



3DPRINTING EXERCISE

Build Plate Customization

Tutorial_V3- Updated: 14,0000,1587,751(Official)

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Introduction

In this exercise, we will learn how to create a customized build plate in 3DXpert.

Build plates should be created according to the data supplied by the printer vendor.

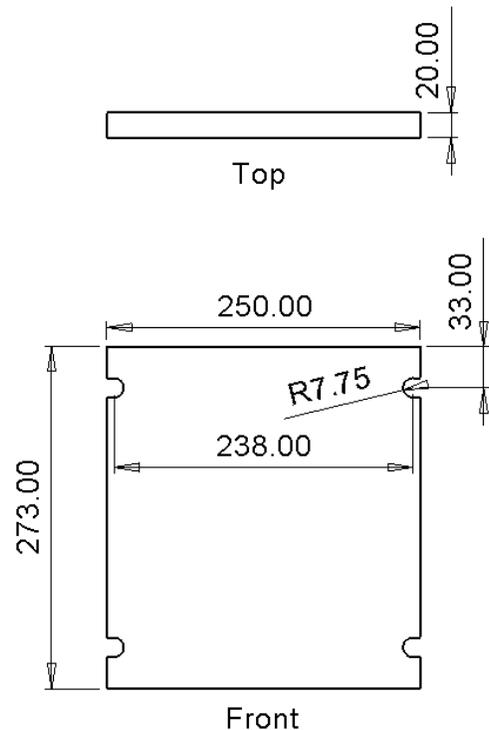
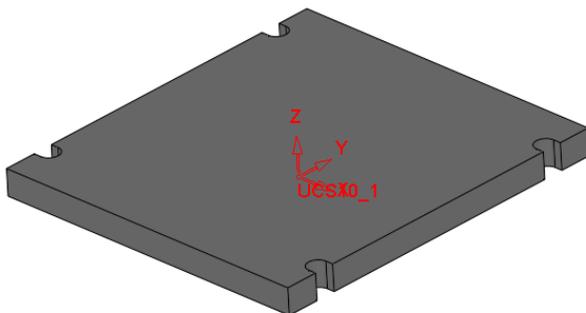
In 3DXpert, a build plate is represented the 2D boundary appearing on the tray.

The build plate contour should therefore be created and then saved along with the printer database.

Therefore, the first step is to collect the geometrical data of the plate.

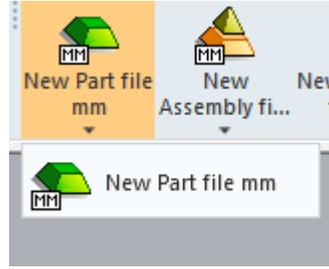
Once this is know, you can create the boundary contour. For this exercise, we will use an existing plate, called '250x273_Ti', which is available for the 3D Systems printer 'ProX DMP 320A'.

The shape and dimensions of the plate are shown here:



