



Version 2027 : September 2026

What's New in GibbsCAM 2027



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Highlights

Some of the most important enhancements in GibbsCAM 2027 are as follows:

Overview of What's New

The significant enhancement to **Milling** in GibbsCAM 2027 is:

- Drill Connectors/Terminators

For details, see “Milling” on page 6.

Important enhancements to **Turning** include:

- Oscillating Thread Turning (Former OptiThreading)
- Variable B-Axis Turning Holder Collision Avoidance

For details, see “Turning” on page 8.

Enhancements to **Visualization and User Interface** include:

- GibbsCAM Copilot Improvements
- Hole FR additional options - Hole Splitting Changes
- Absolute Translate - Clear All
- Visualization of Current Stock Model without running Simulation
- Ability to See Tool on the Part in the Workspace
- Show machine sim model in workspace for setup
- Ability to remove the Detached Material in Simulation
- Reverse-Rewind function for Simulation
- Scaling of Point & Labels on Screen
- Undo/Redo of Machining Marker Changes & Removal
- Control over font size of dimension labels in the Measurement Tool
- Multi-Select Mode and Range-Select Mode options
- An ability to see the tool rotational direction
- Advanced material rendering has been enhanced to simulation/IT bodies

For details, see “Visualization and User Interface” on page 11.

Improvements to **Solids** include:

- Enhancing Advanced 3D Machining

For details, see “Solids” on page 37.

Improvements to **Tooling** include:

- Tool List Editing via Tool Dialog

For details, see “Tooling” on page 38.

Miscellaneous improvements and changes include:

- System requirements
- Third-party-library support
- Approach & Retract UI in Machine Manager
- Update install pictures

For details, see “Miscellaneous” on page 40.

GibbsCAM Operator

GibbsCAM 2027 introduces **GibbsCAM Operator**, a new product level that extends the capabilities available in GibbsCAM Viewer. In addition to all the viewing, inspection, measurement, and simulation features available in Viewer, GibbsCAM Operator enables users to perform selected manufacturing and post-processing tasks without requiring a full GibbsCAM programming license.

Users of GibbsCAM Operator can perform all functions available in GibbsCAM Viewer, plus the following:

- Open and review GibbsCAM parts (*.vnc) and packages (*.gcpkg).
- Postprocess operations and generate NC code.
- Save and export supported GibbsCAM files.
- Create GibbsCAM packages.
- Communicate directly with CNC machines.
- Access and use the Material Database.
- Use most Intermediate Tooling functions, excluding library and machine management.
- Adjust feeds and speeds for existing operations.
- Perform external postprocessing using supported postprocessors, such as PostHASTE and APT/CL.

GibbsCAM Operator uses the same installer and user interface as GibbsCAM. The available functionality is determined by the installed license.

GibbsCAM Operator builds upon the functionality provided by GibbsCAM Viewer by enabling additional manufacturing-related workflows while maintaining the familiar GibbsCAM user interface.

These capabilities provide shop-floor personnel with greater flexibility to review, prepare, and output manufacturing data without requiring access to the full GibbsCAM programming environment.

Milling

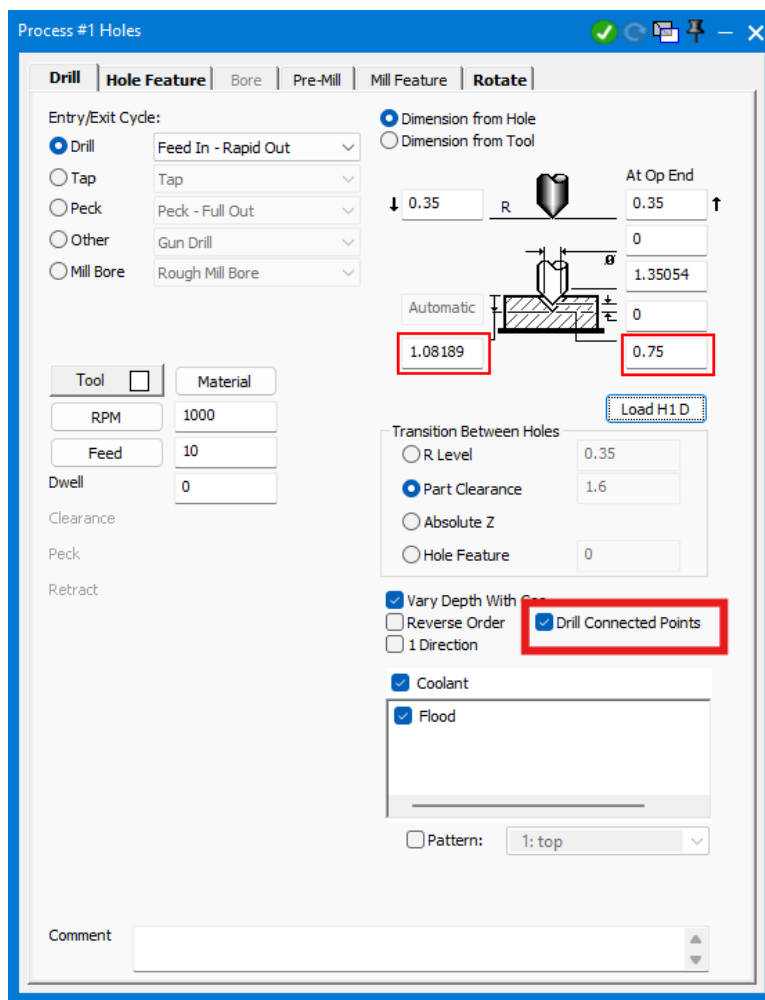
GibbsCAM 2027 provides an important Milling enhancement.

Drill Connectors/Terminators

You can now use the Mill Drill process to drill both standalone and connected points.

Where to find it:

Milling Holes> Drill Tab>Bottom Right corner>Drill connector Points



A new checkbox has been added to the Holes Process dialog, allowing you to enable or disable drilling of connected points based on your requirements. When enabled **Drill Connected Points** the existing Mill Drill functionality is applied seamlessly to connected point selections, ensuring consistent behavior across different point types.

In addition, the Load H1 Depth option works for connected points, allowing accurate depth control during drilling operations. Drill operations created from a process will continue to store only point data, maintaining consistency in output.

This enhancement improves flexibility and expands the usability of the Mill Drill process by supporting a wider range of point configurations while maintaining a streamlined workflow.

Turning and MTM

Version 2027 enhances Turning and MTM in several important ways.

Oscillating Thread Turning (Former OptiThreading)

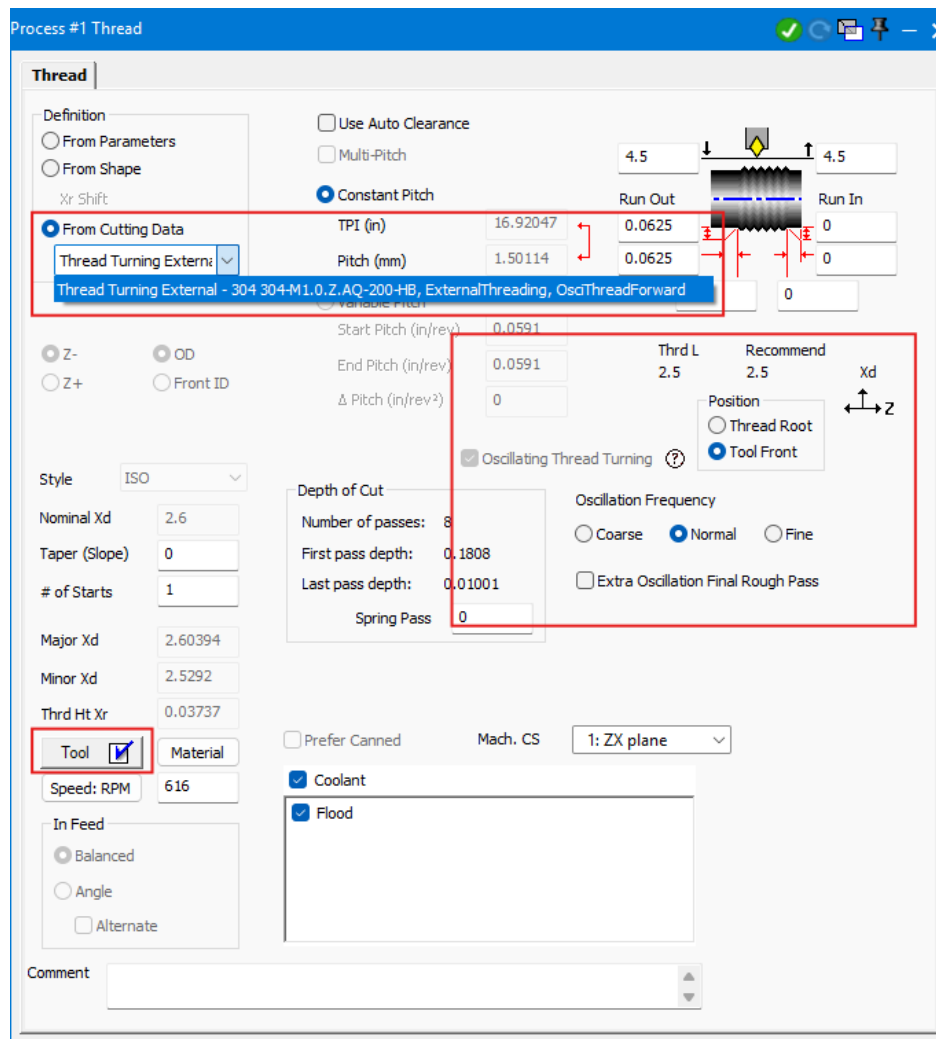
You can now use **Oscillating Thread Turning**, the updated method replacing the previously available OptiThreading.

Where to find it:

The **Threading** process dialog>under Definition> From Cutting Data.

This is active when the process uses a Threading tool that has been imported from **CPTL** (CoroPlus Tool Library) with recommended cutting data.

GC2027: Oscillating Thread Turning



All OptiThreading fields and references in the process dialog and tool cutting data table have been updated to reflect **Oscillating Thread Turning**. Existing tool cutting data sets that used OptiThreading remain valid and are now recognized as Oscillating Thread Turning, ensuring backward compatibility with previously created files.

The toolpath calculation has been enhanced to ensure that consecutive passes do not intersect or overlap. For even passes, peak positions maintain the same X (depth) values as the previous pass at the same Z level, including higher oscillation finish passes. A small clearance is applied to peaks and valleys to prevent contact between consecutive passes, while the calculation for odd pass peaks remains unchanged.

Additionally, the **Oscillation Extra Lift Distance** parameter has been removed. New tools imported through CoroPlus Tool Import will now use Oscillating Thread Turning instead of OptiThreading.

This enhancement improves threading accuracy and consistency while ensuring seamless backward compatibility and alignment with updated oscillating thread turning functionality.

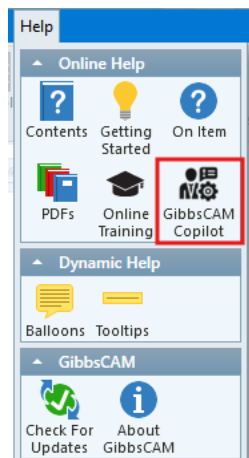
Visualization and User Interface

GibbsCAM Copilot Improvements

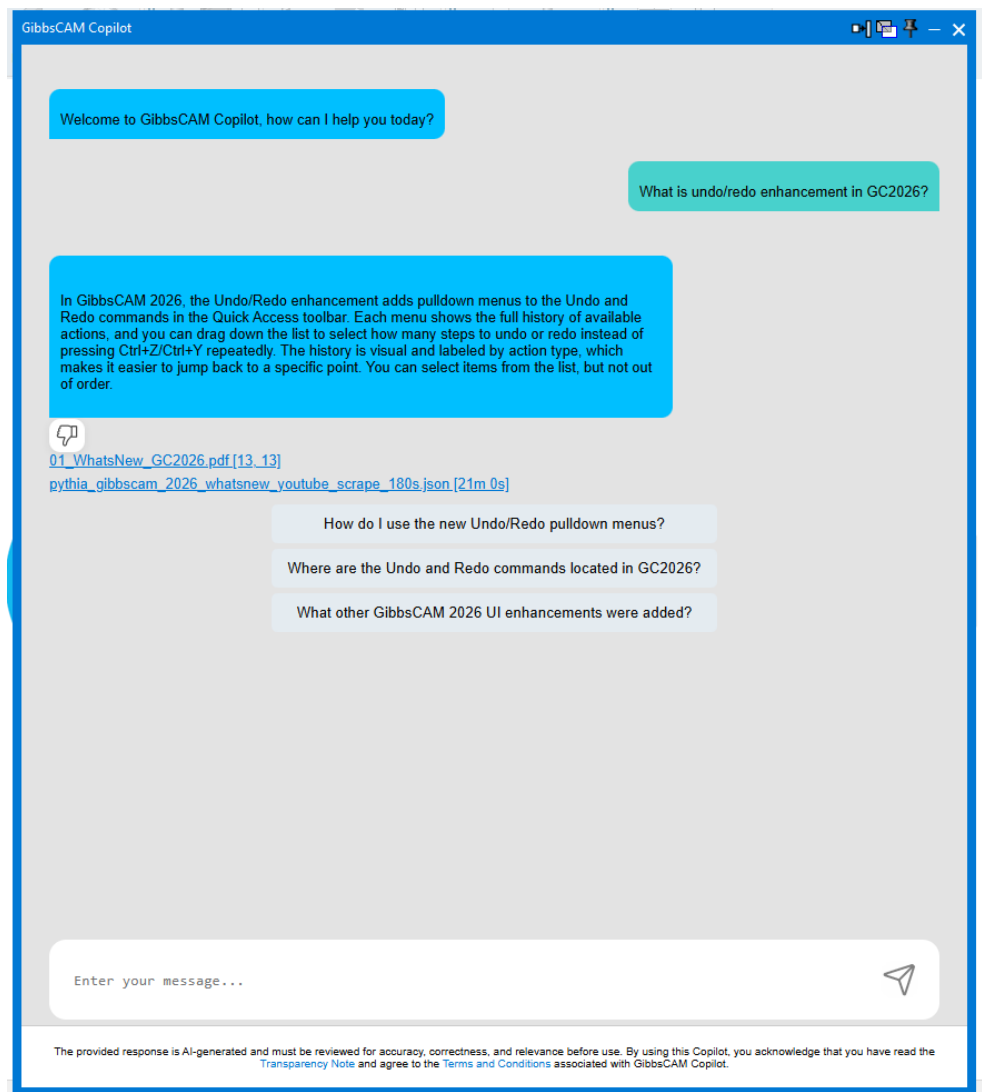
You can now access enhanced GibbsCAM Copilot capabilities with improved response formatting, image support, source reference links, intelligent suggestions, and video references to help you quickly find and understand relevant information.

Where to find it:

On the Help menu>click  GibbsCAM Copilot.



GibbsCAM Copilot has been enhanced to provide better-formatted responses for improved readability and includes image support, links to supporting documentation, and source references to help you verify and explore related information. It also provides intelligent suggestions and references to relevant videos, including direct links to the exact timestamp of the applicable topic, enabling you to quickly locate the information you need. In addition, Copilot now uses a new reasoning model designed to deliver more intelligent and context-aware responses within the GibbsCAM environment.



This enhancement improves content accessibility and helps users find relevant information more efficiently.

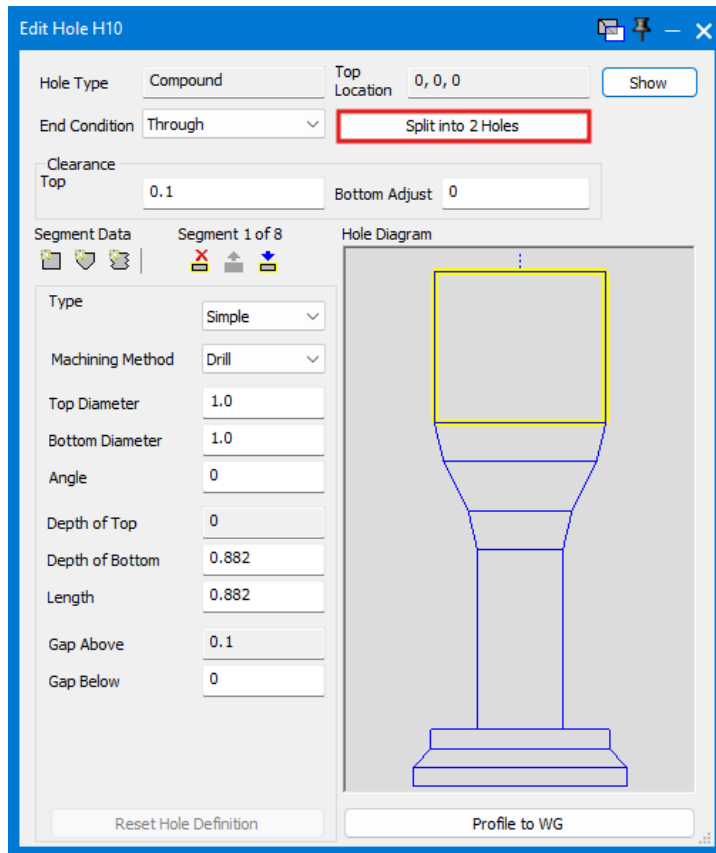
Hole FR additional options - Hole Splitting Changes

You can now control how holes are identified and managed during Automatic Feature Recognition (AFR), including improved handling of holes located on the same centerline.

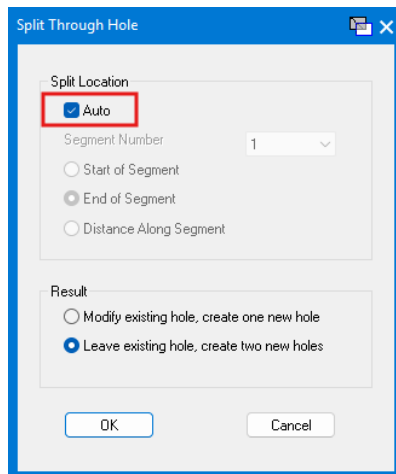
Where to find it:

On the **Features** Menu>Hole Manager>Edit Hole in RMB on the listed hole item>**Split in 2 Holes**>Auto

Holes across layers are now merged into a **Single Hole** by **Default** during hole feature recognition, ensuring more accurate and streamlined results.



If needed, merged holes can be separated using the **Split Through Hole** option available from the RMB menu on the listed hole item, or by enabling splitting in **Auto** mode. This provides greater flexibility when working with complex hole configurations and ensures correct hole direction handling.



When **Auto** is checked, All manual options are disabled and software automatically determines the split location of the hole.

This enhancement improves accuracy and user control in hole feature recognition, reducing manual adjustments and enhancing overall workflow efficiency.



Absolute Translate - Clear All

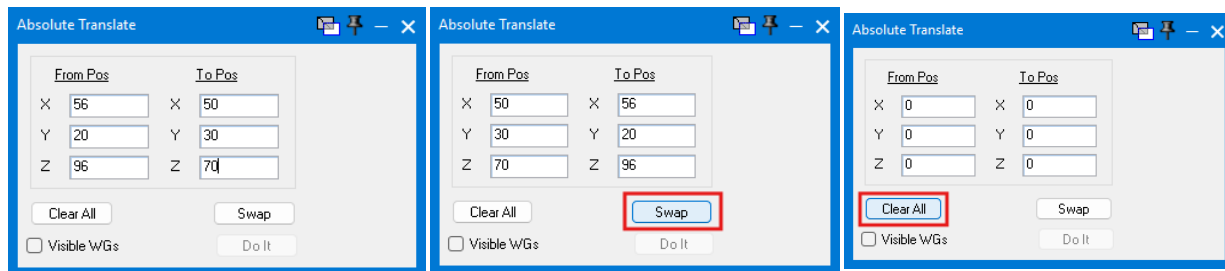
You can now use the **Swap** and **Clear All** buttons in the **Absolute Translate** dialog to quickly manage translation coordinate values, making the translation workflow faster and more efficient.

Where to find it:

Under the **Modify** menu > Transform >  **Absolute Translate**.

The **Absolute Translate** dialog has been enhanced with two new buttons:

- **Swap** exchanges the values between the **From Pos** and **To Pos** input fields, allowing you to quickly reverse the translation direction without re-entering the coordinate values.
- **Clear All** clears all input fields and automatically resets their values to zero, allowing you to quickly remove existing coordinate values without manually editing each field.



Added values

After Swap

After Clear All

These enhancements simplify coordinate entry, reduce manual editing, and improve the efficiency of the Absolute Translate workflow.

Visualization of Current Stock Model without running Simulation

You can now visualize the current work-in-process state of the stock for any operation directly in the workspace without running Machine Simulation using  **Show**

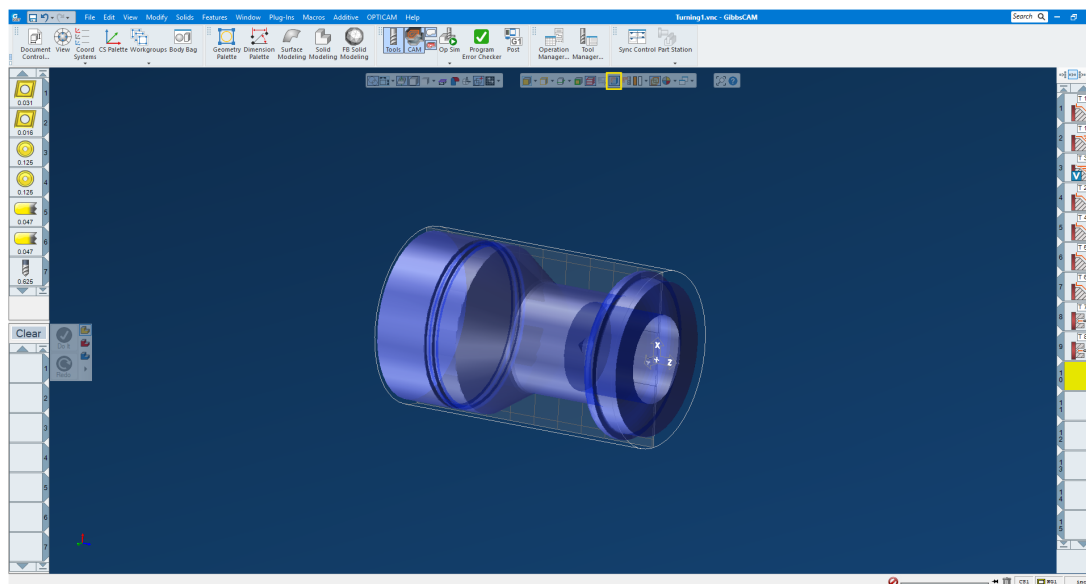
Machined stock command.

