

GO2cam V6.10

Tutorial

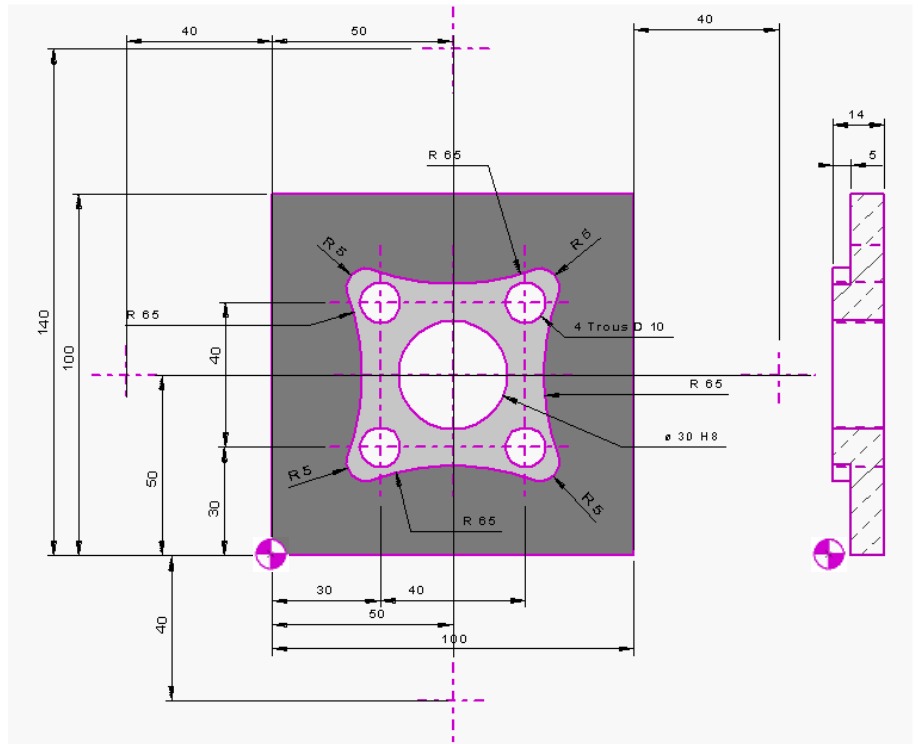
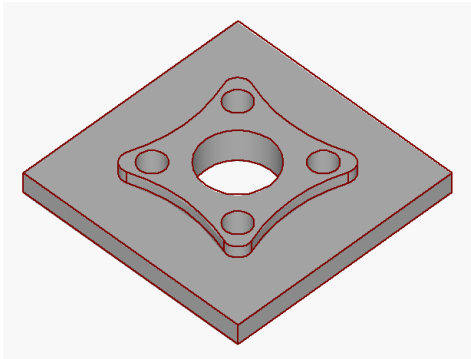
M02 – Guide Shoe

Introduction

Welcome to the guide shoe 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,

Other complementary documents are available in the menu 'Help' in GO2cam. You can read the online help from the help menu of GO2cam or press F1.

1. Process for the Design

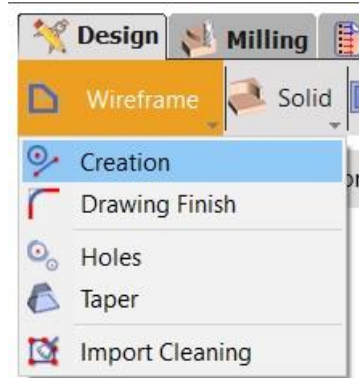
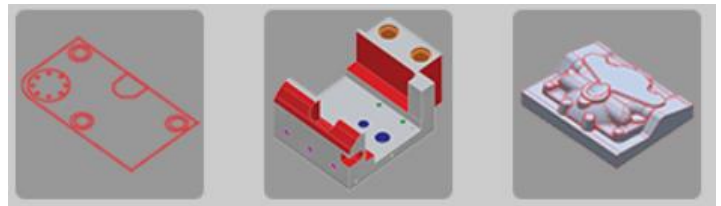
1. Choice of the Milling environment in the homepage:

- 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.

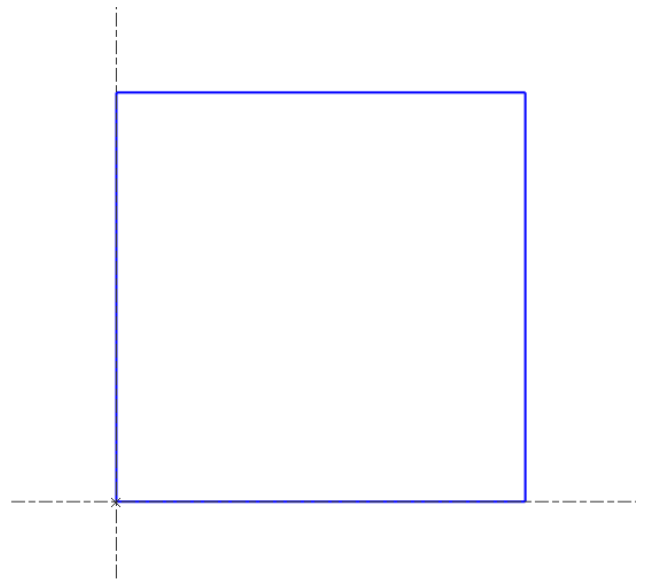
The software opens in Design mode by default.

