

# GO2cam V6.10 Tutorial M01 – Mounting flange

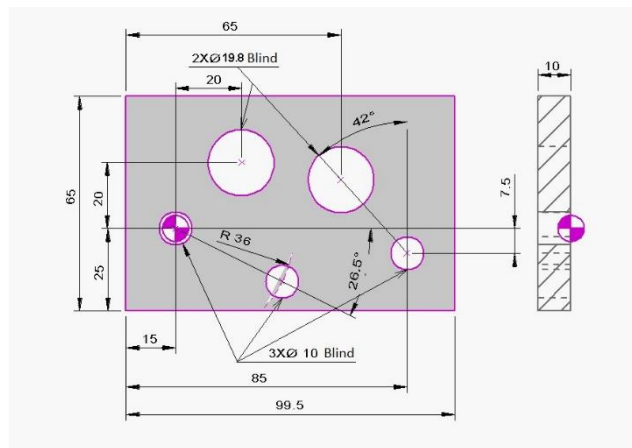
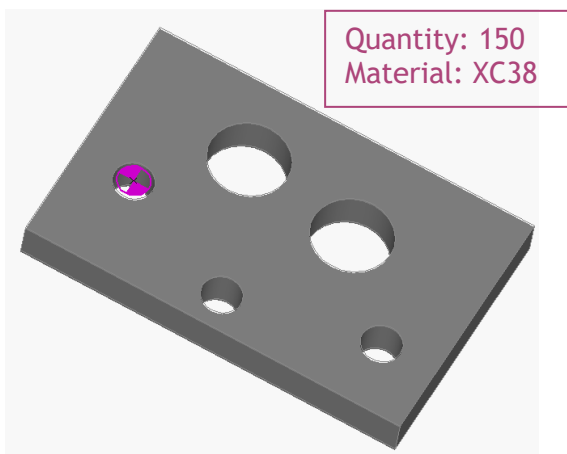
# M01 – Mounting Flange

## Introduction

Welcome in the Mounting Flange creation tutorial.

This tutorial has the aim to help the user to:

- Learn how to use the milling environment in GO2cam.
- Understand the uses and capacities of GO2cam in milling,
- Get used to the user interface and to the mouse actions by practicing on a simple example.



## Extra files

In the Training Pack Basic, you can find:

- the pdf file of this tutorial,
- the related video called 'M01\_Mounting Flange.mp4'.
- the part files after design step (M01 - Mounting Flange Design.PCE) and after machining (M01 - Mounting Flange Machining.PCE).

Other complementary documents are available in the menu 'Help' in GO2cam:

- the list of novelties and improvements of the software,
- the online help, also accessible by pressing the F1 key,
- the user manual.

# 1. Process for the Design

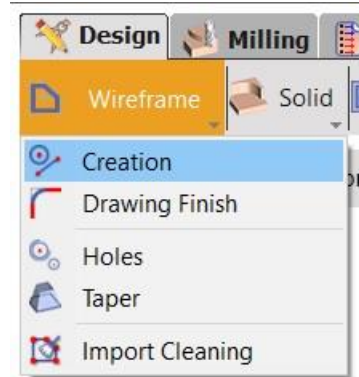
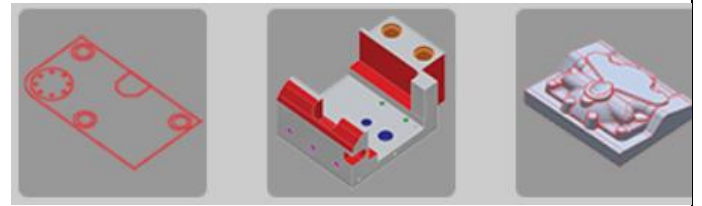
## 1. Choice of the Milling environment in the homepage:

- Left click on the Milling icon the most on the right.



Note: the icons represent the type of product. If your licence do not include it, the product icon is greyed.

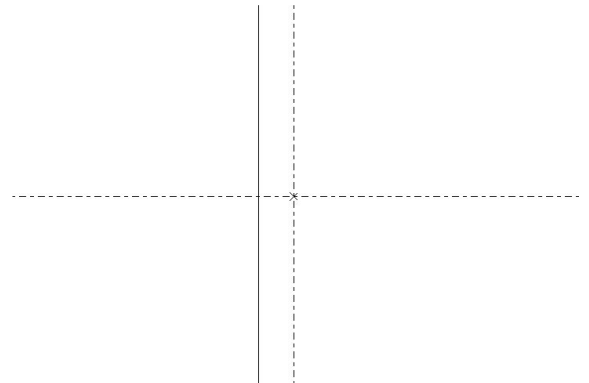
The software opens in **Design mode** by default.

