

GEFORCE GARAGE
SCRATCH BUILD SERIES

HOW TO DESIGN YOUR RIG USING SKETCHUP

FEATURING
BRIAN CARTER OF [BODS MODS](#)



In this tutorial, we're using the free desktop version of SketchUp to design our custom rig (instead of the browser-based version you'll find at the SketchUp homepage). Grab the Windows 64-bit installer for SketchUp Make 2017 at <https://www.sketchup.com/download/all>.

You can download free 3D models of components and cases at [3D Warehouse](#). Plug in any component you can think of into the search box and chances are very good you'll find not just one but several versions available for download and use in your own projects. As shown in our video, these are especially handy for planning the dimensions of a custom case like our Scratch Build.

If you have any experience working with CAD applications, or even standard illustration software, you'll find SketchUp's tools and layout very familiar. But if not, don't sweat it. The first launch takes you on a brief, informative tour of the app, and you'll find tons of learning resources—including a four-part Getting Started series of videos—at <https://www.sketchup.com/learn>. If you have specific questions, you can also hit up the folks on the SketchUp forums at <https://forums.sketchup.com>.

LEVEL: TECHNICIAN

TIME: ROUGHLY 3
HOURS

COST: FREE

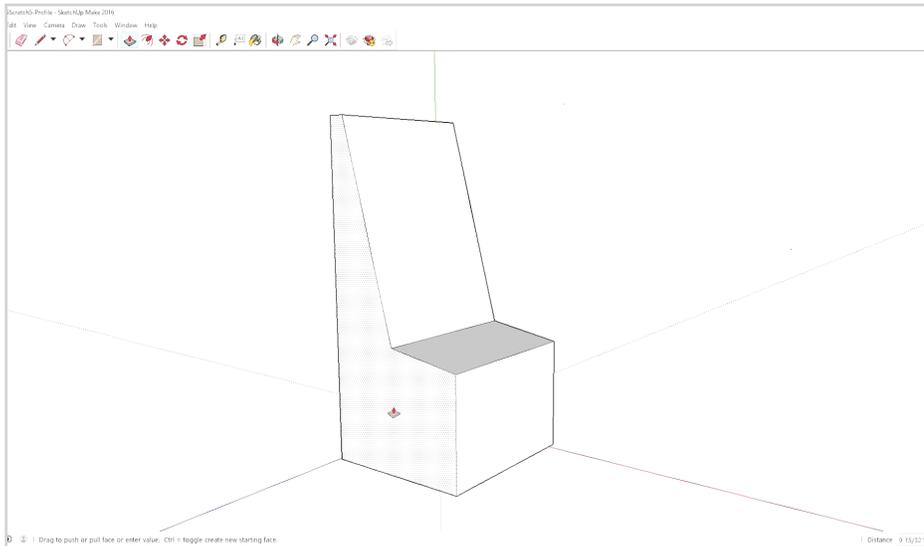
TOOLS:

SketchUp

STEP 1:

Draw the chassis

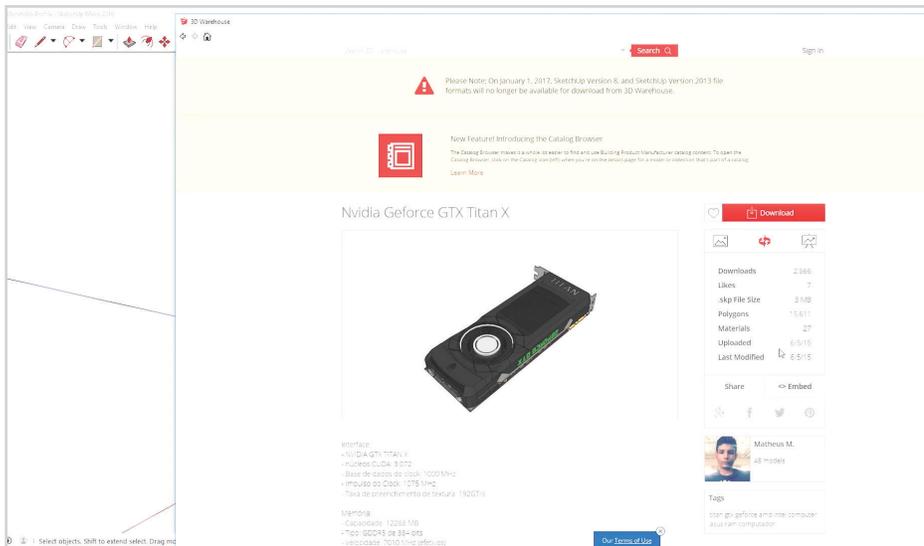
Brian establishes the basic shape of our Scratch Build chassis using the Pencil tool, and then uses the Push/Pull extrusion tool to create a three-dimensional shape.



