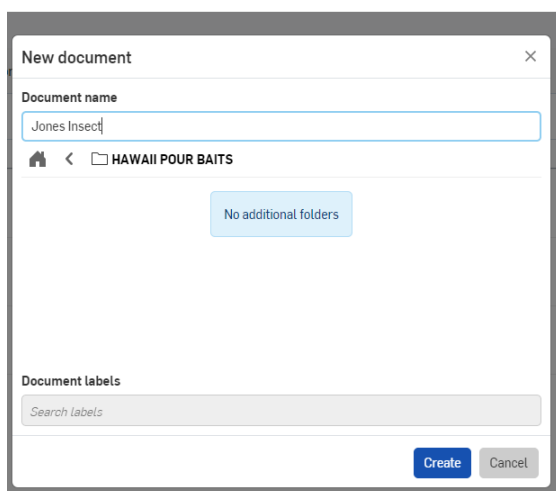
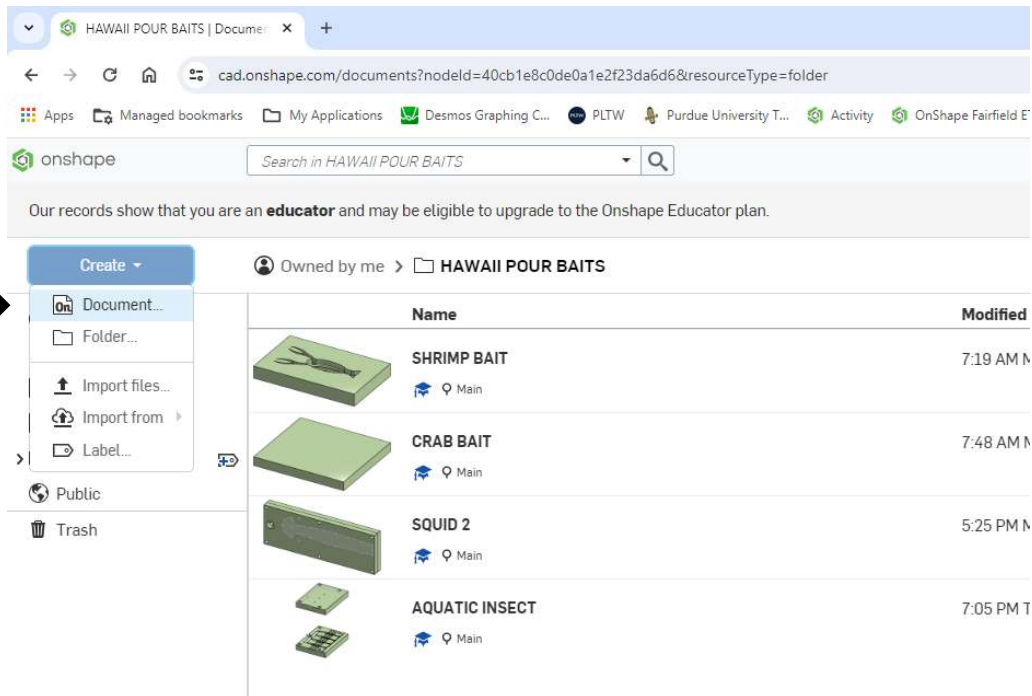


Onshape Mold Design with Three Insects

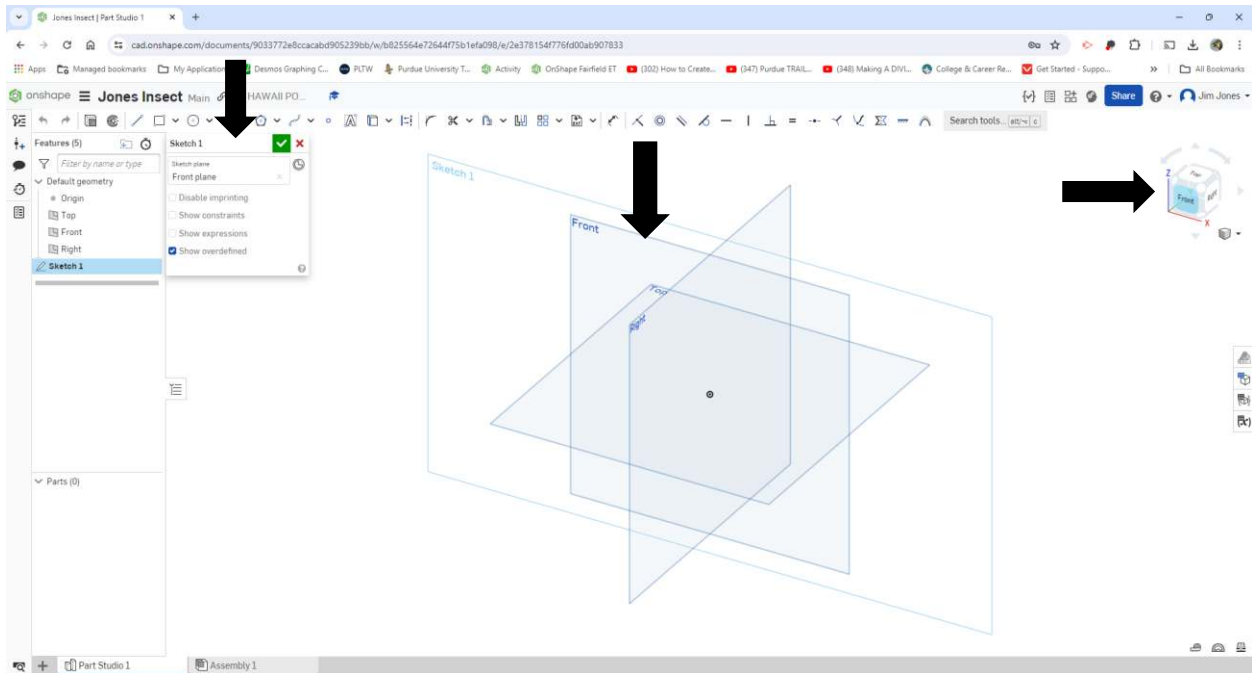
The mold will be 3”x 5” and each half will be ½” thick. There will be room for three insects and channels for skirt material.

Start with a sketch of the insect you want to cast into soft baits. The overall length of the insect should be about 1” – 1 ¾” long. The insect on the instructions is not trying to mimic any insect but it is just a sample of the process.

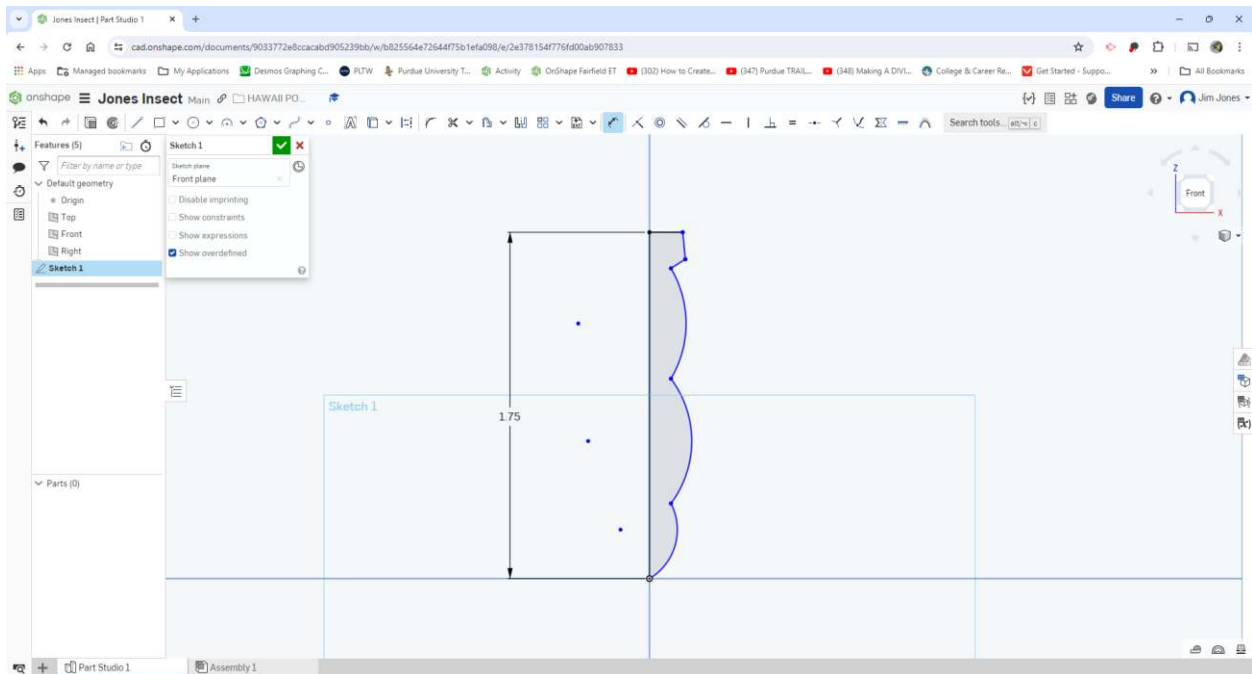
Start by creating a new document in your folder and give it a name. Click Create to start.



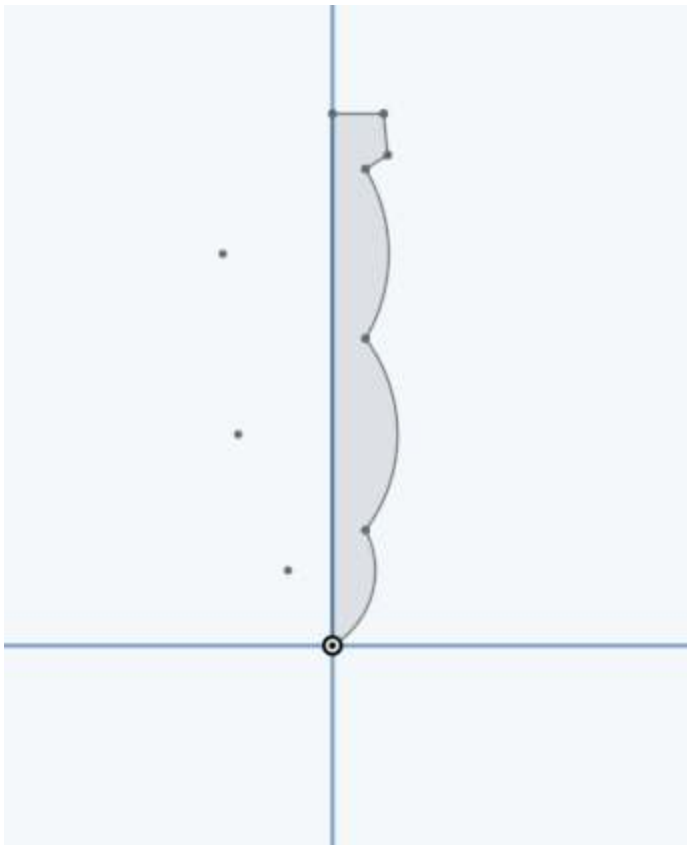
Sketch on the Right or Front plane. Highlight the plane and click on Sketch. Then click on the Front panel on the view cube. This will rotate the plane so you can draw.



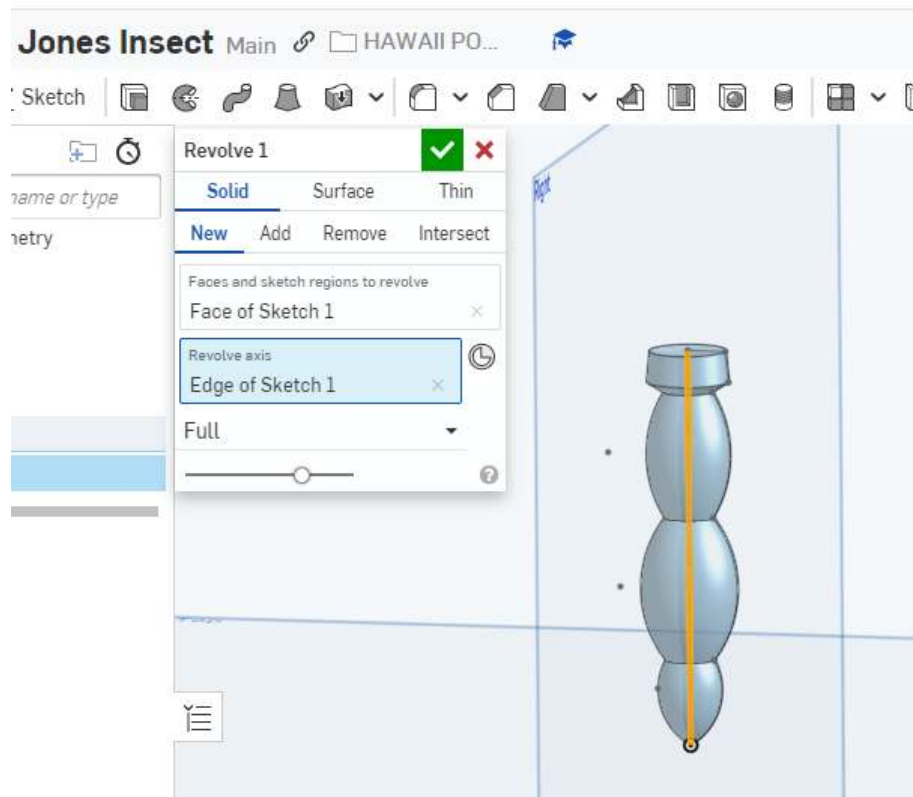
Draw a vertical line up from the origin about 1 ¾” long. Right click to escape making lines and then dimension the line to 1.75”.



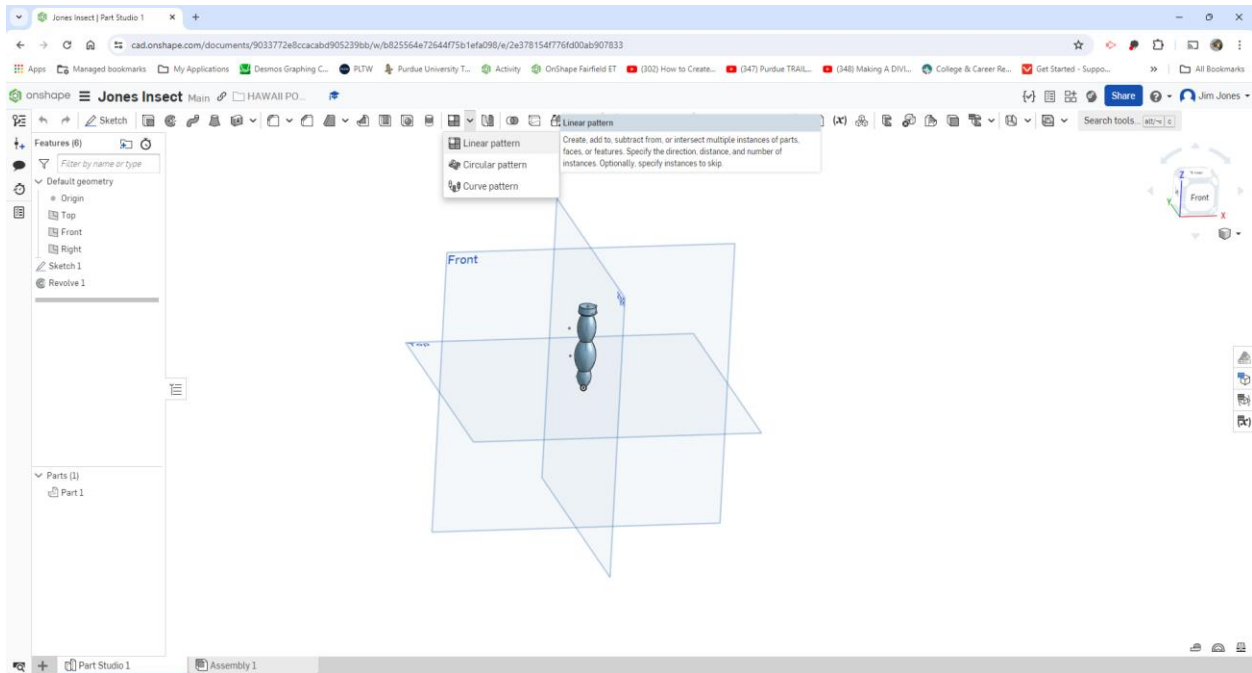
Draw on the right side of the line and make the shape you would like for your insect. I will use Revolve for this lure so I only need the right side for the sketch. When you have the sketch you like, click the green check mark to finish the sketch.



