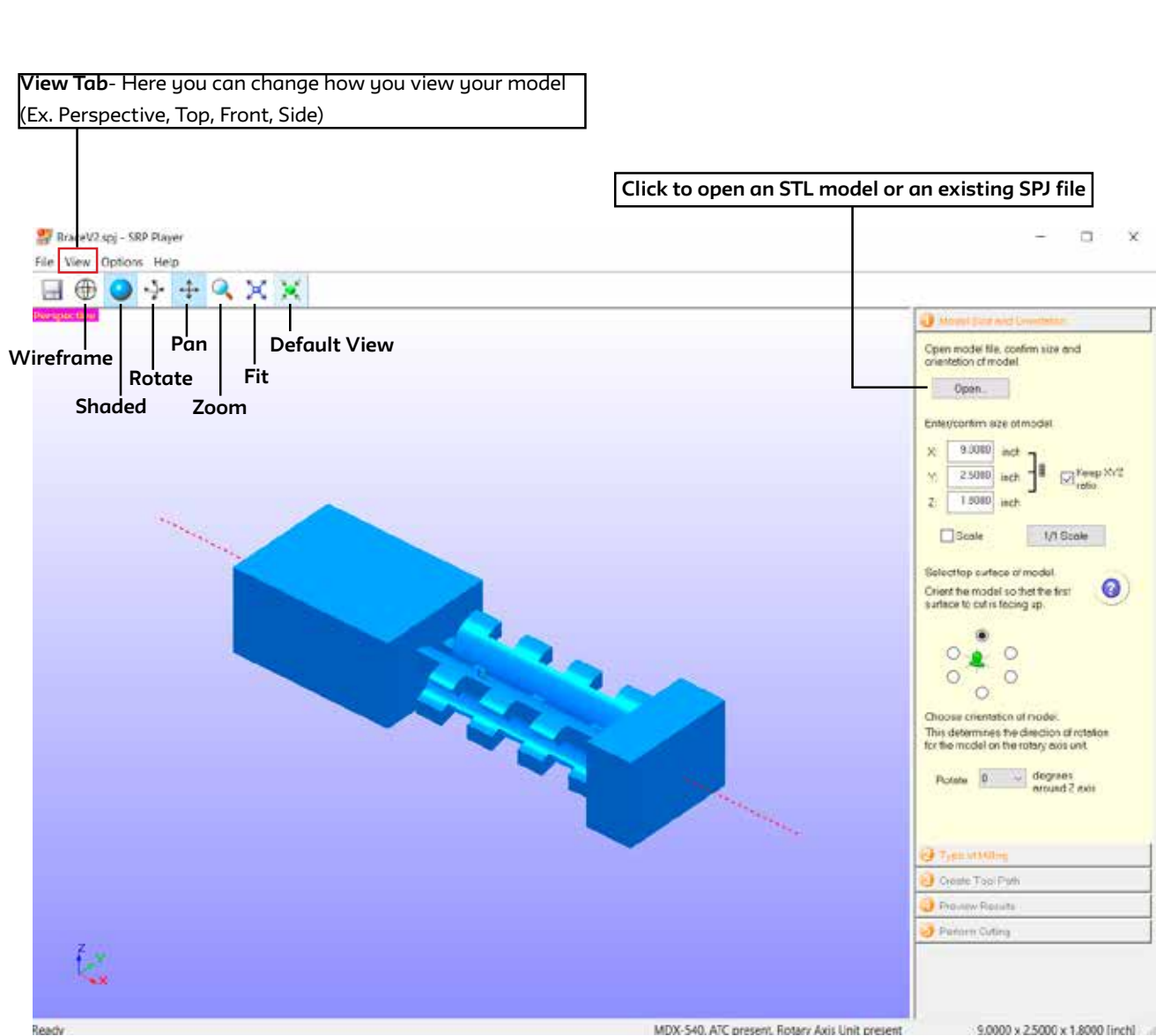


SETTING UP SRP PLAYER

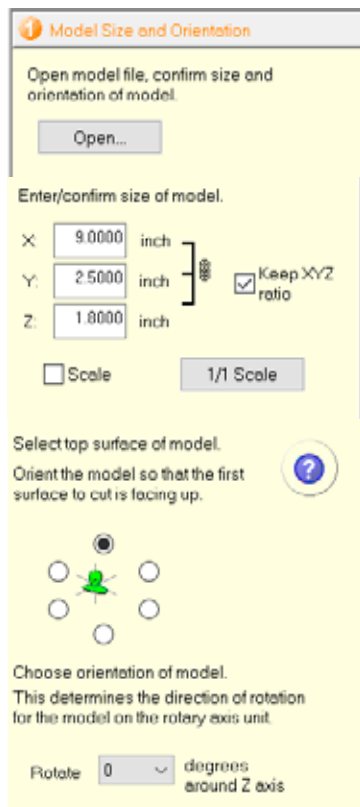
Understanding the Interface

View Tab- Here you can change how you view your model
(Ex. Perspective, Top, Front, Side)

Click to open an STL model or an existing SPJ file



Step 1: Importing 3D model



Model Size and Orientation

- Click **Open...**
- Locate and import your STL file

Once 3D model is imported you must correctly size your model

- Always make sure “Keep XYZ ratio” is checked
- You only need to type in one dimension and the model will scale equally
- If you need to reorient your model you can do that here
- You can flip your model any direction by selecting one of the bubbles around the green figure
 - *Might cause a dimensioning error: a quick fix is scale your model smaller rotate/adjust as needed then set correct size
- Alternatively, you can rotate your model around the z axis using the drop down bar

