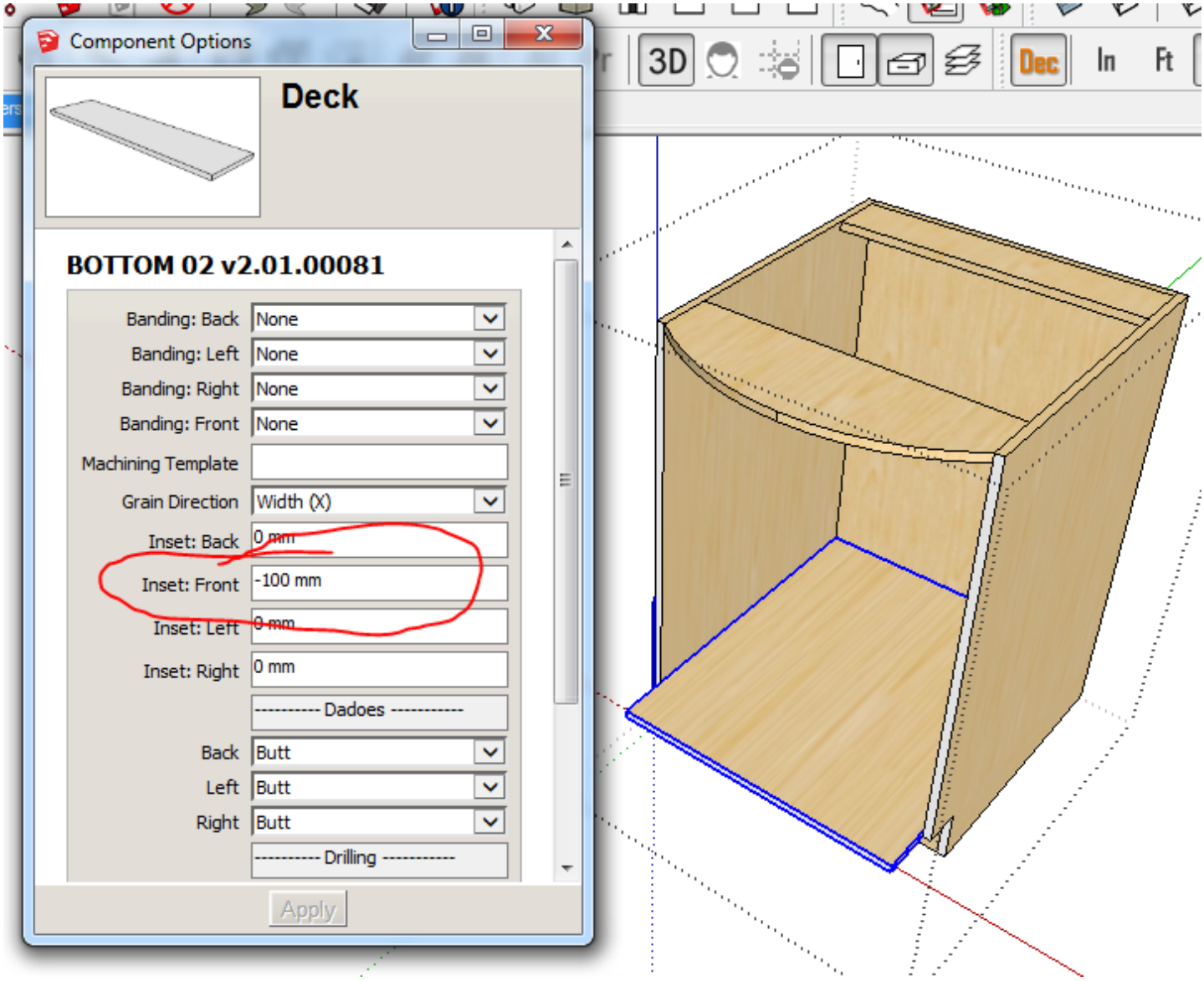
CabinetSense Wiki

Part Shaping

Part Shaping allows you to change the profile of any CabinetSense component part and have it machined on your CNC router. You can draw parts with the native SketchUp tools, transform them into a CabinetSense aware component and send it to the router as well.

Modifying a CabinetSense Component

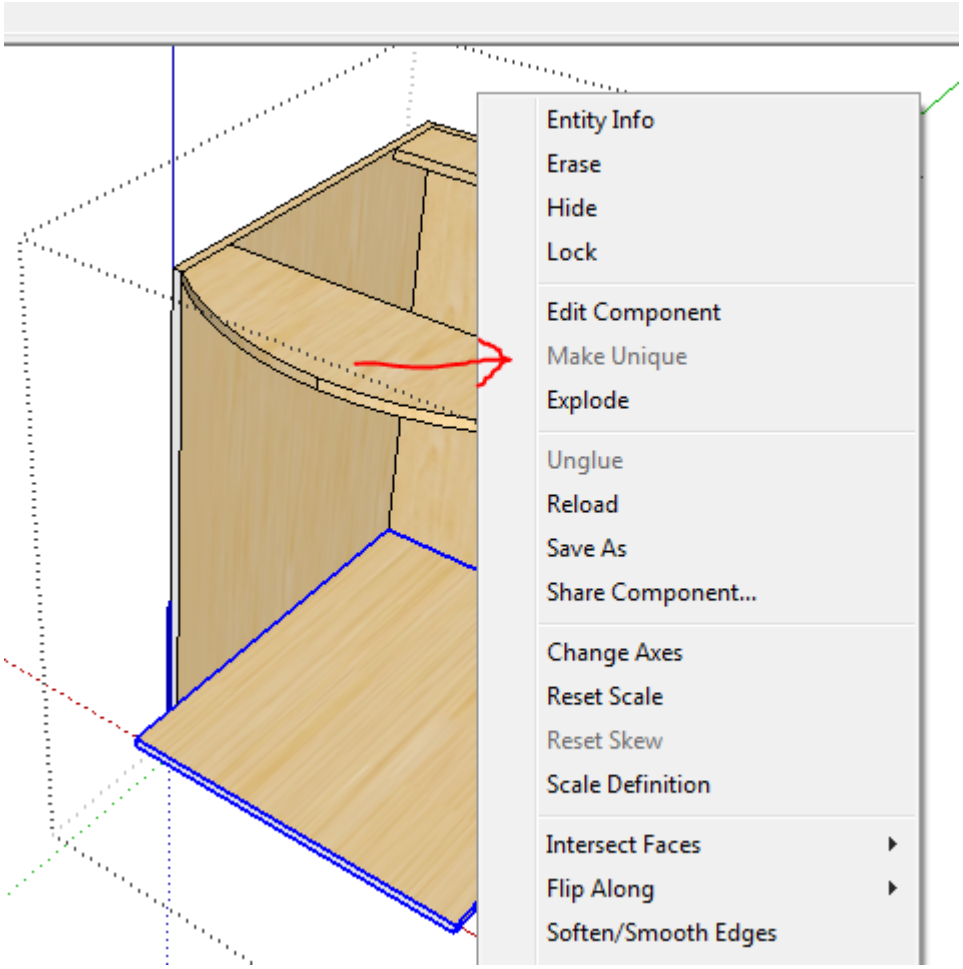
In the following example, We are modifying a cabinet to accept a radius door. We need to give ourselves extra material to work with by adding a minus (-) inset to the part. The cabinet bottom part shows how this would be done.



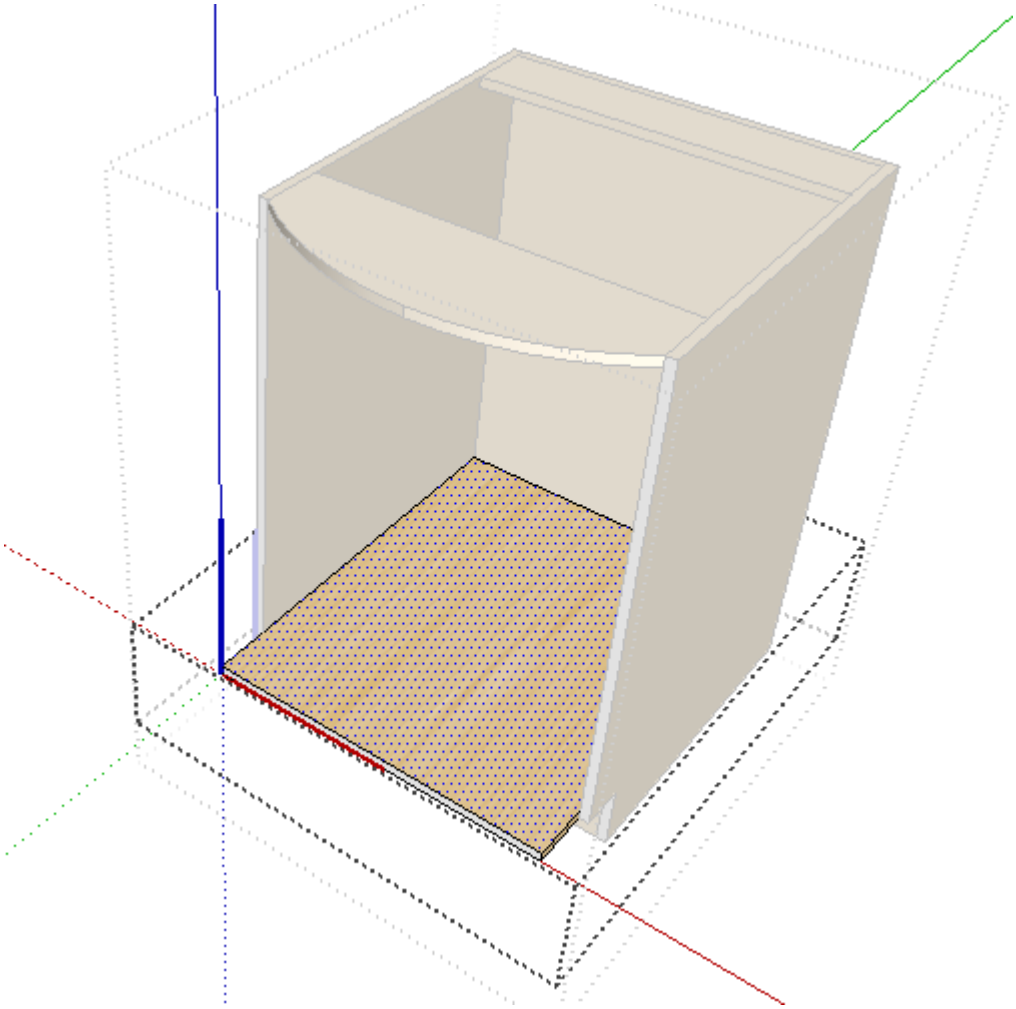
Now we need to place the face of the deck into edit in order to change the shape.