- Left click on Wireframe menu
- Left click on Drawing




## 2. Creation of line:

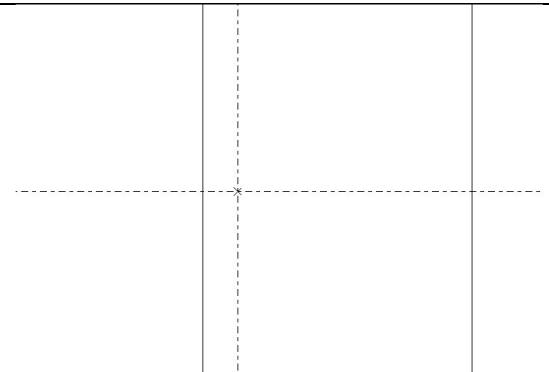
- Left click on 
- Left click on the vertical axis (  )
- Left click on the left side of vertical axis
- Input value 15




## 3. Creation of the second line :

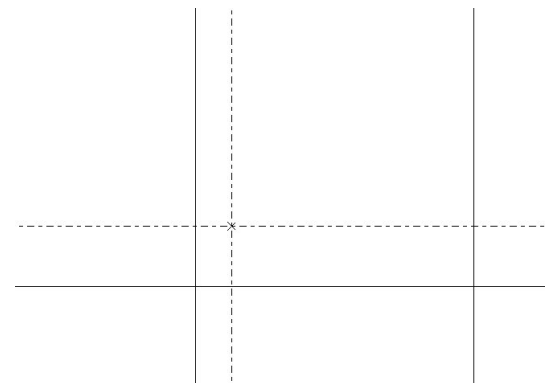
The right function  is still alive.

- Left click on what you just created (  )
- Left click to the right of this line
- Input value 99.5




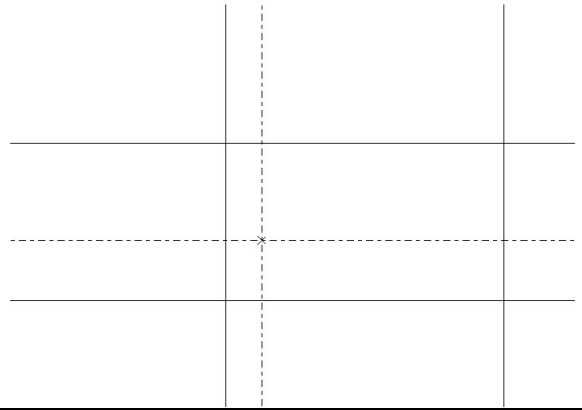
## 4. Creation of the third line :

- Left click on the horizontal axis (  )
- Left click below the horizontal axis.
- Input value 25



### 5. Creation of the fourth line :


- Left click on what you just created (  )
- Left click above the line created.
- Input value 65

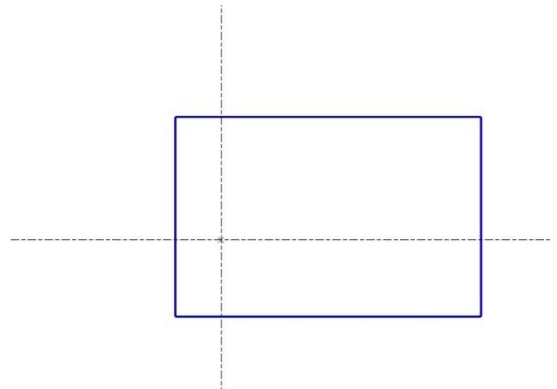


### 6. Element restrictions :

- Left click on 



**Note :** You can preview the click result by moving the cursor on the item.

- Left click on Elements to be "deleted" according to the cursor
- Left click on  to get detailed view of element. Follow the geometric cursor on the screen to "delete" the element





### 7. Creation of 3 lines:


(1st line)

