SolidCAM – The Ecosystem for Digital Manufacturing

SolidCAM 2025 - New Functionalities

June 2025

The unique, revolutionary Milling Technology
iMachining® patent by SolidCAM
SolidCAM MillTurn & Swiss+
SolidCAM Additive Manufacturing
SolidCAM Sim5X Milling
SolidShop Control. Monitor. Maximize Productivity.
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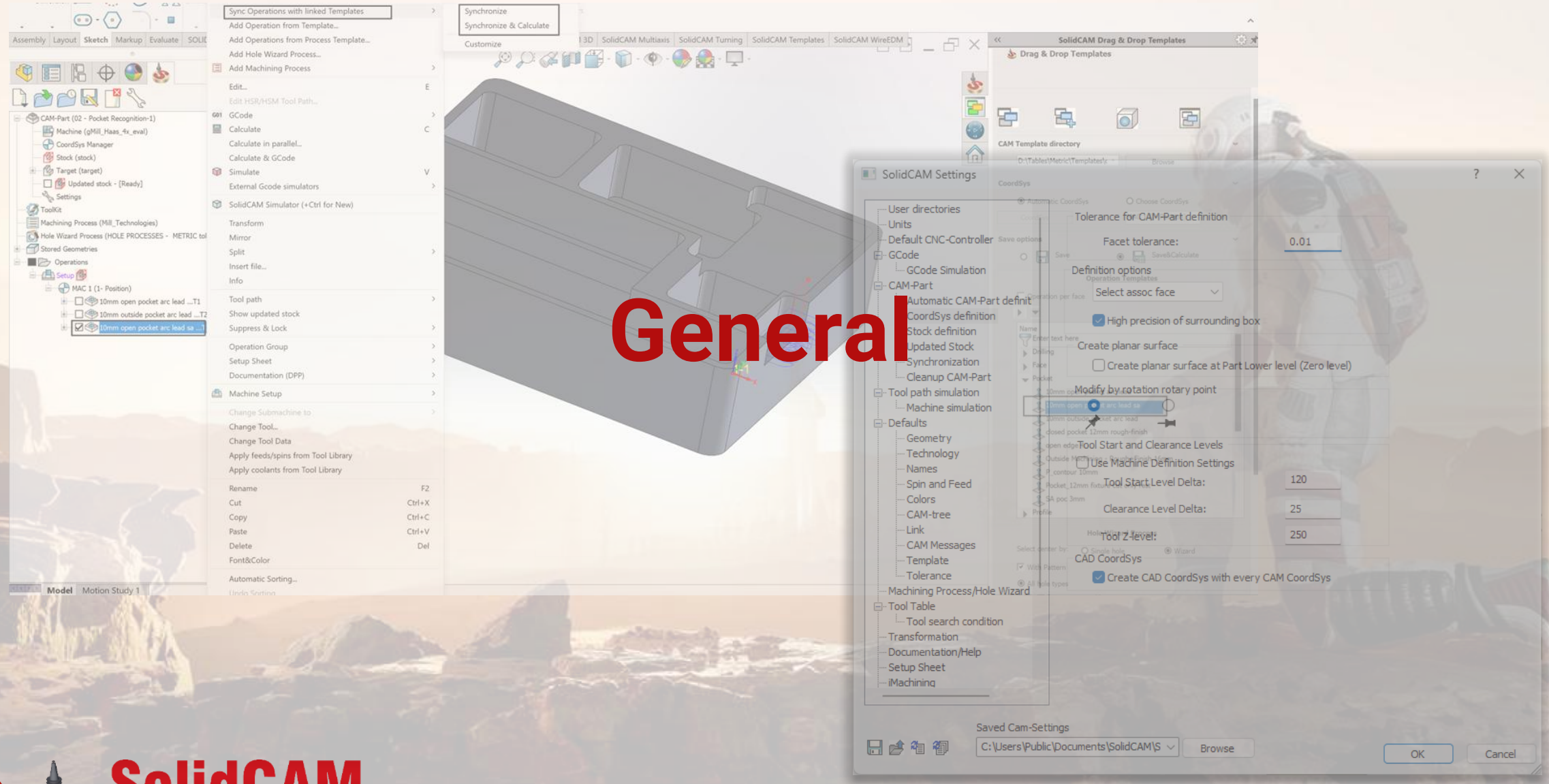
General



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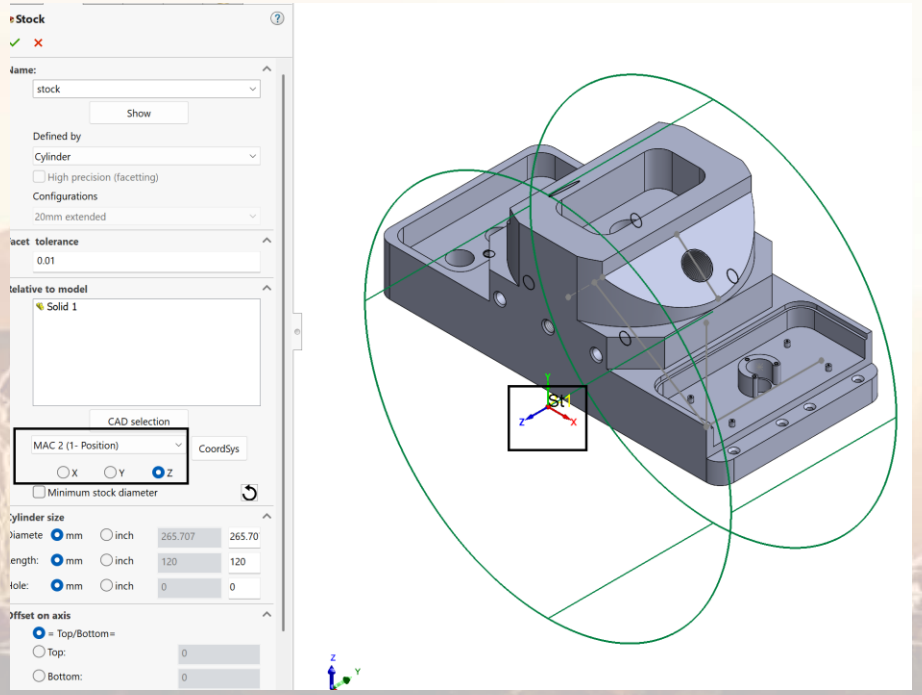
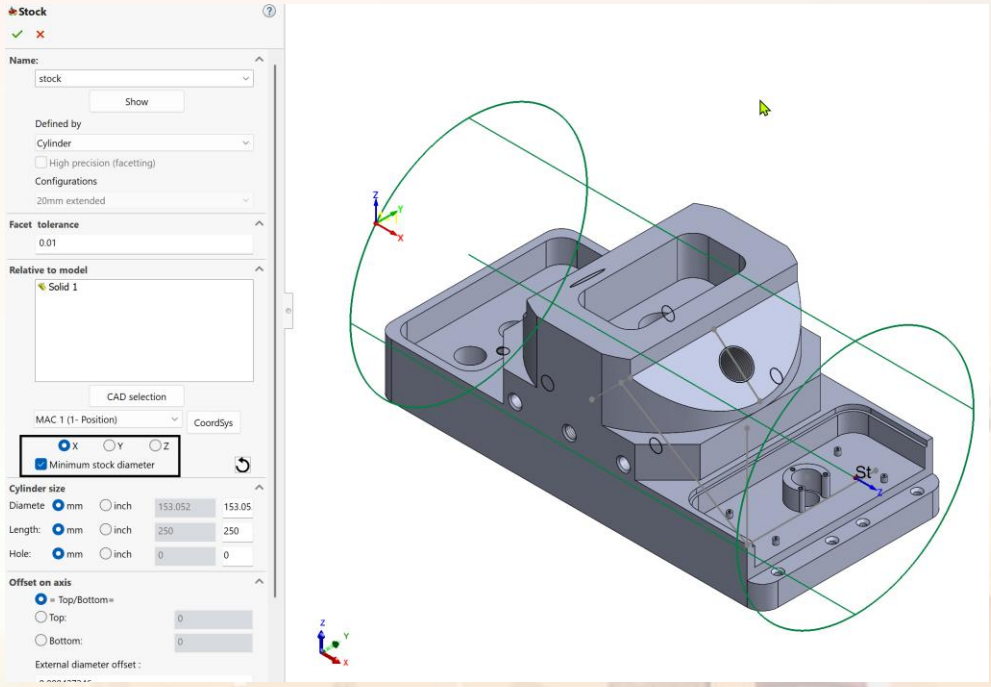
Cylinder Stock in Multiple Directions and Minimum Size

- The new Cylinder Stock definition allows you to create in ‘X’, ‘Y’ and ‘Z’ directions
- Cylinder Stock can now be built to the minimum size of the part





- You can create a specified MAC Coordinate system and have your Cylinder Stock direction with the designated Coordinate system

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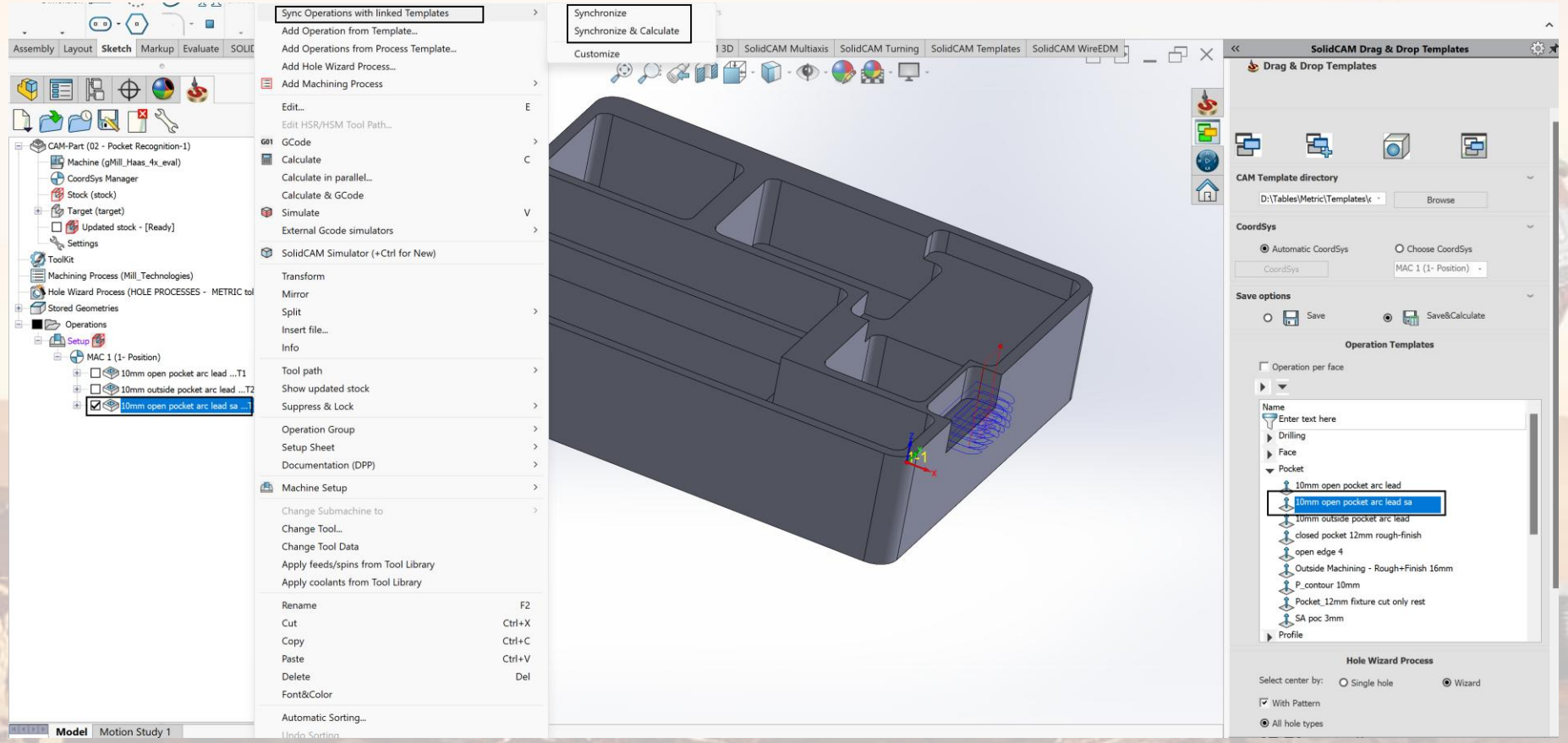
Synchronize Operation to its Updated Template

- You can now update your operations that used templates with changes you made in the Template



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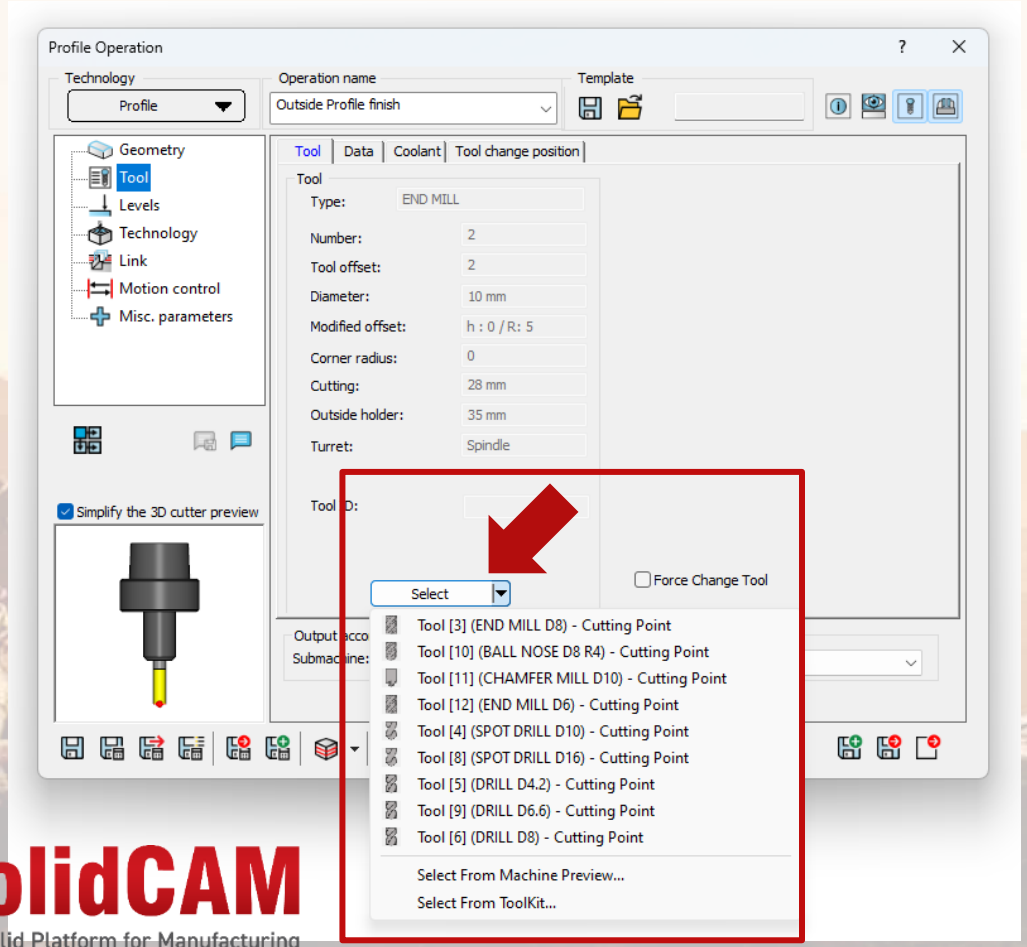
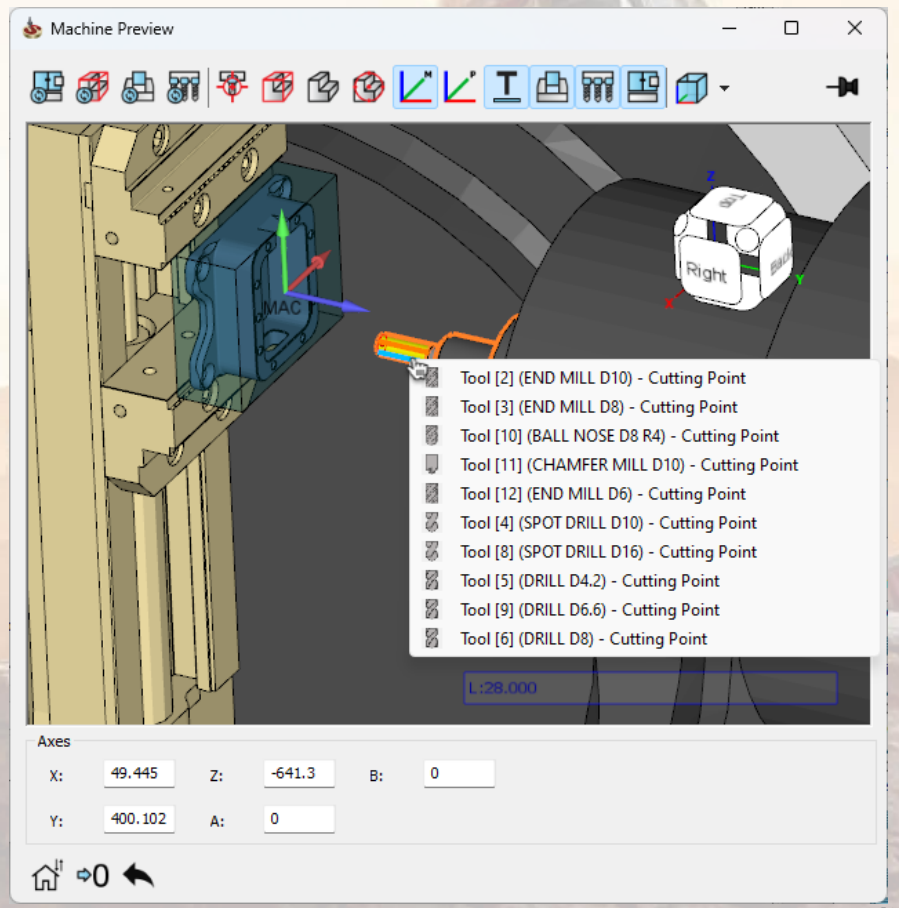
Quick tool selection in Operation

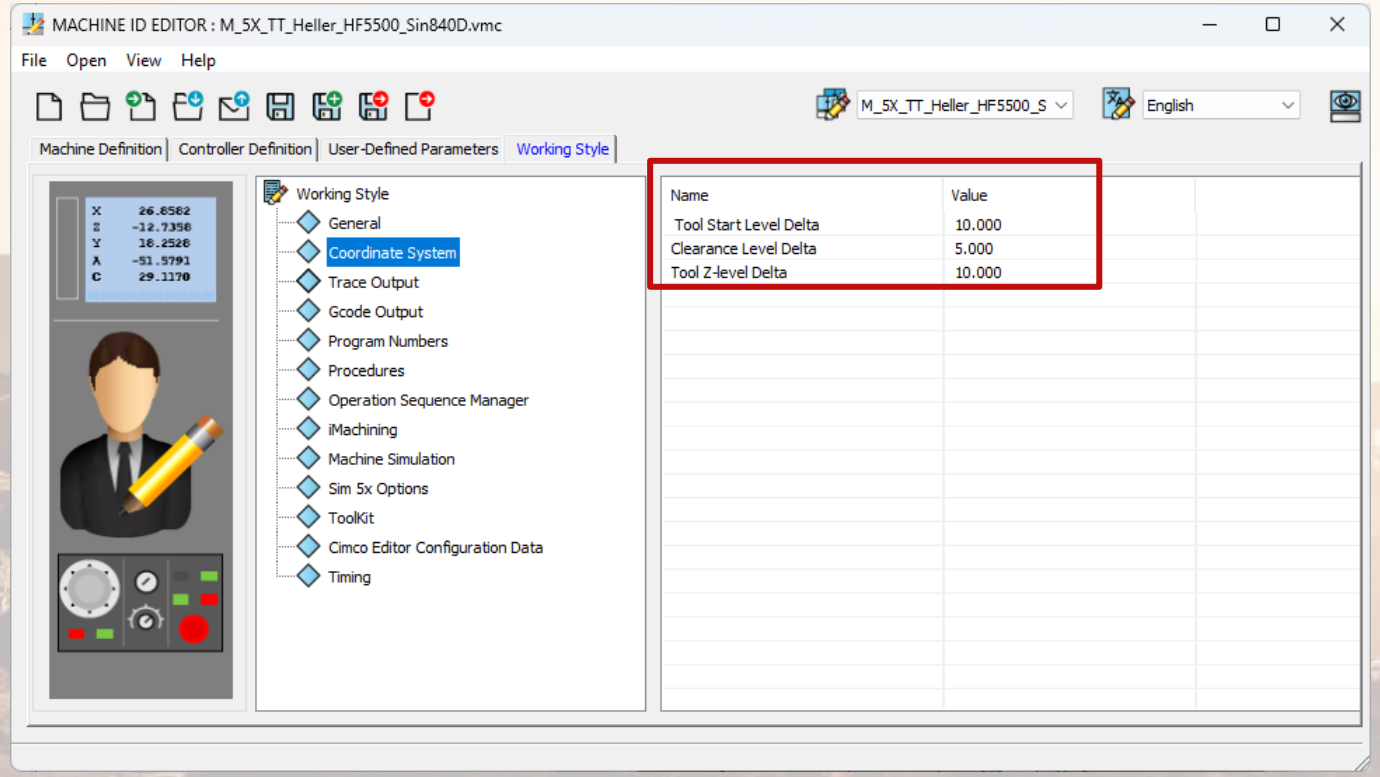
- Option to select a tool from **Quick Tool Selection** menu
- Option to **select tool** from the **Machine Preview** by double-click

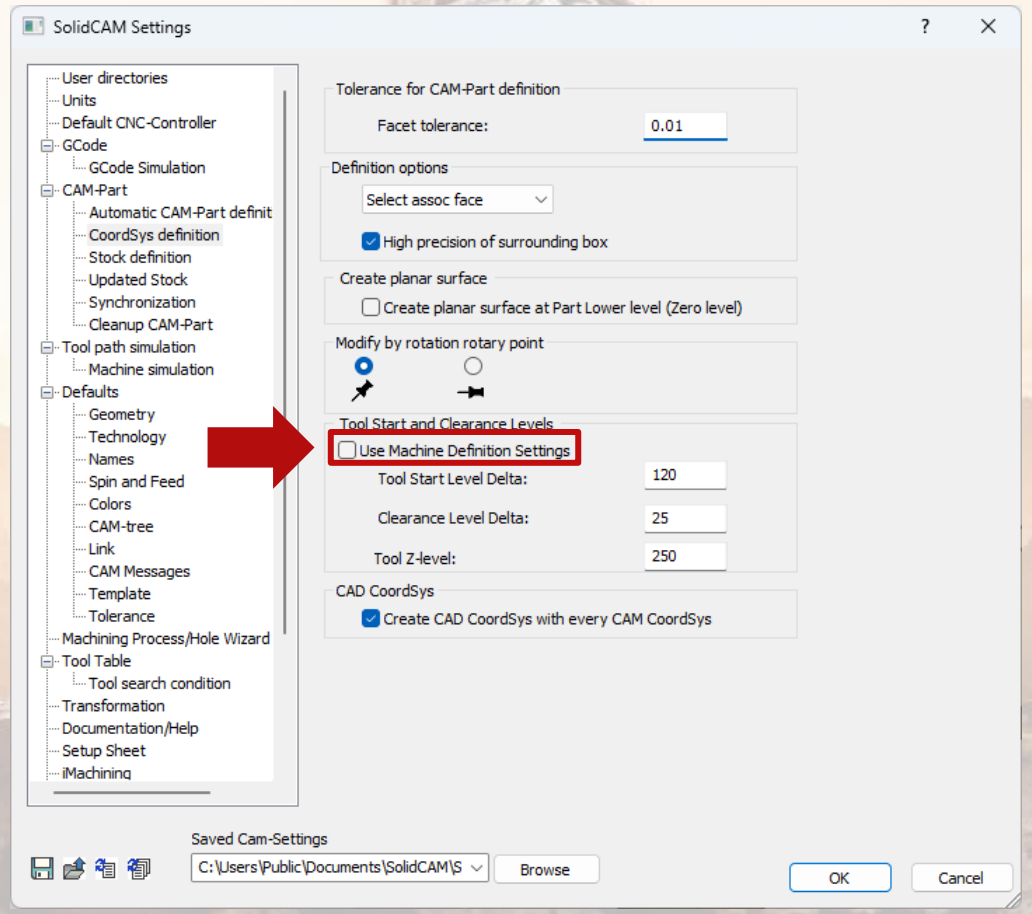




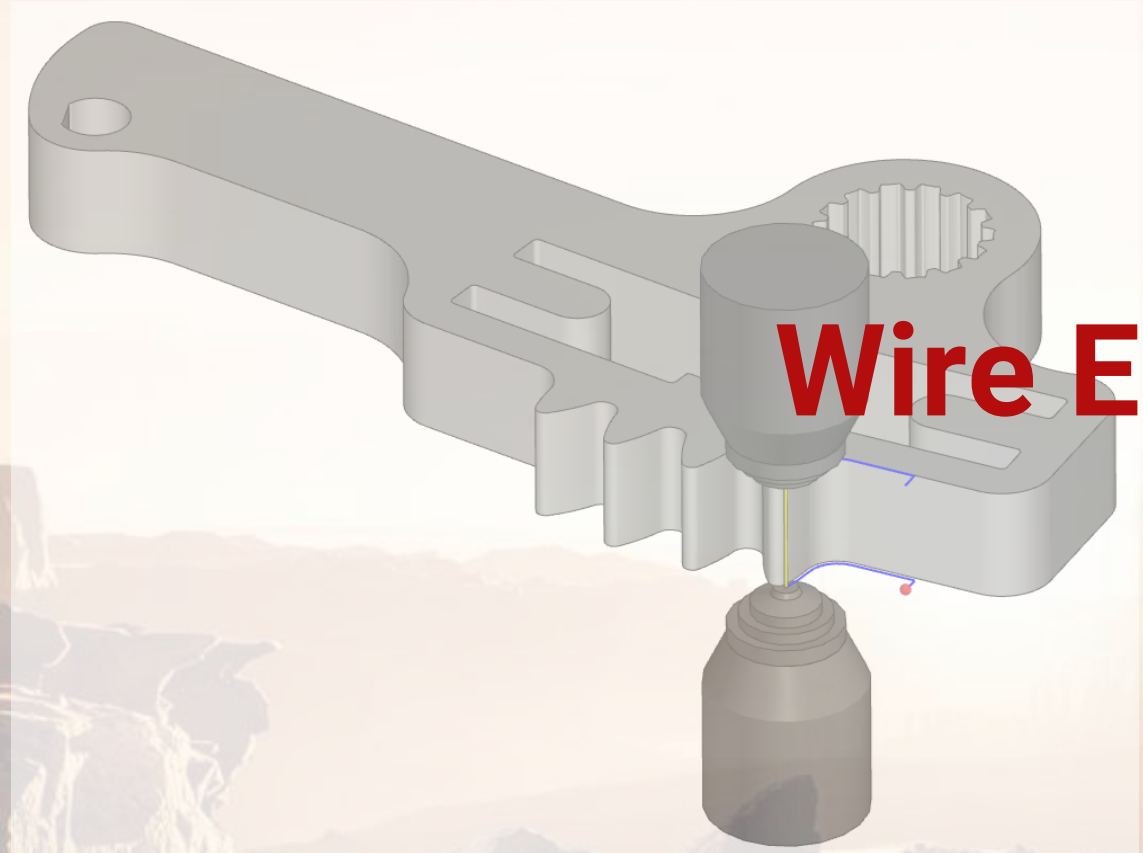
SolidCAM Settings – Clearances per Machine Definition

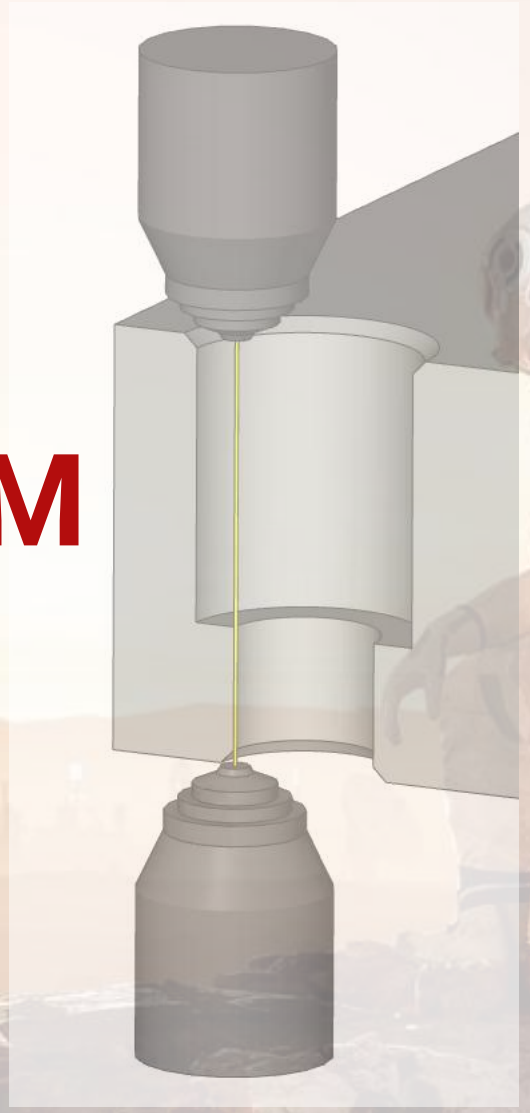
- Added settings to define **Clearance settings** defaults per MachineAdded **SolidCAM Settings** to trigger whether to use **Machine** or **Global settings**





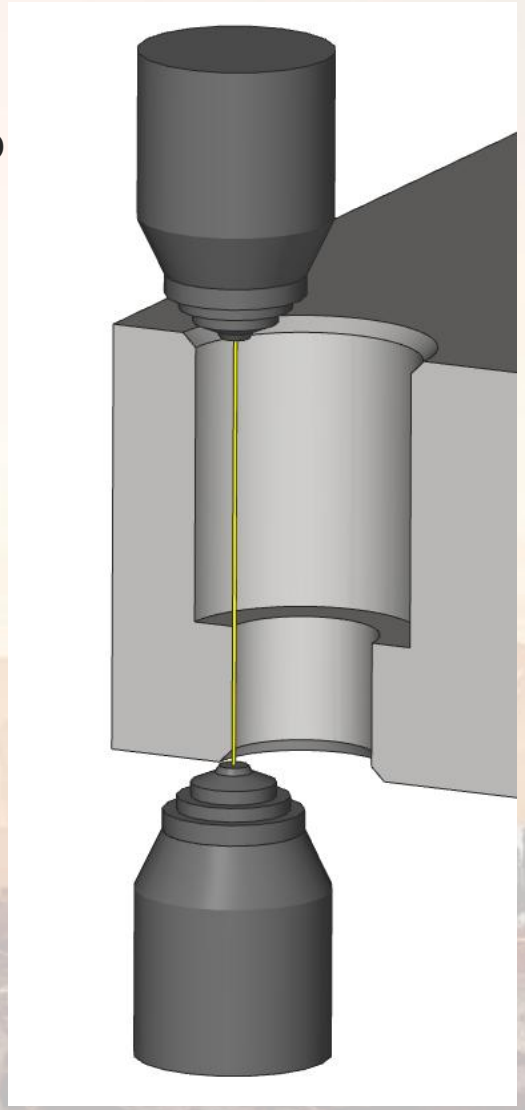
Wire EDM





Wire EDM - Electrical Discharge Machining

- **SolidCAM's Wire EDM** module offers a set of features for wire cutting operations. It supports various cutting strategies adapted to different materials and wires, optimizing the process for various workpiece thicknesses.



- **Built-in Macros**
- **Postponed** Cutting with **Sub-Operations**
- Advanced **Bridge** control to avoid material dropping

Wire EDM modules

2 - Axis

- Profile

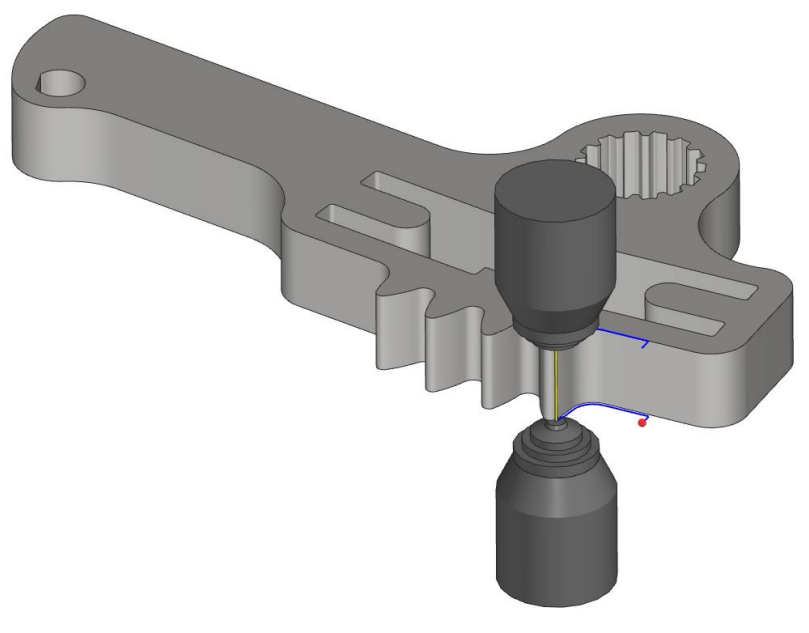
Angle

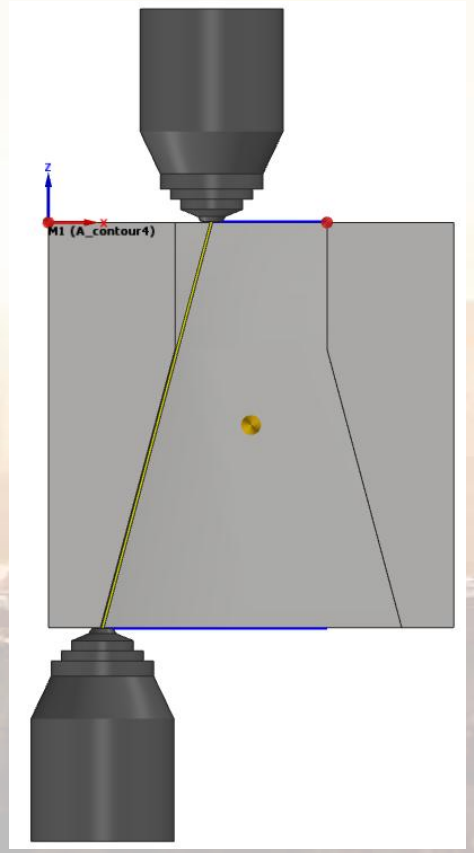
- Constant Angle
- Variable Angle

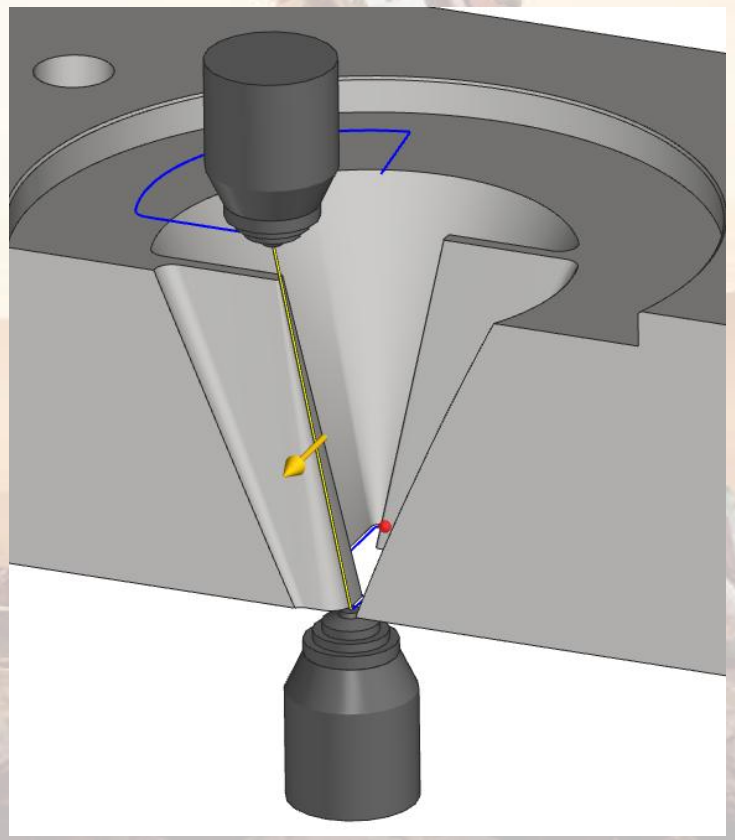
4 - Axis

- Wireframe
- Solid

Macro



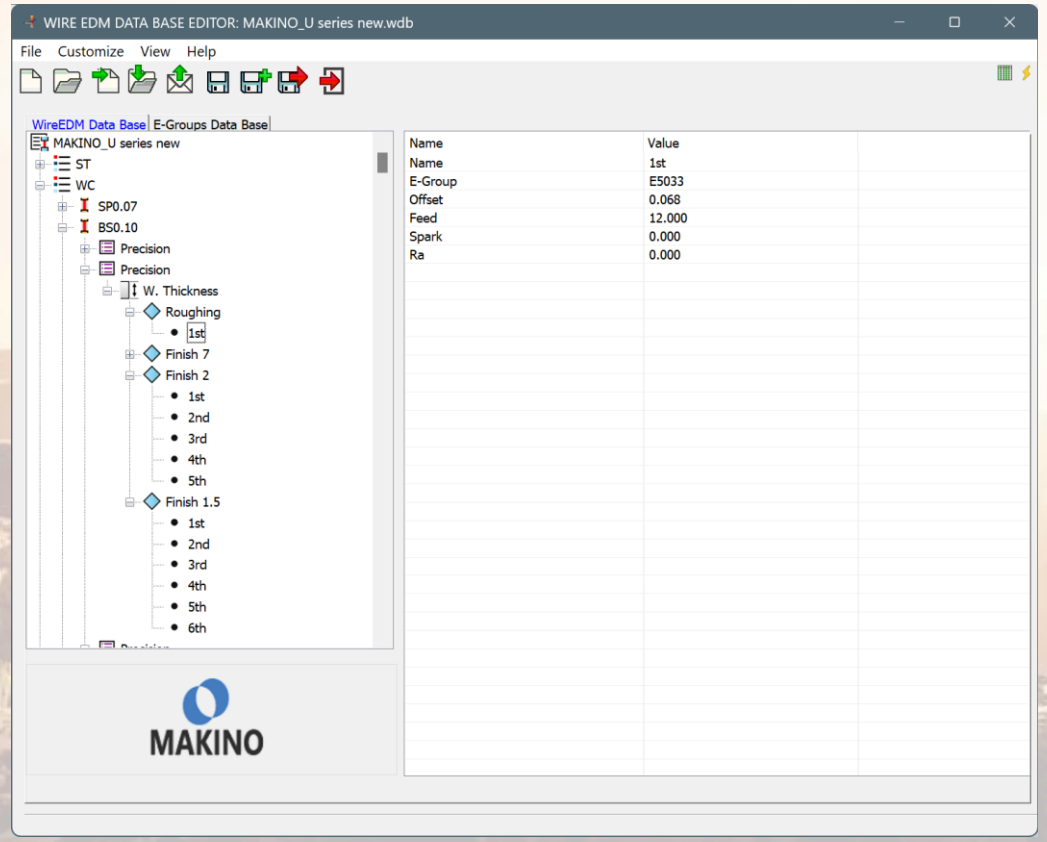


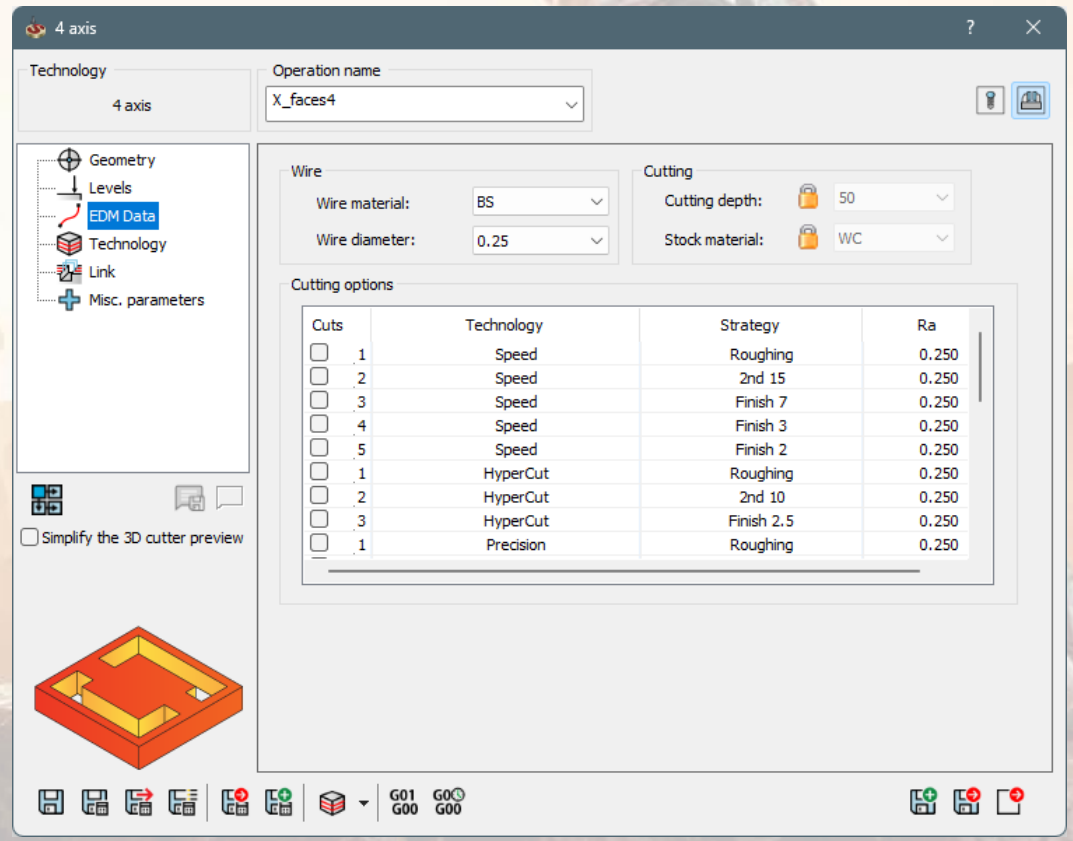


SolidCAM Wire EDM

EDM Data page

- **Wire EDM** data features a comprehensive material database for various wire types and materials, optimizing machining parameters for precise cuts. Filtering available technology based on cutting depth, stock wire material, and wire diameter.

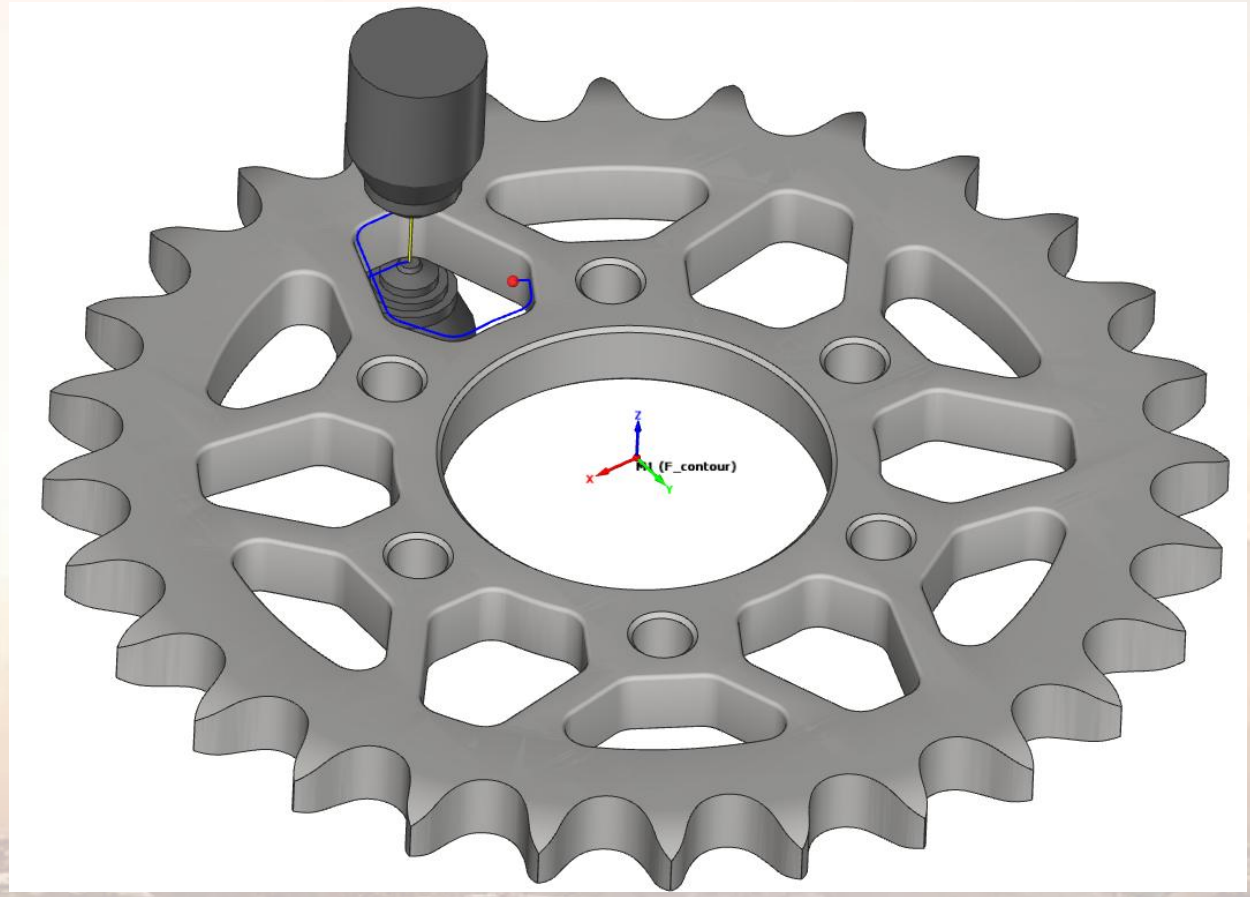




SolidCAM Wire EDM

Profile

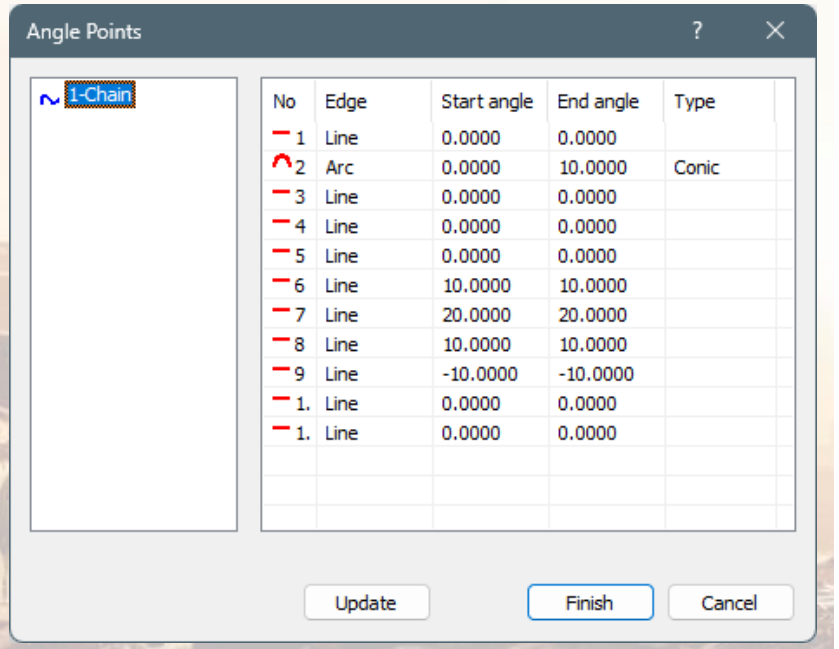
- **Profile** operation enables you to cut along the perimeter of a profile geometry
- Geometry selection via **Smart face**
- **Wire EDM** generates automatic stop points on the wire path to prevent dropping of large cut material pieces
- User-defined stop points and change of cutting conditions along the wire path

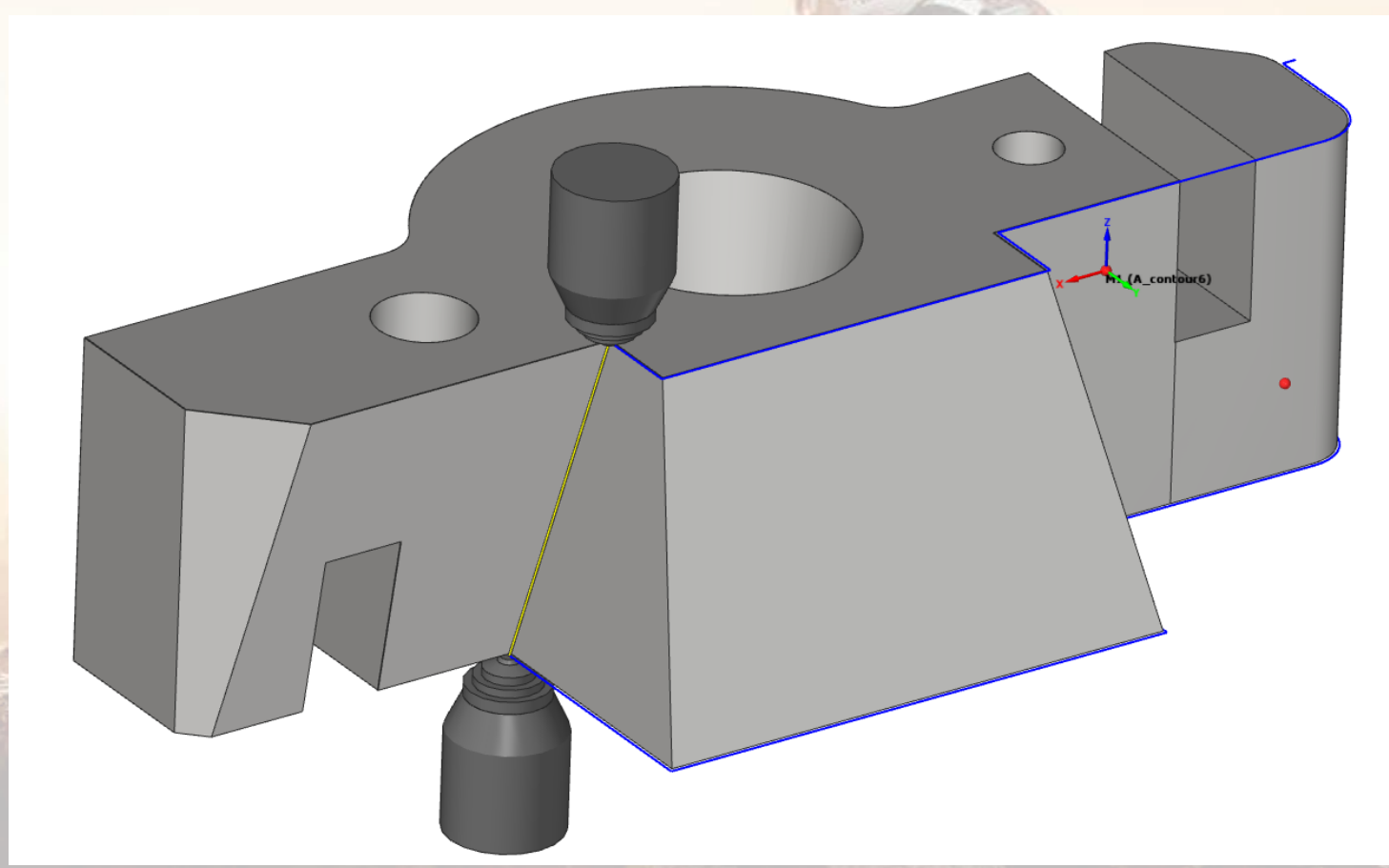


SolidCAM Wire EDM

Angle Cutting

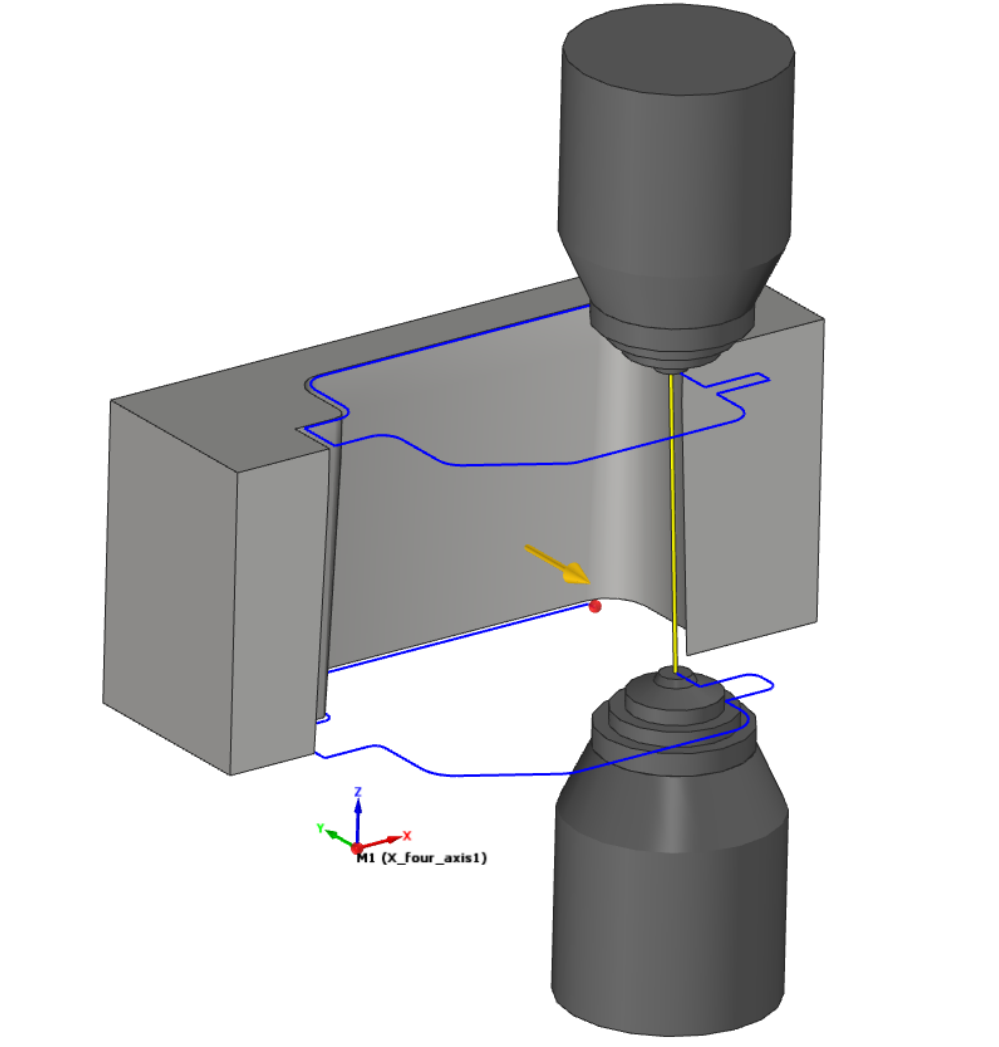
- **Constant angle** - Profile geometry with constant wire inclination angle
- **Variable angle** - The Angle operation enables you to trim the edges of a profile geometry with a taper inclination. Support of special controlling method for corner arcs during taper machining.