- Left click on Wireframe menu
 - Left click on Drawing



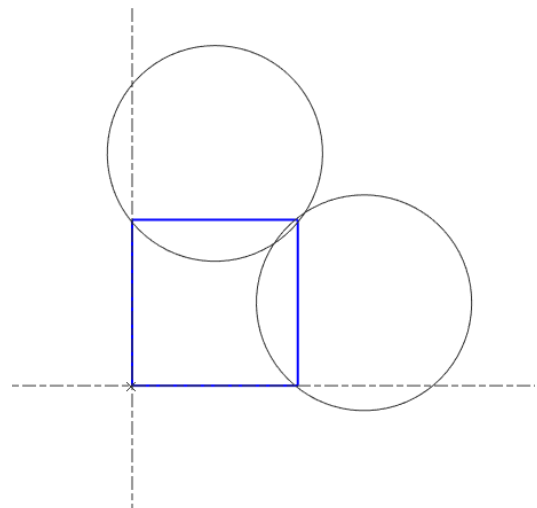
1. Creation of square:





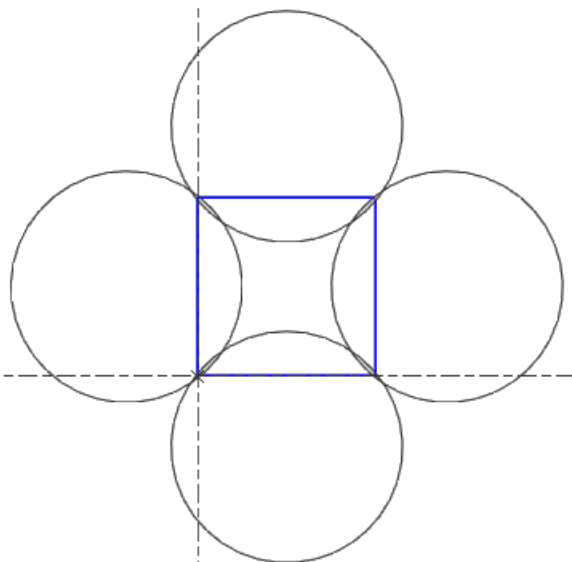


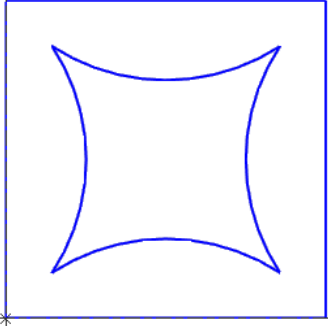
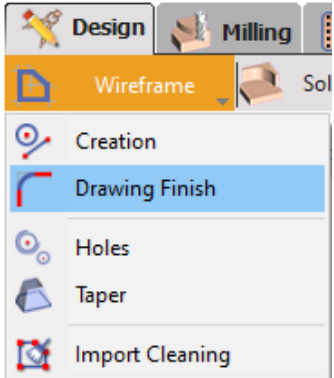

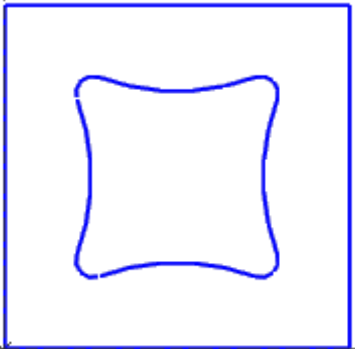
- Left click on
- Left click on origin
- Type a value of 100 in X and Y
- Left click on
- Left click on



Creation of the 4 circles

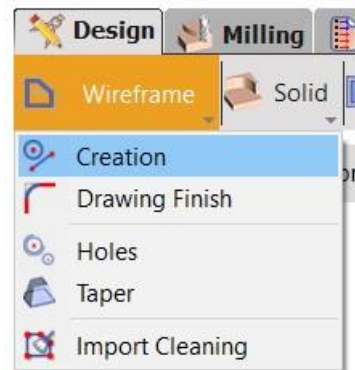
- Left click on
- (1st circle)
 - Type in the X center value 50, and ENTER
 - Type in the Y center 140, and ENTER
 - Type in the radius value 65, and ENTER
 - Left click on
- (2nd circle)
 - Type in the X center value 140, and ENTER
 - Type in the Y center 50, and ENTER
 - Type in the radius value 65, and ENTER
 - Left click on






<p>(3rd circle)</p> <ul style="list-style-type: none"> Type in the X center value -40, and ENTER Type in the Y center 50, and ENTER Type in the radius value 65, and ENTER Left click on  <p>(4th circle)</p> <ul style="list-style-type: none"> Type in the X center value 50, and ENTER Type in the Y center -40, and ENTER Type in the radius value 65, and ENTER Left click on  <p> Left click on  to center the geometrical elements on the screen.</p>	
<p>2. Limiting circles</p> <ul style="list-style-type: none"> Left click on  By keeping the  Shift key pressed: Left click on the arcs « TO KEEP » 	
<p>3. Finishing with additional geometry</p> <ul style="list-style-type: none"> Left click on Wireframe to pull down the menu Left click on Finish drawing 	
<p>4. Creation of fillets</p> <ul style="list-style-type: none"> Left click on  Type in the value 5 (radius), and ENTER Left click on 2 successive elements, repeat this action 4 times to obtain 4 fillets. 	

