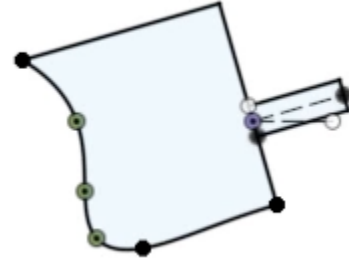


## Add sketch Canvas images

In this module, you'll create a sketch for an appropriately sized component.

### Learning objectives:

- Use Canvas.
- Calibrate a canvas image.
- Create a sketch spline.



The completed exercise

1. Open a new untitled design in Fusion 360, then upload the supplied *saw\_image.png* file to your Data Panel. Click Insert> Canvas.



Figure 1. Open the Canvas tool

2. Navigate to the *saw\_image* file and select it, then click the dialog's Insert.



Figure 2. Insert the image file

3. If the file is not uploaded to your Data Panel, you can click Insert from my computer and locate the file.

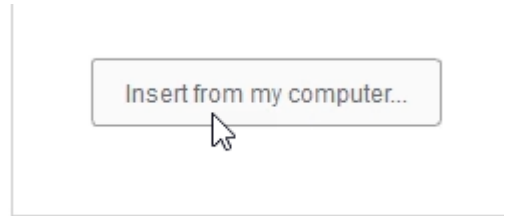


Figure 3. Insert the image file

4. Choose to place the image file onto the YZ plane.

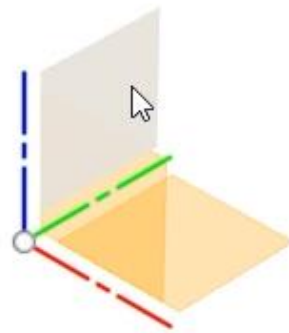


Figure 4. Choose the YZ plane

5. Make sure the image looks correct, then OK the Canvas dialog.

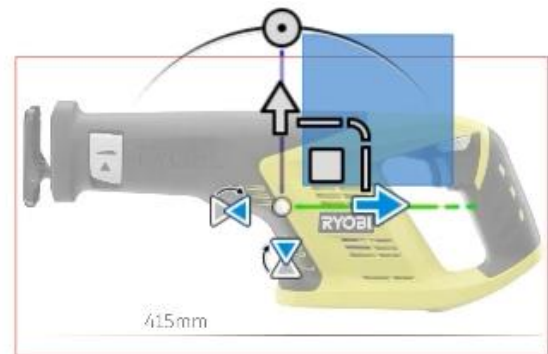


Figure 5. Inspect the image

- Expand the Canvases folder, right-click the saw\_image, then choose Calibrate from the menu.

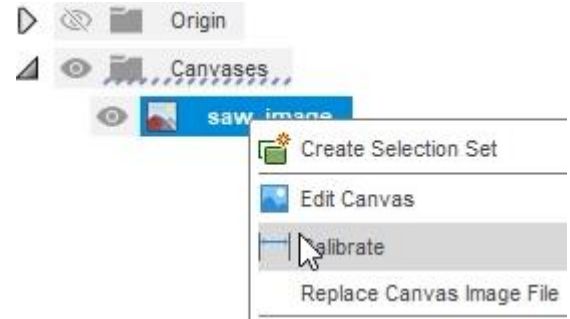


Figure 6. Open the Calibrate tool

- Click the image to place a point at either end of the 415 mm scale and notice that a measurement box appears.

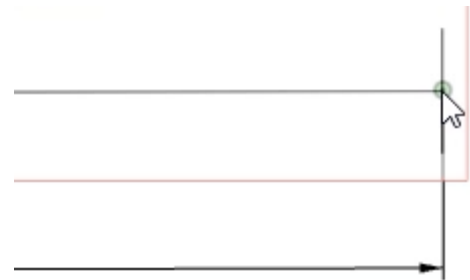


Figure 7. Place two measurement points

- Enter **415 mm** into the measurement box, then press Enter. After pressing Enter, the image is correctly scaled.

