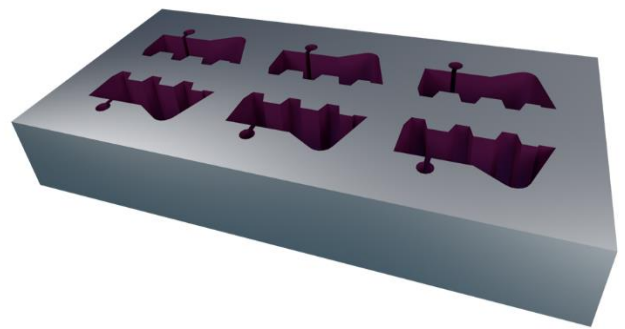


GO2cam





GO2cam V6.10

Solid Tutorial

W05 – Test Piece

I. Solid Import Process :

1. Repositioning :



- Left click on **File** and select  Automatic Solid Import
- Import file: **W05-Test Piece.X_T** from your directory.
- The support face is adequate.
- Left click  to validate.

2. Define Stock :

A stock is automatically created with respect to your solid.




This is a parallelepiped solid defined by default with a constant overflow around it.

Go2cam saves the last value given for the overflow.

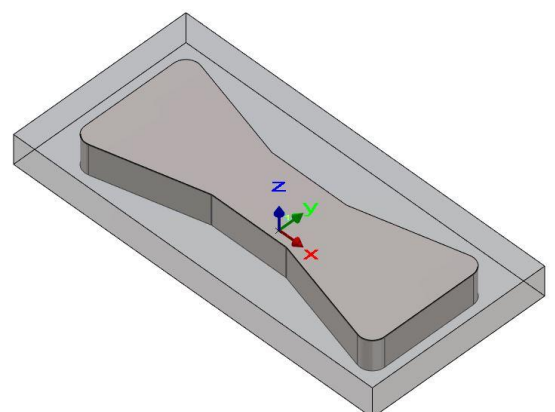
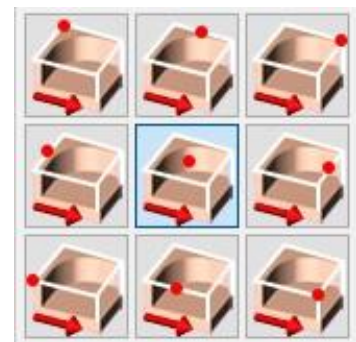
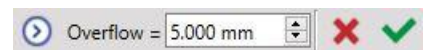
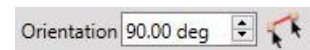
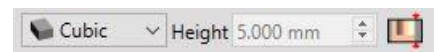
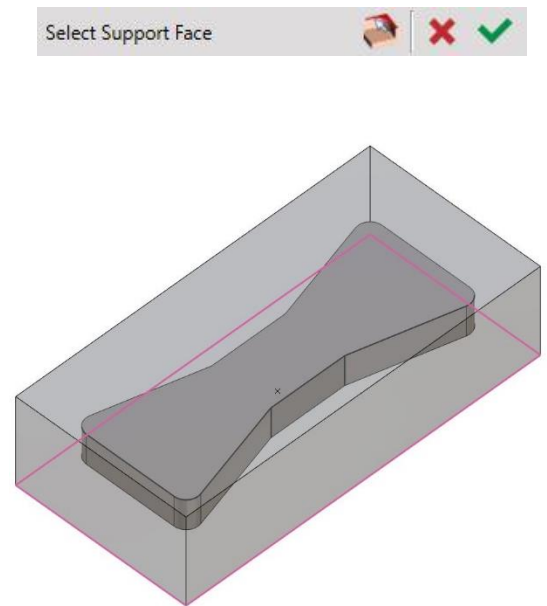
- Left click on  in order to make the height of stock equal to the height of solid, the Z level height turns grey.
- Set the Orientation to 90.
- Change the overflow value to 5
- Left click on  to validate

3. Positioning of the origin:

Go2cam saves the last used original location. If your origin position is already in the described location, you can directly verify this step.



- Left click on , choose center of part , set Z to 5
- Left click on  to complete the solid import.

