# WORKNC - 2025.4

# What's NEW

08/12/2025

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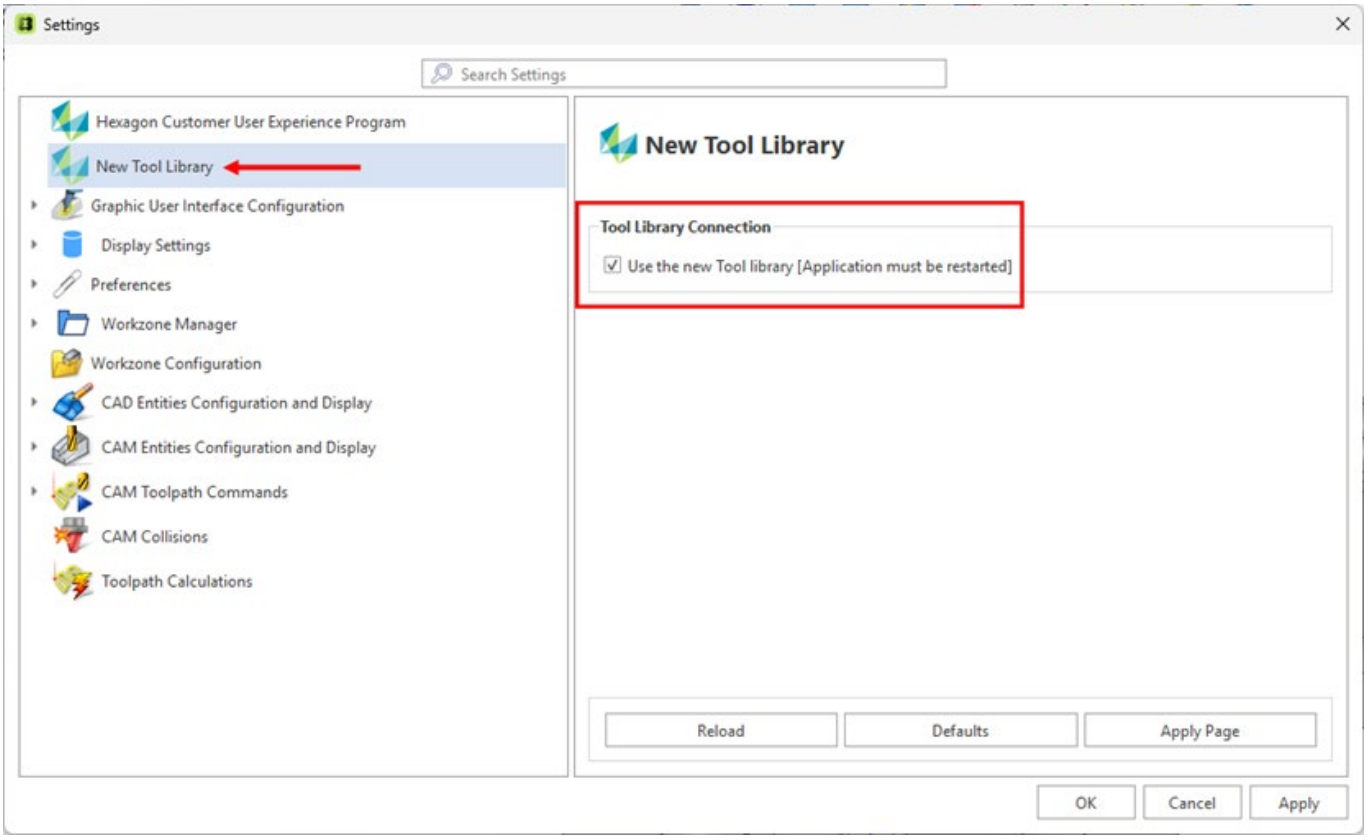
# New Tool Library

The **New Tool Library** is a full cloud application, hosted by **Hexagon**, which allows you to manage tool definition together with cutting data.

## Access

The **New Tool Library** needs to be activated in the application **Settings**:




You need to connect to the **New Tool Library** using the icon in the top right-hand corner of the interface:


The **New Tool Library** is accessible by clicking the  icon in the **Toolpath Parameters** dialog box.

## Tool Selection

The user interface displays only the essential filters by default:

- Name.
- Tool Type.
- Cutter Diameter.
- Cutting Length.

- Machine.
- Material.
- Tooling Type: Cutter only or Tool Assembly.

**WORKNC** pre-filters the tool type based on the toolpath constraints.

Supported tool types:

- Ball.
- Flat.
- Bull-nose.
- Lollipop.
- Spot Drill.
- Convex Milling.
- T-Slot.

### Tool Extension Holder Type

The **New Tool Library** contains a sub-type for adapters. You can flag the adapters as holders or extensions.

# New Toolpath Parameters Dialog Box

## Toolpath Migration

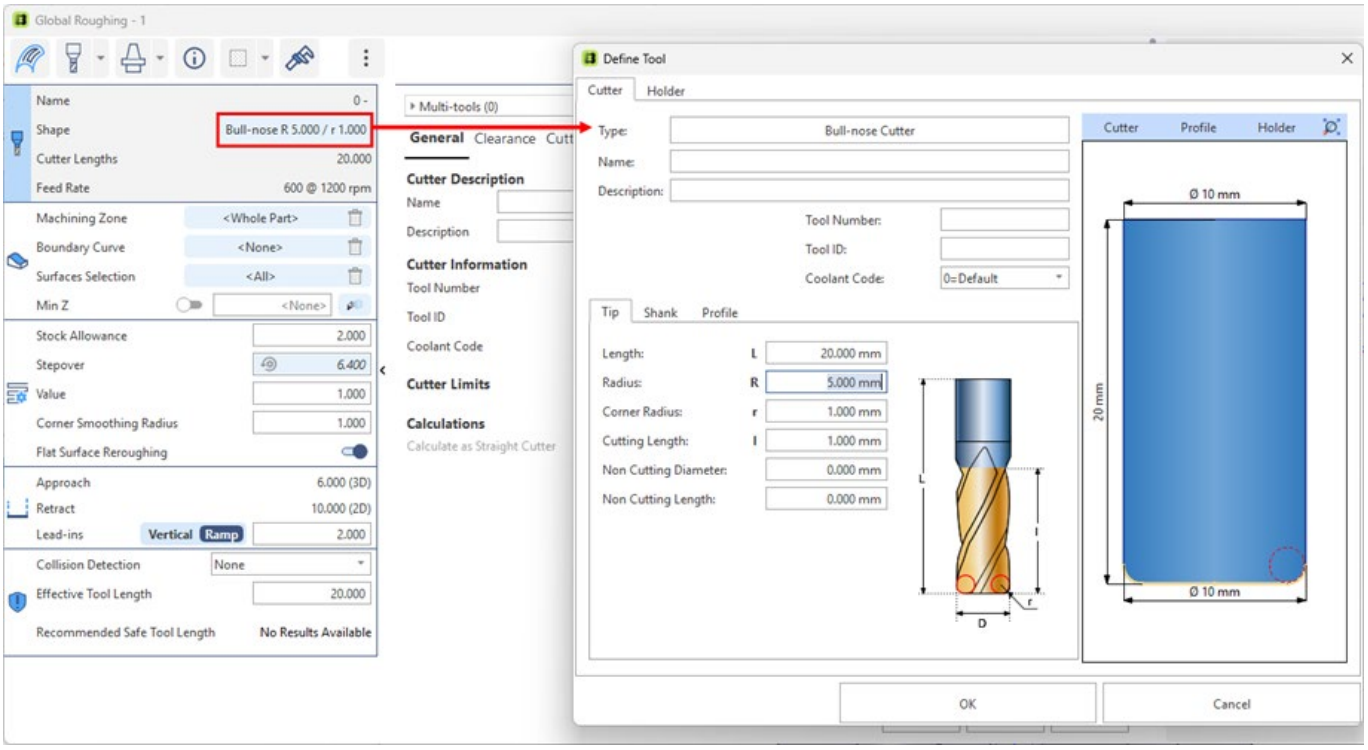
The following toolpaths are now available with the new interface:

- Along the Curve.
- Die Flats Roughing.

99.8 % of the calculated toolpaths can only be programmed with the next generation toolpath interface. Almost 80 % of users no longer have any reason to use the legacy interface for maintained toolpaths.

## Quick Tool Editing

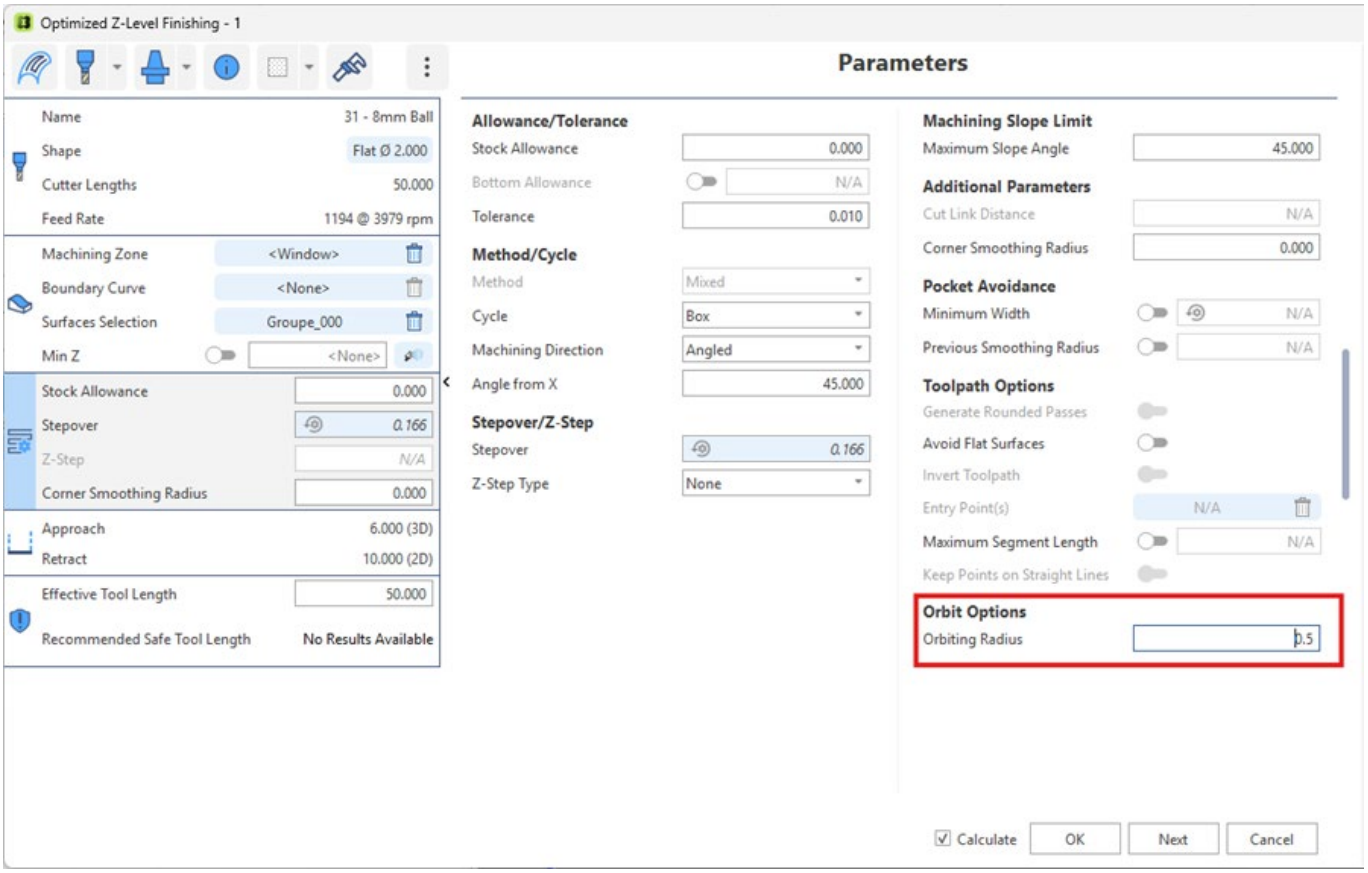
The button which allows you to edit the tool type and shape is back in the **Tool** tab:



## Orbiting Radius

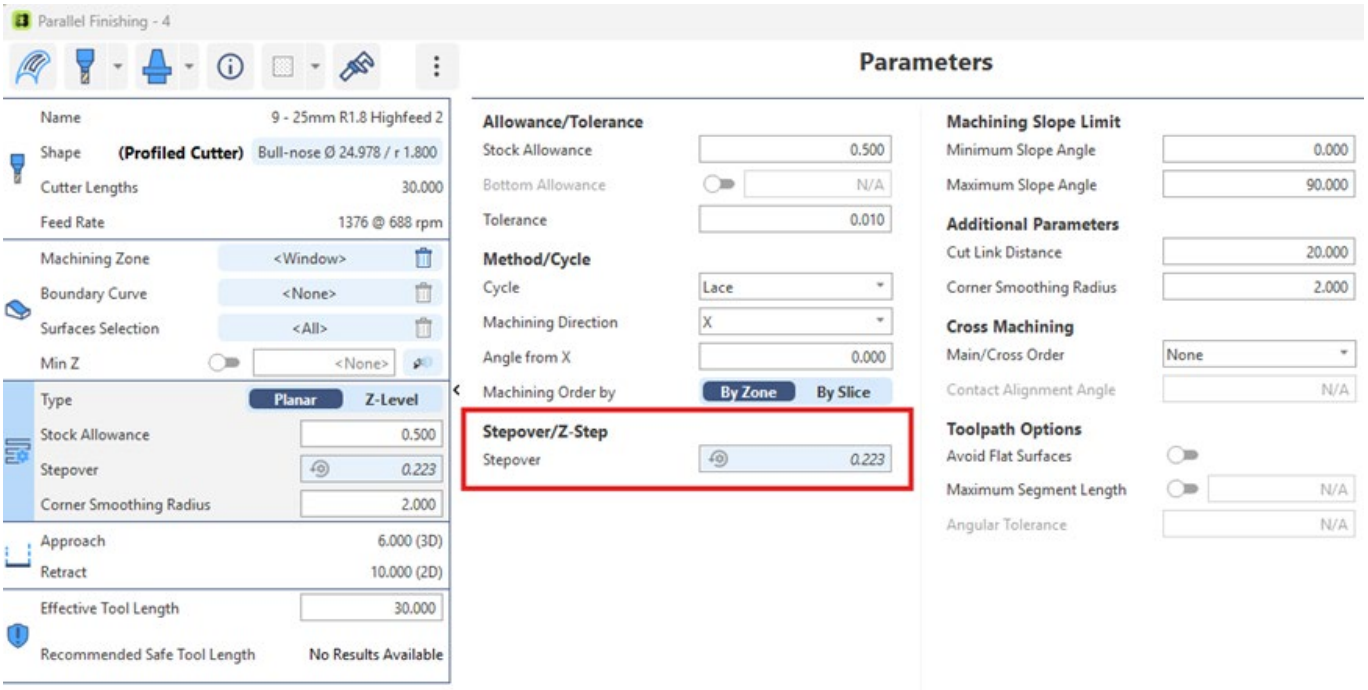
This option, which is available in the legacy toolpath interface, has been introduced in the **Orbit Options** section of the new **Parameters** tab for all toolpaths apart from **Global Roughing** and **Parallel Finishing** toolpaths.

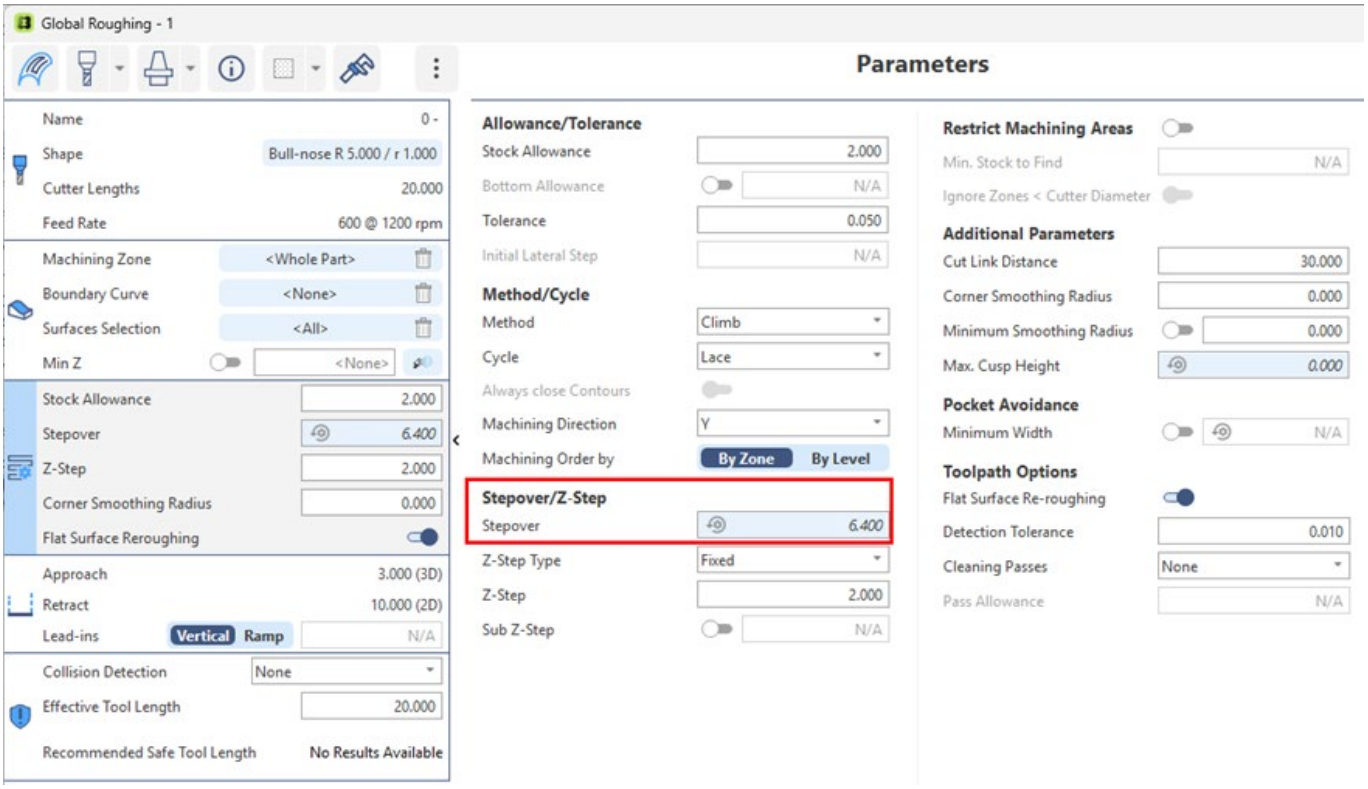
This option allows you to set a negative Stock Allowance for flat cutter. It is only available with the dedicated environment variable.



## Stepover / Variable Z-Step

The **Stepover** parameter is now available in the **Stepover/Z-Step** section of the **Parameters** tab:

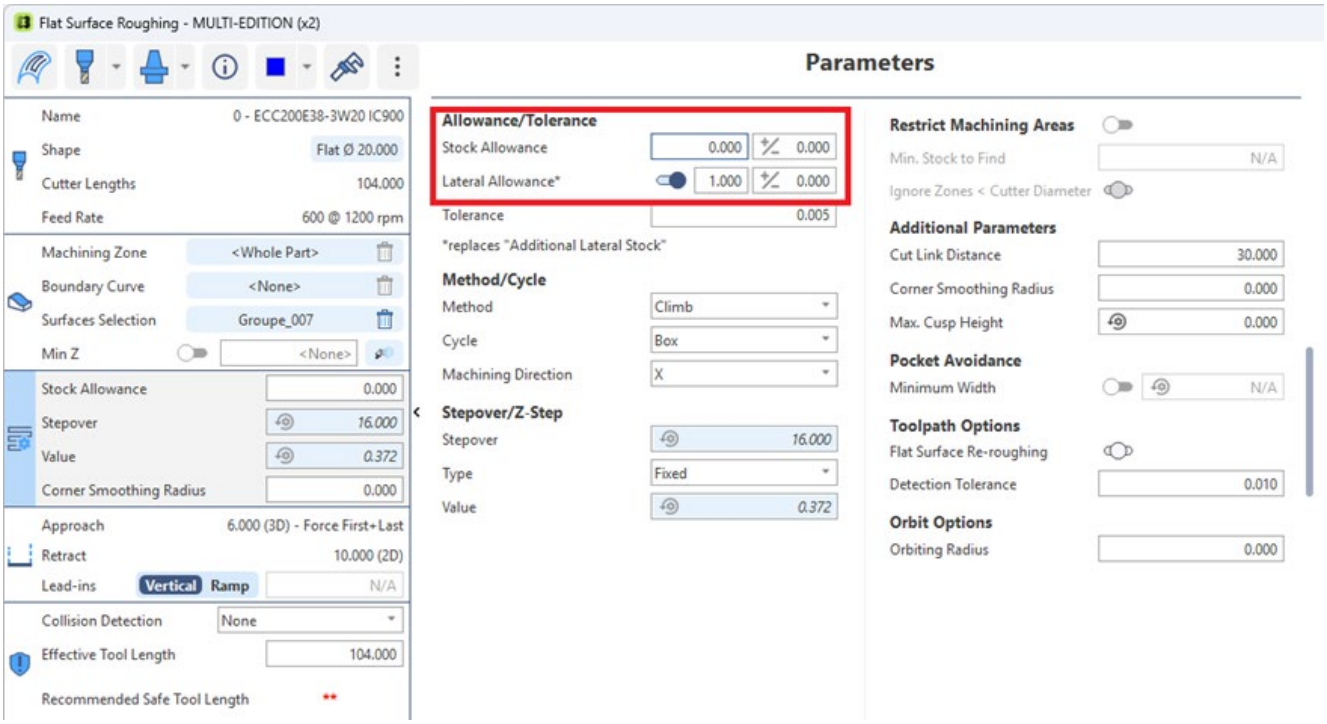



The issue with the display of the **Variable Z-Step** table, where excessive width implied lateral scrolling, has been fixed.

## Increment in Multi-Edit Dialog Box

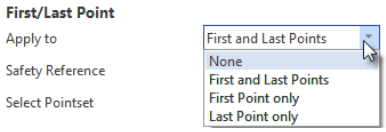
Increments for the allowance values are now available next to the **Stock Allowance** and **Lateral Allowance** fields, with **+/-** icons:



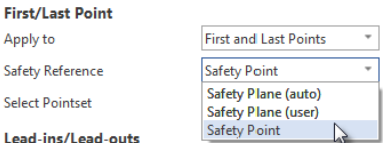
# First, Last and Intermediate Retracts

The **First/Last Point** and **Intermediate Retracts** sections of the **Leads/Links** tab have been modified to allow you to not only define a safety Z-level plane, but also complete XYZ safety points.

- Select the point for which you want to adjust the minimum Z-level value from the **Apply to** drop-down list:




- Select the **Safety Point** option from the **Safety Reference** drop-down list:

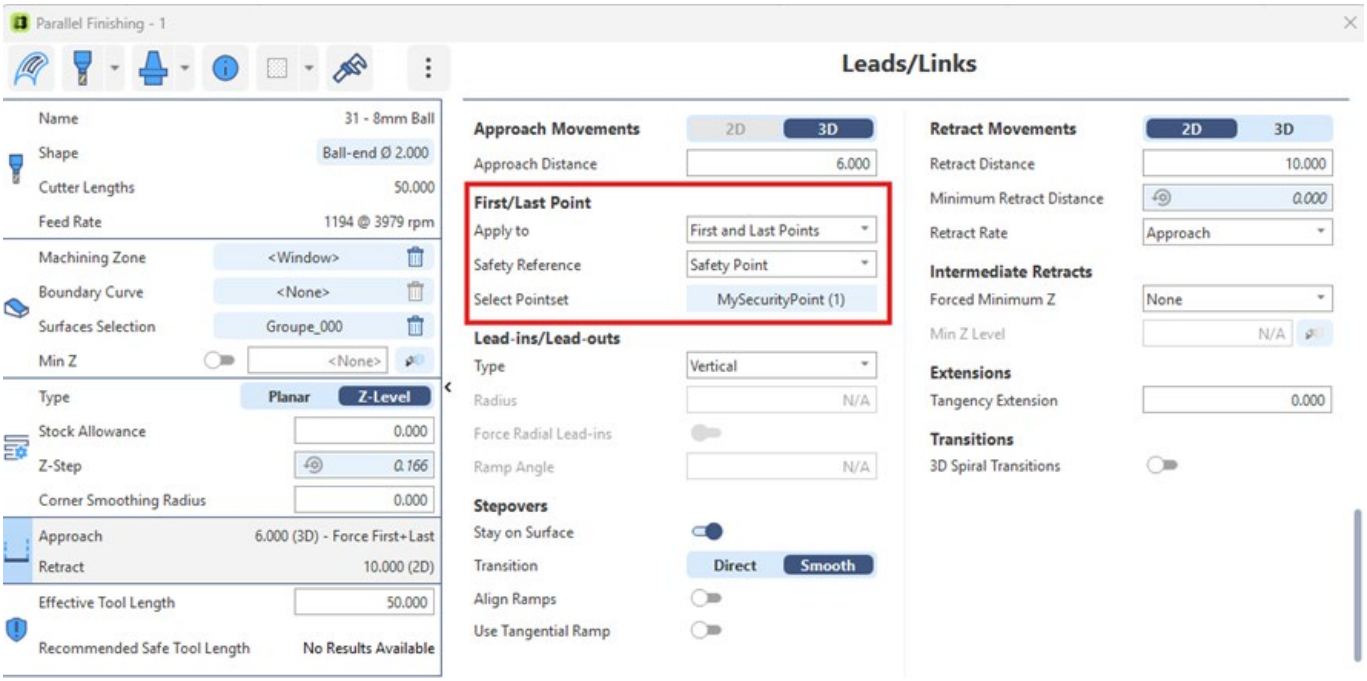



- Select the Point Set.

The point set must contain **ONLY ONE** point.

This functionality does **NOT YET** replace and is **NOT COMPATIBLE** with:

- Caldega and other postprocessors black boxes: By principle, Caldega will remove the first and last points. Line # 100 2 will also remove the first and last points.
- Assembled Toolpaths.
- 3+2-axis and 5-axis toolpaths.



## User Interface Changes

The **Safety Reference** drop-down list replaces the **Min Z Level** option:

- **Safety Plane (auto)** = **Min Z Level** option deactivated.
- **Safety Plane (user)** = **Min Z Level** option activated with custom value defined.

The **Forced Minimum Z** drop-down list replaced the **Force Minimum Z** option for **Intermediate Retracts**:

- **None** = **Force Minimum Z** option deactivated.
- **Auto** = **Force Minimum Z** option activated and the application sets the safety Z-level above the part.
- **Given Z = Force Minimum Z** option activated with custom value defined.

