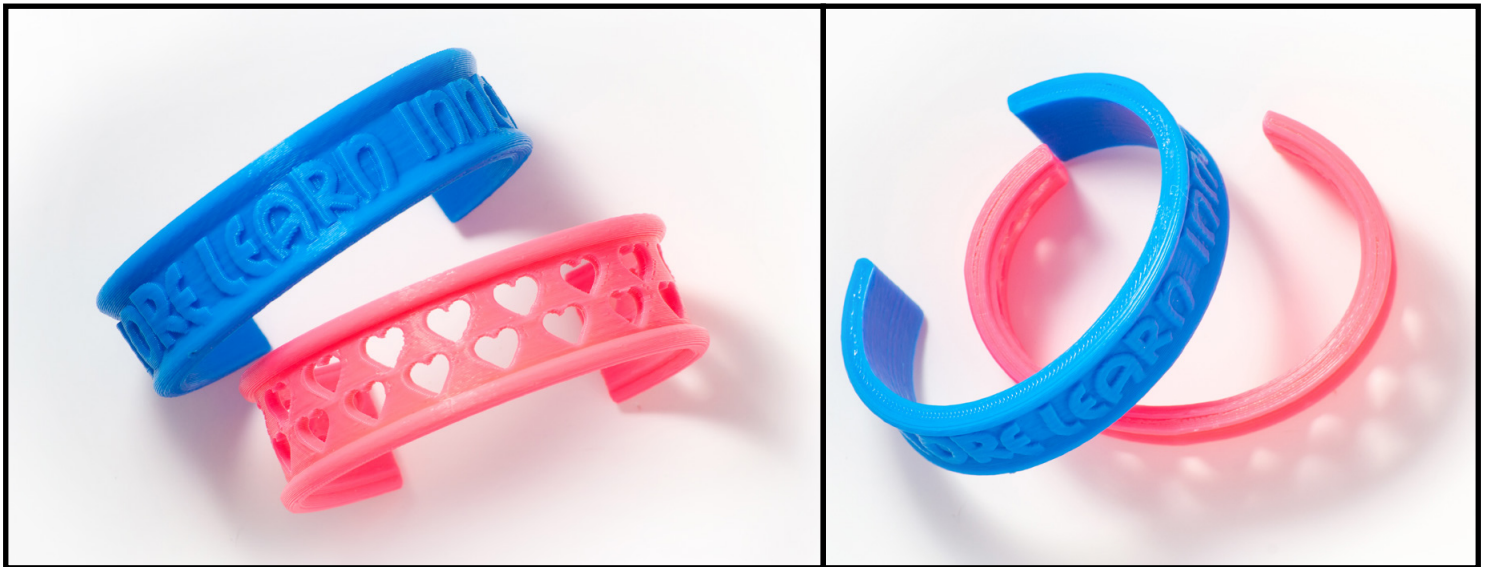


CUSTOM CUFF BRACELET IN FUSION 360

(Fusion 360 Tutorial - Beginner Level - Written by Maz a.k.a. Rose M.)

(Required Tools: Digital Calipers)



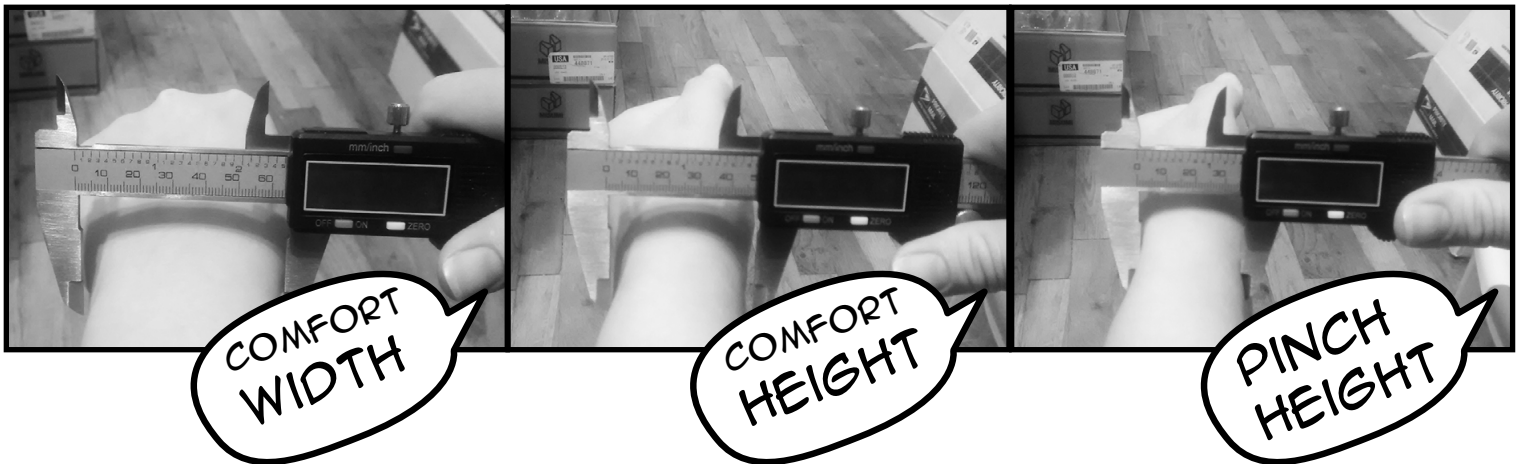
STEP 1: MEASURE YOUR WRIST

IMPORTANT! KEEP TRACK OF YOUR MEASUREMENTS!