Important: When ever you edit a the shape of a component, you need to check that it is unique. Failing to do so would cause all decks of all base cabinets in your model to have this part shaping applied... probably not what you want.

Right click on the deck and if the make unique item is active, select it. If it is grayed out, the part is already unique and you can continue with shaping.

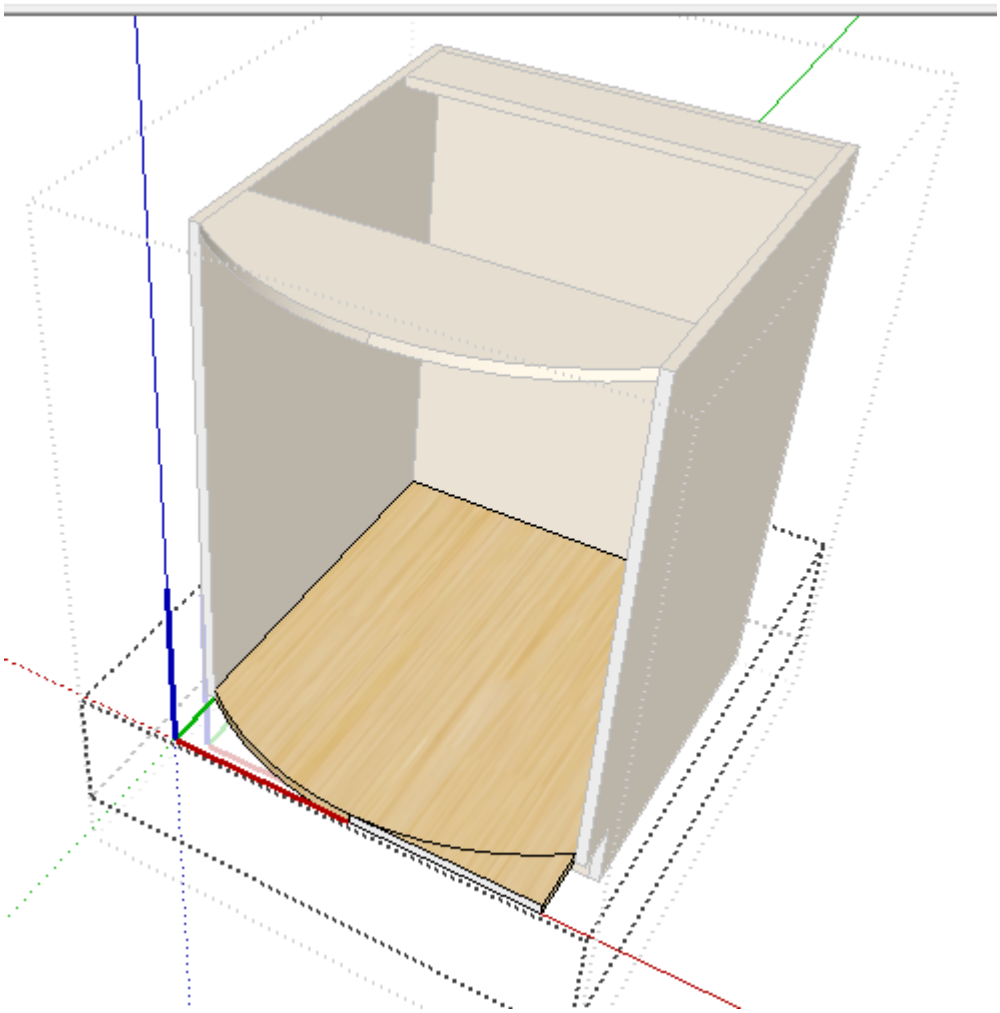


Double-click on the deck (or right click and select edit component) and the part should now have blue dots covering it. This tells you that the face of the part can be changed.

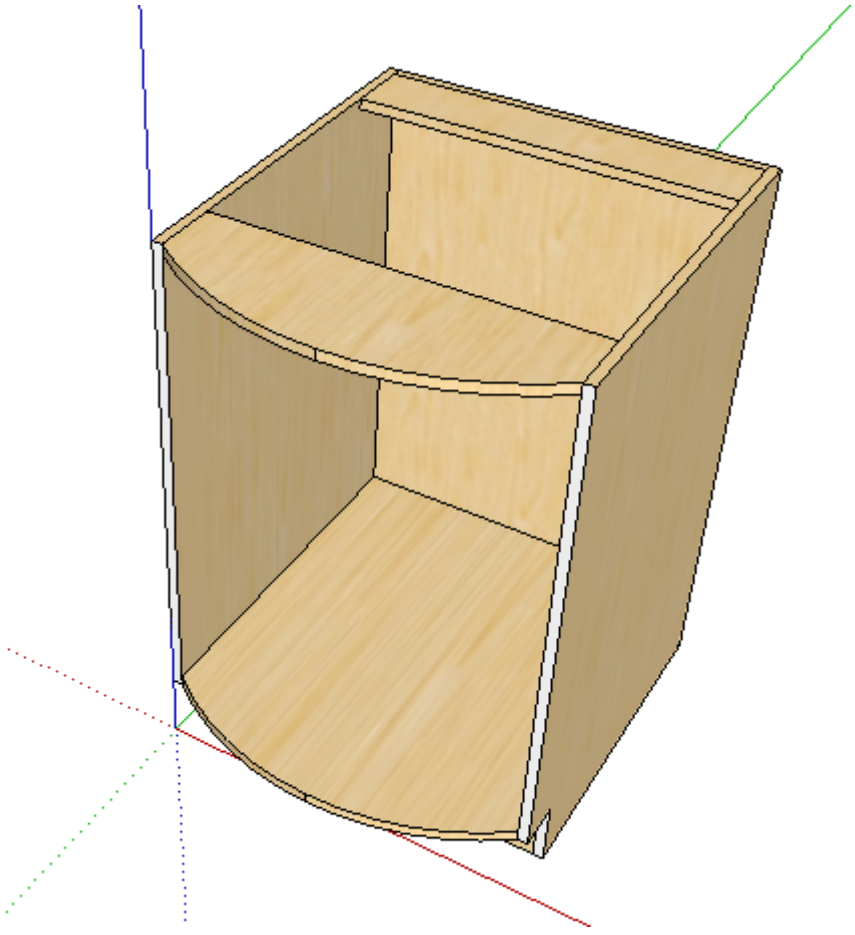


Using the Arc tool, we can now modify our part.

Tip: When shaping a radius part, you will want to increase the number of line segments used to a sufficient amount so that your CNC will machine the part as a smooth radius. To change the segment count, select the arc tool (or what ever radius tool you are using), type the number of segments that you want Sketchup to use (EG. 100) and then draw your arc. To verify that Sketchup has used the number that you requested, you can click on the arc and select Entity Info from the Window menu.