SolidCAM Wire EDM

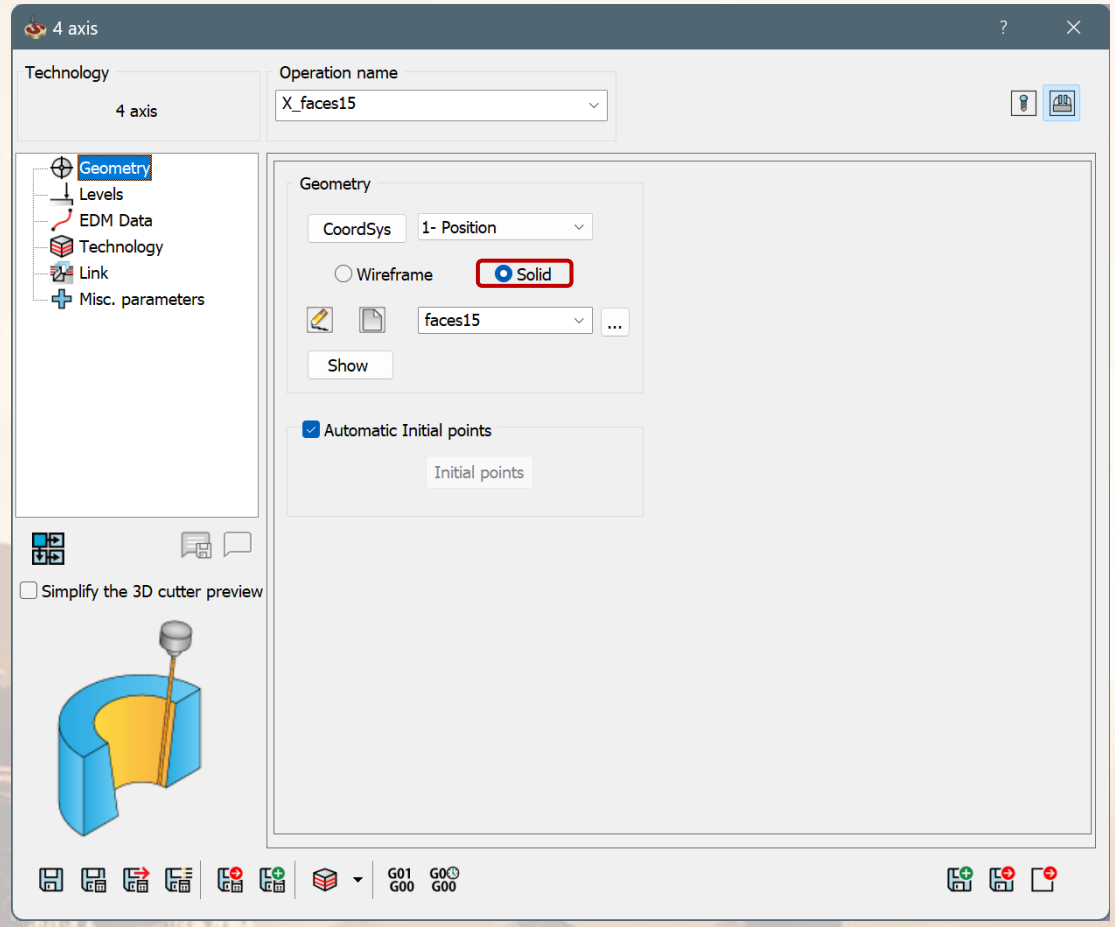
4-Axis Wireframe



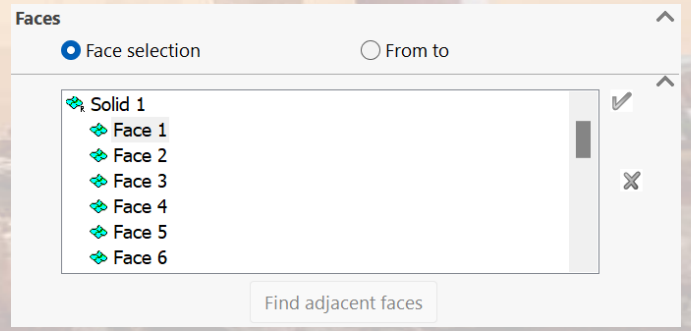
- The **4-Axis Wireframe** process creates a cut between **two** user-specified profiles positioned at different Z-levels.
- WireEDM **automatically** find **connection lines** between these profiles to manage the wire's trajectory. User have possiblity to add, edit or remove connection lines.

SolidCAM Wire EDM

4-Axis Solid



- The module **4-axis Solid** enables simultaneous machining on associative **surfaces**
- Wire EDM **automatically** detects and groups nearby planes for efficient machining
- Two options for easy surface selection

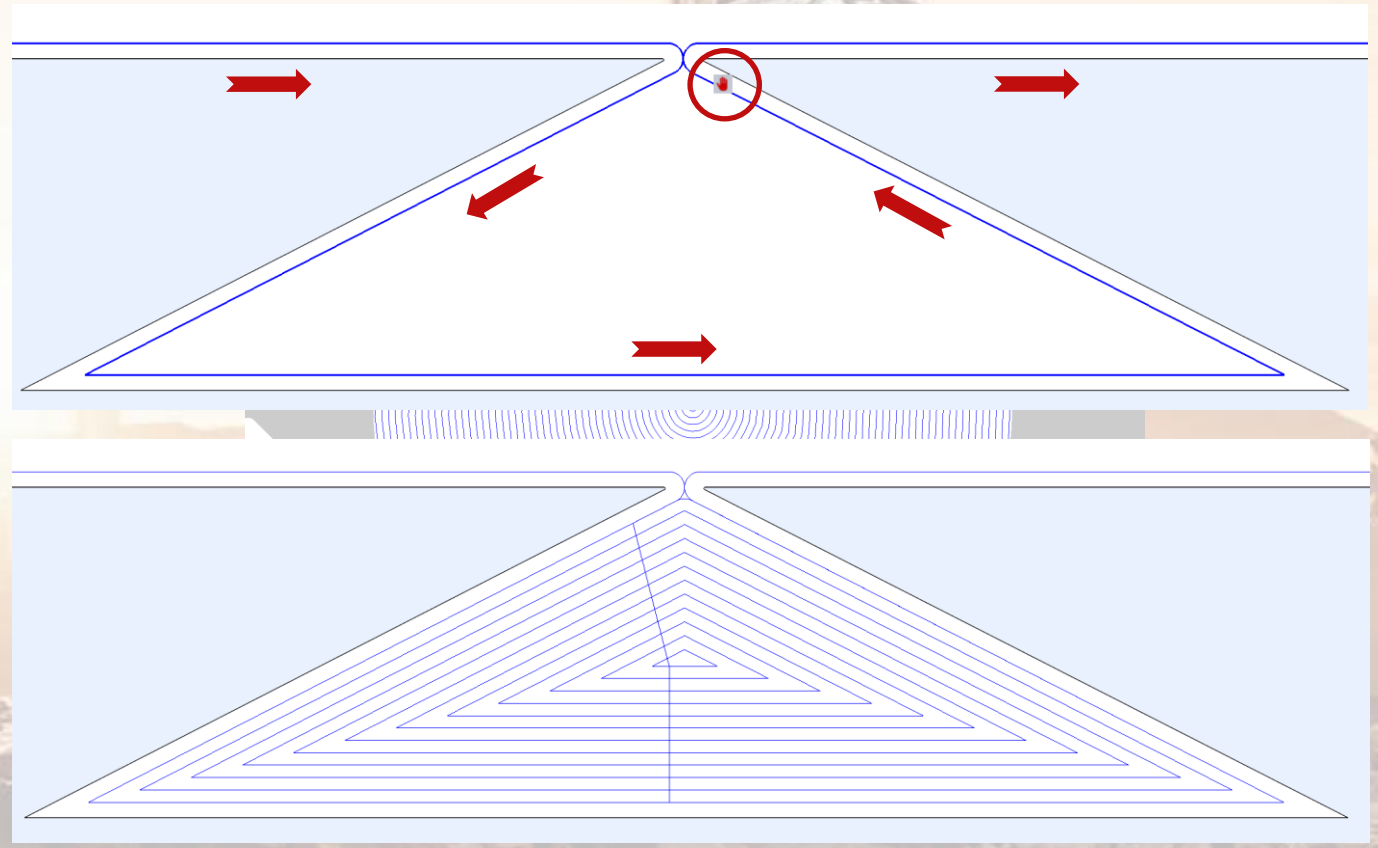


SolidCAM Wire EDM

Destruction cut

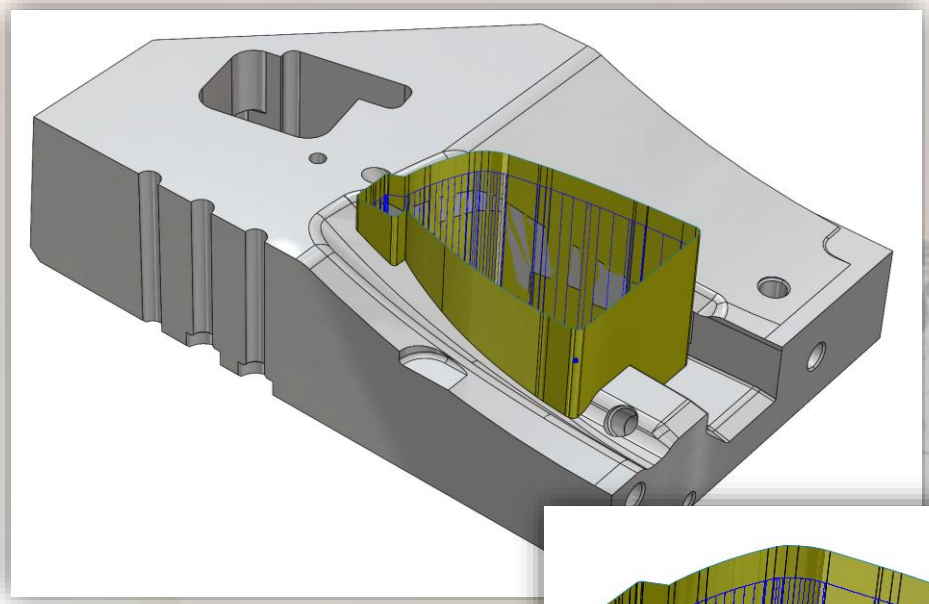
- This method **removes material completely** along the cutting path, leaving no uneroded material behind. This technique is particularly useful for creating complex and precise shapes in hard materials.

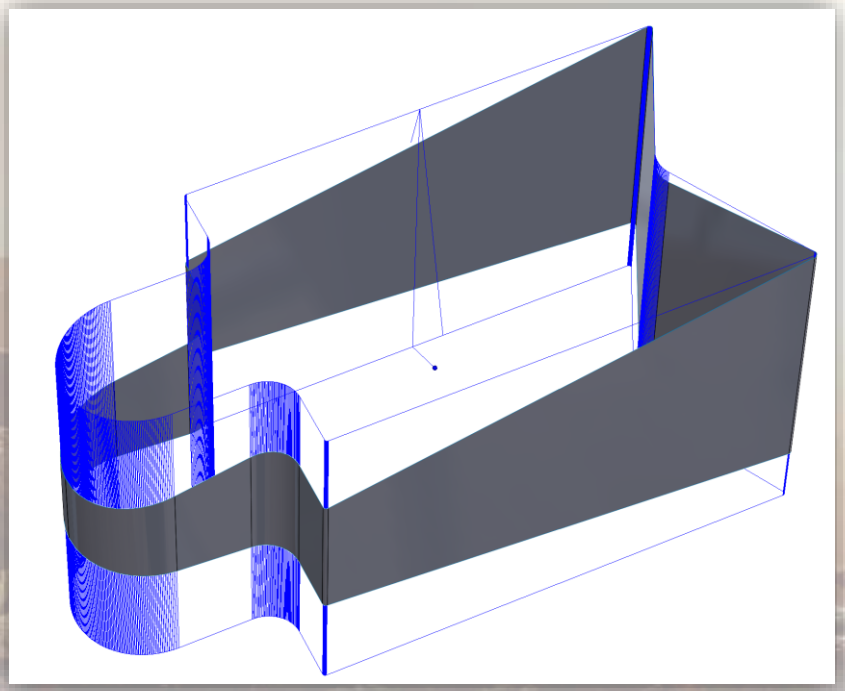
- **Burn** - remove all material by side offset
- **One piece** - detects narrow places where the core is at risk of falling and inserts a stop
- **Burn core** - detects narrow places where the core is at risk of falling and remove the entire material

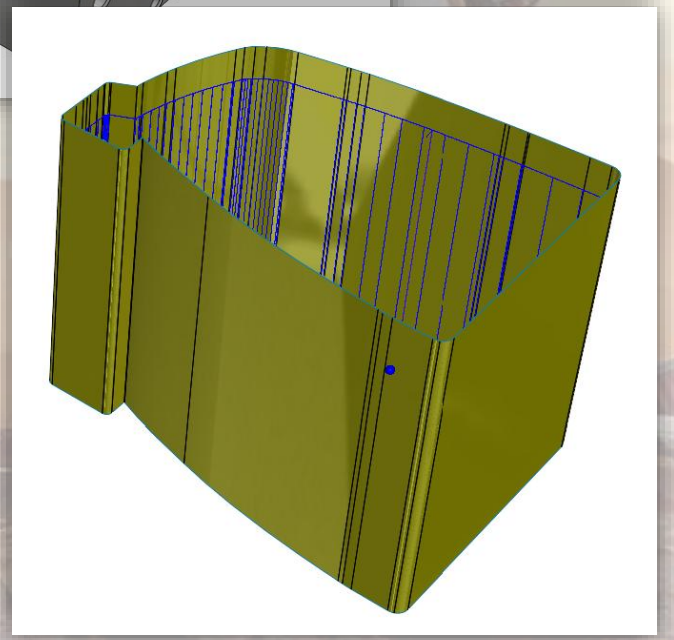


WireEDM - Support of custom surfaces

- Support of custom surfaces for 4 axis jobs
- Beneficial for complex models another selecting geometry by another method is not possible.

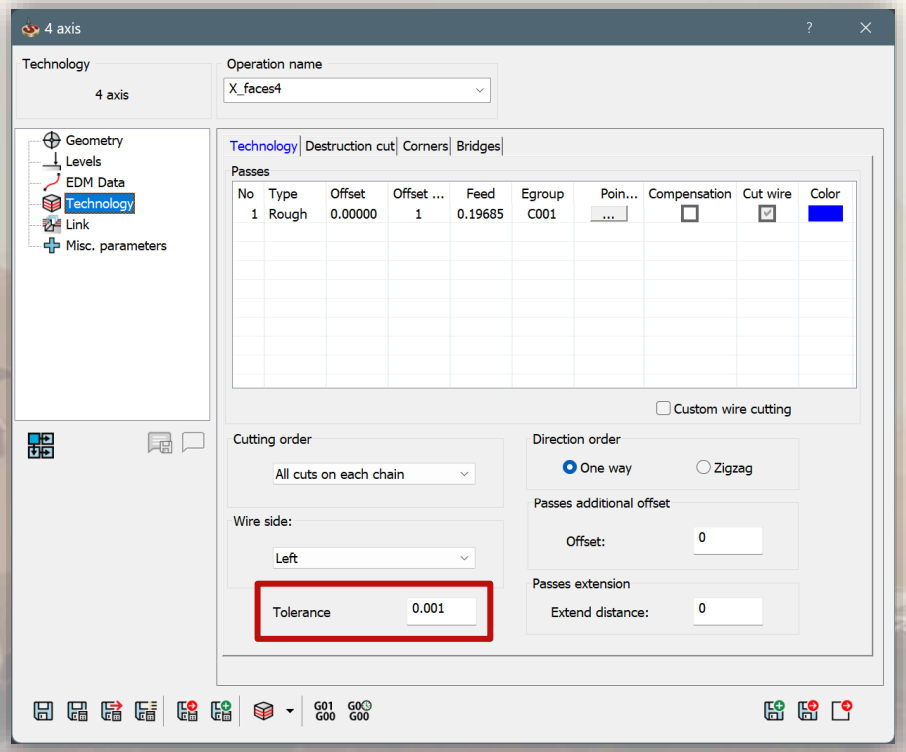


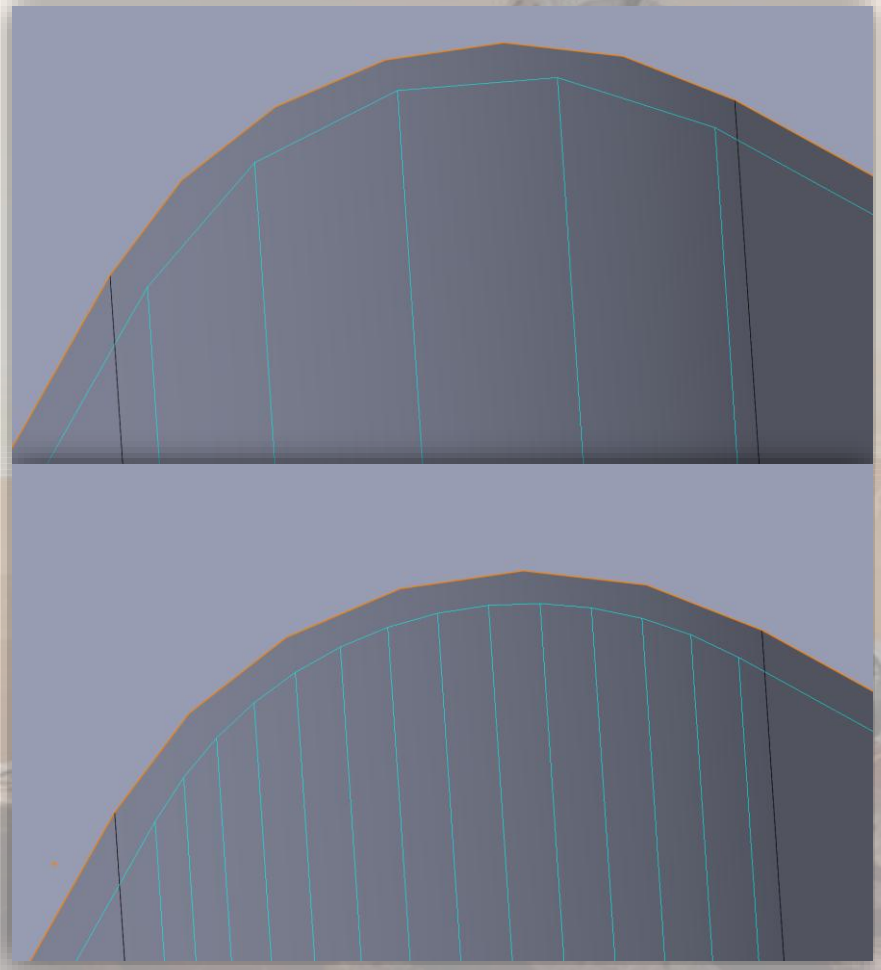




WireEDM - Tolerance for 4 Axis

- Added **Tolerance** (scallop) for 4 Axis Wireframe
- When geometry consist of a arc entity, then the tolerence value determines the number of linear segments to which arc entitiy is divided
- For **Solid** option value is taken from Facet tolerance of model





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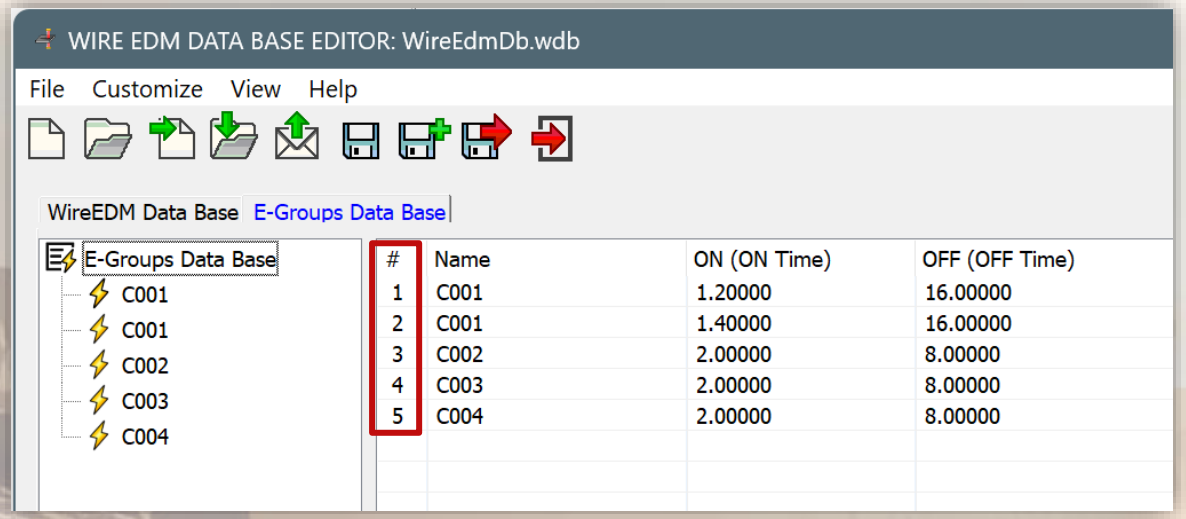
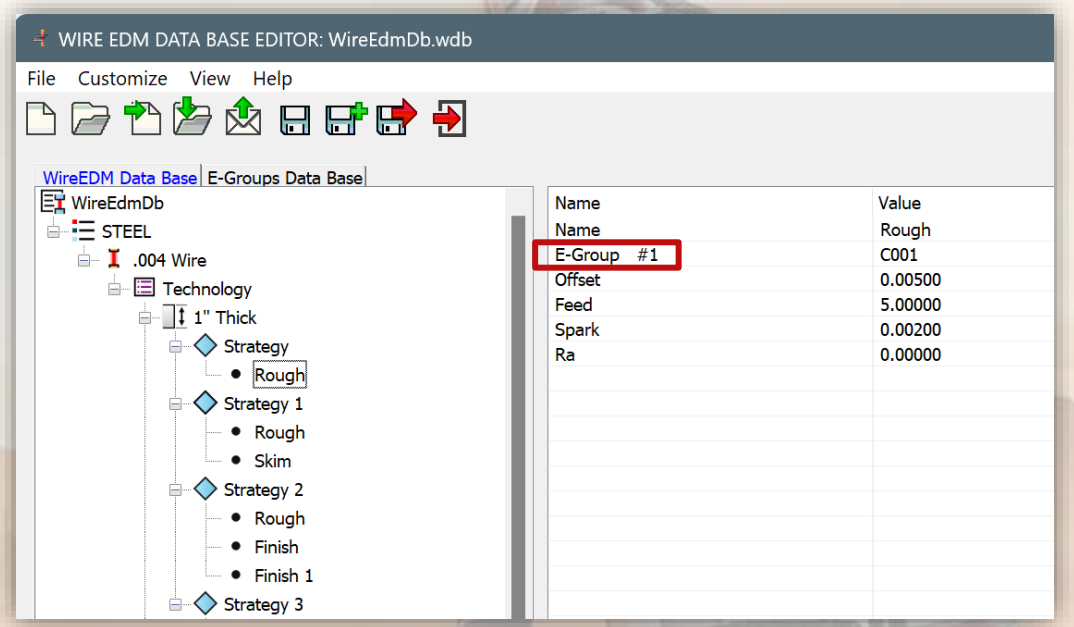
WireEDM - Wire Data base

- Added indexes for easier navigation between technology groups





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WireEDM - GPP

- New procedure ***@wc_t*** with ***u_angle*** parameter for better handling constant & variable angle

```
(0)@wc_angle_status ==> angle_status:'start_angle_machining'
(1)@wc_line         ==> xpos:3.2677F ypos:2.8325T upos:0.0000F vpos:0.0000T
                    ..> feed:0.1969T
                    ..> zero_plane:-0.004 upper_plane:0.791 z_geom_xy:0.787
                    ..> u_angle:0.000F v_angle:0.000F
                    ..> curr_const_angle:0.000 const_angle:0.000F
                    ..> next_const_angle:0.000
                    ..> acx:0.000 acy:0.000 arxy:0.000 adxy:2
                    ..> acu:-3.268 acv:-2.833 aruv:0.000 aduv:2
                      > G01 X2.833;
(1)@wc_t            ==> u_angle:6.000
                      > G52 A6.
(1)@wc_line         ==> xpos:2.4409T ypos:2.8325F upos:0.0000T vpos:0.0000F
                    ..> feed:0.1969F
                    ..> zero_plane:-0.004 upper_plane:0.791 z_geom_xy:0.787
                    ..> u_angle:6.000T v_angle:0.000F
                    ..> curr_const_angle:0.000 const_angle:6.000T
                    ..> next_const_angle:343.775
                    ..> acx:0.000 acy:0.000 arxy:0.000 adxy:2
                    ..> acu:-2.441 acv:-2.833 aruv:0.000 aduv:2
                      > G01 X2.441;
```

- Added ***e_group_id***

```
218                     > T94 (Water Dielectric);
219                     > T84 (High Pressure Flush ON);
220 (1)@wc_chng_e_group ==> e_group_name:'C0001' e_group_id:5 e_group_changed:true
221 (1)@wc_chng_conditio==> chng_cond_num:18
222    n                ..> chng_cond array :
```

- New procedure ***@wc_def_condition*** with all used conditions inside particular job at the beggining of program to allow easier output

```
(0)@wc_def_condition==> e_group_name:'C0001' chng_cond_num:18
                    ..> chng_cond array :
                    ..>       NAME              TYPE          VALUE        T/F
                    ..>
                    ..>  1    ON (ON Time)                                NUMERIC      10.000       F
                    ..>  2    OFF (OFF Time)                              NUMERIC      16.000       F
                    ..>  3    IP (Intensity Pulse)                        NUMERIC      2215.000     F
                    ..>  4    HRP (High Res Pulse)                        NUMERIC      0.000        F
                    ..>  5    MAO (Mach Adj Offset)                       NUMERIC      260.000      F
(0)@wc_def_condition==> e_group_name:'C0002' chng_cond_num:18
                    ..> chng_cond array :
                    ..>       NAME              TYPE          VALUE        T/F
                    ..>
                    ..>  1    ON (ON Time)                                NUMERIC      2.000        F
                    ..>  2    OFF (OFF Time)                              NUMERIC      8.000        F
                    ..>  3    IP (Intensity Pulse)                        NUMERIC      2210.000     F
                    ..>  4    HRP (High Res Pulse)                        NUMERIC      0.000        F
                    ..>  5    MAO (Mach Adj Offset)                       NUMERIC      0.000        F
(0)@wc_def_condition==> e_group_name:'C0003' chng_cond_num:18
                    ..> chng_cond array :
                    ..>       NAME              TYPE          VALUE        T/F
                    ..>
                    ..>  1    ON (ON Time)                                NUMERIC      2.000        F
                    ..>  2    OFF (OFF Time)                              NUMERIC      8.000        F
                    ..>  3    IP (Intensity Pulse)                        NUMERIC      2210.000     F
                    ..>  4    HRP (High Res Pulse)                        NUMERIC      0.000        F
                    ..>  5    MAO (Mach Adj Offset)                       NUMERIC      0.000        F
```


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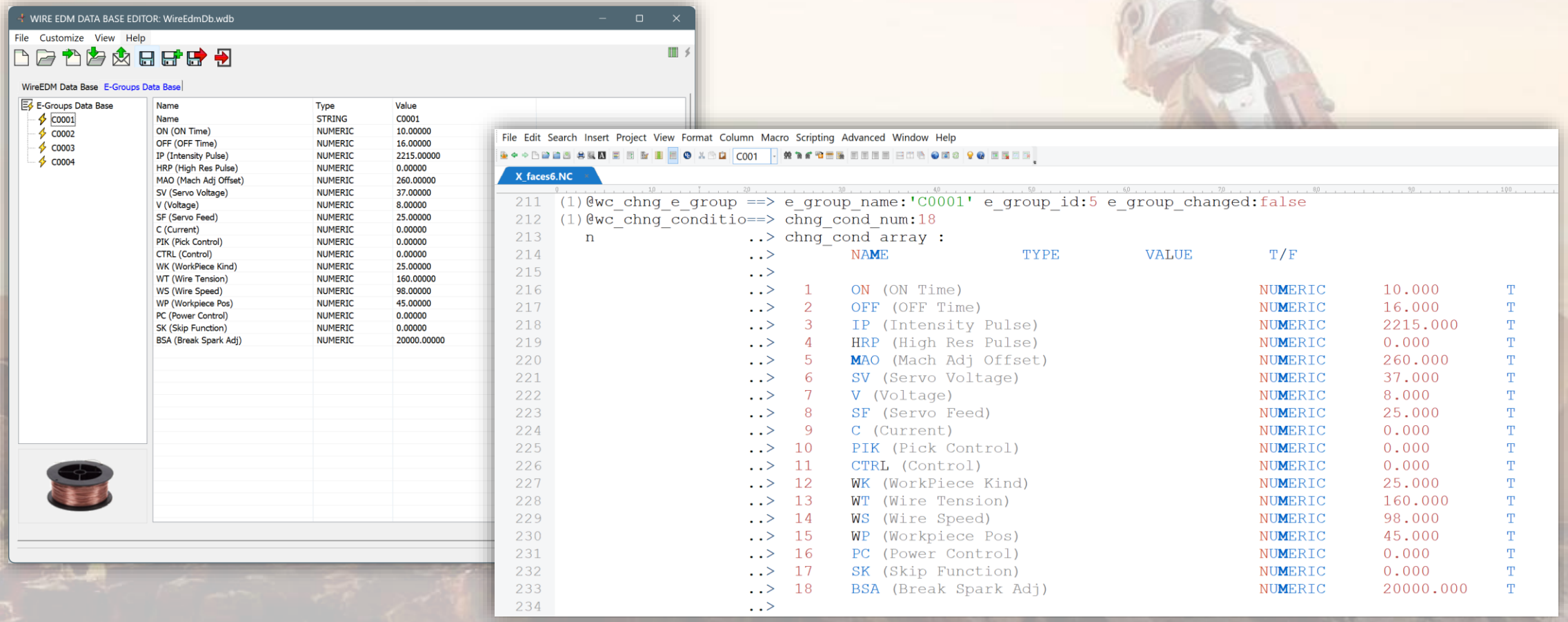
WireEDM - GPP

- Increased the change condition parameters from [8 + 1] to [32 + 1] to accommodate longer names.



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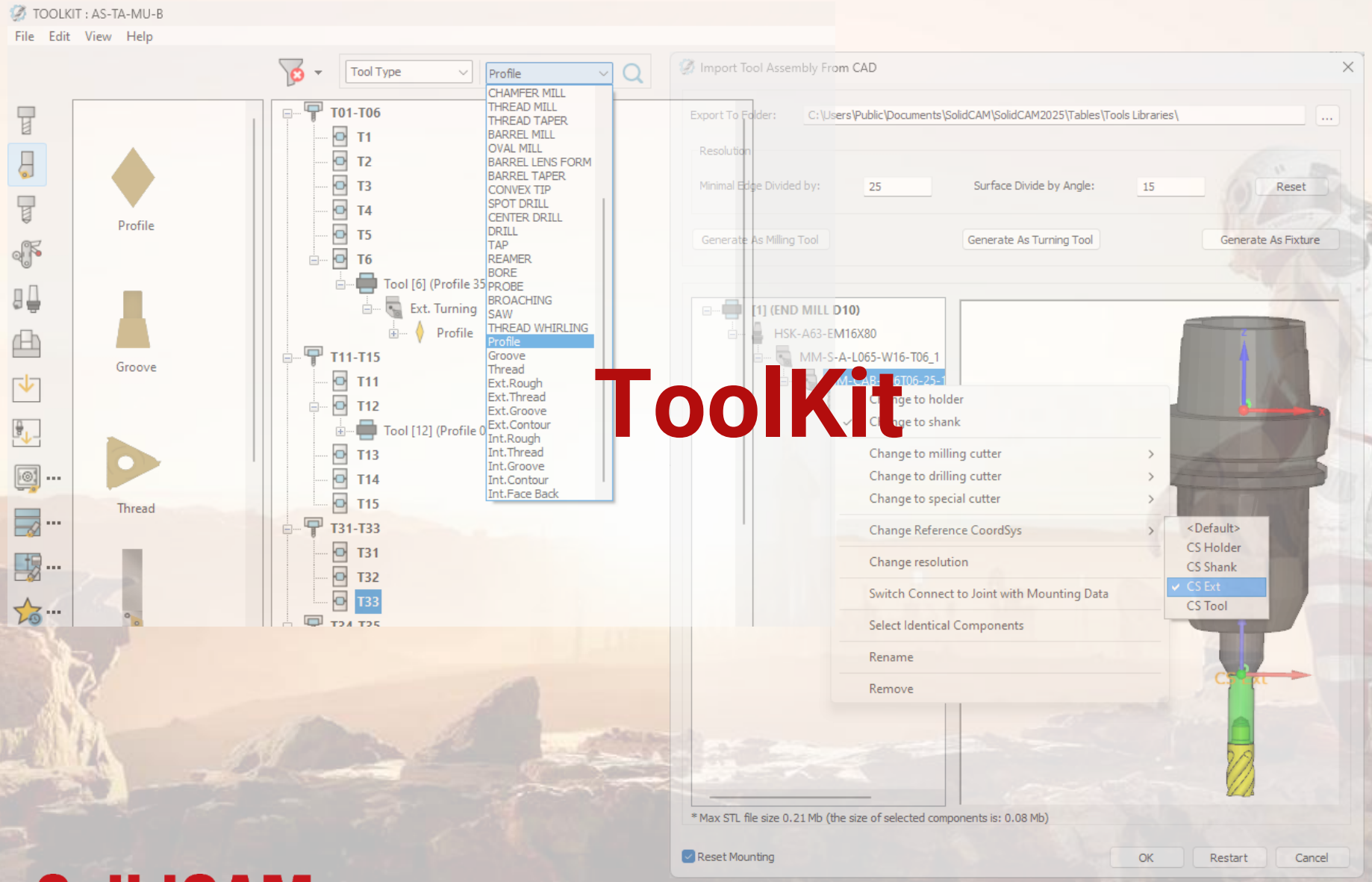
ToolKit



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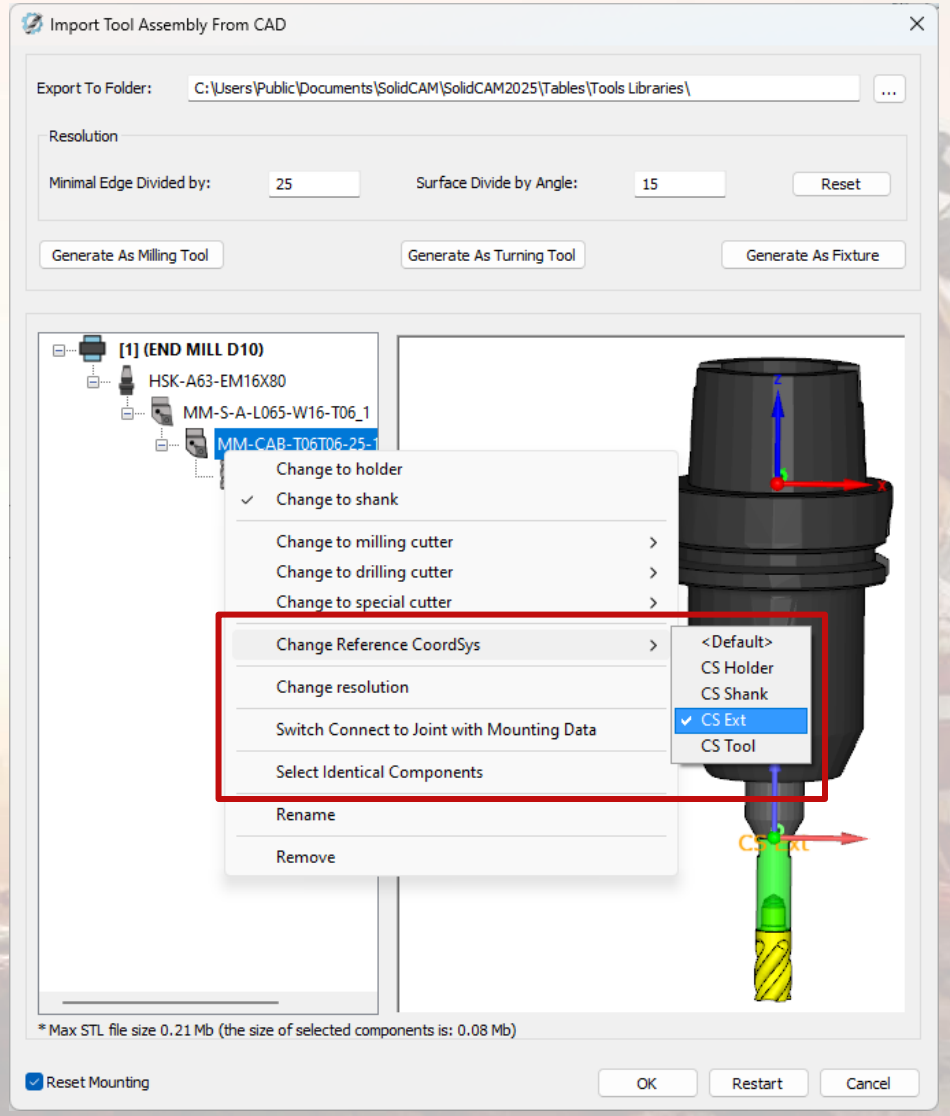
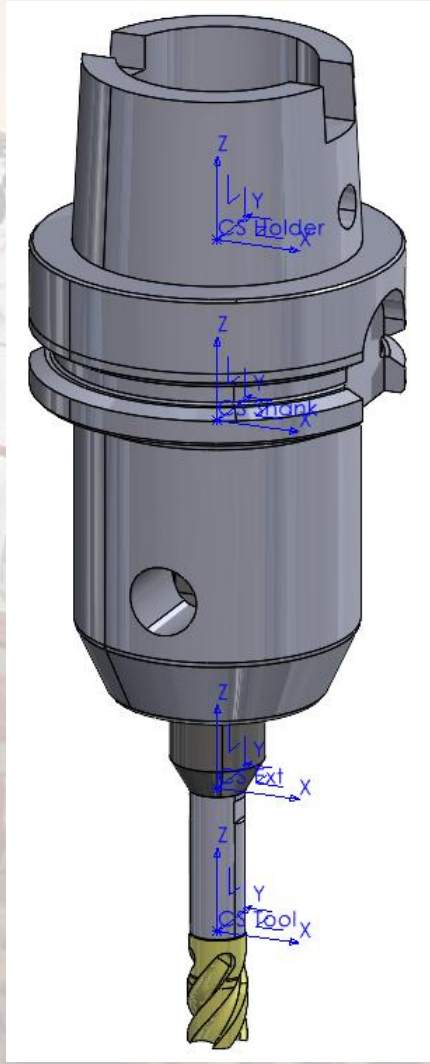
ToolKit – Improvements in Import of Tool Assembly From CAD

- Reconstruction of Drag and Drop logic
- Added possibility to keep relation between components by connecting them with Mounting shift or Joint
  - Mounting with Connect to Joint Data (default) (Mounting = 0, 0, 0 but Joint is shifted)
  - Connect to Joint with Mounting Data (new) (Joint = 0, 0, 0 but Mounting is shifted)
- Added possibility to select identical components (useful for removing typical components)
- Added possibility to change resolution of each tool component
- Added info about Max STL size
- Added possibility to add Part Mounting point (in the case of Fixture assembly)





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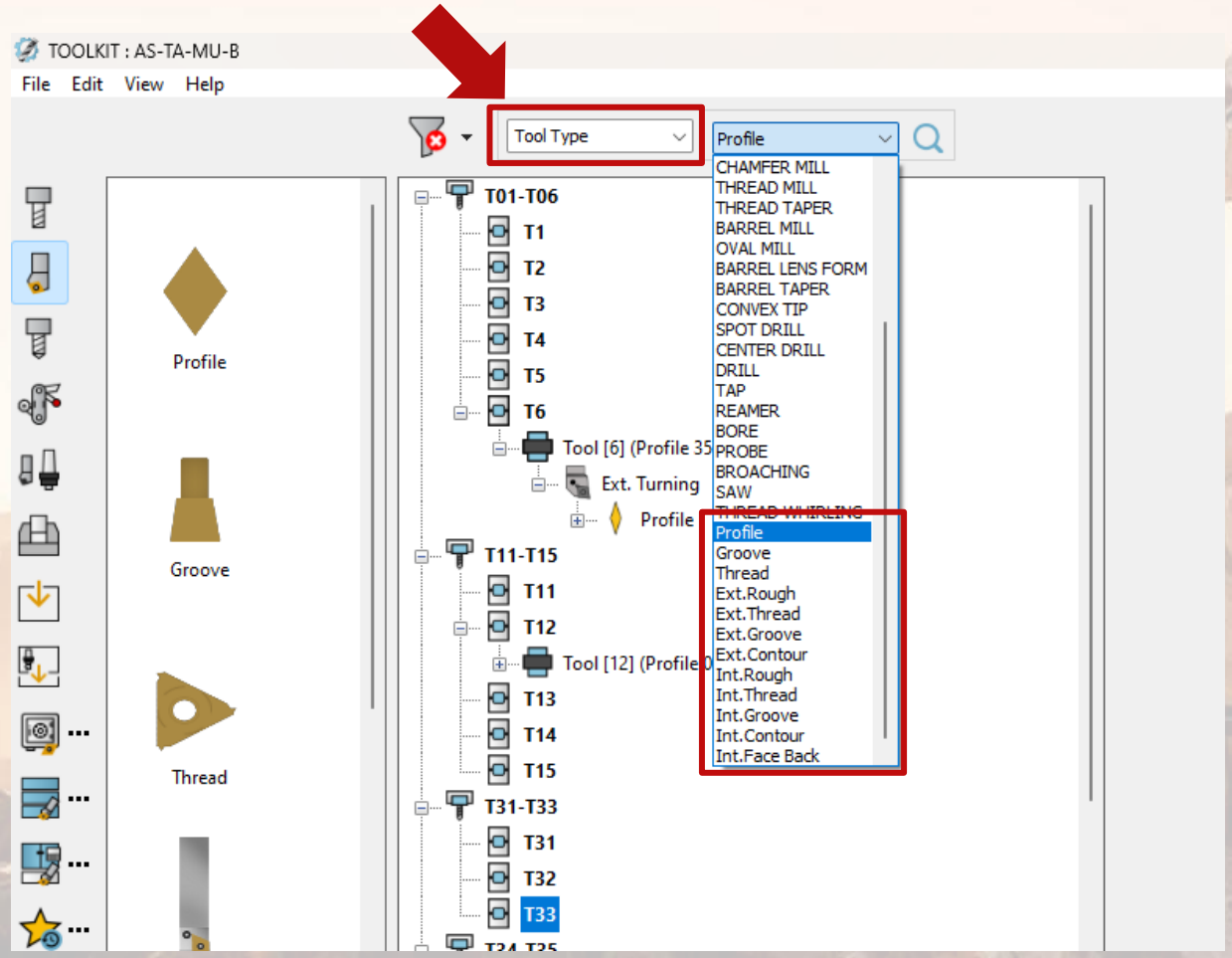
ToolKit – Added Quick Filter for Turning tool types

- Added possibility to filter Turning cutters in **Quick Filter**



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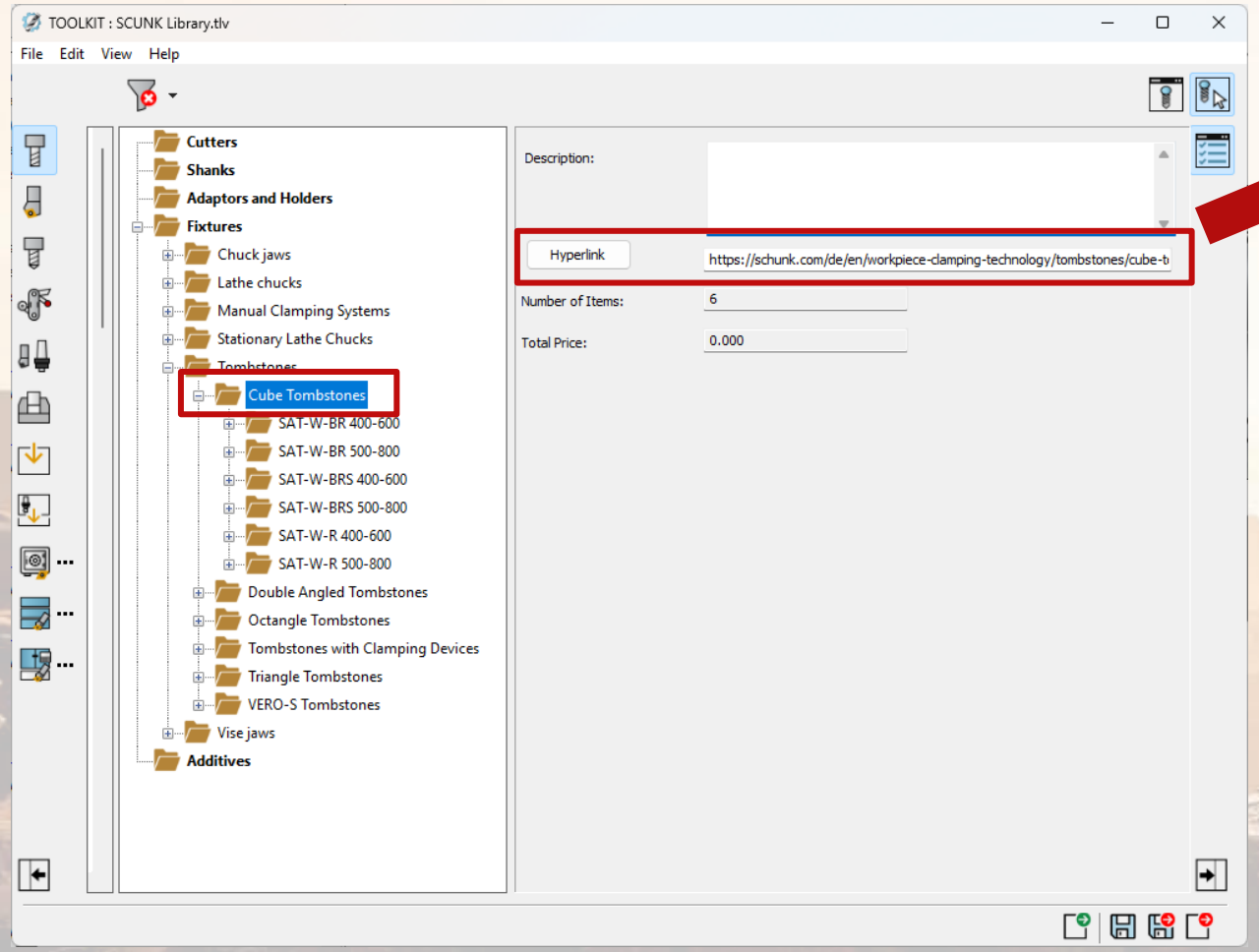
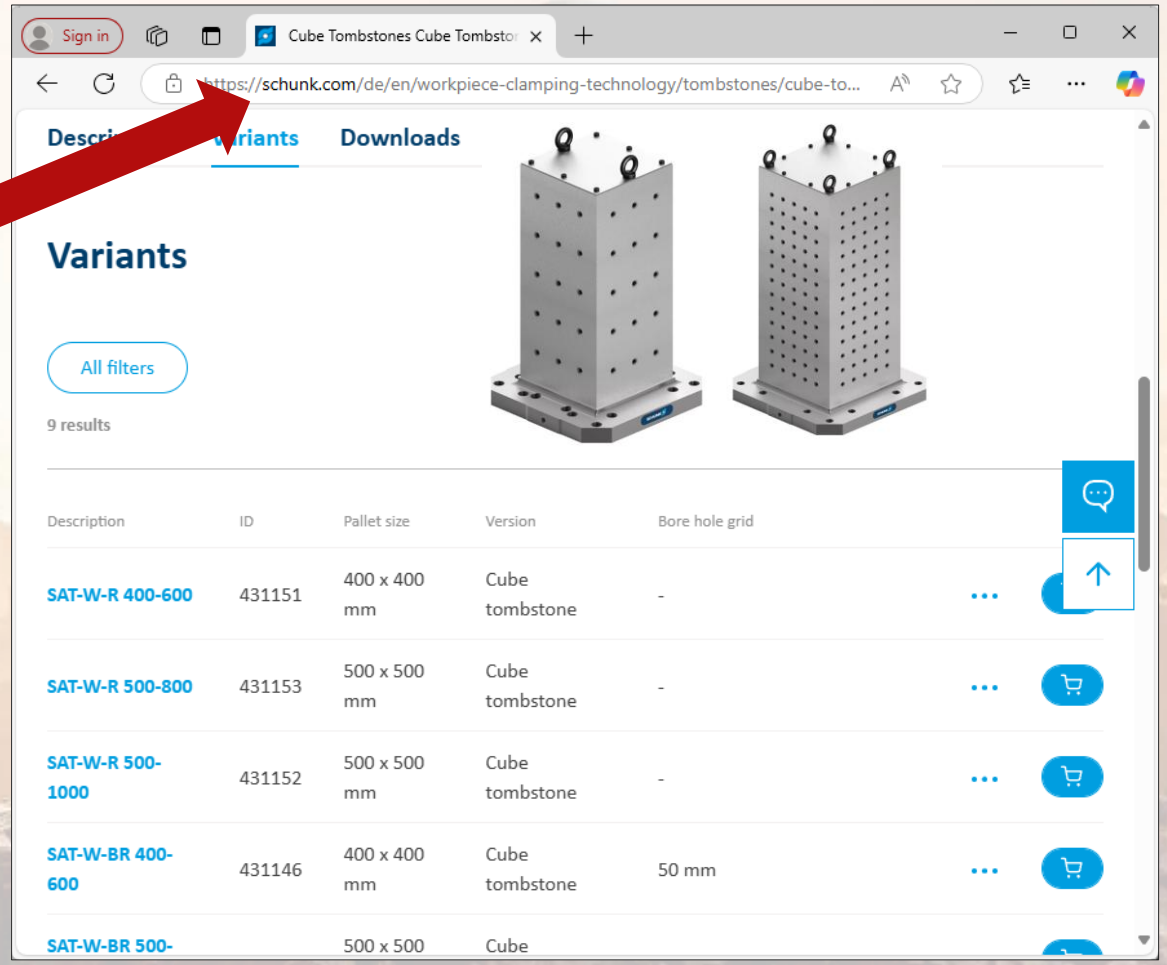
ToolKit – Added Hyperlinks to a Folder

- ToolKit Vault - Hyperlinks are added on Folder level too, useful for easier access to the main web page