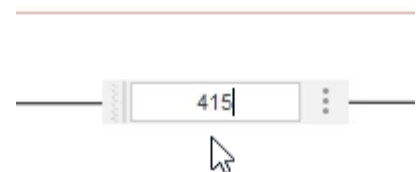


Figure 8. Enter the measurement into the box

9. To begin creating the trigger body, click Assemble > New Component.



Figure 9. Create a new component

10. Name the new component **Trigger**, then OK the dialog.

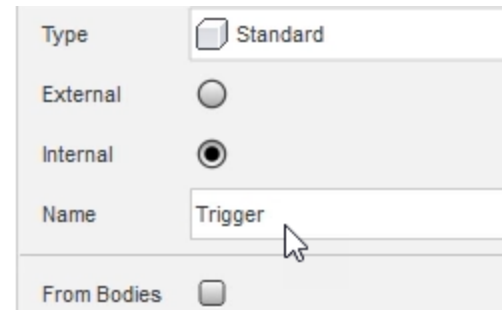


Figure 10. Name and create the component

11. Notice that the image's opacity changes because the Trigger component is activated. Right-click the saw\_image and choose Edit Canvas.

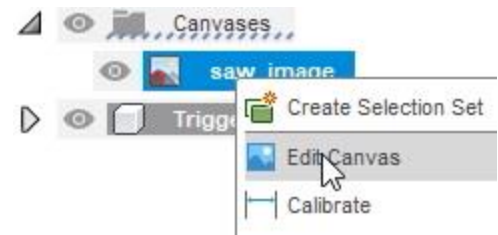


Figure 11. Edit the Canvas

12. Drag the Canvas opacity slider all the way to the right, then OK the dialog. Alternately, the image could be placed inside the Trigger component so that it's opacity is not reduced when the Trigger component is activated.

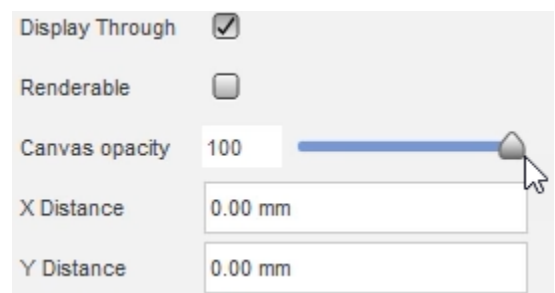


Figure 12. Increase the Canvas's opacity.

**13.** The Trigger component's origin needs to be moved closer to the trigger's location. Activate the Browser's top level by clicking the radio button next to it.