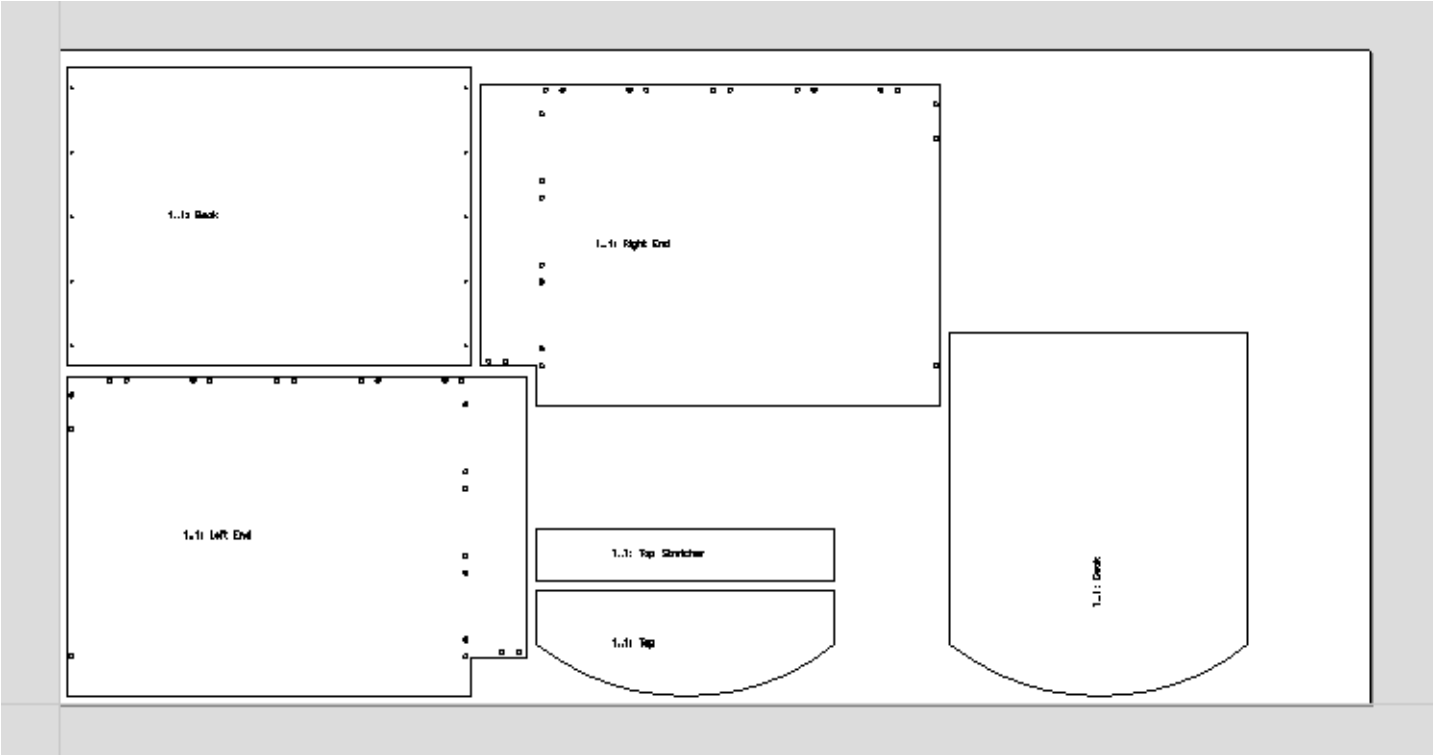


Using the PushPull tool, remove the extra parts.



Export your cabinet for machining on your router.

Here are the parts after they were imported into my cnc software.

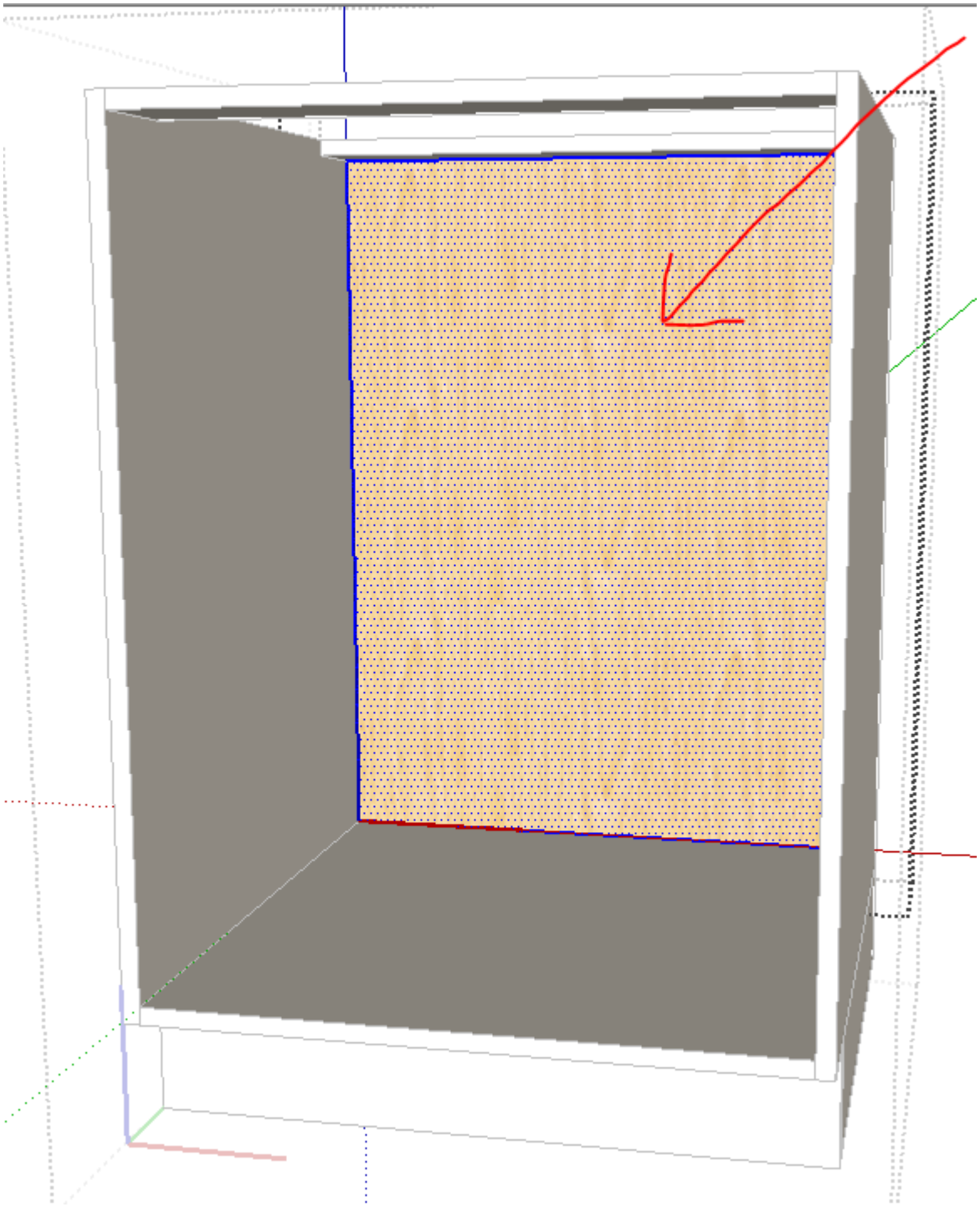


Cutouts

You can also add openings to your parts and they will also be machined on your router. The layer name that will be associated with these cutouts is controlled by the ***Interior Cutout*** property found on the Machining Database Layers tab.

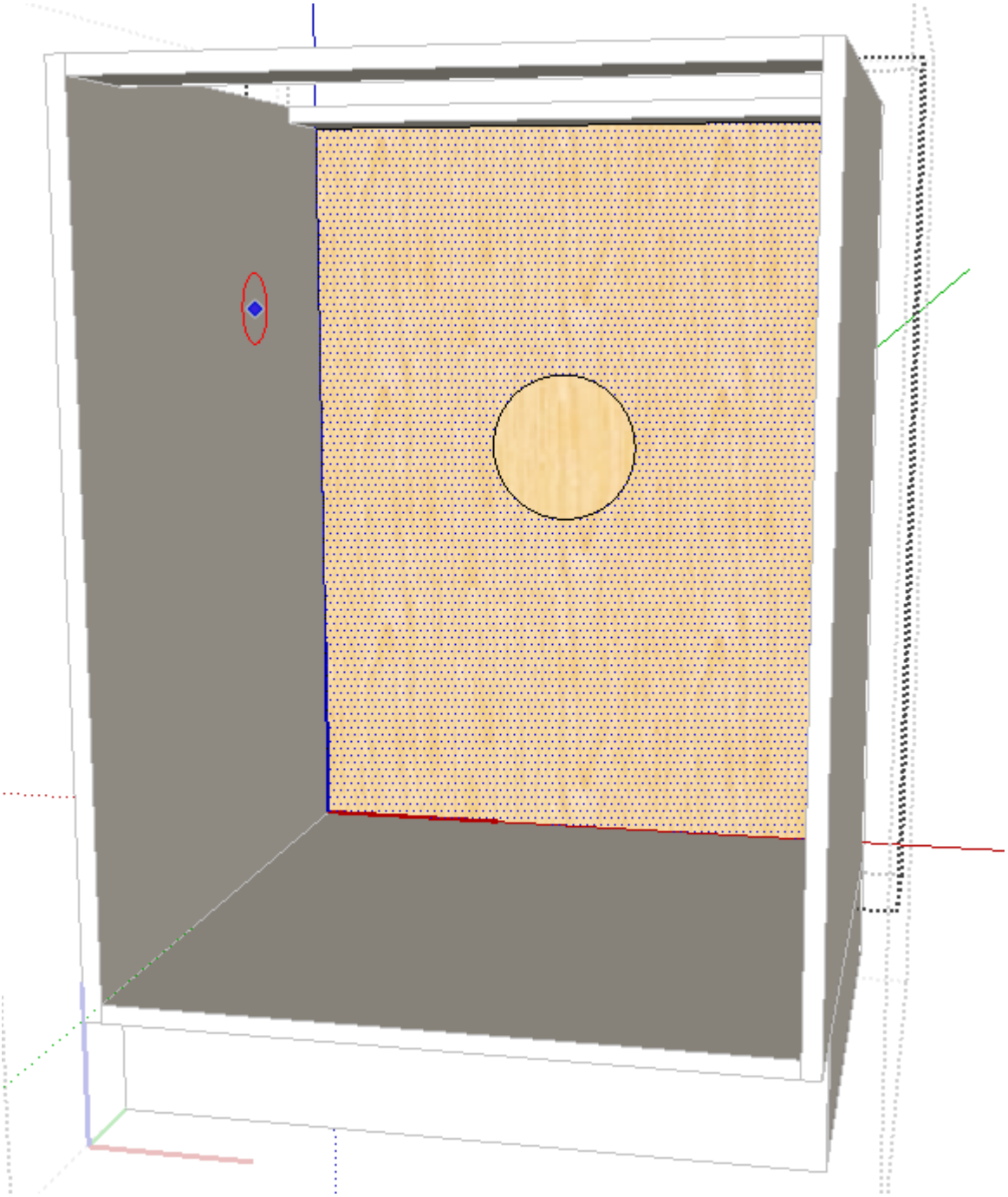
important: Only shapes that are all the way through your material will be sent to the CNC. Partial depth (pockets) openings are ignored.

