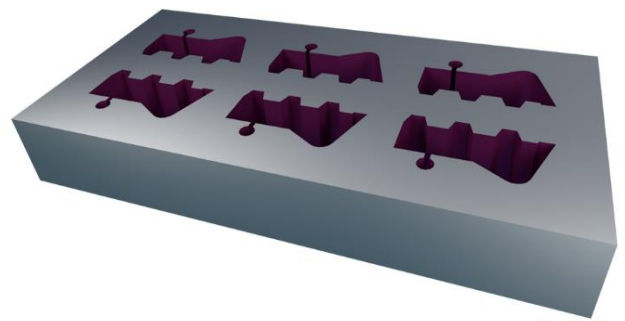


GO2cam






GO2cam V6.08

Tutorial solid

W06 – Taper Cut

I. Process of Solid import:



Repositioning:

- In the menu **File**, Left click on
-  Automatic Solid Import
- Open file: **W06 - Solid Taper Cut.X_T**
- Left click on the **support face** with the icon 
- Validate 

Definition of Stock:




Automatically create stock regarding your solid.

Note: It is a parallelepipedical stock defined by default, and has a constant overflow of 5 mm around the solid.

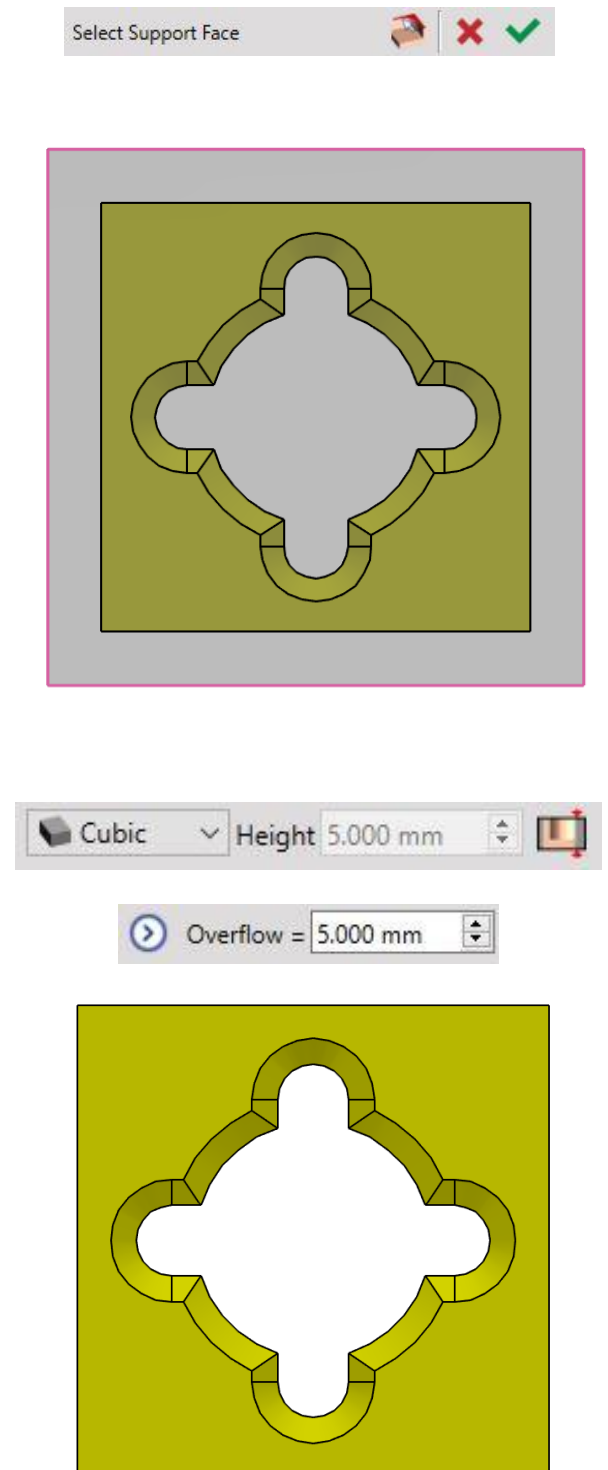
- Left click on  in order to make the height of stock equal to the height of solid, the Height turns grey
- Change the overflow value to 0
- Left click on  to validate

Positioning of origin:

GO2cam saves at the last location used for the origin. If your origin position is still in the same location, you can directly verify this step.




