Pattern

Overview

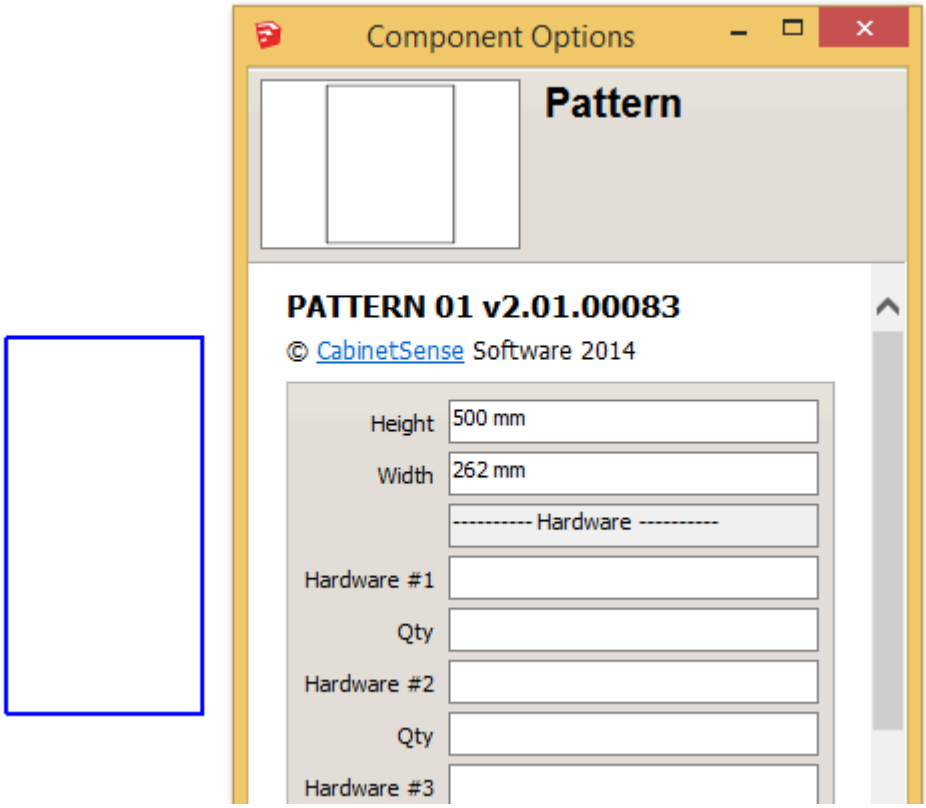
A pattern can be used in much the same way that a paper template is used for marking hole locations for a specific piece of hardware (such as a waste bin pullout). It can contain a series of cutters (holes and rectangles) that will be sent to the CNC for machining. You can store the pattern as a library component for use in future models as well.

In addition to using it as a template, you can store the hardware items that are required to complete the assembly of the structure. These items will then appear on you BOM report.

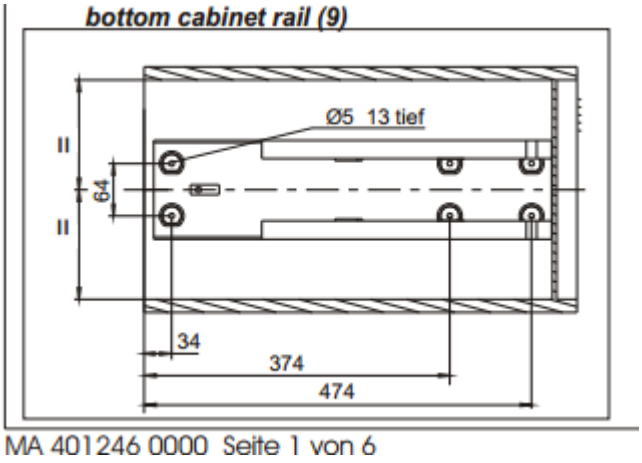
A pattern as a template:

In our example, we will create the bottom drilling template for a metal pullout unit. The manufacturer states that the interior width is 262mm and depth is 500mm.