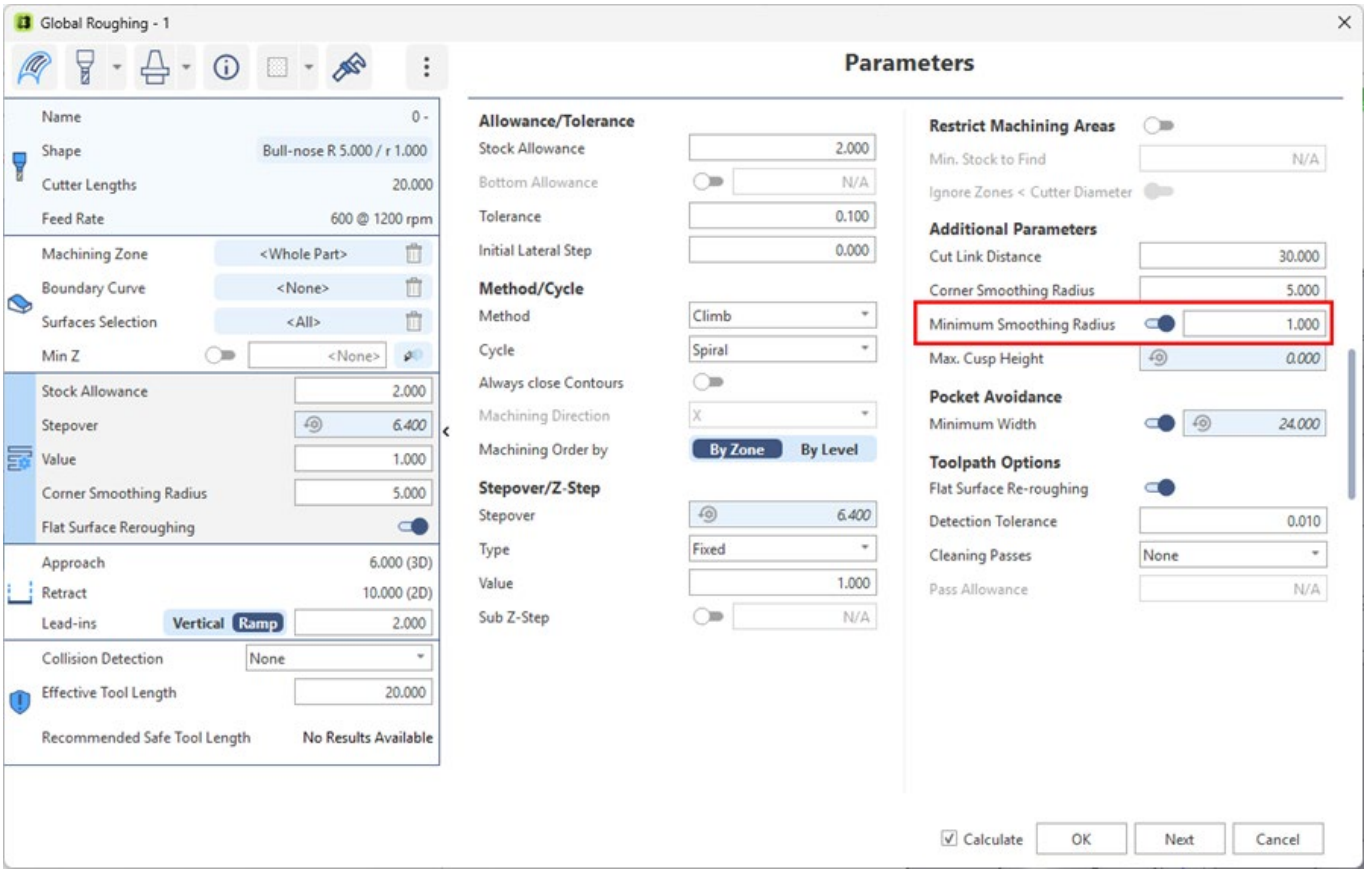
These parameters are available for all toolpaths except:

- Undercut Remachining.
- Manual 2D.
- Drilling.
- Tapping/Threading.
- Point Drilling.
- Automatic Hole Machining.
- Manual Hole Machining.
- All 5-axis toolpaths.

# Global Roughing

## Improved Machining in Narrow Areas - Minimum Smoothing Radius

A new option allows you to apply a minimum smoothing radius to effectively control the cutting process:



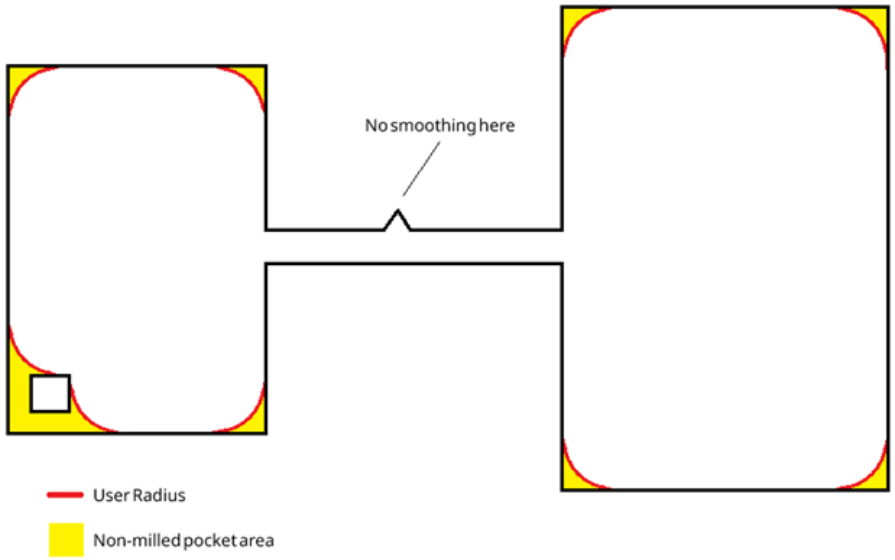

Activate the **Minimum Smoothing Radius** option to allow the toolpath to perform radii smaller than the **Corner Smoothing Radius**.

This also allows you to define a radius value when the Corner Smoothing Radius cannot be applied in narrow areas.