Where to find it:

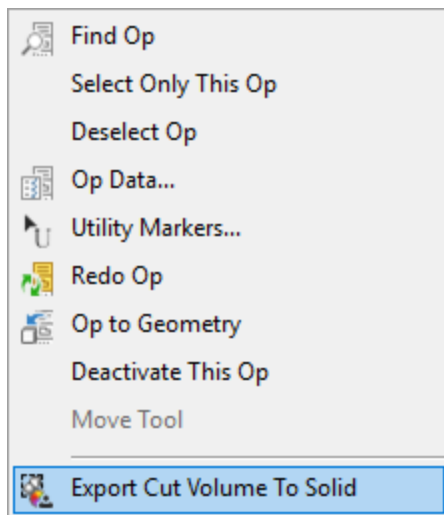
Floating toolbar >  **Show Machined Stock** command.

The machined stock can be displayed for the highest-numbered selected operation or, if no operation is selected, for the entire program by clicking on the  **Show Machined stock** command.

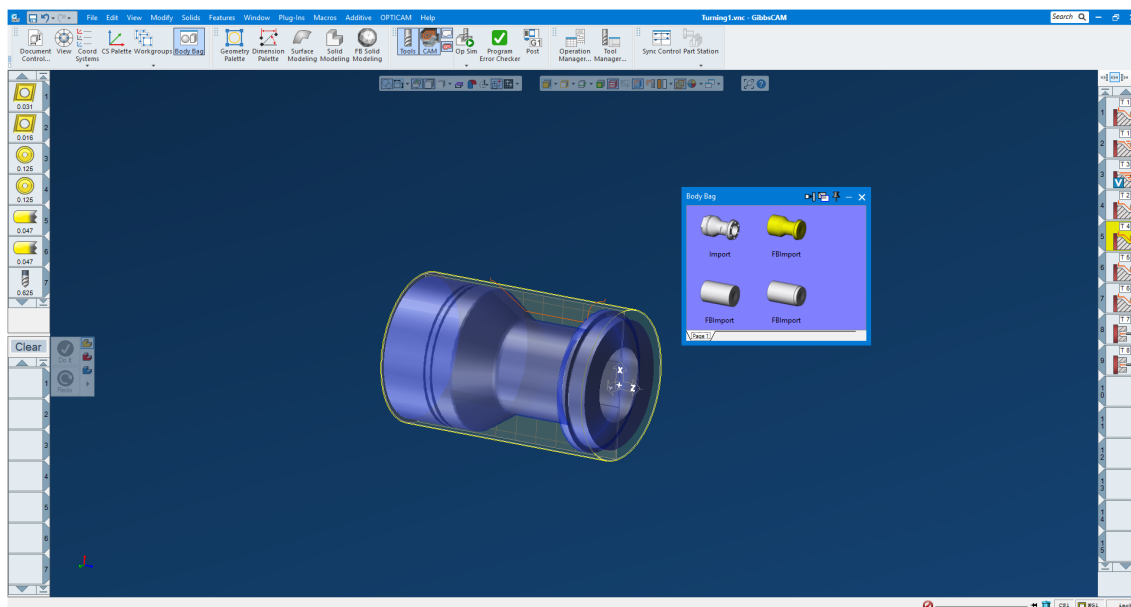
The  **Show Machined Stock** option displays the stock model as it appears after the selected operation is completed. It calculates the cumulative material removal up to the selected operation and displays the resulting work-in-process stock directly in the workspace. This allows you to quickly inspect the intermediate stock condition at any stage of the machining process without running a full Machine Simulation.



By Right clicking on the Machine stock while one of the operation is selected these options appears :



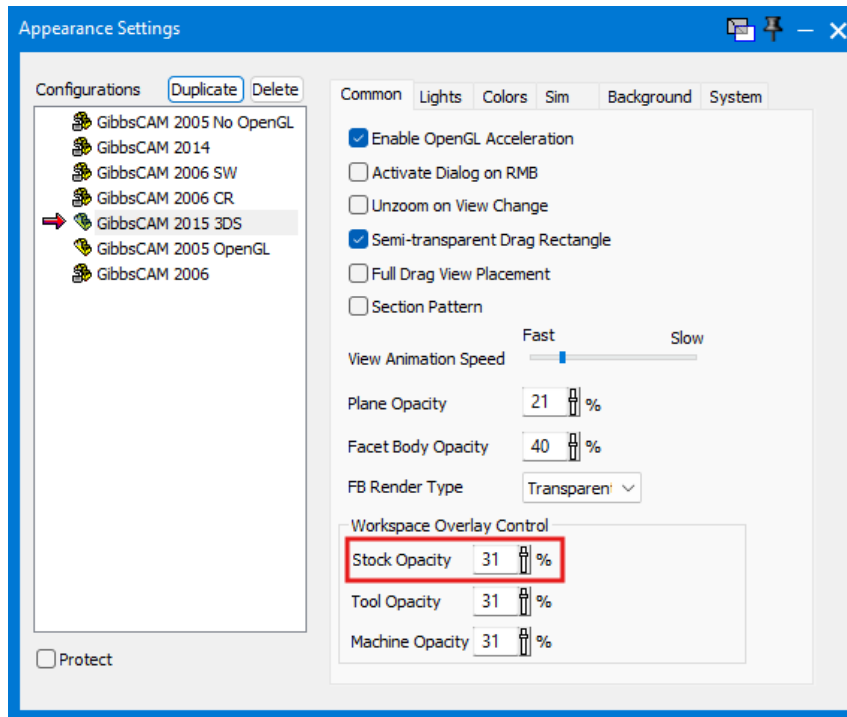
You can Export the cut volume of stock to solid with its corresponding operations selected.



Note:

1. The Machine Stock option gives priority to custom stock instead of system (DCD) stock when both stock definitions are available.
2. **Show Machined Stock** does not render Lathe Threading, Linear Broaching, Rotary Broaching, or Thread Whirling operations within the Workspace. This functionality is intended to align with Material Only visualization and should not be interpreted as equivalent to, or a substitute for, Operation Simulation (Op Sim).

Machined stock transparency is controlled with the Appearance Settings .
 On the **File** menu, click  Preferences>In Preferences dialog>**Display** Tab> click **Edit Appearance Settings**>Under **Common** Tab >Workspace Overlay Control>**Stock Opacity**.



This enhancement provides better visualization of the machining process by allowing users to quickly review the machined stock for specific operations or the entire program.

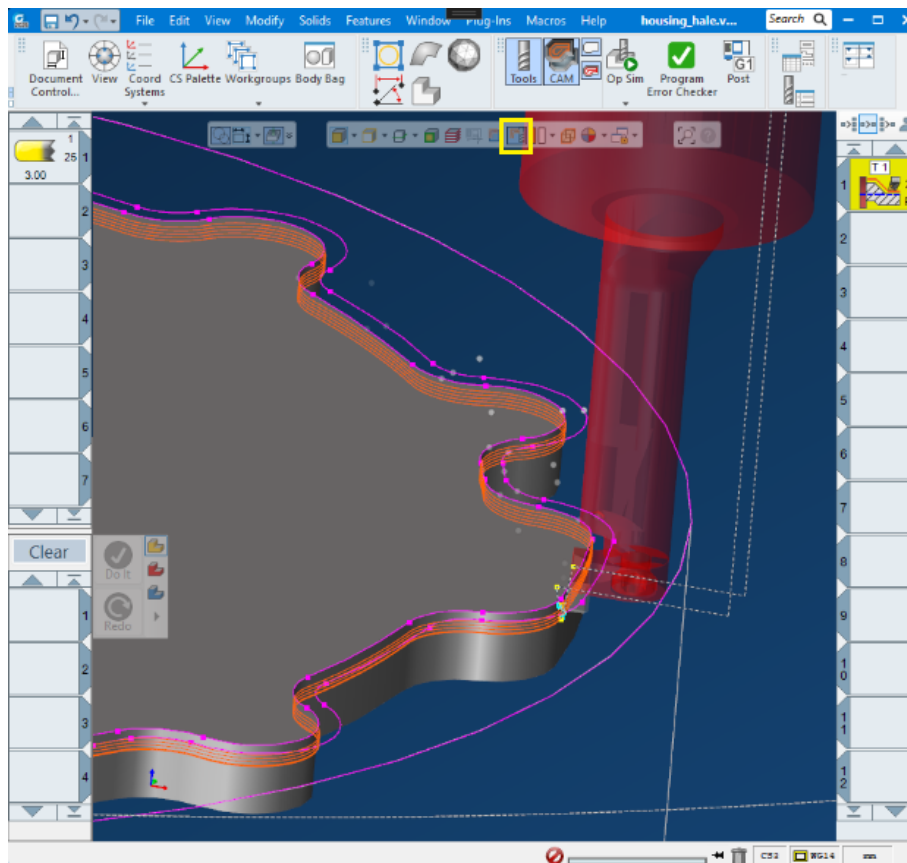
Ability to See Tool on the Part in the Workspace

You can now visualize the Tool in the workspace using the  **Show Tool on Toolpath** command.

Where to find it:

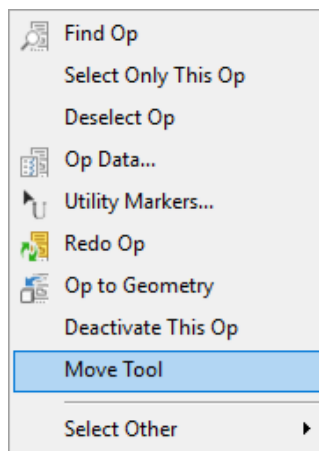
Floating toolbar>  **Show Tool on Toolpath** command.

By selecting respective Operation and clicking on  **Show Tool on Toolpath** command, The system now displays the tool in the Workspace. When multiple operations are selected, the tool displayed in the workspace corresponds only to the uppermost operation in the Operation Tile List, ensuring consistent visualization. Additionally, the displayed tool can be interactively dragged along the **Toolpath**, enabling improved visualization and verification of machining operations.



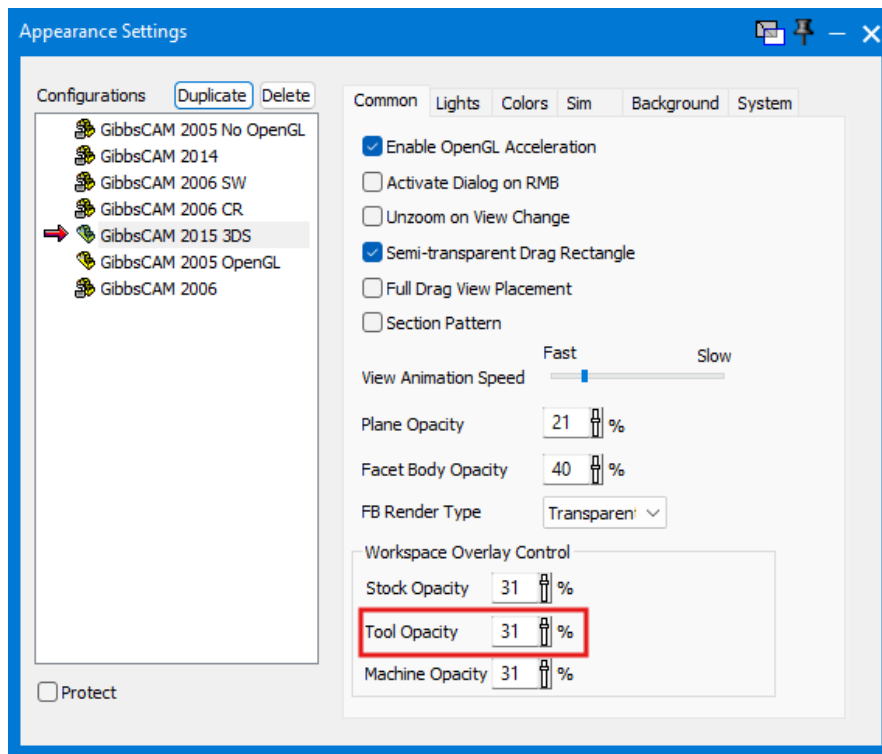
The tool can also be positioned using the **Toolpath RMM** option **Move Tool**.

Click the desired location on the **Toolpath**, then right-click and select Move Tool. The tool moves to the selected location on the Toolpath.



Machined stock transparency is controlled with the **Appearance Settings**.

On the **File** menu, click **Preferences**>In Preferences dialog>**Display** Tab> click **Edit Appearance Settings**>Under **Common** Tab >**Workspace Overlay Control**>**Tool Opacity**.



This enhancement provides better visualization of the machining process by allowing users to quickly review the Tool for specific operations or the entire program.

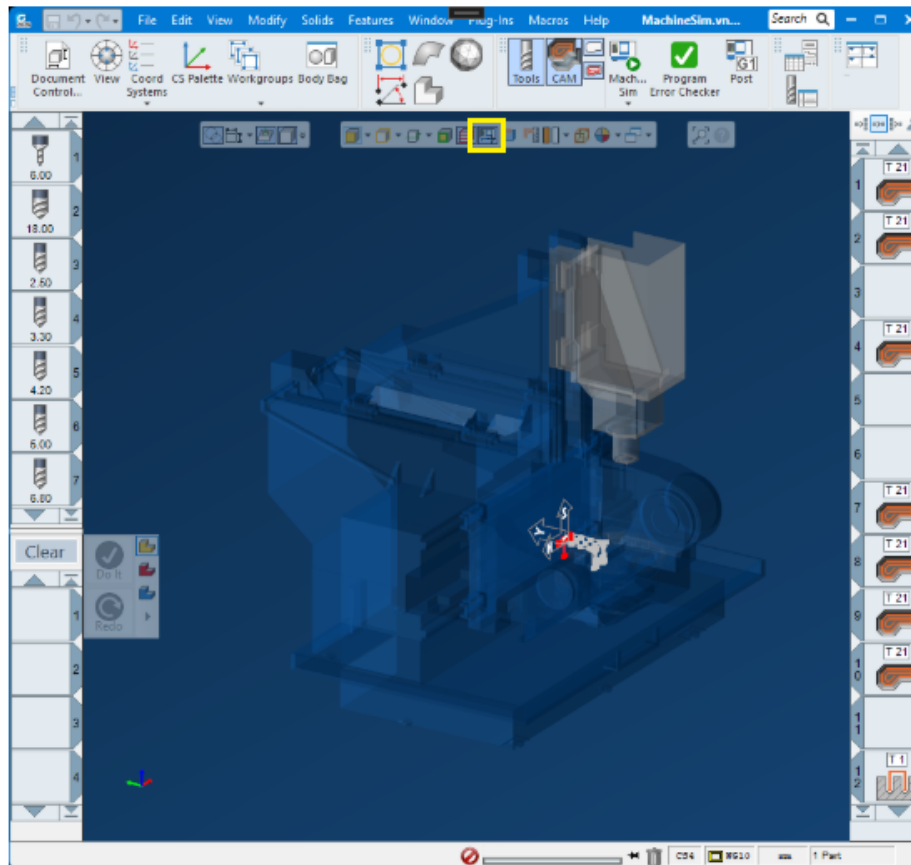
Show machine sim model in workspace for setup

You can now visualize the Machine assembly model currently associated with the part in the workspace using the  **Show Machine Assembly** command.

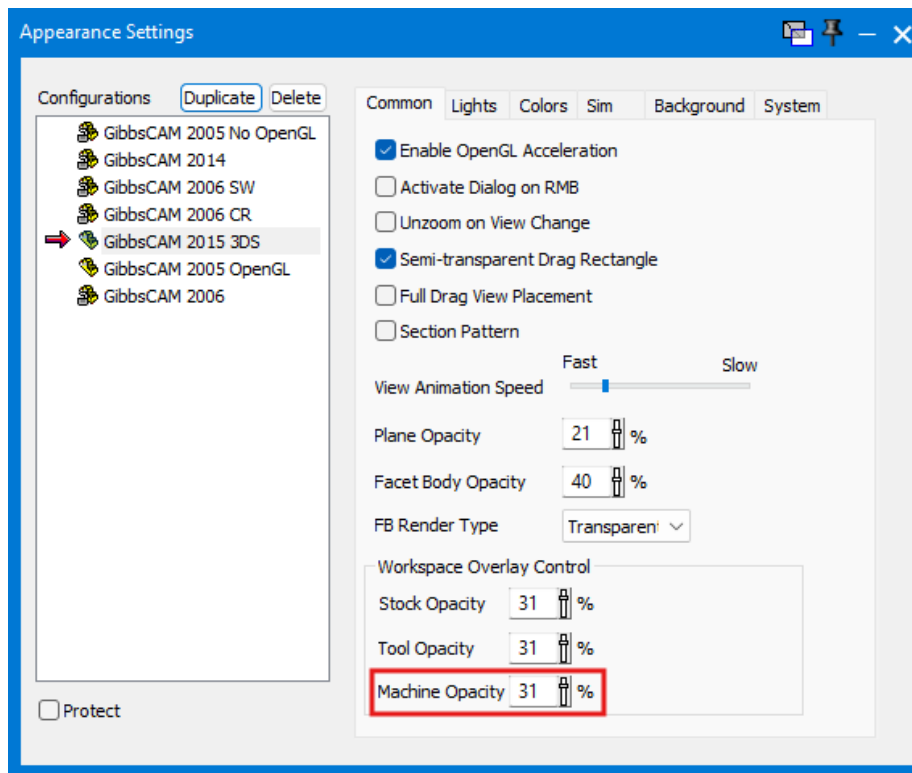
Where to find it:

Floating toolbar >  **Show Machine Assembly** command.

By clicking on  **Show Machine Assembly** command, the machine model is displayed to enable accurate visualization of the machine and part layout within the workspace.

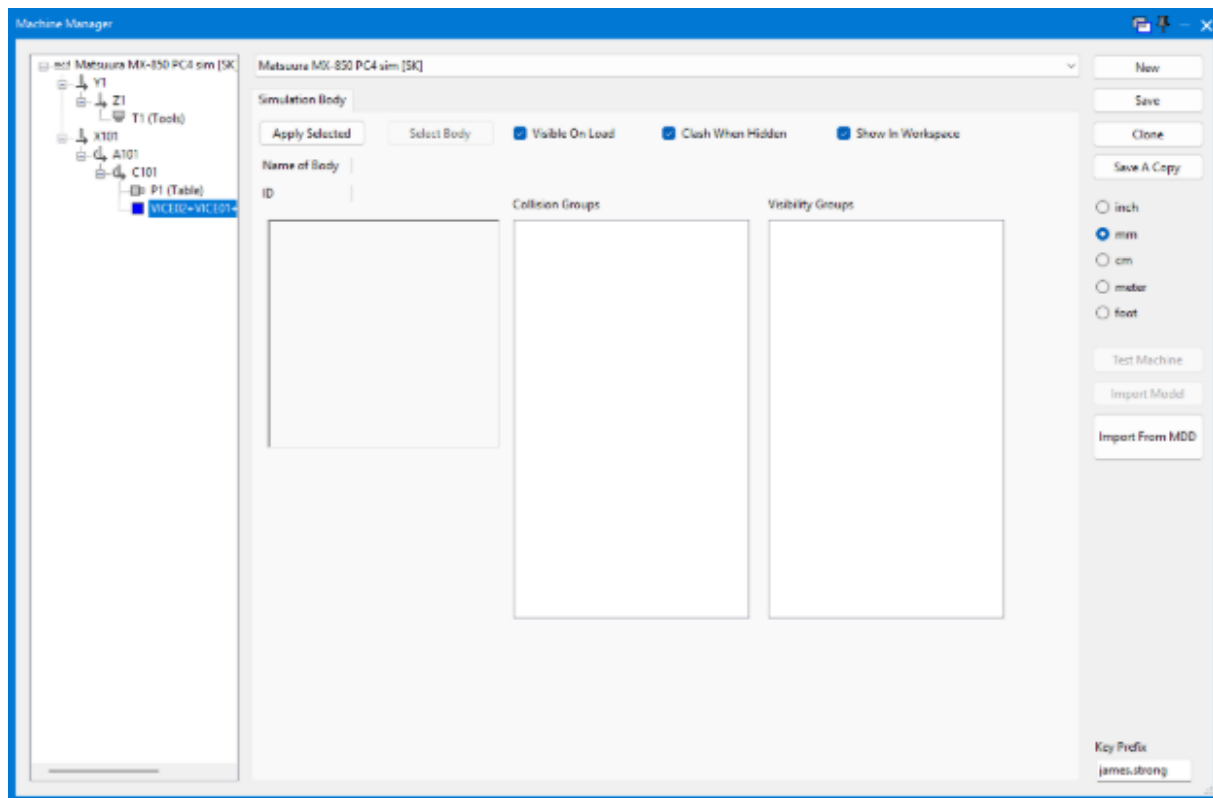


Machine Assembly transparency is controlled with the Appearance Settings .
 On the **File** menu, click  Preferences>In Preferences dialog>**Display** Tab> click Edit
 Appearance Settings>Under **Common** Tab >Workspace Overlay Control>**Machine Opacity**.



By default, all machine assembly components are displayed in the workspace. However, specific components can be excluded from visualization using either of the following methods:

1. Create a machine assembly visibility group named **Workspace** and add only the required machine components to this group. When the **Workspace** visibility group is present, any components not included in the group will not be rendered in the workspace.
2. Disable the **Show in Workspace** option while defining the machine in the Machine Manager.



This enhancement provides better visualization of the machining process by allowing users to quickly review the Machine assembly for specific operations or the entire program.

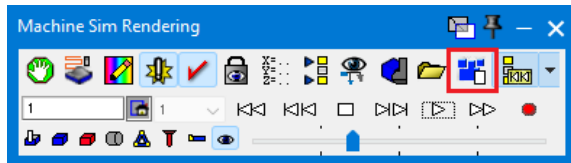
Ability to remove the Detached Material in Simulation

You can now interactively remove unwanted chips generated during simulation.