Create a sketch

1. Launch 3DXpert and open up a new MM part file.

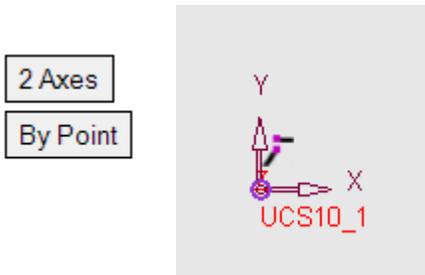


2. Press the Sketcher button  and click the middle mouse button, to create the sketch on the default XY plane.

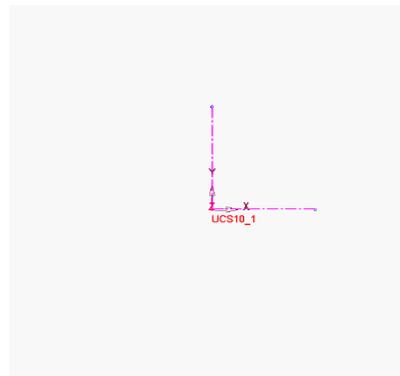


3. Activate the Symmetry tool .

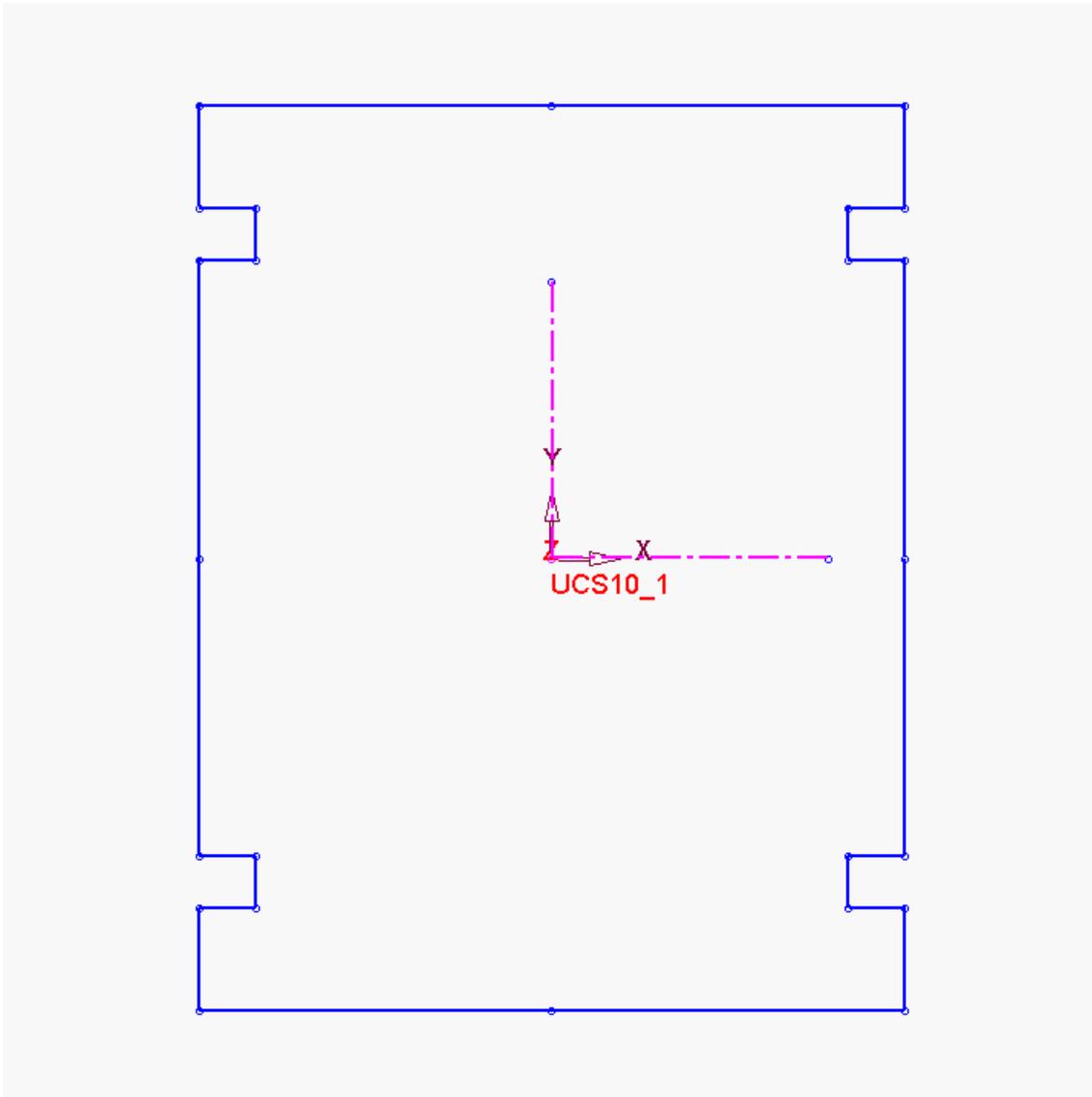
Set from "1 Axis" to "2 Axes" and "By Point" options and select the displayed UCS origin:



The result - two axes are created:



4. Draw the following sketch:(Create only a quarter of the sketch)

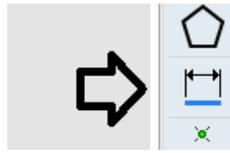


Note:

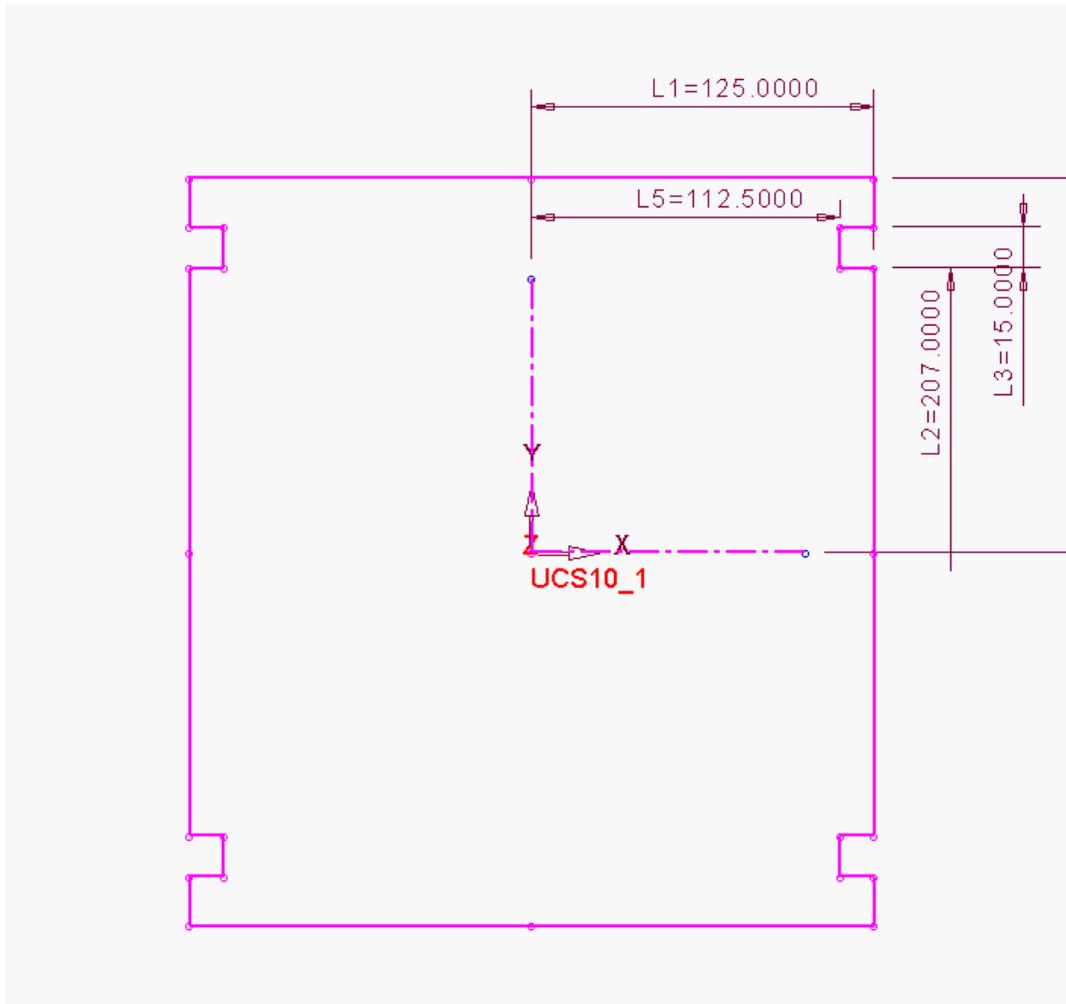
As you are in “Symmetry” mode, the cursor gets a symmetry symbol .

Sketch the contour, starting in the upper right area, and note that the sketch will dynamically create the mirrored entities.