WRIST COMFORT WIDTH: _____ MM DIAMETER

WRIST COMFORT HEIGHT: _____ MM DIAMETER

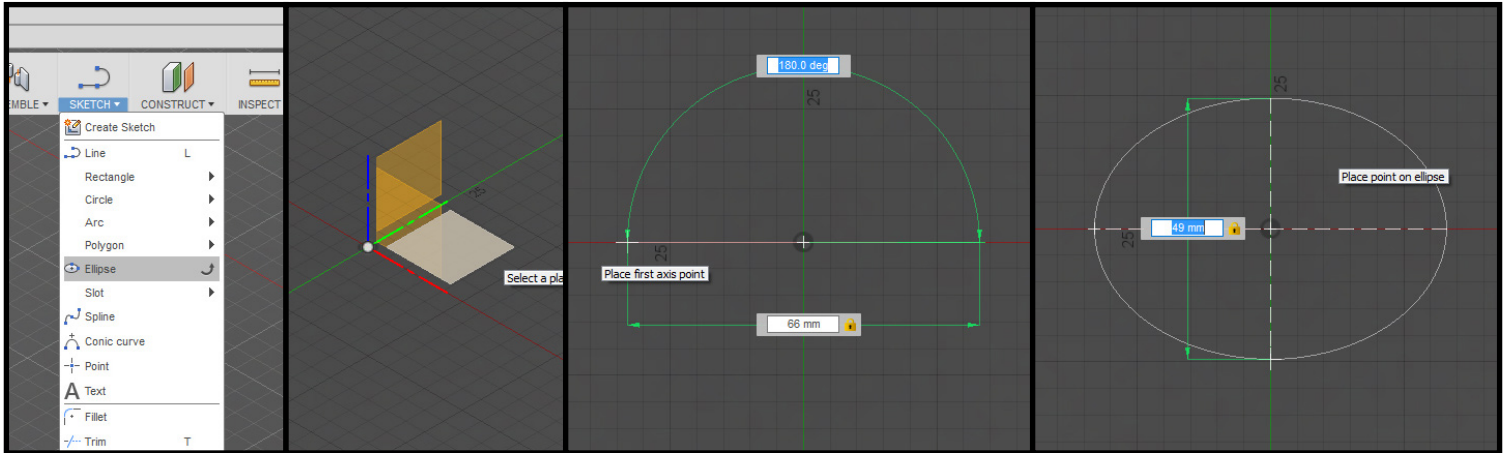
WRIST PINCH HEIGHT: _____ MM



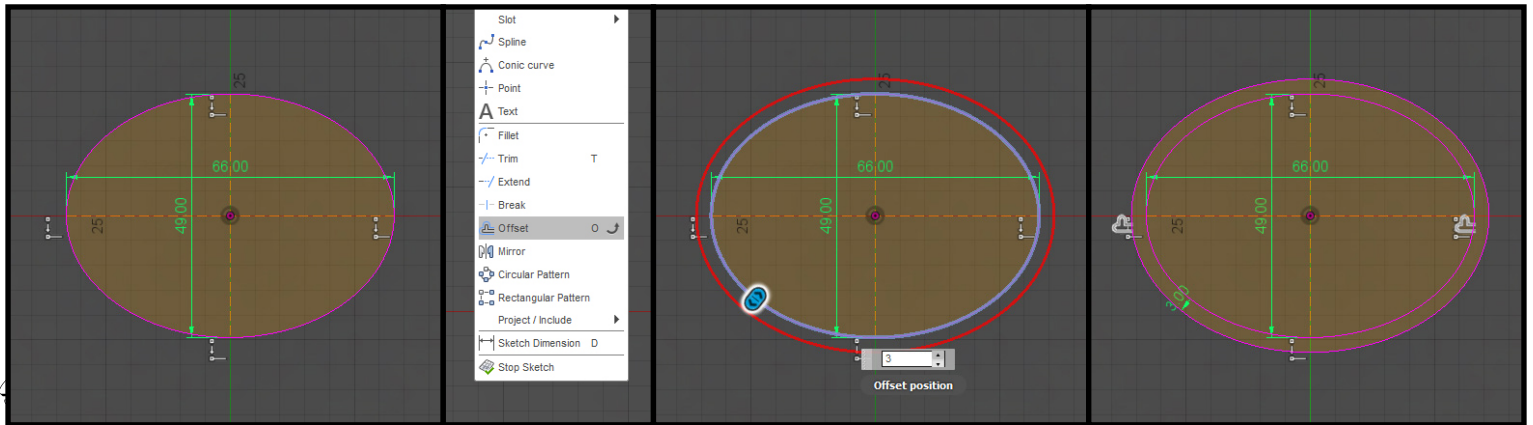
- Using a digital caliper, measure the “comfort width” of your wrist.
- Write your measurement in the space above.
- Using a digital caliper, measure the “comfort height” of your wrist.
- Write your measurement in the space above.
- Using a digital caliper, measure the “pinch height” of your wrist.
- Write your measurement in the space above.

STEP 2: START SKETCHING CUFF PROFILE

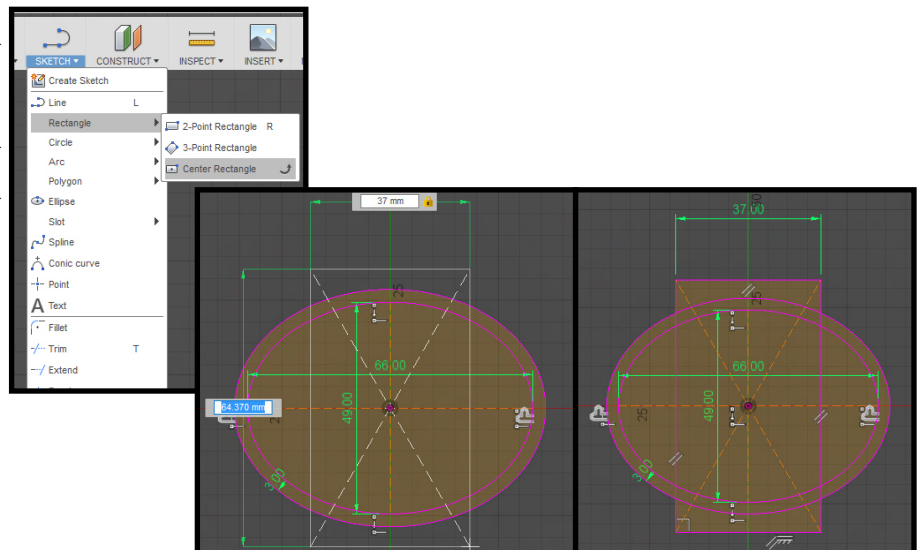
• In the tool bar at the top, click "Sketch ▼" to expand the menu, and click "Ellipse" in the menu. Click the floor plane to sketch onto. Click the center point of origin to place the center point of the ellipse, set the first diameter to the "comfort width", and set the second diameter to the "comfort height". Press enter/return to accept the values and place the ellipse.



