

# Inventor 2011

## Sheet Metal Parts

Elise Moss

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This lesson reviews the following skills

- Assigning materials and thicknesses
- Creating a base flange
- Adding a flange
- Folding and unfolding
- Adding a cut
- Adding chamfers

1.  Start with a new part file.

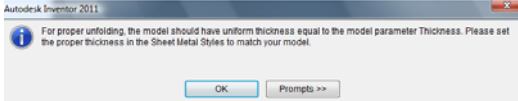
2. Exit the sketch.




3.  Activate the Environment tab on the ribbon.

Select the **Convert** tool to convert the part to a sheet metal part.

*This also opens the sheet metal module.*

4.  Press **OK**.

5.  Select **Setup** from the ribbon.

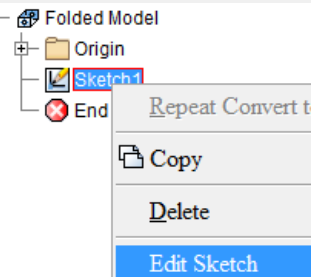
*This allows you to define the material that will be used for the sheet metal part.*

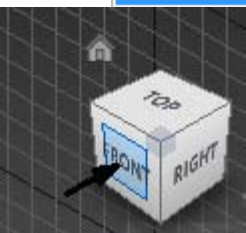
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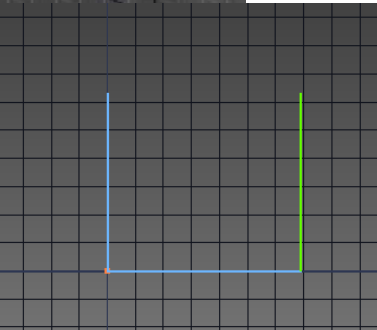
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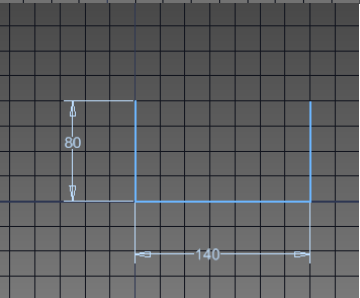
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6.  Set the Material Style to **Aluminum-6061**.  
Set the thickness to **.063 in**.  
Press **OK**.

7.  Highlight the existing sketch.  
Right click and select **Edit Sketch**.

8.  Switch to a **Front** view using the viewcube.

9.  Using the LINE tool, draw a U- shaped bracket.  
Place the left vertex so it is coincident with the center point.

10.  Place the dimensions.  
Set the vertical lines as equal.

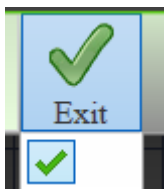
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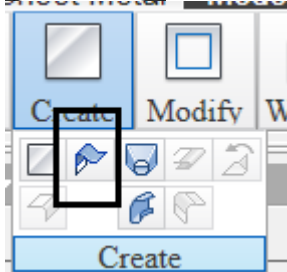
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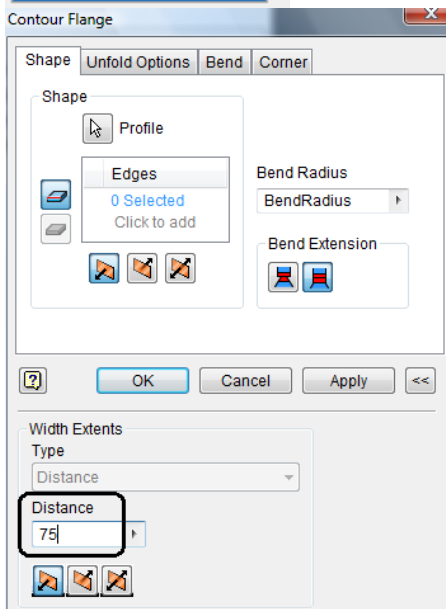
11. Exit the sketch.



12. Select the **Contour Flange** tool from the Create panel.



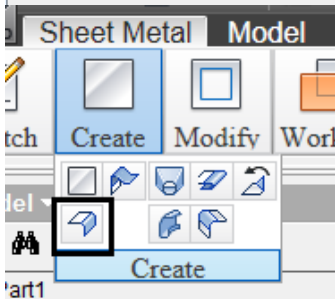
13. Select the sketch.



Set the Distance to **75 mm**.

Press **OK**.

14. Select the **Flange** tool.



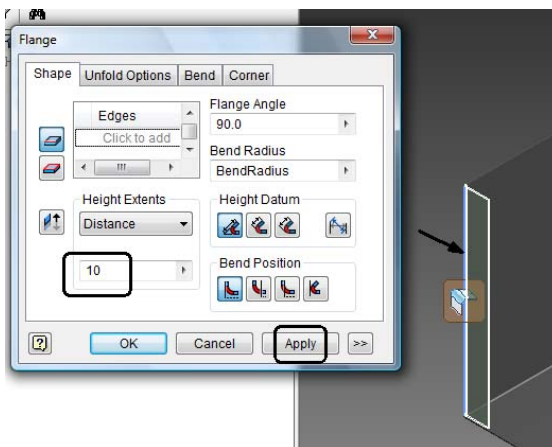
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15.