Step 2: Type of Milling

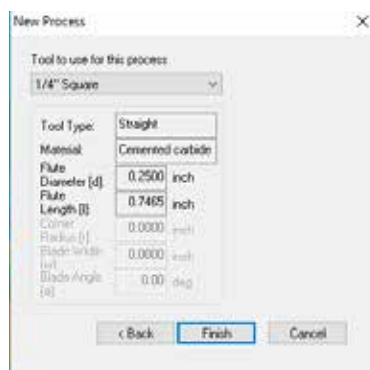
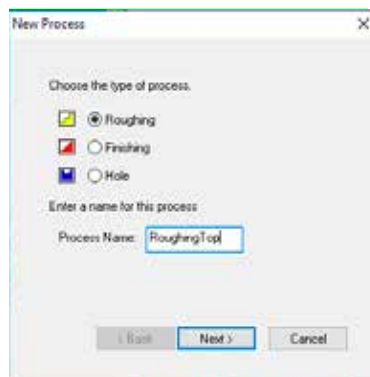
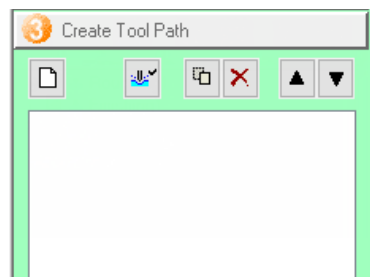
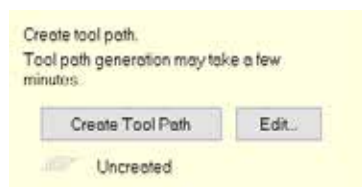
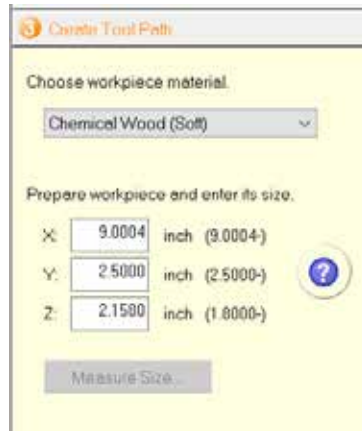


Select Type of Milling

- Check box for Set manually
- Select **Cylindrical workpiece** when your stock material is rounded
- Select **Block workpiece** when your stock material is squared/rectangular
 - *If using Block workpiece always select **cut top and bottom**

DO NOT check **Add support to model** unless asked to do so

Step 3: Create Toolpaths



Setting up Workpiece

- Select the appropriate material that matches what you will be cutting
- Input the precise measurements of the length (x), width (y) and height (z) of your selected material

- Click **Edit...**

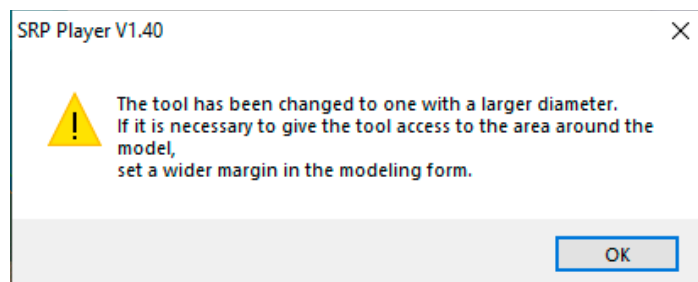
- Click on the White Page Icon to create a “New Process”

- Select Roughing and Rename to **RoughingTop**

- Click **Next**

- Pick a tool
This is where you choose what tool to perform the roughing cut
*Choose the 1/4” Square
(Or largest tool that fit to your design)

- Click **Finish**



- Click **OK**

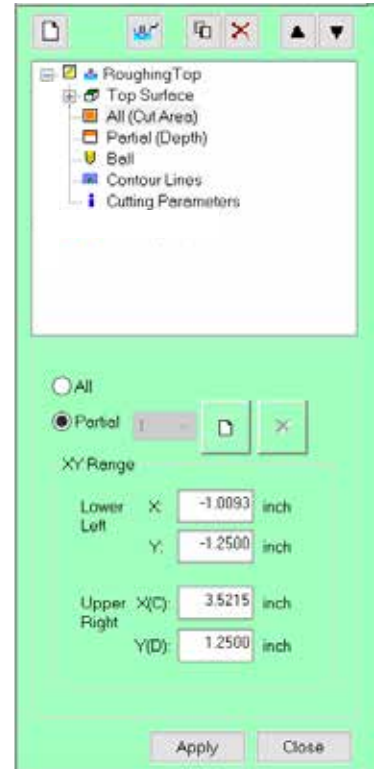
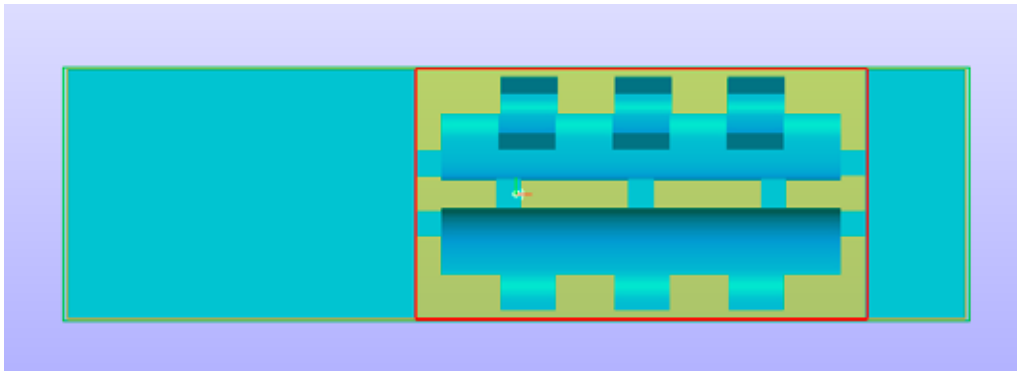
Step 4: Customize Roughing Toolpath

Expand RoughingTop

- Click **All (Cut Area)**
- Select **Partial**
Drag the red lines to fit comfortably around your design (include space for your tabs)

*This will only cut areas that are needed rather than removing material that does not include your design