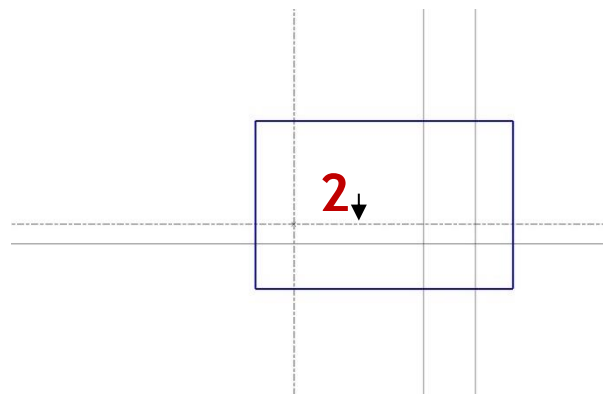
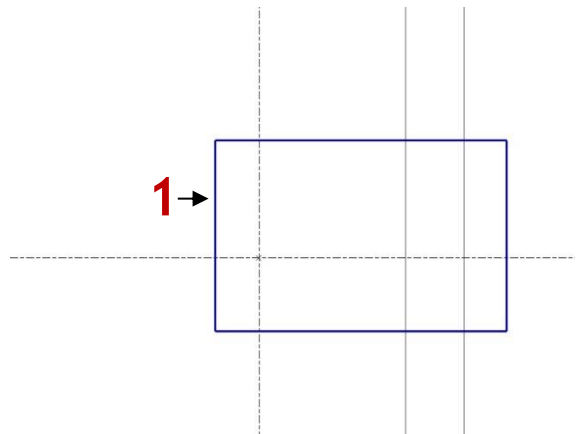
- Left click on 
- Left click on segment 1 (  )
- Left click to the right of segment 1, type a value of 65

(2<sup>nd</sup> line)

- Left click on segment 1 (  )
-  Left click to the right of segment 1, type a value of 85



(3rd line)

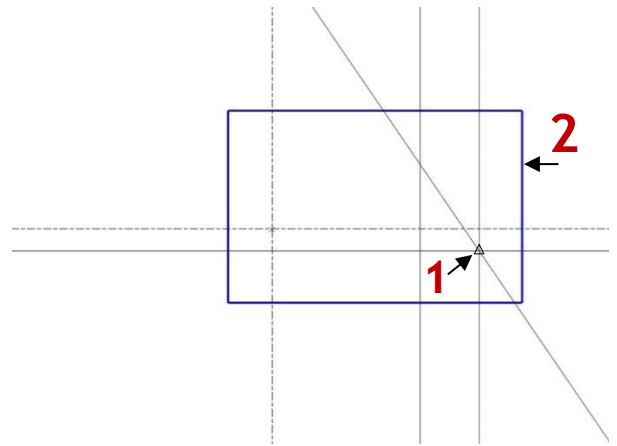
- Left click on the horizontal axis 2 (  )
- Left click below horizontal axis 2
- type a value of 7.5, **Enter**,



## 8. Creation of line

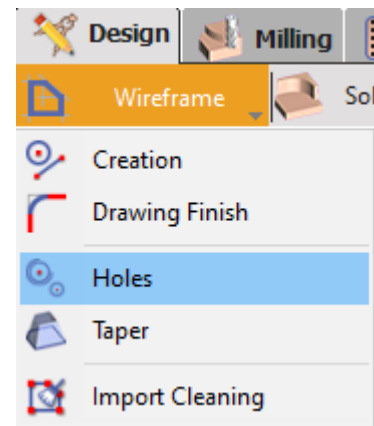
The function  is still active.

- Left click At intersection 1 (  )
- Left click At segment 2
- Type a value of 45°
- Left click on 



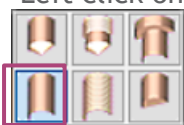



## 9. Creation of holes


- Left click on **Wireframe**
- Left click on **Holes**



## 10. Creation of 2 holes of Ø19.8 :

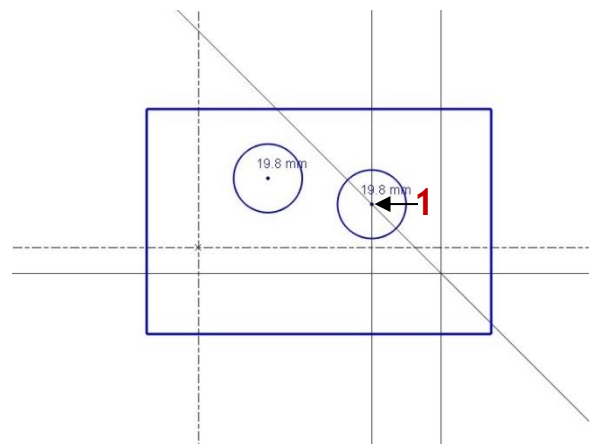
- Left click on **Standard Holes** 
- Left click on **Type of holes** 
- Left click on **Through smoothed hole**,  

