



# TUNING SLICING PARAMETERS

Tutorial\_V2 - Updated: 14,0100,1592,814(3DXpertv14SP1)

## Introduction

3DXpert runs slicing calculations based on printer and materials that were pre-prepared for the specific printer and the specific material you use.

Such databases are sealed and should not be changed. They were approved by 3D Systems experts and signed as Certified LaserForm materials.

However, it may be that you need to tune up or adjust a database for specific needs. Some changes are possible, but we aware that any change results in a non-certified material database.

The purpose of this guide is to explain how to adjust the settings.

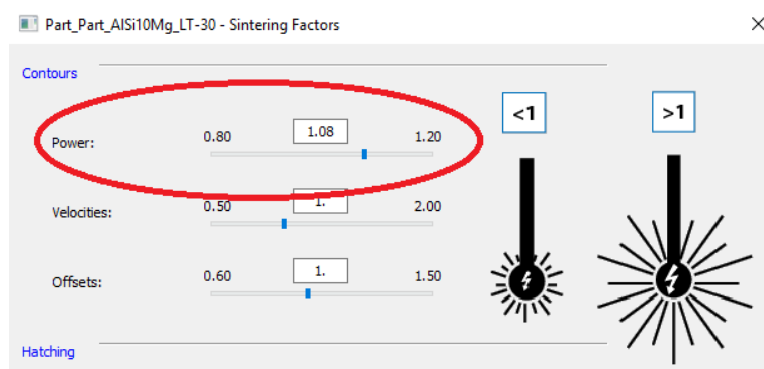
## What are the Slicing Parameters to Adjust?

You can adjust the values for **Power**, **Velocity** and **Offset parameters for Contours & Hatching**, and in **Hatching** also for the **Side Step**. In some Printers also the **Focus** can be modified.

What you set in each of these is not the actual value of the parameter. You enter a factor.

Each factor can be set to a value within the displayed pre-defined range, either by entering the required factor value or by using the slider. Any change impacts on all its relevant parameters inside the Build Style.

For example, applying a factor for Contours-Power, will update the power value for all motions of all contours in this Build Style.



Adjusting the factor for Contours Power

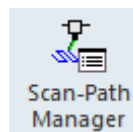
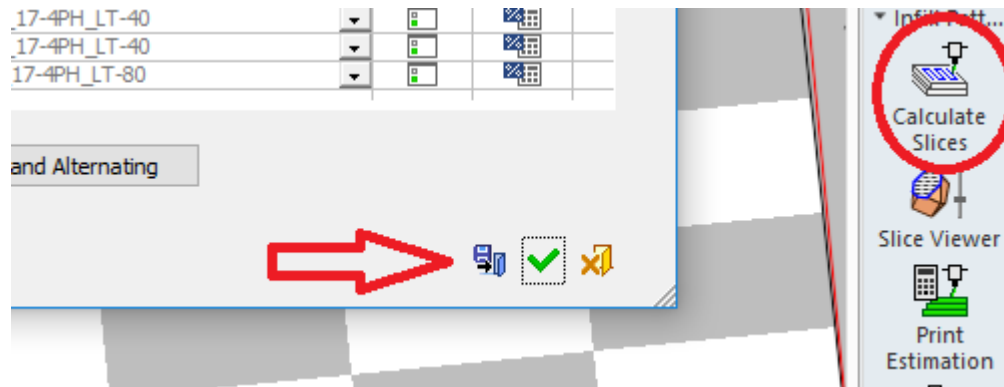
So when setting a factor of, for example 1.2, all the power related definitions in all contours (C1, C2..) of this Build Style will increase by 20 percent in power (for the specific combination of Technology and Build Style.)

## How to Adjust Slicing Parameters

1. Load a project, ready to be sliced.



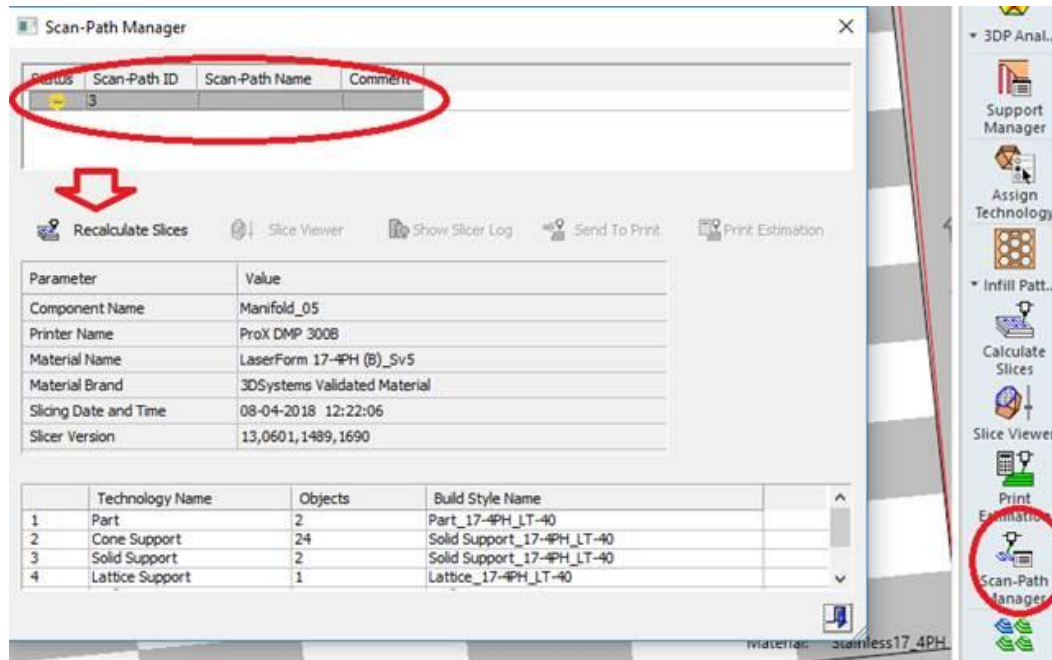
2. From the Guide Bar, click Calculate Slices  
The Objects Slicing dialog shows up, make sure that all the technologies have matching buildstyles.
3. There is no need to calculate the scan path. Click the **Save\_Close** button. This creates a 'pending' scan path.



