

Vectric
PASSIONATE ABOUT CNC








What's New In Aspire V9.5



Vectric CNC Software V9.5

What's New - V9.5



Group	Feature					
Infrastructure	On-line download of licence	●	●	●	●	●
	On-line download of clipart	●	●	●		
Job Type	Core product support for Rotary	●	●	●		
Drawing	Improved Text Editing	●	●	●	●	●
	Vector Unwrapper (Rotary)	●				
	Picture Editor	●	●	●	●	●
	Crop Bitmap	●	●	●	●	●
Modelling	Easier Model Import (Rotary)	●	●	●		
	Wrapped model export	●	●	●		
Machining	Support for Helical Ramps	●	●	●	●	●
	Support for G93 (Rotary)	●	●	●		
	Easier post-processing (Rotary)	●	●	●		

Licencing



V9

V9.5

➤ Manual typed entry only

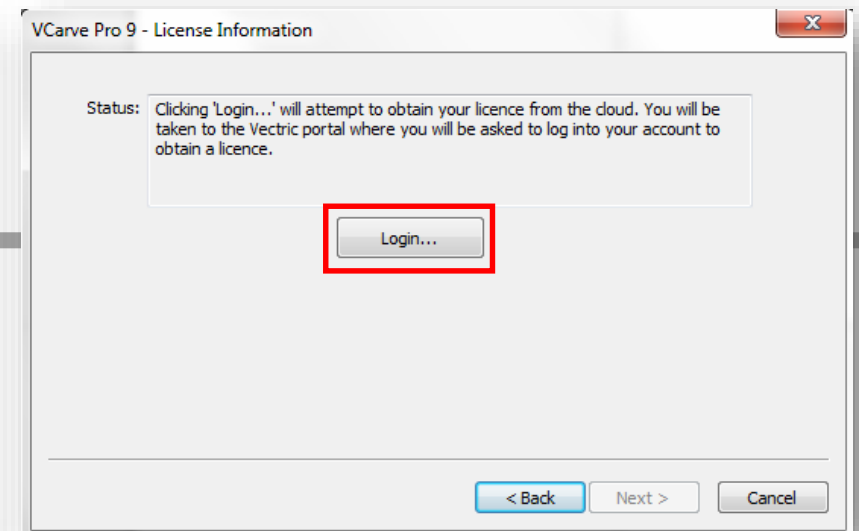
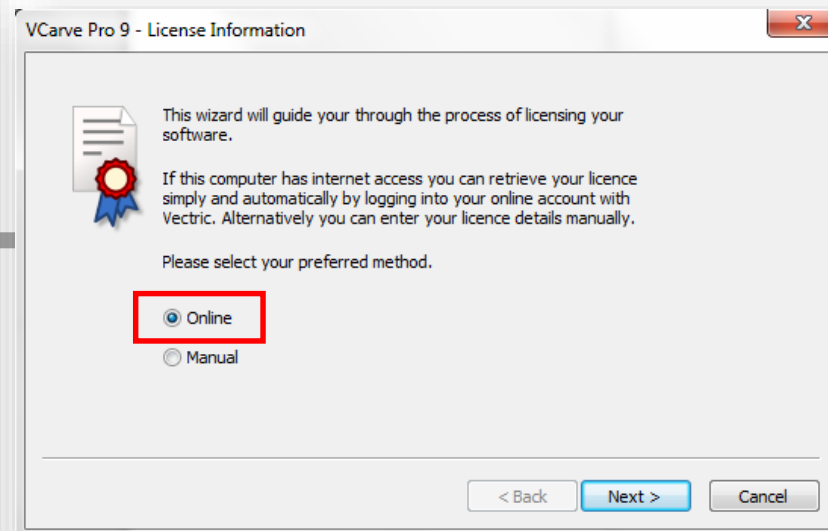
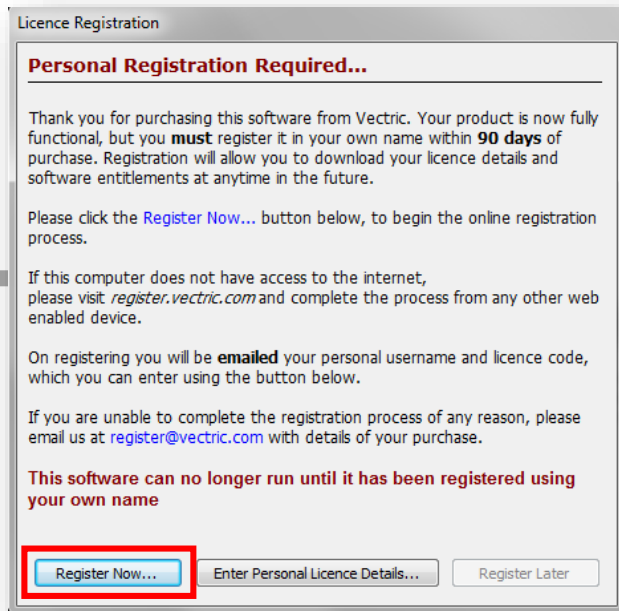
➤ Online extraction of license details

- No need for manual typing
 - Manual typing till an option

Auto-Licencing



➤ On-line extraction and entry – via V&Co.



Auto-Licencing



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PRODUCTS FREE TRIAL PURCHASE SUPPORT INSPIRATION ABOUT US

V&CO / Account / Login

welcome to V&CO

customer login


email address

Click here if you have forgotten your username.

password

Click here if you have forgotten your password.


Don't have an account but own Vectric Software? [Click here to sign up now!](#)




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V&CO / Account / LinkingSuccess

 Access Request Success

Congratulations. You have successfully linked Aspire with your V&Co Account



VCave Pro 9 - License Information

Licensed to:

Joe Bloggs - Vectric

Modules:

Clipart

V9

V9.5



- Have to install required libraries
- Requires considerable disk space

- Download clipart when required
- Available clipart displayed as images
- Future scope to link to additional clipart purchases



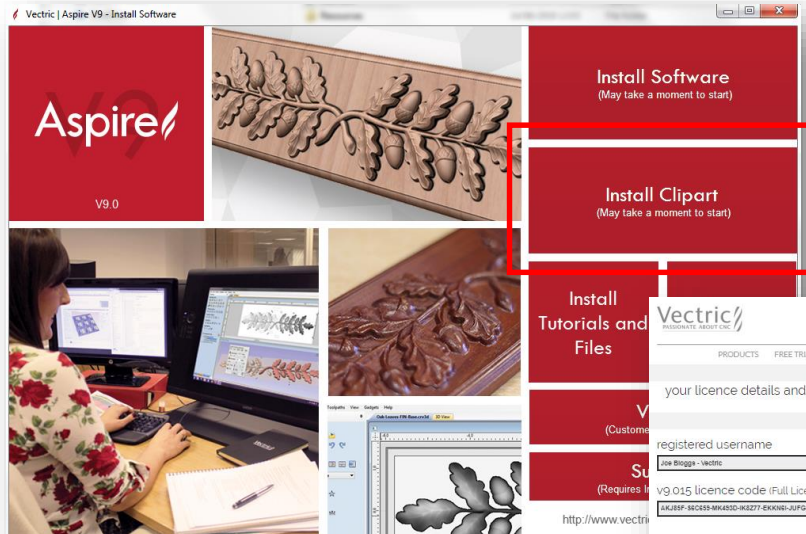
Clipart



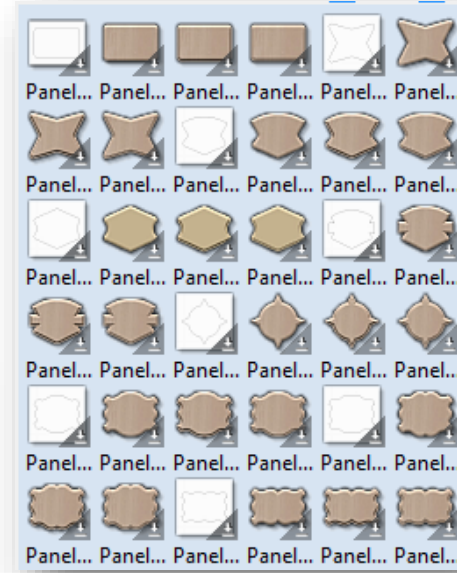
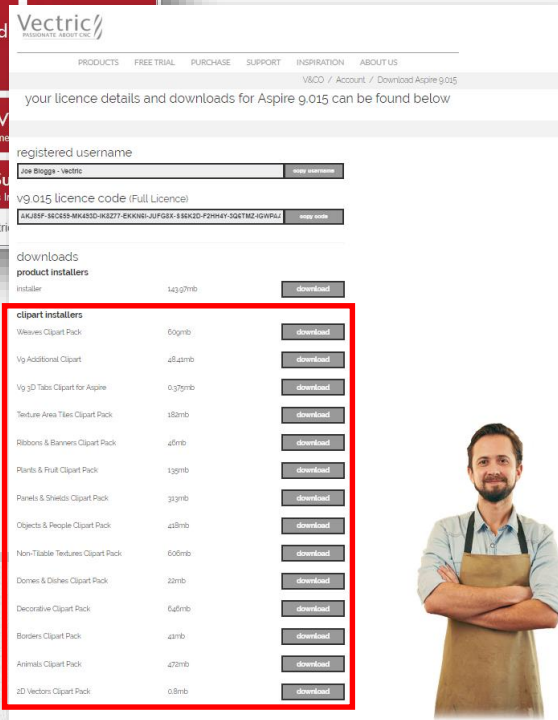
V9

V9.5

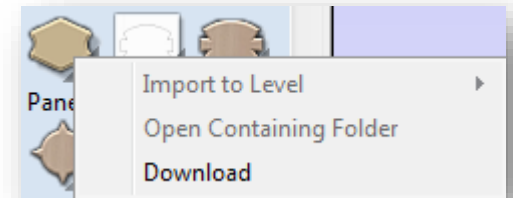
Installed from USB Media



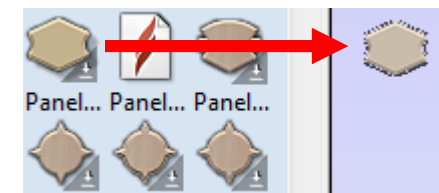
Installed from V&Co.



Download to clipart library



Drag directly into product



Rotary - Job Setup



V9

V9.5

- **GADGET ONLY**
- **DIFFICULT to make job modifications**
- **CANNOT** combine 'Spiral' and 'Cylindrical' wrapped layouts in one job

- **No longer requires gadget for job setup**
- **NEW** dedicated workflow
- **EASY** editing of job parameters
- **CAN** combine 'Spiral' and 'Cylindrical' layouts within the same job
- Can still open jobs created with the gadget

Rotary - Job Setup



V9

Job Setup

Job Type

1 ☒ Single Sided
☐ Double Sided

Job Size

Width (X): 20.0 mm
Height (Y): 12.566 mm
Thickness (Z): 2.0 mm

Units ☐ inches ☒ mm

Z Zero Position

☒ Material Surface
☐ Machine Bed

XY Datum Position

☐ Use Offset

Modeling Resolution

Very High (7 x Slower)
4 million points

Appearance

Canadian Maple
Solid Color:

OK

File **Gadgets** Help

Install New Gadget...

Gadget Shortcuts

Regular Grid Importer

About Gadgets

DXF Batch Processor

Celtic Weave Creator

Dragknife Toolpath

Explode Vectors

Global Gadget Settings

Keyhole Toolpath

Setup Sheet Editor

Wrapping

Fluting Layout

Spiral Layout

Wrapped Job Setup

Create Rounding Toolpath

Vector Unwrapper

Wrapped Job Setup Version 1.12

This gadget creates a new blank file laid out for wrapped machining

Cylinder Dimensions

Cylinder Length (L): 10 units
Cylinder Diameter (D): 4 units

Units ☒ inches ☐ mm

Cylinder Orientation Along ...

☒ X Axis (wrap Y values) ☐ Y Axis (wrap X values)

XY Drawing Origin ☐ ☐ ☐

Z Origin On ..

☐ Cylinder Surface (Top) ☒ Cylinder Axis (Bottom)

Wrapping Layout

As well as working with a simple unwrap of a cylinder into a flat sheet, this gadget can create a layout for wrapping a 'spiral' around the cylinder. This can be extremely useful if you have a design which wraps multiple times around your cylinder, as you can lay out the design as a continuous strip which will be wrapped in a spiral fashion when the toolpaths are created. To use this feature you must ensure that all of the design AND toolpaths remains within the area bounded by the vector created on the "Spiral Wrapped Area" layer.

☒ Simple Cylindrical Wrap ☐ Spiral Wrap

Number of revolutions: 1

OK Cancel

V9.5

Job Setup

Job Type

☐ Single Sided
☐ Double Sided
☒ **Rotary**

Job Size

Length (L): 20.0 mm
Diameter (D): 4.0 mm

Units ☐ inches ☒ mm

Z Zero Position

☒ Cylinder surface
☐ Cylinder axis

XY Datum Position

☐ Use Offset
X: 0.0
Y: 0.0

Orientation

☒ Along X Axis
☐ Along Y Axis
☒ Flip design

Modeling Resolution

Very High (7 x Slower)
4 million points

Appearance

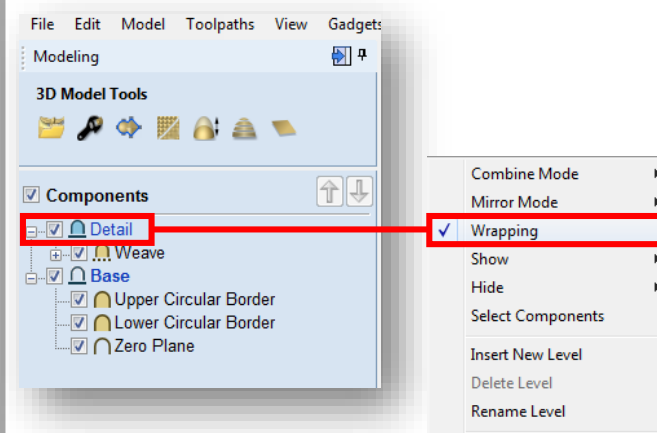
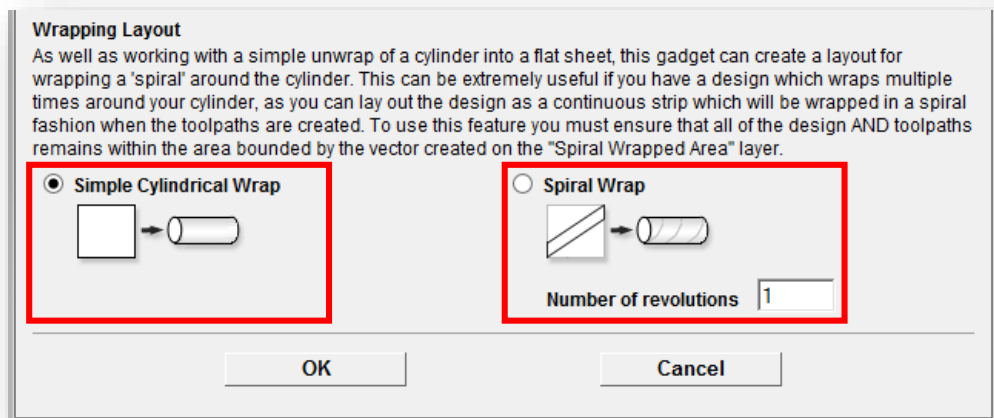
Canadian Maple
Solid Color:

OK Cancel

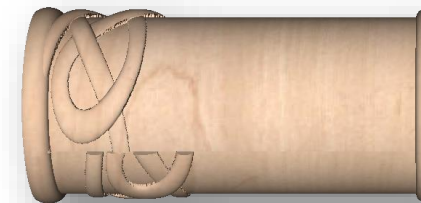
Rotary - Job Setup

V9

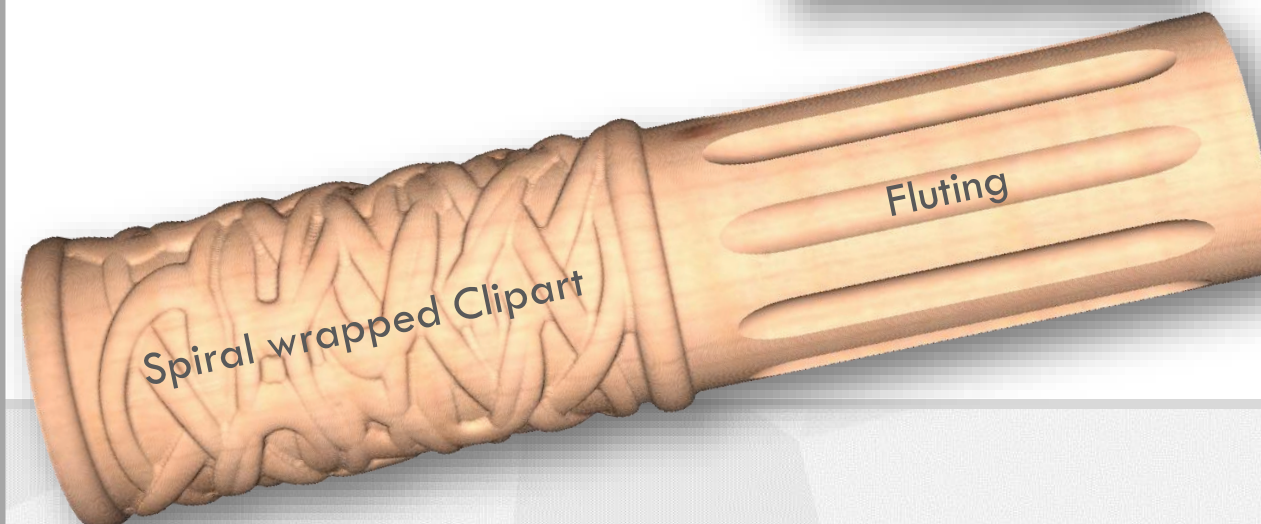
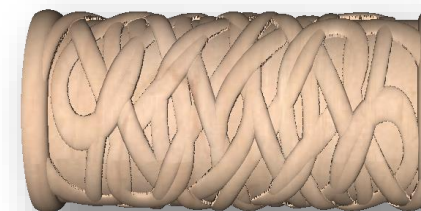
V9.5



Level – Not Wrapped



Level – Wrapped



Rotary - Display



V9

V9.5

- Wrapping only available as a 'Toolpath Drawing' option
- Wrapped models open ended
 - Not realistic
- Wrapped seam faces screen
 - Requires rotation to see full design
- Cannot visualize model in cylindrical stock

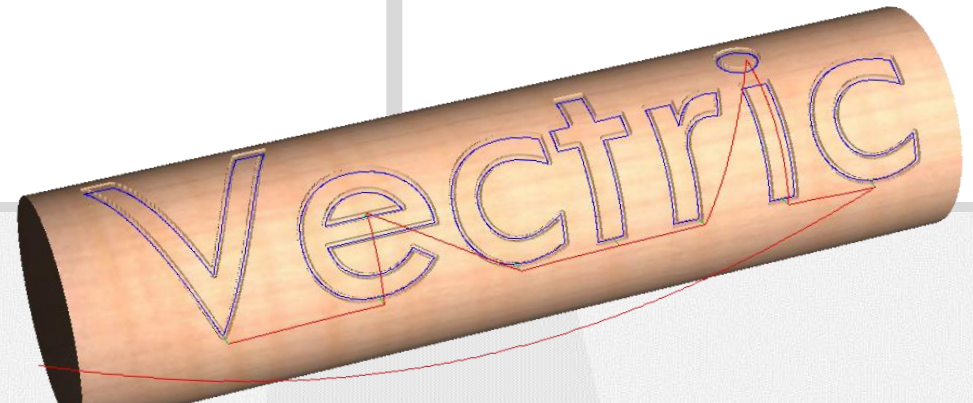
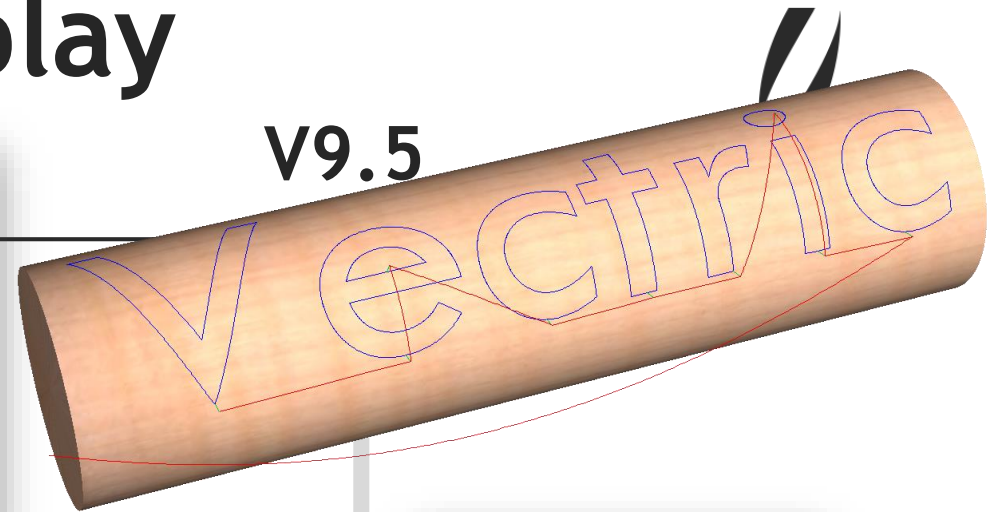
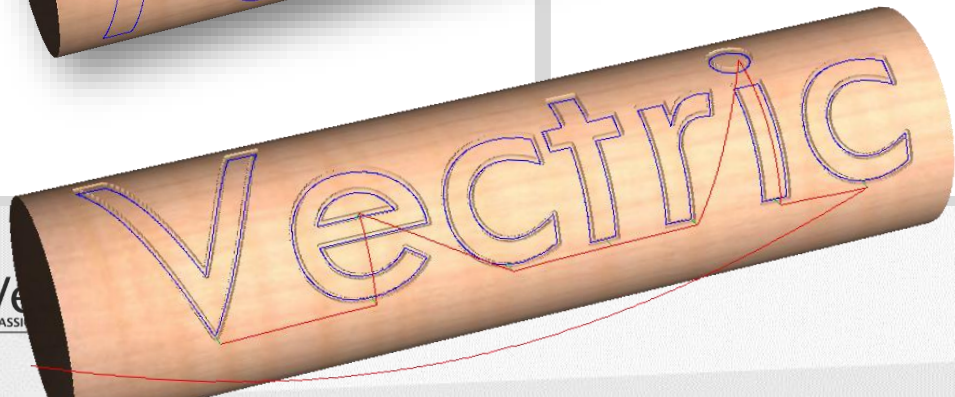
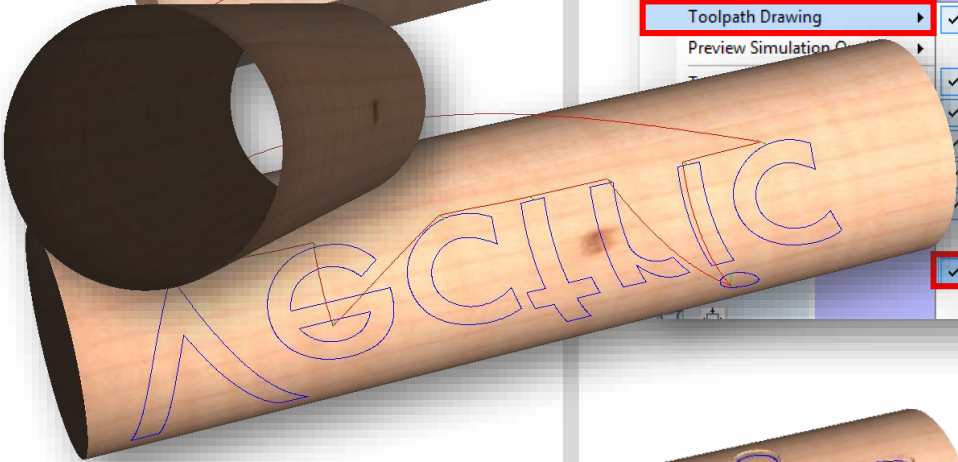
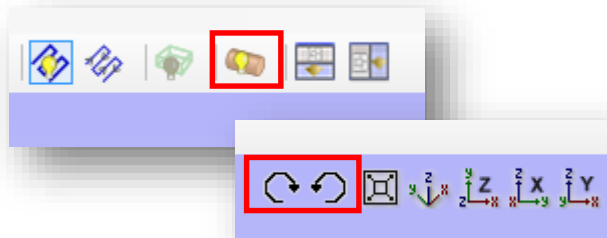
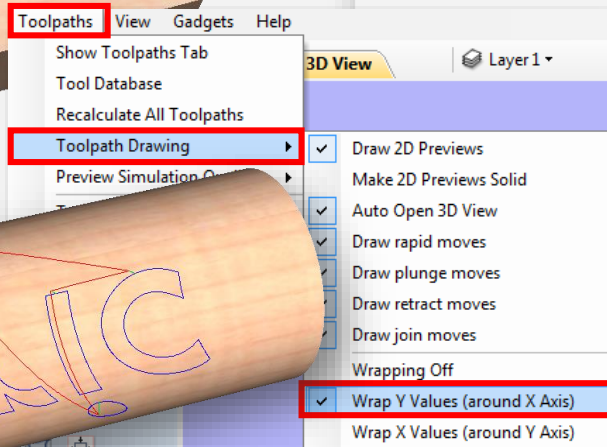
- AUTOMATIC wrapping of rotary jobs
- NEW Icons on top toolbar
- Can open jobs created with the gadget
- Model centre faces screen rather than seam
- Easy to visualize cylindrical stock in relation to model

Rotary - Display

V9

2D View

V9.5

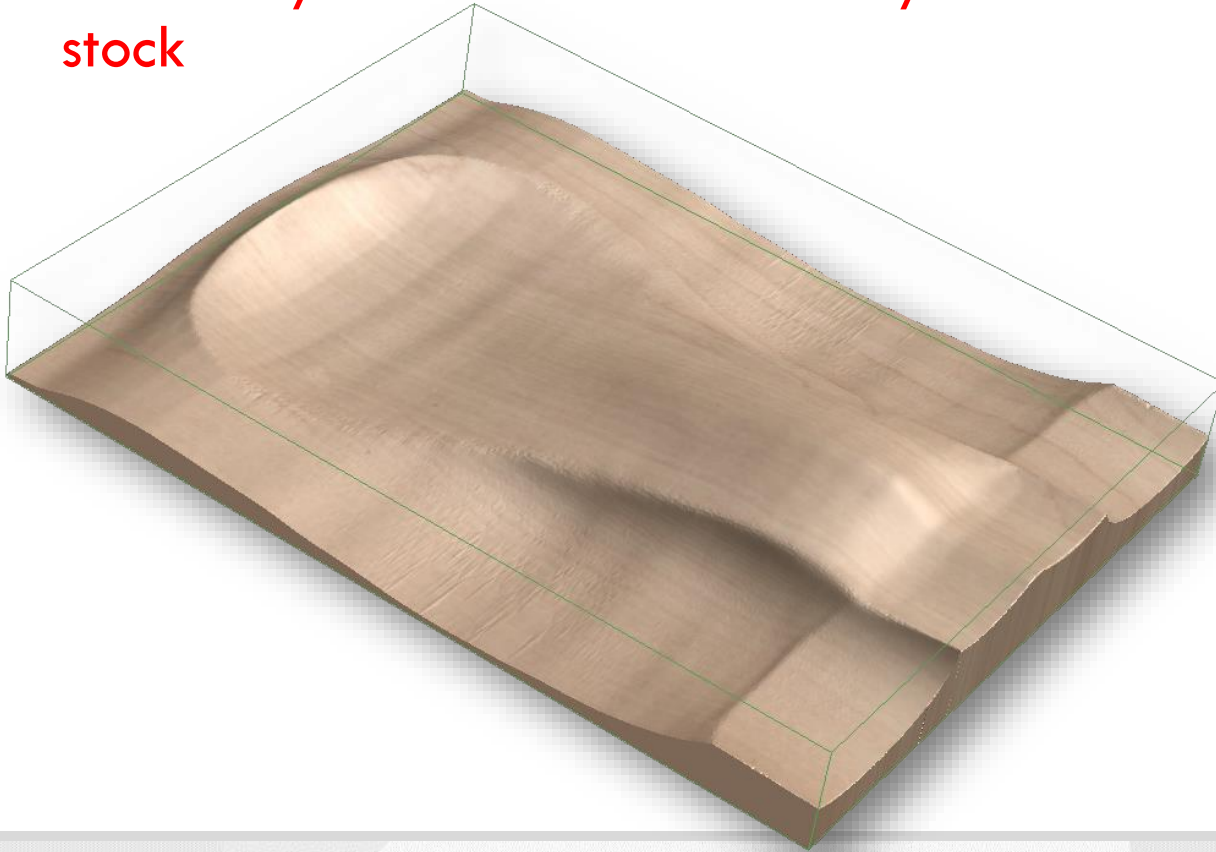


Rotary - Display



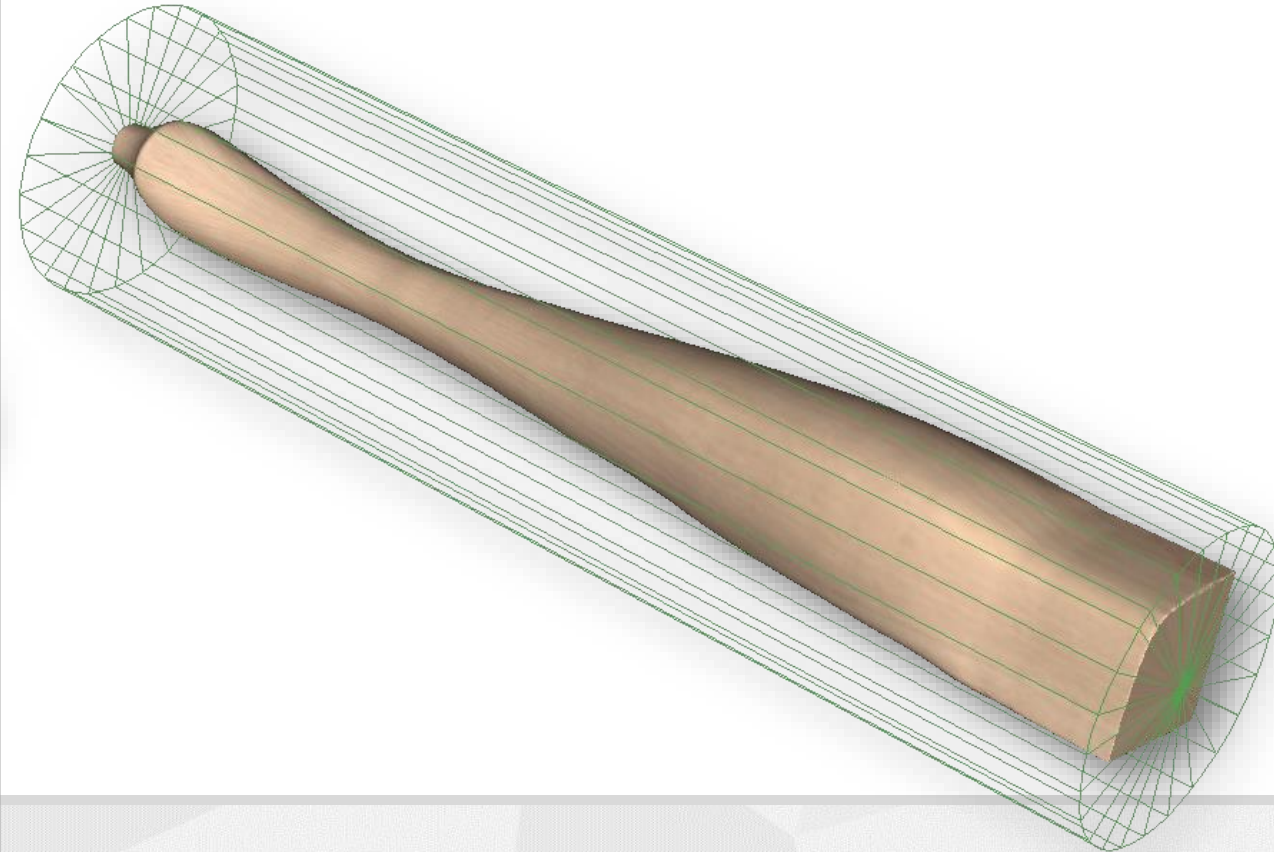
V9

➤ No ability to visualize model in cylindrical stock



V9.5

➤ Model visualized in cylindrical stock



Text Editing



V9

- Text placed after completion
- No dynamic modification – change parameters and then ‘Apply’
- Transformations to text are reset when editing text content

V9.5

- Text box shows start, height and alignment
- Text displayed as soon as first letter entered
- Dynamic modification – no need to ‘Apply’ to see change
- Transformation to text maintained when editing text content:
 - Rotation
 - Wrapping along a curve
 - Kerning
 - Non proportional scaling
 - Mirroring



Text Editing



V9

V9.5

Original Text + Curve

Vetric Software V9.0

Vetric Software V9.5

Wrapped Text + Kerning

Vetric Software V9.0

Vetric Software V9.5

Text Edited

Vetric CNC Software V9.0

Vetric CNC Software V9.5

Wrapping + Kerning LOST

Wrapping + Kerning KEPT

Rotary - Vector Unwrapping

V9

V9.5



➤ Gadget only

➤ Had to be centre of the workpiece

➤ Available in as new icon in 'Transform Objects'

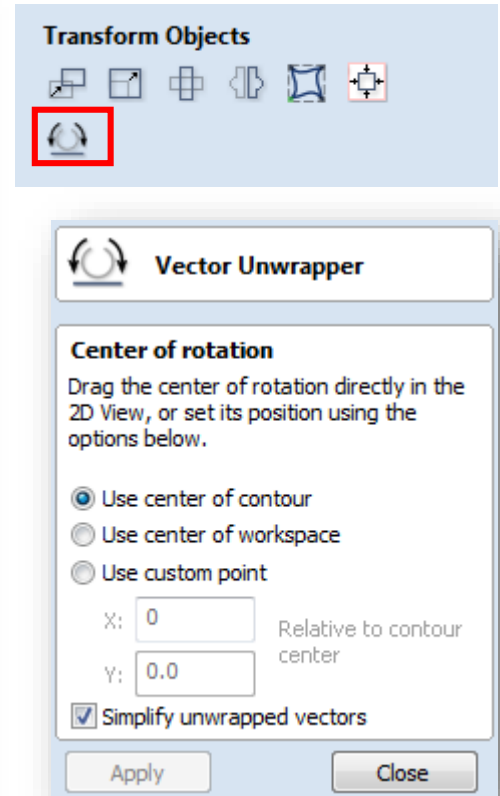
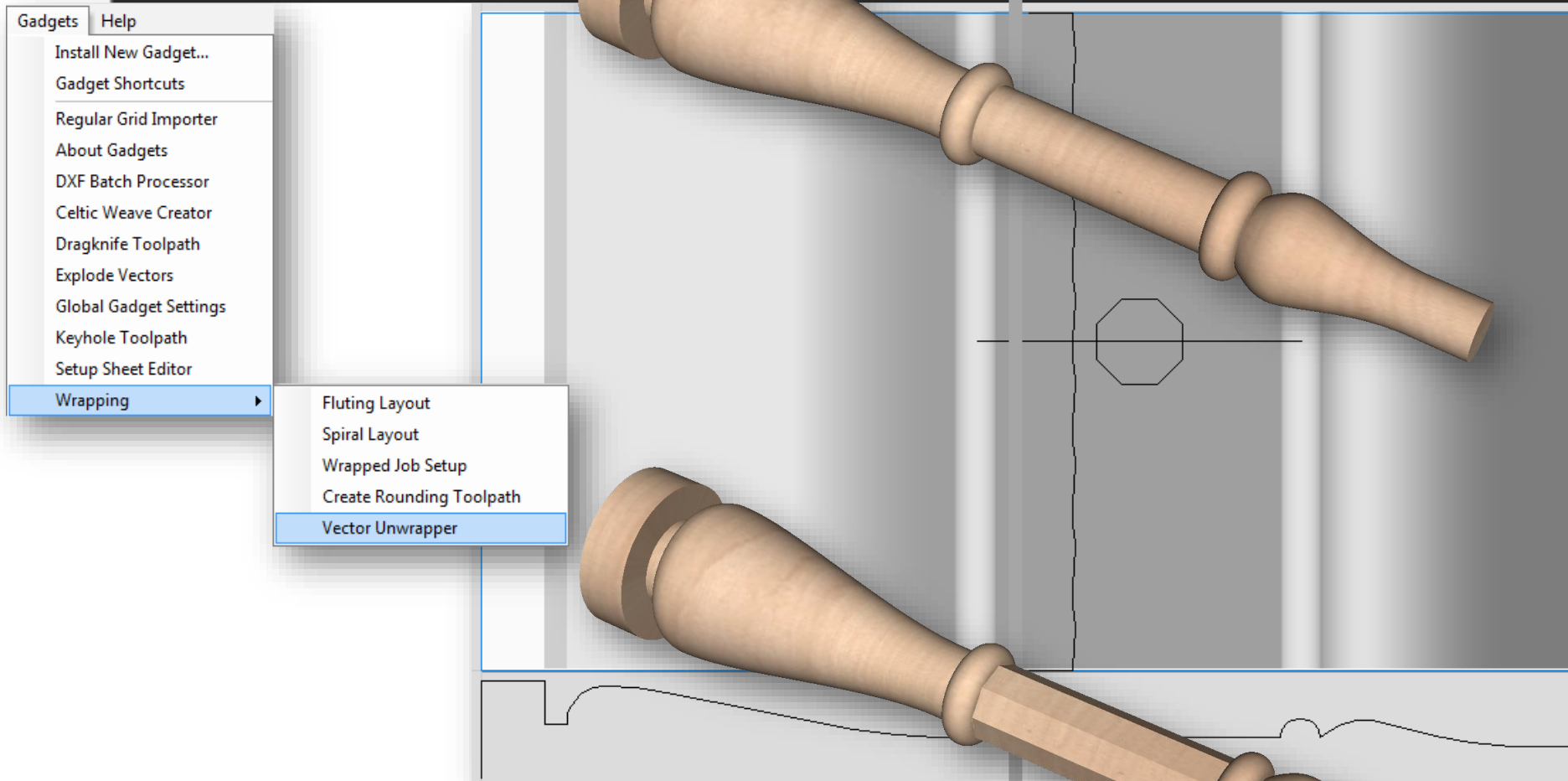
➤ Easier, simpler unwrapping

➤ Multiple centre of rotation options

Rotary - Vector Unwrapping

V9

V9.5



Gadget only, Single option

Menu access, multi-options

Image Editing

V9

V9.5



- No ability to crop an image
- No ability to edit image colour properties

- Ability to crop an image to a vector
- Ability to change:
 - Brightness/Contrast/Gamma
 - Greyscale
- Add border
 - Rectangular/Oval
- Ideal for
 - Lithophanes
 - Laser picture



Image Editing

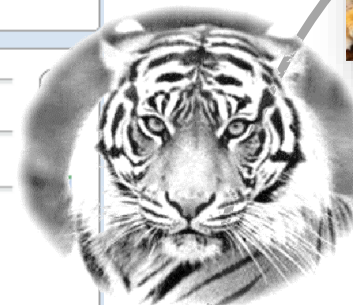
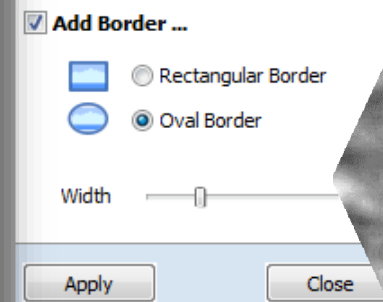
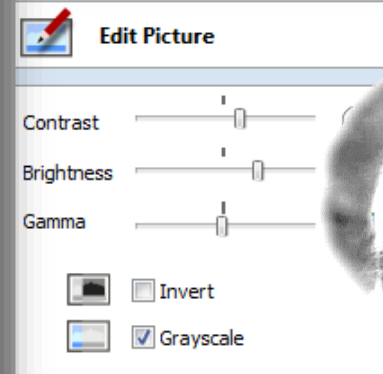
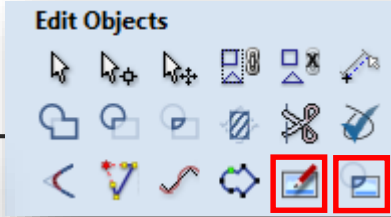
V9

V9.5

Original



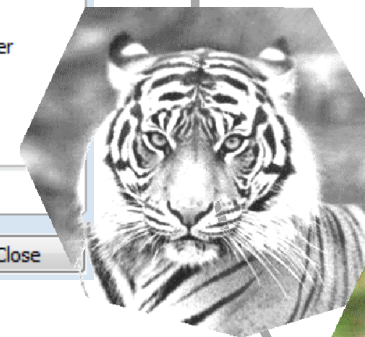
Nothing



With Border



Vector Border



Grey Scale



Brightness



Trim

Image Editing - For Modelling



High Contrast



Low Contrast

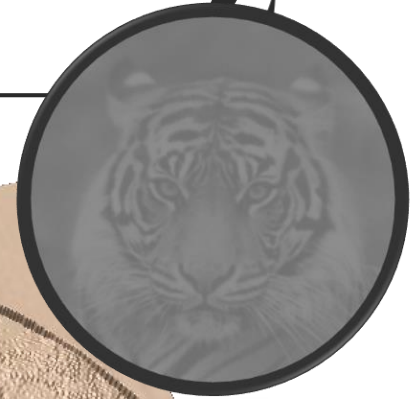


Image Editing - For Modelling



High Brightness



Low Brightness



Image Editing - For Modelling



High Gamma



Low Gamma

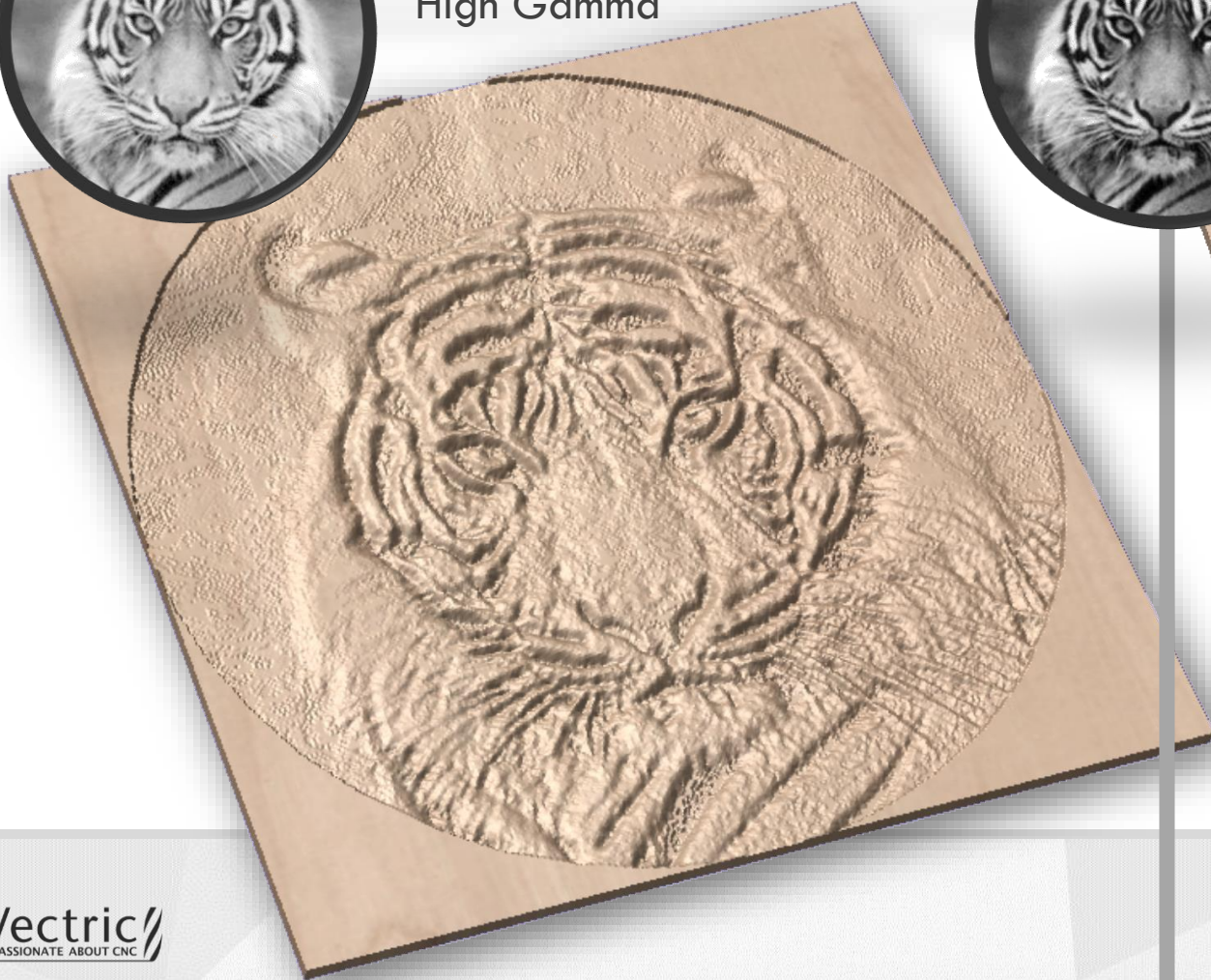


Image Editing - For Lithophane



Cropped



Greyscale



High Gamma



Invert



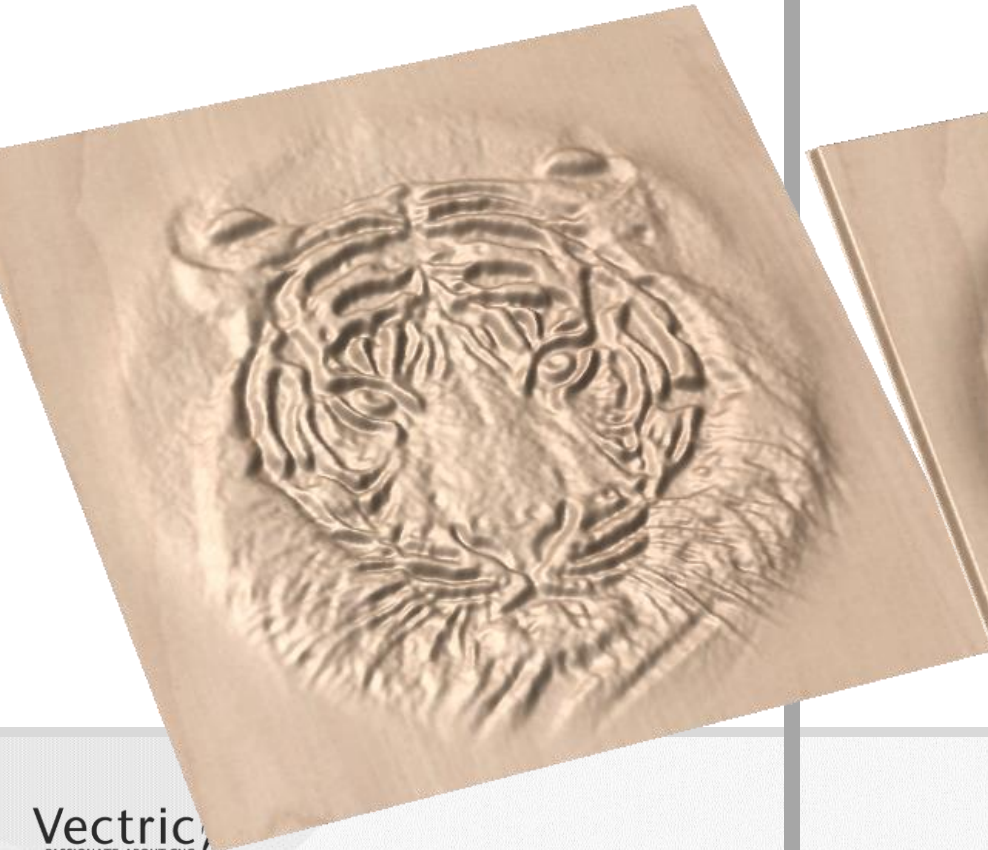
With Border



Modelling Options



Raised Cabinet



Recessed Cabinet



Lithophane



Rotary - Model Import



V9

V9.5

- No specific workflow for rotary
- Difficult to orientate to ensure whole model fully unwrapped
- **VERY Difficult to scale to fit within block**

- New Model Import
- Only display relevant parameters
- Full 3D and Flat model options
 - Full3D – unwrap, Flat – no-unwrap
- **AUTOMATIC initial orientation**
- Bounding cylinder to help orientation
- **AUTOMATIC scaling to fit block**
- Ability to move rotation axis
- Wrapped result displayed

Rotary - Model Import - Wrap

V9

Import

Orientate 3D Model

Initial Orientation

Back ☐ Top ☒ Right ☐
Left ☐ Bottom ☐ Front ☐

Rotation about Z Axis
-180 -90 0 +90 +180

Interactive Rotation

☒ XYZ ☐ XYZ ☐ X ☐ Y ☐ Z
View | Model

Model Size

☒ Lock XYZ ratio

X 113.198
Y 123.998
Z 690.188

Units ☐ mm ☒ inches

Center Model Scale mm / inches

Zero Plane Position in Model

Depth Below Top
692.418

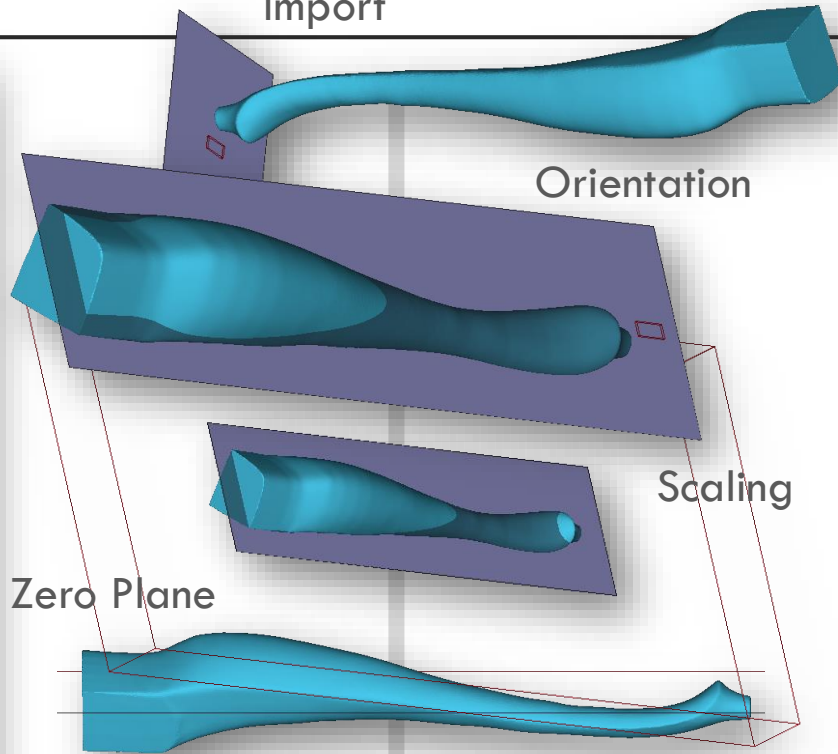
Aspire

☐ Create both sides
☐ Discard data below zero

☐ Apply Perspective along z

Min Max 0%

OK Cancel



Create Component

Do you want to 'unwrap' the model before creating the component?

Yes No

V9.5

Import

Orientate 3D Model

Imported model type

☒ Full 3D model ☐ Flat model

Best suited when it is desired to machine model as is (including optional scaling)

Initial Orientation

Back ☐ Top ☒ Right ☐
Left ☐ Bottom ☐ Front ☐

Rotation about Z Axis
-180 -90 0 +90 +180

Interactive Rotation

☒ XYZ ☐ XYZ ☐ X ☐ Y ☐ Z
View | Model

Rotation Axis Movement

☒ Off ☐ On

Model Scaling

Model units: ☒ inches ☐ mm

☒ Lock ratio

Model diameter: 4.0 inches

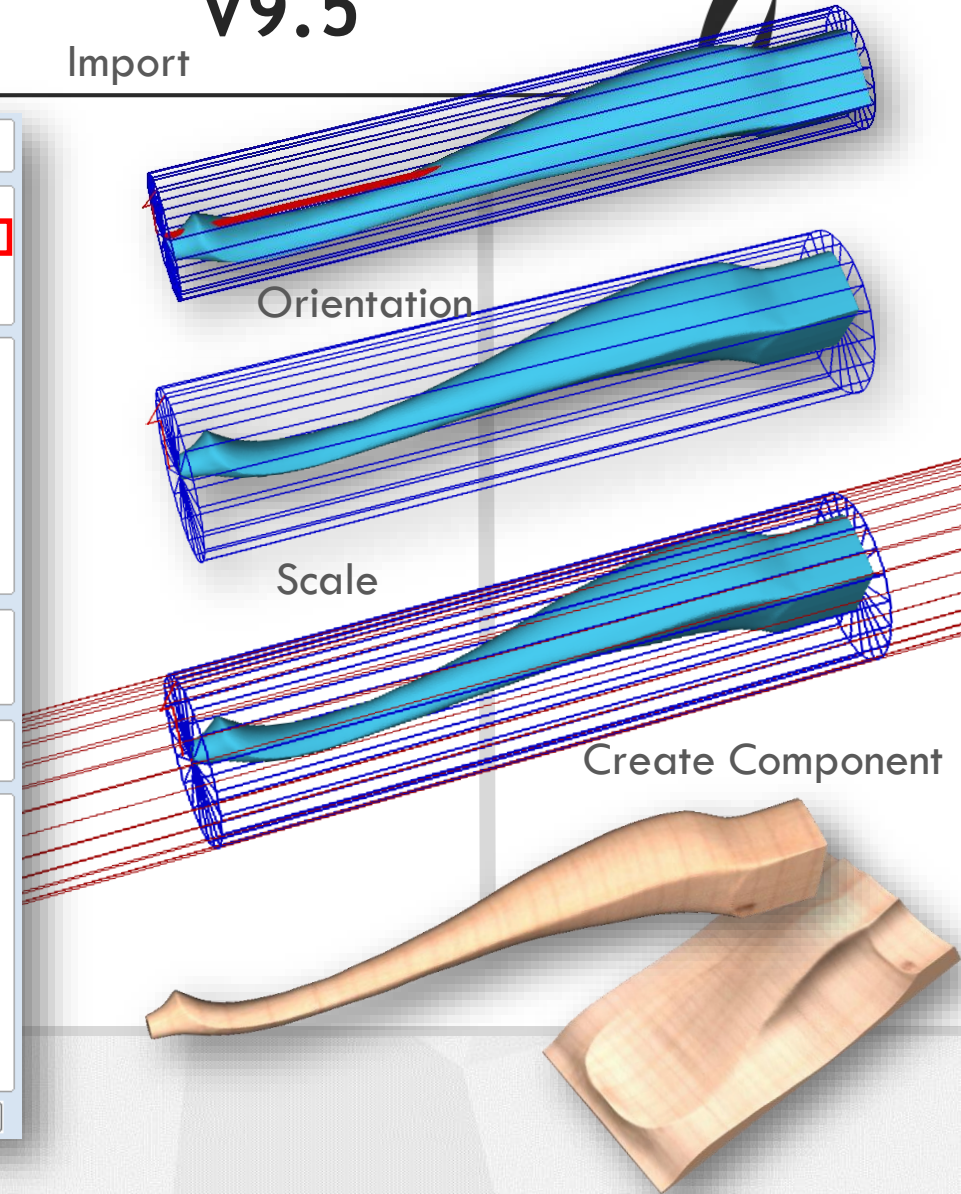
Model length: 22.2641 inches

Scale model to fit material

Reset to Original Size

☐ Resize material block

OK Cancel



Rotary - Model Import - Flat

V9

V9.5



Orientate 3D Model

Initial Orientation

Back Top Right
Left Front Bottom

Rotation about Z Axis
-180 -90 0 +90 +180

Interactive Rotation

XYZ XYZ X Y Z
View Model

Model Size

☒ Lock XYZ ratio

X 5.8728 Y 6.3169 Z 0.5906

Units ☐ mm ☒ inches

Center Model Scale mm / inches

Zero Plane Position in Model

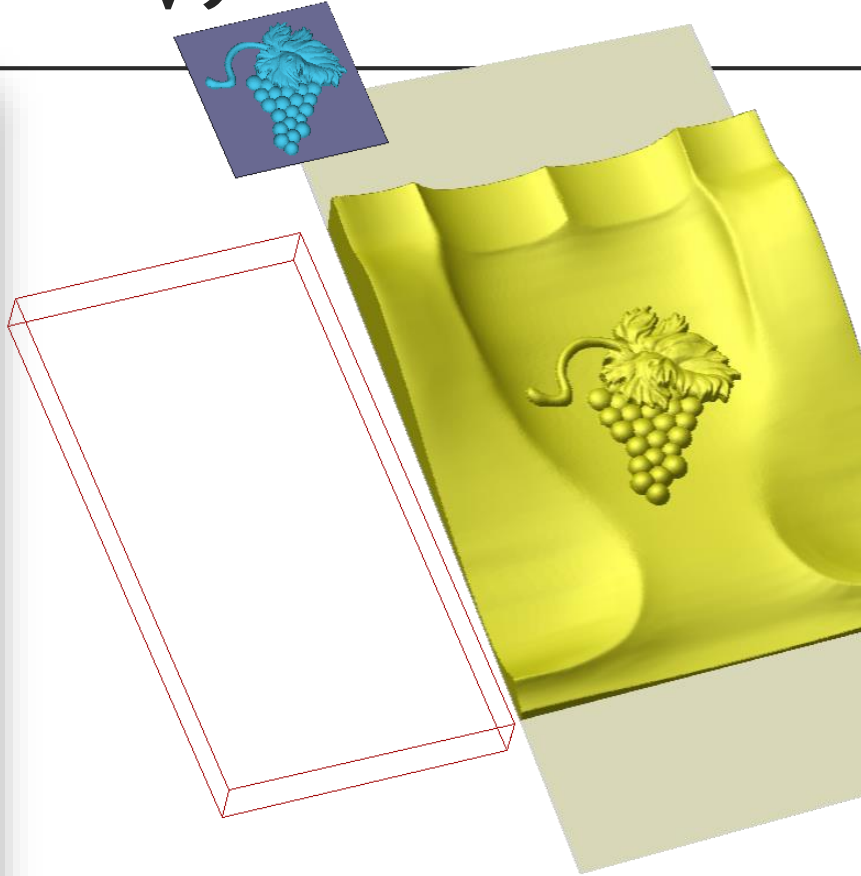
Depth Below Top 0.5906

☐ Create both sides
☐ Discard data below zero plane

☐ **Apply Perspective along Z**

Min Max 0%

OK Cancel



Aspire

Do you want to 'unwrap' the model before creating the component?

Yes No

Orientate 3D Model

Imported model type

☒ Flat model
Best suited when model is a surface detail

Initial Orientation

Back Top Right
Left Front Bottom

Rotation about Z Axis
-180 -90 0 +90 +180

Interactive Rotation

XYZ XYZ X Y Z
View Model

Model Scaling

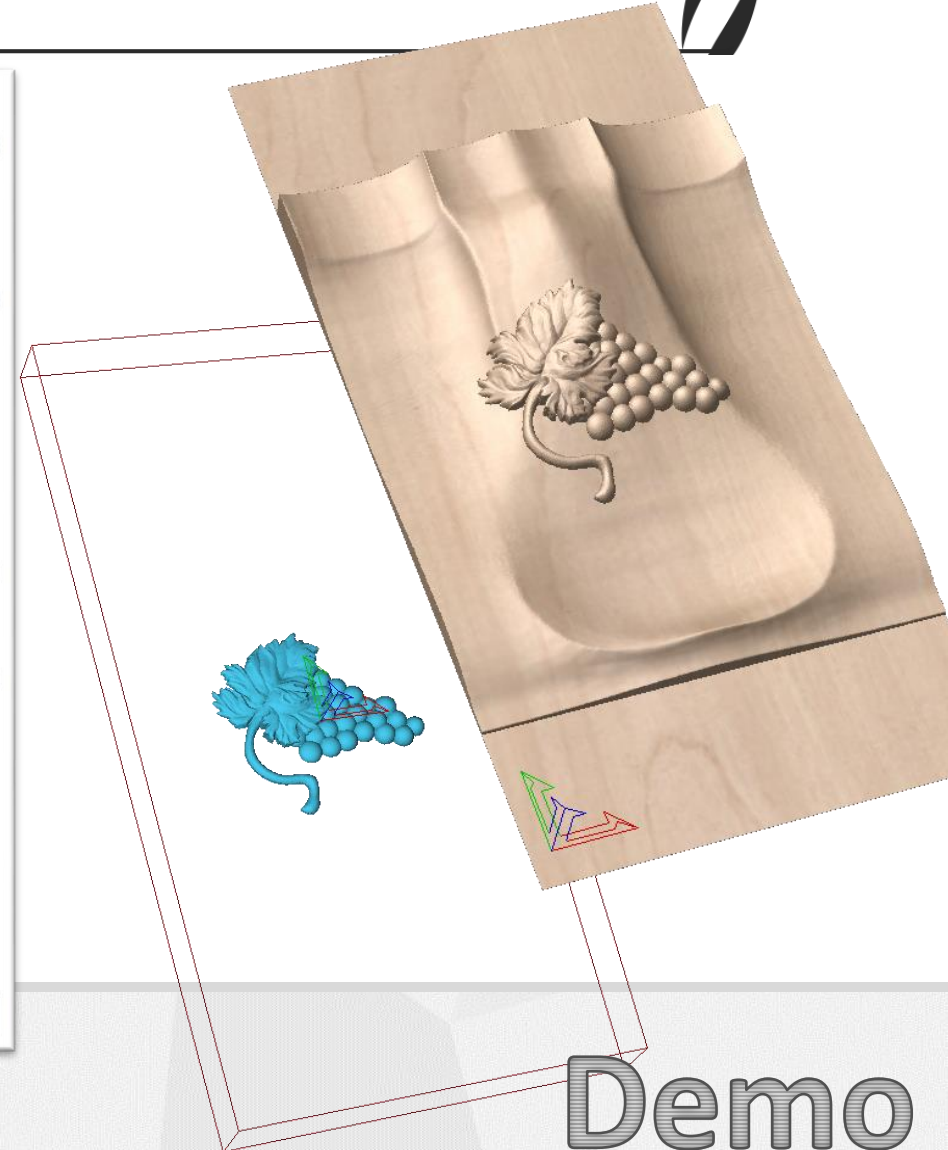
Model units: ☒ inches ☐ mm

☒ Lock ratio

X 5.8728 Y 6.3169 Z 0.5906

Scale model to fit material
Reset to Original Size

OK Cancel



Demo

Rotary - Completed Job



Helical Ramps

V9

- Helical ramps are output as a series of straight line moves
 - Can create a large tap file

V9.5



- Helical ramps are output as arcs
- Requires an updated post-processor

```
+-----+
+  Commands output for clockwise helical arc  move
+-----+
begin CW_HELICAL_ARC_MOVE
"G2[X][Y][Z][I][J]"

+-----+
+  Commands output for first clockwise helical arc move
+-----+

begin FIRST_CW_HELICAL_ARC_MOVE
"G2[X][Y][Z][I][J][F]"

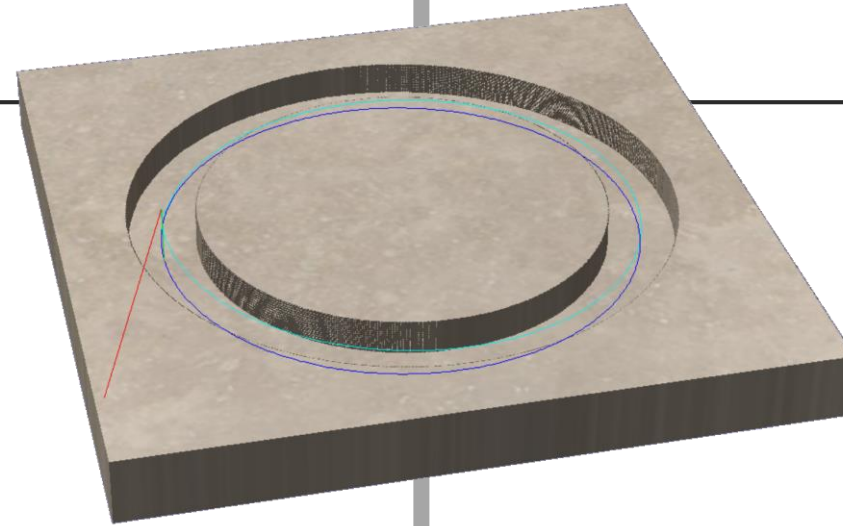
+-----+
+  Commands output for ccw helical arc move
+-----+
begin CCW_HELICAL_ARC_MOVE
"G3[X][Y][Z][I][J]"

+-----+
+  Commands output for ccw helical arc move
+-----+
begin FIRST_CCW_HELICAL_ARC_MOVE
"G3[X][Y][Z][I][J][F]"
```

Helical Ramps

V9

V9.5



```
T1M6
G17
G0Z0.5000
G0X0.0000Y0.0000S12000M3
G0X0.7500Y2.5000Z0.2000
G1Z0.0000F30.0
G1X0.7501Y2.4788Z-0.0005
G1X0.7505Y2.4575Z-0.0011
G1X0.7512Y2.4361Z-0.0016
G1X0.7521Y2.4146Z-0.0021
G1X0.7533Y2.3930Z-0.0027
G1X0.7547Y2.3713Z-0.0032
G1X0.7565Y2.3496Z-0.0037
G1X0.7585Y2.3277Z-0.0043
G1X0.7608Y2.3058Z-0.0048
G1X0.7634Y2.2839Z-0.0053
G1X0.7663Y2.2618Z-0.0059
G1X0.7695Y2.2398Z-0.0064
G1X0.7729Y2.2176Z-0.0069
G1X0.7767Y2.1954Z-0.0075
G1X0.7808Y2.1732Z-0.0080
G1X0.7852Y2.1510Z-0.0085
G1X0.7898Y2.1287Z-0.0091
G1X0.7948Y2.1064Z-0.0096
G1X0.8001Y2.0841Z-0.0101
G1X0.8058Y2.0617Z-0.0107
G1X0.8117Y2.0394Z-0.0112
G1X0.8180Y2.0171Z-0.0118
G1X0.8245Y1.9948Z-0.0123
G1X0.8314Y1.9724Z-0.0128
G1X0.8386Y1.9502Z-0.0134
G1X0.8462Y1.9279Z-0.0139
G1X0.8540Y1.9057Z-0.0144
G1X0.8622Y1.8835Z-0.0150
G1X0.8707Y1.8614Z-0.0155
G1X0.8795Y1.8393Z-0.0160
G1X0.8887Y1.8173Z-0.0166
G1X0.8982Y1.7953Z-0.0171
G1X0.9080Y1.7734Z-0.0176
G1X0.9181Y1.7516Z-0.0182
G1X0.9285Y1.7299Z-0.0187
G1X0.9393Y1.7083Z-0.0192
G1X0.9504Y1.6868Z-0.0198
G1X0.9618Y1.6655Z-0.0203
G1X0.9735Y1.6442Z-0.0208
```

482 Lines

```
T1M6
G17
G0Z0.5000
G0X0.0000Y0.0000S12000M3
G0X0.7500Y2.5000Z0.2000
G1Z0.0000F30.0
G3X2.5000Y0.7500Z-0.0625I1.7500J0.0000
G3X4.2500Y2.5000Z-0.1250I0.0000J1.7500
G3X2.5000Y4.2500Z-0.1875I-1.7500J0.0000
G3X0.7500Y2.5000Z-0.2500I0.0000J-1.7500
G3X2.5000Y0.7500I1.7500J0.0000F100.0
G3X4.2500Y2.5000I0.0000J1.7500
G3X2.5000Y4.2500I-1.7500J0.0000
G3X0.7500Y2.5000I0.0000J-1.7500
G0Z0.2000
G0Z0.5000
G0X0.0000Y0.0000
M30|
```

18 Lines

Rotary Machining -

V9

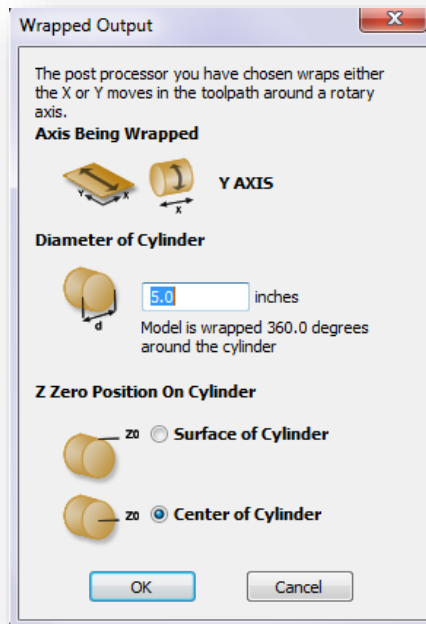
V9.5



➤ NO support for G93

- Indifferent finish quality

➤ Have to specify job parameters when post processing



➤ Support for G93






- Rotation speed varies to maintain constant feedrate

➤ Automatic extraction of job parameters when post processing

```
( UG2018| )  
( File created: Thursday July 26 2018 - 03:39 PM )  
( for Mach2/3 from Vectric )  
( Material Size )  
( X= 26.000, Z= 2.500 )  
( Diameter = 5.0000 Inches )  
( Y values are wrapped around the x axis )  
( Y values are output as A )
```

What's New - V9.5



Group	Feature					
Infrastructure	On-line download of licence	●	●	●	●	●
	On-line download of clipart	●	●	●		
Job Type	Core product support for Rotary	●	●	●		
Drawing	Improved Text Editing	●	●	●	●	●
	Vector Unwrapper (Rotary)	●				
	Picture Editor	●	●	●	●	●
	Crop Bitmap	●	●	●	●	●
Modelling	Easier Model Import (Rotary)	●	●	●		
	Wrapped model export	●	●	●		
Machining	Support for Helical Ramps	●	●	●	●	●
	Support for G93 (Rotary)	●	●	●		
	Easier post-processing (Rotary)	●	●	●		



Thank You