

Computer Aided Design – Module 2

Lesson ? – Toblerone Bar



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New Commands used: Polygon, Add Relations, Smart Dimension, Extrude Boss/Base (Mid Plane), Fillet, Line, Extrude-Cut, Linear Pattern & Edit Color.

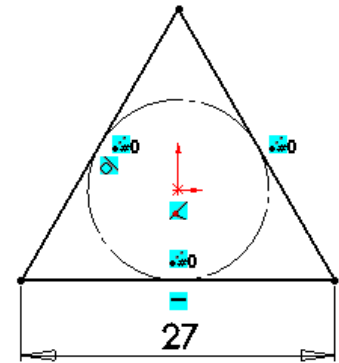
Approach:

Create Sketch

Create the sketch shown on the right plane.

Select **Polygon** from the sketch toolbar.

- Choose **3** as the **Number of sides**.
- Select the origin as the centre of the inscribed circle.



Add Relation

Add a **Horizontal Relation** to the base.

Smart Dimension

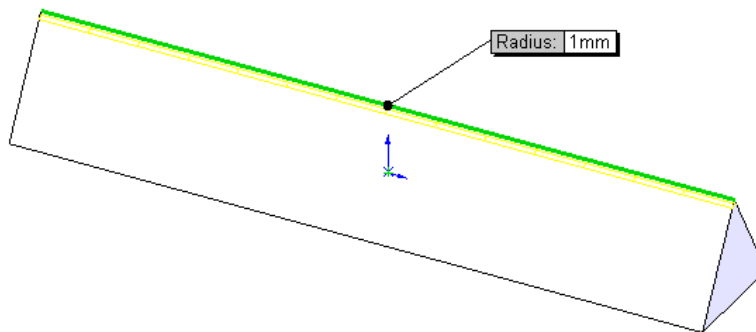
Fully Define the sketch using only the dimension displayed.

Extruded Boss/Base

Extrude the sketch using a **Mid Plane End Condition** of **depth** 155mm.

Fillet

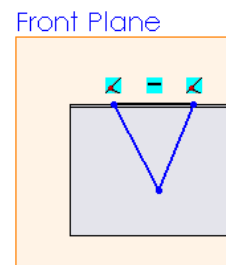
Apply a 1mm **Fillet** to the top edge as shown.



Adding the Notches

Sketch on the Front Plane

Using the **Line** command, create the sketch on the front plane of the triangle (shown across). All relations are **Automatic Relations**.

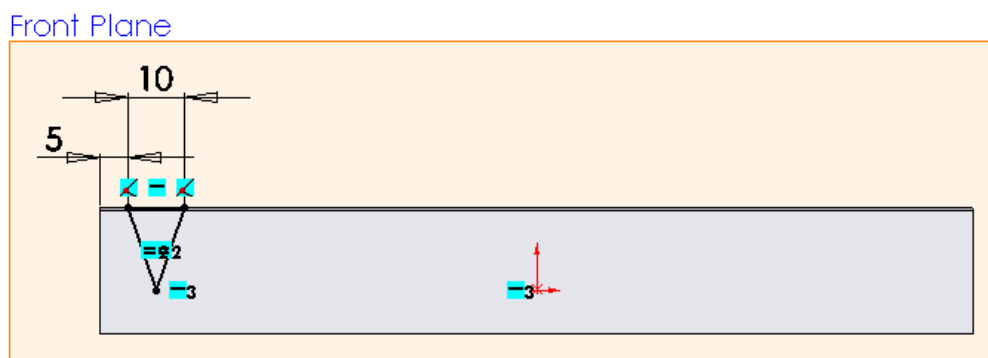


Add Relation (below)

Add an **Equal Relation** to the two inclined sides.
Add a **Horizontal Relation** between the origin and the lower vertex of the triangle.

Smart Dimension

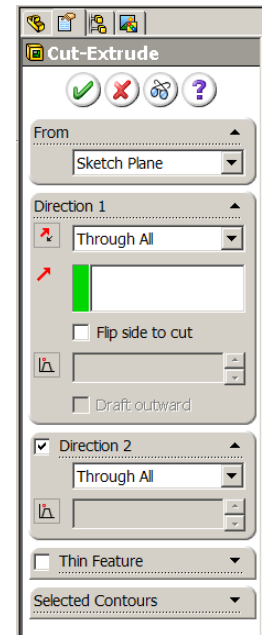
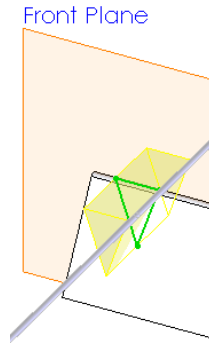
Fully Define the sketch using the dimensions displayed.



Extruded-Cut

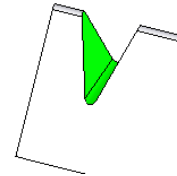
Extrude the sketch using **Extrude-Cut**.

- Extrude in **Direction 1** using a **Through All End Condition**.
- Extrude in **Direction 2** using a **Through All End Condition**.



Fillet

Apply a 1mm **Fillet** to the edge of the notch as shown.



Linear Pattern

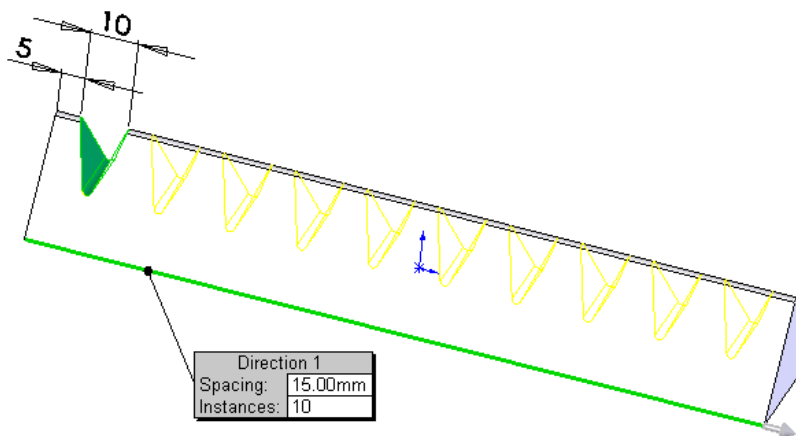
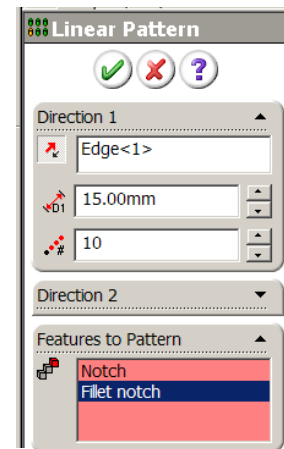
Select **Linear Pattern** from the **Features** toolbar.

- Select the linear edge of the base as **Direction 1**.
- Input a **Spacing** of 15mm.
- Input **10** as the **Number of Instances**.

Click in the **Features to Pattern** window.

Expand the **Feature Manager Design Tree**.

- Select the **Notch** and the **Fillet notch** as the **Features to Pattern**.



Edit Color

Choose a suitable colour from the **Edit Color** palette.