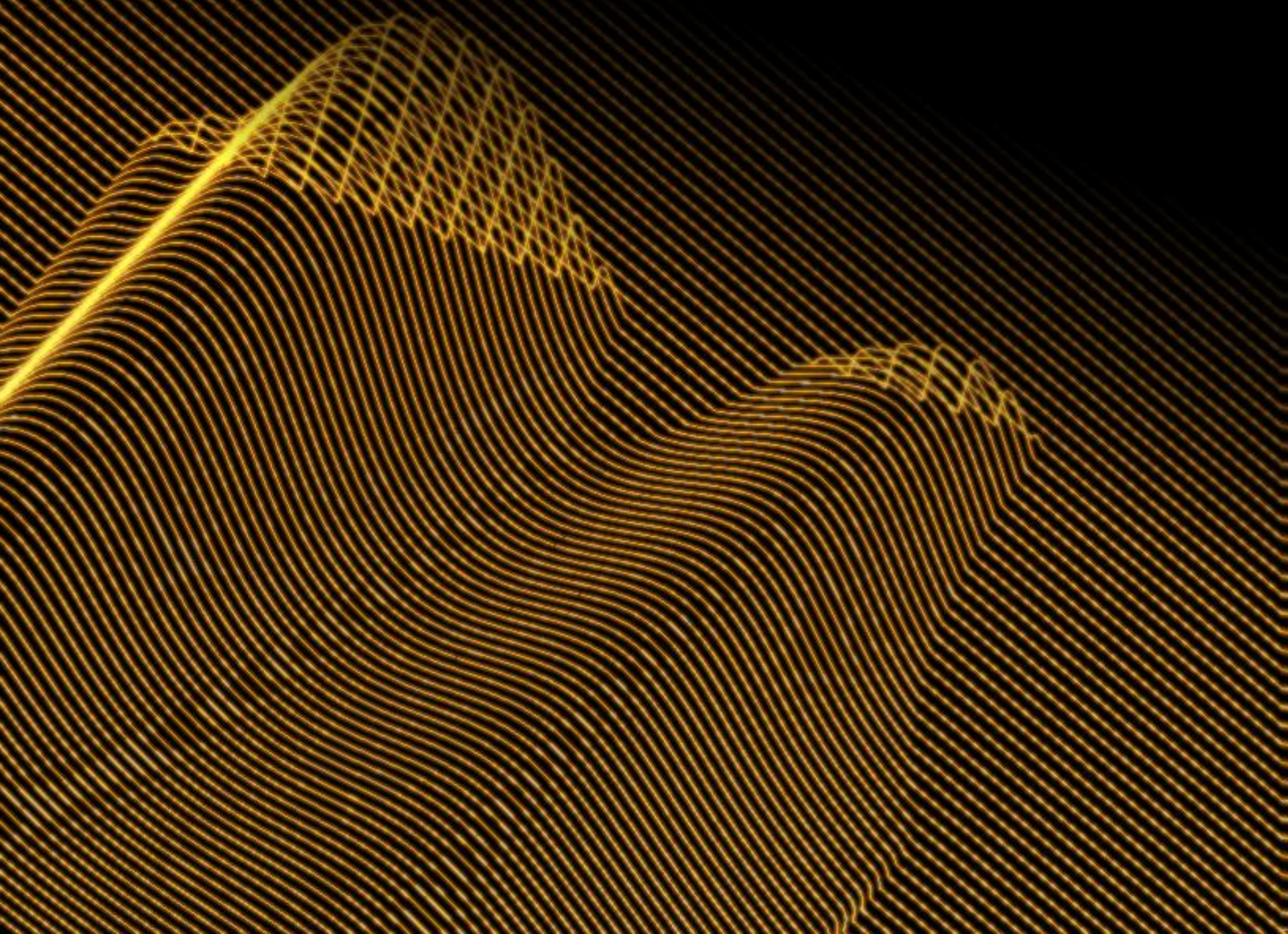


# Alibre CAM 2.0

## Enhancement Brochure

- > Appearance and User Interface
- > New Machining Methods
- > Updates to Existing Methods
- > New Tools and Tool Enhancements
- > General New Features
- > Interaction Enhancements



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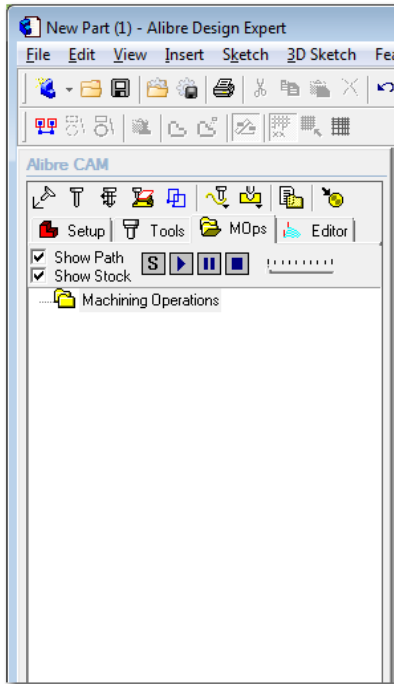
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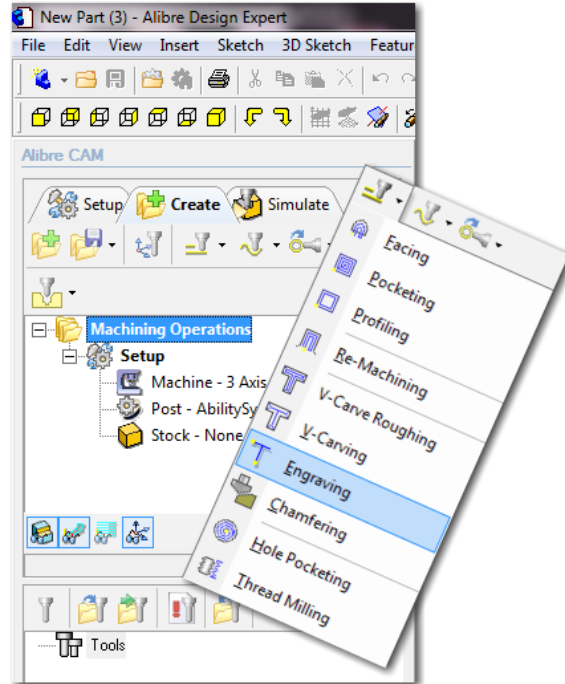
# New Features common to all Alibre CAM License Levels

## General Appearance

Alibre CAM has been updated with a fresh look, a rich icon set, and a more productive layout.



