*COMFORT WIDTH, COMFORT HEIGHT - USING A DIGITAL CALIPER, THE MEASURING GUIDES SHOULD BE FAR ENOUGH AWAY TO NOT SCRATCH OR PINCH YOUR WRIST.

CUSTOM FITTED CUFF IN TINKERCAD

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

Required tools: Digital Calipers

STEP 1:   GATHER YOUR MEASUREMENTS

- 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.


COMFORT WIDTH

COMFORT HEIGHT

PINCH HEIGHT
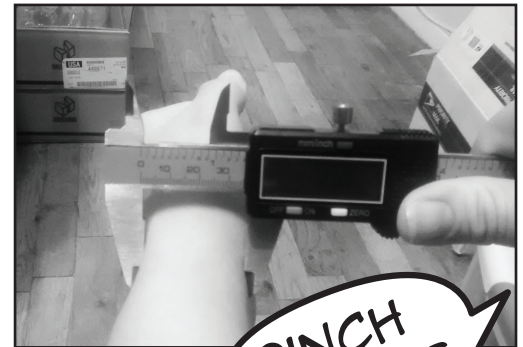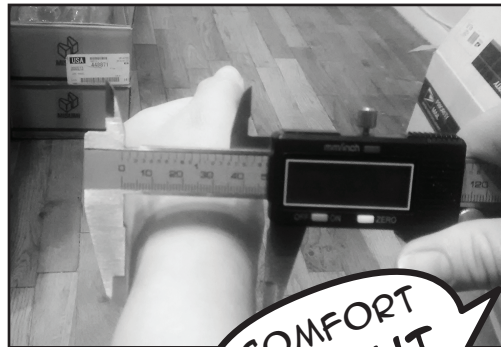
STEP 2: CREATE THE BASE OF THE CUFF

- In the right side menu, in the Geometric section, click on "Cylinder", hover over your workspace, and click again to place the cylinder.
- Click the cylinder to select, click + hold on the "white box" in the bottom right of the cylinder, drag the white box till the measurements match your comfort width and comfort height measurements you gathered. (Such as 64.00mm x 48.00mm). Let go of the mouse click once you have the size on the cylinder.
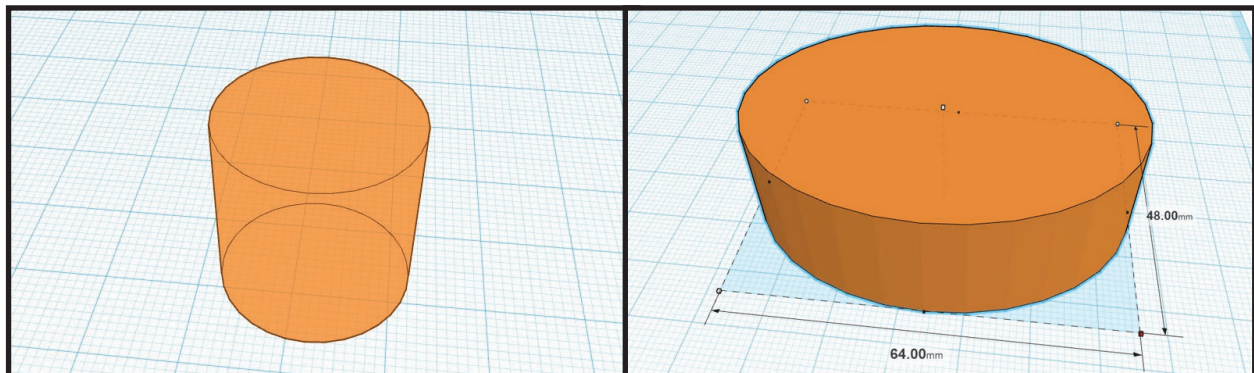
• With the fitted cylinder still selected, in the inspector in the top right click on "Hole" to change the cylinder to subtractive.
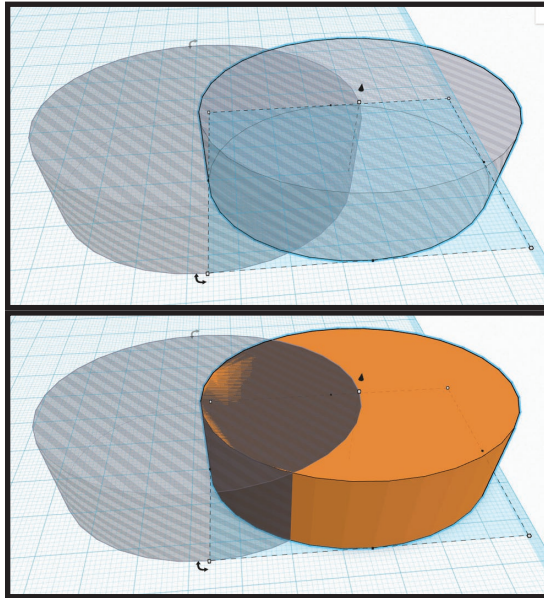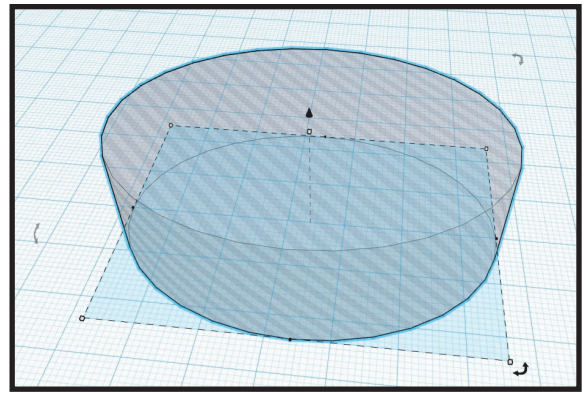