- Left click on , choose center of part 
- Left click on  to finish the solid import

Solid is imported and repositioned, stock is defined relative to the part, and the origin is positioned.



II. Create machining profile on topology:



1. Definition of Profile:

- In Design, enter in menu **EDM Geom**
- Left click on **Straight/Taper on solid** 
- Left click on the start face of Profile
- Left click on the arrow  to define the direction of the profile.
- Left click on the same face to close the profile
- A selection appears and the starting position of the profile is displayed in green, Left click on  to validate

The profile is displayed in greenish-yellow, and the green flag indicates the start and end positions.

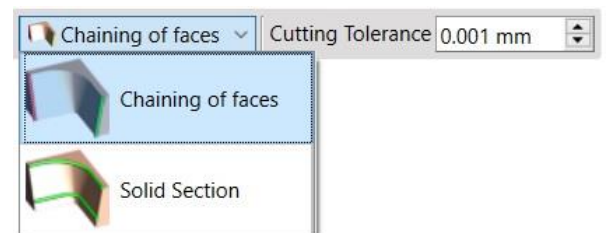
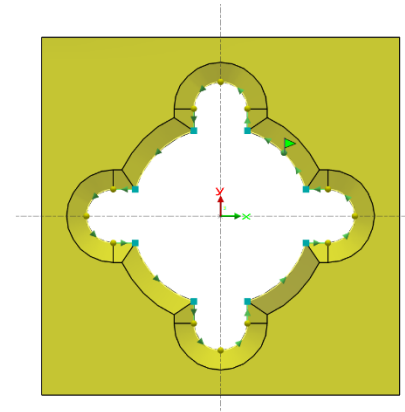
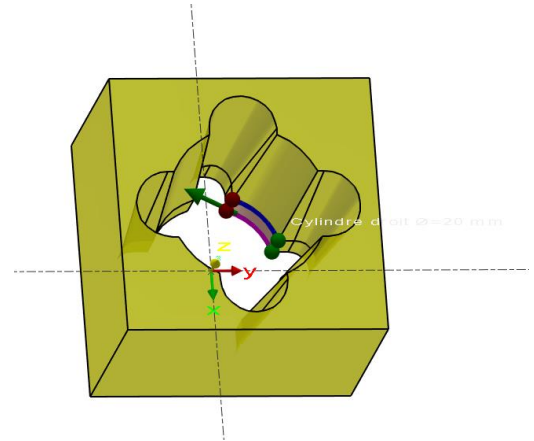
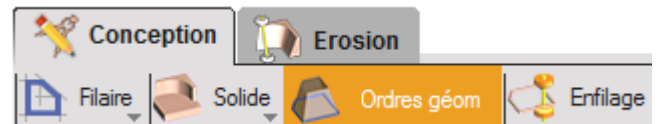
2. Create a 4-axis profile:

We will process the taper in 4-axis mode.

- Left click on **4 axis on solid** 
- Choose mode **Chaining of faces**
- Left click on above taper surface
- Check direction of the arrow is  the same as the previous profile
- Left click on the same face to close the profile