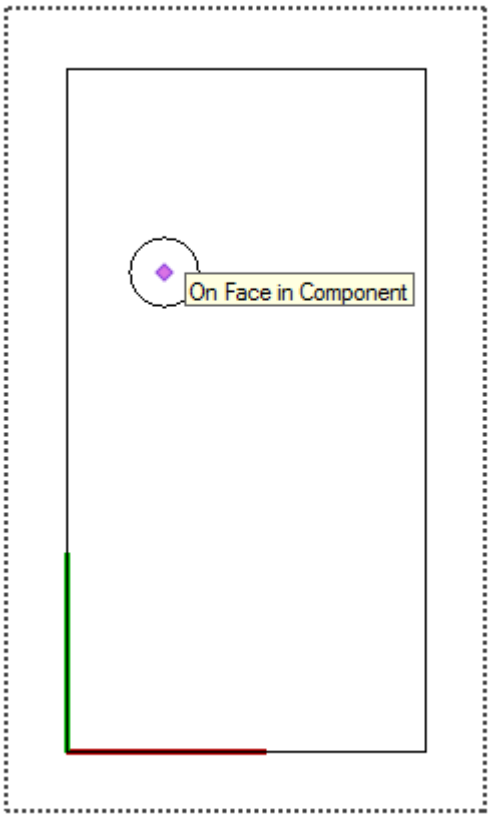
- Resize the pattern.
- We will resize a pattern to those required interior dimensions. This will enable us to quickly identify if the cabinet that we want to use is large enough to hold the hardware.



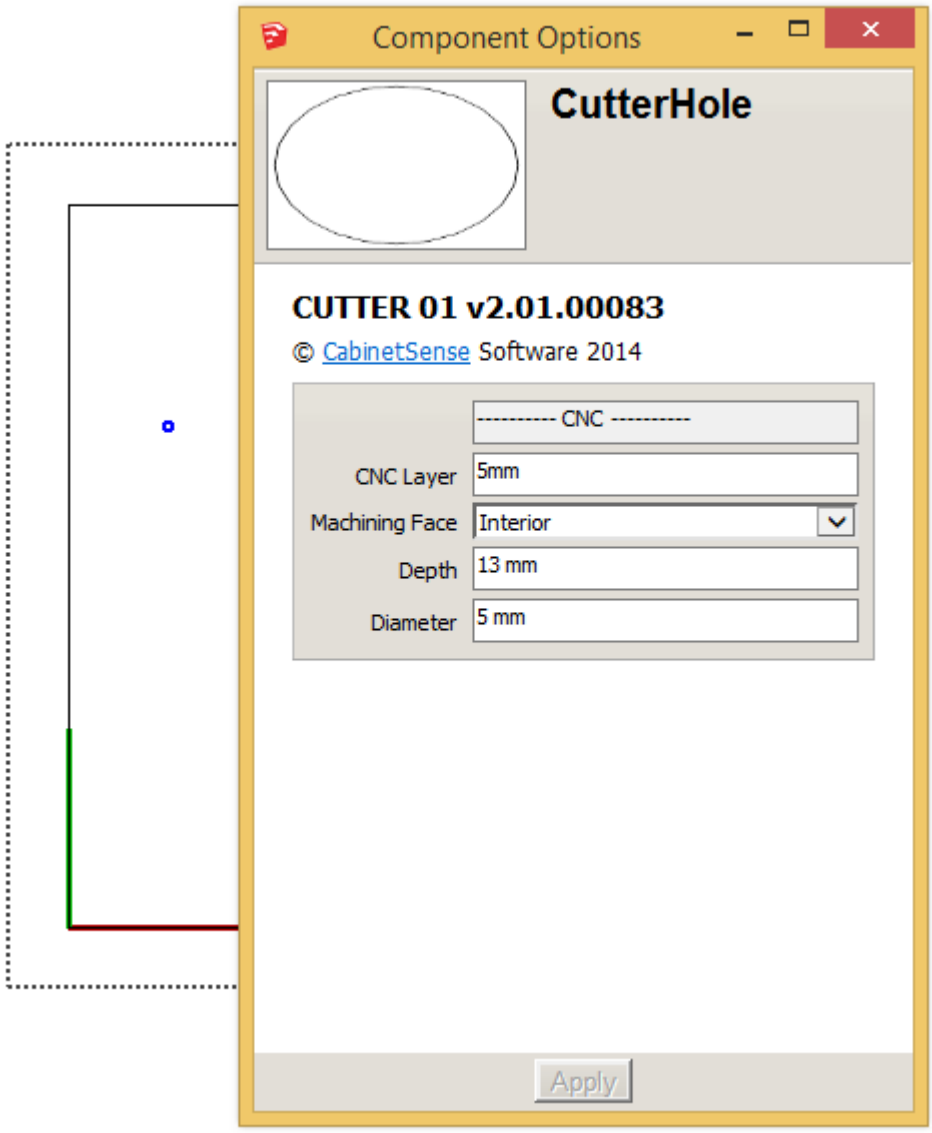
- Transfer the drilling points.
- Transfer the paper template markings to the pattern. Here is the manufacturers template