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



II. Create machining profile on topology :

1. Definition of Profile:

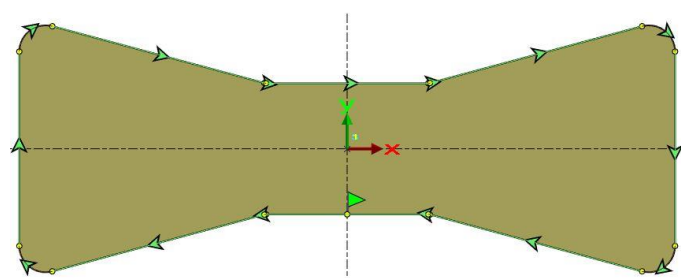
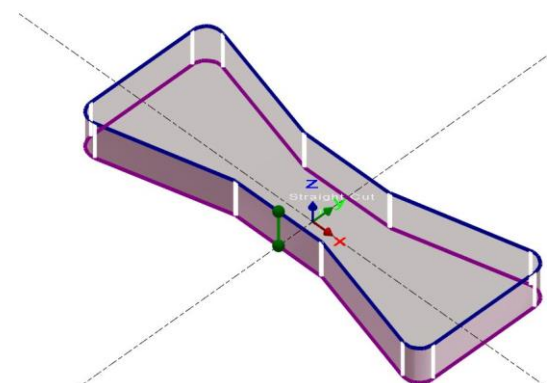
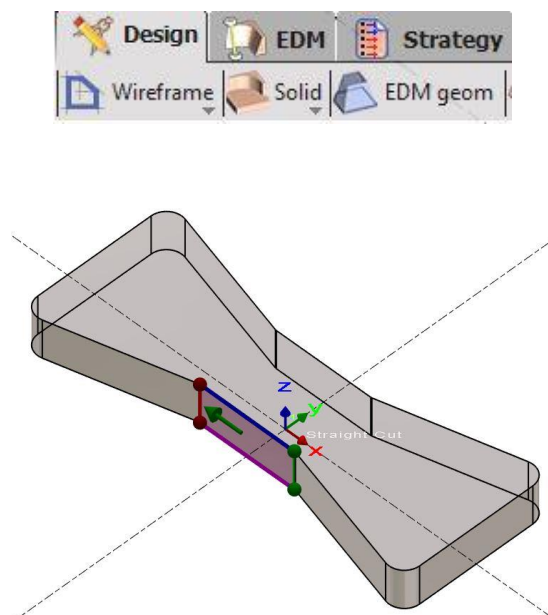
- In Design, enter the **EDM geom** tab.
- Left click on **Straight/Taper on solid** 
- Left click on the starting face for the Profile
- Left click on the same face to close the profile
- Left click on  to validate

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

2. Saving the file :

- Left click on **File**
- Left click on **Save as**
- Type name : “W05_Test Piece_Solid ”
- Left click on **Save**

Note : Save the .pce file of the geometry in 2 separate files for later programming as punch.



3. Definition of thread point :

- Enter the **Threading** menu

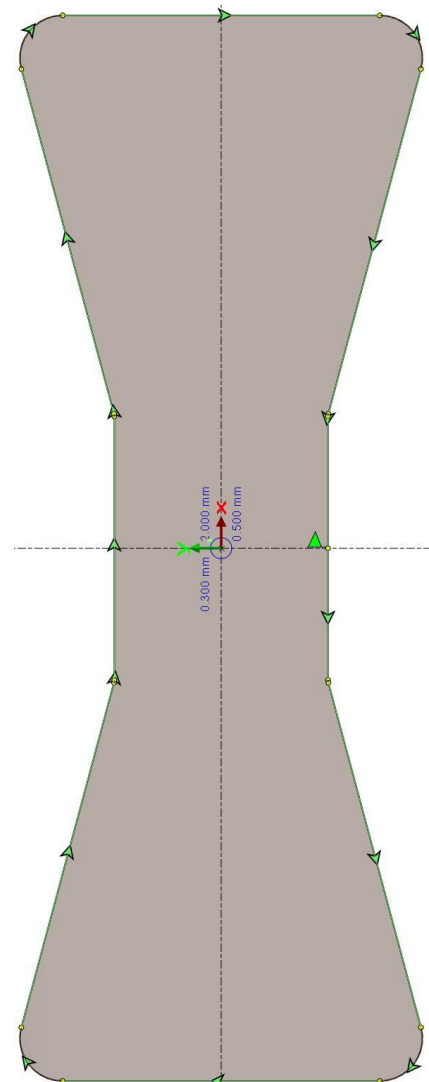
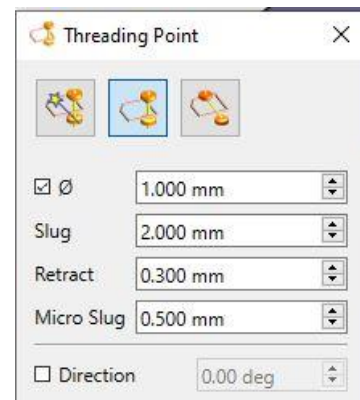
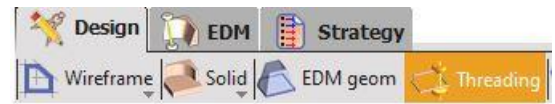
- Left click on **Manual Threading point**