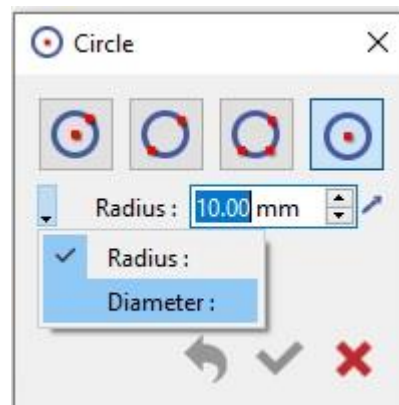
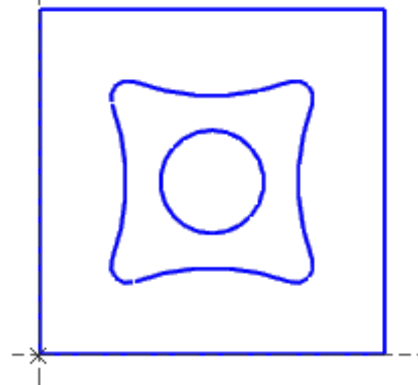
2. Change menu :

- Left click on Wireframe
- Left click on Creation



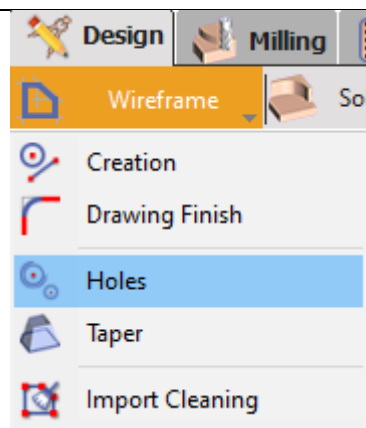
3. Construction of a circle :

- Left click on Circle 
- Enter the value 50 of X and Y
- Left click on 
- Left click in the background
- In the circle window, change the value type to the diameter
- Enter 30mm diameter
- Left click on  to frame geometric elements on the screen



4. Change menu :

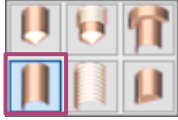
- Left click on Wireframe
- Left click on Holes



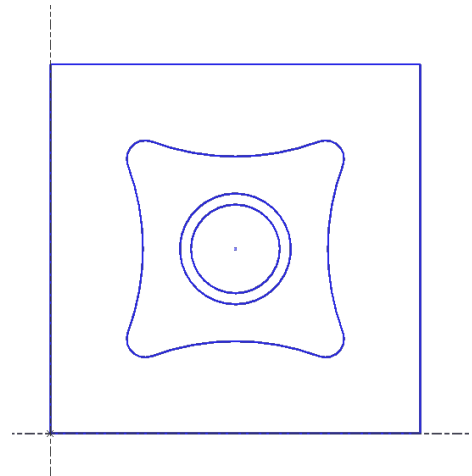
- Creation of hole of diameter 24:



- Left click on
- Left click on
- Left click on Through Smoothed hole



- Left click twice in **Diam. :** , type in 24, ENTER
- Left click twice In the X field, type a value of 50
- Type the value of 50 in Y
- Left click on



- To create 4 holes $\varnothing 10$:

With the still active,

- Left click twice in **Diam. :** , then type in the value 10, ENTER

(1st hole)

- Left click twice in **X =** **Y =** , then type in the value 30, and ENTER,
- Type in the value 30 (Y center), and ENTER.

(2nd hole)

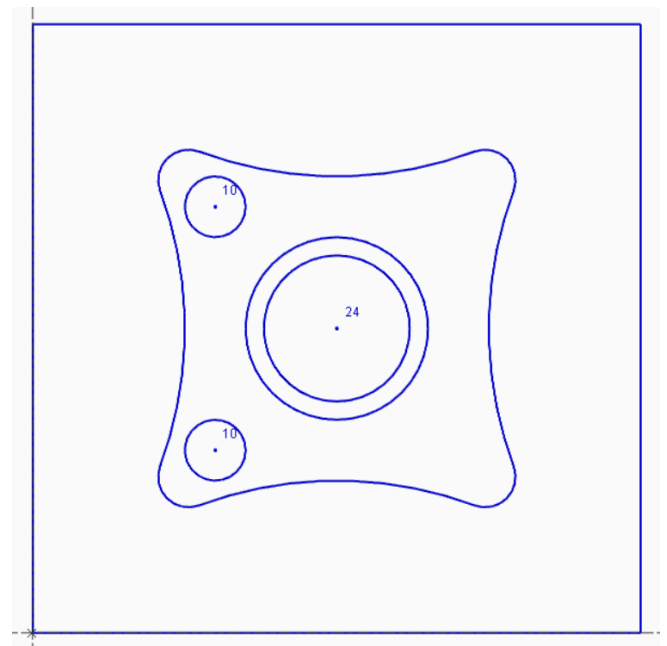
- Type in the value 30 (X center), and ENTER,
- Type in the value 70 (Y center), and ENTER.