Where to find it:

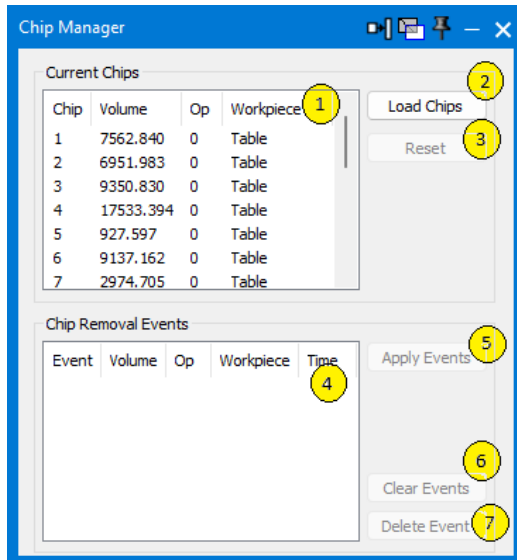
In the Simulation rendering dialog>  **Chip Manager** tab

When material removal during simulation splits the stock into multiple parts (chips), users previously had no direct way to determine which parts should be discarded as the simulation progressed. This enhancement resolves that limitation by allowing users to identify specific chips to remove from the simulation. The removal is then handled through chip removal events, ensuring those chips are consistently discarded in subsequent simulation steps, improving simulation clarity.



The  **chip manager** dialog controls the definition and execution of chip removal events.

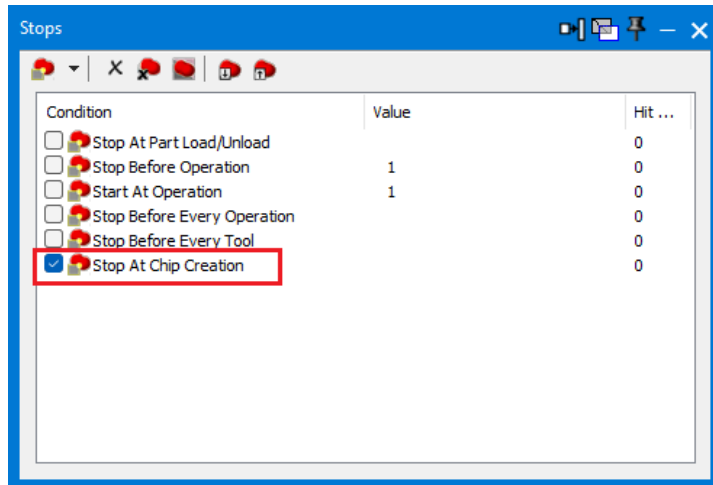
Chip Manager



1. Displays stock body chips when loaded.
2. Detects and loads chips from the current simulation state. Chips are also detected and loaded automatically when the simulation are stopped either through manual interaction, showing the dialog, hitting a breakpoint, or program completion.
3. Clears chip removal events and reverts any chip removal done in the current simulation state. This button is only enabled when a chip has been removed.
4. Displays currently defined chip removal events.
5. Forces the execution of selected chip removal events against the current simulation state.
6. Removes all defined chip removal events.
7. Remove selected chip removal events.

Chip Creation Stop

The Stops dialog now includes a **Stop At Chip Creation** condition. When enabled, the simulation stops whenever the stock splits during material removal. This allows users to review the newly created chips and optionally define chip removal events at that point, although doing so is recommended but not required.



This enhancement provides improved control over chip management during simulation, resulting in a clearer and more accurate representation of the machining process.

Reverse-Rewind function for Simulation

You can now save simulation states for the active flow by enabling the Rewind/Previous Step mode.

Where to find it:

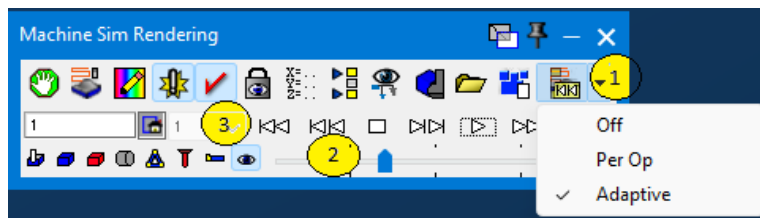
In the Simulation rendering dialog > **Previous Step Mode** tab.

You can now save simulation states for the Active Flow (3) by selecting a **Previous Step Mode(1)**.

Saved states can be revisited by clicking the **Previous Step** button (2).

Rewind modes are:

- Off – no states are saved (default).
- Per Op – a state is saved at each operation change.
- Adaptive – a state is saved at each operation change plus each rapid/feed change plus the most recent five features of that operation.



This functionality enables efficient navigation through the simulation, allowing users to quickly review earlier stages of the machining process

Scaling of Point & Labels on Screen

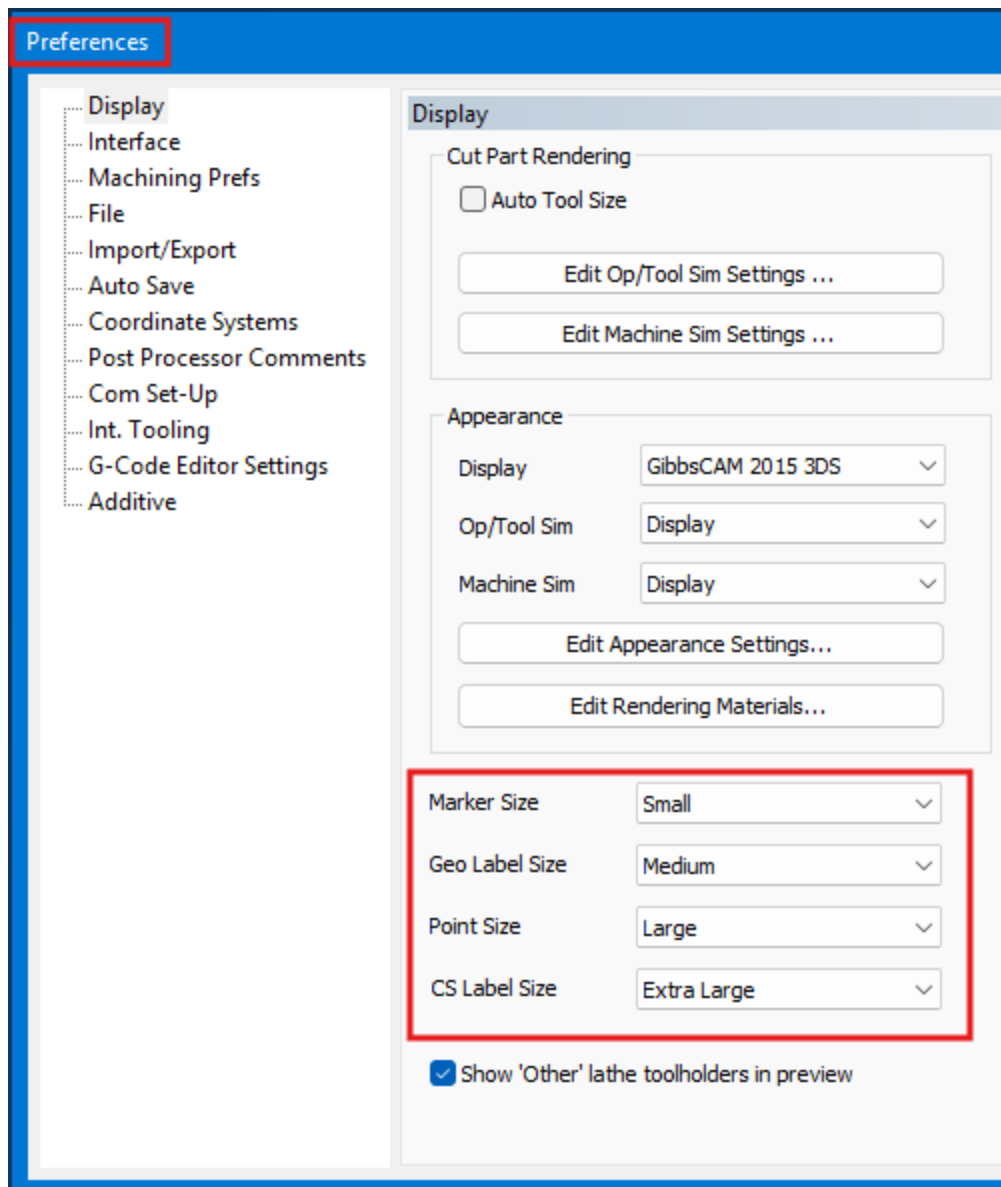
You can now define the display size of Points, Geometry Labels, and Coordinate System (CS) Labels/axis blocks within the workspace.

Where to find it:

On the **File** menu, click  Preferences>In Preferences dialog>**Display** Tab>in bottom left of the pane, options button let you specify the size of elements.

Like markers, these elements can be displayed at one of 4 sizes:

1. Small
2. Medium
3. Large
4. Extra Large



Multiple sizing options, ranging from Small to Extra Large, allow you to adjust the display for improved visibility when working with complex models or high-resolution displays. This flexibility helps ensure that important programming information remains clear and enables you to customize the workspace to suit your viewing preferences.

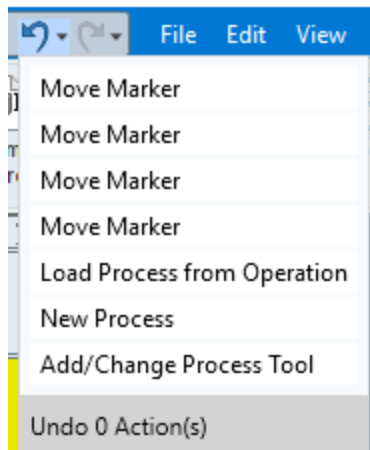
This enhancement provides greater control over graphical window visualization and improved workspace clarity.

Undo/Redo of Machining Marker Changes & Removal

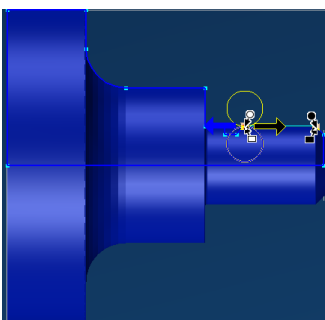
You can now **Undo/Redo** changes made to marker positions, including clearing of start and end points as well as start and end of features.

Where to find it:

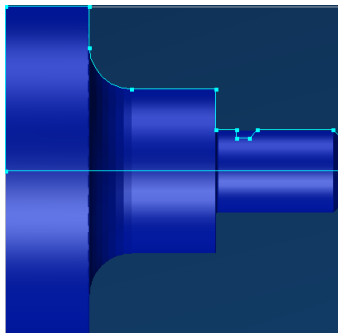
In the Quick Access toolbar > just left of the File main menu >  **Undo/Redo** or Press **Ctrl+Z/Ctrl+Y** on Keyboard.



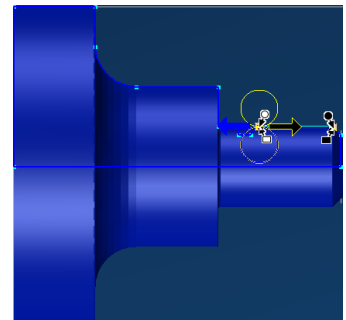
This enhancement allows users to easily recover markers if they are unintentionally cleared, such as when clicking outside the contour. The **Undo/Redo (Ctrl+Z/Ctrl+Y)** functionality improves workflow efficiency by enabling quick correction of marker-related actions without needing to recreate them manually.



Markers placed on the contour



Markers cleared after clicking outside the contour



Markers restored after Undo

This enhancement improves usability and reduces rework by providing greater control and flexibility when working with markers.

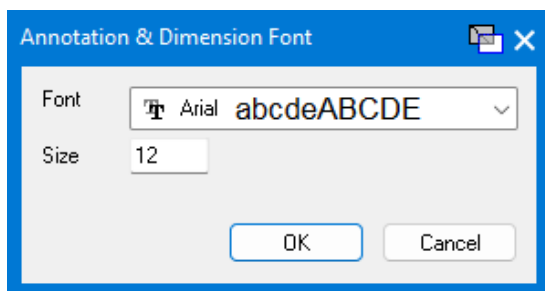
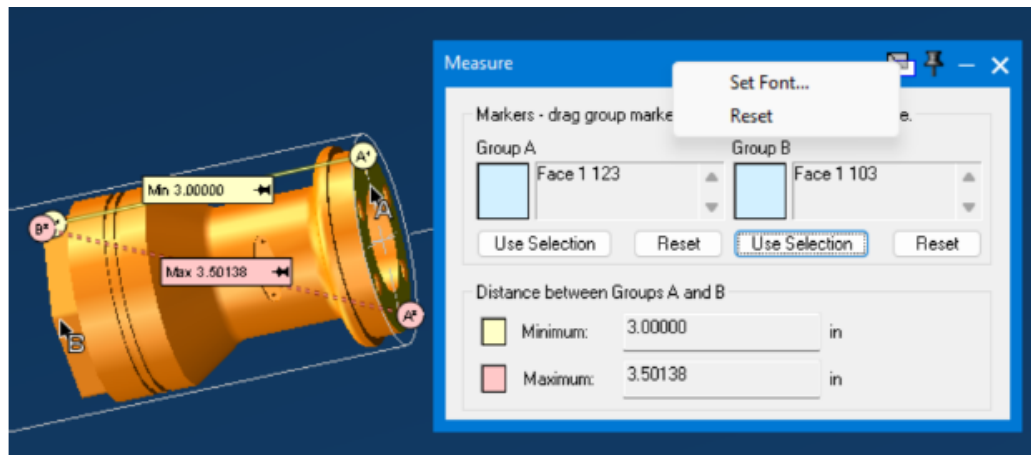
Control over font size of dimension labels in the Measure Tool

You can now customize the font type and font size for dimensions displayed in the  Measure tool labels within the graphical window. Previously, font size could only be modified through the Dimension Palette.

Where to find it:

View Menu >  Measure > Measure Dialog box > RMB anywhere on Dialog box > **Set Font** > **Annotation & Dimension Font**

After creating the required measurement and displaying the dimensions in the graphical window, right-click anywhere within the **Measure** dialog box and select **Set Font**. This opens the **Annotation & Dimension Font** dialog, where the font type and size can be modified as required. Once the dialog is closed, the updated font settings are applied to the dimension labels displayed in the graphical window.



This enhancement provides greater control over measurement label appearance, improving readability and allowing dimension annotations to be tailored to user preferences and display requirements in Measurement Tool.

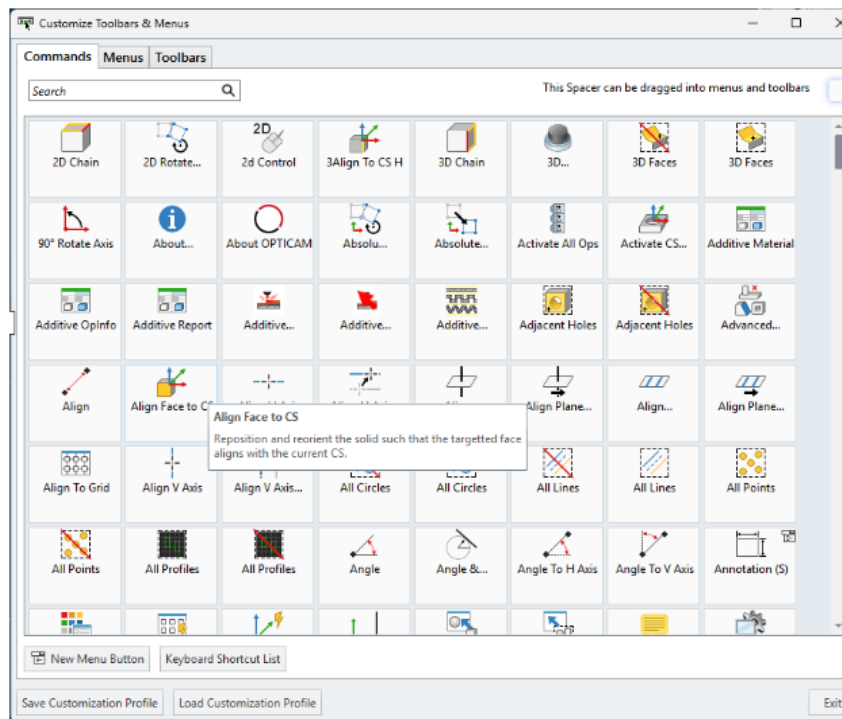
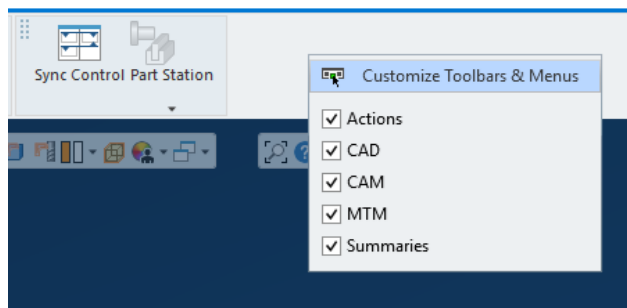
Multi-Select Mode and Range-Select Mode options

You can now use dedicated  **Multi-Select** and  **Range-Select** commands to control selection

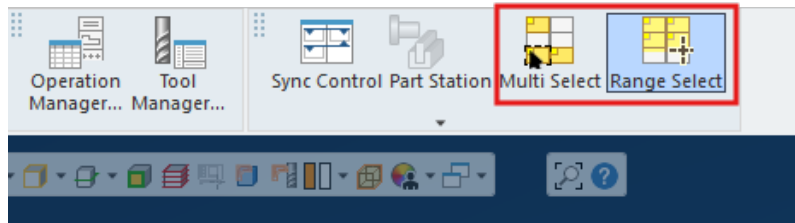
behavior in GibbsCAM without requiring the use of the **CTRL** or **SHIFT** keys.

Where to find it:

These commands can be added through **Customize Toolbars & Menus** and are disabled by default. Search for the  **Multi-Select** and  **Range-Select** commands in **Customize Toolbars & Menus**, then drag and drop the commands onto the toolbar (Wherever you want) to make them available for use.



Multi-Select provides selection behavior equivalent to using the **CTRL** key, while **Range-Select** behaves like the **SHIFT** key, including support for drag selection. Selection mode remains active even after clicking within the graphical window, allowing continuous selection of operations without repeatedly reactivating the command. Only one selection mode can be active at a time, and active modes are visually highlighted for clear identification.

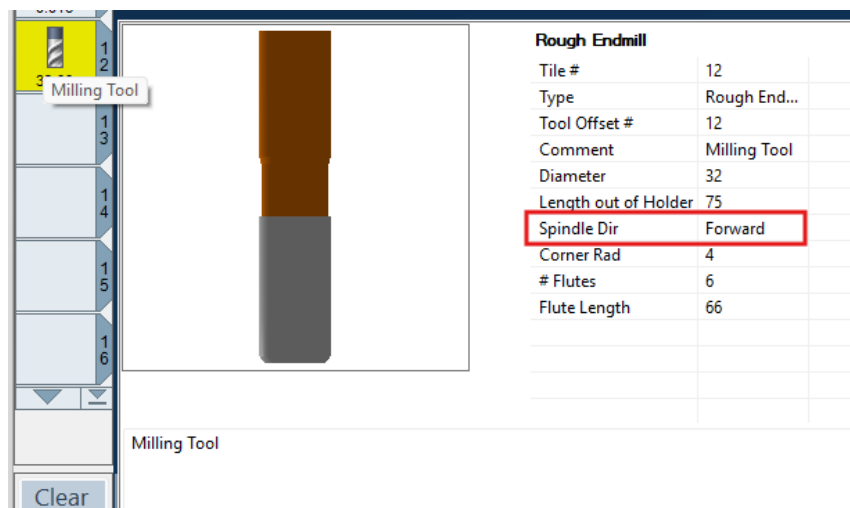


This enhancement streamlines selection workflows by reducing dependency on keyboard modifiers and providing a more efficient and uninterrupted selection experience.

An ability to see the tool rotational direction

You can now view **Spindle direction** directly within the tool preview balloon on tool tiles when hovering over a tool, provided the **Always show tool preview on hover** option is enabled in **Preferences**.

In GC2027, the tool preview includes **Spindle direction** information along with the existing tool details, eliminating the need to open the Tool dialog for verification. In previous releases, viewing spindle direction required opening the Tool dialog by double-clicking the tool.



This enhancement improves efficiency by allowing quick spindle direction verification directly from the tool preview.

Advanced material rendering has been enhanced to simulation or IT bodies

You can now apply textures, metallic materials, and enhanced per-material lighting properties to individual solids, faces, and solid/tool types in both Simulation and Workspace rendering.

