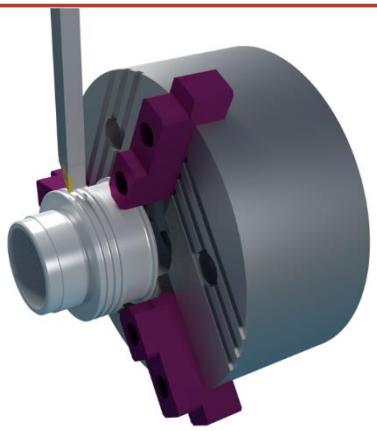
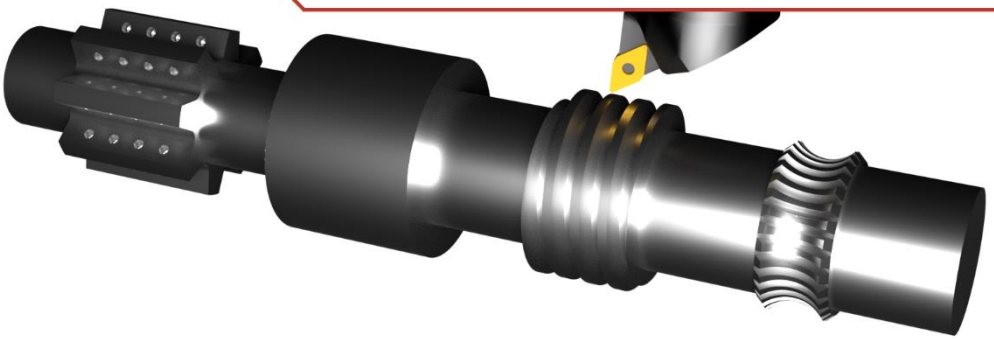
T03





G02cam V6.10
Tutorial
T03 – Opelist Creation

G02cam FRANCE

T03 – Opelist Creation

Introduction

Welcome to this Opelist Creation tutorial.

An Opelist is a **list of operations ready to be applied** on any part.
The creation of an opelist is easy : you simply have **to save the operations already applied on a part**.

An opelist is a single file, with *.OPL extension for milling and turning. In Wire EDM, opelists are called Strategies and are a little bit different. Their extension is *.OPE.

When you create an opelist, many modifications are possible such as adding comments, defining application formula, sorting by machine and by material etc.

The purpose of this tutorial is to explain how to create a simple Opelist

Extra files

In the Training Pack Basic, you will find:

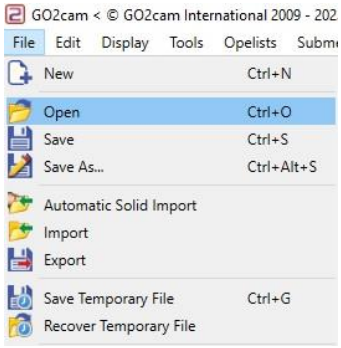
- the pdf file of this tutorial,
- the part file **T02_Cover_Machined.PCE** which is necessary for the creation of the opelist.

The tutorials are additional resources to GO2cam's online help. You can access the online help by selecting the Help menu in GO2cam or by pressing F1.

I. Selection and export of machining cycle:

1. Load a machined part:

- Start GO2cam and select TurnMill Expert
- Open the file **'T02_Cover_Machined.PCE'** from your directory
- Left-click on the menu **Turning**

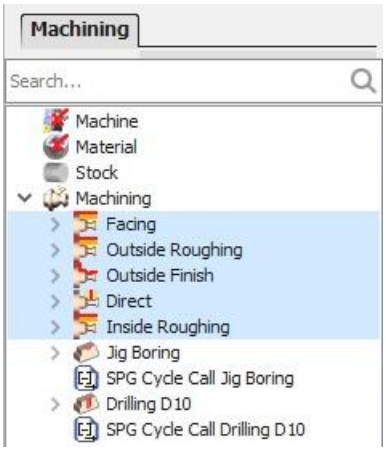


2. Selection of the operations:

We are going to create an opelist with all the turning cycles, we will not consider cycles for the holes.