(3rd hole)

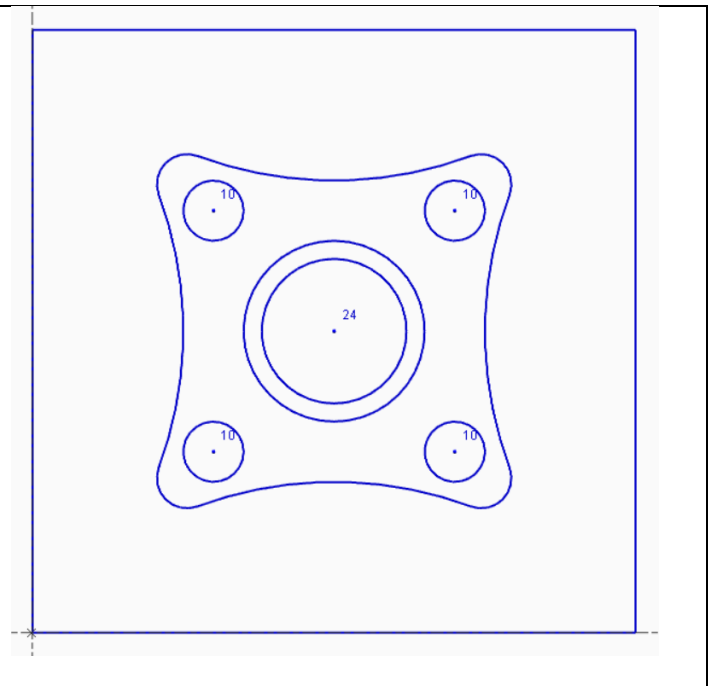
- Type in the value 70 (X center), and ENTER,
- Type in the value 30 (Y center), and ENTER.

(4th hole)

- Type in the value 70 (X center), and ENTER,
- Type in the value 70 (Y center), and ENTER.



X = Y = Diam. :




1. Process for the Machining

Objective :

- Definition of rough machining
- Application of Facing, point, drill hole and contour circulation
- Get the shape to be machined
- Basic parameters of operation
- Tool selection

1. Change of views:

Two possible ways to change views:

- Left click on  or
- Right click on the source of the interactive tag, and then select the **isometric** view



2. Milling:

- Left click on Milling tab

Automatically create stock on your geometry. It is a parallelepipedic stock defined with a constant 0 mm overflow around the profile.

Stock modification:

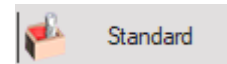
- Left click twice in **Zmini** then type in the value -14
- Left click twice in **Zmaxi** then type in the value 3
- Left click twice in **Overflow** then type in the value 0



Ope 10 Surfacing on the face


1. Start:

- Left click on **Standard**



Standard

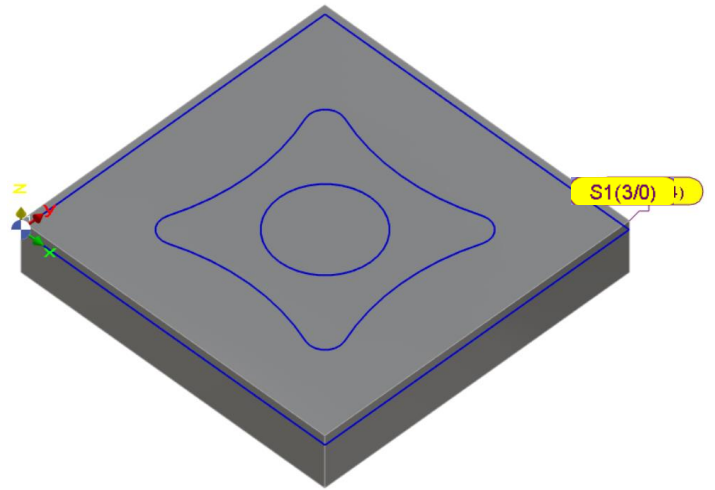
2. Selection of geometry:

- Left click on 
- Select the stock

GO2cam reads and displays the original top Z and bottom Z, you must change the bottom Z.


- Left click twice in the Bottom Z field (finishing height), type 0

Note: A number label will appear on the selection, showing the current height



Top Z	<input type="checkbox"/> 3.00 mm	Bottom Z	<input checked="" type="checkbox"/> 0.00 mm
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3. Tool selection:

- Left click on 
- Left click on **Face Mill Cutter**
- Left click twice in the Diameter and type value 50


The light remains orange because the tool is not listed



Face Mill Cutter

Tool name	Diameter	Useful length
	50.00 mm	30.00 mm

5. Selection of the machining cycle

- Left click on 
- Left click then on **Facing Pocket**
- Select the "2 Way Facing" in the strategy.