STEP 2:

Download components from the 3D Warehouse catalog

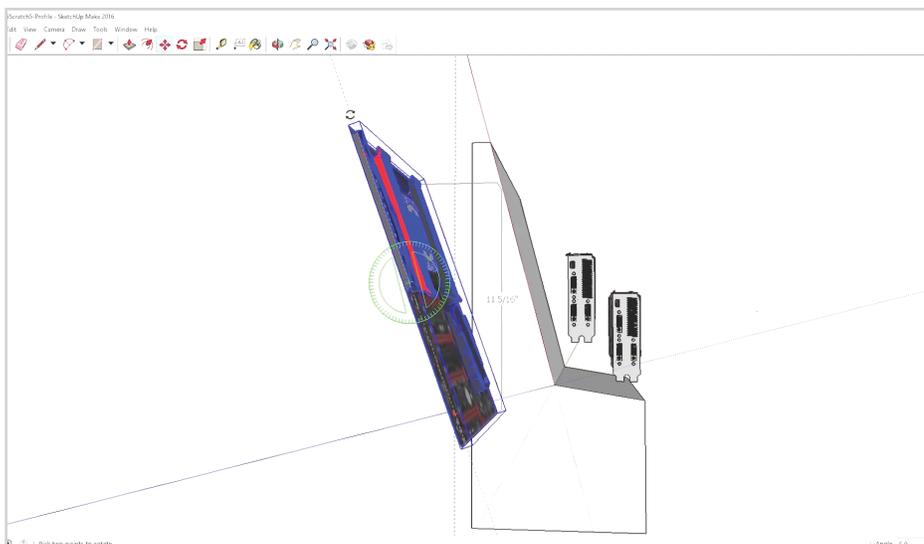
You can access the catalog from within SketchUp via File > 3D Warehouse > Get Models. Sweet!



STEP 3:

Position your components

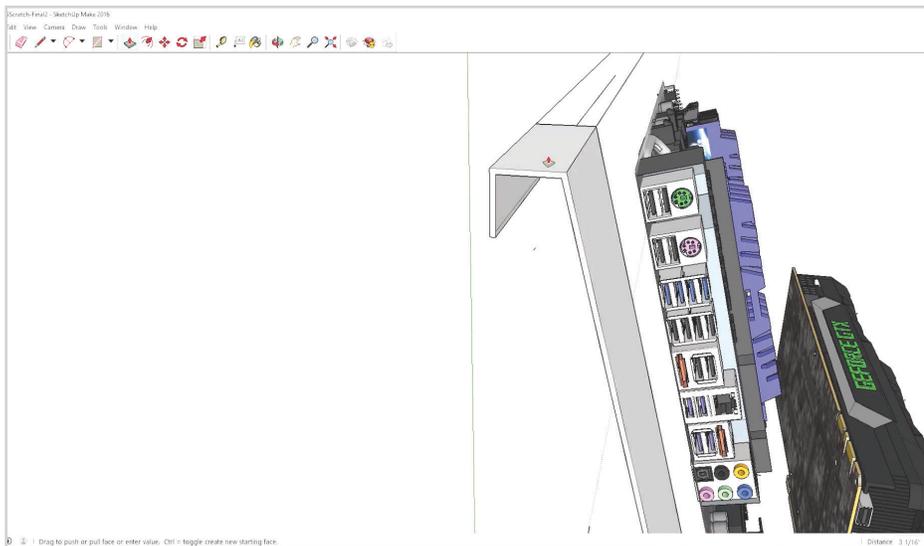
Once you've downloaded a component, you can use the rotation tools to help position them within (or in this case, outside) the chassis. Note that some components may need to be scaled.