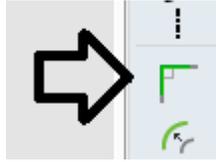
Apply Dimensions



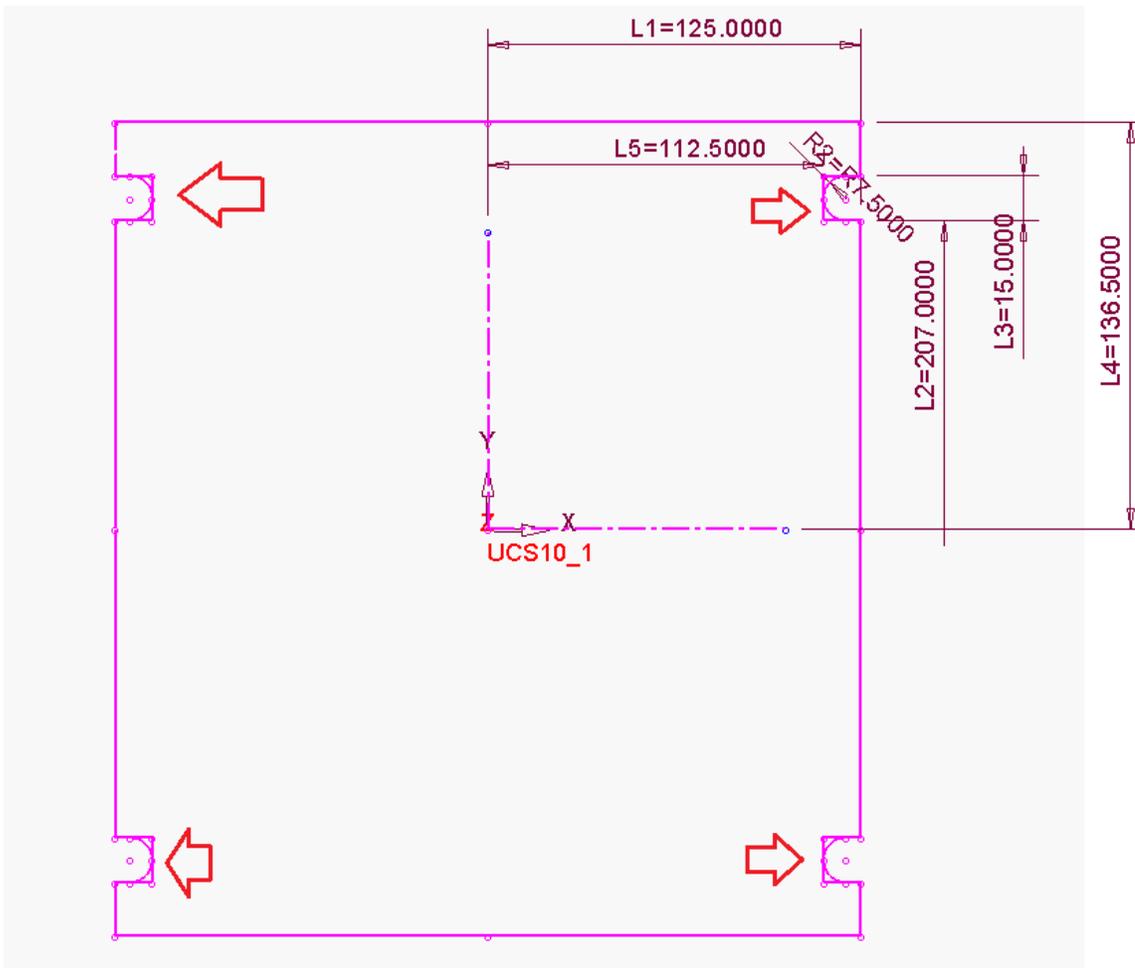
5. Add the dimensions. Enter the Dimension tool
Pick the sketch entities and add the dimensions, as shown here:



Add radii and trim entities

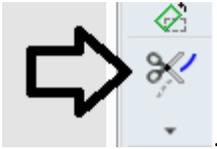


6. To add radii, enter the Corner tool
7. Apply a radius of 7.5 (use **Trim OFF**) as shown here:

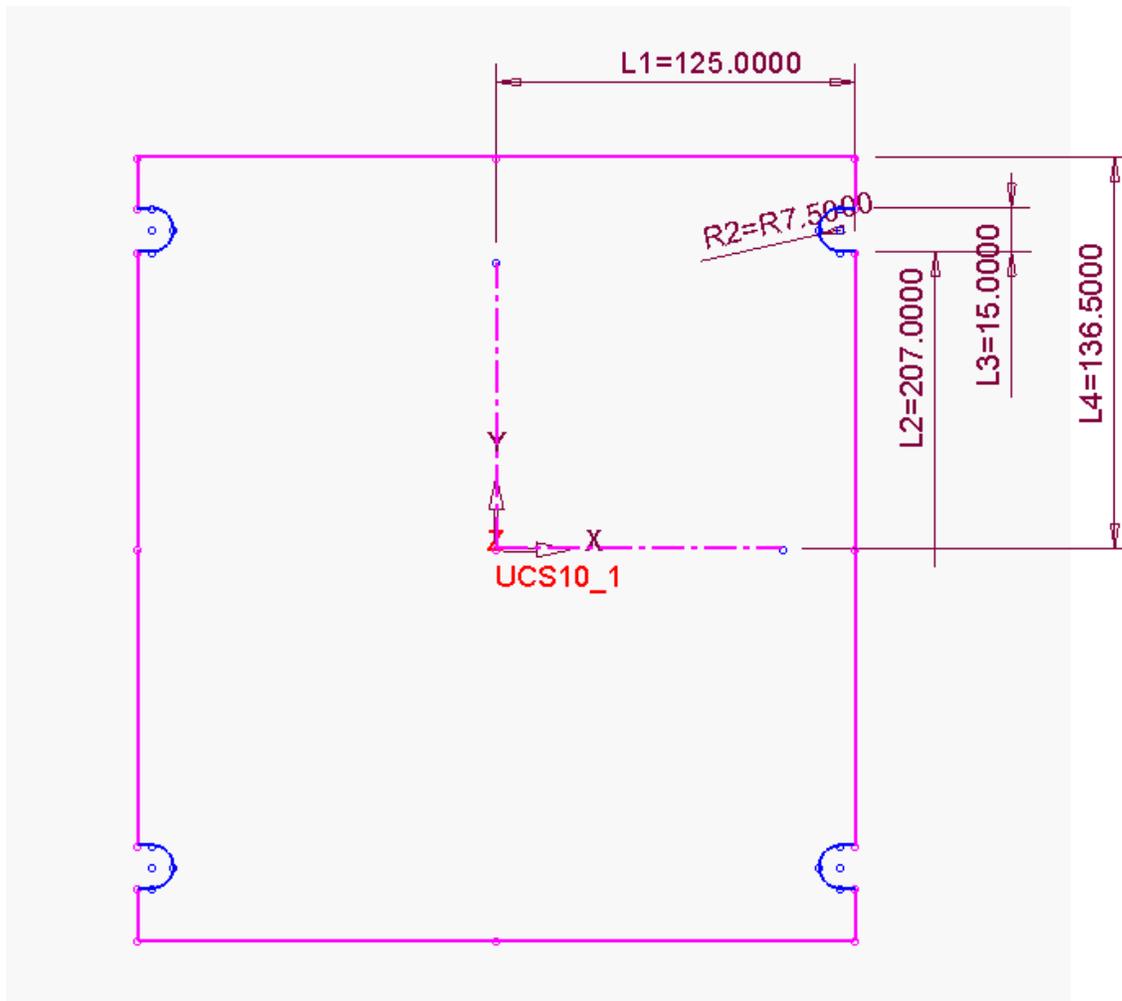


Notice that the original contours are still showing around the radii. Let's remove them

8. Enter the Dynamic Trim tool

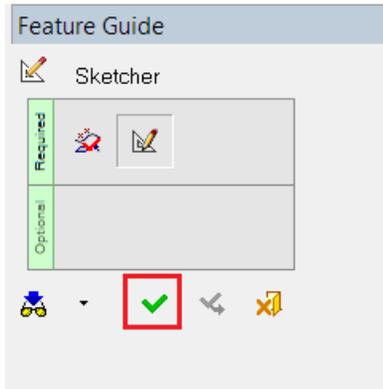


9. Trim the sharp edges, in order to get the following result:

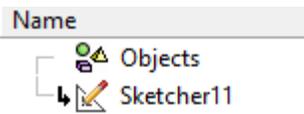


The plate 2D contour is now ready.

10. Click the **OK** button in the Sketcher's Feature Guide to exit the sketcher.



A sketch feature has been added to the feature tree.