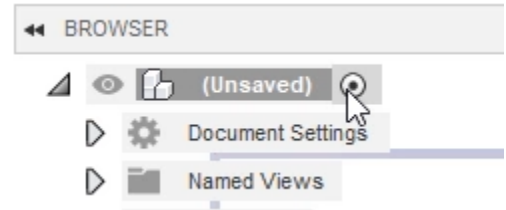


Figure 13. Activate the Browser's top level

**14.** Select the Trigger component.

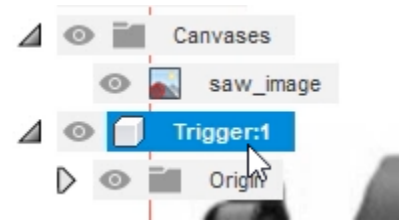


Figure 14. Select the component

**15.** Click Modify > Move/Copy.



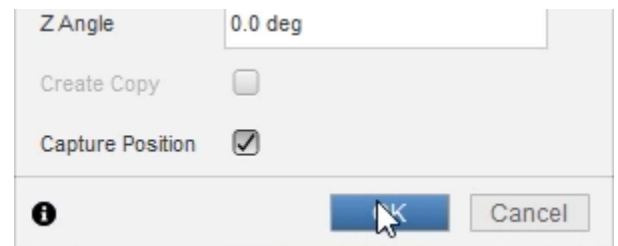
Figure 15. Open the Move/Copy tool

**16.** Click and drag the origin so that it is positioned near the back of the saw trigger.



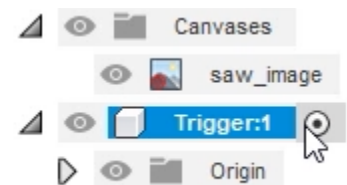
*Figure 16. Relocate the origin*

**17.** Activate the dialog's Capture Position option, then OK the dialog.



*Figure 17. Capture the origin's new position*

**18.** Activate the Trigger component by clicking the radio button next to it.



*Figure 18. Activate the Trigger component*

**19.** Create a new sketch on the YZ plane.

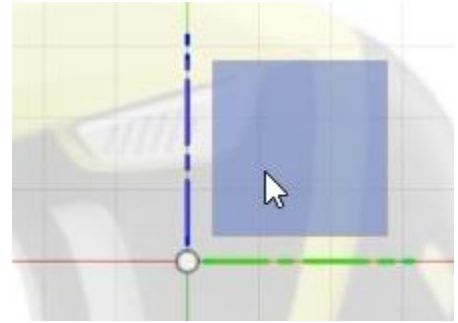


Figure 19. Create a sketch on the YZ plane

**20.** Press L to open the Line tool and draw a line representing the backside of the trigger. Click the green check mark to end the line.

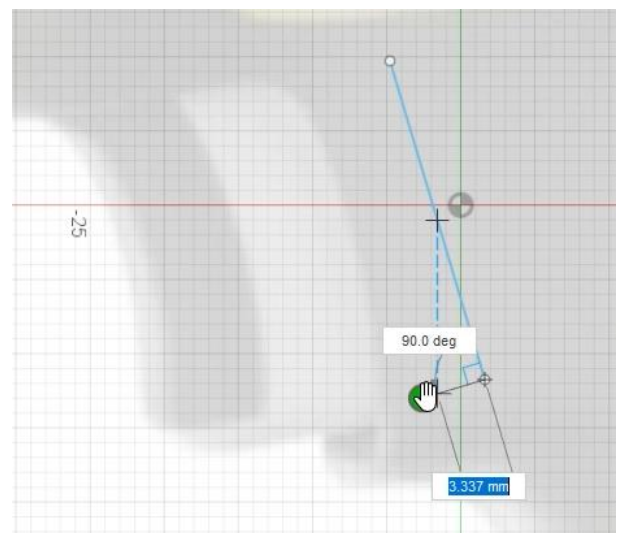


Figure 20. Draw a line

**21.** Click Constraints> MidPoint, then select the line you drew and the sketch's origin.

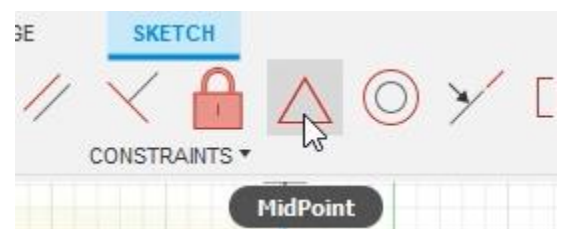
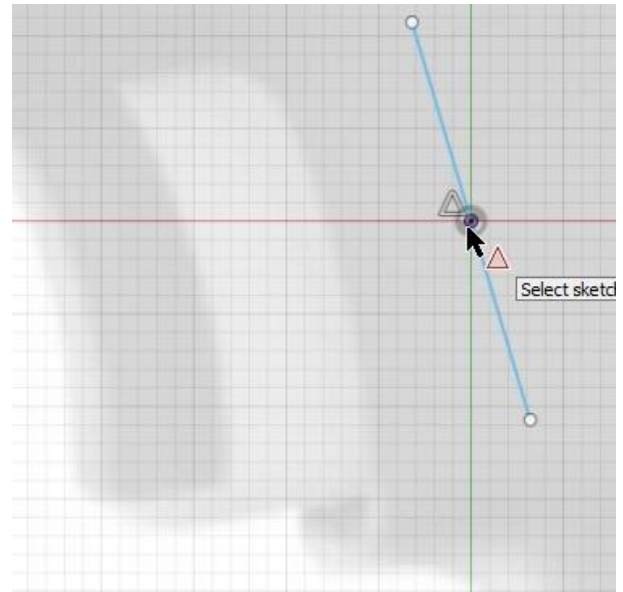