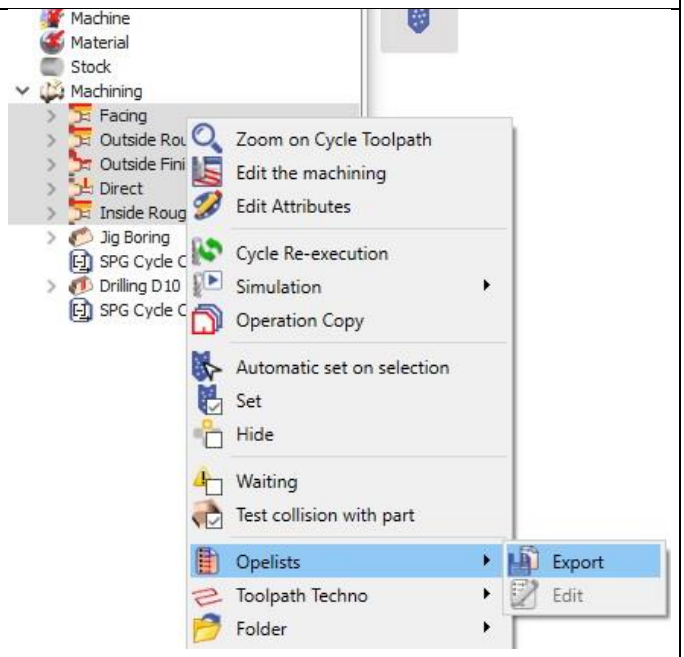
- In the Machining Tree, select the turning operations by holding the SHIFT key and first selecting the **Facing** cycle and then the **Inside Roughing** cycle.

Note: The multi-selection function of using the Ctrl or Shift keys is the same as that in Windows OS. Many actions or shortcuts match those in Windows OS.



3. Exporting as an Opelist:

- Right click in the machining tree in any region within the selected cycles.
- Choose Opelists
- Choose and left click on Export

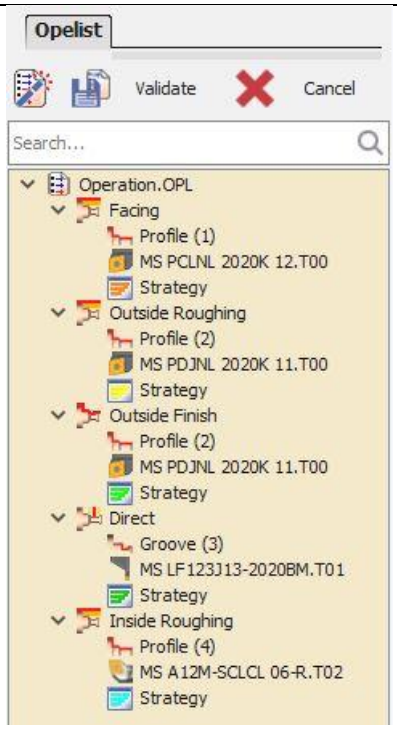


4. Opelist Editor:

You are now in the Opelist Editor. The background is in another color to make the difference with the standard machining tree.

- If you click on Confirm, the opelist will be created!
- But do not Confirm right, continue with the following steps.

Note: the number displayed in the 'Profile' lines is given to all the profiles machined. If 2 cycles have the same indexed number, it means that they are applied on the same profile. In this case the Outside Roughing and the Outside Finish have the same profiles, hence only one selection will be necessary.

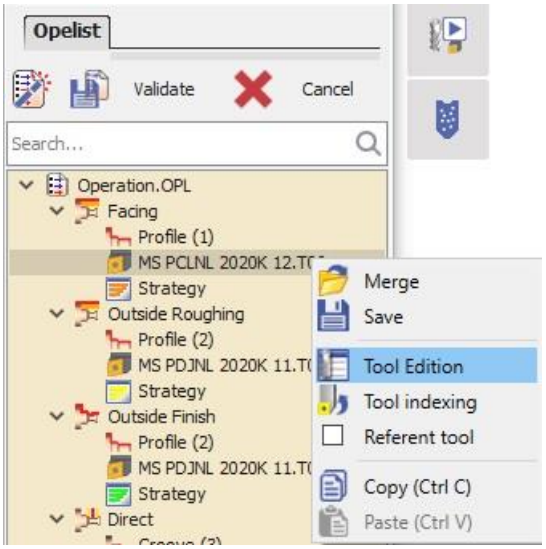


II. Modification and customization:

This chapter explains all the modifications and customization that can be done in the opelist editor.

Modifications of the cycles:

- you can **change the tool** any time in this window: right-click on the tool and choose **Tool Edition** to access the tools library.
- you can modify machining parameters for each cycle : right-click on the **strategy** and and choose Strategy Edition to open the strategy pages.