STEP 4:

Use the Offset tool to create material depth

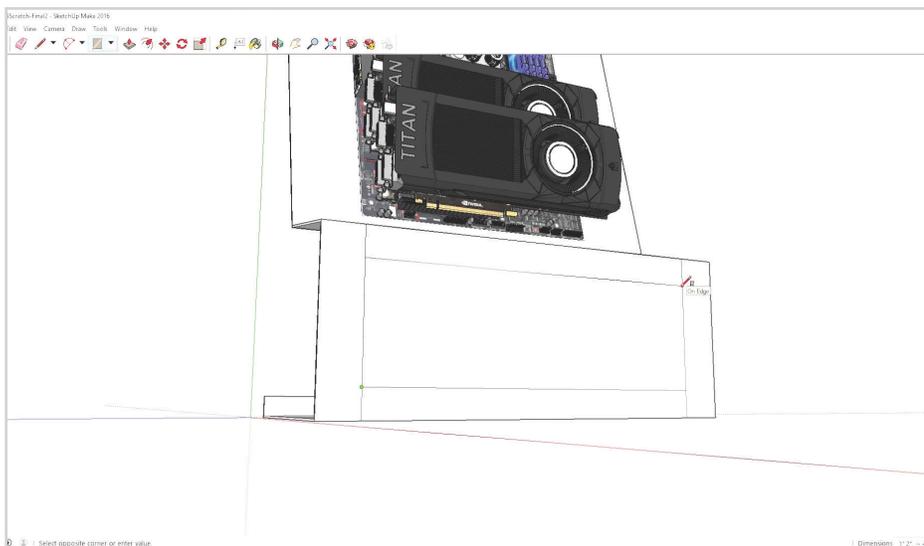
Brian uses the offset tool to accommodate the 1/16th-inch thickness of the metal we're using in our Scratch Build. Note how he closes the ends of the offset and again uses the Push/Pull tool to create a solid object.



STEP 5:

Use Pencil tool for customizing the chassis

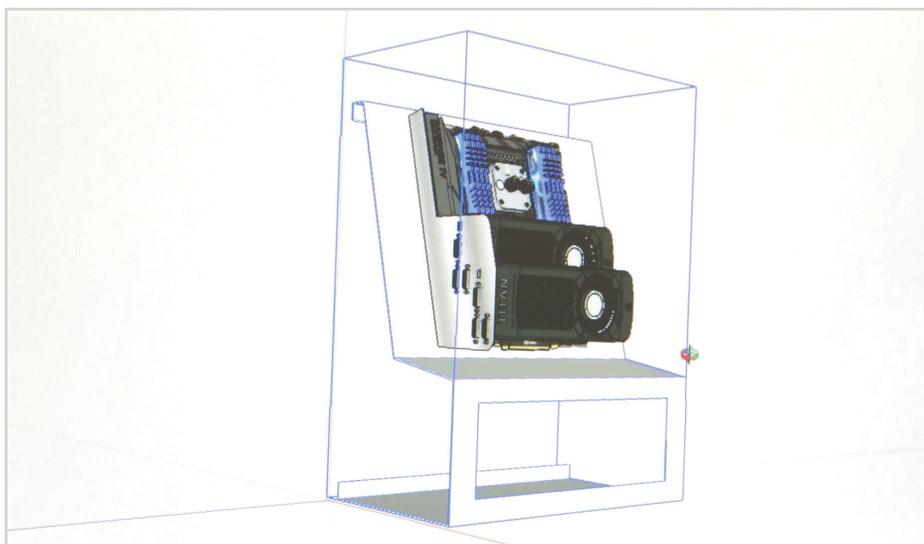
Cutting a hole in our chassis is as simple as using the Pencil tool to draw the shape and then deleting it. If your shape is extruded, you'll need to do so again to the back side of the shape.