Place the face of the part that you want to machine into edit. This is accomplished by double clicking on the part until the face that you want to draw on is covered with blue dots.

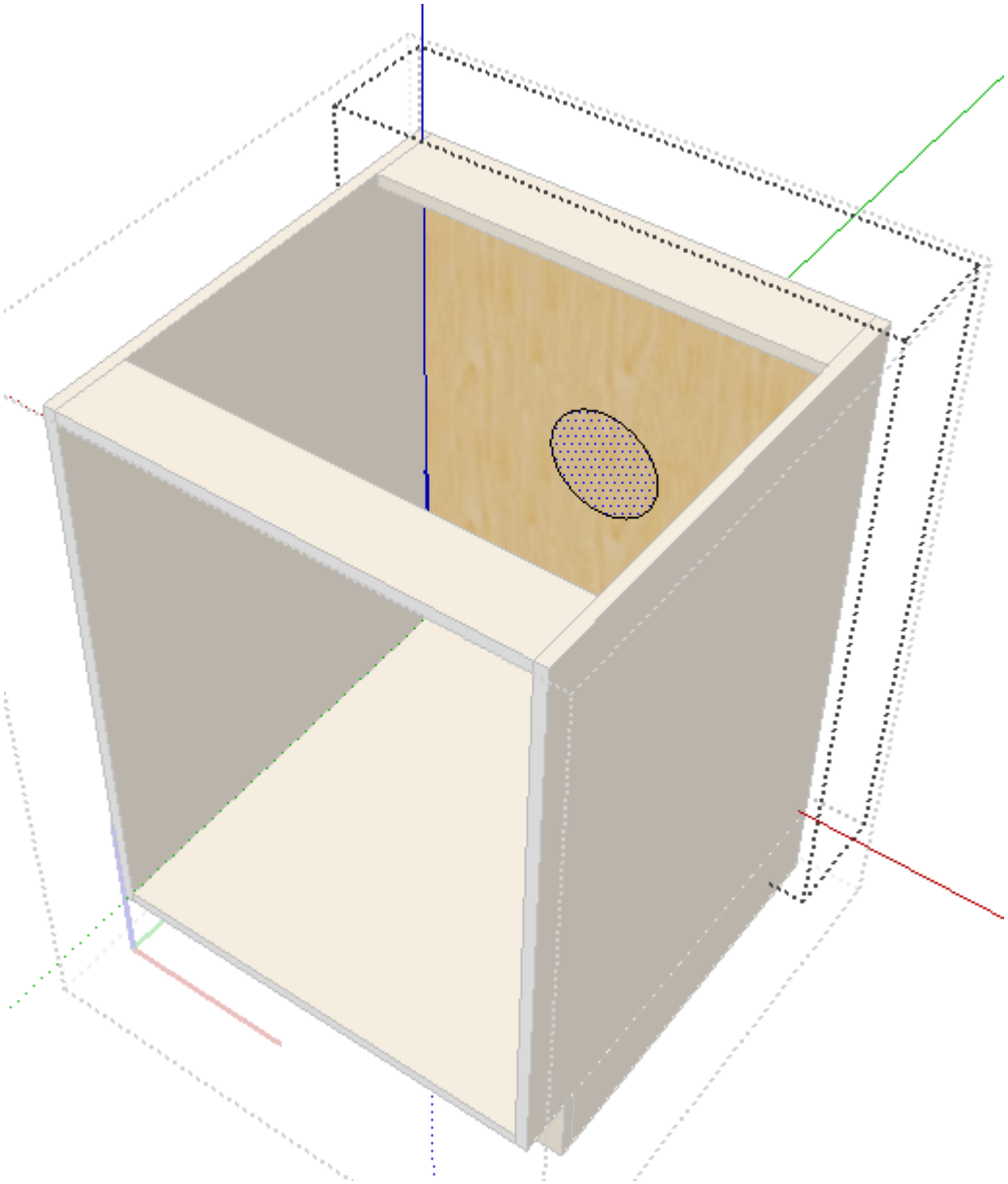


draw your shape onto the face.

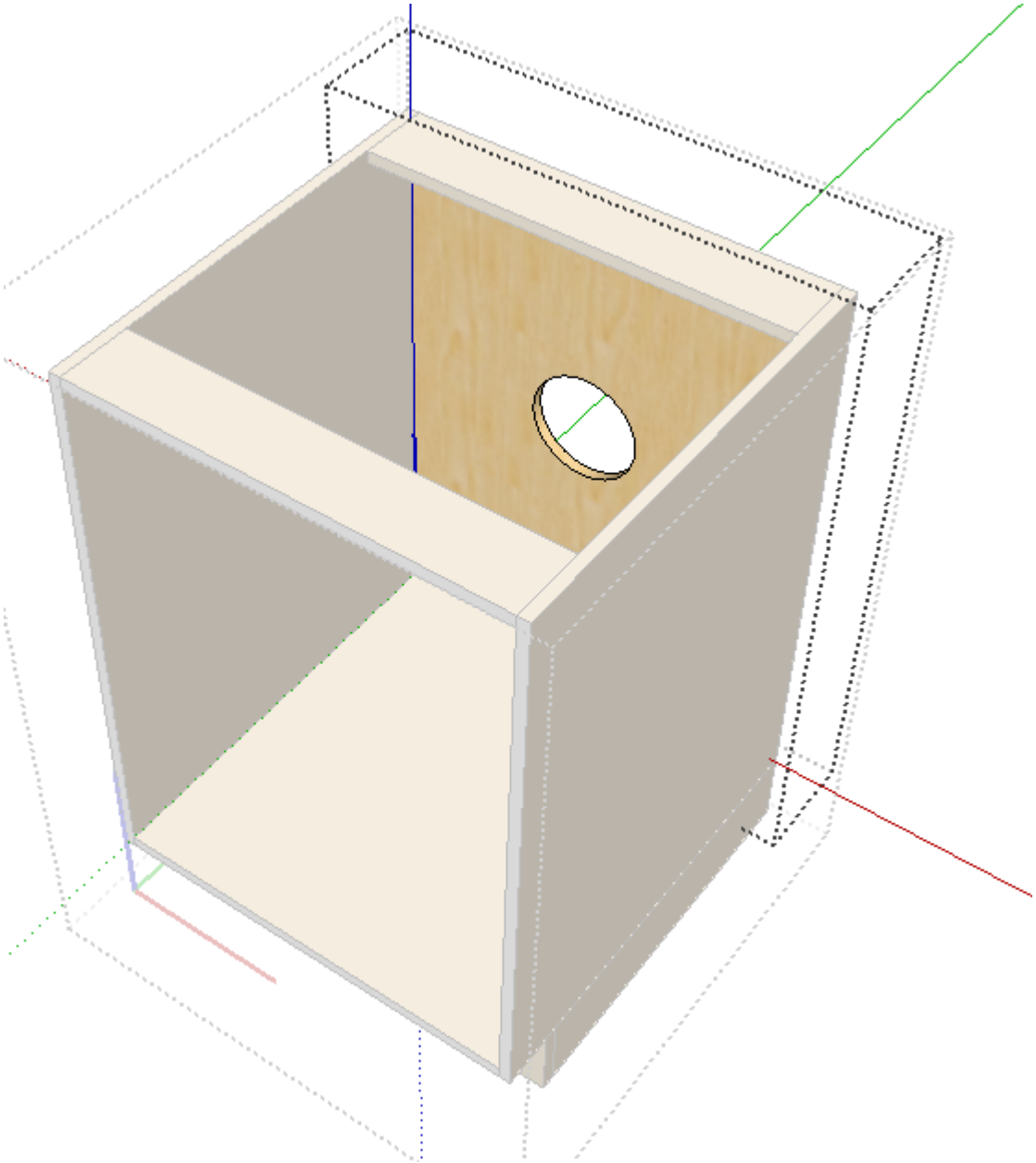
Important: If you are using a radius tool (such as a circle or arc), you need to increase the segment count of the radius to ensure that a smooth path is cut on your cnc.



select the part that you want to cutout.