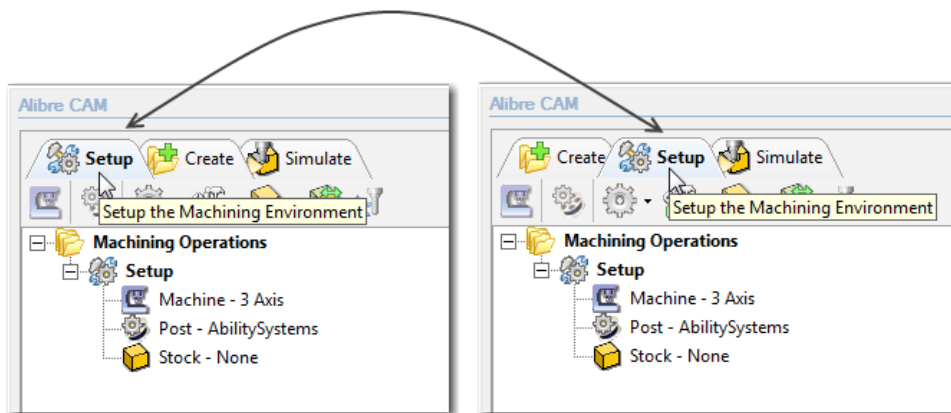
Alibre CAM 1.x



Alibre CAM 2.0

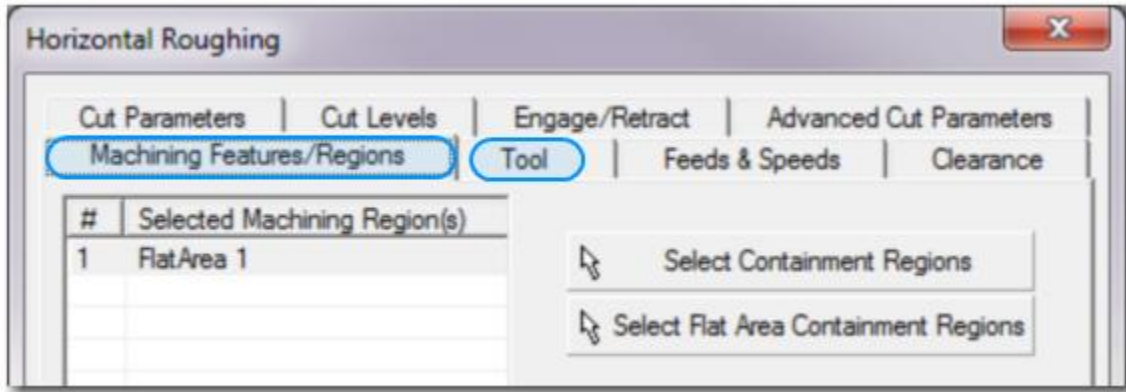
## Main Tabs Can Be Arranged

Tabs can be rearranged for convenience



## Streamlined Tool path Creation

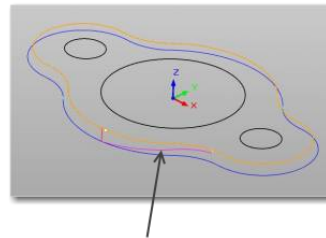
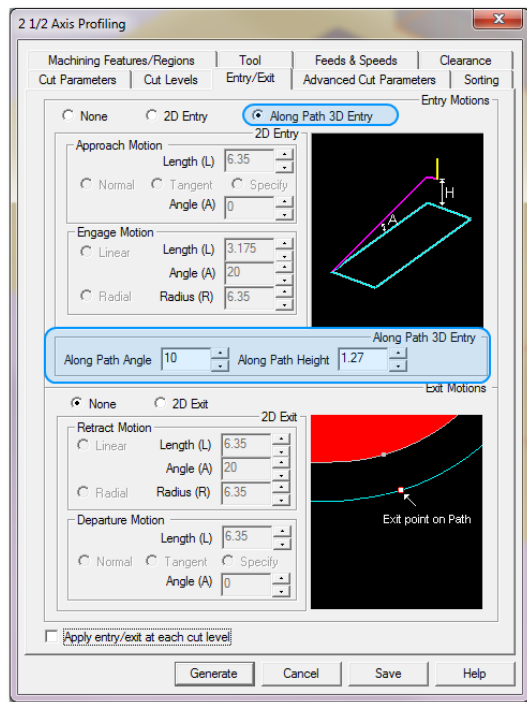
Machining geometry, Tool options, and parameters can be accessed inside the tool path creation dialogs instead of multiple dialogs in versions 1.x.