- Add a drilling point
- Place the pattern into edit (right click on the pattern and choose ***Edit Component***). Drag a cutter hole from the component browser onto the surface of the pattern.
- ***important***: When placing a cutter onto any component, it is strongly recommended that you first place it fully onto the components face. Trying to place it initially onto the edge of the pattern could result in SketchUp attaching it to the wrong surface. When this happens, you will either get an error at exporting time or an undesirable result when machining.

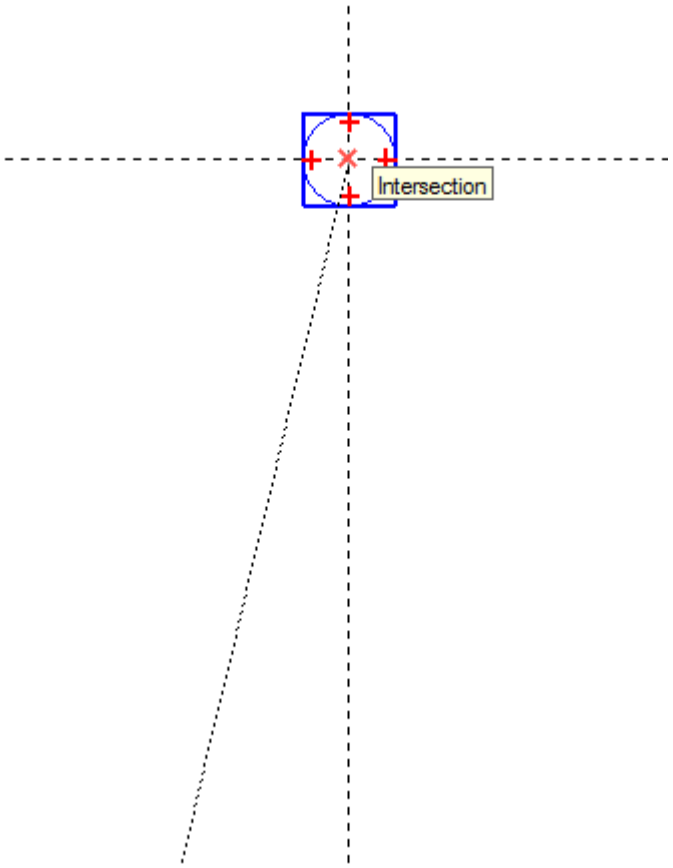


- Change the hole properties to match the manufacturers requirement. In our example, they want a 5mm diameter hole that is drilled 13mm deep.