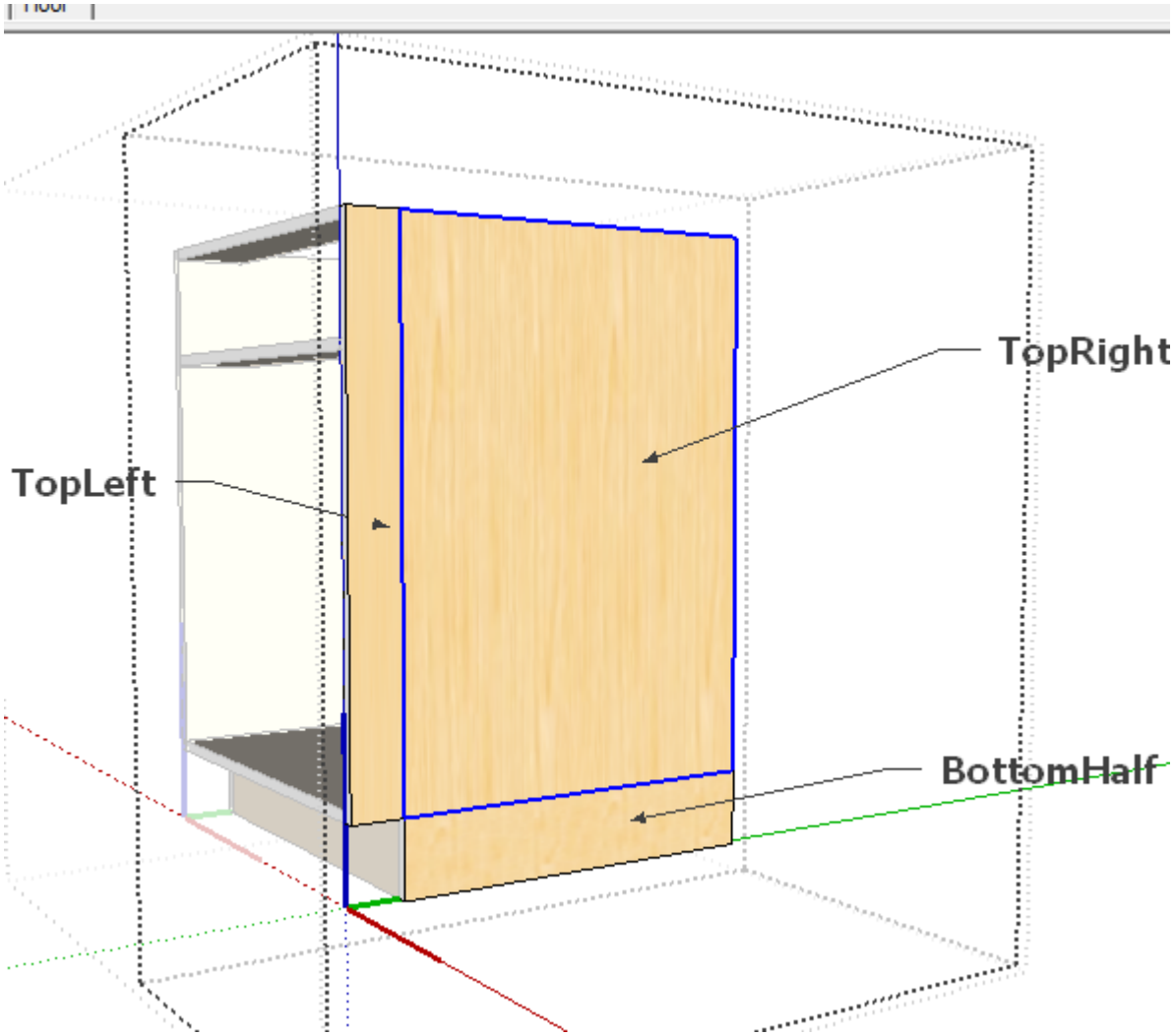


Use the SketchUp PushPull tool to cut out your shape.



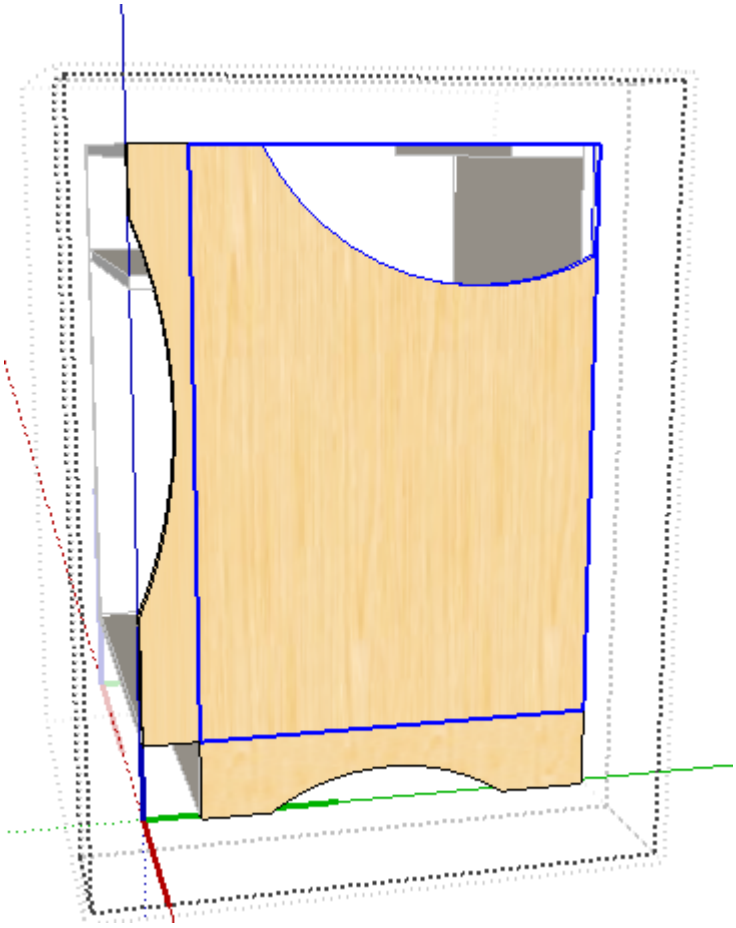
Cabinet Ends

Ends present a bit of a challenge with respect to part shaping. An end is comprised of 3 sub-parts

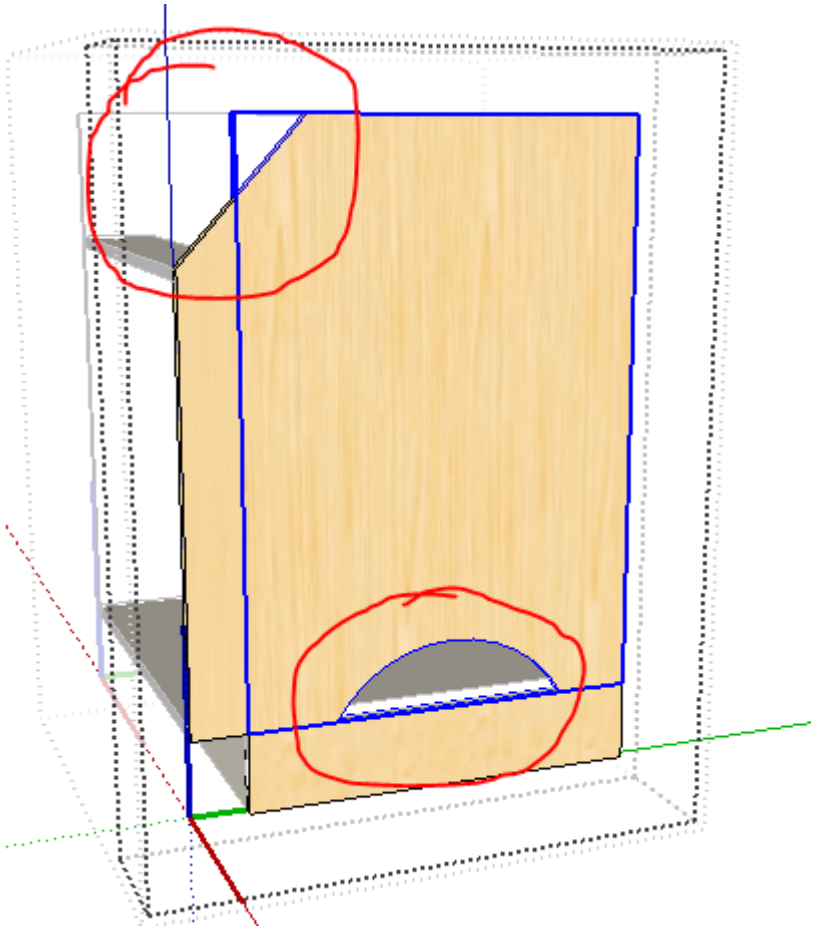


You can shape any or all of the sub-parts... but there is a restriction. The machining must only be on the exterior edges of the entire end and you cannot continue a shape across multiple sub-parts.