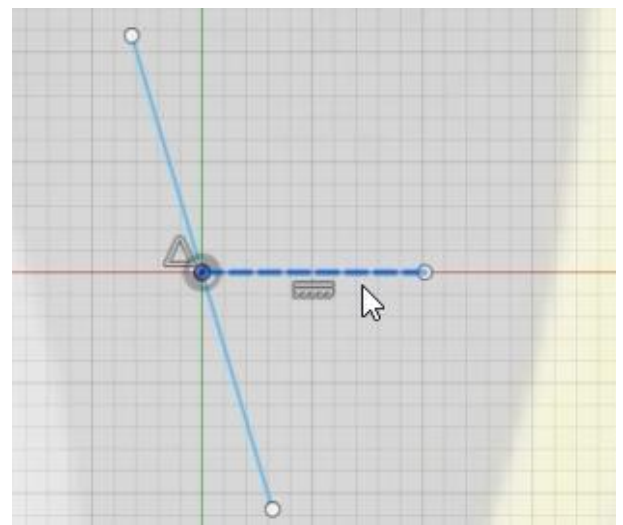
Figure 21. Open the MidPoint

**22.** The line's midpoint is now coincident with the sketch's origin.



*Figure 22. Inspect the result*

**23.** Open the Line tool and draw a horizontal line that begins at the origin. Select the line and press X to convert it to construction geometry.