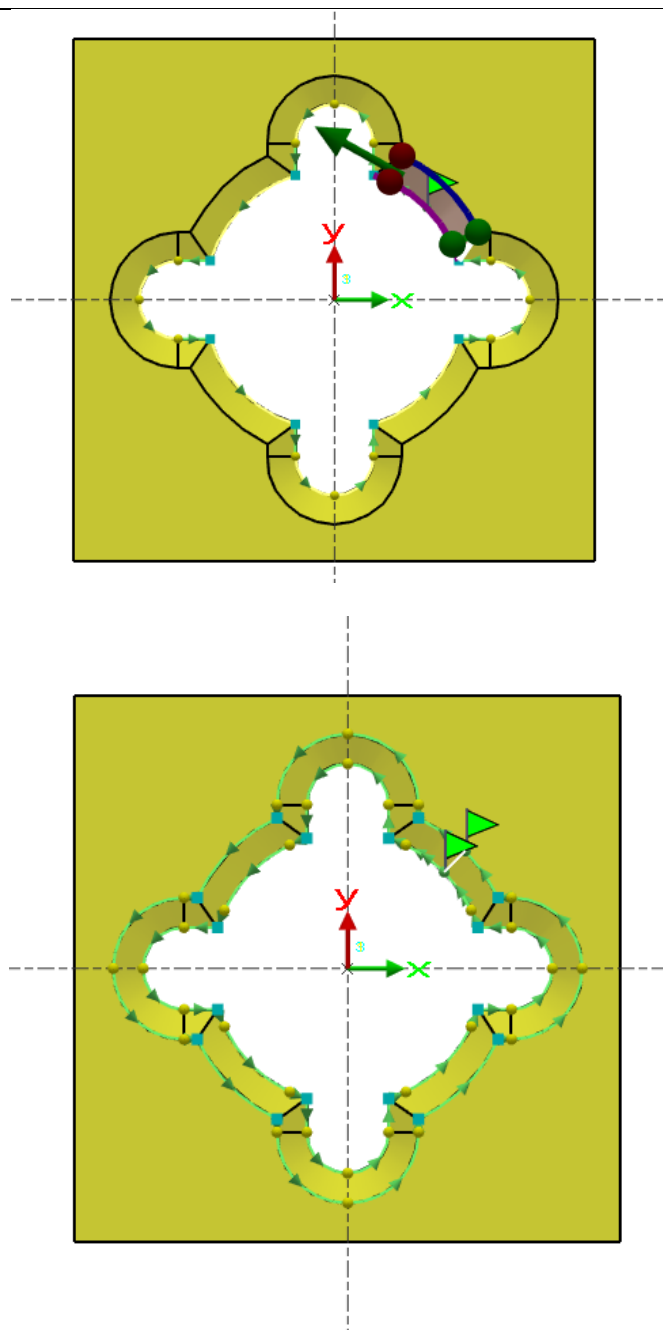
The top and bottom profiles appear, and we can view the white automatic markers.

- Left click on 




3. Save of file:


- Left click on the menu **File**
- Left click on **Save as**
- Type name : **W06 - Solid Taper Cut**
- Left click on **Save**



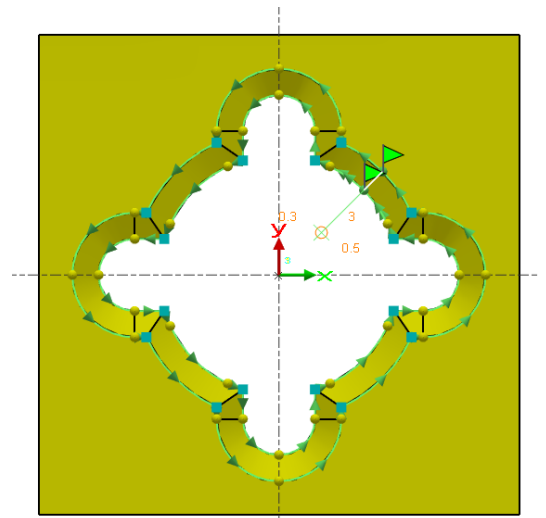
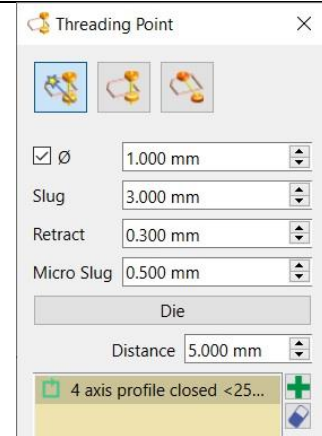
4. Definition of threading point:

- Return in the menu **Design**
- Enter in menu **Threading**
- Left click on the function **Manual Threadings** and choose « Auto-Threadings on profiles » 
- Type value 3 for **Slug**,
- Choose mode **Die**
- Type value 5 for the **Distance**.





- Left Click the profile to automatically create the threading point
- Validate 

Your part is ready for machining.

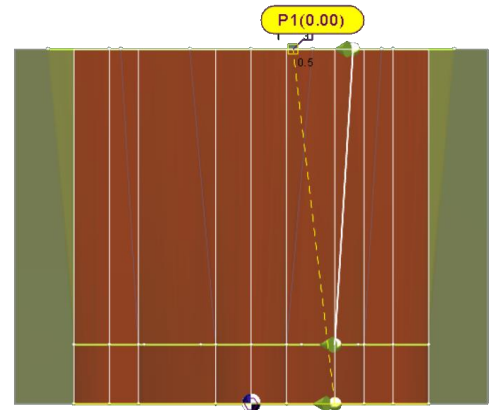


III. Machining Procedure:

Application of a Complete Cutting Cycle:


- Left click on  Cylinder Cut
- Left click on the icon 
- Left click on the bottom profile

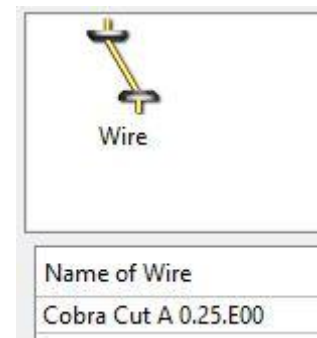
Note: Because of the machining profile, the thread point is automatically selected.