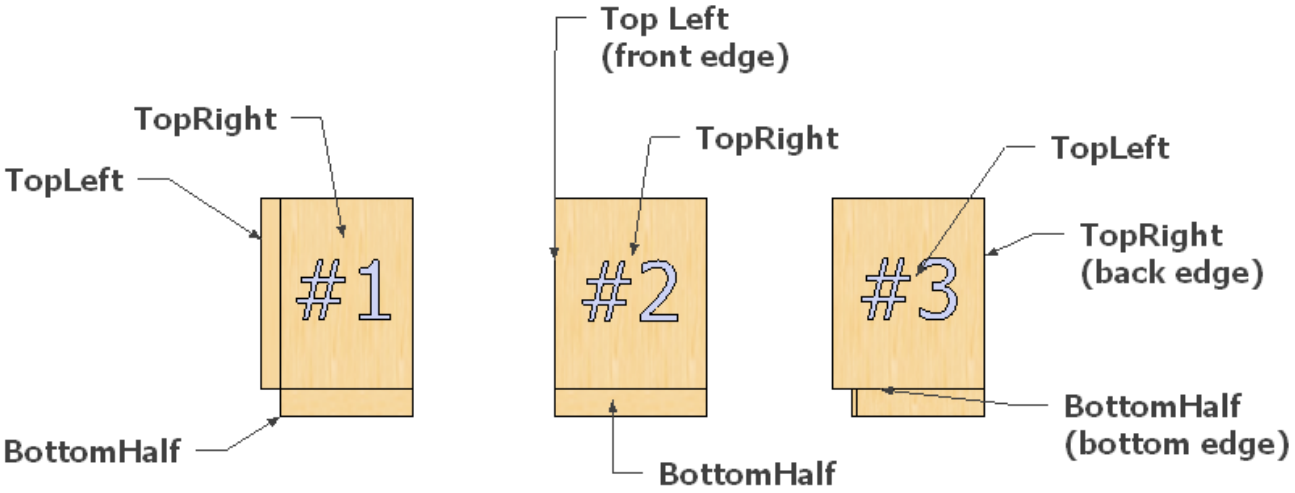
you can do this



but not this



The position of the sup-parts will changed depending on the settings of your cabinets.



#1: Cabinet has Full height ends, Toe kick notch and Toe kick notch, height and inset

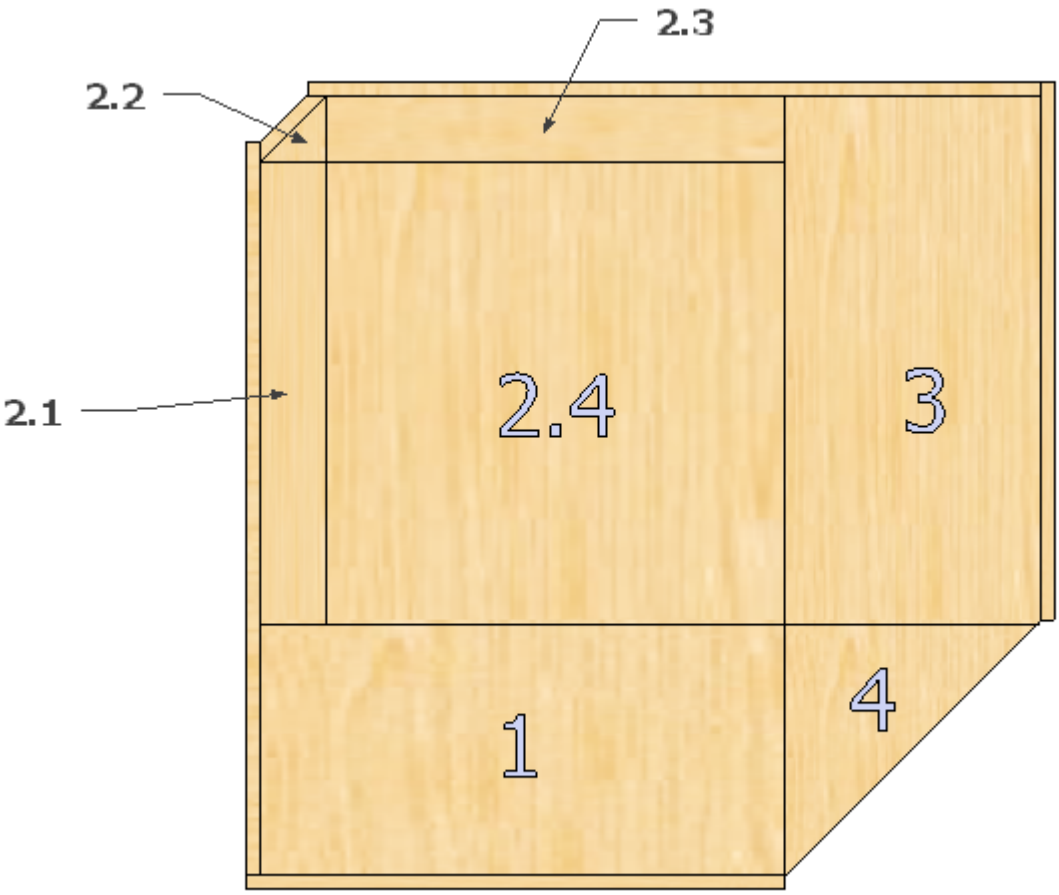
#2: Full height ends, Toe kick height but does not have a toe kick notch and/or inset

#3: No Full height Ends.

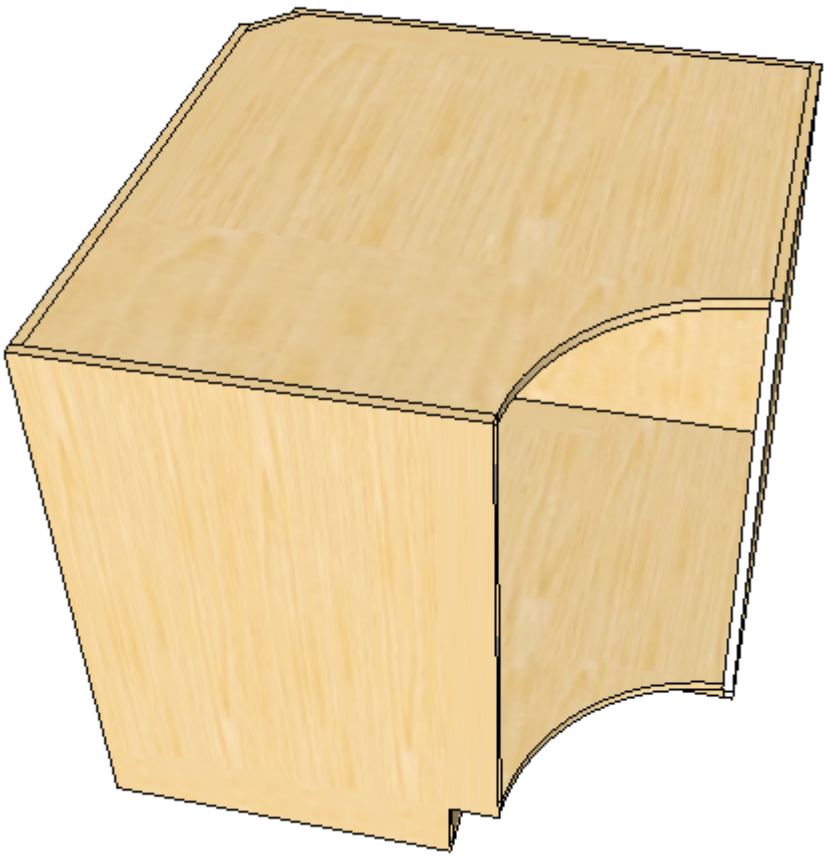
Important: In example #2, you can not machine the front edge of the end because the leading edge is considered to be a sup-part whose width is 0. In example #3, you could not machine the TopRight or Bottom Half edges.

