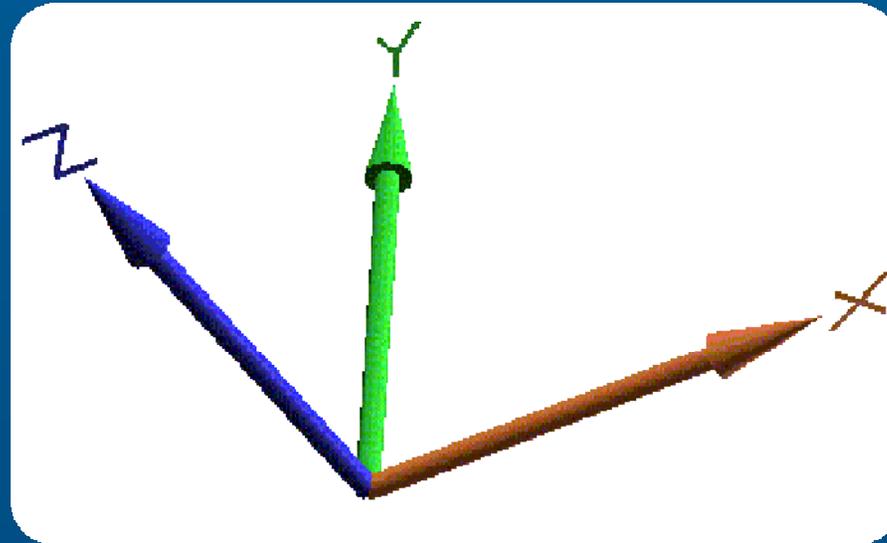




PROTOWIZARD WORKSHOP

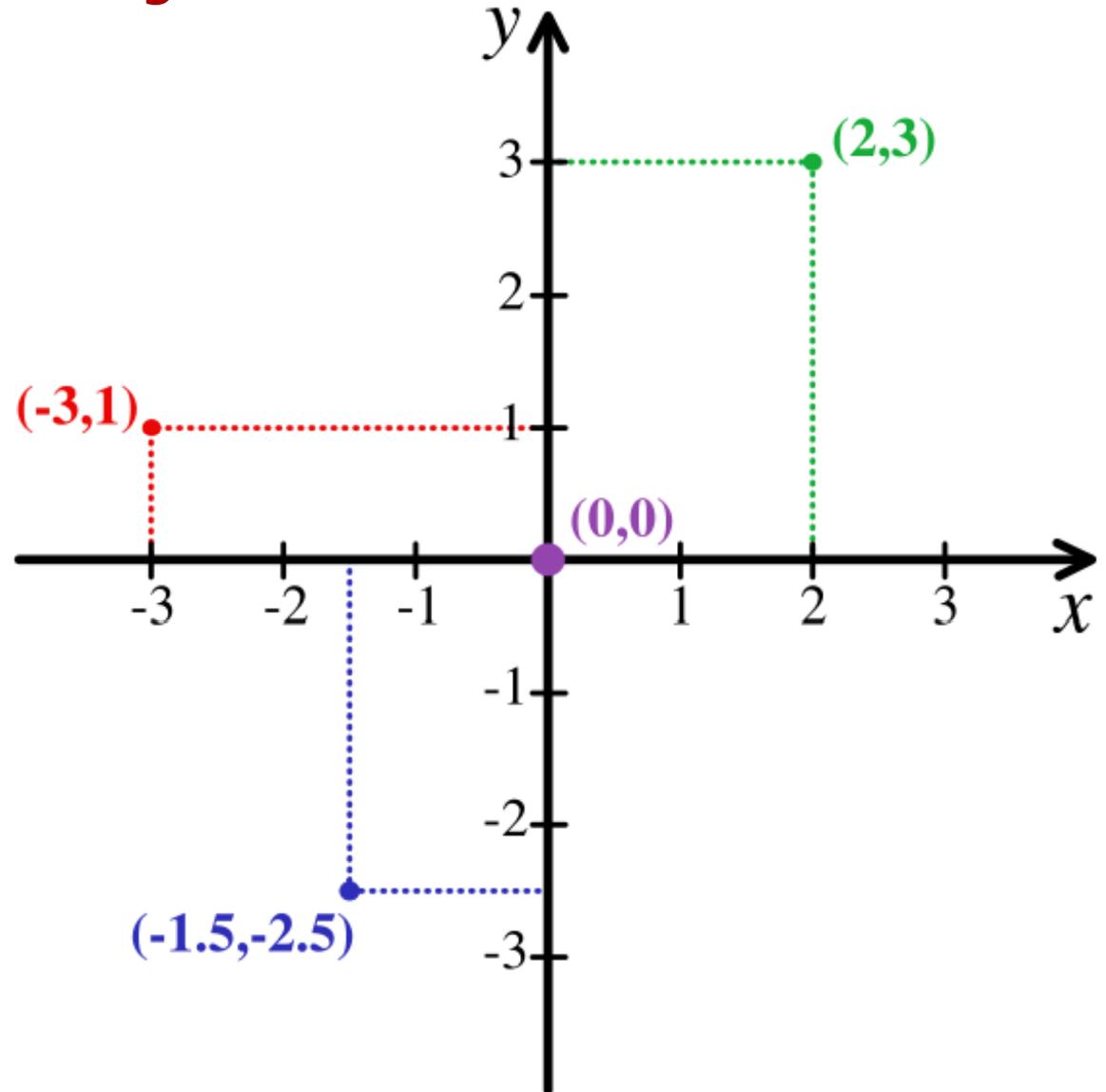
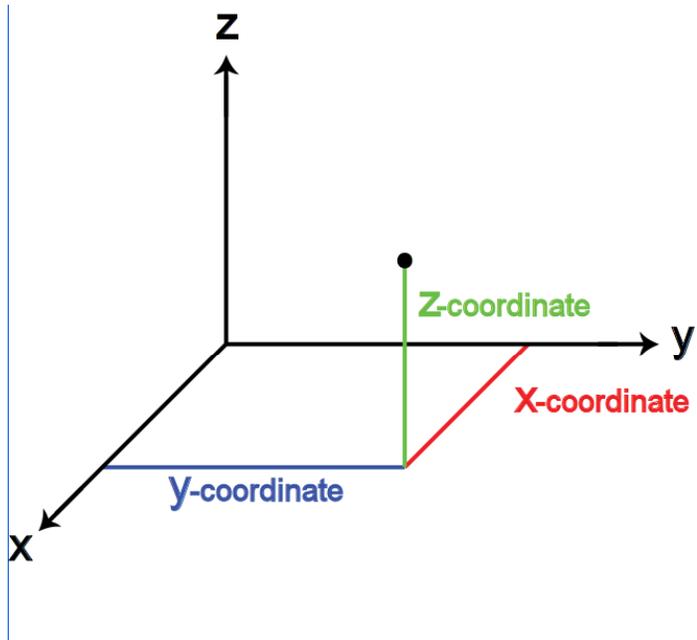
DECEMBER 2008



Axis Movements

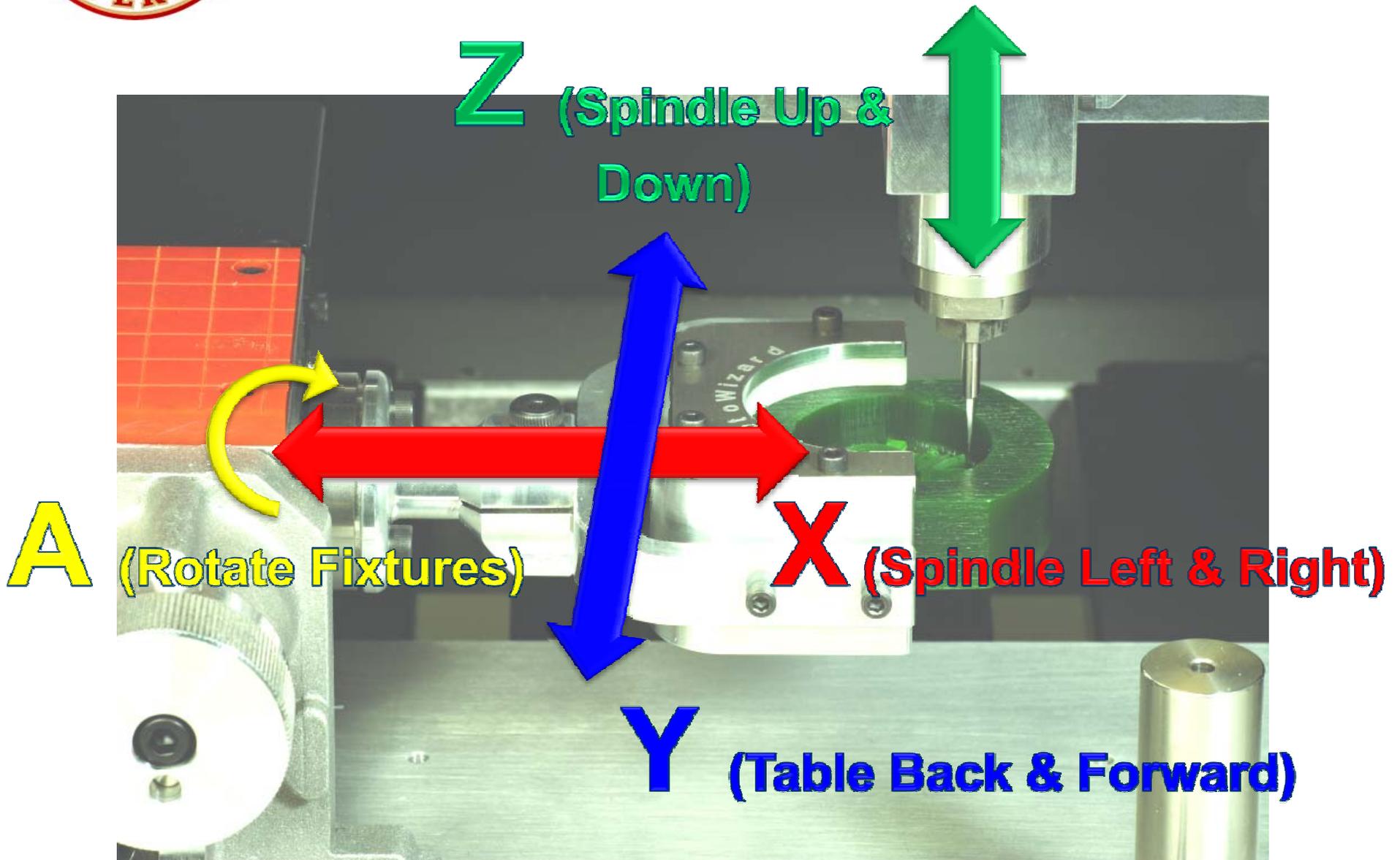


Coordinate System Basics





JWX-10

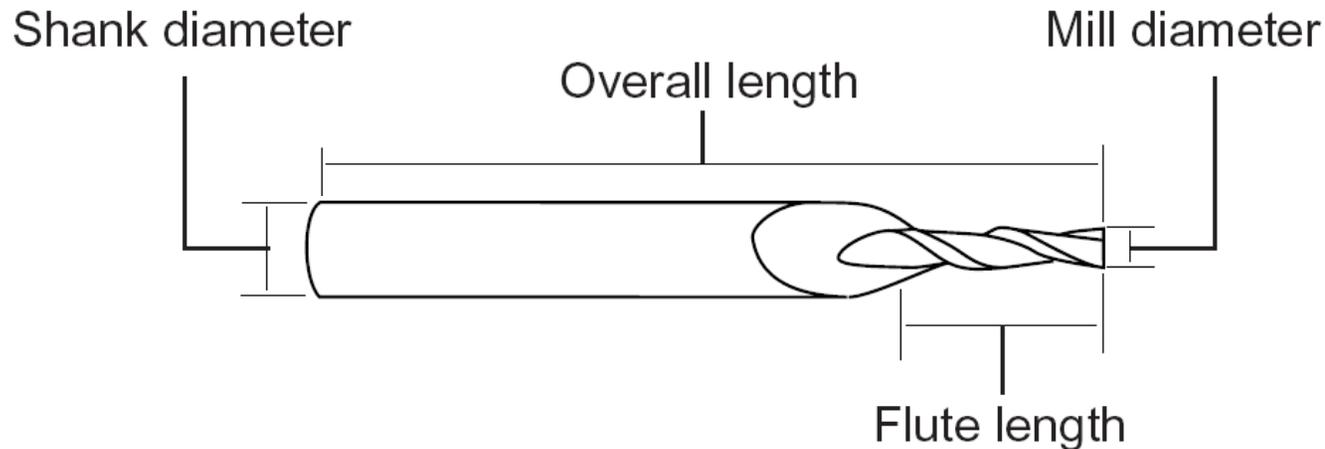




End Mill Knowledge



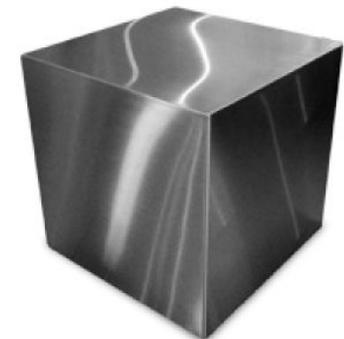
End Mill Knowledge



NOTES:

❖ End Mill Materials

- **High Speed Steel or HSS**
 - Provides decent wear resistance and costs less than carbide end mills
 - Material is ductile and less prone to chipping
- **Carbide or Cemented Carbide**
 - Provides excellent wear resistance and hardness
 - Material offers better rigidity than HSS which enables the end mill to provide a higher degree of dimensional accuracy and superior surface finish
 - Can be run 2 – 3 times faster than HSS and are best for maximizing speed and tool life
 - Brittle material and can be chipped if dropped

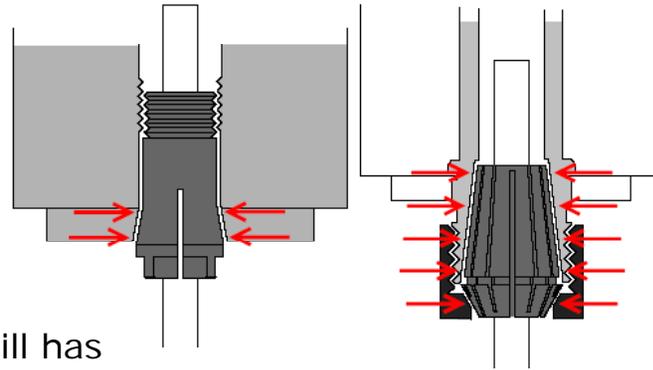




End Mill Knowledge

❖ Shank & Collet

- Shank is portion that is held by machine and used in conjunction with collet type holder
- Comes in standard sizes
 - 1/4", 1/8" for standard sizes
 - 6mm or 3mm for metric sizes



❖ Flute

- Number of cutting blades an end mill has
- Two flute end mills have greatest amount of flute space for more chip carrying capacity
- Three flute end mills have same flute space as two flute, but has a larger cross sectional area and thus provides greater strength
- Four or more flutes are ideal for finishing work only due to smaller flute space

Two Flute
Centercutting

Three Flute
Centercutting

Four Flute
Centercutting

Six Flute
Centercutting

Eight Flute
Centercutting



NOTES:

Blank area for notes.