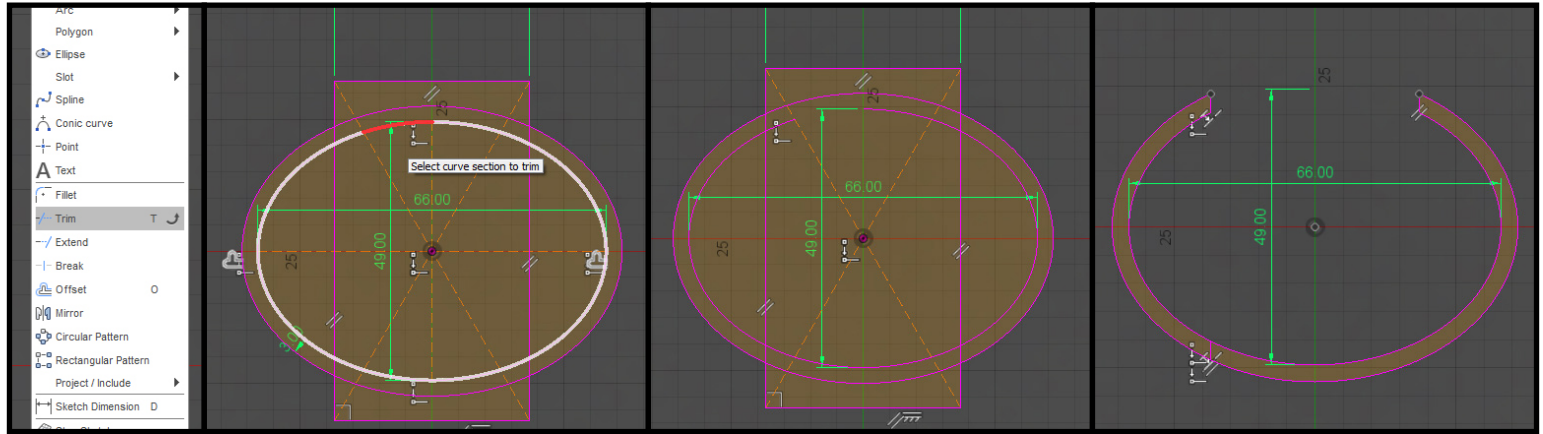
• Add thickness to the cuff. To do this, in the tool bar at the top, click "Sketch ▼" to expand the menu, click "Offset" (or press "O" on keyboard), and select ellipse. Change the offset value to "3.00mm" outward and press enter/return to accept.



• In the tool bar at the top, click "Sketch ▼" to expand the menu, click "Rectangle ▸", and click "Center Point Rectangle". Click the center point of origin to place the center point of the rectangle. Set the width value to the "pinch height" and set the height of the rectangle to intersect the outside ellipse as shown.



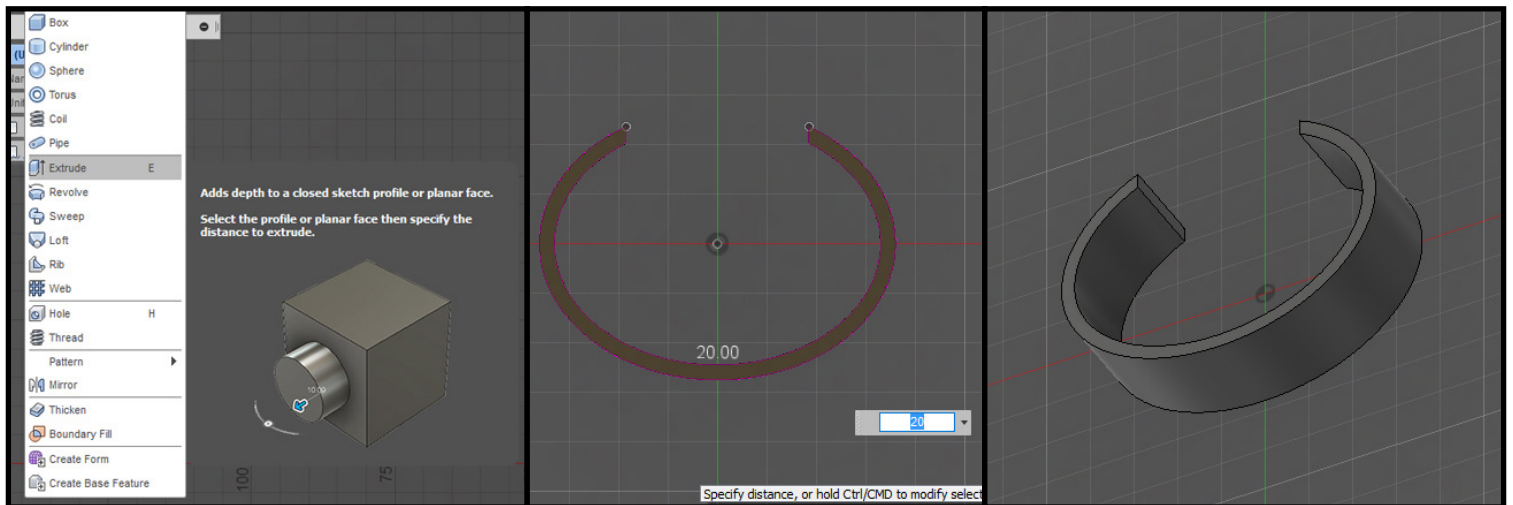
STEP 4: CLEANUP SKETCH WITH TRIM TOOL



• In the tool bar at the top, click “Sketch ▼” to expand the menu, and click “Trim” (or press “T” on the keyboard). To trim an unnecessary part of the sketch, hover over the line, the line will turn red if removable, and click to remove. Continue trimming the sketch until it looks similar to the sketch shown above.