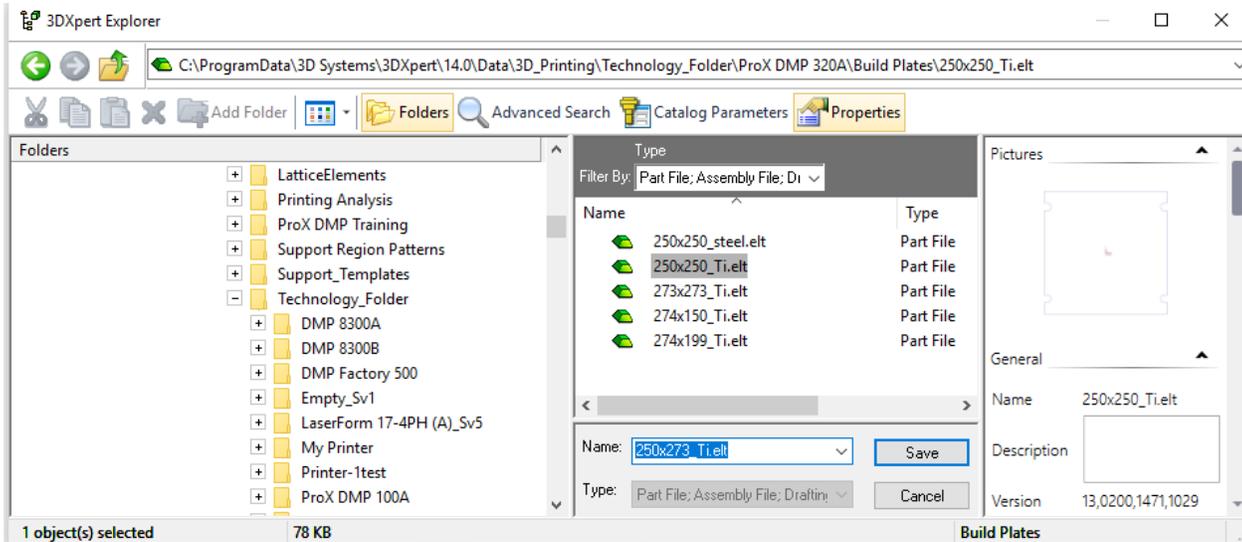
Save the plate

11. From the Menu, select **File>File Operation> Save As - Main File Only**.

Save the file as **250x273_Ti.elt** under the printer directory.

For example, the default location for the **ProX DMP 320A** is in:

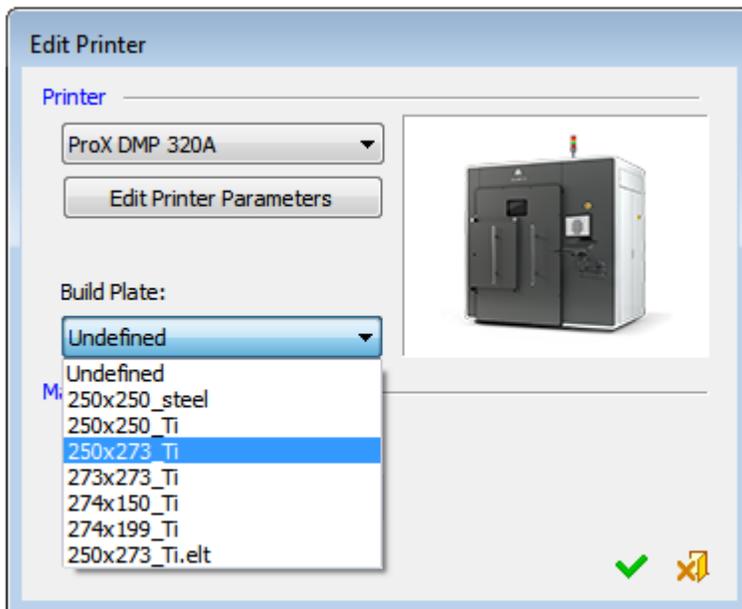
"<3DXpert root folder>Data\3D_Printing\Technology_Folder\ProX DMP 320A\Build Plates"



The build plate is now ready to use.

12. Open a new 3D Printing project. Pick **Edit Printer** set the printer ProX DMP 320A.

13. Open the Build Plate list to see your newly created built plate.



End of Exercise.