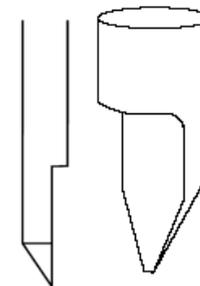
End Mill Knowledge

❖ End Mill Type

- **Flat or square end mill**
 - Used for cutting flat or stepped items
 - Prone to fail due to very small and brittle corners

- **Ball end mill**
 - Used for cutting curved surfaces and wavy shapes
 - Most common used
 - Usually stronger than flat end mills

- **Engraving tool**
 - Used for engraving text on name plates and rating plates



NOTES:

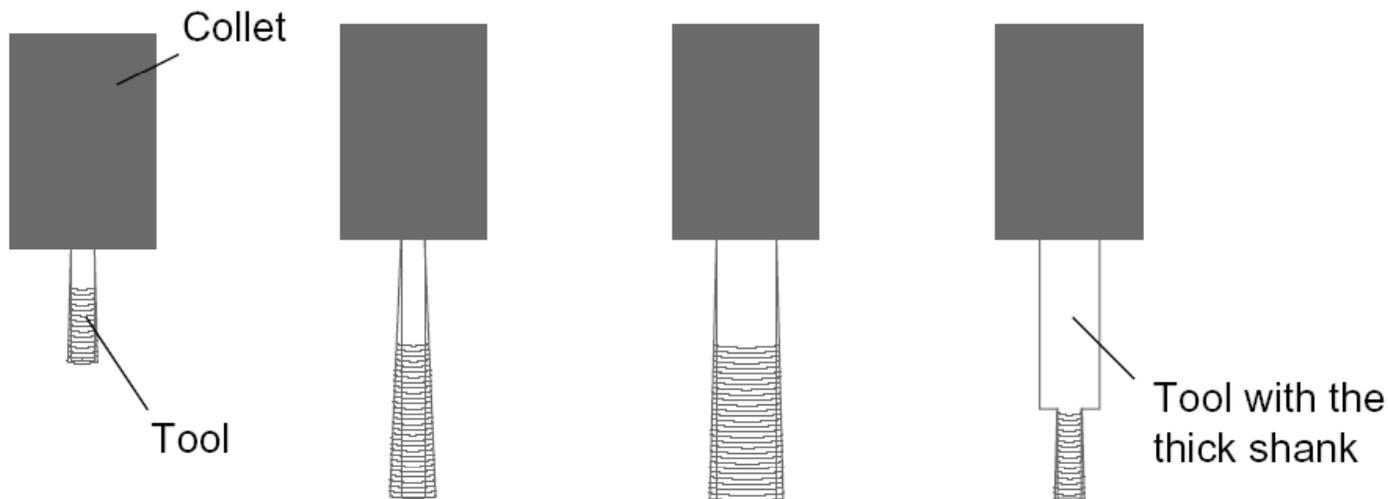
A large, vertical rectangular area with a light gray background, intended for taking notes. It is divided into four horizontal sections by thin white lines.



End Mill Knowledge

❖ End Mill Selection Tips

- Select shortest possible end mill for greatest rigidity
- Select multiple flutes for greater rigidity and better finishing
- Use largest diameter possible for added strength and rigidity



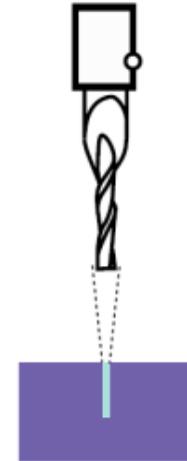
NOTES:



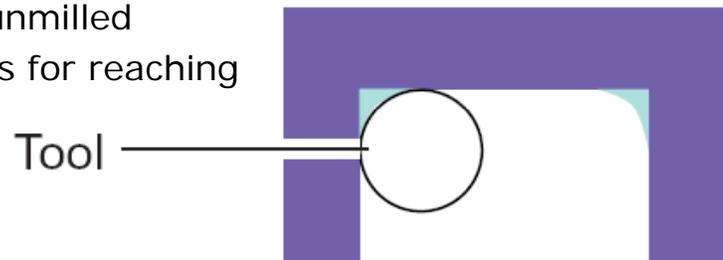
End Mill Knowledge

❖ End Mill Limitations

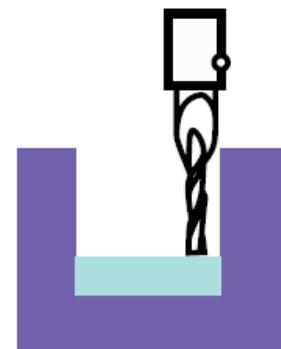
- Can't mill hole or feature smaller than tool diameter



- A large mill will leave corners unmilled
 - Use smaller diameter tools for reaching corners



- Can't mill a wall taller than length of tools reach.
 - Need longer fluted tool or long reach tool



NOTES:

A large, empty gray rectangular area intended for taking notes.



End Mill Knowledge

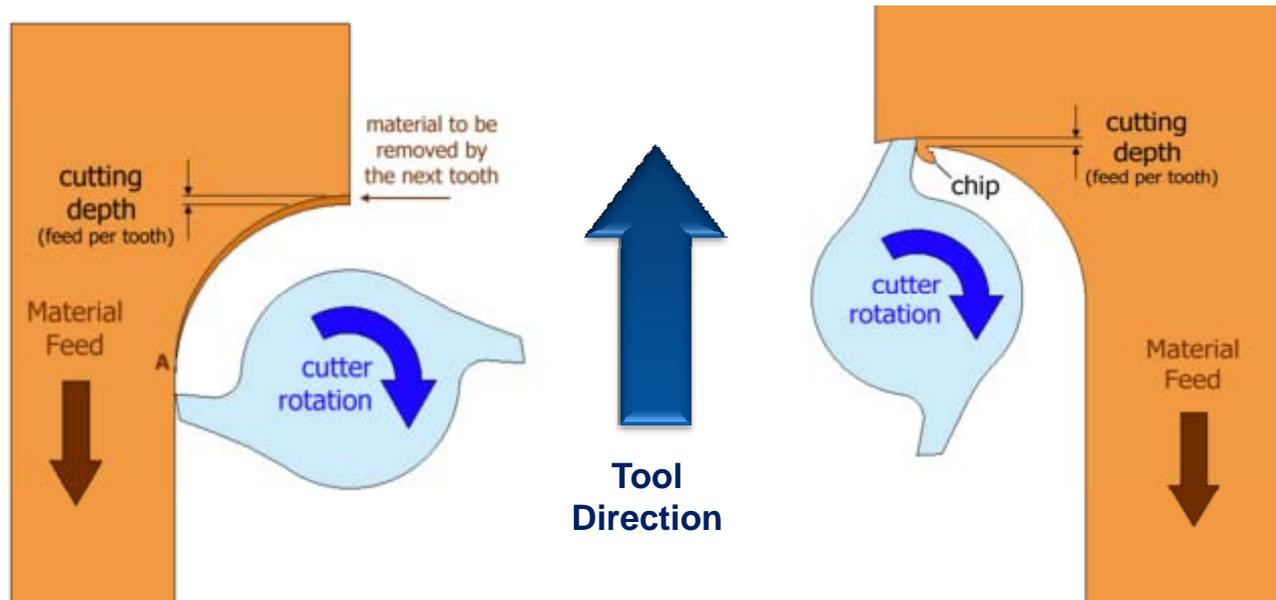
❖ Climb vs. Conventional Milling

•Conventional Milling

- Also known as “**Up**” milling
- Cutter gradually removes chip until it breaks off
- Usually leaves a poor finish on material

•Climb Milling

- Also known as “**Down**” milling
- Easier chip removal
- Better surface finish
- Longer tool life



NOTES:



End Mill Knowledge

❖ Common Milling Problems & Solutions

- **Excessive Chatter**
 - Problem:
 - Vibration and sound are excessive when the tool engages the workpiece
 - Possible Solutions:
 - Reduce cutting forces by reducing speed or depth of cut
 - Increase system rigidity by changing to a shorter end mill or improving your work piece fixturing

- **Poor Surface Finish**
 - Problem:
 - Work Surface looks uneven and feels rough
 - Possible Solutions:
 - Increase system rigidity
 - Increase speed
 - Reduce depth of cut
 - Reduce cutting forces
 - Change to an end mill with more flutes

NOTES:



End Mill Knowledge

- **Excessive Wear on End Mill**
 - Problem :
 - Tools is wearing at cutting edges causing poor performance
 - Possible Solutions:
 - Reduce speed – 50% reduction in speed will almost double tool life
 - Increase/Decrease feed – Feed rate that is too light will cause excess rubbing
 - Change geometry of tooling – number of flutes, length of cut
 - Change material and or add a coating

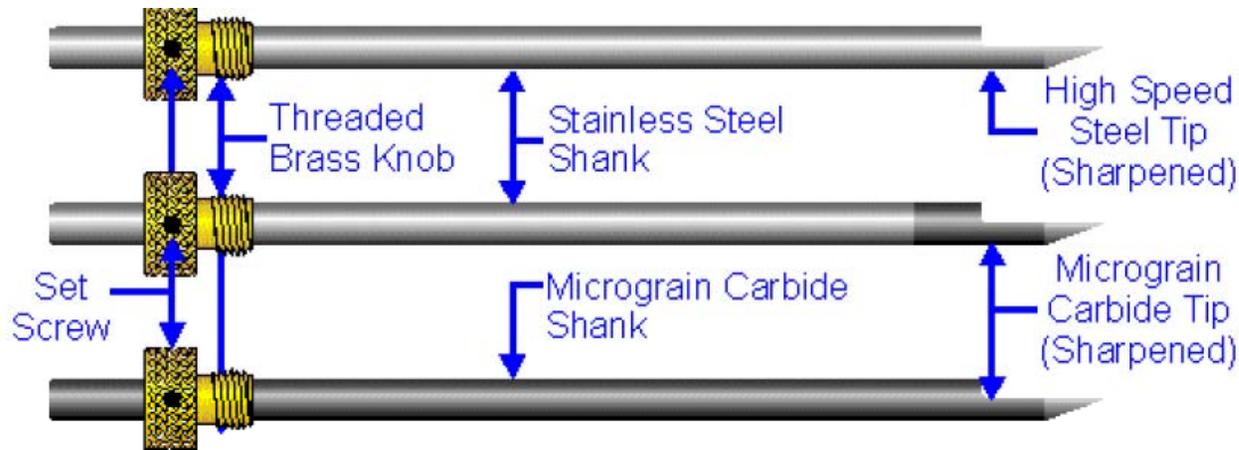
NOTES:



Cutter Knowledge



Cutter Knowledge



NOTES:

❖ Cutter Materials

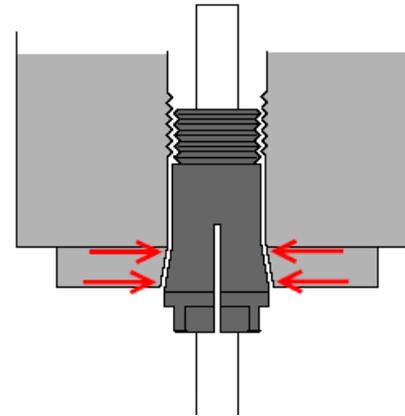
- **High Speed Steel or HSS**
 - Provides decent wear resistance and costs less than carbide end mills
 - Material is ductile and less prone to chipping
- **Carbide**
 - Provides excellent wear resistance and hardness
 - Material offers better rigidity than HSS which enables the end mill to provide a higher degree of dimensional accuracy and superior surface finish
 - Can be run 2 – 3 times faster than HSS and are best for maximizing speed and tool life
 - Brittle material and can be chipped if dropped



Cutter Knowledge

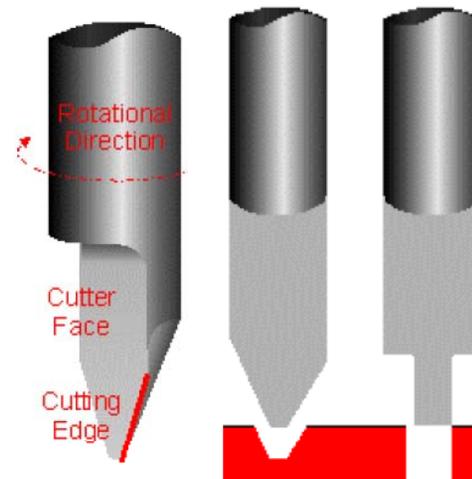
❖ Shank/Collet

- Portion that is held by machine and used in conjunction with collet type holder. Most engraving cutters are top load cutters
- Comes in standard sizes
 - 1/8" and 11/64" for standard sizes



❖ Flute

- Typically, engraving cutters are single flute tools, which means they have only one cutting edge.
- While there is a seemingly infinite number of cutter sizes and shapes, engraving tools fall into two basic categories – conical and parallel.
- Conical cutters have an angled cutting edge and produce a "V" shaped cut.
- Parallel cutters have a straight cutting edge that is parallel to the cutters axis of rotation. The width of the cutter can be as large as the diameter of the shaft.



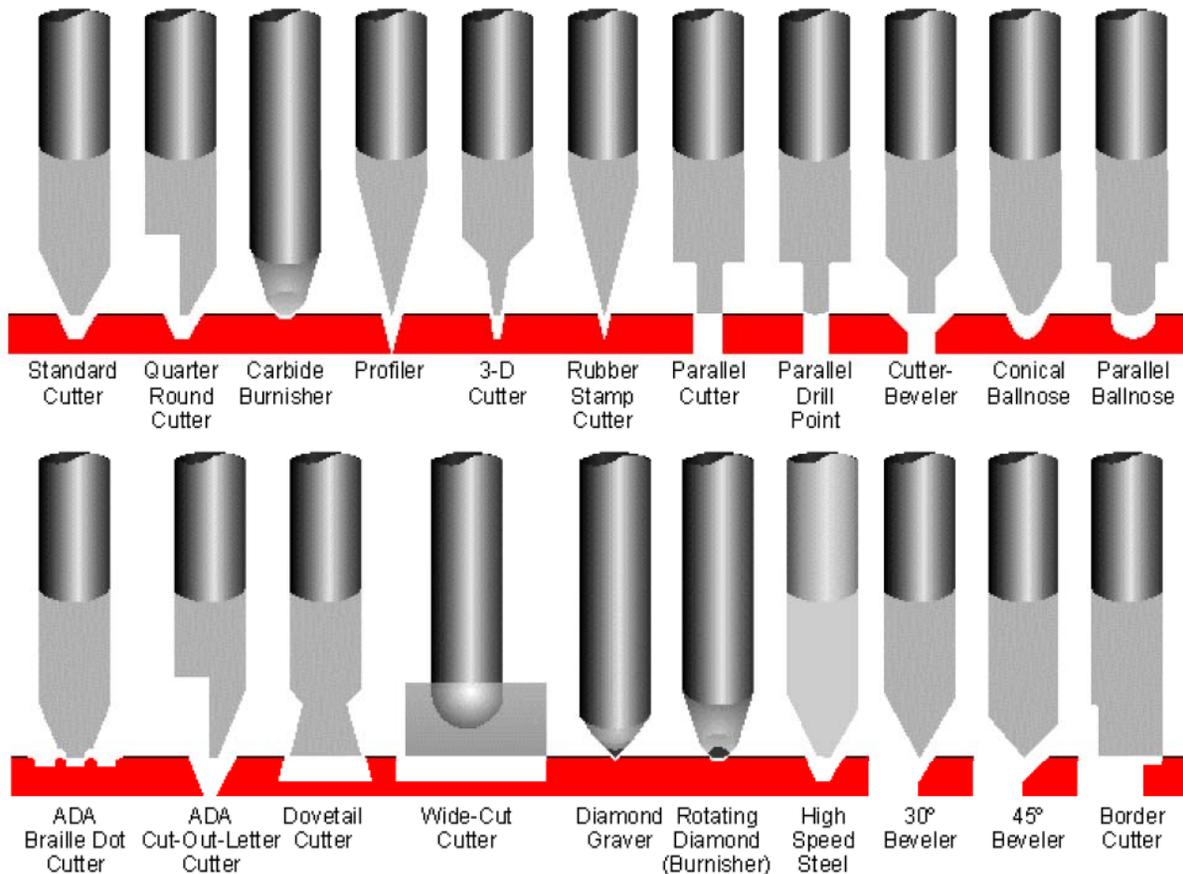
NOTES:



Cutter Knowledge

❖ Cutter Types

- The full spectrum of cutter types and their effect on engraved material can be seen here.