Auto Threadings on profiles is selected by default, change to Manual threading.





- Input Slug value 2, leave the other values as default.
- Set X=0 and Y=0
- Left click on the profile and threading point will be automatically created
- Left click on the green tick to confirm the position

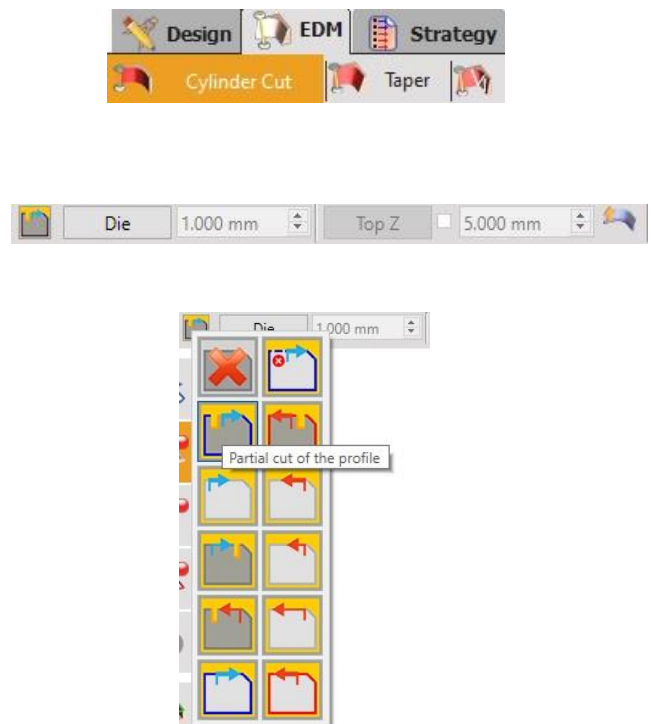
Your part is ready for the machining processes.




III. Machining Process for Die:

4. First path "Partial Cut" :

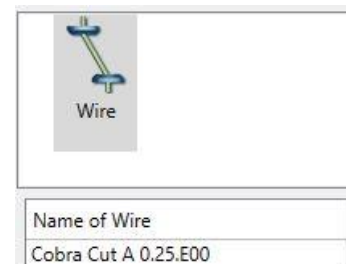
- Enter in EDM
- Left click on  Cylinder Cut
- Left click on  for Geometry selection
- Left click on the profile
- Choose "Die" mode
- Select "Partial cut of the profile " 
- Left click on **threading point** , then select the previously created threading point [At X=0 and Y=0 and click the green tick to confirm]




5. Selection of Tool:

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

Note: The thread only needs to be selected once. After that, the selection will be automatic.



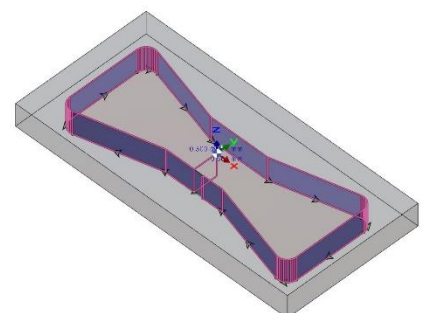
6. Selection of cycle:

- Left click on , to select the cycle
- Left click on **Straight Cut**
- Left click on the techno **Auto**







7. Calculation of cycle:

- Left click on **Cycle Calculation** 



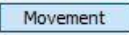
- Second toolpath **"Partial Cut inverse"**:

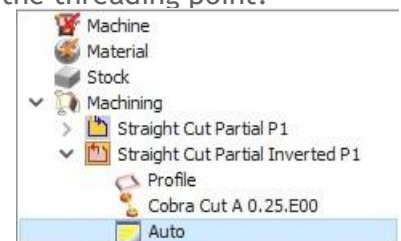
- Left click on  Cylinder Cut
- Left click on 
- Drag and Drop the profile from the previous cycle to copy the selection.
- Choose the mode **"Die"**
- Select **"Partial cut of the profile in inverse direction"**
- Check whether other settings remain unchanged  Die 1.000 mm Top Z 0.000 mm
- Select **Strategy and tool as defined in the first operation**
- Left click on **Cycle Calculation** 

Note: It can be observed that the retract occurs at the threading point as in the first operation, This toolpath actually will cut nothing.

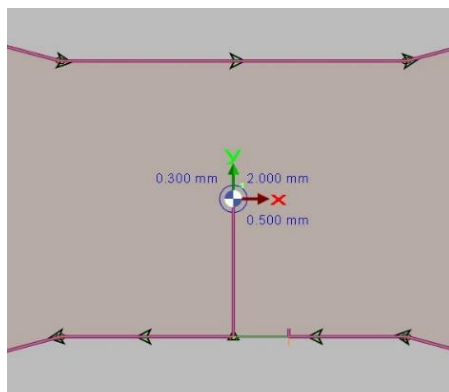
Therefore, we will optimize the toolpath to delete retract toolpath in subsequent cycles.

The parameter we will activate is to control retraction distance value of the threading point.

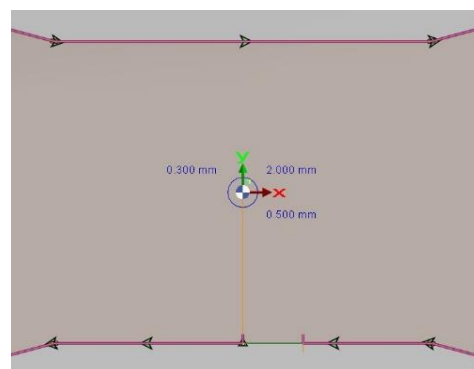
- In the machining tree, expand **Straight Cut Partial Inverted P1** and double click on **Auto** to enter the strategy window.
- Then click on the movement tab 
- Select "Yes" for threading on retract distance and execute.



Threading on retract distance ☐ No ☒ Yes





No



Yes



8. Third toolpath : "Cut of Slug in inverse direction " :

- Left click on  Cylinder Cut
- Left click on 
- Drag and Drop the profile from the previous cycle.
- Make sure mode is "Die"
- Select "Cut of the Slug in inverse direction"
- Select Straight Cut for the Machining cycle



- Left click on Cycle calculation 

9. Threading point "Stop":

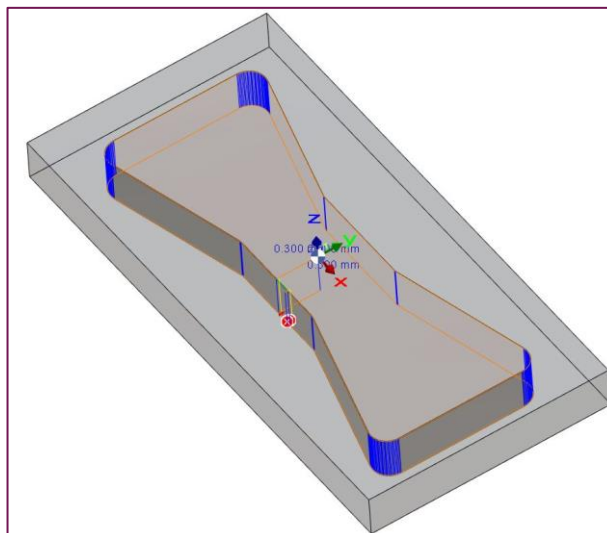
- Left click on  NC File
- Left click on the function Optimization 
- Check the "Stop after Partials" box, give a value of 1




Note: Ensure that 'Stop between the offcuts' is unchecked.