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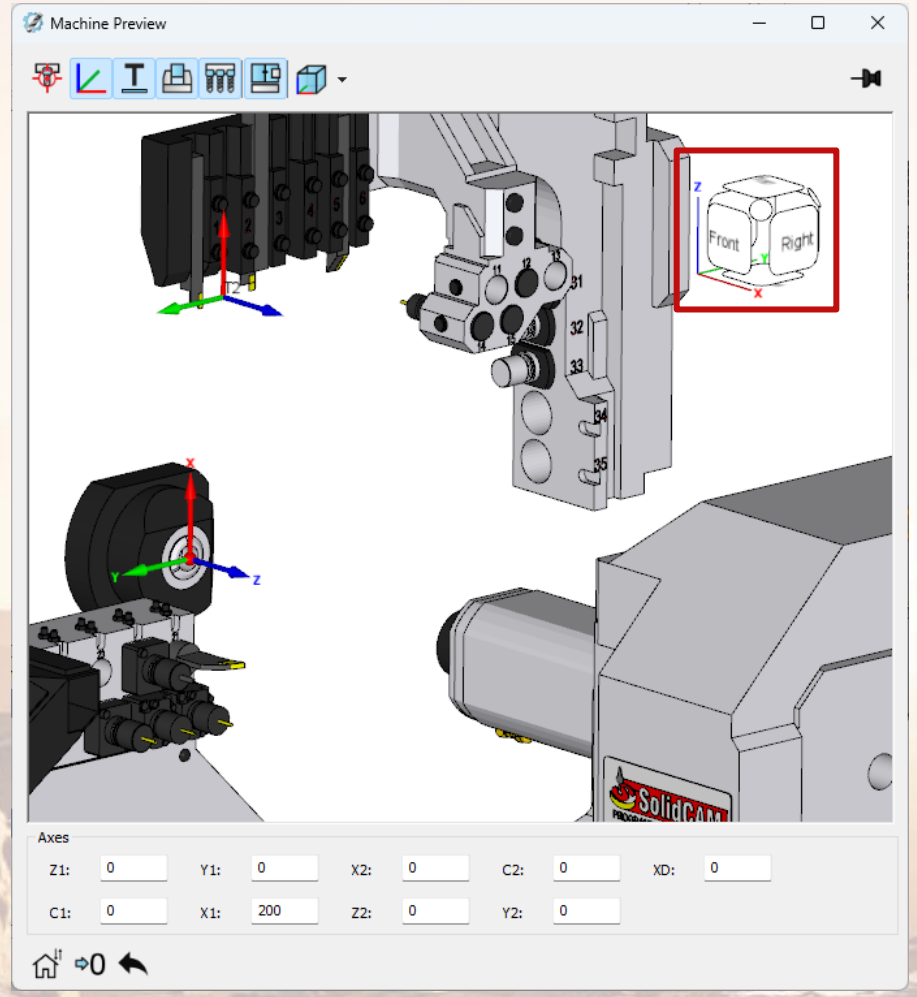
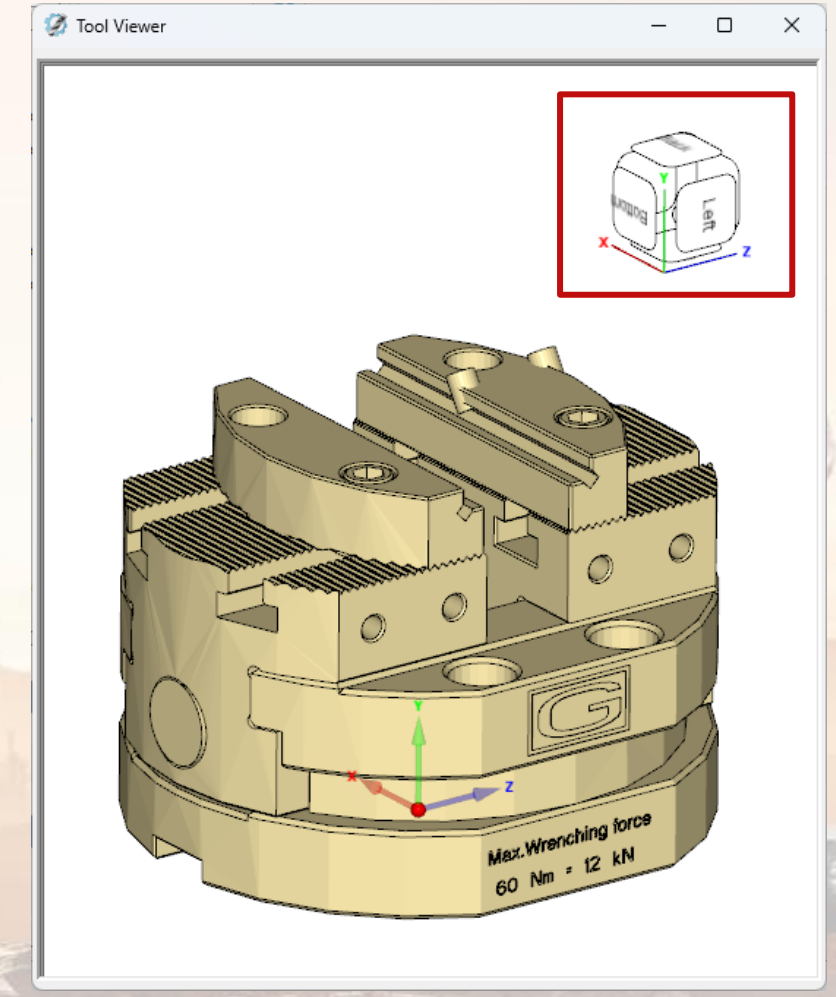
Added Orientation Cube in Tool Viewer and Machine Preview





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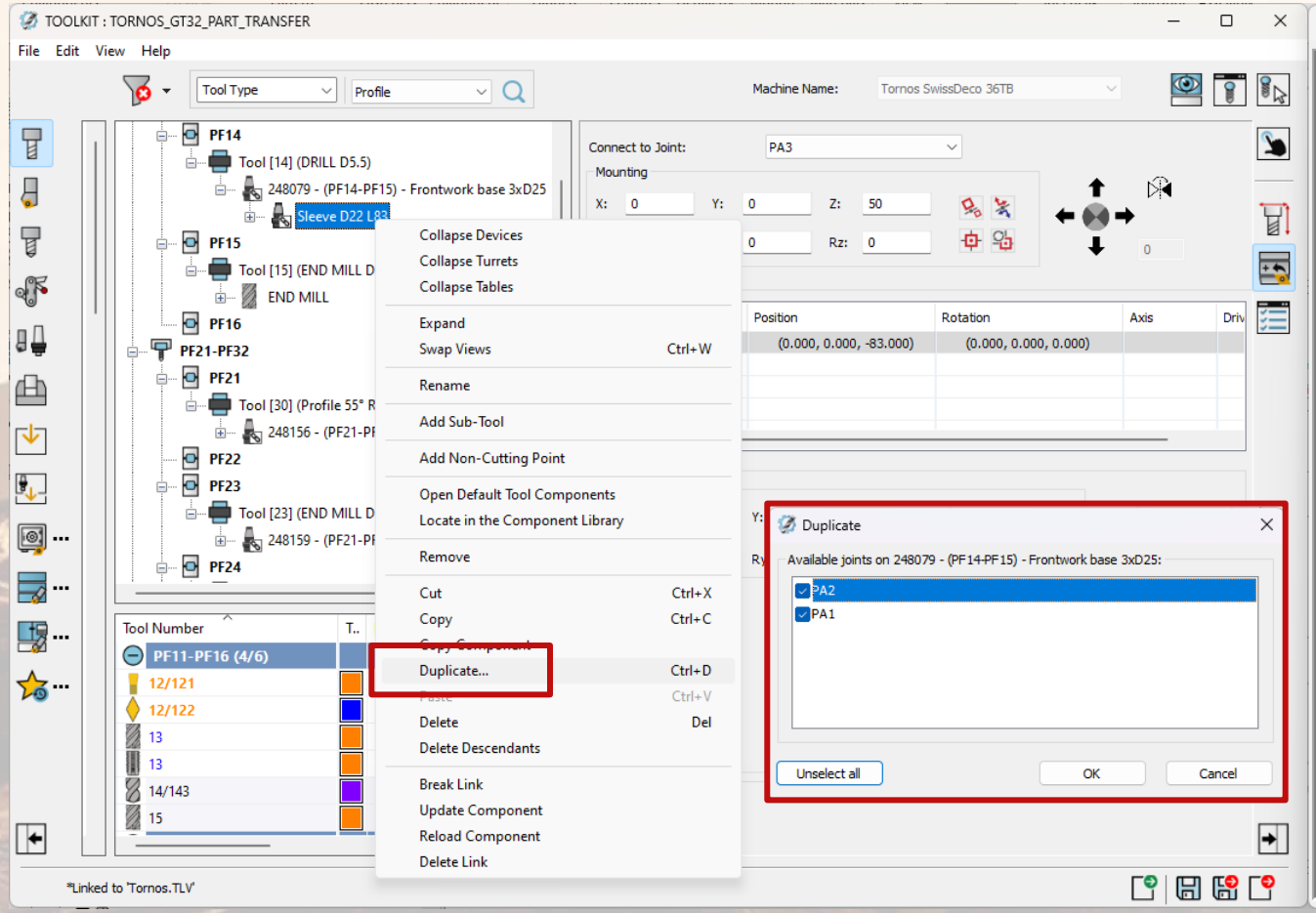
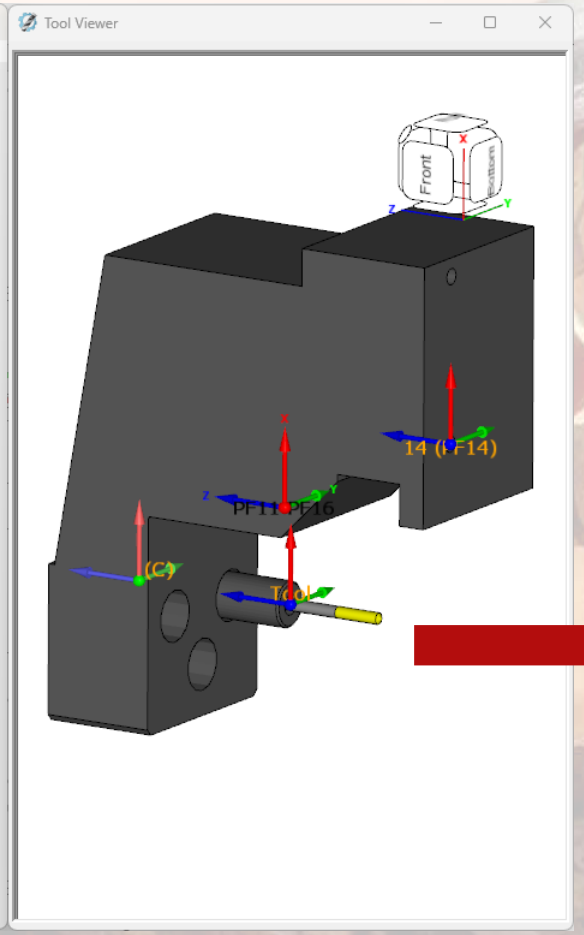
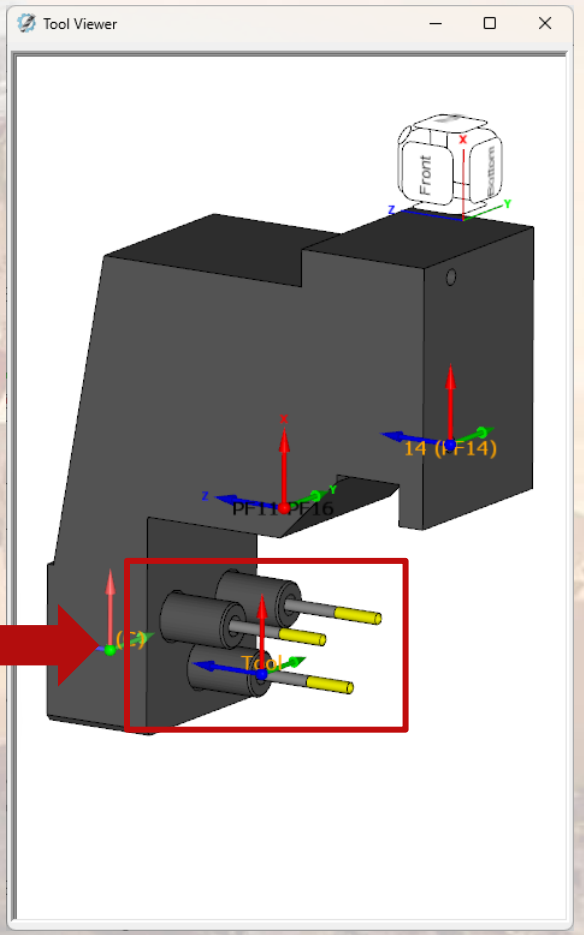
ToolKit – Duplicate feature

- Added feature to duplicate components on multiple joints at once!







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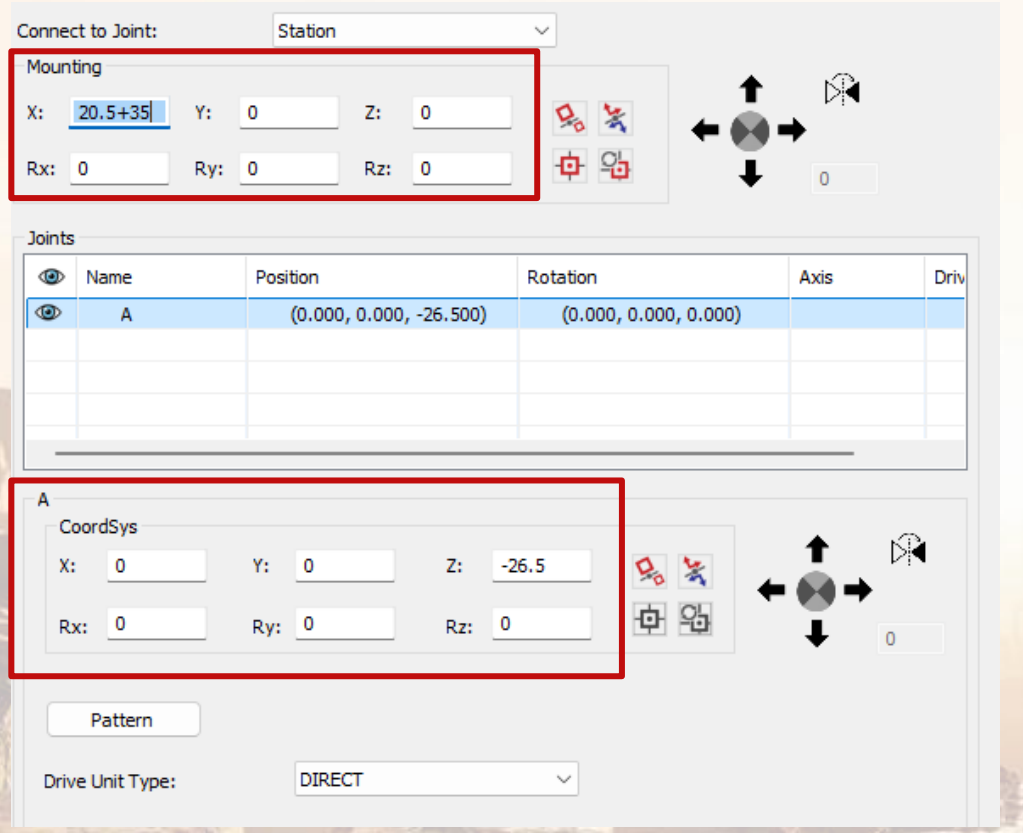
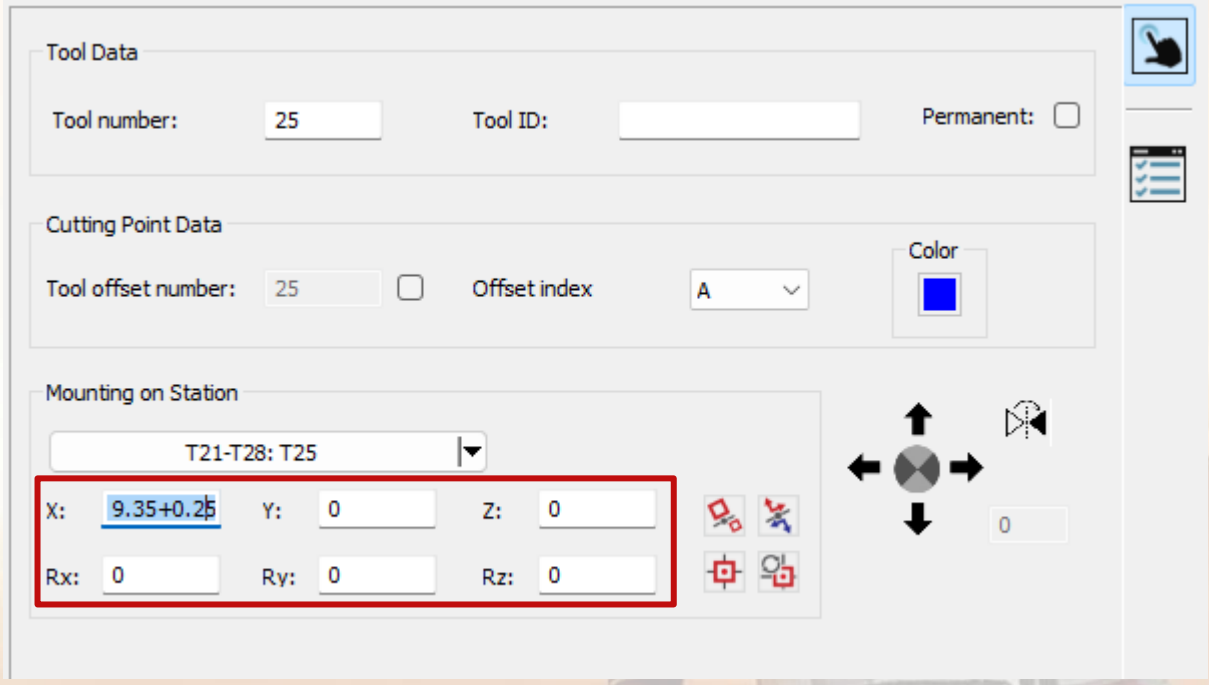
ToolKit – Value fields support equations

- Equations are now supported on **Connection** and **Quick access** page





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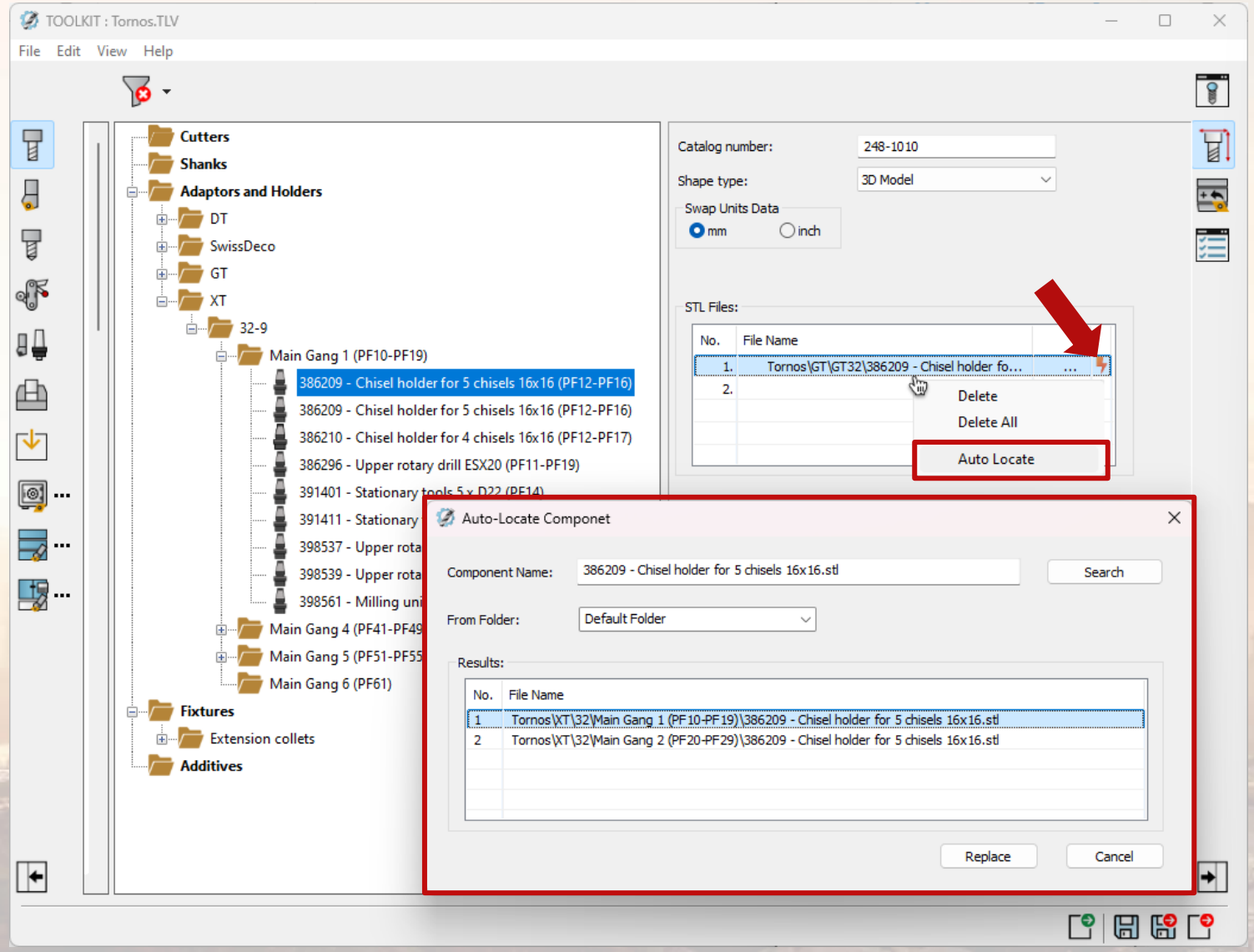
ToolKit – Auto Locate model components

- **Auto Locate** is introduced to easily locate component that is missing in defined path
- Auto Locate can be accessed by right-click on the File Name path or clicking on the ⚡ symbol.
- 3D model that is missing in the path is marked by ⚡ symbol.
- Auto Locate automatically populates the Component Name and shows the Results of locations where was found



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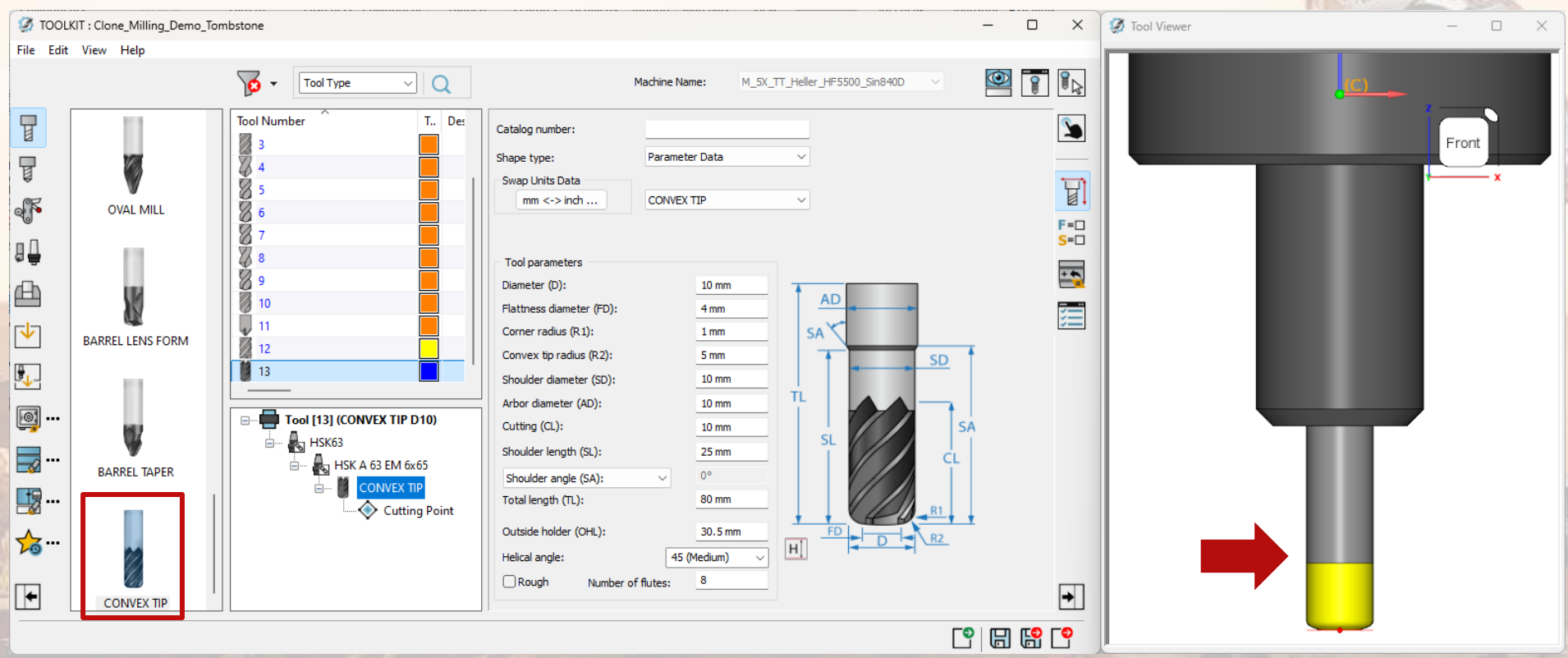
ToolKit – Convex Tip Mill

- Added new tool type: **Convex Tip Mill** (High Feed End Mill Cutters)
- Supported by 3 and 5-axis tool-paths (HSS, Pro 3D HSR, Pro 3D HSM and 3+2 Milling)



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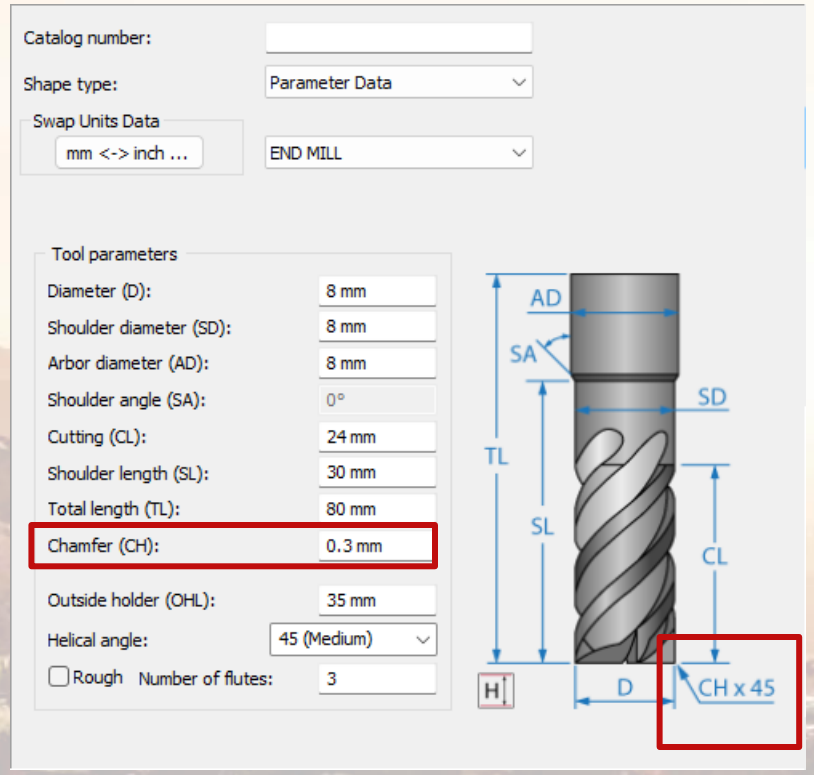
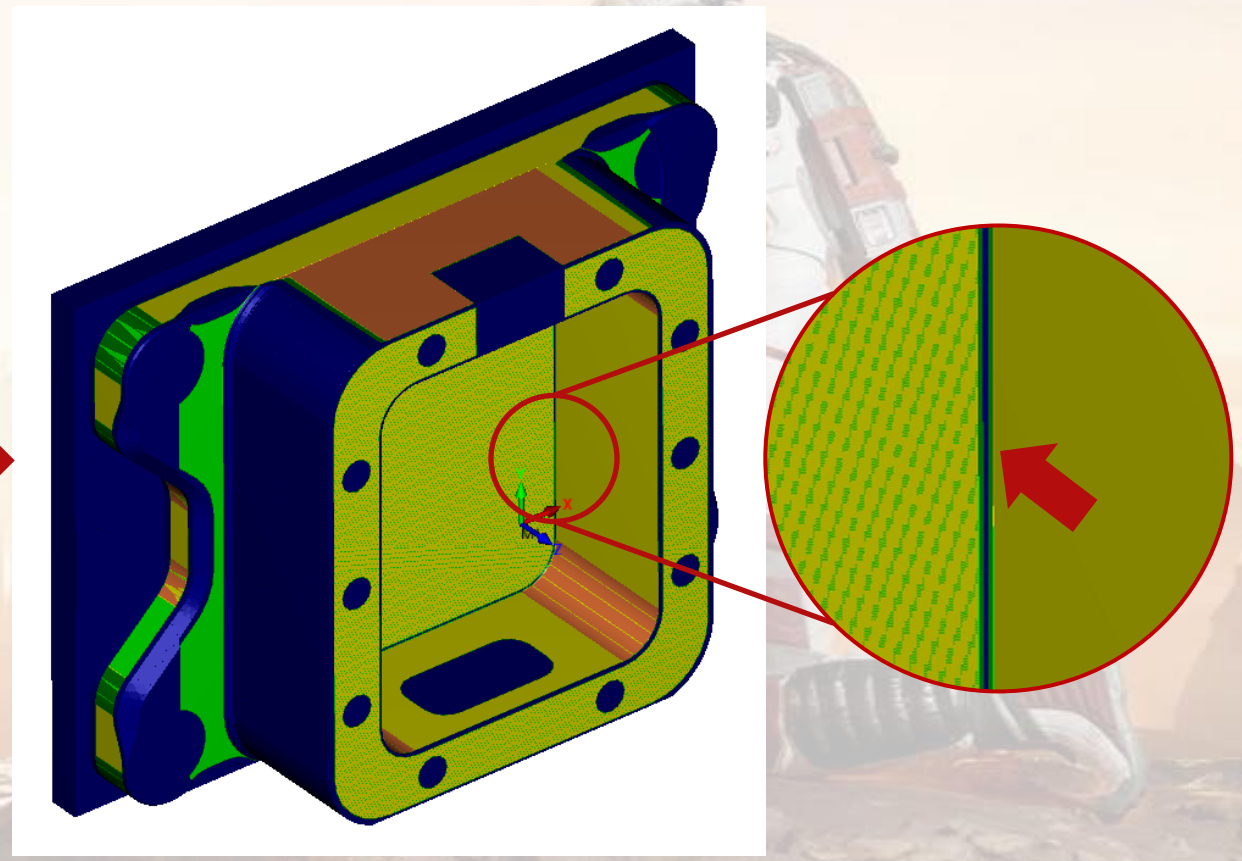
ToolKit – End Mill with corner definition

- **Chamfer (CH)** is now an optional parameter that **End Mill** cutter uses to define corner condition
- The remaining material is displayed in regions where a finishing pass is required by solid verification and simulation.





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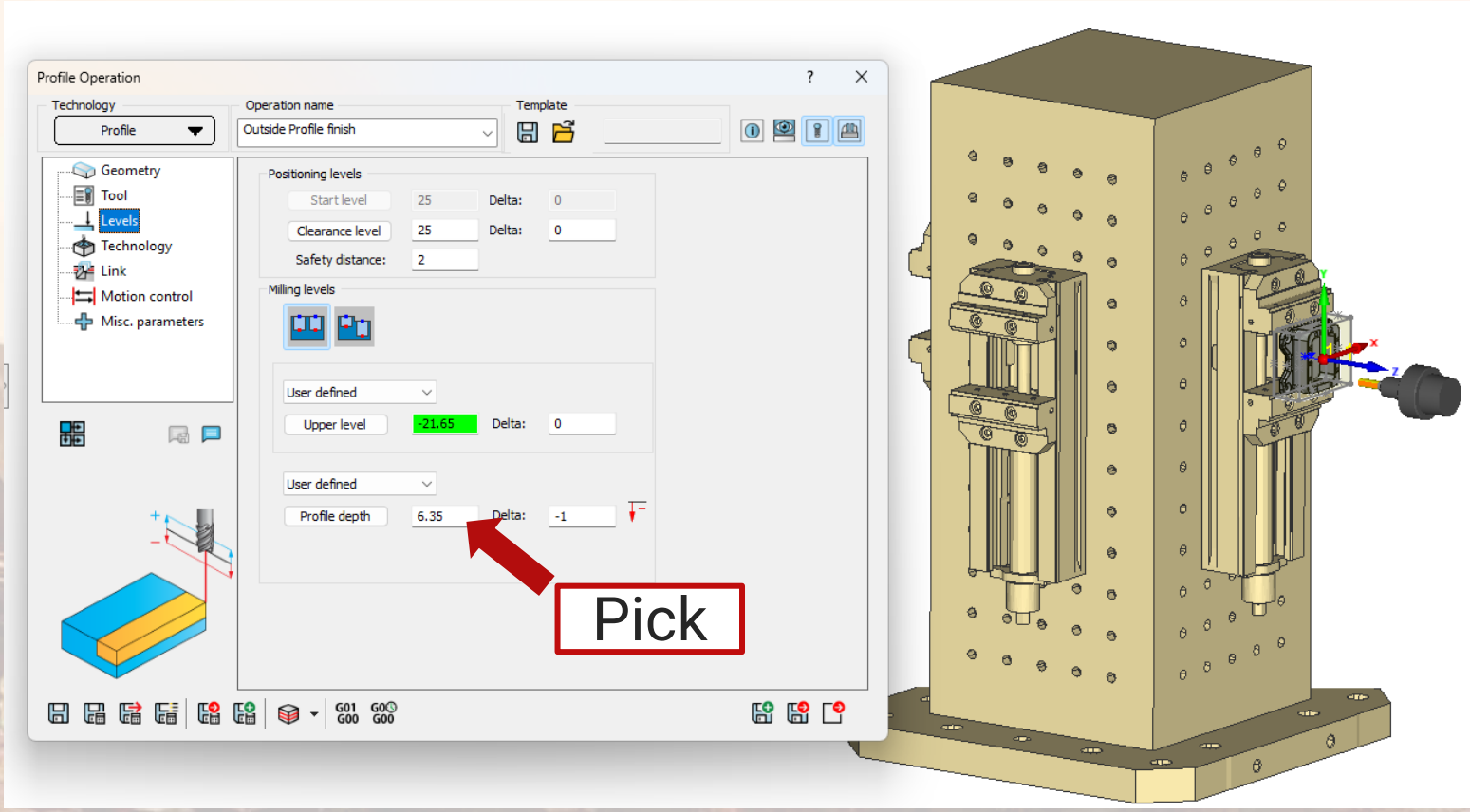
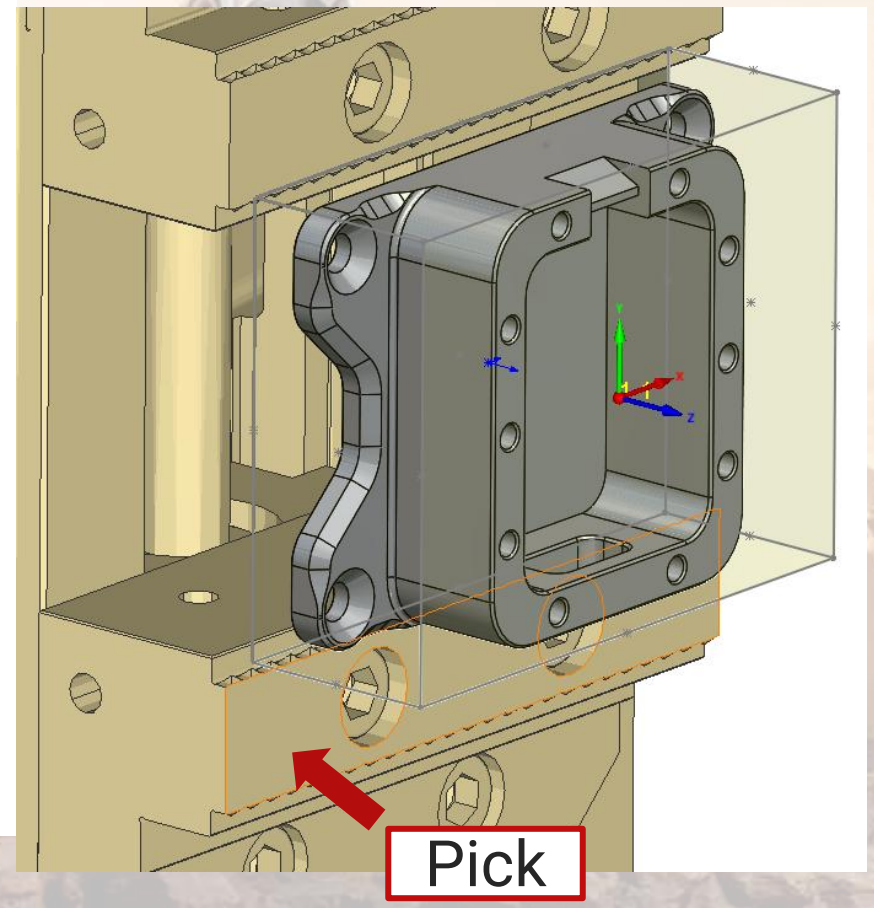
Operation – Pick levels from Fixture 3D in CAD

- Levels can be defined by picking on Fixture (from ToolKit) shown in the 3D CAD environment (not associative)





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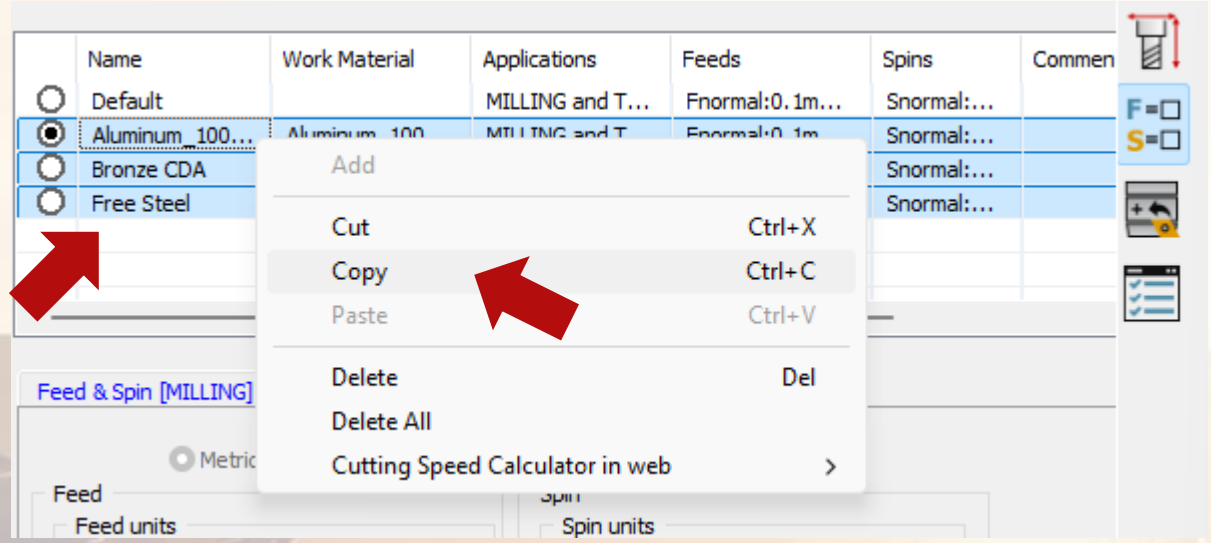
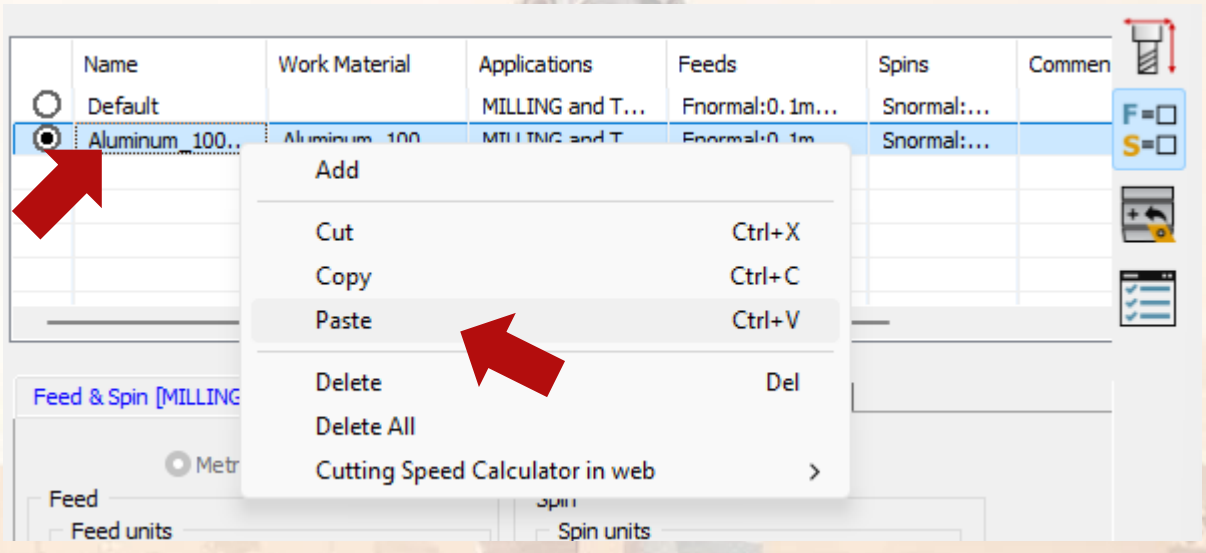
ToolKit – Copying Cutting conditions

- **Multiple selection** and **copy/paste cutting conditions** from cutter to cutter are now possible.



Cutter 1



Cutter 2

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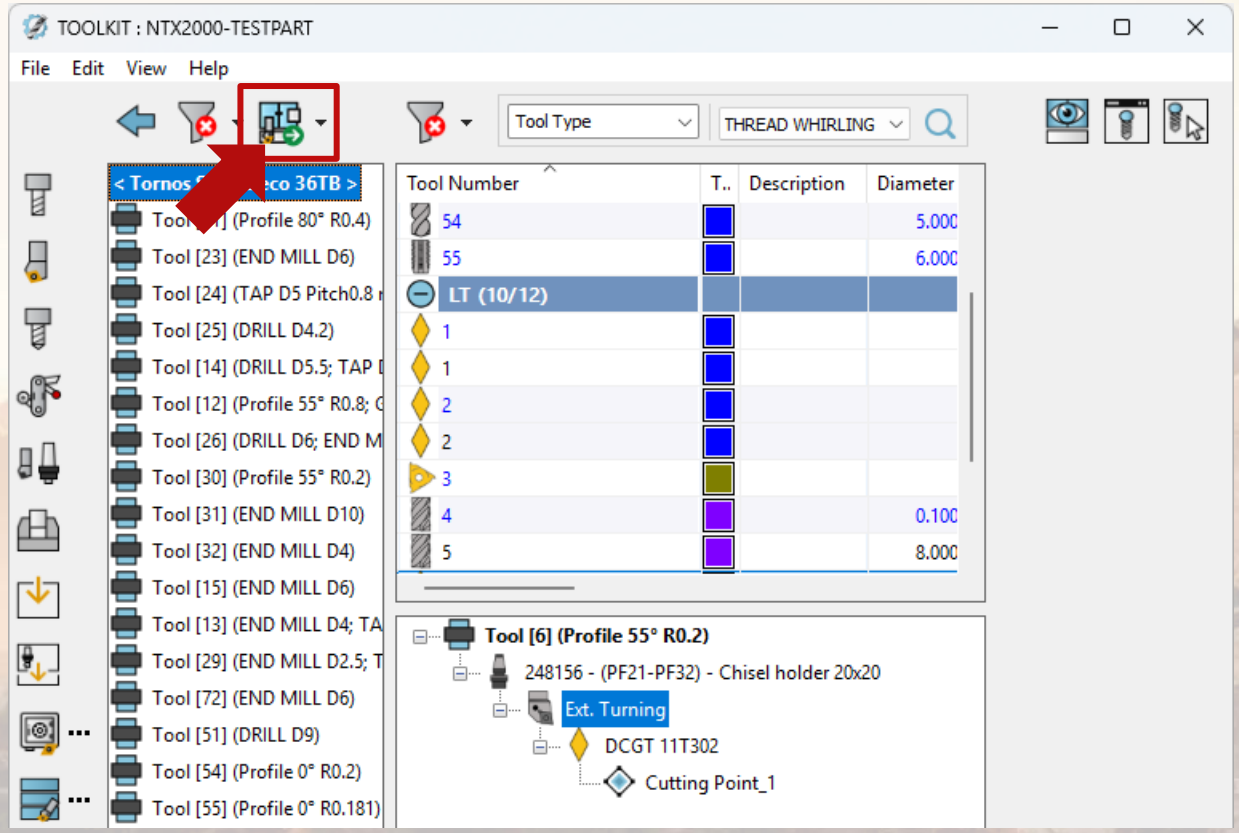
ToolKit – Simplified loading of tools from TLM?

- Added ability to **import all tools** from the **TLM library** to their corresponding stations with a single click
- Options to load tools on a certain turret only is also possible



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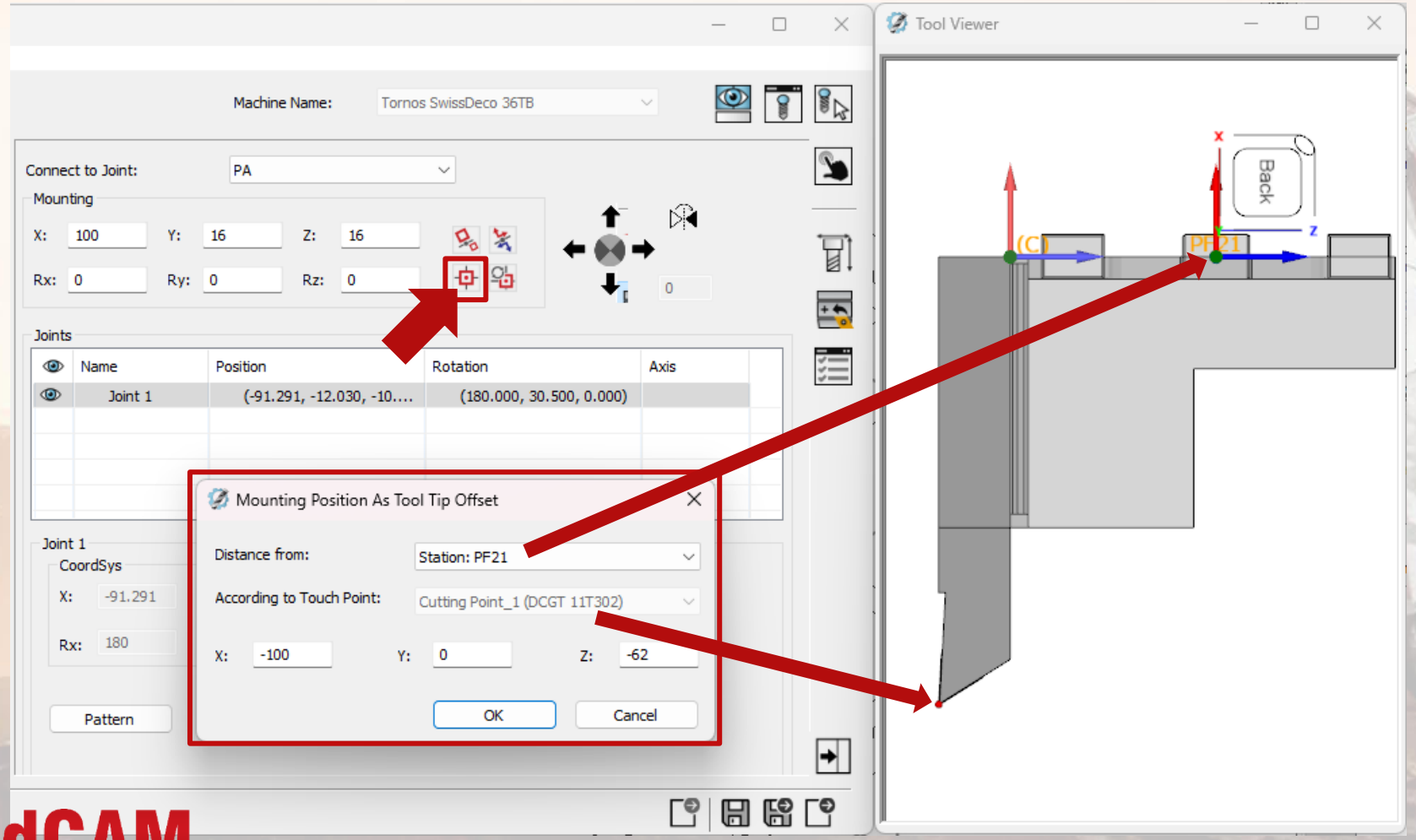
ToolKit – Set Position visual improvements

- When **Set Position** is used, only relevant Coordinate Systems are displayed in the Tool Viewer



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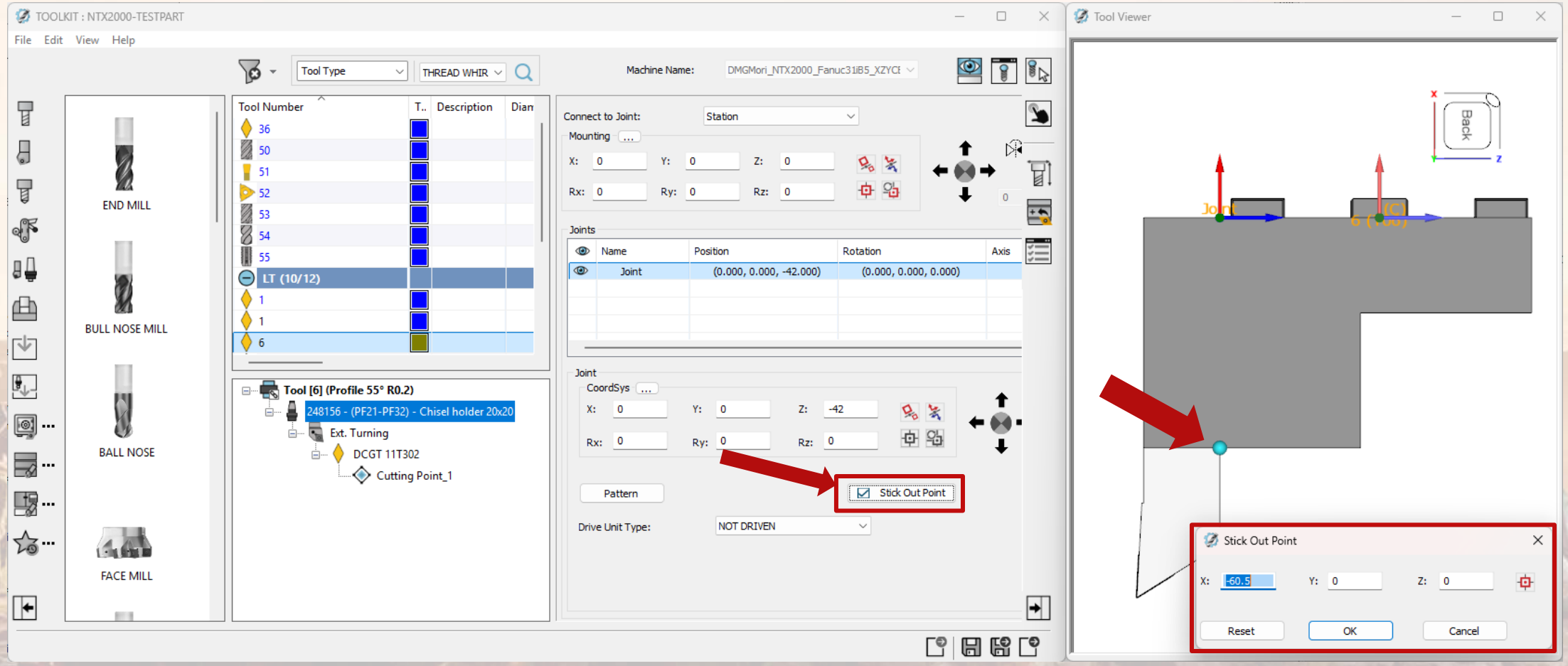
ToolKit – Added Stick Out Point