• Create a copy of the fitted hole cylinder. To do this, click to select the fitted hole cylinder, press CTRL+C to copy and CTRL+V to paste. In the inspector in the top right change the copied cylinder to "Color" instead of "Hole".


• Click the cylinder to select, click + hold on the "white box" in the bottom left of the cylinder, drag the white box to add "+5.00mm" more than the current size(Both X & Y dimensions). (Such as 64.00mm + 5.00mm = 69.00mm) Let go of the mouse click once you have the size on the cylinder.
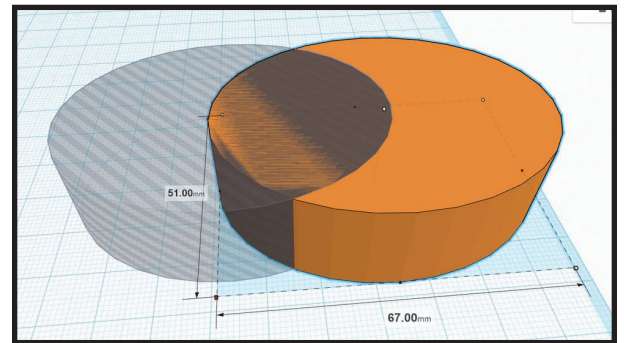

• Realign the "hole" cylinder and the "color" cylinder. Draw a selection box over both cylinders. To do this, click+hold in top left empty area of your workspace and drag to the bottom right corner, and let go of the mouse click.
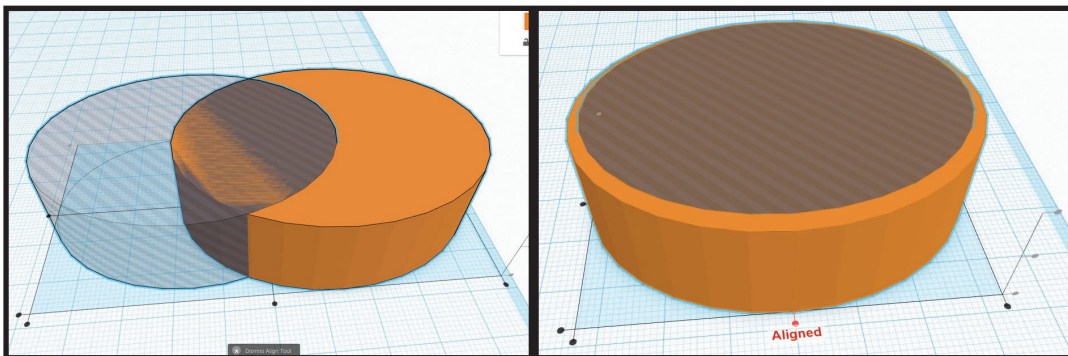