## 2.5 Axis Profiling

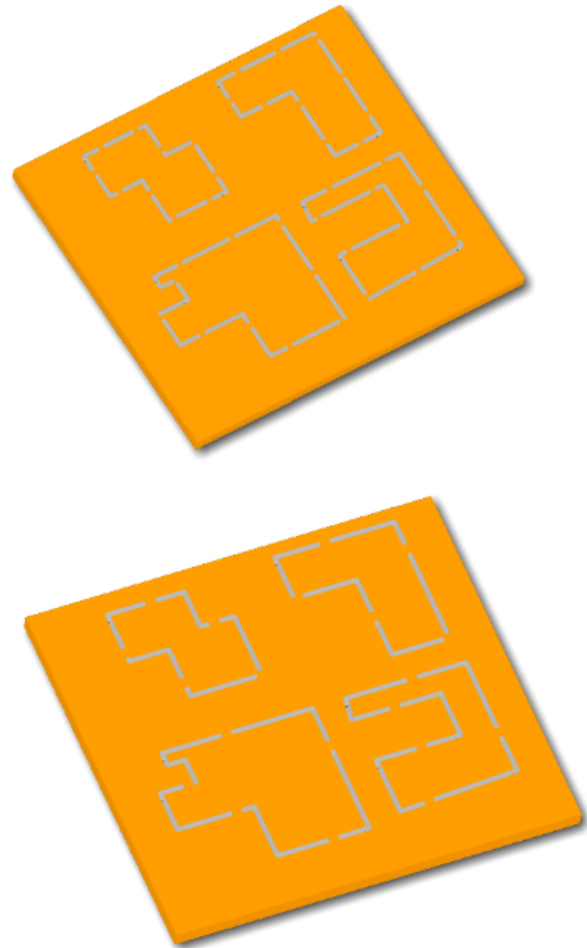
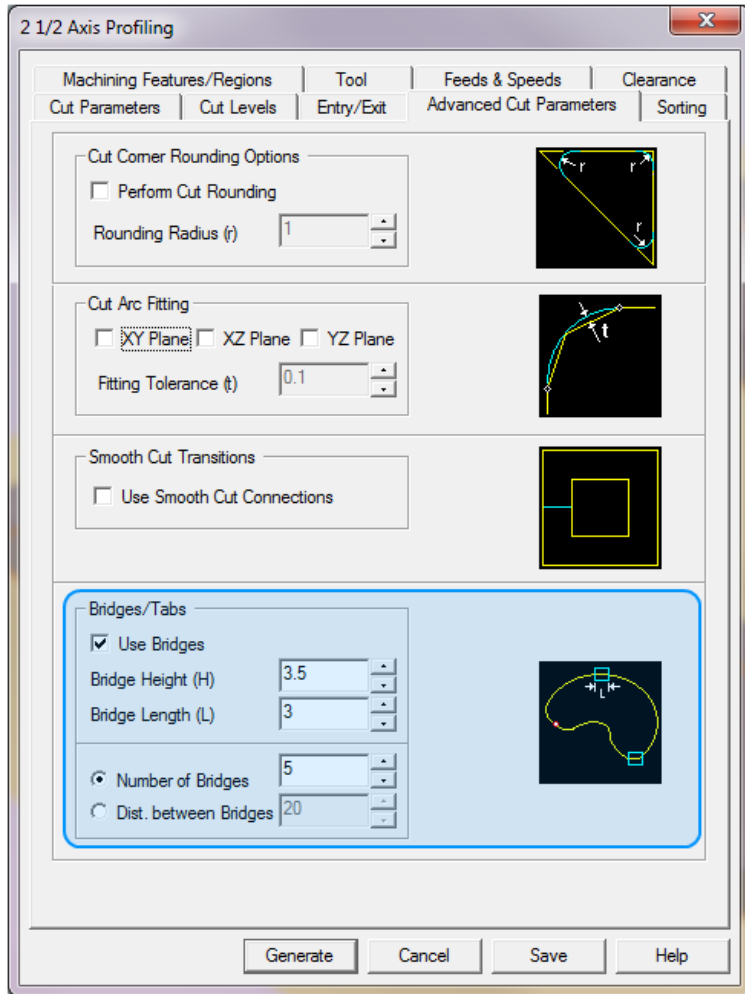
### Along Path 3D Entry for 2.5 Axis Profiling

A new entry method has been added to 2.5 axis profiling operations allowing you to have more control over the entry angle.



## Tabs / Bridges for 2.5 axis profiling operations

You can now create tabs/bridges for 2.5 axis profiling operations. You can specify the bridge height and length. You can also specify whether you want to use a particular number of bridges which will be equally distributed around the profiles or you can set an exact distance between bridges. Below is an example of the same cut-outs using 5 bridges and 10 bridges per profile.



## Sorting features for 2.5 axis profiling

You can now set several options that determine the order that operations will be performed in to maximize the efficiency of the tool path for your specific part.

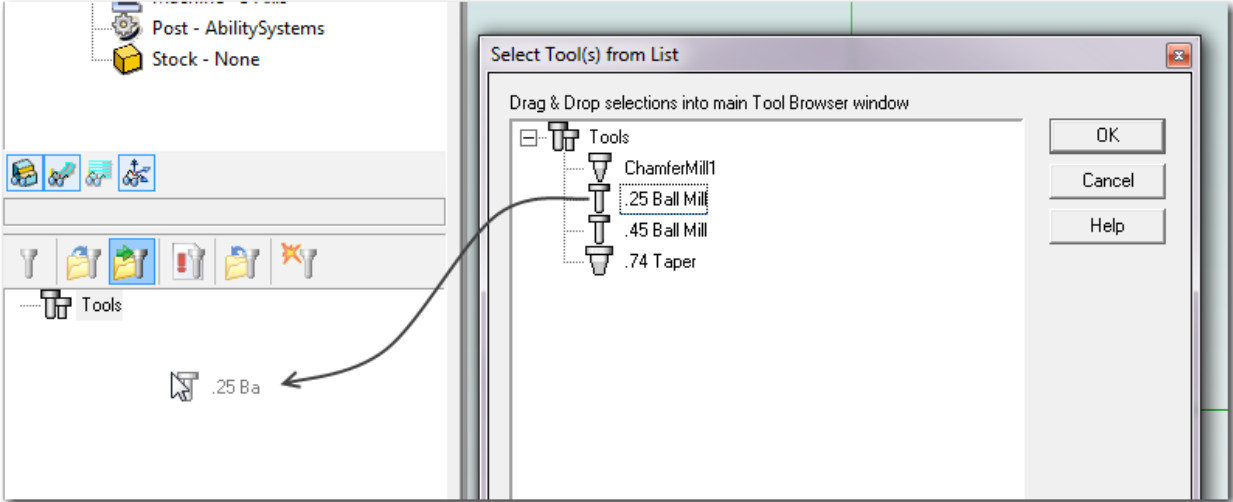
## Hole Machining - Diameter Filter

Allows you to specify a diameter filter range from the selected hole features.

# Tool Enhancements

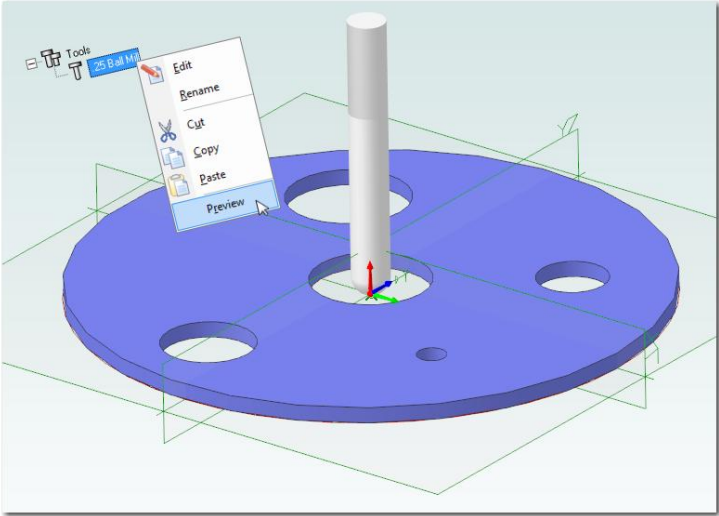
## Drag and Drop tools from library

You can now open Tool Libraries and simply drag and drop pre-defined tools into the active tool set.