4. Click **Scan Path Manager**.

Assuming the file was not calculated previously (see later on this guide), there is a non-calculated scan path.  
Select it.

- Click the **Recalculate Slices** button.



This launches the Objects Slicing dialog, pointing to the internal buildstyles saved in the file.

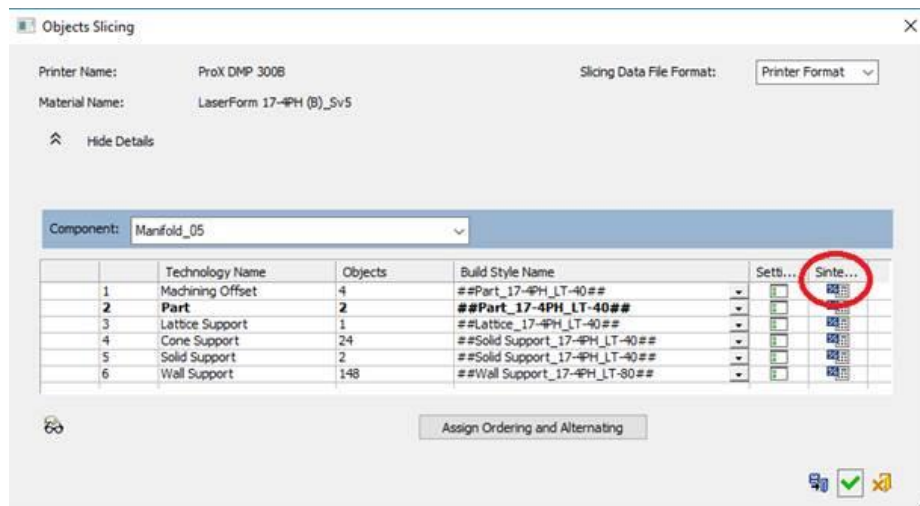
Note: When you click **Calculate Slicing** on the Guide Bar, the system matches between the technologies defined within your project and the database installed on your PC.

**Once the slicing is calculated (or Saved as in step #3), the database is also kept within the file.**

You can access this database through the Scan Path Manager.

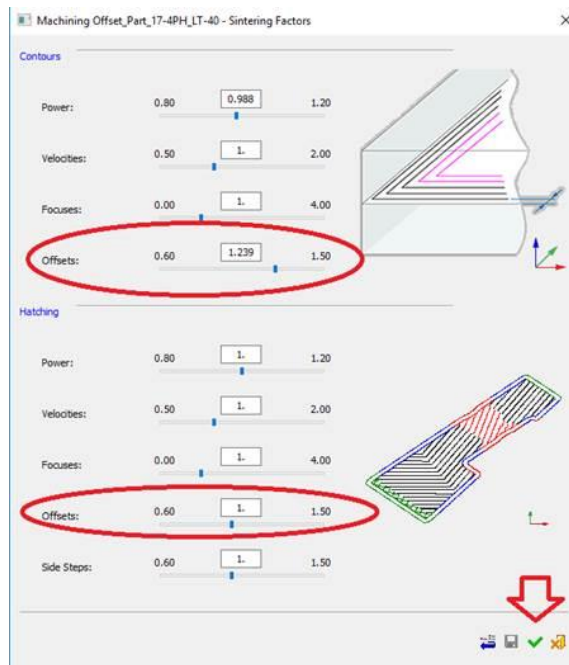
Also note that in this image the Material Brand for this material is currently set as 3D Systems Validated Material.

- Click the Sintering Factors button alongside the technology you wish to adjust.



This launches the Sintering Factors dialog.