In the toolbar at the top near the right click on "Adjust > Align...". Click on the black dot in the front middle. Click on the black middle dot for the other two axis.
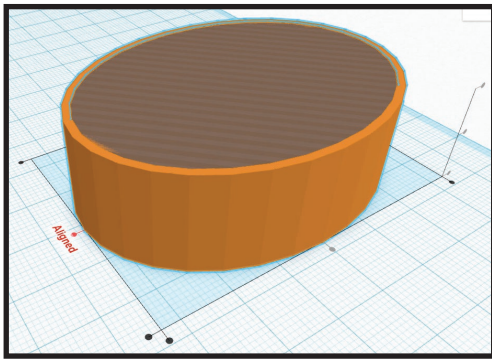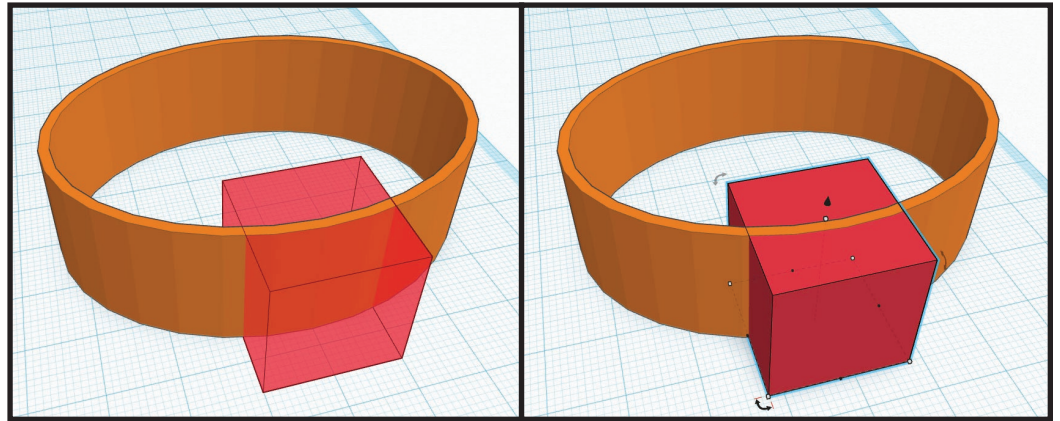
• With both cylinders still selected, click on "Group" in the top right part of the toolbar.
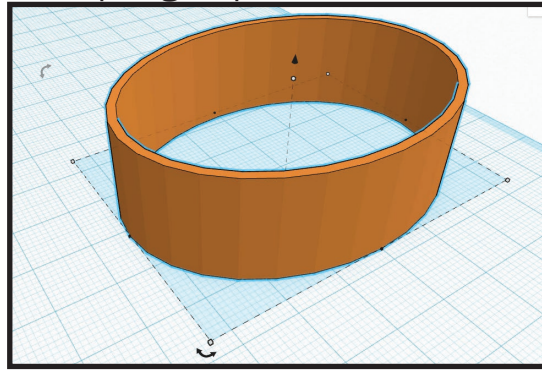
## STEP 3: CUT OUT PART OF THE CUFF FOR SLIDING ONTO WRIST

• In the right side menu, in the Geometric section, click on "Box", hover over your workspace, and click again to place the box near the bottom middle. Move the box so it is intersecting the cuff ring.

• Click+hold on the black box inbetween the two white boxes, nearest to the intersecting cuff, drag the edge of the box to the "pinch height". (For example "40.00mm")