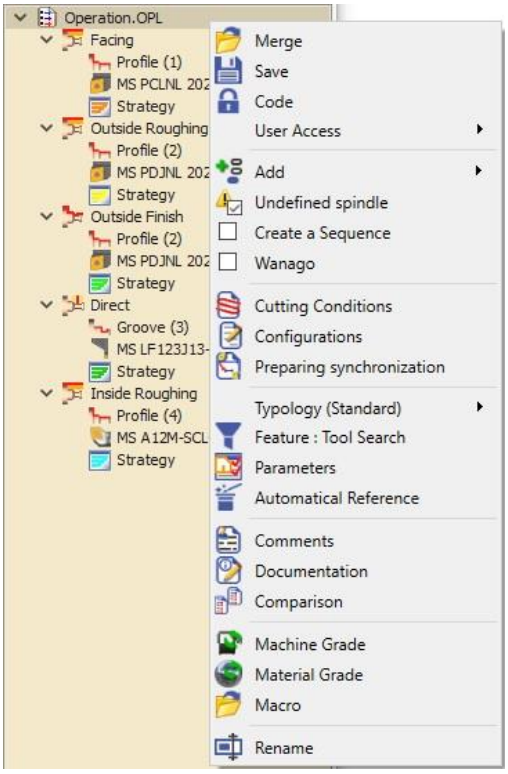


Customization:

To access the customization options, right-click on the **Operation.OPL**:

- **Merge**: to combine several opelists together.
- **Save**: to give a name and save the opelist (same action as Confirm).
- **Code**: you can encode the opelist to protect it.

- **User Access**: options to define if the opelist is open for modifications or if modifications are forbidden.
- **Add**: include other machining operations.
- **Cutting Conditions**: table of the cutting conditions.
- **Parameters**: choose some parameters to customize a dialog that will appear each time you apply the opelist. You can also define some formula to be applied with the opelist.
- **Automatical Reference**: ability to define automatical references such as selection by colour or layer.
- **Comments**: write comments to help or advise the person that will be working with the opelist
- **Documentation**: create an excel file which will be open when you apply the opelist.
- **Machine Grade**: create opelist linked with your machine only.
- **Material Grade**: create opelist linked with your material file only.
- **Rename**: change the name of the opelist.