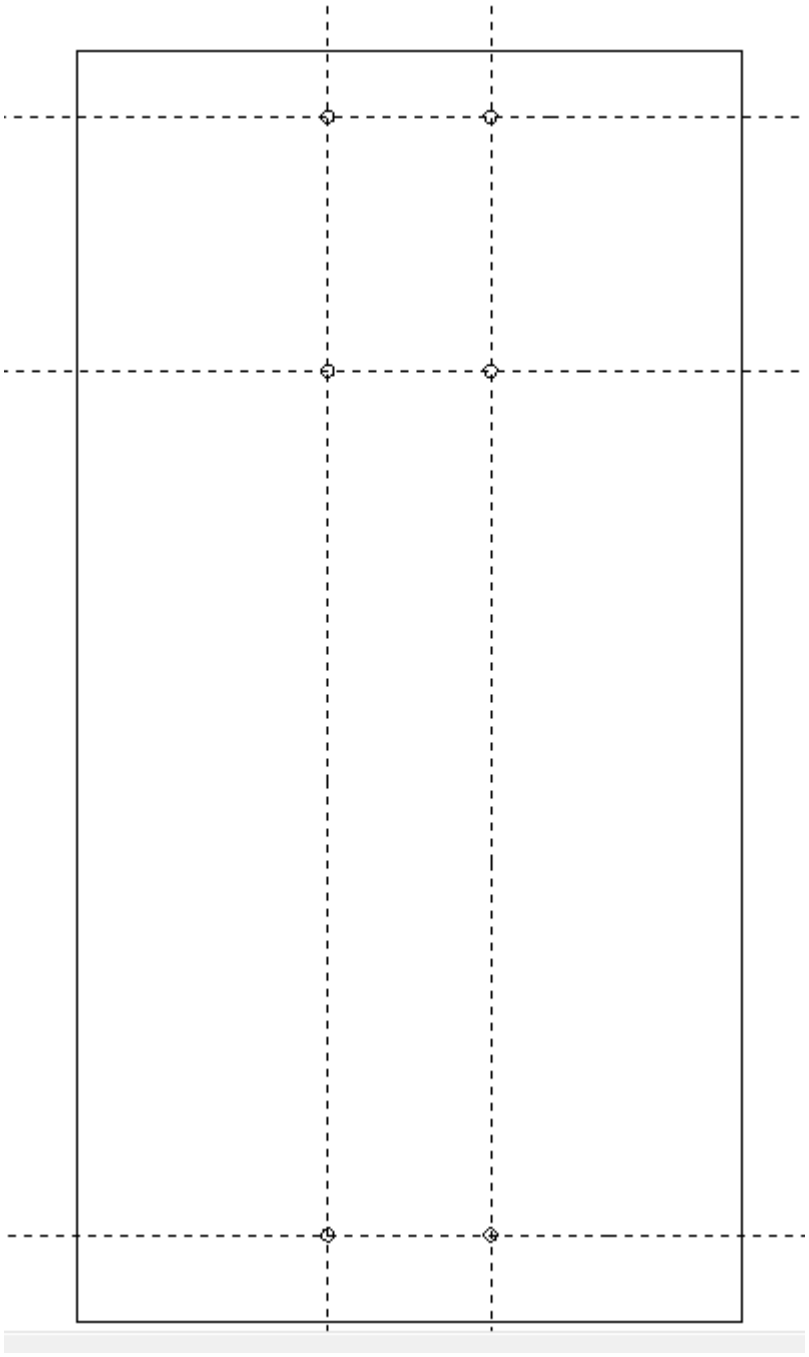


- Make your grid lines.
- There are several ways that you can do this, but in this example I have used construction lines to help layout the grid that I will use to mark my drill points.

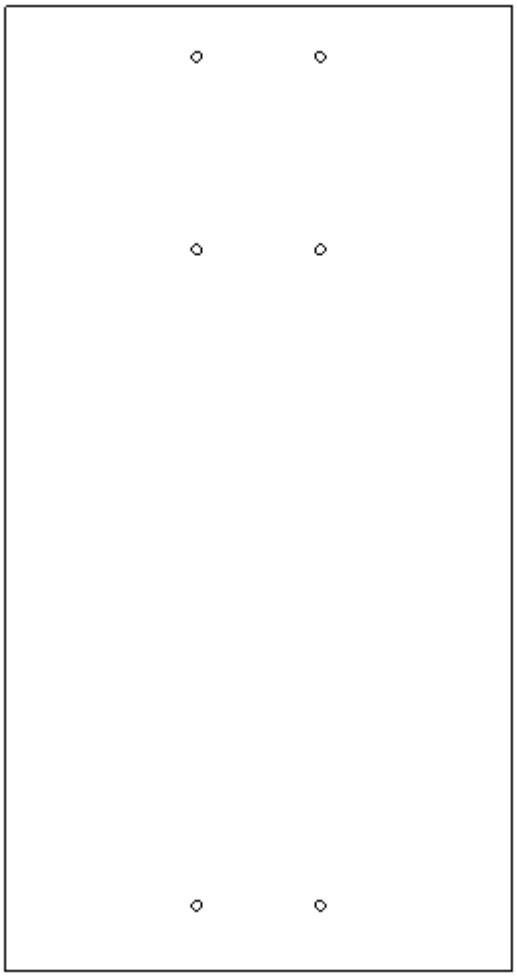
- The vertical construction lines are 32mm each side of center while the horizontal grid lines are set at 34mm, 374mm, and 474 mm from the leading edge.
- Position the drill points.
- Using the move tool, find the center point of the cutter and move it until the center snaps to the intersection of a set of construction lines.