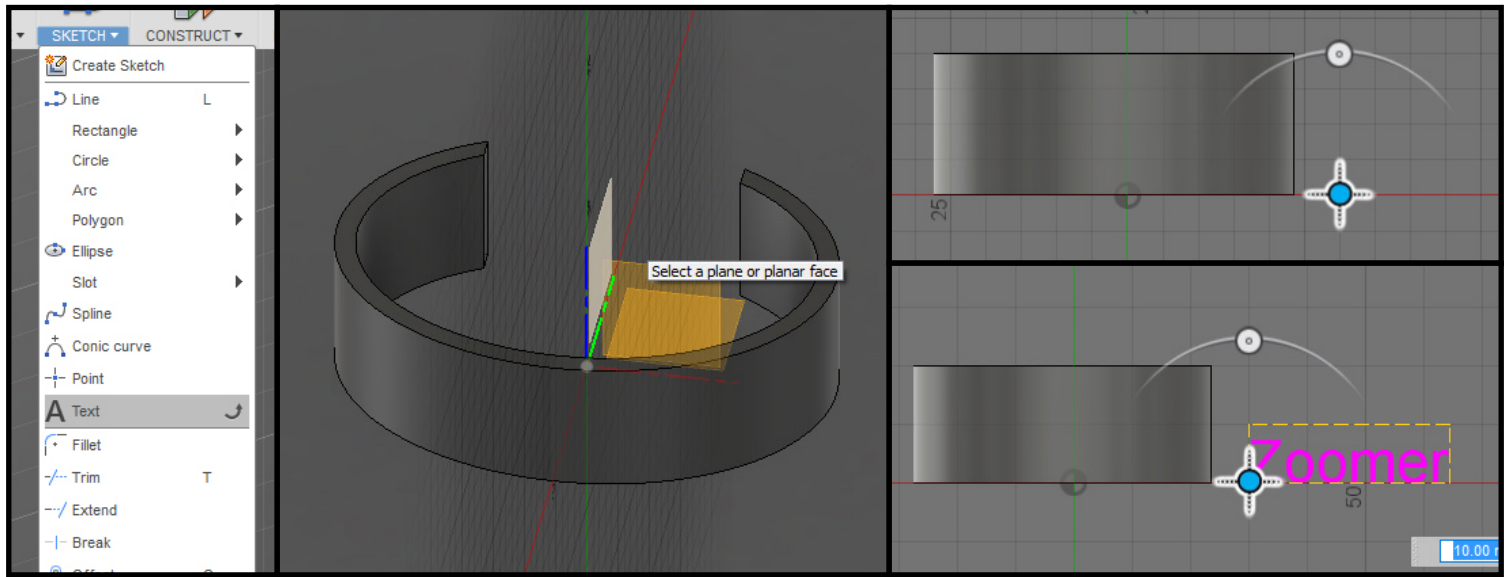
STEP 5: EXTRUDE CUFF PROFILE SKETCH

• In the tool bar at the top, click “Create ▼” to expand the menu, and click “Extrude” (or press “E” on the keyboard). Click inside cuff sketch to select and set the extrude value to “20.00mm” and press enter/return to accept.

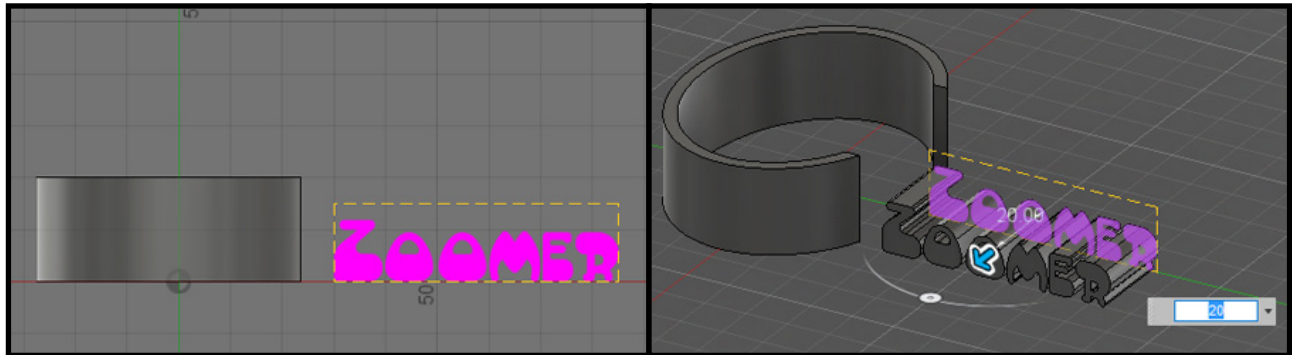


Note: if you are still in the top view, the cuff may not look 3 dimensional. Change to a perspective view to see the solid object. Use the view cube in the top right to change views (or press, hold, and drag “middle mouse wheel + Shift”).

STEP 6: CREATE AWESOME TEXT TO PUT ON CUFF



• In the tool bar at the top, click "Sketch ▼" to expand the menu, click "Text", and click near cuff to place text starting point. In the dialog box on the right, type in the text of your choice and set the values to your desire. Be sure text is not taller than cuff height.



• Use the extrude tool to extrude text to "20.00mm".

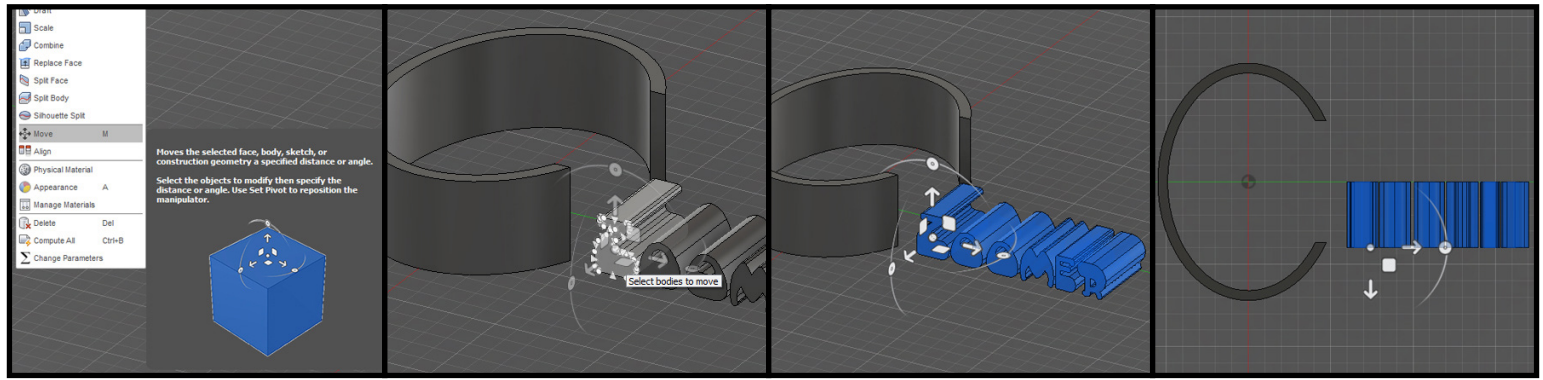
NOT ALL FONTS WORK PROPERLY IN FUSION! OH NO!

• If text isn't extruding, it will have to be manually fixed as a sketch. First change the text to a sketch. To do this, select the text, open the right click wheel menu, and select "Explode Text". (If the explode text did not work, you'll need to select a different font entirely.)

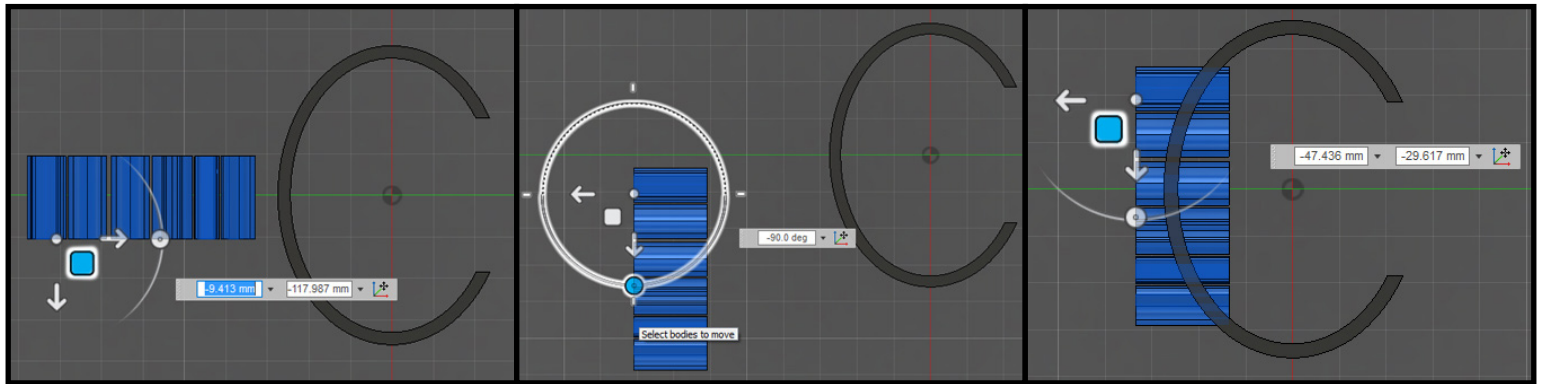
• Clean up the text. Using the trim tool, trim any parts of the text sketch that are inside the letters. To activate trim sketch tool, press "T" on the keyboard. Sometimes there are weird triangles inside the points of letters, especially cursive. If at any point the sketch turns clear instead of staying orange, undo the trim, and avoid trimming the one line that makes the sketch not closed.