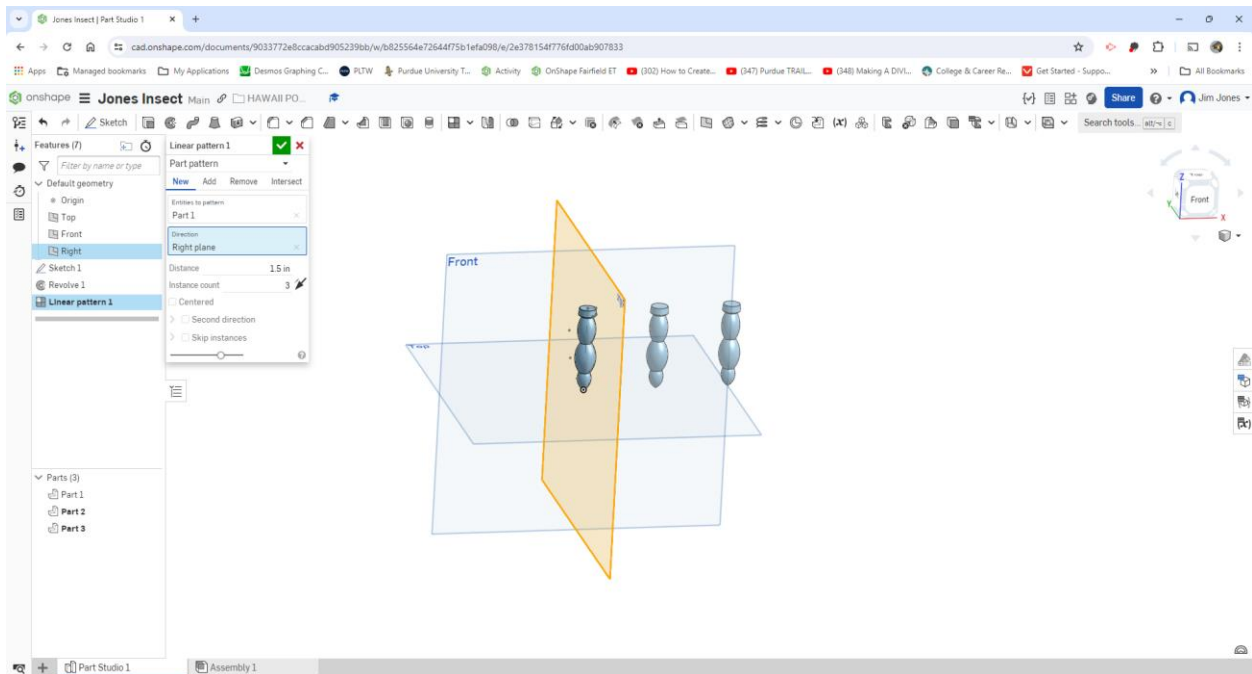
Select Revolve to create the lure a full 360 degrees. Use the vertical line as the axis. This should be New. Click the green check mark to complete the Revolve.



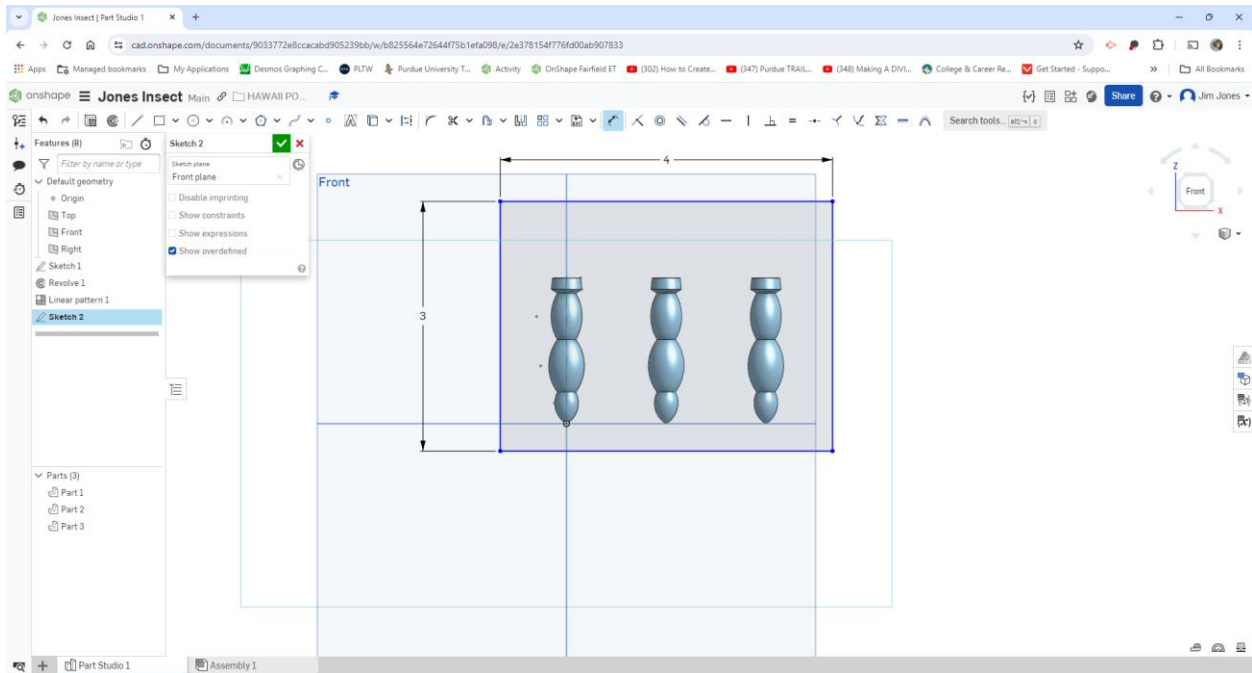
Click the drop down on patterns and select Linear pattern to add two more lures.



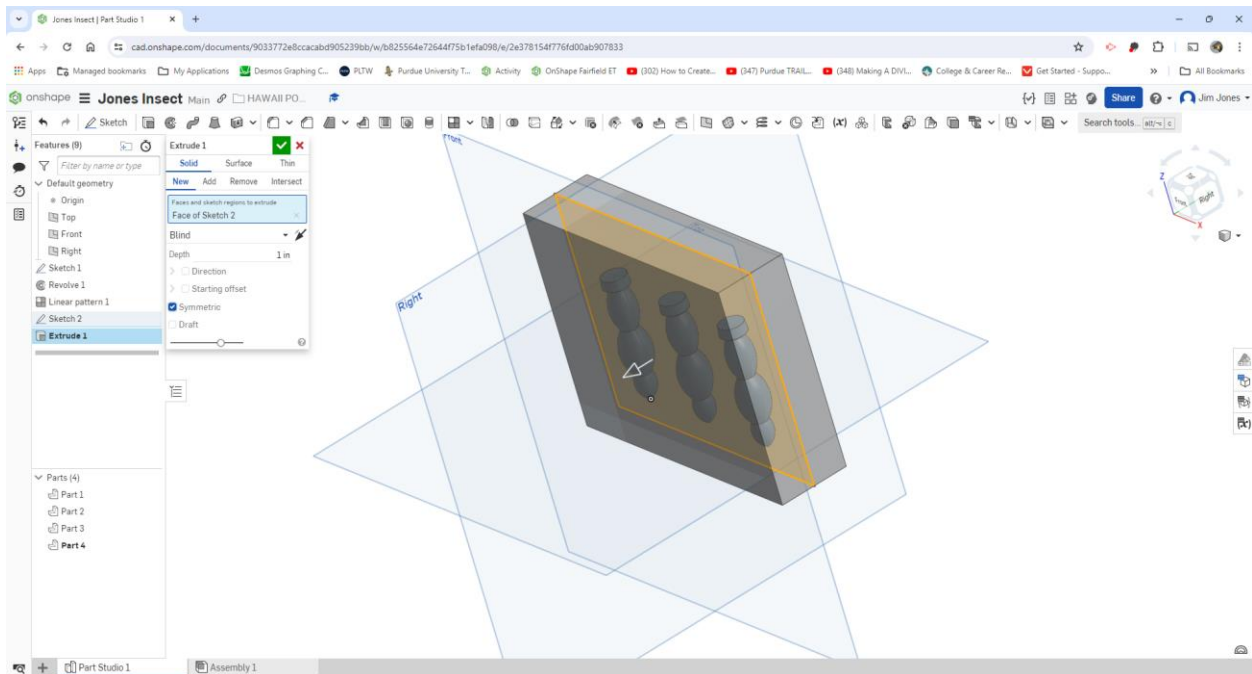
Click on New, click the lure for Entities to pattern and click on the Right plane for direction and you will now have three lures. Click the green check mark to complete the pattern.



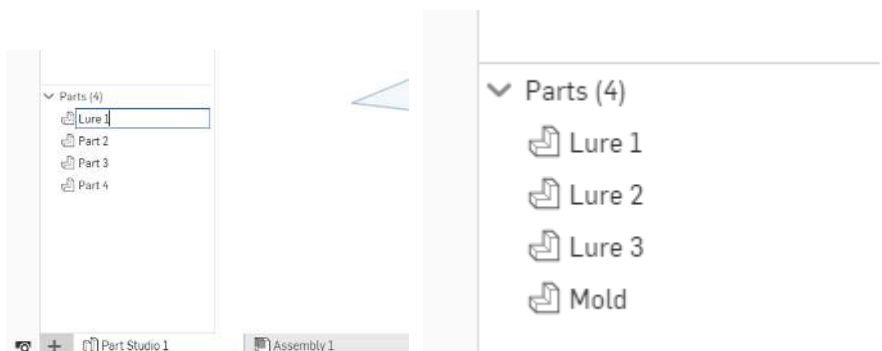
Start a New sketch on the front plane and draw a rectangle around the lures. The size depends on the lures. The normal size for my classes is 3" x 4". Click the green check mark to complete the sketch.



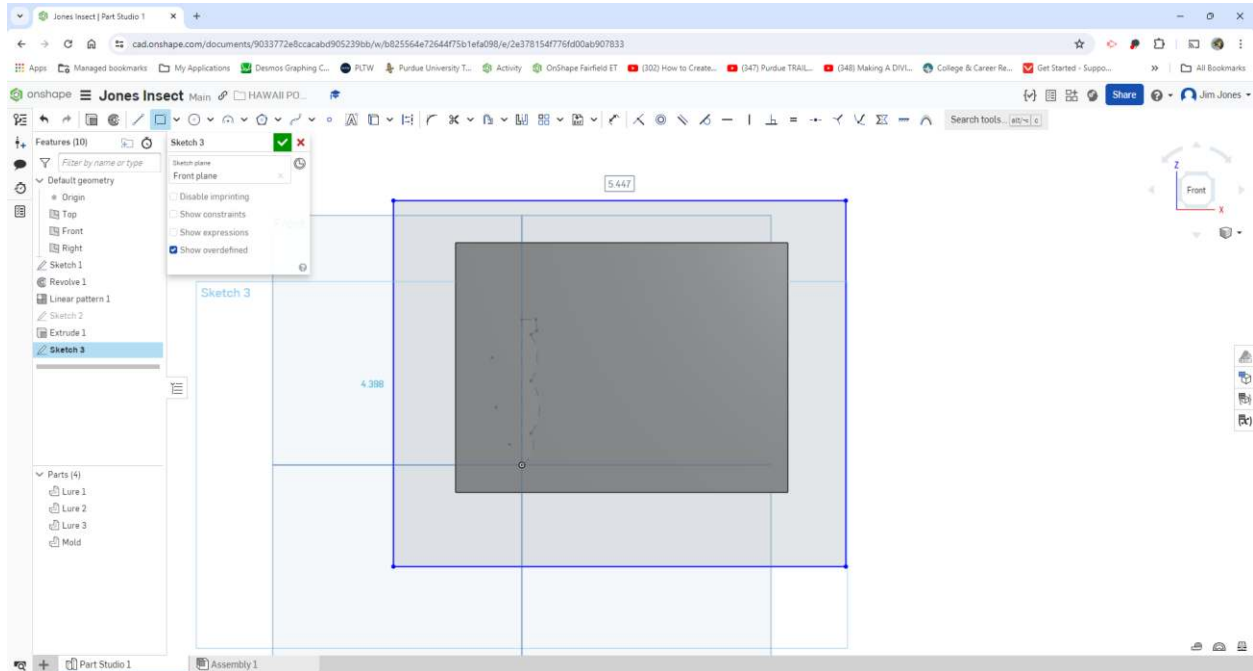
Extrude the rectangle making it a New extrude, Symmetric and 1" total thickness. Click the green check mark to complete the extrude.



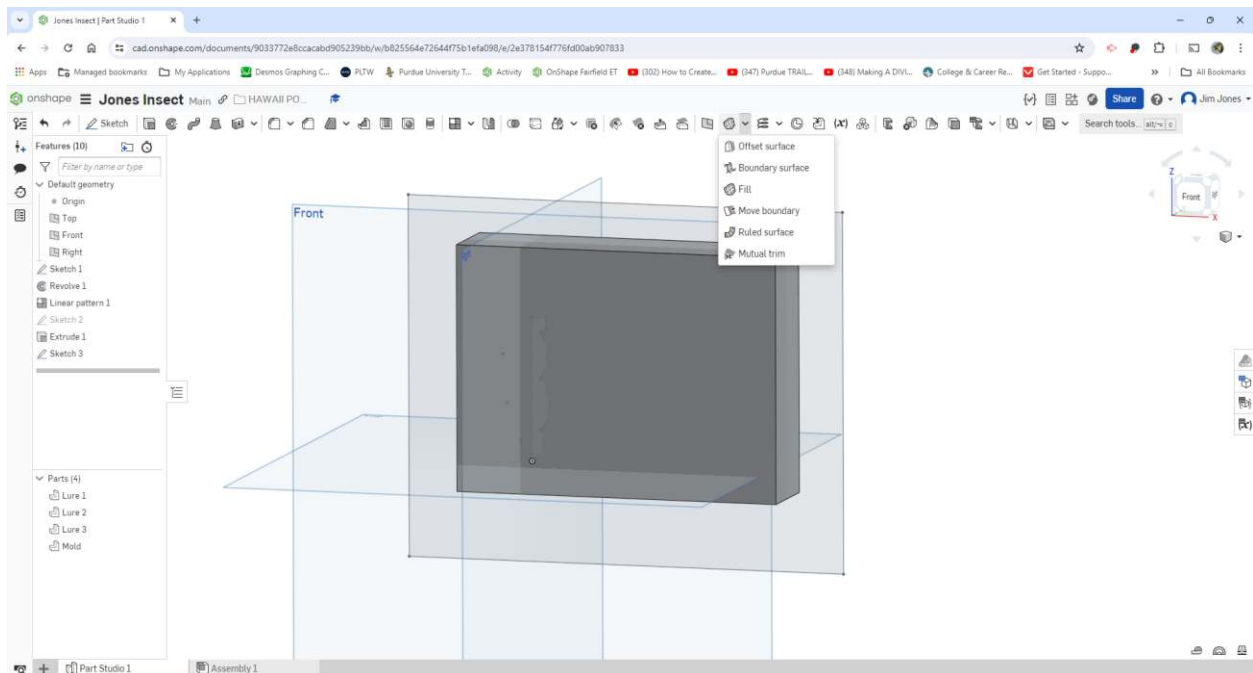
Rename the parts in the browser to help keep organized. Lure 1, Lure 2, Lure 3 and Mold.