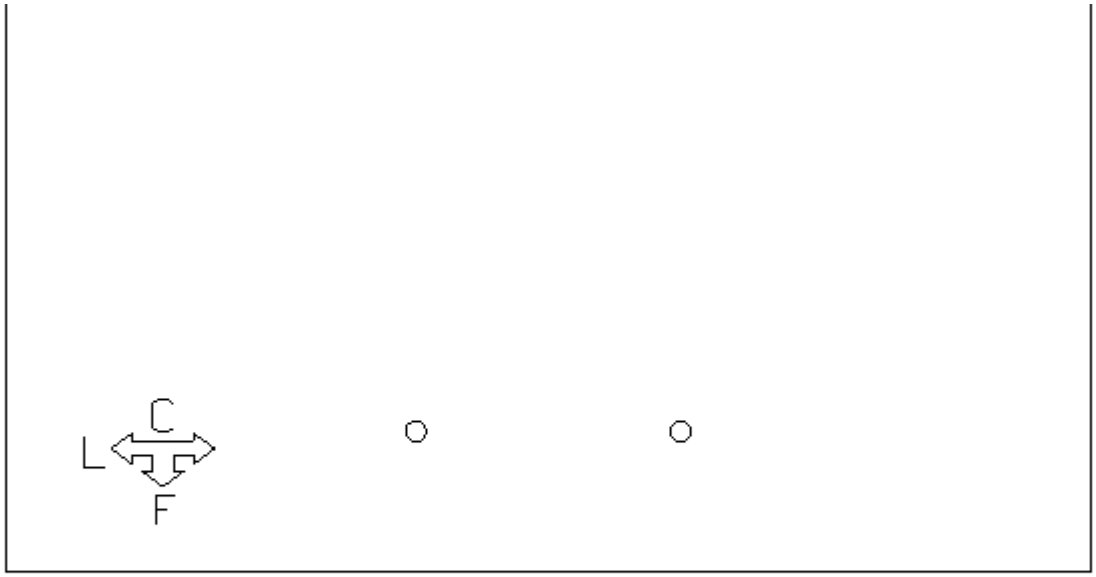
- Repeat this process for each require drill point. You can make a copy of the cutter by moving the cutter and pressing the control key.