• Once the sketch is cleaned up, extrude the text sketch "20mm". Activate extrude tool by pressing "E" on the keyboard or in the tool bar at the top go to "Modify > Extrude".

STEP 7: POSITION TEXT ONTO CUFF

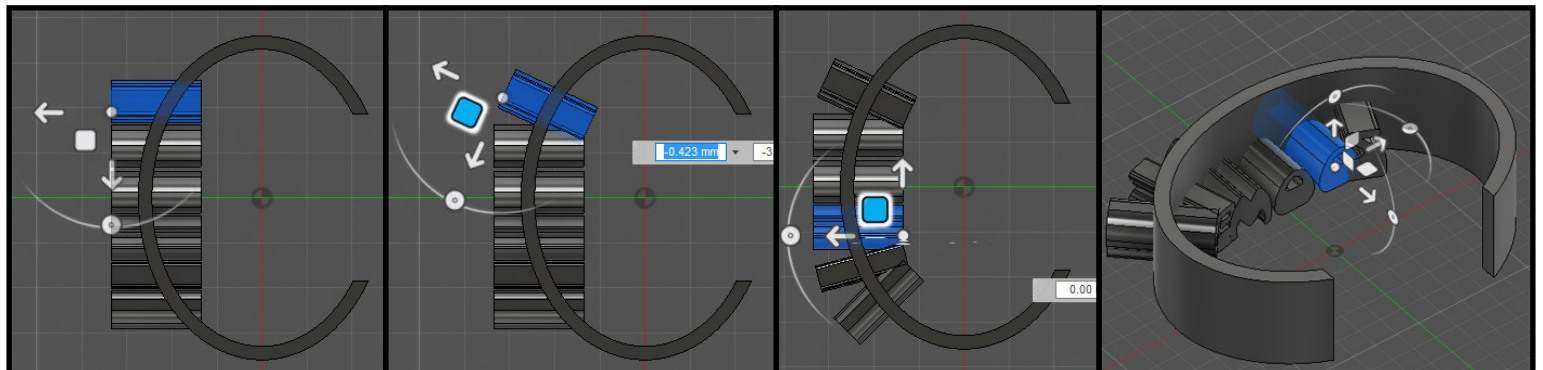


- Use the move tool to position the text objects. To do this, go to the tool bar at the top, click "Modify ▼" to expand the menu, and click "Move" (or press "M" on the keyboard). Hover over the letter faces to snap the gizmo to be aligned with the workspace and click. Click on the rest of the letters individually (or drag a selection box over letters) to select.



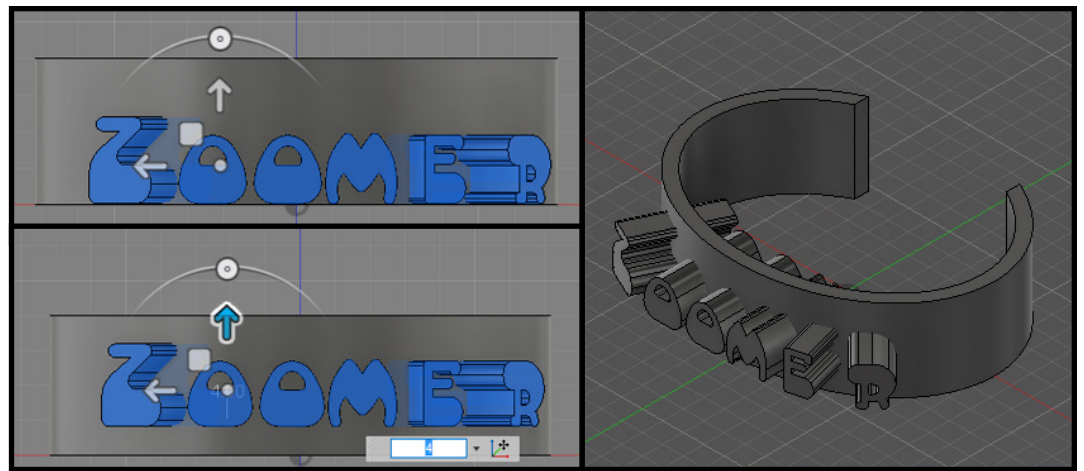
- Change to the top view, use the arrows on the gizmo to position the letters onto the cuff as you desire. Also use the rotation arc to change the angle of the letters to match the cuff curve. Position the letters so they will also intersect cuff.

Note: You could position the letters in the current perspective view if you are comfortable.



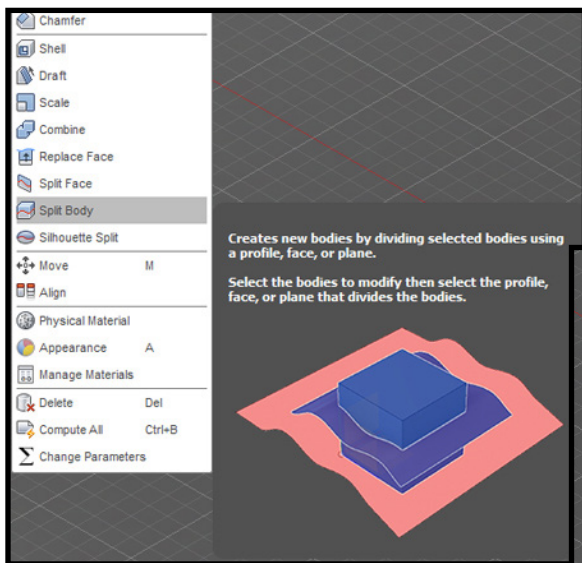
- Position the letters more accurately to the curvature of the cuff. To do this, select the letters individually, and tweak as needed. Reference image above. It might be easier to change to a perspective view to better see the positioning.

- Position the height of the letters as desired.