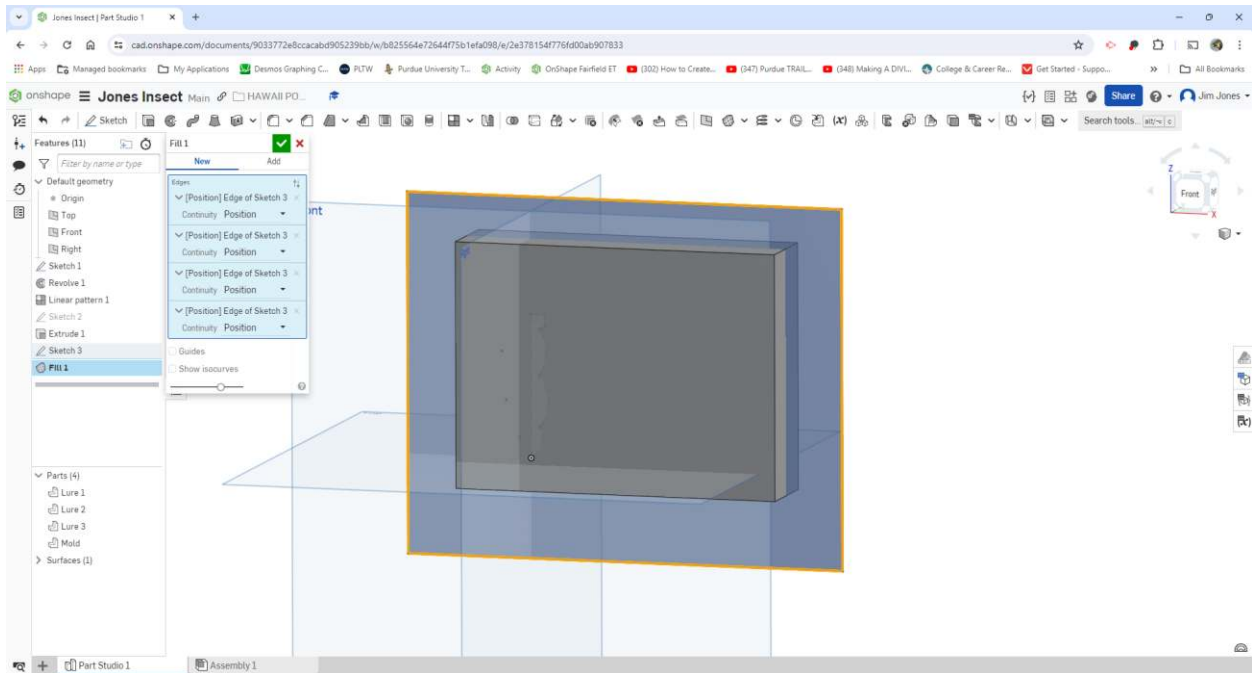
Make a New Sketch on the Front plane and draw a rectangle bigger than the mold. Click the green check mark to complete the sketch.



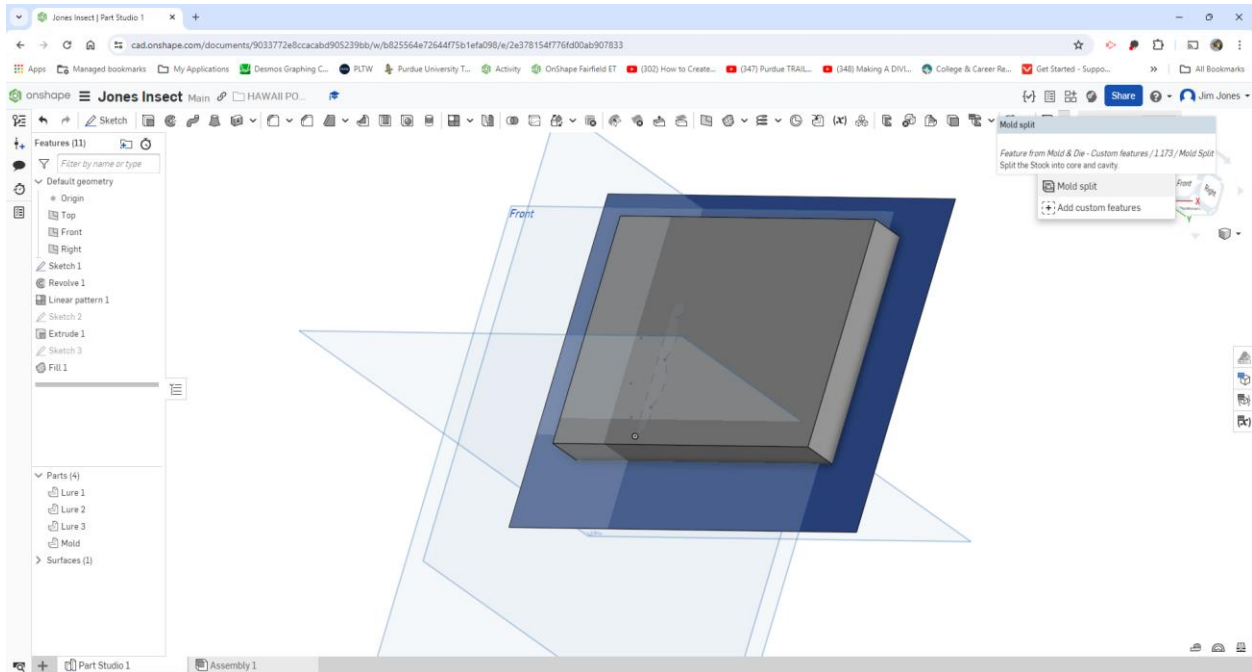
Open the drop down menu and select Fill and click on each line of the new rectangle.



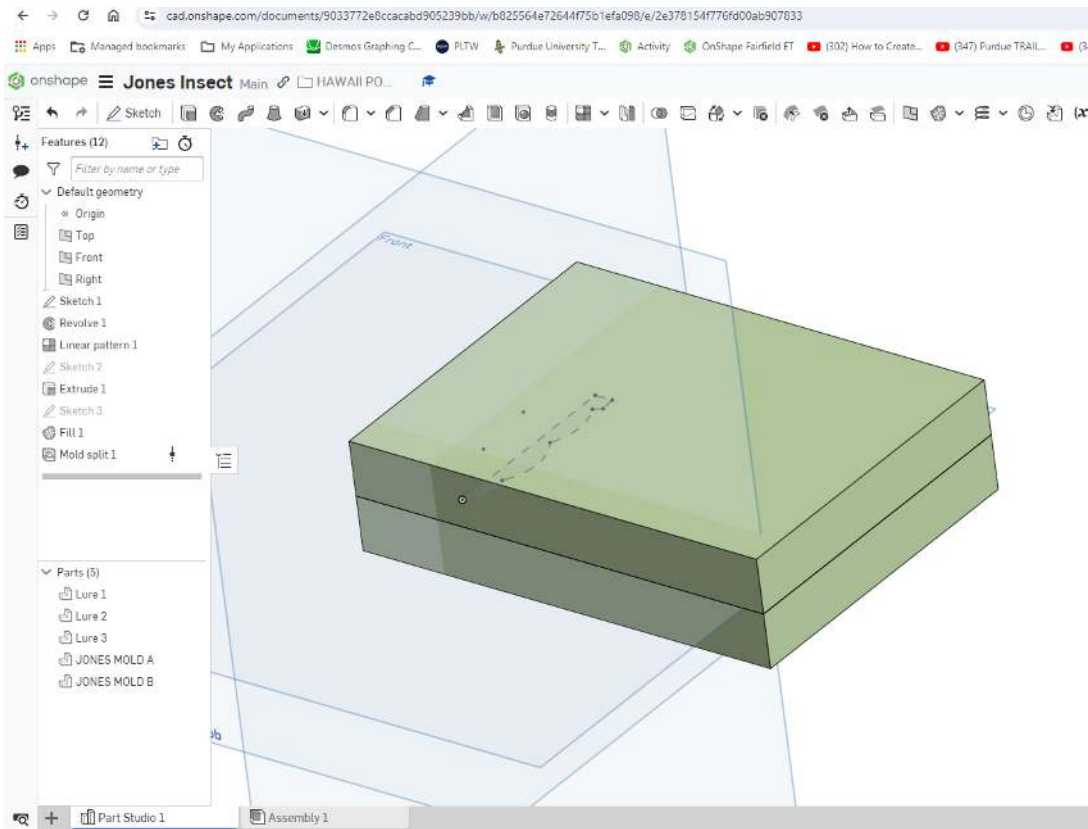
The rectangle will turn blue and the lines will be yellow. The four selections show in the box. Besure to have New selected and not Add. Green check mark will complete the Fill



Open the drop down menu to find Mold Split. You may need to use the Search tool to find Mold split.

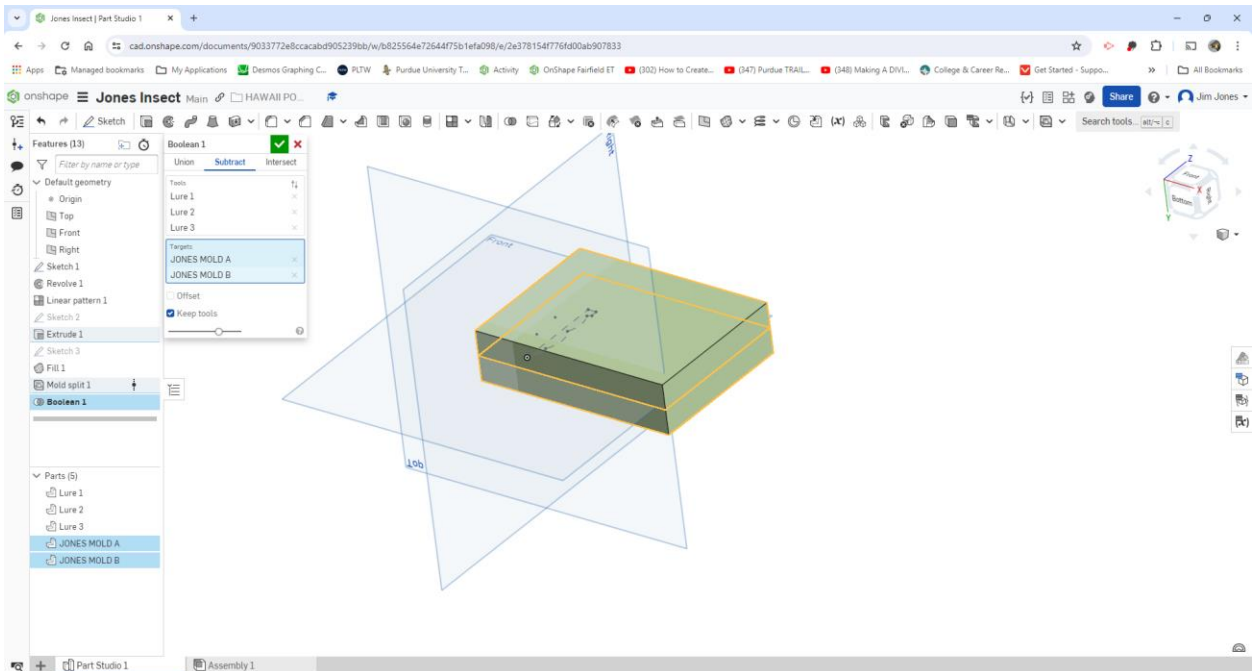


Click Mold part and click lure 1, Stock part click the Mold and Parting Surface click on the blue surface. Click on explode to see the separate parts. If explode does not work that is okay. You should have two mold parts and it is a good idea to Rename them at this time.

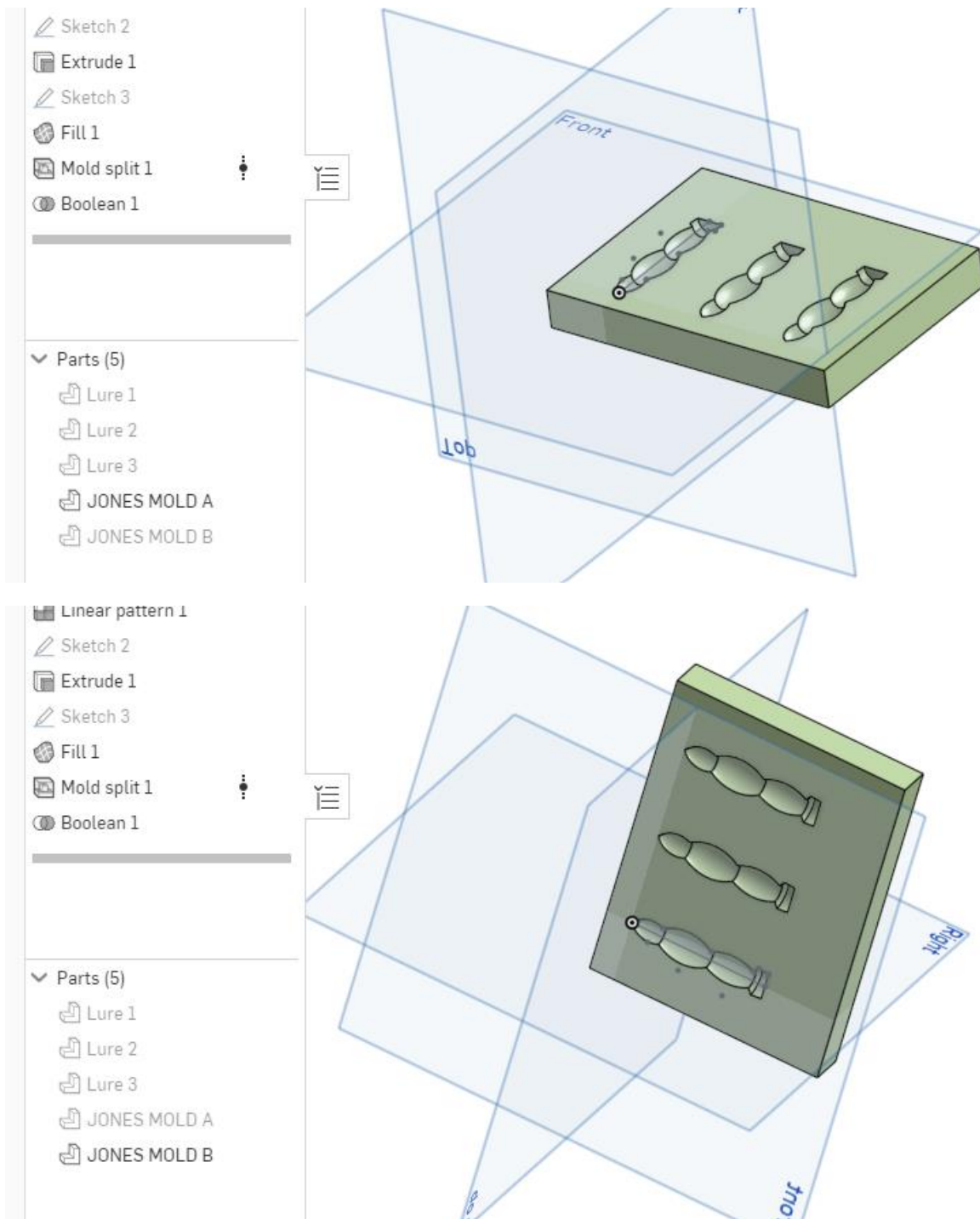


Hide the lures and the top of the mold and only one cavity shows in the mold. The next couple of steps will get the other two lure cavities to develop.