STEP 6:

Group objects to make handling easier

Before he draws in our acrylic side panels, Brian "groups" the rest of the case together so they can be manipulated as a single object.



STEP 7:

Create side panels

One side panel is created using the same process outlined in Steps 1 and 4. This is then duplicated and positioned on the other side. Then he repeats these functions to create the cover plates.

STEP 8:

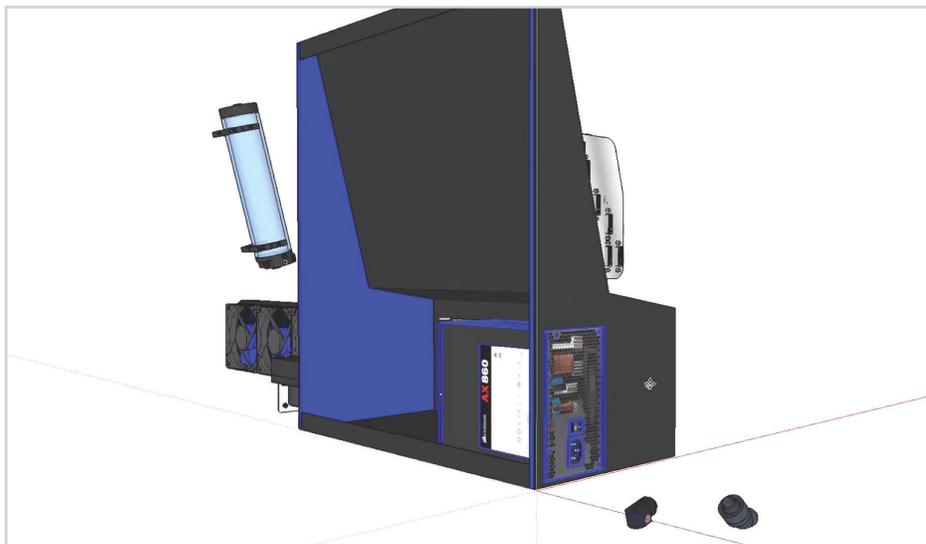
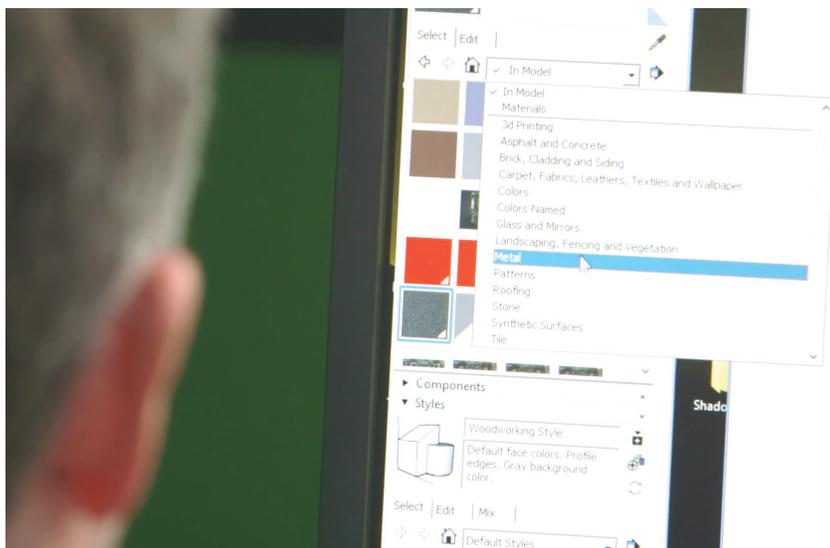
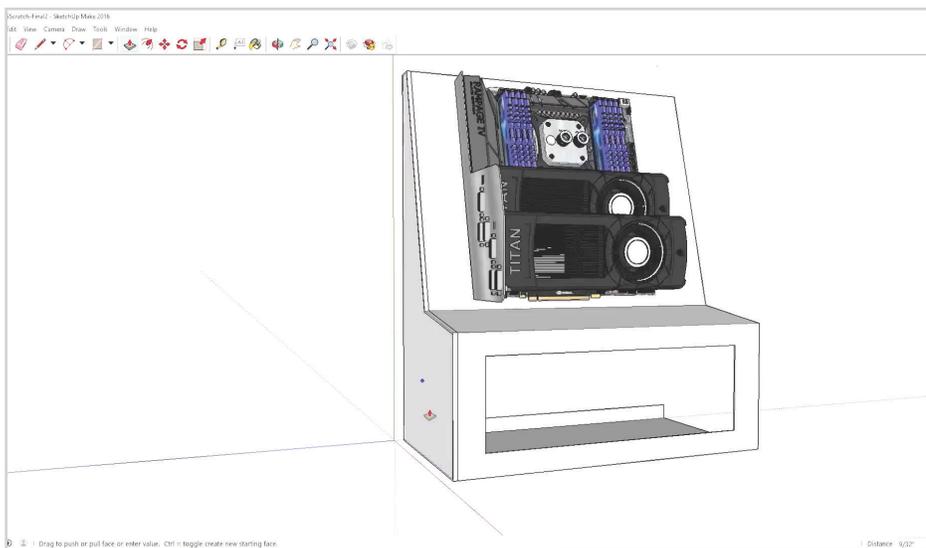
Add textures