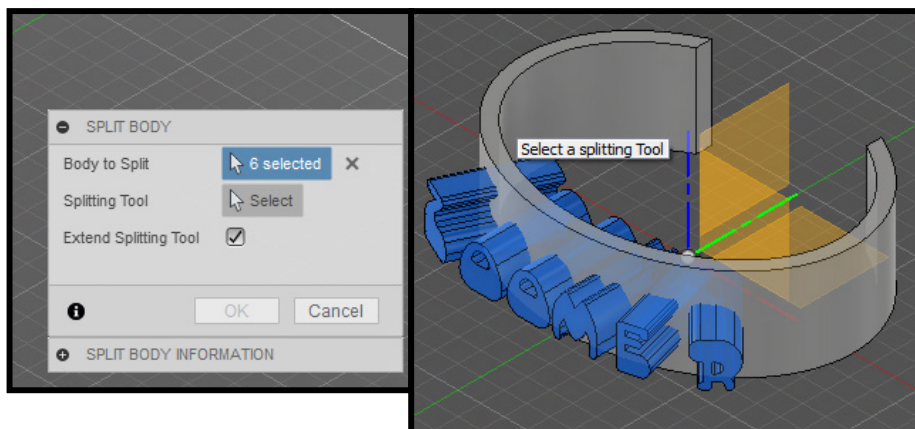
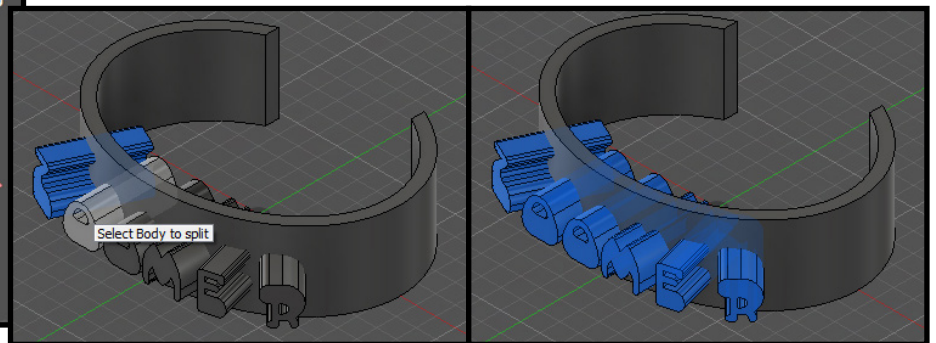


STEP 3: CUT TEXT TO CONTOUR OF CUFF

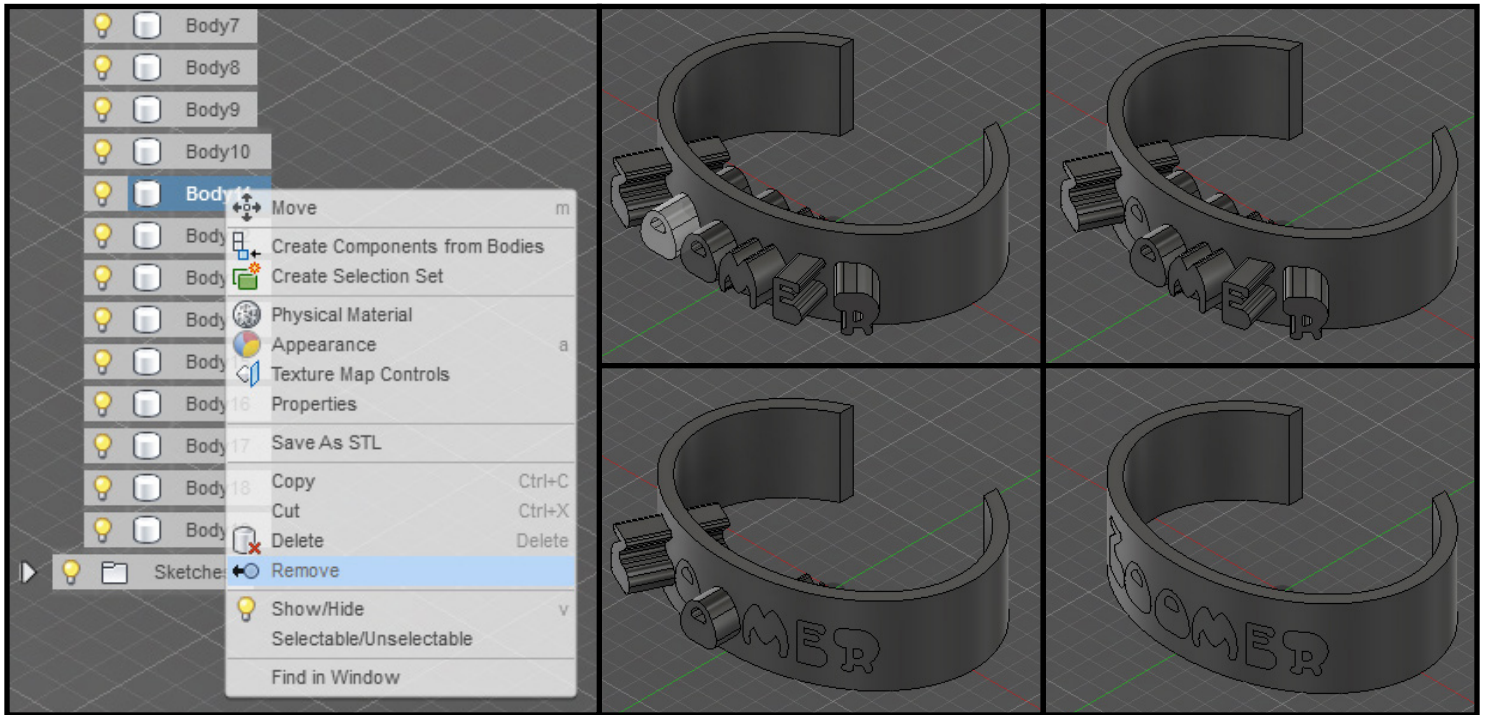
- Change to a perspective view and use the split body tool to separate the text from cuff. To do this, go to the tool bar at the top, click "Modify ▼" to expand the menu, and click "Split Body".



Click the letters to select them all. In the dialog box on the right, click the gray box next to "Splitting Tool" and click the cuff. Press enter/return to accept.