Unhide the parts and select Boolean from the ribbon. Select Subtract, Tools are the lures so click on them. Targets are the two mold parts. Click the green check mark to complete.

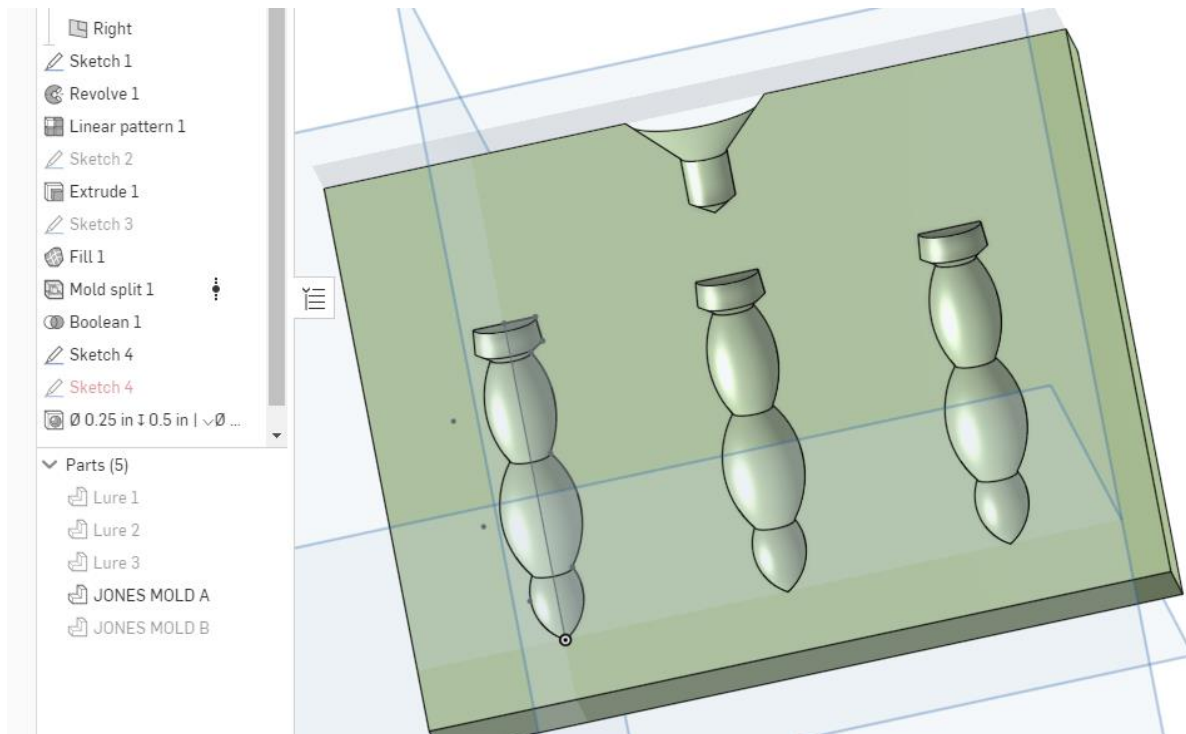
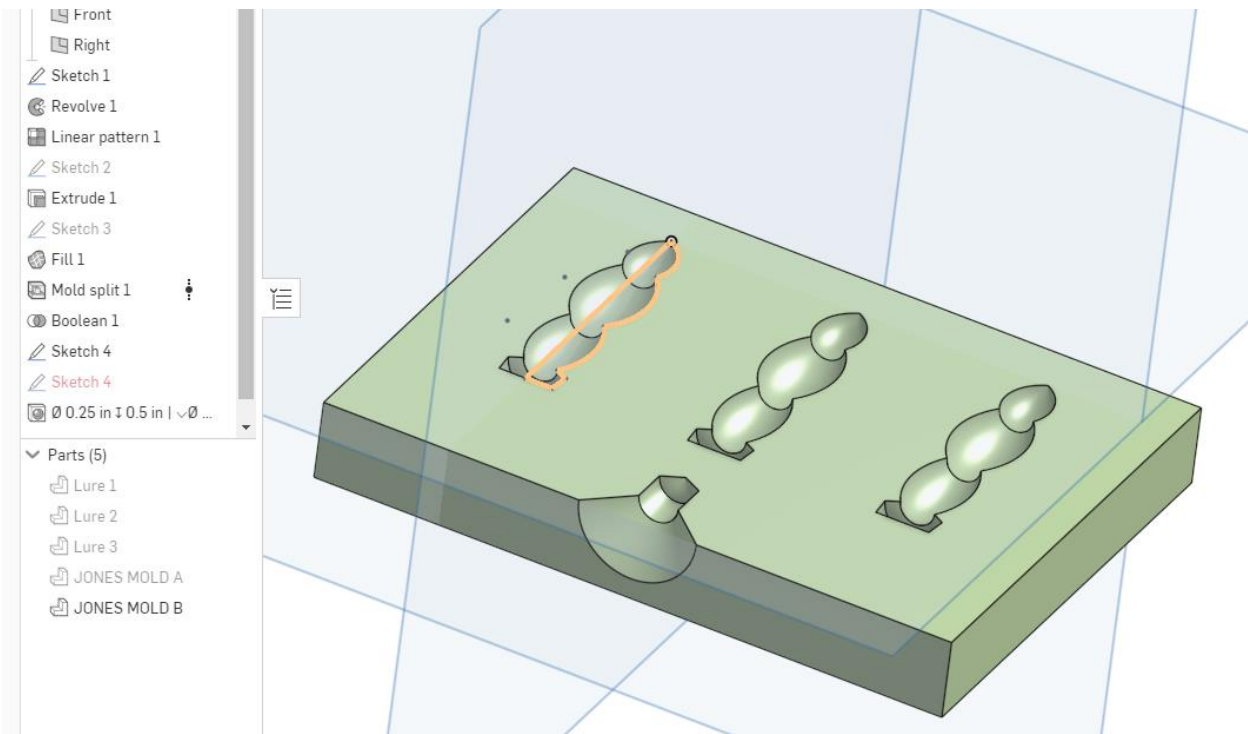


Hide the lures and the top half of the mold and you will see three lure cavities. Do the same for the other half of the mold.

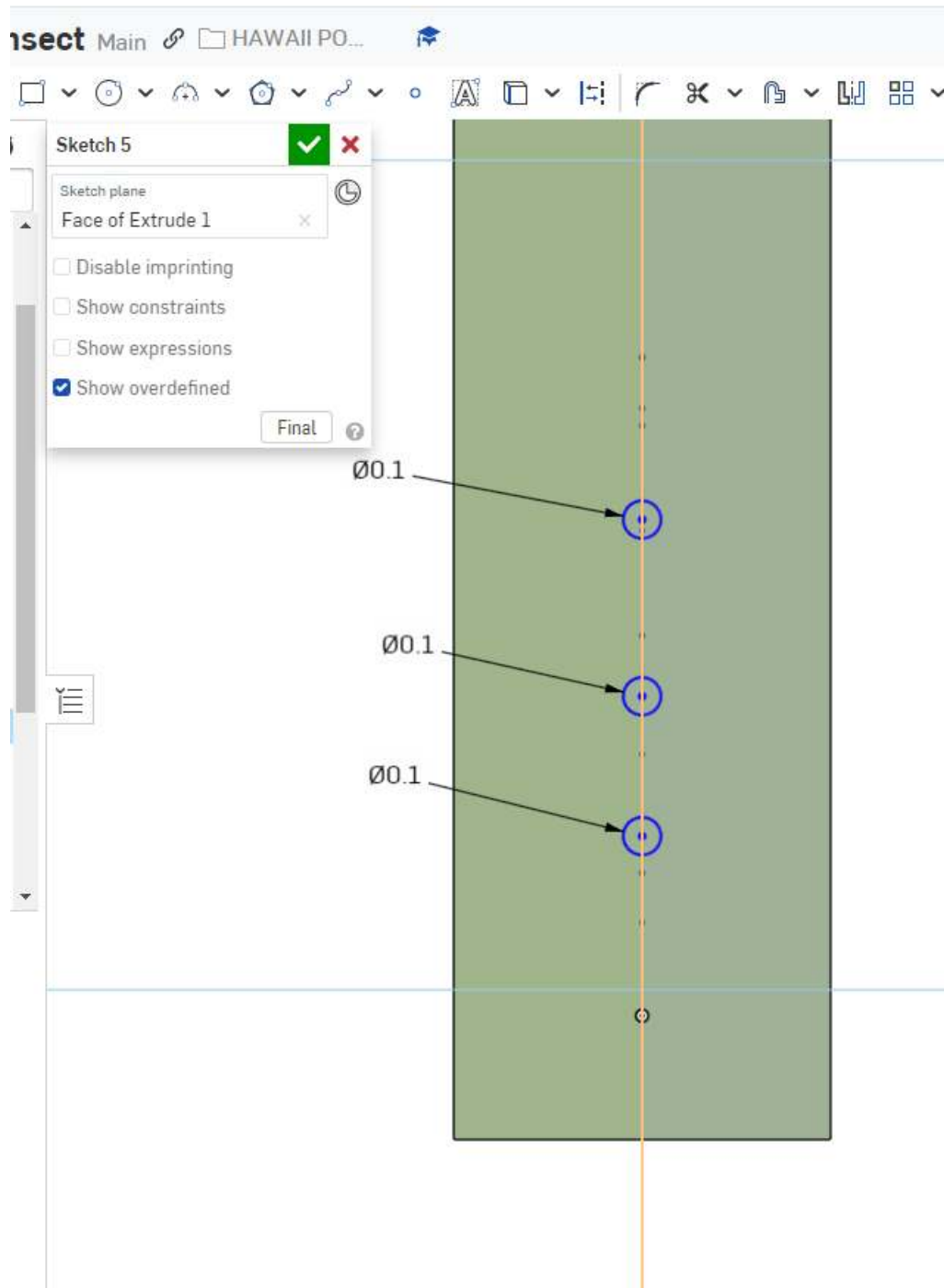


This mold will have channels for skirt material for legs and air vents. It will have a countersink opening on the top edge and it will need more channels on the inside for the hot plastic to fill the void.

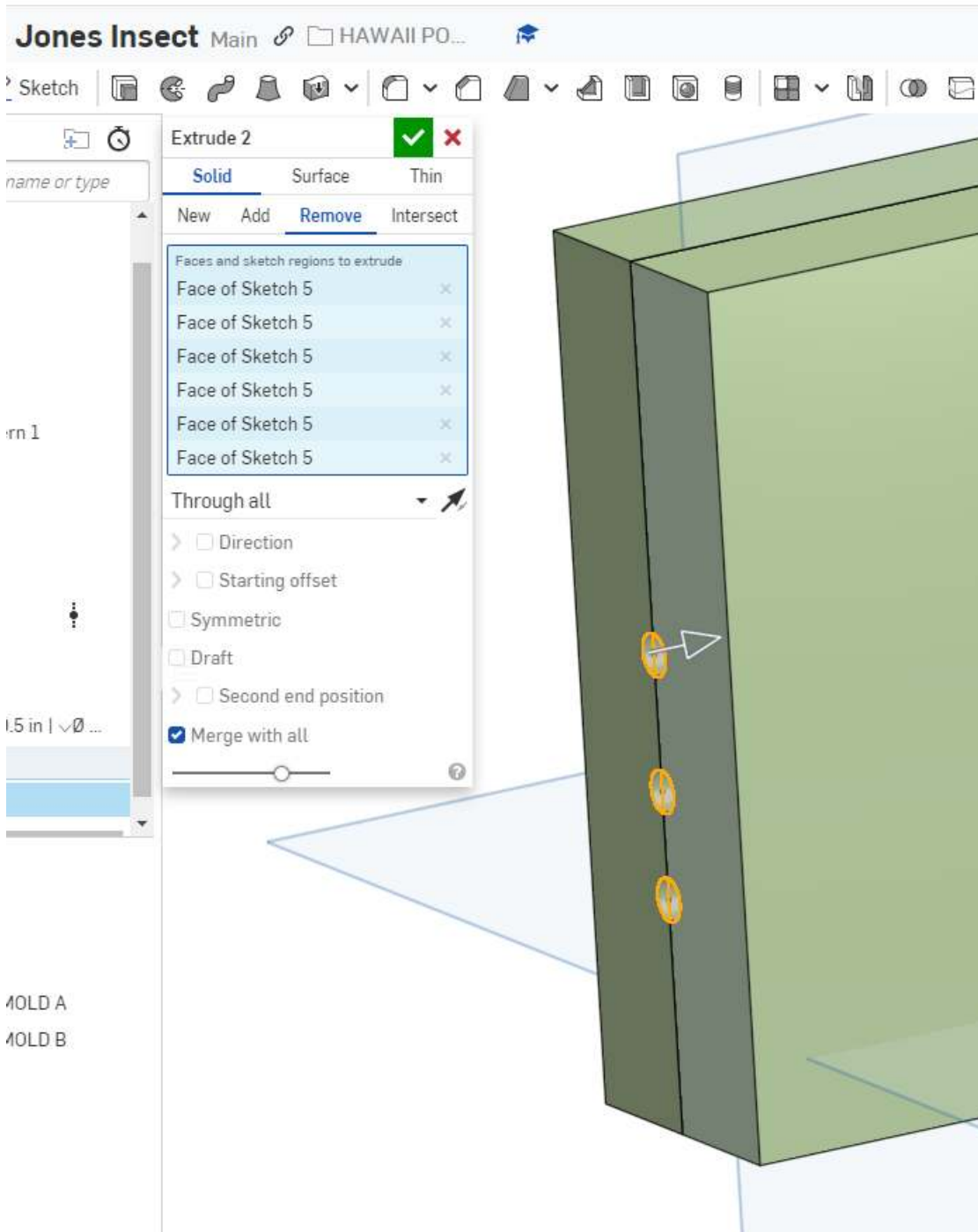
Select New sketch and click on the top surface. Draw a Point on the middle line of the mold centered from both ends. Finish the sketch.