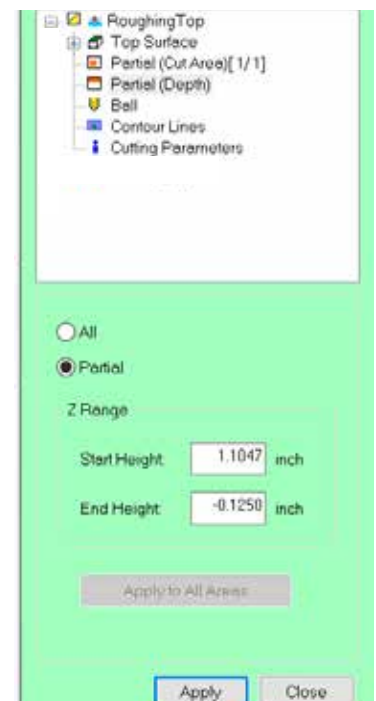
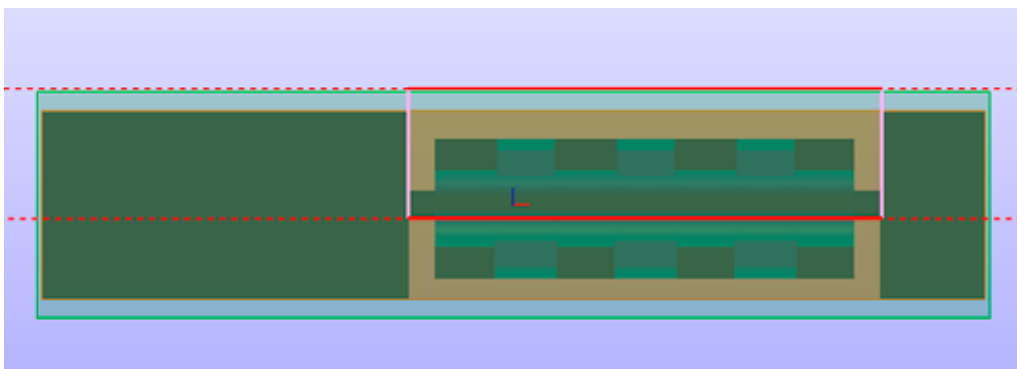
- Click **Apply** to save changes

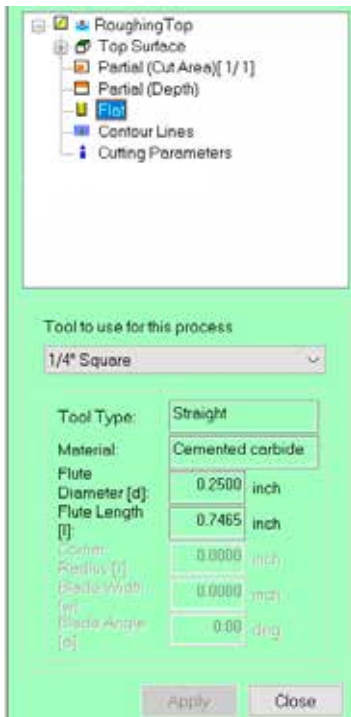


- Click **Partial (Depth)**
- Select **Partial**
Drag the top red line so it is a little above the top of your material
Drag the bottom line so it is a little below the halfway point of your material

*This will allow the tool to ease into your material as well as create a smooth transition between top and bottom milling

- Click **Apply** to save changes





- If you need to change your tool this is where you can do that

Step 5a: Creating Additional Roughing Toolpaths

Now that you have programmed a roughing toolpath you can use this to quickly create additional roughing toolpaths for your other sides. (All settings you've made will copy over)



This button will duplicate your toolpath

- Once you've duplicated your roughing toolpath make sure to appropriately rename it
- Click **Apply** to save changes



- With your duplicated and renamed roughing toolpath you just need to change what surface it references
- Expand the roughing toolpath you've just duplicated
(ie. **RoughingBottom**)
- Click **Top Surface**
Change to the appropriate surface that matches the name using the globe icons below
(ie. **Bottom[-Z]**)

Depending on the complexity of the design you may need to create additional sides for roughing. Repeat Step 5 using the names RoughingFront and Roughing Back

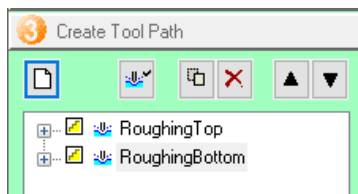
When changing the referenced surface DO NOT use Front[-Y] or Back[+Y] rather select **Desired Angle**
Front use 90 degrees
Back use 270 degrees

Step 5b: Adjusting Roughing Toolpaths

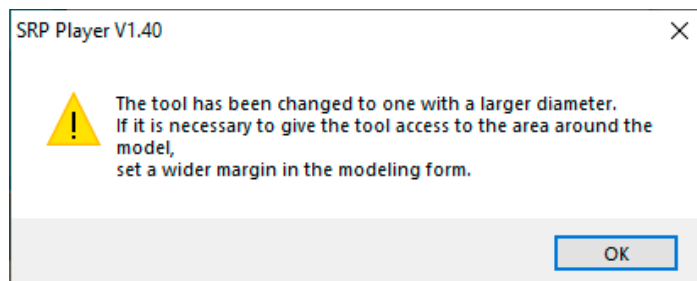
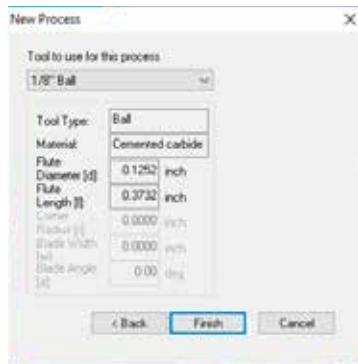
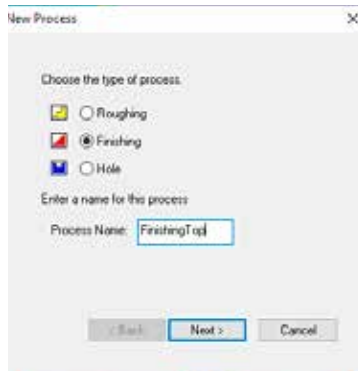
If you are only doing top and bottom roughing you can skip Step 5b

If you decide to have more than top and bottom roughing toolpaths you must edit **Partial(Cut Area)** and **Partial(Depth)** for any additional sides. Repeat Step 4 of the instructions

Step 6: Customize Finishing Toolpath



- Click on the White Page Icon to create a “New Process”
- Select Finishing and Rename to **FinishingTop**
- Click **Next**
- Pick a tool
This is where you choose what tool to perform the roughing cut
*Choose the 1/8” Ball
(Or largest tool that fit to your design)
- Click **Finish**