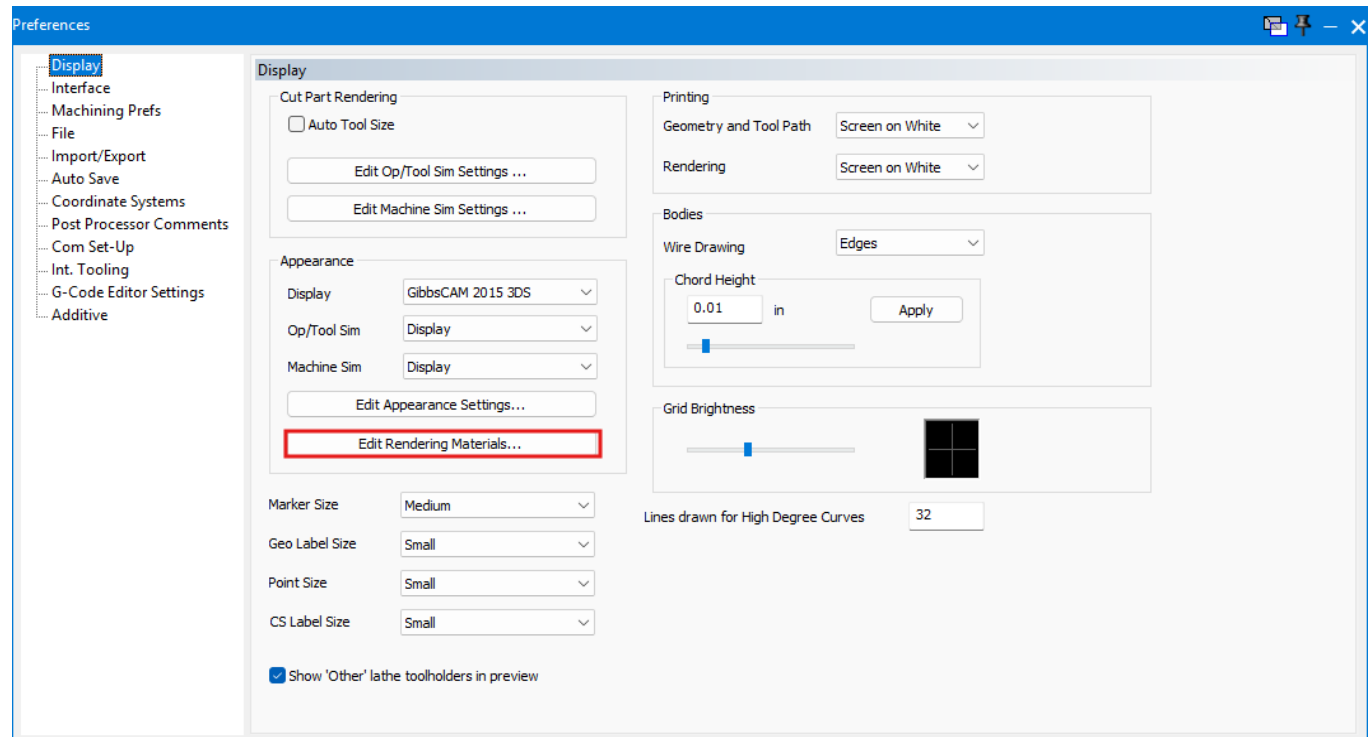
Where to find it:

On the File menu, click Preferences>In Preferences dialog>Display Tab>click **Edit Rendering Materials**

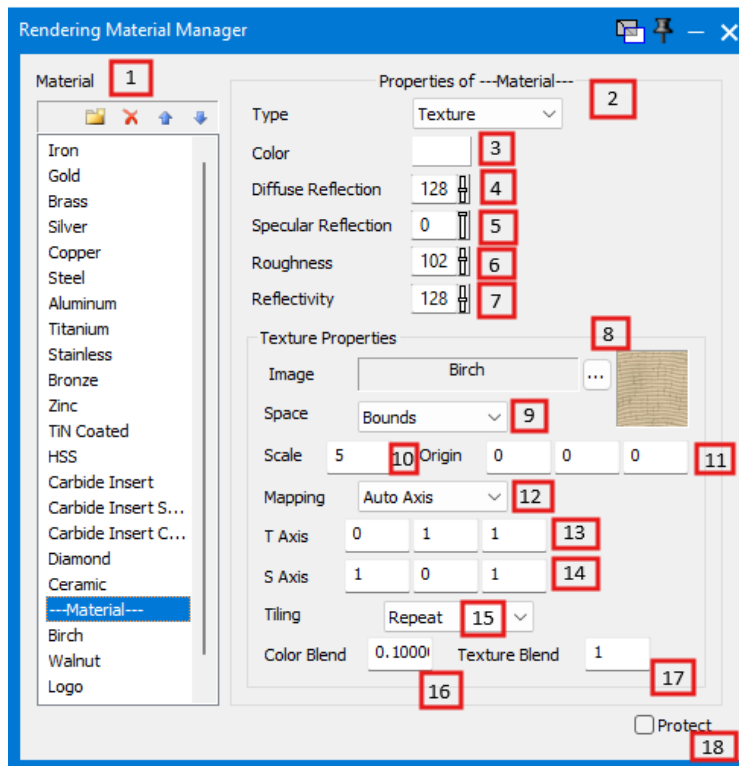
Traditionally, GibbsCAM allowed users to assign colors to solid geometry using a single set of global material and lighting parameters defined by appearance settings. In version 26, metallic materials were introduced, but support was limited to Simulation rendering only.

Rendering Material Manager

Pressing **Edit Rendering Materials** brings up the Rendering Material Manager.



The **Rendering Material Manager** allows the user to create, modify and delete materials from the rendering material table.



1. Material List

Select, add, delete, rename and reorder defined materials.

2. Material Type

Select between Metallic, Texture and Plain materials.

3. Material Color

Define the material color.

4. Material Diffuse Magnitude Specify the amount of the material's diffuse color (range 0-255). Larger values result in brighter materials.

5. Material Specular Magnitude

Specify the amount of the material's specular reflectance (range 0-255). Larger values result in shinier materials.

6. Material Roughness

Specify the material's roughness (range 0-255). Larger values result in duller materials.

7. Material Reflectivity

Emphasizes the reflective character of the material (range 0-255). Larger numbers reflect more of their environment.

8. Set Current Texture Image

Brings up the **Texture Manager**

9. Texture coordinate spatial mapping.

Selects the spatial relationship between the associated solid and the texture.

Object - assumes textures are effectively the same size as the associated solid.

Bounds - scales the texture to match the bounds of the solid.

Min Bound - scales the texture to match the smallest dimension of the solid bounds.

Max Bound - scales the texture to match the largest dimension of the solid bounds.

10. Texture Tiling scale

Multiplies the texture size to create more or fewer tiles on the solid.

11. Texture Tiling origin

Shifts the texture on the solid.

12. Texture coordinate axis mapping

Linear - Use S and T axes to define location/orientation of the texture on the solid.

Auto Axes - Use the solid's surface normal to define the Location/orientation of the texture on the solid.

13. Texture Height Axis specification

14. Texture Width Axis specification

15. Texture Tiling behavior.

Repeat repeats the texture across the surface

Clamp Out of range texture assignments are set the texture boundary values.

Border Out of range texture assignments are set the material color.

16. Texture material color blend value.

Specifies how much material color to allow in the texture display.

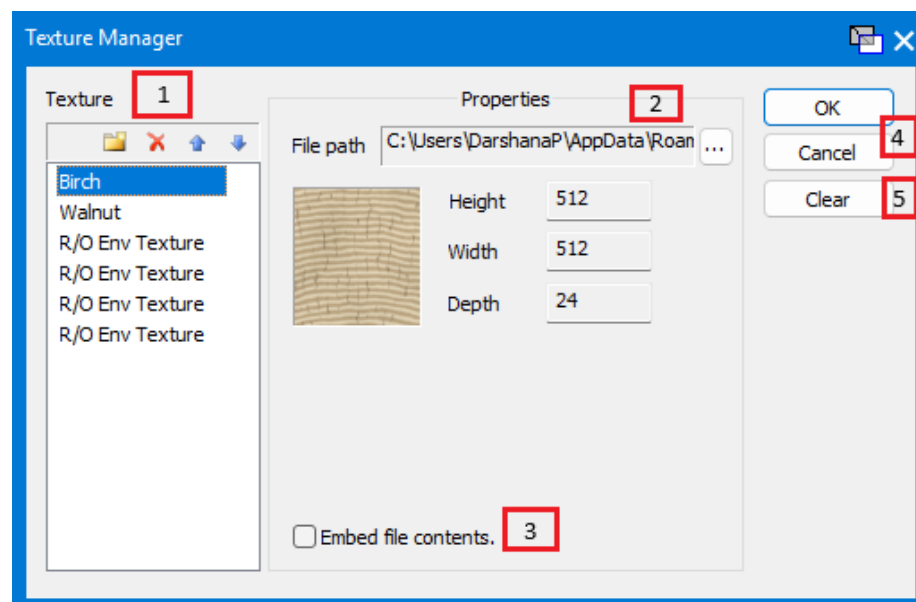
17. Texture color blend value.

Specifies how much texture color to allow in the texture display.

18. Protect

Disables modifications of material definition. Protected materials can't be renamed, deleted or have their definitions modified.

Texture Manager



1. Texture image list

Select, add, delete, rename and reorder defined texture images.

2. Texture image file selection.

Pressing the browse button brings up a file selection dialog to select an image file to associated with the current texture. Support file formats are BMP, JPG, and PNG.

3. Embed file contents

Embeds the texture image file contents in rendering table definition file. This allows the texture definition to be file location independent.

4. Ok/Cancel

Apply current texture to current material in the Material Manager.

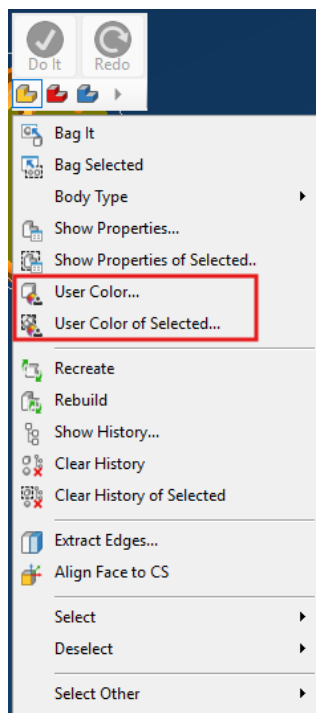
5. Clear

Removes the defined texture from current material.

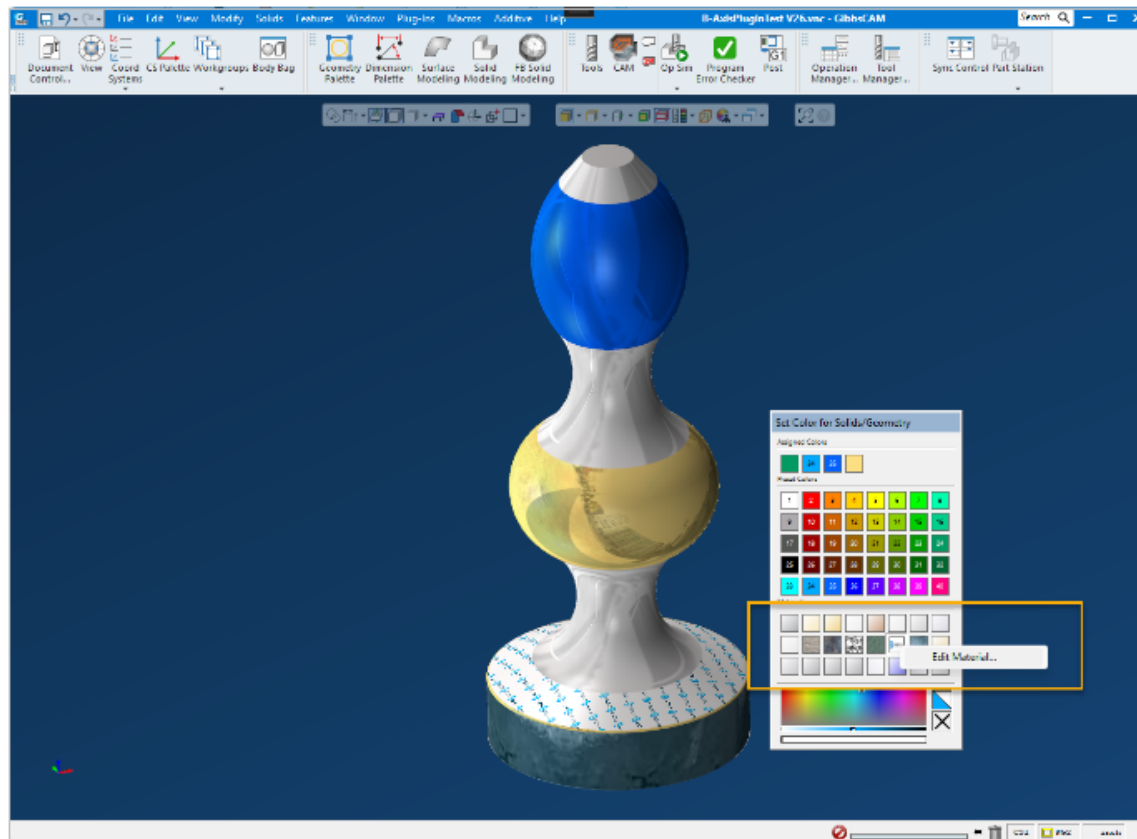
Workspace

Specifying Materials

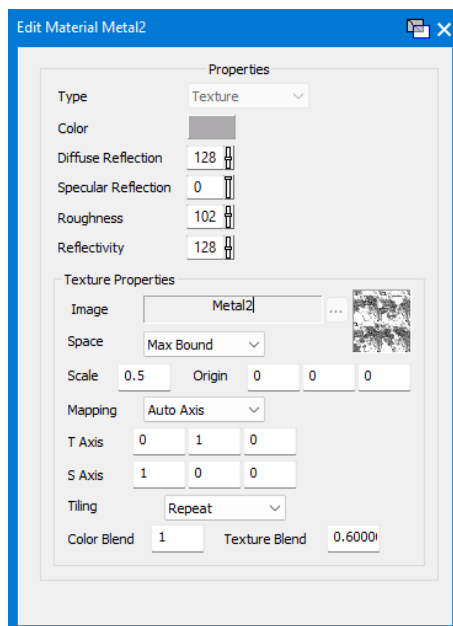
Materials can be assigned to solids/faces through the **User Color** and **User Color of Selected** menu options.



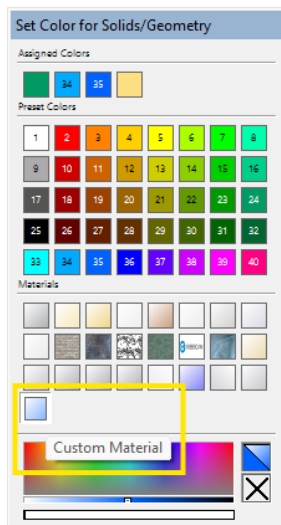
The user color palette contains a Materials section which displays all defined materials.



Right clicking on a material brings up a menu that allows the user to edit the current material definition before it is assigned to the solid. Selecting **Edit Material...** brings up a limited version of the **Rendering Material Manager** that allows the user to modify a subset of the material properties. Material type and associated texture cannot be changed from this dialog.



When a material is modified using this dialog, the corresponding material in the User Color Palette displays an “*” indicator in the upper-left corner to identify it as a customized material. Selecting this modified material assigns it to the target solid(s). The customized material is created as a full copy of the original material defined in the rendering material table, including the updated material parameters. This functionality enables material customization on a per-solid basis. When the User Color Palette is opened with a customized material loaded, the customized material is automatically added to the end of the Palette’s material section.



Facet Body Export

When a solid with assigned materials is associated with a machine definition or Intermediate Tooling, the material data is exported together with the facet body information for use in Simulation. All material-related data, including texture images, is embedded within the facet body file. This eliminates the need to package separate material files with machine assemblies or Intermediate Tooling definitions.

Simulation Visualization

Materials assigned to solid types are displayed across all simulation modes. Materials assigned to specific solids and exported with machine assemblies or Intermediate Tooling are visible only in Machine Simulation.

Environment

The rendering materials environment consists of the following components:

1. Rendering Material Definition File – RMaterialConfig.xml

Contains all material and texture definitions, along with optional embedded texture file data that is independent of file location.

2. Texture Image Folder

Stores the default texture image files used by rendering materials.

The rendering materials environment is automatically copied from the default DISPLAYPREFERENCES folder the first time the application is launched.

This enhancement provides greater visual realism and flexibility by enabling detailed, per-material rendering customization across both Workspace and Simulation environments.

Solids

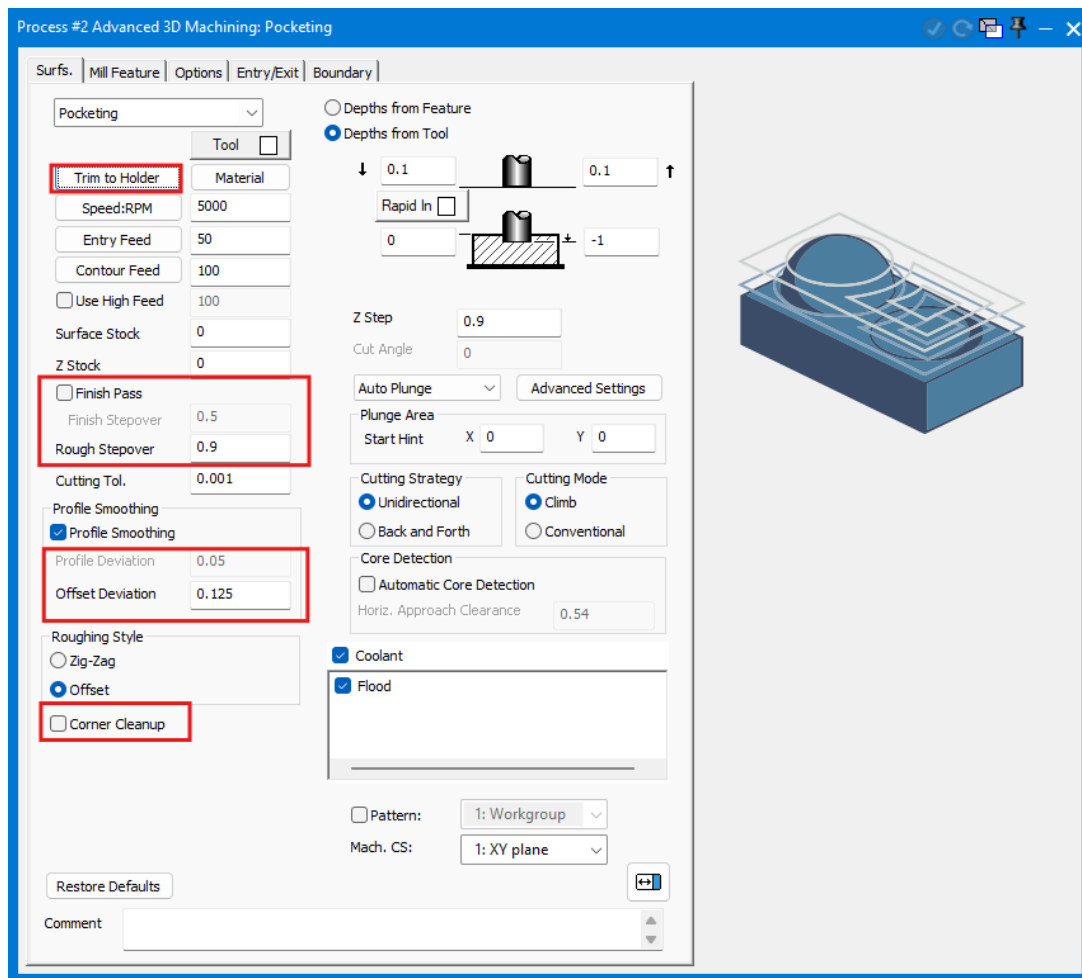
Enhancing Advanced 3D Machining

- Pocketing
- Adaptive Pocketing
- Lace Cut
- N Curve Flow
- Curve Projection
- Contour
- Constant Stepover Cut
- Flats cut
- Intersections
- Intersections - Rest
- Steep Shallow Cut

Pocketing

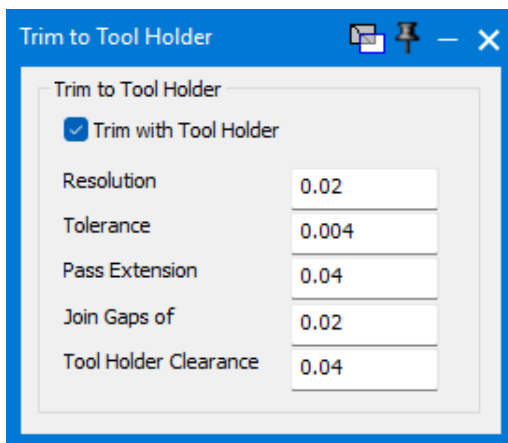
Combined Pocketing and Pocketing with Core Detection

These two strategies are now combined as Pocketing.

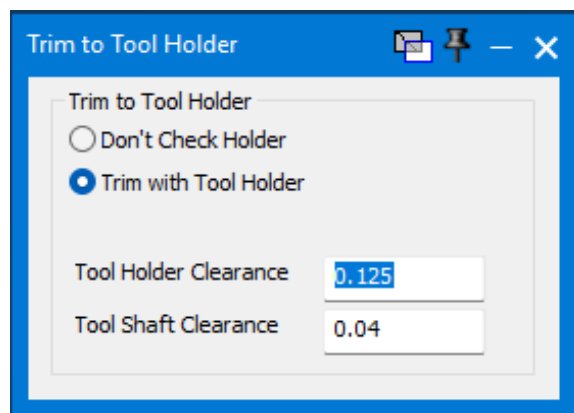


Improved Trim to Tool Holder for Advanced 3D Machining

The Trim to Tool Holder functionality in Advanced 3D Machining has been enhanced to provide simpler and more accurate tool-holder and shaft clearance control.



Before GC2027



GC2027

The updated functionality includes the following improvements:

- Resolution, Tolerance, Pass Extension, and Join Gaps settings are no longer required.
- Tool Holder Clearance and Tool Shaft Clearance can now be specified independently. The separate clearance values provide better control when trimming toolpaths around the tool holder and shaft.
- In-process stock is always considered during tool-holder and shaft checking.

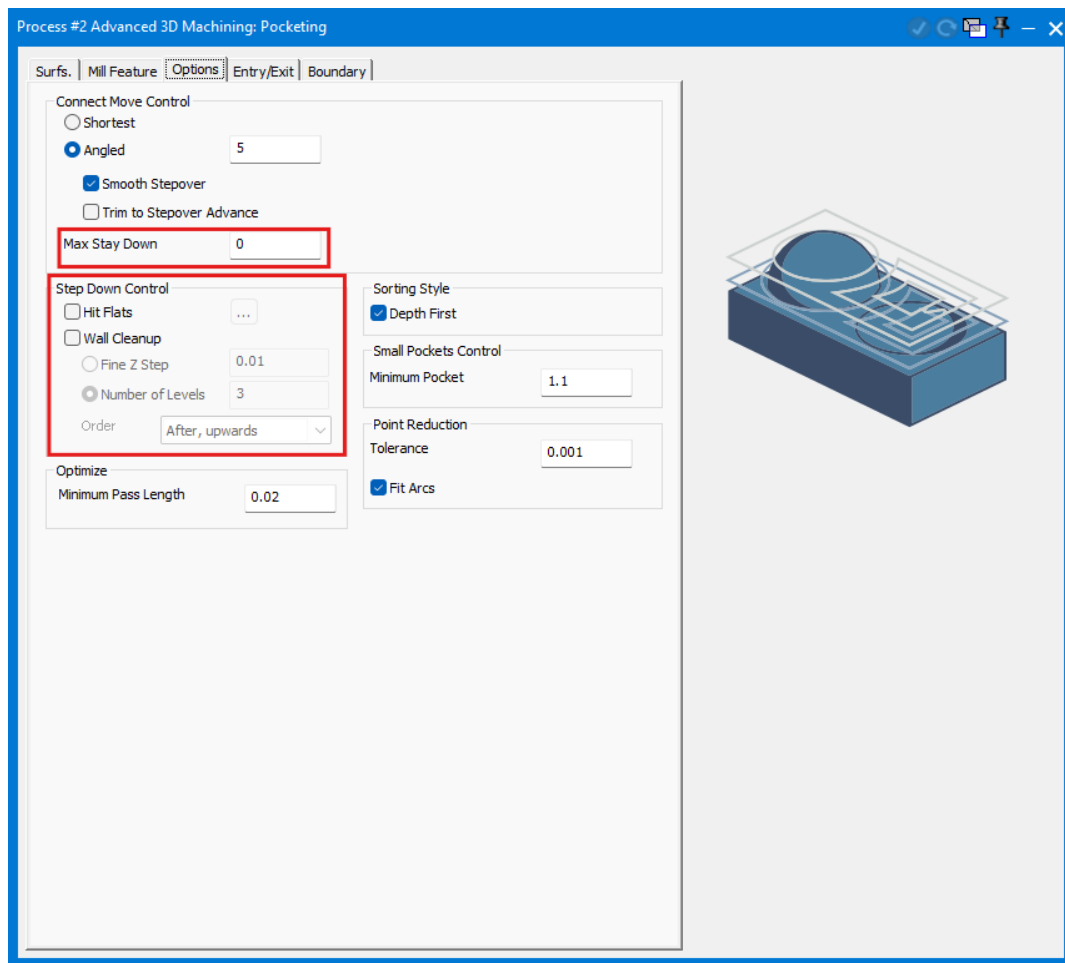
Improved Material Removal with Maximum Stepmover

- Advanced 3D Machining now uses the maximum stepover (Rough Stepover) more effectively during material removal. This can result in fewer passes and faster machining.
- The Minimum Stepmover setting is no longer required. A new Corner Cleanup option is available to remove corner pegs or cusps that may remain when a large stepover is used.