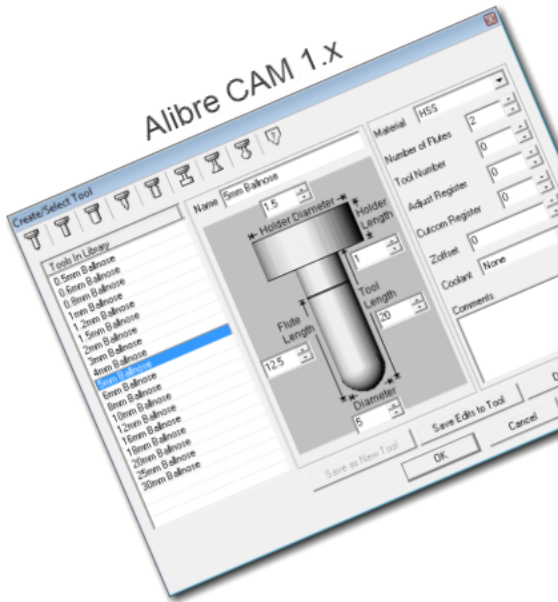
## 3D Tool Previews

You can preview a tool immediately upon creating it.

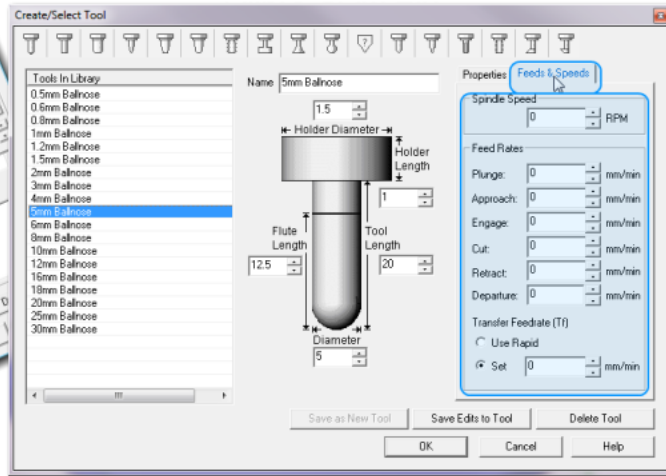


## Feeds and Speeds

Feeds/Speed can be set to tool or can be loaded from table and Load Feeds/Speeds can be launched inside of Set Feeds/Speeds. Tools can now be saved with Feeds/Speeds information.