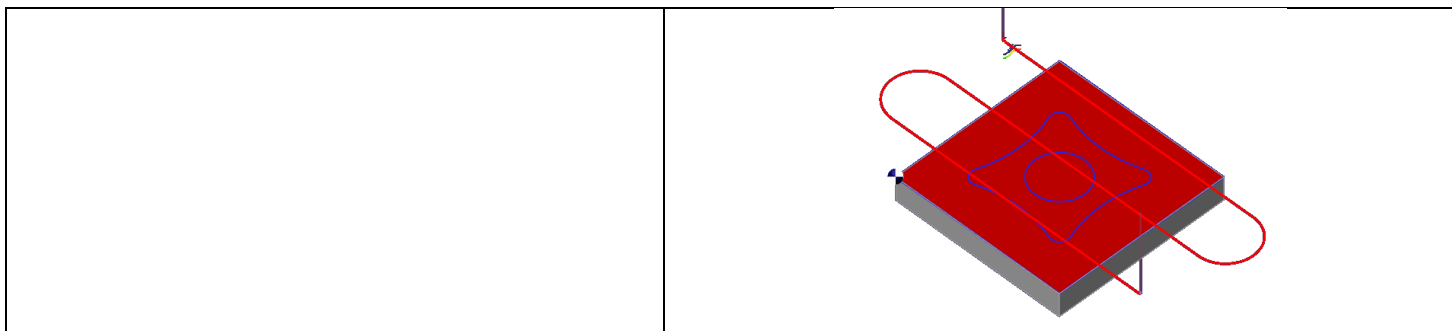


Facing Pocket

Techno. name	Z Step (Ap)	Stepover (Ae)
	0.00 mm	45.00 mm

6. Tool path calculation

- Left click on Cycle Start 



Ope 20 Surfacing on the face with island

- Selection of geometry:



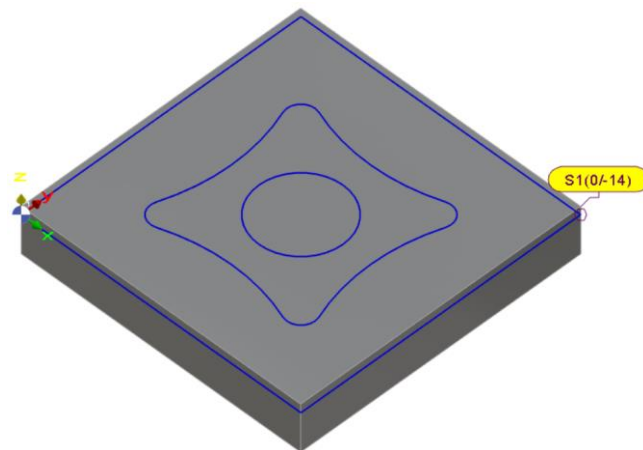
Standard

The menu is still active.

- Select the stock

GO2cam reads and displays the original top Z and bottom Z, you must change the bottom Z.

- Left click twice in the Bottom Z field (finishing height), type -5



Top Z	<input type="checkbox"/> 0.00 mm	Bottom Z	<input checked="" type="checkbox"/> -5.00 mm
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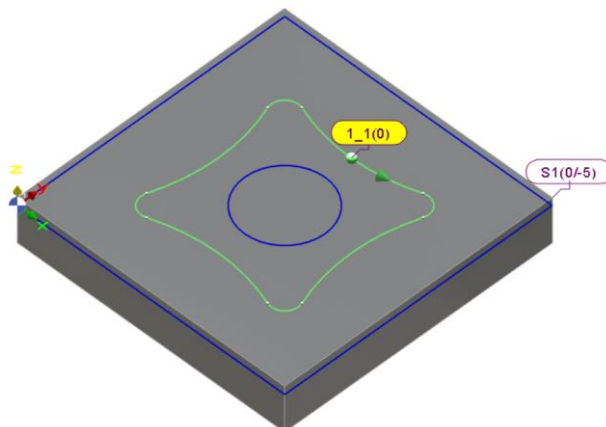
4. Island addition:

the outside contour is considered as an island.

- Left click on the geometry of island,

Go2cam reads and displays the height value.

Top Z	<input type="checkbox"/> 0.00 mm
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- Tool selection :



- Left click on
- Left click on Flat End Mill
- Left click twice in Diameter and type value 20



Flat End Mill


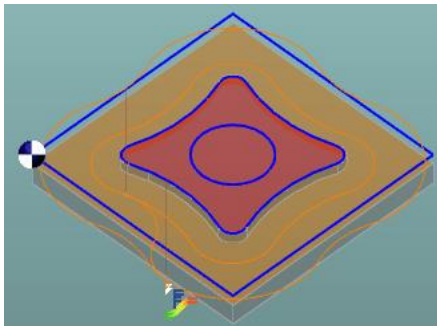
Tool name	Diameter	Useful length
	20.00 mm	70.00 mm