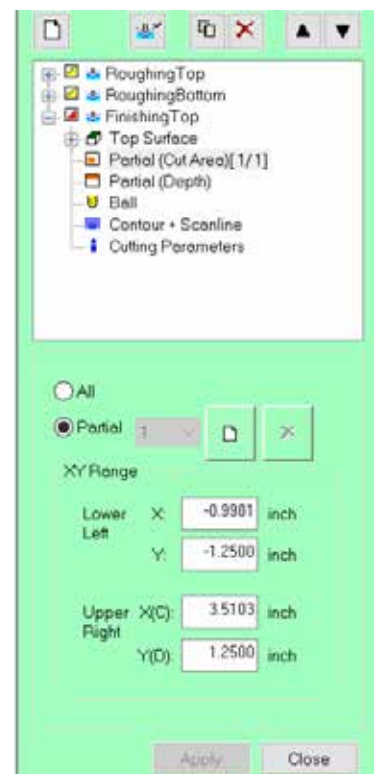
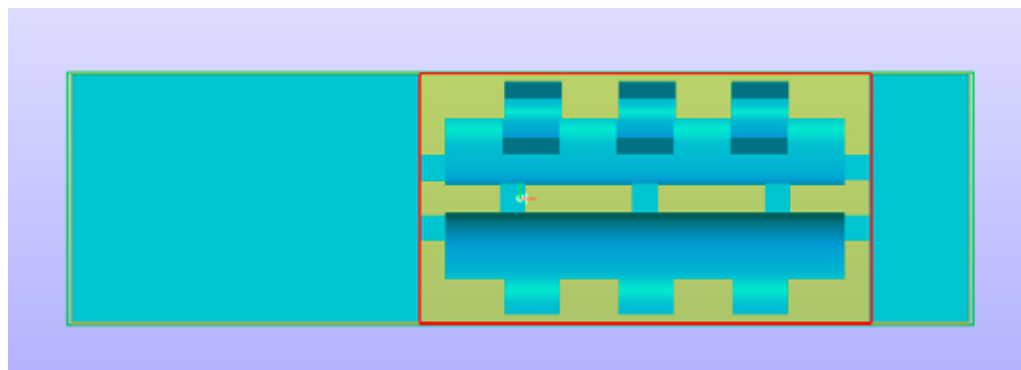
- Click **OK**

Expand FinishingTop

- Click **All (Cut Area)**
- Select **Partial**
Drag the red lines to fit tightly around your design (include space for your tabs)

*This will only cut areas that are needed for finishing resolution rather than removing material that does not need finishing resolution

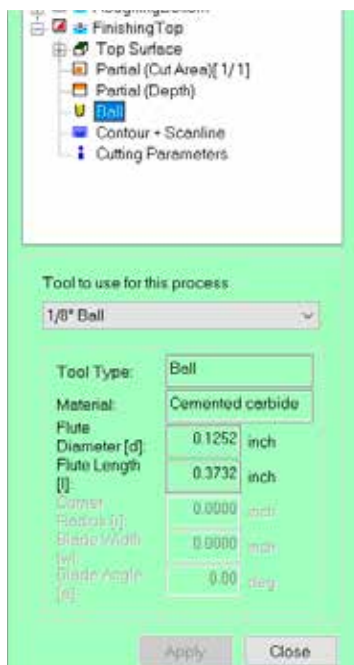
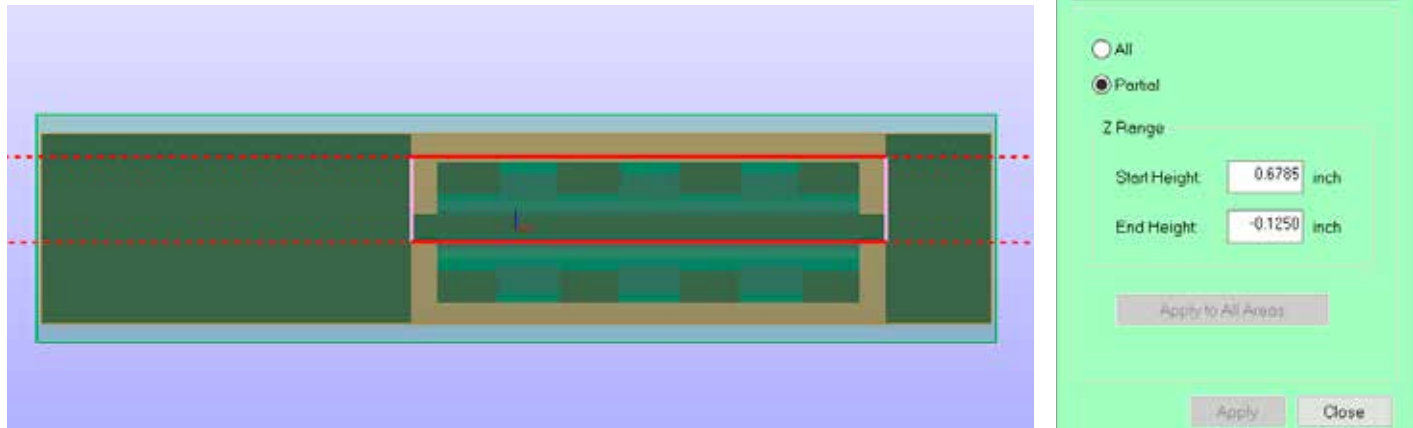
- Click **Apply** to save changes



- Click **Partial (Depth)**
- Select **Partial**
 - Drag the top red line so it is a little above the top of your design
 - Drag the bottom lines so it is a little below the halfway point of your design

*This will allow the tool to run finishing toolpath where your design is rather than cutting through air

- Click **Apply** to save changes



- Click **Ball**
 - This is where you choose what tool to perform the finishing cut
 - *Choose the 1/8" Ball
 - (Or largest finishing tool that will fit to your design)

- Click **Apply** to save changes

If your design requires smaller tools you will need to create additional toolpaths to step down in size. Only make one size step down per toolpath (ie. 1/8" down to 1/16" DO NOT step down 1/8" to 1/32")