- A custom **Stick Out Point** is added to a **Holder Joint** property



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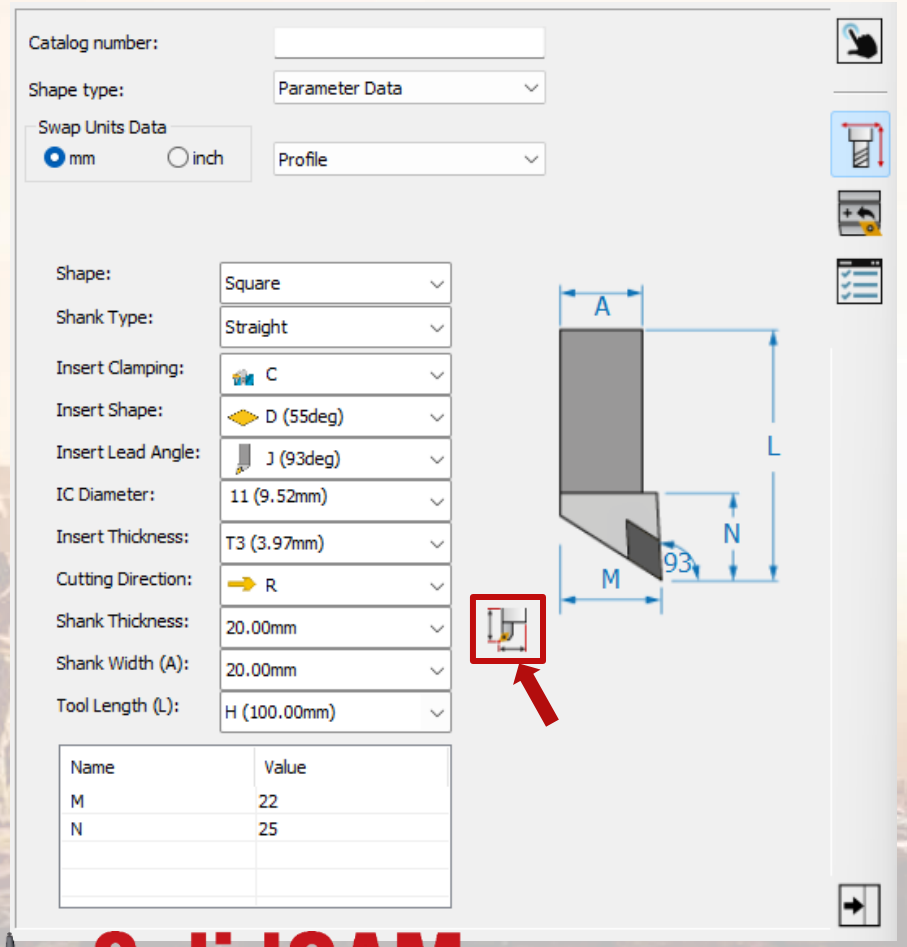
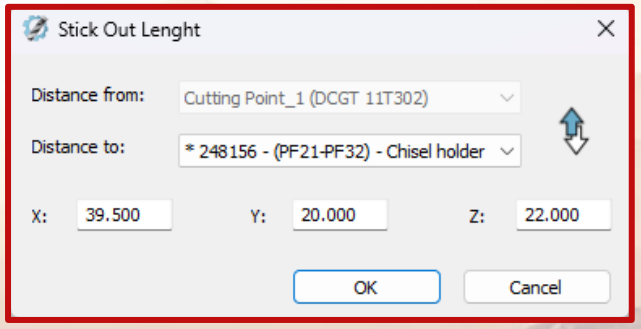
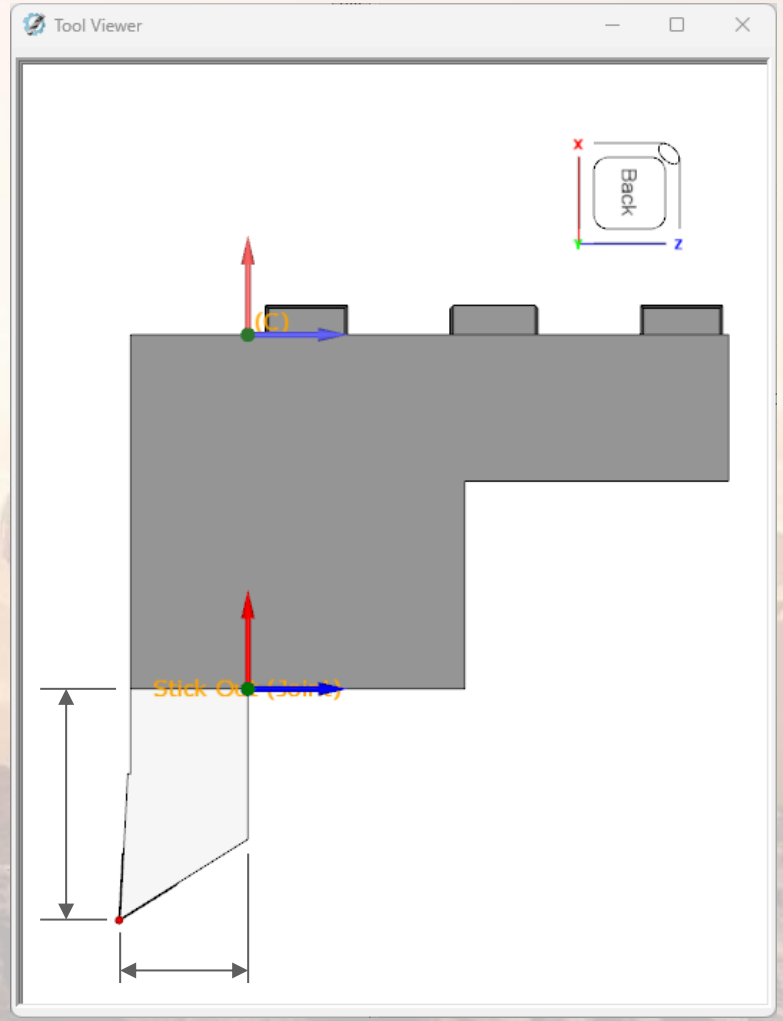
ToolKit – Added Stick Out Length for Turning tools

- Added **Stick Out Length** option on the Topology page of Lathe Shank







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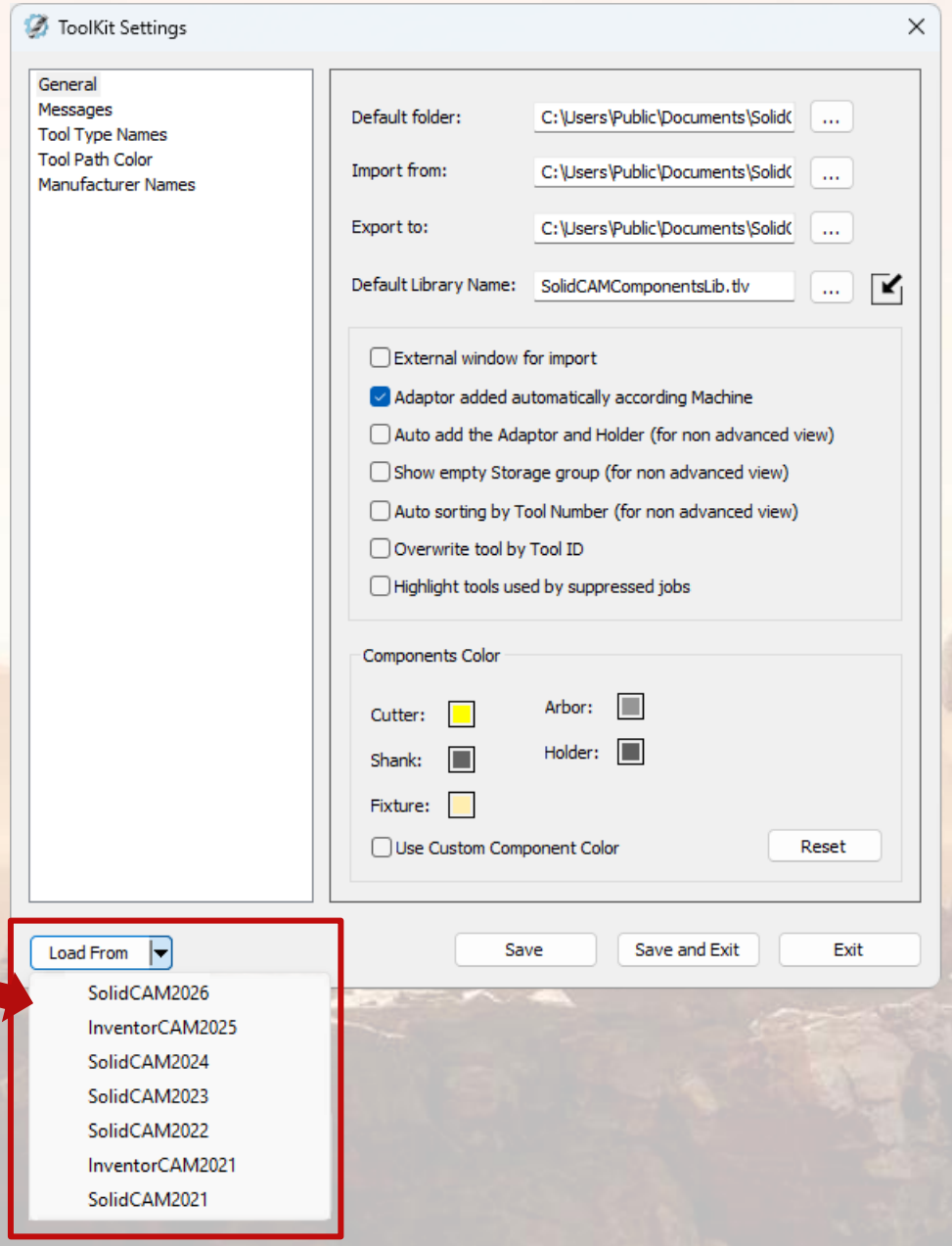
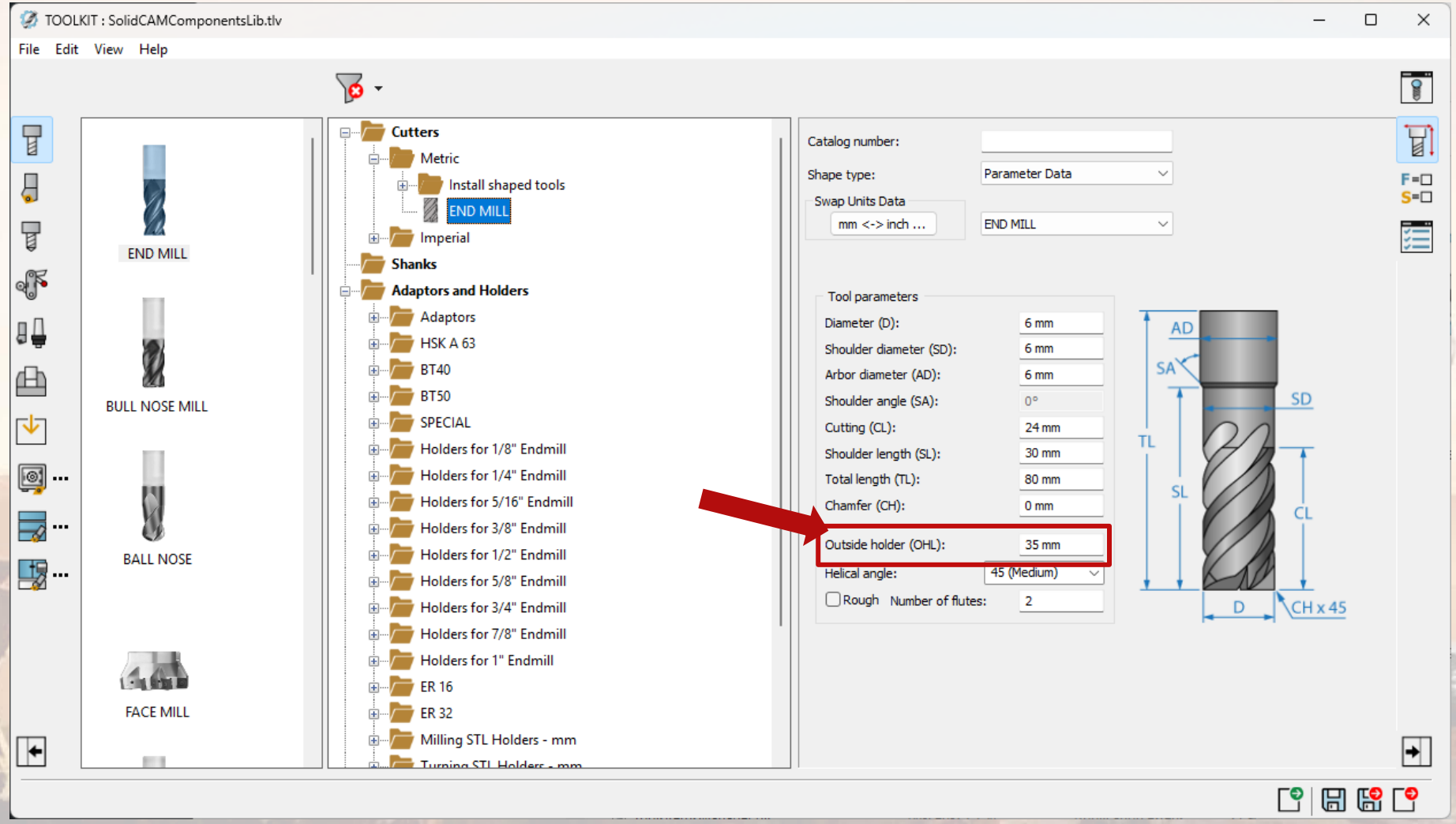
Added a possibility to load ToolKit settings from other versions

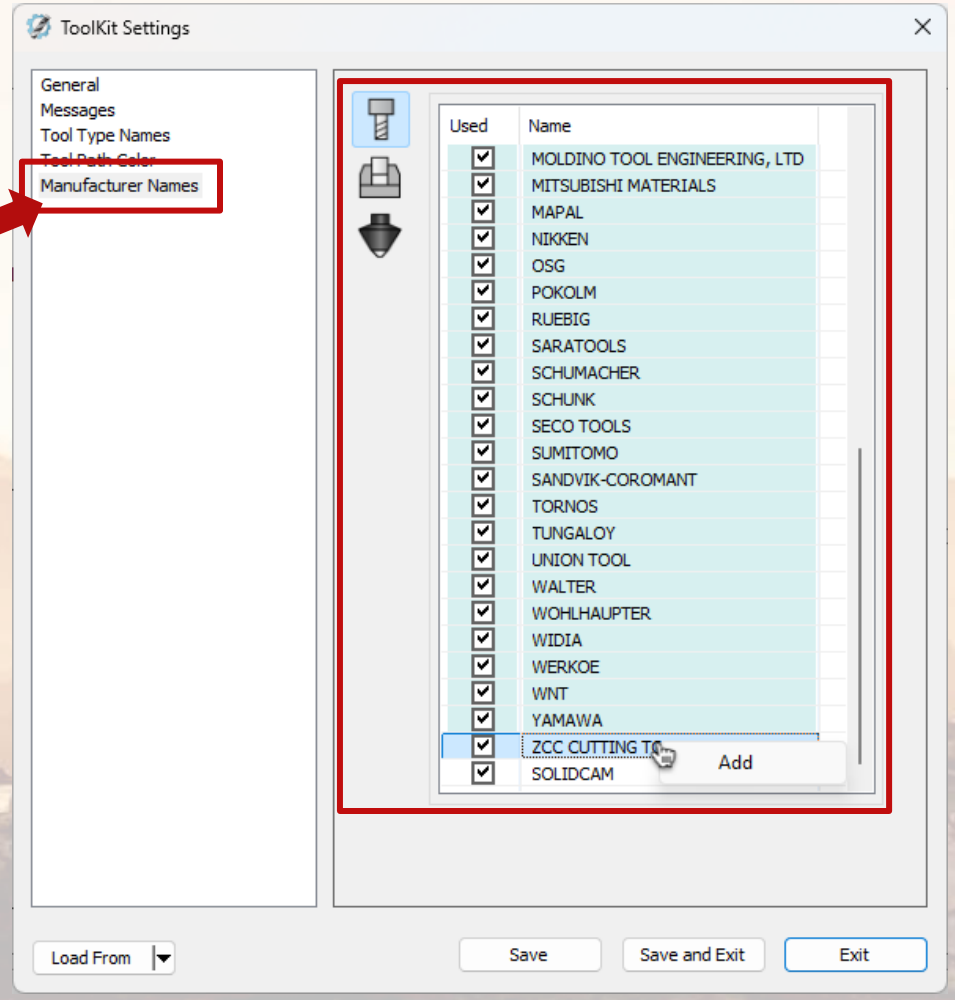


ToolKit - OHL parameter can be pre-defined in Vault (TLV)



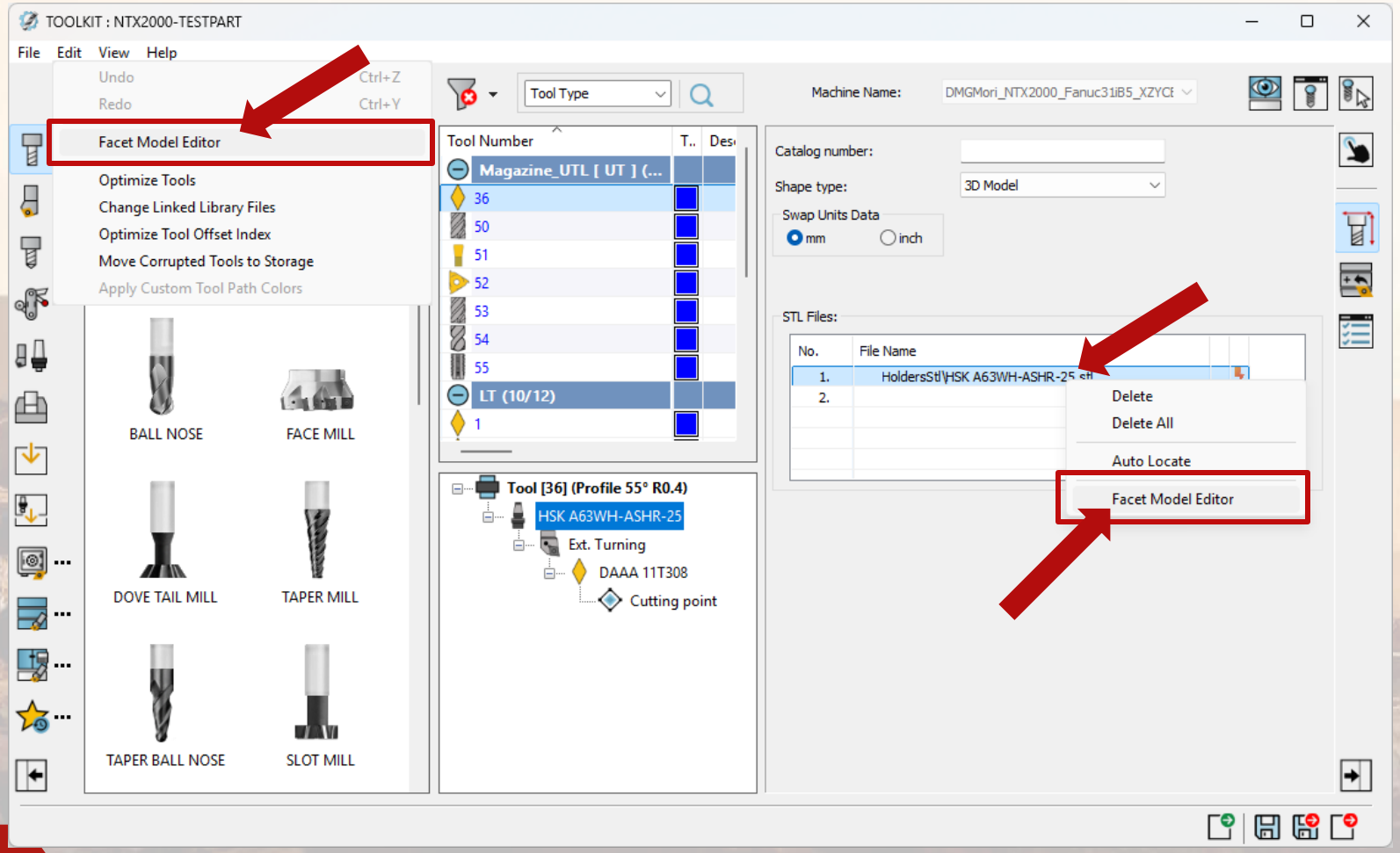
ToolKit - Added settings for a list of manufacturer names

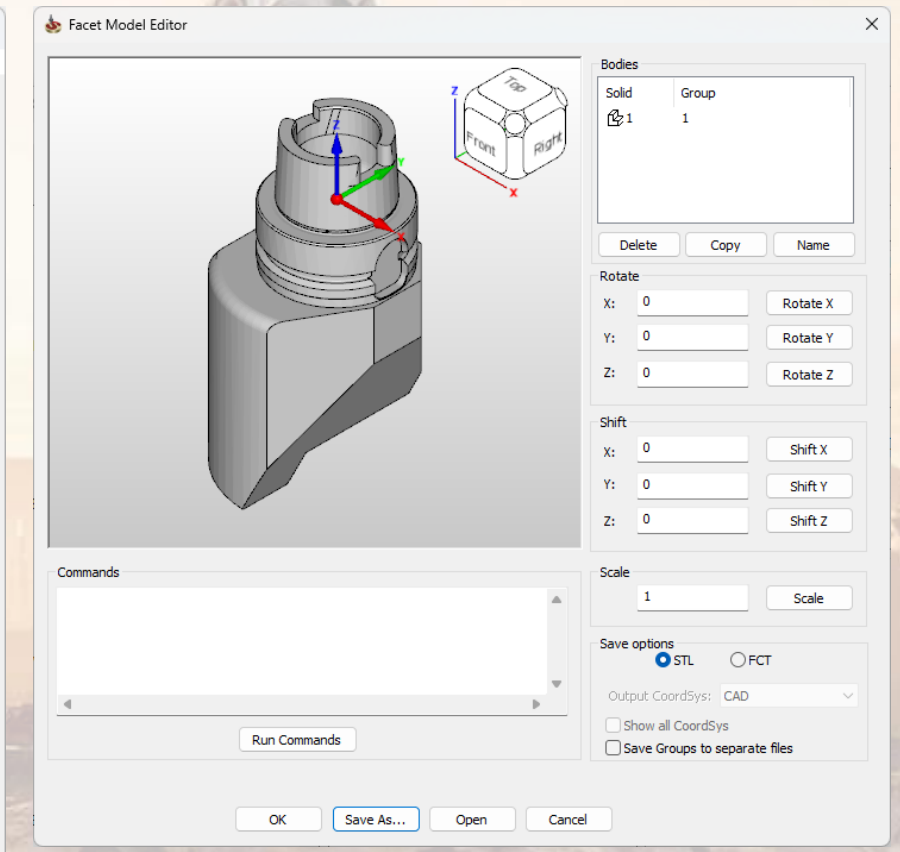
- Added an option to add a default **manufacturer name** to a list of cutter, shanks, holders, and fixtures components.



ToolKit - Added Facet Model Editor

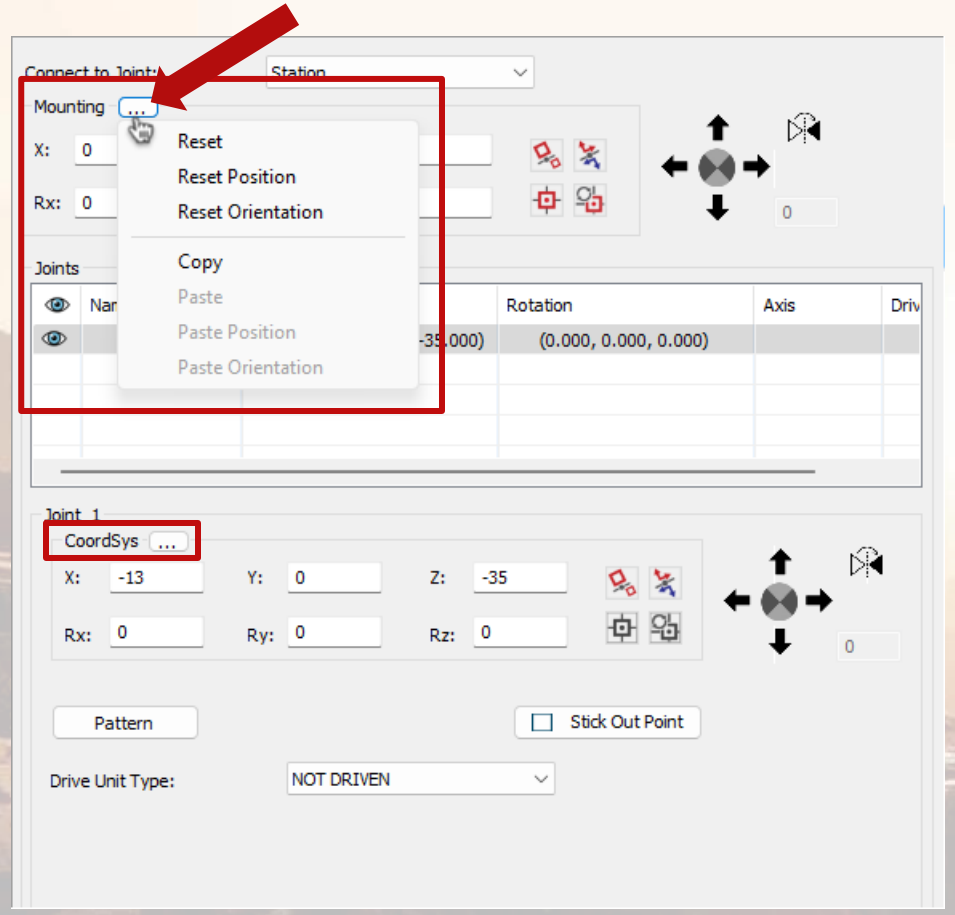
- **Facet Model Editor** can be executed now as a **Standalone** through ToolKit
- Added right-click option to open selected component

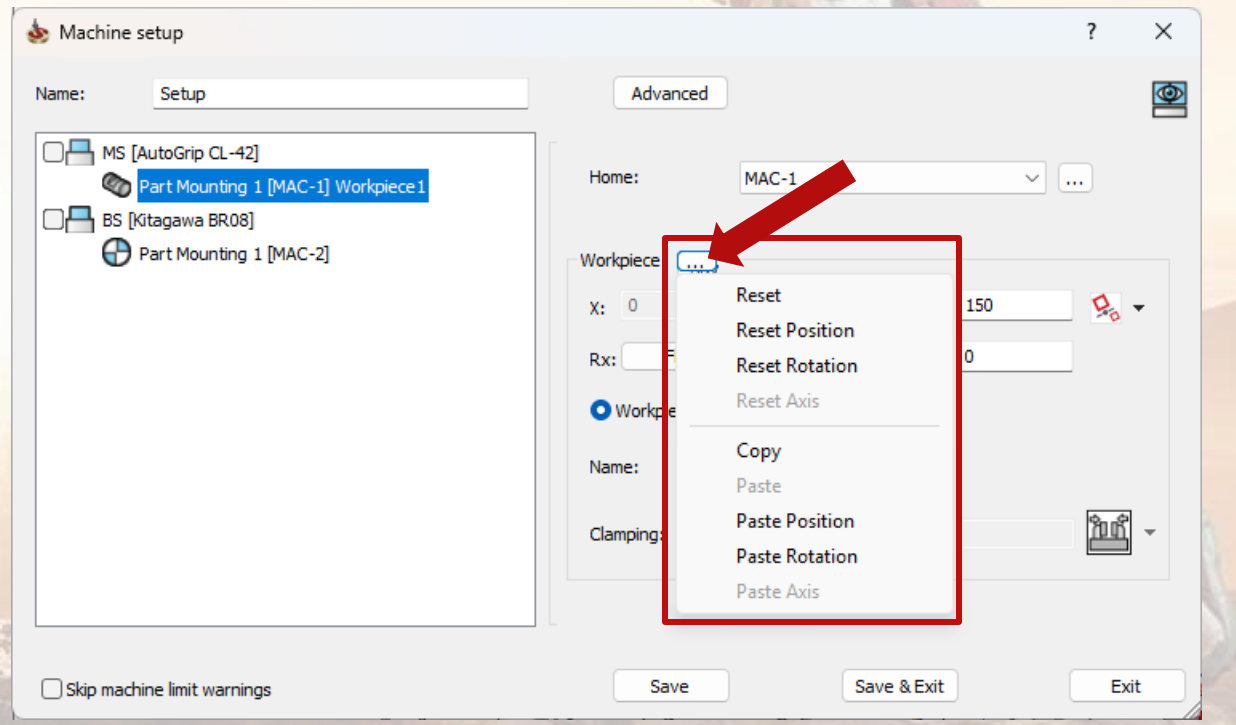




ToolKit – Reset, Copy and Paste position and orientation option

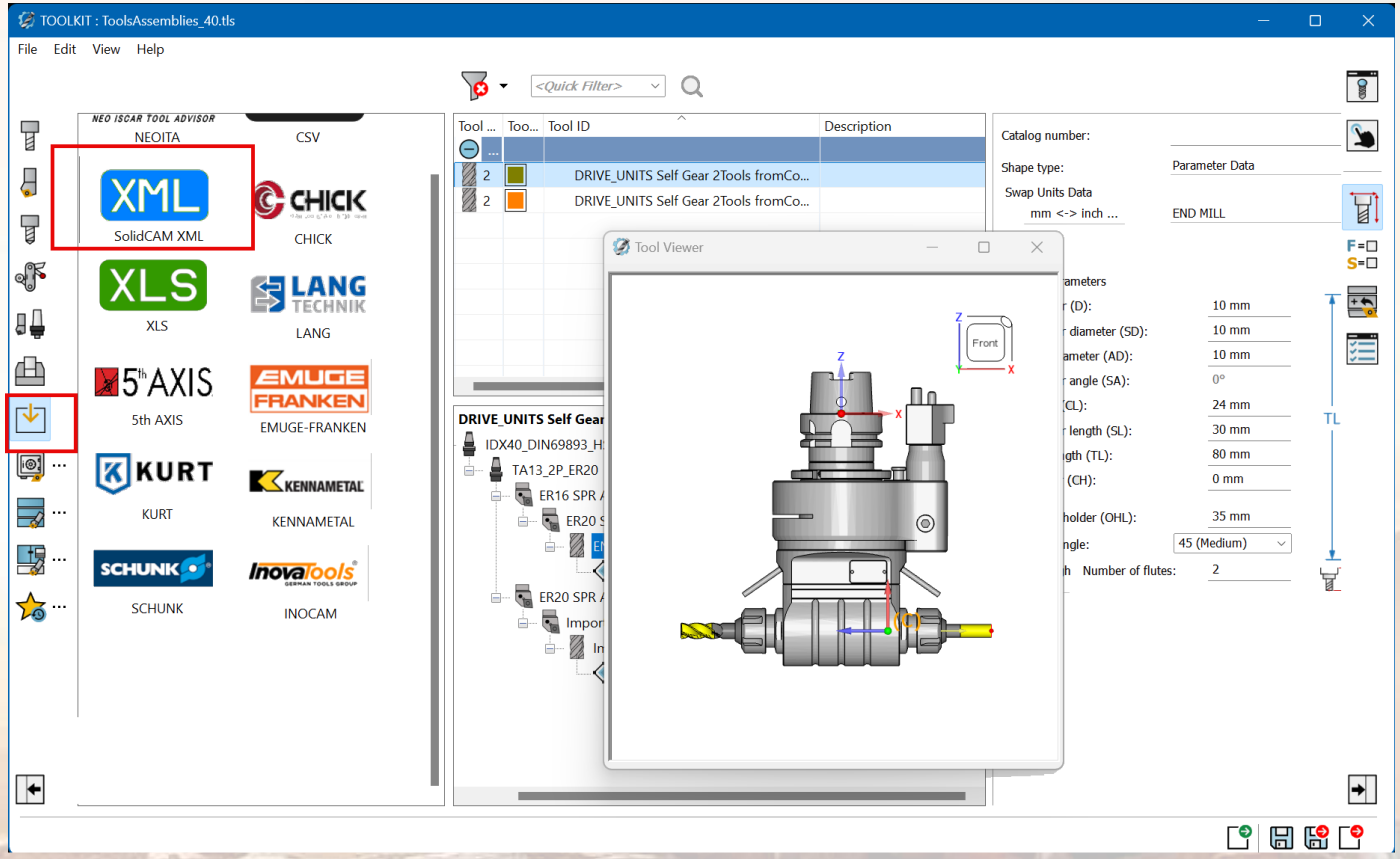
- Added an option to **Reset**, **Copy**, and **Paste** position and orientation data within **Mounting** and **Joints**
- The same option is also available in the **Machine Setup – Part Page**





XML – Import Interface

- Multiple Import profiles
- Supporting Parameter / 2D-Shapes / STL / STL-Cutters
- User Option to read from none SolidCAM XML Format
- Individual parameter assignments
- Combine applications or websites in your Import process
- Support of Zip Archives
- Import of milling/turning Tools
- Import as assemblies or individual components
- Including Feeds and Spins



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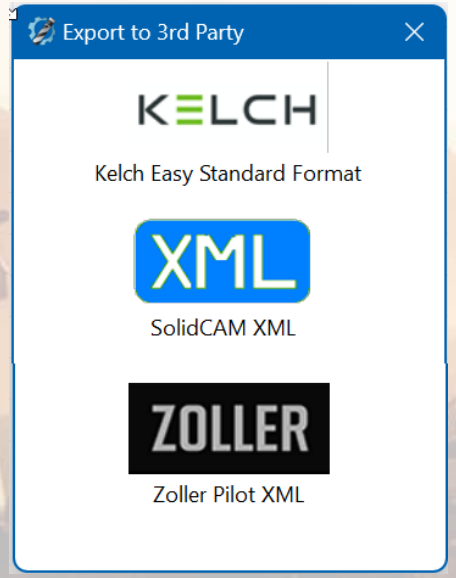
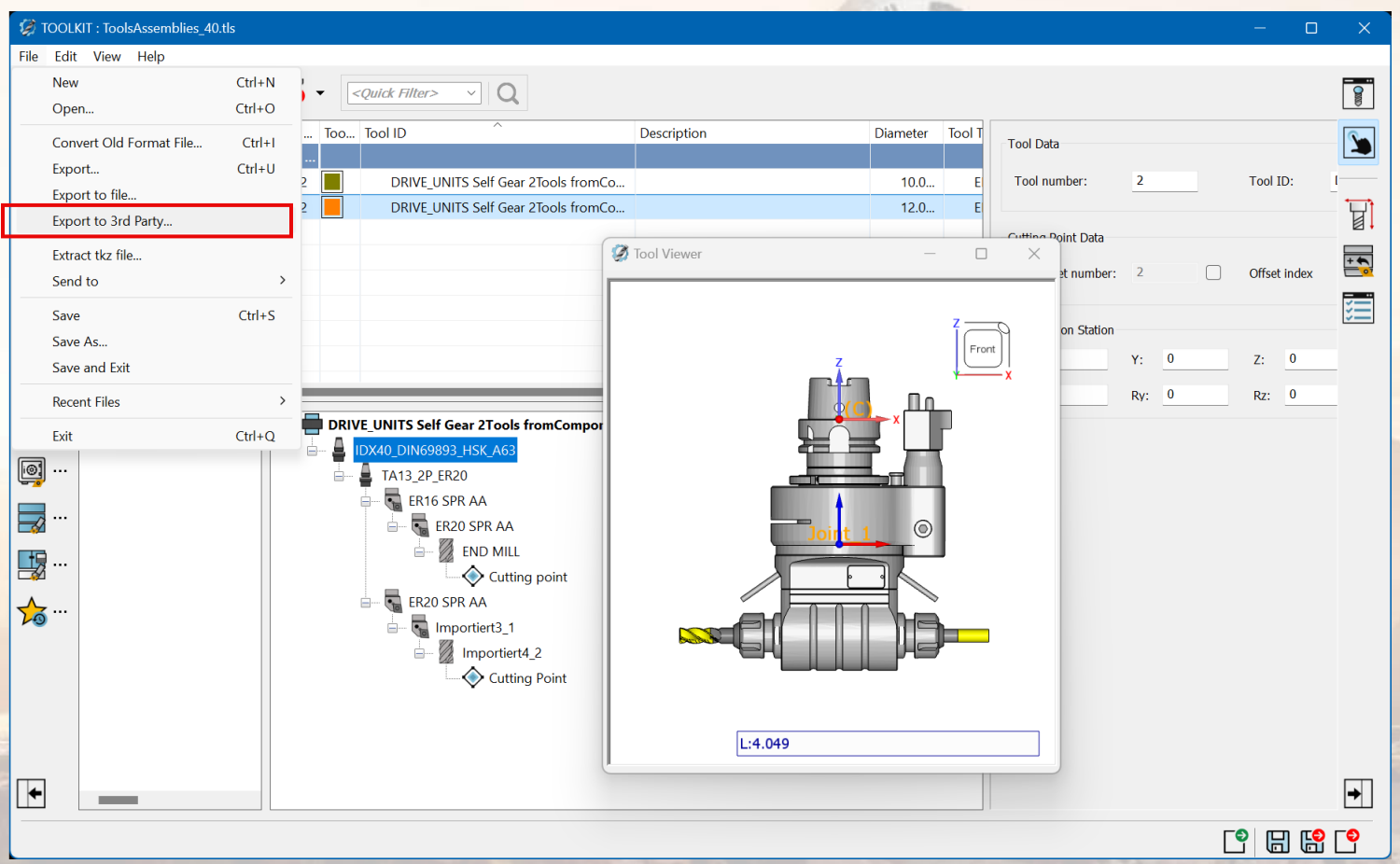
XML – Export Interface

- Multiple Export profiles
- Export Tools from Toolkit
- Format XML
- User Option to customize the Format
- Individual parameter assignments
- Export configuration templates (Demos)





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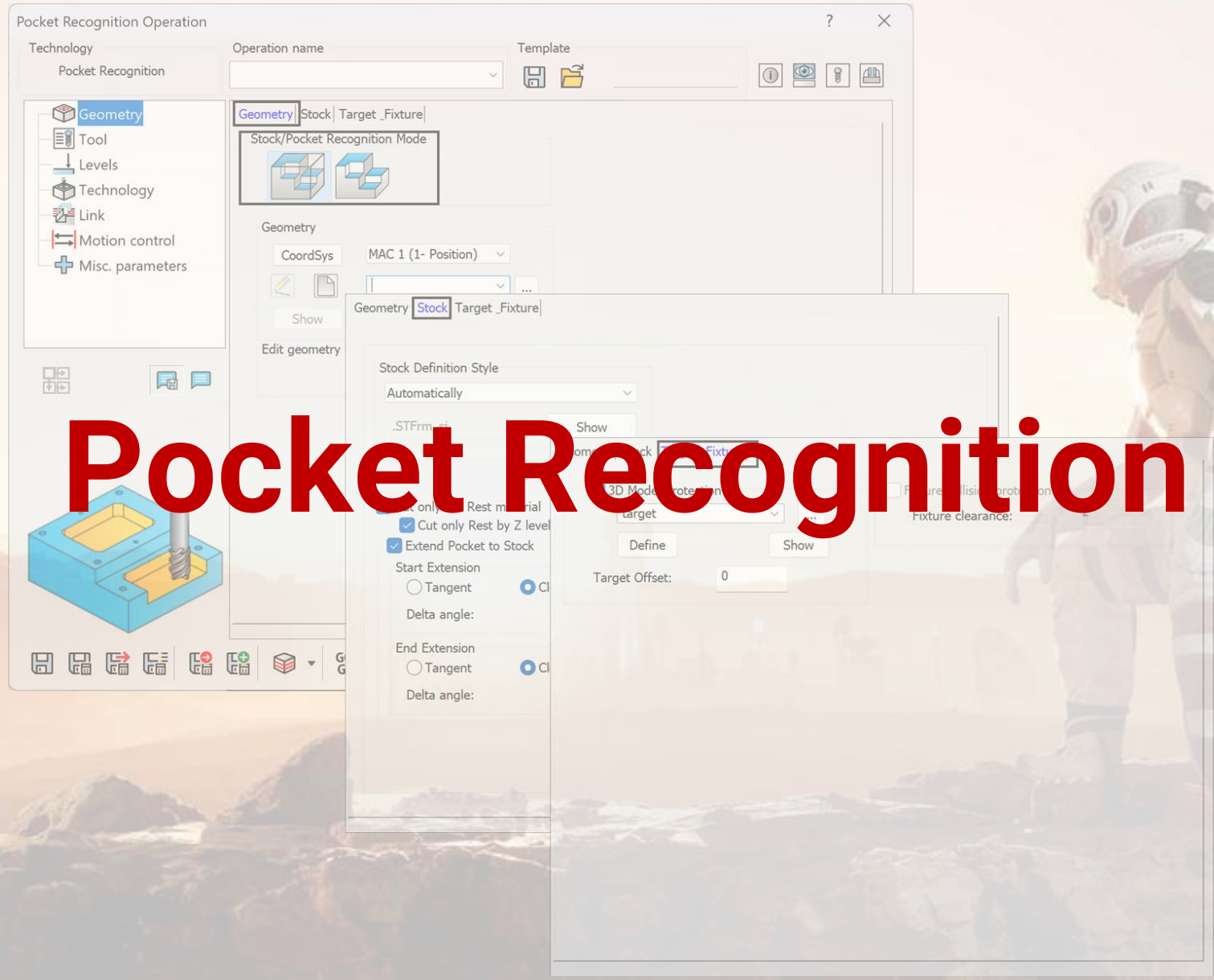
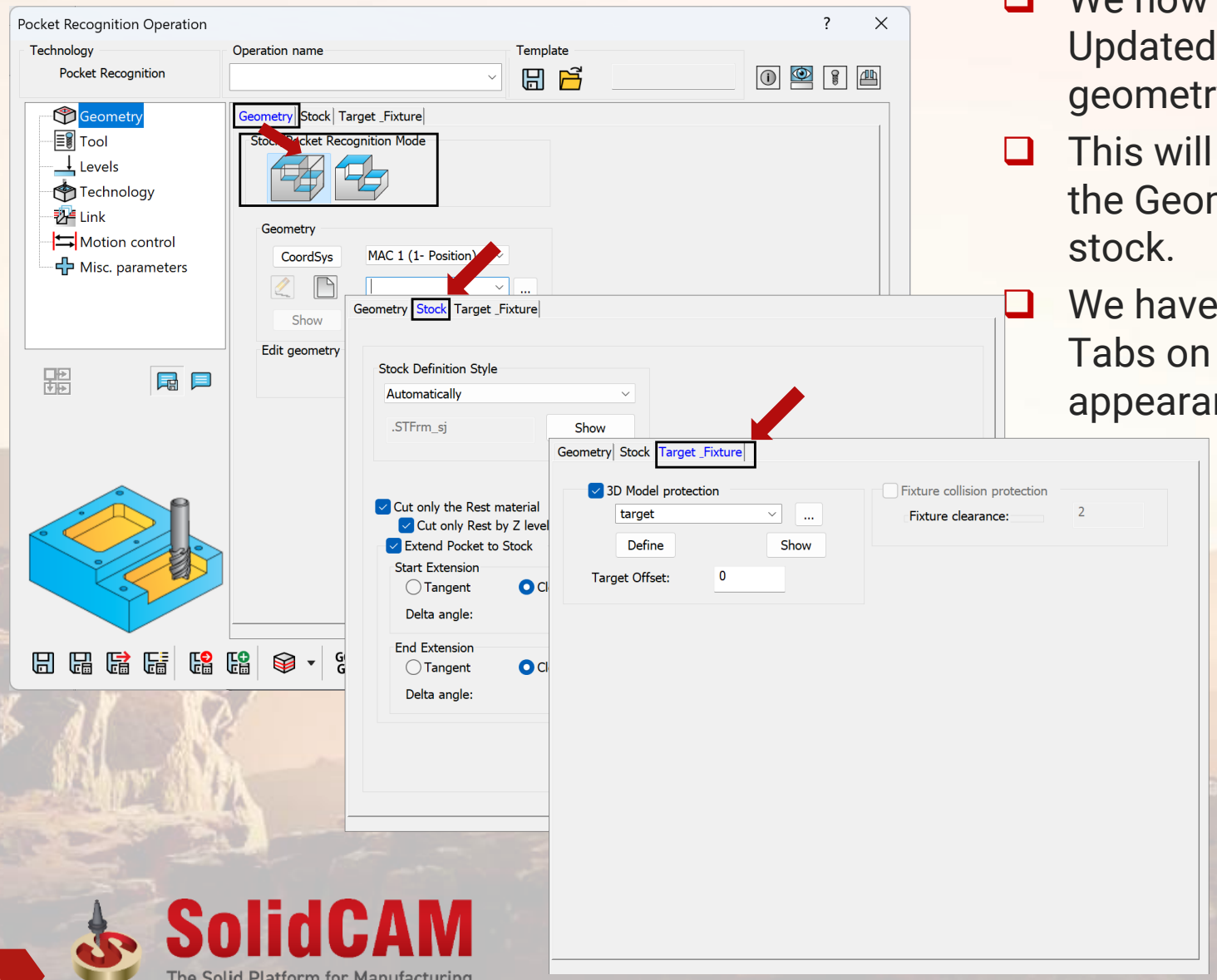
Pocket Recognition



Pocket Recognition – Updated Stock



- We now have the option to use the power of Updated Stock when creating a Pocket Recognition geometry.
- This will automatically recognize the stock within the Geometry and cut only those areas that have stock.
- We have placed the Stock and Fixture protection in Tabs on the Geometry page to match same appearance a in Pocket

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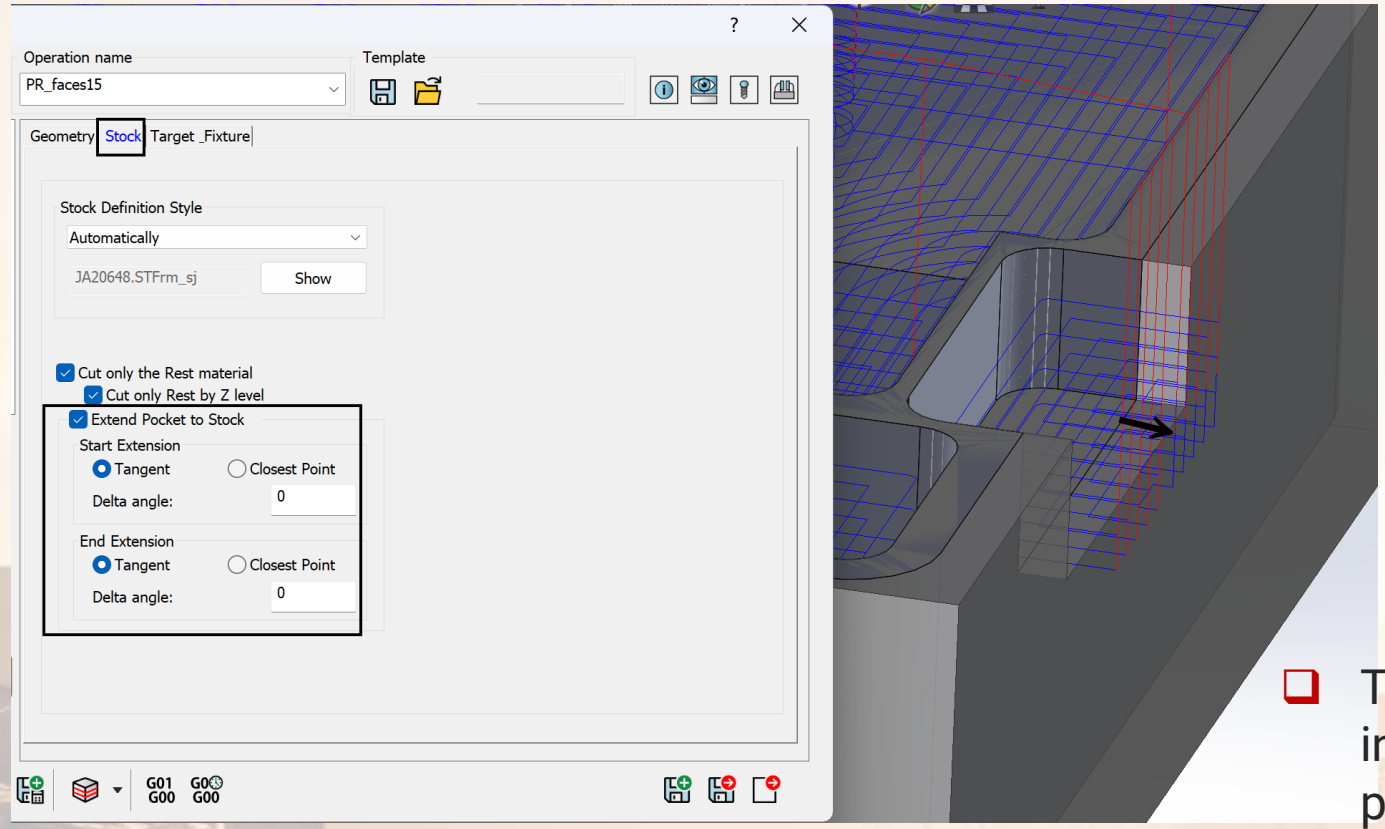
Pocket Recognition – Extends Pocket To Stock



- The tool path will be extended in open pockets to include that external stock in the machining of that pocket.

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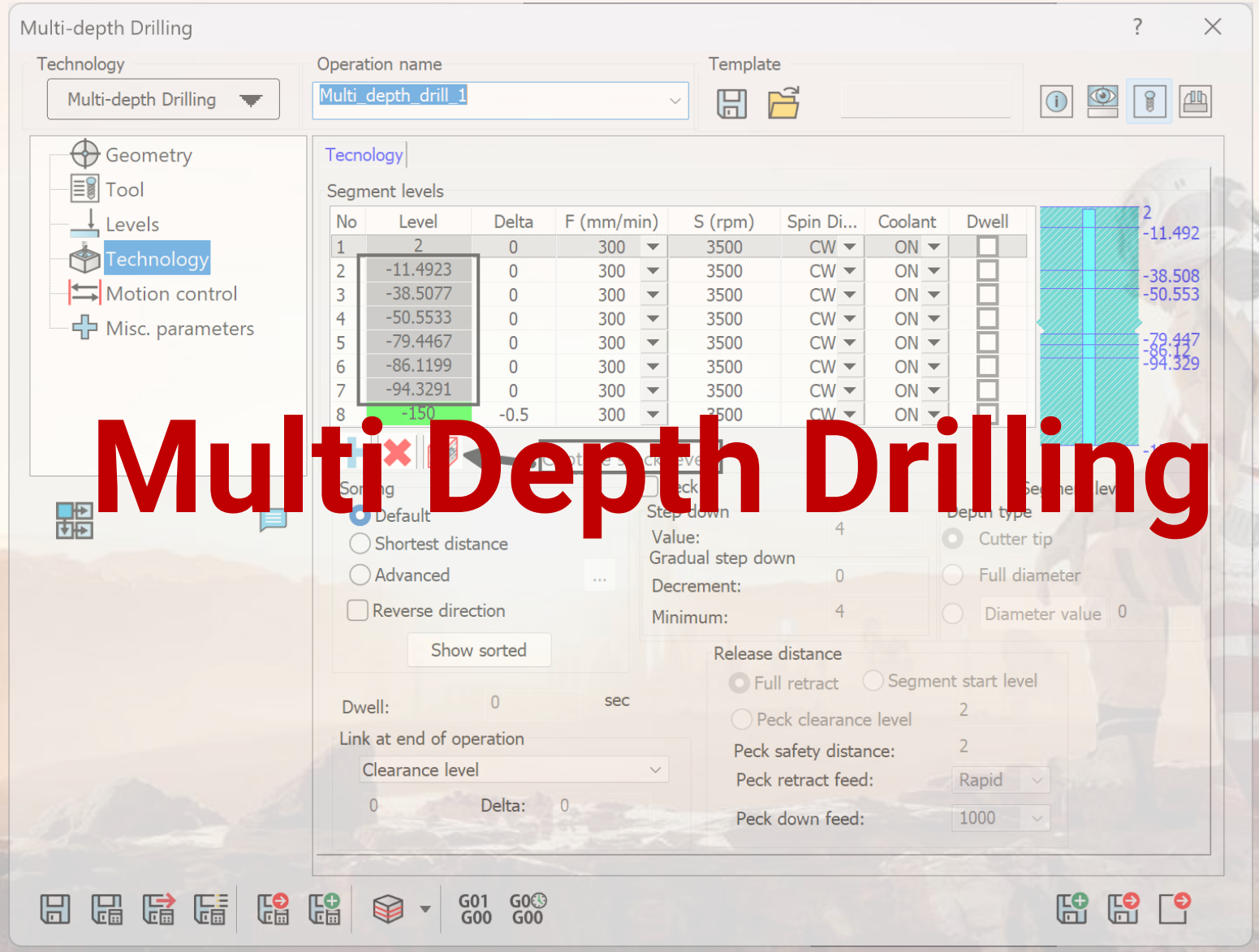
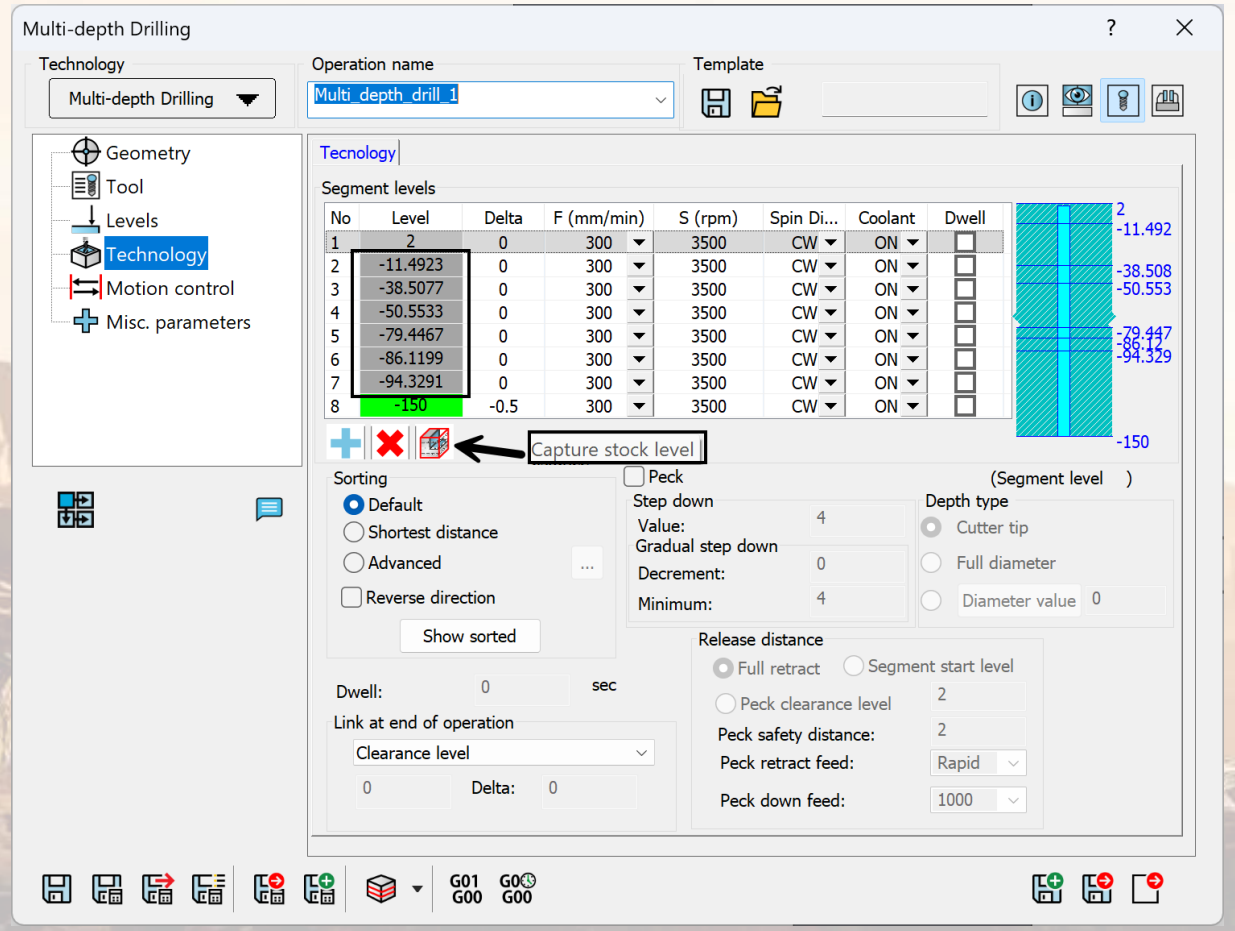
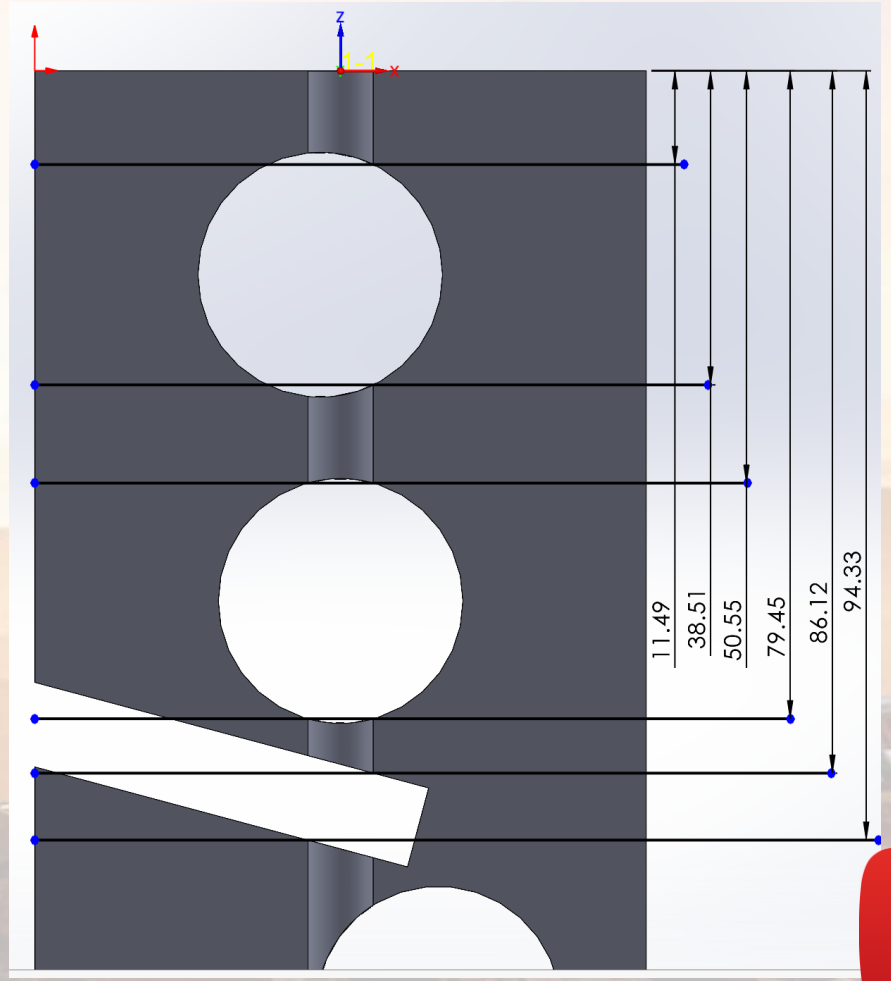
Multi Depth Drilling



Multi-Depth Drill – Levels by Updated Stock

- When choosing levels in Multi-Depth Drilling, you can now simply click on the ‘Capture stock level’ button to automatically find the levels.





