



# VOYAGER™ XP



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# VOYAGER™ XP

5-AXIS CNC SAW

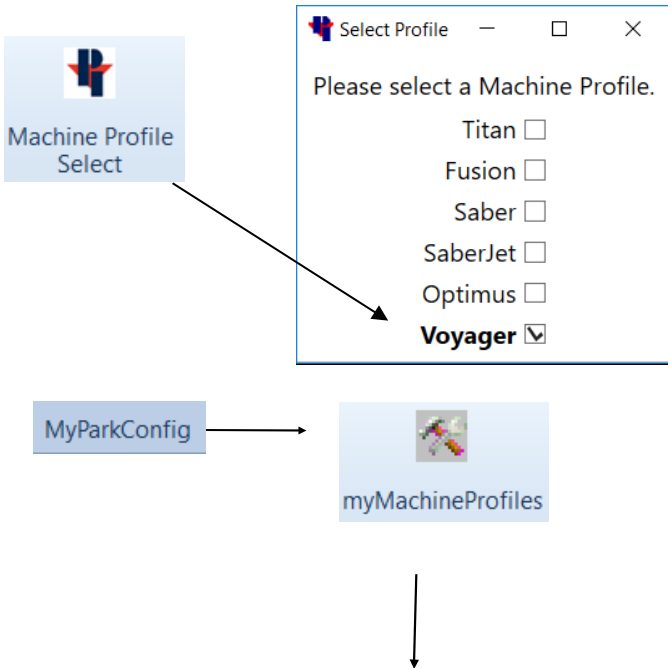




# Voyager Tab

Voyager

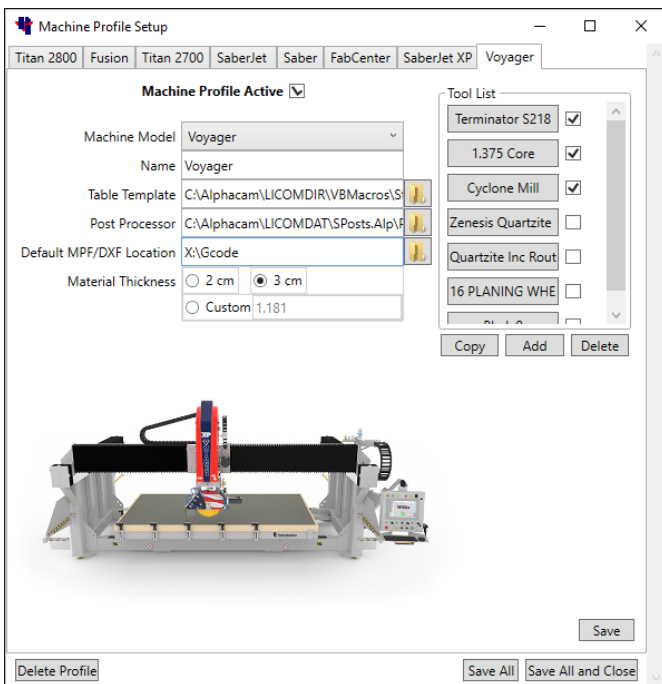
If the commands in the Voyager tab are greyed out or inactive, you need to select the Voyager as the active machine.



There are two ways to make the Voyager as the active machine. The quickest way is to choose the Machine Profile Select icon from the Voyager tab, and then check the Voyager as the active machine.

Or

You can choose the **MyParkConfig** tab, click on **myMachineProfiles** in the ribbon, and then then select the Voyager machine tab you want active. Check the box behind **Machine Profile Active**. \*You may not have all machine tabs.



This window is also used to create a Machine Profile for programming instances of your machines.

**Machine Model**= the machine model that you are programming.

**Name**= Any name for you to identify that machine.

**Table Template**= the location of the machine table template drawing (.asd)




















**Post Processor**= the location of post processor (.Alp) provided from Park Industries. Note: occasional updates may be available.

**Default MPF/DXF File location**= the "network path" to the G-code folder on the machine.

**Material Thickness**= Choose your default material thickness.














# Voyager Ribbon Bar

The Voyager Commands are in the Voyager tab on the ribbon bar. They have features for editing, layout, and programming the Voyager. Below is a brief description of each function.

	Insert Slab Photo- Inserts a Photo into AlphaCam from the overhead camera. (Machine Option)	Pg.6
	Insert Table Template- Inserts drawing of the Voyager table into the current AlphaCam session	Pg.7
	Boundary- Creates joined parts from existing lines and arcs.	Pg.8
	Align- Aligns and rotates to existing geometry.	Pg.11
	Move Parts- Pick and move a part.	Pg.12
	Rotate Parts- Pick and rotate a part.	Pg.12
	Join Parts – Moves and aligns a part to another with a specified distance in between.	Pg.13
	Add Labels- Labels the edges of parts	Pg.14
	Backsplash- Creates backsplash drawings on existing countertops.	Pg.16
	Apron- Creates apron parts with miter cut detail.	Pg.17
	Undercut Miter- Applies cutting detail for an undercut miter.	Pg.17
	Overcut Miter- Applies cutting detail for an overcut miter.	Pg.17
	Auto Tool Path- Automatically applies Saw cuts to prepared geometry.	Pg.18
	Blade Segmented Arc.	Pg.19
	Cook Top Depth- Changes the Saw blade cut depth.	Pg.20
	Blade Cut by 2 Points– Applies a manual Saw blade cut.	Pg.21
	Extend/Trim to Point– Modifies existing cut paths to a geometry.	Pg.22
	Extend/Trim by Distance.	Pg.22
	Reverse Cut Direction.	Pg.23

# Voyager Ribbon Bar

*Continued*

	Show/Hide Direct Inputs– Displays Park/Pause on associated toolpath.	Pg.24
	Order of Cuts- Opens the Operations window to change the sequence of cuts.	Pg.25
	Delete Toolpath- Deletes only toolpaths without selecting the geometry.	Pg.26
	Extend Cuts to Border- Extends Saw blade cuts to the edge of the material blank.	Pg.27
	Park / Pause Machine- Allows the programmer to have the machine stop and park after a cut.	Pg.28
	Manual Saw Cut- Applies a Saw cut manually. Tool Direction must be set first.	Pg.29
	Core Tool- Drills a hole with the core tool.	Pg.30
	Incremental Router- Uses Router Bit to make incremental depth step cuts.	Pg.31
	Blade Continuous Arc- Blade rotates around an arc while into material.	Pg.32
	Ultra Compact- Feed-rate on the saw blade will increase into a cut and decrease exiting a cut.	Pg.33
	Shapes- Parametric drawing of common shapes.	Pg.35
	Send G-Code to the Machine- Creates/sends a program to the machine, also create a job report.	Pg.36
	Adding tooling information	Pg. 41



# Insert Slab Photo

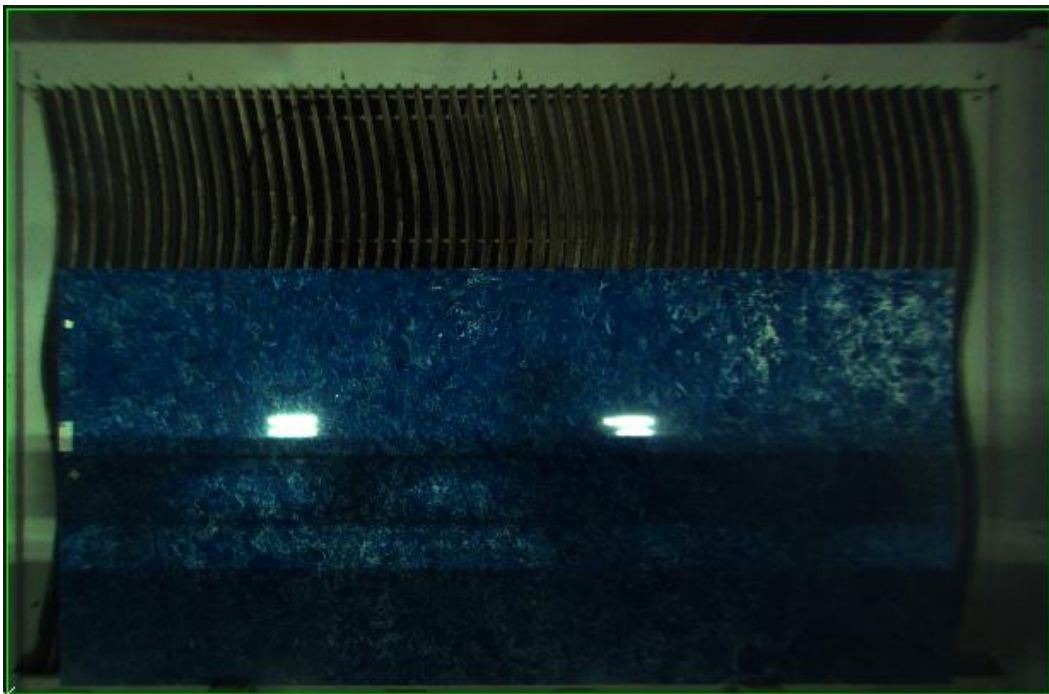
(Machine Option)

Inserts a Photo into Alphacam from the bridge mounted camera.

Choose Select/Insert Image to browse to and choose the slab photo.

You may set a default photo storage location by using the folder icon to browse to it, and then press save.

\*SABERjet SL table pictured\*

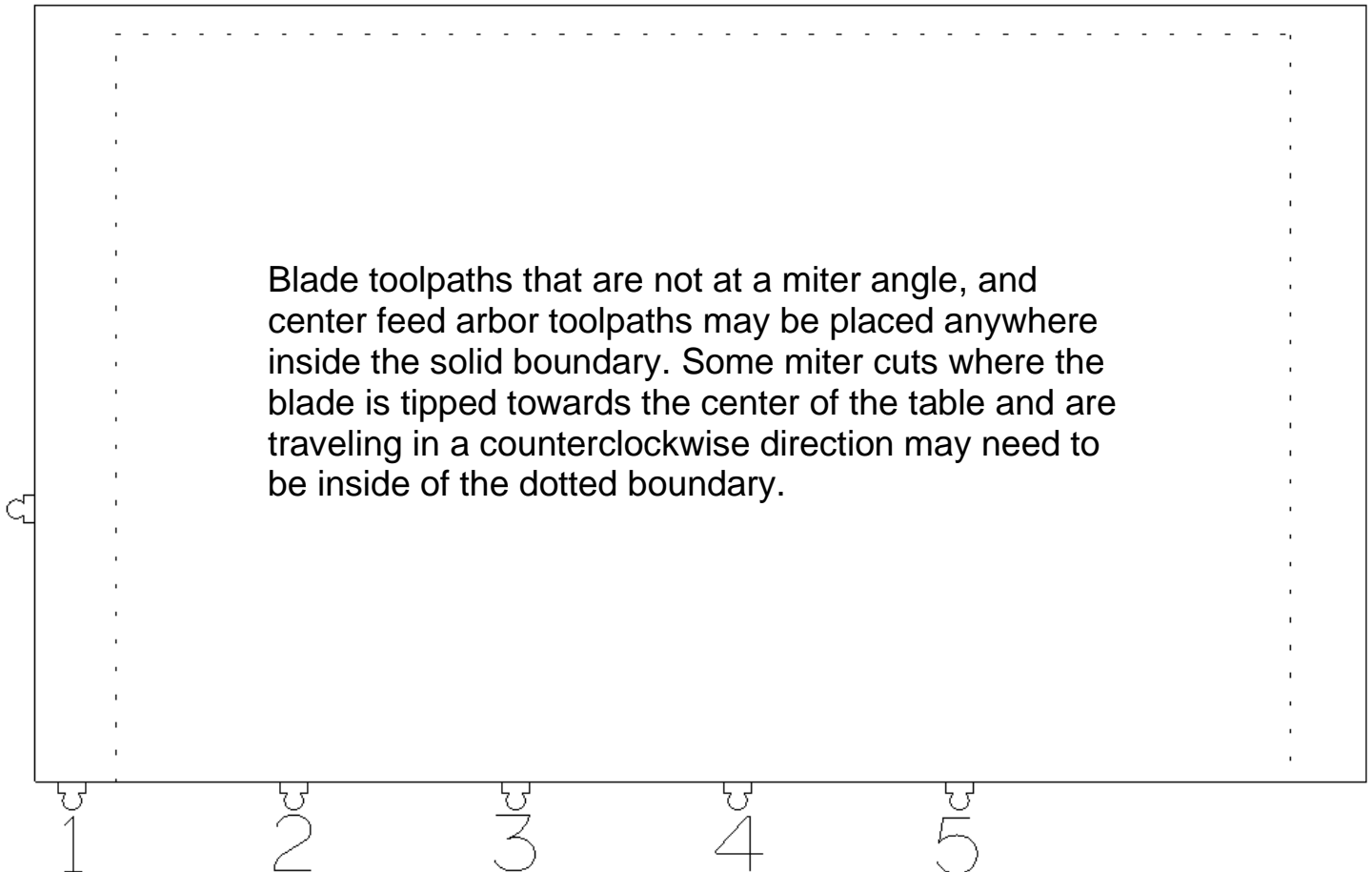


Part Geometries can be moved into the slab location to be programmed. This function can show you if pieces will fit into oddly shaped slabs (the purpose is not to grain Match seams).

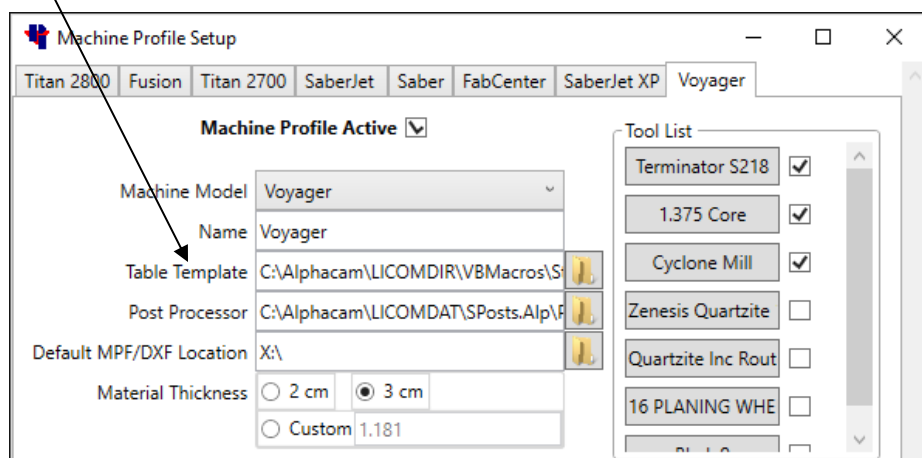


# Insert Table Template

Inserts a drawing of the Voyager table into the current Alphacam session.