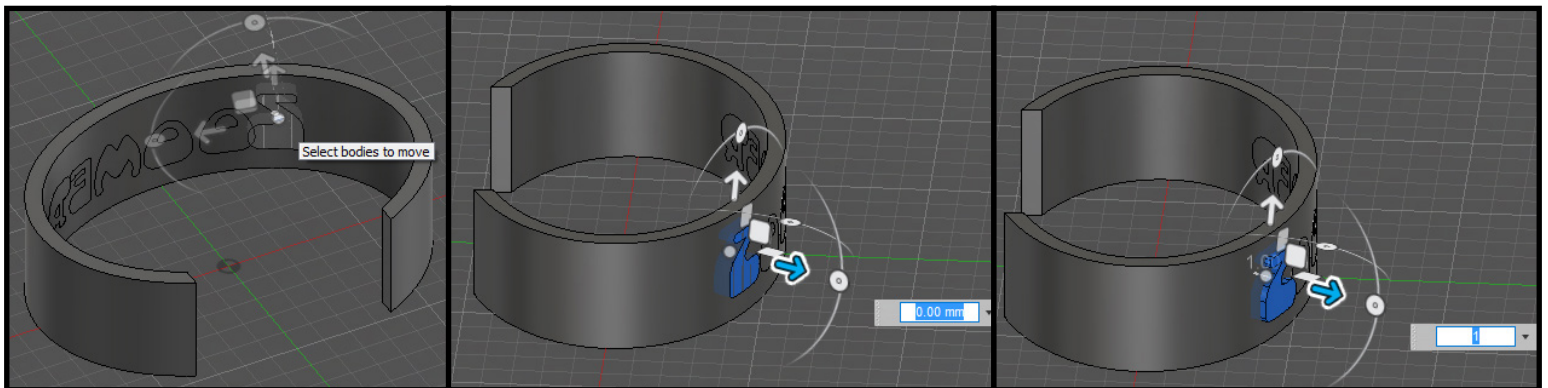


STEP 9: CLEANUP REMNANTS FROM LETTERS



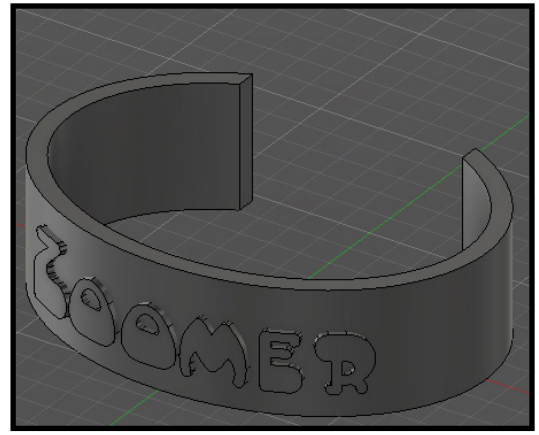
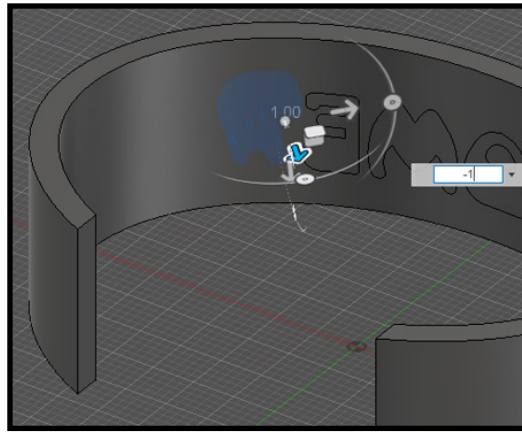
• Use the browser tree on the left to select the remnant bodies and remove. To do this, click the "►" to expand the "Bodies" browser tree. Hover over the gray text boxes in the bodies tree and see them highlight in the workspace. Click the text to select a text body outside the cuff. Right click or option click the gray text and click "◀ ● Remove" to remove. Continue to remove all text bodies outside cuff.

STEP 10: POSITION LETTERS TO APPEAR EMBOSSED



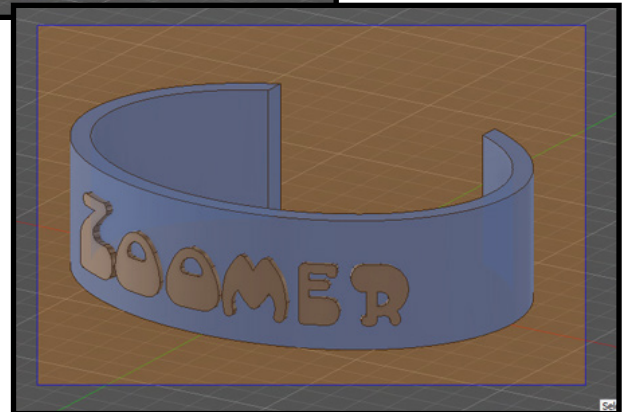
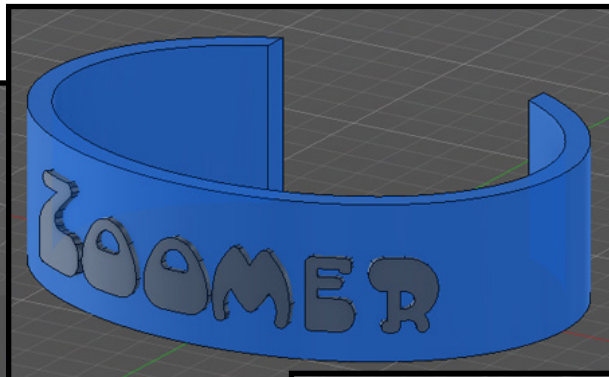
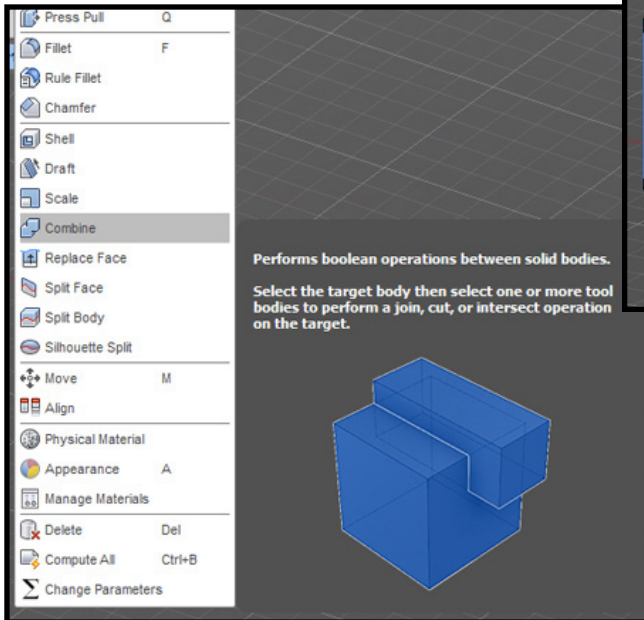
• Use the move tool to offset letters from the cuff "1.00mm". To do this, select the move tool from the menu or press "M" on the keyboard, click the arrow pointing away from the outside of cuff as shown in reference image, and set value to "1.00mm". Continue to position the remaining letters individually.