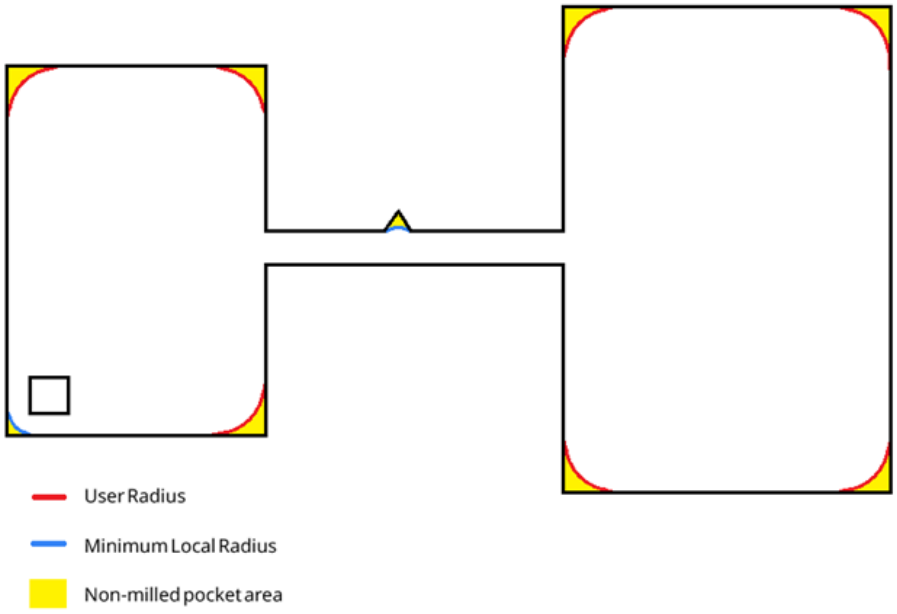
Use the **Minimum Smoothing Radius** field to define the minimum corner smoothing radius to be applied on narrow areas.

The **Minimum Smoothing Radius** cannot exceed the **Corner Smoothing Radius**.

**Minimum Smoothing Radius** option deactivated by default:




With the **Minimum Smoothing Radius** option activated, narrow areas are machined, and the Smoothing radius is respected for the whole toolpath:



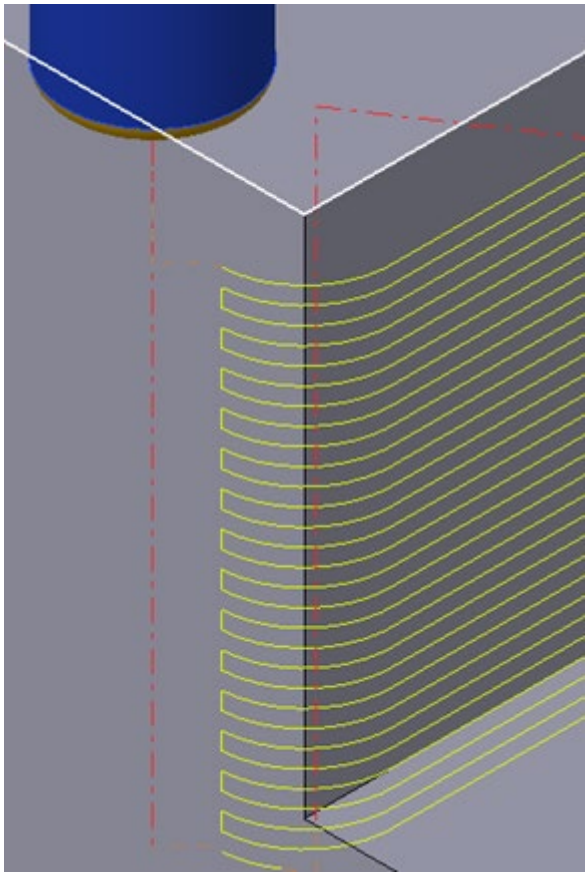
# Parallel Finishing

## Stop on Edges and Vertical Faces

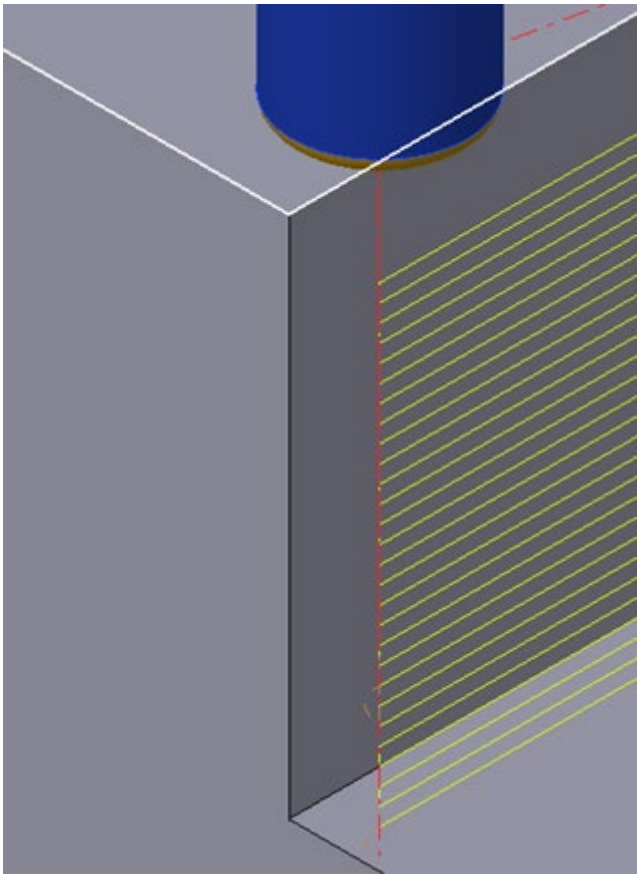
The toolpath algorithm has been reviewed to improve the behavior when stopping on surface edges. This ensures that the tool stops exactly at the edge without rolling around the edge, resulting in cleaner finishes and more precise geometry.

Combined with the **Tangency Extension** option, it generates the perfect finishing result.

Toolpath in previous version:

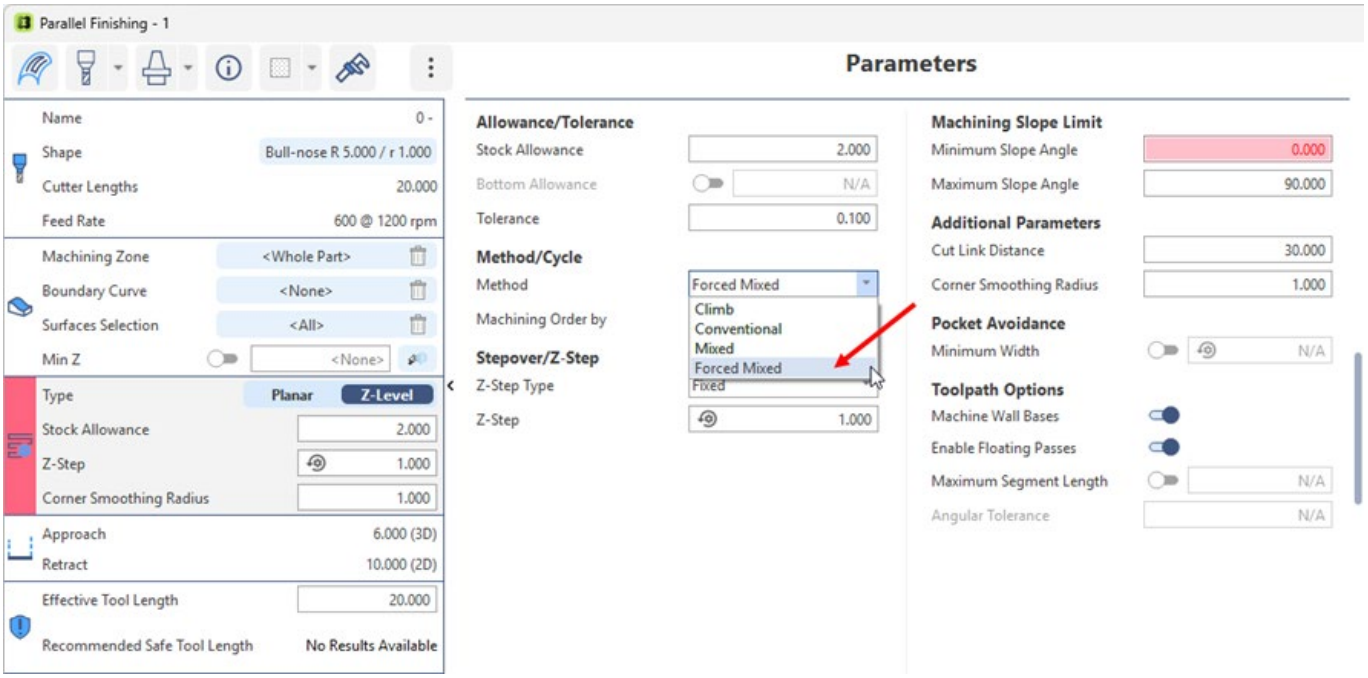


Toolpath in version 2025.4:



## Forced Mixed Method

A new option has been added to give you the opportunity to choose between the 'optimized' **Mixed** machining method (which optimizes the use of **Climb** milling) and a strictly alternating mixed (**Forced Mixed**) method:




| Method | Comment | From 2024.3 to 2025.3 | 2025.4 |
|---|---|---|---|
| Climb | Climb only | Available | Available |
| Conventional | Convention only | Available | Available |
| Mixed | 'Optimized' Mixed Method:<br>• Forces Climb milling on closed passes.<br>• Alternate between Climb and Conventional milling on open passes that are close to each others. | Unavailable | **New** |
| Forced Mixed | Strictly alternates between consecutive Z-Levels | Available | Available |

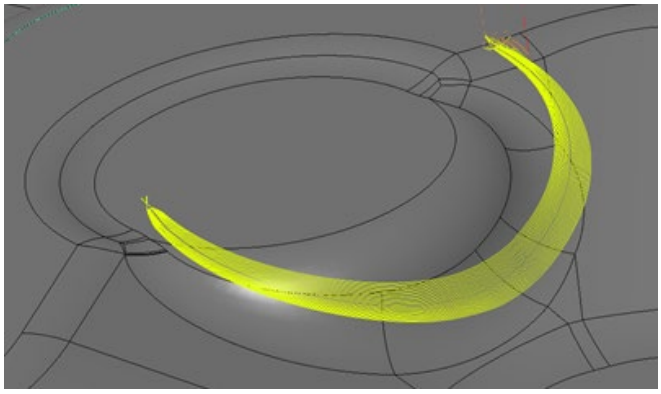
# Contour Remachining

## Precise Detection of Small Rest Areas

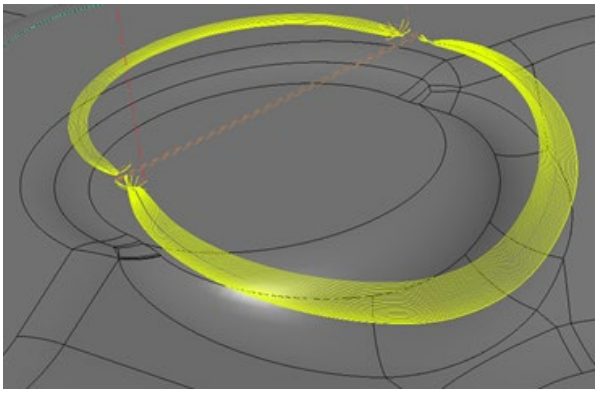
The previous version of **WORKNC** allowed you to improve rest material detection when using small cutters.

The algorithm has been improved to refine the detection of small rest material areas, regardless of the tool size.

Toolpath in previous version:



Toolpath in version 2025.4:



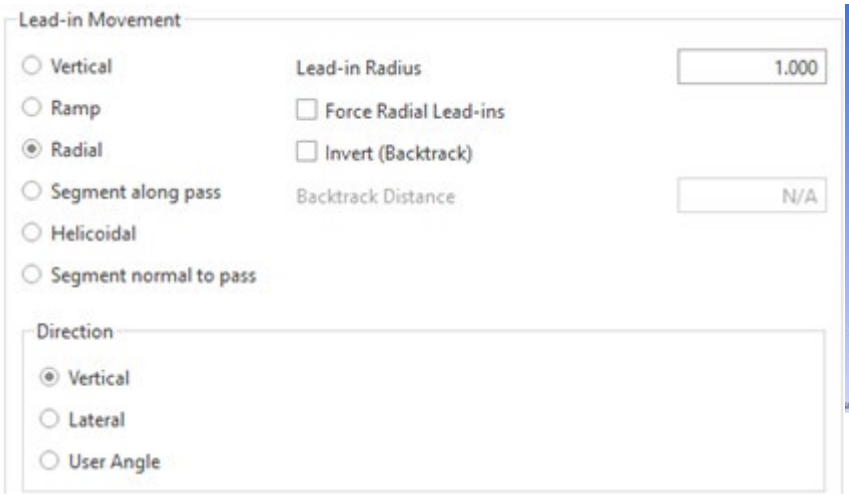
# 5-axis - Rolling

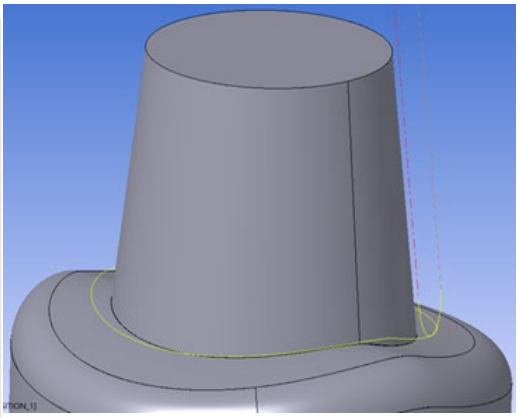
## Normal/Lateral Lead-ins

The normal and lateral direction of the legacy toolpath have been implemented in the current **5-axis - Rolling** toolpath. The **Lift Height legacy parameter has been replaced by the User Angle parameter.**