- Left click twice In the Diameter field, type a value of 19.8, 

(1st hole)

- Type value 20 in X,
- Type value 20 in Y,
- Left click on 


(2<sup>nd</sup> hole)

- Left click on the intersection point 1 (  )



- Creation of a circle :



The function standard holes  is still active

- Left click twice in the Diameter field, type a value of 10,

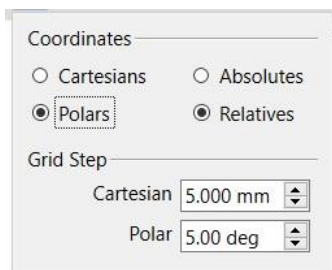
(1st and 2<sup>nd</sup> holes)

- Left click on the intersection points 1 and 2




- Left click on  to adjust the mesh

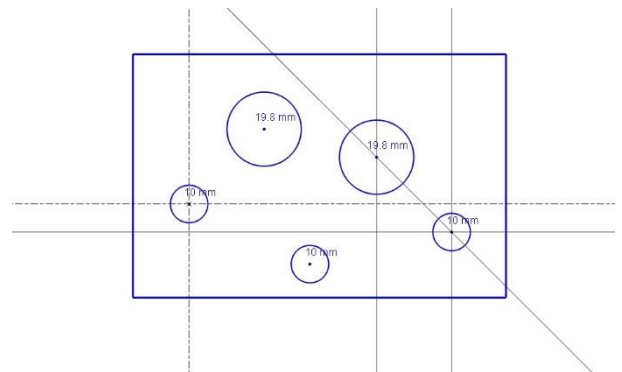
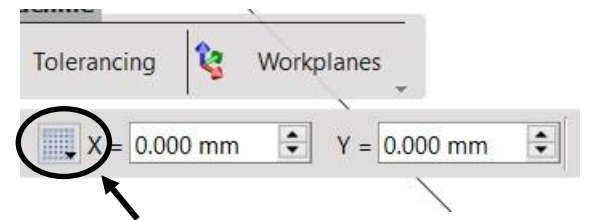
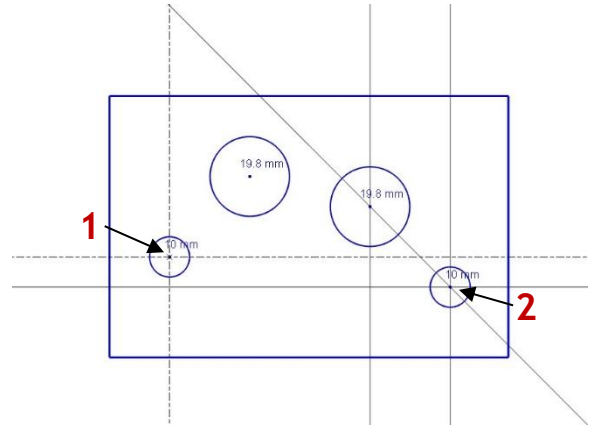
- In the next dialog box, select polars coordinates



(3rd hole)

- Left click twice In the Radius field, type a value of 36
- Left click twice In the Angle field, type a value of - 26.5
- Left click on 

Remember to provide Cartesian coordinates for the next step



## 2. Process for the Machining

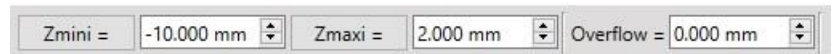
### 1. Situation :

- Left click on **Milling** tab

The stock is automatically created in relation to the geometry.  
It is a parallelepipedical stock defined with a constant 0 mm overflow around the profile.