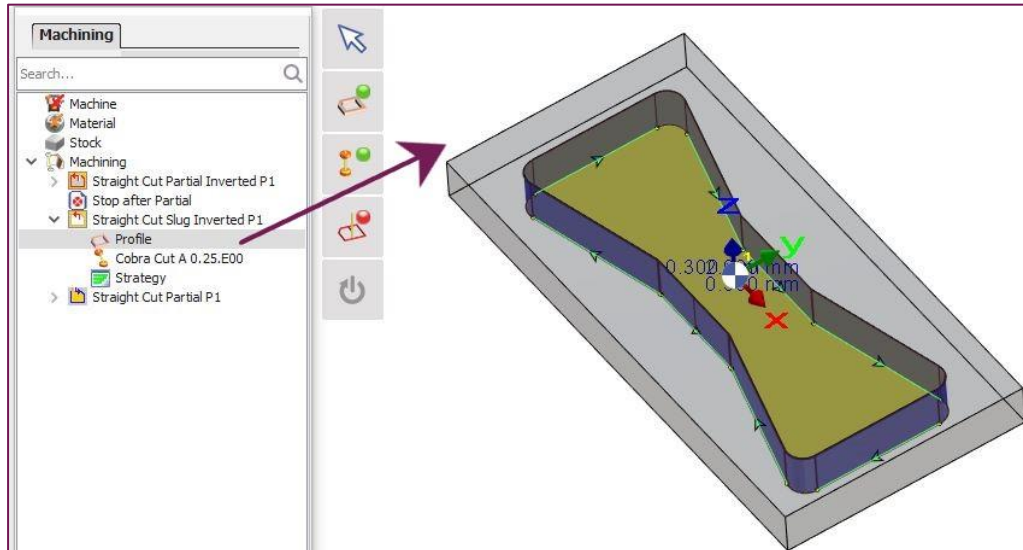
- Validate 




The Stop is created between 'Partial cut of the profile in inverse direction' and 'Cut of Slug in inverse direction'.





10. Last toolpath for "Cut of the slug" :

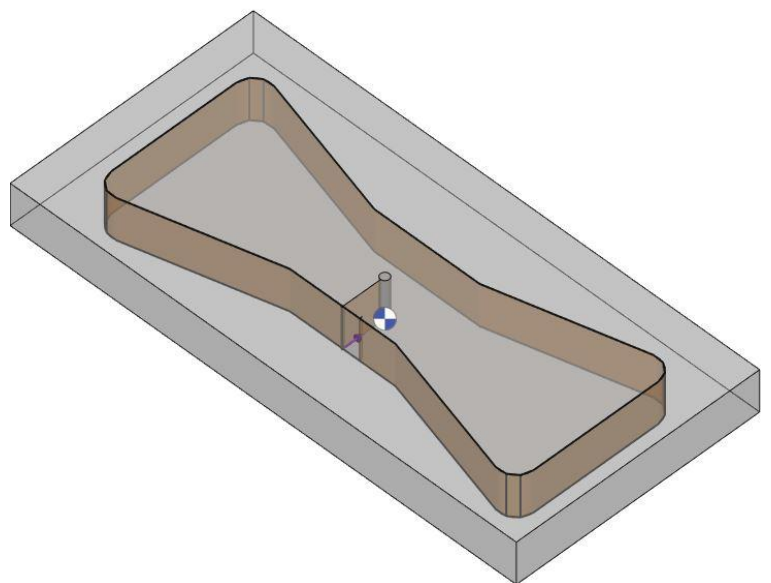
- Left click on  Cylinder Cut
- Drag and drop the profile from Straight Cut Slug Inverted P1 in the machining tree to the middle of the screen



- Left click on 
- Change the type of cut to "Cut of the slug"  Die 1.000 mm
- Drag and drop the Strategy similar to that of the profile.
- Left click on Cycle Calculation 