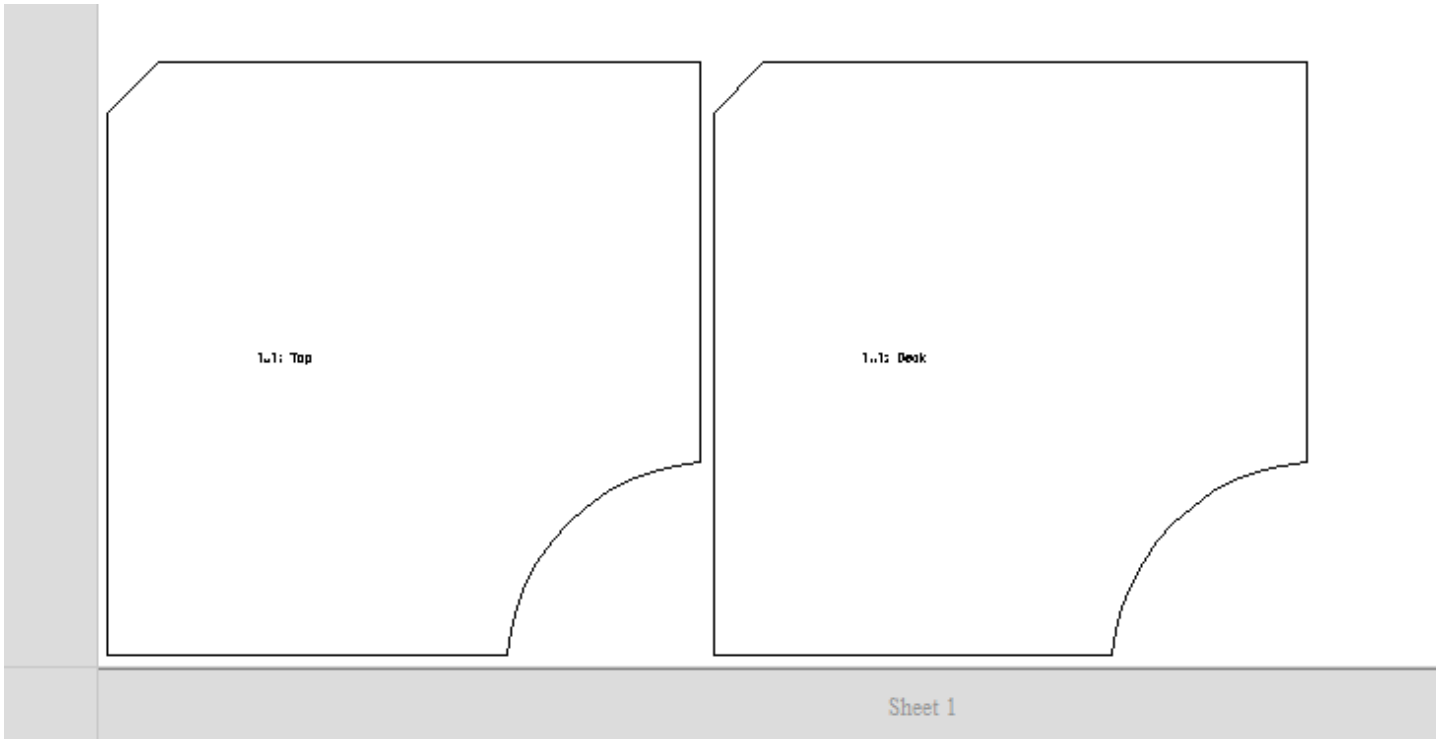
Corner Cabinets

Corner cabinet Tops, decks and shelves are also comprised of sub-parts. Because of the numerous sub-parts and how they change positions based on your cabinet options, you'll need to be extra careful when part shaping them.



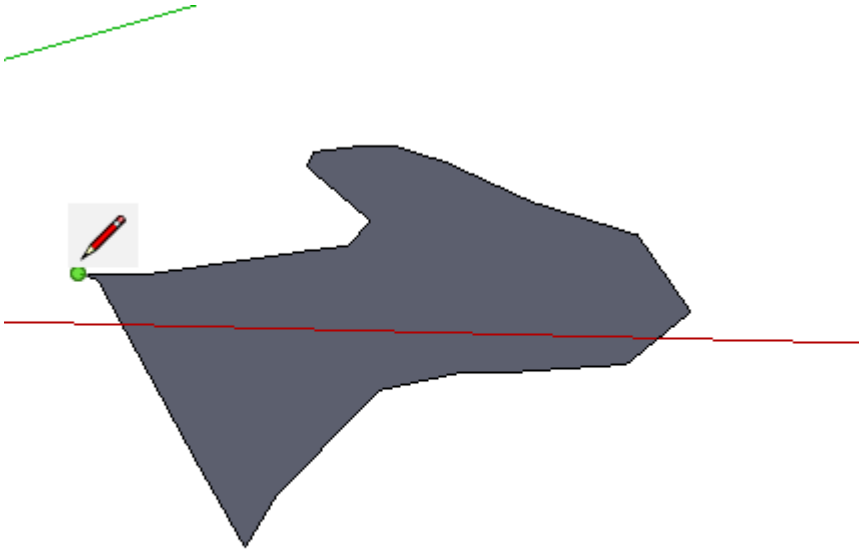
Fortunately, the one thing that most people want to do on a corner cabinet is to use a radius edge on the front.



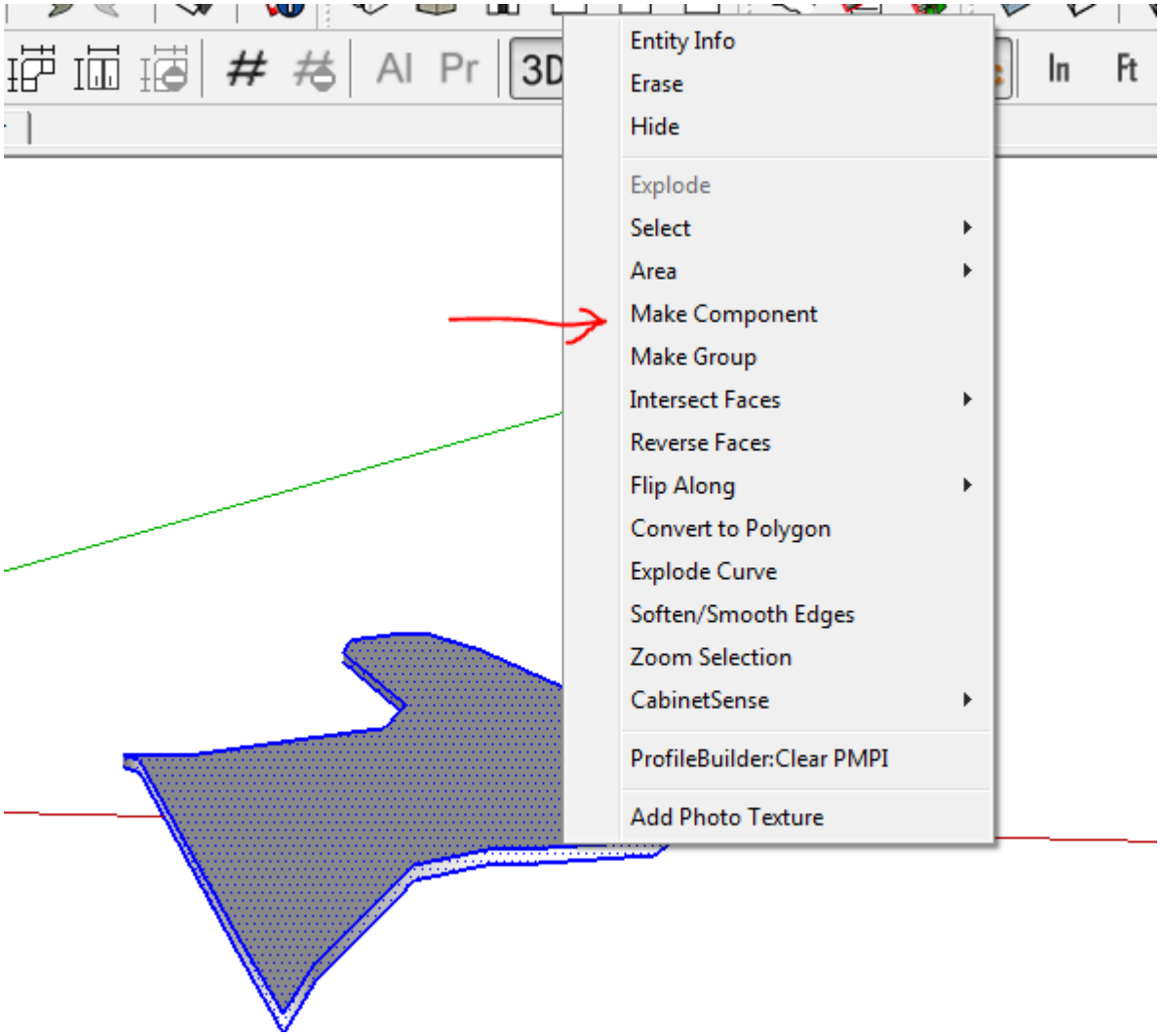


Creating your own Shapes

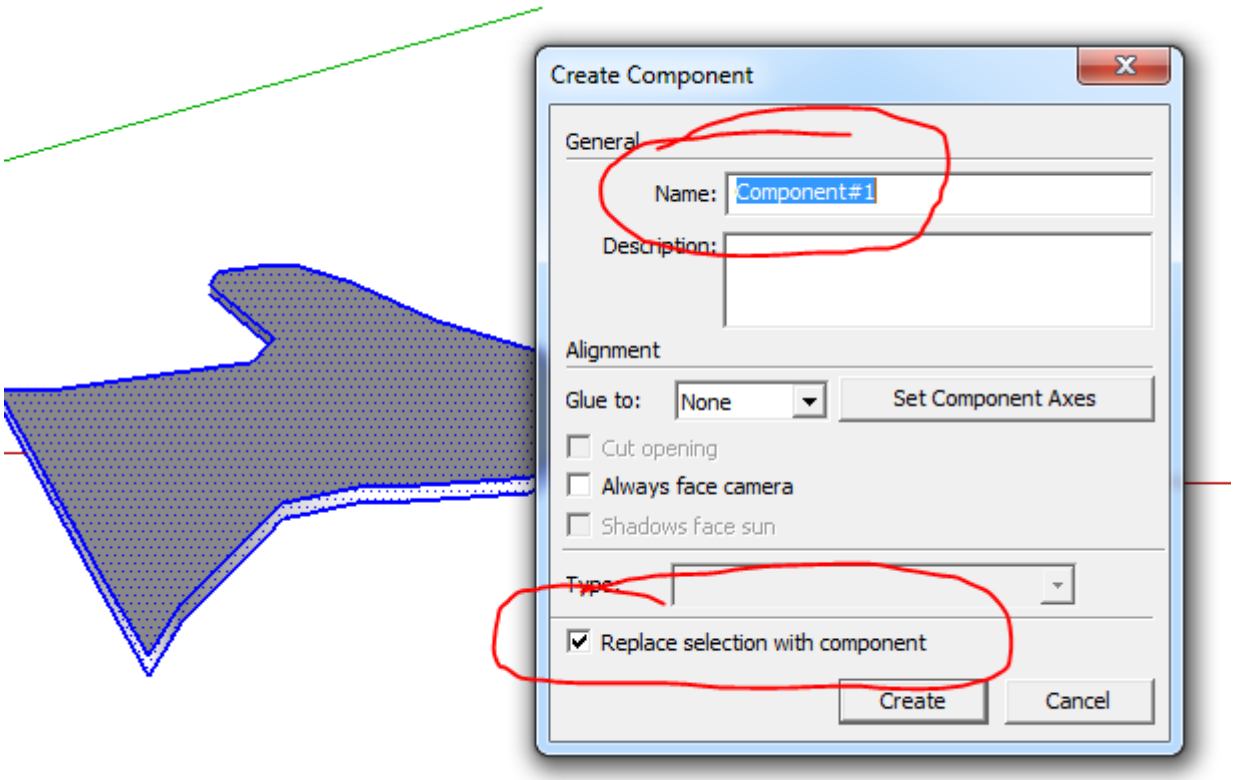
You can draw parts using the native Sketchup tools. In the example below, I used the freehand tool to draw a random shape.