Maybe to re-consider this image

Selection of tool:

- Left click on 
- In the list of tool, select tool "Cobra Cut 0.25"



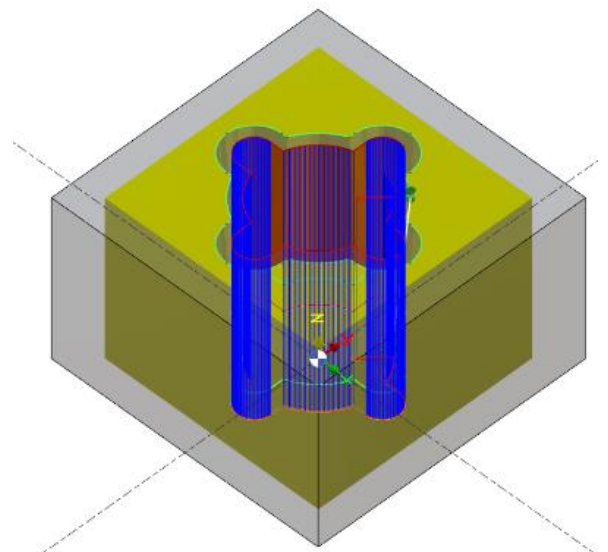
Selection of cycle:

- Left click on 
- Left click on **Straight Cut**





Calculation of Cycle :

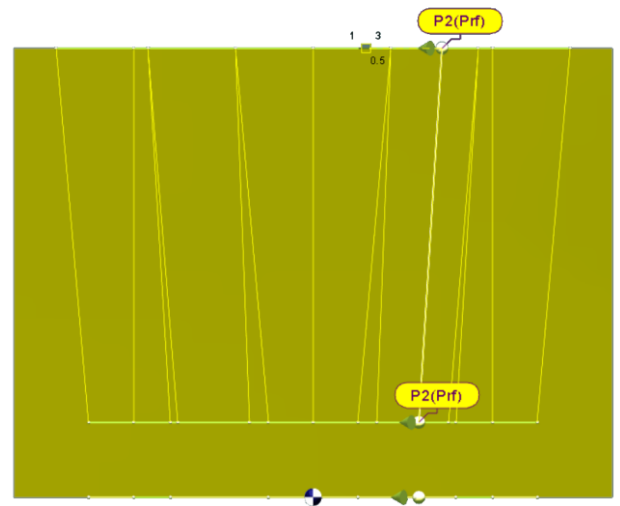
- Left click on Cycle Calculation 



Toolpath in 4 Axis:


- Left click on  4 Axes
- Left click on 
- Select the top or bottom profile of the taper surface

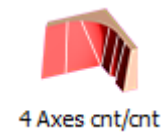
The height, angle, and threading point are automatically created.



Selection of cycle:

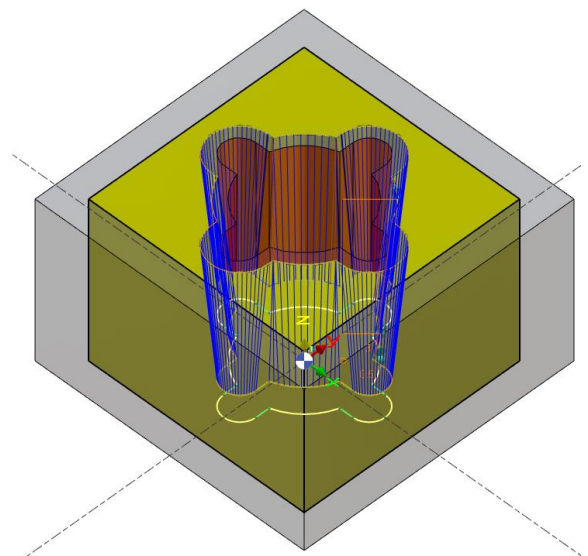
It is no longer necessary to define a tool because it has been selected in last operation.