Stock modification:

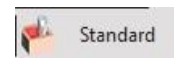
- Left click twice in **Zmini** then type -10
- Left click twice in **Zmaxi** then type 2




## Ope 10 Surfacing on the face

### 1. Situation :

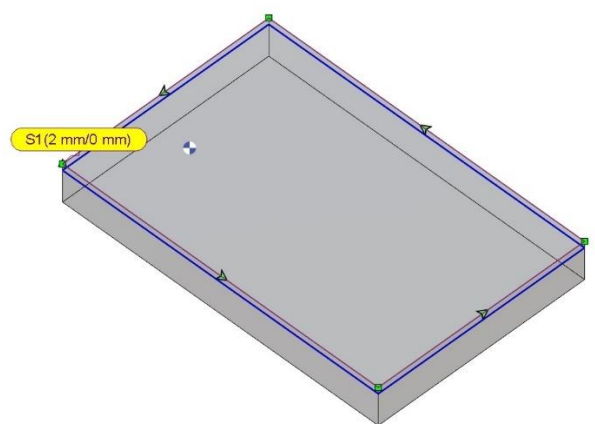
- Left click on menu **Standard**




### 2. Selection of geometry:

- Left click on 
- Select the stock.
- Left click In the top Z box (start machining), click the top of the workpiece with the left mouse, and GO2cam reads and displays the value 2
- Left click twice In the "Bottom Z" (machining end height) field, type 0

**Note:** A number label will appear on the selection and indicate the height.



### 3. Tool selection


- Left click on 
- Left click on **Square Shoulder Face Mill**
- Left click on Download then search for the corresponding tools.
- Select from the list "F90SP D 40-16-10" tool



Square Shoulder  
Face Mill

Tool name	Diameter	Useful length
F90SP D 40-16-10.F10	40.000 mm	30.000 mm

### 4. Selection of the machining cycle

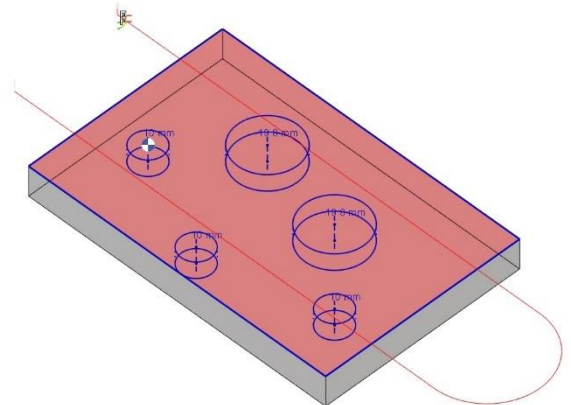
- Left click on 
- Left click on **Facing Pocket**
- Inside the strategy, set the Machining Direction to « **Two Ways** ».



Facing Pocket




### 5. Tool path calculation

- Left click on **Cycle calculation** 

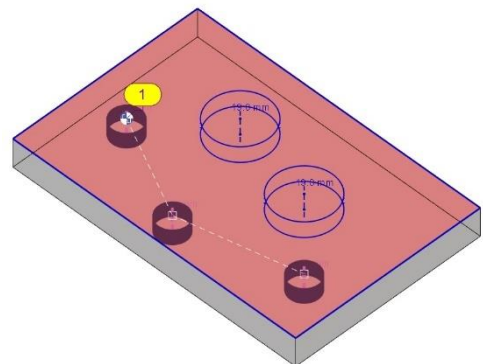
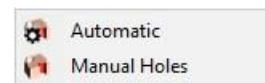


## Ope 20 Drilling holes Ø10






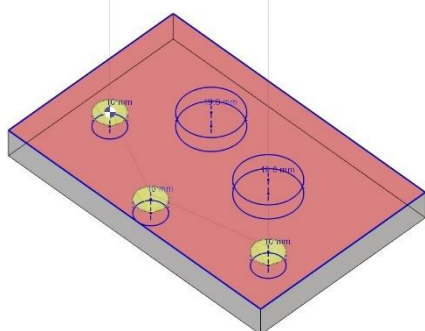
### 1. Selection of geometry:

- Left click on hole 
- and select **Manual**
- Left click on 
- Left click on  To enable **multiple selection**
- Left click on 3 holes Ø10

Select all holes with the same diameter.