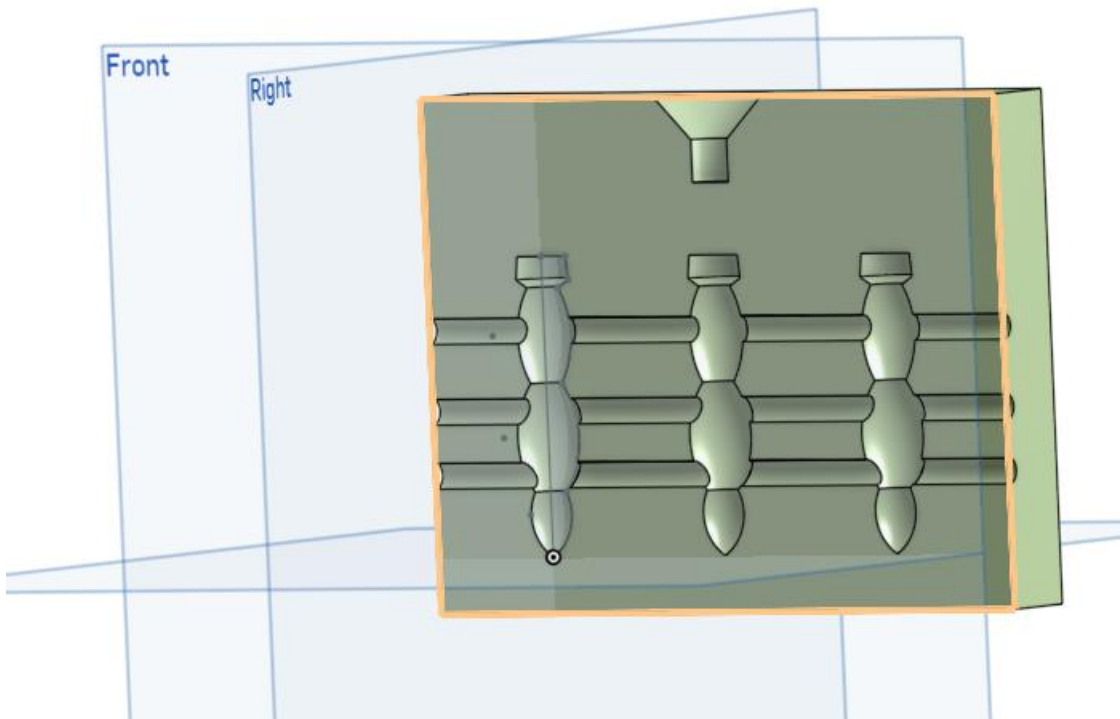
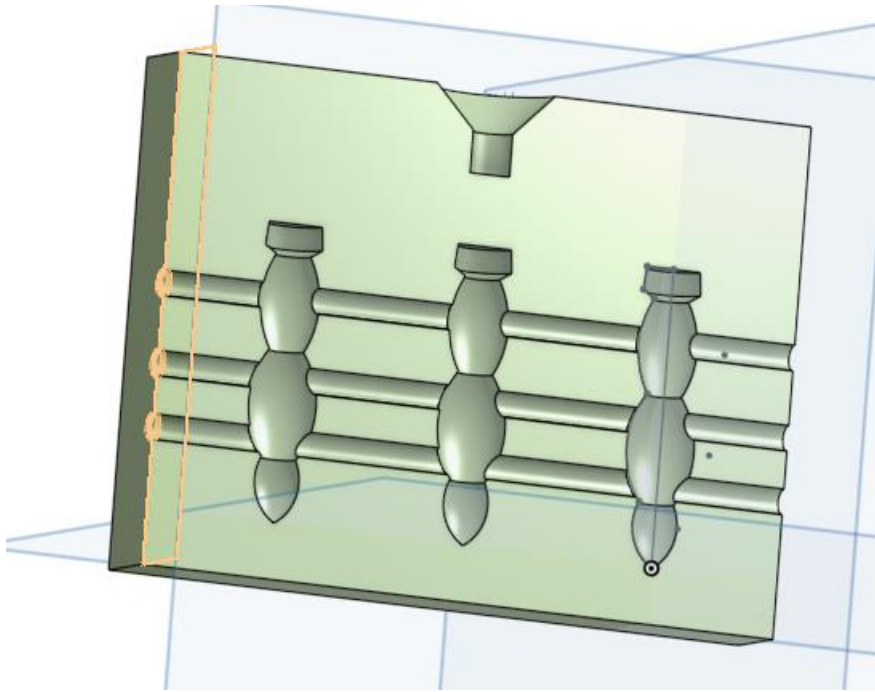
Start a new Sketch on the end of the molds to put in the channels for the skirt material for the legs. To draw the circles you can hide one side of the mold and unhide one of the lures to get the circles in the correct location. Unhide the mold and finish the sketch. I dimensioned the circles to 0.1”.



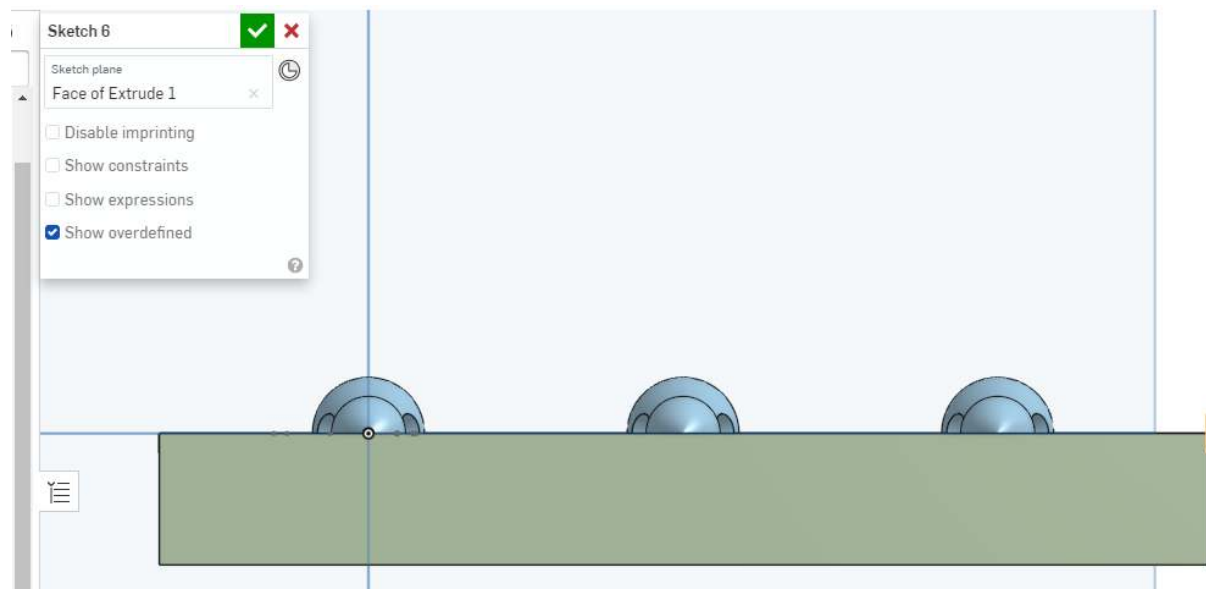
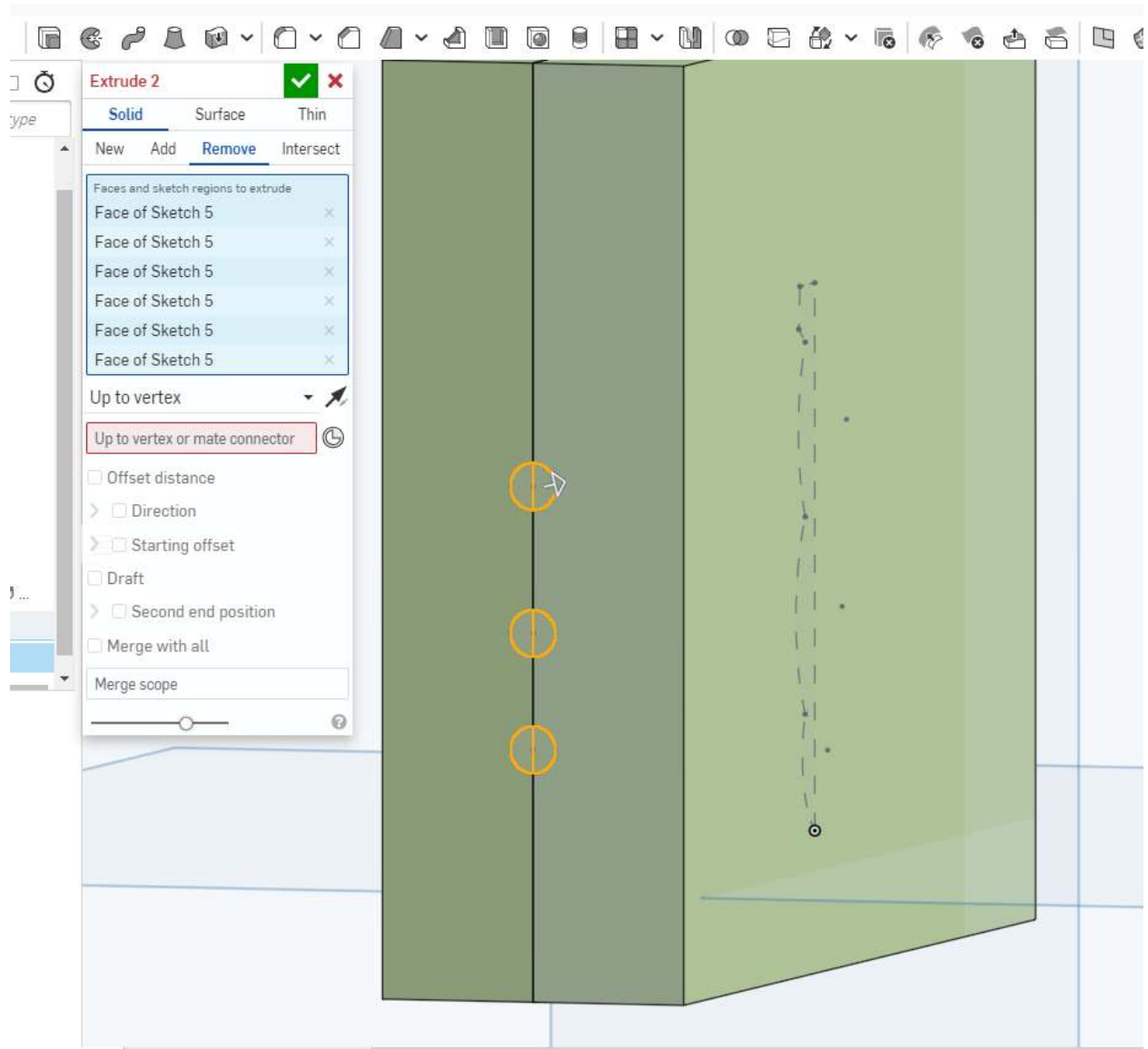
Extrude the three holes. Remove material and go all the way through. Click both parts of the circles to extrude in both halves of the mold. Besure to select Merge with all.

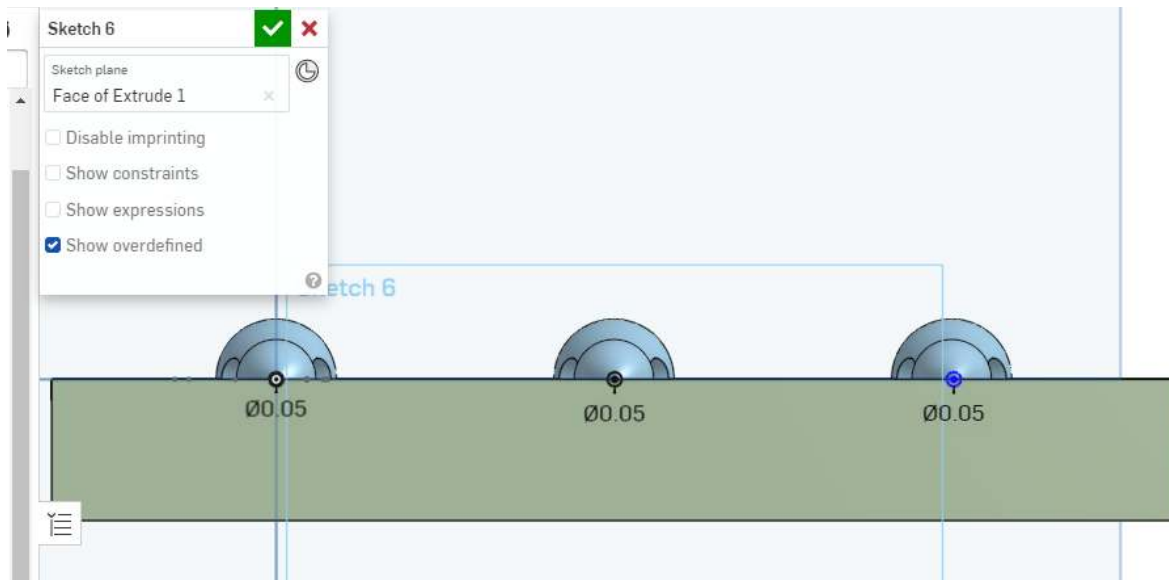


Finish the Extrude and check the molds.

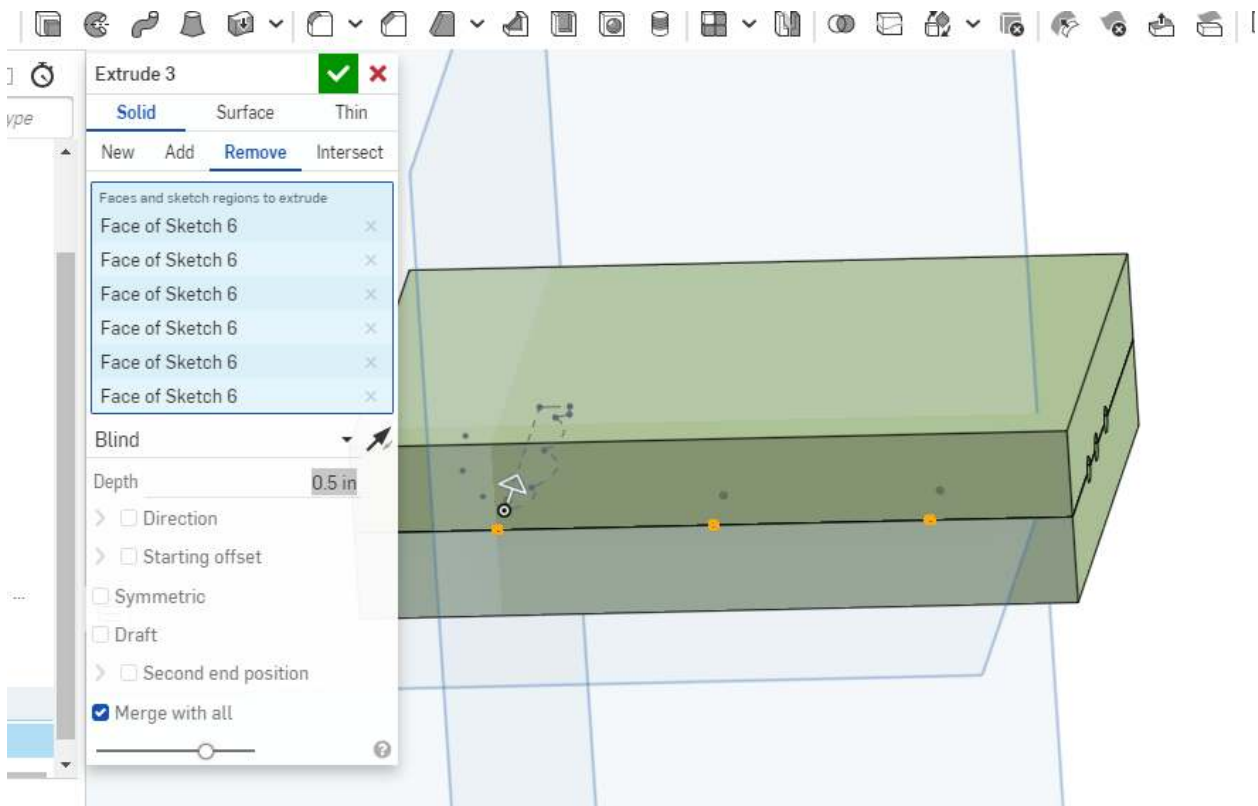


Start a new Sketch on the bottom of the molds to create the vent holes. Hide one of the molds and turn on the three lures to line up the circles.