- Left click on 
- Left click on 4 axes cnt/cnt

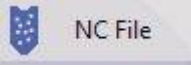






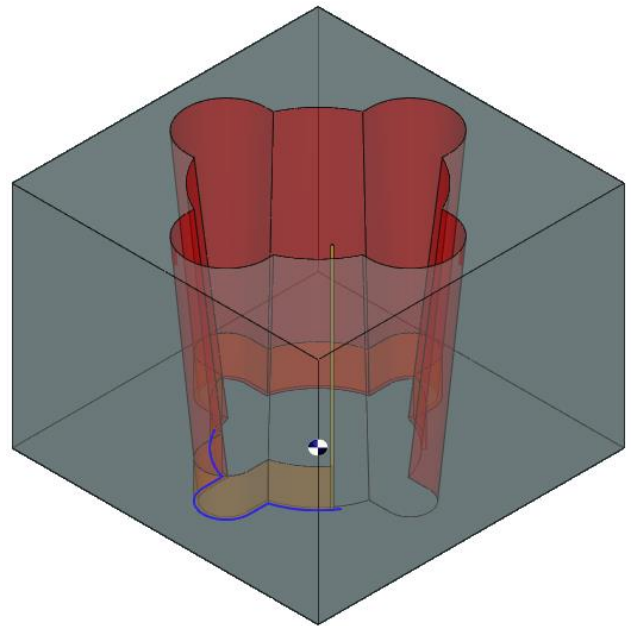
Calculation of cycle:

- Left click on Cycle Calculation




Simulation :

- Left click on  NC File
- Left click on 
- Left click on  to start simulation on all machining operations
- Click the space bar or click on  if you want to switch to step-by-step mode
- Left click on  or Press Escap to stop the simulation.



Generation of ISO program:

- Left click on 
- From the suggested list, go into the lib folder then select the post-processor «EROBOF44».
- Open and confirm




ISO program is generated.

```
%  
N5 G92 X7071 Y6806 W-30000  
N10 M28  
N15 M06  
N20 M20  
N25 G38  
N30 G41 D0  
N35 G03 X7071 Y7071 I6938 J6938 A0  
N40 X3000 Y9539 I0 J0  
N45 G01 X3000 Y12000  
N50 G03 X0 Y15000 I0 J12000  
N55 X-3000 Y12000 I0 J12000  
N60 G01 X-3000 Y9539  
N65 G03 X-9539 Y3000 I0 J0  
N70 G01 X-12000 Y3000  
N75 G03 X-15000 Y0 I-12000 J0  
N80 X-12000 Y-3000 I-12000 J0  
N85 G01 X-9539 Y-3000  
N90 G03 X-3000 Y-9539 I0 J0  
N95 G01 X-3000 Y-12000  
N100 G03 X0 Y-15000 I0 J-12000  
N105 X3000 Y-12000 I0 J-12000  
N110 G01 X3000 Y-9539  
N115 G03 X9539 Y-3000 I0 J0  
N120 G01 X12000 Y-3000  
N125 G03 X15000 Y0 I12000 J0  
N130 X12000 Y3000 I12000 J0  
N135 G01 X9539 Y3000  
N140 G03 X7071 Y7071 I0 J0  
N145 X6806 Y7071 I6938 J6938
```


IV. Multi-pass machining procedure:

Save the PCE file and re-open it without the toolpath.


1. Applying first pass "Complete + Stop":

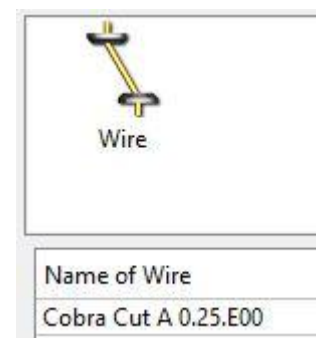
- In  EDM
- Left click on  4 Axes
- Left click on 
- Select the top or bottom profile of the taper surface
- Select cutting type "Complete+Stop"

Note: The stop value corresponds to the slug value entered when creating the threading point.