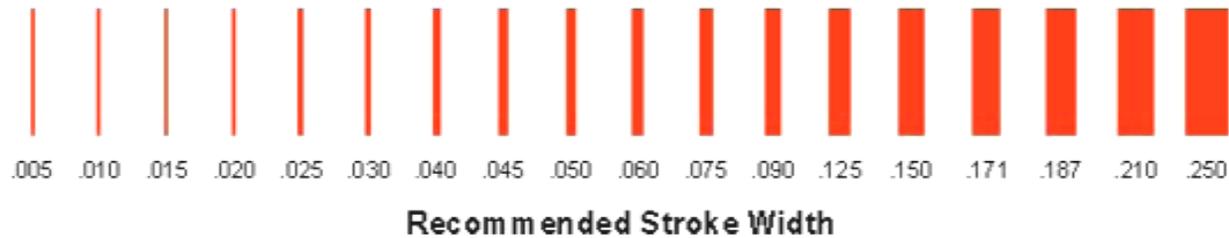
NOTES:



Cutter Knowledge

❖ Cutter Selection Tips

- Select the largest tip side possible for increased cutting speed



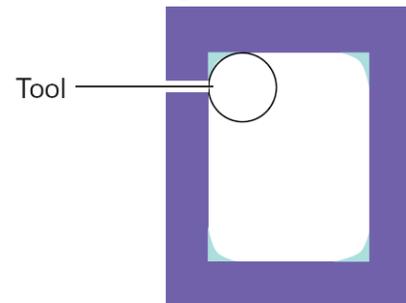
NOTES:



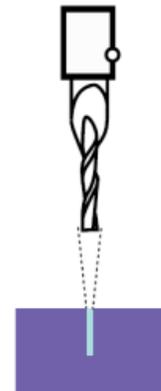
Cutter Knowledge

❖ Cutter Limitations

- A large cutter will leave corners un-cut
 - Use smaller diameter tools for reaching corners



- Can't mill hole or feature smaller than tool diameter



NOTES:



Cutter Knowledge

❖ Common Cutting Problems & Solutions

- **Excessive Chatter**
 - Problem:
 - Vibration and sound are excessive when the tool engages the workpiece
 - Possible Solutions:
 - Reduce cutting forces by reducing speed or depth of cut
 - Increase system rigidity by shortening the length of extension of the cutter or improving your work piece fixturing.
- **Poor Surface Finish**
 - Problem:
 - Work Surface looks uneven and feels rough
 - Possible Solutions:
 - Increase system rigidity (workpiece fixturing)
 - Increase speed (XY & Spindle)
 - Reduce depth of cut (# of passes)
 - Reduce cutting forces
 - Change the cutting overlap for the tool used (ie. .005" overlap for a .010" tool)

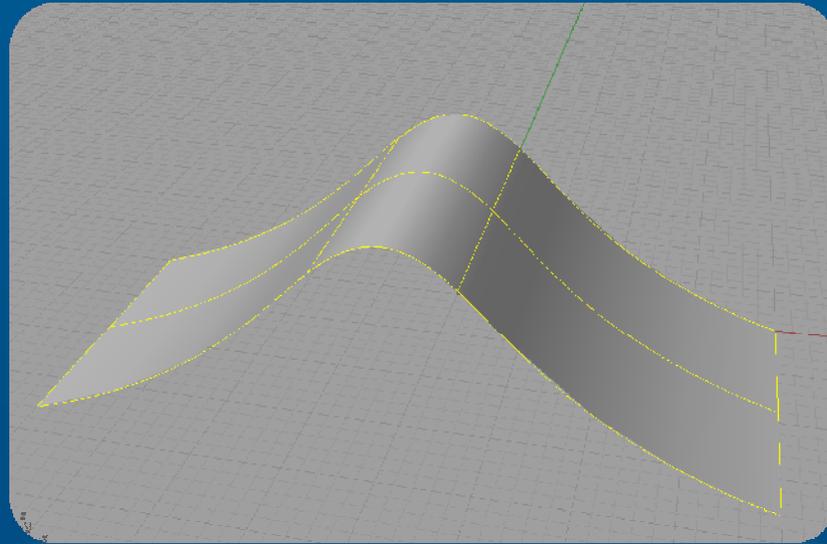
NOTES:



Cutter Knowledge

- **Excessive Wear on End Mill**
 - Problem :
 - Tools is wearing at cutting edges causing poor performance
 - Possible Solutions:
 - Reduce speed – 50% reduction in speed will almost double tool life
 - Increase/Decrease feed – Feed rate that is too light will cause excess rubbing
 - Change tooling – number of flutes, length of cut
 - Change material and or add a coating

NOTES:



File Formats Knowledge

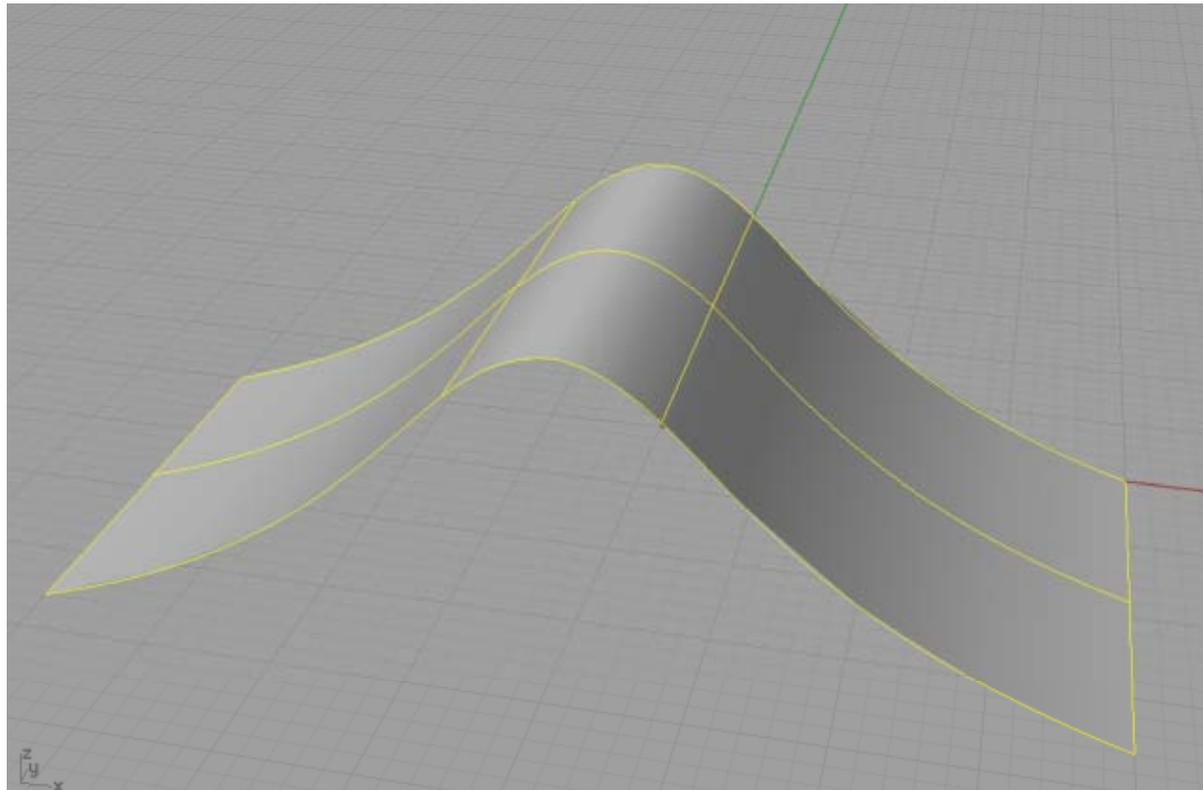


File Format Knowledge

❖ NURBS vs. Polygons (Mesh)

- **NURBS**

- Non-Uniform Rational B-Splines. Nurbs curves are two dimensional curves whose shapes are determined by a series of control points. When a series of curves are joined together, they form a three dimensional Nurbs surface.
- More commonly used to model organic curved surface objects.

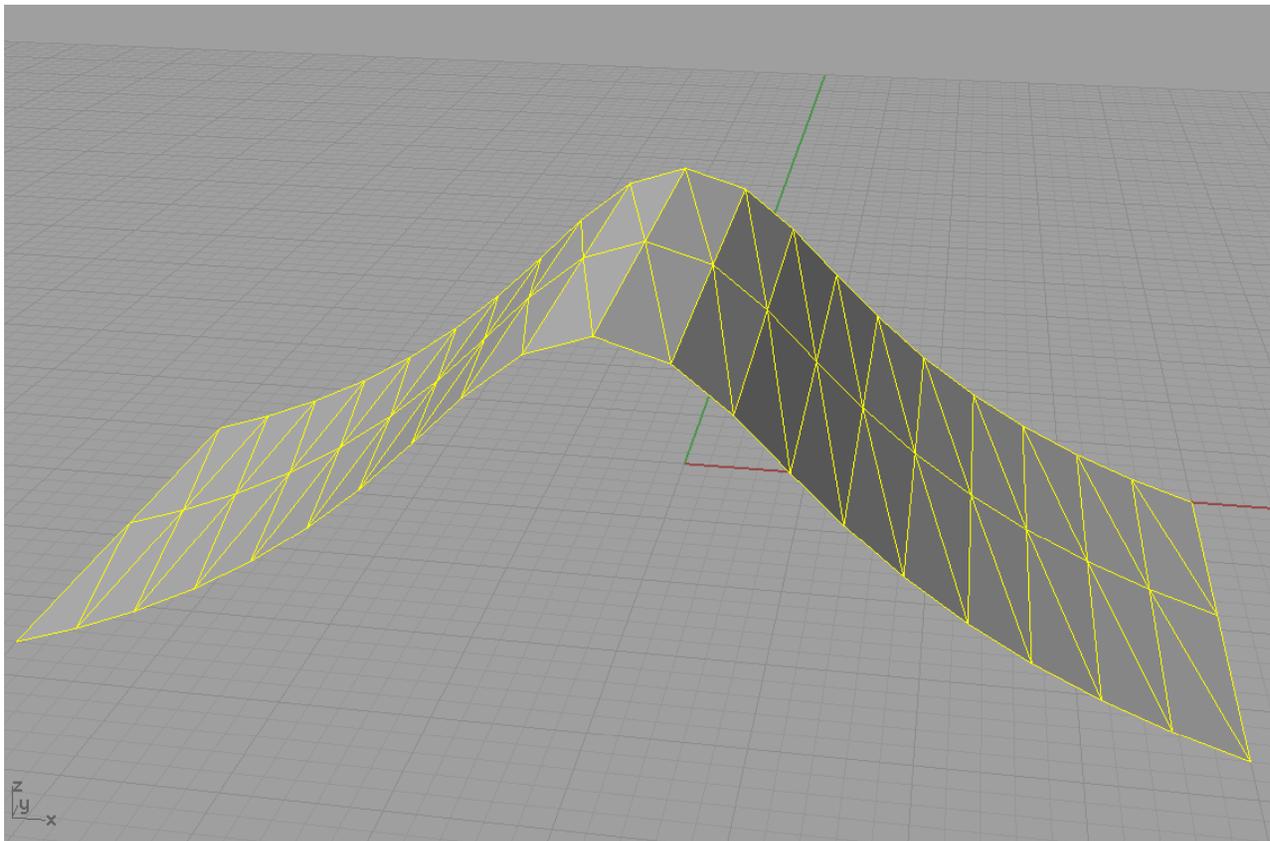


NOTES:



File Format Knowledge

- **Polygon**
 - A geometry element formed by connecting three or more points. A triangle or three point polygon is the simplest form of polygon geometry. It is a quick way of modeling three dimensional objects but does not easily generate smooth curved surfaces



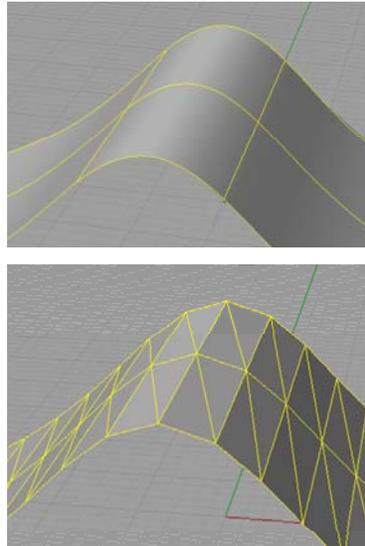
NOTES:



File Format Knowledge

❖ Common Examples

- **NURBS**
 - IGS
 - 3DM
- **Mesh**
 - STL
 - DXF



❖ What Format Does Roland Software Need?

- Roland software packages require STL files to create cutting tool paths. IGS files will also work, however STL files are the most common.
- All CAD or design software will export to STL type files

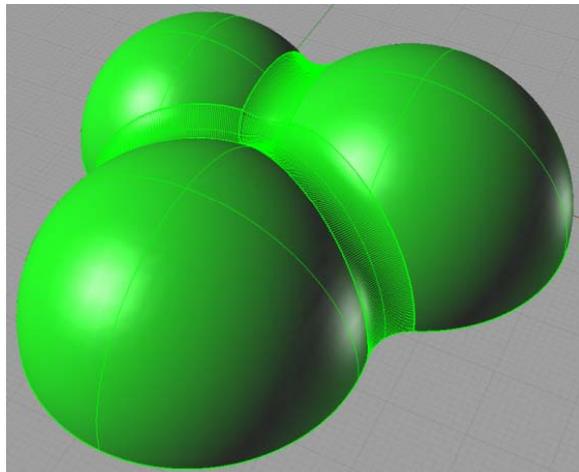
NOTES:



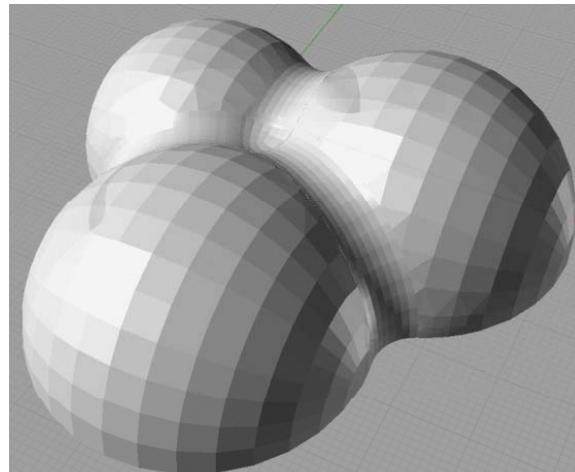
File Format Knowledge

❖ How Much Detail Should be Exported?

- When creating an STL file, you can select the level of detail desired.
- Below are a few examples of different STL details.



Original Surface
File

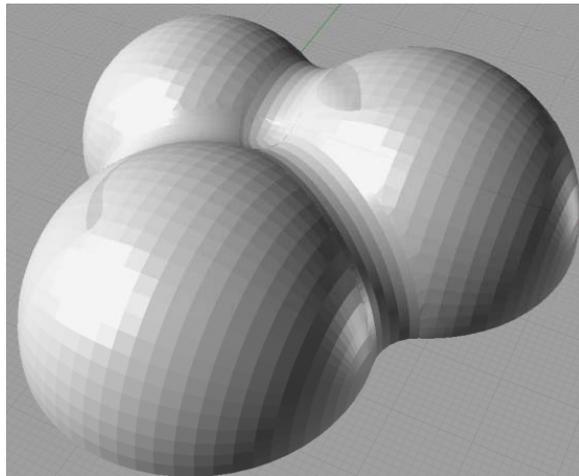


Large Mesh

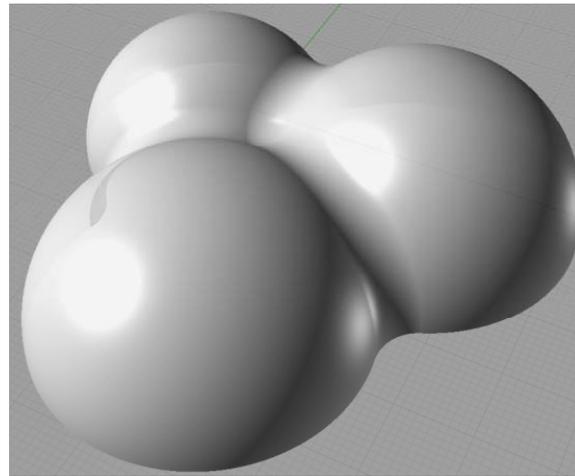
NOTES:



File Format Knowledge



Medium Mesh

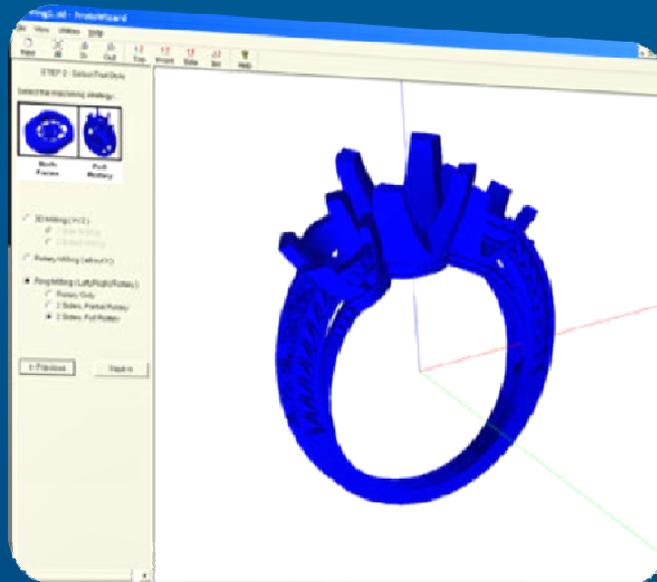


Small Mesh

- The smaller the mesh, the larger the file will be and the longer it will take to cut.
- You want to use a mesh size that is suitable for your parts and needs.