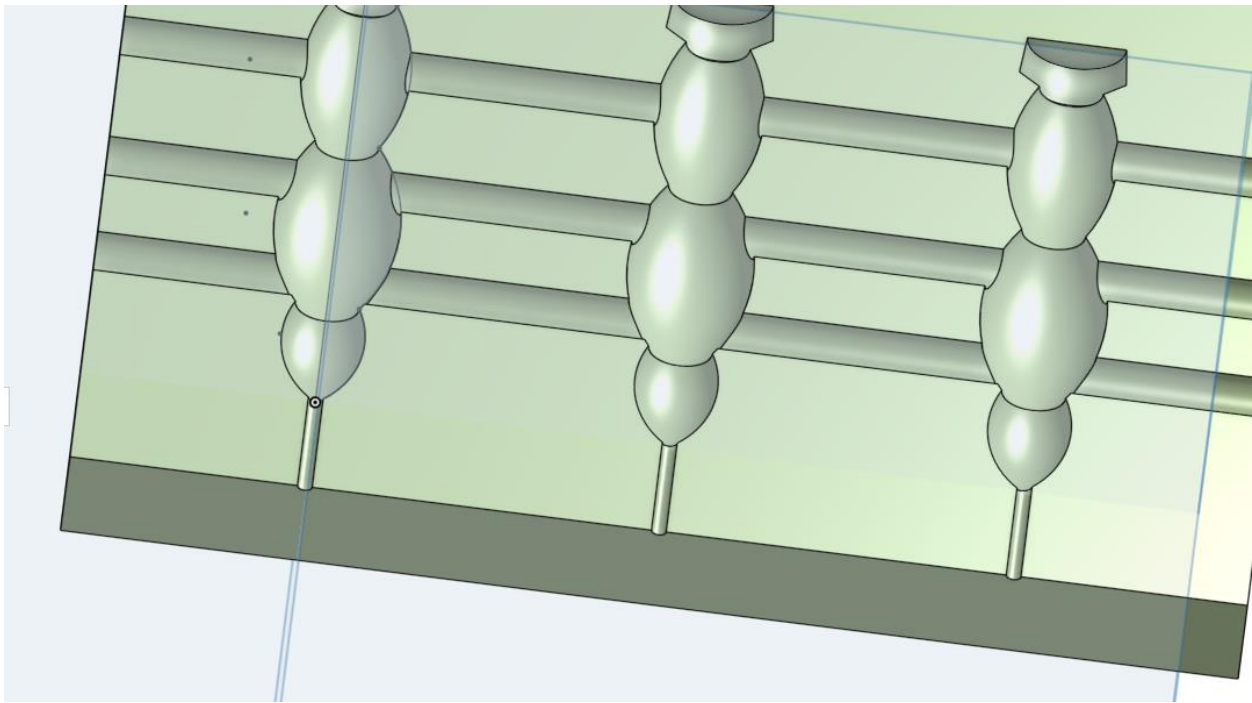




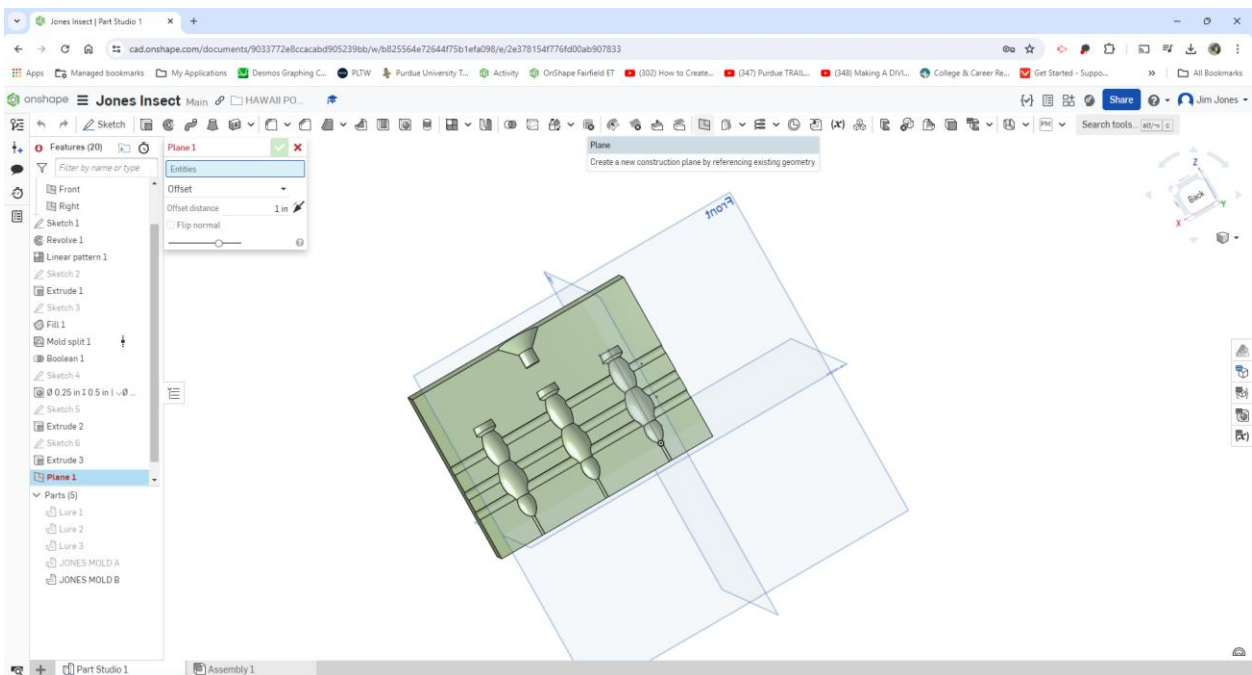
Turn on the molds and hide the lures. Finish the sketch. Extrude the holes into the lure cavity. When all parts of the circles are selected, finish the extrude.



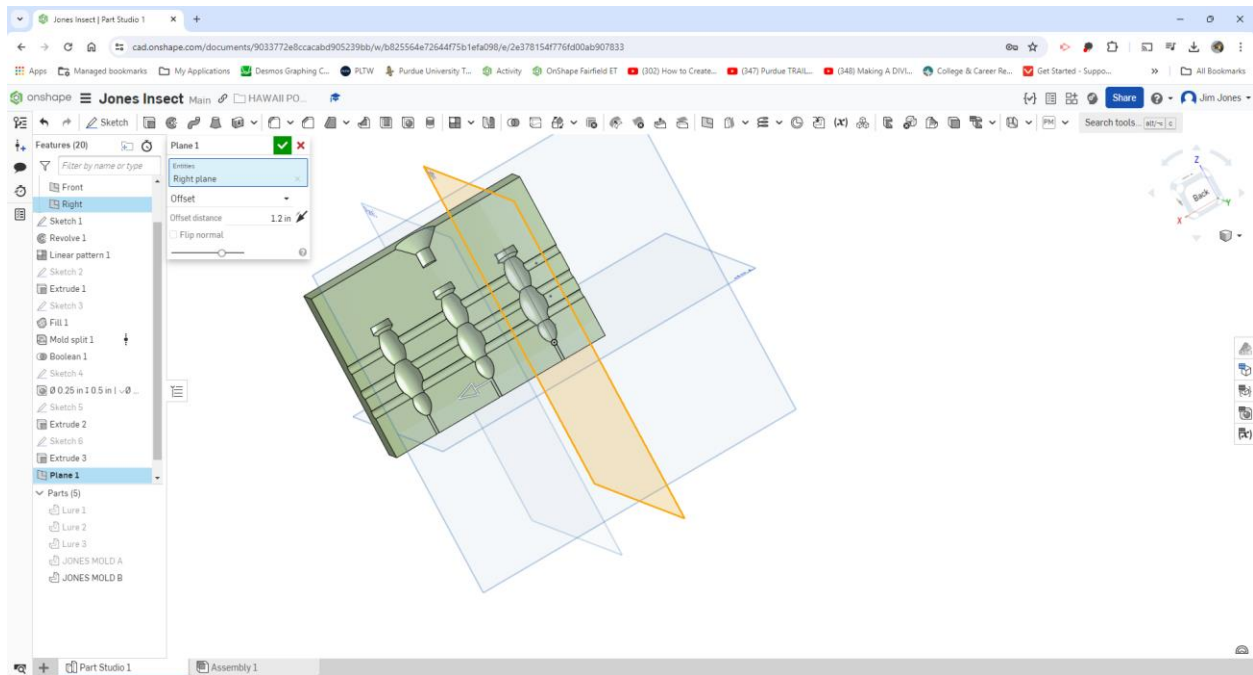
Check the molds and make sure each one has vent holes.



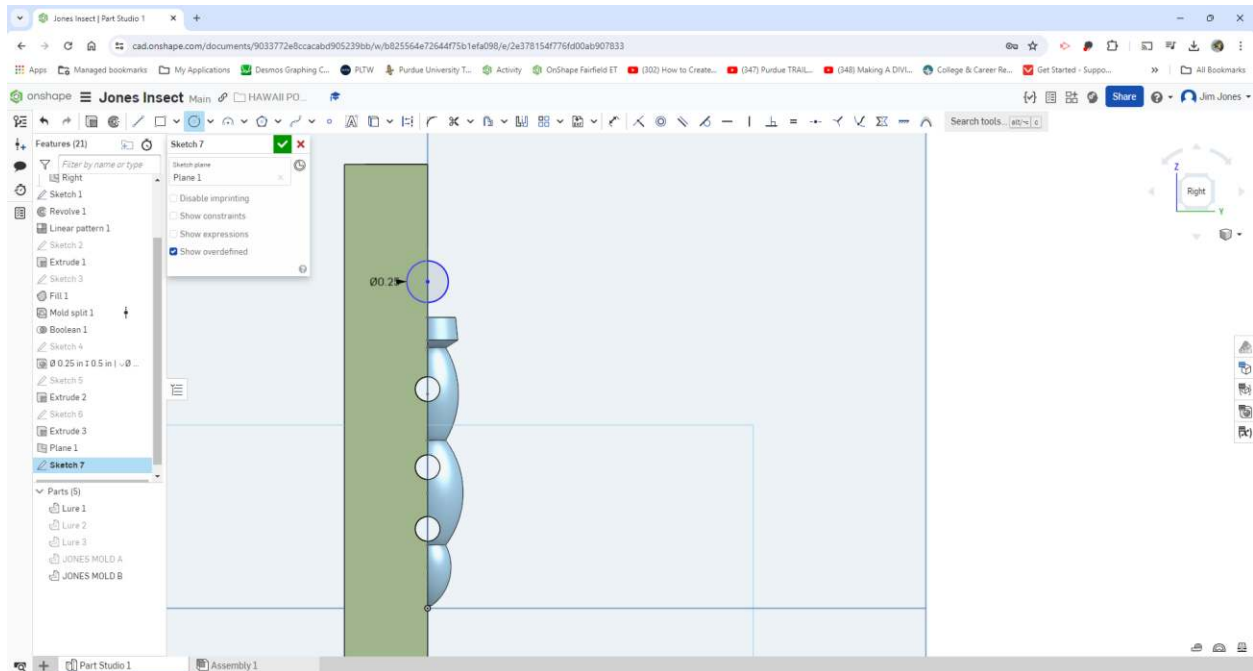
Now you need to add an offset plane through the center of the middle lure cavity and counter sink hole. Click on the plane icon and then select the Right plane and offset to the center. My Offset distance is 1.2" but yours may be different.



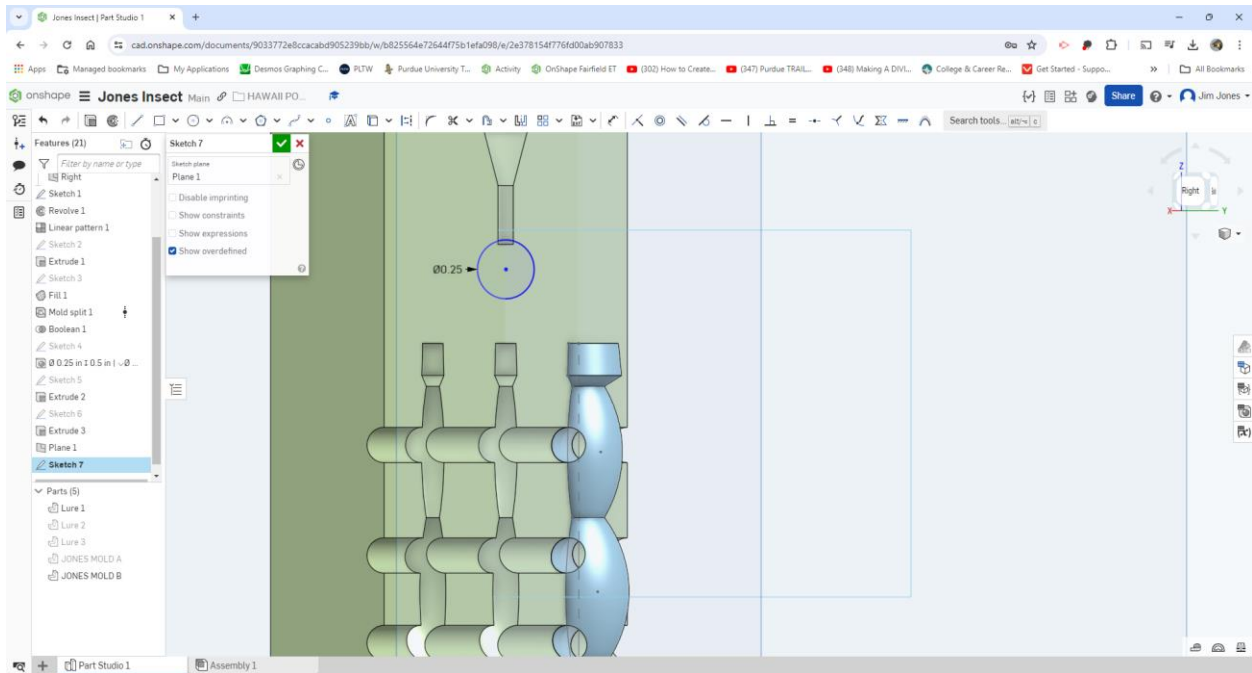
When the plane lines up Click the green check mark.



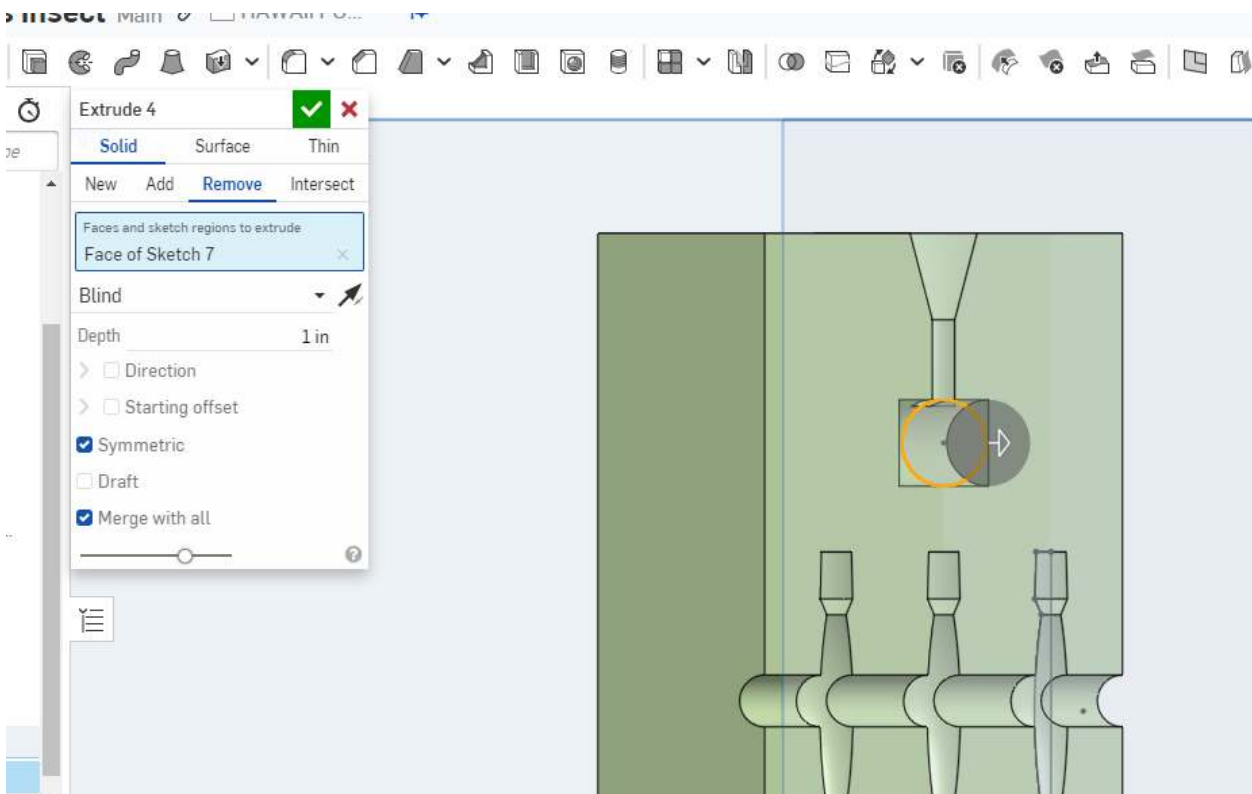
Make a new Sketch on the new plane and draw a .25" circle on the plane to create a channel above the three cavities. Unhide the other mold and one of the lures to line up the circle. Draw the circle and then tilt the mold to see if the circle is in the correct location.