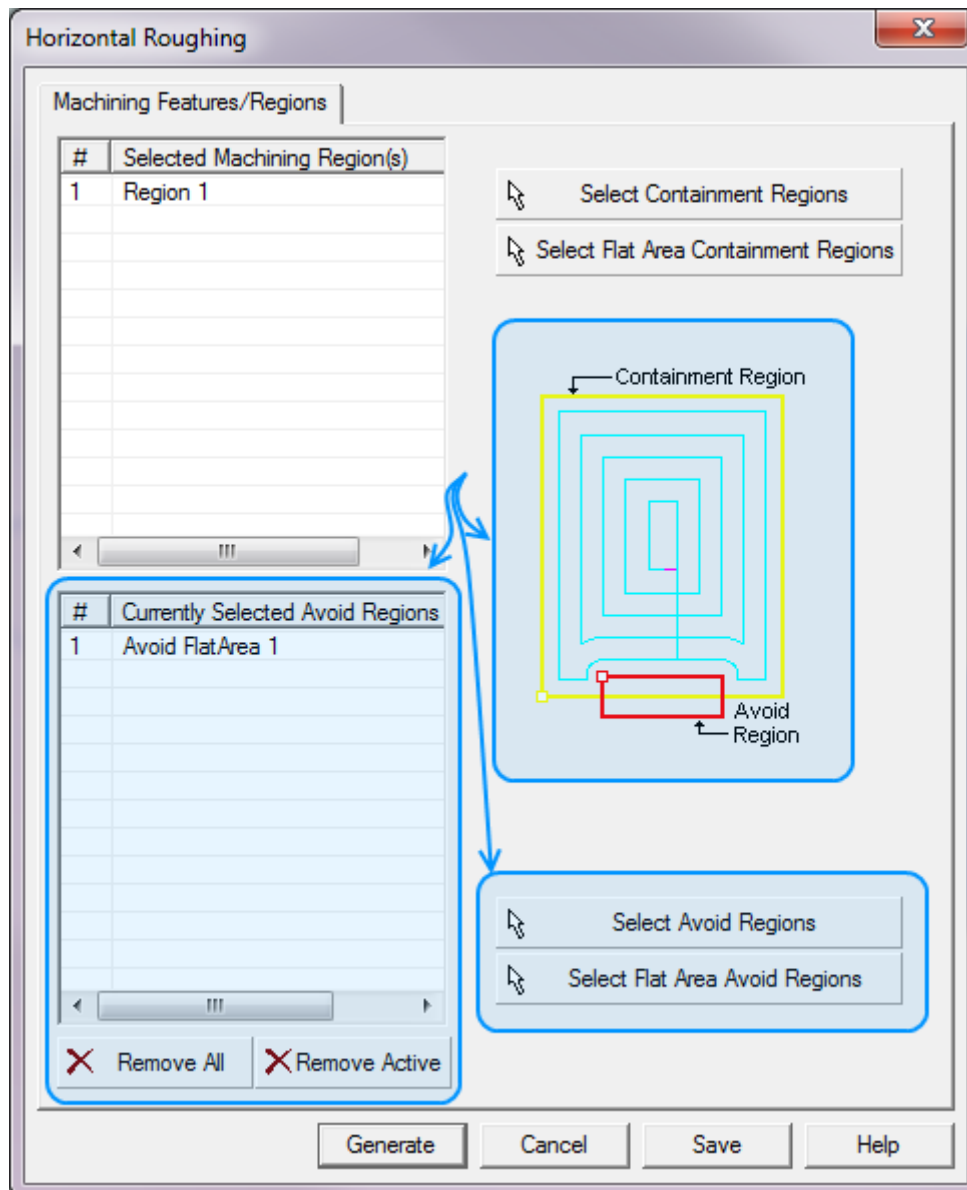
Alibre CAM 2.x



## Machining Region Enhancements

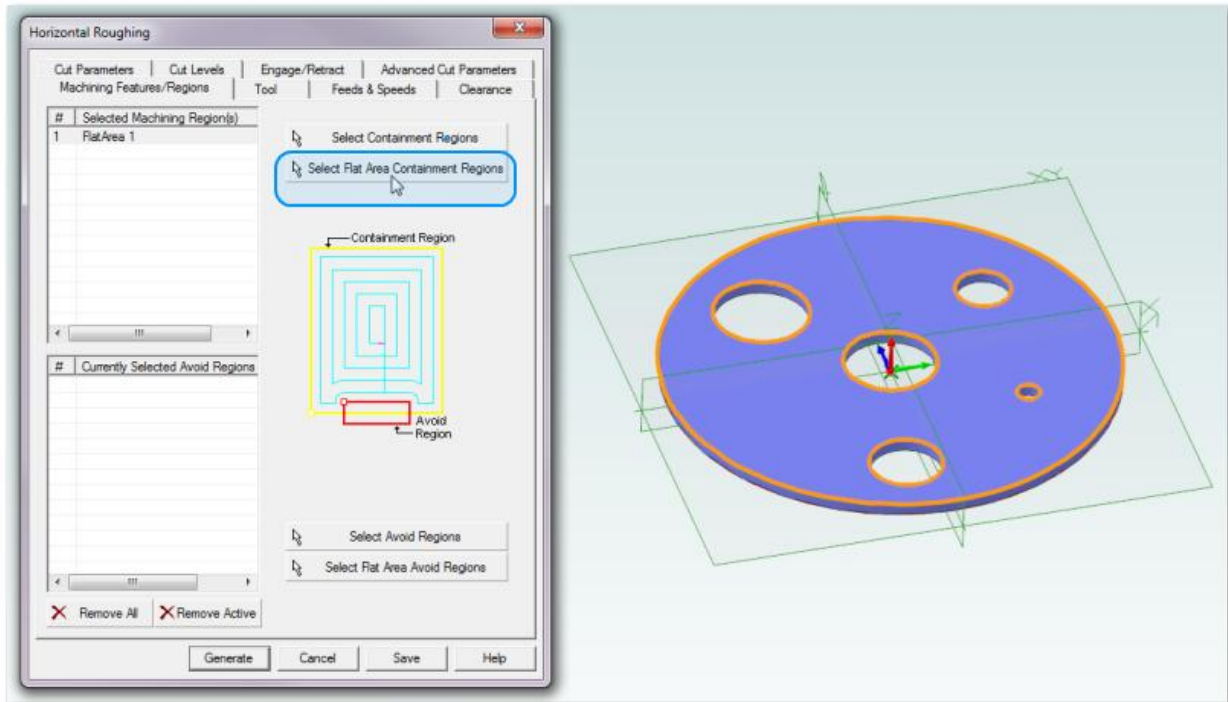
### Avoidance Regions

You can now create avoidance regions to specify where the tool should not cut, for example to avoid clamps holding the stock material down on your CNC machine. Avoidance regions can be defined as a sketch or a flat face selection directly inside the Machining Operation creation dialogs.



## Flat Areas (Faces) Can be Used as Machining/Avoidance Regions

In Alibre CAM 2.x, you can select flat areas (faces) as machining/avoidance regions instead of having to use sketches.

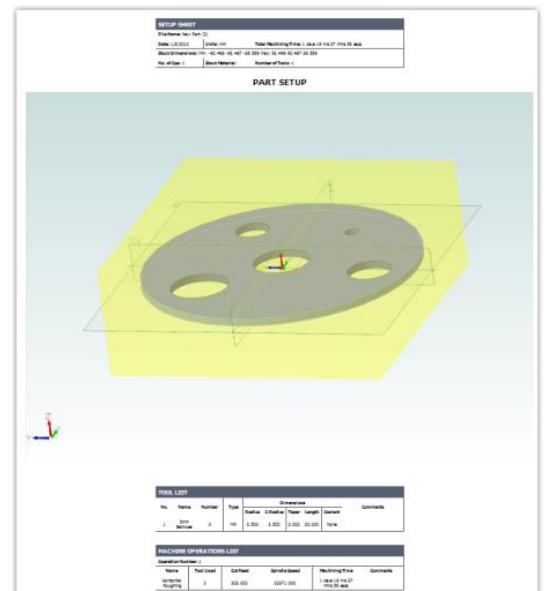
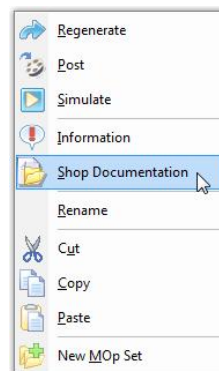


## Enhanced Learning Tools

Online help and new tutorials in the Getting Started Guide.

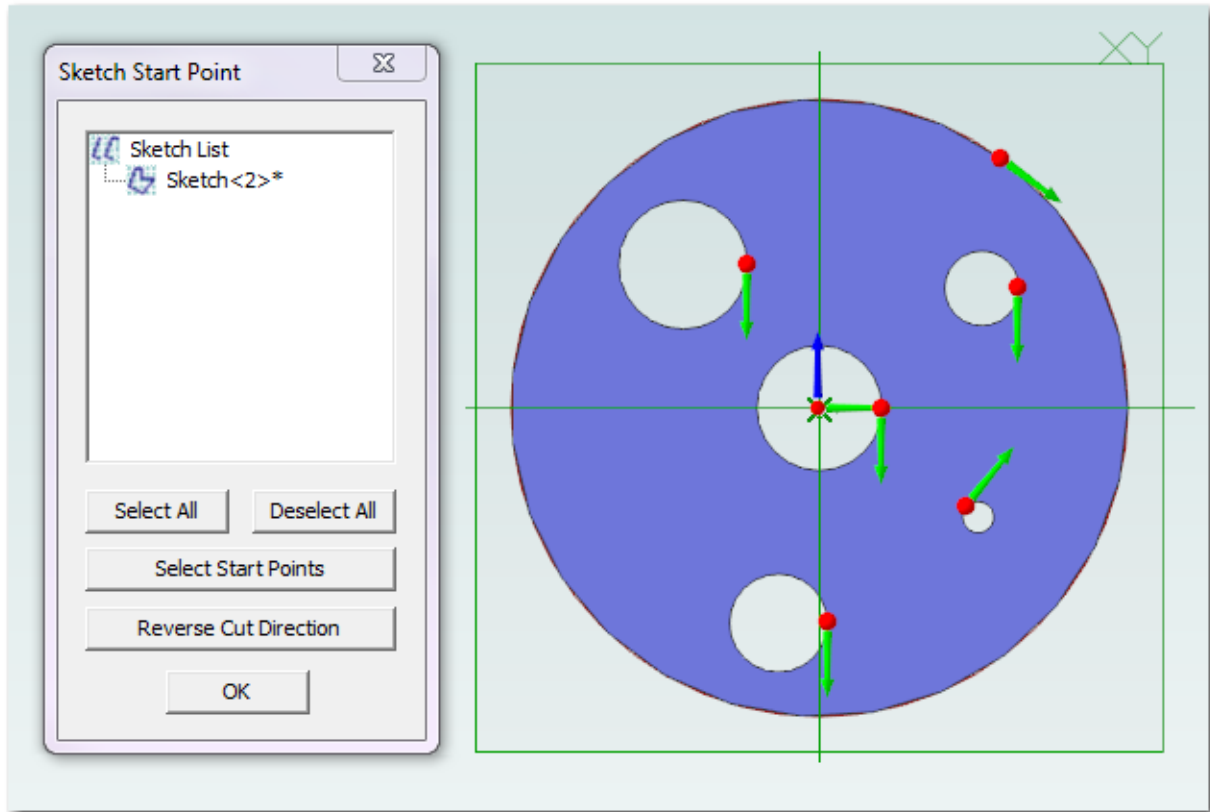
## Automated Shop Documentation Creation (HTML)

Easily create shop documentation in HTML format with a single click.