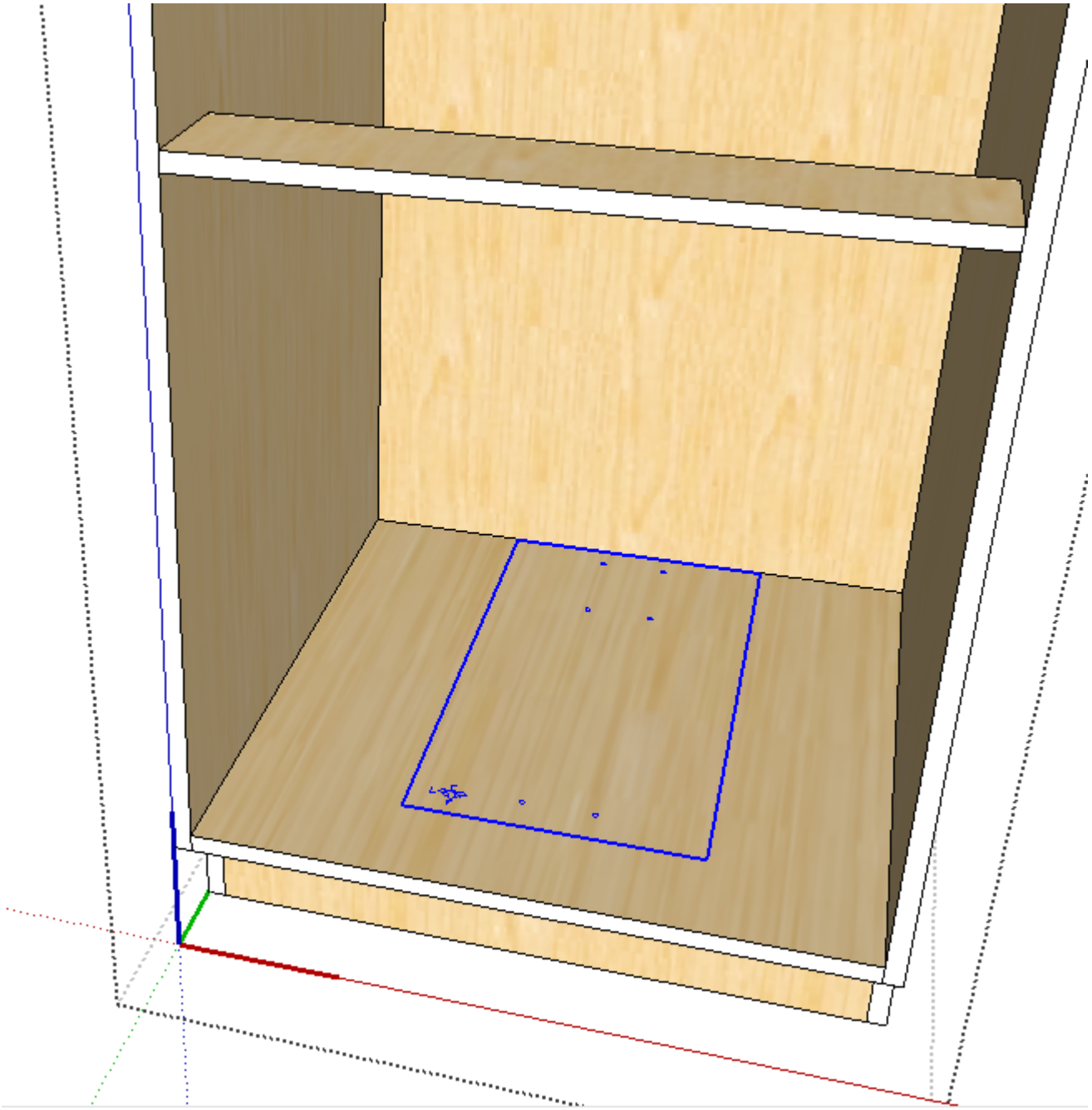
- Remove the construction lines.