*Figure 23. Draw a horizontal construction line*



24. Press D to open the Dimension tool and add a dimension of  $106^\circ$  between the line and the construction line.

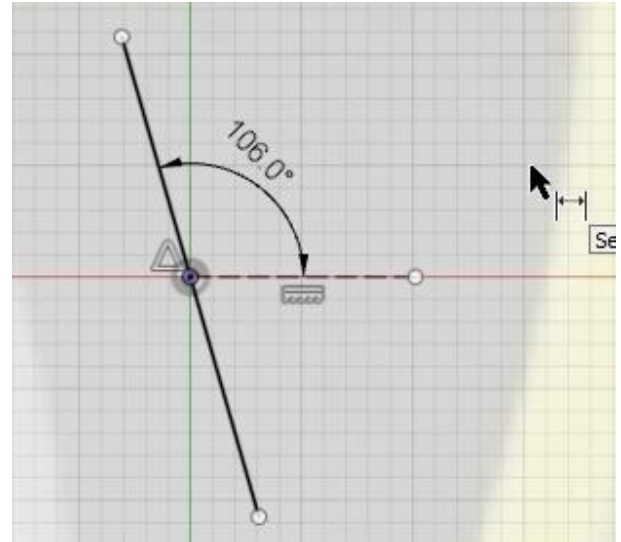


Figure 24. Dimension the lines

25. Select the line to apply a linked dimension to it, right-click the Canvas, then choose Aligned from the menu.

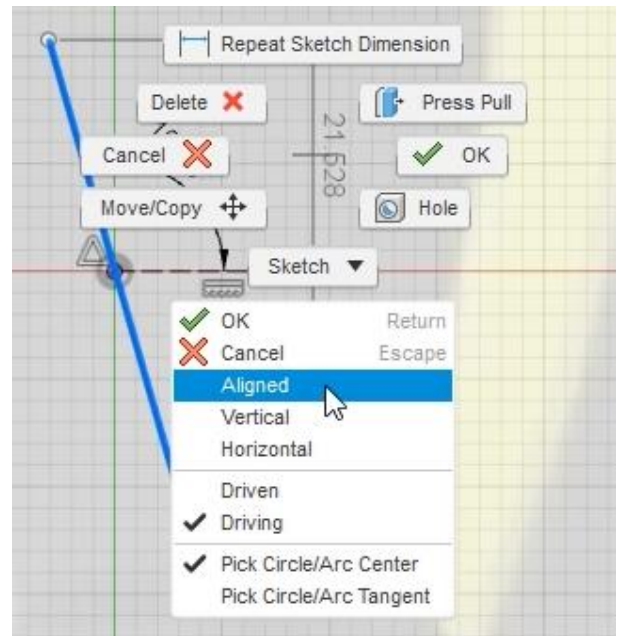


Figure 25. Create an aligned dimension

**26.** Add an aligned dimension of 22 mm to the line you drew in Step 20.

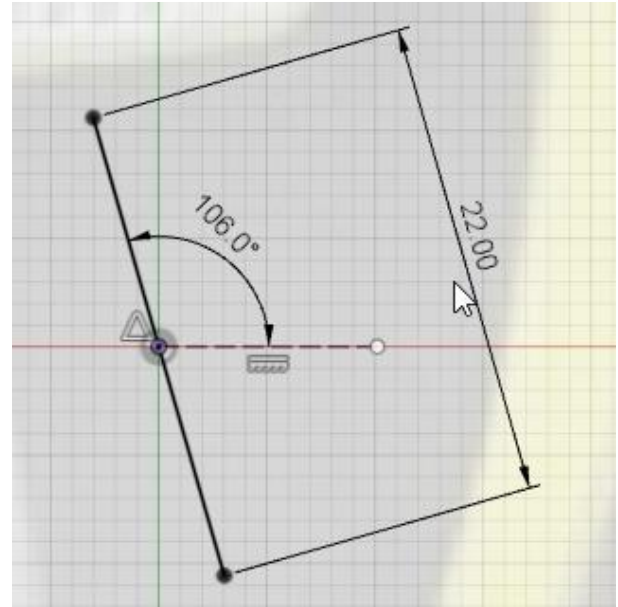


Figure 26. Add an aligned dimension

**27.** Click Create> Fit Point Spline.

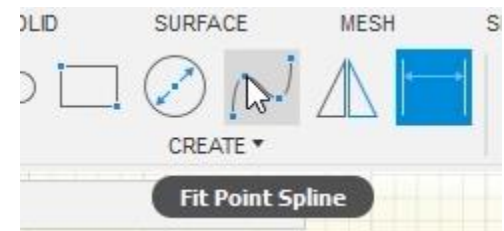


Figure 27. Open the Fit Point Spline tool

**28.** Beginning at the bottom of the diagonal line, draw a spline that roughly matches the trigger's shape. Click the green checkmark to end the spline.