This enhancement provides faster material removal while maintaining effective cleanup of areas that cannot be fully machined with the maximum stepover.

Simplified Pocketing Options

The Pocketing and workflows have been enhanced to simplify the available options and provide more consistent control over step-down and wall cleanup.

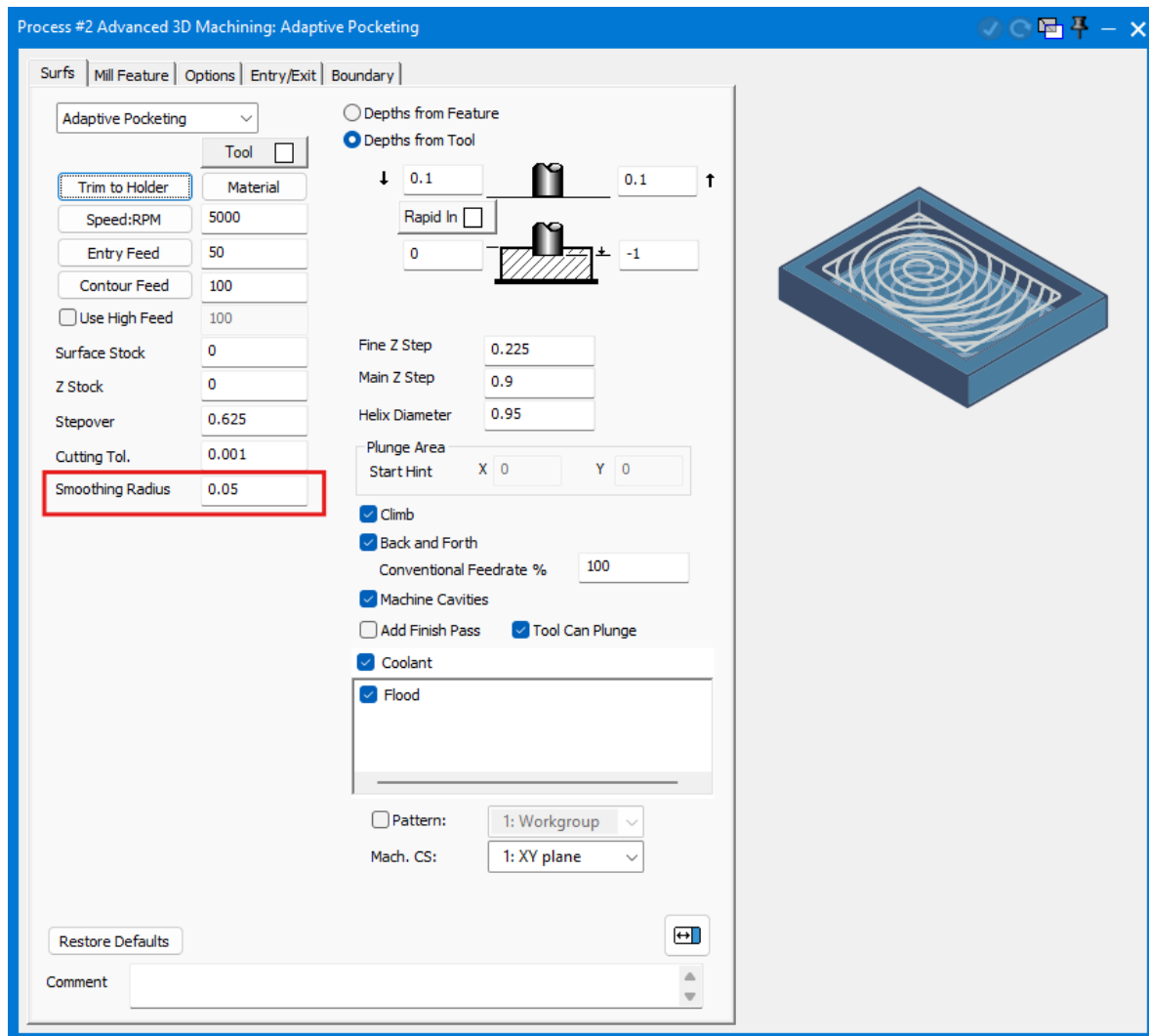


The following changes are available on the Options tab:

- Max Stay Down and Max Stay On Surface have been combined into a single setting, Max Stay Down. This setting applies to all pocketing strategies.
- Automatic Filletting and Optimize Z Level has been removed.
- Step Down Control has been significantly improved:
 - Hit Flats now provides a more consistent method for adding levels, allowing additional levels to be added when needed.
 - Wall Cleanup now provides both Fine Z and Number of Levels options for greater control over wall finishing.
 - Adaptive Step Down has been removed in favor of Wall Cleanup. Machining complete levels solely to clean walls is no longer necessary.

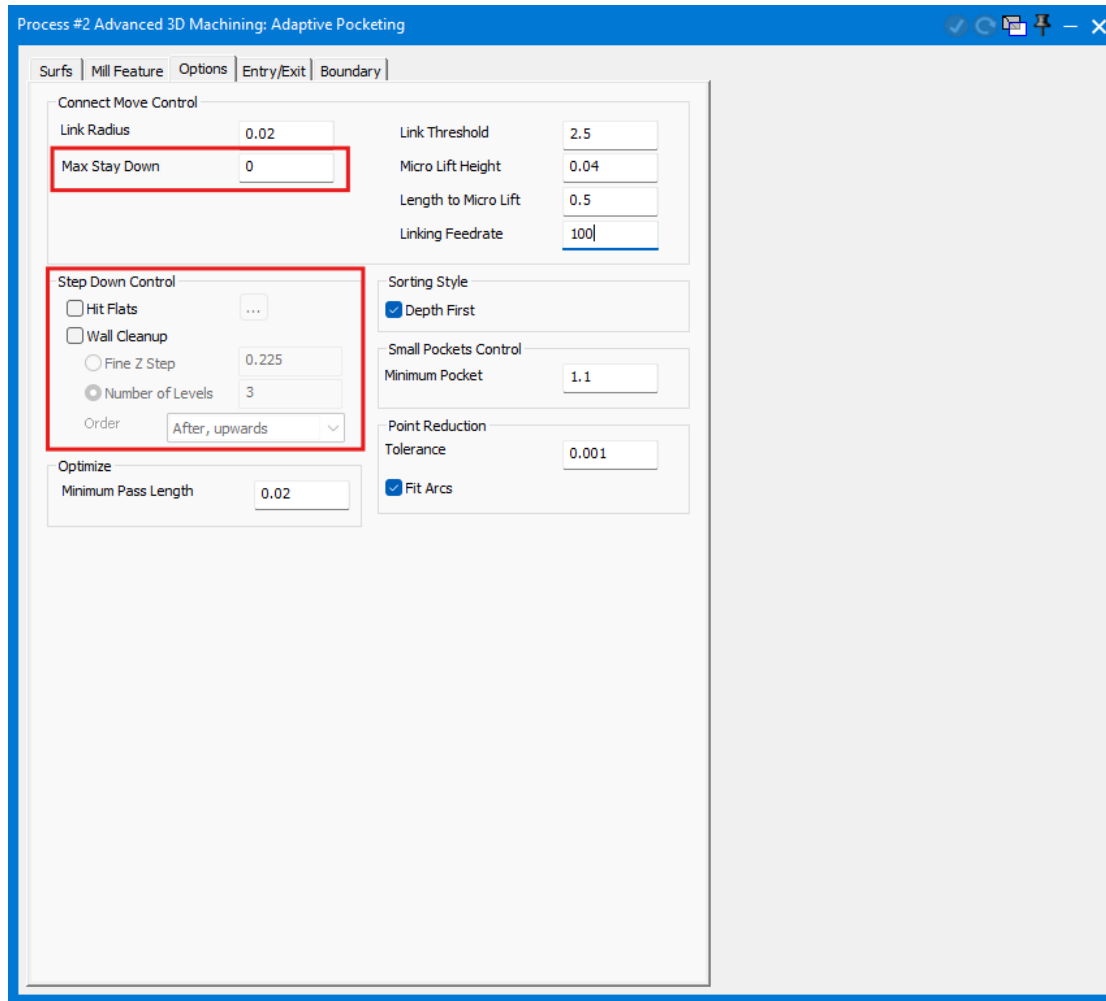
These changes simplify the Pocketing options and eliminate settings that could produce inconsistent or difficult-to-predict results and provide more predictable control over step-down and wall cleanup operations.

Adaptive Pocketing



Profile smoothing section replaced by a single Smoothing Radius value.

Simplified Adaptive Pocketing Options



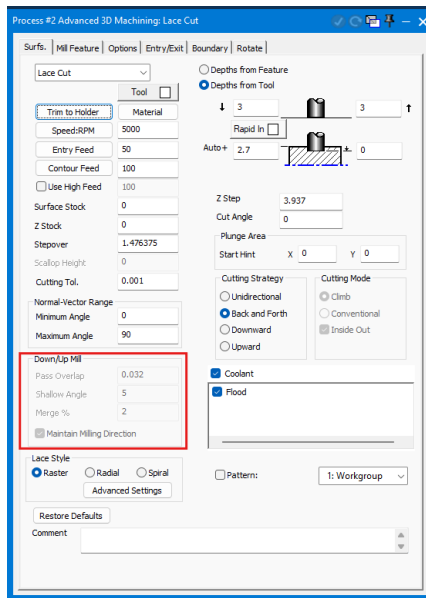
The following changes are available on the Options tab:

- Max Stay Down and Max Stay On Surface have been combined into a single setting, Max Stay Down.
- Automatic Filletting and Optimize Z Level has been removed.
- Step Down Control has been significantly improved:
 - Hit Flats now provides a more consistent method for adding levels, allowing additional levels to be added when needed.
 - Wall Cleanup now provides both Fine Z and Number of Levels options for greater control over wall finishing.

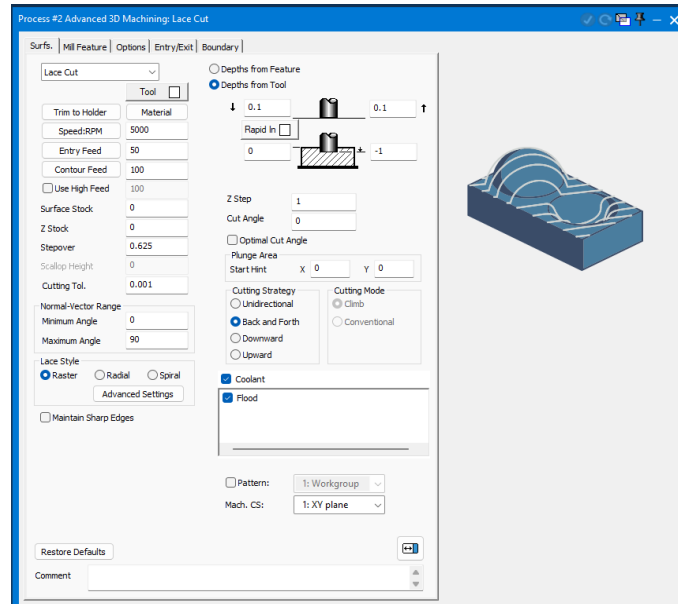
- Adaptive Step Down has been removed in favor of Wall Cleanup. Machining complete levels solely to clean walls is no longer necessary.

These changes simplify the Pocketing options and eliminate settings that could produce inconsistent or difficult-to-predict results and provide more predictable control over step-down and wall cleanup operations.

Lace cuts



Before GC2027



GC2027

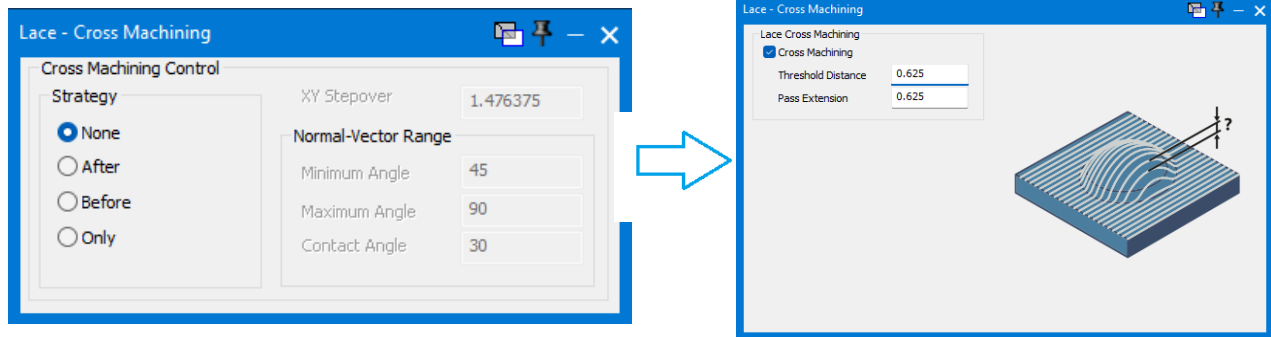
Updated Milling Direction Settings

The milling direction settings have been updated for the ModuleWorks-based machining strategy.

- The Down/Up Milling settings have been removed because they are not supported by ModuleWorks.
- Downward/Upward cutting remains available for controlling the cutting direction.

This change simplifies the milling direction options while retaining the supported cutting-direction controls.

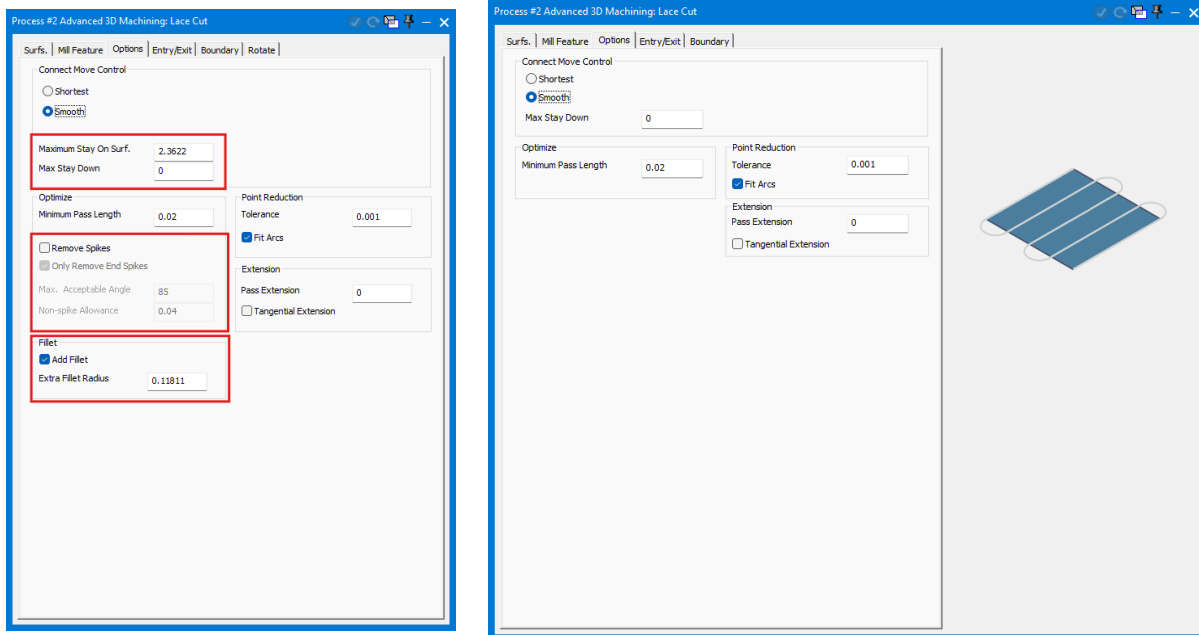
Improved Lace : Cross Machining



Simplified settings: The available settings have been streamlined to reduce complexity.

Simplified order control: The operation order can no longer be specified; it can only be enabled or disabled.

Simplified Lace Cuts Options



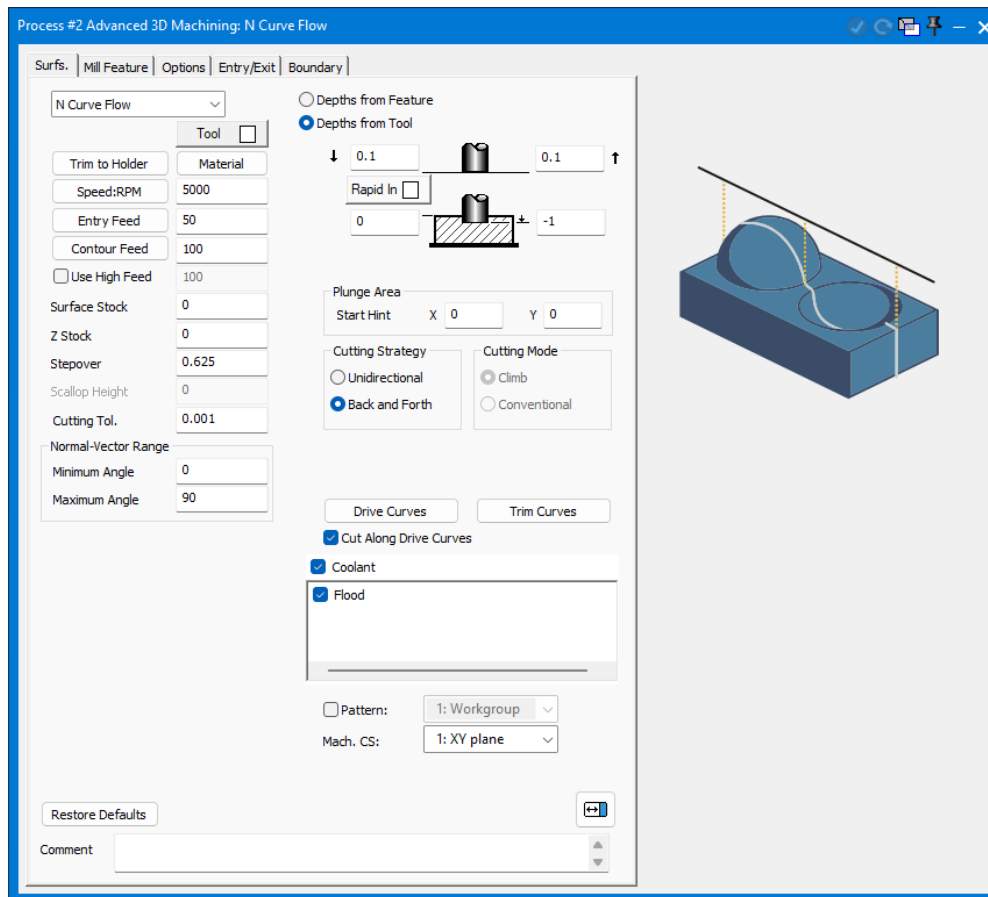
Before GC2027

GC2027

The following changes are available on the Options tab:

- Max Stay Down and Max Stay On Surface have been combined into a single setting, Max Stay Down.
- Remove Spikes has been removed.
- Filleting has been removed.

N Curve Flow

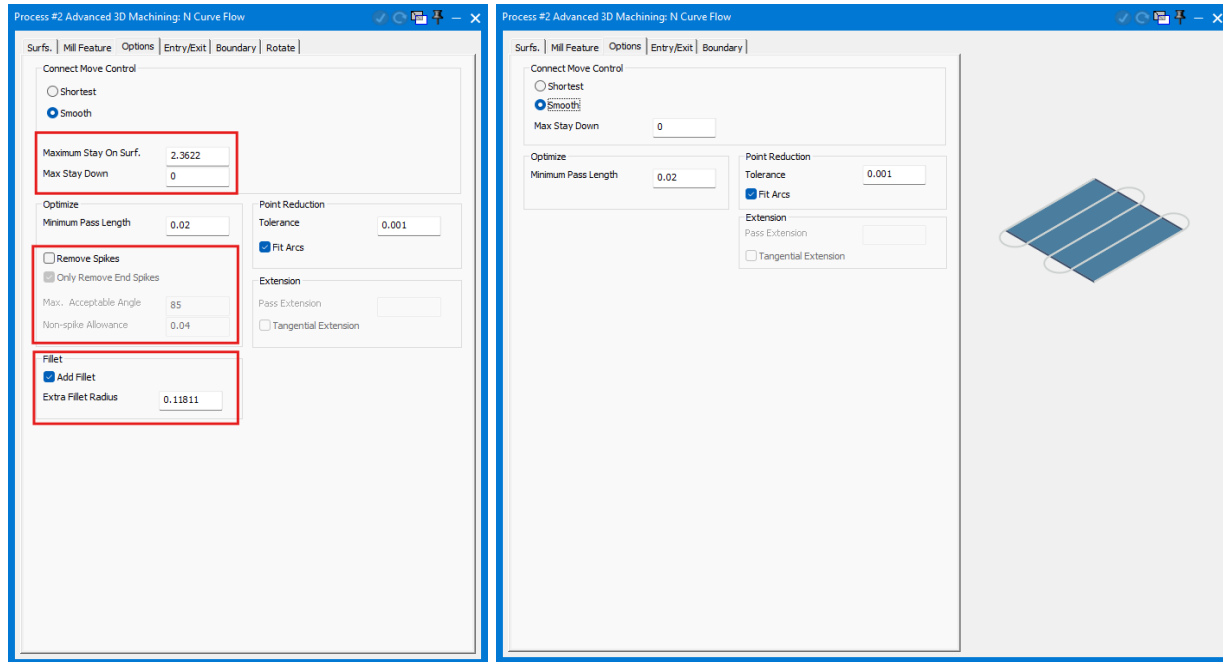


The milling direction settings have been updated for the ModuleWorks-based machining strategy.