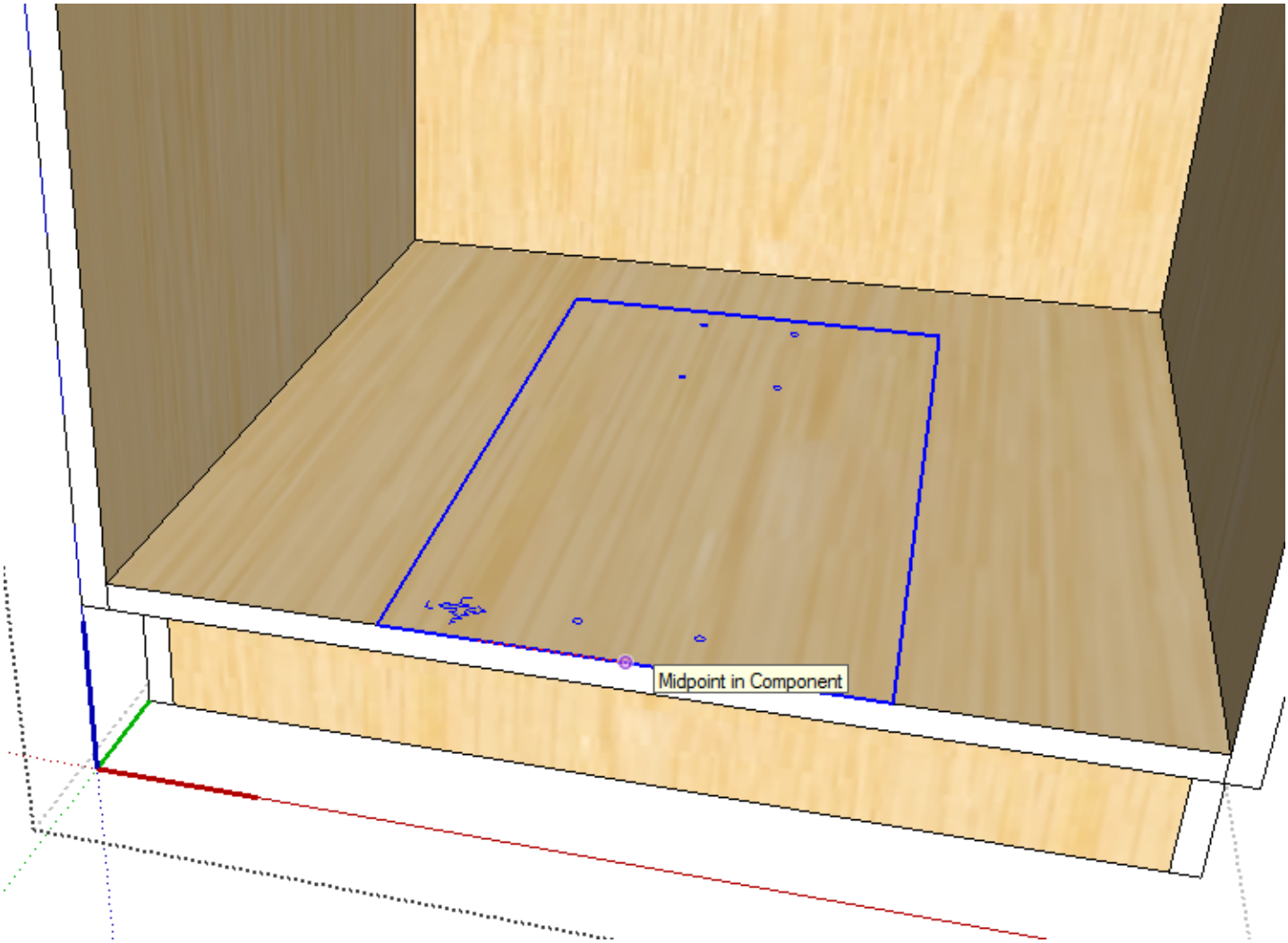
- Add an identifying symbol.
- At this point, you know how you have laid out the holes and which is the left side, right side, front, and back. If you save this in your library and use it later on... it might not be so apparent then. For this reason, it is a good practice to mark your pattern with an identifying symbol that will take the guess work out of placing it later on.
- What's important about this template is that when we go to place it in a cabinet, we must orient it properly so our pattern front is at the front of the cabinet and we must also center the template within the cabinet. There is a specific CabinetSense marking pre-made for you. I've placed it in the lower left hand corner of the template (remember to have the pattern in edit before placing it).



- Save it to your library (optional)
- Place the new pattern into a cabinet.
- A pattern is basically the same as a cutter and it must be placed fully onto the cabinet part before moving it an edge.
- Remember that we sized the pattern to be the minimum required cabinet interior width and depth. We can easily verify that this piece of hardware can fit into that part of the cabinet.
- Also, our visual marker is pointing in the right direction... .the only thing left to do now is to center it.