<ul style="list-style-type: none"><li>• Tool selection:</li><li>• Left click on </li><li>• Then Left click on <b>Spotting Drill</b></li><li>• Left click on Download then search for the corresponding tools.</li><li>• From the list, select "12 092 100" tool</li></ul>	<div> <b>Spotting Drill</b></div> <table><tr><th>Tool name</th><th>Diameter</th><th>Point angle</th><th>Useful length</th></tr><tr><td>12 092 160.F20</td><td>10.000 mm</td><td>90.00 deg</td><td>59.000 mm</td></tr></table>	Tool name	Diameter	Point angle	Useful length	12 092 160.F20	10.000 mm	90.00 deg	59.000 mm
Tool name	Diameter	Point angle	Useful length						
12 092 160.F20	10.000 mm	90.00 deg	59.000 mm						
<p>2. Selection of the machining cycle</p> <ul style="list-style-type: none"><li>• Left click on </li><li>• Then Left click sur <b>Jig Boring</b></li><li>• Select the technology "Centering" from the list</li></ul>	<div> <b>Jig Boring</b></div> <table><tr><th>Techno. name</th><th>Depth</th><th>Diameter centering</th></tr><tr><td>Centering</td><td>5.000</td><td>10.000</td></tr></table>	Techno. name	Depth	Diameter centering	Centering	5.000	10.000		
Techno. name	Depth	Diameter centering							
Centering	5.000	10.000							
<p>3. Tool path calculation:</p> <ul style="list-style-type: none"><li>• Left click on <b>Cycle calculation</b> </li></ul>									

## Opé 30 Drilling 3 holes Ø10

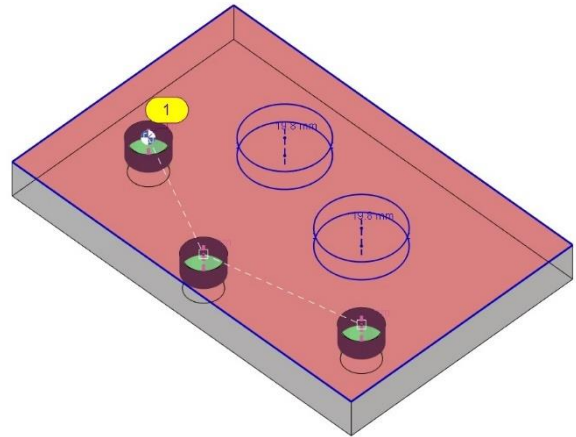
### 1. Selection of geometry :

Hole function is still active


- Left click on 
- In the machining tree Left click on the arrow ☒ before 'Jig Boring'
-  Drag and drop the "Hole" profile of the Jig Boring cycle to copy the profile for the geometry selection.

The parameters of the operation will now be copied to the new operation.

**Note:** This operation can also be used to copy tools or strategies.



### 2. Tool selection:


- Left click on 
- Then Left click on **Drill**
- Left click on Download then search for the corresponding tools.
- From the list, select «SCD 100-049-100 ACG5 908»



Drill


Tool name	Diameter	Useful length
SCD 100-049-100 ACG5 908.F01	10.000	80.000

### 3. Selection of the machining cycle

- Left click on 
- Then Left click on **Drilling**

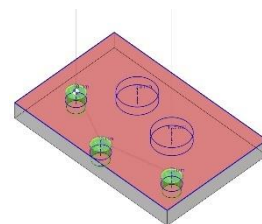


Drilling

Techno. name	Depth	Type
	15.000 mm	 Simple

### 4. Tool path calculation:



- Left click on Cycle calculation 



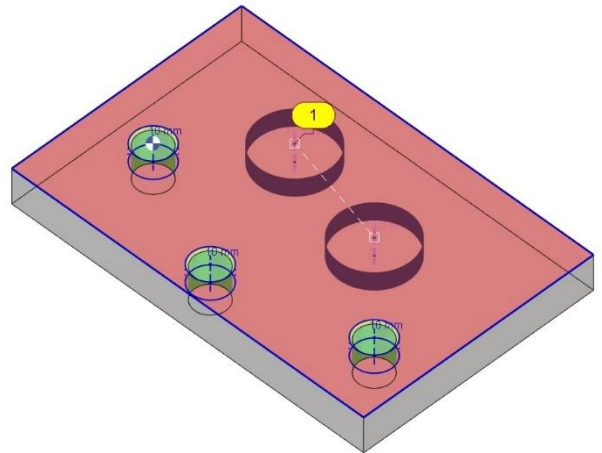
## Ope 40 Jig Boring of Ø19.8 holes

### 1. Selection of geometry :


Hole function is still active

- Left click on 
- Left click on  To enable **multiple selection**
- Left click on the 2 holes Ø19.8

Select all holes with the same diameter.




