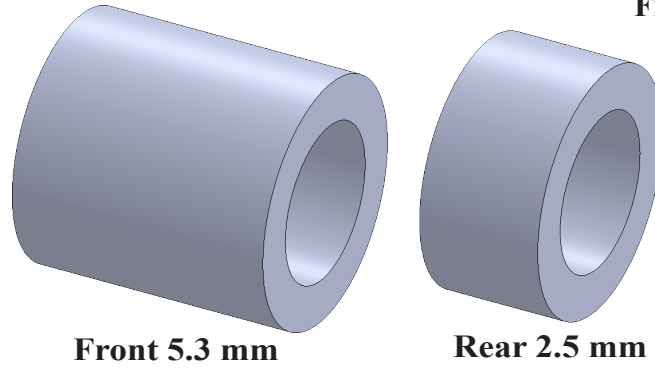
**Fig. 10**



**Fig. 11**

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

You should have 2 spacers:  
**FRONT 5.3**  
**REAR 2.5**



**Fig. 12**