DO NOT make changes to Contour Lines or Cutting Parameters

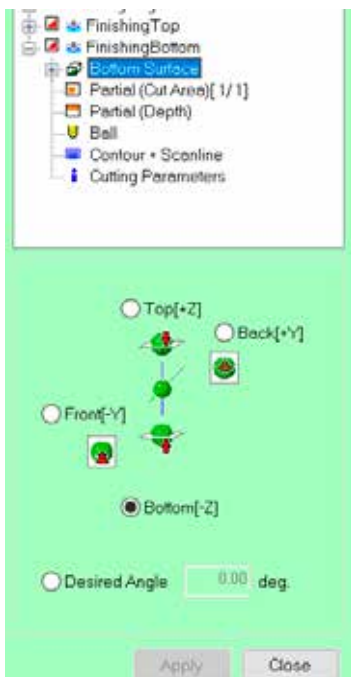
Step 7a: Creating Additional Finishing Toolpaths

Now that you have programmed a finishing toolpath you can use this to quickly create additional finishing toolpaths for your other sides. (All settings you've made will copy over)



This button will duplicate your toolpath

- Once you've duplicated your finishing toolpath make sure to appropriately rename it
- Click **Apply** to save changes



- With your duplicated and renamed finishing toolpath you just need to change what surface it references
- Expand the finishing toolpath you've just duplicated (ie. **FinishingBottom**)
- Click **Top Surface**
Change to the appropriate surface that matches the name using the globe icons below (ie. **Bottom[-Z]**)

Depending on the complexity of the design you may need to create additional sides for finishing. Repeat Step 7 using the names FinishingFront and Finishing Back

When changing the referenced surface DO NOT use Front[-Y] or Back[+Y] rather select **Desired Angle**
Front use 90 degrees
Back use 270 degrees

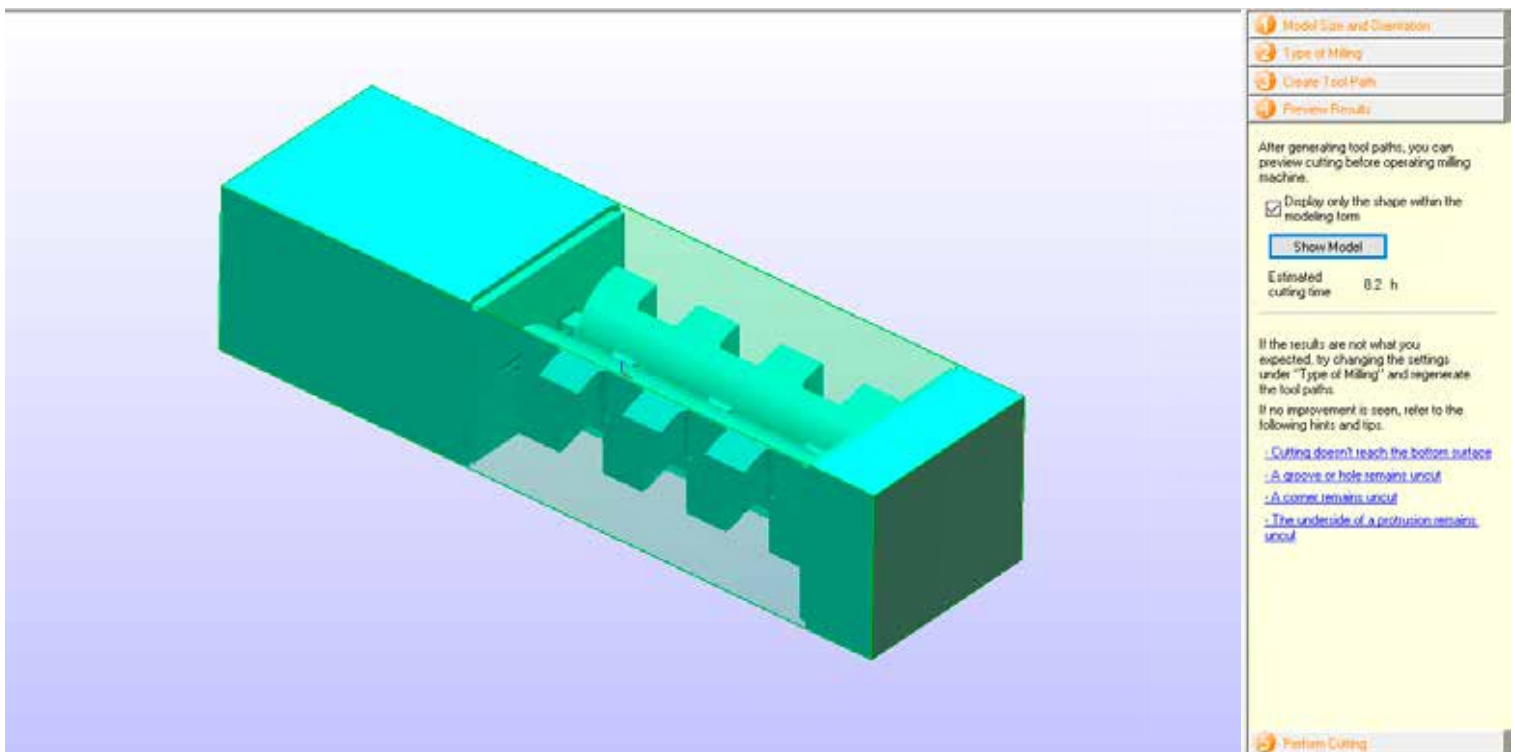
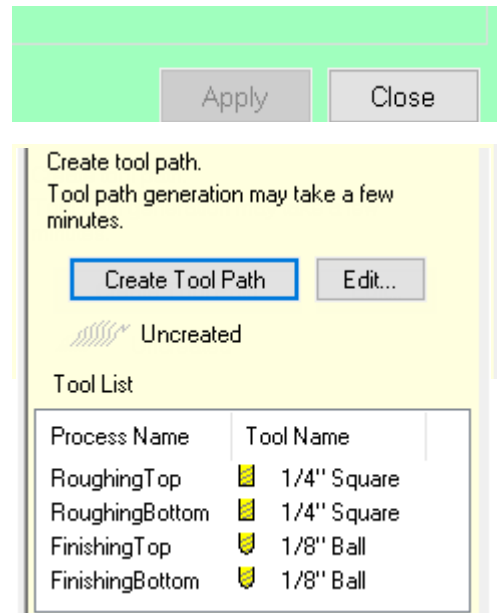
Step 7b: Adjusting Finishing Toolpaths