### 2. Tool selection:

- Left click on 
- Then Left click on **Spotting Drill**
- From the list, select «12 092 160»



Nom outil	Diamètre	Angle de pointe	Longueur utile
12 092 160.F20	16.000	90.00	91.000

### 3. Selection of the machining cycle

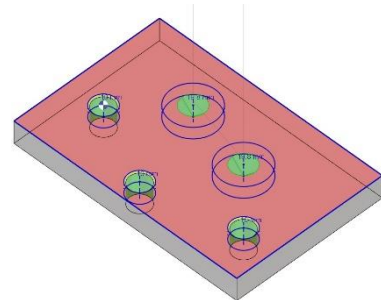
- Left click on 
- Then Left click sur **Jig Boring**
- Select the "Centering" technology from the list



Techno. name	Depth	Diameter centering
Centering	5.000	10.000

### 4. Tool path calculation:




- Left click on **Cycle calculation** 



## Ope 50 Drilling 2 holes Ø19.8

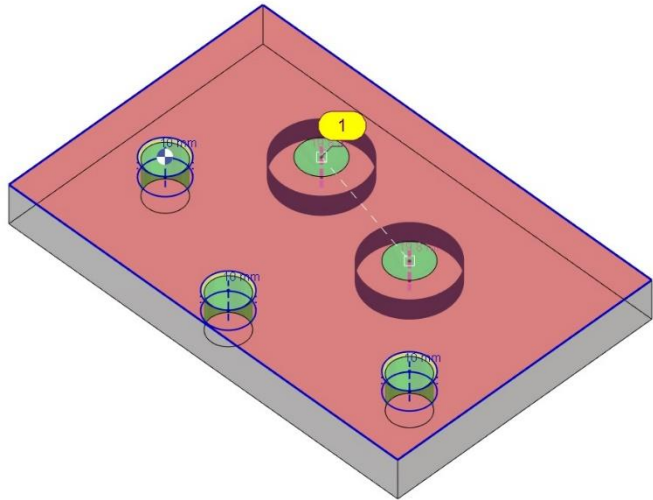
### 1. Selection of geometry :

Hole function is still active


- Left click on 
- In the machining tree Left click on the arrow  before 'Jig Boring\_1'
-  Drag and drop the "Hole" profile of the Jig Boring\_1 cycle to copy the profile for the geometry selection.

The parameters of the operation will now be copied to the new operation.

**Note:** This operation can also be used to copy tools or strategies.



### 2. Tool selection:


- Left click on 
  - Then Left click on **Drill**
- From the list, select one with a diameter of 19.8 mm.



Drill

Tool name	Diameter	Point angle	Useful length
SCD 198-077-200 ACP5.F01	19.800 ...	140.00 deg	110.000 mm

### 3. Selection of the machining cycle

- Left click on 
- Then Left click on **Drill**
- 

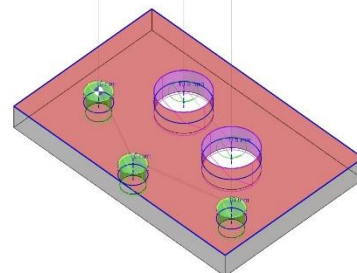


Drilling

Techno. name	Depth	Type
	15.000 mm	 Simple





### 4. Tool path calculation:

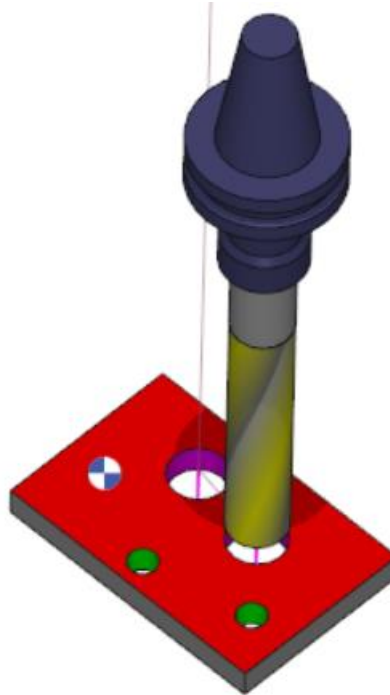
- Left click on **Cycle calculation**




# Simulation and NC blocks

## 1. Simulation :

- Enter the menu  NC File
- Left click on 
- Left click on  to start the simulation of all processing operations
- If you want to switch to **step-by-step** mode, click the space bar
- Left click on  Or press the Escape key to **stop** the simulation



## 2. Generation of ISO program

- Left click on 
- Select the post-processor **M67-FANUC** from the list
- Left click on **Open**
- Left click on **Confirm**
- ISO program is generated