This Table Template gets inserted from the location of the path set in the Machine Profile Setup screen.

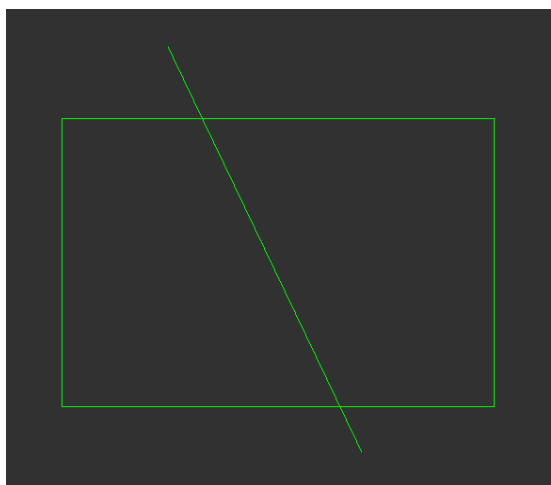




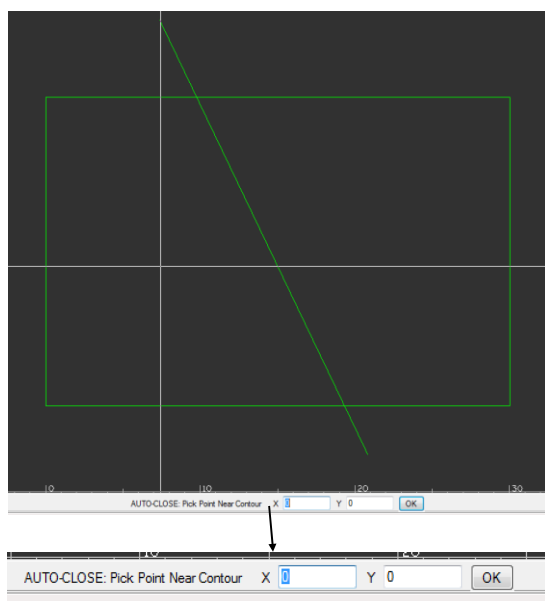
# Boundary

Creates joined parts from existing lines and arcs.

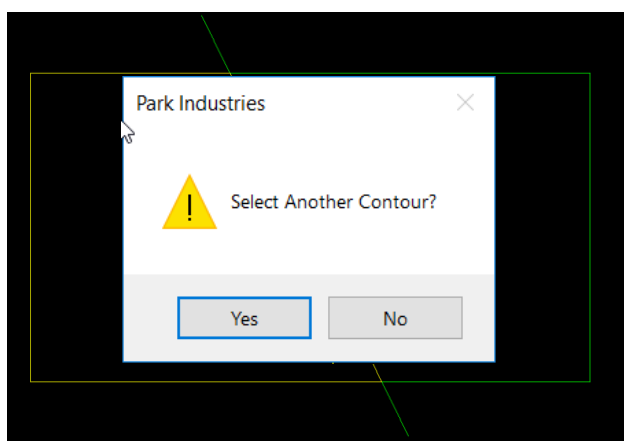
Boundary is made up from three different commands: First **Auto-Close Contours** allows creating a shape from existing lines and arcs. The second action is to **Move** the newly created shapes off the original segments used to define it. Then **Delete** is used to remove the original segments. Boundary can be used on shapes with or without a seam in them.



Starting with geometry to make independent shapes from. Choose the Boundary command.



When prompted to “Pick Point Near Contour”: Select inside of the shape that you want to become a separate part. That shape will become out-lined in yellow.



After creating the first part, you are given the choice to make another part or choose “no” when finished. As parts are created, they will be outlined in yellow

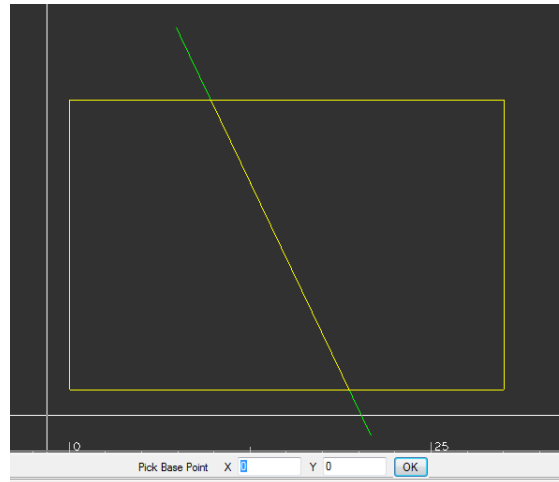




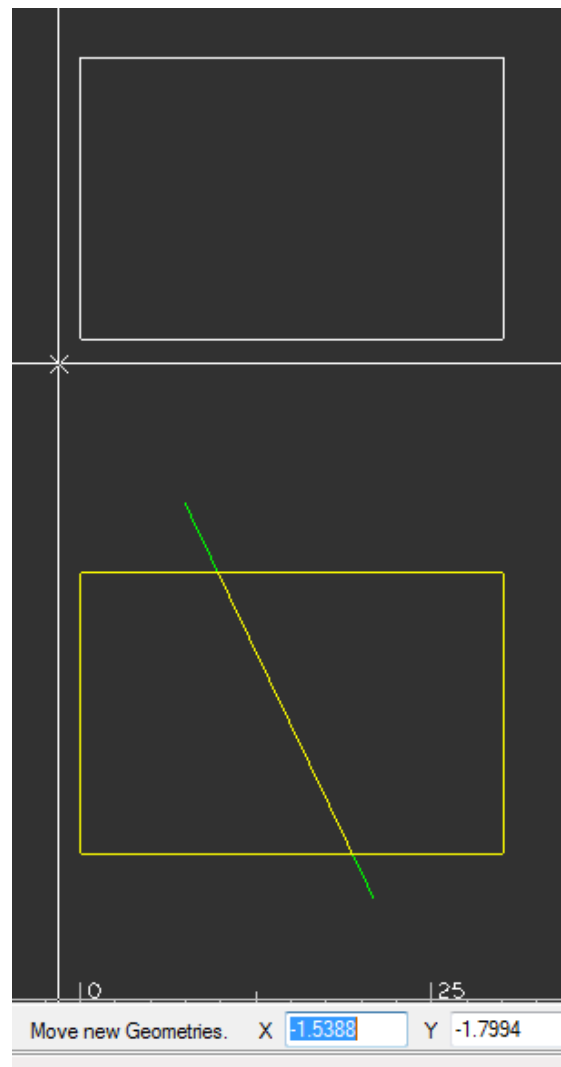
# Boundary

(cont'd)

After choosing “No” to selecting another contour, you will be in the **MOVE** command. Click somewhere to “Pick Base Point”



“Move new Geometries” is the second part of the **MOVE** command. Move your cursor and parts to an open space in the screen and click to set them down.

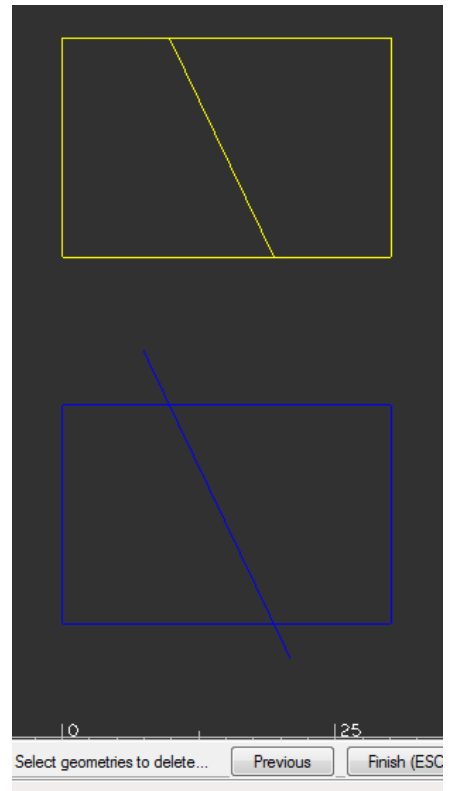




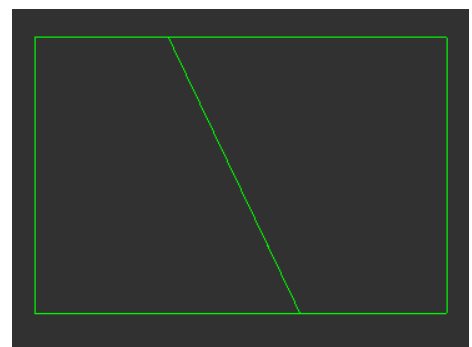
# Boundary

(cont'd)

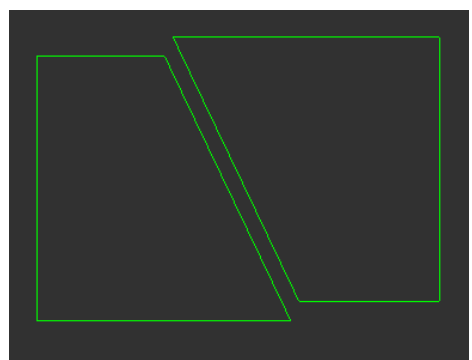
When moving is finished you are given the opportunity to **Delete** the original geometry. Select geometries to delete and Finish.

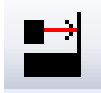


With the completion of the Boundary command, all new geometry is converted into geometry layer, joined, and common lines and arcs are removed.



You may choose to Move your parts away from each other for layout or processing.





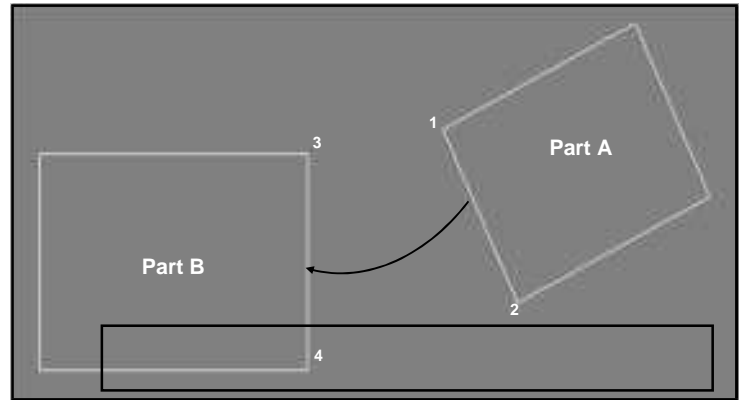
# Align

Aligns and rotates to existing geometry.

**Align** process allows the edge of one part to be joined and aligned with the edge of another part. The first point selected in the part to-be-moved is joined and aligned with the first point selected in the move-to part. Some practice is required to become efficient at using this command.

In this example, line 1-2 of Part A will be joined with line 3-4 of Part B. Since point 1 is the first point selected in Part A and point 3 is the first point selected in Part B, the parts are joined at points 1 & 3 and

Before the Command

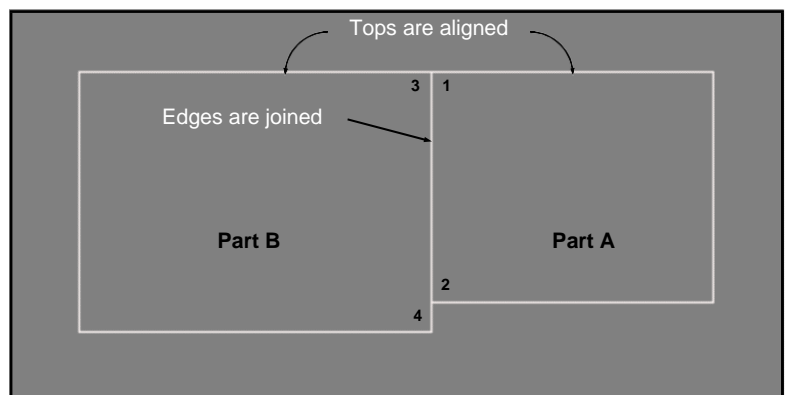


Steps to align and join the two parts are:

1. select the **Align and Join Pieces** command
2. select the geometry of the part to-be-moved and then press **ESC** or click **Finish (ESC)** Part A in this example
3. select join point on the part to-be-moved; Point 1
4. select end point of the line on the part to-be-moved; Point 2
5. select move to point on the move-to part; Point 3
6. select end point of the line on the move-to part; Point 4

When the last point is selected, the parts are joined & aligned, and the command is terminated.

After the Command





## Move Parts

Pick and move a part.

**Move** - Allows a part to be moved.

After pressing the button, the basic steps are:

- select edge of part to move (basepoint)
- use either drag & drop (mouse) or select X & Y coordinates and then press **OK**.
- press **ESC** to cancel command or select another part to move.

Select part to Move or hit ESC to Cancel

Drag X  Y



## Rotate Parts

Pick and rotate a part.

**Rotate** - Allows a part to be rotated around a center point.

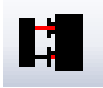
After pressing the button, the basic steps are:

- select edge of part to rotate
- use either freehand rotate (mouse) or select a rotation degree value and then press **OK**.
- press **ESC** to cancel command or select another part to rotate.

Select part to rotate or hit ESC to cancel

Rotate or enter angle





## Join Parts- Common Line Cuts

Moves and aligns a part to another at a specified distance in between.

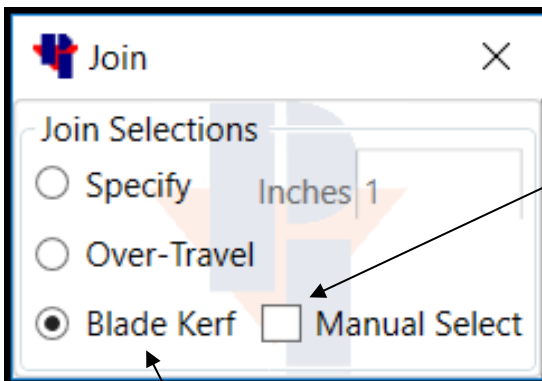
**Join** - Allows an edge of one part to be parallel with the edge of another part. The spacing between the parts is defined by the programmer in the selection fields.