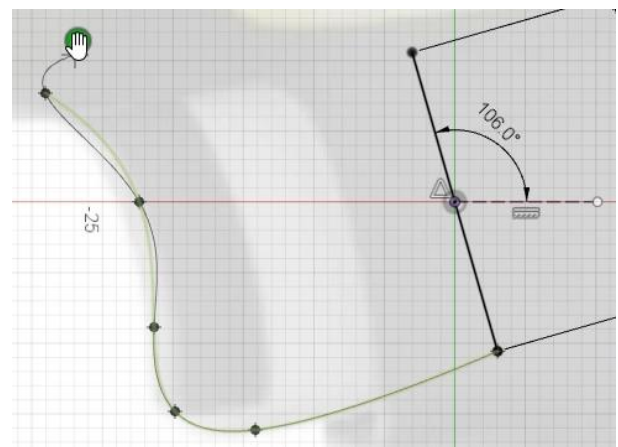


Figure 28. Draw a spline

29. Click Constraints > Perpendicular.



Figure 29. Open the Perpendicular tool

30. Select the spline's green handle and the diagonal line to create a Perpendicular constraint between them.

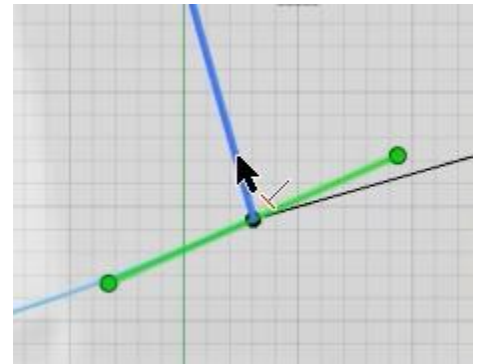


Figure 30. Add a Perpendicular constraint

31. Open the Line tool and connect the top of the trigger's spline to the diagonal line. If needed, add Collinear or Perpendicular constraints to the lines.

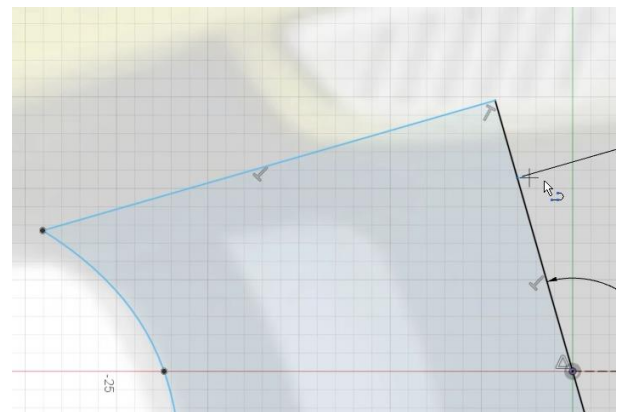


Figure 31. Close the shape

- 32.** Add aligned dimensions to the two lines you drew in the previous step.

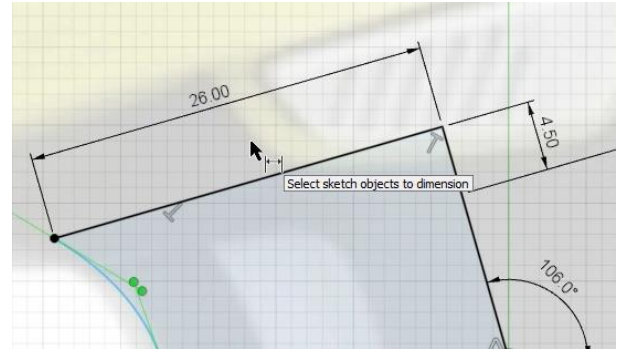


Figure 32. Dimension the two new lines

- 33.** Using dimensions to fully define a spline can be very tricky because many dimensions need to be added to the fit points and handles. Instead, constraints could be used to fully define the spline. Click Constraints> Fix/Unfix.



Figure 33. Open the Fixed/Unfix tool

- 34.** Click each of the spline's fit points to fix them so they cannot move.