These are available in the Default Tray under Materials. There are tons of them! Feel free to experiment here.

STEP 9:

Add additional components

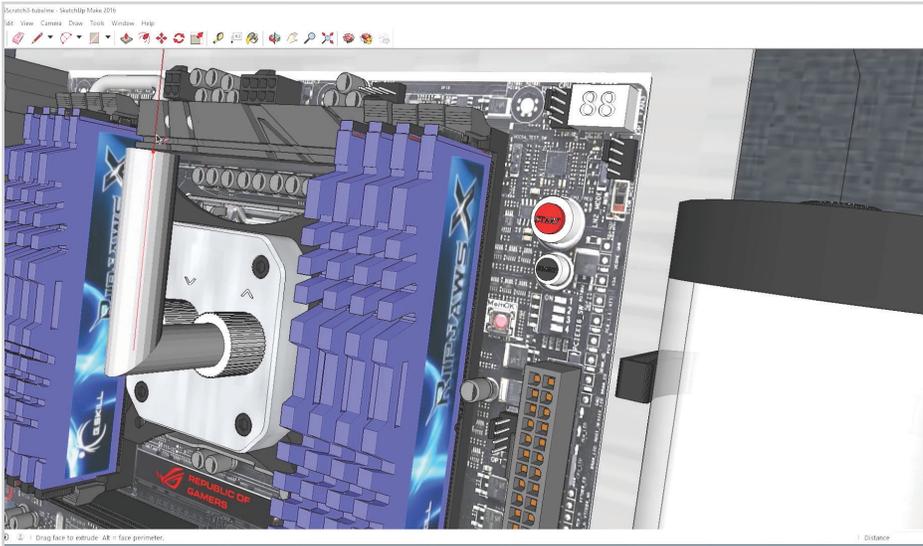
Here, Brian's bringing in the rest of the components we'll be using for our Scratch Build, imported from the 3D warehouse catalog except for a few custom jobs.



STEP 10:

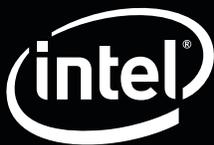
Use the Pencil tool for watercooling paths

Brian's drawn a simple path that represents the center of the water-cooling tubes. Then he uses the Arc and Follow Me tools to generate the tubes themselves. *Cool.*



GeForce Garage: Scratch Build Series

SPECIAL THANKS TO:



TOSHIBA