- The Down/Up Milling settings have been removed because they are not supported by ModuleWorks.
- Downward/Upward cutting also removed.

This change simplifies the milling direction options.

Simplified N Curve Flow Options



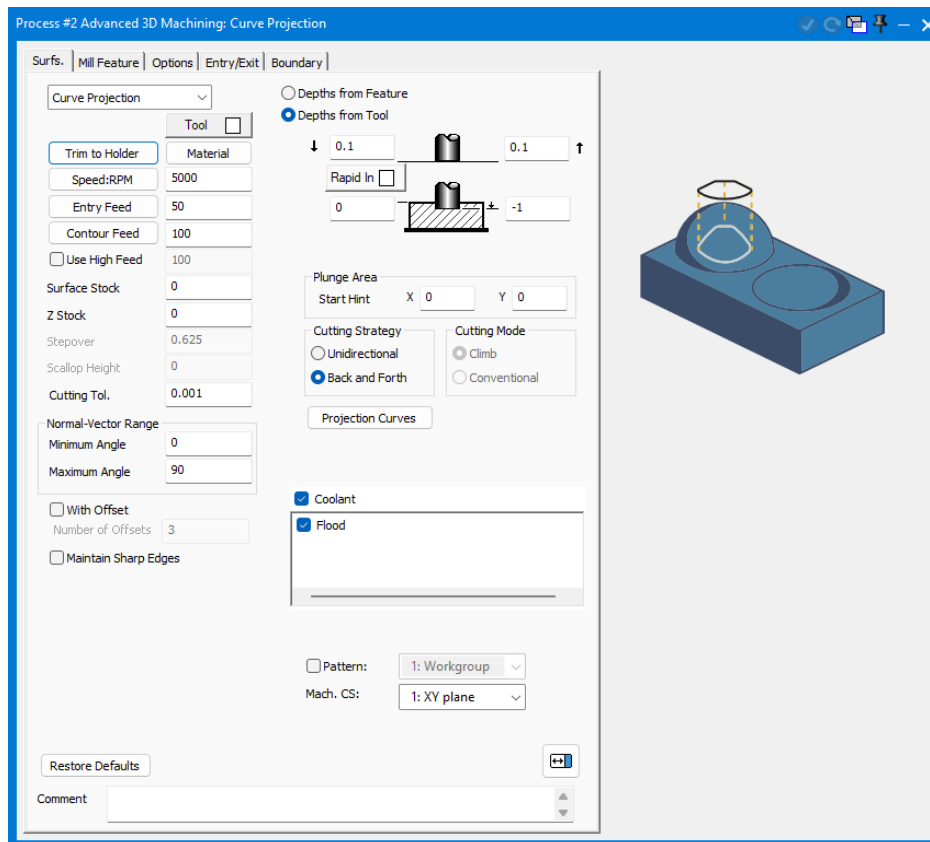
Before GC2027

GC2027

The following changes are available on the Options tab:

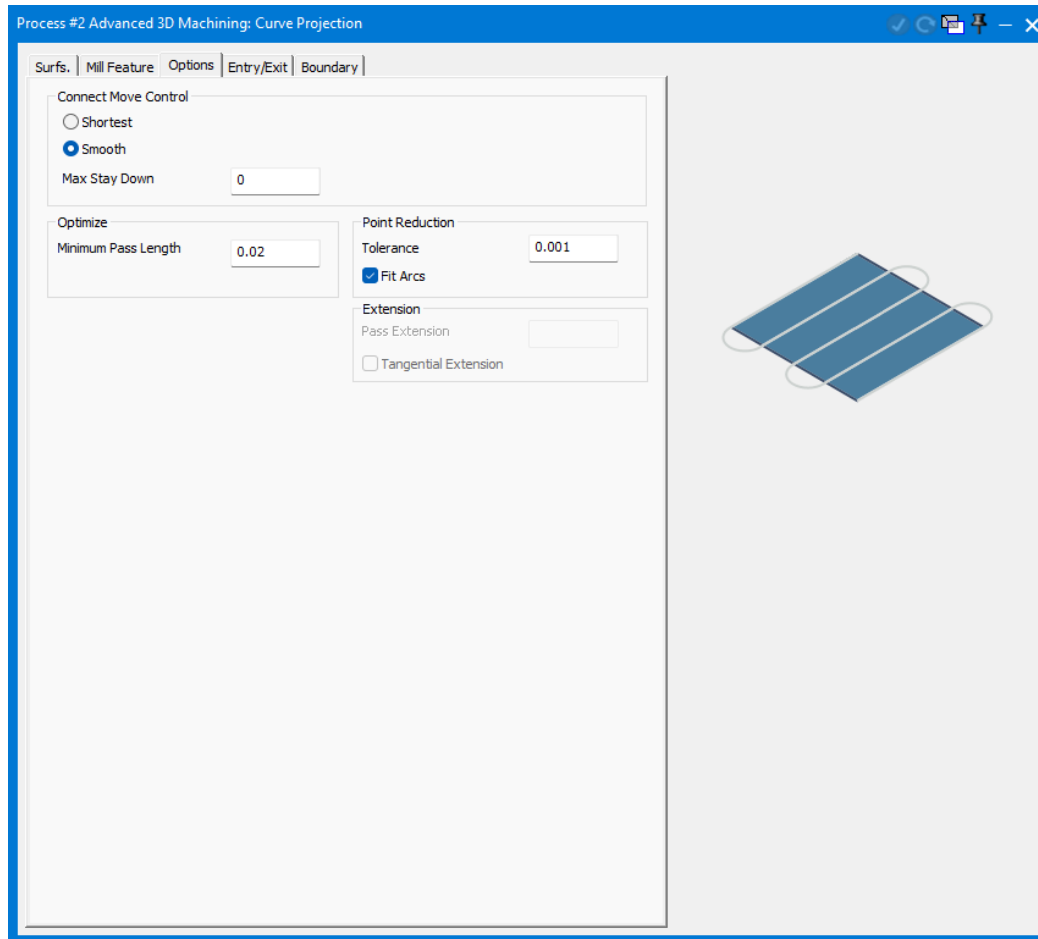
- Max Stay Down and Max Stay On Surface have been combined into a single setting, Max Stay Down.
- Remove Spikes has been removed.
- Filleting has been removed.

Curve Projection



The Down/Up Milling settings have been removed because they are not supported by ModuleWorks.

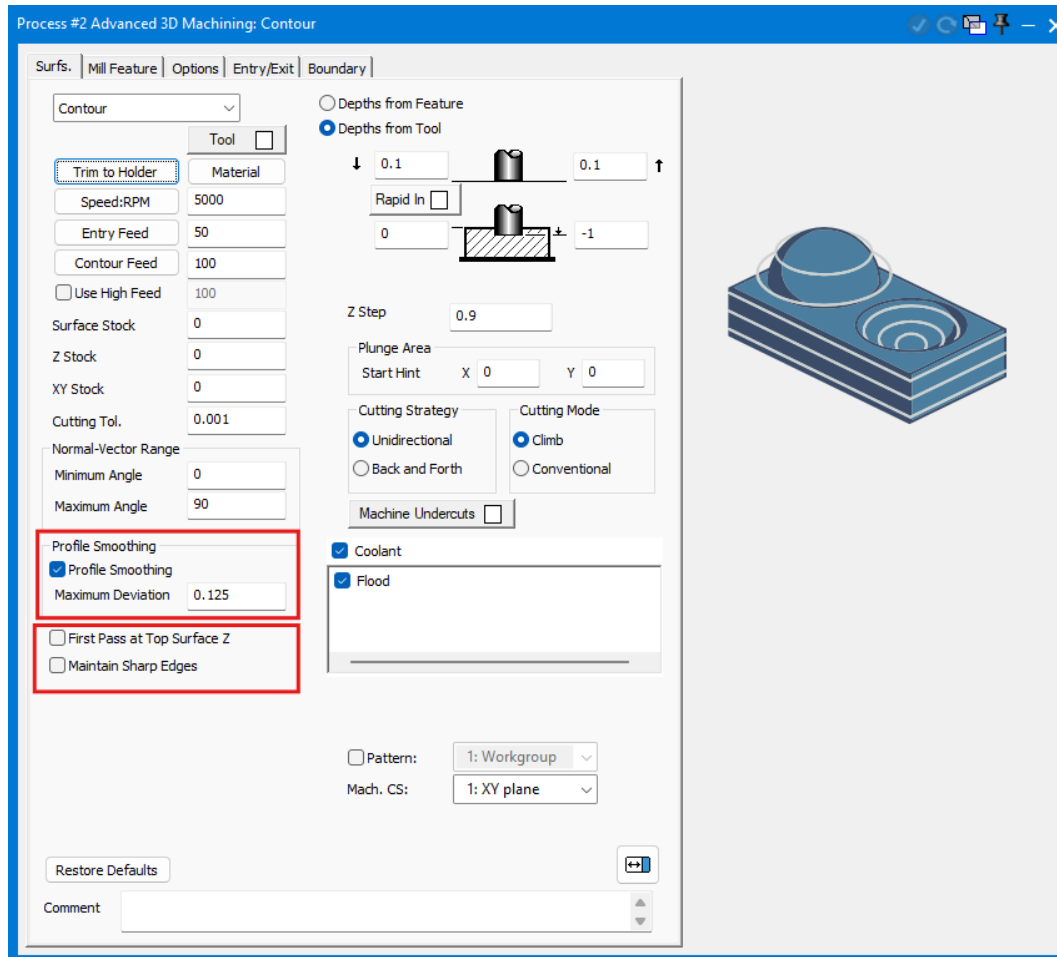
Simplified N Curve Flow Options



The following changes are available on the Options tab:

- Max Stay Down and Max Stay On Surface have been combined into a single setting, Max Stay Down.
- Remove Spikes has been removed.
- Filleting has been removed.

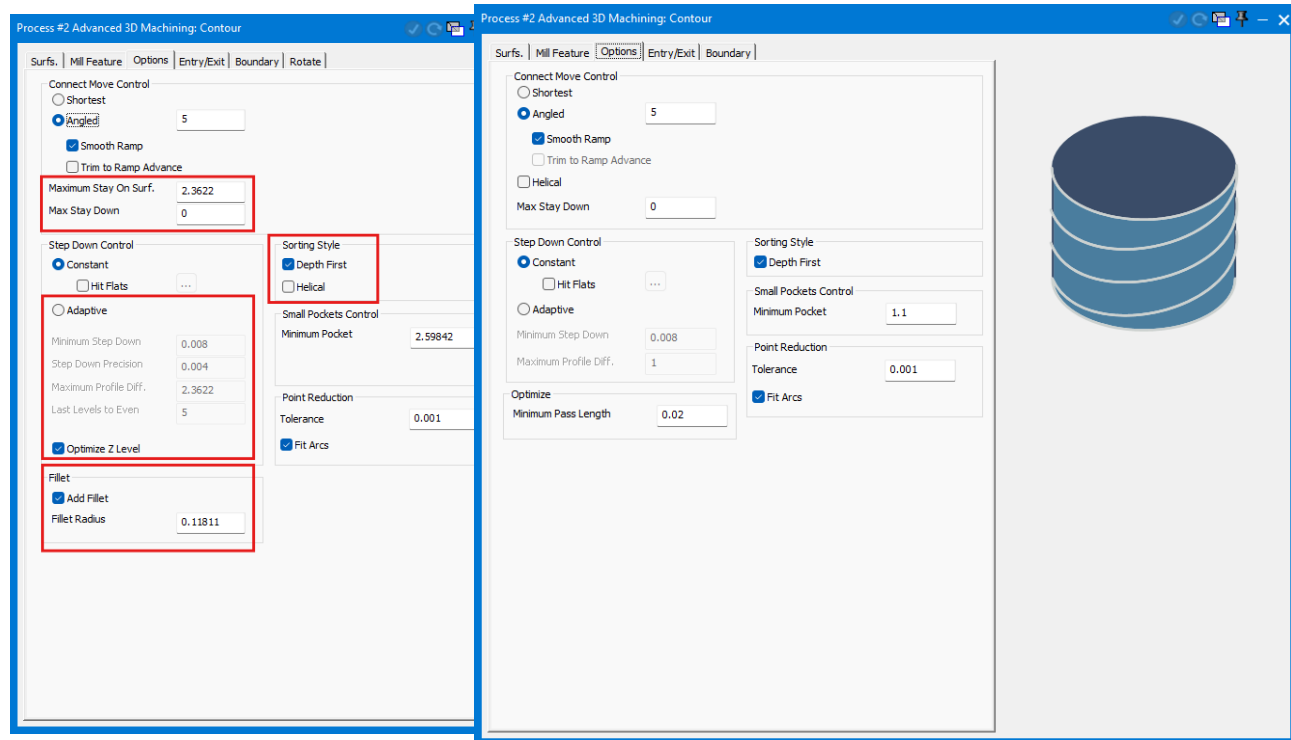
Contour



Profile Smoothing has been enhanced to provide improved control over toolpath smoothing and edge treatment.

- Profile Smoothing now uses Deviation instead of Tolerance to define the allowable deviation.
- A new First Pass at Top Surface Z option is available, You can enable/Disable the option to generate the first pass at the top surface Z level.
- A new Maintain Sharp Edges option is available to enable/disable.

Simplified Contour Options



Before GC2027

GC2027

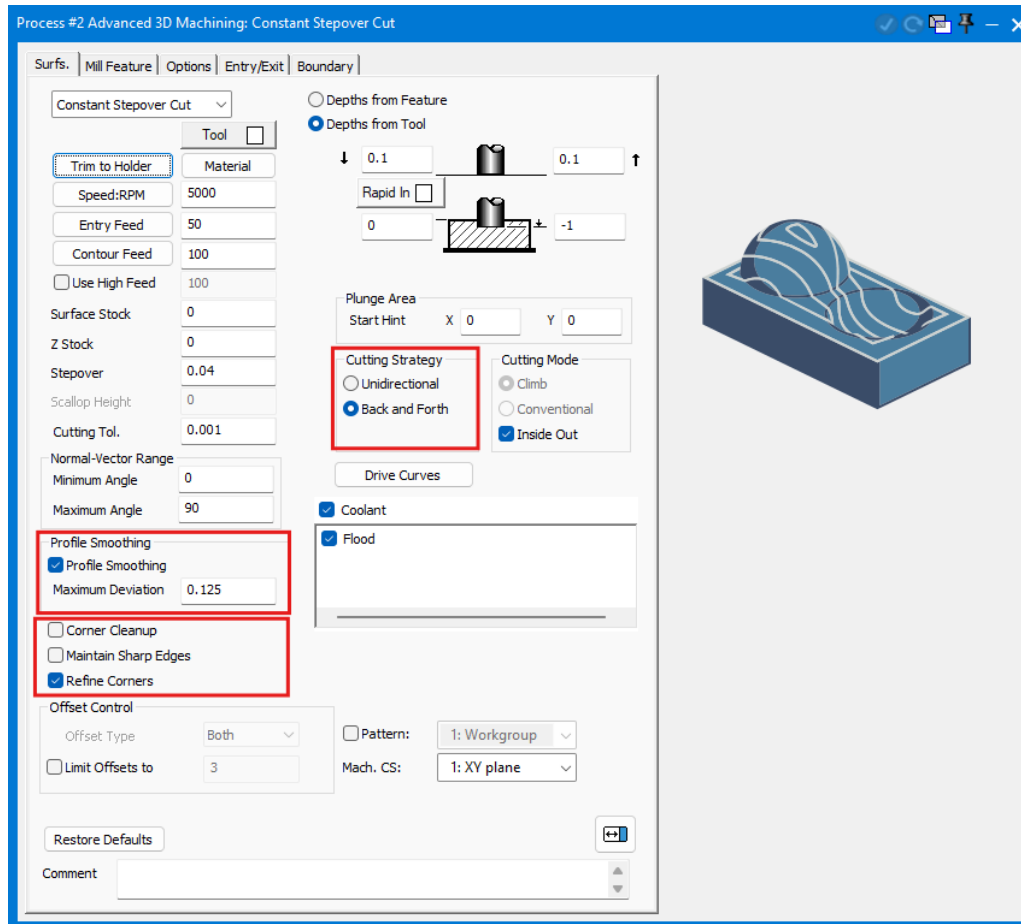
Advanced 3D Contour options has been enhanced to simplify Adaptive Step Down settings and improve Helical Contour toolpaths.

- Max Stay Down and Max Stay On Surface have been combined into a single setting, Max Stay Down.
- Adaptive Step Down remains available, while the Step Down Precision and Last Levels to Even settings are no longer required.
- Optimize Z Level is no longer supported.
- Helical Contour has been significantly improved to generate smoother and more precise toolpaths.
- Filleting has been removed.

These changes simplify the Advanced 3D Contour options and improve toolpath quality for helical contour machining.

Constant Stepover Cut

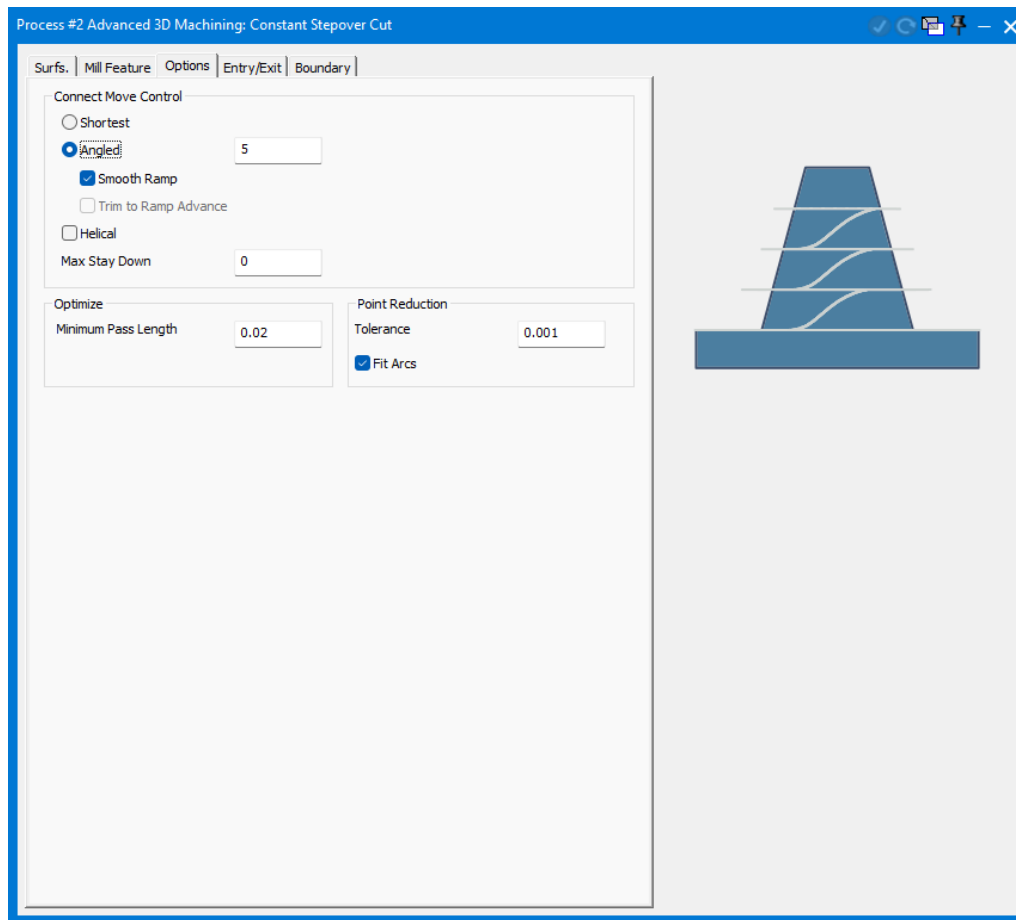
The Constant Stepover Cut operation has been enhanced with improved profile smoothing, corner control, and cutting strategy options.



- A new Profile Smoothing section provides control over toolpath smoothing using the Maximum Deviation value.
- New corner control options have been added:
 - Corner Cleanup helps remove unwanted material in corners.
 - Maintain Sharp Edges preserves sharp edges during machining.
 - Refine Corners provides improved toolpath definition around corners.
- The Downward and Upward cutting options have been removed from the Cutting Strategy section.

These enhancements provide greater control over toolpath smoothing and corner machining while simplifying the available cutting strategy options.

Simplified Constant Stepover Cut Options

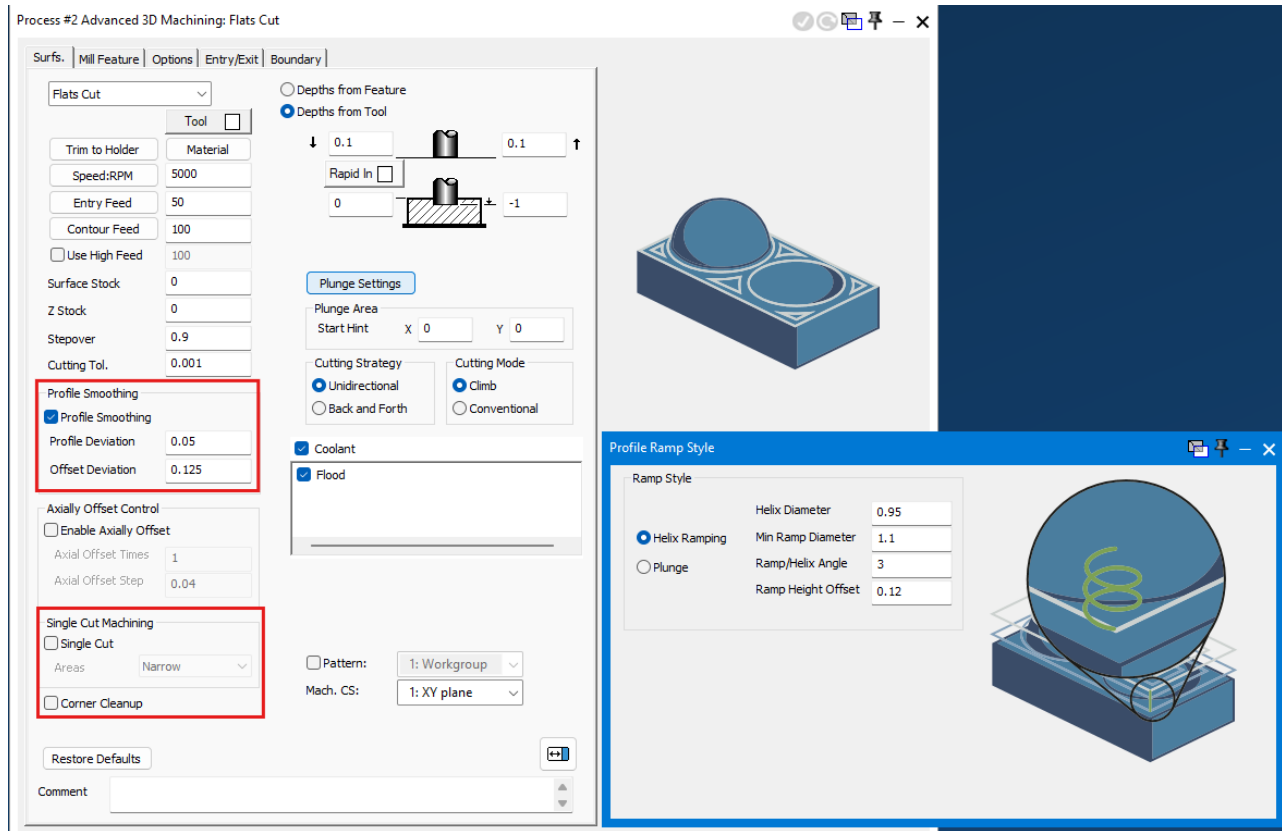


Advanced 3D Constant Stepover Cut options has been enhanced to simplify Adaptive Step Down settings and improve Helical Contour toolpaths.