5. Machining cycle selection:


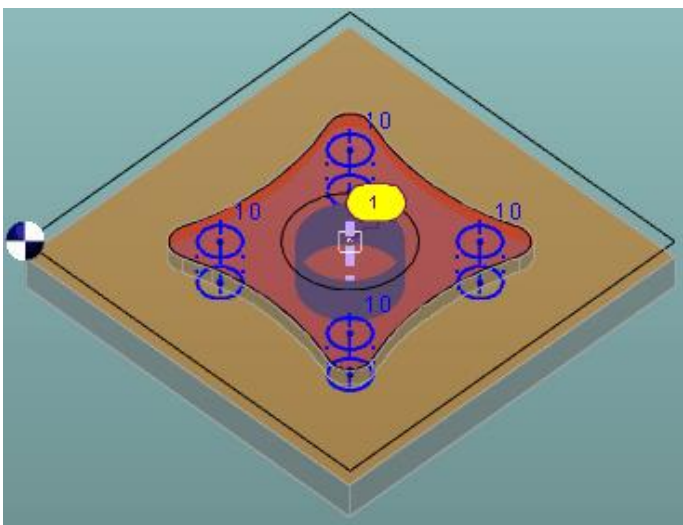








- Left click on



Pocket

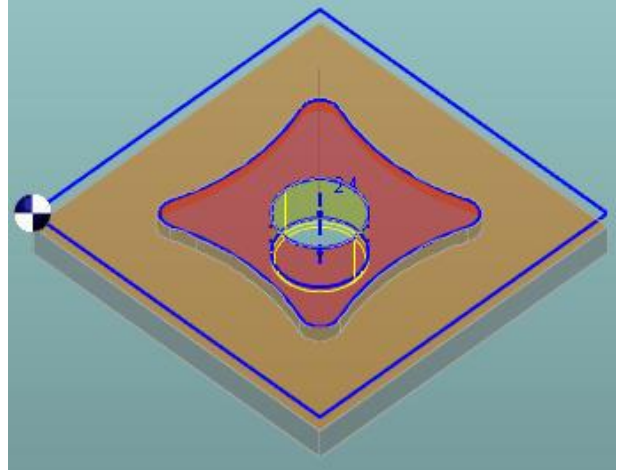
<ul style="list-style-type: none">• Then Left click on Pocket.	<table><tr><th>Techno. name</th><th>Z Step (Ap)</th><th>Stepover (Ae)</th></tr><tr><td></td><td>5.00 mm</td><td>15.00 mm</td></tr></table>	Techno. name	Z Step (Ap)	Stepover (Ae)		5.00 mm	15.00 mm
Techno. name	Z Step (Ap)	Stepover (Ae)					
	5.00 mm	15.00 mm					
<p>7. Tool path calculation</p> <ul style="list-style-type: none">▪ Left click on Cycle Start 							

Ope 30 Drilling a hole Ø24

<div>1. Start:</div> <div><ul style="list-style-type: none">Left click on  Hole/Feature and Left click on Manual</div>							
<div>2. Selection of geometry:</div> <div><ul style="list-style-type: none">Left click on Left click on circle Ø24</div>							
<div>3. Tool selection:</div> <div><ul style="list-style-type: none">Left click on then Left click on Flat DrillDownload tool listSelect DR024-072-32-09-M27</div>	<div> Flat Drill</div> <table><tr><th>Tool name</th><th>Diameter</th><th>Useful length</th></tr><tr><td>DR024-072-32-09-M27-.F24</td><td>24.00 mm</td><td>106.00 mm</td></tr></table>	Tool name	Diameter	Useful length	DR024-072-32-09-M27-.F24	24.00 mm	106.00 mm
Tool name	Diameter	Useful length					
DR024-072-32-09-M27-.F24	24.00 mm	106.00 mm					
<div>4. Machining cycle selection:</div> <div><ul style="list-style-type: none">Left click on Left click on DrillingSelect the "simple automatic vent" cycle from the list</div>	<div> Drilling</div> <table><tr><th>Techno. name</th><th>Depth</th><th>Type</th></tr><tr><td></td><td>15.00 mm</td><td> Simple ▼</td></tr></table>	Techno. name	Depth	Type		15.00 mm	 Simple ▼
Techno. name	Depth	Type					
	15.00 mm	 Simple ▼					