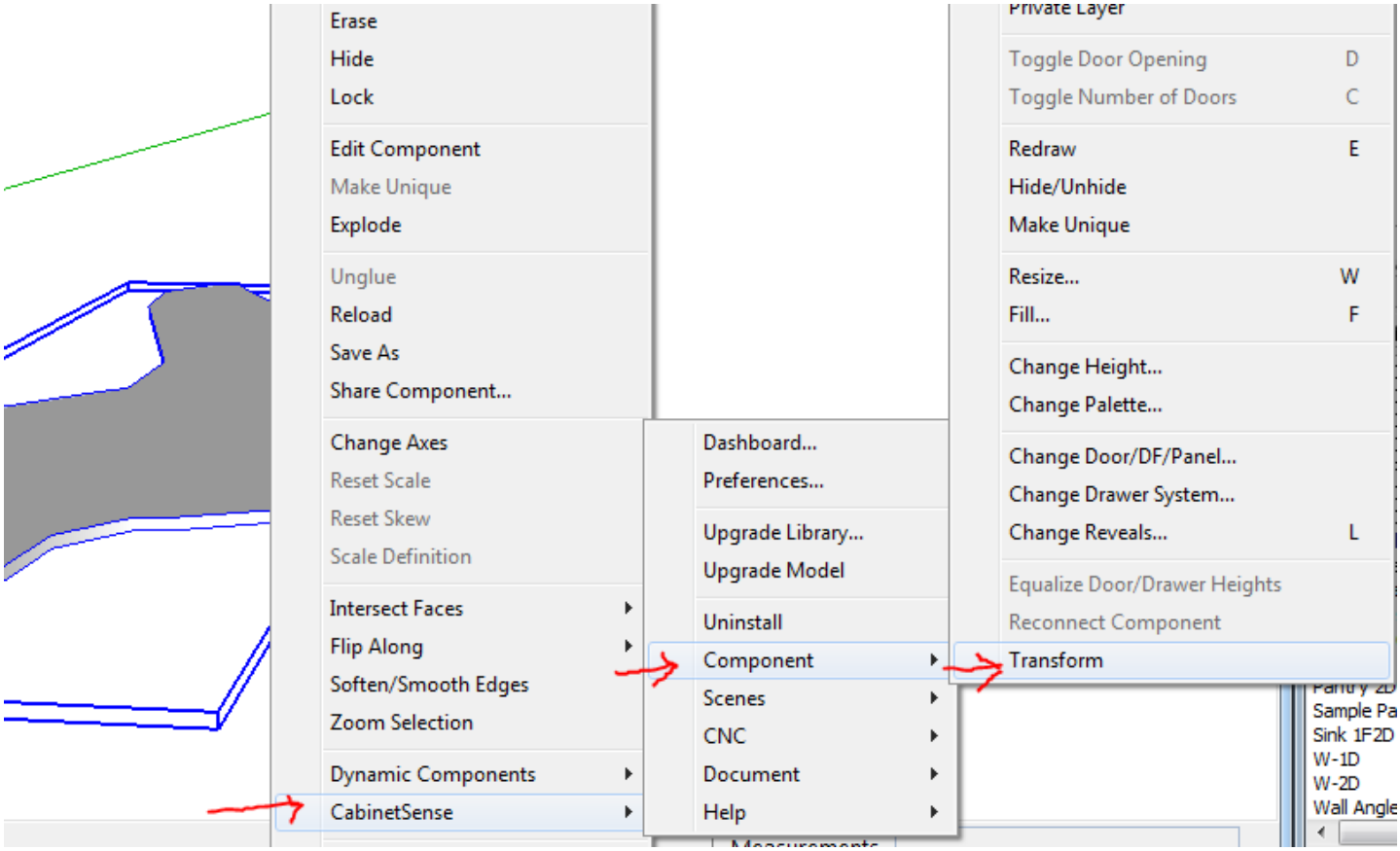
Use the PushPull tool to extrude it to the thickness that you want. Then select the entire shape, right-click and chose Make Component.



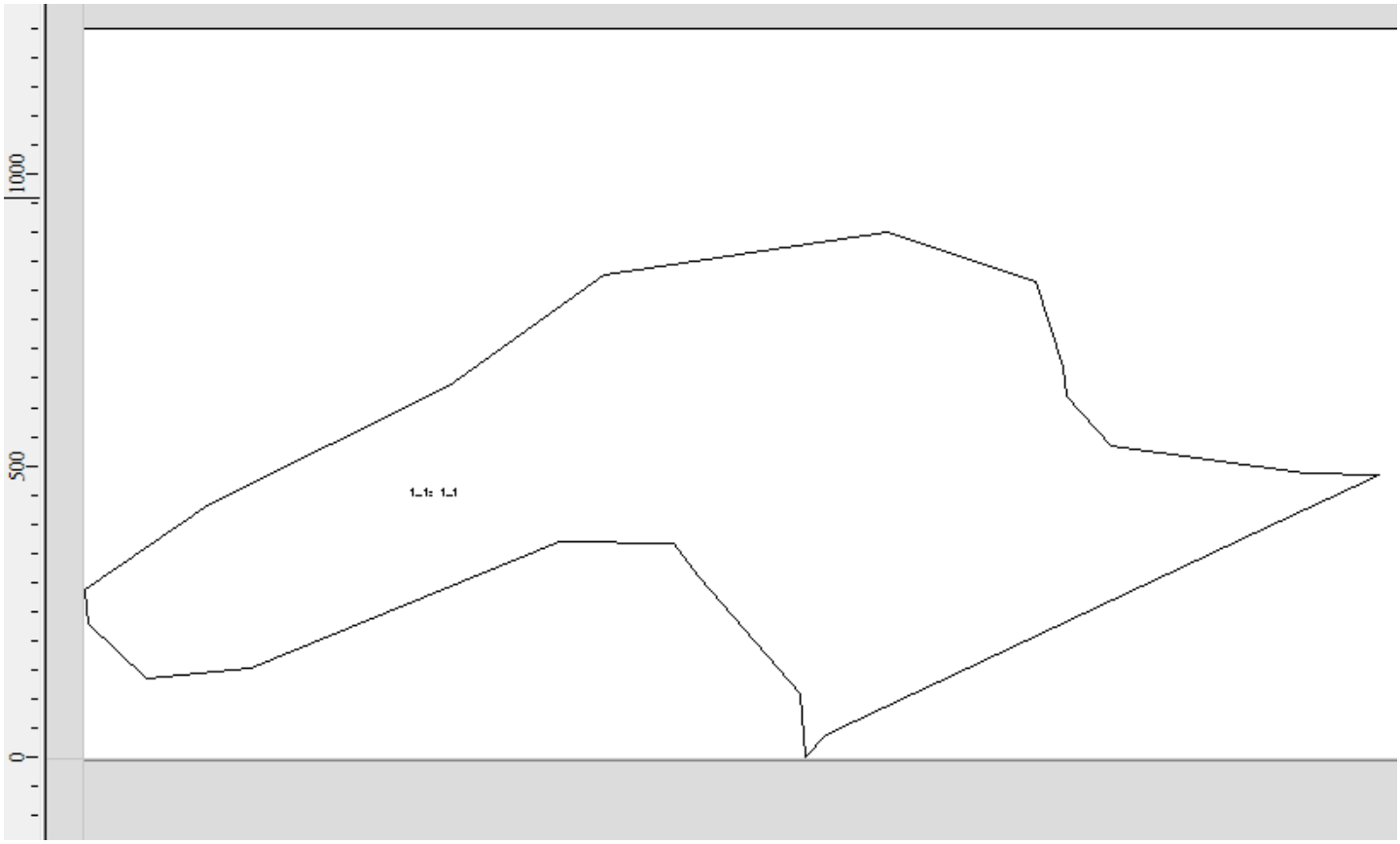
Give your part a name and ensure that the Replace selection with component is checked.



Transform your component into a CabinetSense aware part.



Export your part and send it to your router.



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