- Max Stay Down and Max Stay On Surface have been combined into a single setting, Max Stay Down.
- Adaptive Step Down remains available, while the Step Down Precision and Last Levels to Even settings are no longer required.
- Optimize Z Level is no longer supported.
- Helical Contour has been significantly improved to generate smoother and more precise toolpaths.
- Filleting has been removed.

These changes simplify the Advanced 3D Constant Stepover Cut options and improve toolpath quality for helical contour machining.

Flats Cut

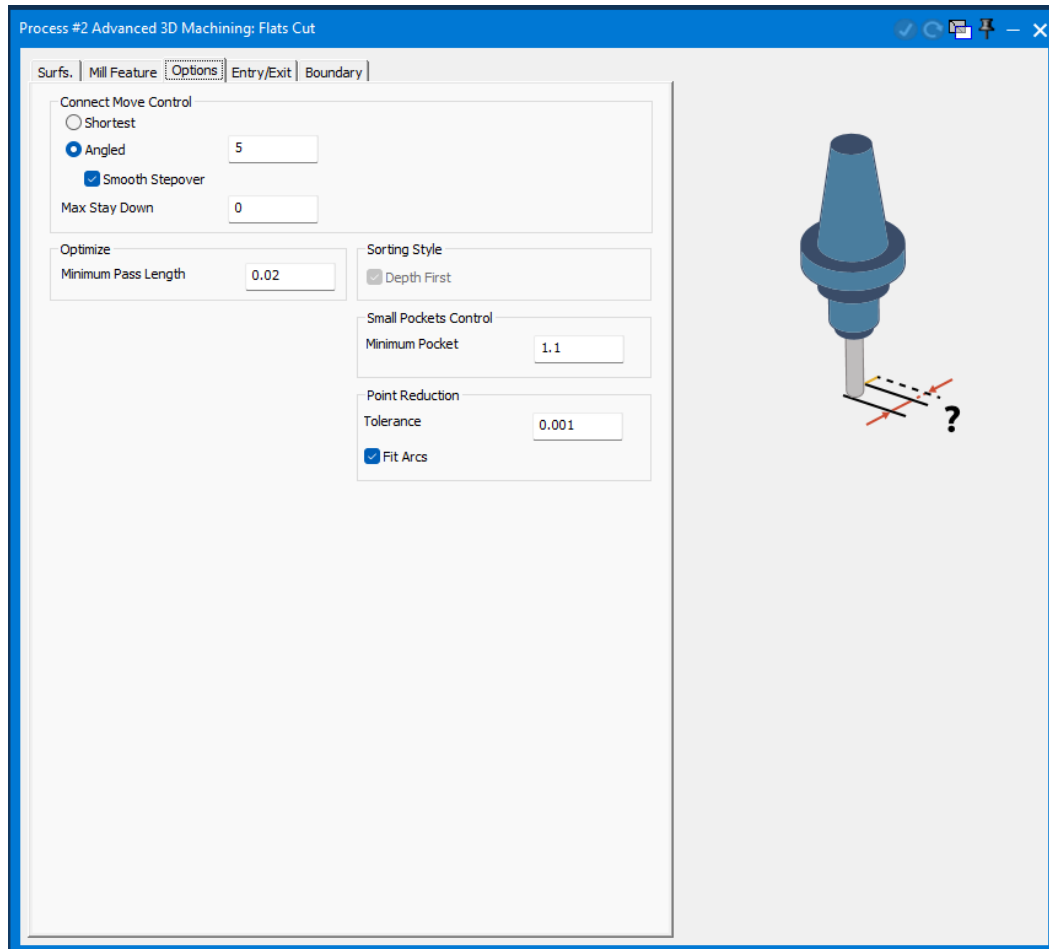


The Flats Cut operation has been enhanced with improved profile smoothing, single-cut machining, corner cleanup, and simplified plunge control.

- Profile Smoothing now uses Deviation values instead of Tolerance to provide more direct control over profile and offset deviation.
- A new Single Cut Machining section allows single-cut machining to be enabled and configured for selected areas.
- A new Corner Cleanup option is available to improve machining in corner areas.
- Plunge Settings have been consolidated to simplify plunge control. The Plunge, Auto Plunge, and Advanced Settings options are now combined under the Plunge Settings control.

These enhancements provide improved control over profile smoothing and corner machining while simplifying plunge configuration in the Flats Cut operation.

Simplified Flats Cut Options

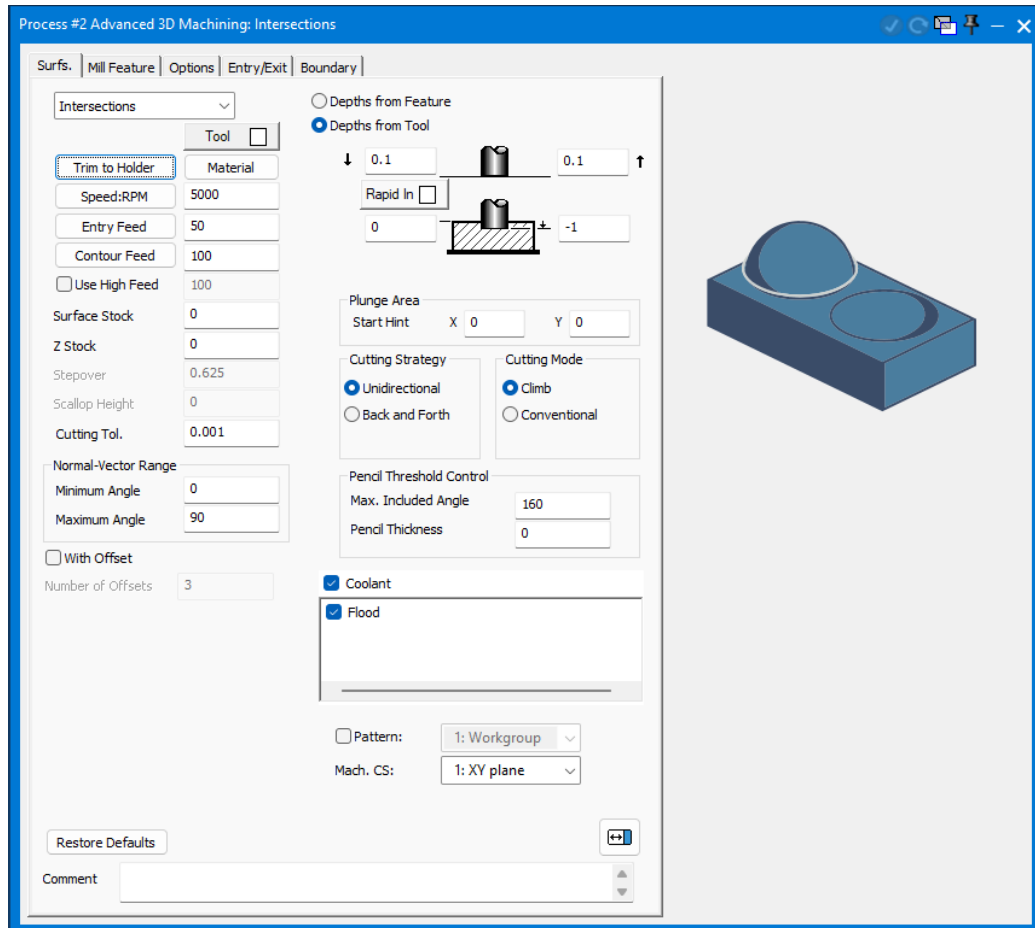


The following changes are available on the Options tab:

- Connect Move Control section has been update to enable Smooth Stepper.
- Max Stay Down and Max Stay On Surface have been combined into a single setting, Max Stay Down.
- Step Down Control has been removed.
- Filleting has been removed.
- Minimum Pass Length option has been added.

These changes simplify the available machining controls and provide improved control over stepover and pass generation.

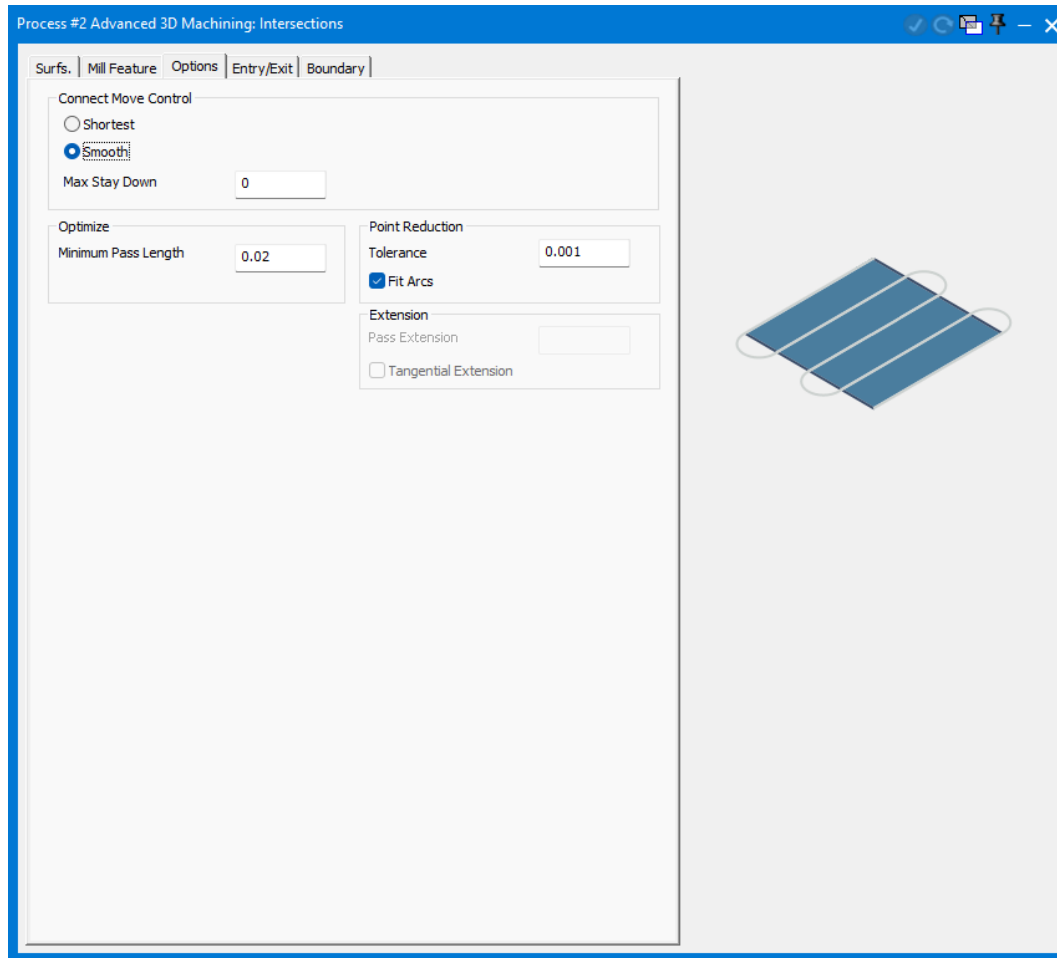
Intersections



The Down/Up Milling settings have been removed because they are not supported by ModuleWorks.

Note: Intersections no longer generate purely vertical cuts, even when the Normal Vector Range includes 0. This change helps avoid vertical plunging cuts that can result in unfavorable cutting conditions or shank interference. However, in some cases, this behavior may prevent certain areas of a part from being fully machined.

Simplified Intersections Options



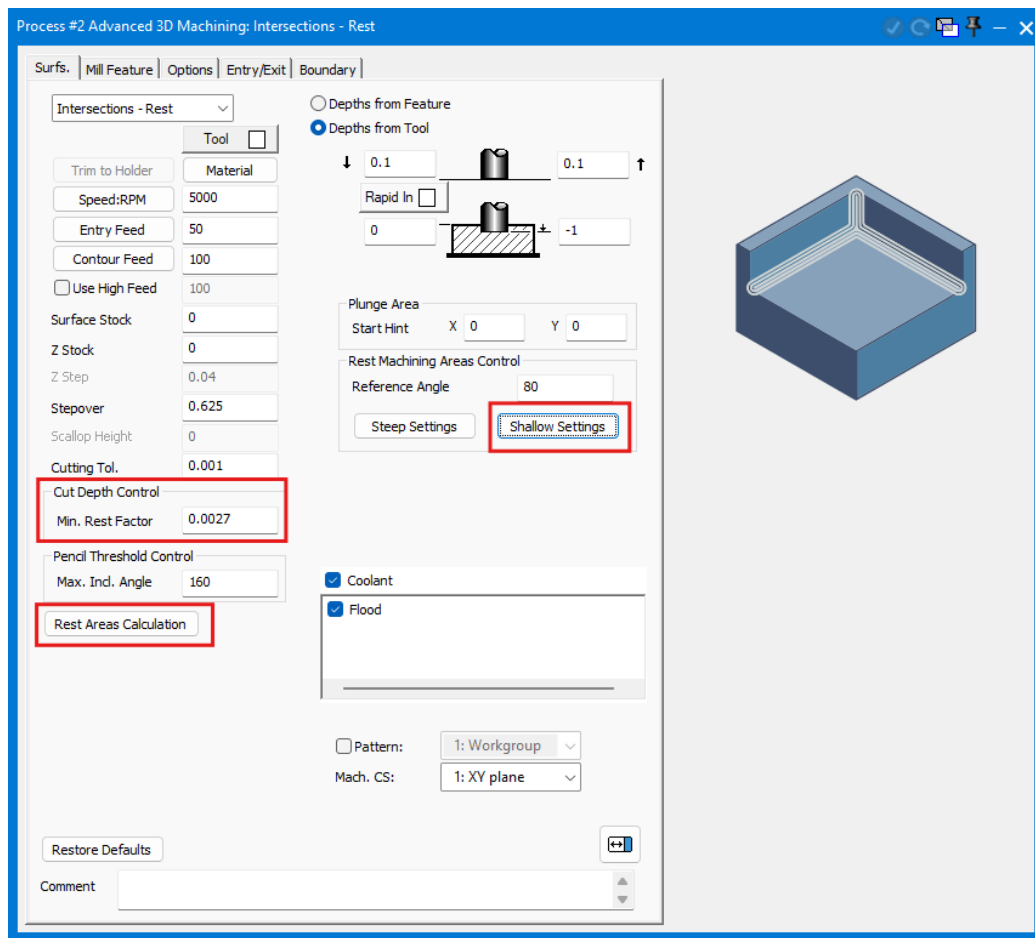
The following changes are available on the Options tab:

- Max Stay Down and Max Stay On Surface have been combined into a single setting, Max Stay Down.
- Remove Spikes has been removed from Optimize section.
- Filleting has been removed.

These changes simplify the available machining controls.

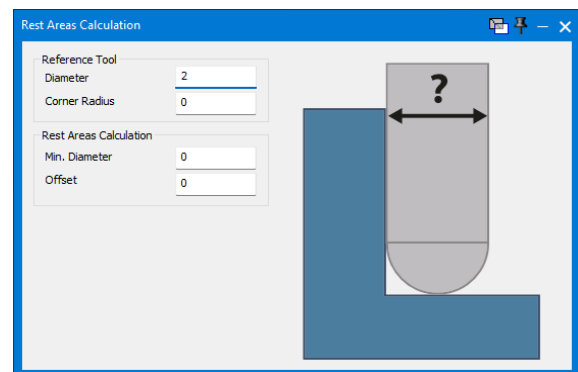
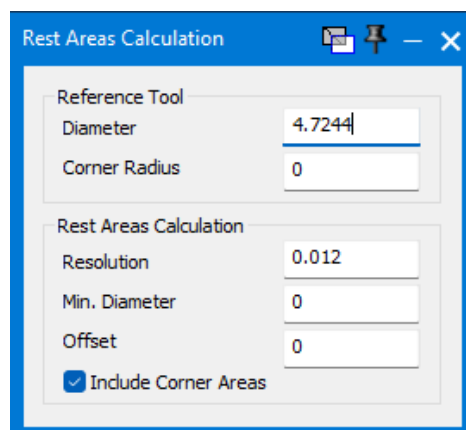
Intersections - Rest

The Intersections Rest operation has been updated to simplify the Rest Areas Calculation and machining controls.



The following are the updates to Intersection - Rest:

- The Rest Areas Calculation dialog has been updated. Sharp-cornered tools are not currently supported.



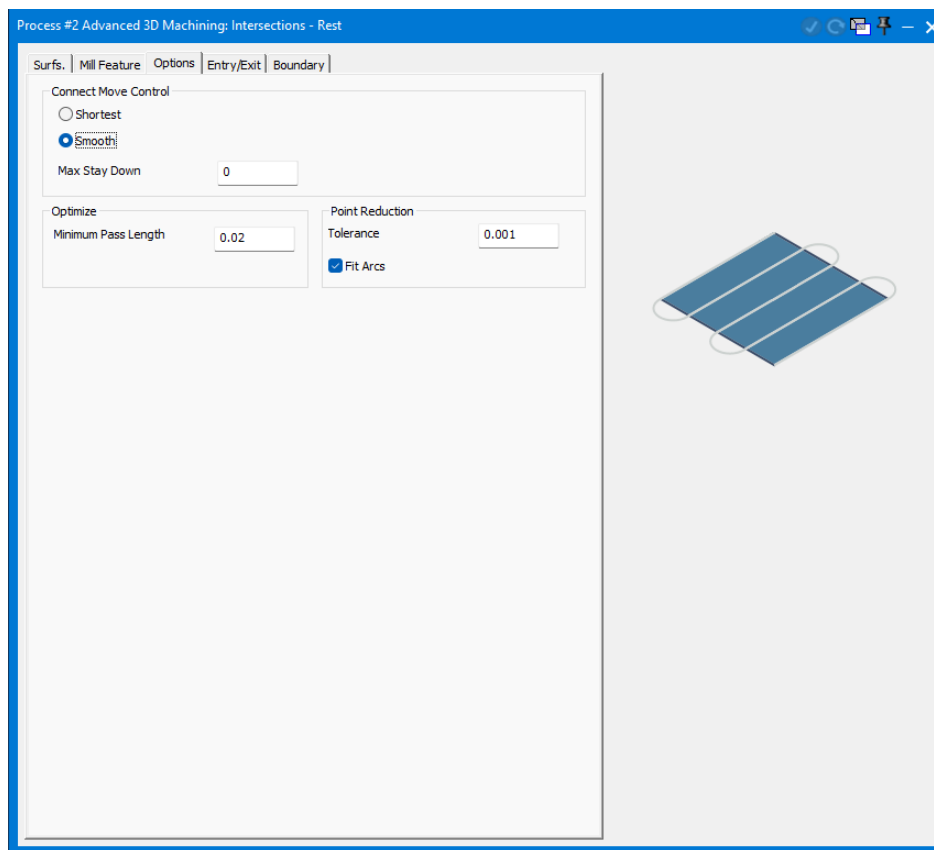
- Rest Machining Area Control:
- Steep Settings remain unchanged.

- Up/Down Milling options have been removed from Shallow Settings.
- Stroke Sorting has been removed.
- The Cut Depth Control section has been simplified. The previous Minimum Depth of Cut and Maximum Depth of Cut settings have been replaced by a single Minimum Rest Factor setting.

These changes simplify the Intersections Rest options and provide more consistent control over rest-area machining.

Simplified Intersections - Rest Options

The Intersections – Rest Options tab has been simplified to provide more streamlined control over toolpath connection and optimization.



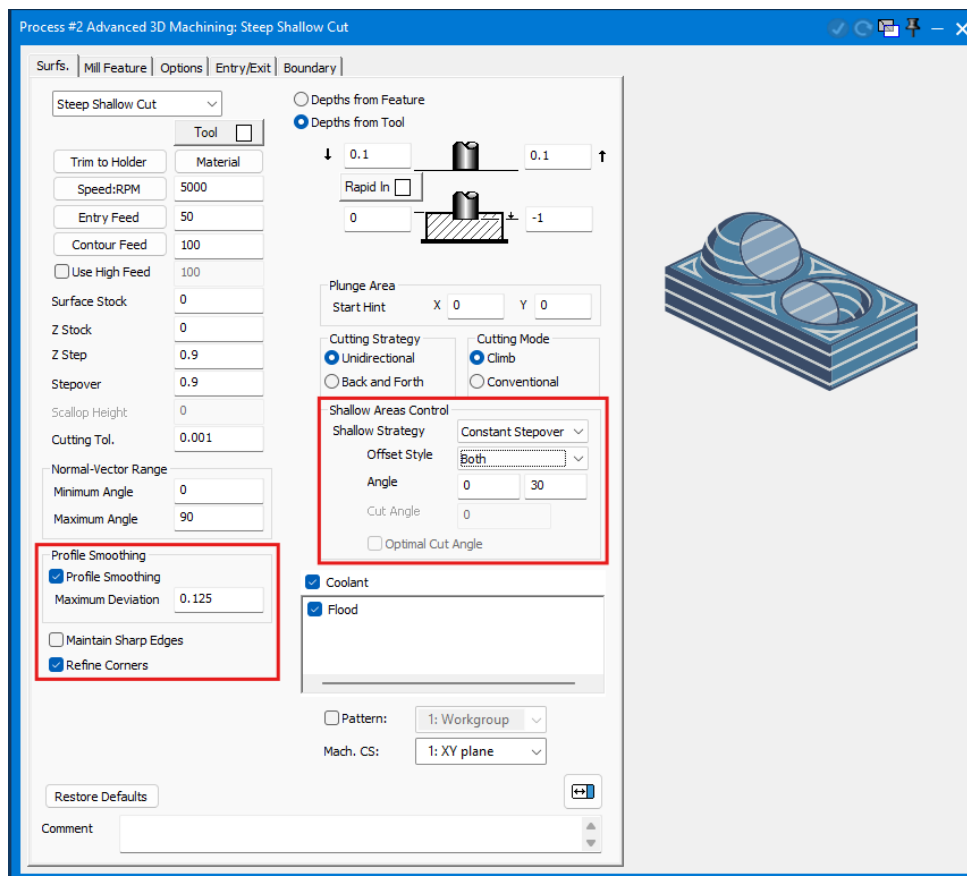
- Connect Move Control has been simplified:
 - The Angled connection option and its associated angle setting have been removed.