5. Tool path calculation:

- Left click on Cycle Start



Ope 40 Automatic drilling of holes Ø10

1. Start:

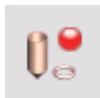
- Left click again on Hole



and Left click on Manual

2. Selection of the holes to machine:

- Left click on

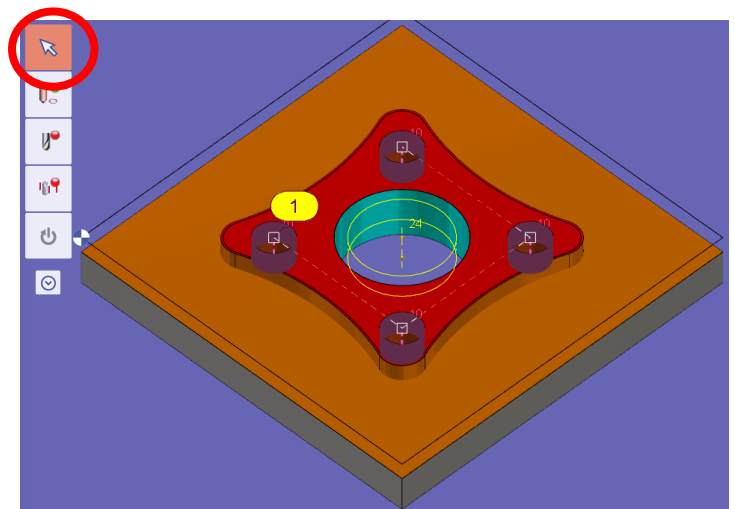


- Left click on



to enable multiple selection

- Left click on the 4 holes of Ø10



3. Tool selection:

- Left click on



- Left click on Point Drill



Spotting Drill

Tool name	Diameter	Point angle	Useful length
	16.00 mm	90.00 deg	30.00 mm

4. Machining cycle selection:

- Left click on



- Left click on Jig Boring

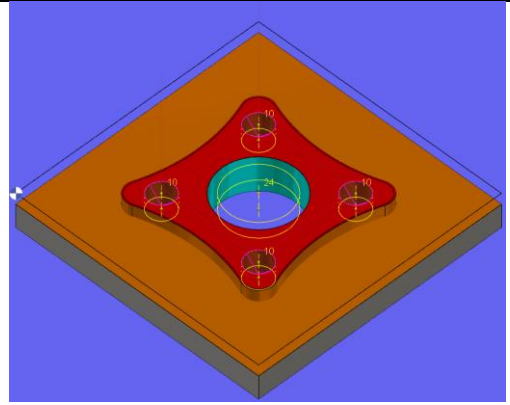


Jig Boring

Techno. name	Depth	diameter centering
	3.00 mm	0.00 mm

5. Tool path calculation:

- Left click on Cycle Start



Ope 50 Drill 4 holes Ø10

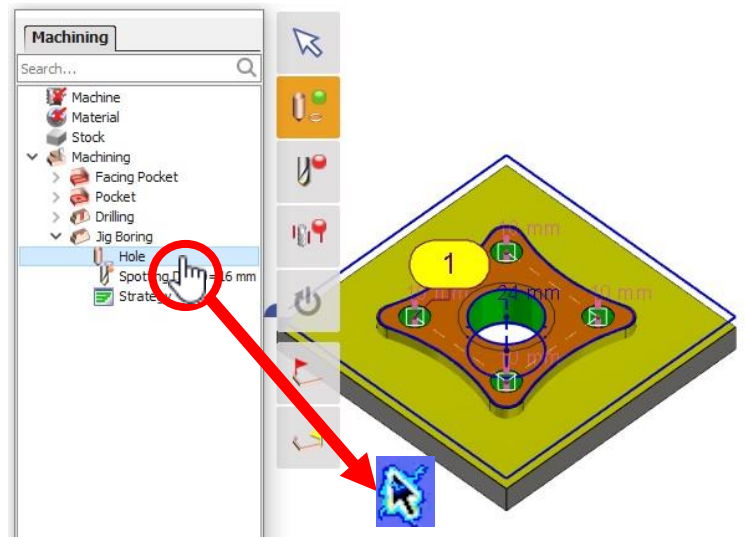
1. Selection of geometry:

Hole function is always active

- Left click on
- In the machining tree left click on arrow before the cycle name
- Click and drag The "hole" operation to the main window on the right side.

The parameter setting of the operation will be copied to the new operation.

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



2. Tool selection :

- Left click on
- Then left click on Drill



Drill

Tool name	Diameter	Point angle	Useful length
	10.00 mm	120.00 deg	55.00 mm

3. Selection of tool and machining cycle:

- Left click on
- Then left click on Drilling

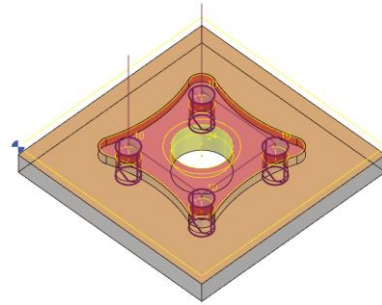


Drilling

Techno. name	Depth
	15.00 mm

4. Tool path calculation:

- Left click on Cycle Start



Opé 60 Finishing hole

1. Selection of geometry:

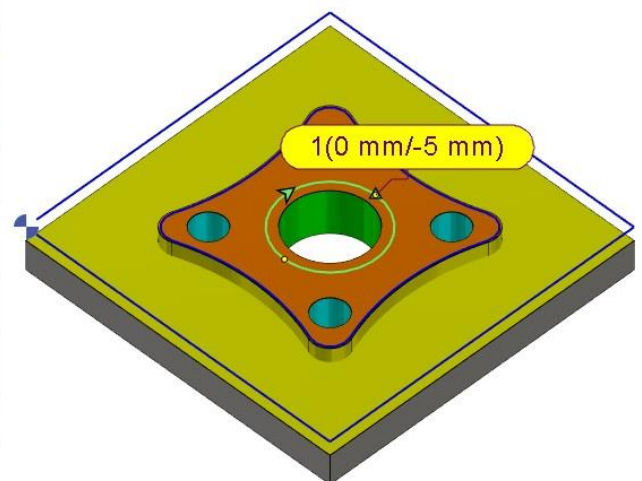
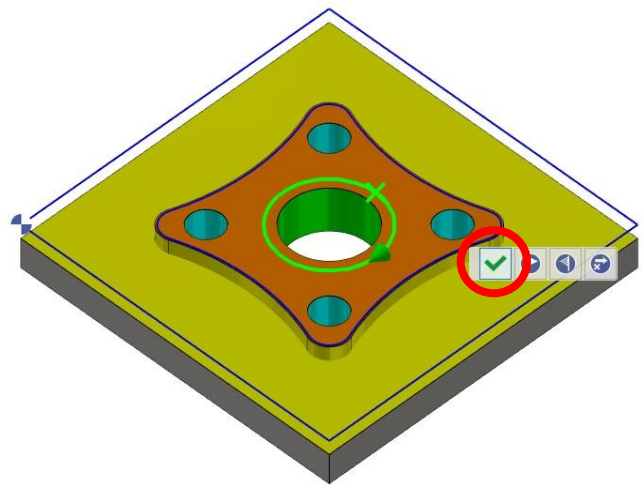
- Left click on Manual
- Left click on Contouring
- Left click on profil 1, a cross indicates the beginning of the profil

The arrow indicates the processing direction and must follow the "tool on the left side of the contour" strategy.