11. Simulation :


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

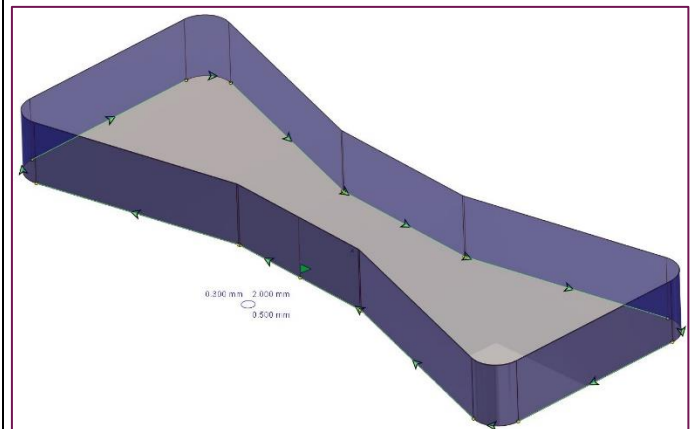
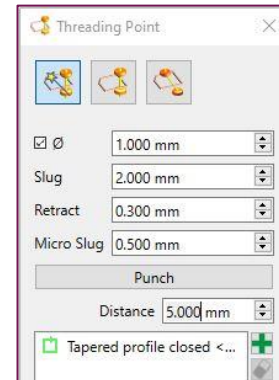


IV. Process of punch machining:



Open the .pce file of the geometry without toolpath for programming as punch.

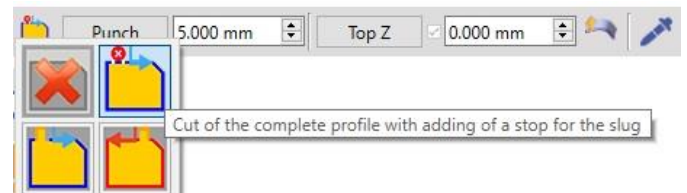
1. Threading point definition :

- Left click on **Design** tab
- Left click on the Manual Threading function - **Auto threadings on profile**  is active by default.
- Change to mode "**punch**" and enter value 5 for Distance
- Ensure the value is 2 for Slug
- Left click on the profile, the threading point is created automatically
- Left click on the green tick to Validate.




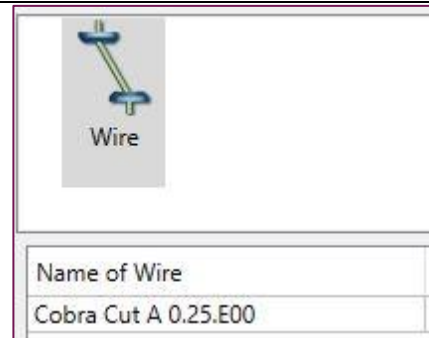
2. Toolpath "Complete + Stop" :

- Left click on the EDM tab then left click on  **Cylinder Cut**
- Left click on geometry selection 
- Select the profile
- Change the mode to "**Punch**"
- Then select "**Cut of the complete profile with adding of a stop for the slug**"





3. Selection of tool:

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



4. Selection of cycle:



- Left click on 
- Left click on **Straight Cut**
- Left click on cycle calculation 



V. Multi-pass process of punch machining:

Open the .pce file of the geometry without toolpath for programming as punch.


1. Cycle - Partial cut of the profile:

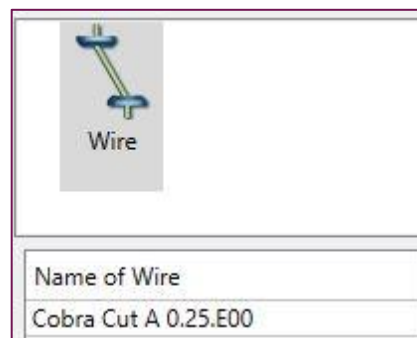
- Left click on EDM tab
- Left click on  Cylinder Cut
- Left click on 
- Select the profile
- Change to mode "Punch", select "Partial cut of the profile"

Note: The threading point is defined similar to the process of punch machining.





2. Selection of tool:

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






3. Selection of machining cycle:

- Left click on 
- Left click on Straight Cut
- Left click on cycle calculation 






4. Cycle - Partial cut of the profile in inverse direction:

- Left click on  Cylinder Cut
- Left click on 
- Select the profile
- Change mode to "Punch", select "partial cut of the profile in inverse direction"
- The tool has been selected in the last machining, select Straight Cut for the machining cycle
- Left click on Cycle Calculation 





5. Cycle cut of the slug in inverse direction:

- Left click on  Cylinder Cut
- Left click on 
- Select profile
- Change to mode "Punch", select "Cut of the slug in inverse direction"
- The tool has been selected in the last machining, select Straight Cut for the machining cycle
- Left click on cycle calculation 



6. Simulation :

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