## Start Point Designation

You can now select the starting point for the engagement of the tool for Machining Operations defined by sketches. When multiple sketch loops are in a single sketch, you can select the start point for each sketch loop. For example, in the image below, the entire part was made using a single sketch. However, there are multiple sketch loops - each one has a start point "arrow" that can have its location changed.



# New Features for Alibre CAM Standard and Professional

All of the above features, plus:

## **Consistent View Interaction in Simulation Window**

Panning, rotating, and zooming in the simulation window uses the same mouse interactions as Alibre Design.

## **New 2.5 Axis Methods**

### **V-carve roughing**

V Carve Roughing method where a roughing cutter automatically compensates for V-carve tapered bit



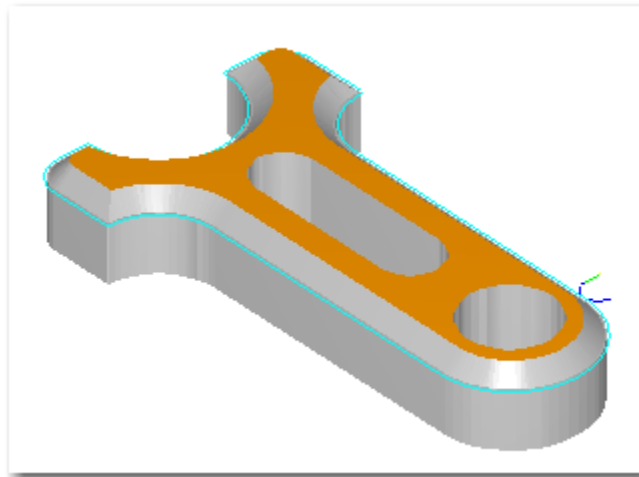
### **V-Carving**

New V-Carving method, separated from Engraving



## **Chamfering**

New Chamfering method has been introduced



## **Engraving Dialog Has Been Simplified**

Since V-Carving has been separated away from the Engraving dialog into a separate Machining Operation, the 2.5 Axis Engraving dialog is simpler and only handles Engraving.

## **Enhanced Facing/Hole Pocketing Tool paths**

Tool paths have been enhanced to maximize and optimize material removal.

## **Spiral & radial machining operations added to Alibre CAM Standard/Professional**

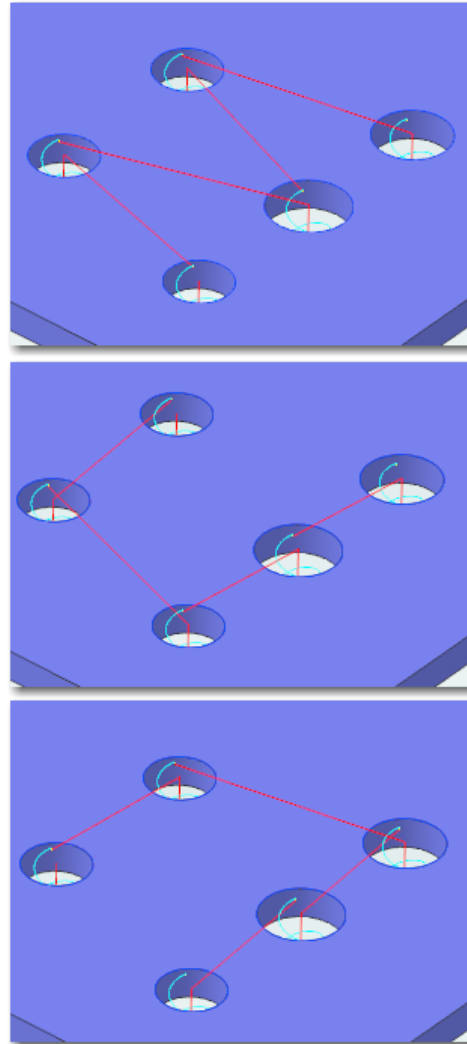
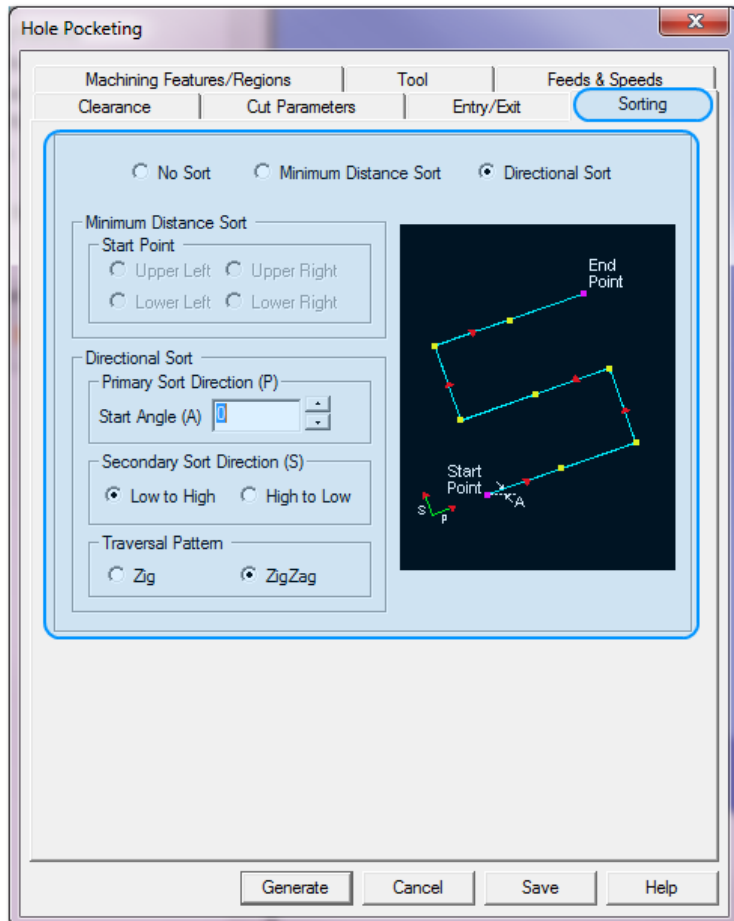
These machining operation methods have been added to Alibre CAM Standard and Professional.