NOTES:

A large, empty gray rectangular area intended for taking notes.

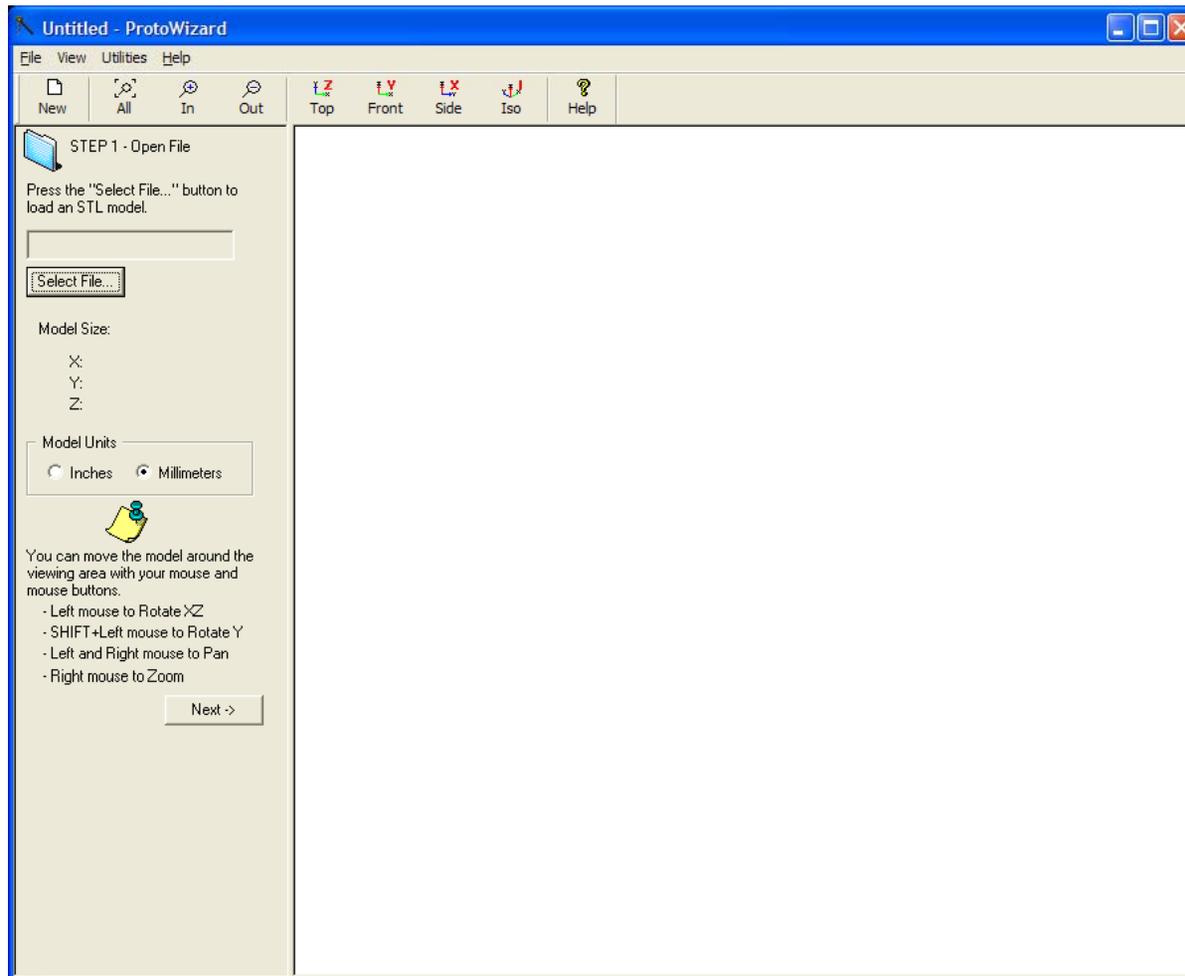


ProtoWizard



ProtoWizard

❖ Main Screen



NOTES:

Main screen when software is started.



ProtoWizard

❖ Preferences

The screenshot shows the "Preferences" dialog box in ProtoWizard. The dialog is titled "Preferences" and has a close button (X) in the top right corner. It is divided into several sections:

- Units:** Radio buttons for "Inches" and "Millimeters". "Millimeters" is selected.
- Fixed Clearance Height:** A checkbox for "Use Fixed Clearance Height" is unchecked. Below it, a text box contains "35.0".
- Sub-divide Mesh (Rotary Only):** A checkbox is unchecked. Below it, a text box contains "2.00" followed by the text "degrees".
- Toolpath Generation:** A group of settings including:
 - Tolerance: 0.0254
 - Raster Pixs: 20
 - Start Distance: 2.54
 - Margin Offset: 0.00
 - Finish Stock: 0.000
 - Optimize Toolpath:
 - Fix Surface Normals:
- Tool Stepover Defaults:** A group of settings including:
 - Fine: 0.04
 - Medium: 0.12
 - Course: 0.25

At the bottom of the dialog are two buttons: "OK" and "Cancel".

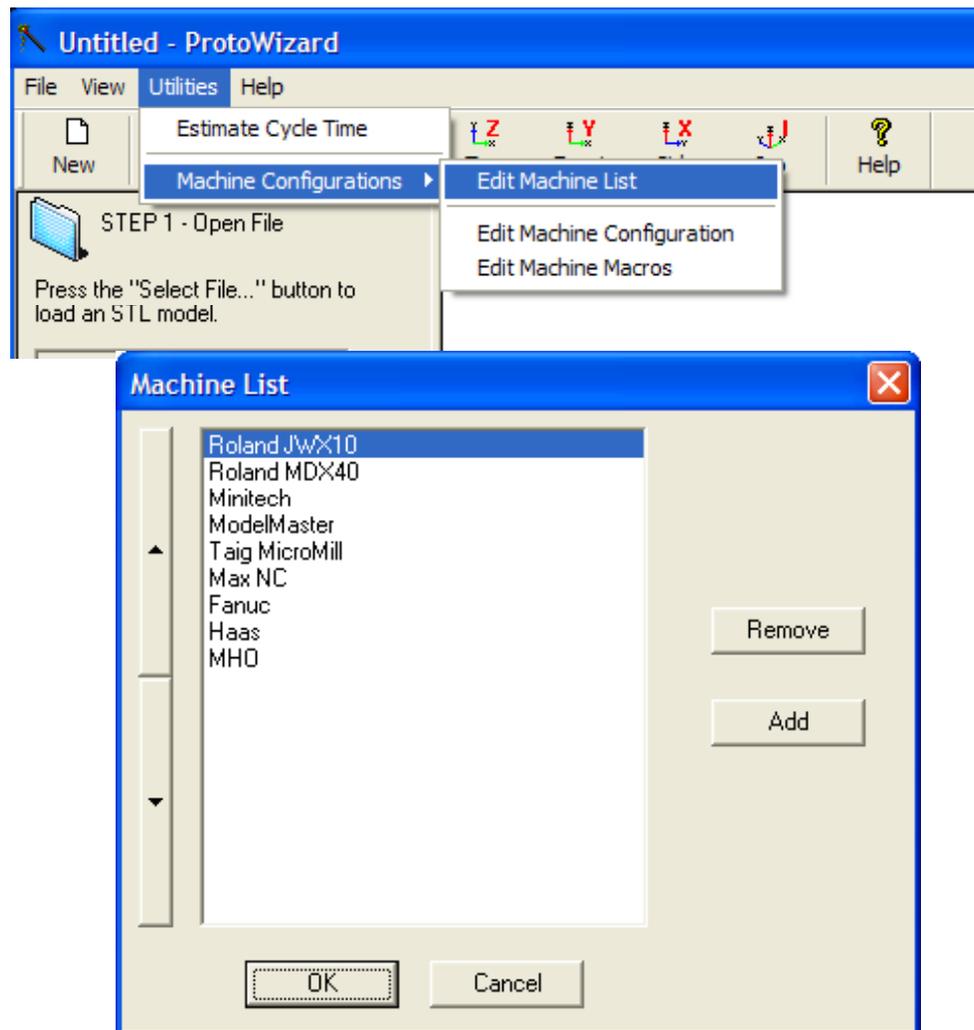
NOTES:

- You can change your preferences by going to File and selecting Preferences.
- Fixed Height**, machine will move quickly to this height.
- Sub-divide Mesh**, breaks up large triangles to smaller ones for a smoother finish.
- Toolpath Generation, various options
- Tool Stepover Defaults, display various options for setting toolpath stepovers. Leave default for now.



ProtoWizard

❖ Machine Selection



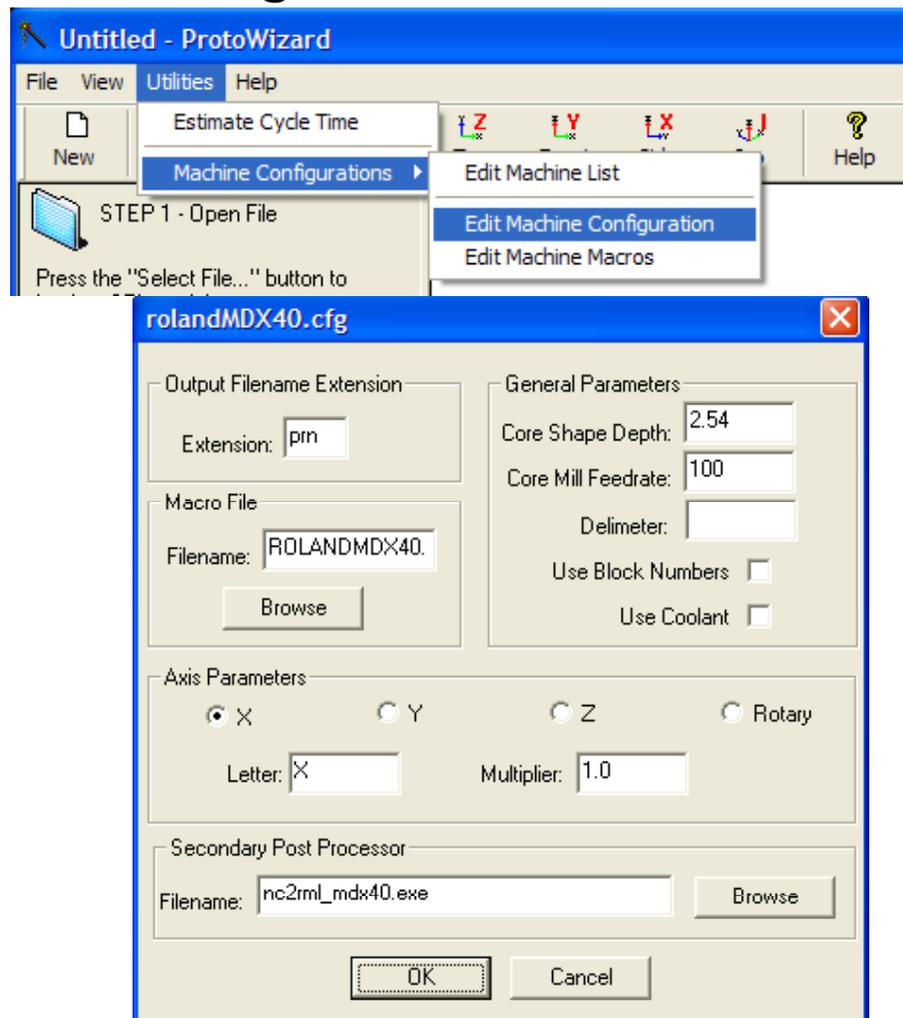
NOTES:

- Lists all machines



ProtoWizard

❖ Machine Configuration



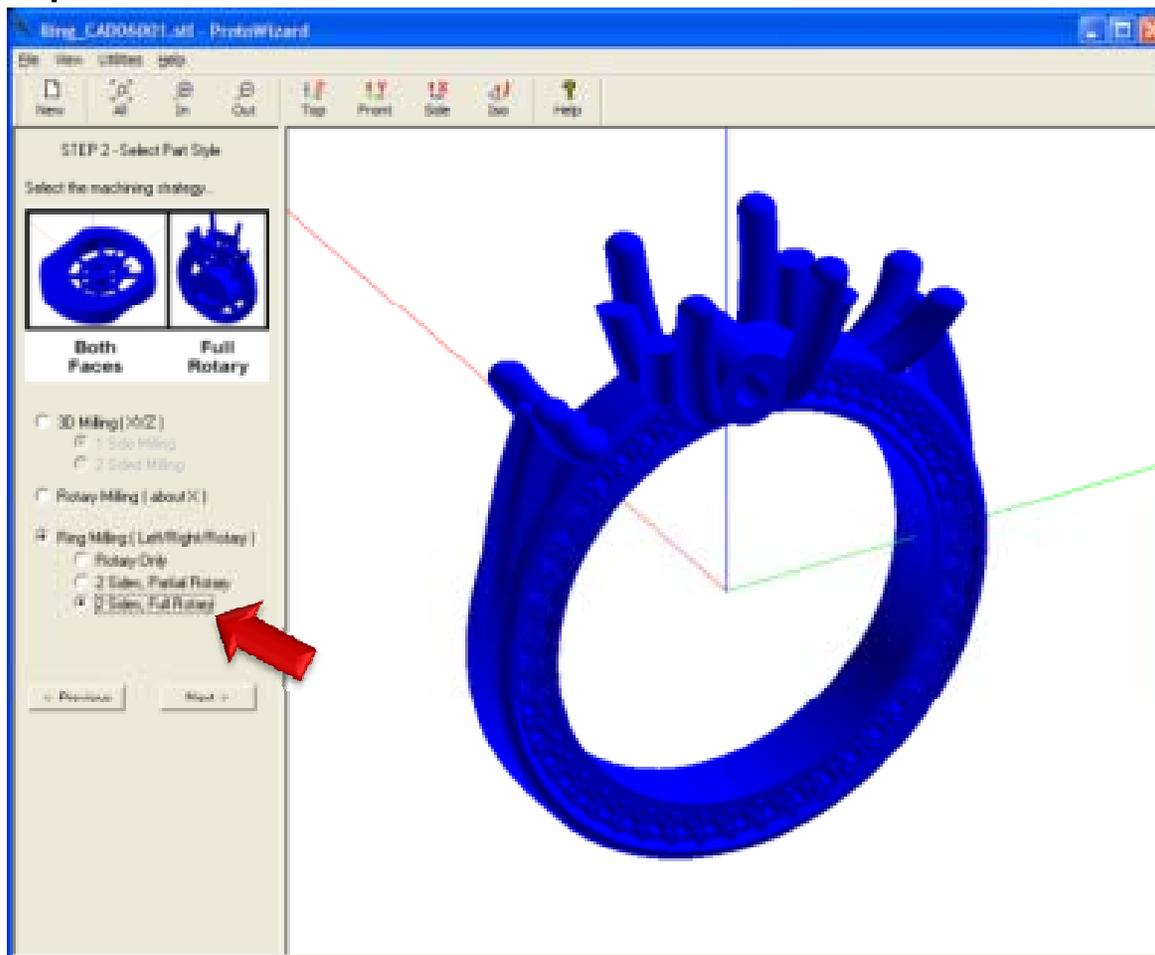
NOTES:

- Select correct machine Macro File



ProtoWizard

❖ Step 2



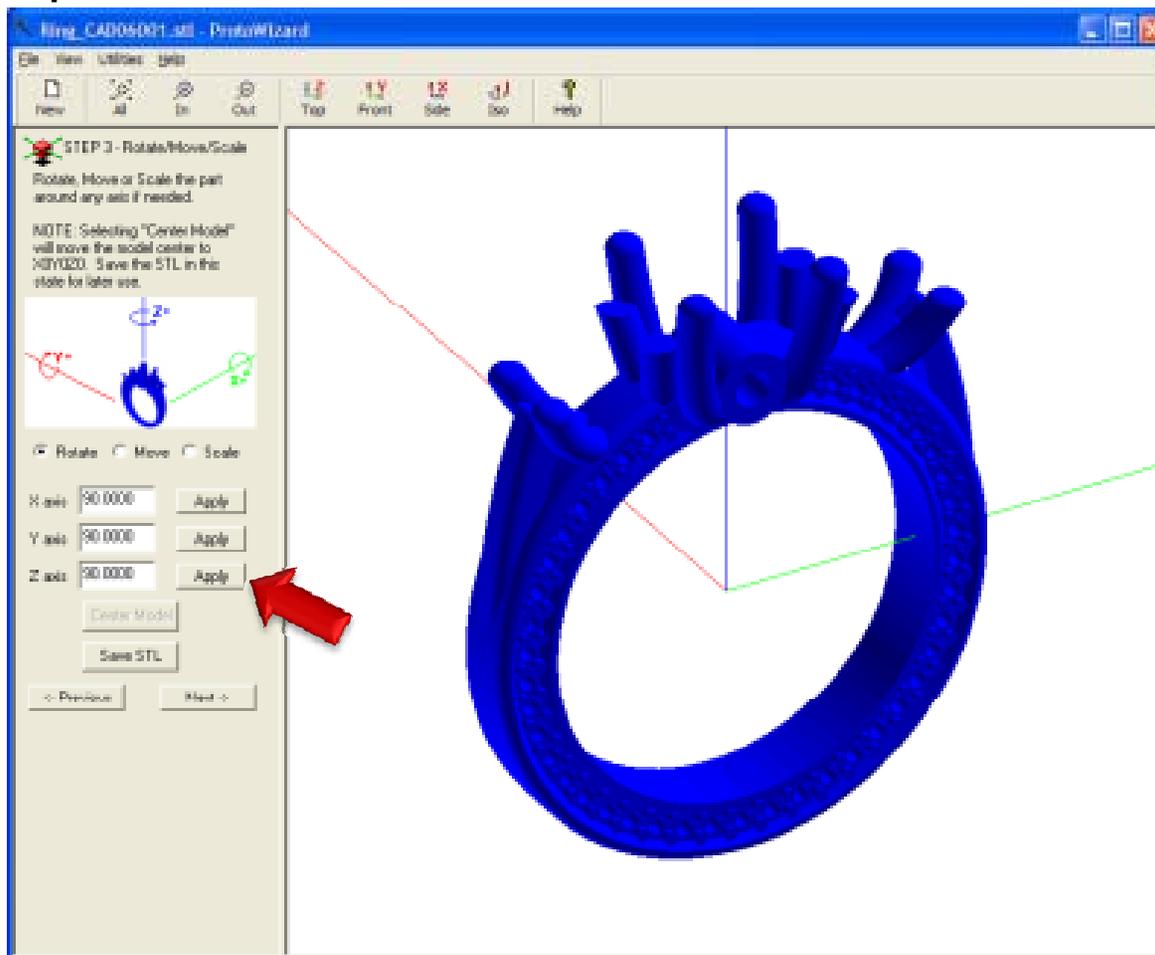
NOTES:

Select appropriate milling method.



ProtoWizard

❖ Step 3



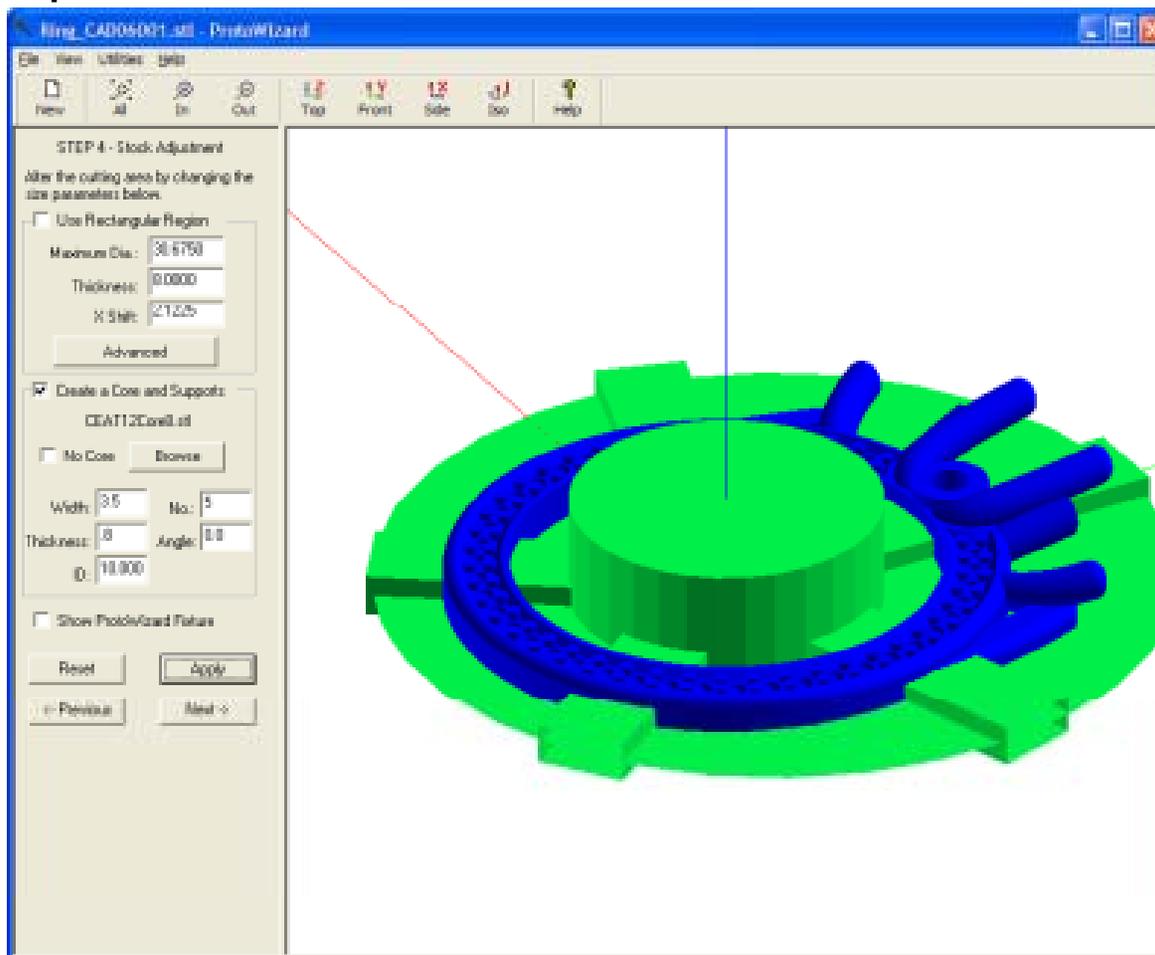
NOTES:

Check orientation of ring to match image in small screen. In this example, the ring needs to be rotated along the blue line or Z-Axis. Press "Apply" once next to the Z-Axis.



ProtoWizard

❖ Step 4



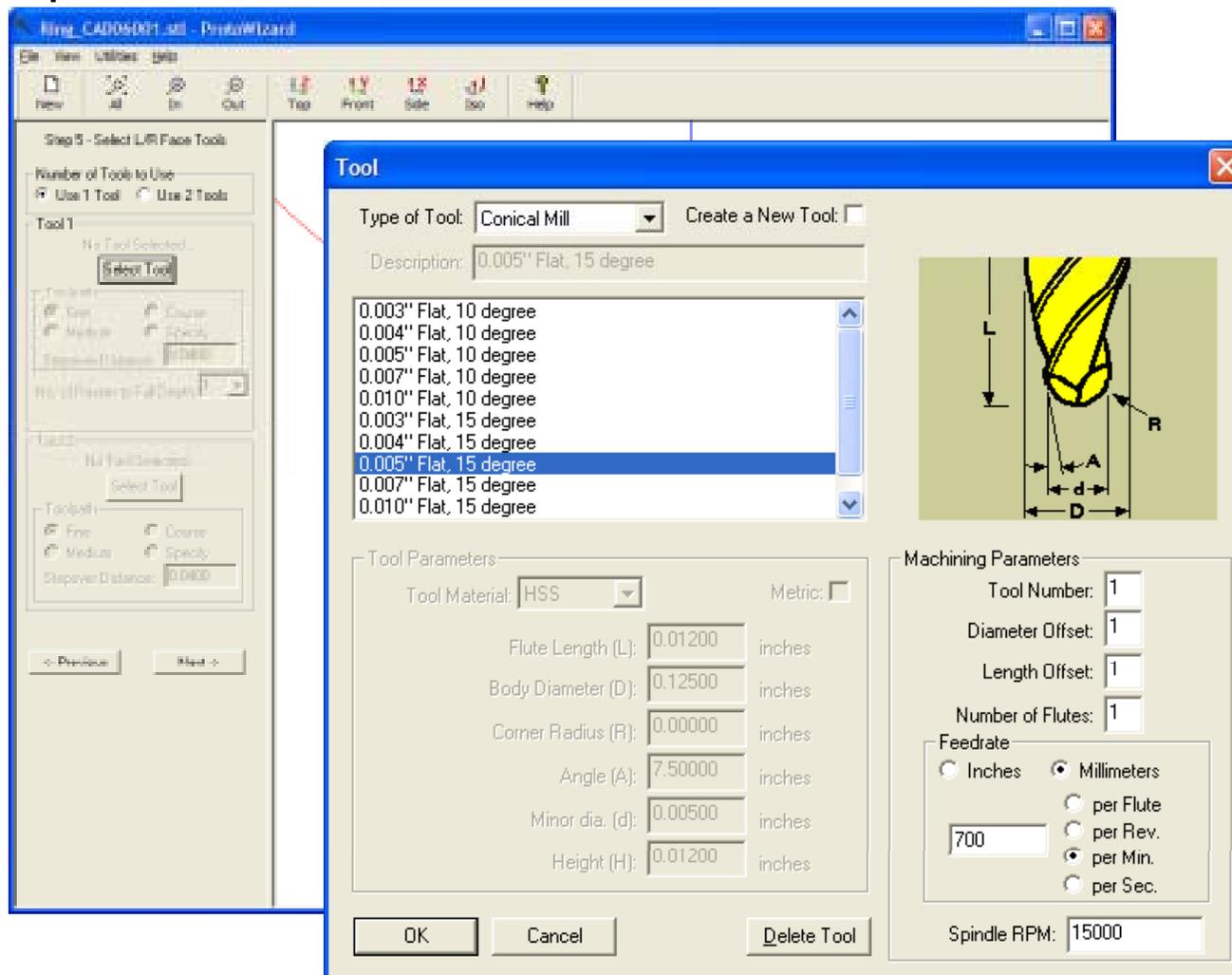
NOTES:

- For rings, this is where you need to add the core support (always use 8mm core) and core supports.
- For core supports, 3.5mm width, .8mm thick, and 5 to 6 supports is a good start.



ProtoWizard

❖ Step 5



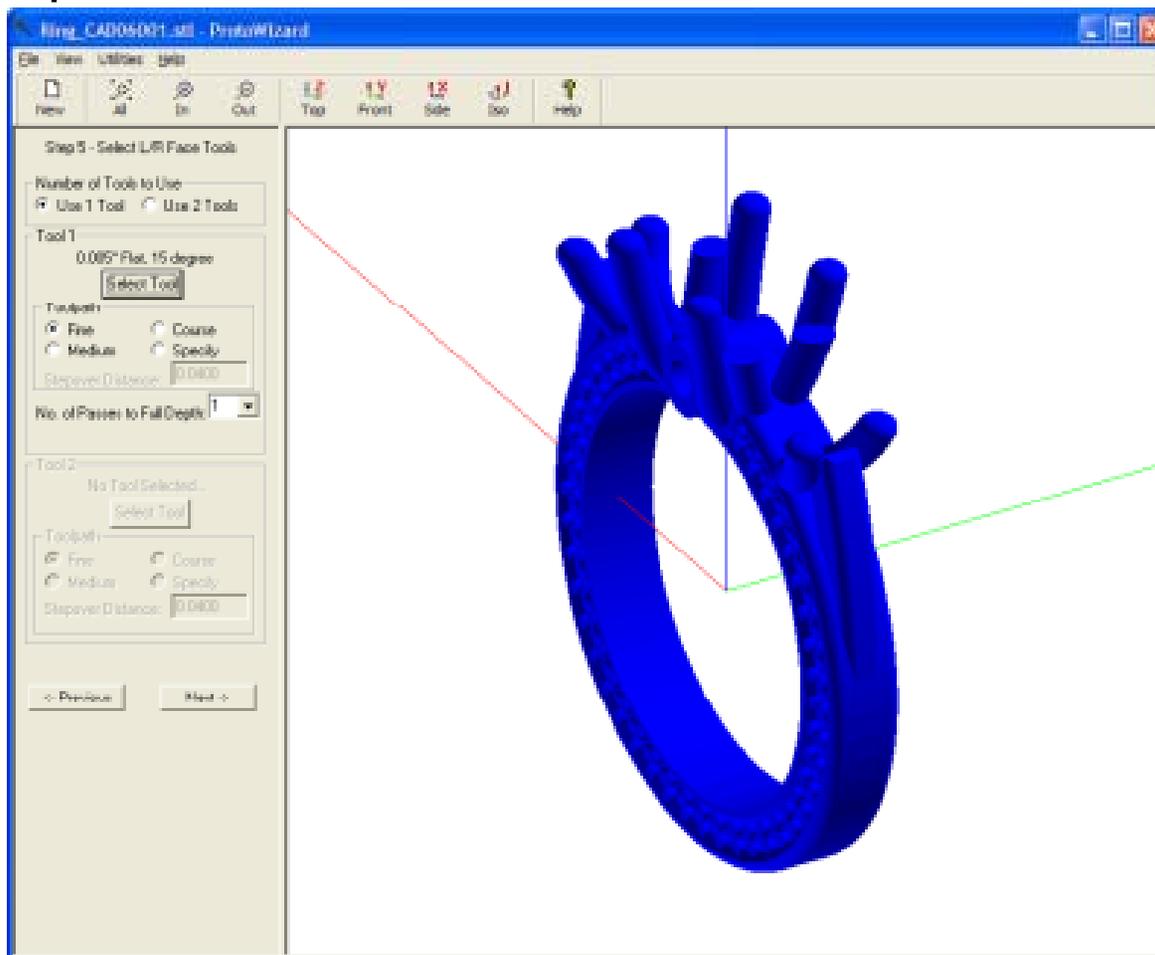
NOTES:

Select tool to use.
For smaller, single flute, conical tools, about 700mm/min and 15,000 rpm's is a good starting point.



ProtoWizard

❖ Step 5 Cont.