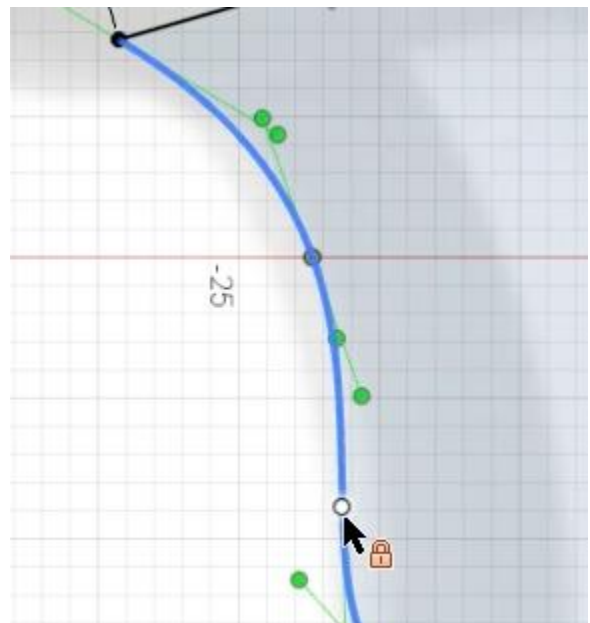


Figure 34. Fix the spline's fit points

**35.** After fixing all of the spline's fit points, the spline's geometry is fully defined.

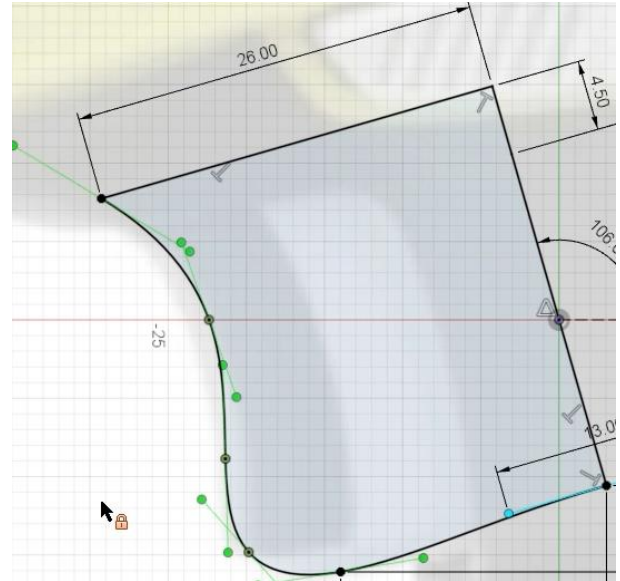


Figure 35. Inspect the result

**36.** Beginning at the sketch's origin, draw a 12 mm x 4 mm rectangle that is perpendicular to the diagonal line. Add dimensions and constraints to make sure that the rectangle is perpendicular to the diagonal line. Finish the sketch by clicking Finish Sketch> Finish Sketch.

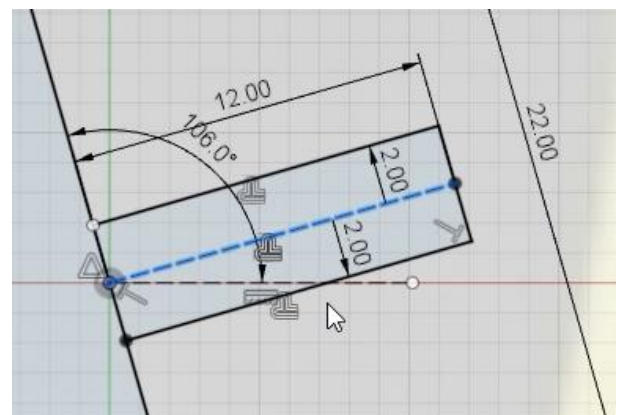


Figure 36. Draw a rectangle

**37.** Activate the Browser's top level and turn off the visibility for the saw\_image.

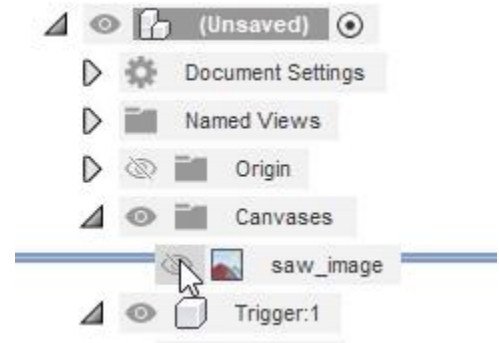


Figure 37. Hide the saw\_image

**38.** Save the file and name it **Trigger Model**. Continue to the next module.

Save

Name:

Trigger Model

Figure 38. Save the file