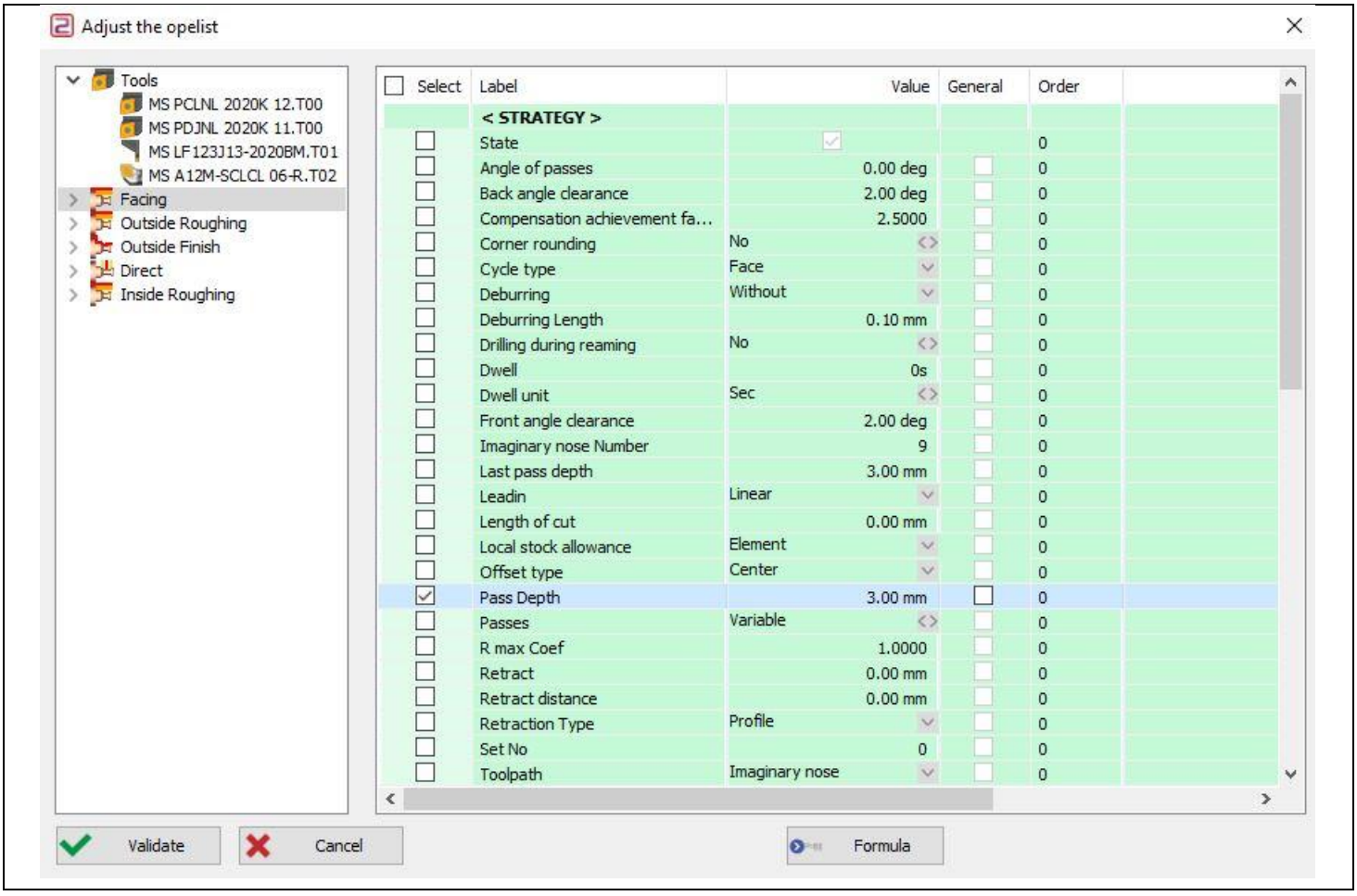
5. Modification of the opelist

We are going to make few modifications and customize the opelist.

- Right click on **Operation.OPL**
- Left click on **Paramètres**

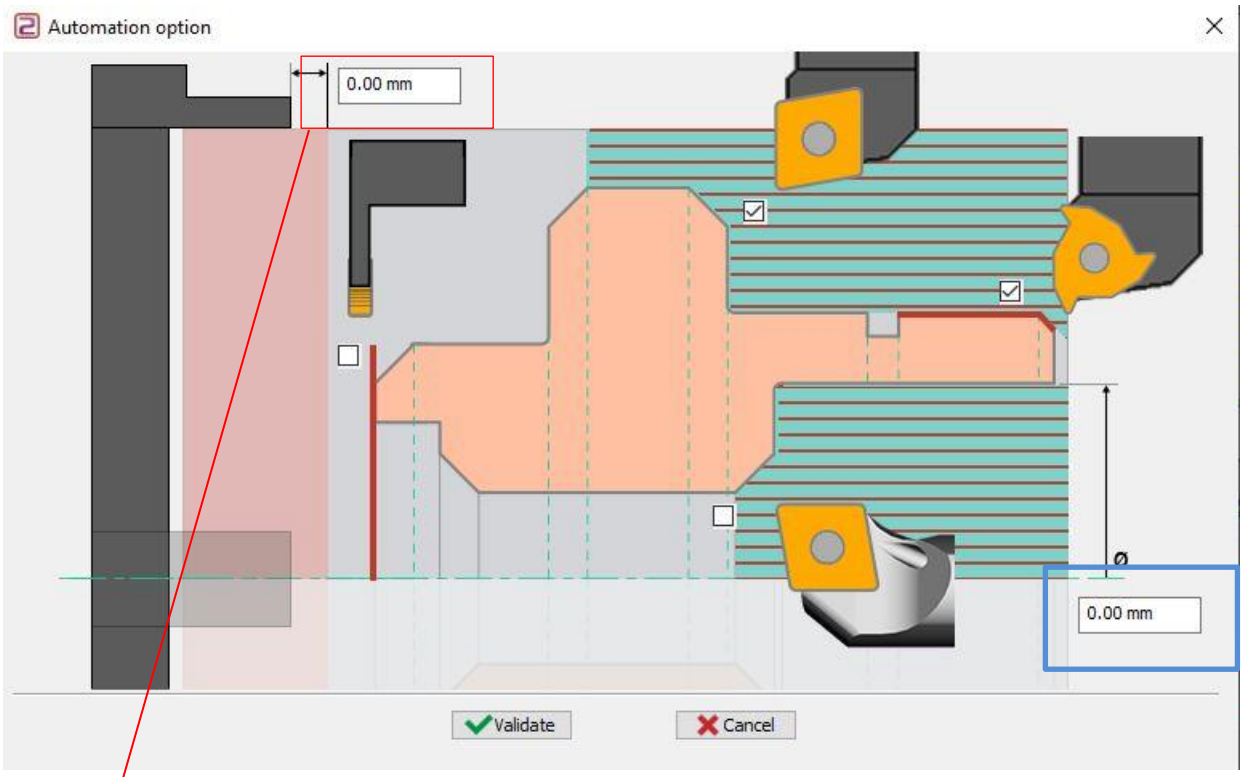
A dialog appears with the cycles and the tools: their parameters are displayed on the right side column[Left click on Facing].The first column called **'Select'** enables to choose which parameters you want to appear when you load the opelist.