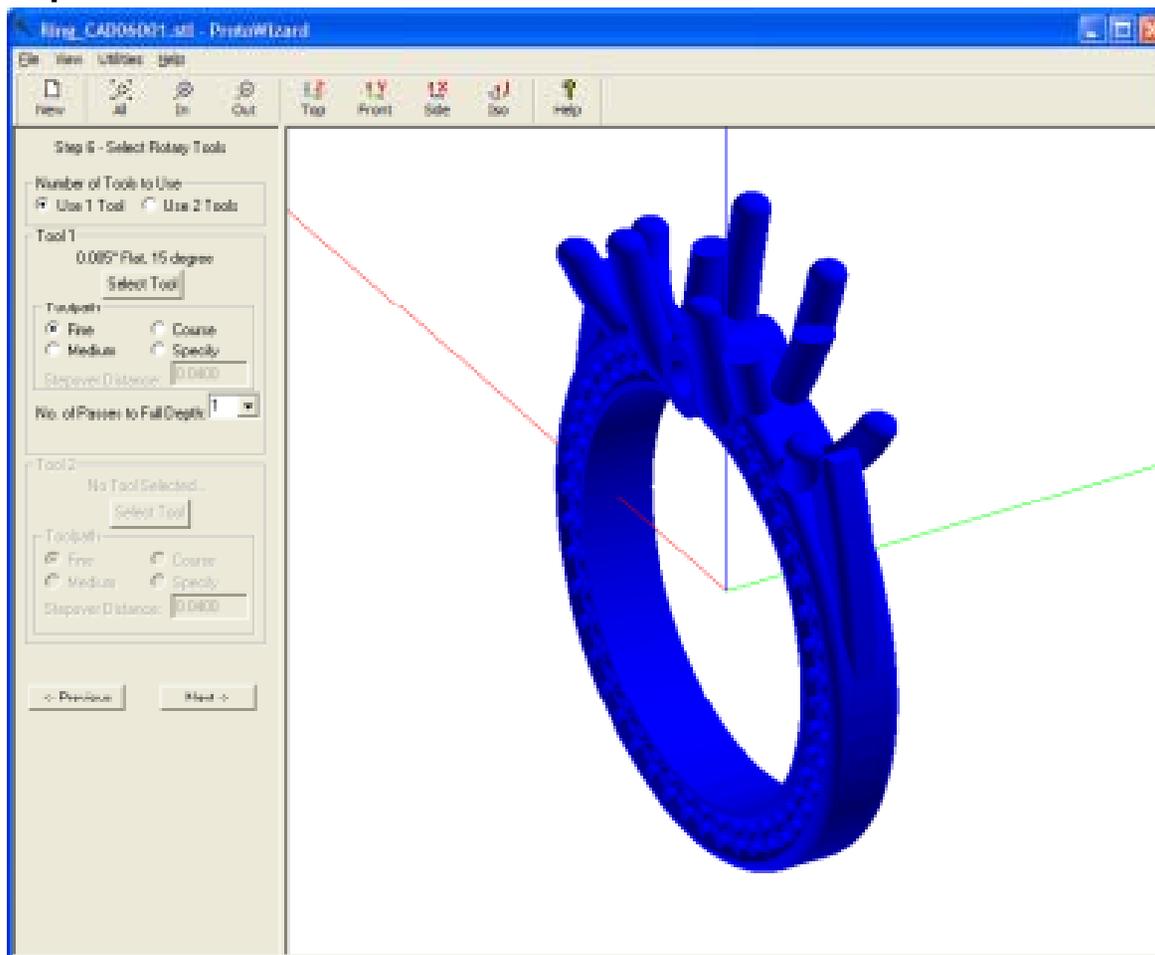
NOTES:

- Select toolpath type.
- Fine or 0.04mm stepover is a good starting point.



ProtoWizard

❖ Step 6



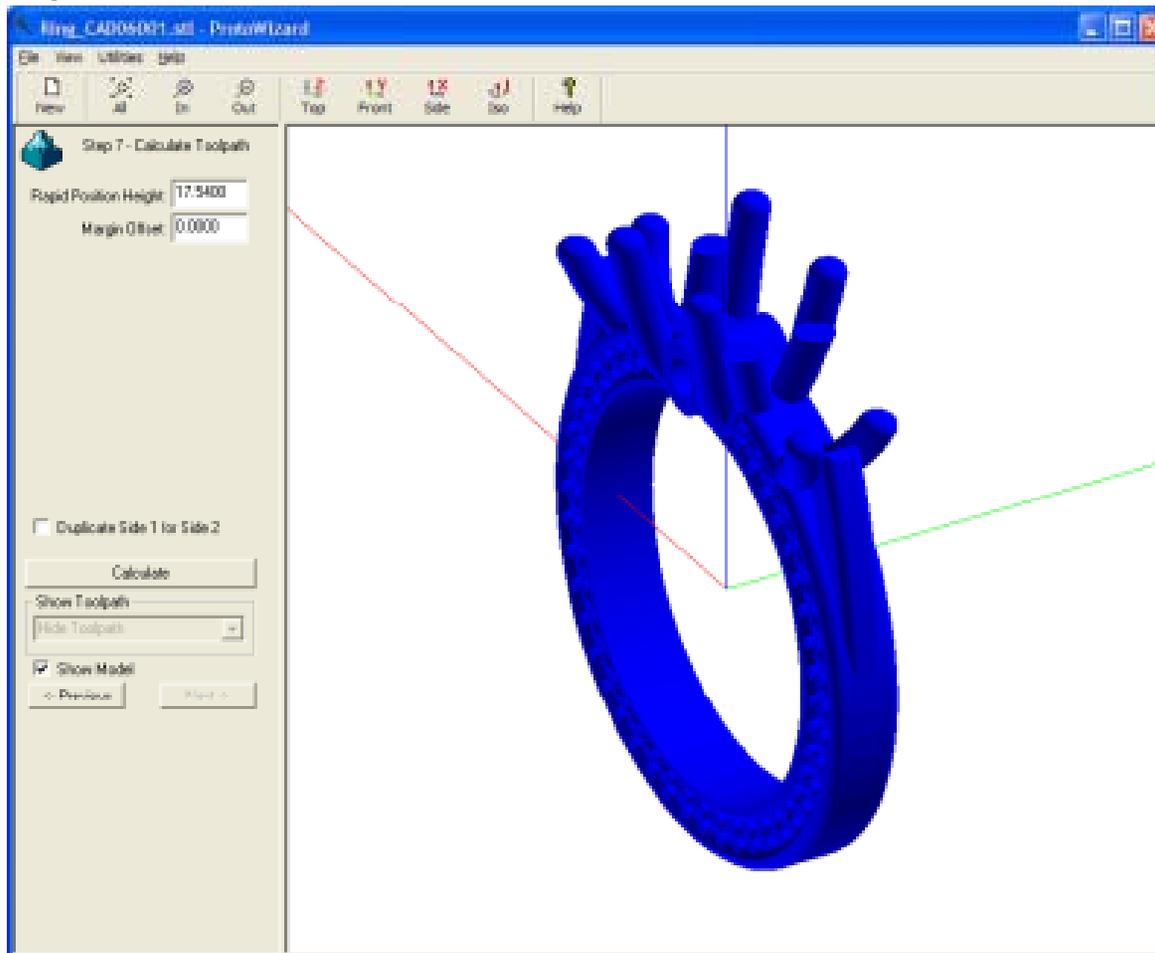
NOTES:

- Select rotary tooling
- Normally the previously used tooling is best.



ProtoWizard

❖ Step 7



NOTES:

- You can change the rapid position height or margin offset.
- Normally these are not changed.
- Click Calculate to process toolpath.
- Once finished, click Next.



ProtoWizard

❖ Step 8

Ring_CAD06001.stl - ProtoWizard

File View Utilities Help

New All In Out Top Front Side Iso Help

Step 8 - Create CNC File

Machine Post Processor:
Roland JWx10

List of Operations:
Left Toolpath - Tool 1
Right Toolpath - Tool 1
Rotary Toolpath

Create CNC File

List of Files Created:

Edit Cycle Time

< Previous

Post Operations

NOTE: You can add Macros defined in your Post Processor to your list of operations. You can also change the order of the execution of each item in the Operation List. Click OK to continue.

Operation List:
Left Toolpath - Tool 1
Macro - ROTATE180
Right Toolpath - Tool 1
Macro - ROTATEHOME

Macro List:
START
STOP
TOOL
NOTOOL
ROTATE180
ROTATE
ROTATEHOME
Pw CORE

Save As

Save in: NC Files

8mmCore.prn
8mmCore_Slow.prn
10mmCore.prn
15mmCore.prn
20mmCore.prn
25mmCore.prn
Complete_005_Tube.prn
Ring3_rotary_003.prn
Ring3_sides_003_W10.prn
RotaryAlignment.prn
SA_06001_Rotary_TEB10-005.prn
SA_06001_SIDES_W18_TEB10-005

File name: Ring_Sides_W10_005

Save as type: pm File (*.pm)

Save Cancel

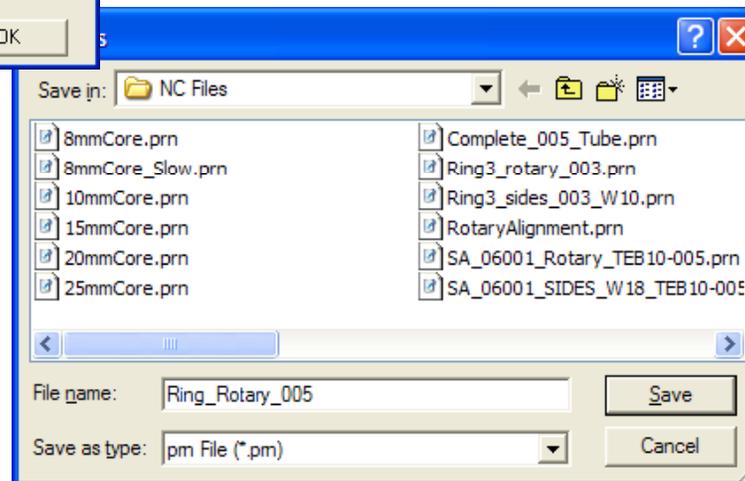
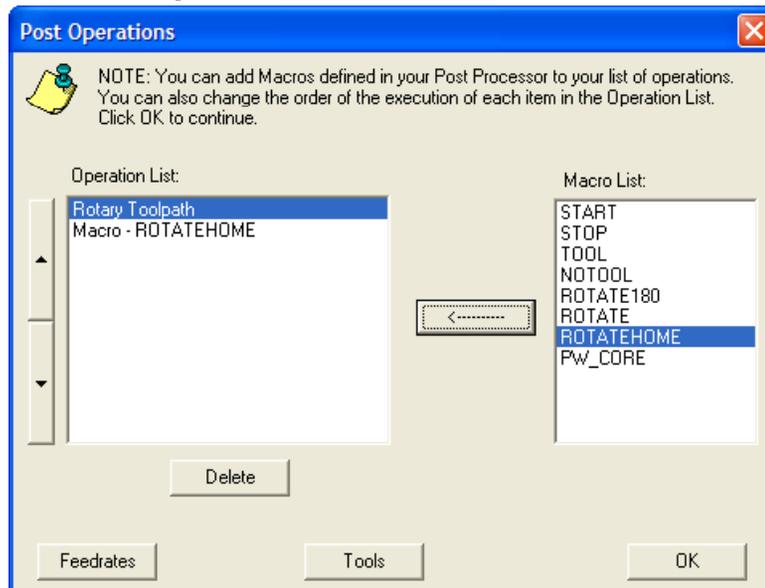
NOTES:

- Select correct machine, either MDX-40 or JWx-10.
- Select appropriate toolpaths to create files.
- Select Left and Right toolpaths together.
- Add Rotate 180 and Rotate Home.
- Arrange in the order shown.
- Click save and save file.
- Save in a manner that will be easily identified.
- For example Name_ProcessType_WaxThickness_ToolUsed



ProtoWizard

❖ Step 8 Cont.

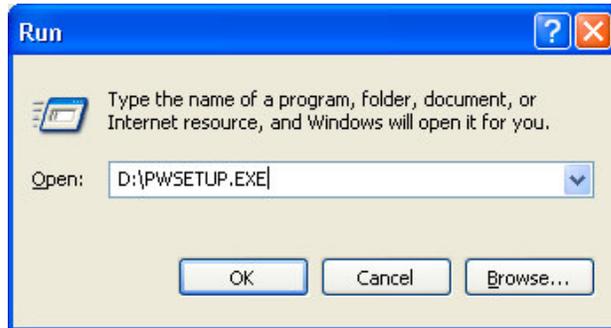


NOTES:

- Select Rotary toolpath.
- Add Rotate Home.
- Arrange in the order shown.
- Click save and save file.
- Save in a manner that will be easily identified.
- For example
Name_ProcessType_ToolUsed

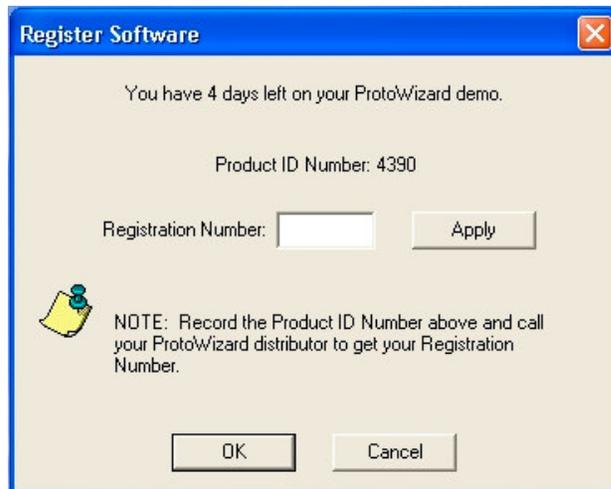
ProtoWizard Software

1



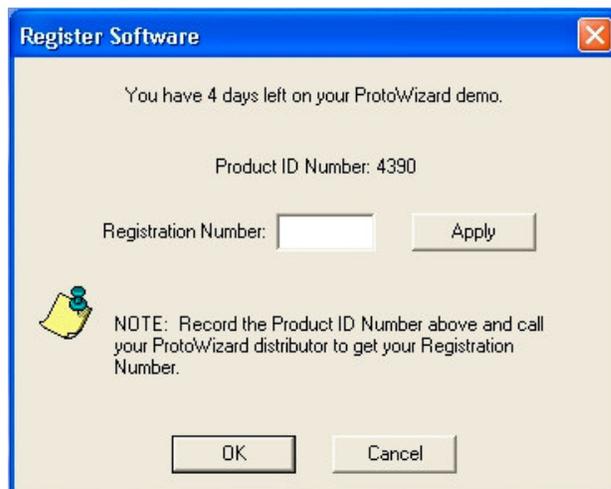
Before inserting the ProtoWizard CD, close all programs. Insert the ProtoWizard CD in your computer, wait for the set up menu to appear. If the set up menu does not appear, install ProtoWizard manually by selecting the windows START button and then RUN. Press the BROWSE button and select the PWSETUP.EXE from the CD. Press OK to run the installation and follow the instructions.

2



To register ProtoWizard, you must first obtain a registration number from your dealer. You must provide the dealer with the Product ID Number as shown in ProtoWizard's startup screen. You may also get this from CEAT directly by emailing your Product ID Number and proof of purchase to support@protowizard.com.

3



Using the Product ID Number, the dealer will obtain a Registration Number on your behalf. You may continue using ProtoWizard for 10 days before you MUST put in the correct Registration Number. Enter the Registration Number and press Apply, then OK to continue. You will not see this screen again provided the Registration Number is correct. If you have any problems, please call your dealer. If your dealer cannot assist you, contact support@protowizard.com.

ProtoWizard Hardware

1



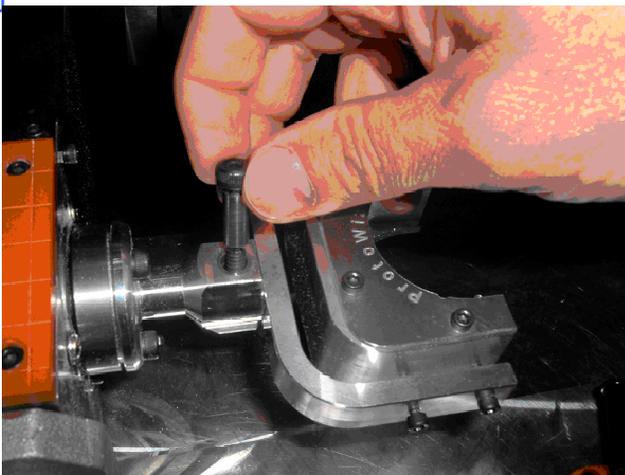
Using the three screws provided, carefully install the Rotary Adapter into the rotary table face. This should be a snug fit. Caution should be taken to not have this crooked. Gently rotating the adapter in the counter bore of the rotary table will help. Insert all three screw finger tight before tightening with the provided allen wrench.

2



Carefully insert the 3-Sided Flip Fixture into the Rotary adapter making sure the holes align in the center of the 2 parts.