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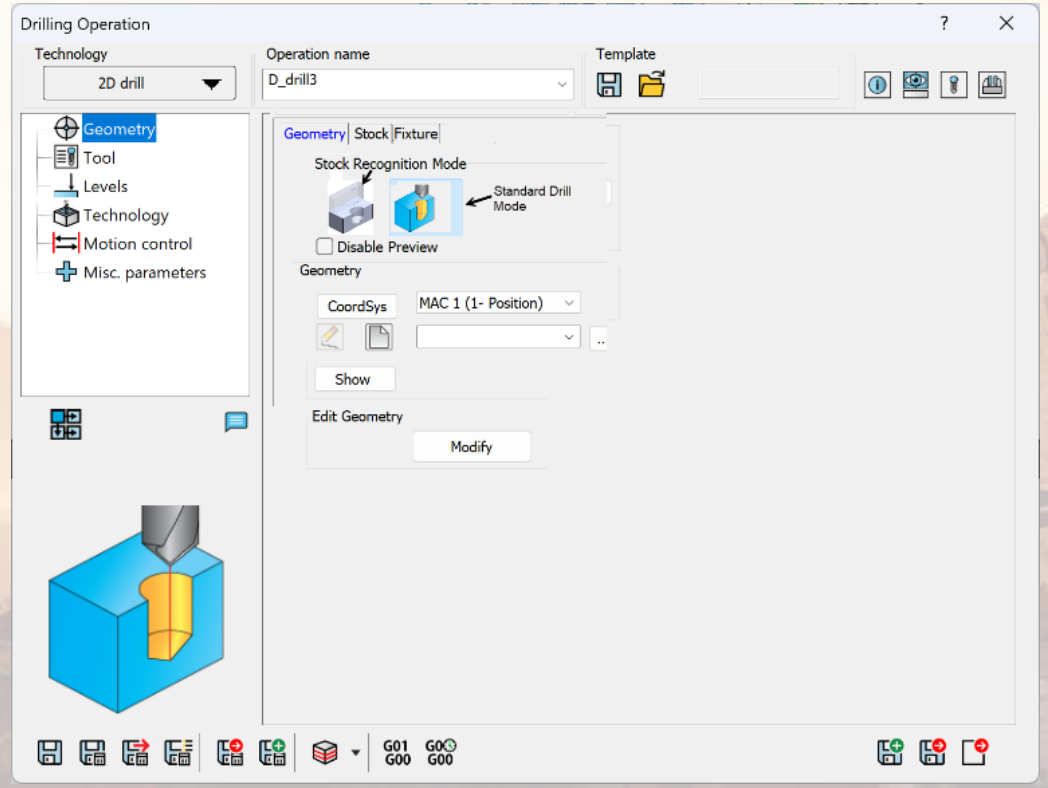
Drilling Operation

2.5D Drilling with Updated stock and Fixture protection

- The Geometry selection will have the options: Stock Recognition Mode or Standard Drill Mode.
- The Stock Recognition Mode will make you aware of the Stock option at the start.
- The Fixture protection option has been moved to this page as well.



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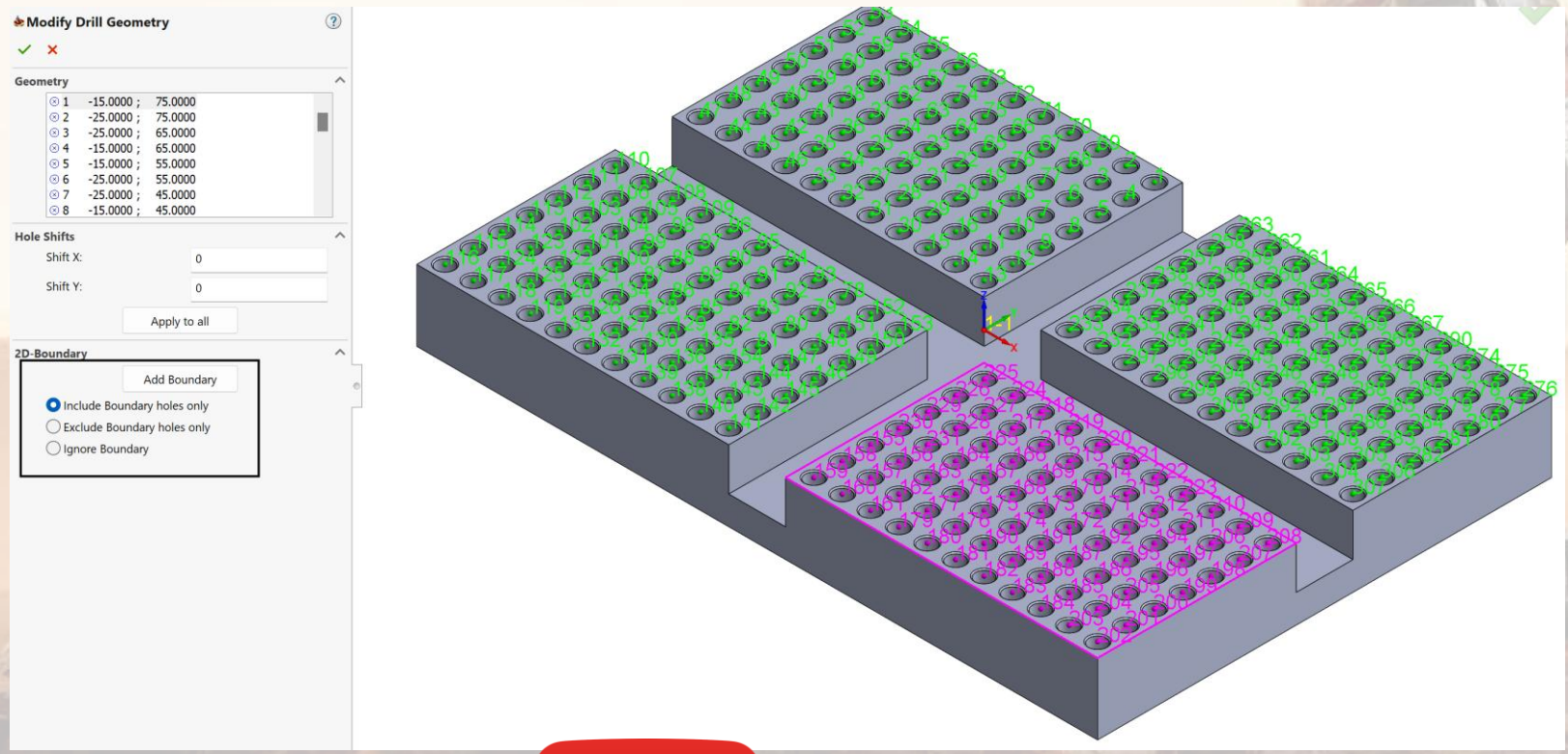
2.5D Drilling with Defined Boundary

- In the Drilling operation, you now have the option to put a boundary around a group of holes.
- You can decide to work on the holes within the boundary, outside of the boundary or ignore the boundary
- This is a very useful for parts with many holes in a geometry that need different drilling processes on them.



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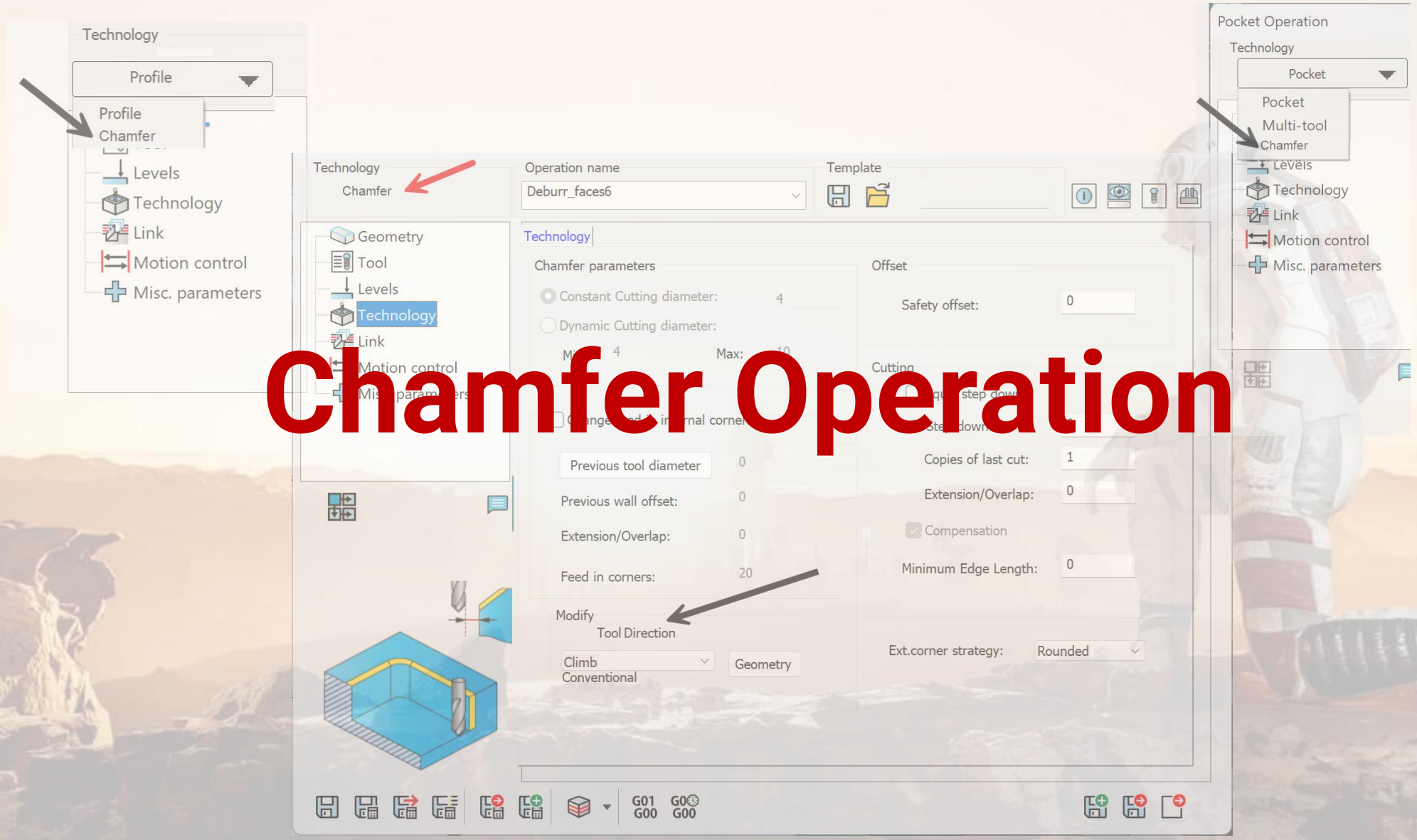
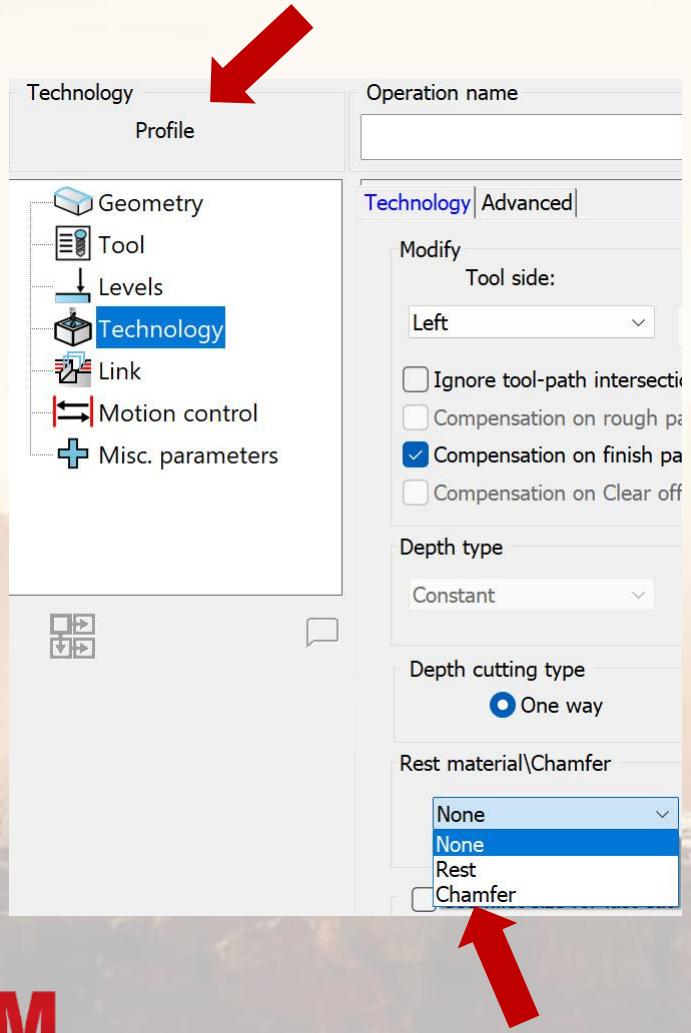
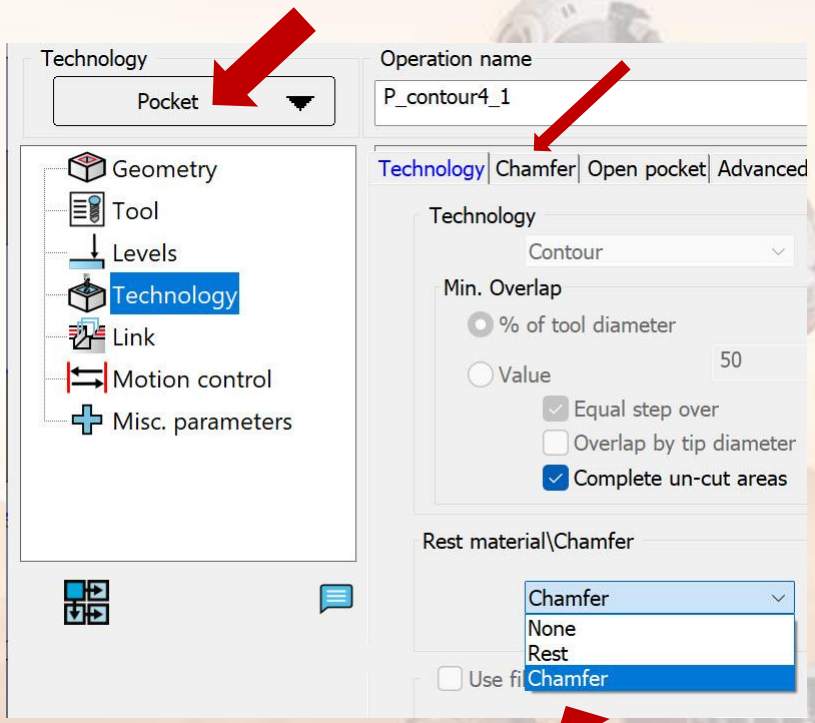
Chamfer Operation



Chamfer – Previous versions

- In our profile and Pocket operation, Chamfer was found as part of the Rest Material option.





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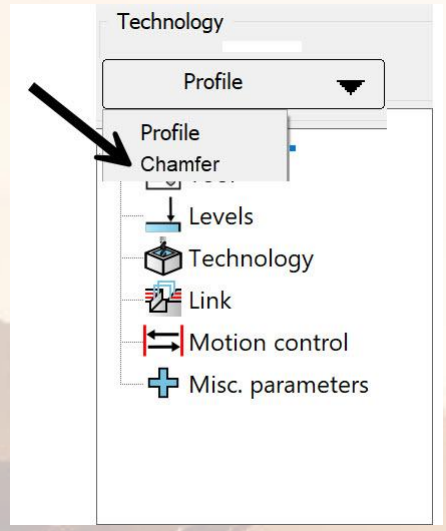
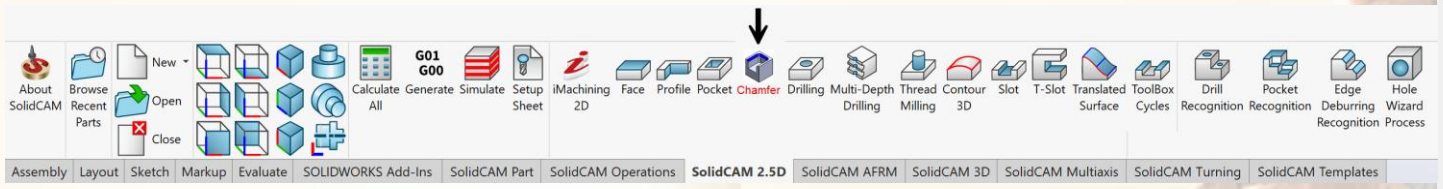
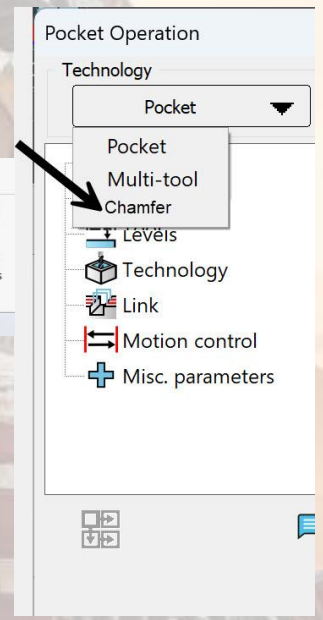
Chamfer – New Operation

- We now have a new operation called ‘Chamfer’.
- This isavailable as a drop-down choice in Profile and Pocket.







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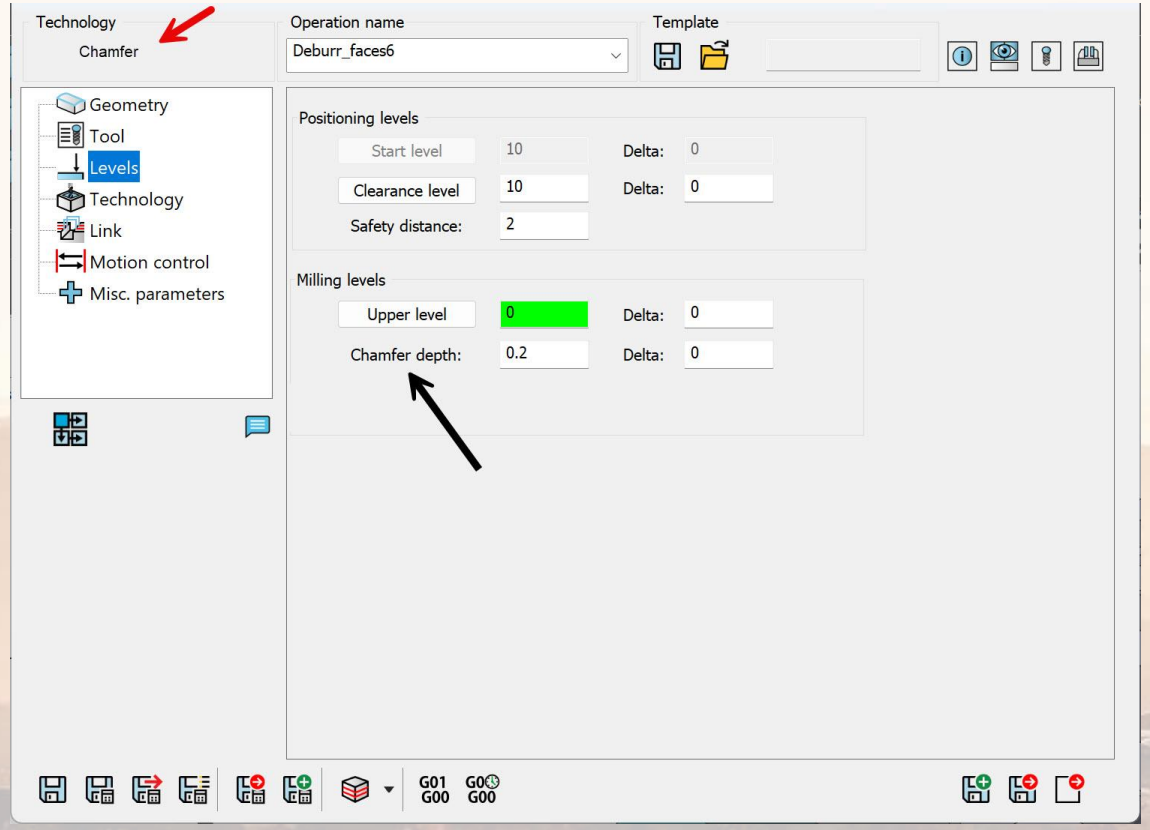
Chamfer – Levels Page

- The Levels page has the depth written as ‘Chamfer depth’ instead of ‘Depth’; for clearer understanding



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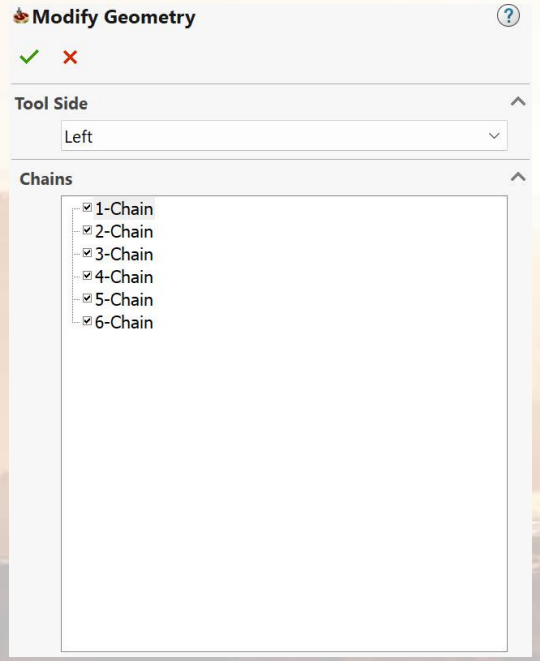
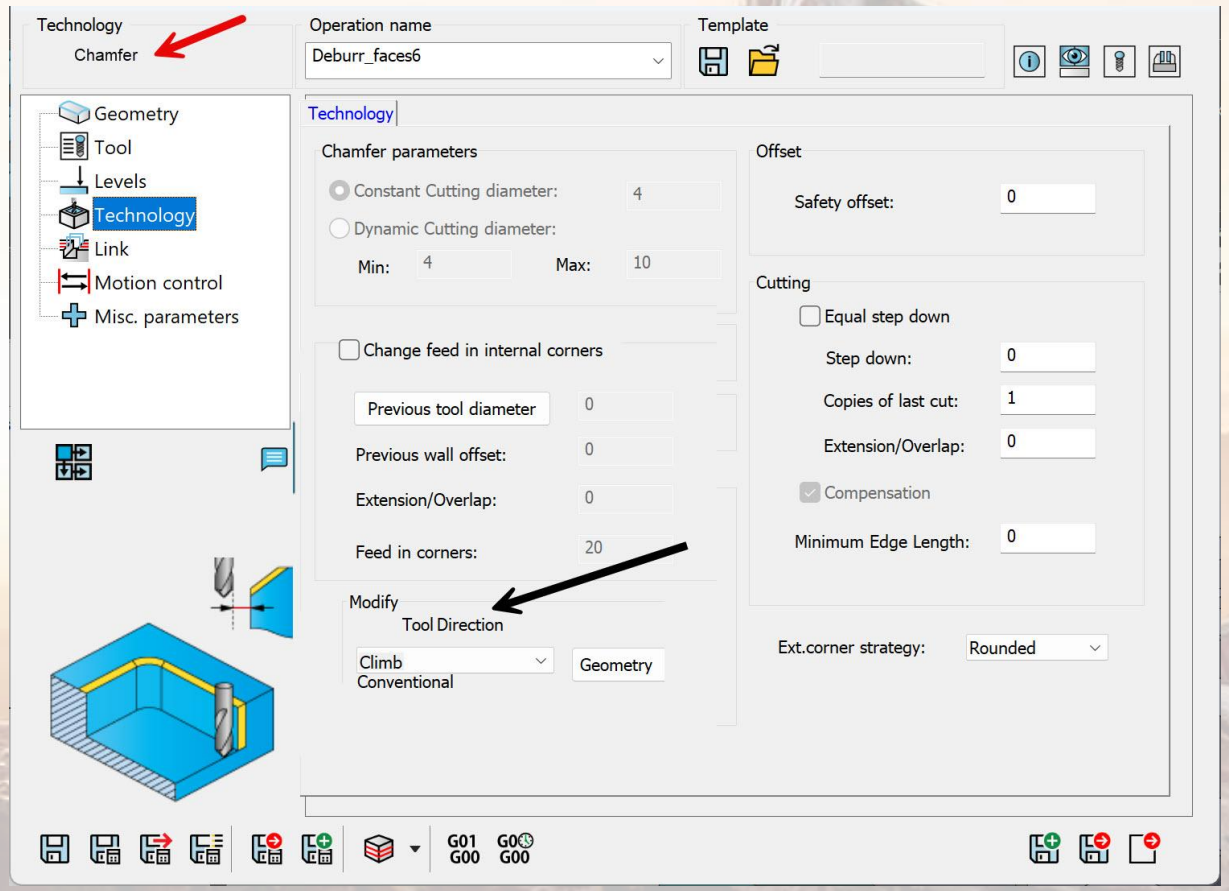
Chamfer – Technology Page

- The Technology page only has options related to ‘Chamfer’.
- Similar to the page in ‘Edge Deburring Recognition’
- Modify is on this page as well, enabling you to decide on the cutting direction and to modify the chains you want to cut.





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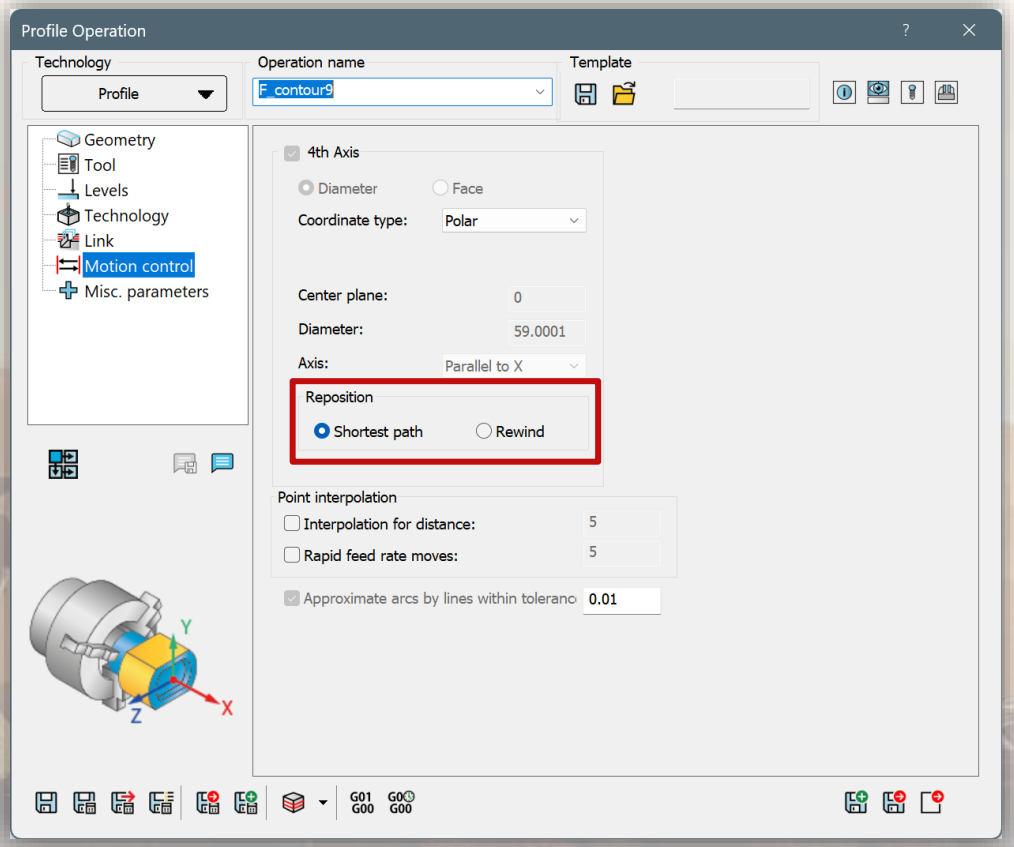
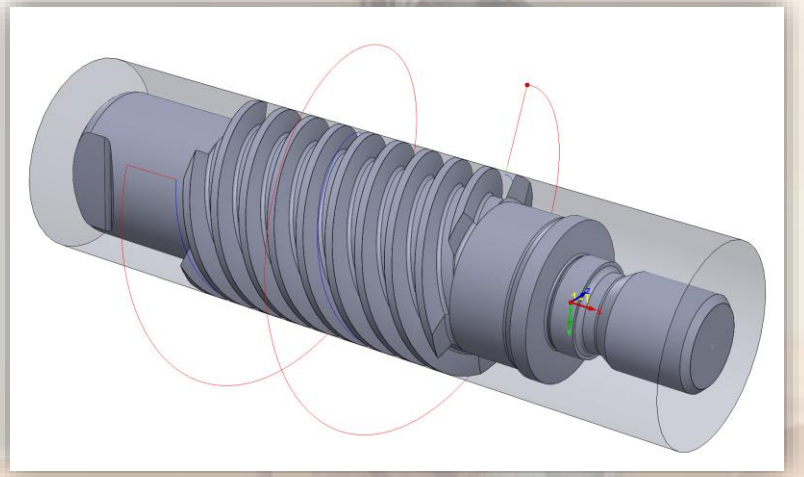
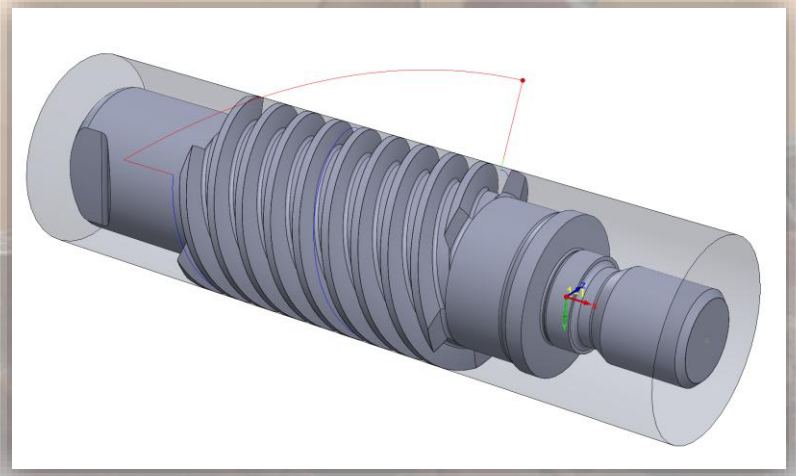
Wrap Enhancement

Wrap - Reposition

- When using wrap geometries larger than 180 degrees, repositioning typically uses the **shortest path** to save time, but this can cause excessive angular accumulation, so a **rewind** option is necessary for machines with revolution limits. We currently support both scenarios.







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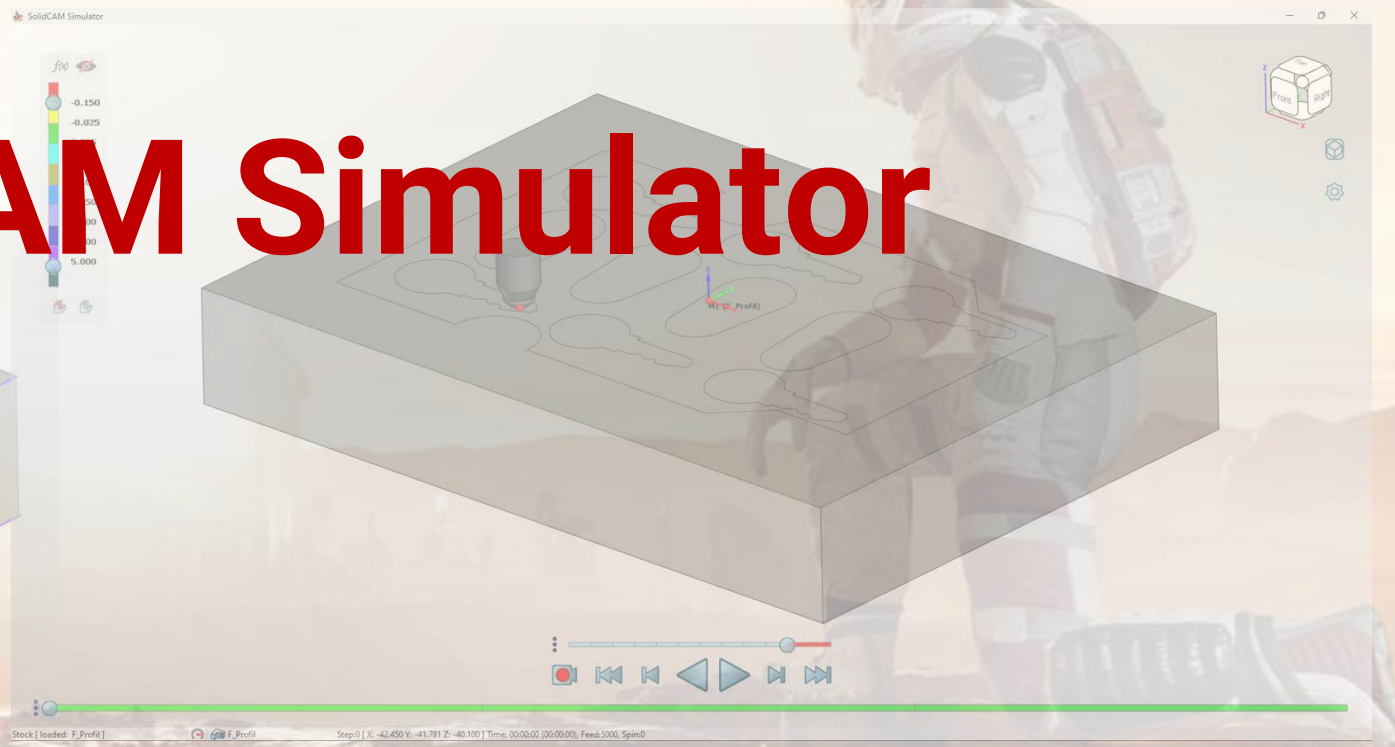
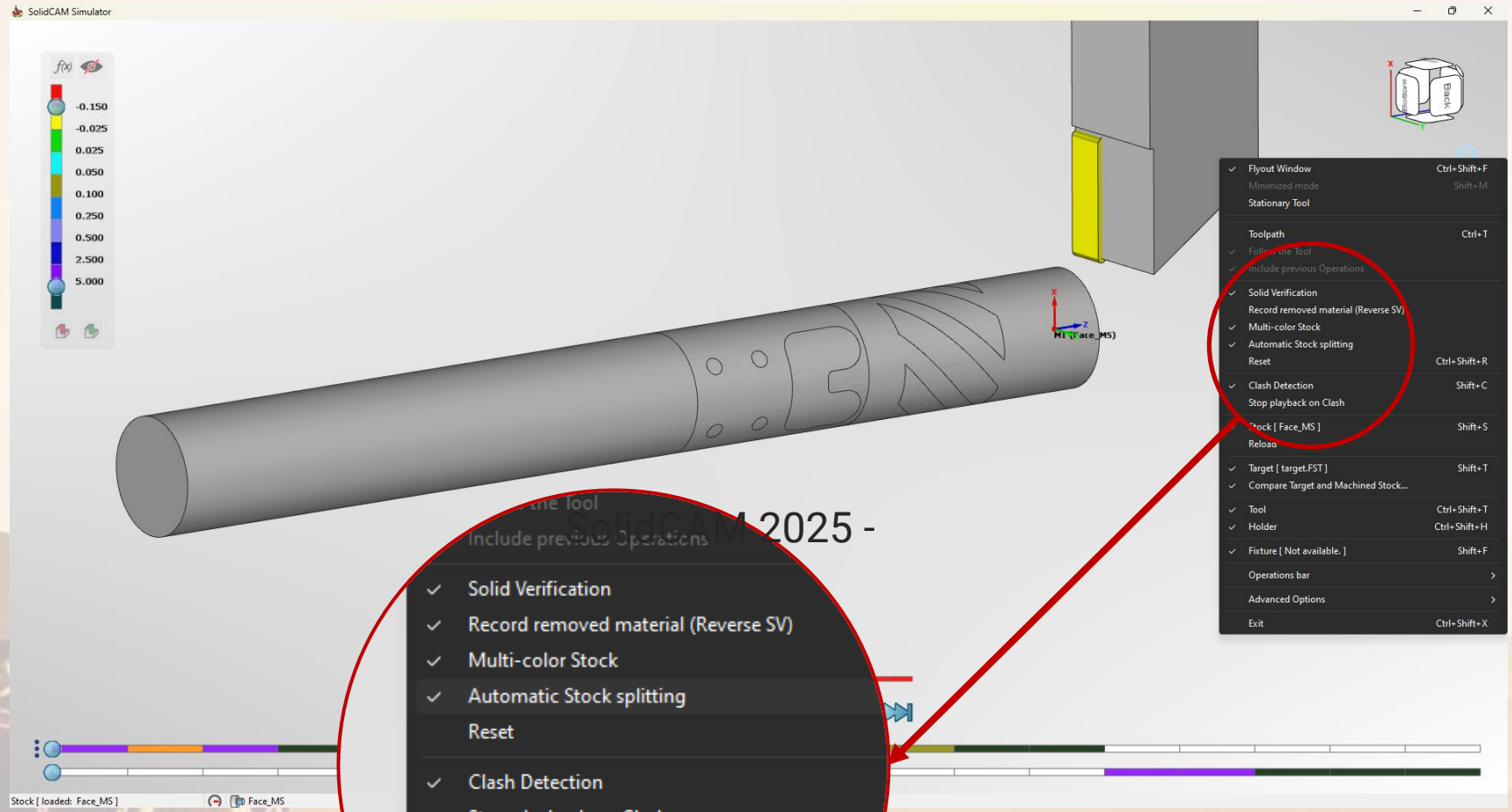
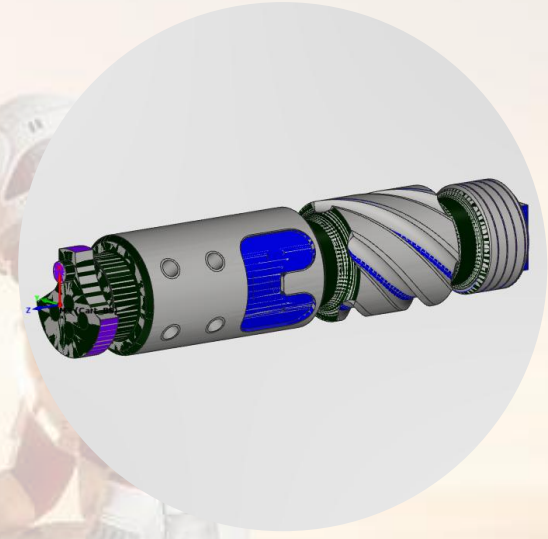
SolidCAM Simulator



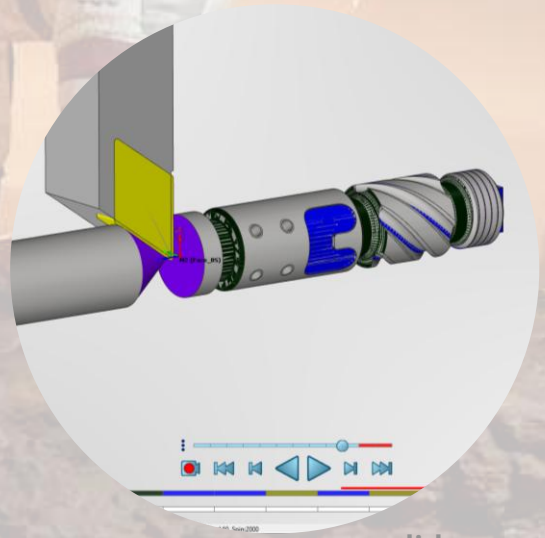
SC Simulator – Automatic Stock Split option



- Automatic Stock splitting = ON



- Automatic Stock splitting = OFF



- Added Automatic Stock splitting option
- It can be enabled or disabled by user

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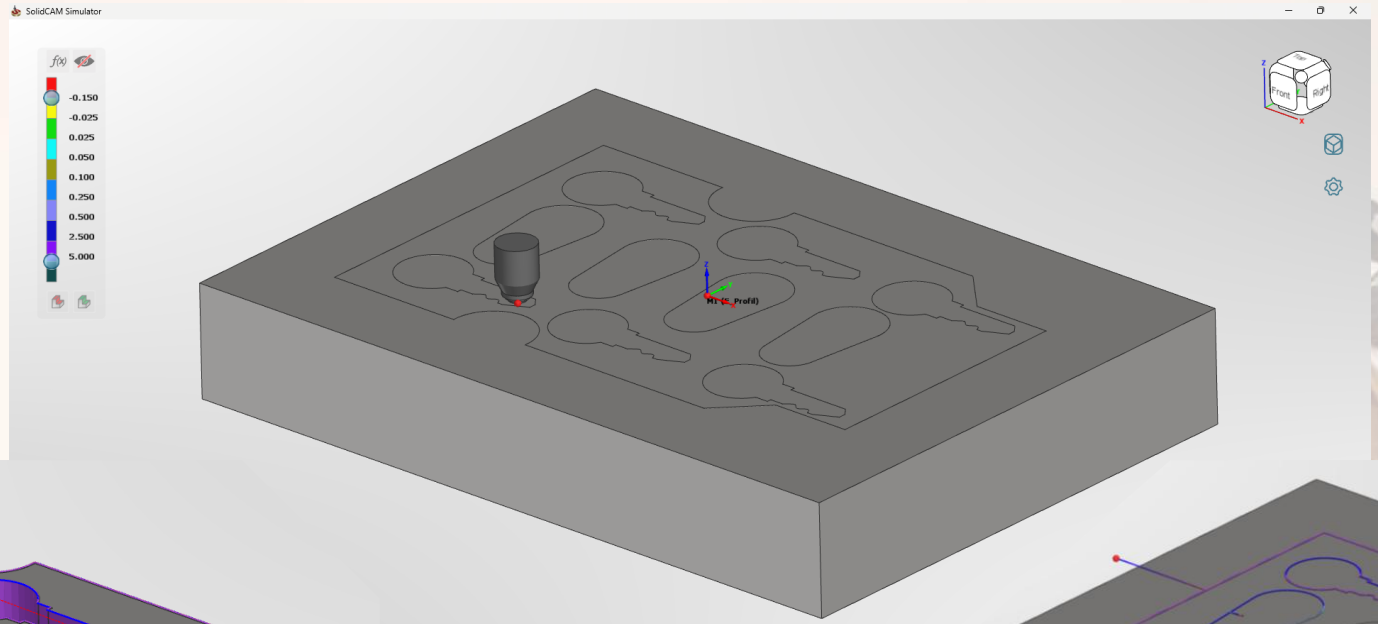
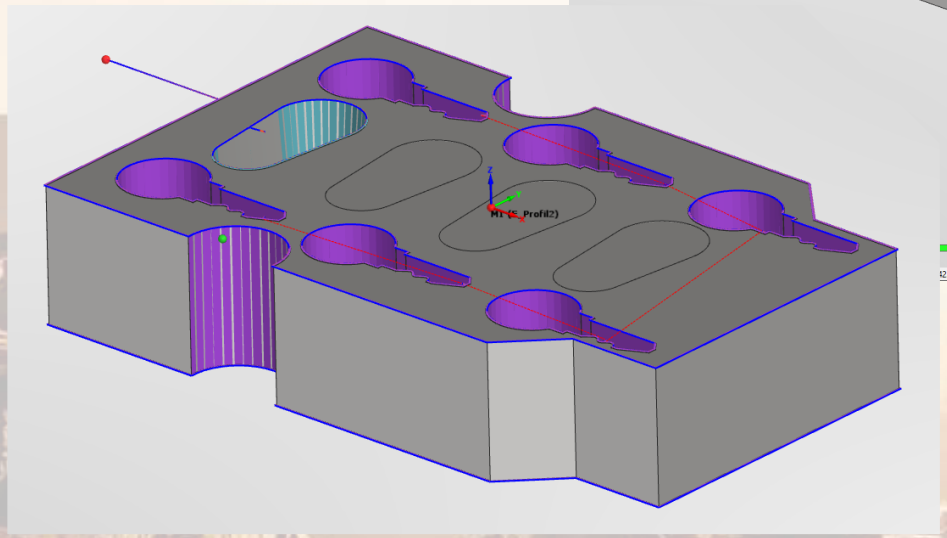
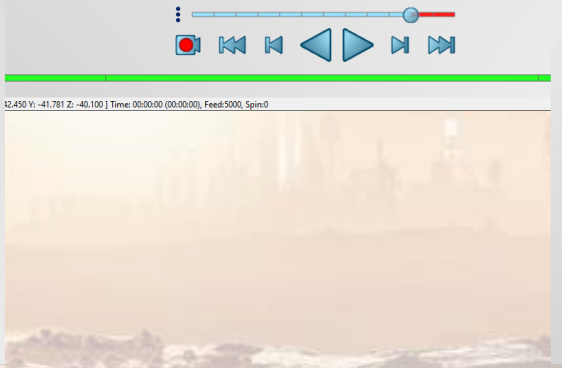
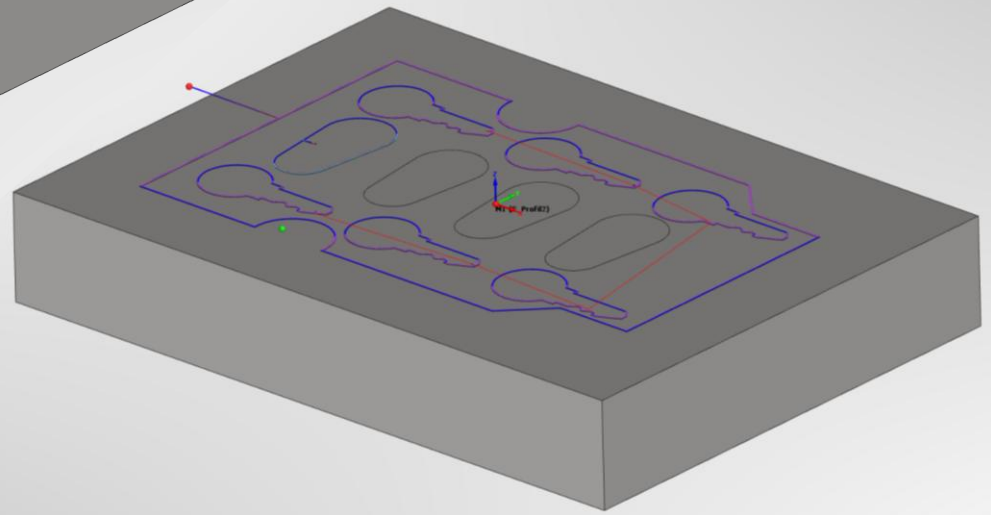
SC Simulator – Automatic Stock Split option

- Automatic Stock splitting option works also with WireEDM Module









- Automatic Stock splitting = ON
- Automatic Stock splitting = OFF

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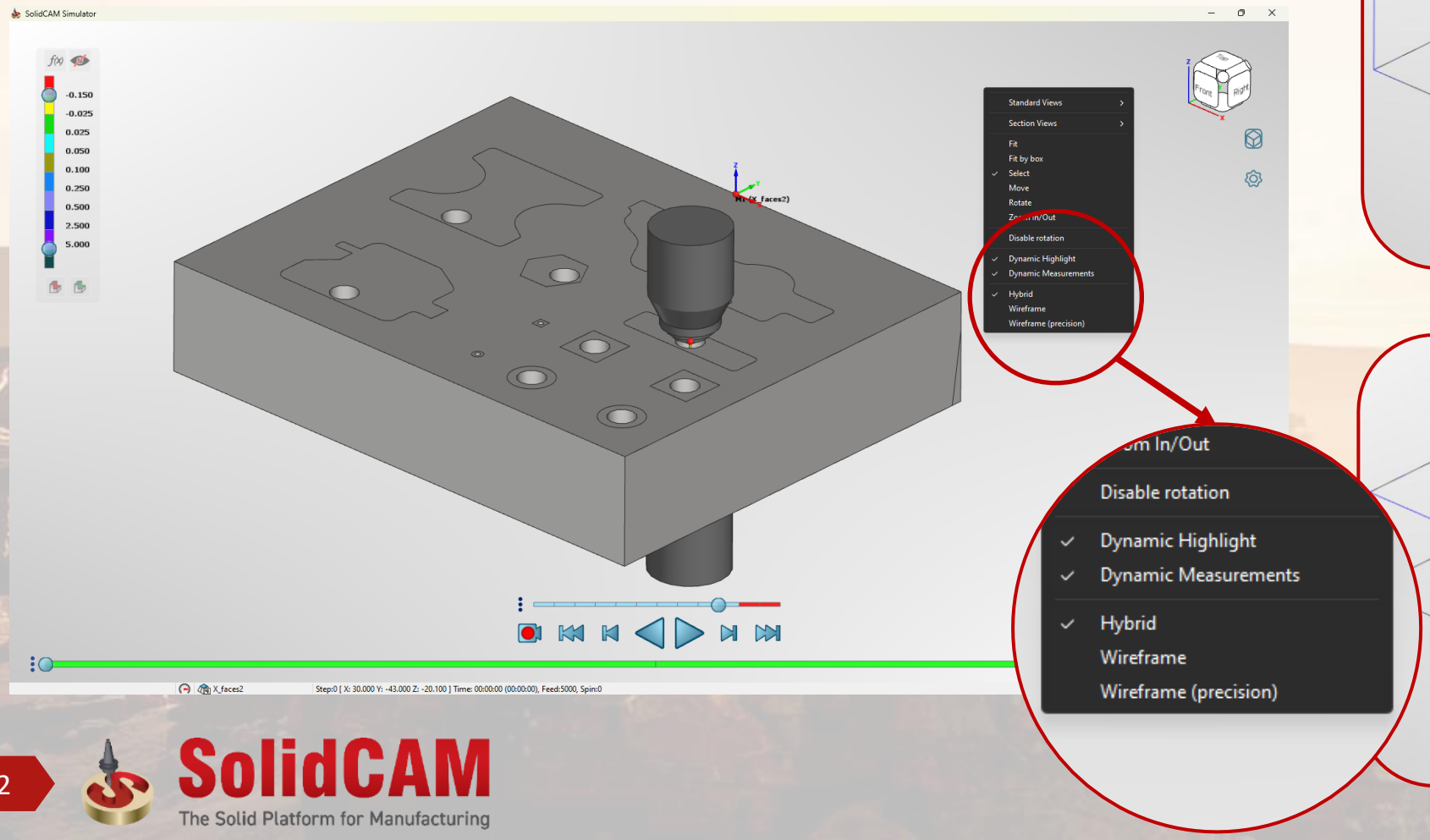
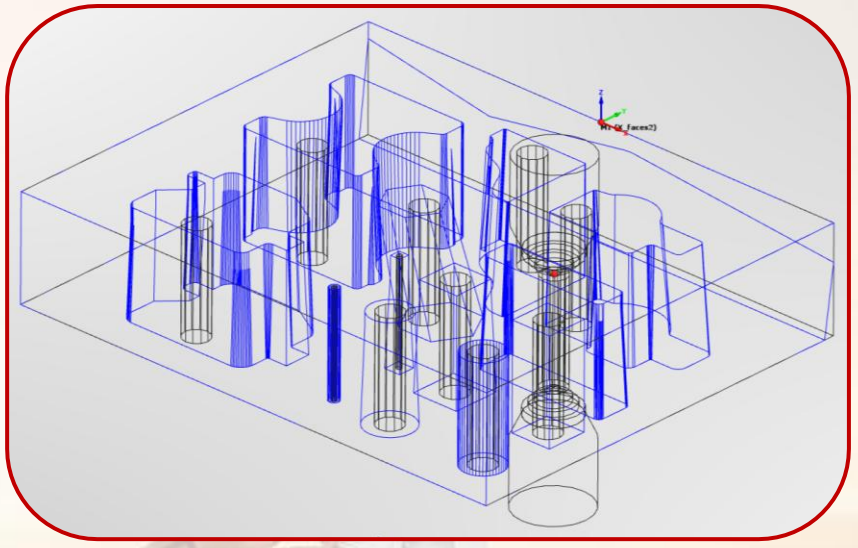
SC Simulator – Wireframe modes update