40.00mm
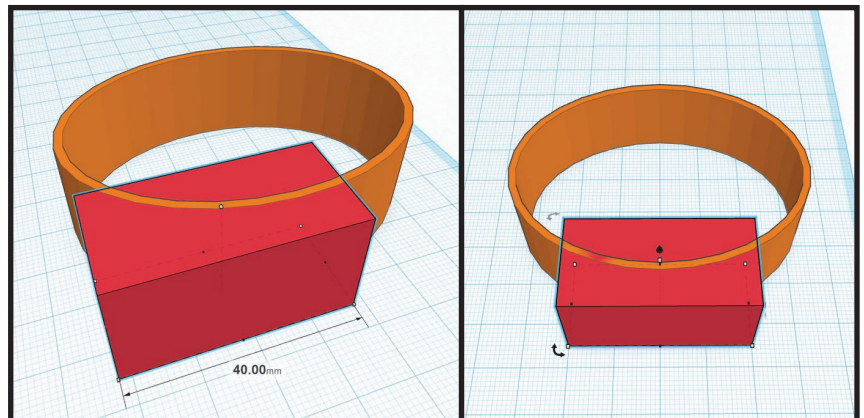
• Move the box to be centered on the wide part of the cuff ring.
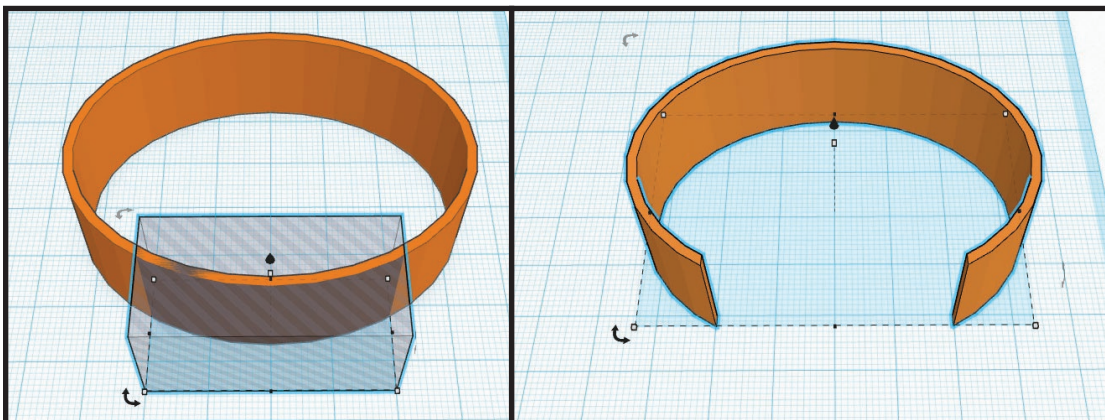
• Change the box to "Hole" in the Inspector near the top.

• With both the cuff ring and the box selected, click on "Group" near the top right.

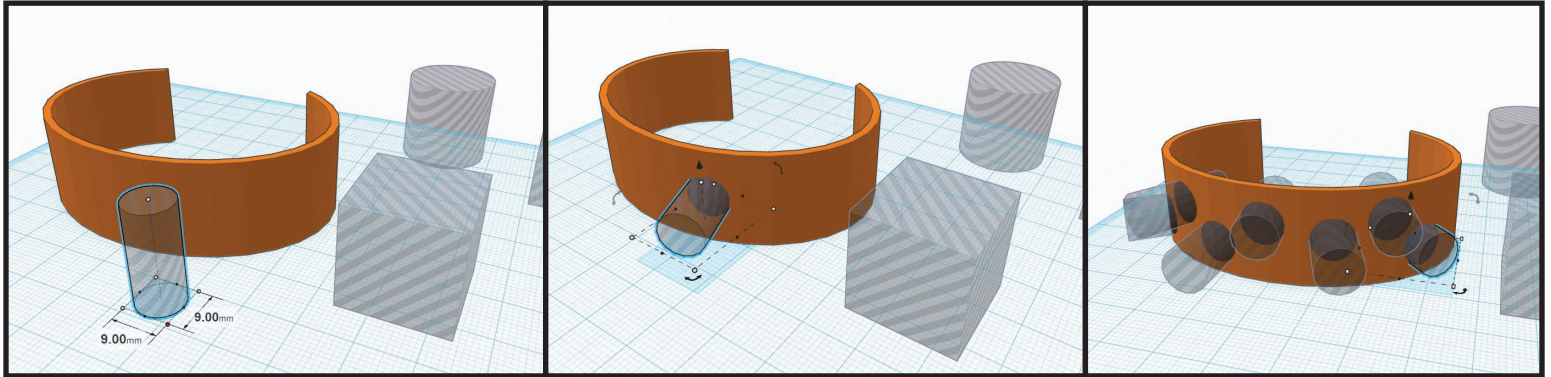*Now you have a fitted cuff ready to decorate any way you like!*