## **Hole Machining - Diameter Filter**

Allows you to specify a diameter filter range on *all* Hole-Making Methods

## Sorting features for 2.5 axis Pocketing, V-carving, Engraving, Chamfering, and Hole Pocketing

You can now set several options that determine the order that operations will be performed in to maximize the efficiency of the tool path for your specific part.

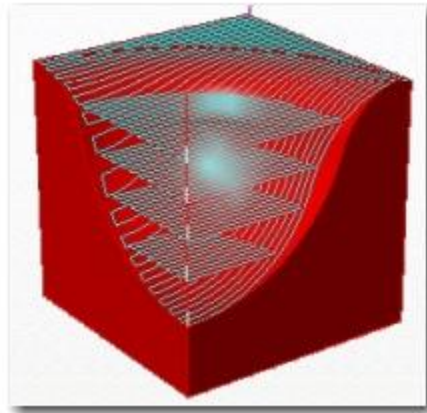


## Radial/Spiral Machining Enhancements

### Radial/Spiral Z-level containment

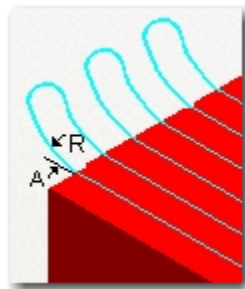
Allows you to specify high and low Z-values

## Radial/Spiral Multiple Stepdown Cuts



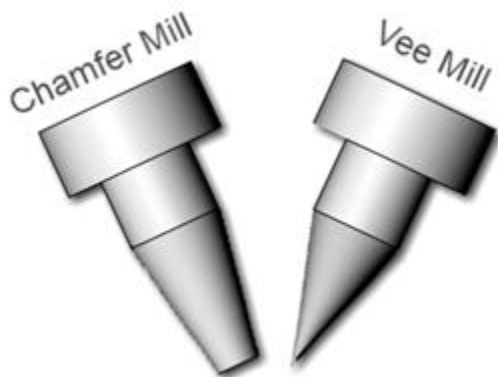
## Radial/Spiral Straight, Linear, Radial cut connections introduced

Straight, linear, Radial cut connections with high-speed loops between cut connections for all finishing methods has been introduced.



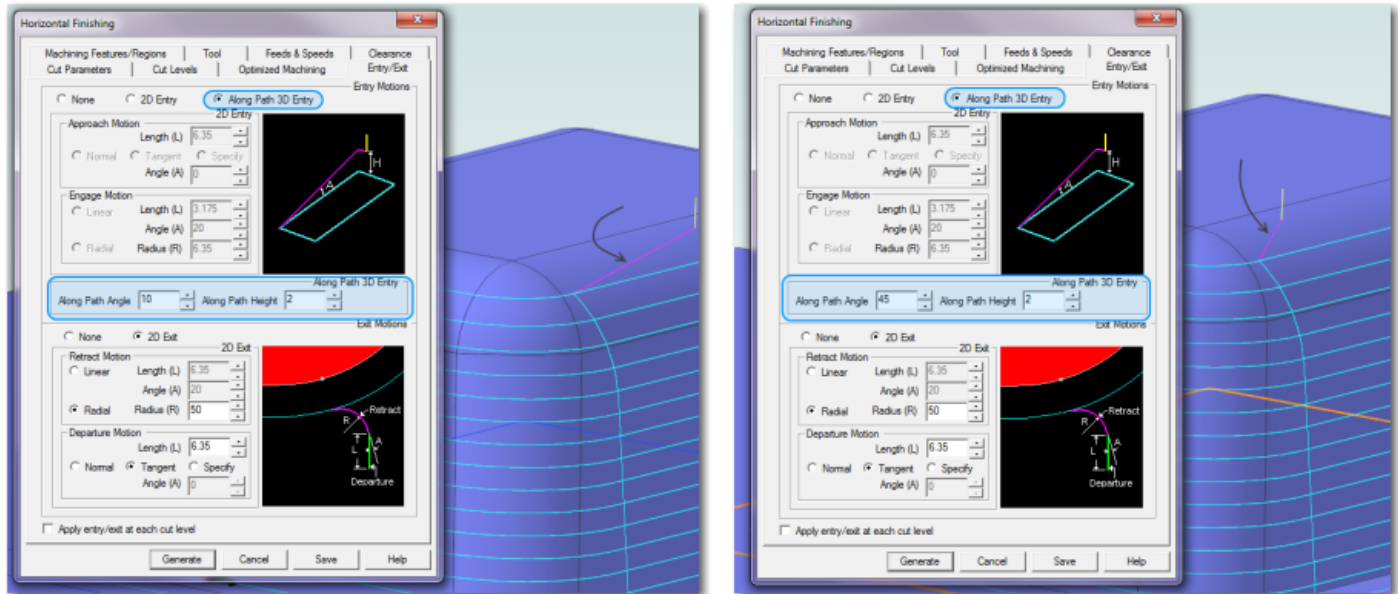
## New Tools - Vee Mill/Chamfer

Vee Mill for engraving and a Chamfer tools have been added



## Along-path-3D-entry for 3 axis Horizontal Finishing

This new option gives you more control over surface finish for steep areas of parts. Specifying the engage angle and path height allows you to control the smoothness of the engage motion, helping to eliminate unwanted marks on the cut part that would otherwise need to be buffed out later.



# New Features in Alibre CAM Professional

All of the above, plus:

## **4-axis Table Rotation Enhancements**

### **Autorepeat Index**

4 Axis Table Rotation Operation has been enhanced to implement incremental and auto-multiple rotations. This allows rotational instancing of tool paths without having to reprogram all instances.