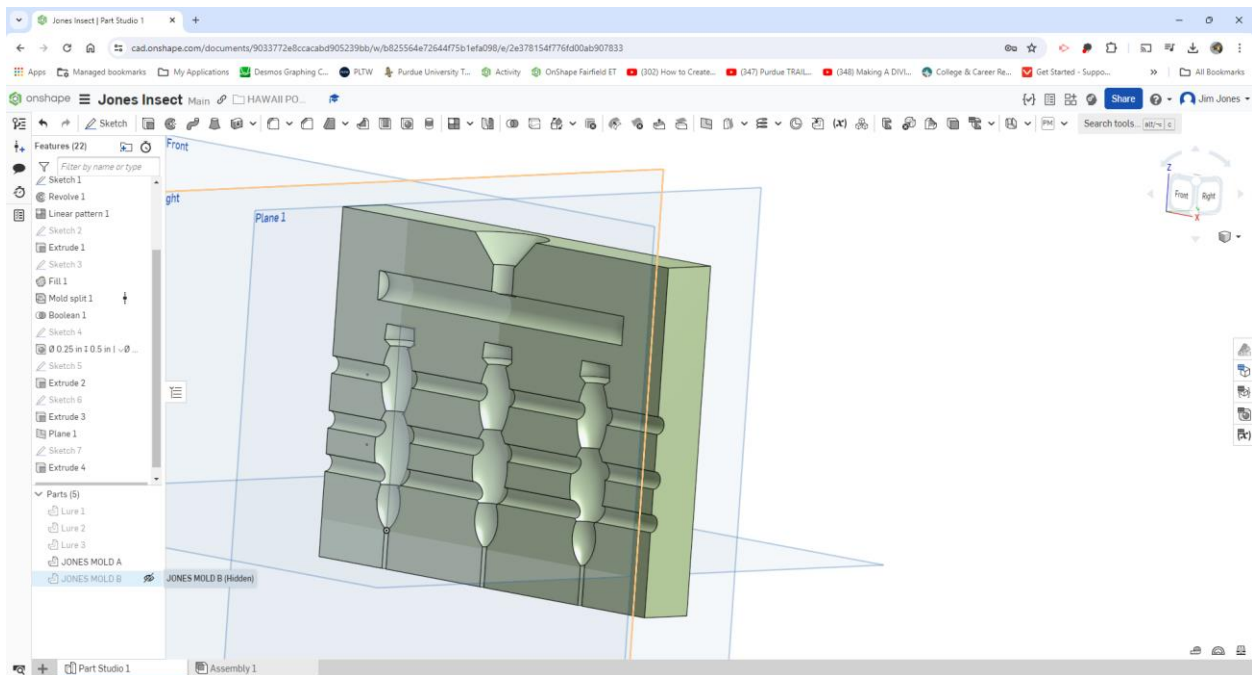
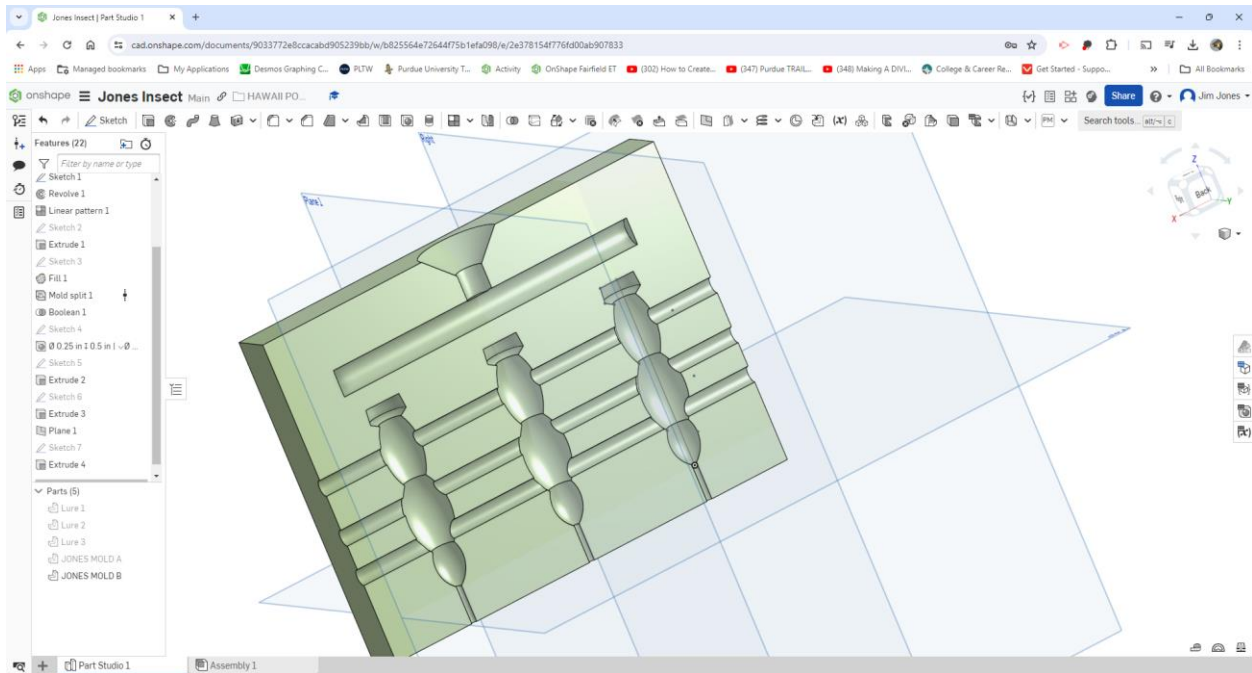
The circle should intersect the countersink hole.



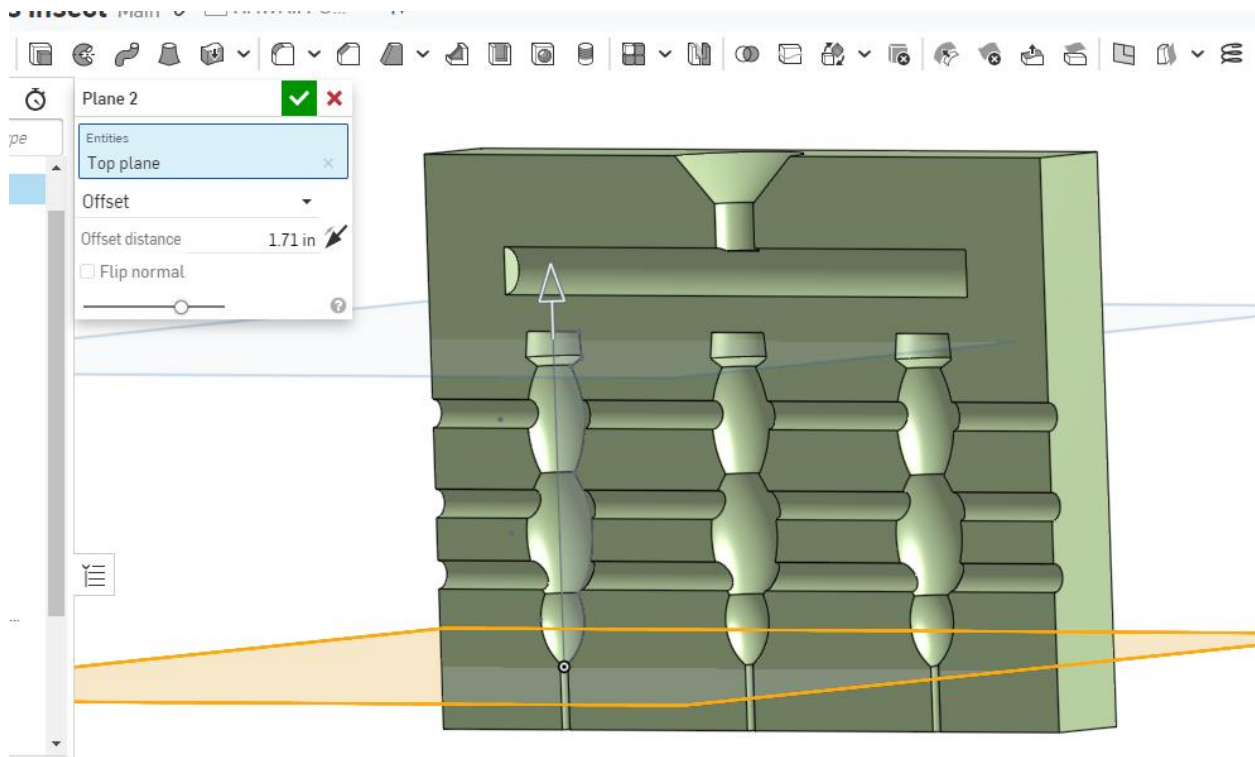
When the circle lines up finish the sketch by clicking the green check mark. Hide the lure;



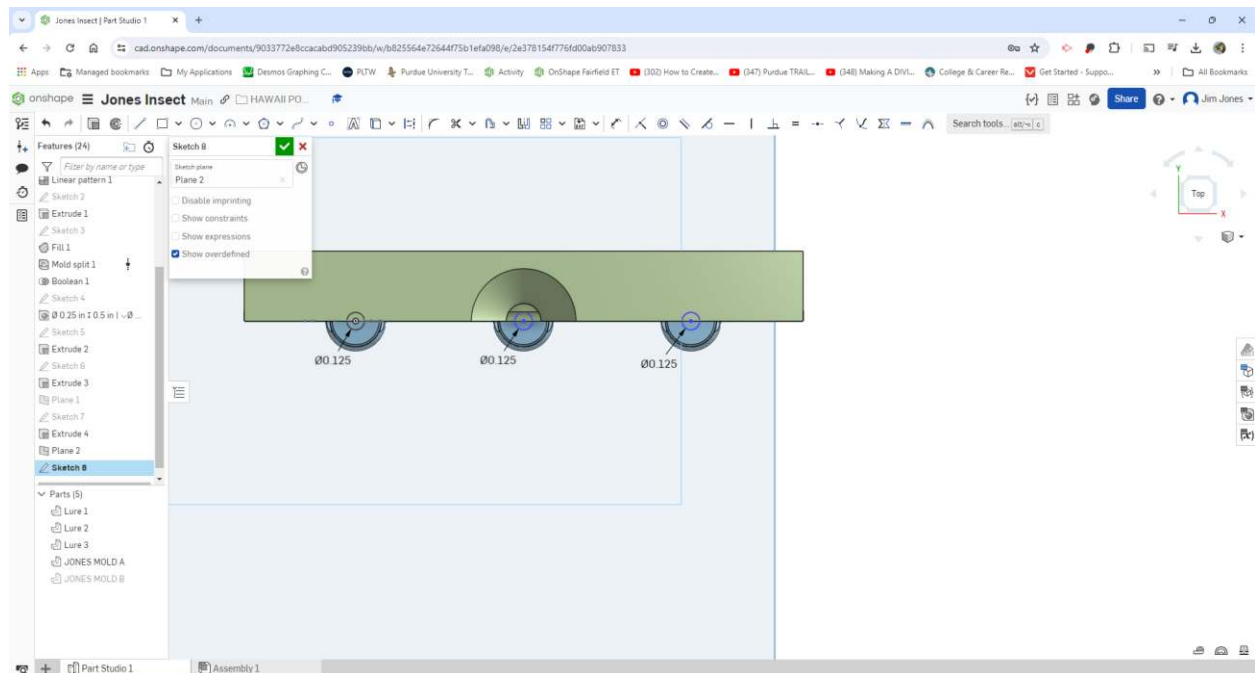
Extrude the circle and unhide the other part of the mold. Be sure to select Remove, Symmetric and Merge with all. Distance should be 3". Click the green check mark and then confirm the channel goes over each lure. Hide and Unhide each part of the mold to confirm.



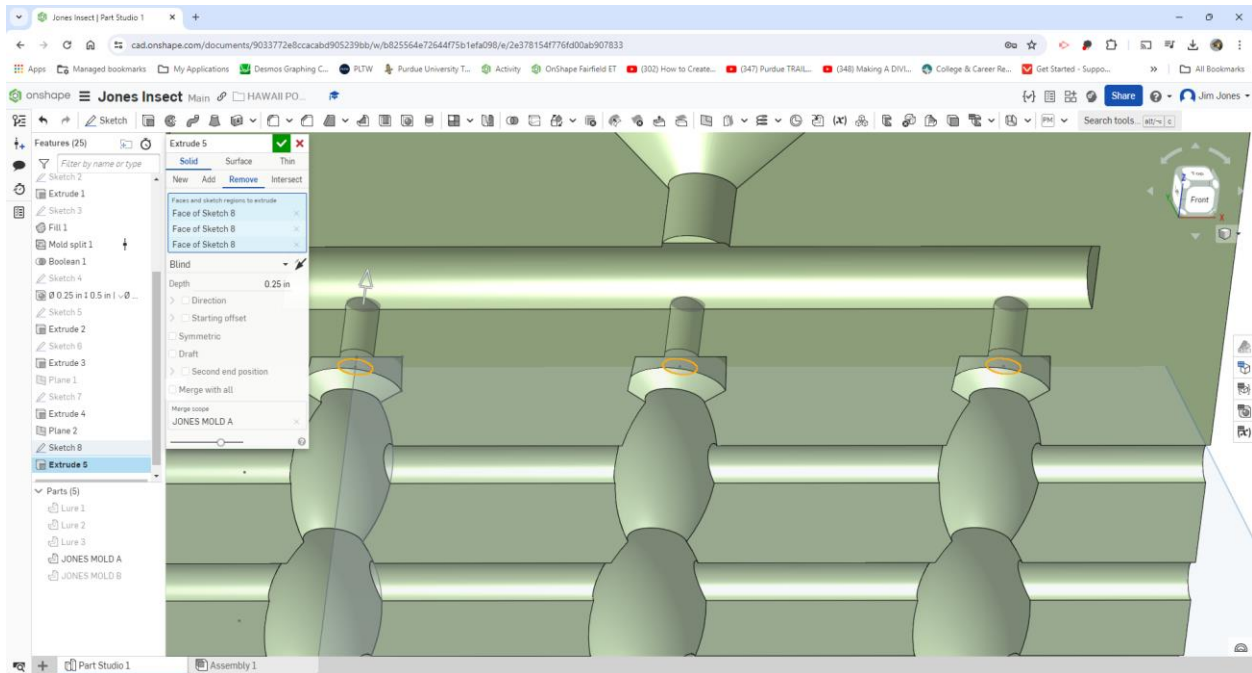
Create a new plane at the top of the three lures to create channels. Set the plane just below the top of the lures and click the green check mark.