- Left-click on the box for the parameter **'Pass Depth'**
- Repeat the same action for the cycles Outside Roughing and Inside Roughin[Boring cycle]
- Left-click on **Validate**


Adjust the opelist
Tools
MS PCLNL 2020K 12.T00
MS PDJNL 2020K 11.T00
MS LF123J13-2020BM.T01
MS A12M-SCLCL 06-R.T02
Facing
Outside Roughing
Outside Finish
Direct
Inside Roughing
Select
Label
Value
General
Order
< STRATEGY >
State 0
Angle of passes 0.00 deg 0
Back angle clearance 2.00 deg 0
Compensation achievement fa... 2.5000 0
Corner rounding No 0
Cycle type Face 0
Deburring Without 0
Deburring Length 0.10 mm 0
Drilling during reaming No 0
Dwell 0s 0
Dwell unit Sec 0
Front angle clearance 2.00 deg 0
Imaginary nose Number 9 0
Last pass depth 3.00 mm 0
Leadin Linear 0
Length of cut 0.00 mm 0
Local stock allowance Element 0
Offset type Center 0
Pass Depth 3.00 mm 0
Passes Variable 0
R max Coef 1.0000 0
Retract 0.00 mm 0
Retract distance 0.00 mm 0
Retraction Type Profile 0
Set No 0 0
Toolpath Imaginary nose 0
Validate
Cancel
Formula

6. Automatic opelist:

- To automate the opelist, left-click on at the top of the opelist dialog box, and then a window[Automation option] will open to select the parameters to be automated



- The machining zone is limited by the value set here, corresponding to the safety distance (if ds=0, the chuck is the machining limit area)
- The checked boxes allow the automation of the cycle to be applied until the last possible element to be machined by the type of tool used. If unchecked, the automation of the cycle will be performed up to the highest or lowest point of the geometry (outer or inner cycle).
- The input value controls the minimum diameter to allow execution of internal cycles.
- Left-click on **Validate** to save the parameters and define the opelist as an Automatic Opelist.

7. Save the opelist:

- To save the opelist, Left-click on

at the top of the opelist dialog
- Create a new folder by clicking on .
- Enter a name for this new folder (Ex : **Aluminium**).
- Enter the name of this opelist: **T03_Opelist.OPL** and click on Save.

The Opelist is created. We will apply it in tutorial T04-Shaft.

Create Folder

You can classify opelists in different menus and submenus, for example:.

1. Saving an opelist in a folder

- After clicking

Windows Explorer will open in the opelist folder of GO2cam.
- To create a new folder, left click on .
- Enter a name for this new folder (Ex : **Aluminium**).
- **Save and name the new Opelist in this folder** (Ex : **Opelist_Aluminium**).

You can find this Opelist in the menu Aluminum under the menu Opelists.

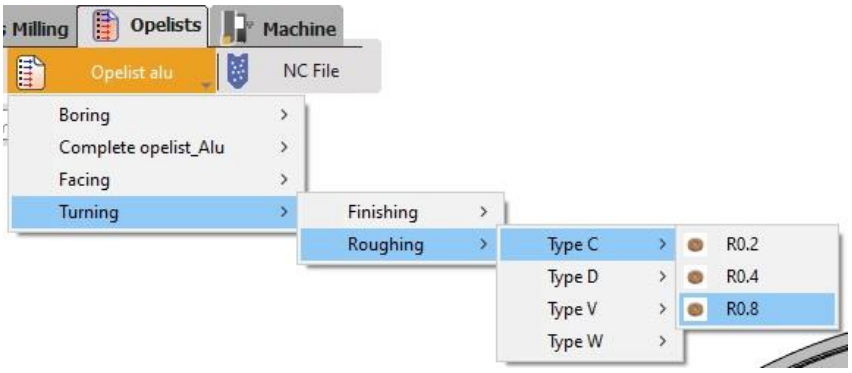
2. Creating subfolders

You can create submenus in the opelist menu.

To do this, just create a folder (such as Facing) in another folder (such as opelist alu) in Windows Explorer.

Thus we get the submenu in the menu.

We can create up to 5 levels of submenus to classify these opelists by material/cycle/cycle type/type of insert/insert radius, as shown in the following example.



Note: You can also create these subfolders directly from Windows Explorer in the opelist folder of the GO2cam software.