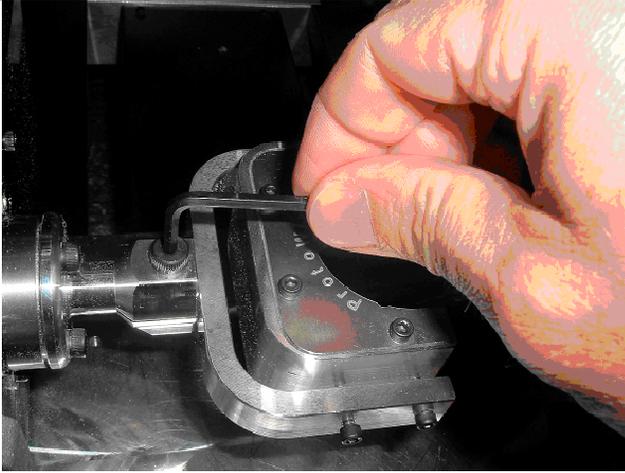
3



Next insert the shoulder bolt provided into the top hole of the adapter and though the hole in the flip fixture. Then thread the bolt into the bottom of the adapter.

ProtoWizard Hardware

4

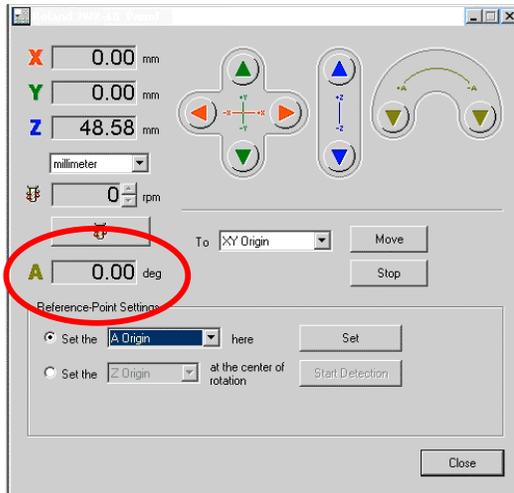


Finally, tighten the bolt with the allen wrench provided.

CAUTION: Do not over tighten the bolt. A gentle “snug turn” is all that is required.

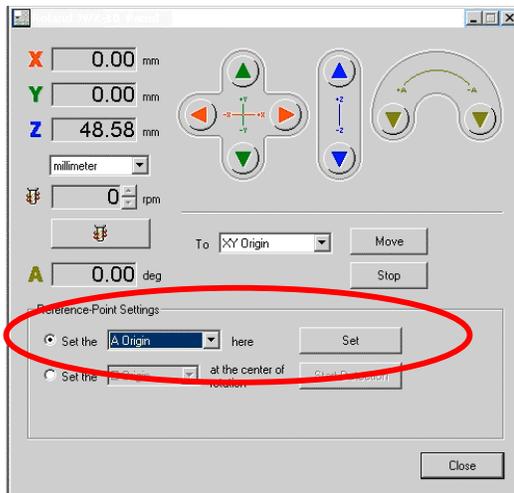
Roughly Align A-Origin

1



The object of this procedure is to set the fixture horizontally. If the fixture is set horizontally, then indicating Z on either edge should yield the same Z number. Therefore, what we will do is touch both edges of the fixture and then rotate the A axis a little until the Z values are the same on both sides.

2

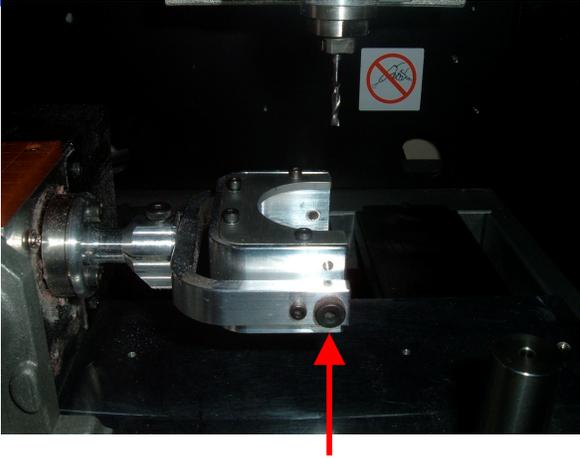


At this time, it is not totally necessary to perfectly align the rotary table. We mostly want to simply set the A Origin so the ProtoWizard Flip Fixtures in the horizontal position. This can be achieved by simply visually setting the A Origin horizontally.

Set the A Origin as shown.

Roughly Align X-Origin

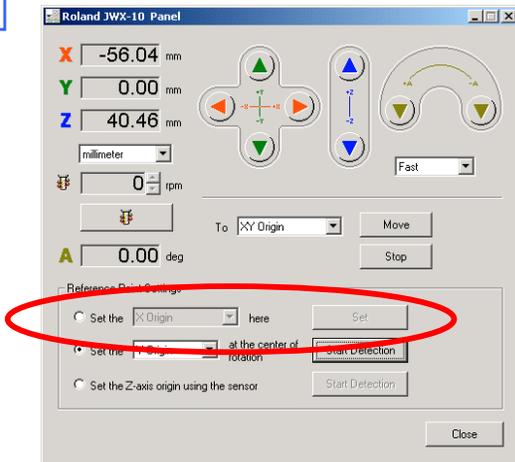
1



The objective of this step is to roughly setup the X Origin so we can run a test part. This test part will be used for the final calibration.

Jog the X axis out so that the tool is located between the two outer pivot screw heads as shown. Estimating this location is close enough.

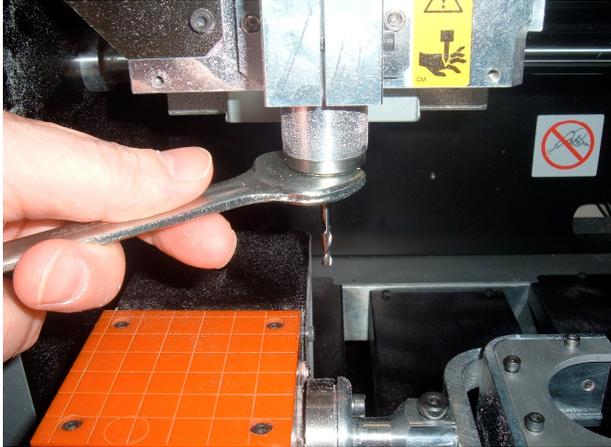
2



Set the X Origin as shown.

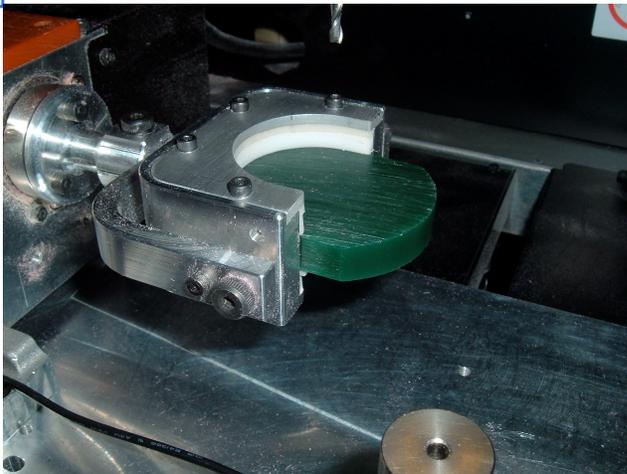
Running the Test Program

1



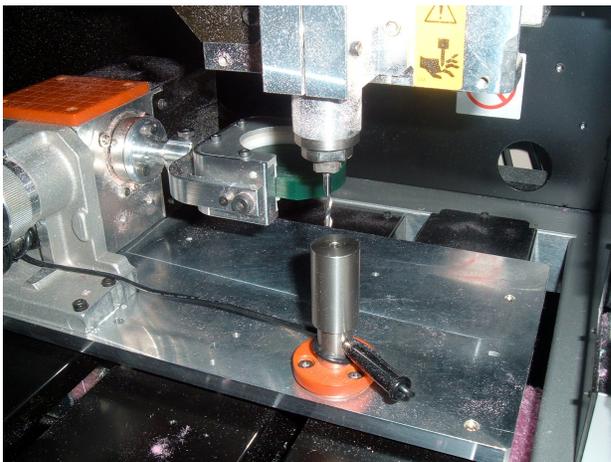
Insert the 1/8" Flat End Mill into the spindle. Always leave approximately 20mm of the tool exposed.

2



Insert a 10mm wax blank. Use both a thick and thin spacer on both sides to center the blank.

3



With the machine out of View mode (the View light should be off), start the Z Origin detection

Running the Test Program

4



Start the Dropout.exe program.

Open the RotaryAlignment.prn file. Press Output to run the program.

5



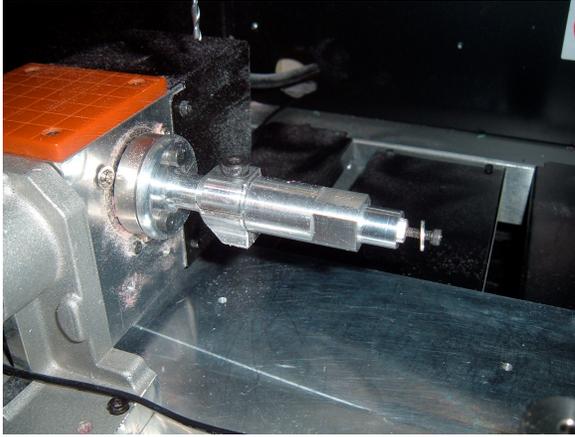
Once the program has completed and the spindle has stopped, remove the part from the wax by breaking it from the supports holding it in the blank wax

NOTE:

This program is used to setup the 8mm Core file. Therefore, you should be able to measure the thickness of this part after it has been removed from the wax blank. The thickness should be 8mm +/- 0.05. If you are not in this range, the Z Origin calibration has not been set properly. Contact Roland immediately and do not proceed until this problem has been corrected.

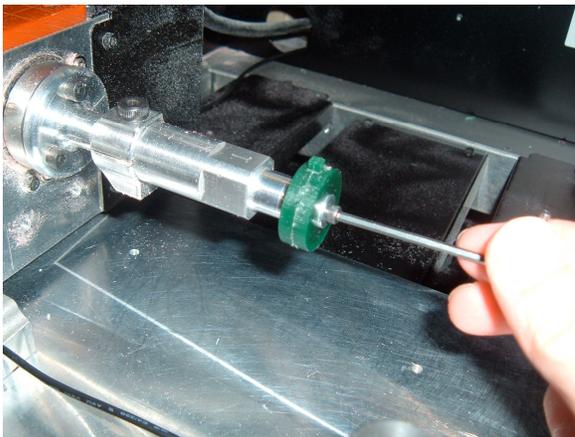
Align X and A Origins

1



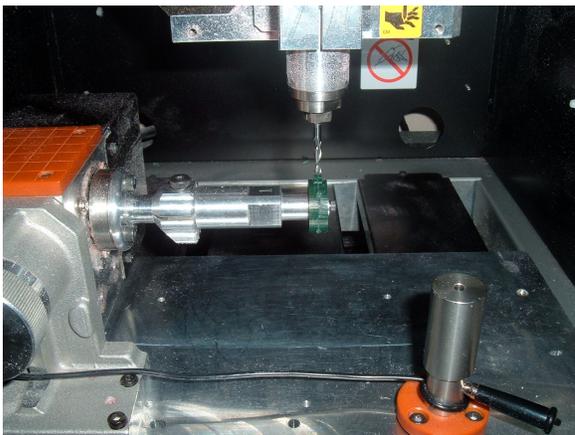
Remove the ProtoWizard Flip Fixture and install the ProtoWizard Ring Arbor.

2



Place the triangle cutout of the test part on the Ring Arbor's triangular nose and secure it with the washer and screw provided. Lightly tighten the screw with the hex wrench provided.

3



With the Y and A axis at 0.000, jog the X axis directly over the 1/8" square head on the sample part.

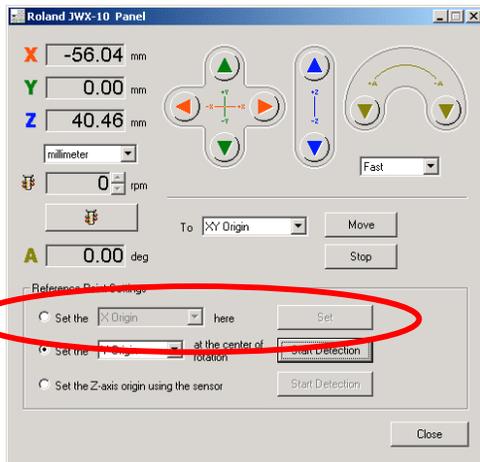
Align X and A Origins

4



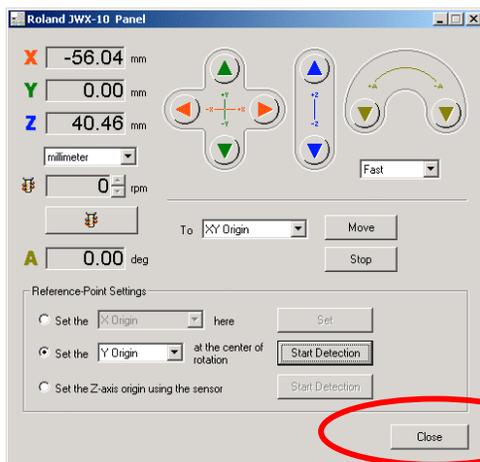
Jog the A axis to rotate the part to align the 1/8" square under the 1/8" tool.

5



With both the X and the A axis perfectly aligning the 1/8" tool over the 1/8" square, set the origins of both X and A as shown.

6

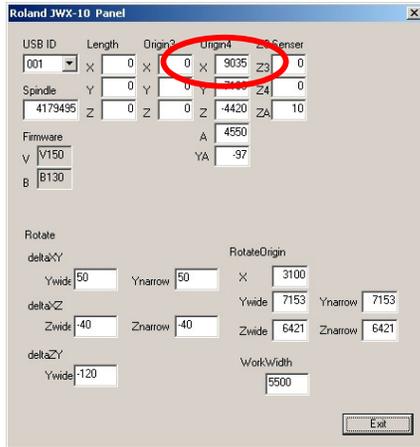


While holding down the ALT key on your keyboard, press the CLOSE button on the Panel.

A new window will popup on the screen.

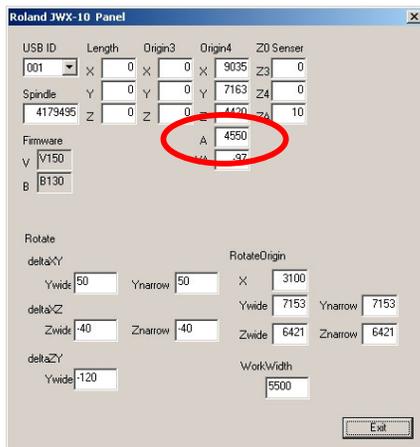
Align X and A Origins

7



This hidden panel contains all of the offsets stored on the machine's internal memory. The Column labeled "Origin4" contains our "X" origin number. Write this number down or printout this screen for safe keeping. This "X" origin is for the Ring Arbor when using a 8mm core.

8



Note the "A" origin as well so you can return to it at a later time if needed.

Now you are ready to make a full 3 sided ring.

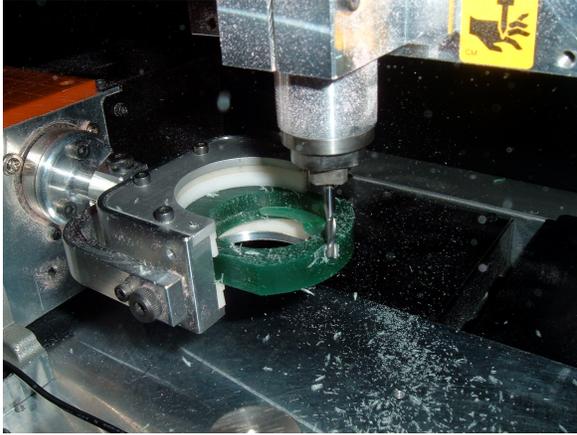
NOTE:

If you remove the ProtoWizard Rotary Adapter for any reason, the alignment procedure should be redone from the start to insure proper alignment as the Rotary Adapter may have shifted from its original position.

Also, this alignment **MUST** be used only with 8mm core files. Although ProtoWizard supplies other core file sizes, the 8mm core is the most versatile and can be used for all ring applications. Should you switch to another core thickness, for example 10mm, an adjustment in the X origin will be required.

Align X for 90° Flip

1



Using the 10mm piece from the previous alignment procedure or a new piece, load the XAlignmentTest.prn file in the dropout program.