Note: If the position of the gizmo is pointing toward inside of the cuff it will be "-1.00mm" instead.

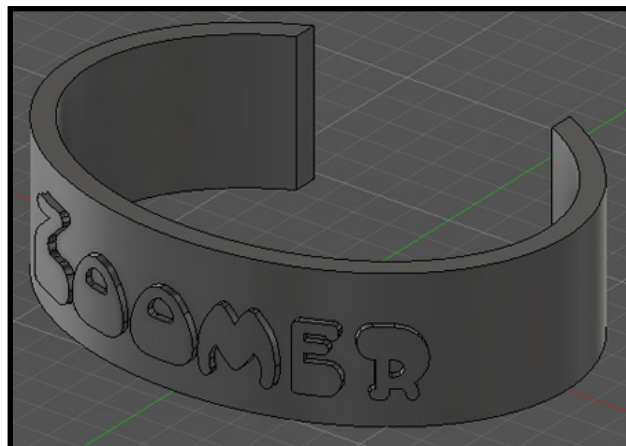


STEP 11: COMBINE TEXT AND CUFF

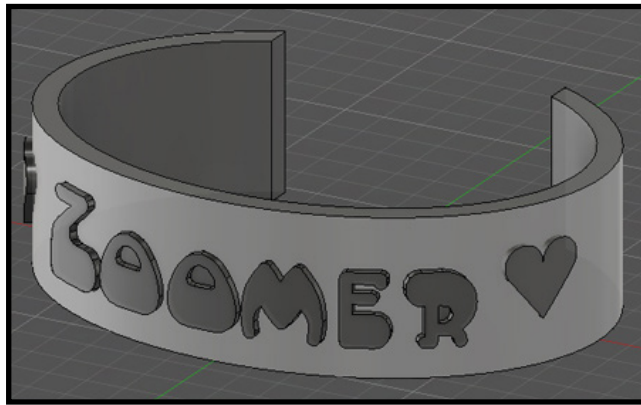
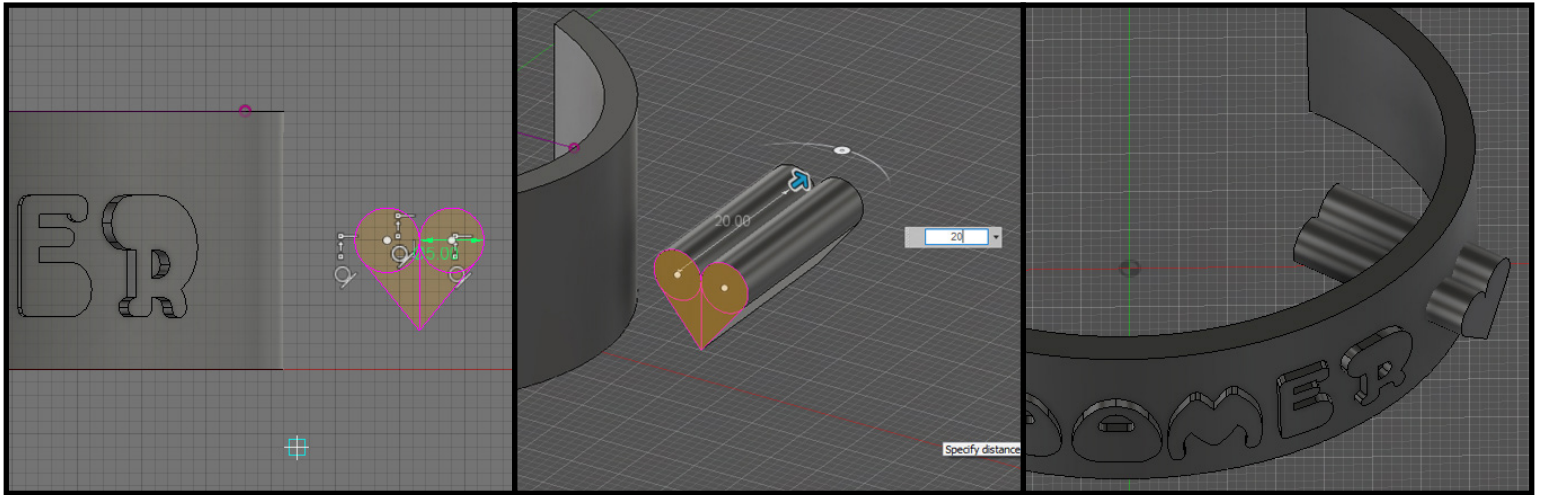
- Use the combine tool in the create menu to make the cuff one body. To do this, go to the tool bar at the top, click "Modify ▼" to expand the menu, and click "Combine". Click the letters and cuff to select them all (or click cuff and draw selection box over bodies in workspace).



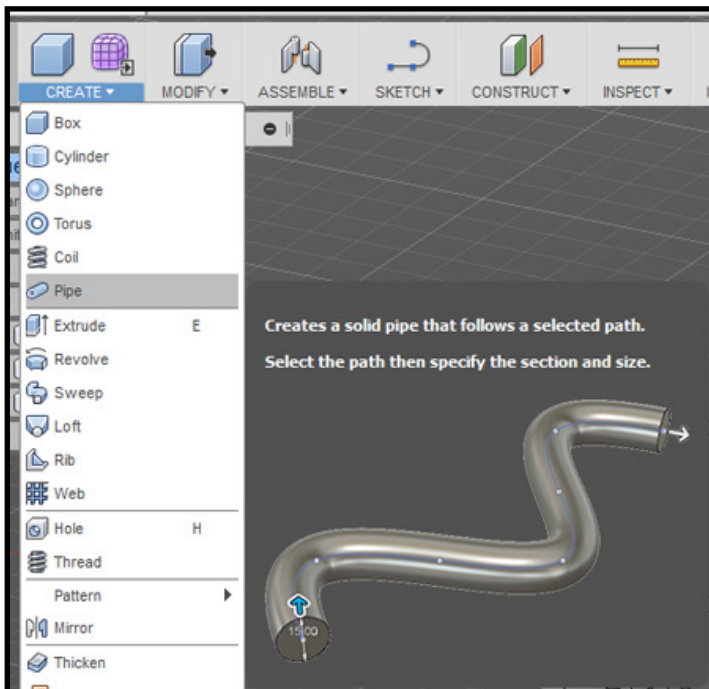
In the dialog box on the right, be sure operation is set to "Join", and click okay or press enter/return to accept.



Continue designing the cuff as desired. Perhaps go back through the steps for creating the text and instead draw a heart, or cat and emboss it onto the cuff.



Use the "Pipe" tool to create trim on the cuff.



YAY! YOUR CUSTOM CUFF BRACELET IS READY TO EXPORT FOR PRINTING!