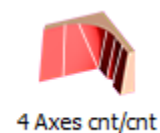
2. Selection of tool:

- Left click on 
- In the list of tool, select "Cobra Cut 0.25"






3. Selection of cycle:

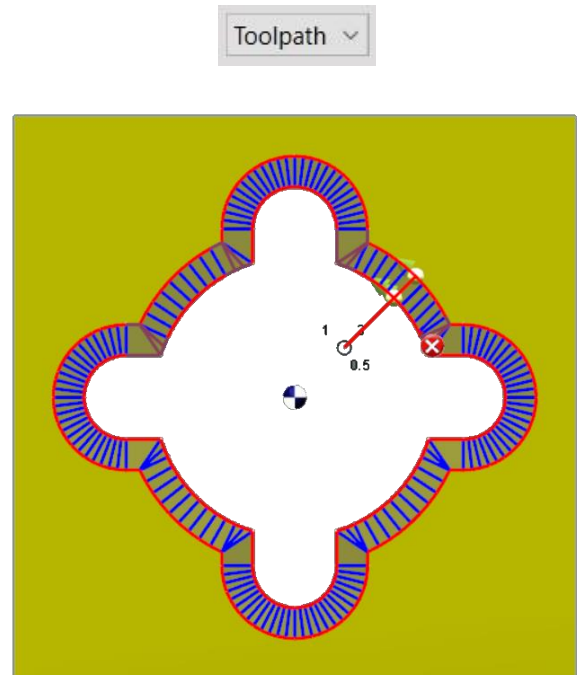
- Left click on 
- Left click on 4 axes cnt/cnt
- Left click on Cycle Calculation 



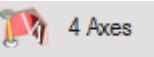


4. Simulation :

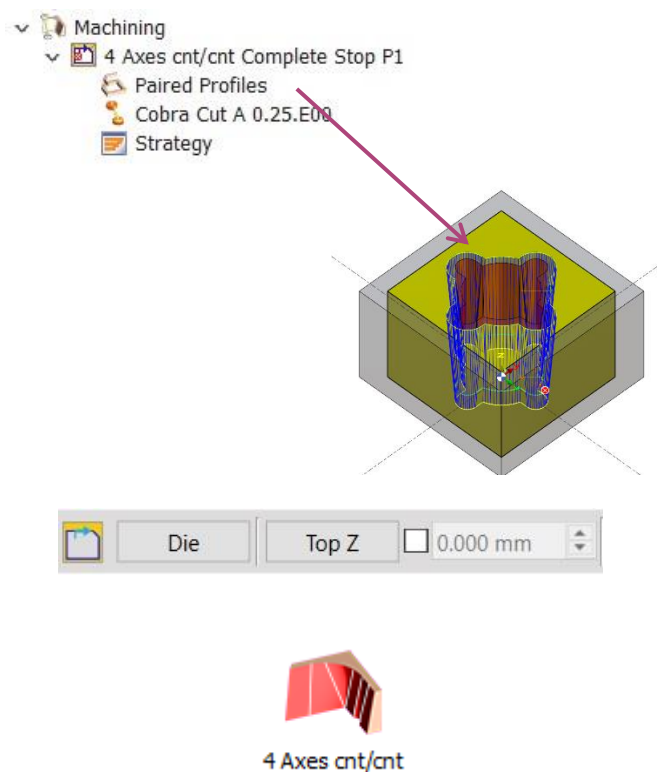
- Left click on 
- Switch the simulation to toolpath mode to view the stop 
- Left click on  to start the simulation

Note: In order to visualize the stop during the simulation, you must choose toolpath mode. Dynamic mode will not simulate the stop.

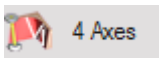




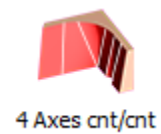
5. Second pass of "Cut of the complete profile":

- Left click on  4 Axes
- Left click on 
- In the machining tree, drag profile icon into the middle of the screen
- Change the cutting type to « **Cut of the complete profile** »
- Check whether other settings remain unchanged
- Select strategy 4 axes cnt/cnt, the tool has been defined at the first cycle
- Left click on **Cycle Calculation** 





6. Third pass of "Cut of complete profile in inverse direction" :

- Left click on  4 Axes
- Left click on the icon 
- In the machining tree, drag profile icon into the middle of the screen
- Change the cutting type to "cut of the complete profile in inverse direction"
- Check whether other settings remain unchanged
- Select the strategy 4 axes cnt/cnt
- Left click on Cycle Calculation 



Simulation :

- Left click on 
- Choose mode "Dynamic" or "Toolpath"
- Left click on  to start simulation