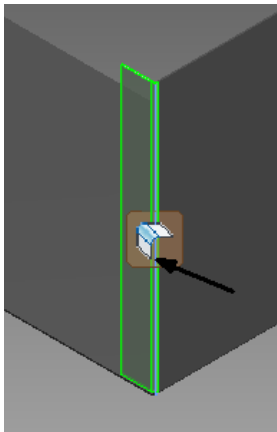
Select the edge.

Set the Distance to **10**.

Click **Apply**.

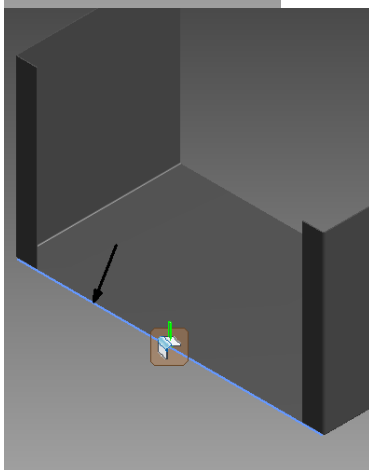
*Selecting Apply will keep the dialog open so you can select more edges.*

16.



Add a 10 mm flange to the other side.

17.

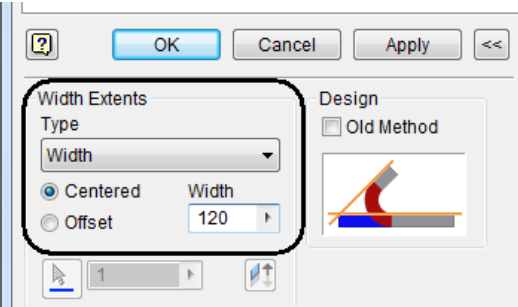


Select the bottom edge.

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18.  Expand the bottom of the dialog.

Set the Type to **Width**.  
Enable **Centered**.  
Set the Width to **120**.

Press **OK**.

19.  Select the **Chamfer** tool from the Modify panel.

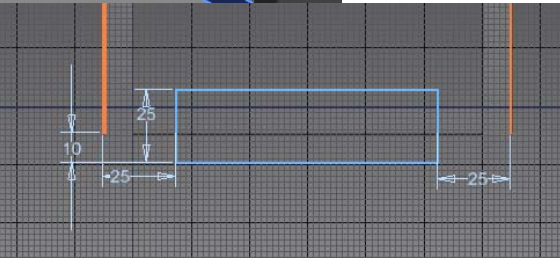
20.  Select the two edges indicated.

Set the Chamfer Distance to **5**.

Press **OK**.

21.  Select the front flange.

Select **Create Sketch**.

22.  Add dimensions so it is 25 mm from either side. Add a 10 mm vertical dimension below the bottom edge.

*The 10 mm is the distance into the part the cut will extend from the bended edge.*

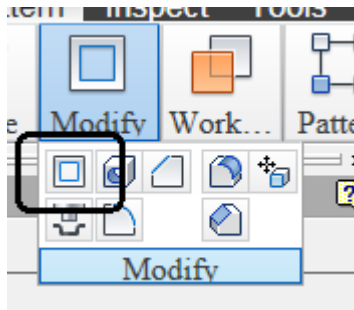
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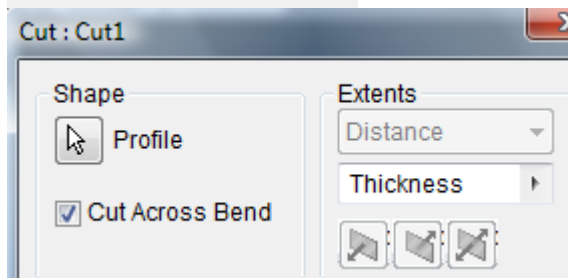
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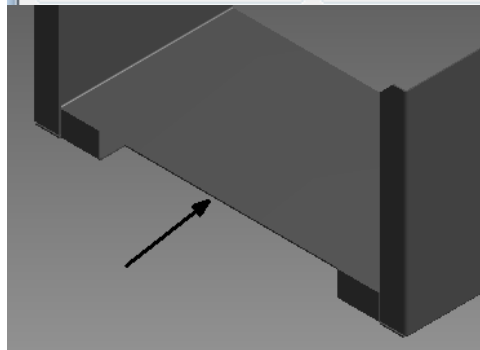
23. Select the **Cut** tool on the Modify panel.



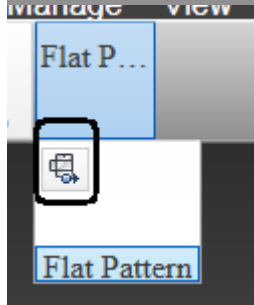
24. Enable **Cut Across Bend**.  
Press **OK**.



25. Notice how the bend extends into the part.



26. Select the **Flat Pattern** tool.



27. The sheet metal part unbends.