### **Tool Retract**

4 Axis Table Rotation Operation has been enhanced to allow tool to retract to change point before table rotation.

## **New 4-axis Toolpath Methods**

### **Pocketing**

4 Axis Pocketing has been added.



### **Profiling**

4 Axis Profiling has been added.



## **Facing**

4 Axis Facing has been added.



## **Hole Methods**

4 Axis Hole making methods such as drilling, tapping, boring and reverse boring have been added.

## **4-axis Roughing/Finishing and Containment regions**

You can now select containment regions for 4-axis roughing/finishing

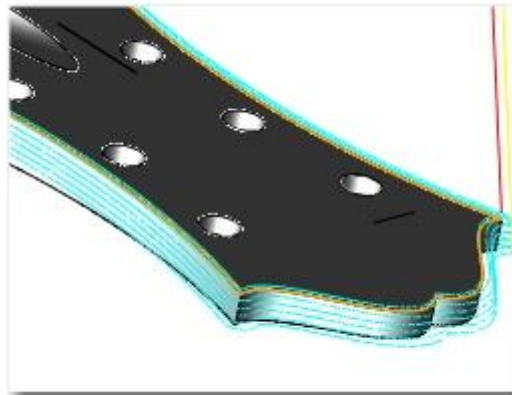
# New Features in Alibre CAM Expert

All of the above, plus:

## **New 3-Axis Toolpath Methods**

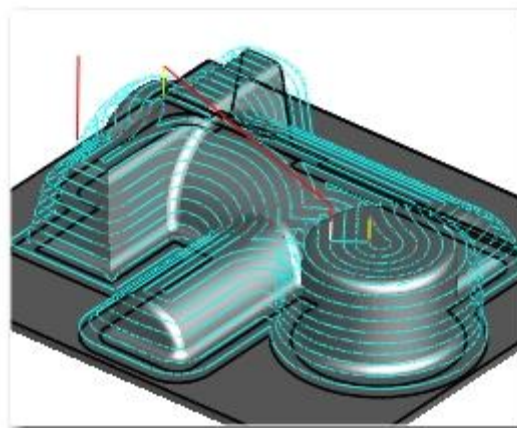
### **3D Offset Profiling**

New 3D Offset profiling method introduced. This method uses a curve and creates tool paths by offsetting the curve in such a way that the offsets are equidistant to each other on the part surfaces below. This results in a constant scallop height of material left on the machined part.



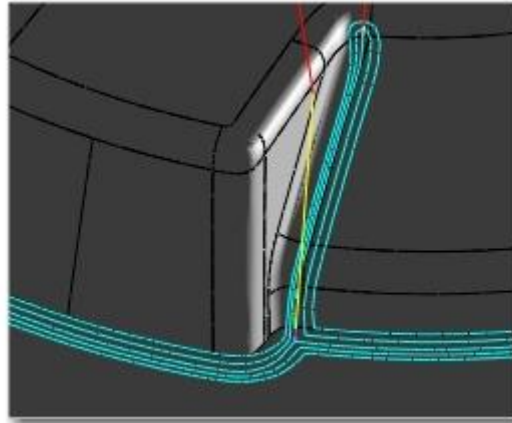
### **3D Offset pocketing**

This method uses a closed curve and creates constant offset tool paths on the part surfaces



### 3 axis pencil tracing enhanced to allow multiple passes

The single pencil trace tool paths are offset outward using a constant offset distance on the part surfaces below. This method is very efficient for roughing out valleys and corners in hard materials. It can also be used as a finishing method.

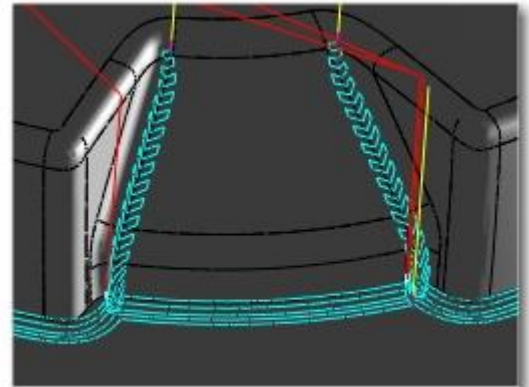


### 3 axis valley re-machining enhanced to allow split cuts, step over and cut control

Finishing areas where a larger cutter left material has been enhanced to allow for the following types of cut patterns:

- Along, Across, Horizontal, Parallel

In addition to this these cut patterns can be applied independently after the original valley re-machining cuts are separated out as steep and shallow cuts.



### Tool Holder Collision

#### Tool Holder Collision - Calculate Min Tool Length

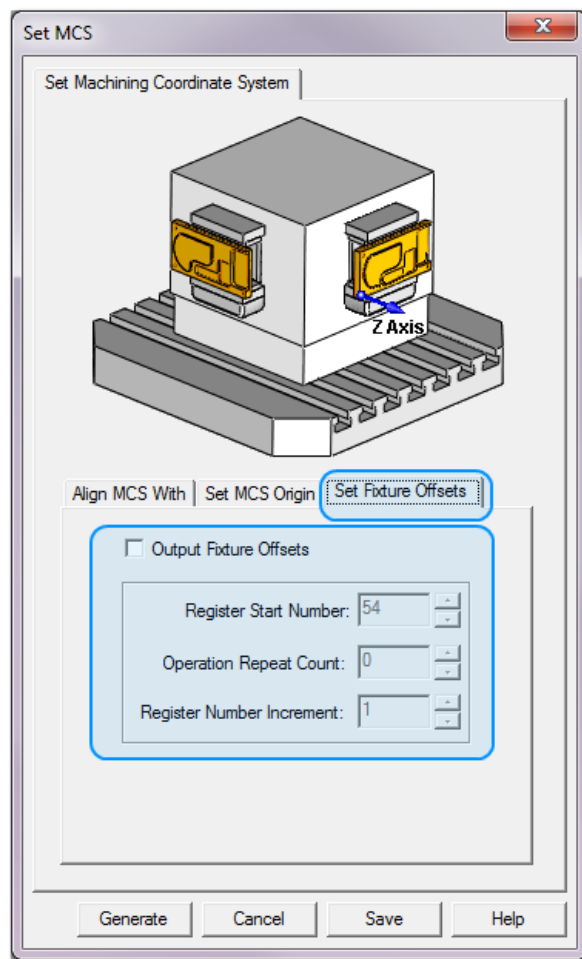
Compute Tool Holder Collision determines the minimum tool length required to avoid collision

#### Tool Holder Collision - Detect Collision Areas

Detects collision areas

## Fixture Offsets

Set MCS Operation has been enhanced for machining repeat parts by specifying work coordinate offsets.



## Toolpath Editor Enhancements

### Toolpath Editor Tabbed View

New Tabbed view for Global Edits and Selection edits

### Toolpath Editor Selection Methods

Selects cuts by single pick or dragging a rectangle, allowing you to graphically select sections of the toolpath for editing. Also select a closed sketch as a region to eliminate cuts inside it.

### Multiple Knowledge Bases

Multiple Knowledge Bases can now be loaded without overwriting existing MOp information.