If you are only doing top and bottom finishing you can skip Step 7b

If you decide to have more than top and bottom finishing toolpaths you must edit **Partial(Cut Area)** and **Partial(Depth)** for any additional sides. Repeat Step 6 of the instructions

Step 8: Generating Created Toolpaths

- Once you have customized all your roughing and finishing toolpaths now the software will generate a simulation
- Click **Close** - this will bring you back to the main view
- Click **Create Tool Path**
 - *Wait for generation to complete its calculation
- Click **Preview Results**
- Click **Preview Cutting**
 - *Simulation will process and give you a representative cut away of your design as well as an estimated cutting time



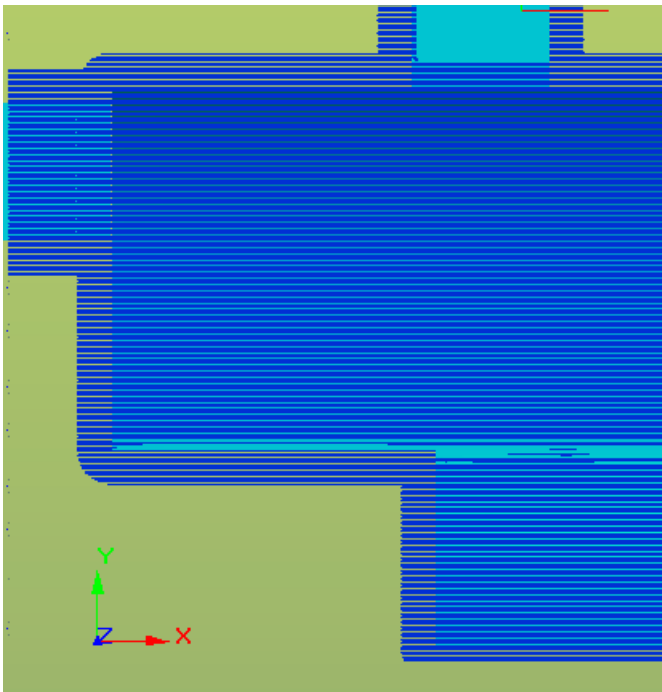
Please make sure you **SAVE** your SPJ file MMDD_FIRSTNAME_LASTNAME (0921_Mimi_Kurpier)

ADVANCED FINISHING METHODS

Proceed only if you are familiar with the SRP setup and would like to customize the finishing approach for your model

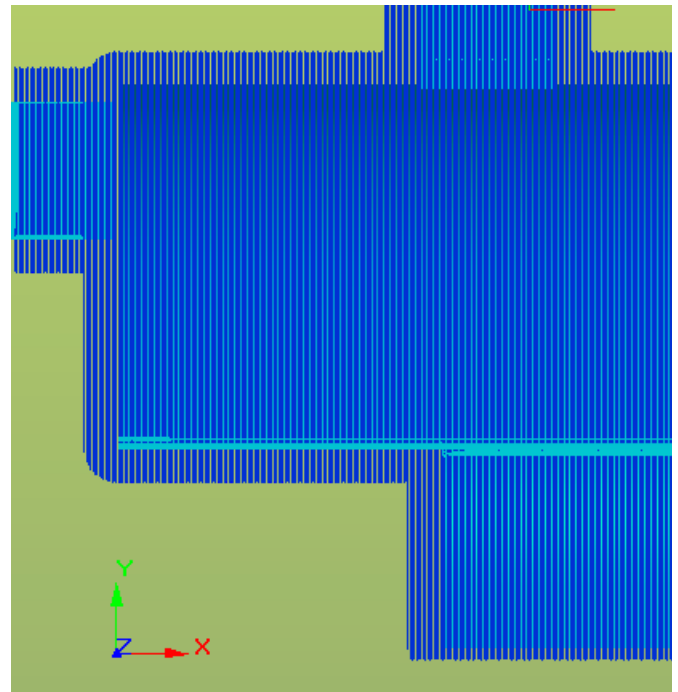
Scanlines

If you choose **Scan Lines** the tool will travel along the selected axis (either X or Y) in a parallel linear path across the surface of the design before going deeper into the design.