### First case: Vertical

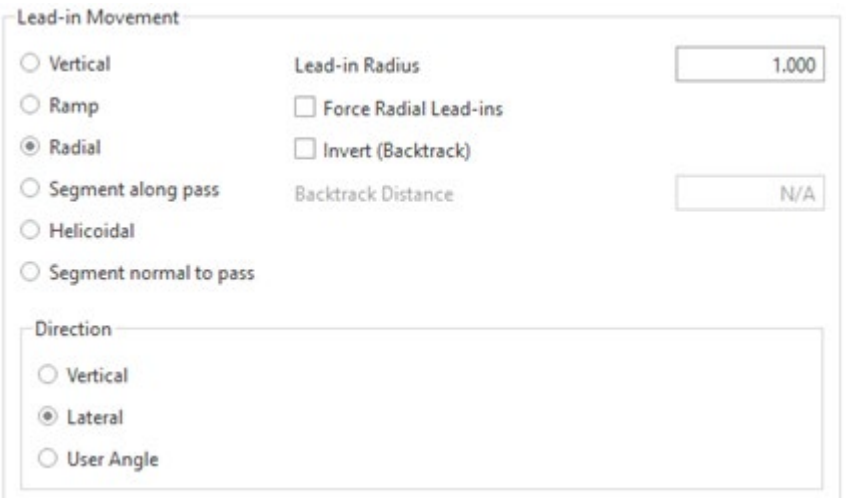
The radial lead-in movement is performed in a plane defined by the tool axis and the last toolpath pass:

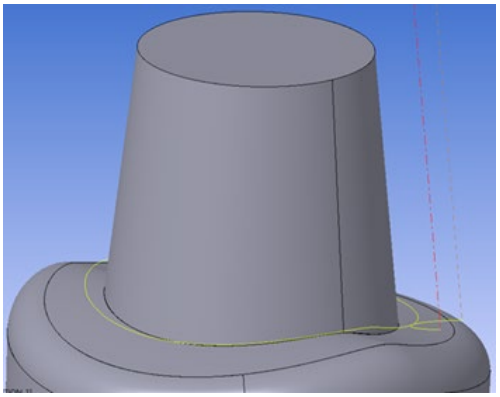


### Second case: Lateral

The radial lead-in movement is performed normal to the plane defined by the tool, the tool axis and the last pass segment:

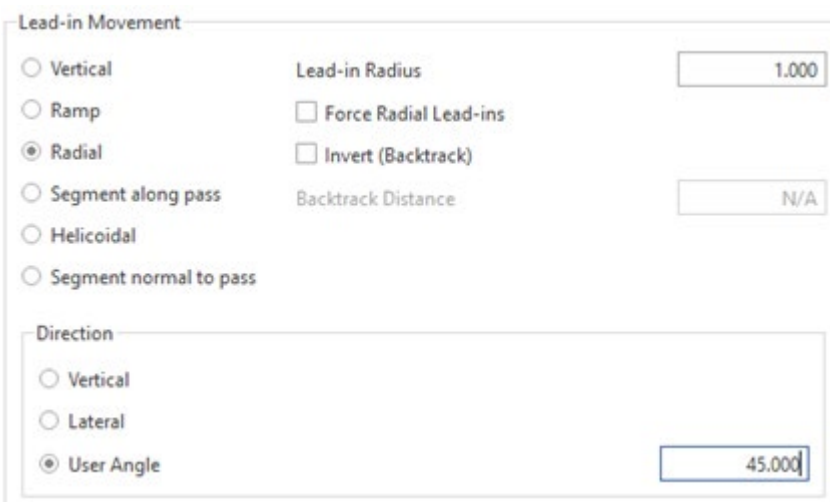


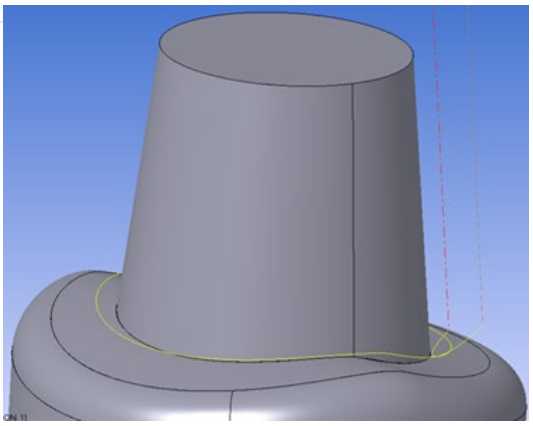



### Third case: User Angle at 45°

You may set an angle value to ensure that the lead-in movement is performed in a plane located between the Lateral and Vertical directions. This means that the inclination of the plane varies from:

- 0° = Lateral direction.
- 90° = Vertical direction.



# Roughing Toolpaths - Detection of Vertical Plunges into Stock

The algorithms of the roughing toolpaths have been improved to detect vertical plunges into the Stock Model with the **Ramp** lead-in type.

The aim is to secure machining operations and improve toolpath reliability.

If a plunge movement is detected, toolpath calculations automatically result in error.

# Miscellaneous Improvements

## Display Issue with NVIDIA Graphical Cards

**WORKNC** 2025.4 now automatically uses its own configuration for the WORKNC.exe file. You may now keep the base profile for NVIDIA Graphical Card. This improves compatibility with other 3D applications.

The rotation issue with the NVIDIA RTX Graphical Card has been resolved.

## Native CAD file compatibility

The new supported versions are highlighted in bold in the following table:

| Import format | From | To | File extension |
|---|---|---|---|
| ACIS | | 2023 1.0 | .asat, .sat |
| CADDS | 4X | 5.12 | _pd |
| CATIA V4 | 4.15 | 4.25 | *.model, *.dlv, *.session |
| CATIA V5 | R10 | V5-6R2025 | *.CatPart, *.CatShape, *.CatProduct, *.CatDrawing |
| CATIA V6 | R2010x | R2025x | *.3dxml |
| Dwg | 2.5 | 2018 | *.dwg, *.dxf |
| Cgr | R10 | **R29 called V5-6R2025 (R35)** | *.cgr |
| Iges | | 5.3 | *.igs |
| Inventor | 9 | **2026** | *.iam, *.ipt |
| Jt | 6.4 | 10.10 | *.jt |
| Parasolid | 7 | 37.1 | *.x_t, *.x_b, *.xmt_txt, *.xmt_bin |
| Creo | Pro/E 2000i | 11.0 | *.prt, *.asm, *.prt.*, *.asm.*, *.xar, *.xpr |
| Rhino | V1 | 8 | *.3dm |
| Solid Edge | ST1 | 2025 | *.par, *.asm, *.psm, *.pwd |
| SOLIDWORKS | 1999 | 2025 | *.sldprt, *.sldasm (possibility to read *.slddrw) |
| STEP AP203 | Edition 1 | Edition 2 | *.stp, *.step, *.stp.Z, *.stpa |
| STEP AP214 | Edition 1 | Edition 3 | *.stp, *.step, *.stp.Z, *.stpa |
| STEP AP242 | Edition 1 | Edition 3 | *.stp, *.step, *.stp.Z, *.stpa |
| NX | UG V10 | **15 to NX 2506 Series (until 2412.7000)** | *.prt |
| Vda | N/A | | *.vda |

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