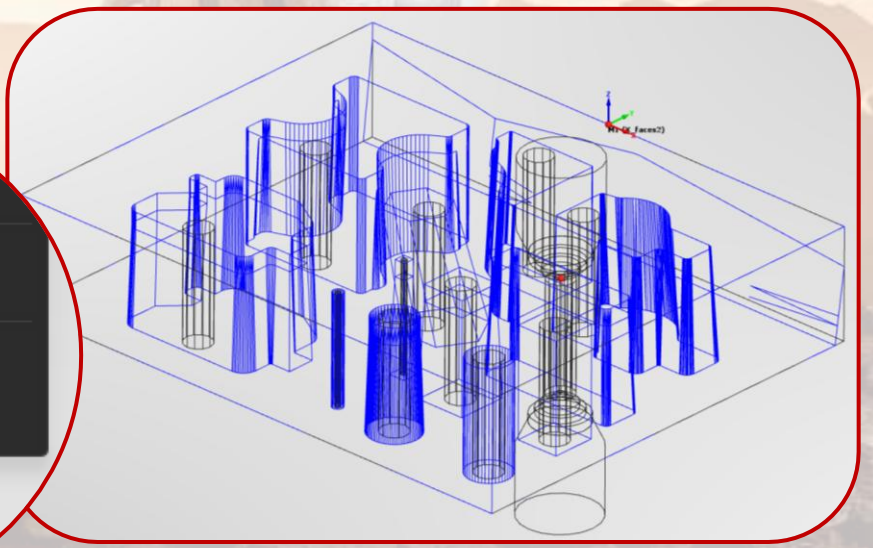
- There are now two modes
  - Wireframe – standard mesh quality
  - Wireframe (precision) – more detailed mesh quality



- Wireframe



- Wireframe (precision)



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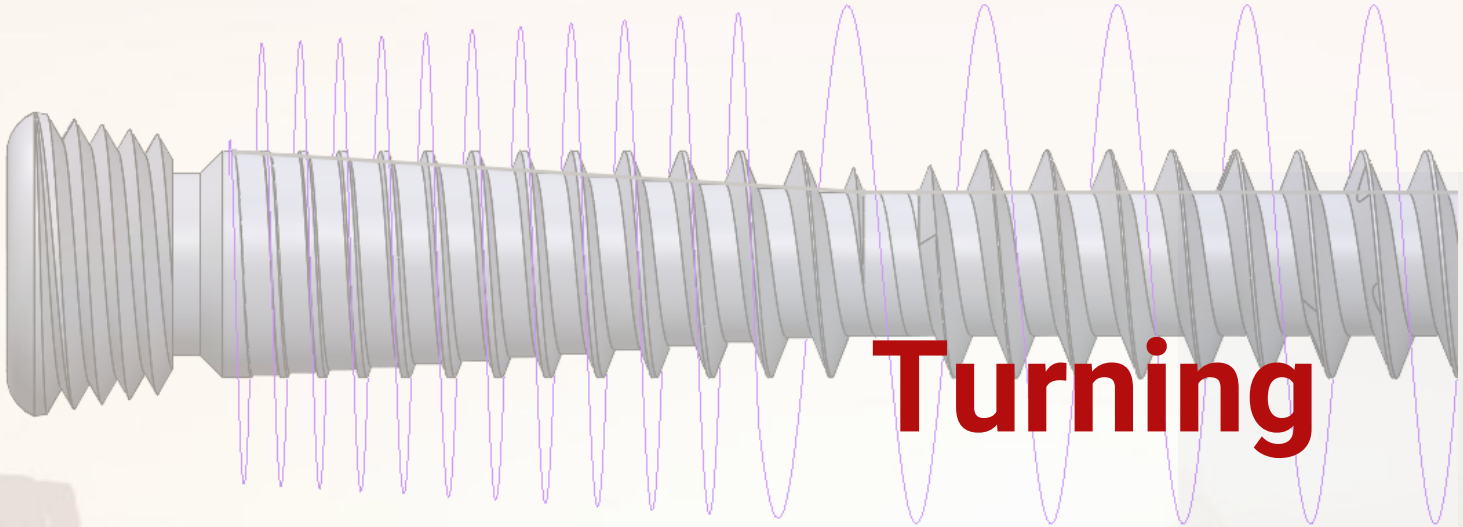
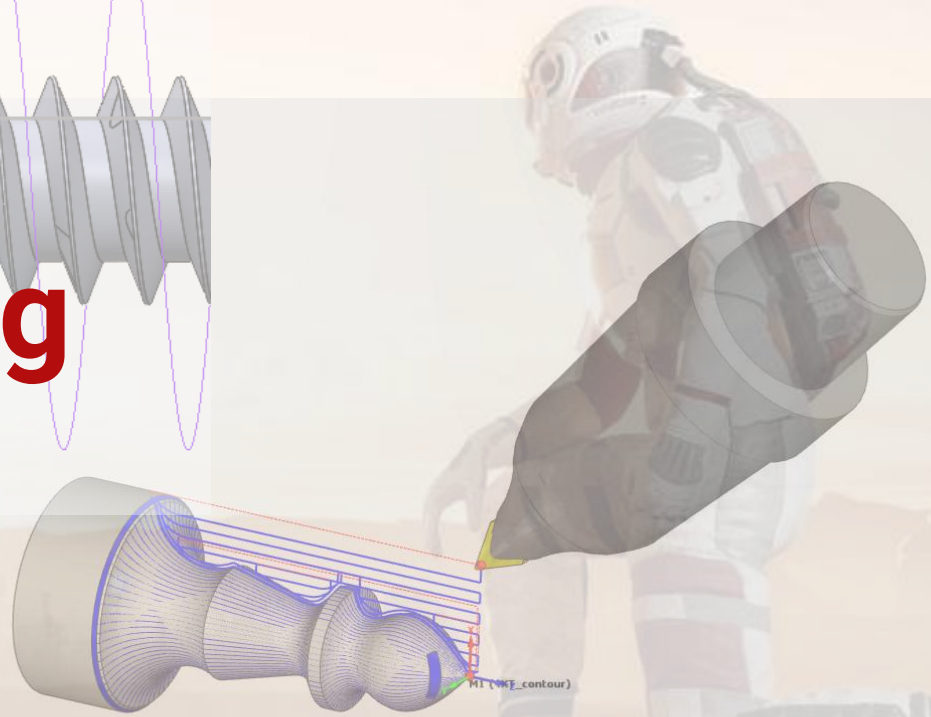


Turning



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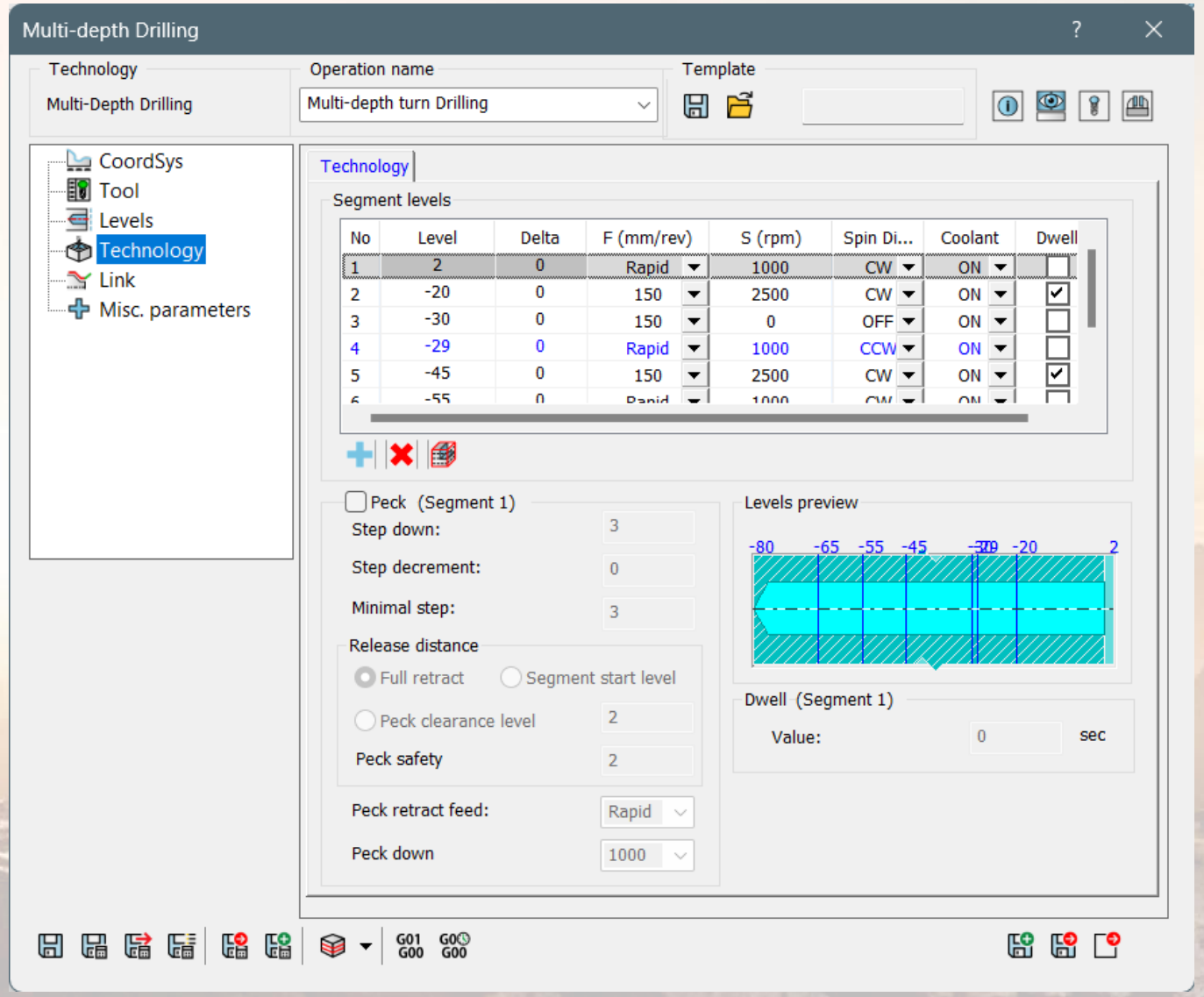
Multi-Depth Drilling for Turning

- Support of Multi-depth drilling for **Turning** module
- Very useful for deep holes and drilling through cross holes and retracts.
- Full control over the **spin**, **feed rate**, **spin direction**, **coolant**, and **delay** at each depth with complete precision.
- Full **peck** control of your drill, including **gradual** step down and **release** distance.



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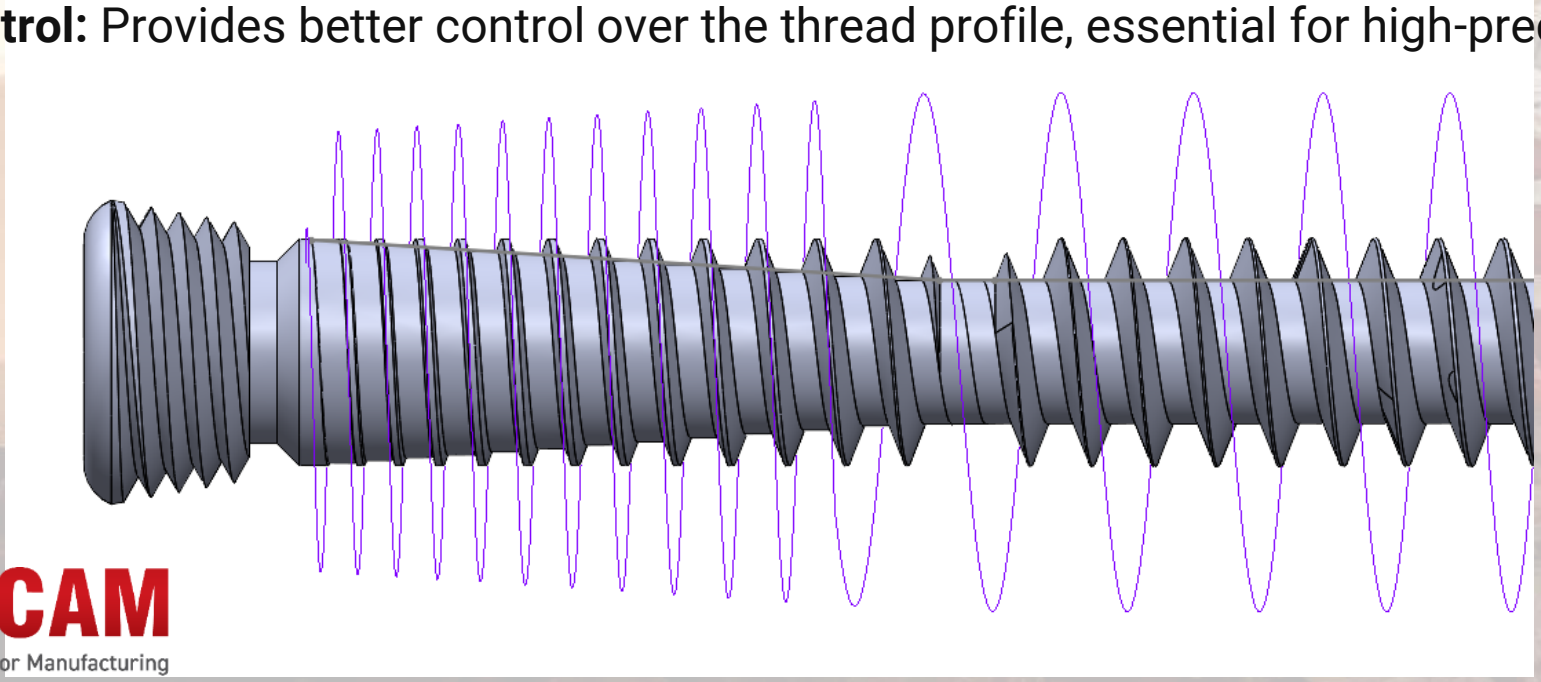
Thread Whirling – Variable pitch

Variable pitch involves changing the pitch of the thread along its length. This technique is useful for applications requiring different thread densities in a single piece, such as in specialized fasteners or mechanical components.

Key aspects:

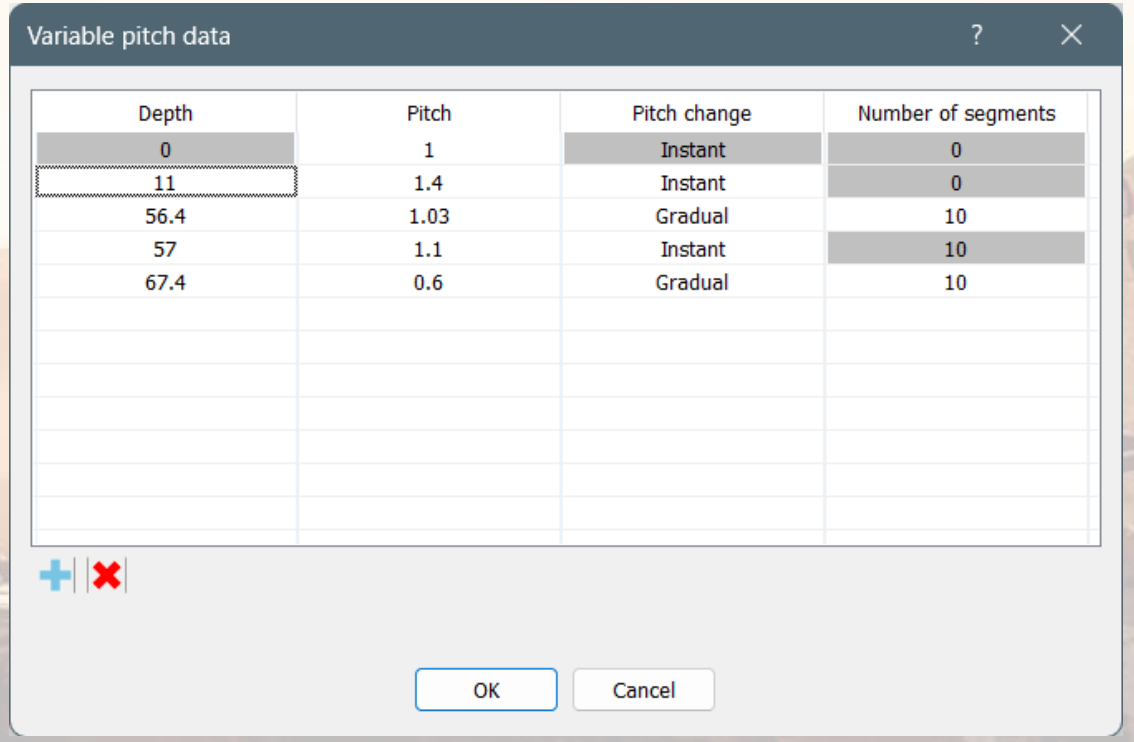
- **Customization**: Support of threads with varying pitches, which can be tailored to specific requirements
- **Performance**: Variable pitch threads can reduce vibration and improve the performance of the threaded component
- **Control:** Provides better control over the thread profile, essential for high-precision applications.



Thread Whirling – Variable pitch

Two strategies for full thread control

- **Instant Change**: The pitch changes instantly when a specific Z level is reached
- **Gradual Change**: The pitch changes gradually between two Z levels, allowing for a smoother transition and better control over the thread profile



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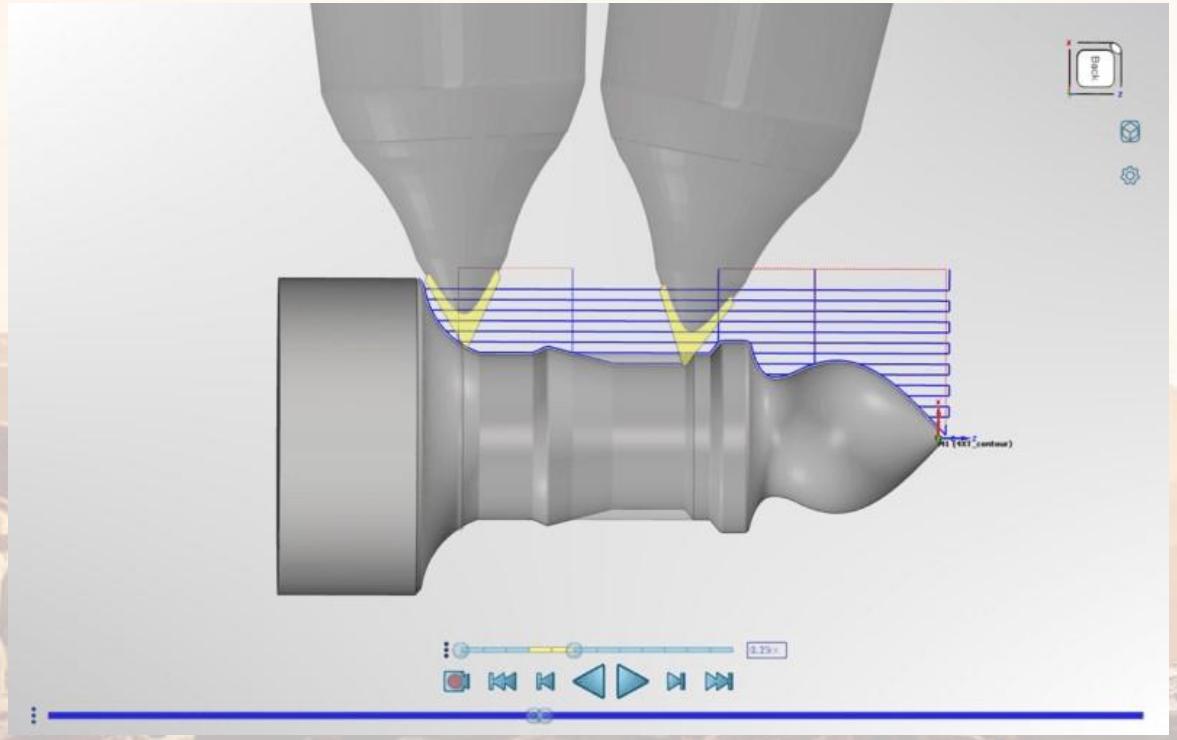
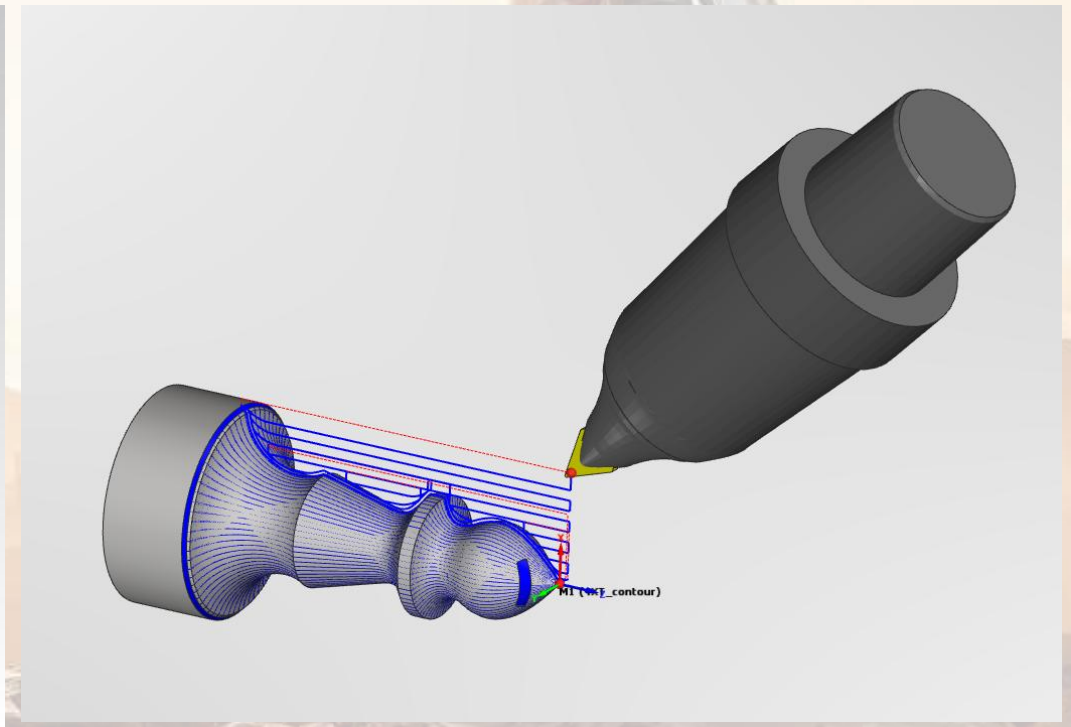
Dynamic Turning

- An advanced machining technique that increases the efficiency and flexibility of turning operations, using a rotary axis during the turning process allows us to achieve more material to cut with a single tool and maintain optimal cutting conditions.





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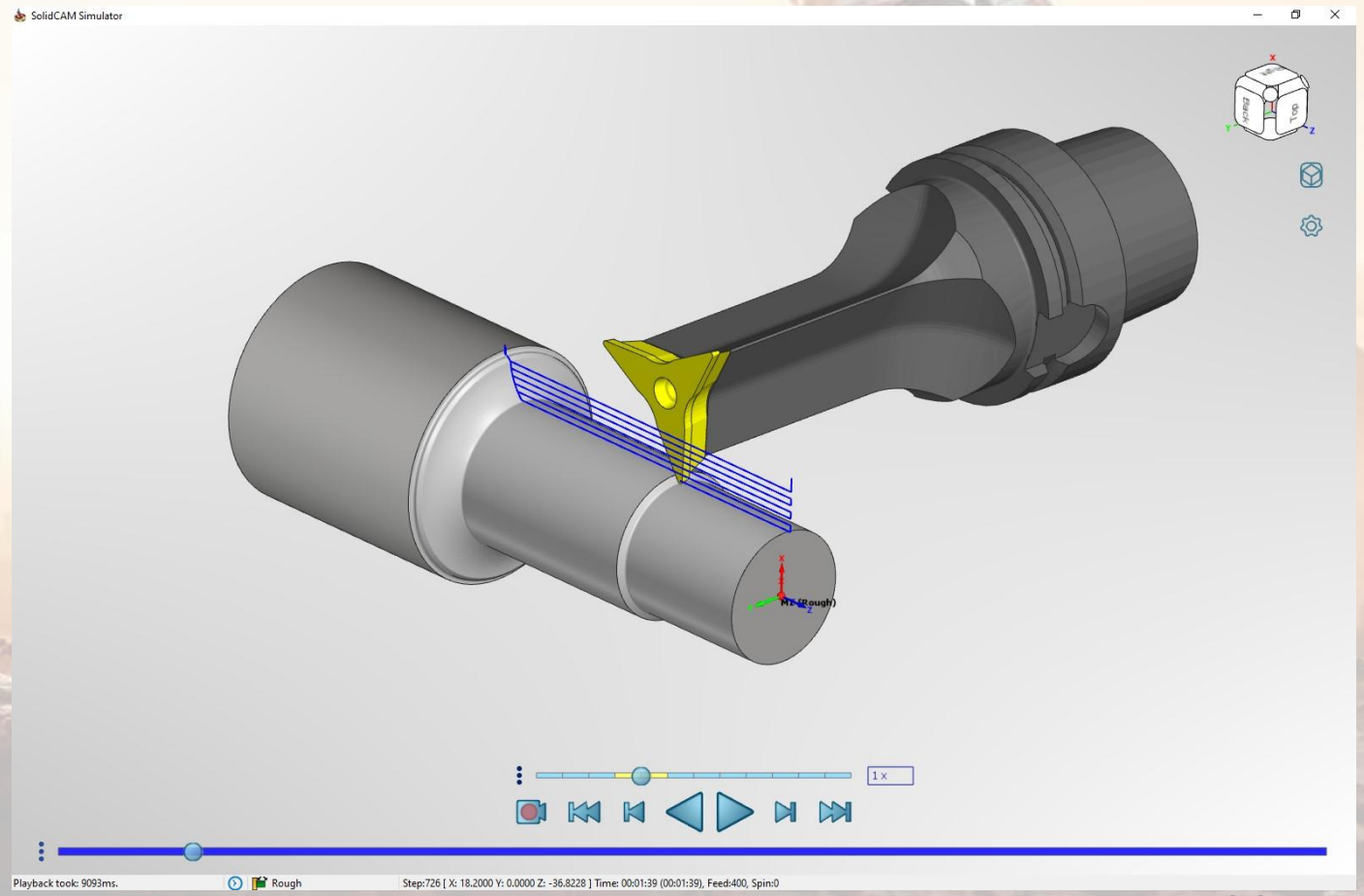
Dynamic Turning

- Automatic **collision avoidance** between the tool, part and fixtures.
- Adaptive feed functionality - **dynamicaly changes** the feed during the roughing process to keep constant load on the tool during cutting.
- Module offers functionality for roughing and finishing turning process.
- Offers a great solution for a Y-axis turning.



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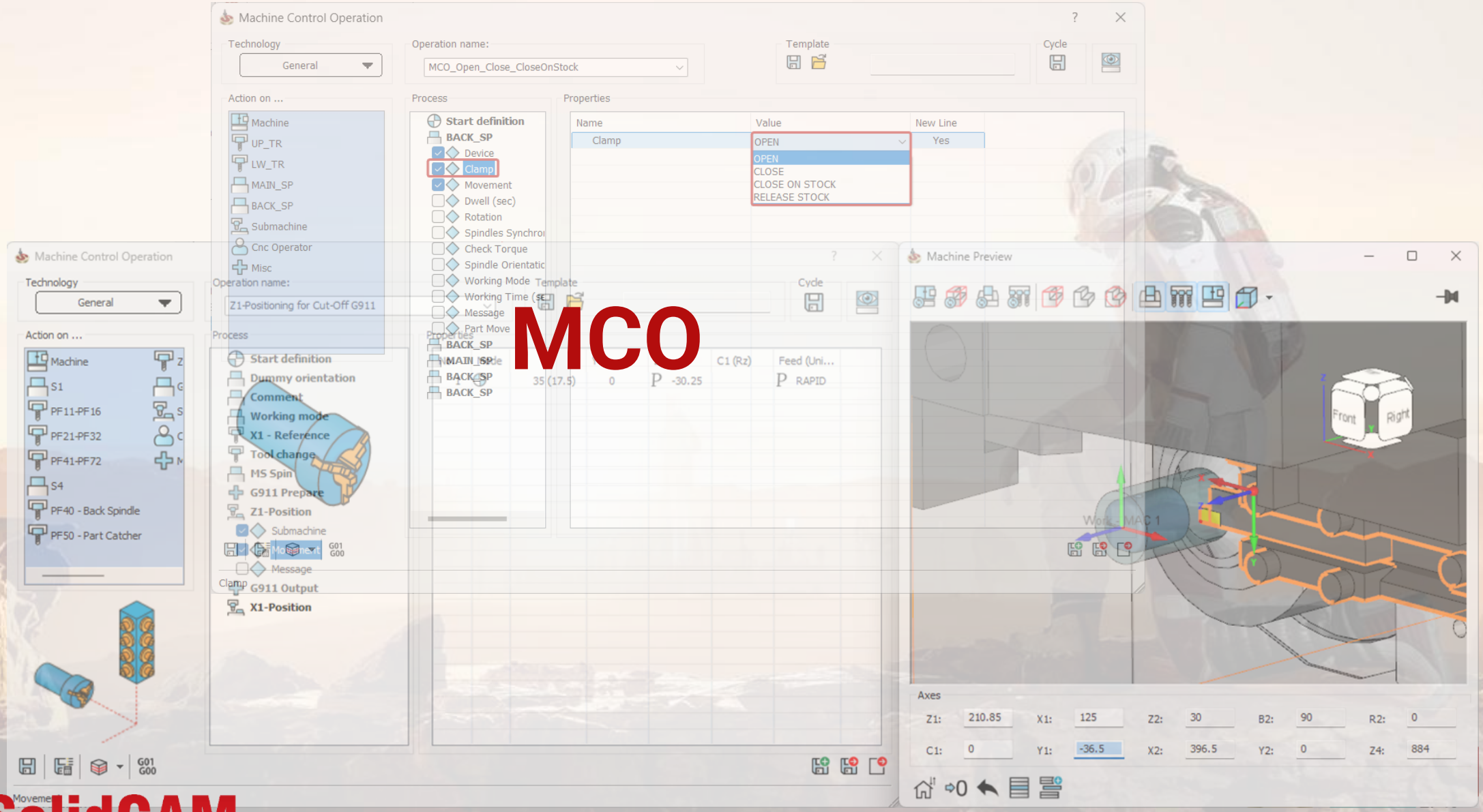
MCO



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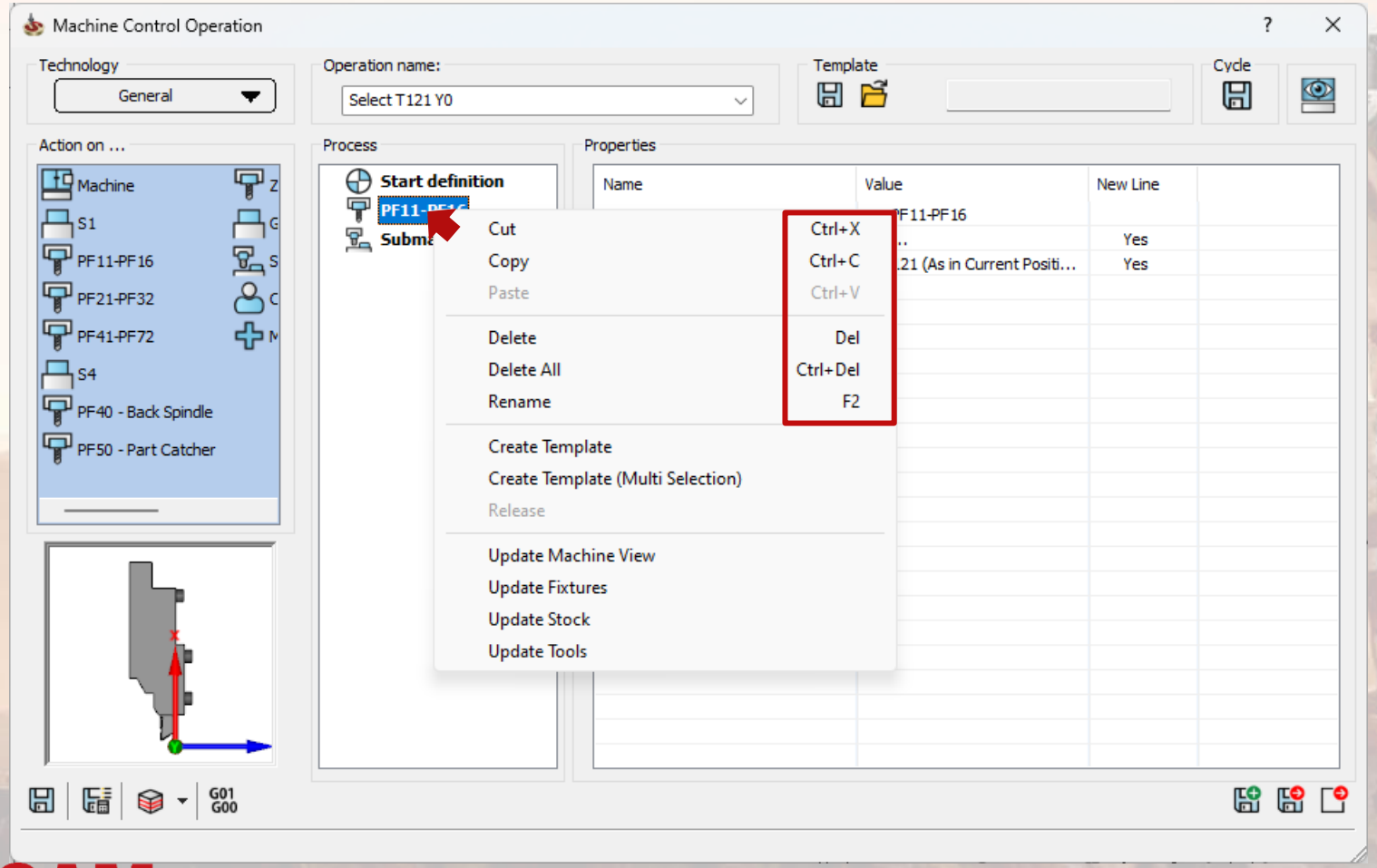
MCO – Keyboard Shortcuts

- Added **Keyboard Shortcuts** for the item's? main commands



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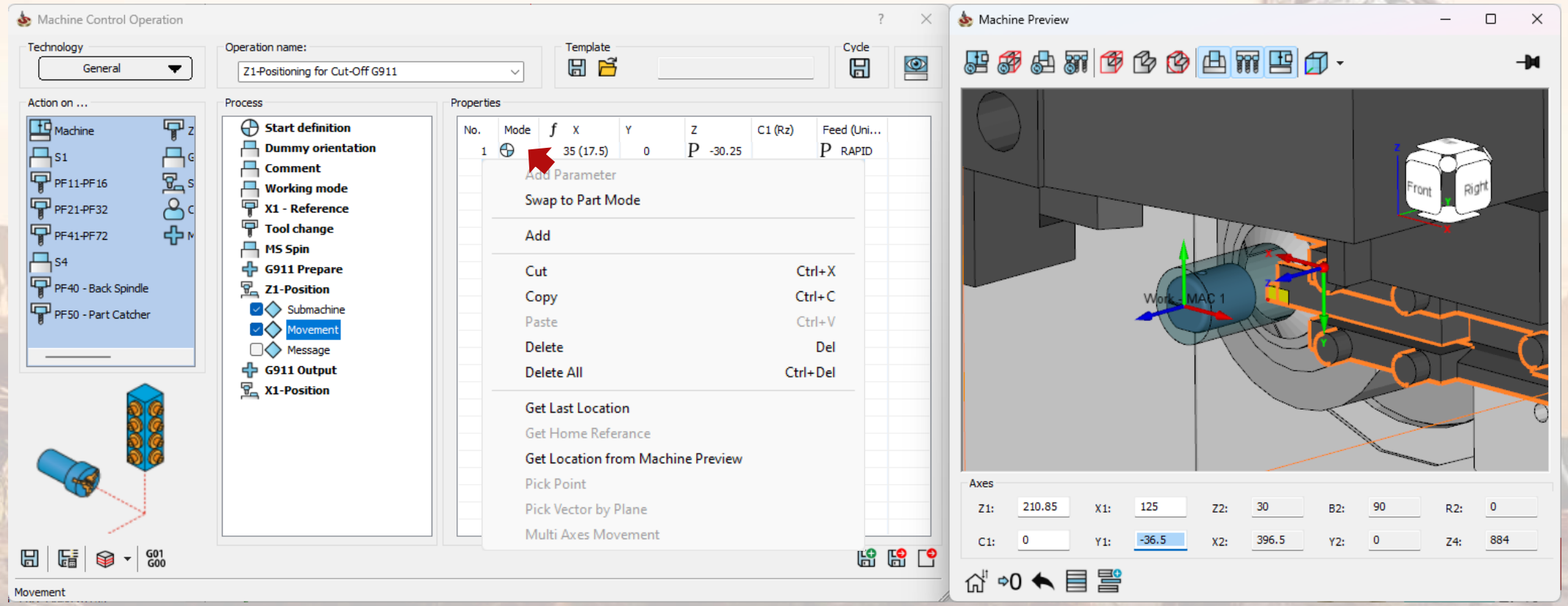
MCO – Movements according to Work-Offset

- The ability to move according to **WCS (Work CS)** has been added to the Submachine Item
- Pre-orientations of Spindles are not necessary anymore



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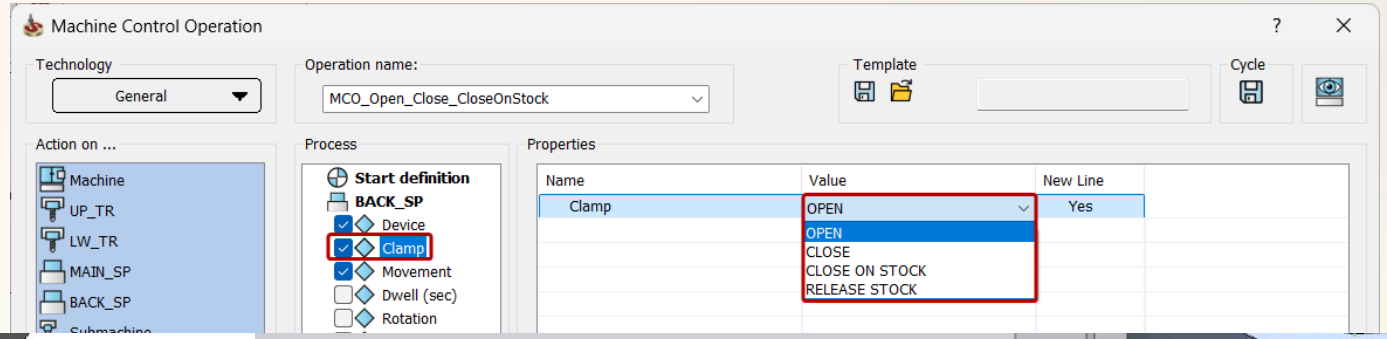
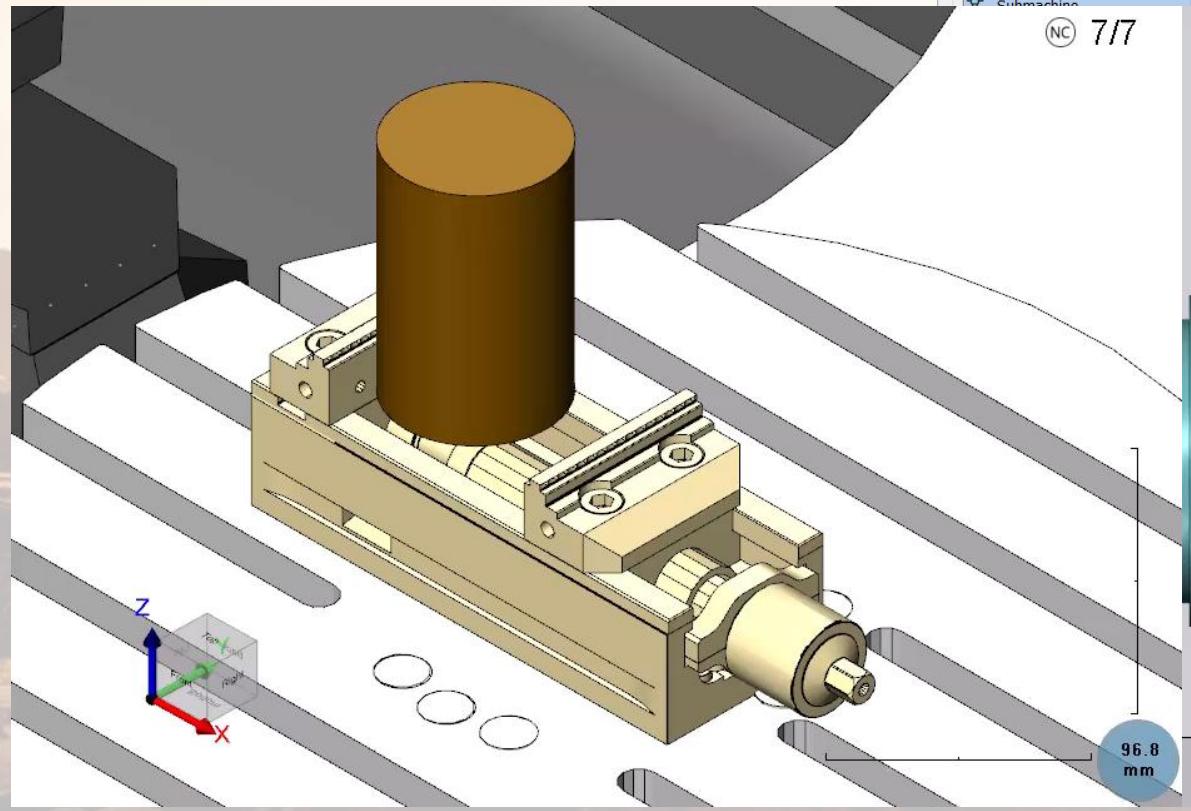
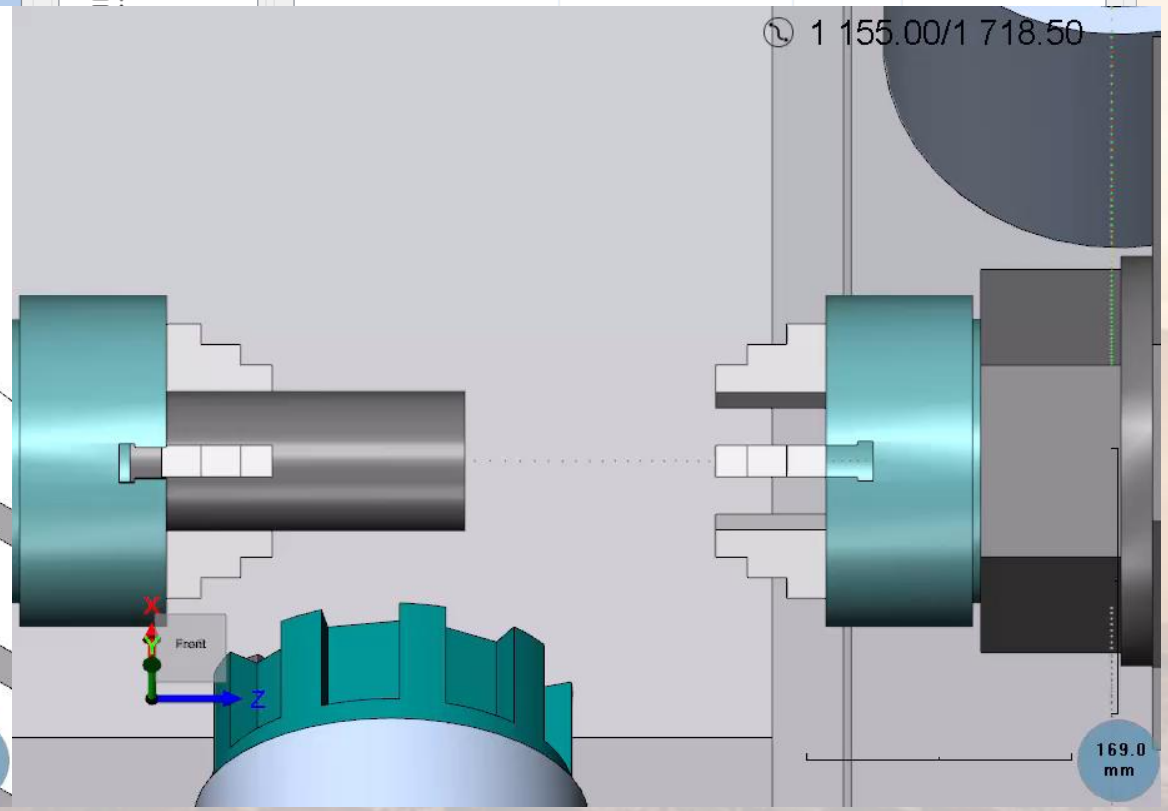
Machine Simulation – MCO Open, Close, and Close on Stock

- MCO Open, Close, and Close on Stock actions can now be simulated using Machine Simulation







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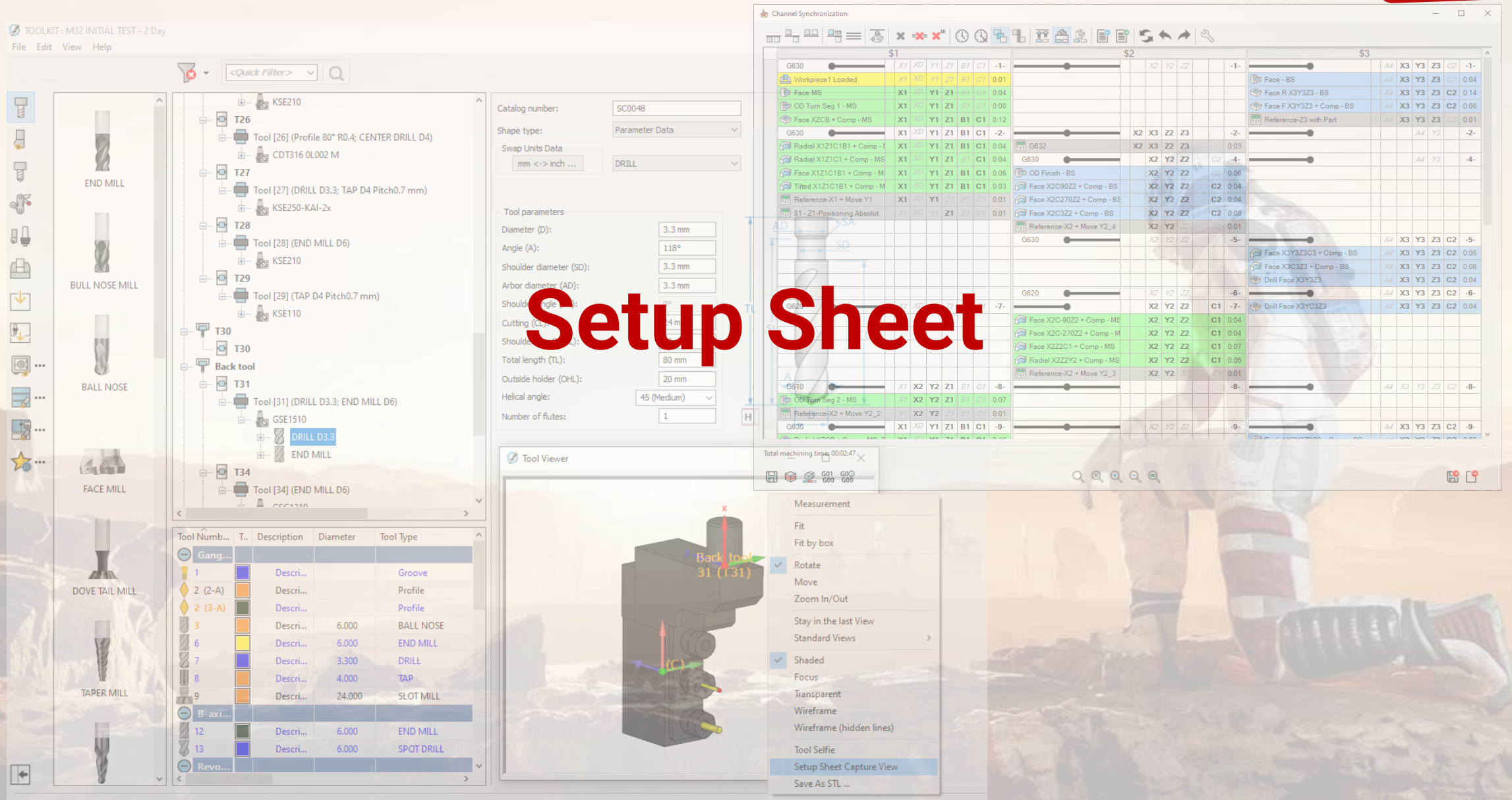
Setup Sheet

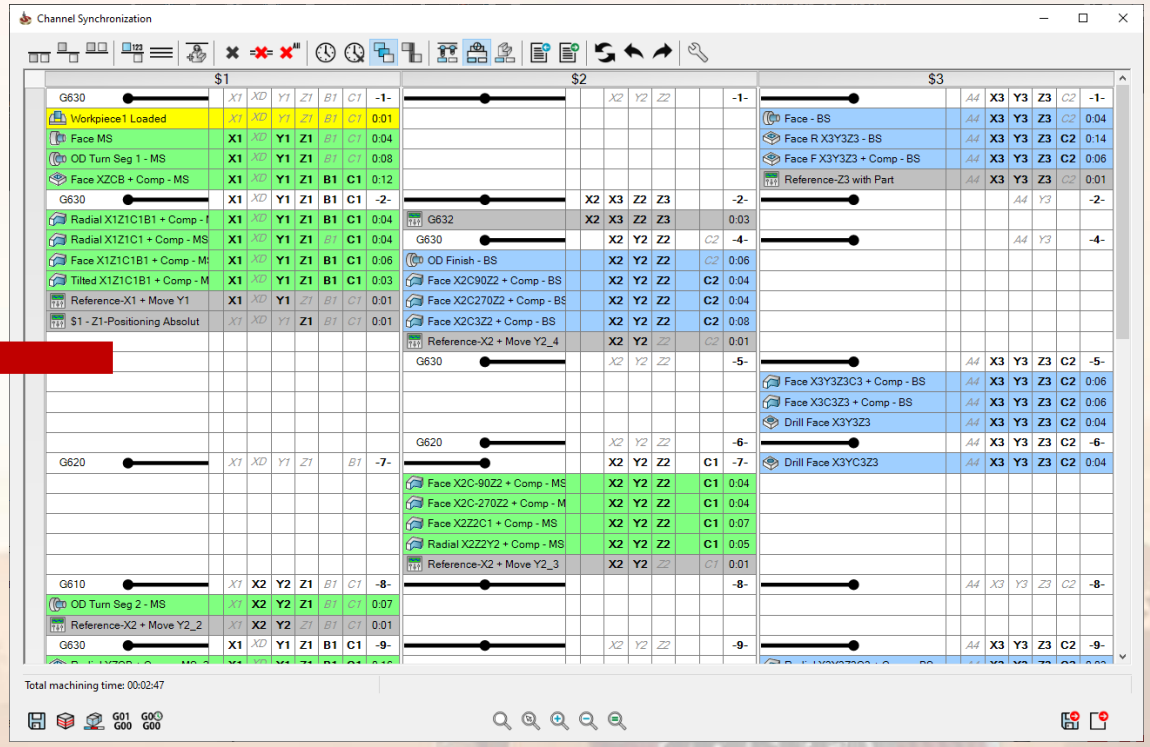

TOOLKIT : M32 INITIAL TEST - 2 Day
File Edit View Help
<Quick Filter>
END MILL
BULL NOSE MILL
BALL NOSE
FACE MILL
DOVE TAIL MILL
TAPER MILL
KSE210
T26
Tool [26] (Profile 80° R0.4; CENTER DRILL D4)
CDT316 0L002 M
T27
Tool [27] (DRILL D3.3; TAP D4 Pitch0.7 mm)
KSE250-KAI-2x
T28
Tool [28] (END MILL D6)
KSE210
T29
Tool [29] (TAP D4 Pitch0.7 mm)
KSE110
T30
T30
Back tool
T31
Tool [31] (DRILL D3.3; END MILL D6)
GSE1510
DRILL D3.3
END MILL
T34
Tool [34] (END MILL D6)
Catalog number: SC0048
Shape type: Parameter Data
Swap Units Data
mm <-> inch ...
DRILL
Tool parameters
Diameter (D): 3.3 mm
Angle (A): 118°
Shoulder diameter (SD): 3.3 mm
Arbor diameter (AD): 3.3 mm
Total length (TL): 80 mm
Outside holder (OHL): 20 mm
Helical angle: 45 (Medium)
Number of flutes: 1
Tool Numb... T.. Description Diameter Tool Type
Gang...
1 Descri... Groove
2 (2-A) Descri... Profile
2 (3-A) Descri... Profile
3 Descri... 6.000 BALL NOSE
6 Descri... 6.000 END MILL
7 Descri... 3.300 DRILL
8 Descri... 4.000 TAP
9 Descri... 24.000 SLOT MILL
B-axi...
12 Descri... 6.000 END MILL
13 Descri... 6.000 SPOT DRILL
Revo...
Channel Synchronization
$1
$2
$3
Tool Viewer
Total machining time: 00:02:47
Back tool
31 (T31)
Measurement
Fit
Fit by box
Rotate
Move
Zoom In/Out
Stay in the last View
Standard Views
Shaded
Focus
Transparent
Wireframe
Wireframe (hidden lines)
Tool Selfie
Setup Sheet Capture View
Save As STL ...