Top View

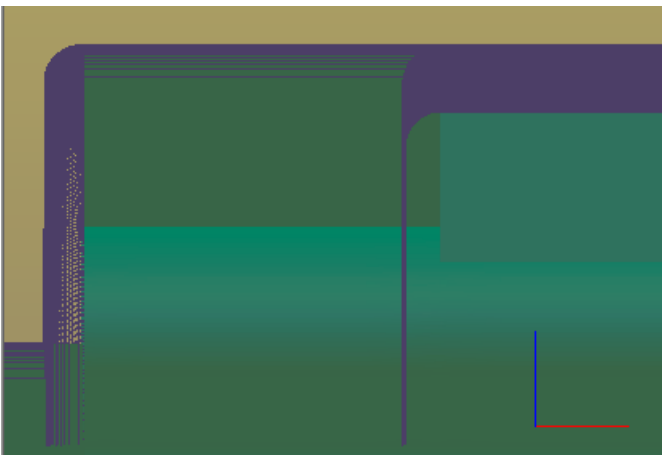
X AXIS



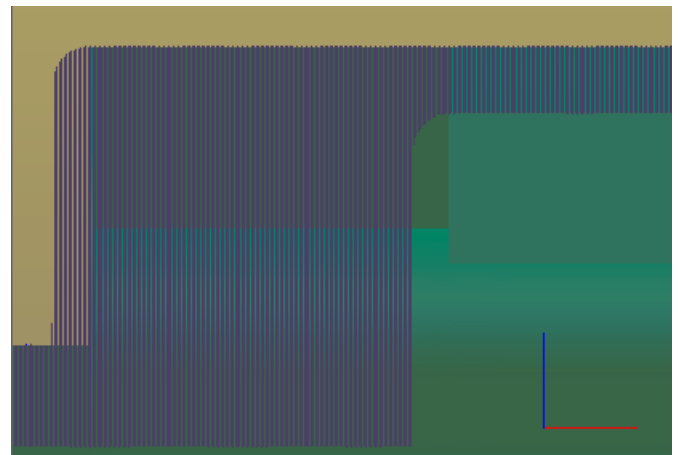
Top View

Y AXIS

Side View

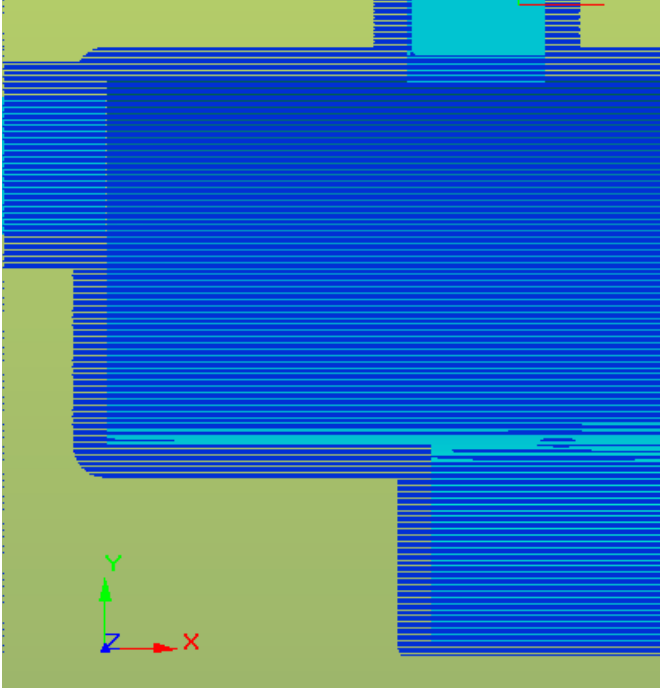


Side View



Unidirectional

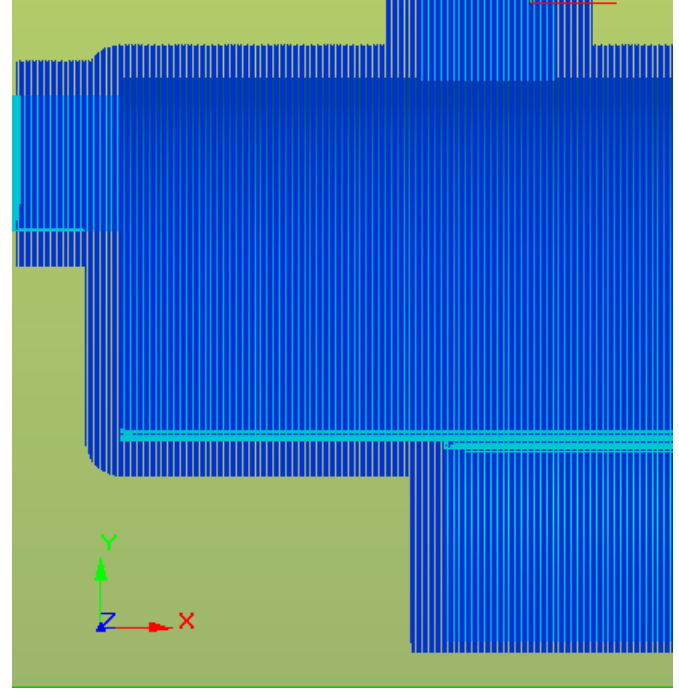
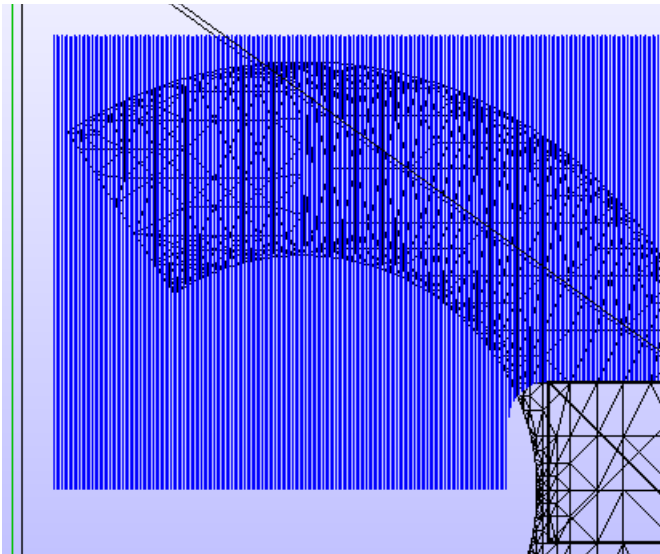
If you choose **Unidirectional** the tool will travel along the selected axis (either X or Y) in vertical full depth paths following the start position.