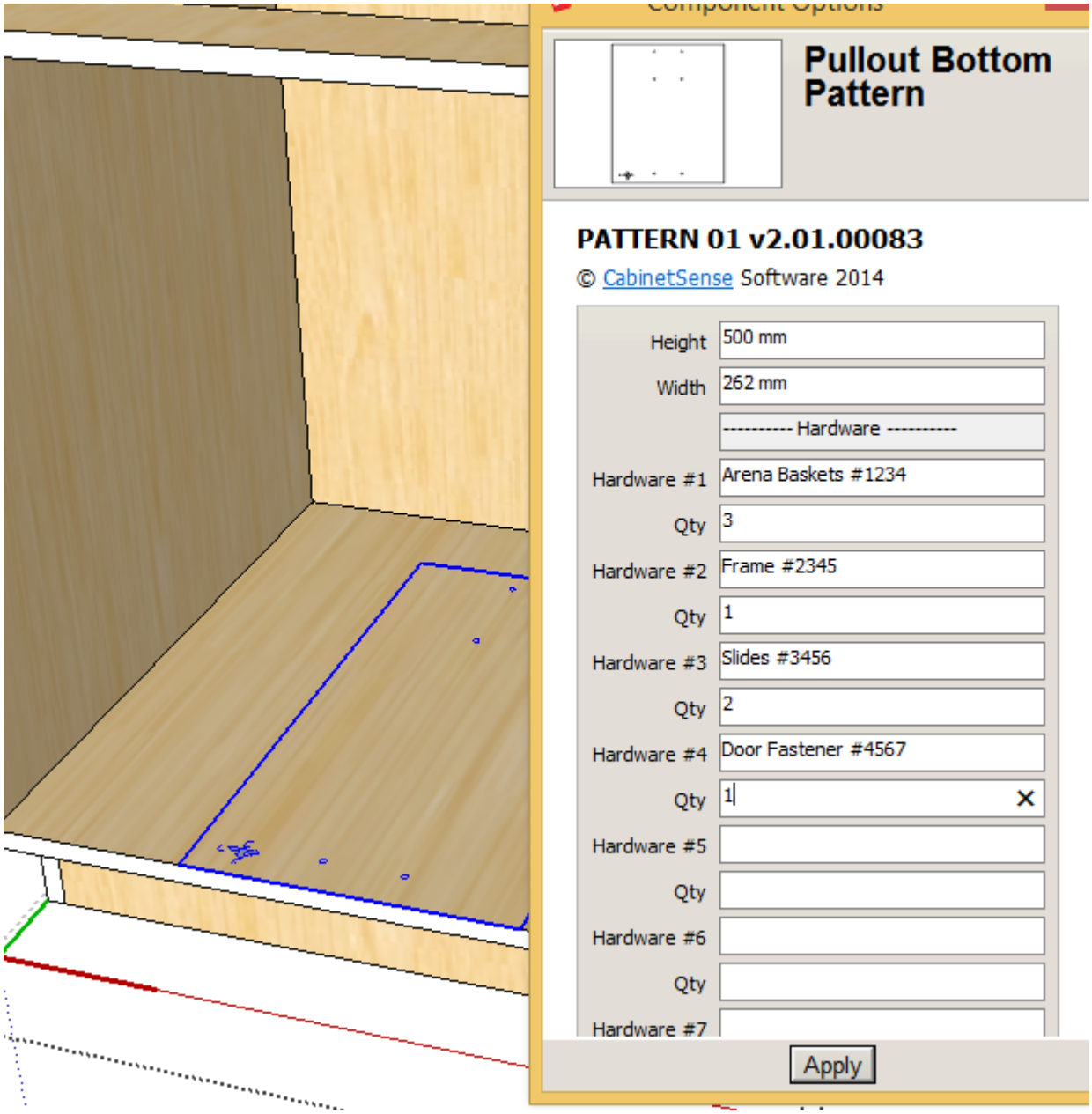
- Center the pattern
- Use the move tool to find the midpoint of the front edge of the pattern. click once to when you have locked onto the midpoint. Move the pattern along the front edge of the cabinet bottom until it snaps to the midpoint of the bottom. click the mouse to place the component in that spot.



A Pattern as a BOM list.

You can add the manufacturers hardware parts to your pattern and have these show up on your Bill of Materials report.

this:



will result in this on the BOM:

	A	B	C	D	E	F	G
	Assembly	Group	Part	Descriptic	Quantity	Width	Height
		1: Hardware	Arena Baskets #1234		3		
		1: Hardware	Frame #2345		1		
		1: Hardware	Slides #3456		2		
		1: Hardware	Door Fastener #4567		1		

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