Setup Sheet – Channel Synchronization Table

- Channel Synchronization Table can now be exported

$1		$2		$3	
G630	-1-	G630	-1-	G630	-1-
Setup	0:01			Face - BS	0:04
Face MS	0:04			Face R X3Y3Z3 - BS	0:14
OD Turn Seg 1 - MS	0:08			Face F X3Y3Z3 + Comp - BS	0:06
Face XZCB + Comp - MS	0:12			Reference-Z3 with Part	0:01
G630	-2-	G630	-2-	G630	-2-
Radial X1Z1C1B1 + Comp - MS	0:04	G632	0:03		
Radial X1Z1C1 + Comp - MS	0:04	G630	-4-	G630	-4-
Face X1Z1C1B1 + Comp - MS	0:06	OD Finish - BS	0:06		
Tilted X1Z1C1B1 + Comp - MS	0:03	Face X2C90Z2 + Comp - BS	0:04		
Reference-X1 + Move Y1	0:01	Face X2C270Z2 + Comp - BS	0:04		
$1 - Z1-Positioning Absolut	0:01	Face X2C3Z2 + Comp - BS	0:08		
		Reference-X2 + Move Y2_4	0:01		
		G630	-5-	G630	-5-
				Face X3Y3Z3C3 + Comp - BS	0:06
				Face X3C3Z3 + Comp - BS	0:06
				Drill Face X3Y3Z3	0:04
		G620	-6-	G620	-6-
G620	-7-	G620	-7-	Drill Face X3YC3Z3	0:04
		Face X2C-90Z2 + Comp - MS_1	0:04		
		Face X2C-270Z2 + Comp - MS_2	0:04		
		Face X2Z2C1 + Comp - MS	0:07		
		Radial X2Z2Y2 + Comp - MS	0:05		
		Reference-X2 + Move Y2_3	0:01		
G610	-8-	G610	-8-	G610	-8-
OD Turn Seg 2 - MS	0:07				
Reference-X2 + Move Y2_2	0:01				
G630	-9-	G630	-9-	G630	-9-
Radial XZCB + Comp - MS_2	0:16			Radial X3Y3Z3C3 + Comp - BS	0:03
Radial XZC + Comp - MS	0:11			DRILL	0:07
				Tap	0:02
G630	-10-	G630	-10-	G630	-10-

1/2



- Complete Table with all information available in Channel Synchronization including operation pictures

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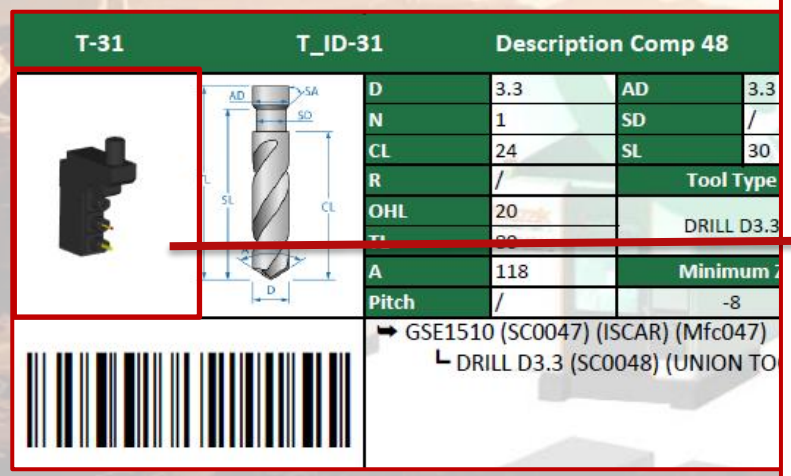
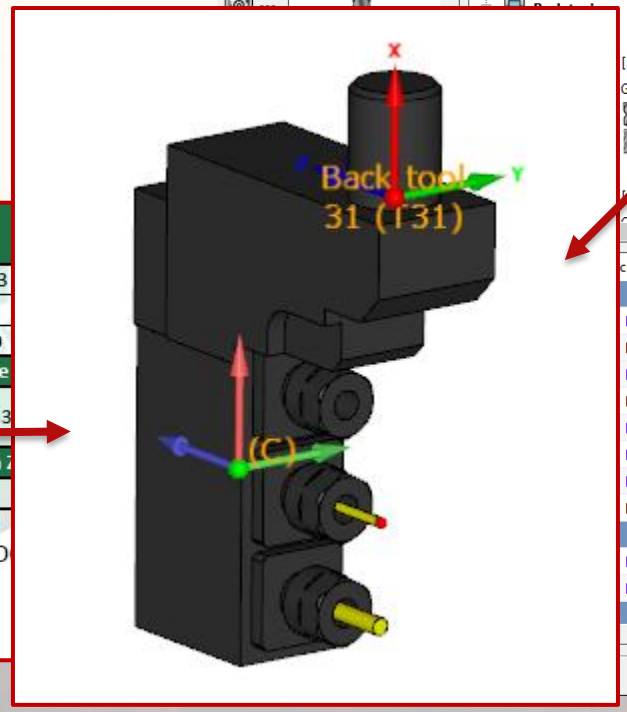
Setup Sheet – Capture View for Tools

- Capturing of custom view Images for Tools
- Captured view for a particular tool will be saved until the user changes it
- Captured view is exported to the Setup Sheet





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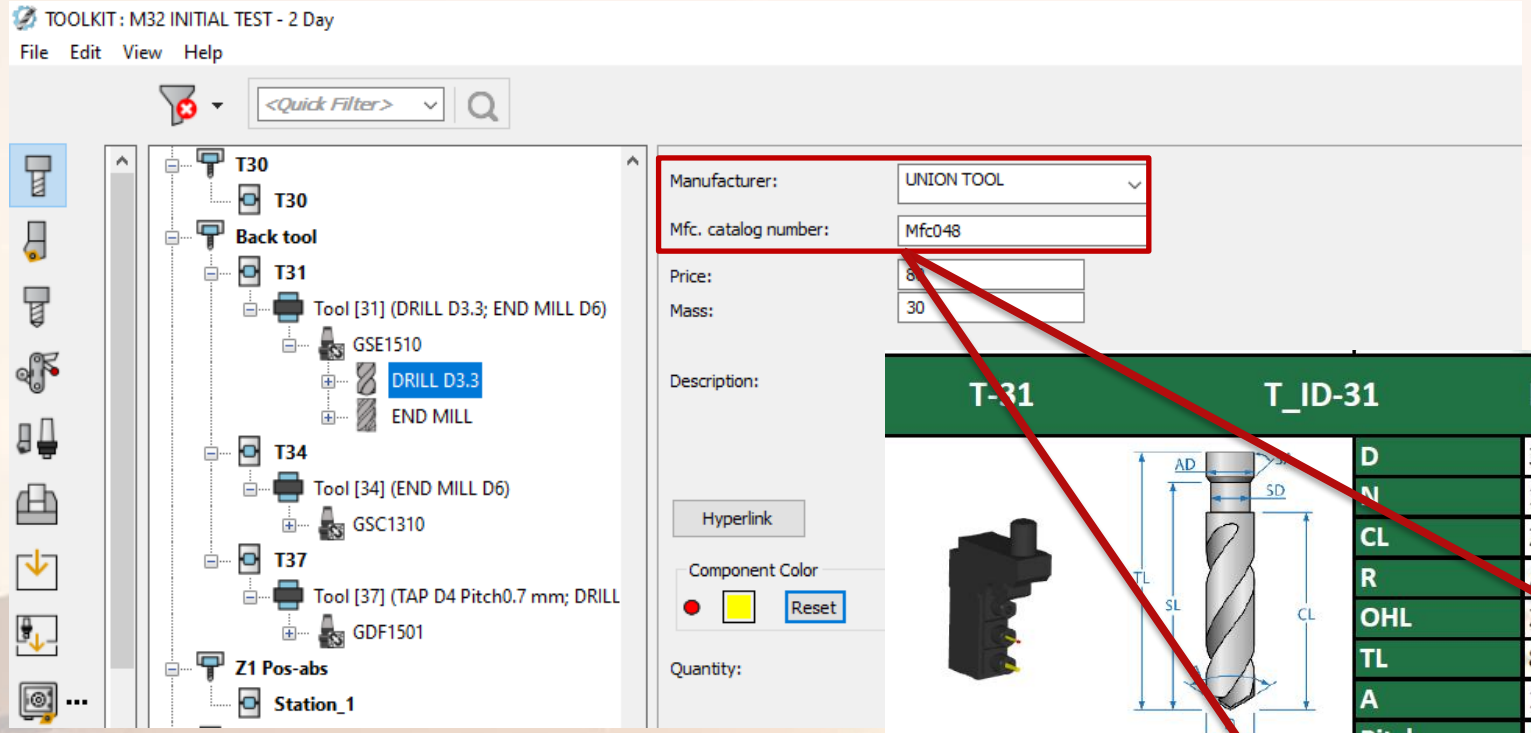
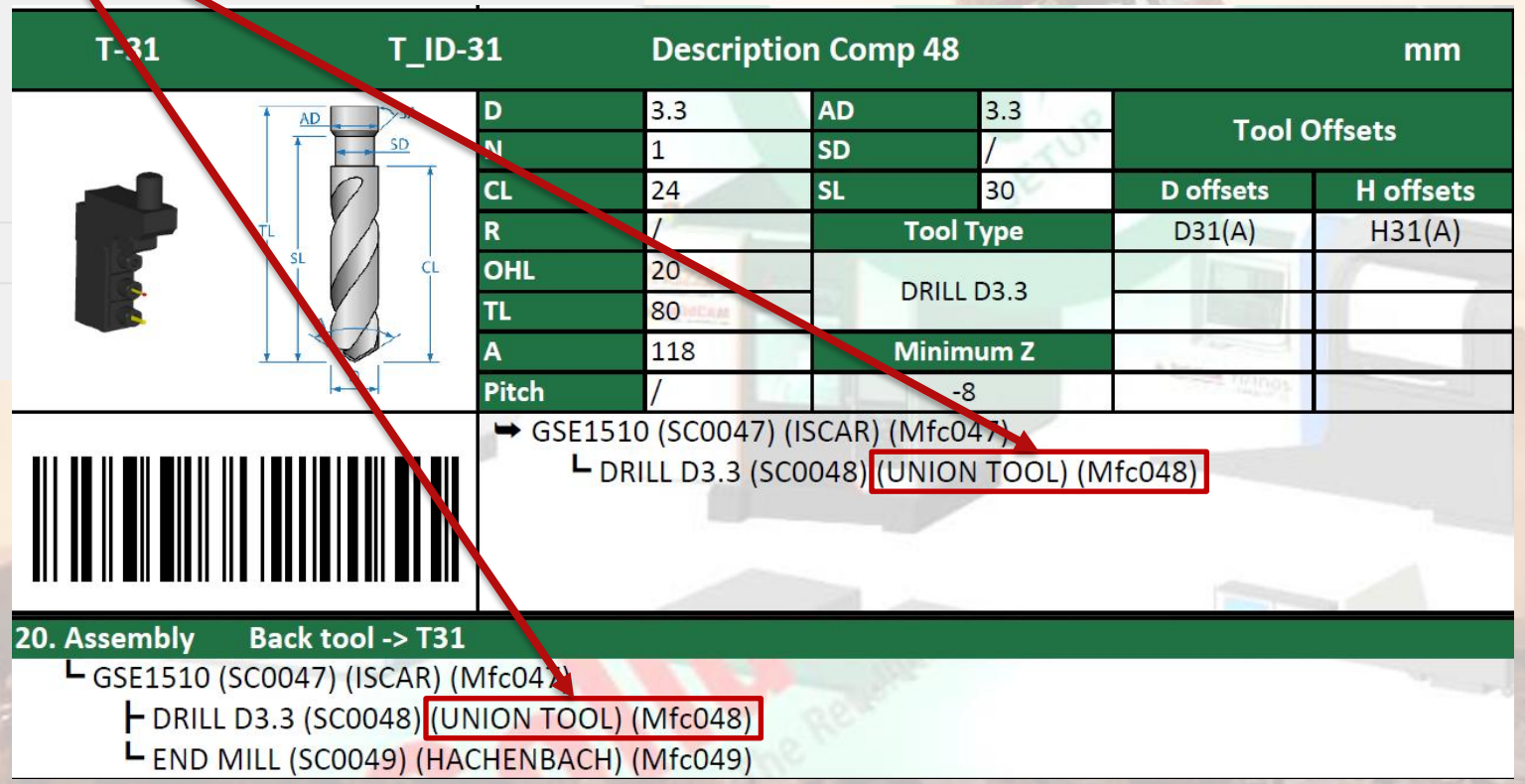
Setup Sheet – Supporting manufacturing ToolKit Data & New variables



- Many new variables for different sections inside the Add-In
- New and updated TS? functions inside the Add-In



- Tool components can now have its own Manufacturer and Manufacturing Catalog Number printed inside the Setup Sheet

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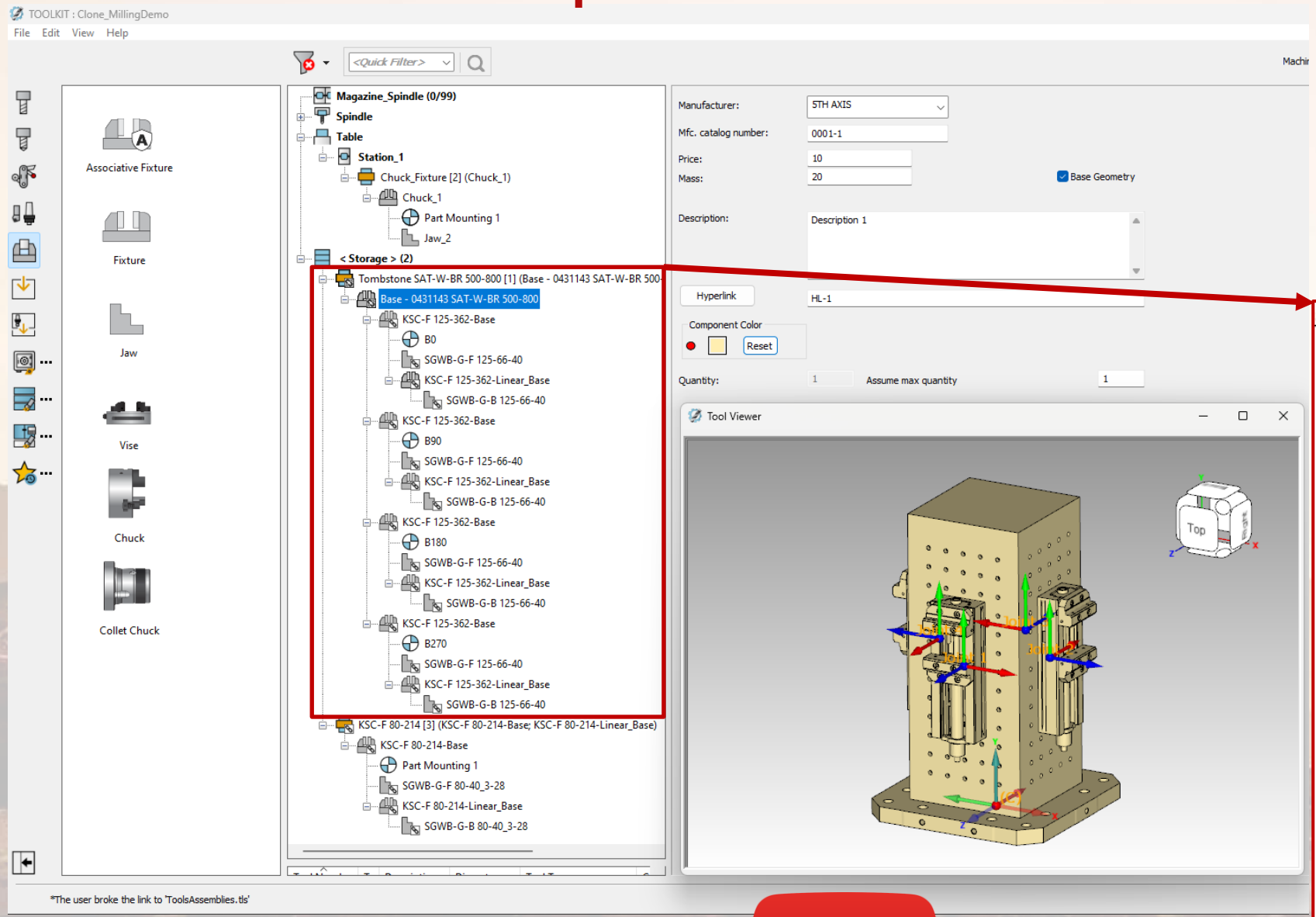
Setup Sheet – New Fixtures Section



- Exporting full Fixture Assembly structure
- Capturing of custom view Images for each Fixture Assembly

Setup

Table: MAC 1 (1- Position)

Tombstone SAT-W-BR 500-800 -> Table ID: 2

- Base - 0431143 SAT-W-BR 500-800 (0001)
  - KSC-F 125-362-Base (0002)
    - SGWB-G-F 125-66-40 (0003)
    - KSC-F 125-362-Linear_Base (0004)
      - SGWB-G-B 125-66-40 (0005)
  - KSC-F 125-362-Base (0006)
    - SGWB-G-F 125-66-40 (0007)
    - KSC-F 125-362-Linear_Base (0008)
      - SGWB-G-B 125-66-40 (0009)
  - KSC-F 125-362-Base (0010)
    - SGWB-G-F 125-66-40 (0011)
    - KSC-F 125-362-Linear_Base (0012)
      - SGWB-G-B 125-66-40 (0013)
  - KSC-F 125-362-Base (0014)
    - SGWB-G-F 125-66-40 (0015)
    - KSC-F 125-362-Linear_Base (0016)
      - SGWB-G-B 125-66-40 (0017)

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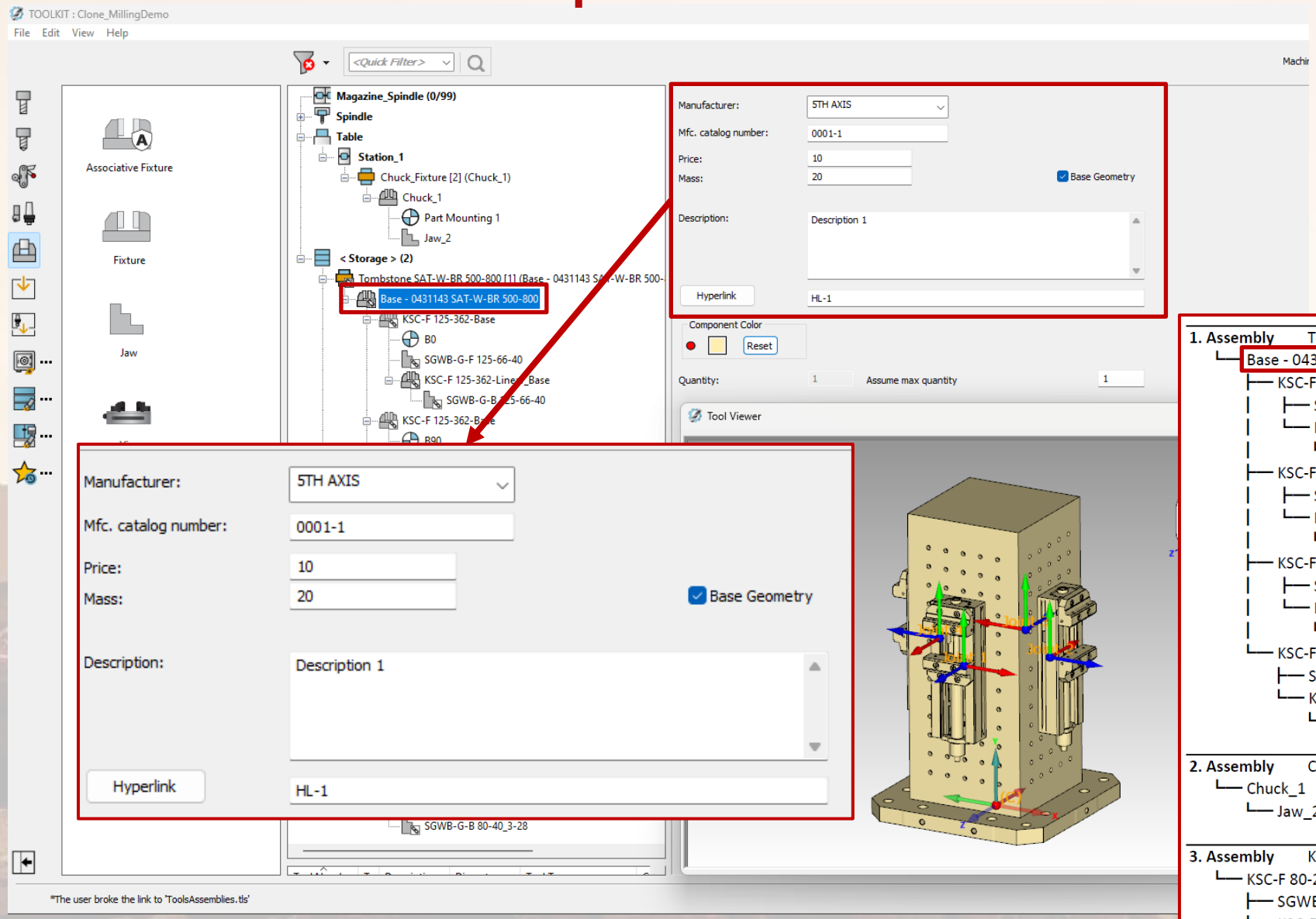
Setup Sheet – New Fixtures Section



- Exporting all ToolKit data for each individual Fixture Assembly Component is possible

1. Assembly	Tombstone SAT-W-BR 500-800	Cat. No.	Mfc. No.	Price	Mass	Hyperlink:
└	Base - 0431143 SAT-W-BR 500-800	0001	0001-1	10	20	HL-1
├	KSC-F 125-362-Base	0002	0002-1	20	30	HL-2
│ ├	SGWB-G-F 125-66-40	0003	0003-1	30	40	HL-3
│ └	KSC-F 125-362-Linear_Base	0004	0004-1	40	50	HL-4
│ └	SGWB-G-B 125-66-40	0005	0005-1	50	60	HL-5
├	KSC-F 125-362-Base	0006	0006-1	60	70	HL-6
│ ├	SGWB-G-F 125-66-40	0007	0007-1	70	80	HL-7
│ └	KSC-F 125-362-Linear_Base	0008	0008-1	80	90	HL-8
│ └	SGWB-G-B 125-66-40	0009	0009-1	90	100	HL-9
├	KSC-F 125-362-Base	0010	0010-1	100	110	HL-10
│ ├	SGWB-G-F 125-66-40	0011	0011-1	110	120	HL-11
│ └	KSC-F 125-362-Linear_Base	0012	0012-1	120	130	HL-12
│ └	SGWB-G-B 125-66-40	0013	0013-1	130	140	HL-13
└	KSC-F 125-362-Base	0014	0014-1	140	150	HL-14
├	SGWB-G-F 125-66-40	0015	0015-1	150	160	HL-15
└	KSC-F 125-362-Linear_Base	0016	0016-1	160	170	HL-16
└	SGWB-G-B 125-66-40	0017	0017-1	170	180	HL-17

2. Assembly	Chuck_Fixture	Cat. No.	Mfc. No.	Price	Mass	Hyperlink:
└	Chuck_1	0018	0018-1	180	190	HL-18
└	Jaw_2	0019	0019-1	190	200	HL-19

3. Assembly	KSC-F 80-214	Cat. No.	Mfc. No.	Price	Mass	Hyperlink:
└	KSC-F 80-214-Base	/	/	0	0	/
├	SGWB-G-F 80-40_3-28	/	/	0	0	/
└	KSC-F 80-214-Linear_Base	/	/	0	0	/
└	SGWB-G-B 80-40_3-28	/	/	0	0	/

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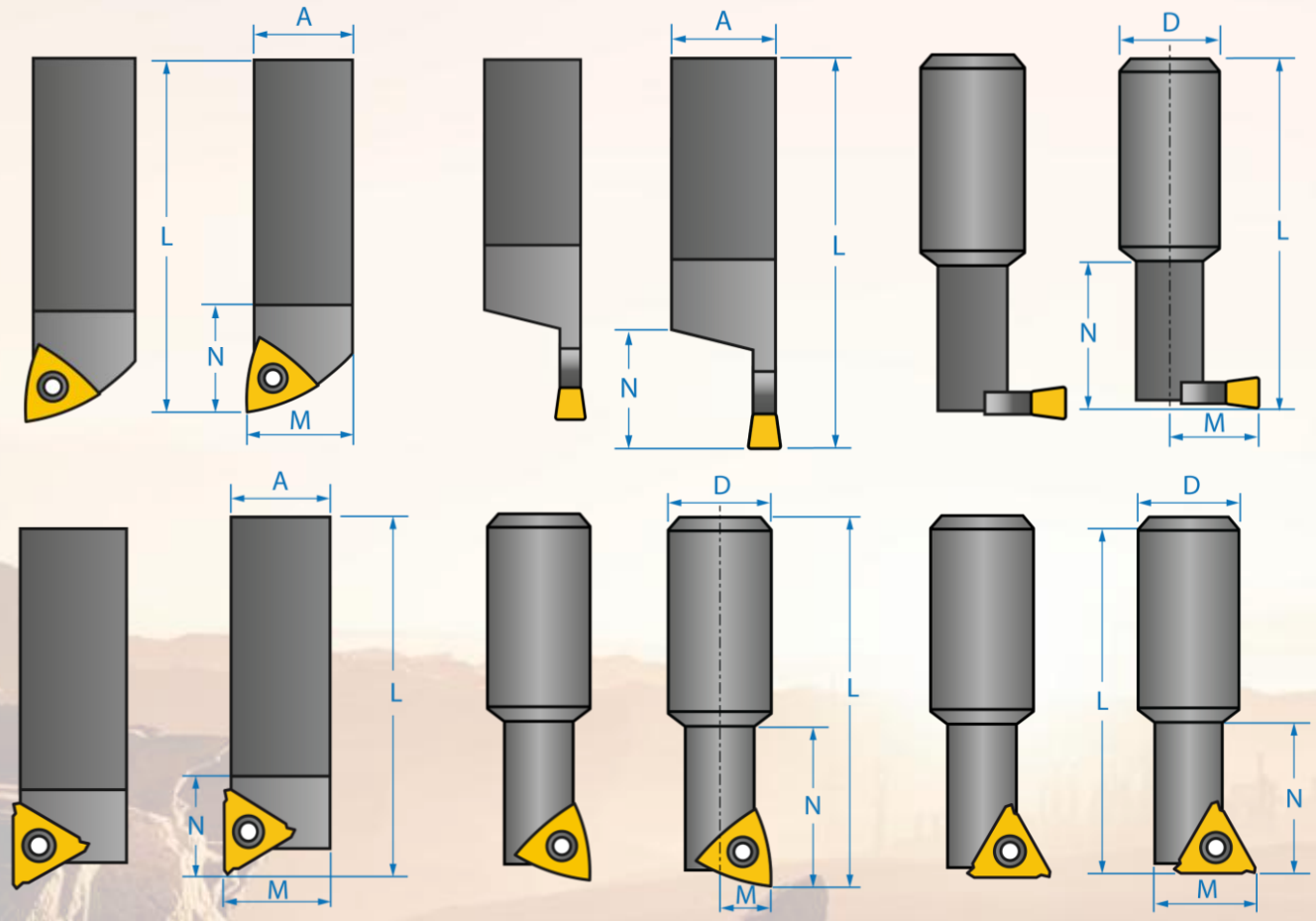
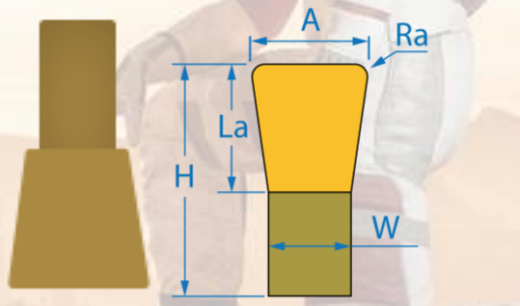
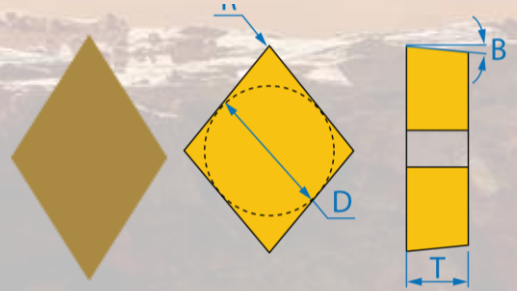
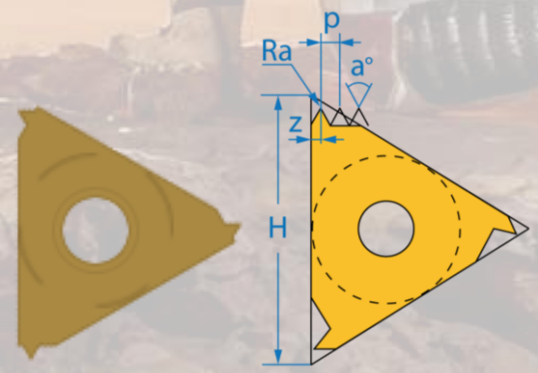
Setup Sheet – Updated Turning Tools Images



- All parametric TurningTools Images have been remastered to match the output of remastered Milling Tools
- All parametric Turning Tools Images have same size as the Milling Paramateric Images







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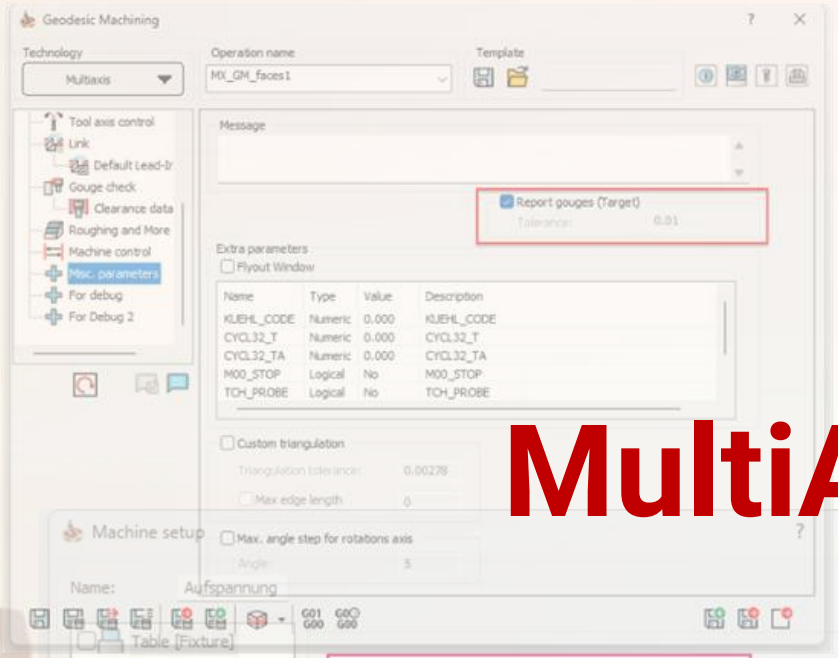
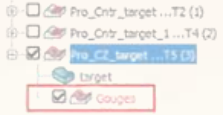
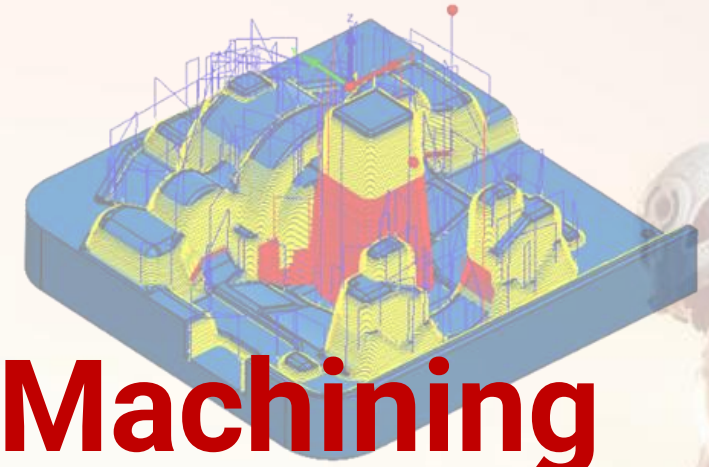
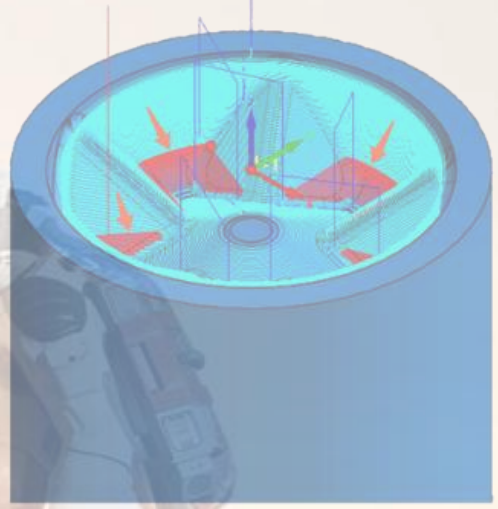
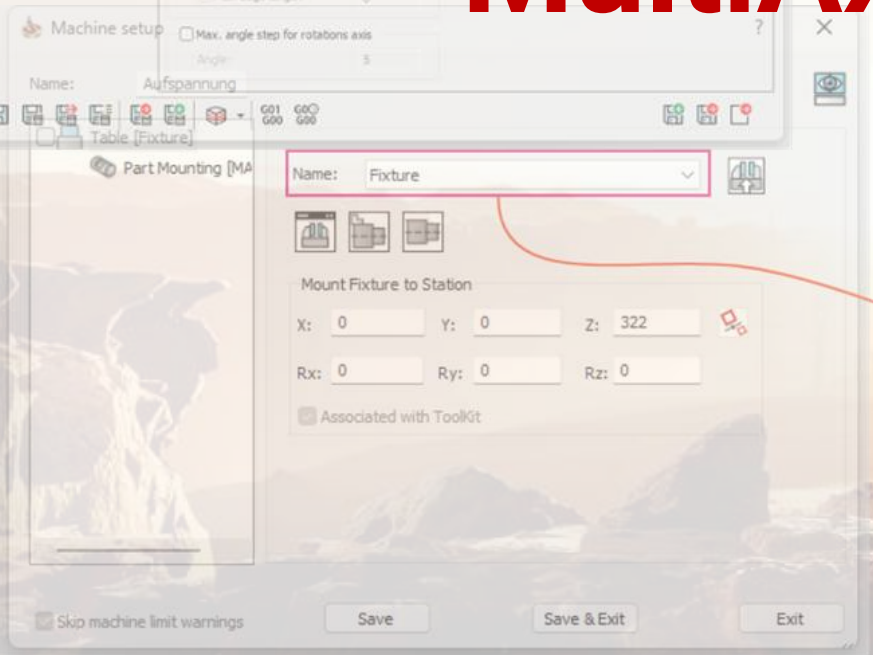
MultiAxis Machining

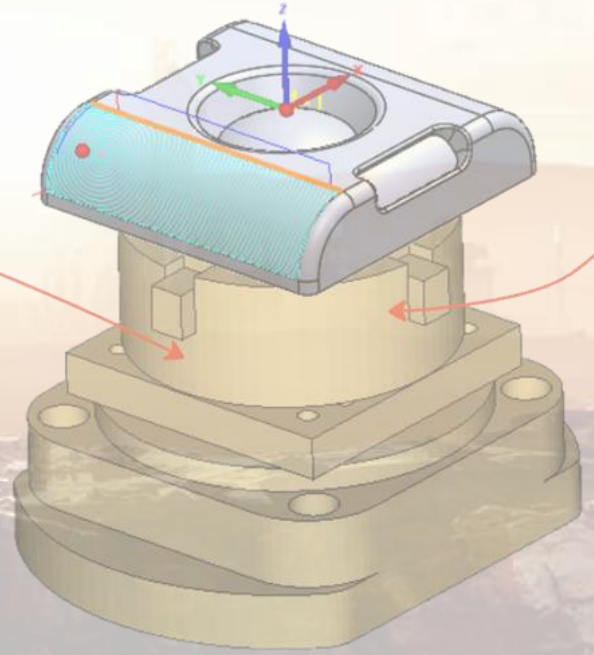


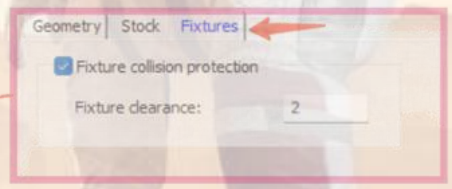




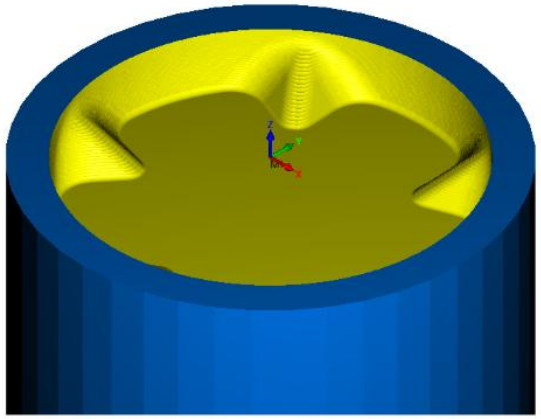




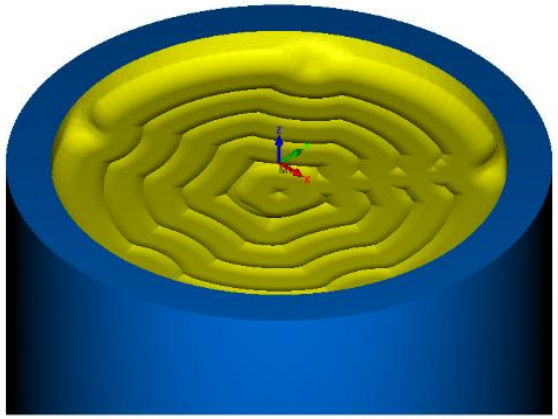




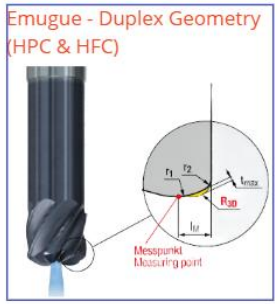
Convex Tip Mill for 3-Axis Jobs

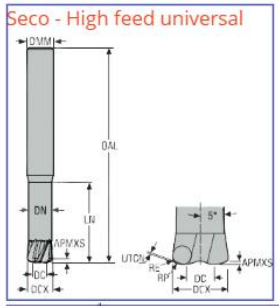


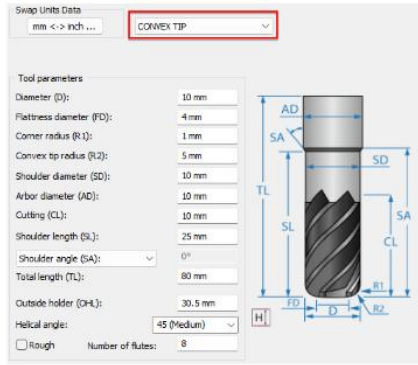
Cutting with Bullnose with Programmable Radius

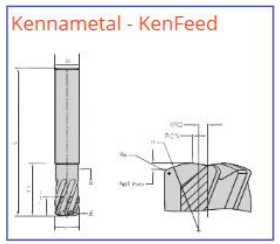


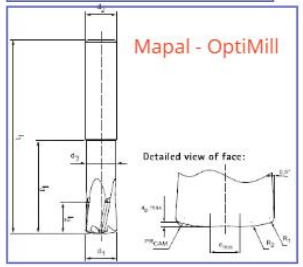
Cutting with real high feed cutting tool











- **Convex tip Mill:**
  - Convex tip mill tools machine hollow, inward curve edges into defined stock.
  - Allows direct use of the tool's actual profile, as provided by the manufacture.
- **Supported operations:**
  - Pro 3D HSR, Pro 3D HSM, Auto 3+2 Roughing and HSS.
- **Benefits:**
  - Considers the convex tip profile for toolpath calculation and leaves exact stock for operation ensures precise and safe machining.
  - Eliminates the need to define high-feed tools as bull mills with a programmable radius.

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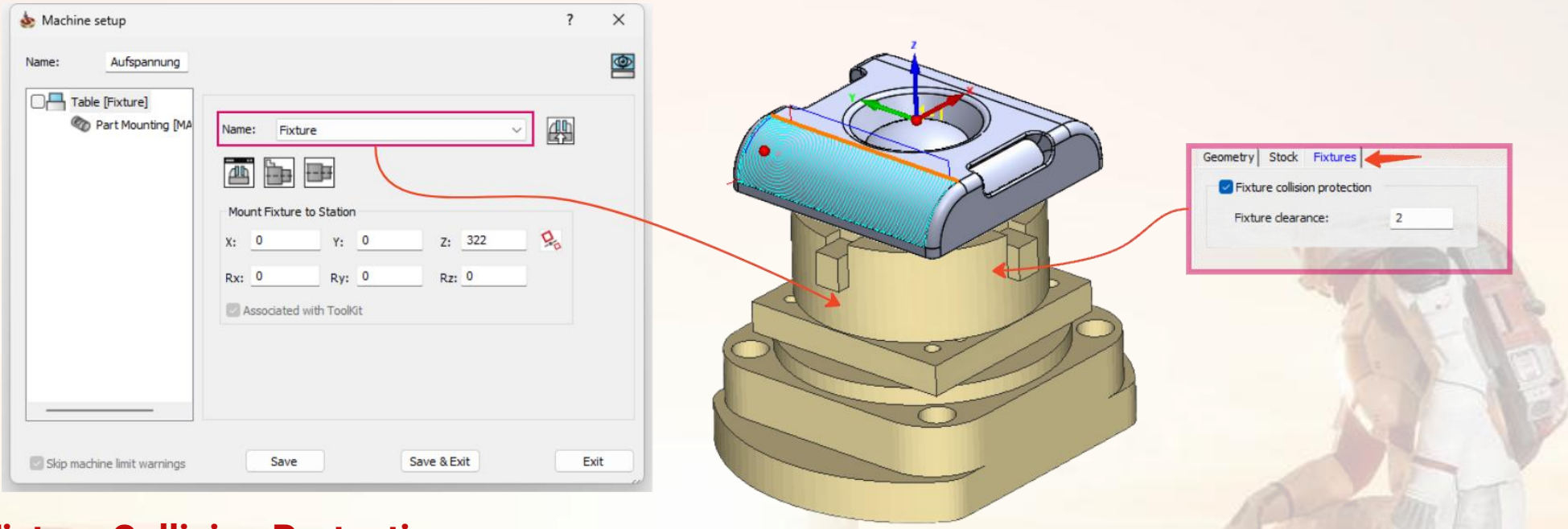
Setup Fixture for 3-Axis and Multiaxis Jobs



❑ Fixture Collision Protection:

- Automatically trims toolpaths that collide with the fixture when enabled and available only when a fixture is defined in the setup.

❑ Benefits:

- Eliminates the need to manually select fixture geometry within the job.
- Provides automatic collision avoidance by trimming toolpaths that intersect with the fixture, enhancing workflow efficiency.

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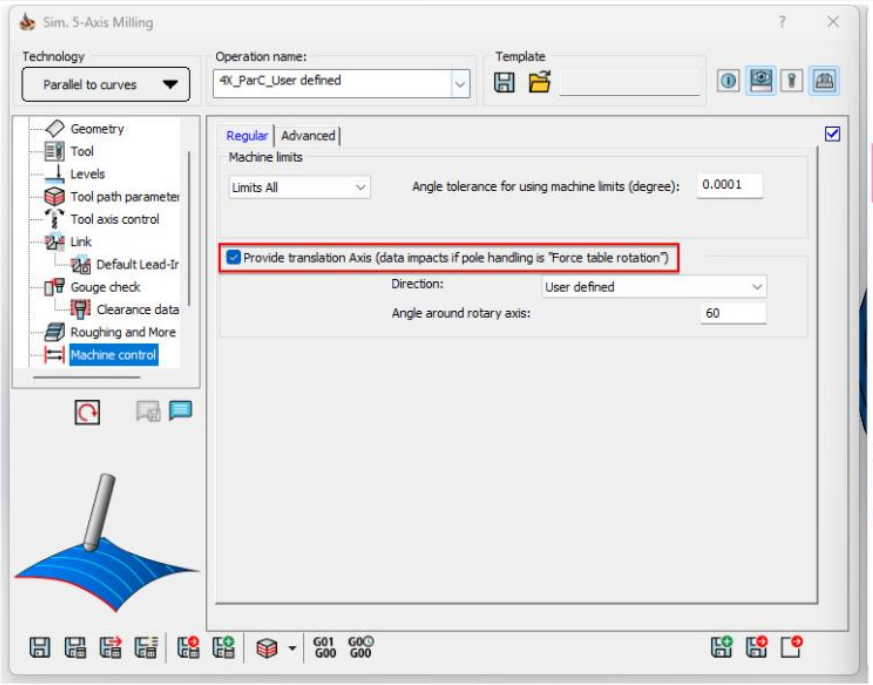
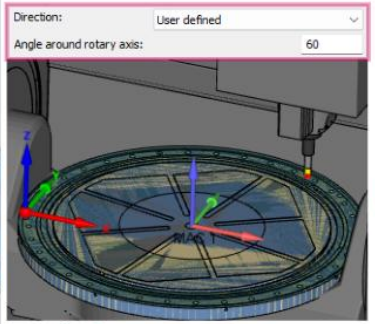
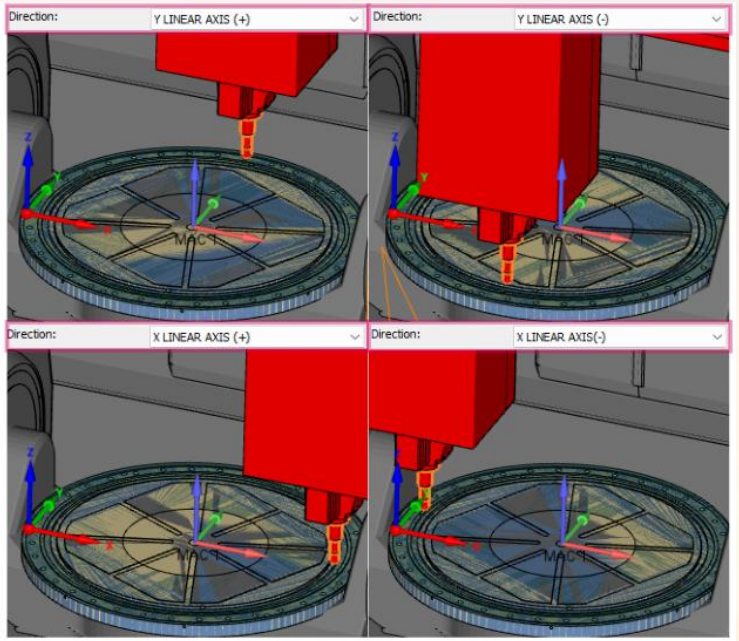
Machine Control – Linear Axis Start hint





No Limits
with user defined start hint



- **Linear axis Start hint:**
  - SolidCAM chooses the solution that brings the selected linear axis closest to the indicated start position.
- **Benefits:**
  - Allows adjustment of the machining start point to overcome machine linear axis limits, without altering the original toolpath.
  - Saves toolpath generation time.

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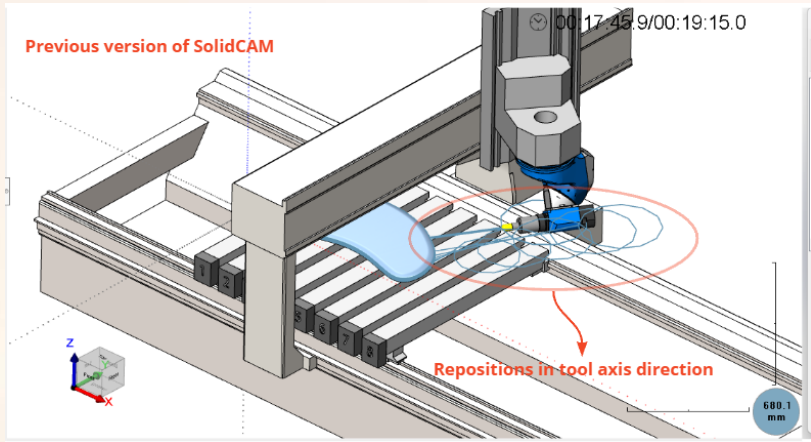
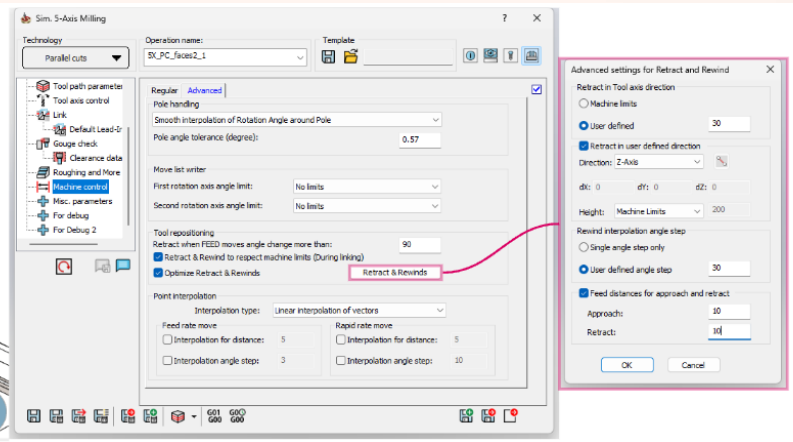
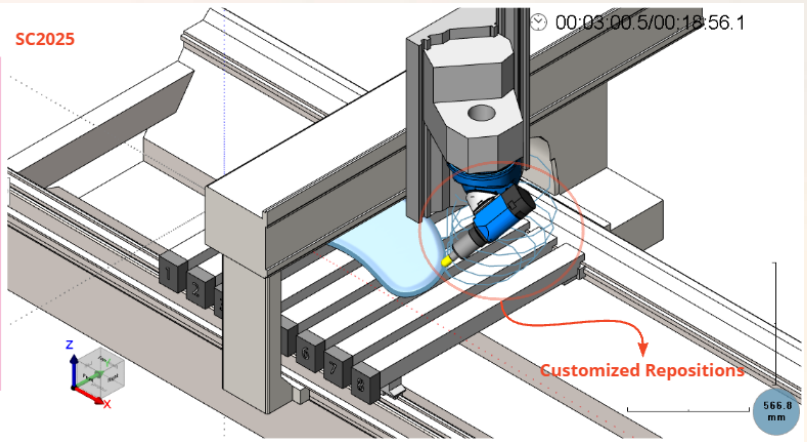
Machine Control – User defined Retracts & Rewinds







❑ Retracts & Rewinds:

- The Advanced button opens the Retract & Rewind Advanced Settings dialog that allows you to customize retract or the way the rewind movement is calculated. You can also specify how the lead-out on retract and lead-in on approach moves will be executed.