- If the contouring direction is opposite, left click on ✓

- Left click on Mouse cursor
- Left click on selected profil.

- Left click twice in Bottom Z, type -15




2. Tool selection:

- Left click on Flat End Mill
- Left click on Flat End Mill



Tool name	Diameter	Useful length
	10.00 mm	70.00 mm

3. Machining cycle selection:

- Left click on 
- Left click on **Contouring**

- Select **standard profile**
Change the value of lead in arc radius and lead out arc radius to 5

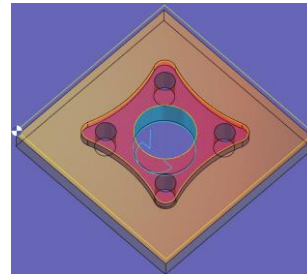


Contouring

Techno. name	Z Step (Ap)	Offset type
	5.00 mm	Left ✓

4. Tool path calculation:

- Left click on Cycle Start 



Simulation and NC blocks


1. Simulation:

- Left click on 



- Left click on 

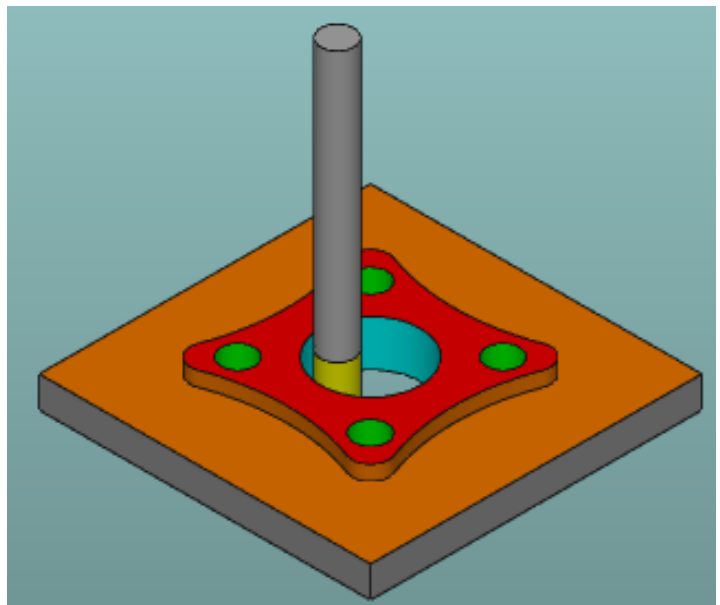


- Left click on  to Start simulation on all machining operations



- If you want to switch to step-by-step mode, press the space bar

- Left click on  Or press the Escap key to stop the simulation

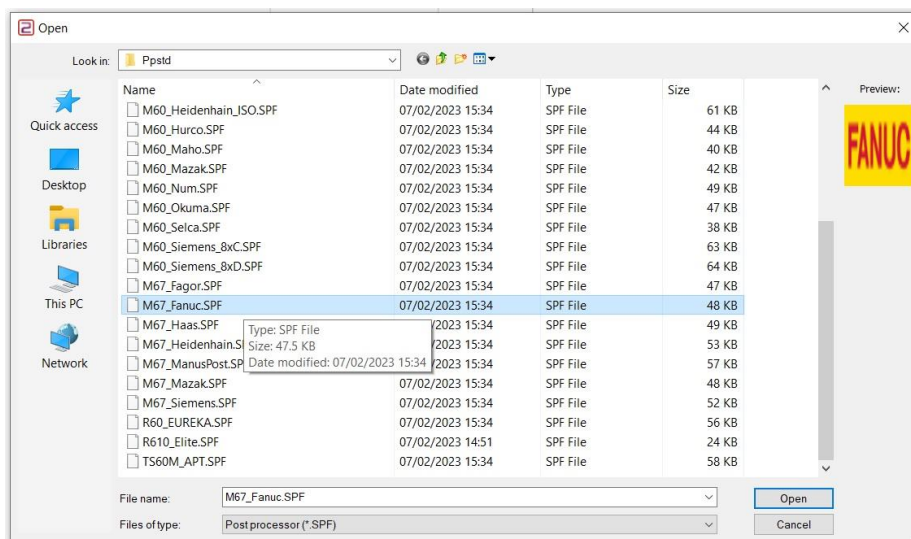


2. NC program:

- Left click on 



- Among the proposed list, choose the post-processor M67_Fanuc.SPF with a Left click



- Left click on **Open**
- Left click on **Confirm**

The NC program is generated.