This command is used before applying automatic tool paths.

The basic steps are:

- Select the desired edge of the part to be moved. Select edge of part to be moved.
- Select the desired edge of the part to align to. Select edge of part to align to.
- Press **ESC** to cancel command or select another part to move.

\*\*\*The software uses the closest endpoints to your selection unless Manual Select is checked.\*\*\*



**Manual Select** determines how the parts are joined.

When un-checked, the point closest to the selected edge on the first part is aligned to the point closest to the selected edge on the second part.

If checked, the point selected on first part is aligned to the point selected on the second part.

There are three choices to specify the distance between parts in the **Join Method**.

With Specify checked - The value input in the box is used.

With Over-travel checked - The value used will be a calculation of "Blade Diameter and Cut Depth" values set in the tool list, and the programmed "Material Thickness" defined in "AutoToolPath".

With Blade Kerf checked - The Kerf value will be used from the blade that is checked in the tool select list.



# Add Labels

Add Labels will apply the chosen label to the selected edge

To apply a label on a Closed Geometry: Choose the label name, then click on the edge to label. The label is then automatically placed on the inside. Right click when finished to select a new label.

To apply a label to an Open Geometry: Choose the label name, then click on the edge to label, and then click on the correct side of that edge to place the label. Typically, the label goes to the inside of the part. Right click when finished to select a new label.

Seam and Wall are set labels.

\*(This is covered on the following page)

Profile and Other allow for user input

**Profile** allows the user to type a name into the library or choose a name from the dropdown. Then choose the **Profile** button and select the edge as instructed at the bottom of the screen.

Select edge to label...

Change **Font Size** Before applying the label

**Other** allows the user to type a name into the library or choose a name from the dropdown. Then choose the **Other** button and select the location in the drawing area to place the label as instructed at the bottom of the screen, or type in X & Y coordinates and press OK.

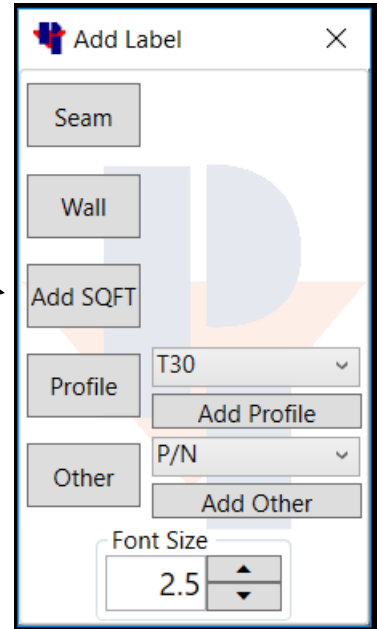
Select Location for Text or esc to cancel X 0 Y 0 OK



# Add Labels

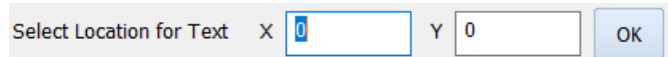
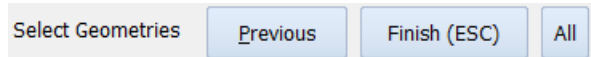
(continued)

**Add SQFT** - computes square footage of the selected part(s) and places the sqft. area label on the drawing.



Steps to add square foot label are:

1. Press the **Add SQFT** button.
2. Select a single closed geometry, or all edges of an open geometry, and then press Esc, or select the **Finish (ESC)** button.
3. Select the label location on the drawing by using the mouse (position & click)  
OR  
enter X & Y coordinates and then press **OK**.



Area = 35.69 sqft



# Backsplash

Creates backsplash drawings on existing countertops.

Selecting this command opens the **Backsplash Tools** window which provides the user with an easy-to-use function to create backsplash.

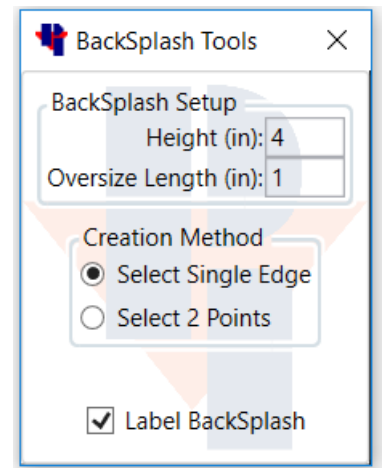
This window provides the user with the ability to edit Backsplash **Height** and **Override Length** parameter values, select the **Creation Method**, and whether to enable/disable the **Label Backsplash** option.

Steps to create a backsplash are:

1. Have geometry on your screen. Select the **Backsplash Tools** command and it will open the selection window.



2. In the **Backsplash Tools** window, change Backsplash **Height** and **Override Length** fields to the desired values. Select the appropriate **Creation Method & Label Backsplash** option.



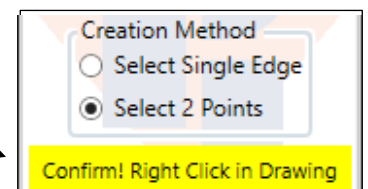
3. Select edge of part when using **Select Single Edge**, or pick starting and ending points for **Select 2 Points**.

Select Edge for Backsplash...

Select Starting Point of the Backsplash

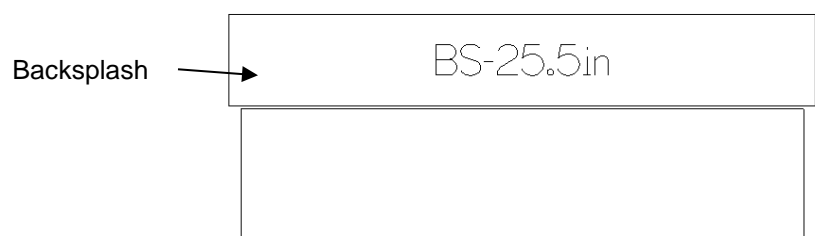
\*If changing the **Creation Method**, first right click in the drawing.

4. After making your selection, a backsplash will be created parallel to the edge selected and placed a blade kerf apart (depending on which blade is active), and a label added (if option was enabled).

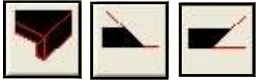


To end this command, right click or press esc.

Workspace after backsplash was created.







# Apron and Overcut/Undercut Miters

When using the **Apron** feature, it creates the aprons and applies Miter properties. Manual **Undercut** and **Overcut** Miters only apply the miter property to existing parts.

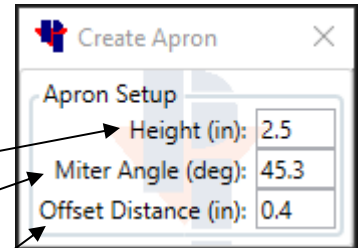
These commands must be used before applying the toolpaths.



**Apron** - This command creates an apron and assigns a miter property to both edges (apron and original part).

After pressing the button, the basic steps are:

- Change **Height** to desired value
- Change **Miter Angle** to desired value
- Change **Offset Distance** to desired value. This is how far away the Apron is placed from the original part.
- Select the edge you wish to apply an Apron
- Press **ESC** to cancel command or select another



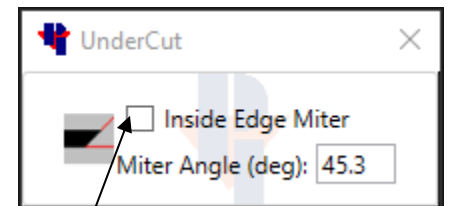
Select Edge for Apron...



**Undercut** - Assigns an undercut miter at the **Miter Angle** degree value to the selected edge.

After pressing the button, set **Miter Angle** and then:

- Select part's edge
- Press **ESC** to cancel command or select another



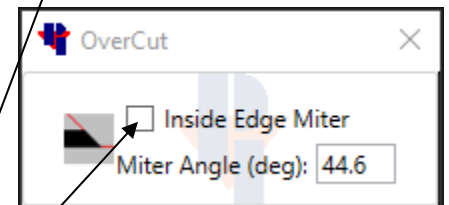
Select Edge of Miter



**Overcut** - Assigns an overcut miter at the **Miter Angle** degree value to the selected edge.

After pressing the button, set **Miter Angle** and then:

- Select part's edge
- Press **ESC** to cancel command or select another



Select Edge of Miter

**\*NOTE-** When **Inside Edge Miter** is checked, you can assign a Miter property to an inside geometry such as a cutout.



# Auto ToolPath

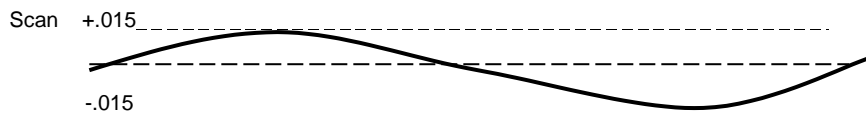
Automatically applies Saw cuts to prepared geometry. Choosing this button opens the window shown below.

**Material Thickness** – Should be set to the thickness of material being processed. This a key parameter used by the software to position the blade cuts and prevent over cuts into adjacent parts. Ensure this value is set to actual material thickness before applying tool paths.

**Apply Tight Cut** - If checked the machine will plunge the blade at the beginning of a cut and/or at the end of a cut if the cut path is long enough and the cut path is obstructed.

**Tight Cut Inside Geometries** - If checked it will apply a tight cut to an inside geometry cut-out if the cut path is long enough and the cut path is obstructed.

**Simplify Wall Scans and Tolerance** - If the digitized wall scribe geometry has peaks and valleys that are within a  $\pm$  distance (Half of the **Tolerance** value) of a line drawn through the wall scan's search window, the software will simplify the cut and generate longer length tool paths instead of many shorter toolpaths. This will flatten out your geometry  $\pm$  by the tolerance value. This field enables/disables the simplify wall scans feature.

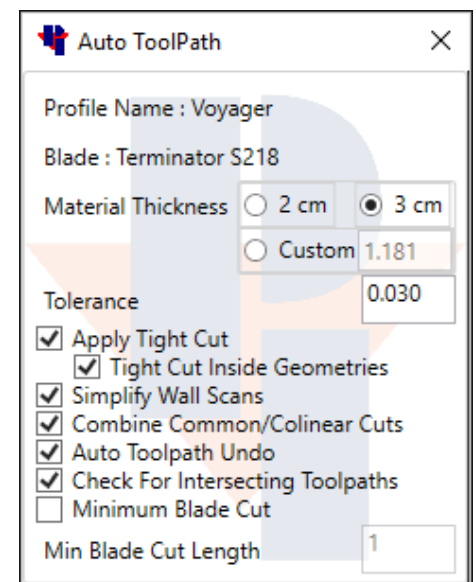


**Combine Common/Collinear cuts** - A **Common Line Cut** occurs when the straight edges of two parts are nested together (using the Join Parts-Common Line Cuts feature) one blade kerf apart. Only one blade tool path is required to cut the two edges. A **Collinear Cut** occurs when two edges that are next to each other are lined up in the same parallel line and are also less than a 1.25" apart. The software will combine the two cuts and create one longer toolpath. This field enables/ disables the common line cutting feature.

**Auto ToolPath Undo** – With this is enabled, and you currently have toolpaths applied to your parts in your drawing, by pressing the **Auto ToolPath** button again it will remove all the previous toolpaths that were applied.

**Check for Intersecting Toolpaths** - When checked, the software will show instances of toolpaths intersecting by encompassing them with 3 green circles on each toolpath where they intersect.

**Minimum Blade Cut** - When checked, Auto ToolPath will not place any blade cuts that are less than the value set in the **Minimum Blade Cut Length** field. (1 inch is the smallest value allowed.)





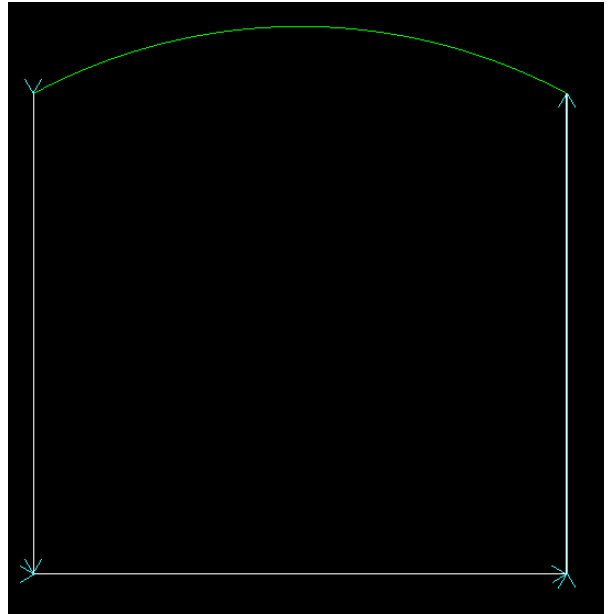
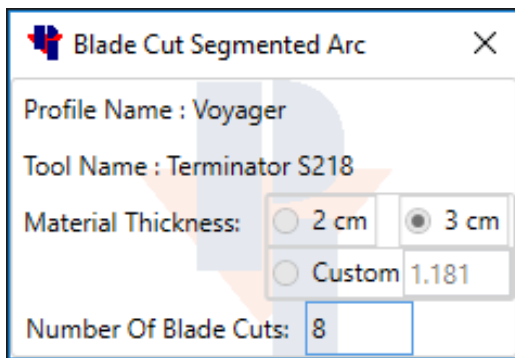
# Blade Segmented Arc

Applies multiple straight blade cuts around an arc.