Top View

X AXIS

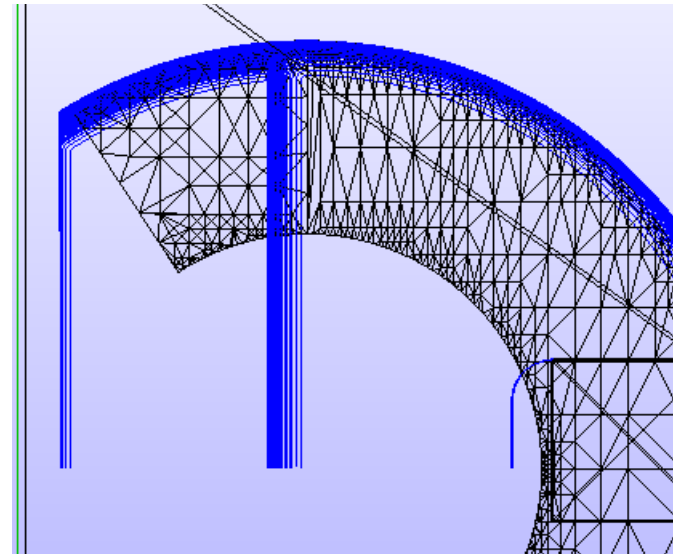
Side View



Top View

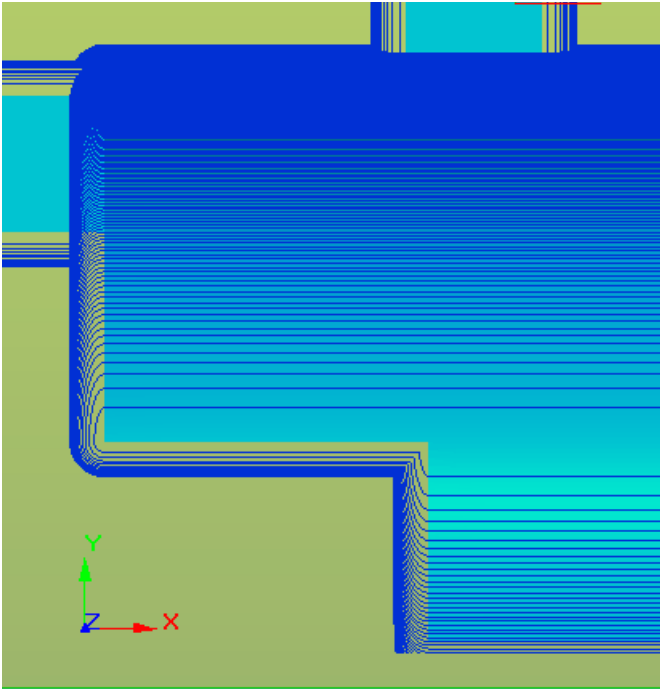
Y AXIS

Side View



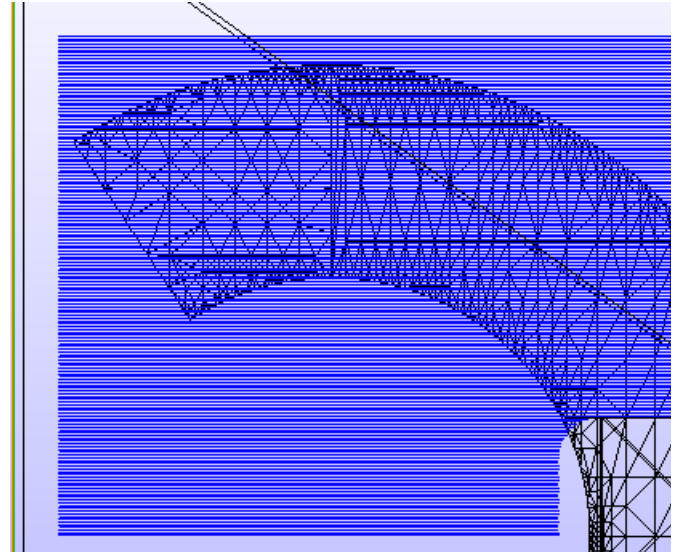
Contours

If you choose **Contours** there are three options that will provide a variety of finishing resolutions



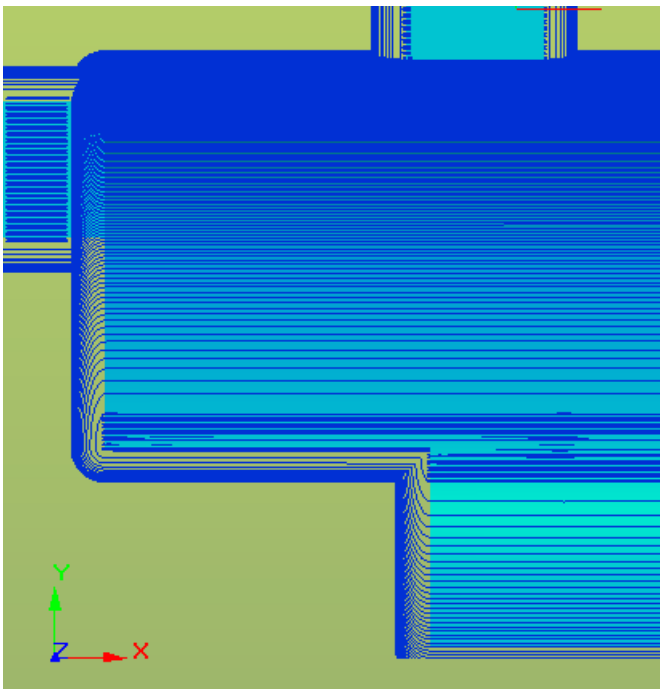
Top View-Contours Only

Lower Resolution/Quicker cut
(Broad forms are referenced)



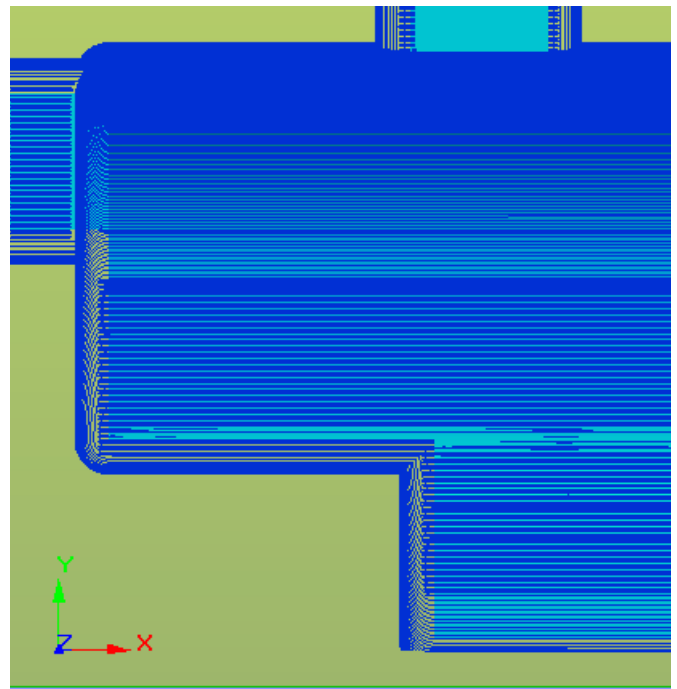
Side View

Top View-Contours include Planes



Medium Resolution/Mid Speed cut
(Good for more flat designs)

Top View-Contours include Slopes



Higher Resolution/Slower cut
(Smallest details are referenced)