# CUT SHAPES INTO YOUR CUFF

FIRST: CREATE THE SHAPES TO CUT OUT

• In the right side menu, in the "Hole" section, click to select either a "Box Hole" or "Cylinder Hole" and over workspace to drop. Place as many as you like onto your workspace.
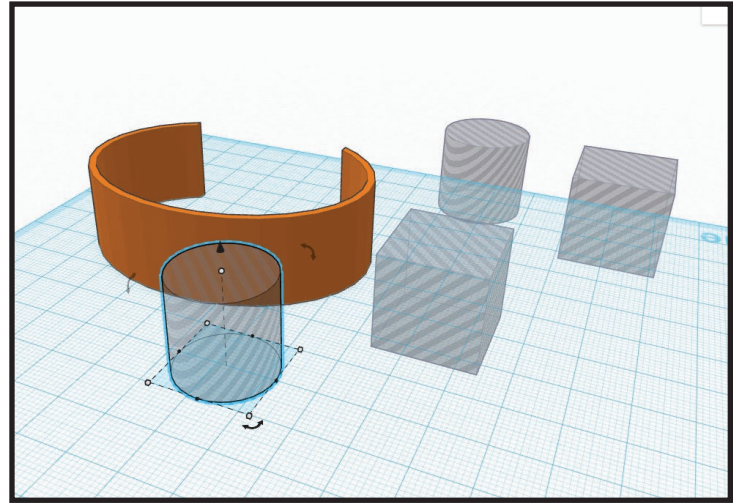

• Scale and move the shapes so they intersect the cuff. Creativity is key here!

Remember you can use copy(CTRL+C) and paste(CTRL+V) for duplicating objects in your workspace.
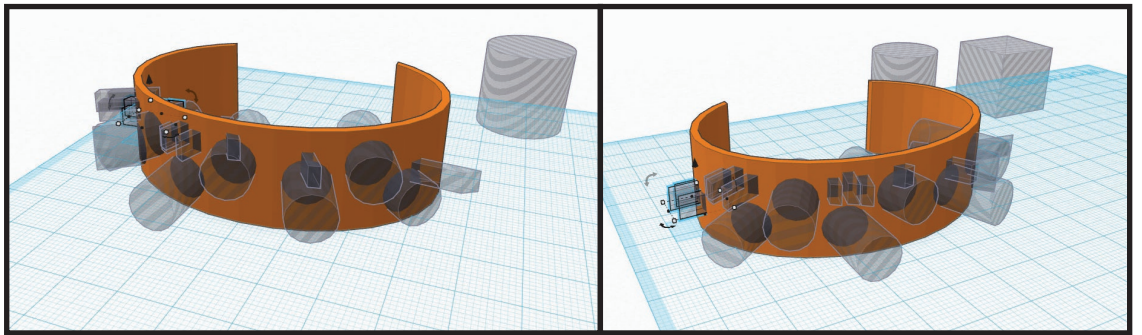

• Once you have placed the "Hole" objects where you would like, merge them into a group to cut. To do this, drag a selection box over everything to select cuff and all hole objects, and near the top right click "Group".
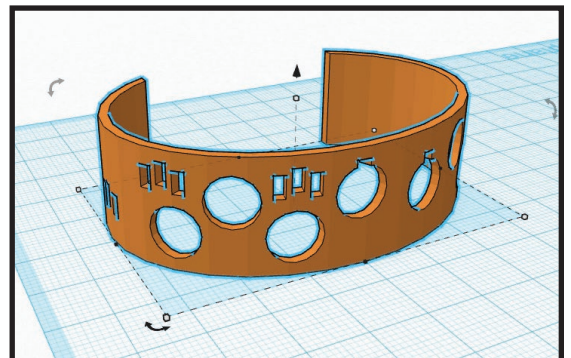
CUT OUT TEXT FROM YOUR CUFF