- Smooth is now the available connection option, along with Shortest.
- The Smooth Ramp option has been removed.
- Max Stay Down and Max Stay On Surface have been combined into a single setting, Max Stay Down.
- Remove Spikes has been removed from Optimize section.
- Filleting has been removed.

These changes simplify the Options tab and provide more consistent control over toolpath connection and optimization.

Steep Shallow Cut

The Steep Shallow Cut operation has been enhanced with improved profile smoothing and expanded shallow-area machining strategies.

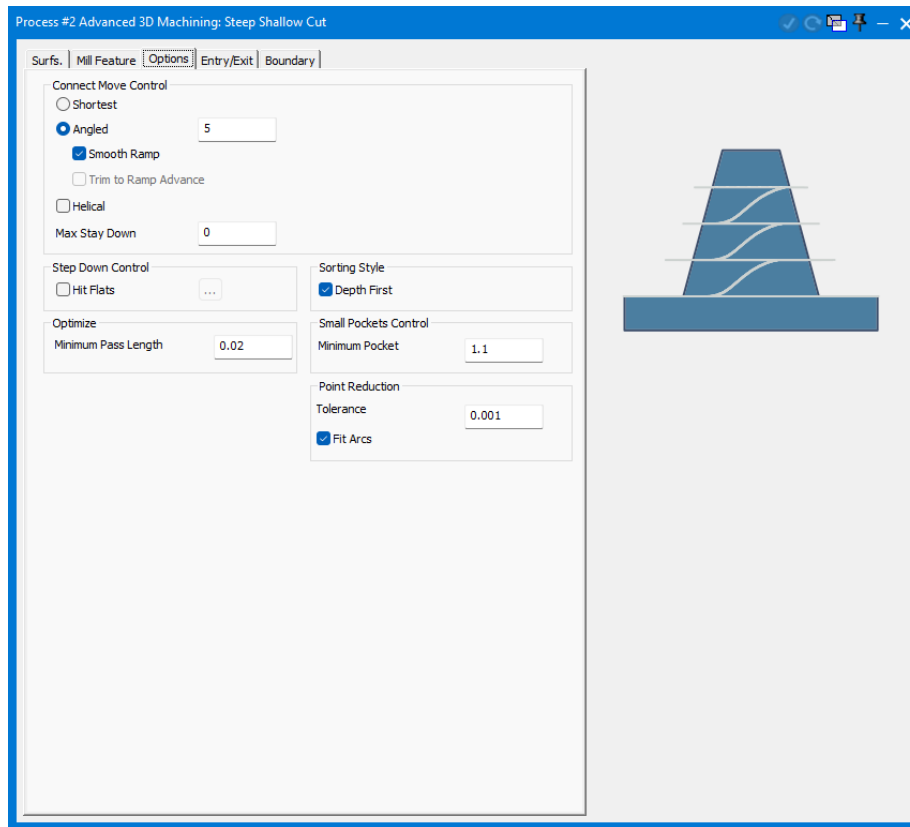


- Profile Smoothing has been simplified. The previous Maximum Radius and Profile Tolerance settings have been replaced by a single Maximum Deviation setting.

- Maintain Sharp Edges and Refine Corners options are now available to provide greater control over edge and corner treatment.
- The Shallow Areas Control has been updated. The Shallow Strategy now includes Constant Stepover and Parallel Cuts. The previous 3D Pocketing strategy has been replaced by Parallel Cuts.

These enhancements simplify profile smoothing controls and provide additional options for machining shallow areas.

Simplified Steep Shallow Cut Options



The following changes are available on the Options tab:

- Max Stay Down and Max Stay On Surface Steep and Shallow have been combined into a single setting, Max Stay Down and Helical option has been added.
- Step Down Control has been simplified. Adaptive step-down and its associated settings are no longer supported. Hit Flats is now the available step-down control.
- A new Minimum Pass Length option has been added under Optimize.
- Fillet controls have been removed.

These changes simplify the Steep Shallow Cut options and provide more consistent control over toolpath generation.

Tooling

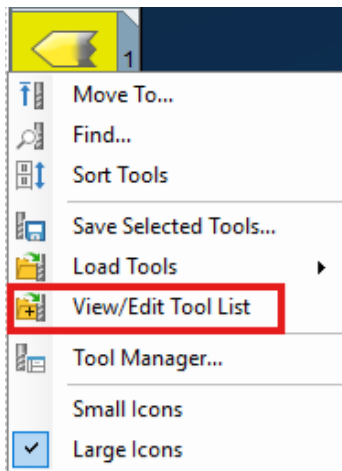
Improvements to tools and tooling have occurred throughout GibbsCAM 2027.

Tool List Editing via Tool Dialog

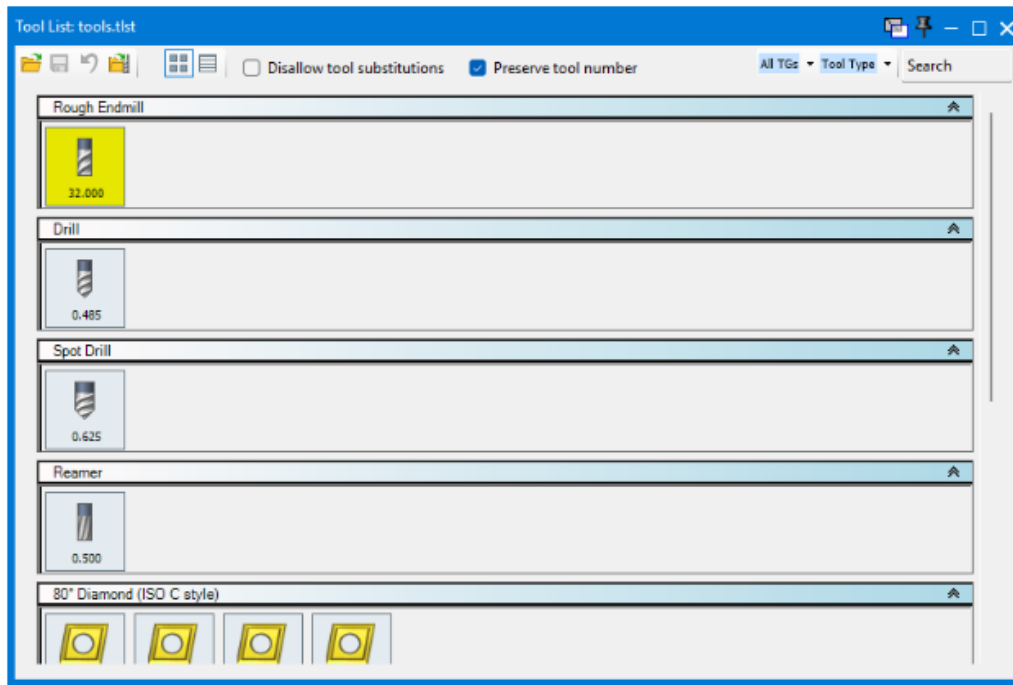
You can now edit tools in the Tool List Editor using the Tool dialog.

Where to find it:

On the Tool tile> RMB on the existing Tool>View/Edit Tool List>Tool List dialog>Double Click on Tool>Tool Dialog>Edit & Cancel>**Tool Import Action** Dialog



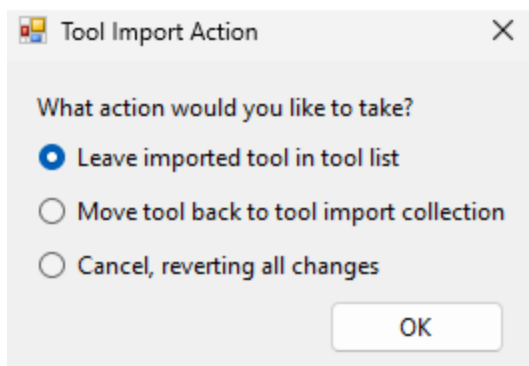
Tools can be edited directly from the Tool List by right clicking on an existing tool and selecting View/Edit Tool List, which opens the Tool List dialog.



Double-clicking any required tool in the list opens the Tool dialog, allowing tool parameters to be reviewed and updated as required. After completing the modifications and closing the Tool dialog, a confirmation dialog is displayed with options:

1. Leave imported tool in tool list
2. Move tool back to tool import collection
3. Cancel, reverting all changes

Additionally, updates to the tool file can now be saved as needed.



This enhancement improves control over tool updates by ensuring changes are reviewed and confirmed before being applied, resulting in improved workflow efficiency and accuracy.

Miscellaneous

System requirements

<i>OS:</i>	Windows 11 or Windows Server 2022 and 2025
<i>CPU:</i>	Intel: 13th/14th-gen Core i7/i9, or Core Ultra 7/9 AMD: Ryzen 7/9 5000-series or newer, or Threadripper 5000-series or newer
<i>RAM:</i>	16+ GB
<i>Video card:</i>	Nvidia video card with 8+ GB of video memory

Third-party library support

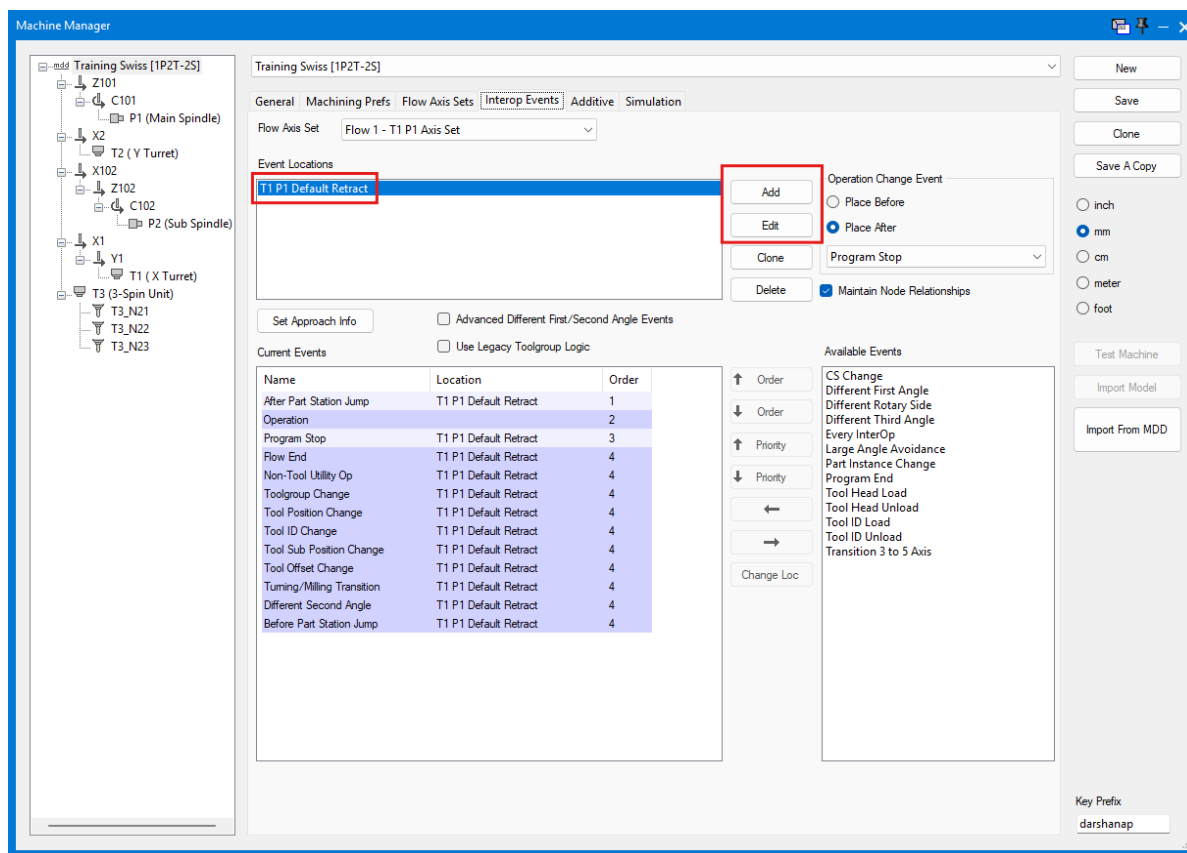
- ModuleWorks 2024.08, 2024.12, and 2025.04
- VoluMill 10.5; VoluTurn 10
- Parasolid 37, ACIS 2025.1, SolidWorks 2025, Solid Edge 2025, Catia v5 R2025, Inventor 2026, etc. , For the complete list, see the [*Data Exchange*](#) guide.

Approach & Retract UI in Machine Manager

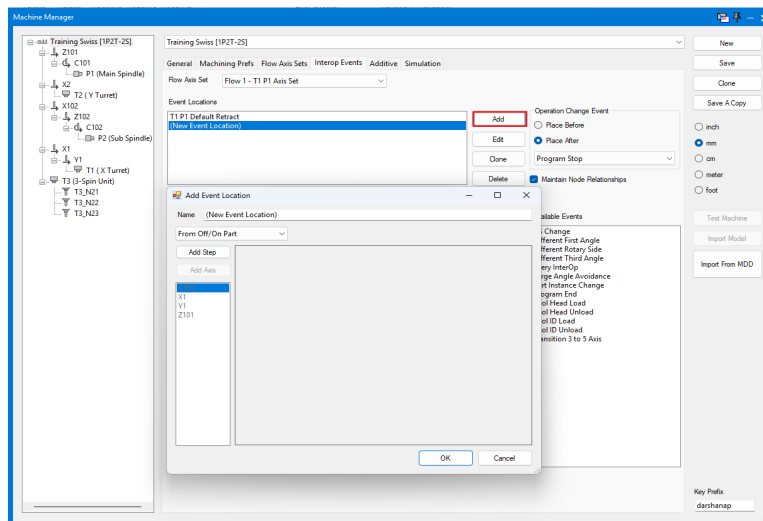
You can now define **Approach** and **Retract** motions in Machine Manager using the updated interface, providing improved access and usability over the previous design.

Where to find it:

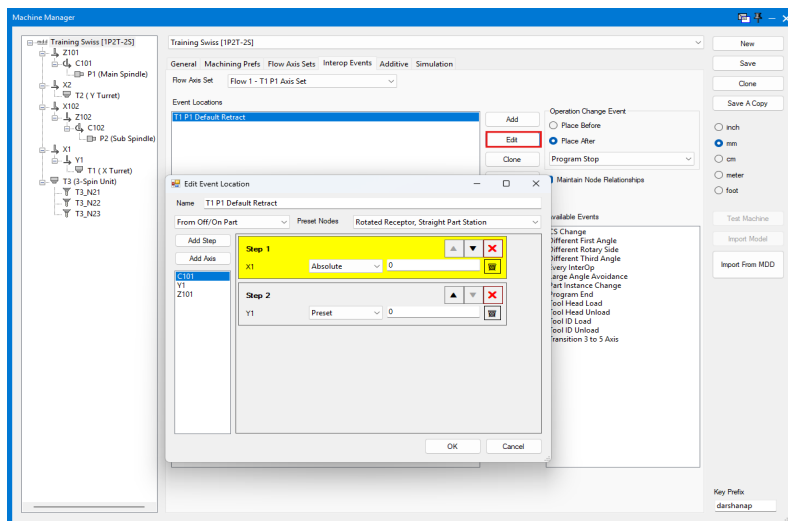
On the **Plugin** Menu(Plugin manager check 'Machinemanager.dll') > Open Machine manager (Under Main Tool section) > Go to **Interop Events** tab > In this tab UI changes done



Selecting the Add button creates a New Event Location (Retract move).



Selecting the **Edit** button, or double-clicking an existing Event Location in the list, opens it for modification. In both cases, the updated interface is launched.



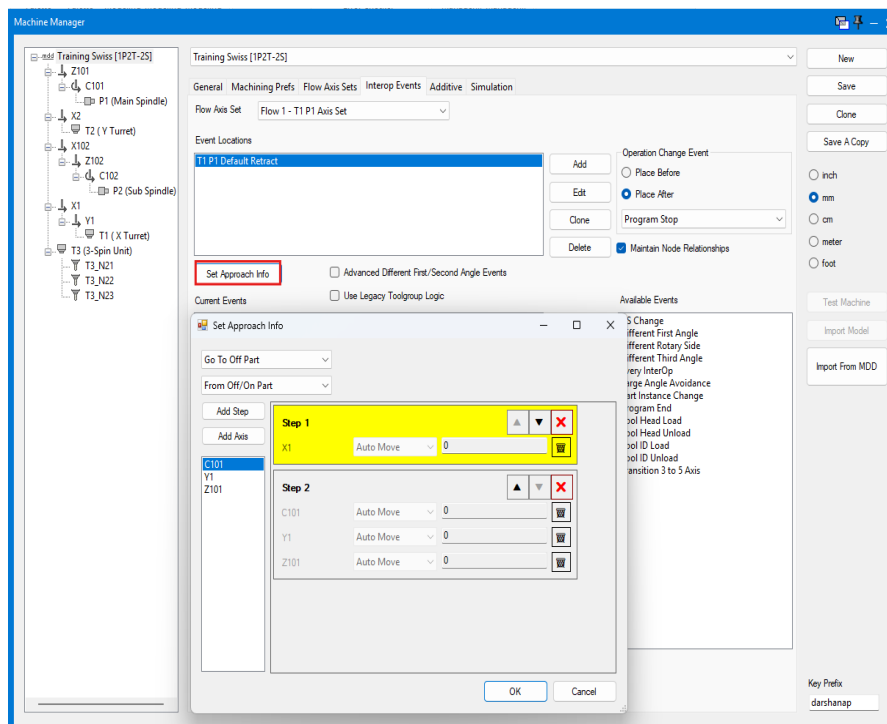
The updated interface allows users to define multiple axis movements within a single Event Location, enhancing the previous limitation of one axis move per Event Location. Users can create steps and associate any available axis with each step. An axis can be added by selecting the Add Axis button or by double-clicking the desired axis label from the list on the left. Once assigned to a step, an axis can be removed using the trash icon adjacent to the axis entry.

Steps define the sequence of motion execution. The order of steps can be modified using the arrow controls located at the top-left of each step group, allowing reordering of movements. An entire step can be removed by selecting the red “X” in the upper-right corner of the step group.

Selecting the **Set Approach Info** button within the **Interop Events** tab opens a new interface similar to the one described above, with certain constraints applied to interpolation axes.

As shown in the image below, the menu items labeled Auto Move display a value of 0. These fields are disabled and are not user-editable, indicating that the axis belongs to the interpolation set and represents its final occurrence within the sequence of steps.

An interpolation axis may be assigned to any step; however, it remains editable only if it is not the final occurrence. This behavior ensures that control over the last movement of each interpolation axis is maintained by the system. Axes that are not part of the interpolation set can be configured without restriction.

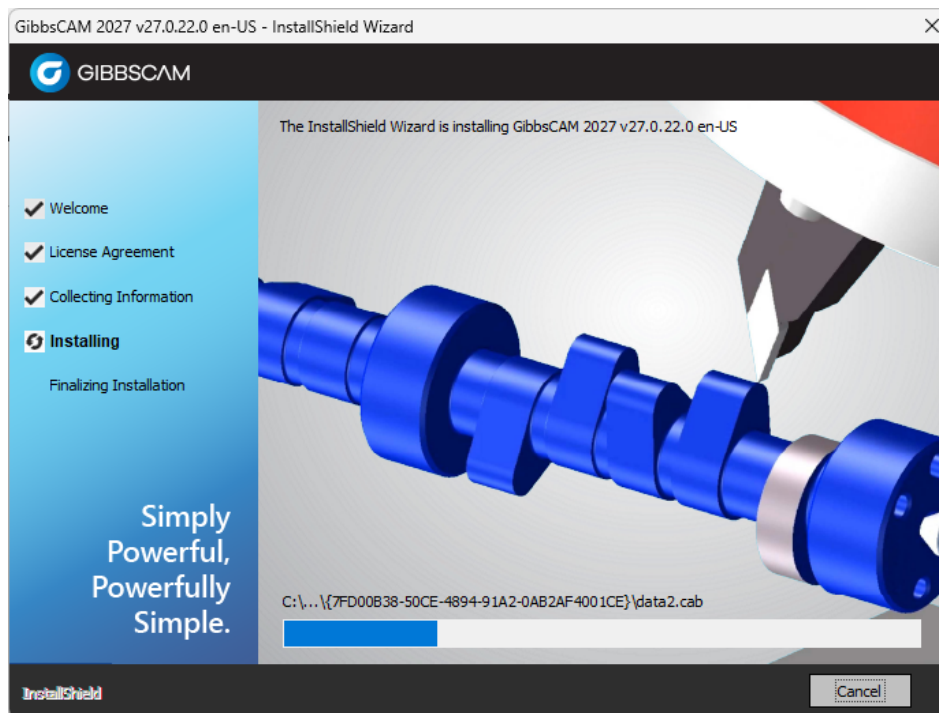


If an invalid axis is defined, a descriptive notification is displayed, guiding the user to the corresponding definition within the interface for correction.

Overall, this enhancement streamlines the definition of approach and retract motions by providing greater flexibility, improved control over axis sequencing, and built-in validation, resulting in a more efficient and reliable workflow.

Update install pictures

The GC2027 installer images have been refreshed with a more modern and relevant look.



This update enhances the overall user experience by providing a more modern and visually engaging installer interface.

5-Axis

This chapter discusses the following enhancements to 5-Axis in GibbsCAM 2026.

Multiaxis roughing

In Process