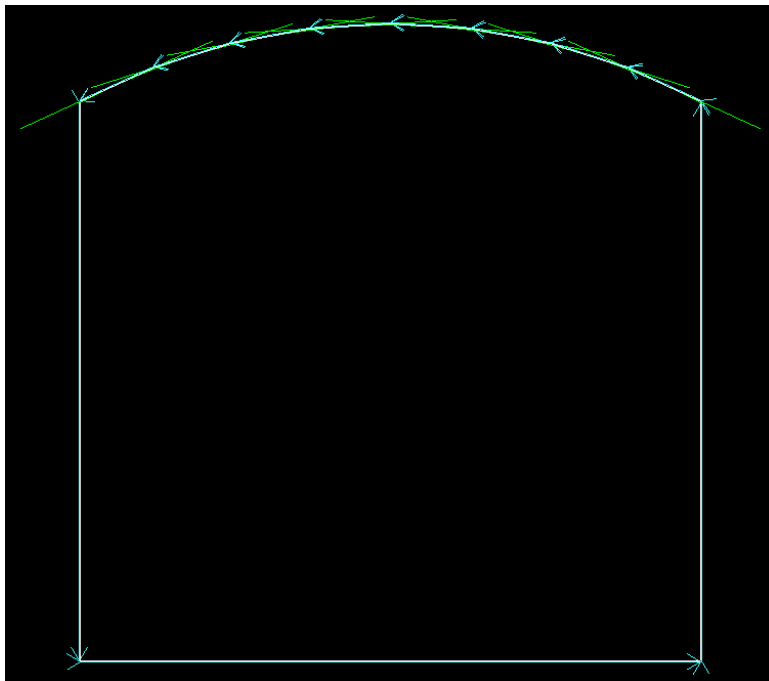
First, apply toolpaths to the part using the Auto ToolPath button. The Auto ToolPath function will apply cuts to all sides of the shape that are possible. In this example, the three straight sides have cuts applied.



Select the Blade Segmented Arc icon.



Enter the desired number of blade cuts to cut out the Arc and then select the arc. Press Esc or right-click to end the command.




The result is eight straight blade cuts that follow the shape of the Arc.

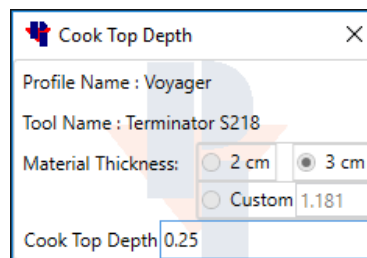


# Cook Top Depth

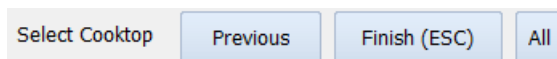
Changes saw cuts to the depth specified by the **Cooktop Depth** field.

The steps to change the cook top depth are:

- Apply toolpaths (AutoToolPath button).
- Press the **Cook Top Depth** button. 
- Change the value in the Cook Top Depth field if needed.
- Select the blade tool paths that you want to change the cut depth on.

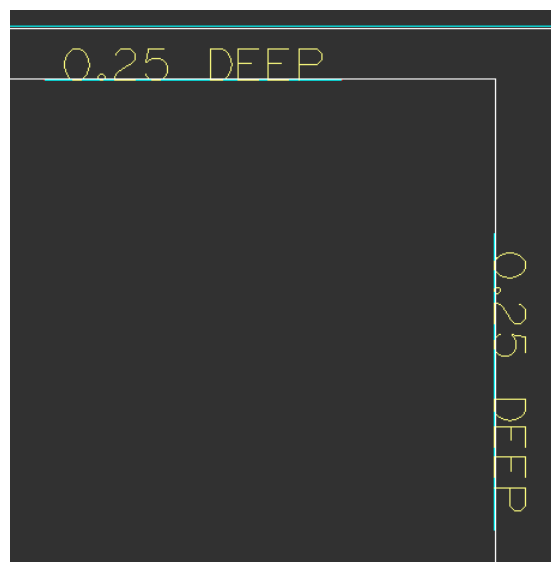
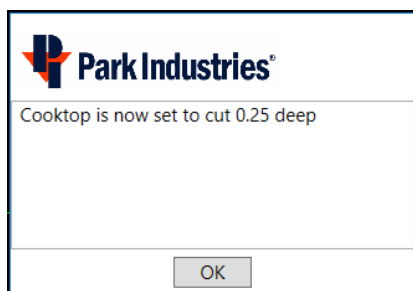


\*Note: You may either select each blade cut individually or use a selection window over all the blade cuts you want to change.



- Press **ESC** or click the **Finish (ESC)** button.

This dialog box appears for each blade cut selected when complete, and labels are added to the blade cut(s).





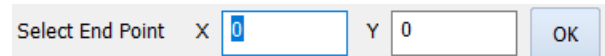
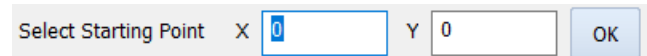
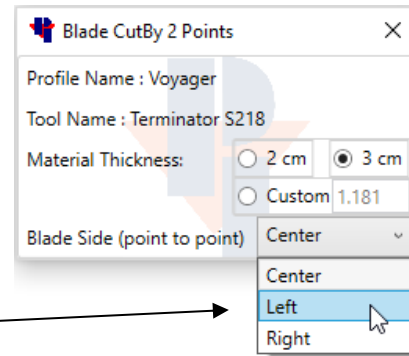


## Blade Cut by 2 Points

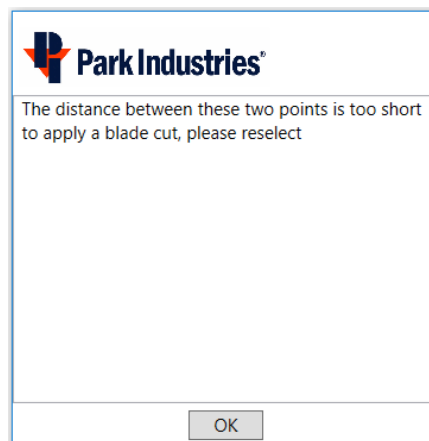
**NOTE: you can not add a tightcut on any blade cut. Only Auto Toolpath can place tightcuts in a program**

The steps to assign a two-point blade cut are:

- Press the **Blade Cut by 2 Points** button.
- Select the blade side.
- Select starting point – either use the mouse to select a point or enter X & Y coordinates and then press **OK**.
- select end point - either use the mouse to select a point or enter X & Y coordinates and then press **OK**.



Note: The distance between the points selected must be long enough to allow the blade to cut at full depth or you will get the following message.





# Extend/Trim to point or Distance

Changes the length of a toolpath

First apply toolpaths to the part using the Auto Toolpath button. Then you may use one of the following commands to change the length of the toolpaths.

Extend/Trim to point



- First select the Extend/Trim to point icon. Then select toward the end of the toolpath to change.
- You can either click on a location for a different length, or you may type in X and Y values.

Select Path To modify

Select X  Y

Extend/Trim by Distance



- First select the Extend/Trim by distance icon. This window will open on your screen.
- Enter a distance in the window.

Extend/Trim By Distance

Distance:

\*Note: If the value is a positive, you will get the prompt to **Extend**.

Please Select Toolpath to Extend by 0.25 inches.

If the value is a negative, you will get the prompt to **Trim**.

Please Select Toolpath to Trim by 0.25 inches.

- Select the Toolpath toward the end that you wish to change the distance of.



# Reverse Cut Direction

First apply toolpaths to the part using the Auto Toolpath button. Then you may change the direction of the cuts.

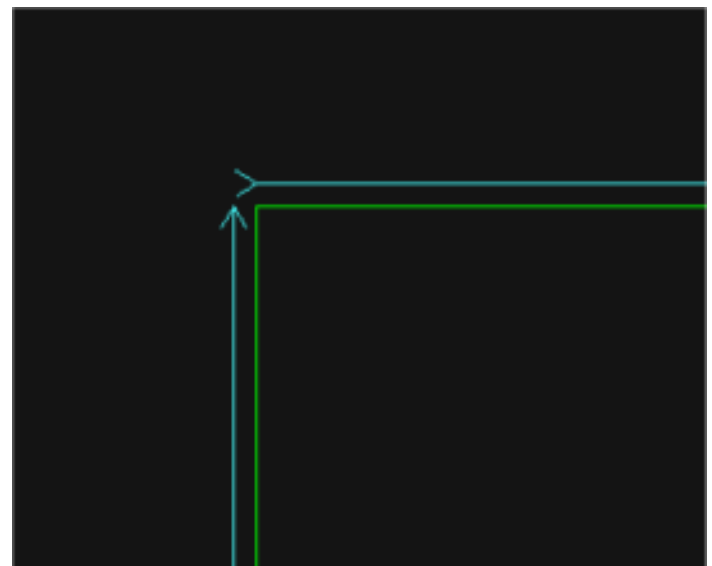
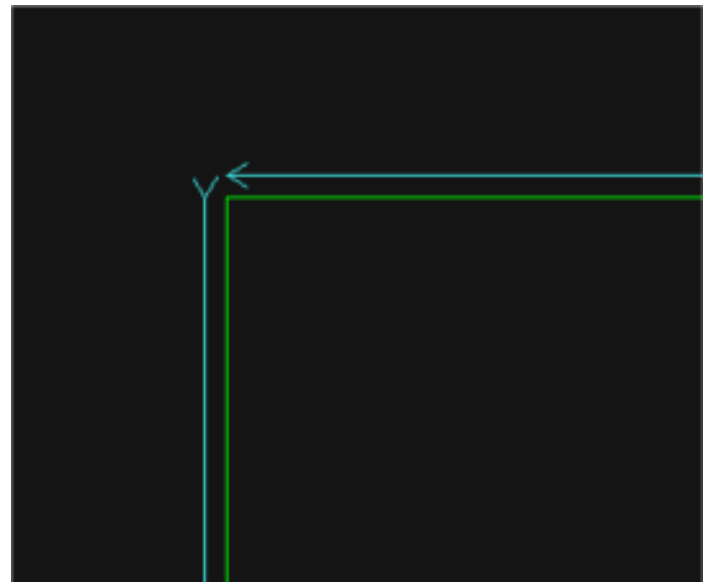
\*Turn on **Show Tool Path Arrows** to display the current direction.

Show Tool Path Arrows



Click on the Reverse Cut Direction icon.

Select each tool path to change the direction on.



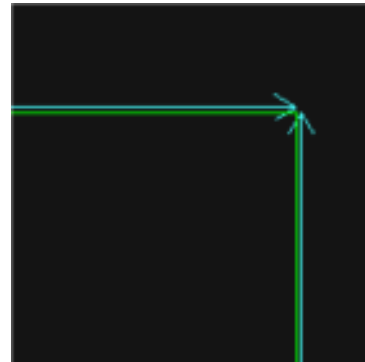
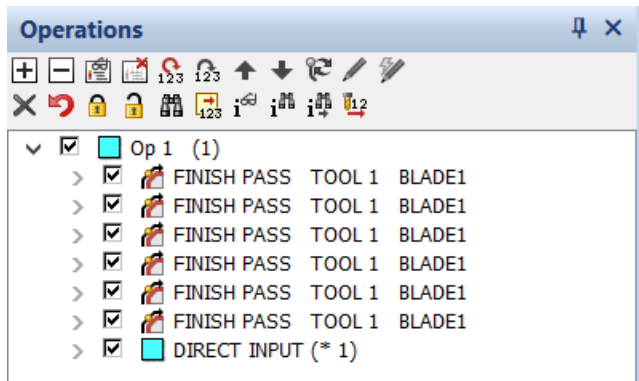
\*Note: You are not allowed to reverse a blade miter toolpath.



## Show/Hide Direct Inputs

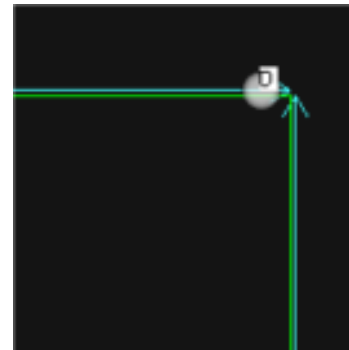
Shows the location of direct inputs in the drawing area.

Direct inputs are options imbedded into the drawing/program. Most common is a **Park/Pause** Machine option in a program. They will always show in the Operations pane whether they are displayed in the drawing area or not.



Press the Show/Hide Direct Inputs Icon to toggle the display on or off.

The direct input will be displayed as a shaded circle with a "D" on the end of toolpath that it was attached to.





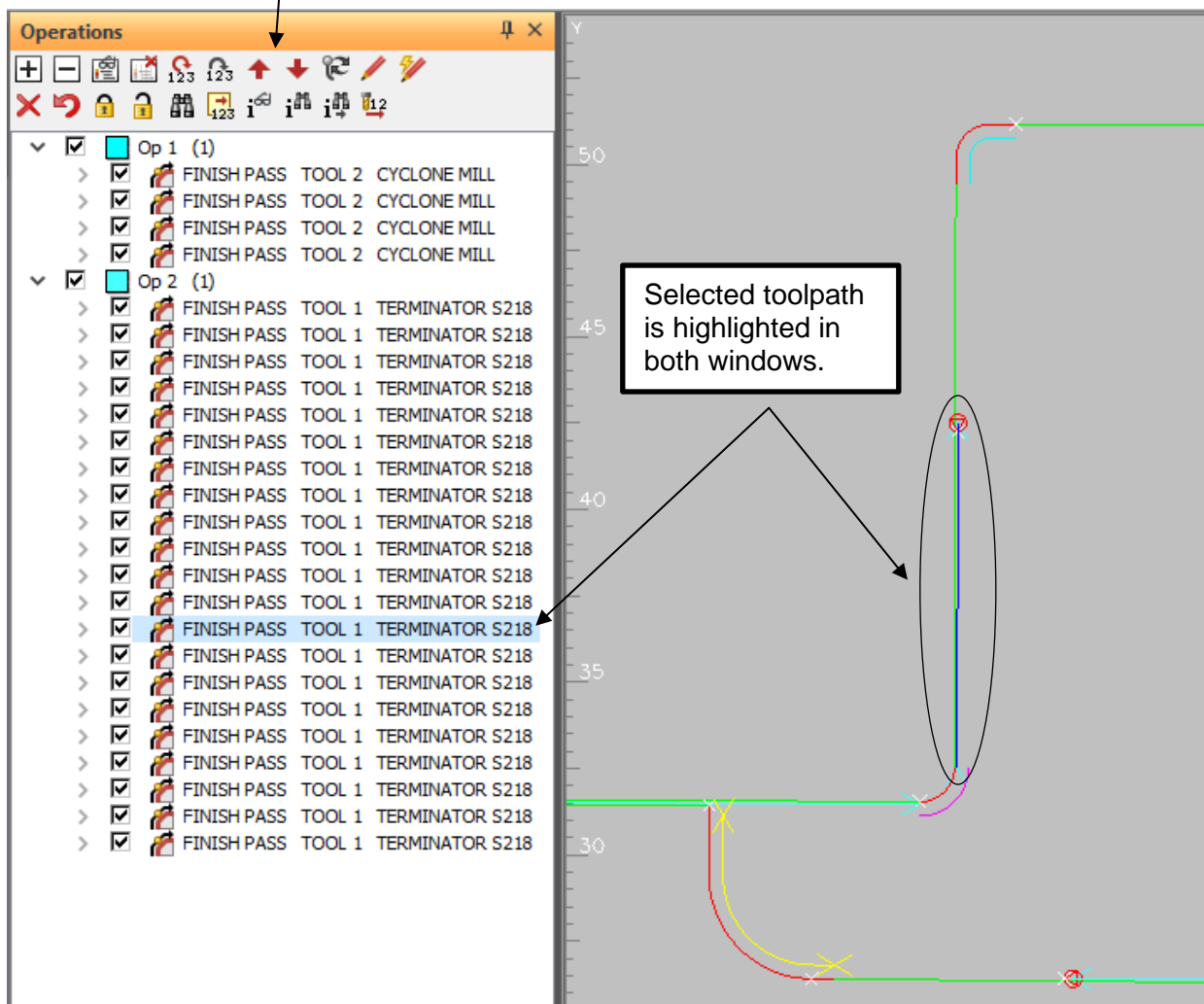
# Order of Cuts

Opens the Operations window to view or to change the sequence of cuts.