FIRST: CREATE THE TEXT TO CUT

• In the right side menu, go to the "Shape Generators > TinkerCAD", and click to select "Text". Hover over workspace to drop the text object. A edit window will appear where you can change the parameters.
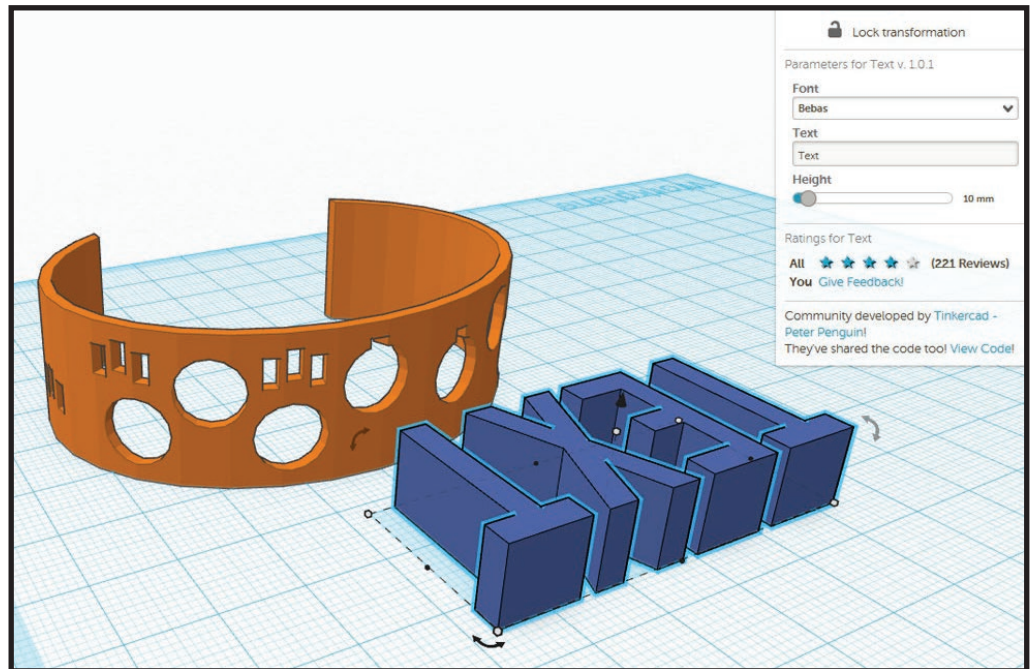
• Continue editing the text with scale and position to place intersecting the cuff.

• Once text is placed where you would like, change text object to "Hole" in the inspector near the top, select the cuff and text, and near the top right click "Group".
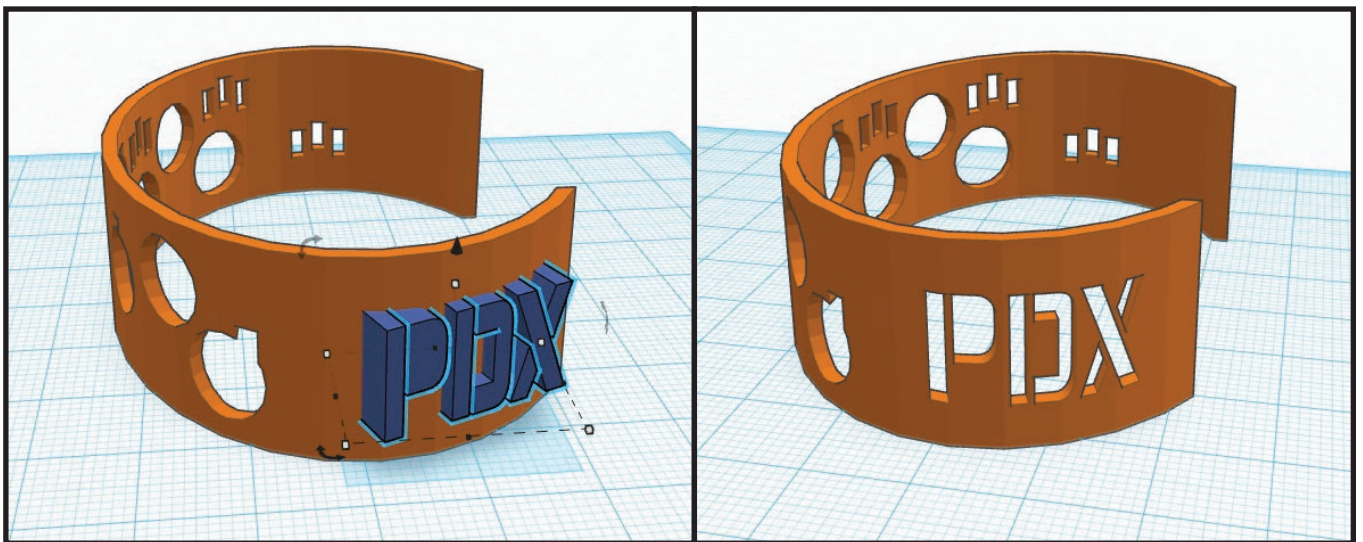
For adding text instead of cutting text, keep the text object as "Color" instead of "Hole" when grouping. Keep in mind overhang tolerances for printing. Don't have the text overhang too far or instead place text flush with bottom of cuff.