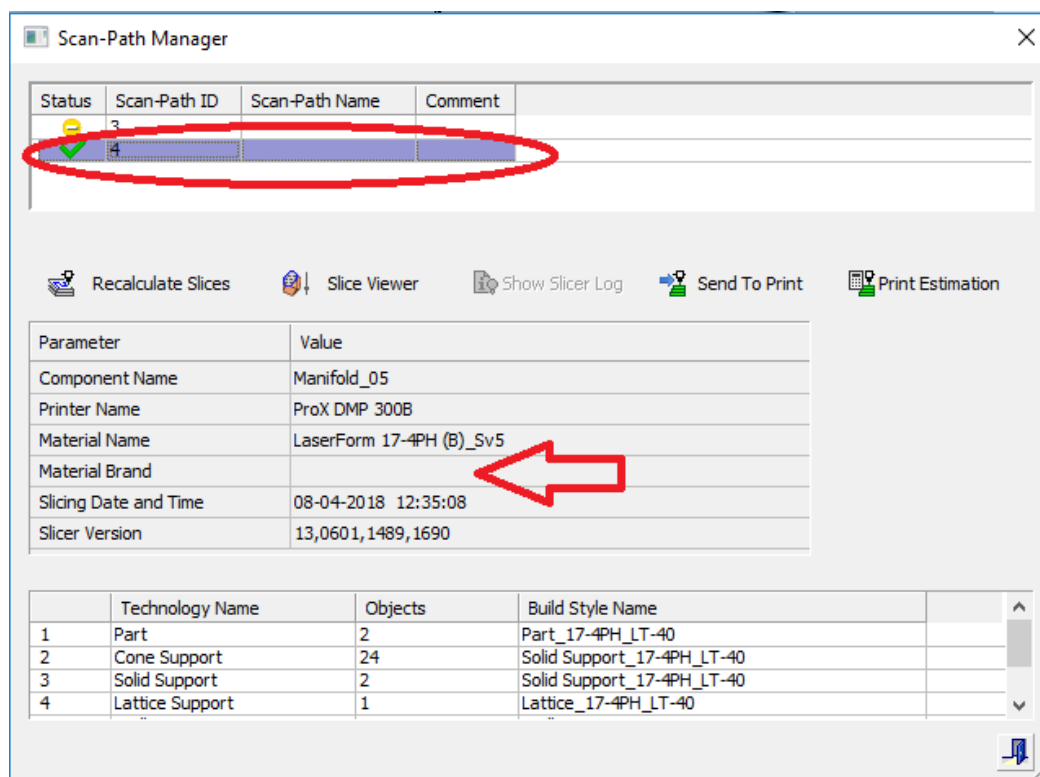
- For example, let's adjust the contours & hatching offsets. Set the factors for these offsets as you wish and press the OK button



- You are back in the Object Slicing (through Scan Path Manager) dialog. Press the **OK** button to calculate the scan path.



- Once calculation is over, notice:  
In the Scan Path Manager, the calculated scan path was replaced or added (in this image, added) according to the settings in the preferences (see below).

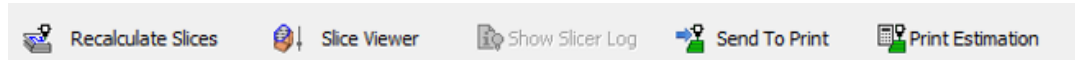


The Material Brand area is now empty, because the result of this calculation - adjusted scan path - is not validated any longer by 3D Systems.

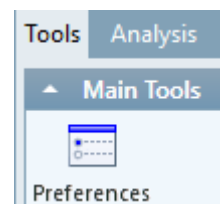
As you work on a project, you may run various iterations of the scan path. Normally, you would like to always keep the last one. In other words, each calculation result will overwrite the last one.

In some cases, you may wish to keep each calculation. This way you can review the past calculations or reuse them.

You can indeed recalculate each one, view the results, send to print or get the time and cost estimation for it.



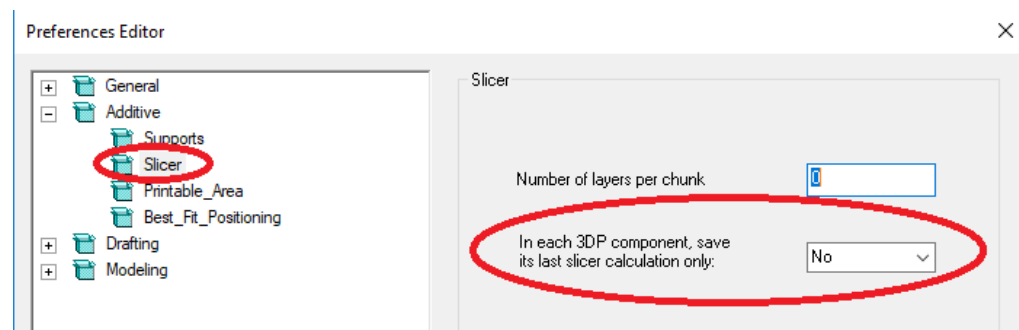
To set if to overwrite the last one or keep all calculations, enter Tools-Preferences.



Enter Additive-Slicer and set Yes or No to the parameter marked in the image.

‘Yes’ means that only the last calculation result is kept (recommended)

‘No’ means that all calculation results will be kept. This will obviously enlarge the file size.



End of Exercise.