To view the order of the cuts: Click to select the first (top) toolpath in the operation window. Use your keyboard up and down arrow keys to see the corresponding toolpaths highlighted in the drawing window.

To change the order of cuts: Click to select a toolpath or operation in the operation window. Use the **Red Arrows** at the top of the operation window to move the selected toolpath or operation up or down.

Red “Move Up” and “Move Down” arrows



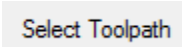


# Delete Toolpath

Deletes only toolpaths without selecting the geometry.

The Delete Toolpath command may be easier to use in some instances than Alphacam delete. It allows the user to simply click on toolpaths and they are removed.

The steps to Delete a toolpath are:

- Press the **Delete Toolpath** button.
- Select the toolpath. 
- Select another or press ESC to finish.



# Extend Cuts to Border

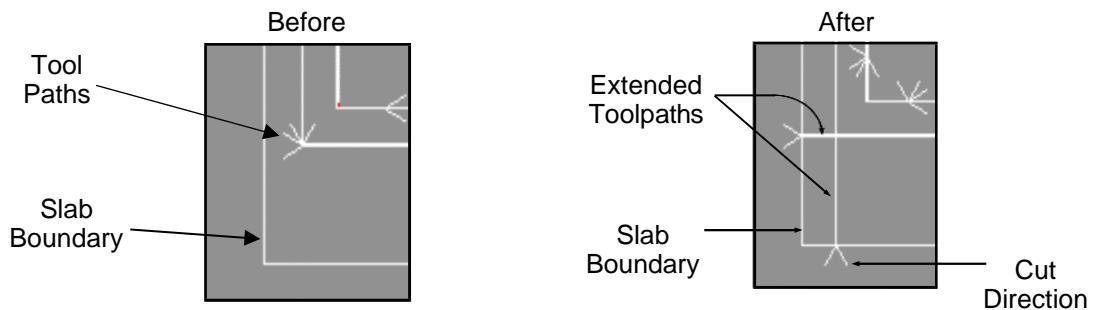
Extends Saw blade cuts to the edge of the material border after all cuts have been applied.



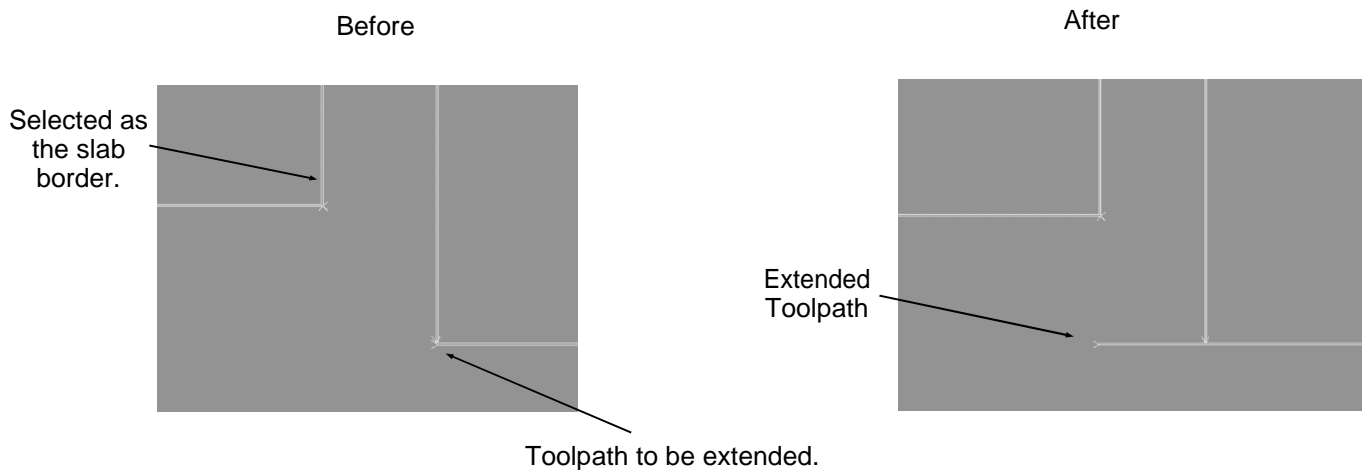
**Extend Cuts to Border** - This command extends blade cut toolpaths to the slab border and starts the cut at the border line.

The steps to extend cuts are:

- Press the **Extend Cuts to Border** button.
- Select the slab border first. Select Border To Extend To...
- Select the tool path toward the end that you want to be extended. Select ToolPath to Extend...
- Continue to select toolpaths to extend or press ESC to finish.



Note: You may also pick the edge of a part as the slab border.







# Park / Pause Machine

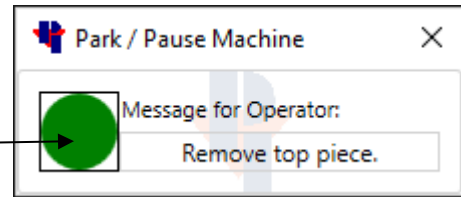
Allows the programmer to have the machine park and pause after a cut.



Selecting this command allows the user to create G-Code commands which park and pause the machine after a cut. The command is assigned to a tool path and then executed after the cut is made. A message is displayed in the machine's message center indicating when a Park Pause is reached in the program.

The steps to use this command are:

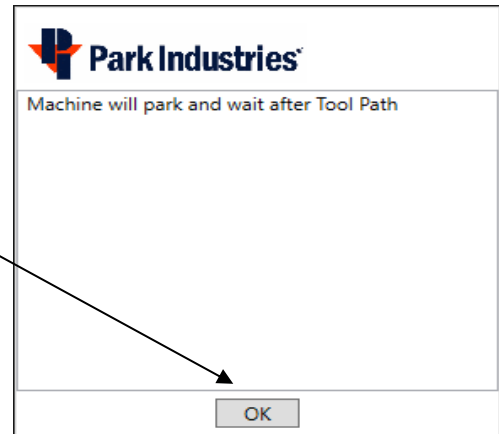
1. Select the Park / Pause Machine button. Change the message to be displayed on the machine if desired in the pop-up window and click on the "Green" park and pause icon. It will change from "Green" to "Red".



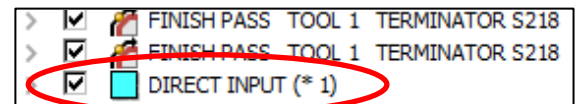
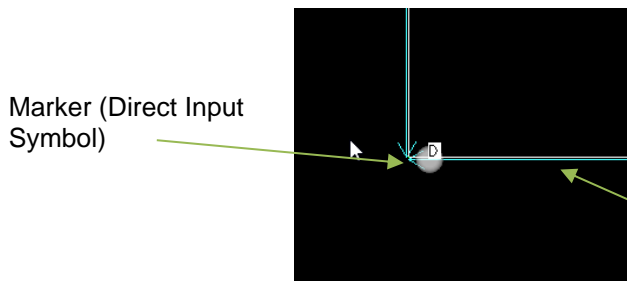
2. Select the Toolpath in the drawing to Park and Pause after.

Select Toolpath to Pause and Park after

3. Click **OK** on the message window.



4. A marker (letter "D" with a shaded white dot) is placed at the end of the selected tool path, and a "Direct Input" appears at the end of that operation in the "Operations Project Manager".



Tool Path

Note: **User Defined Code** (View-Display Options) must be enabled to see the "shaded white dot"



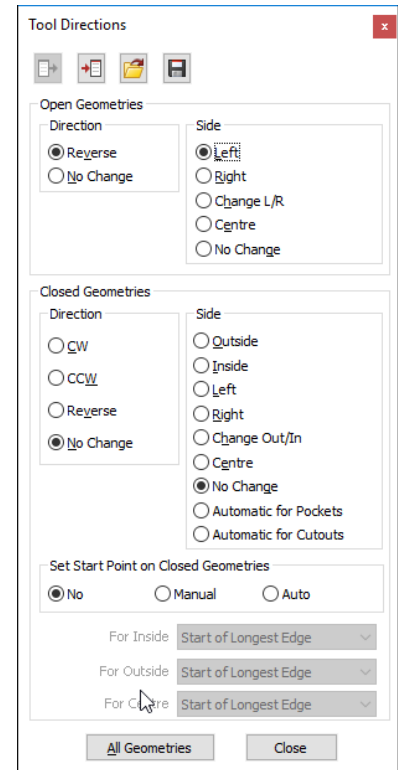
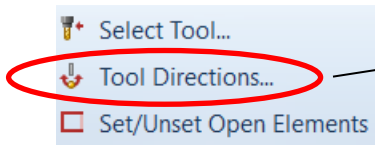
# Manual Saw Cut

## Manual Saw cut Command

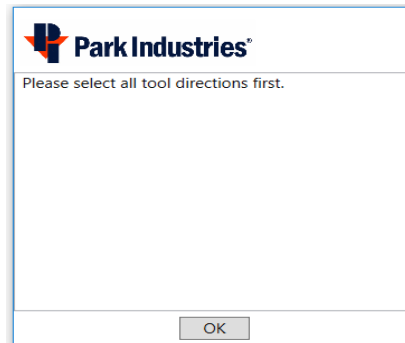
This command allows a user to manually apply a blade tool path to either an individual geometry or part. It is manual because the user (not AutoToolPath button) is building each toolpath required to complete the job.

\*Extreme caution must be used, as to not cause any unwanted overcuts into other parts, or any other unwanted cuts or movements.\*

Before using this command, tool direction must be set first. Your settings may be different for each application. (**Tool Directions** in the **Machine** tab).

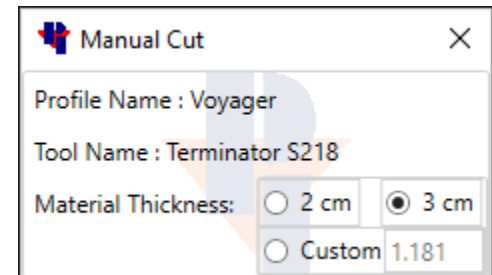


\*Alphacam generates this message if attempting to apply a toolpath without first setting tool direction.



**Manual Saw Cut** - Use to manually apply a blade toolpath to a geometry or part. Once the tool directions are set, the basic steps are:

- Press the **Manual Saw Cut** button.
- Select the material thickness (if needed).
- Select parts or geometries to apply cuts to.
- Press **ESC** or **Right Click** when finished.



These toolpaths will be populated in the **Operations** window.

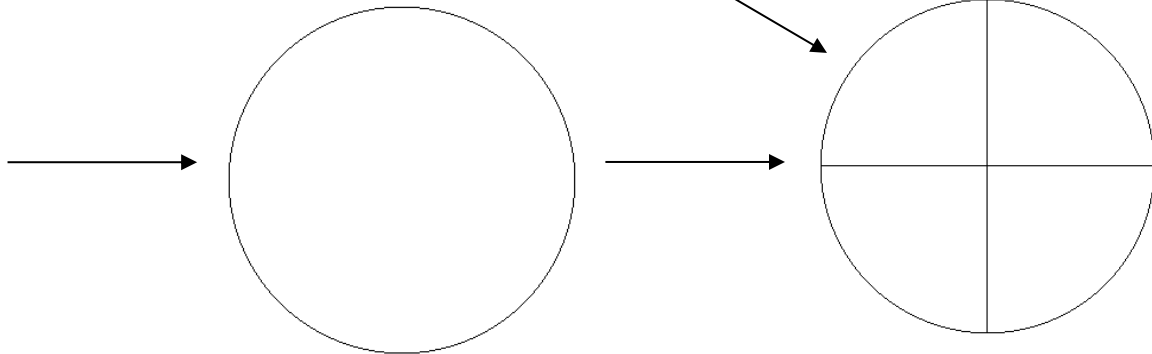
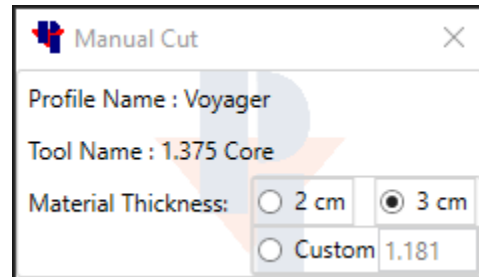


# Core Tool

Drills a hole with the core tool.

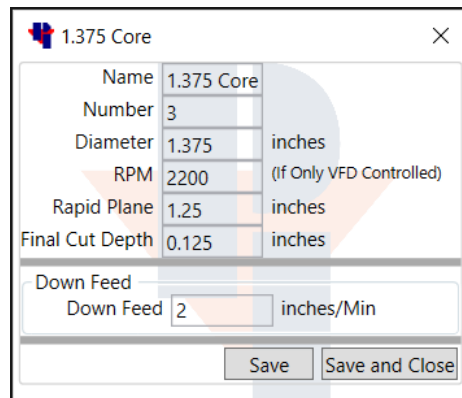
The Core Tool may be applied before or after you Toolpath the rest of your geometry. If you apply cuts before you AutoToolPath, be sure to select the appropriate material thickness.

Click on the Core Tool icon and select the circle/s to cut. The Core Toolpath will appear as a cross in the center of the circle.



Select Your Core Hole

Note: Core Tool settings are in Tool Select in the Voyager ribbon tab.

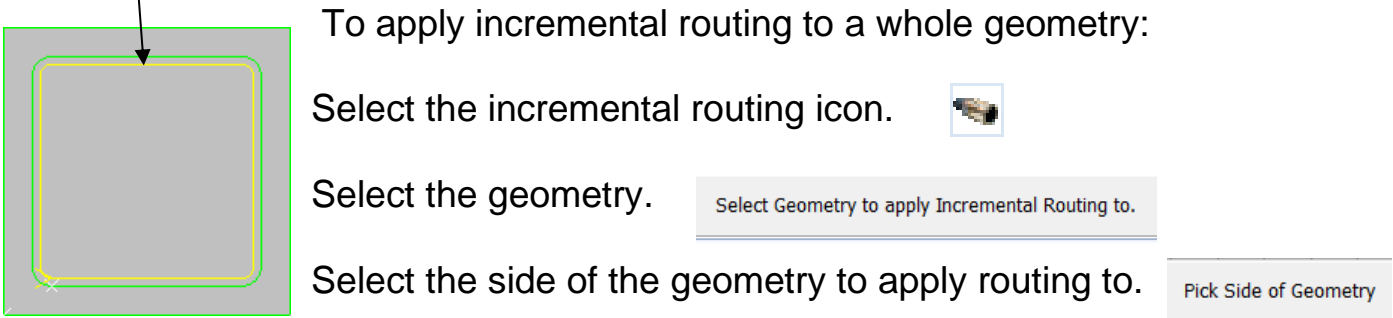
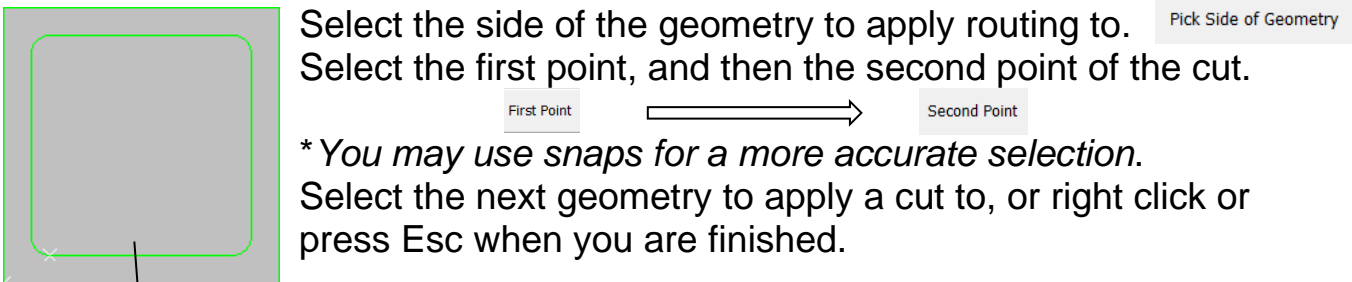
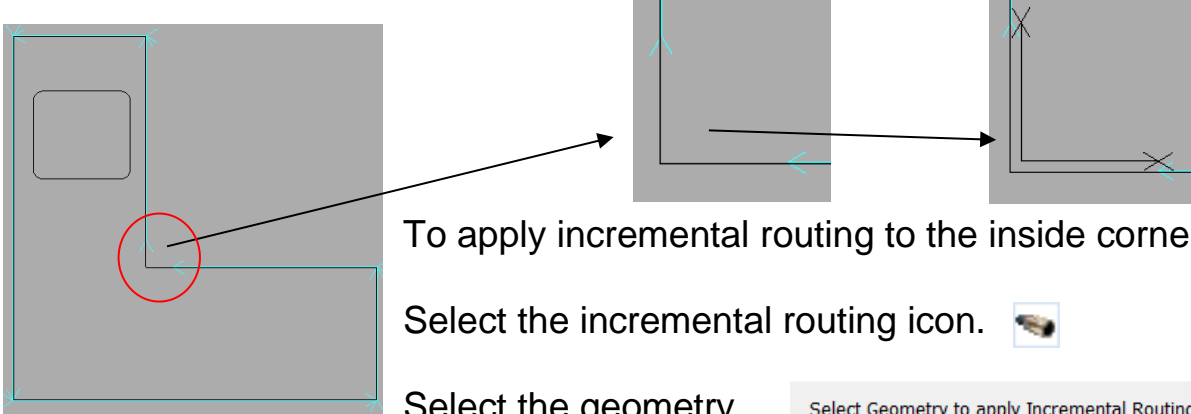




# Incremental Router

Uses a Router Bit to make incremental depth step cuts

First, apply toolpaths to the drawing using the AutoToolPath button. The AutoToolPath function will apply blade cuts where it can. In this example the blade cuts must stop short on the inside corner, and the sink did not get cut because the geometry is not large enough to allow blade cuts.



When prompted to pick the First Point  , either right click or press the Esc key to finish the command. Select the next geometry to apply a cut to, or right click or press Esc when you are finished.

\*Note: Incremental Router settings are in the Voyager Tab- Tool Select.



## Blade Continuous Arc

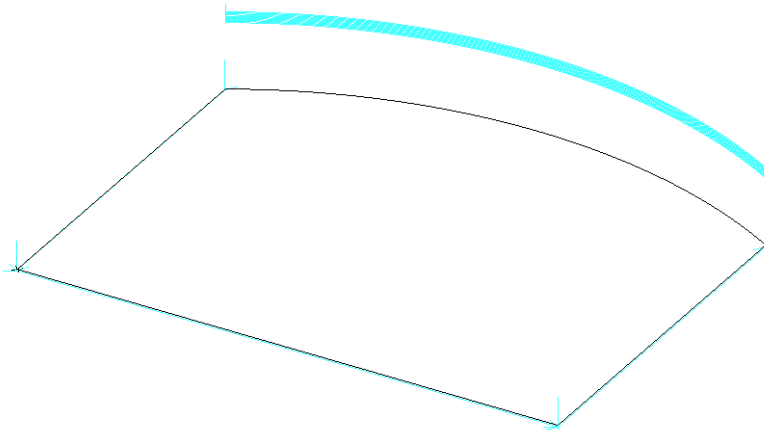
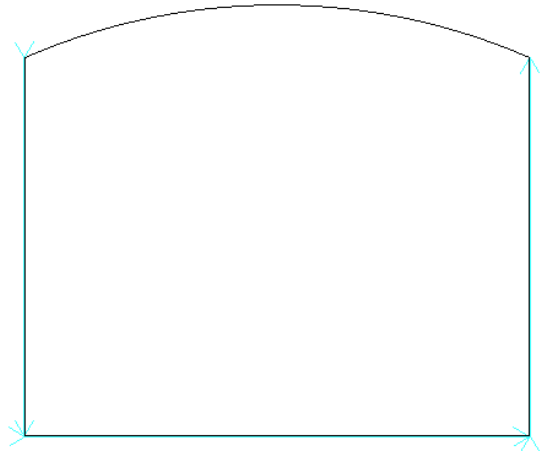
Rotates the C axis with the blade to follow the arc.

First, apply toolpaths to the drawing using the AutoToolPath button. The AutoToolPath function will apply blade cuts where it can. In this example the three straight sides have blade cuts applied.



Select the Blade Continuous Arc.

- Select the arc. Please select an arc to apply blade to.
- Select the side of the arc that you want the blade to cut on. Select Side to put Tool Path On
- When you are finished with the command, either right click or press Esc.



The result is a continuous stepped cut path rotating around the arc. The incremental cuts will only be visible in a 3D or an isometric view. The cuts will appear at the height of the arbor.

\*Note: Blade overtravel is not considered when using this command. You may need to modify the arc geometry before applying toolpaths to avoid cutting into other parts. **Check Overcuts!**



## Ultra-Compact

The Ultra-Compact command will apply predetermined Ramp In and Ramp Out feed rates and distances to blade cuts. Ultra-Compact also has a feature to make Tension Band relief cuts. Choosing this button opens the window below.

- You must first define a blade as an Ultra Compact blade in the Tool Select window.
- Apply toolpaths as normal using the AutoToolPath command with an Ultra Compact blade selected prior to choosing the Ultra Compact command button.

**Use Relief Cut** is a cut that will start at the opposite end of the cut and will travel into the cut by the amount set as the Distance value in the Ramp In field/box. See figure A.

**Set As First Operations** will move all the relief cuts to the beginning of the operations.

**Extend Cut Options** gives you the opportunity to **Extend Path Start** (see figure B) or **Extend Path End** (see figure C) by the **Blade Over Travel** distance, or a **Custom** value you enter in the **Distance** field.

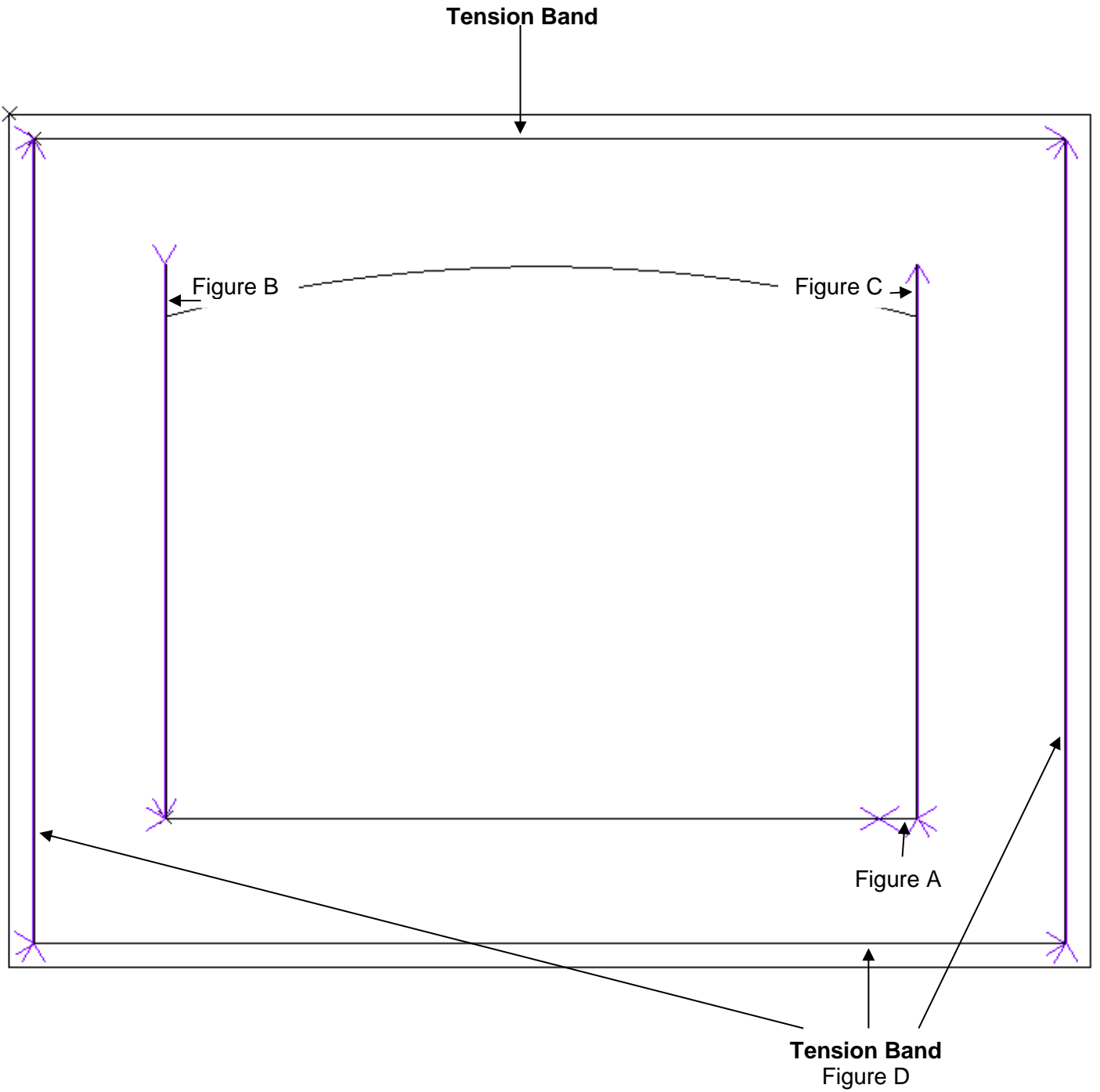
**Tension Band** applies blade cuts on a closed geometry. It is demonstrated in the following example (see figure D) on a rectangle that was offset in from the edge of the slab. It uses the ramp in and ramp out properties of the blade. **Do not select the Tension Band geometry when tool-pathing.**

**Compact cut** is a cut that will use the ramp in and ramp out properties of the blade on the cuts that you selected. Must be applied after creating the toolpaths.

\*These settings are for example only. Use settings that are best suited for your application.

### Commands:

Selecting the play button on the **Tension Band** or the **Compact Cut** command will enter you into the command. Verify the correct settings prior to choosing either command. Follow the prompts in the Alphacam message bar.

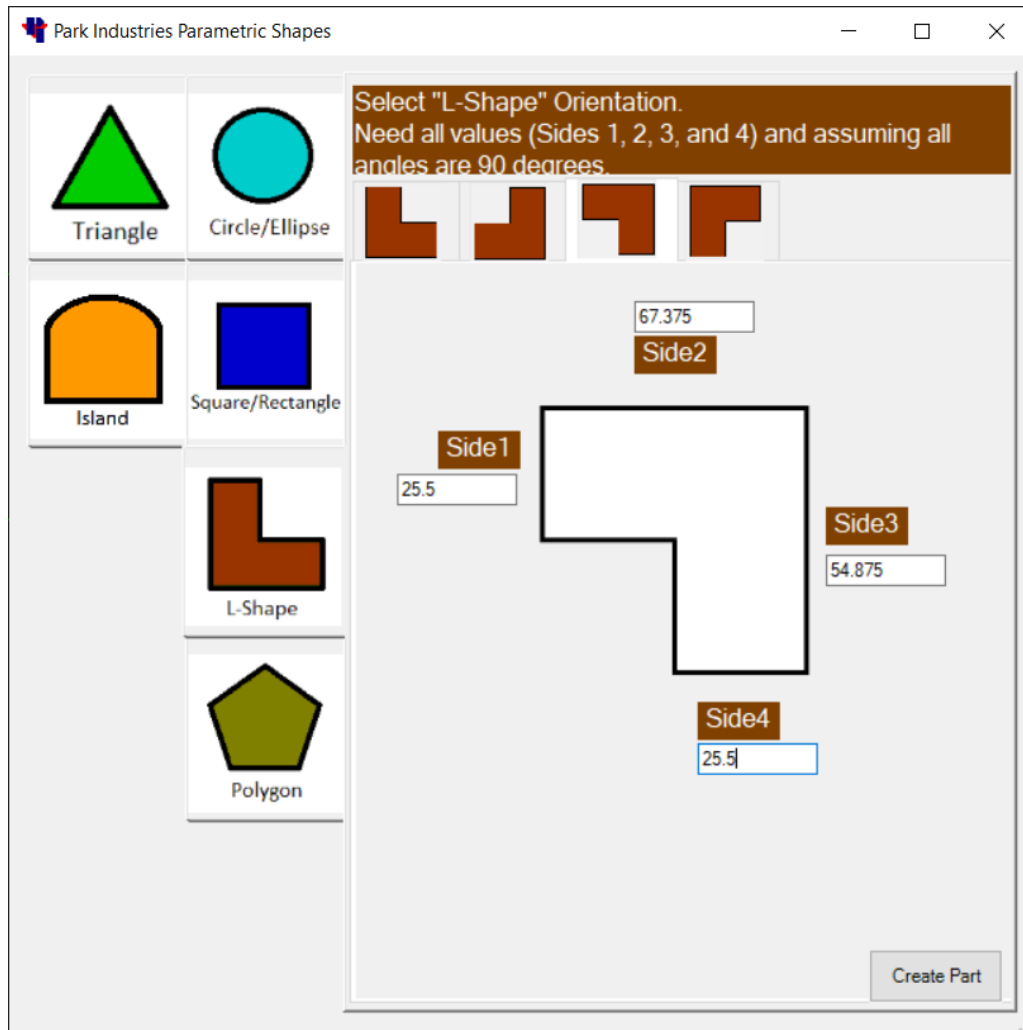






# Shapes

Parametric drawing of common shapes



Choose the icon representing the desired shape, fill out the parameters, then click the create shape button. Right click or press Esc to accept the part.

Note: The shapes created by this method will be placed at the X0,Y0 location. If creating multiple parts, you may need to move them away from the X0,Y0 position before creating another part. The parts must be moved into proper position before programming.



# Send G-Code to the Machine

Creates and sends the program to the machine and can also create a job report.

After a layout and all cut paths are completed, clicking this button will send the program to the machine or to the location that is set in the configuration. You will then have the option to generate a printable Job Report. The Send G-Code command will also do an automatic save on the file.

Information window for job sheet

Job Information

Bar Code Size: 5

Report Output Display Options:  
 Tool List     Sort Tools  
 Black & White

Report Header Image:

Job Notes:  
Type Job Notes Here


Save Location:  
 \C:\Alphacam\LICOMDIR\Reports\Export

OK    Cancel

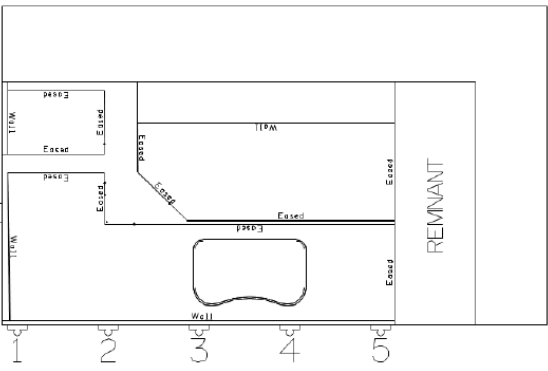

**Job Name:** Johnson.Slab1

**Machine Name:** Voyager XP

**Approx Processing Time:** 00:30:54




**Precision. Performance. Peace of Mind.**

**Job Notes:**  
 Slab #2744  
 Return remnant to wise  
 Save sink cut out for customer

**Tooling Used:**  
 T1-TERMINATOR S218                      T2-CYCLONE MILL



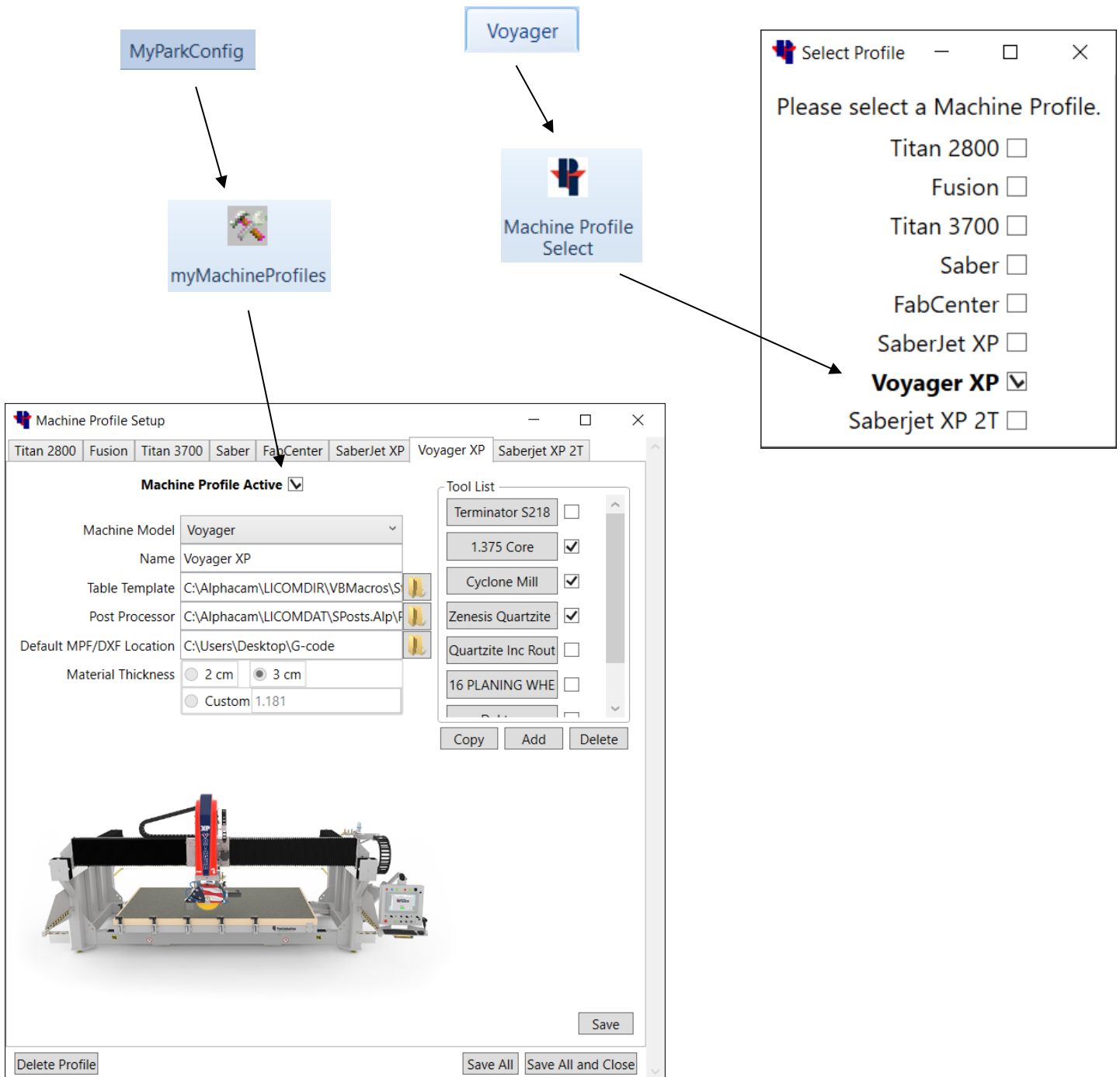
**Precision. Performance. Peace of Mind.**    1/1

In the PI Reports page, you can choose your options and type in any Job Notes that the operator will see on the report page. You can also set a default Save Location. Click on OK to finish and create the Job Report. You may print the Report so the Operator can scan the bar code at the machine.

\*The file name cannot contain spaces or symbols if using a bar-code scanner.

# Machine Profiles

Machine Profiles are a way to save and use specific settings for different cutting conditions. Profiles must be created for each machine. You may also create a profile for different types or thickness of material. You are allowed to setup 8 profiles, each profile may have up to 20 tool configurations. There are two ways to make your machine active.



# Setting up Machine Profiles

After installing a Park Industries toolbar with Profiles. You will be reminded to setup a machine profile as shown below.

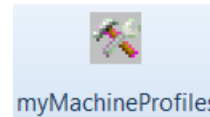


Click OK on this message to setup a Profile.

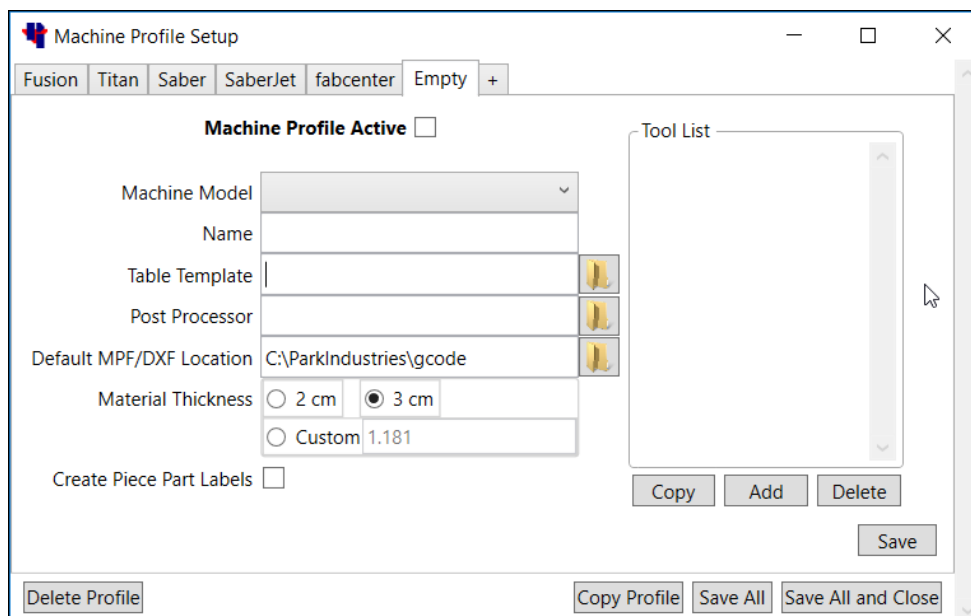
Then choose the **MyParkConfig** tab

MyParkConfig

Next click on the **myMachineProfiles** icon



The Machine Profile setup window will open up to an “Empty” tab until the first profile is saved. To setup additional profiles you will need to choose the tab with the + sign.



# Setting up Machine Profiles

(Continued)

Input the proper information into the fields of the setup window. Press **Save** when finished, and then press **Save All and Close** when done.

Machine Profile Setup

Titan 2800 Fusion Titan 3700 Saber FabCenter SaberJet XP Voyager XP

**Machine Profile Active**

Machine Model: Voyager

Name: Voyager XP

Table Template: C:\Alphacam\LICOMDIR\VBMacros\S

Post Processor: C:\Alphacam\LICOMDAT\SPosts.Alp

Default MPF/DXF Location: C:\Users\Desktop\G-code

Material Thickness:  2 cm  3 cm  Custom 1.181

Tool List

Termin

1.37

Cycl

Zenesis

Quartzit

16 PLAN

Copy

Save

Delete Profile Save All Save All and Close

**Machine Profile Active=** The properties of this profile will be used for the next program created if this is checked.

**Machine Model=** Select the machine model that you are creating from the dropdown menu.

**Name=** Any name to identify this particular machine profile setup. This name will appear on the tab when saved to identify it.

**Table Template=** Select the appropriate table template from the folder that matches your machine.

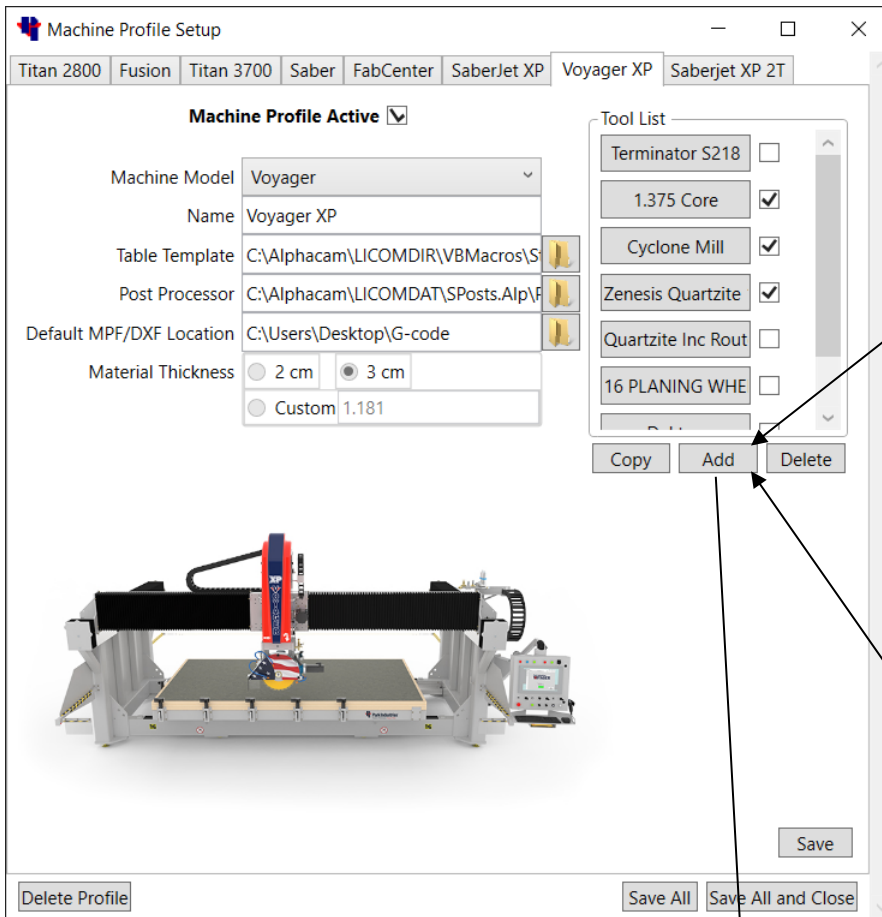
**Post Processor=** Select the appropriate post processor from the folder that matches your machine.

**Default MPF/DXF Location=** Select the appropriate network path location to send your G-Code file to. (Typically, a network path going to your machine).

**Material Thickness=** Select the desired default thickness to use for this machine profile. (You may change material thickness in the **AutoToolPath** command).

# Adding Tool information

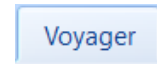
Setup the tool and parameters for every tool type. Each Voyager Machine Profile may have up to 20 tools. You may add tools in the **Machine Profile Setup** window, or you may also add tools in the **Voyager** tab by pressing the **Tool Select** button.



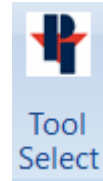
Choose the Add button to setup a new tool.

OR

Select the Voyager Tab from the Alphacam ribbon.



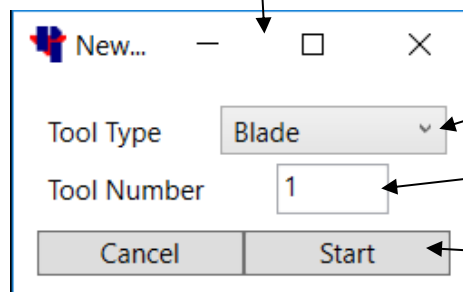
Press Tool Select.



Choose the Add button to setup a new tool.

## \*\*Note:

The Tool numbers for each tool **must match** the Tool number being used on the Voyager Tool library.



Select a tool from the Tool Type dropdown.

Type in the correct Tool Number.

Then click the Start button to enter your settings.

# Voyager Tool Examples

Setup the tool and parameters for every tool type. Each Voyager Machine Profile may have up to 20 tools saved in Alphacam, but there can only be ONE BLADE, ONE MILL BIT and ONE CORE BIT active at a time. You may add tools in the **Machine Profile Setup** window, or you may also add tools in the **Voyager** tab by pressing the **Tool Select** button. Tool numbers must match the Voyager's tool library on the machine.

Blade

Terminator S218

Name Terminator S21  
 Number 1  
 Diameter 18.485 inches  
 RPM 1250 (If Only VFD Controlled)  
 Rapid Plane 2 inches  
 Final Cut Depth -0.125 inches  
 Blade Kerf 0.143 inches  
 Safety Distance 0.5 inches

Straight Feeds  
 Down Feed 10 inches/Min  
 Cut Feed 140 inches/Min

Straight Step Cutting  
 Step Cutting   
 Depth Per Cut 1 inches  
 Bidirectional

TightCut Feed  
 Down Feed 10 inches  
 Clearance 16.03 inches

Miter Feeds  
 Down Feed 10 inches/Min  
 Cut Feed 45 inches/Min

Miter Step Cutting  
 Step Cutting   
 Depth Per Cut 0.4 inches

Arc Feeds  
 Down Feed 10 inches/Min  
 Cut Feed 100 inches/Min

Arc Step Cutting  
 Depth Per Cut 0.25 inches  
 Bidirectional

Save Save and Close

Mill Bit

Cyclone Mill

Name Cyclone Mill  
 Number 2  
 Diameter 0.81 inches  
 RPM 5500 (If Only VFD Controlled)  
 Rapid Plane 2 inches  
 Final Cut Depth -0.06 inches

Straight Feeds  
 Down Feed 2 inches/Min  
 Cut Feed 40 inches/Min

Straight Step Cutting  
 Depth Per Cut 0.07 inches  
 Bidirectional

Save Save and Close

Ultra Compact Blade

Dekton Blade

Name Dekton Blade  
 Number 9  
 Diameter 16.674 inches  
 RPM 1950 (If Only VFD Controlled)  
 Rapid Plane 1.5 inches  
 Final Cut Depth -0.125 inches  
 Blade Kerf 0.129 inches  
 Safety Distance 0.5 inches

Straight Feeds  
 Down Feed 6 inches/Min  
 Cut Feed 65 inches/Min

Straight Step Cutting  
 Step Cutting   
 Depth Per Cut 0.1 inches  
 Bidirectional

TightCut Feed  
 Down Feed 7 inches  
 Clearance 13.90 inches

Miter Feeds  
 Down Feed 5 inches/Min  
 Cut Feed 30 inches/Min

Miter Step Cutting  
 Step Cutting   
 Depth Per Cut 0.1 inches

Arc Feeds  
 Down Feed 6 inches/Min  
 Cut Feed 50 inches/Min

Arc Step Cutting  
 Depth Per Cut 0.1 inches  
 Bidirectional

Compact Cut Settings

Ramp In  
 Feed 32.5 inches/Min  
 Distance 4 inches  
 50 % Cut Feed

Ramp Out  
 Feed 26 inches/Min  
 Distance 11 inches  
 40 % Cut Feed

Miter Ramp In  
 Feed 15 inches/Min  
 Distance 4 inches  
 50 % Cut Feed

Miter Ramp Out  
 Feed 12 inches/Min  
 Distance 11 inches  
 40 % Cut Feed

Save Save and Close

Core Bit

1.375 Core

Name 1.375 Core  
 Number 3  
 Diameter 1.375 inches  
 RPM 2200 (If Only VFD Controlled)  
 Rapid Plane 2 inches  
 Final Cut Depth 0.125 inches

Down Feed  
 Down Feed 2 inches/Min

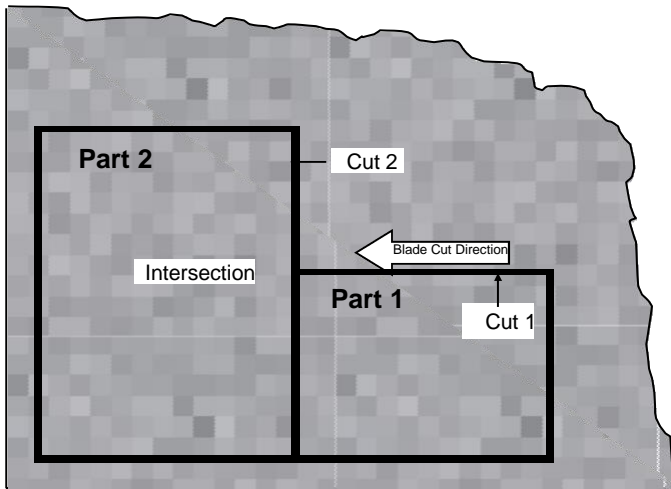
Save Save and Close



# Safety Distance detail

## Safe Distance Explanation

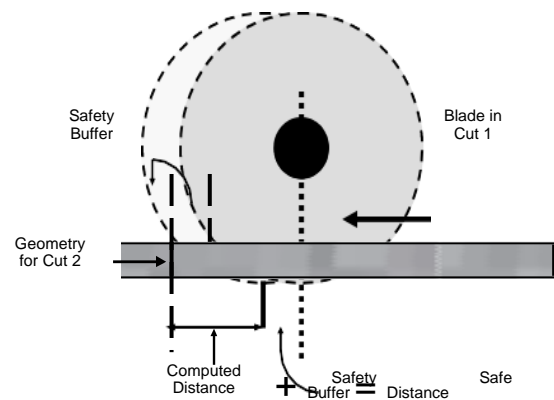
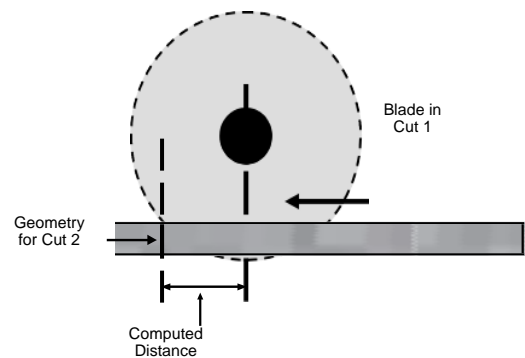
In the example below, as the blade finishes cut 1 of part 1 it approaches cut 2 of part 2. The blade motion must stop before reaching the intersection point.



Given the correct tooling parameters, the software computes the distance required to prevent the blade from cutting into an intersecting geometry shown as computed distance in the top figure. If the machine tool parameters match the program tool parameters, and the correct material thickness is used, the blade will always stop before entering the next geometry. But since this does not always happen in the real world, a safety buffer can be used. (See bottom figure).

**Safety Distance** is a value added to the computed blade over travel stop distance to help prevent the blade from cutting into an intersecting geometry. This compensates for varying stone thickness, blade diameter, and other factors.

**\*\* Important Note: Tight Cut does not use Safety distance!!!**



<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>		<b>F5</b>	<b>F6</b>	<b>F7</b>	<b>F8</b>		<b>F9</b>	<b>F10</b>	<b>F11</b>	<b>F12</b>
Unknown/ Help	Various	Ortho On/Off	Close & Finish		Quadrant	End of	Middle of	Center of		Intersect of	Tangent to	Perpend to	Parallel to

<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>		<b>F5</b>	<b>F6</b>	<b>F7</b>	<b>F8</b>		<b>F9</b>	<b>F10</b>	<b>F11</b>	<b>F12</b>
Unknown/ Help	Various	Ortho On/Off	Close & Finish		Quadrant	End of	Middle of	Center of		Intersect of	Tangent to	Perpend to	Parallel to

<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>		<b>F5</b>	<b>F6</b>	<b>F7</b>	<b>F8</b>		<b>F9</b>	<b>F10</b>	<b>F11</b>	<b>F12</b>
Unknown/ Help	Various	Ortho On/Off	Close & Finish		Quadrant	End of	Middle of	Center of		Intersect of	Tangent to	Perpend to	Parallel to

<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>		<b>F5</b>	<b>F6</b>	<b>F7</b>	<b>F8</b>		<b>F9</b>	<b>F10</b>	<b>F11</b>	<b>F12</b>
Unknown/ Help	Various	Ortho On/Off	Close & Finish		Quadrant	End of	Middle of	Center of		Intersect of	Tangent to	Perpend to	Parallel to

<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>		<b>F5</b>	<b>F6</b>	<b>F7</b>	<b>F8</b>		<b>F9</b>	<b>F10</b>	<b>F11</b>	<b>F12</b>
Unknown/ Help	Various	Ortho On/Off	Close & Finish		Quadrant	End of	Middle of	Center of		Intersect of	Tangent to	Perpend to	Parallel to

<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>		<b>F5</b>	<b>F6</b>	<b>F7</b>	<b>F8</b>		<b>F9</b>	<b>F10</b>	<b>F11</b>	<b>F12</b>
Unknown/ Help	Various	Ortho On/Off	Close & Finish		Quadrant	End of	Middle of	Center of		Intersect of	Tangent to	Perpend to	Parallel to

# Keyboard Shortcuts

<b>Geometry</b>		<b>View</b>		<b>Action</b>	<b>Hotkey</b>
Arc	A	3-D	V	3-D	V
Circle	Ctrl+C	Ghost Tools	Ctrl+G	Add-Ins	`
Common Line Removal	Shift+R	Zoom All	Z	Apply Style	Shift+S
Enclosing Rectangle	Alt+R	Zoom Previous	Ctrl+B	Arc	A
Line	L	Zoom Window	W	Break	B
Rectangle	R			Change	Shift+C
Text	Ctrl+T	<b>CAD</b>		Circle	Ctrl+C
		Dimension	Ctrl+D	Clear Memory	Ctrl+Delete
<b>Edit</b>		Distance/Angle	U	Common Line Removal	Shift+R
Break	B	Hide Parts	H	Copy	C
Change	Shift+C	Show All Parts	Alt+H	Cut	Alt+C
Copy	C	User Layers	Ctrl+U	Delete	D
Cut	Alt+C			Dimension	Ctrl+D
Delete	D	<b>File</b>		Distance/Angle	U
Explode	X	New	Ctrl+N	Enclosing Rectangle	Alt+R
Extend	E	Open	Ctrl+O	Explode	X
Extend By Distance	Ctrl+E	Save	Ctrl+S	Extend	E
Fillet	F			Extend By Distance	Ctrl+E
Join	J	<b>Add-Ins/Macros</b>		Fillet	F
Keep	K	Add-Ins	`	Ghost Tools	Ctrl+G
Mirror	I			Input CAD	Ctrl+I
Move	M	<b>Machine</b>		Insert	Shift+I
Offset	O	Apply Style	Shift+S	Join	J
Redo	Ctrl+Y	Tool Direction	Shift+T	Keep	K
Rotate	Ctrl+R			Line	L
Scale	S	<b>3D</b>		Mirror	I
Trim	T	Project 3D to 2D	P	Move	M
Undo	Ctrl+Z	Set Material	Shift+M	New	Ctrl+N
				Offset	O
<b>Home</b>				Open	Ctrl+O
Clear Memory	Ctrl+Delete			Project 3D to 2D	P
Input CAD	Ctrl+I			Rectangle	R
Insert	Shift+I			Redo	Ctrl+Y
				Rotate	Ctrl+R
				Save	Ctrl+S
				Scale	S
				Set Material	Shift+M
				Text	Ctrl+T
				Tool Direction	Shift+T
				Trim	T
				Undo	Ctrl+Z
				User Layers	Ctrl+U
				Zoom All	Z
				Zoom Previous	Ctrl+B
				Zoom Window	W
				Hide Parts	H
				Show All Parts	Alt+H