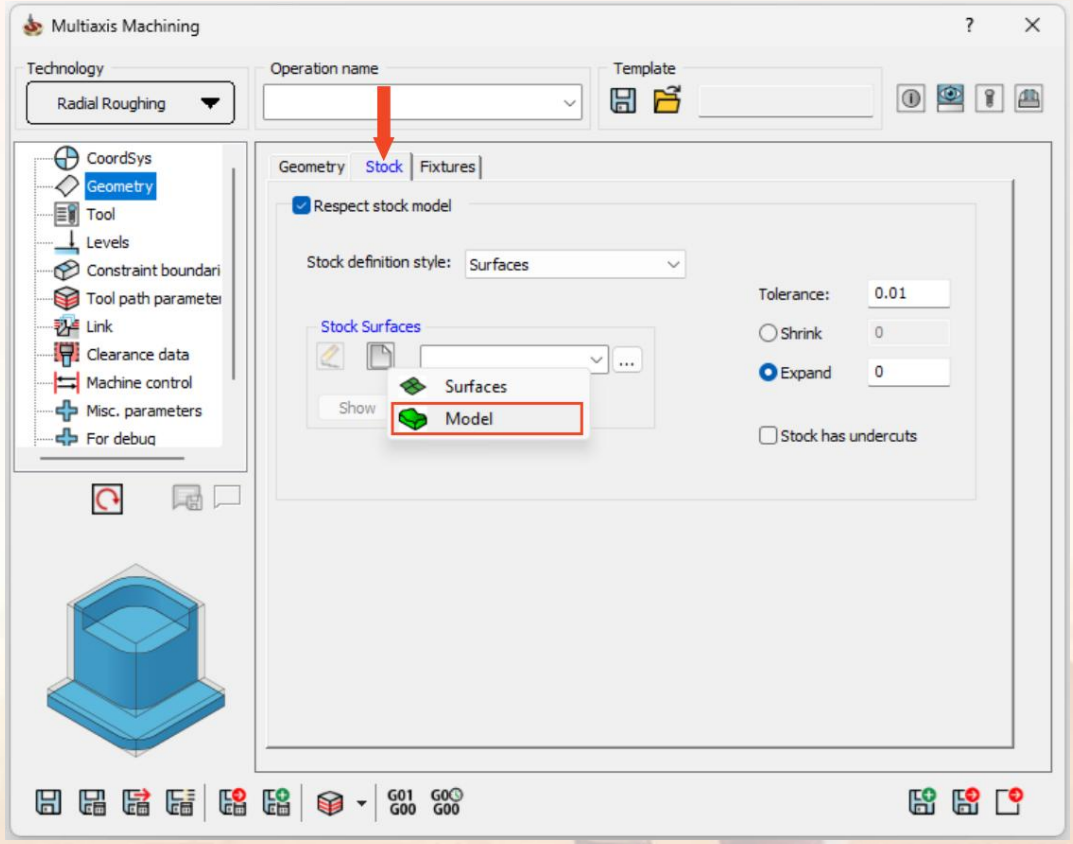
❑ Benefits:

- Provides user flexibility to control retract and rewind movements.
- Allows custom selection of repositioning direction, useful when multiple parts are on the machine.
- Enables smooth lead-out and lead-in for Retract and Approach movements.

Stock definition – Model selection

❑ Stock definition - Model:

- Users can now select a solid model as the stock definition in **Pro 3D HSR**, **Pro 3D HSM**, **Auto 3+2 Roughing**, **Rotary Machining** and Multiaxis Machining – **Radial Roughing**, whereas previously, this was limited to individual surfaces.



❑ Benefits:

- Simplified stock definition.
- Eliminates the need to manually select multiple surfaces, reducing effort and errors.

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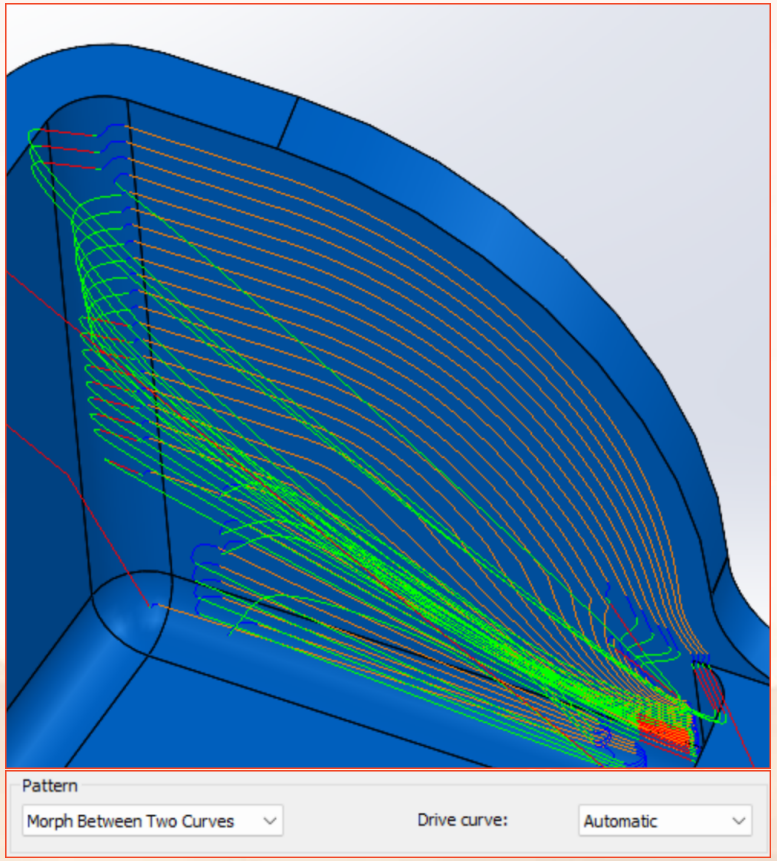
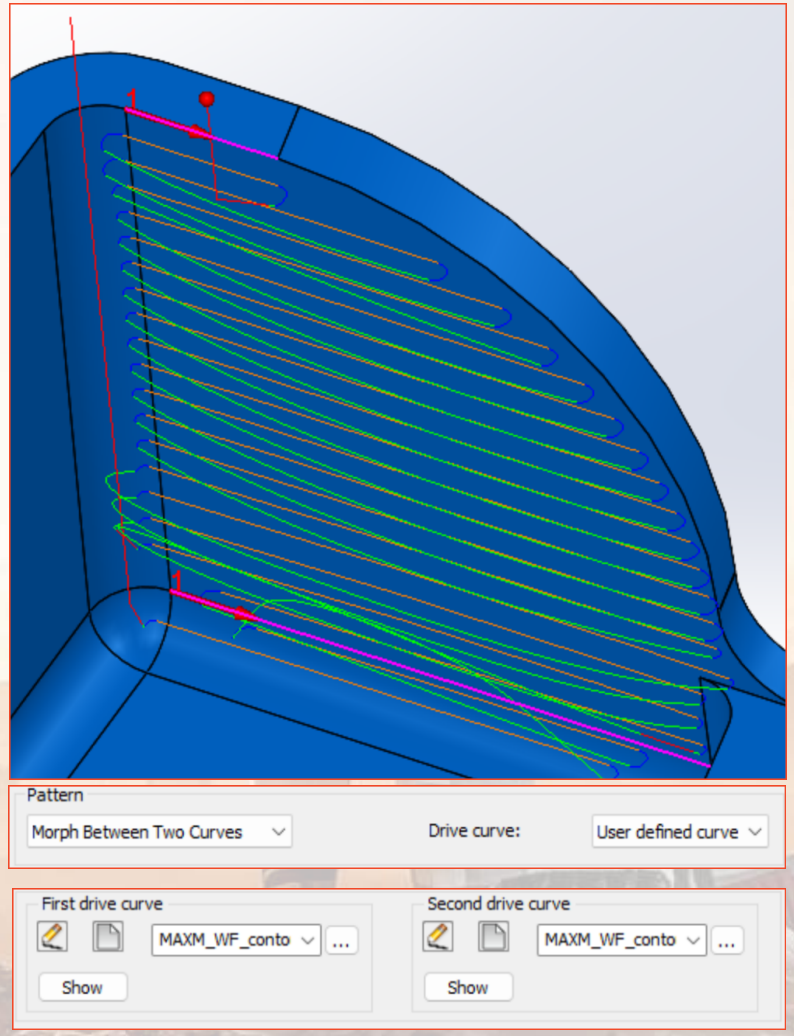
Multiaxis Machining – Morphed User Defined Curves

- **Morph between two curves – User defined curves:**
  - Morph between two curves let's you now define curves manually.





- **Benefits:**
  - When automatic pattern fails to generate desired toolpath, desired curves can be defined for Morph pattern.

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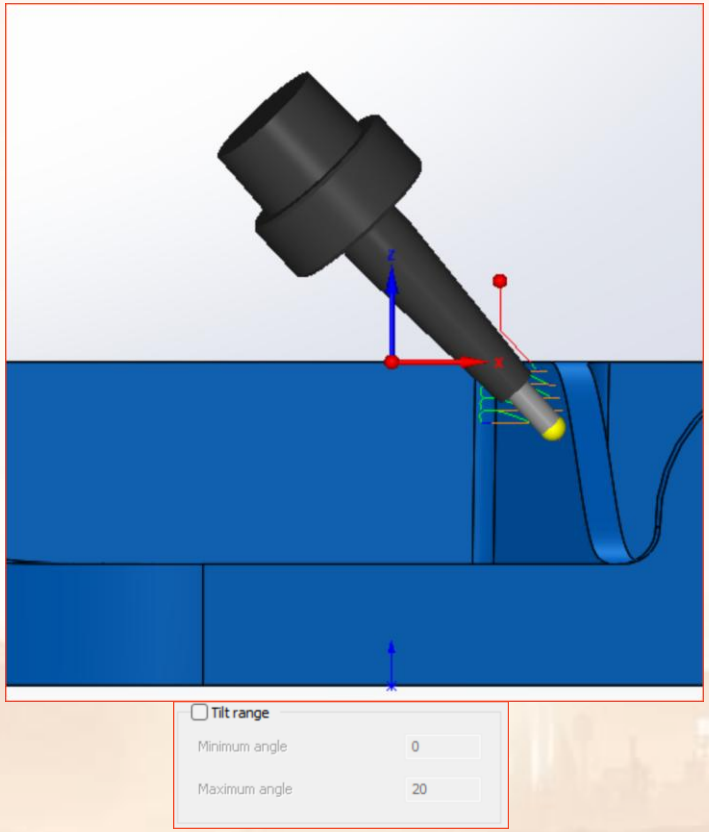
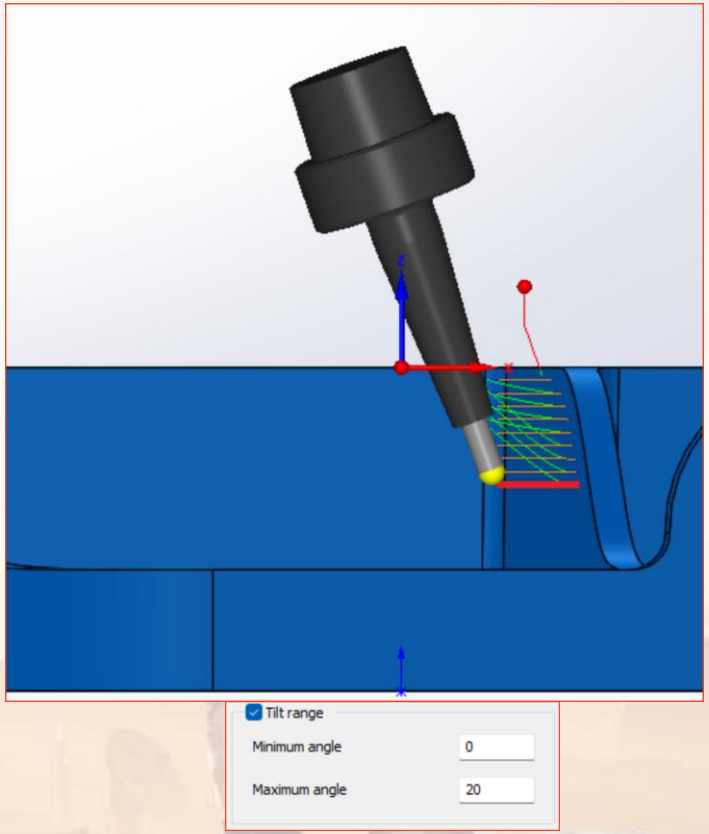
Multiaxis Machining – Tilt Limits

❑ Tilt range:

- Limits the tool between two angles starting from the toolpath slice normal vector.





❑ Benefits:

- Ensures that the tool remains within safe tilting limits, avoiding unnecessary movement or potential machine kinematic issues.

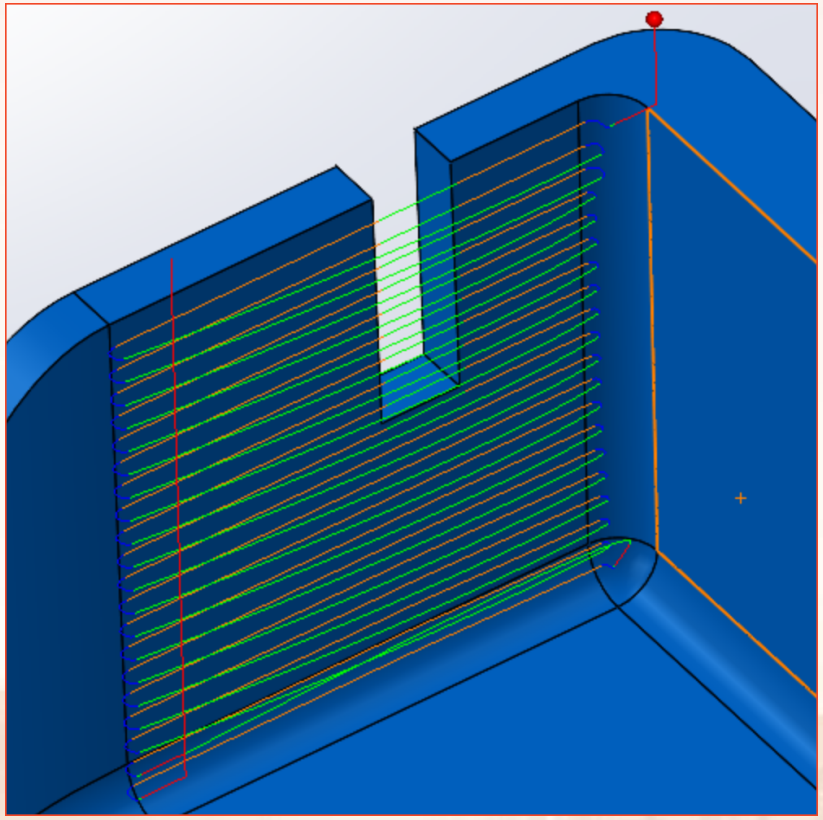
Multiaxis Machining– Machine by Regions

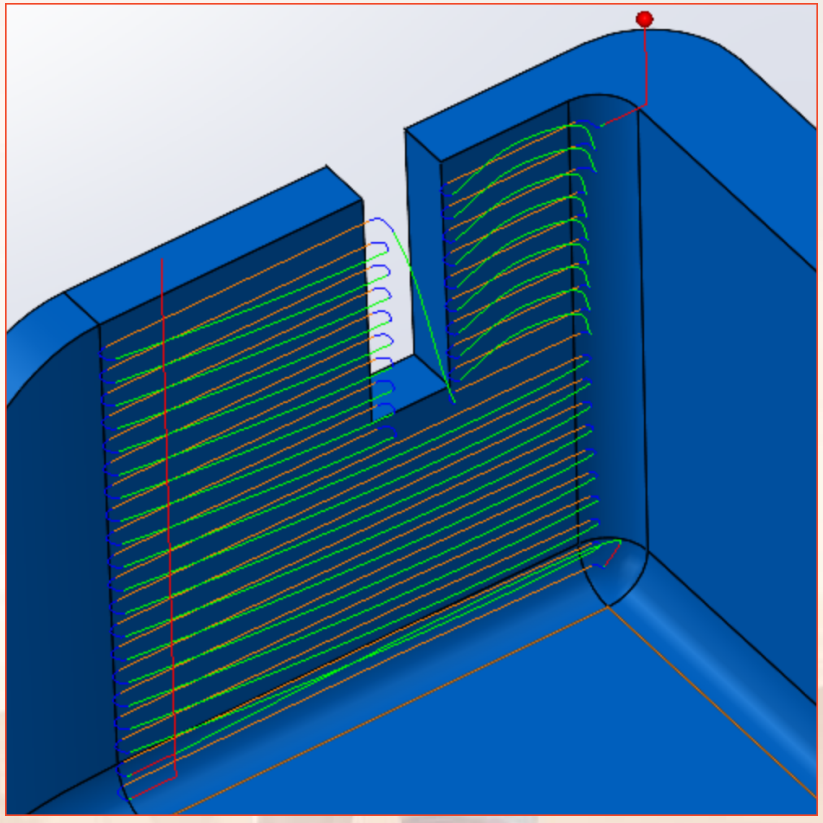
❑ Machine by Regions:

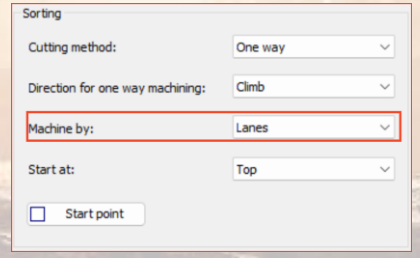
- Each region is machined successively.

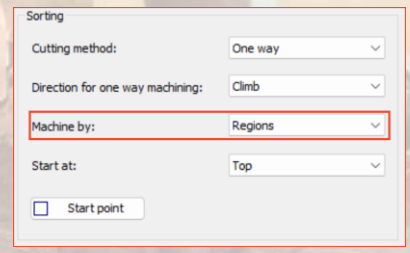
❑ Benefits:

- Increase machining efficiency and reduce linking movements.









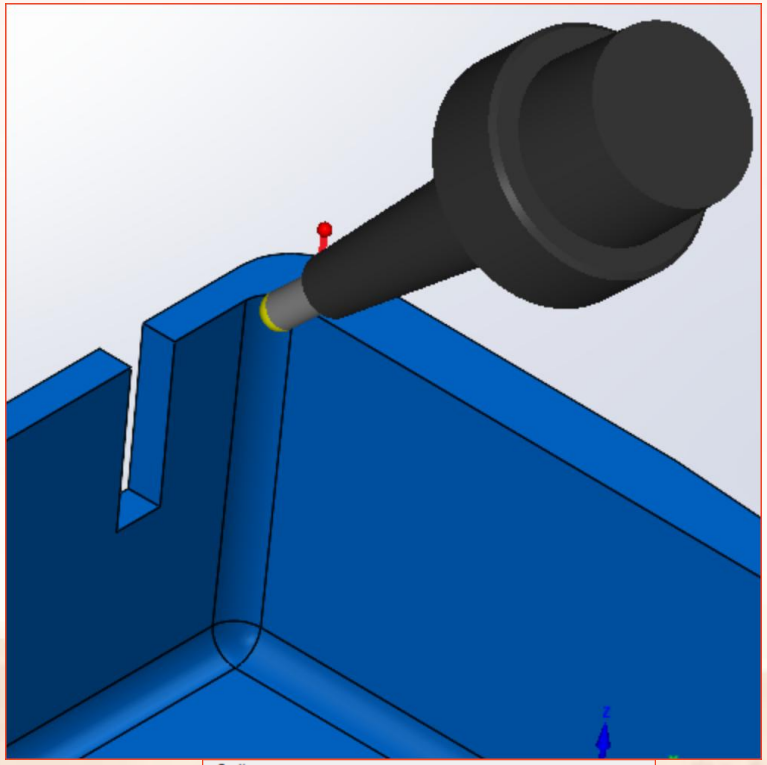
Multiaxis Machining – Cutting Order

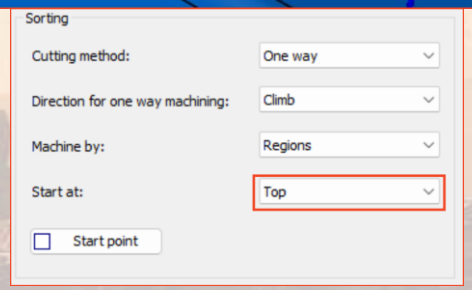
Machine start at:

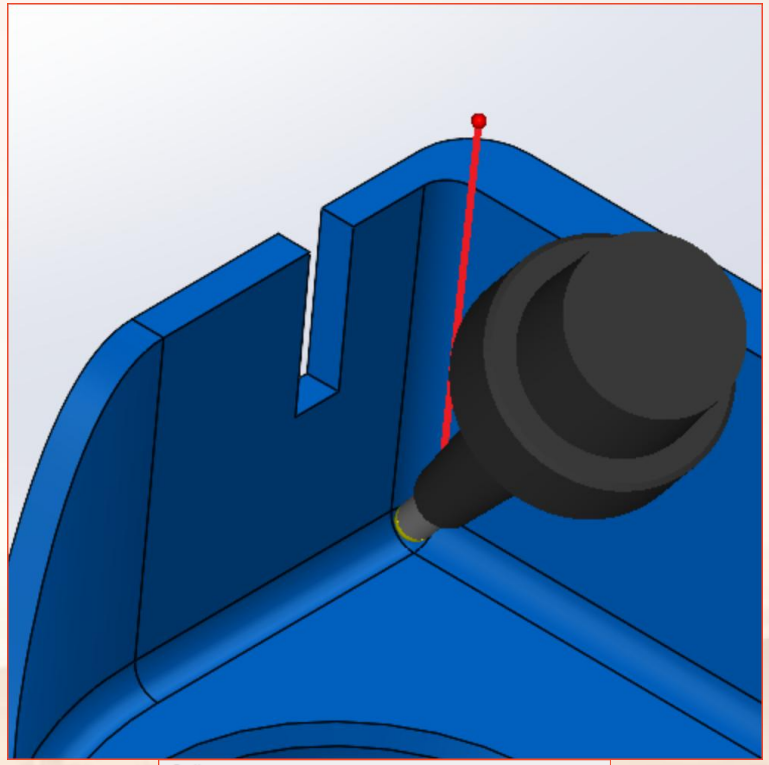
- Allows users to select the cut order, such as top-to-bottom or bottom-to-top.

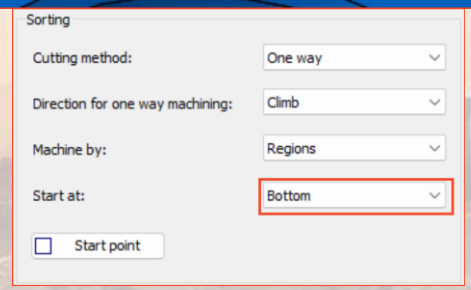
Benefits:

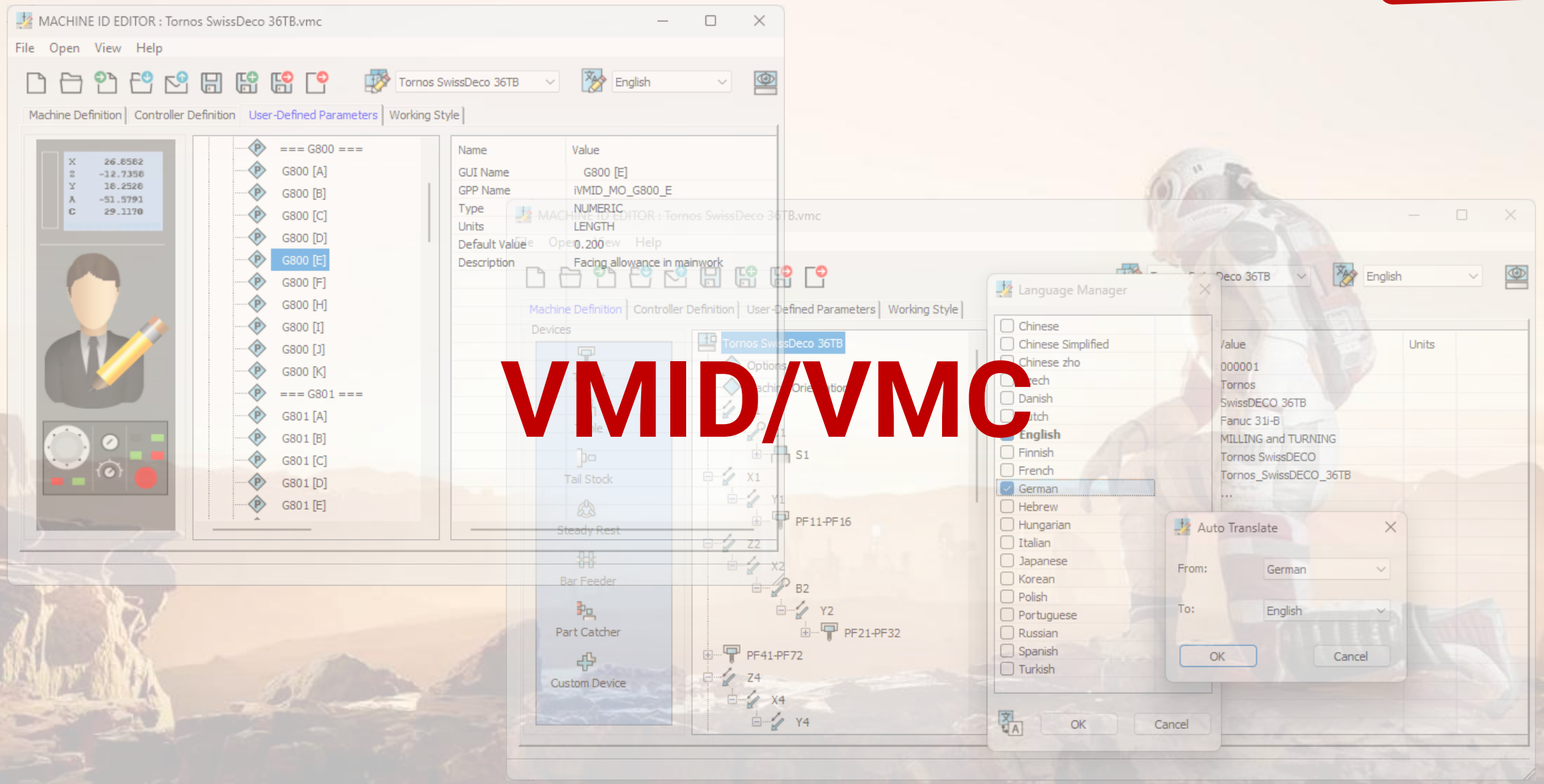
- Flexibility of machining.







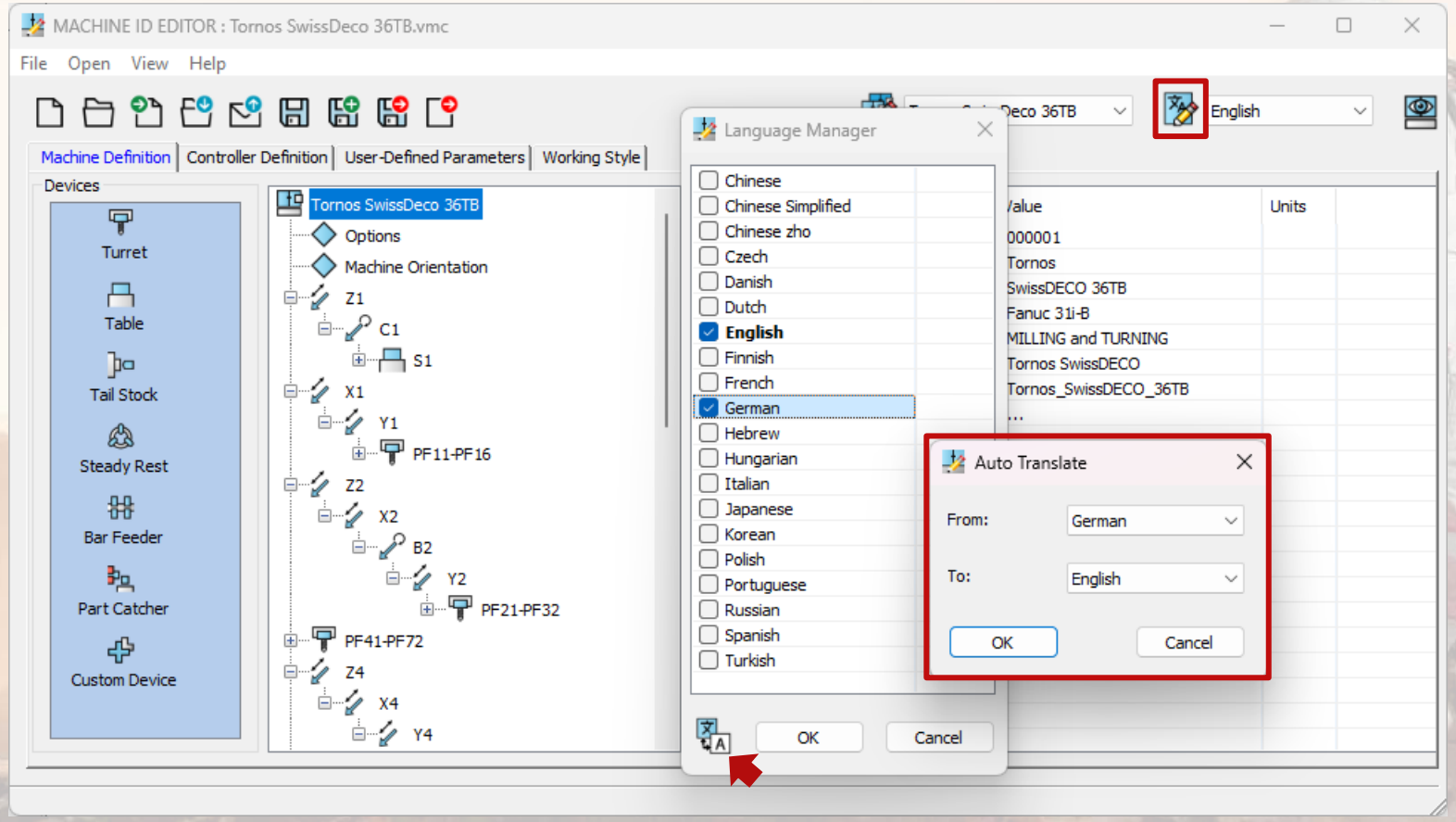



MACHINE ID EDITOR : Tornos SwissDeco 36TB.vmc
File Open View Help
Tornos SwissDeco 36TB
English
Machine Definition
Controller Definition
User-Defined Parameters
Working Style
=== G800 ===
G800 [A]
G800 [B]
G800 [C]
G800 [D]
G800 [E]
G800 [F]
G800 [H]
G800 [I]
G800 [J]
G800 [K]
=== G801 ===
G801 [A]
G801 [B]
G801 [C]
G801 [D]
G801 [E]
Name
Value
GUI Name
G800 [E]
GPP Name
iVMID_MO_G800_E
Type
NUMERIC
Units
LENGTH
Default Value
0.200
Description
Facing allowance in mainwork
Devices
Tail Stock
Steady Rest
Bar Feeder
Part Catcher
Custom Device
Tornos SwissDeco 36TB
S1
X1
Y1
PF11-PF16
Z2
X2
B2
Y2
PF21-PF32
PF41-PF72
Z4
X4
Y4
Language Manager
Chinese
Chinese Simplified
Danish
English
Finnish
French
German
Hebrew
Hungarian
Italian
Japanese
Korean
Polish
Portuguese
Russian
Spanish
Turkish
OK
Cancel
Auto Translate
From:
German
To:
English
OK
Cancel
Units
Tornos
SwissDECO 36TB
Fanuc 31i-B
MILLING and TURNING
Tornos SwissDECO
Tornos_SwissDECO_36TB

VMID/VMC

VMC – Auto Translate

- VMC added generic translation between two languages



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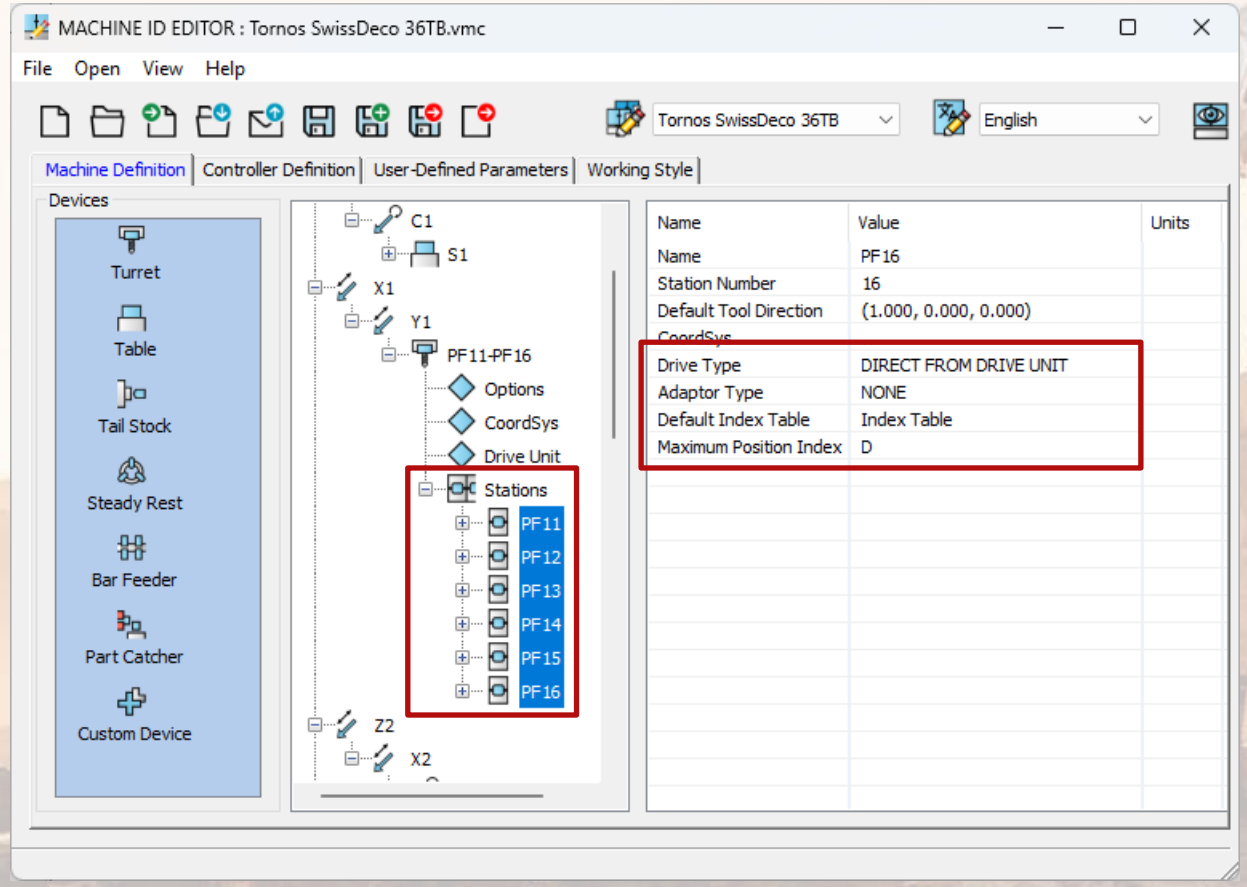
VMC – Multiple selection and properties changes on stations

- Multiple selection and properties changes on stations



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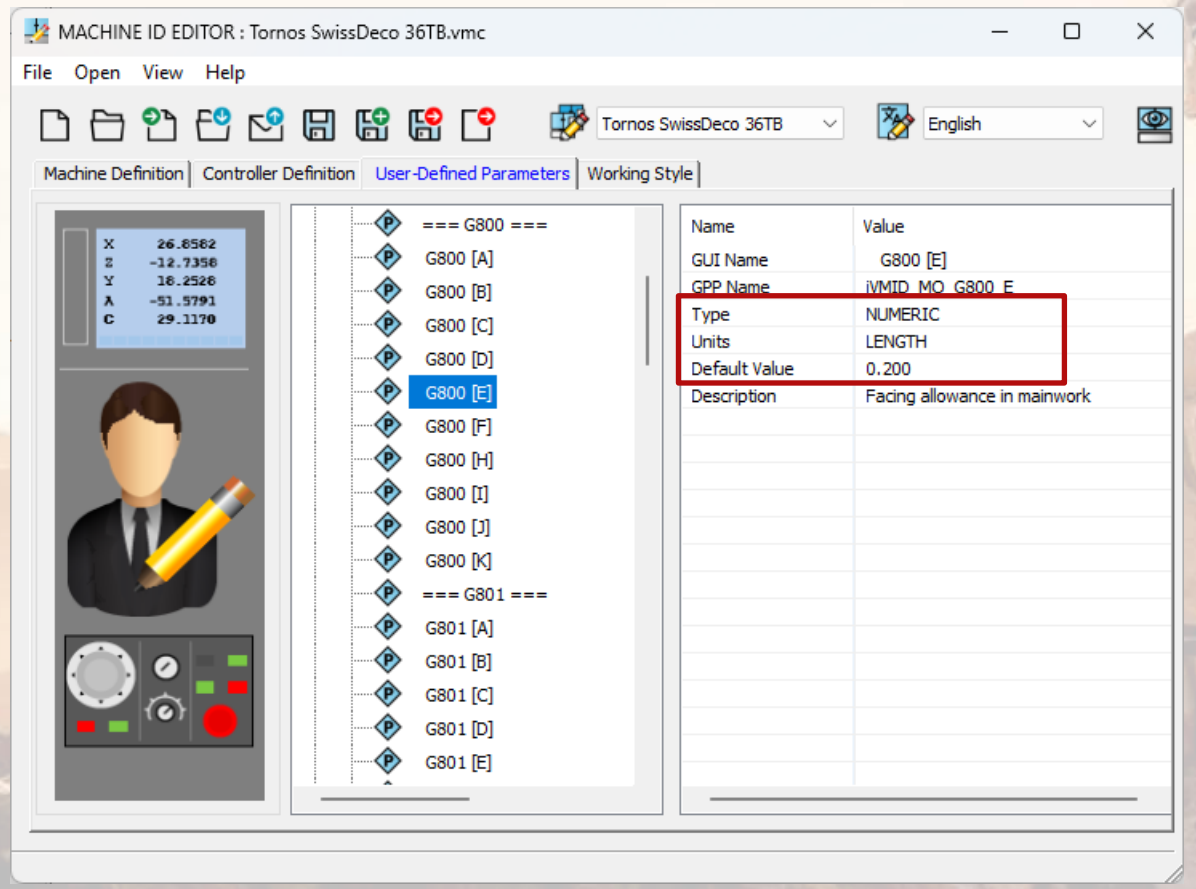
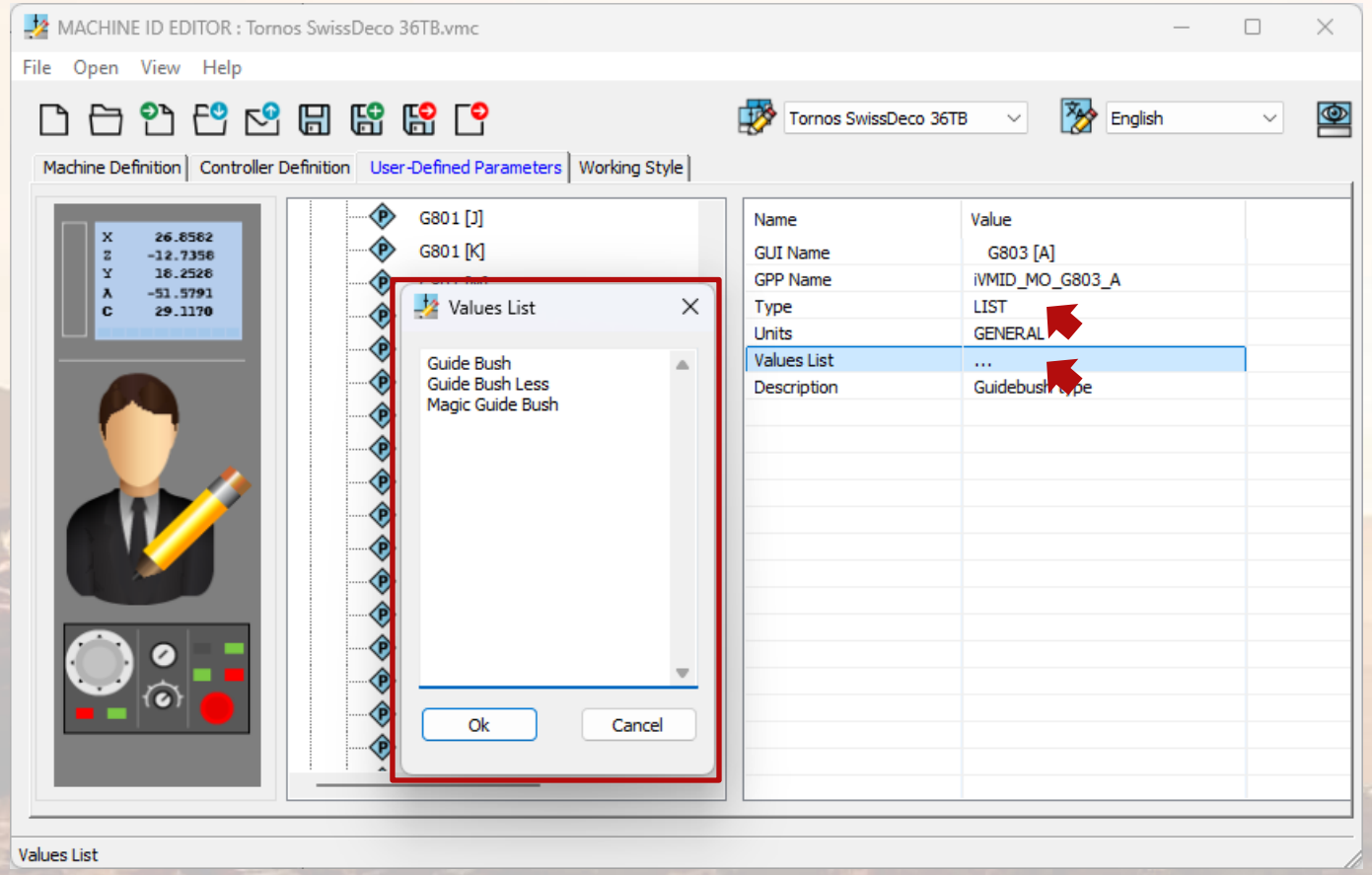
VMC – Added Units to Numeric parameters

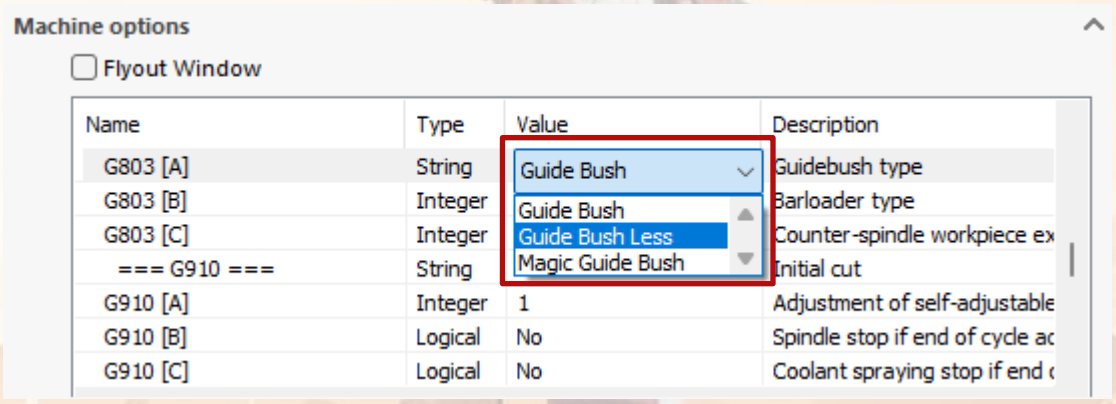
- Added **Units** option to any **Numeric** parameters in VMID
- Converting projects from Metric to Inch and vise-versa covers parameters that are set as LENGTH



VMC – Added Combo-box parameters

- Combo-box settings can be defined using the LIST option provided in VMID/VMC





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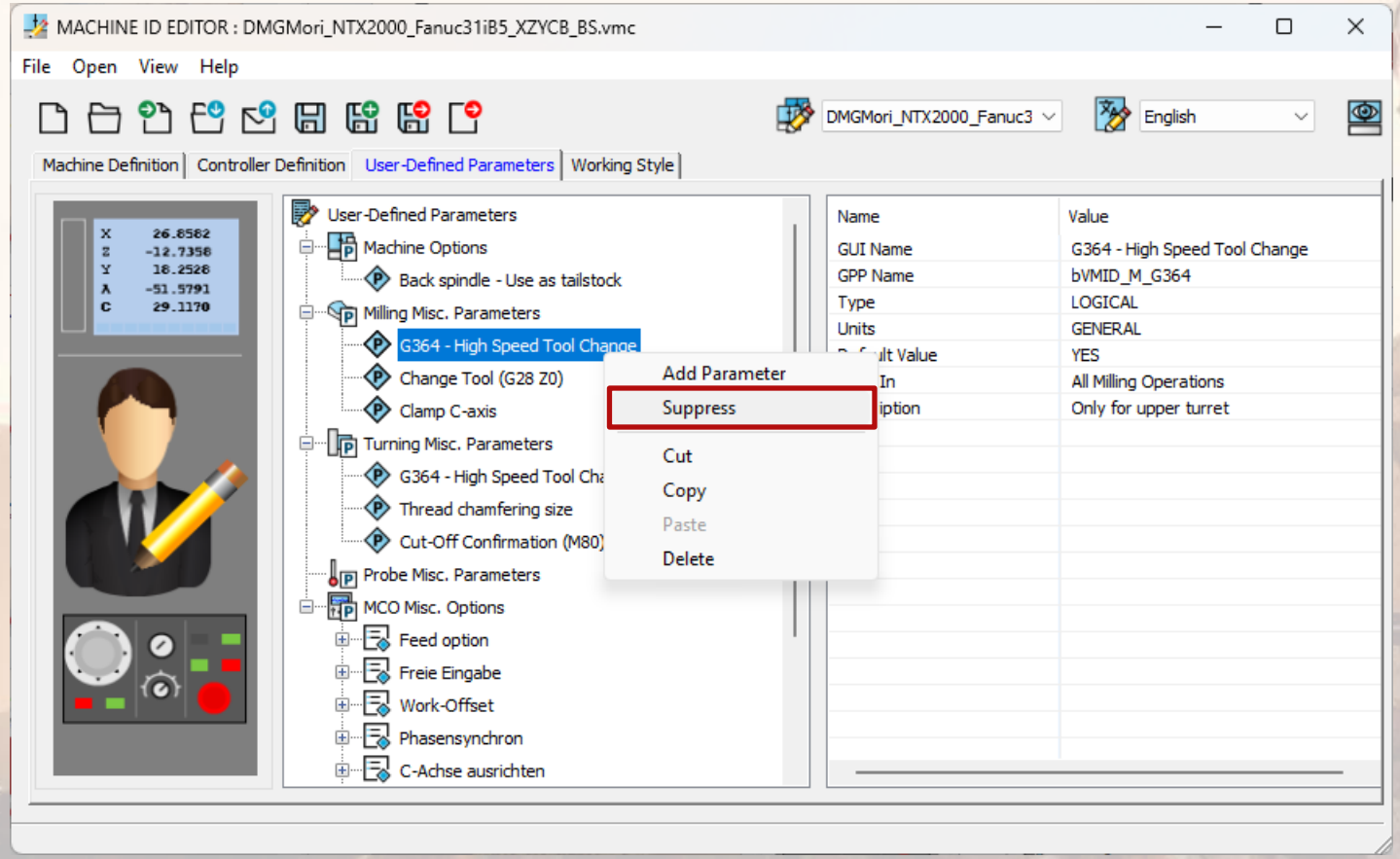
VMC - Added possibility to Suppress and Unsuppress parameters

- This feature allows Suppressing parameters that don’t exist at the machine without any GPP iteration.



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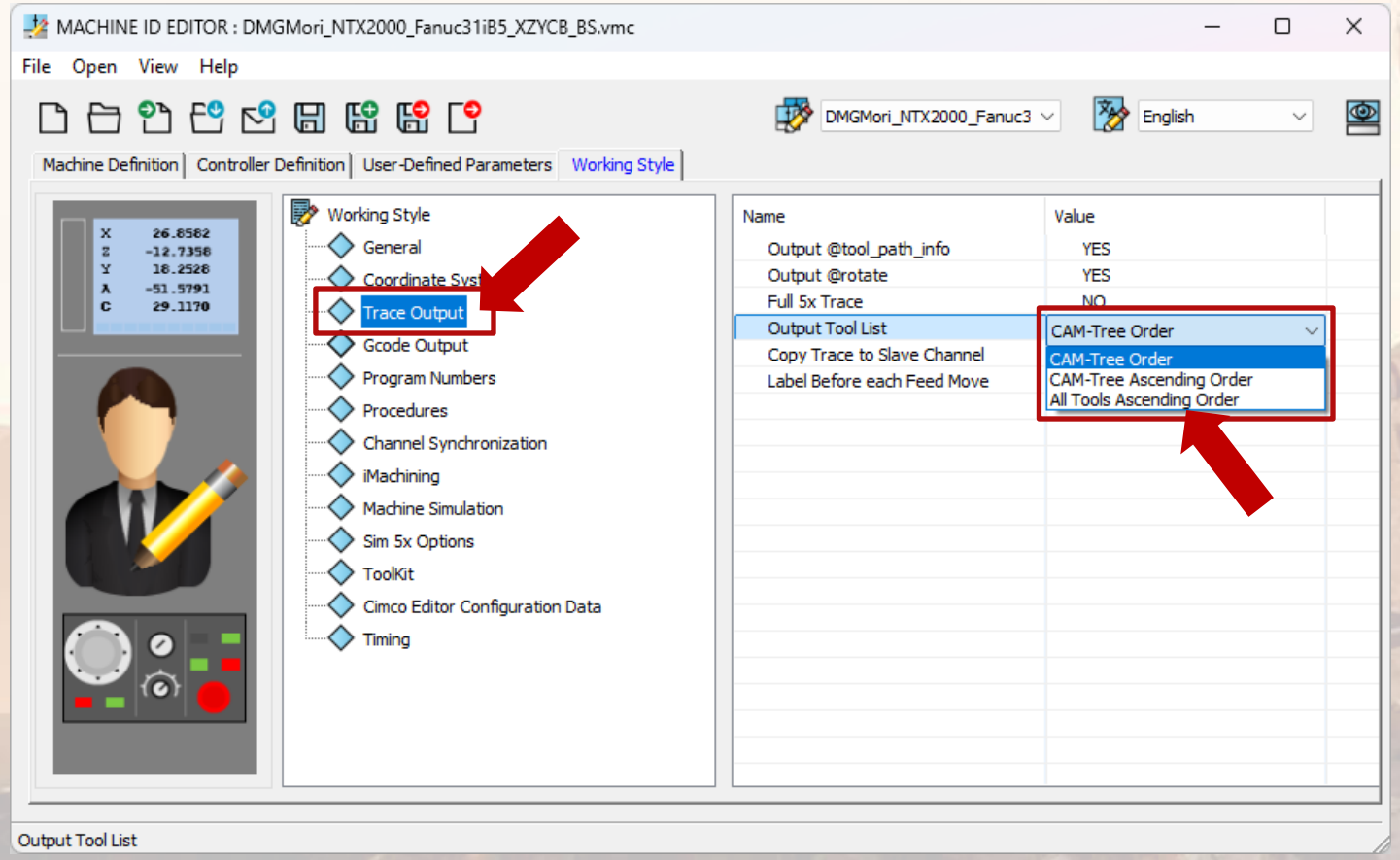
VMC – Output Tool List

- Added a parameter to control how the tool list in the Gcode is generated



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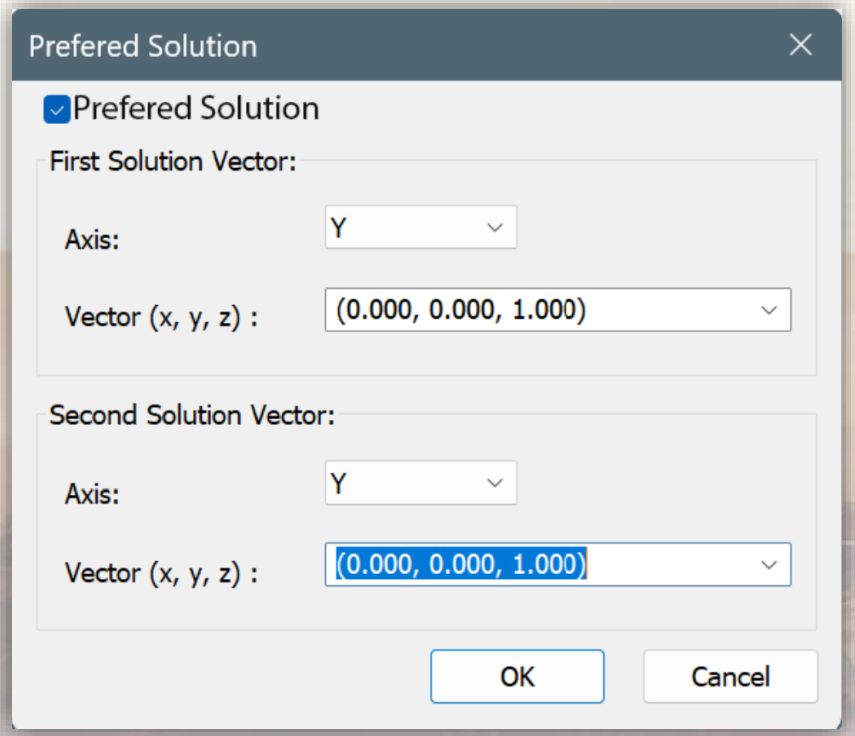
Prefered Solution

- Added general switch for prefered solution
- When the checkbox is off, we consider the plane definition to find the shortest solution.
- When the checkbox is on, we include vectors from the preferred solution into the plane definition.



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"The best way to predict the future is to create it."
– Peter Drucker
SolidCAM
THE FUTURE OF CAM
pepper