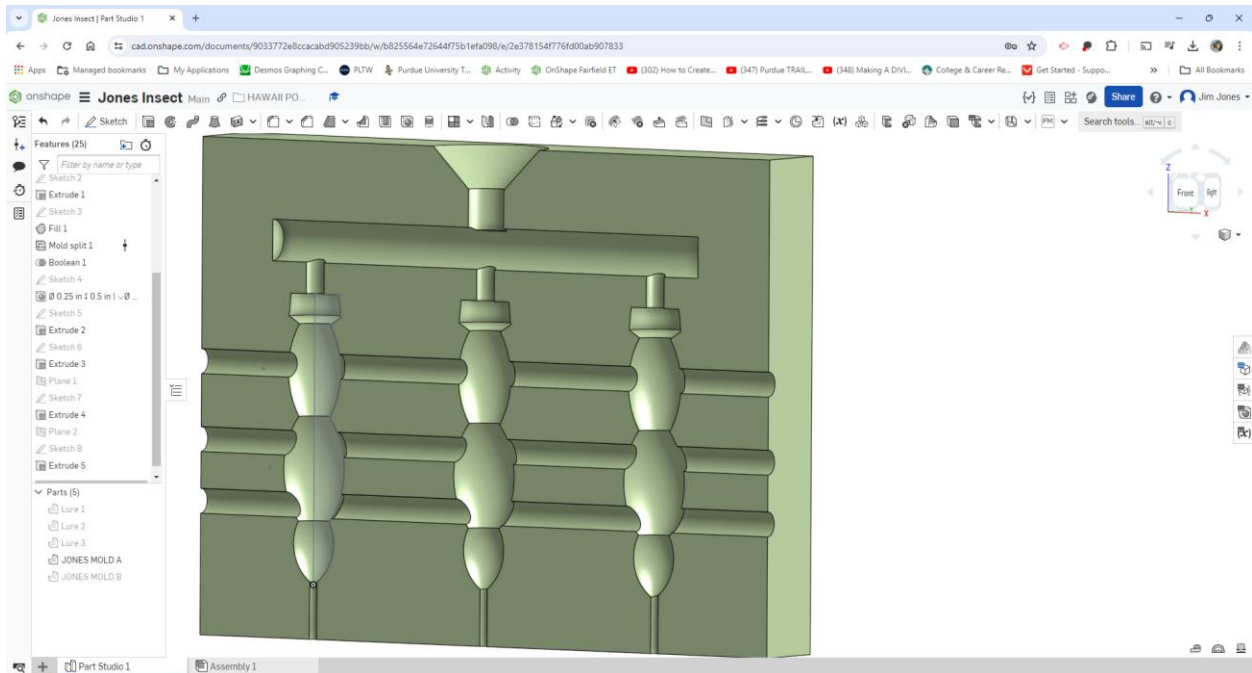
Start a new Sketch on the new plane. Unhide the three lures and draw circles at the center of each lure. Diameter should be .125". Finish the sketch.

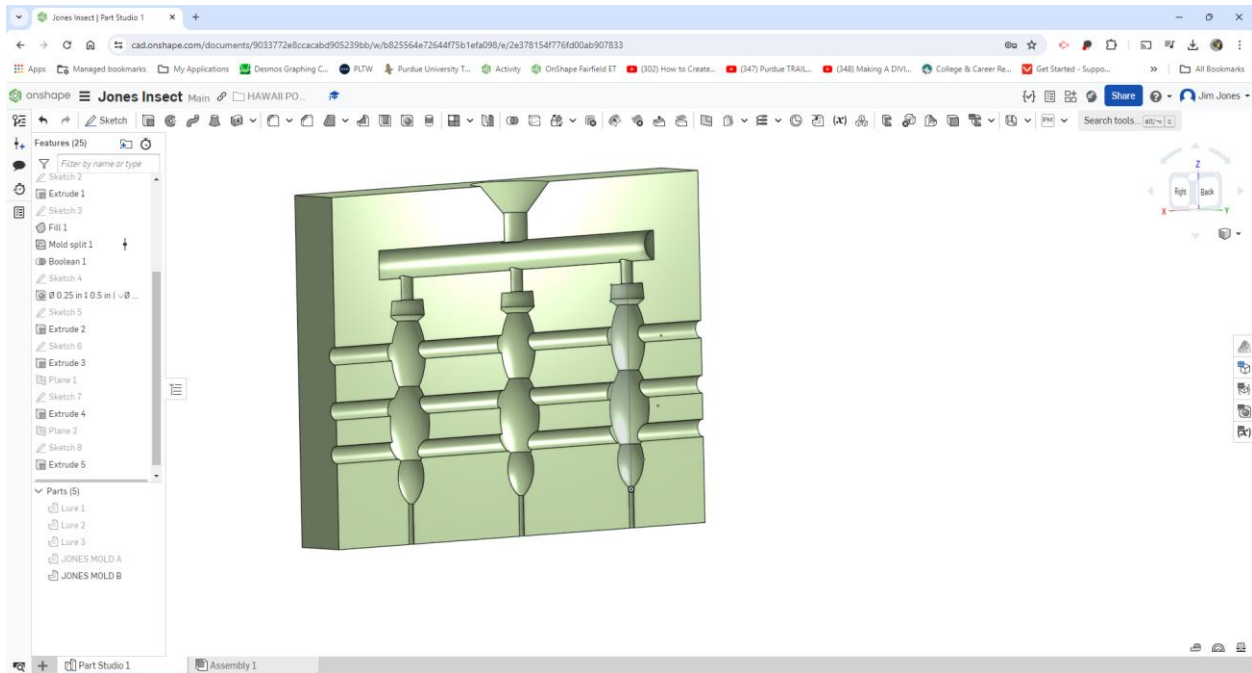


Extrude the three circles. Remove and set your distance so the extrude goes into the channel above. Select Merge with all.

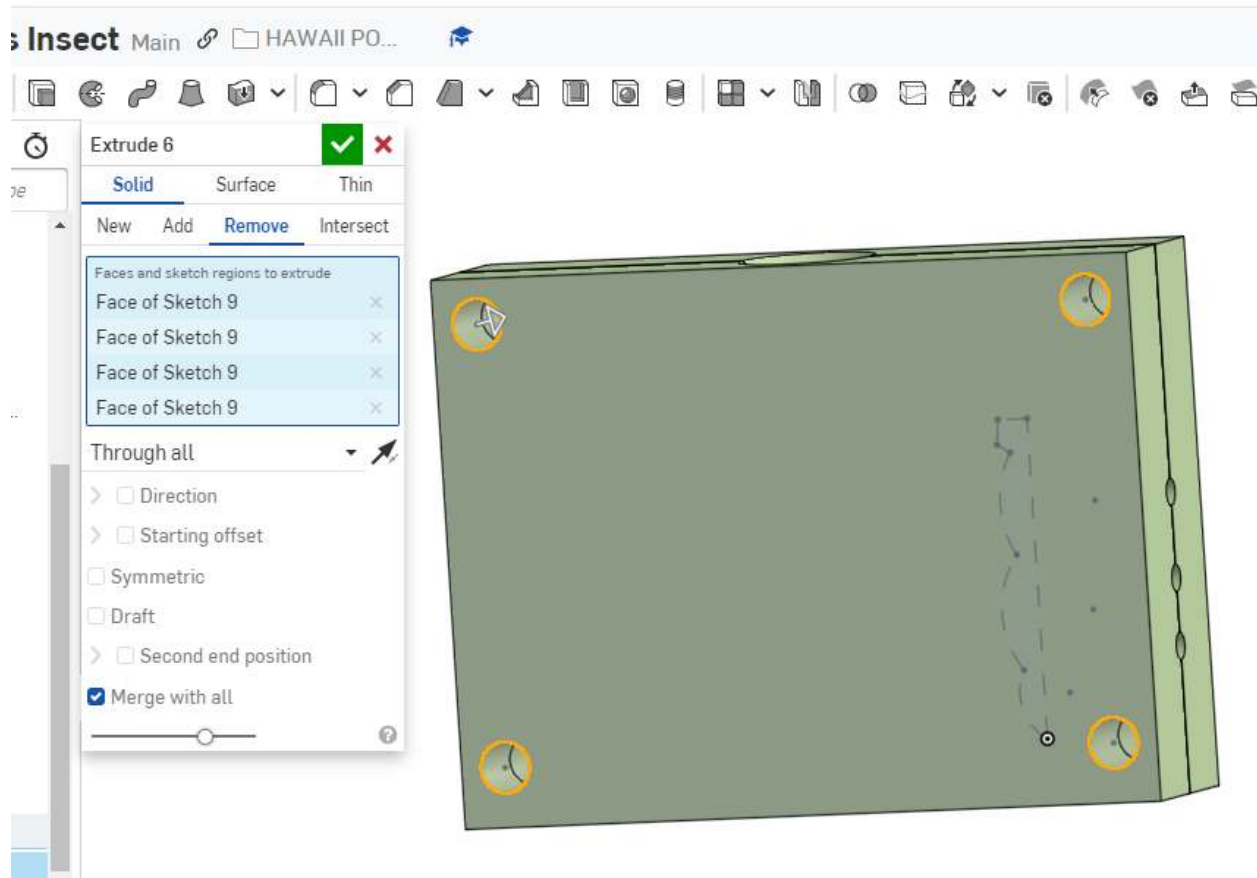


Unhide the other part of the mold and click the green check mark. Hide one part of the mold and check for the extrude. Hide all the planes.

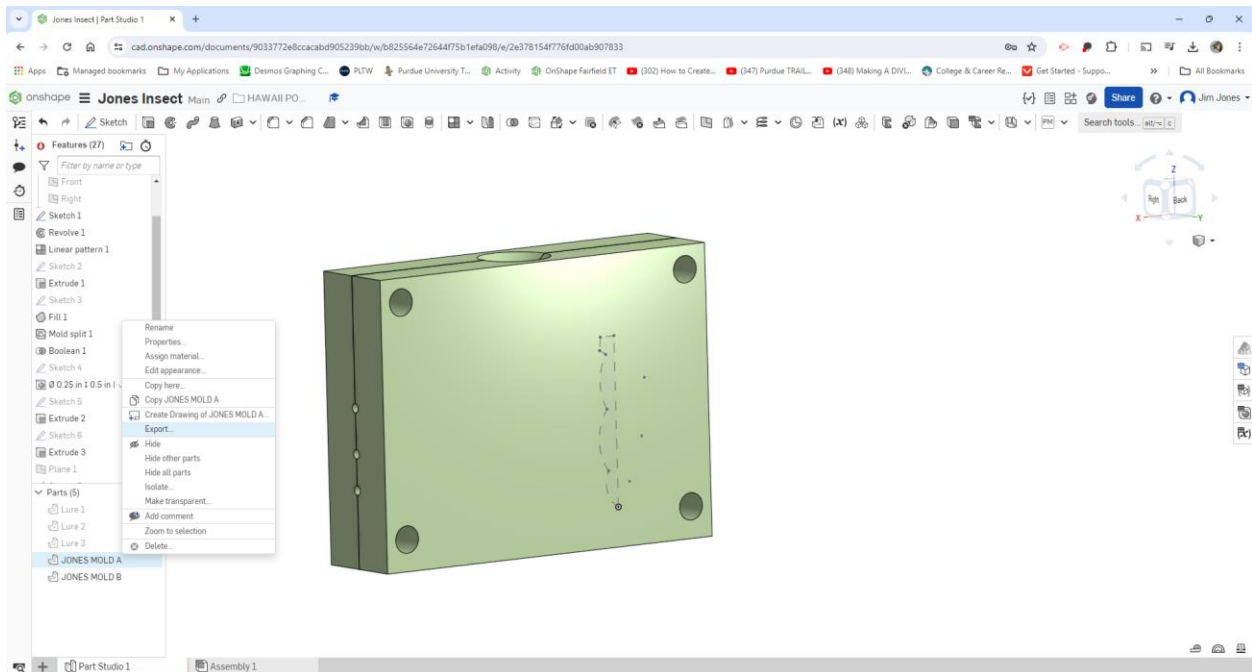
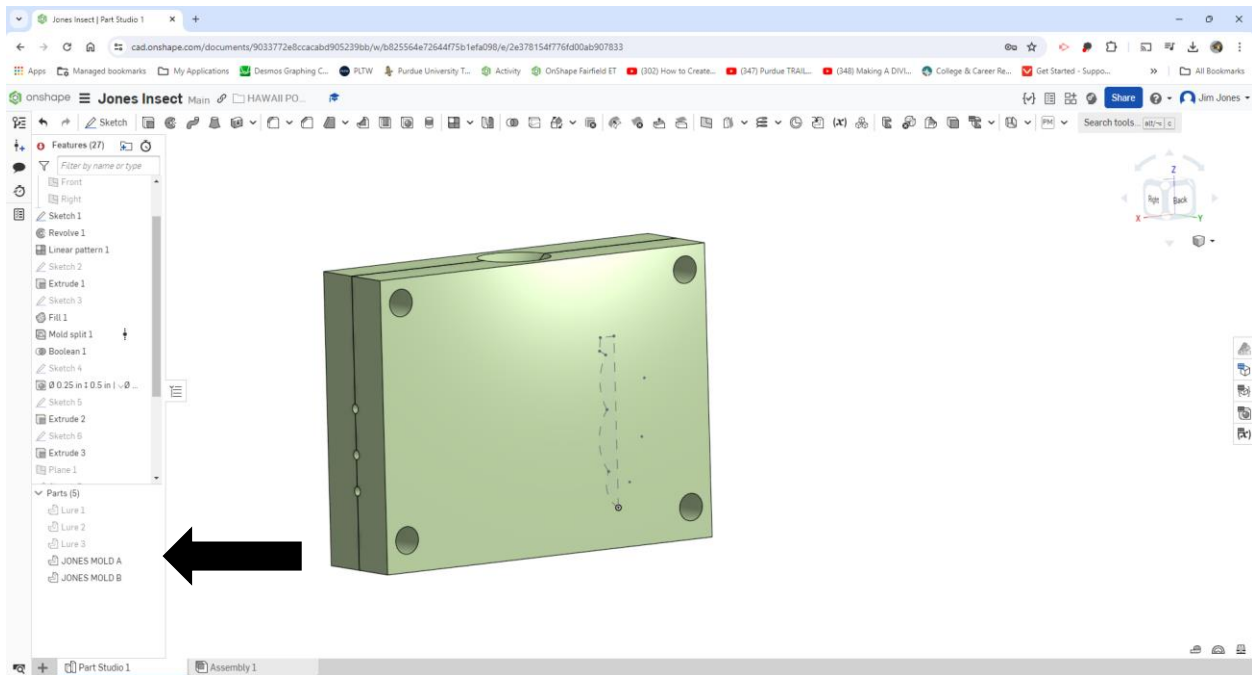




Start a new Sketch on the top of the mold surface. Draw four .28" circles to match the drawing. The center of each circle should be .25" from the two outside edges. These are the bolt holes. After sketching the circles click the green check mark. Extrude all four holes. Remove, Through All and Merge with all. Finish the extrude.



Right click on one of the molds. Select Export.



Make sure the Format is STL and make sure the File name is correct.

Export

File name [View export rules](#)

JONES MOLD A

Format

STL

Export models oriented Y axis up

STL Format

Binary

Units

Millimeter

Resolution

Medium

Options

Download

Export Cancel

Do this for each part of the mold. The STL file will be used to slice the mold file into G code for the 3D printer.

Export ×

File name [View export rules](#) ?

JONES MOLD B

Format

STL

Export models oriented Y axis up

STL Format

Binary

Units

Millimeter

Resolution

Medium

Options

Download

Export **Cancel**

The files are now in the Downloads so you can move them into the folder of your choice.