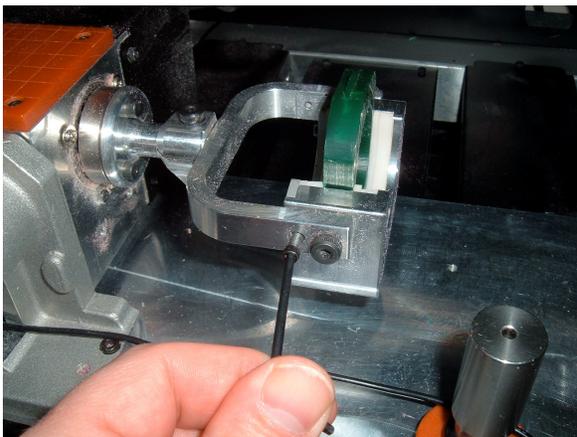
Using the 1/8" End mill, this program will mill a channel on both sides of the wax leaving a 1/8" thick web.

2



Using the hex wrench provided, loosen the small screw on the left of the pivot bolt. Back this out until the inside fixture can be pulled toward you and flipped vertical.

3



Push the inside fixture toward the back until it seats and re tighten the screw.

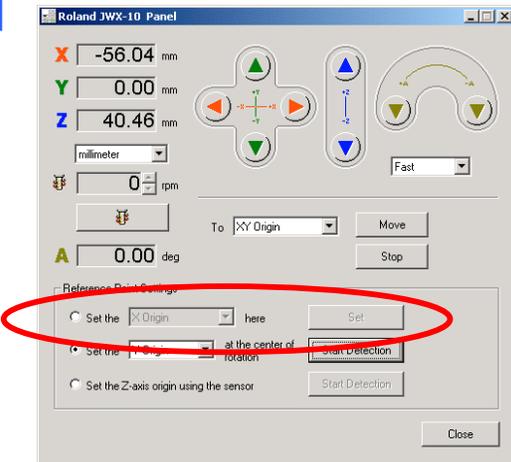
Align X for 90° Flip

3



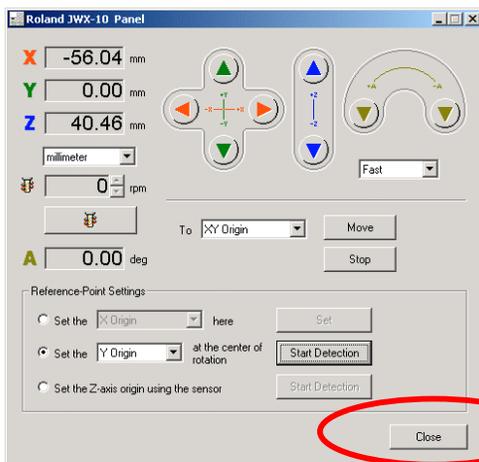
Jog the X axis over the center of the 1/8" channel. Center the 1/8" Tool directly over the 1/8" channel by jogging only the X axis.

4



With the X perfectly aligning the 1/8" tool over the 1/8" channel, set the origins of the X.

5

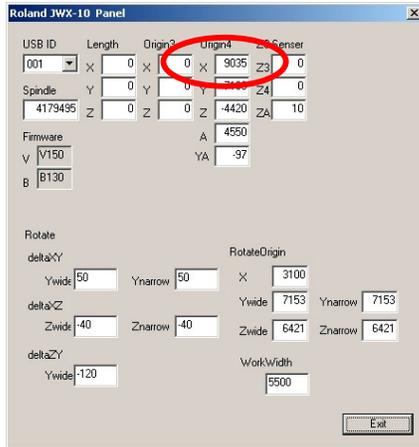


While holding down the ALT key on your keyboard, press the CLOSE button on the Panel.

A new window will popup on the screen.

Align X for 90° Flip

6



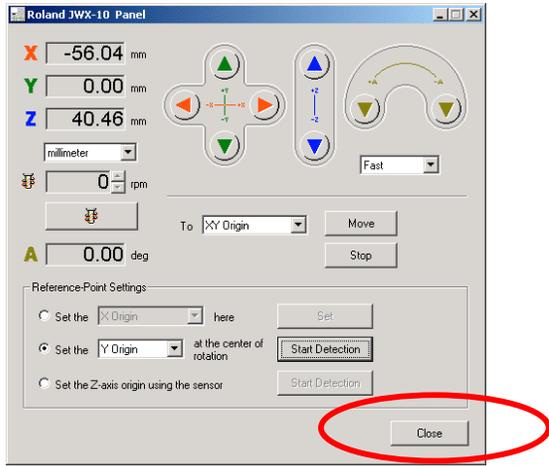
This hidden panel contains all of the offsets stored on the machine's internal memory. The Column labeled "Origin4" contains our "X" origin number. Write this number down or printout this screen for safe keeping. This "X" origin is for the 90 Flip when cutting Heads or Partial Rotary Rings.

NOTE:

The "X" Origin for the 90° Flip is a different number than that of the Ring Arbor set previously. You must save both of these numbers so that you can return to them easily. See the next section on how to reset or adjust an offset.

Resetting the X Offset

1

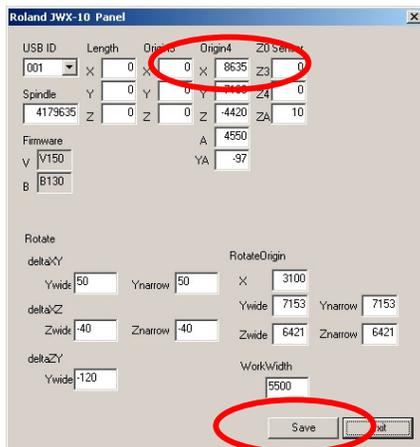


While holding down the CTL, ALT and SHIFT keys on your keyboard, press the CLOSE button on the Panel.

A new window will popup on the screen.

NOTE: You **MUST** hold down all three keys simultaneously.

2

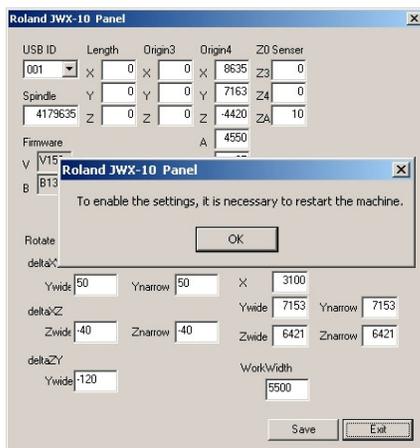


Now you can SAVE any changes made to the offsets.

Normally, changing the “X” offset in the Origin4 column allows you to switch to a different X offset.

Press the SAVE button to save your changes.

3



You must power off the machine for the new settings to be loaded and take effect.



MDX-40 & JWX-10 Maintenance



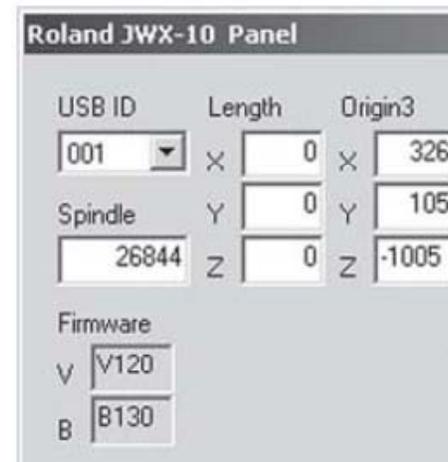
Maintenance

❖ Recommended Maintenance Items

- Daily
 - Remove chips and dust
- 1,000 hours
 - Lubricate guide rails (21675102)
- 2,000 hours
 - Spindle & Spindle Belt (ZS-40)

❖ Hour firmware check

- Alt + click Close on vpanel
- Spindle time is in seconds
- $(\text{spindle time})/3600 = \text{hours}$
- Firmware versions listed



NOTES:



Maintenance

❖ Daily Cleaning

- Use inexpensive paint brush
- Wipe away visible chips & dust
- Vacuum away all remaining chips
 - Wet dry vac works great



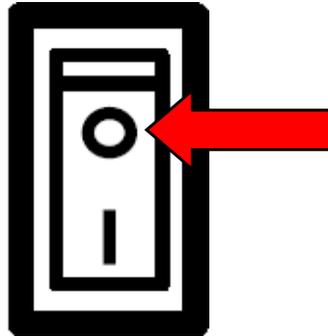
NOTES:

A large, vertical rectangular area with a light gray background, intended for taking notes. It is divided into four horizontal sections by thin white lines.



Maintenance

- ❖ Lubricate guide rails
 - Turn off main power to the machine.



- Clean guide rails using a clean lint free rag.



NOTES:



Maintenance

- Clean outside of bushings using clean lint free rag.



- Place small amount of grease (Part # 21675102) on finger and spread a **light** coating on the guide rails.

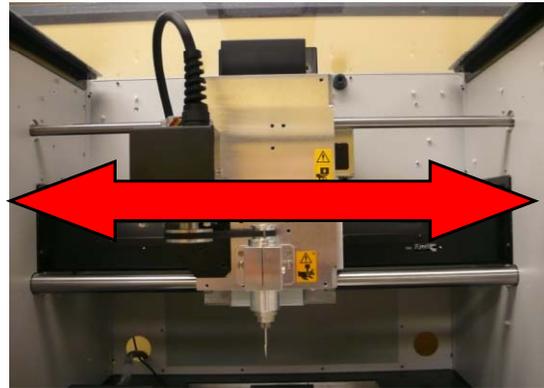


NOTES:



Maintenance

- Move carriage back and forth across the guide rails a few times.



- Clean guide rails and remove excess grease using lint free rag.



NOTES:

A large, empty grey rectangular area intended for taking notes during the maintenance process.



Maintenance

- Reapply a small amount of grease on finger and spread a **light** coating on the guide rails.



- Repeat for other Axis.

NOTES:

Support Bulletin: RASD-SB00044

Model: Roland MDX-15/20, MDX-40, & JWX-10

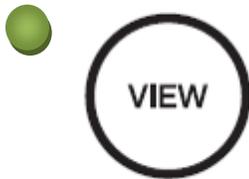
Subject: Delete or Cancel Job Sent to Machine

Date: 10/25/2007

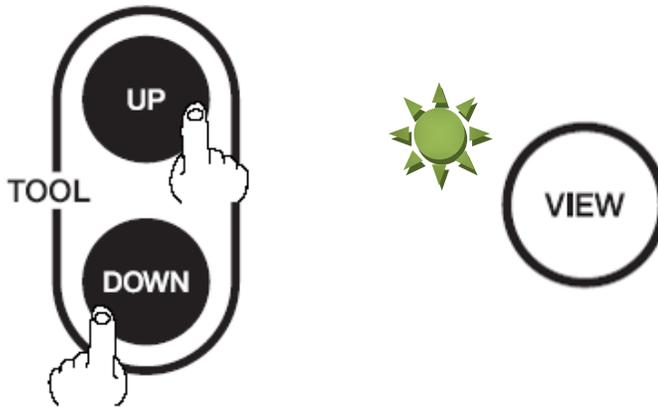
Author: PG

The following document covers deleting or canceling a job that has been already sent to the machine. The procedure is the same for the MDX-15/20 & 40, JWX-10 and covers clearing the machine and computer.

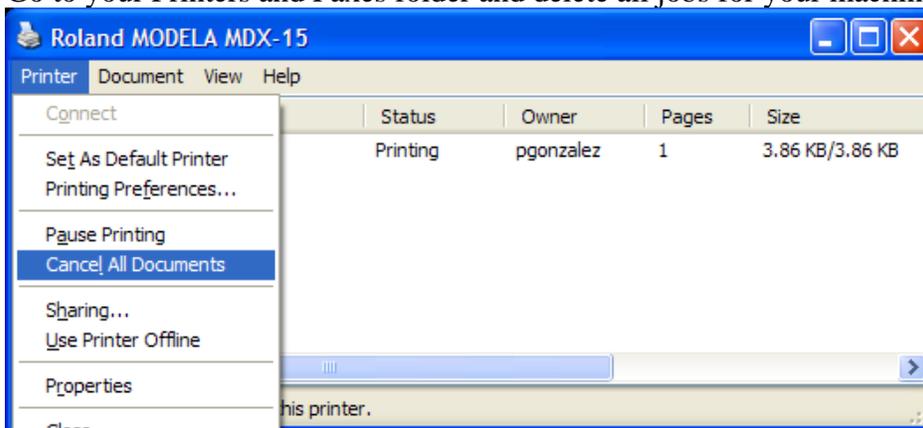
1. Press the view button and wait until the view light stops flashing. It will stop flashing when the machine is in view mode and not moving.



2. Press “tool up” and “tool down” at the same time. The view light will begin to flash indicating it is dumping or removing the program.



3. Go to your Printers and Faxes folder and delete all jobs for your machine.



Support Bulletin: RASD-SB00044

Model: Roland MDX-15/20, MDX-40, & JWX-10

Subject: Delete or Cancel Job Sent to Machine

Date: 10/25/2007

Author: PG

4. When the view light stops flashing, the buffer is clear. (This may take a few minutes on the MDX-15/20)



5. Press the view light again to bring it back to the origin point.



6. The machine is now ready for the next job.



JWX-10 Resources



Jewelry Resources

❖ Jewelry Wax Model Cleaner

- Cleaner removes remaining wax residue
- Different models available
- For example: Albatross Expert SP-3000



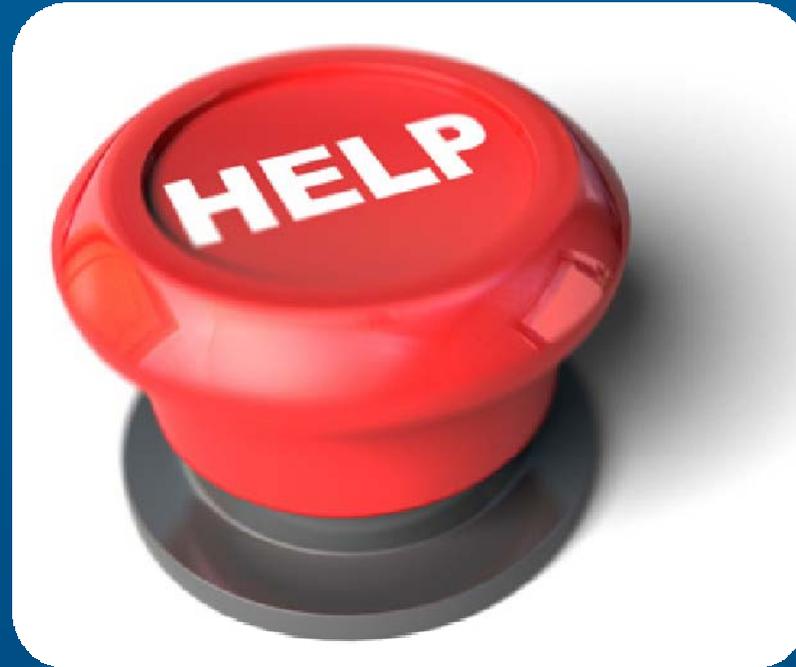
❖ Benches

- Sturdy benches for machines in various sizes
- K-series heavy duty benches
- Different countertops, wood, stainless, formica, etc.
- www.benchdepot.com



NOTES:

A large, vertical, light gray rectangular area intended for taking notes, positioned to the right of the main content.



Technical Support



Technical Support

❖ Technical Support (Level 1)

- Your authorized Roland distributor is your first option for customer training and technical assistance.

❖ Technical Support (Level 2)

- If your authorized Roland distributor is incapable of helping you with your technical issue, then contact Roland Technical Support.
- Roland offers free email technical support for all products.
 - Email rexpress@rolanddga.com with questions.
 - To expedite help, include following information
 - Name
 - Company name
 - Roland model number and serial number
 - Phone and fax number
 - Roland software name and version
 - Error message
 - Brief description of issue

NOTES:



Technical Support

- Roland also offers free live technical support for products under factory or extended warranty.
 - Roland product must be registered before contacting Technical Support.
 - Please register at www.rolanddga.com
 - After product is registered, contact Roland Technical Support at 949-727-2100 or 800-542-2307
 - Please have following information ready
 - Name
 - Company name
 - Roland model number and serial number
 - Phone and fax number
 - Roland software name and version
 - Error message
 - Brief description of issue
- If you would like live technical support and your machine is out of warranty or extended warranty you can do so on a "Pay as You Go" per incident cost basis.

NOTES: