

N0004G90G0X-5.Y-10.7579S4583M3
N0005G43Z1.4598H0
N0006G1Z0.5182F7
N0007X-4.002Z0.5181F3.67
N0008X-2.252Z0.5165
N0001G20G90G99
N0005G43Z1.4598H0
N0006G1Z0.5182F7.33
N0007X-4.002Z0.5181F3.67

The New Leaders in CAM

MecS
o
f
t

Alibre CAM[®] 3

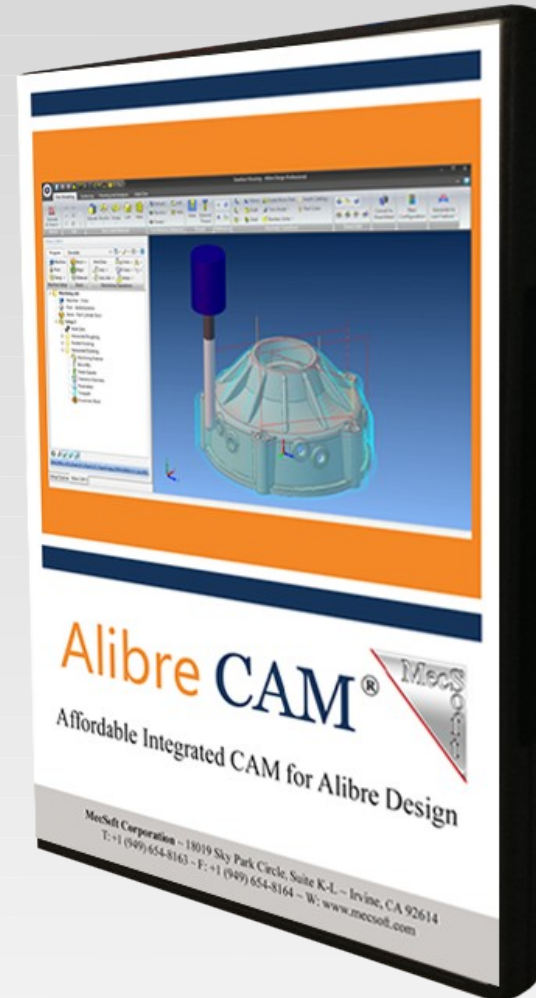
Integrated with:

Alibre Design[™]

2012

2015

Alibre Design[™]



What is Alibre CAM?

Alibre CAM is a plug-in for Alibre Design Software made by MecSoft Corporation

Alibre CAM brings CAM (Computer Aided Manufacturing) technology to Alibre Design 2012.

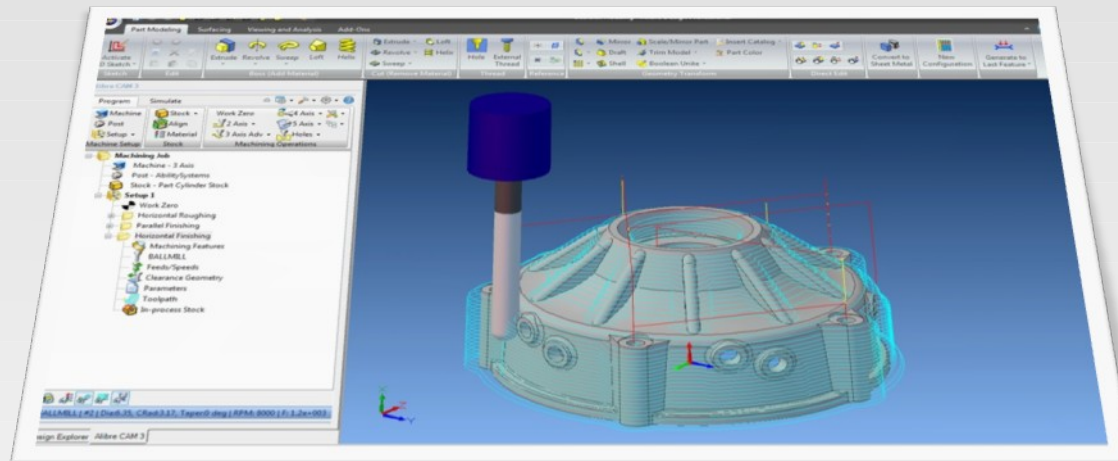
Alibre CAM includes the VisualMILL CAM engine

Alibre CAM is NOT a standalone application and needs Alibre Design to run.

Alibre CAM needs to be purchased and licensed independently of Alibre Design

Benefits of Alibre CAM

- Complete CAD/CAM solution
- Work without having to leave the Alibre Design environment
- Work on native Alibre design data requiring no data translation
- Be notified of design changes immediately
- Machine only what is visible in Alibre Design
- Save and load machining data directly to the Alibre Design .3dm file



Introducing Alibre CAM 3

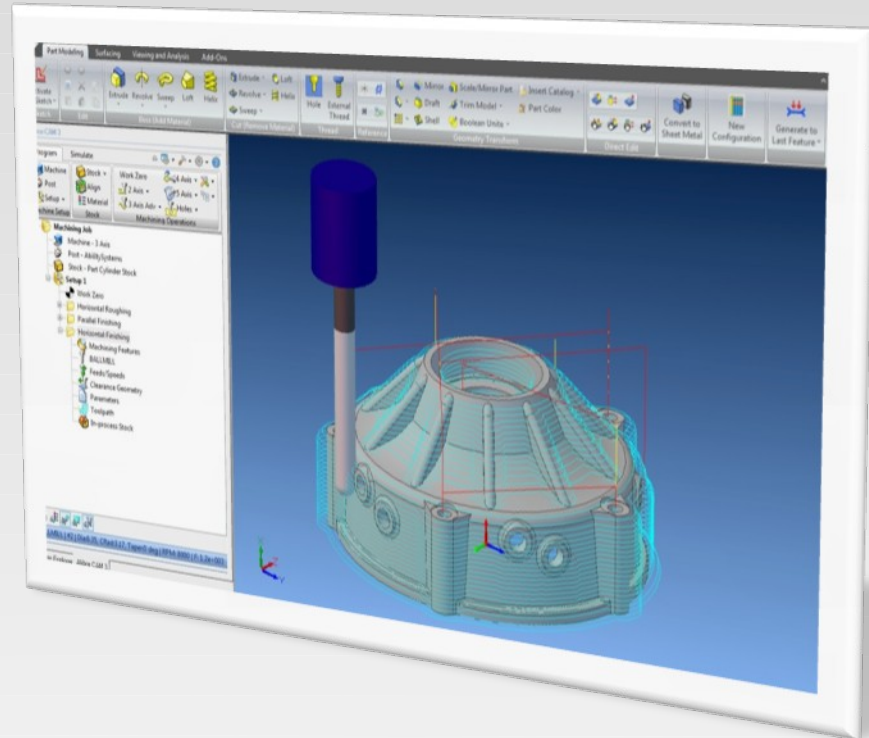
Alibre CAM 3 is the latest version of Alibre CAM, the complete CAM plug-in for Alibre Design that includes 2-1/2 Axis, 3 Axis, full rotary 4 axis, drilling, & free post processors.

Powerful – packed with powerful machining strategies.

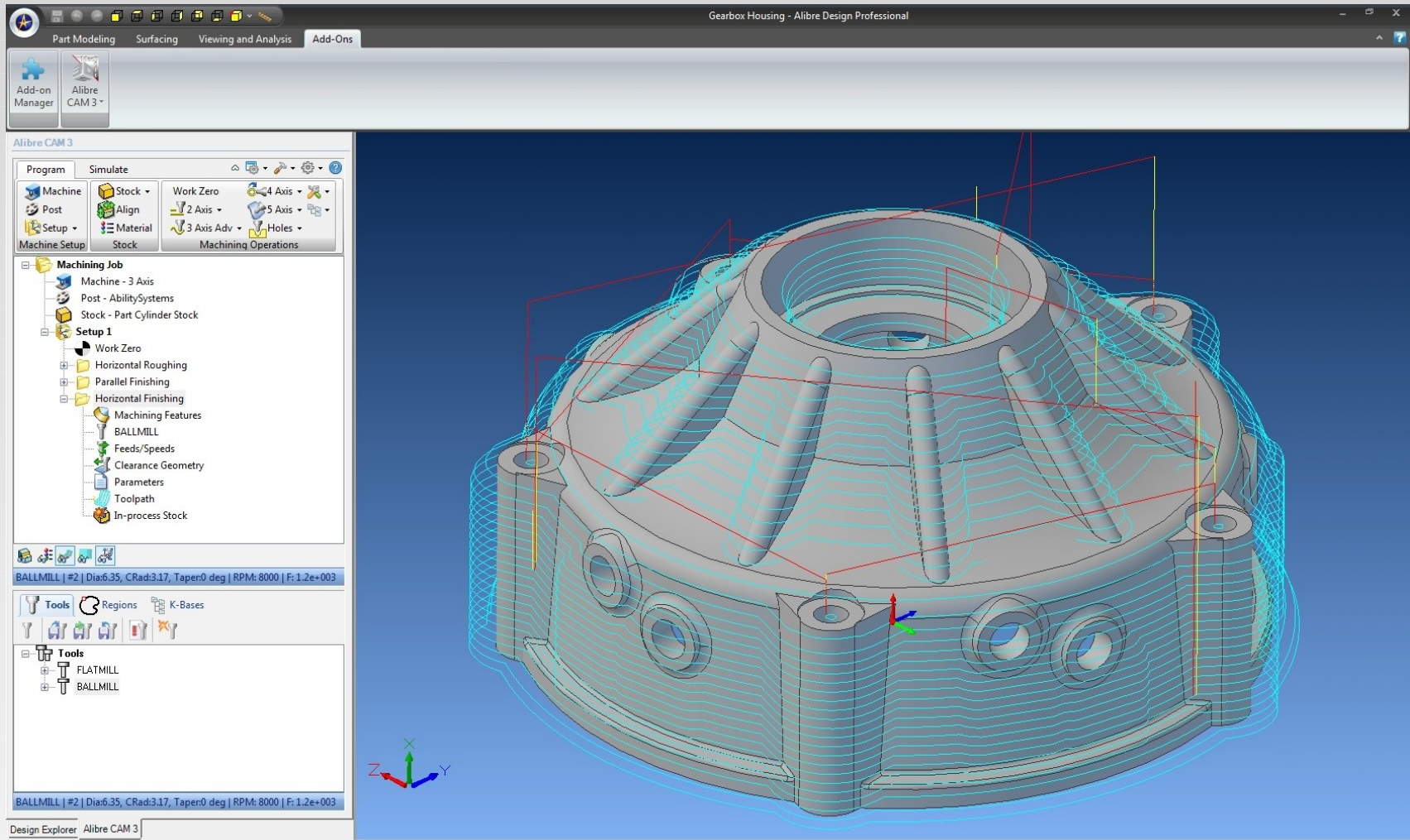
Fast – in computation speed and in programming time.

Easy to Use - One of the easiest systems to learn, use and implement.

Cost Effective - Priced to provide unsurpassed value for customer investment.



Alibre CAM 3 User Interface



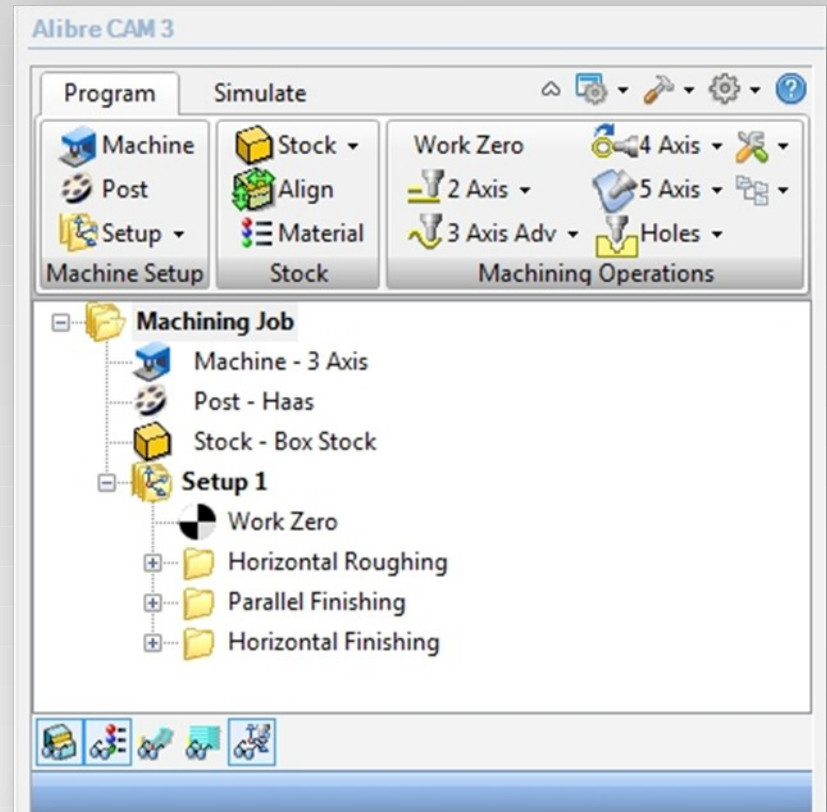
Alibre CAM Browser

Manage CAM data using the Browser.

Use the browser to

- Setup
- Create &
- Simulate

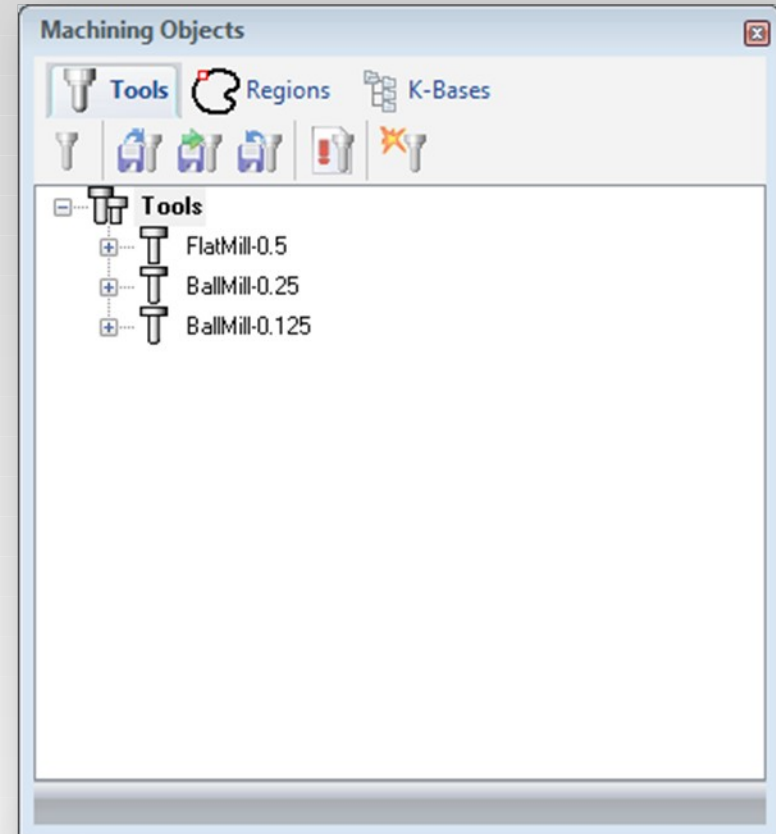
Machining Operations



Horizontal Finishing
Parallel Finishing
Horizontal Finishing

Machining Objects Browser

The Machining Objects browser allows management of Tools, Machining Regions and Knowledge Bases.



Machining Operation Types

Create these types of machining operations in Alibre CAM:

2-1/2 Axis - Used for prismatic or extruded parts

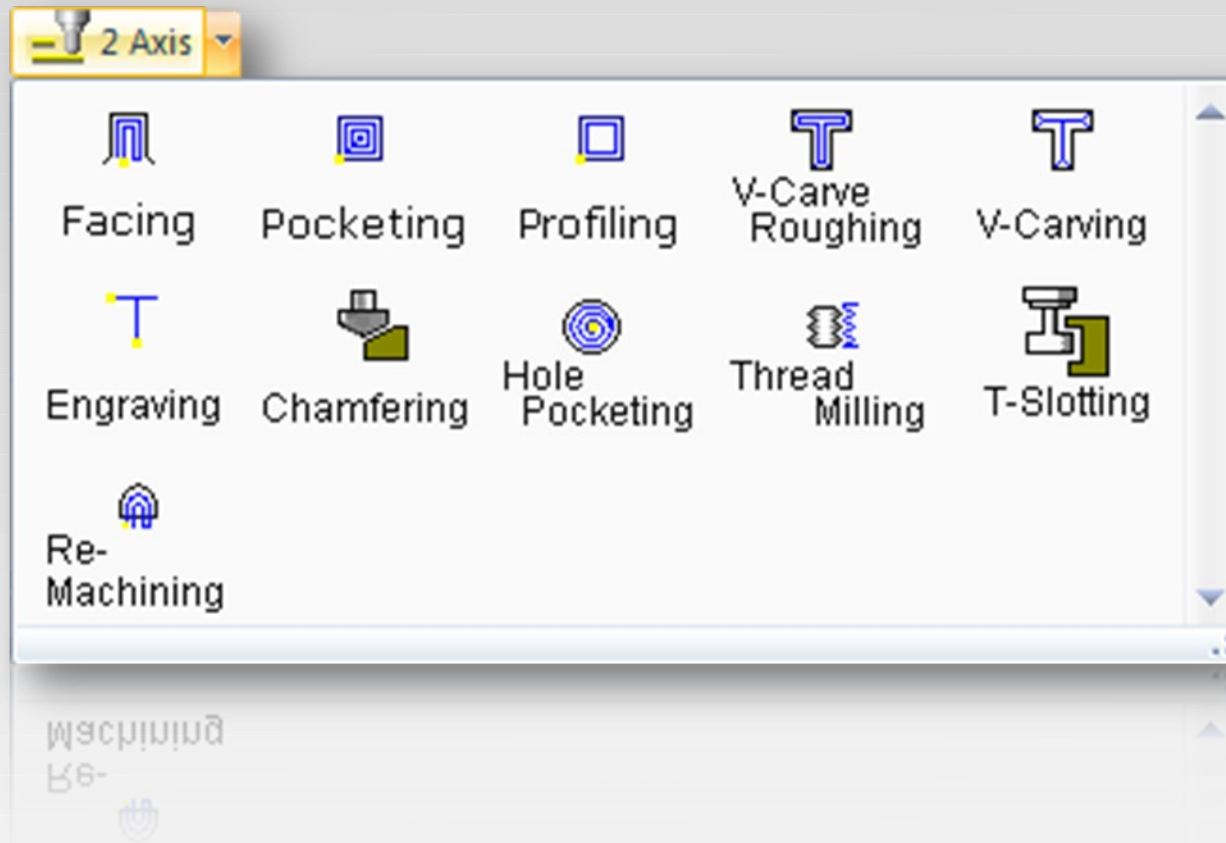
3 Axis - Used for complex sculpted shape machining

4 Axis - Machine parts in multiple orientations

Hole Making - Drill, tap, bore and reverse bore holes

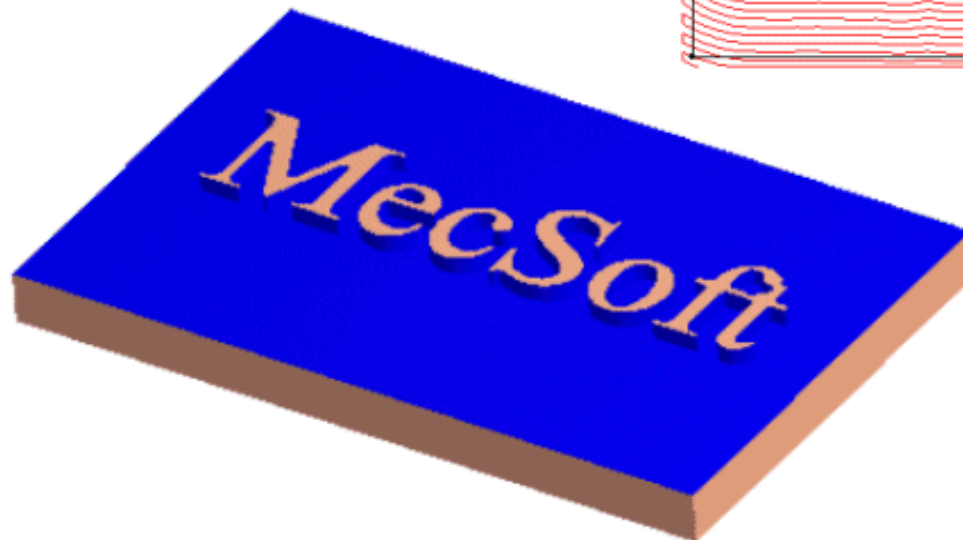
2-1/2 Axis Machining

Power packed 2-1/2 Axis milling methods



2 ½ Axis Facing

Machines closed regions as if they were completely enclosing material to be removed.



2 ½ Axis Pocketing

Machines closed regions as if they were pockets - completely enclosed by inner and outer regions.



2 ½ Axis Profiling

Machines open and closed regions by tracing along one side of their contours.



V-Carve Roughing

Method uses a larger cutter to remove material before a V-carve operation is performed.



V-Carving

Method is used to machine sharp corners with a V-bit. Especially useful in machining letters and signs.



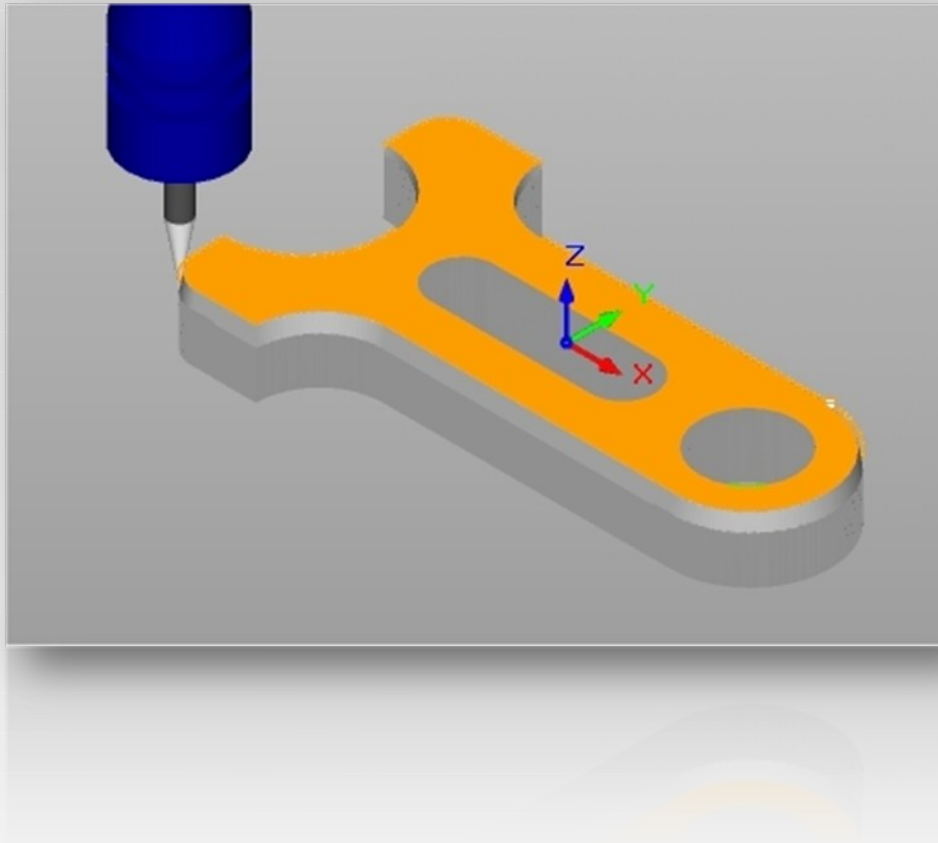
2 ½ Axis Engraving

Engraves text or logos on a finished model. Machines open or closed, 2D or 3D regions by tracing along the contours.



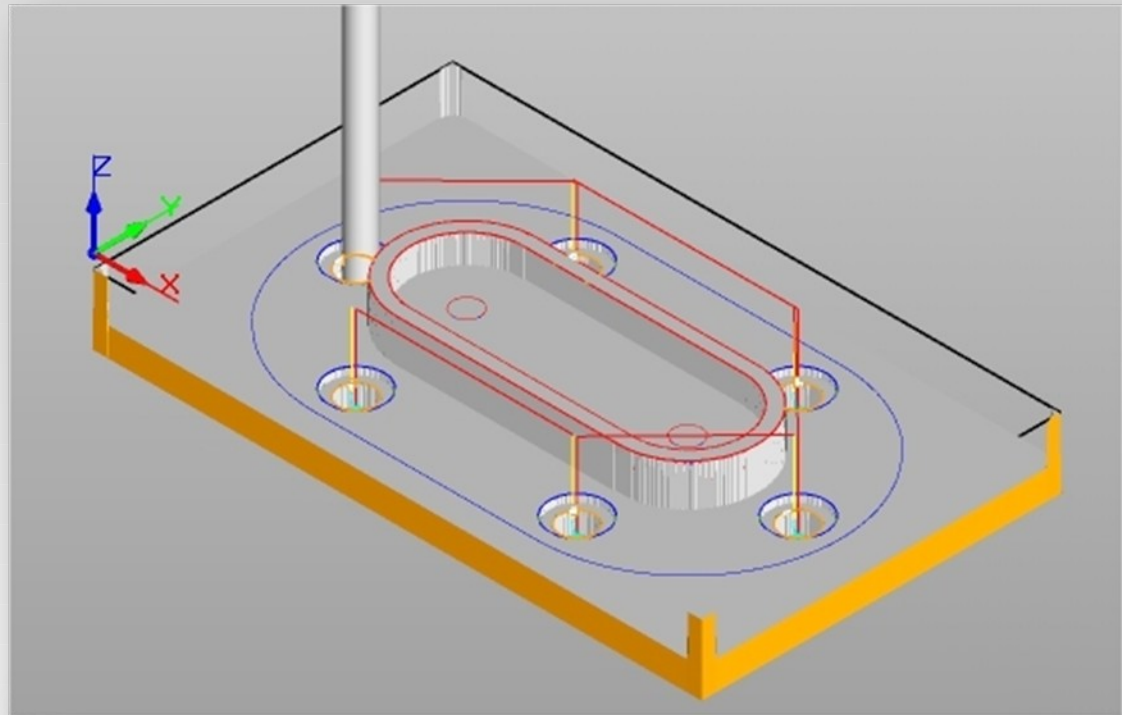
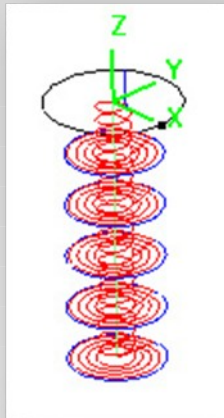
2 ½ Axis Chamfering

Method uses a taper bit to create chamfers on sharp corners.



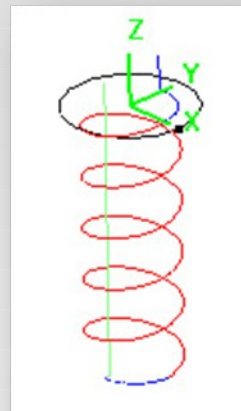
2 ½ Axis Hole Pocketing

Method is used to cut large holes using a milling cutter.



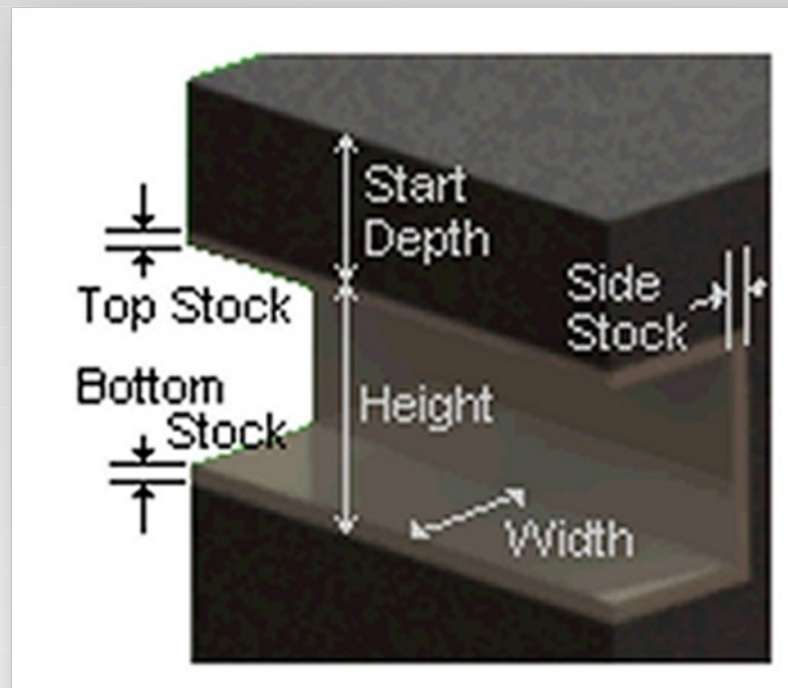
2 ½ Axis Thread Milling

Method is used to cut threads using a thread mill - internal or external threads, and right or left threads.



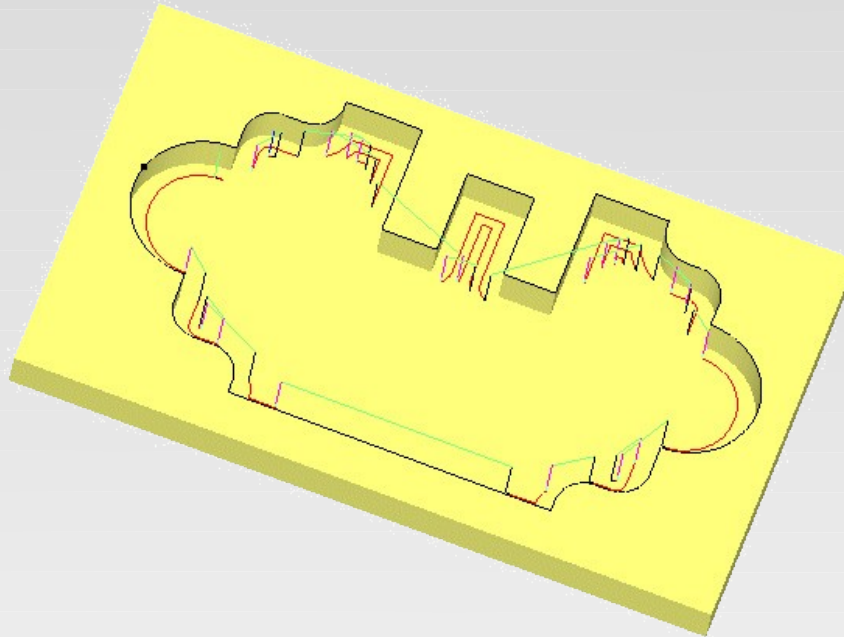
2 ½ Slot Milling

Method is used to cut slots using a T-Slot cutter.



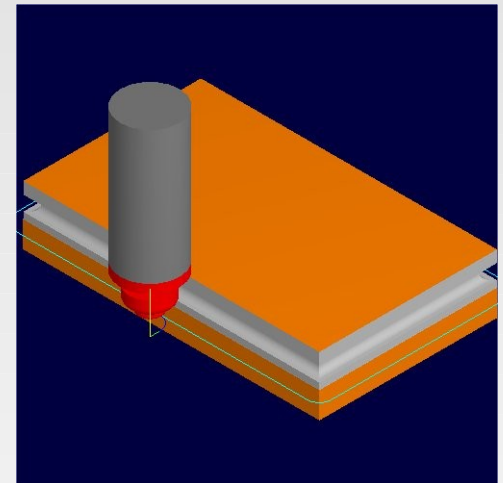
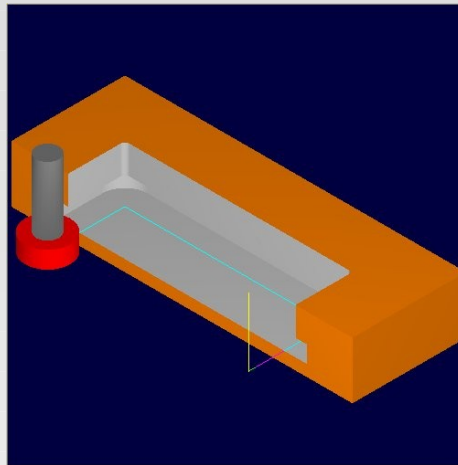
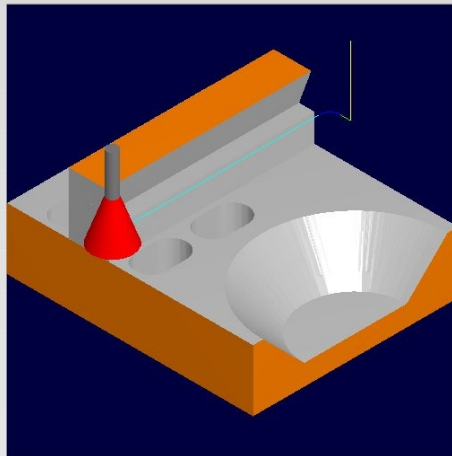
2 ½ Axis Re-Machining

Method uses a smaller tool to remove uncut material left after a previous operation (facing, pocketing, or profiling).*



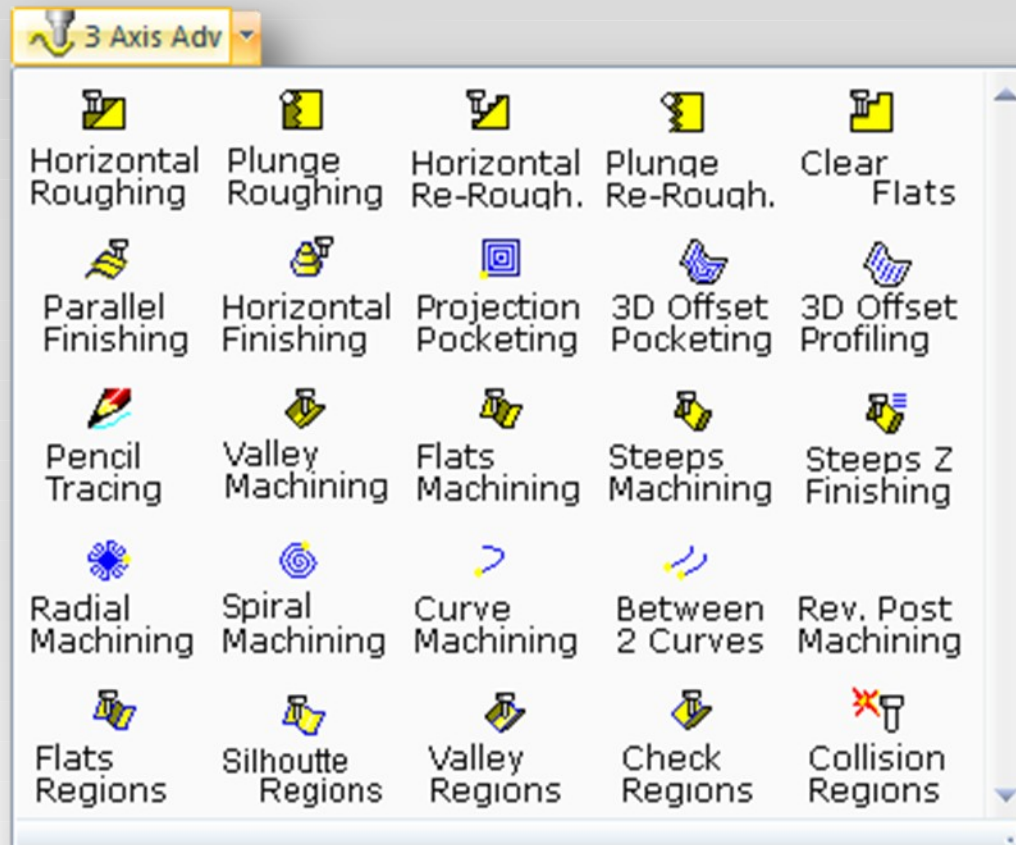
Form Cutters

Create your own cutter profiles to profile custom cross-sectional shapes.*



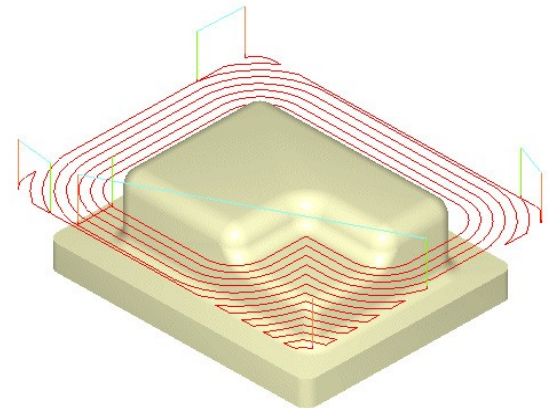
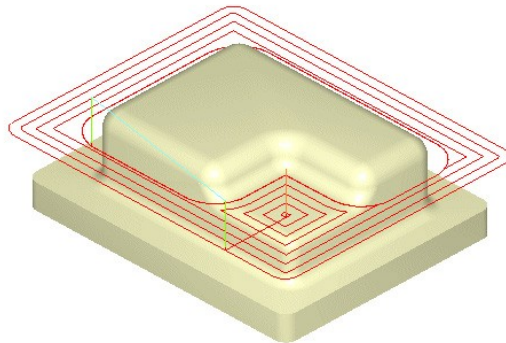
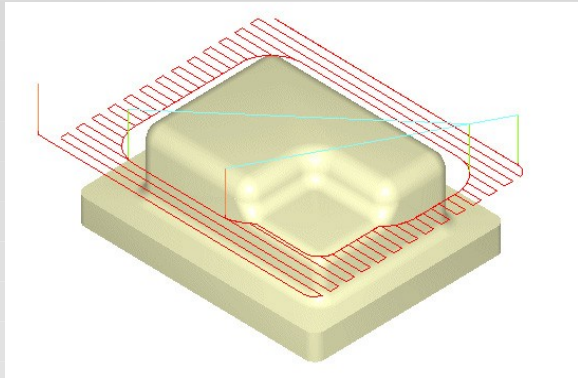
3 Axis Machining

Power, efficiency and control for complex sculpted shape machining.



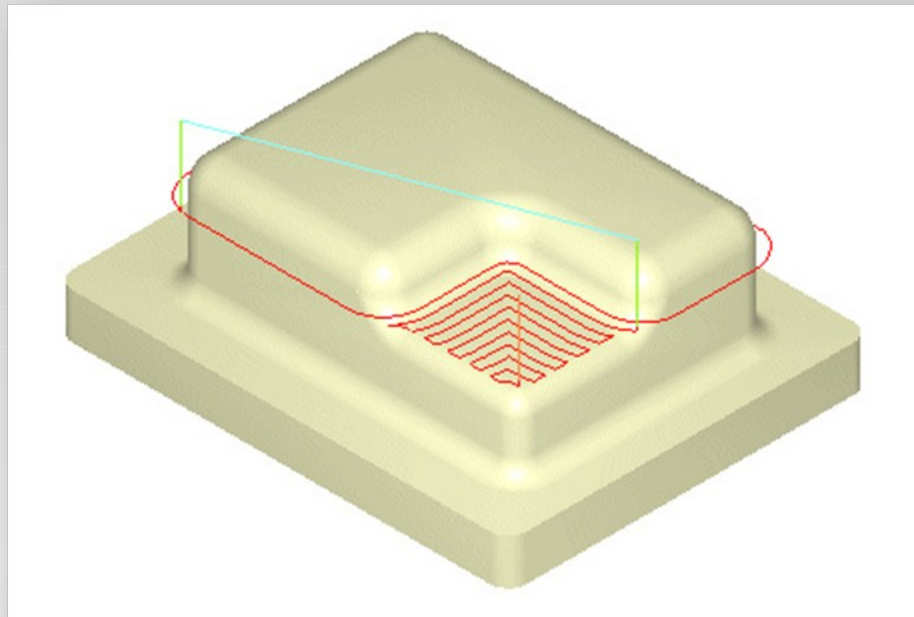
3 Axis Horizontal Roughing

Also known as waterline or constant Z cutting, in which the material is roughed out in horizontal layers.



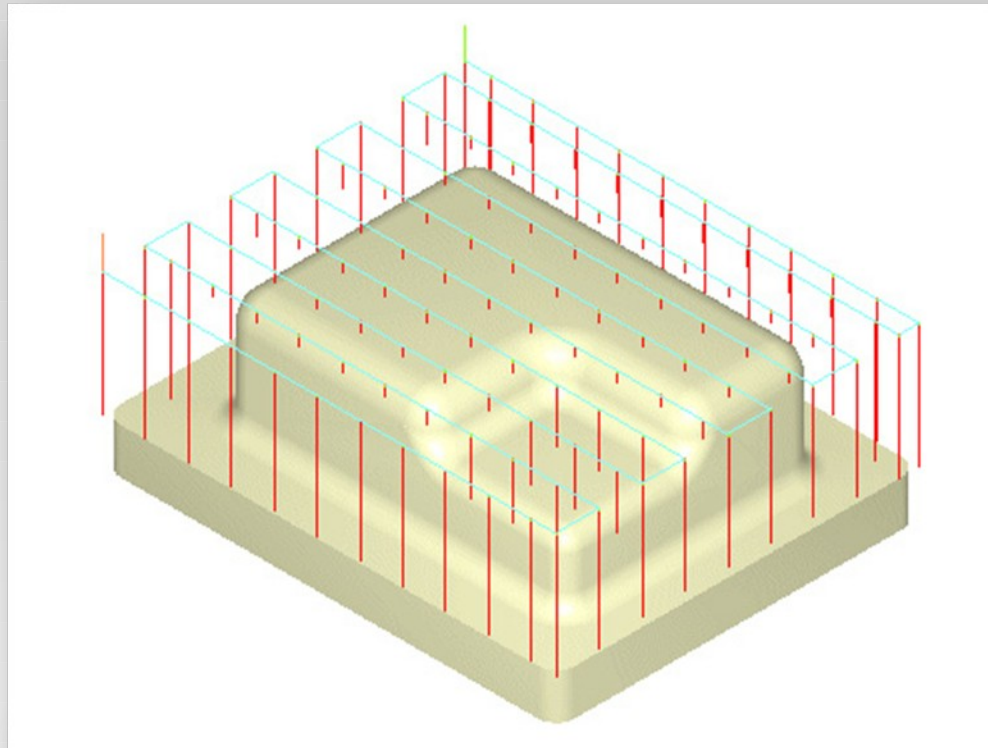
3 Axis Horizontal Re-Roughing

Machine only the material not machined by a previous Horizontal Roughing operation.



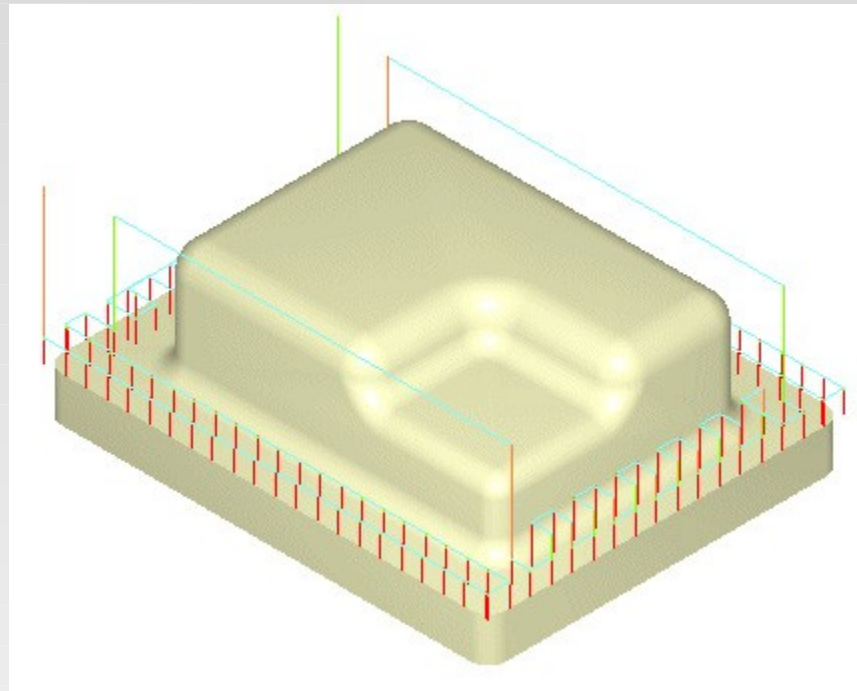
3 Axis Plunge Roughing

The tool makes a series of overlapping plunges to remove cylindrical plugs of material.



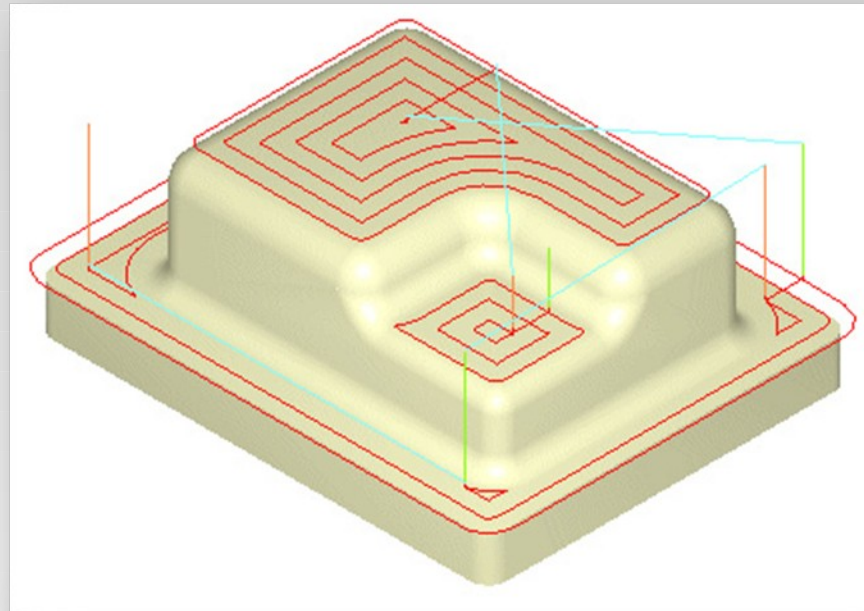
3 Axis Plunge Re-Roughing

Method uses plunge motions to machine areas that were not machined by previous operations.



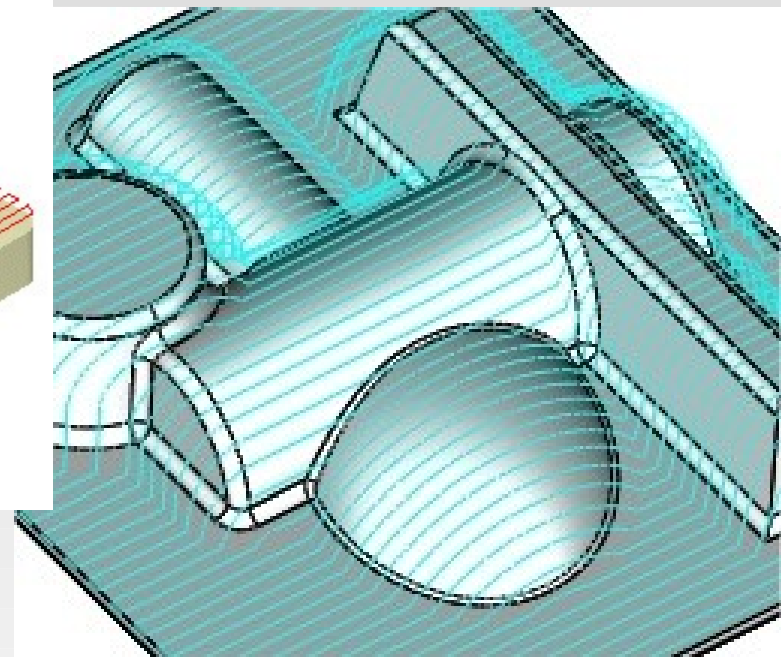
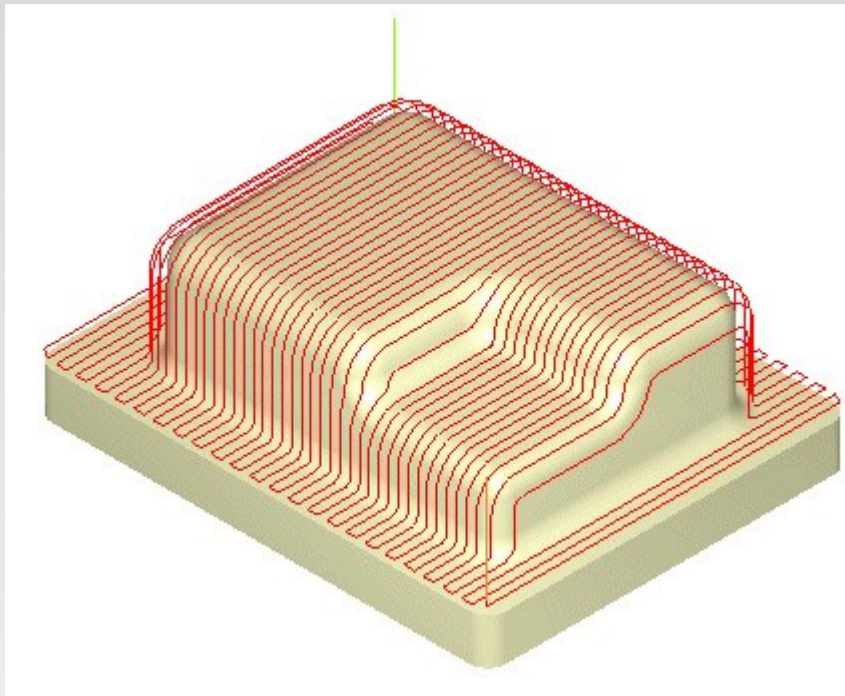
3 Axis Flats Roughing

Rough out only flat areas in the part.



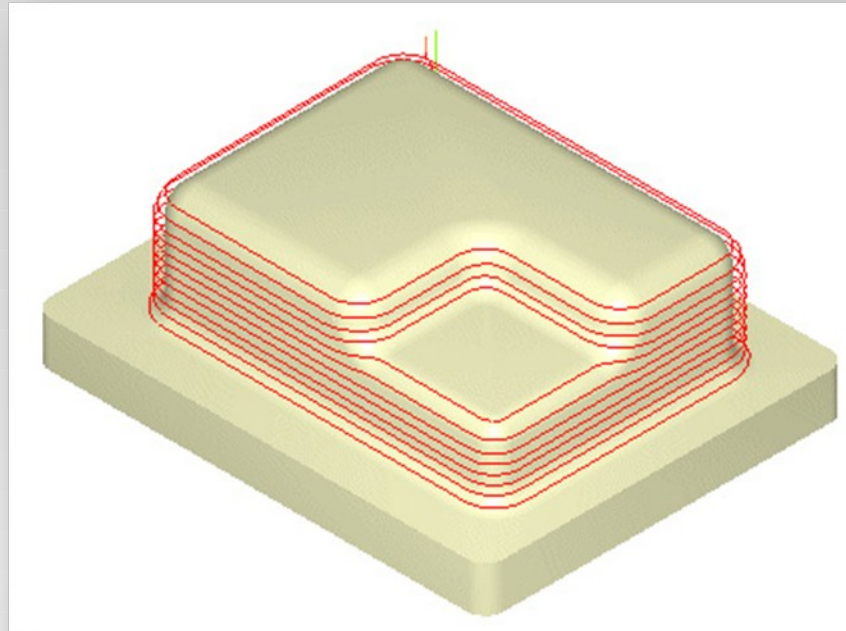
3 Axis Parallel Finishing

Efficient method of finishing or pre-finishing. The tool moves along a parallel cut pattern, following the contours of the part geometry below.



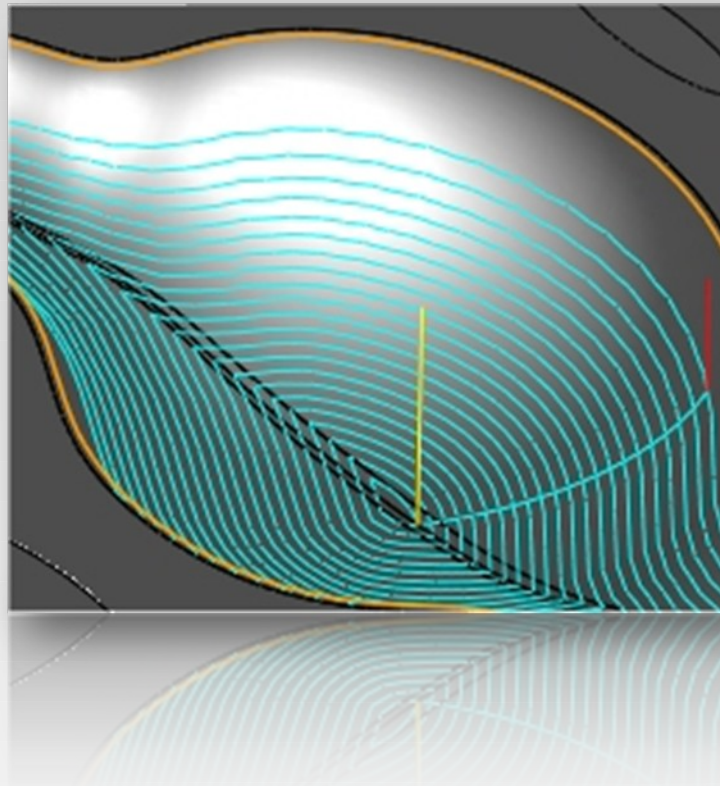
3 Axis Horizontal Finishing

Method is used for pre-finishing or finishing in constant Z levels, typically used when the part has large vertical features.



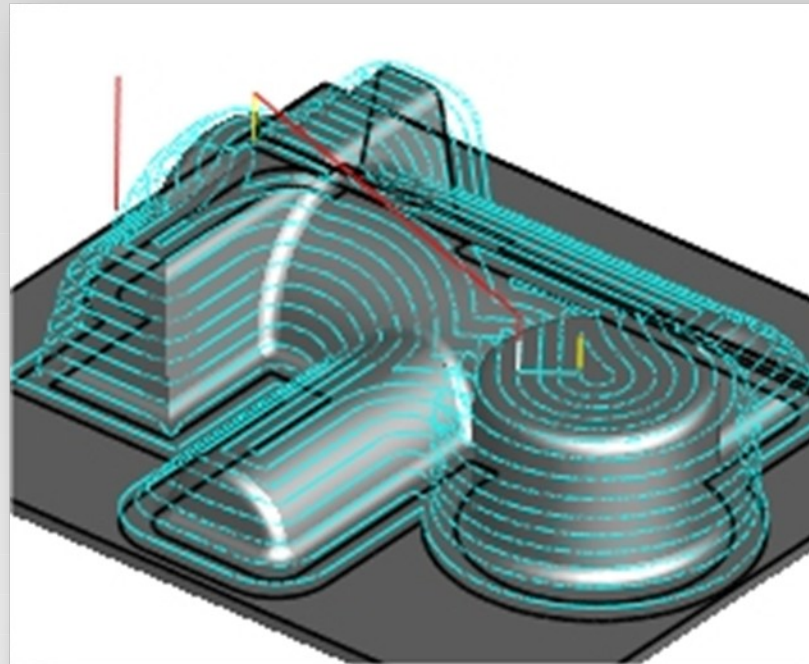
3 Axis Projection Pocketing

Method is used for pre-finishing and finishing of pockets with sculpted bottoms and/or sides.



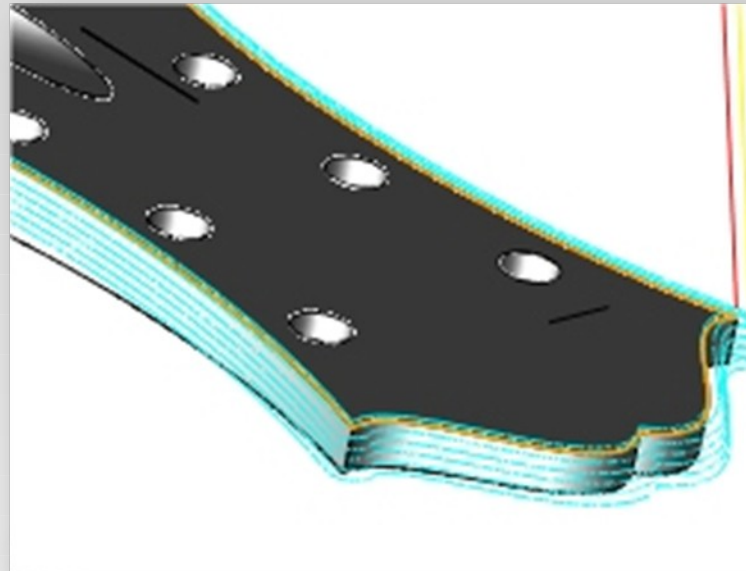
3 Axis Offset Pocketing

Method used to machine pockets wherein the tool moves along the part with a constant 3d step over thereby leaving a constant scallop on the part geometry



3 Axis Offset Profiling

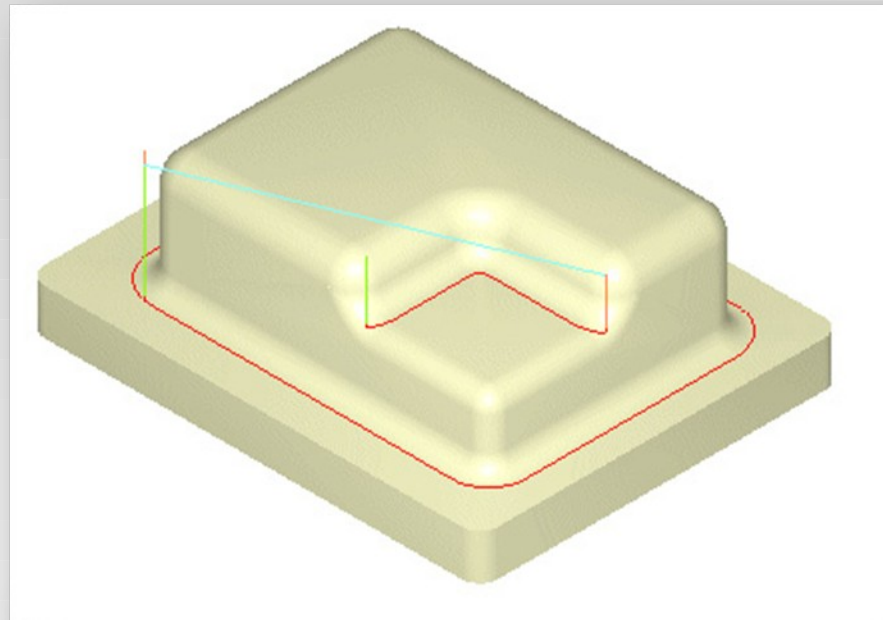
Method is used for pre-finishing or finishing wherein the tool simultaneously follows the selected curves and the contours of the part below in constant 3d.*



** Available only in the Pro product*

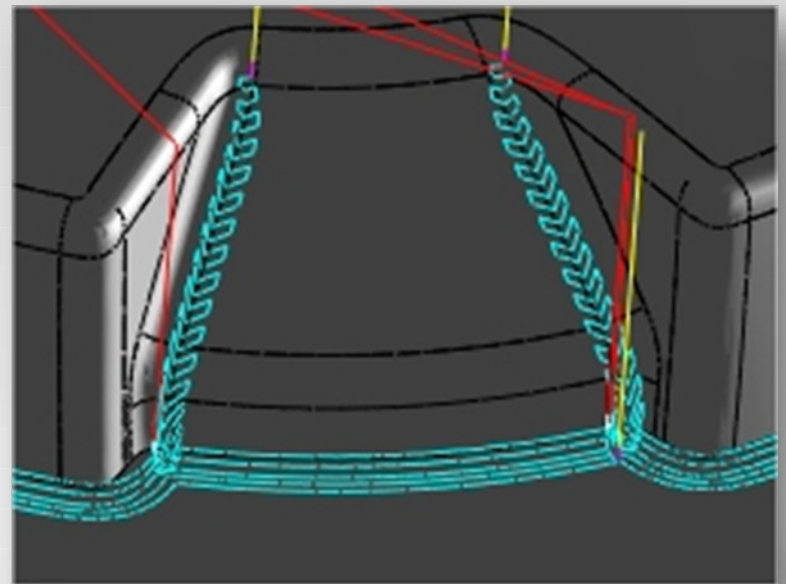
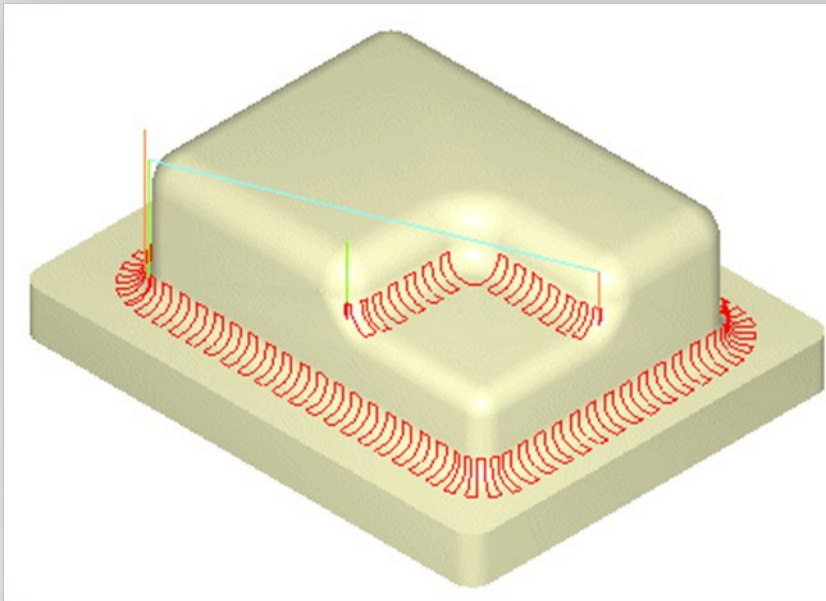
3 Axis Pencil Tracing

Used either for roughing, re-machining, or cleanup, where the tool is driven along valleys and corners of the part.



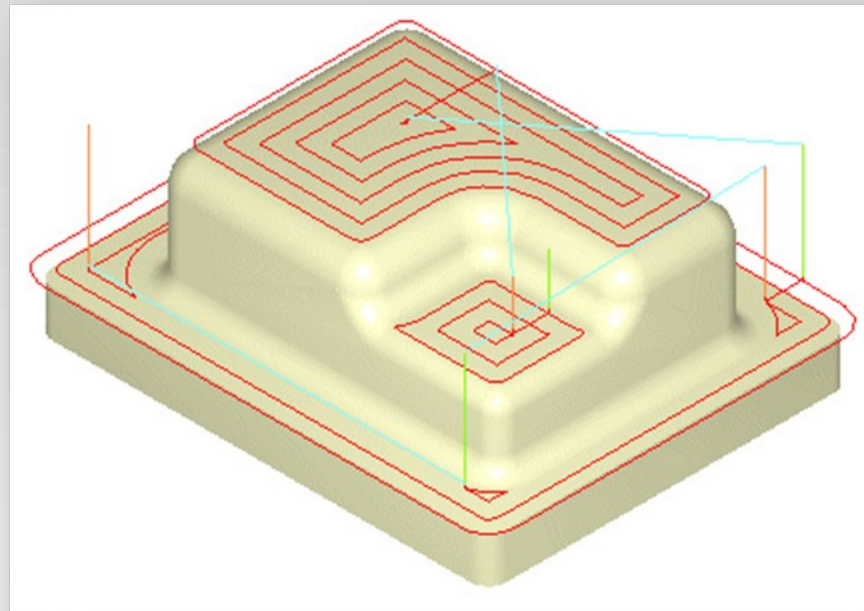
3 Axis Valley Re-Machining

Machine corners and valleys that were inaccessible in previous finishing operations.



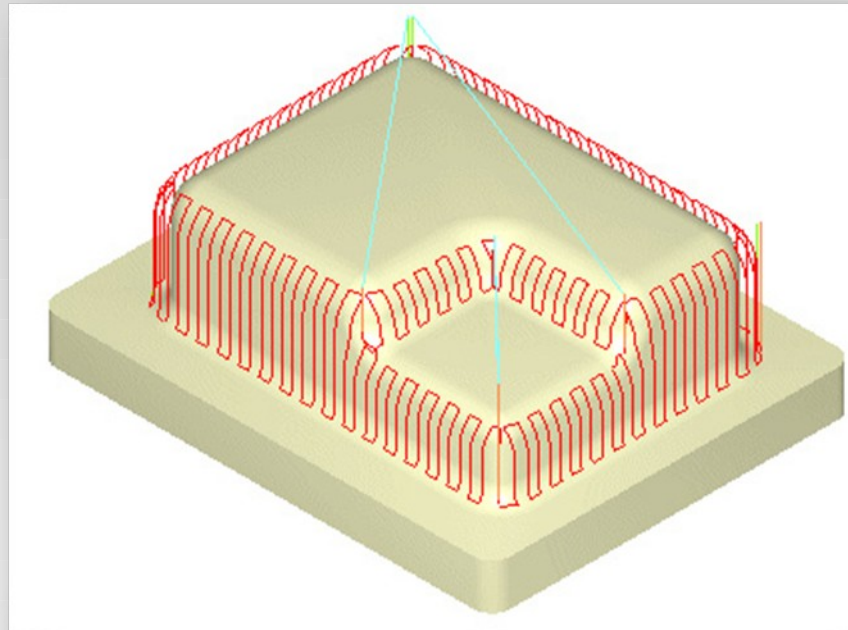
3 Axis Plateau Machining

Method machines the tops of flat areas – areas that are within a specified angle from horizontal.



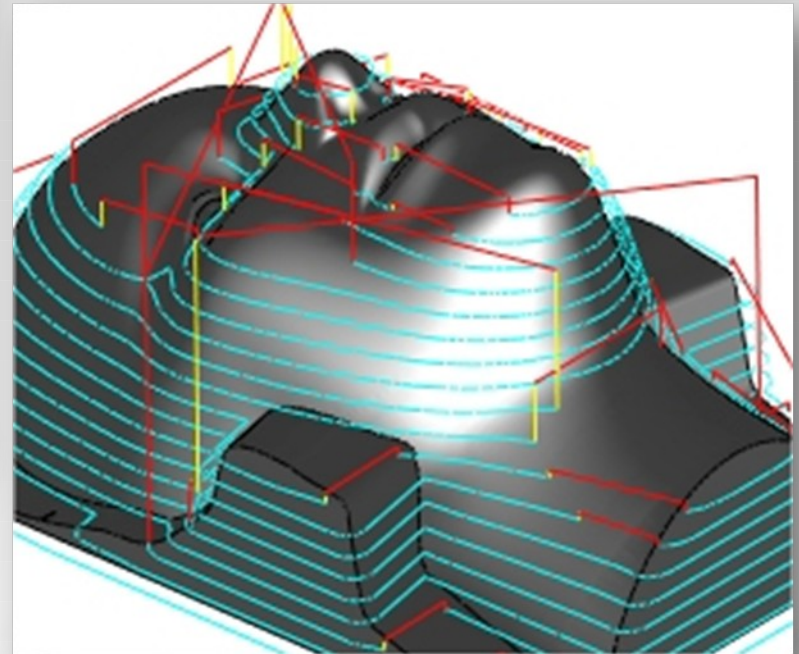
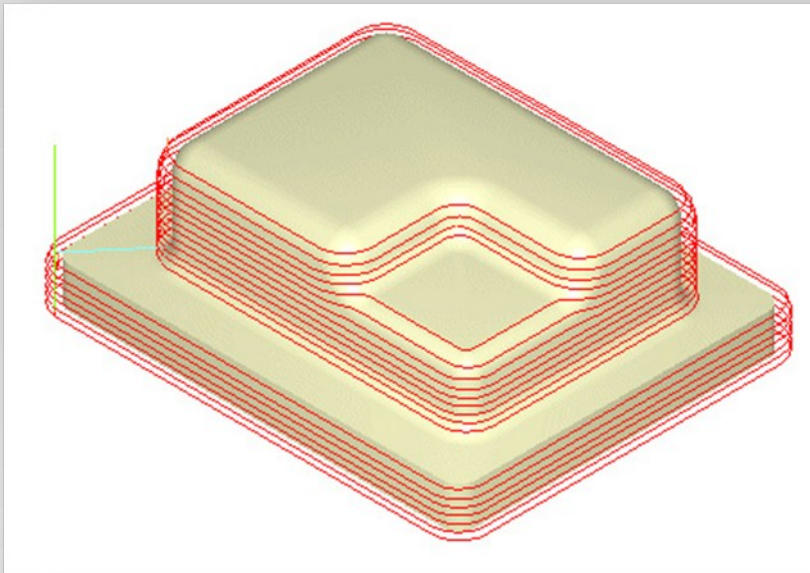
3 Axis Parallel Hill Machining

Method machines steep areas. These are areas that are within a specified angle from vertical.



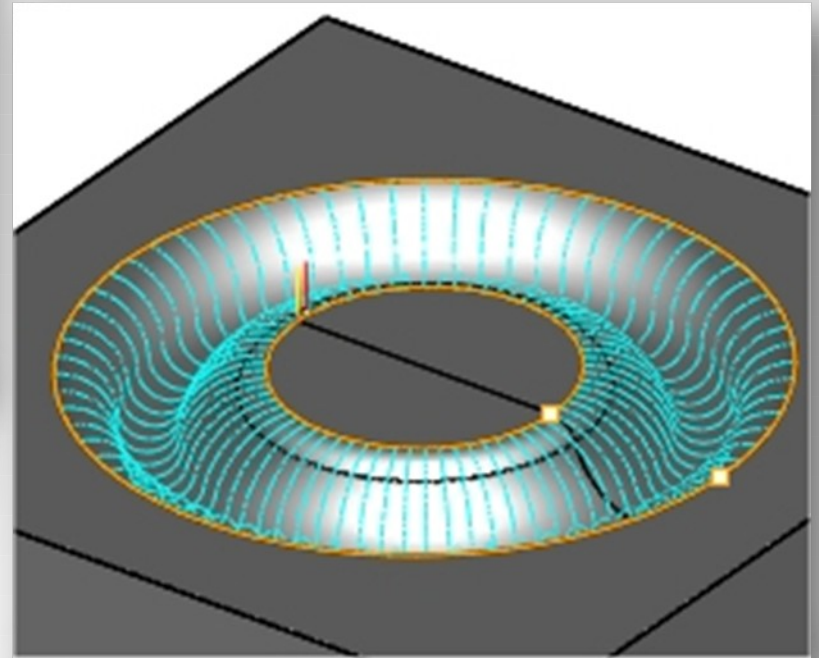
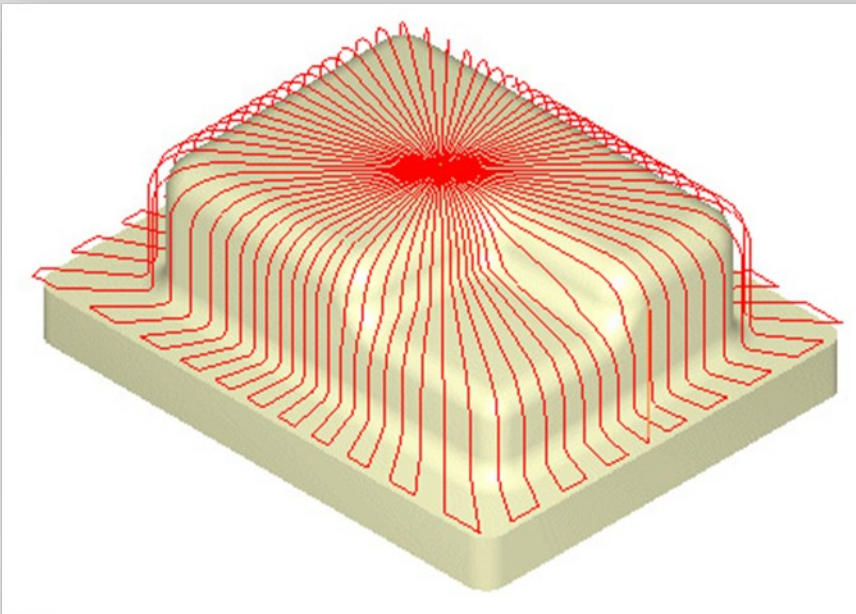
3 Axis Horizontal Mill Machining

Method machines in constant Z levels. Machining can be restricted only to areas in the part that are steeper than a user-defined steepness angle.



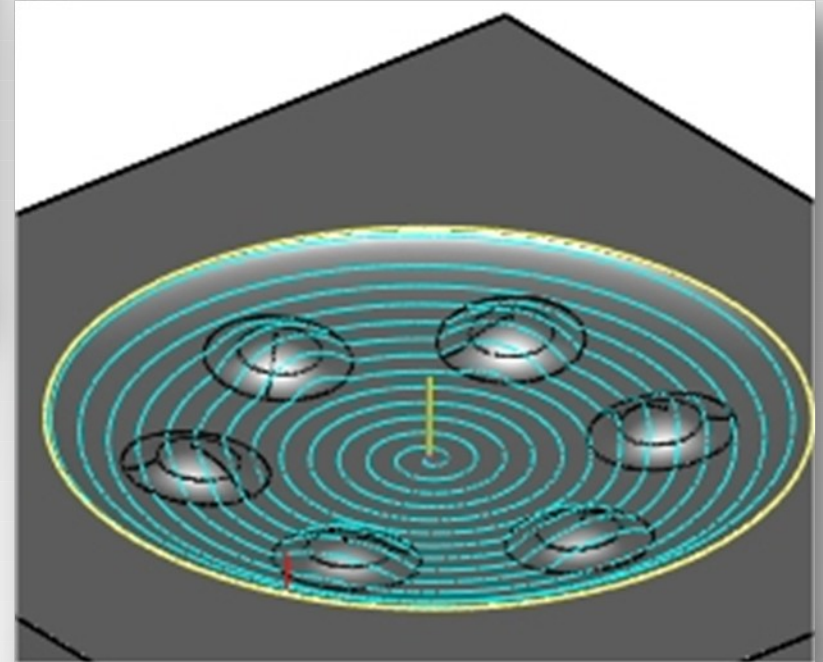
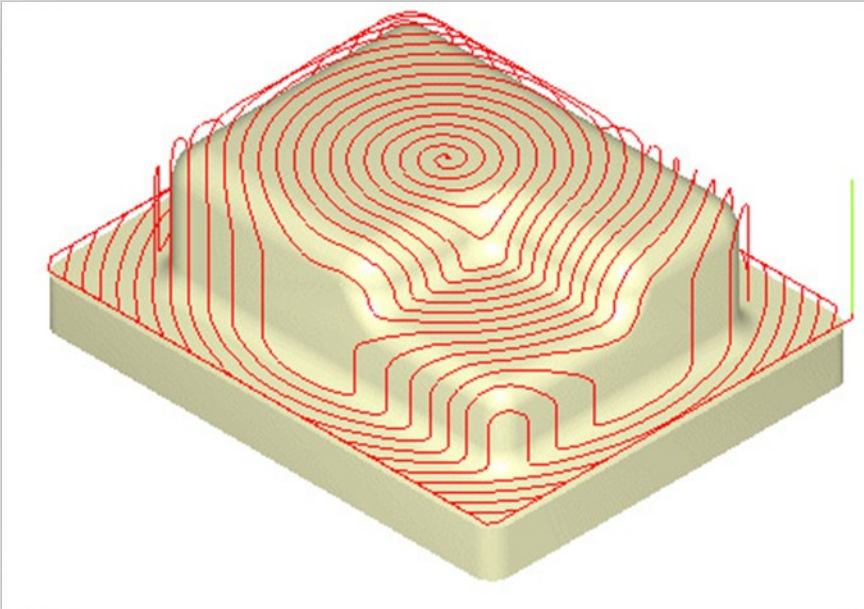
3 Axis Radial Machining

Method is used as a finishing operation for areas that have annular pockets, generating a radial toolpath.



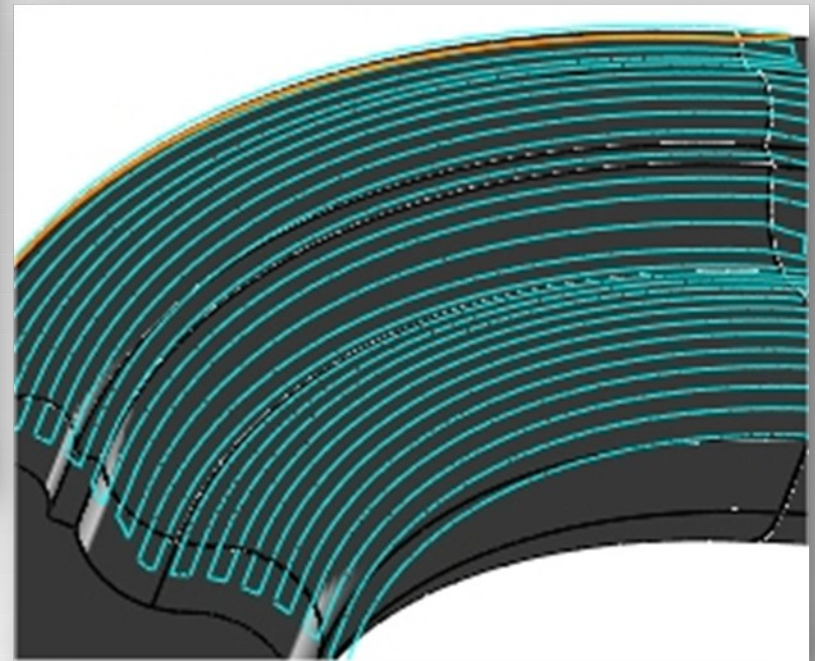
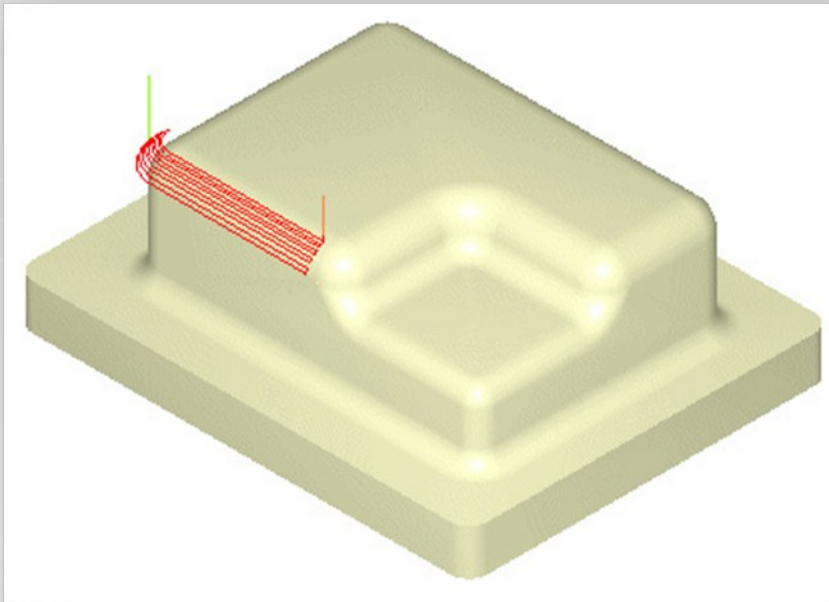
3 Axis Spiral Machining

Method is used for finishing areas that have circular or near-circular characteristics, generating a spiral toolpath.



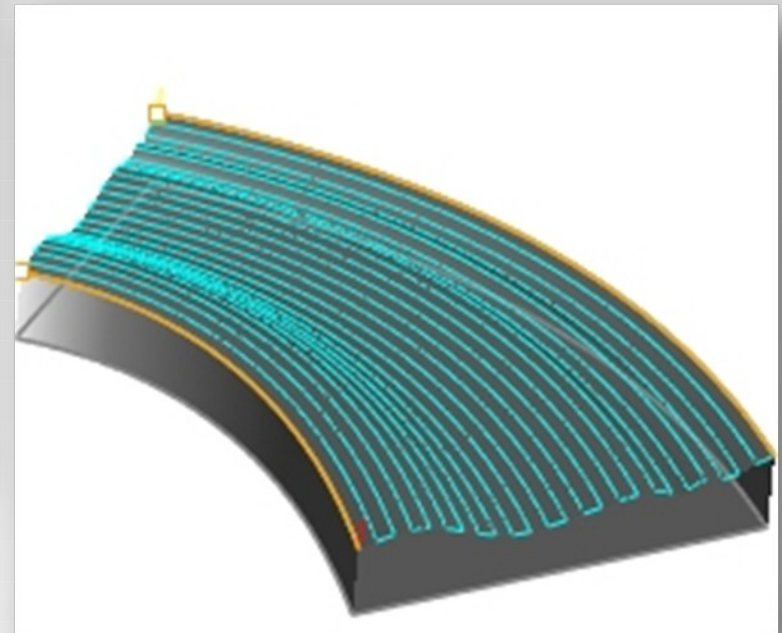
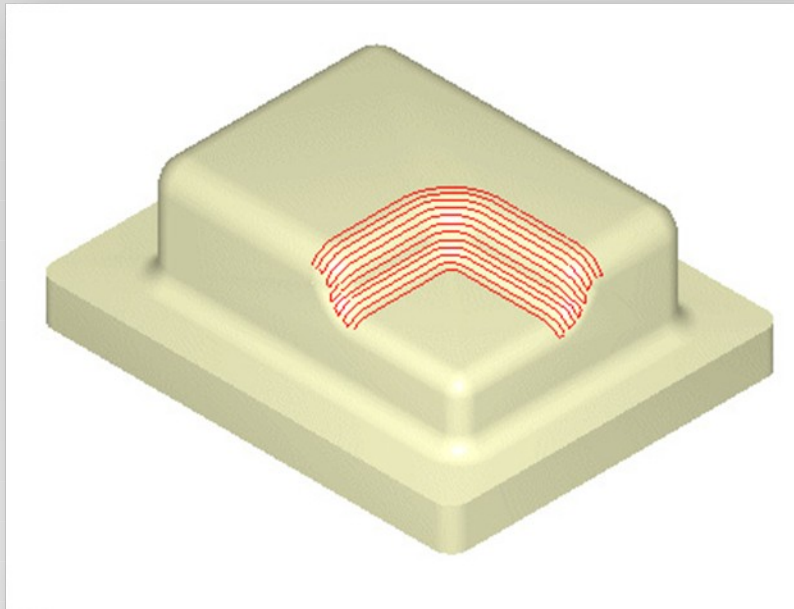
3 Axis Curve Machining

Method machines along a curve in isolated areas or shapes.



3 Axis Between 2 Curves Machining

Flow-line machining, this method machines between two open or closed curves.

A 3D CAD model of a curved surface, possibly a part of a turbine or a mold. Blue lines represent the flow-line machining paths, which are densely packed and follow the contour of the surface. The surface is dark grey, and the paths are a bright cyan blue.

3 Axis Reverse Post Machining

Loads toolpaths from APT CL files and ISO standard G Code files.

Used to :

- Project the tool onto part surfaces.
- Load an existing toolpath to simulate it in VisualMill.

4 Axis Machining

Complete control for machining parts on a 4 axis rotary table.

- Use both indexed and continuous machining methods.
- Use Curve based as well as Surface/Solids/Mesh based machining



4 Axis Rotate Table

Perform machining by indexing rotary table to any angle to orient the part. Use this to access areas that normally will not be accessible from a simple 3 axis setup.

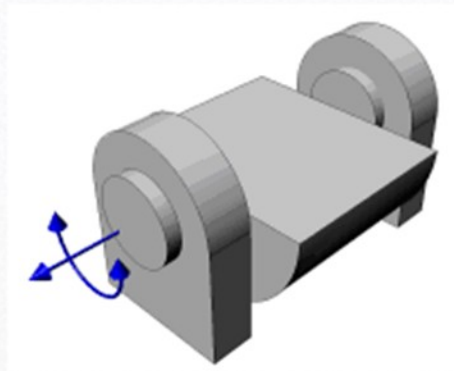


Table Rotation Angle: 90

☒ Counter Clockwise ☐ Clockwise

☐ Incremental Rotation

Repeat Count: 1

4 Axis Facing

Method is used for clearing out areas on a cylindrical face of a part using curves. Similar to 2 Axis Facing except all machining is performed on the face of a user defined cylinder.



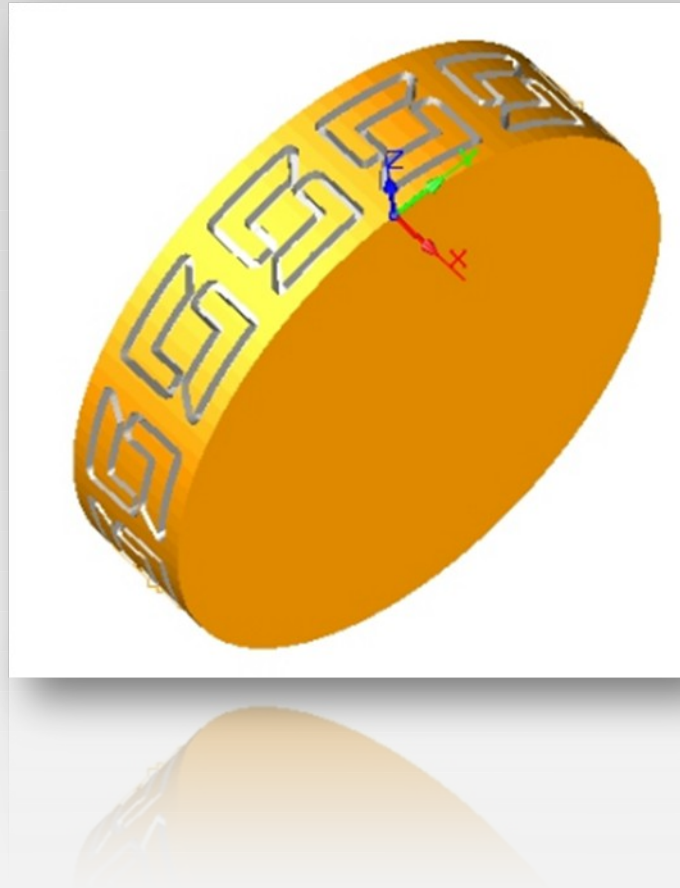
4 Axis Pocketing

Method is used for cutting out pockets on a cylindrical face of a part using curves. Similar to 2 Axis Pocketing except all machining is performed on the face of a user defined cylinder.



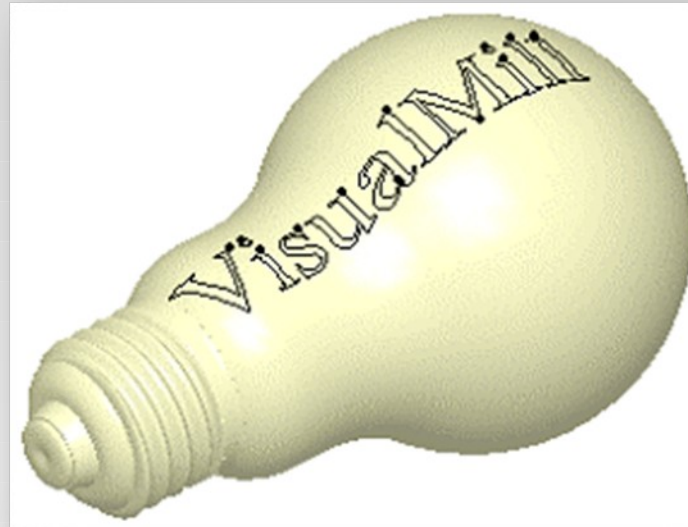
4 Axis Profiling

Method is used for following curves on a cylindrical face of a part using curves. Similar to 2 Axis Profiling except all machining is performed on the face of a user defined cylinder.



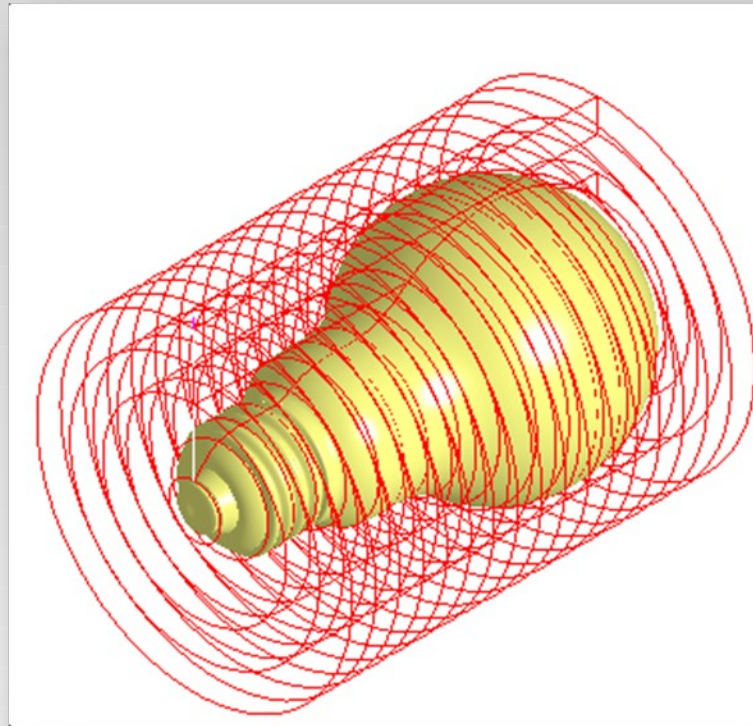
4 Axis Engraving

Machine text/logos by following the selected regions in continuous 4 Axis mode.



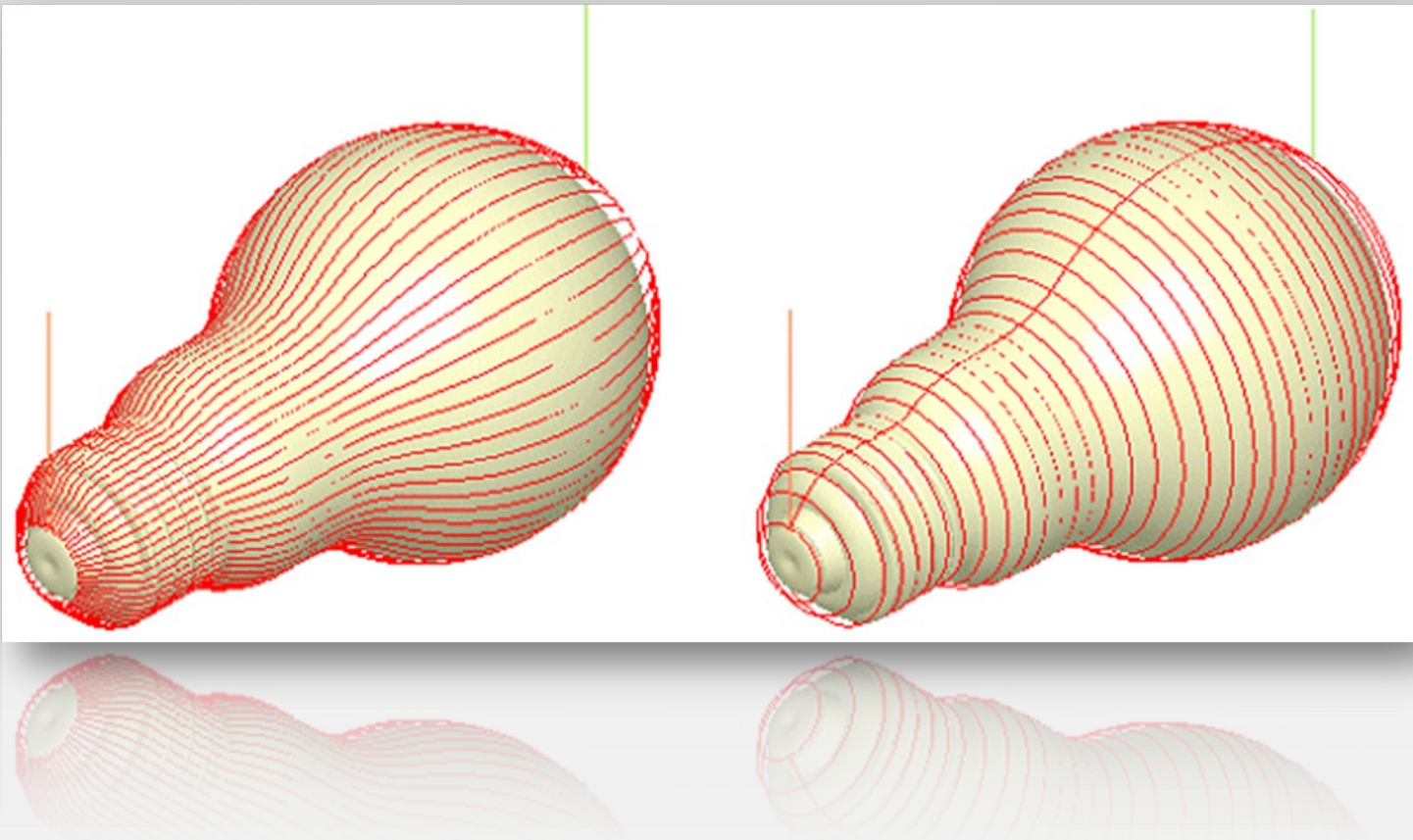
4 Axis Parallel Roughing

Rough surfaces/solids/meshes in continuous 4 Axis mode.



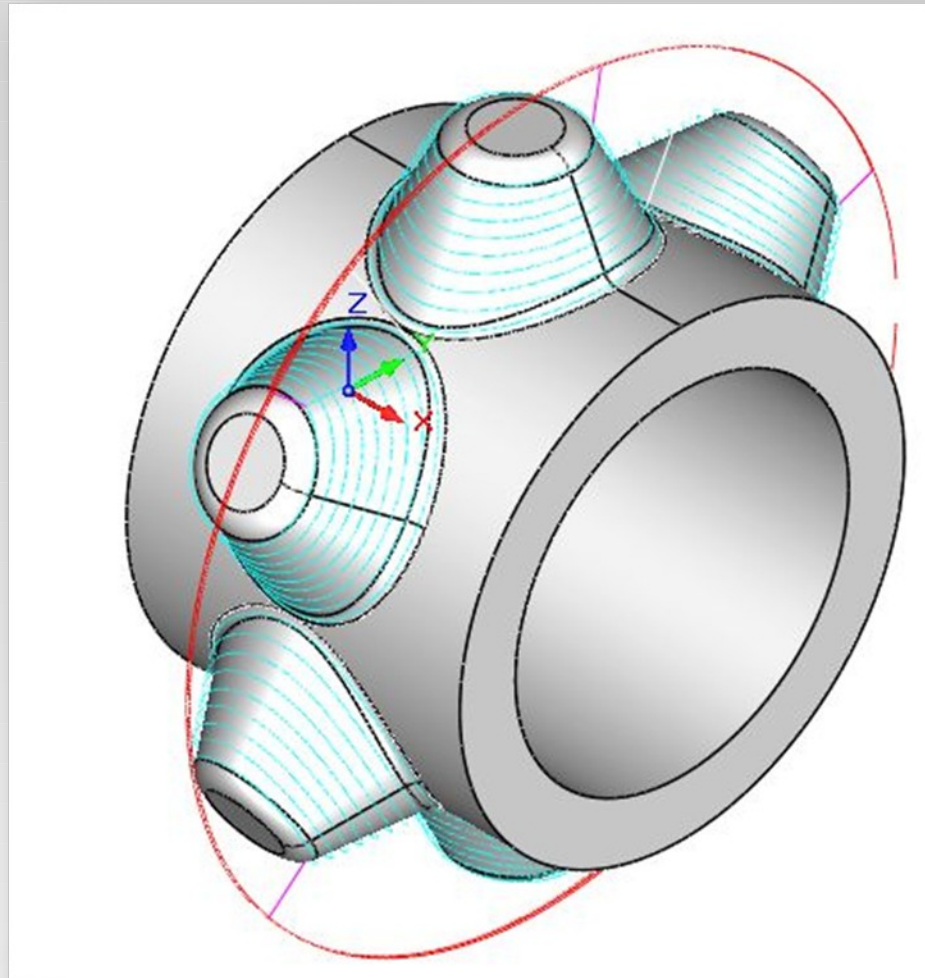
4 Axis Parallel Finishing

Finish surfaces/solids/meshes in continuous 4 Axis mode.



4 Axis Radial Finishing

Finish surfaces/solids/meshes in levels in 4 Axis mode.



Hole Making

Hole making strategies:

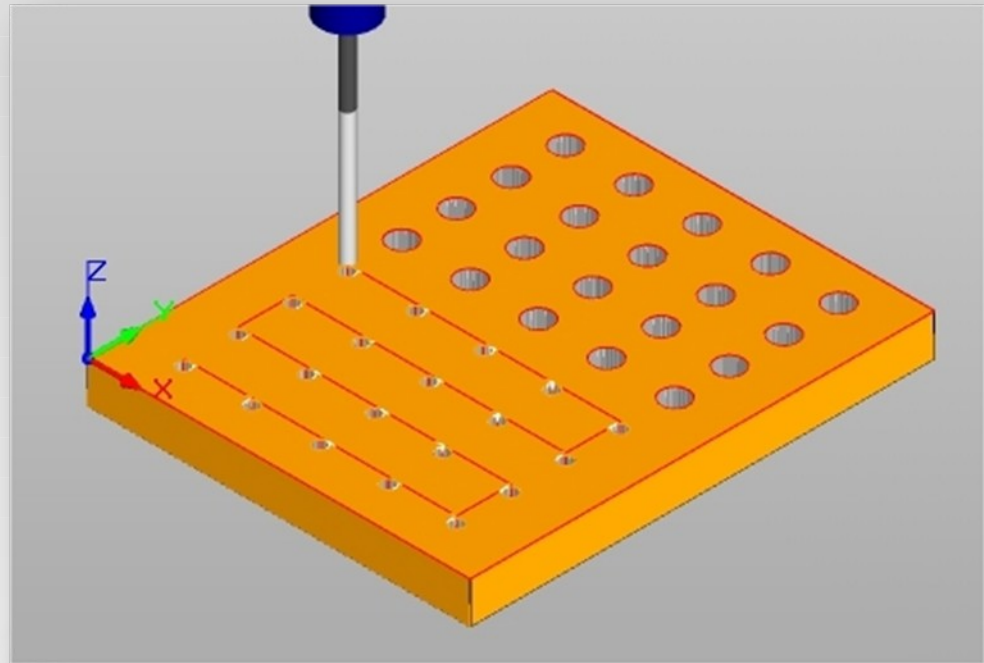
- Standard, Deep, Break chip & Counter Sink Drilling
- Taping
- Drag, No-Drag, Manual & Reverse Boring

Select Holes based on:

- Size
- Color
- Layer
- Order of creation

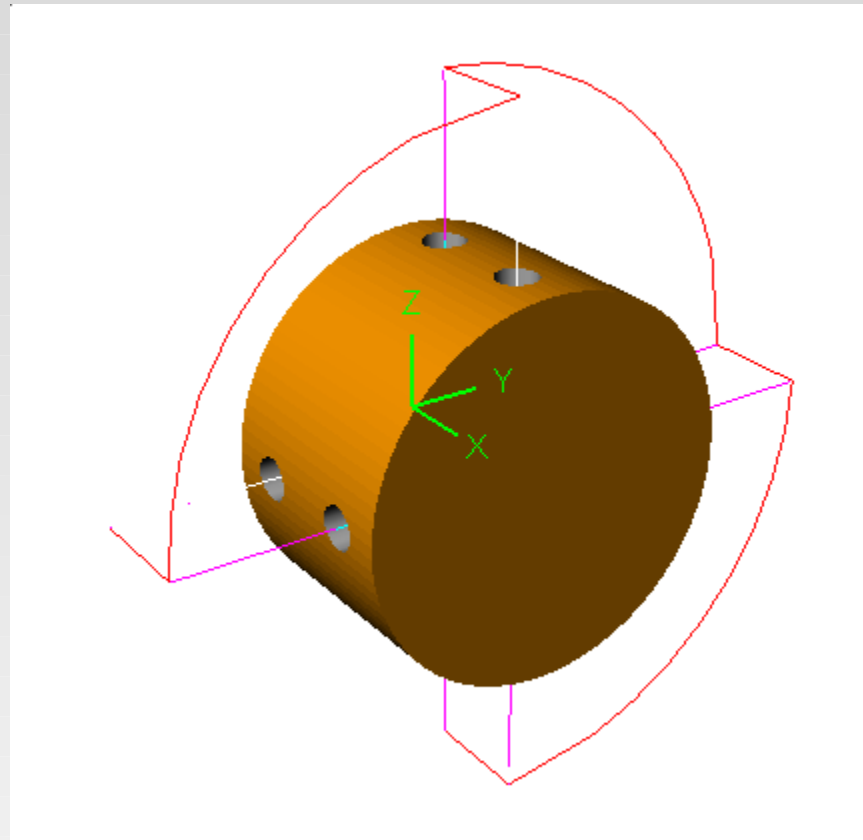
Optimize tool travel on:

- Direction
- Angle
- Cut Pattern
- Sort along an angle



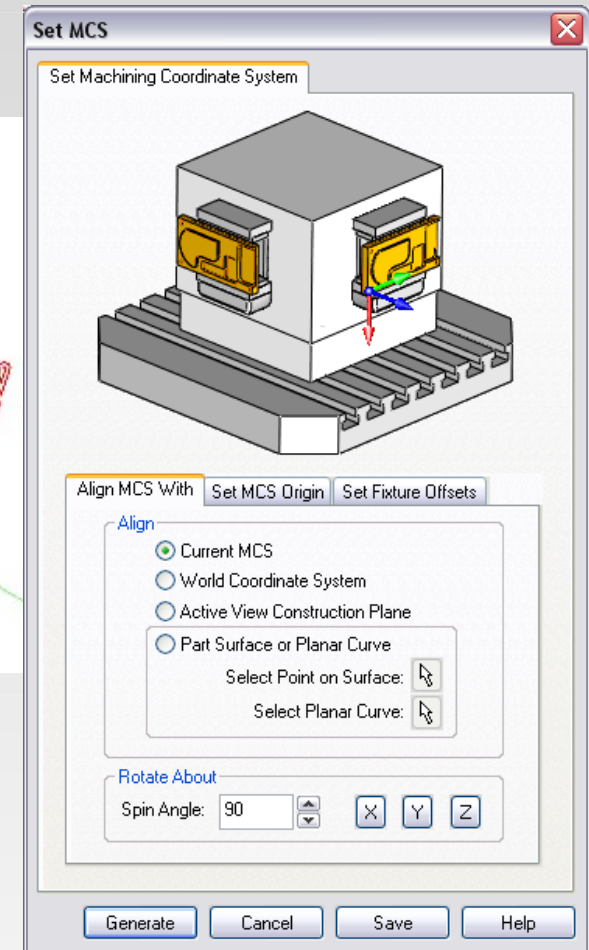
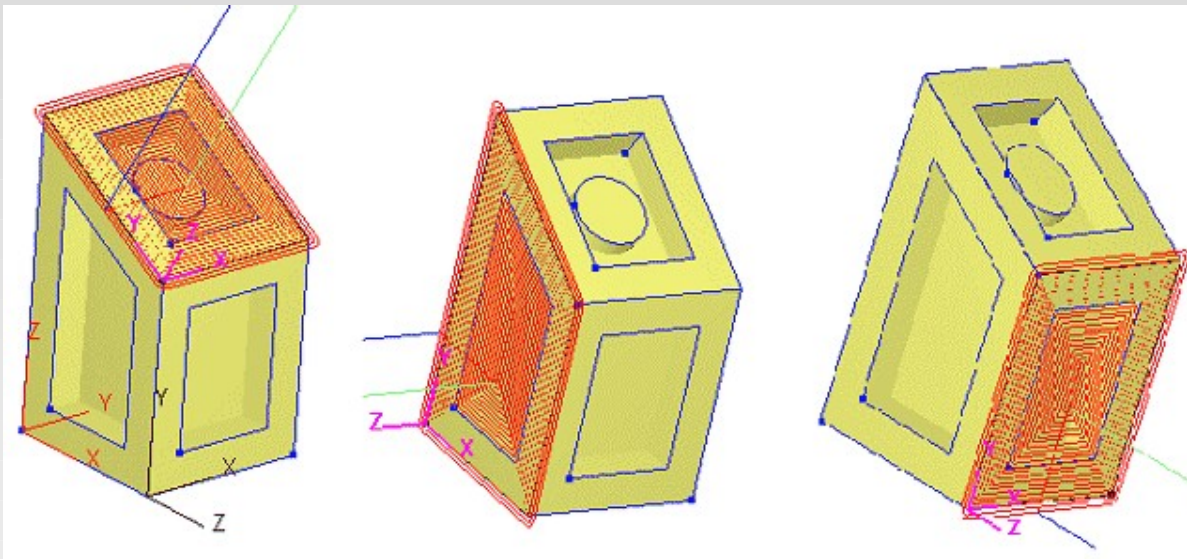
4 Axis Hole Making

Drill, Tap, Bore and Reverse Bore Holes in 4 Axis mode



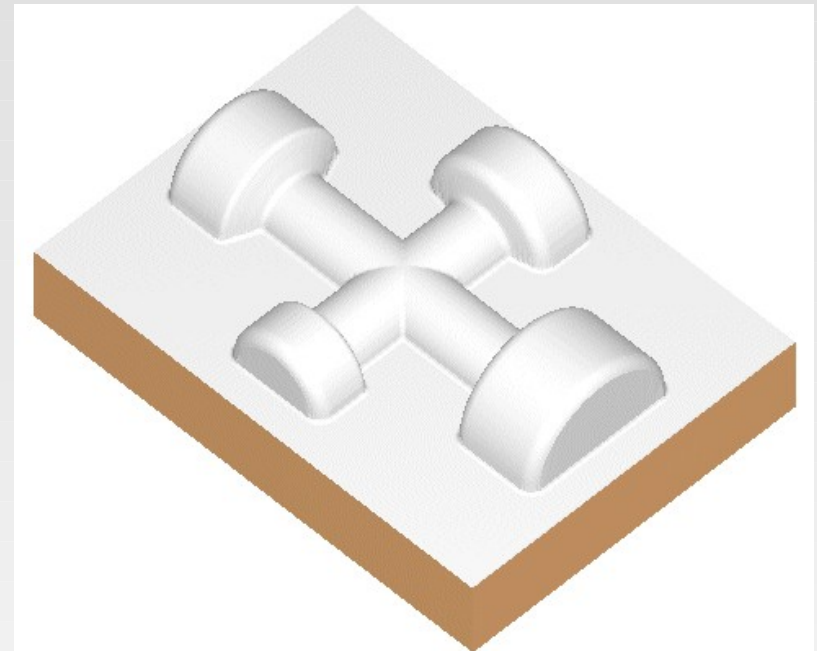
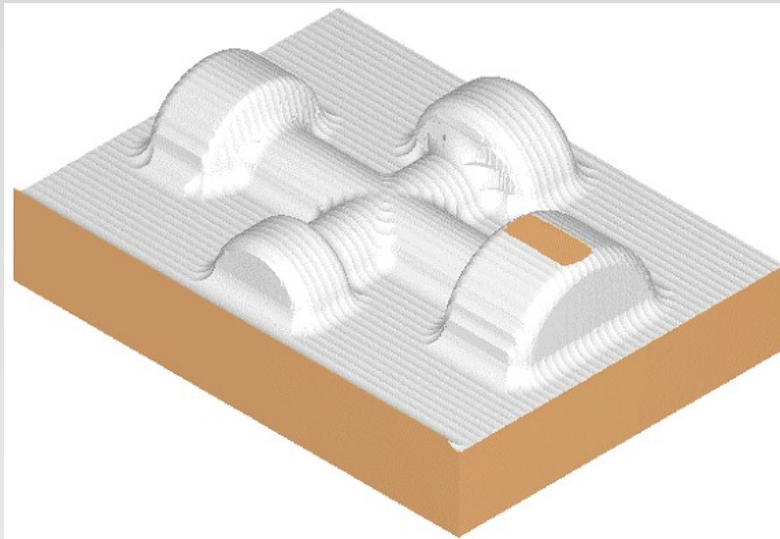
5 Axis Indexed Machining

Machine from any orientation using Machining Coordinate Systems to perform 5 Axis Indexed machining.



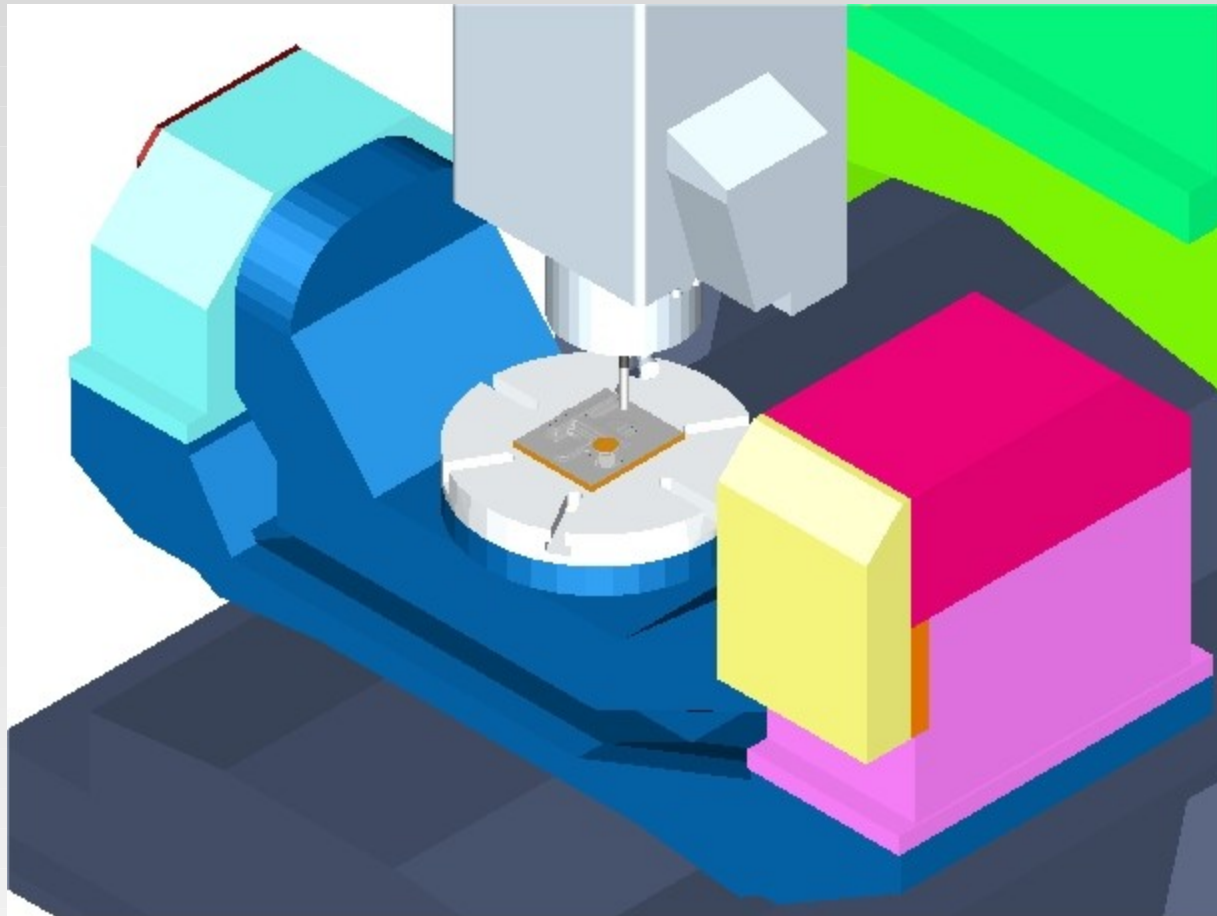
Stock Models & Simulation

Use various types of stock model for cut material simulation.



Machine Tool Simulation

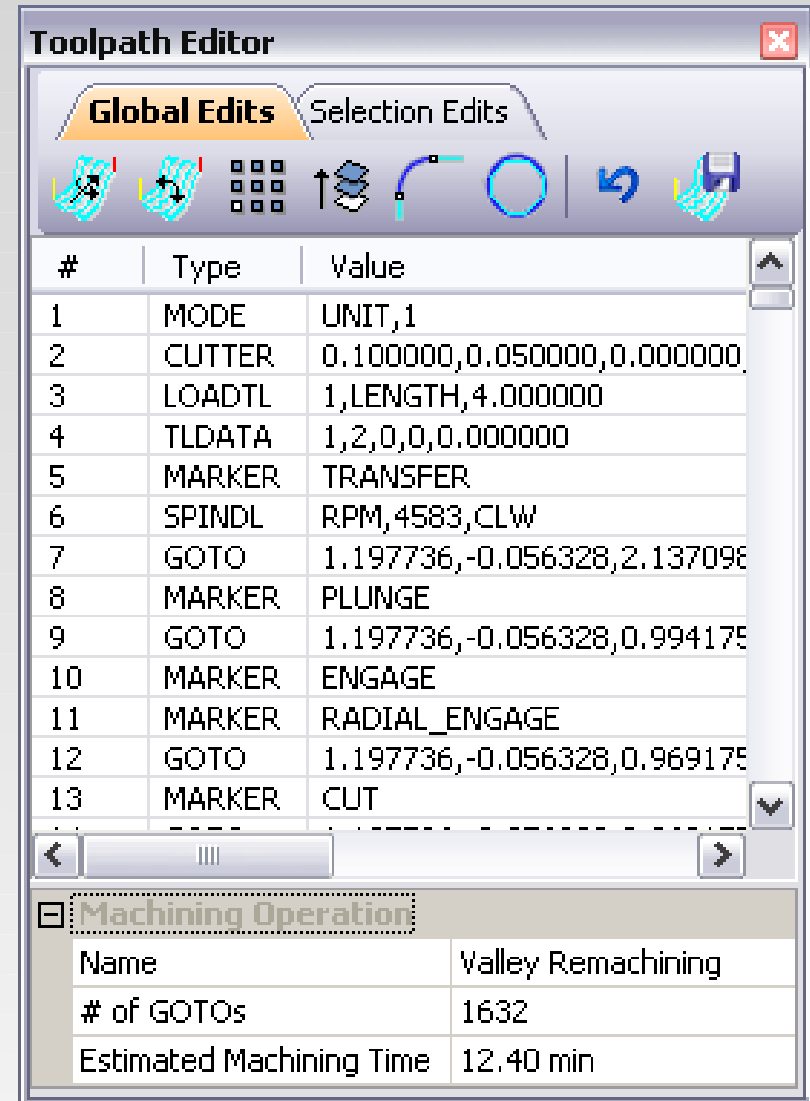
Use different machine tool models to simulation 5 axis machining.



Graphical Toolpath Editor

Use the toolpath editor to graphically:

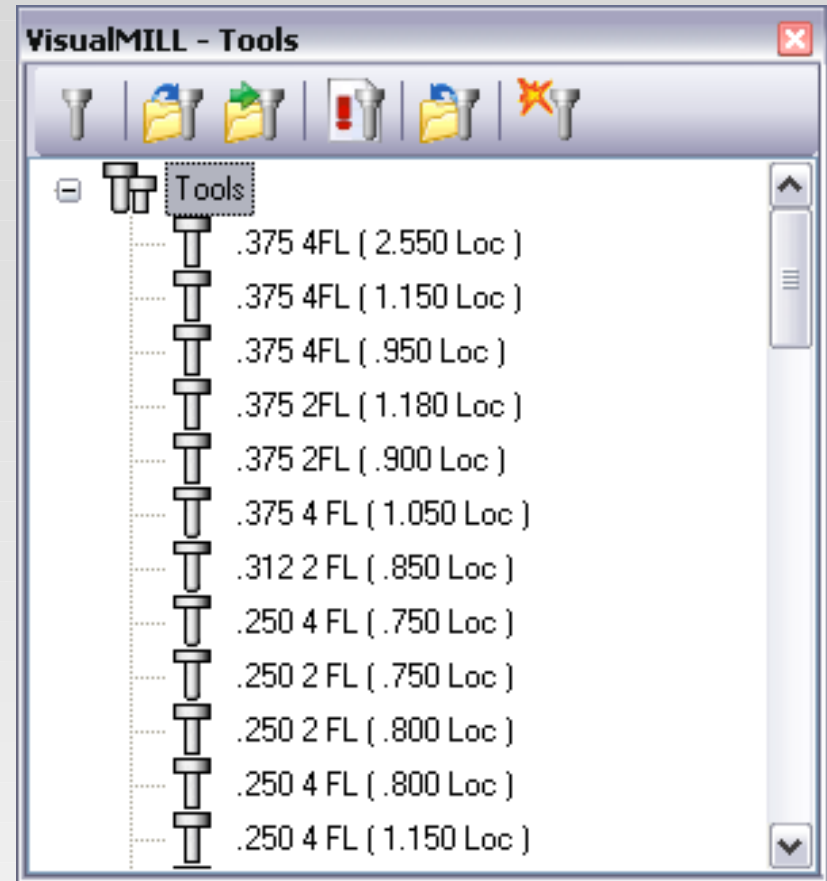
- Edit Tool motions
- Delete individual or set of motions
- Move, rotate, scale, mirror toolpaths
- Instance toolpaths
- Fit arcs and reduce toolpaths
- Insert post commands



Tool Libraries

Save and Load Libraries of

- Tools
- Cutting Feeds & Speeds

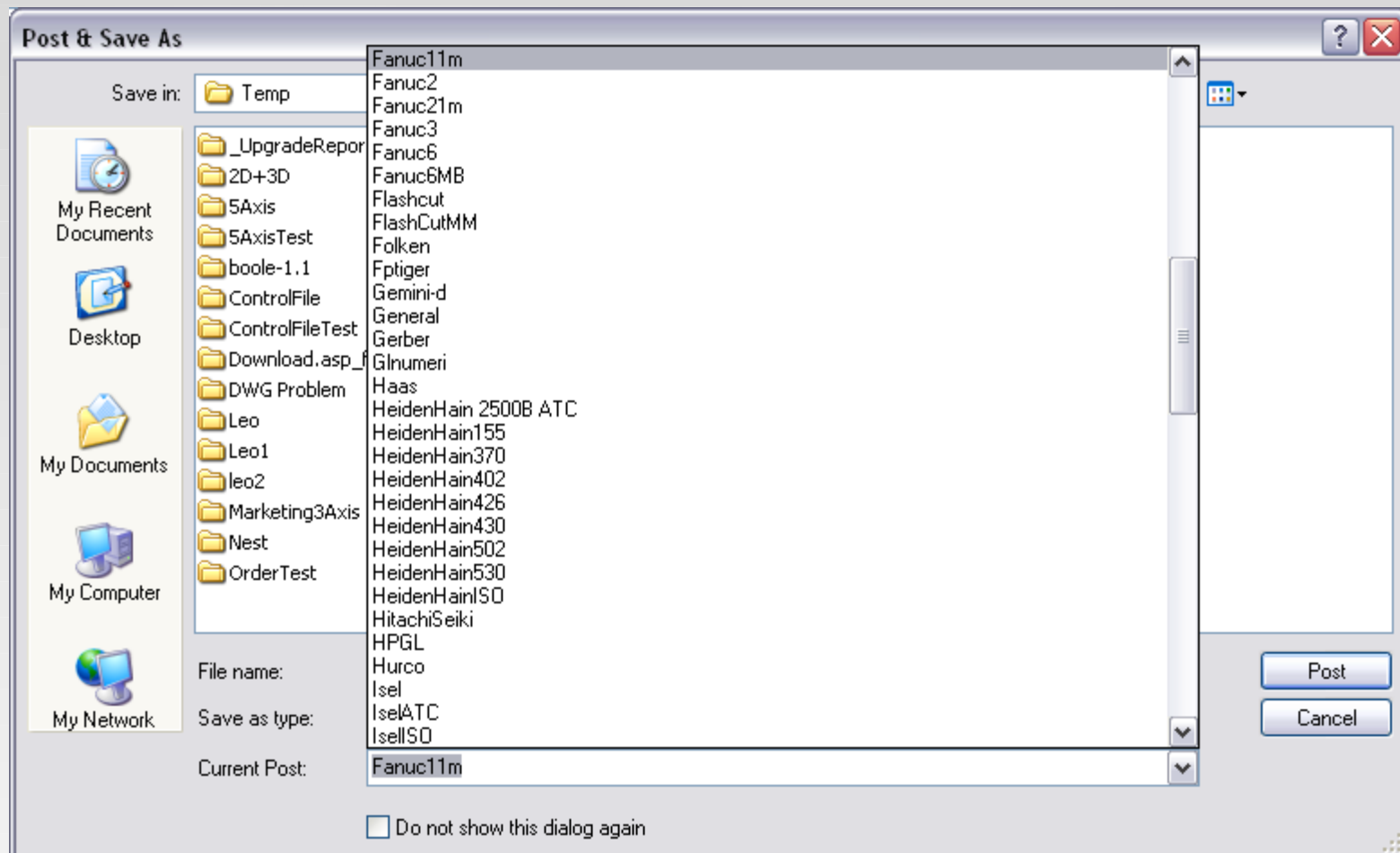


Knowledge Bases

- Edit Tool motions
- Delete individual or set of motions
- Move, rotate, scale, mirror toolpaths
- Instance toolpaths
- Fit arcs and reduce toolpaths
- Insert post commands

Post Processors

RhinoCAM comes with a large set of post-processors to choose from
Use Post-Processor editor to create your own posts.



Post Processor Generator

Use Post generator to create new posts or to customize existing ones.

Post-Processor Generator C:\Program Files\MecSoft Corporation\VisualMill 5.0\Posts\Fanuc11m.spm

General Motion Circle Helical/Spiral Spindle Feed Rate Misc Start / End Tool Change Multi Axis Motion Cycles Variables

File Control

Output File Extension

File Start Reading Char

File Stop Reading Char

Sequence #s

☒ Use Sequence #s

Prefix Letter

Increment

Start value

☒ Show Leading Zeros

Number of Digits

Comments

☐ Output Comment

Comment Start Char

Comment End Char

☐ Output sequence number

Mode

☒ Absolute Code

☐ Incremental Code

Units

☒ Inch Code

☐ Metric Code

Block Format

Delimiter

☒ None ☐ Space ☐ Tabs

☐ User Defined

End of Block Character

☐ Always output + sign

Modal Output

☒ GCode ☒ Feedrate

☒ Coordinate ☒ Spindle speed

Save Save As... Close Help

All this and more...

- Industry's best technical support!
- Loyal and passionate users! Check out the *Testimonial* section of our *Products* page of our web-site for customer testimonials.
- Wide variety of applications! Check out the *Case Studies* section of our *Products* page to read about the application of Alibre CAM.
- Strong Partners! Check out our *OEM Partners* section of our *Partners* page to see who is using Alibre CAM Technology.
- Free User Group! Converse with current users of Alibre CAM for valuable insights.

N0004G90G0X-5.Y-10.7579S4583M3
N0005G43Z1.4598H0
N0006G1Z0.5182F7
N0007X-4.002Z0.5181F3.67
N0008X-2.252Z0.5165
N0001G20G90G99
N0005G43Z1.4598H0
N0006G1Z0.5182F7.33
N0007X-4.002Z0.5181F3.67

The New Leaders in CAM

MecSoft

You just cannot go wrong with Alibre CAM!

Don't take our word for it. Download a demo today and prepare to be amazed!

MecSoft Corporation

18019, Sky Park Circle, Ste K-L
Irvine, CA – 92614

www.mecsoft.com

