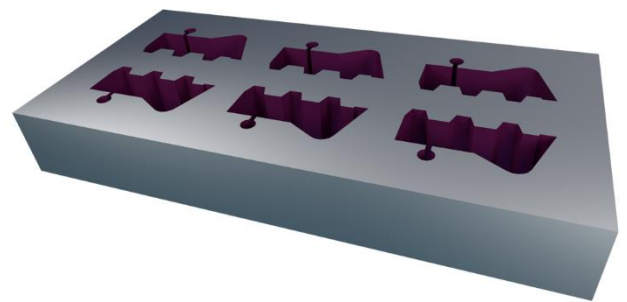


GO2cam



GO2cam V6.10 Tutorial W04 – 4 Axis

I. Design:

1. Start a new drawing:

- Left click on **File**, then choose **New**
- Save current file



2. Sketch:

- Left click on **Wireframe**
- Left click on **Creation**

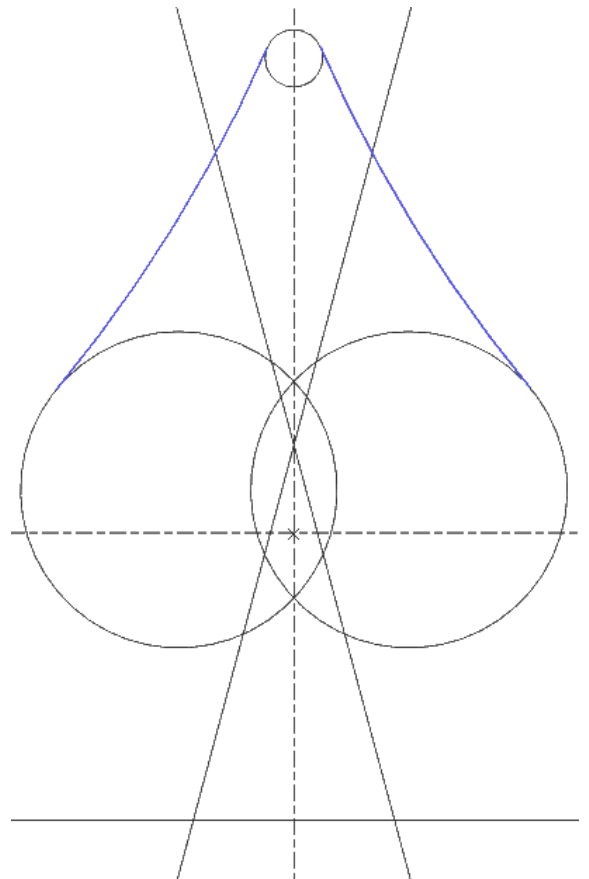


3. Creation of bottom profile, Spade:



The reference plane is active by default. We will create the first shape in it.

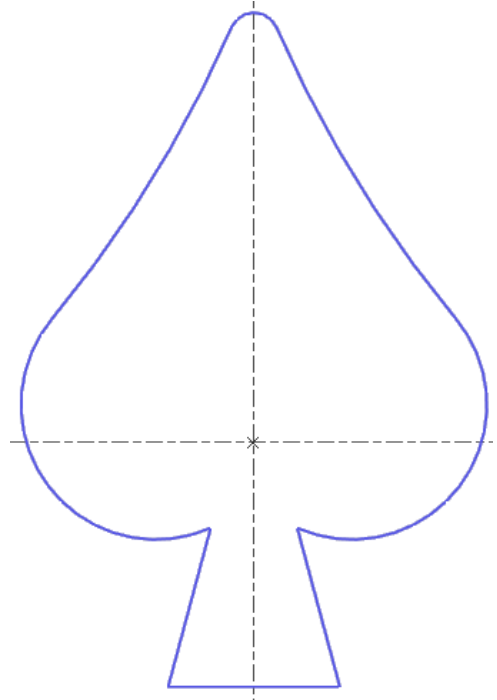


- Use the drawing command to create the shape of Spade.
- Kindly refer to the 4-Axis Layout Document provided.




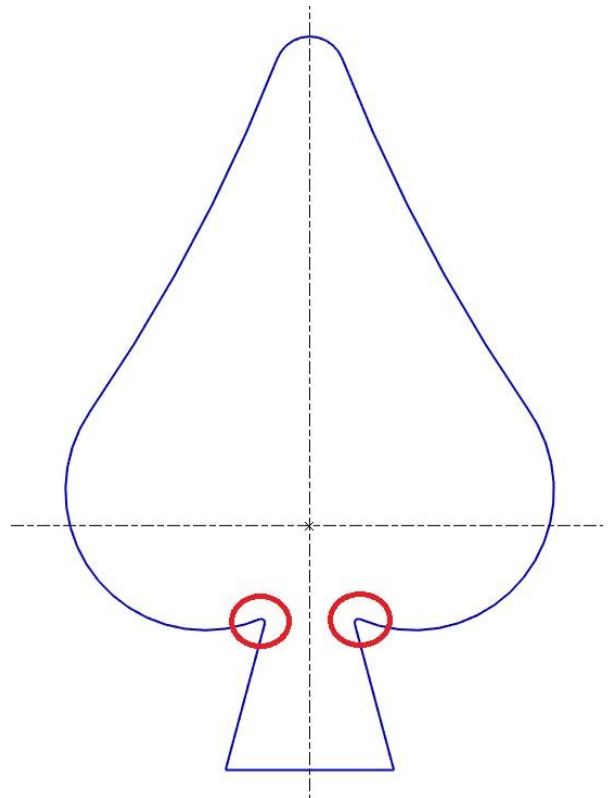
4. Limitation of lines:

- Left click on 
- Click the item you want to delete, and GO2cam will highlight the item you want to keep
- You have another option, hold down the Shift key and click at the item you want to keep
- Left click on **Framing**  to have all geometry on the frame screen



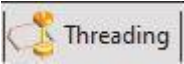



5. Creation of taper:

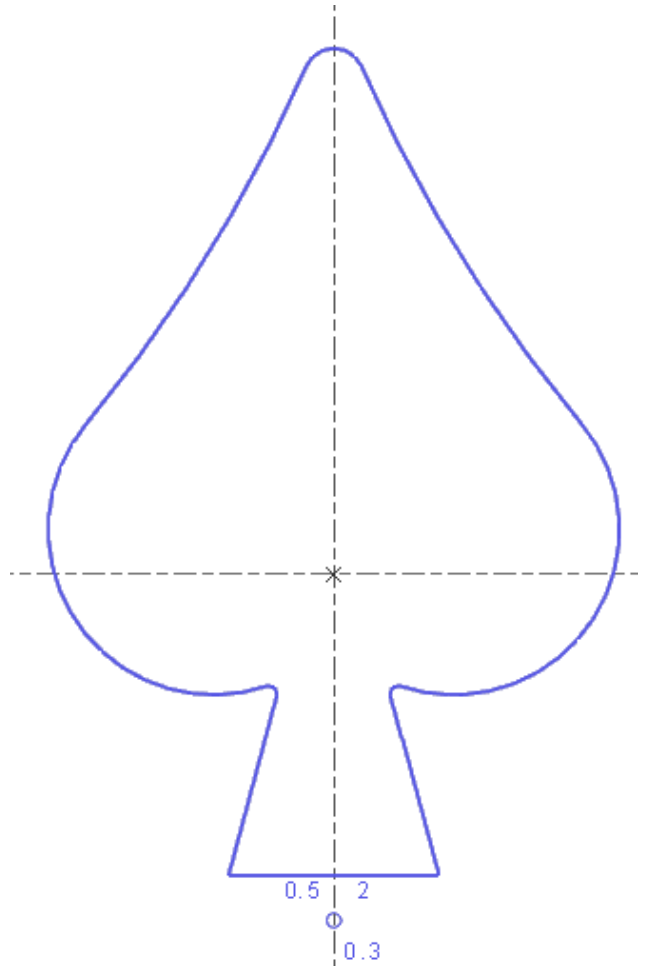
- In the menu **Wireframe** select **Drawing Finish**
- Left click on **Fillet** 
- Type 0.5 of Fillet
- Left click on the 2 intersections




6. Creation of threading points :

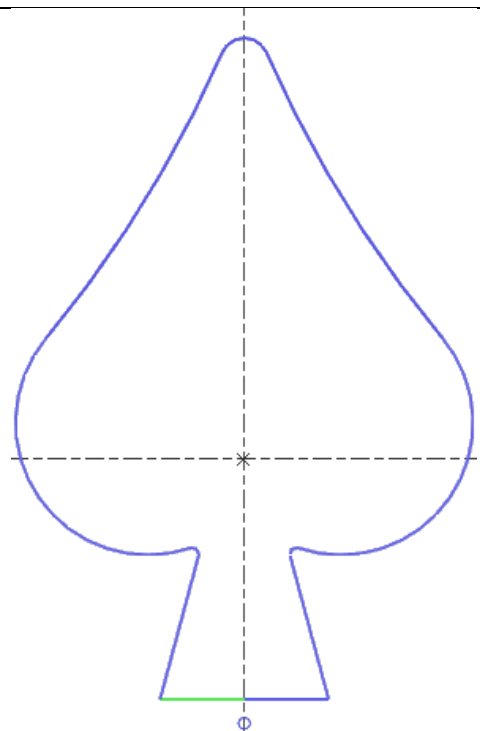
- In **Wireframe**, Choose **Creation**
- Left click on **Point** 
- Type 0 in X,
- Type -23 in X,
- Click on xyz validate 
- Enter menu Threading 
- Left click on the command **Manual Threadings**  and choose « Manual threading »
- Settings of threading points :
 - Value of Slug = 2
 - Value of Retract = 0.5
- Left click on the created point

Note: For 4 axis, threading points must be created manually.



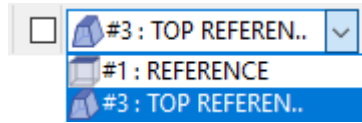
7. Divide geometry:

- Return to **Drawing Finish**
- Left click on **Divide** 
- Left click on Elements to be divided
- Left click on Element, point or axis that the segment must be divided.
- Right-Click and Validate.

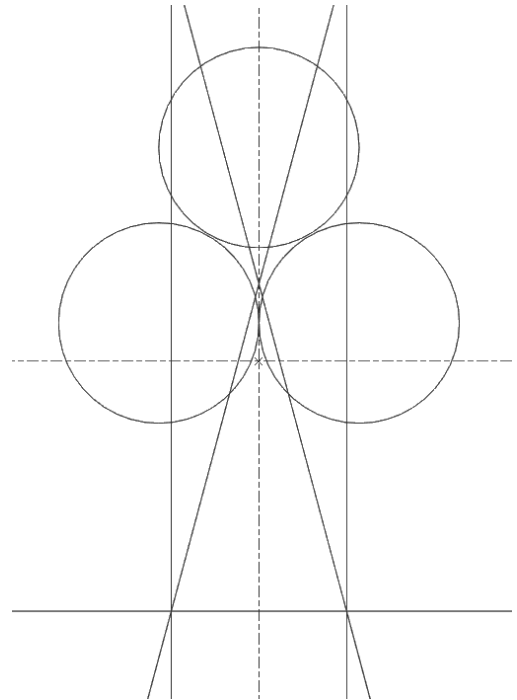


8. Creation of top profile, clover:




- Left click on **list of views**, then select the **TOP REFERENCE EDM**

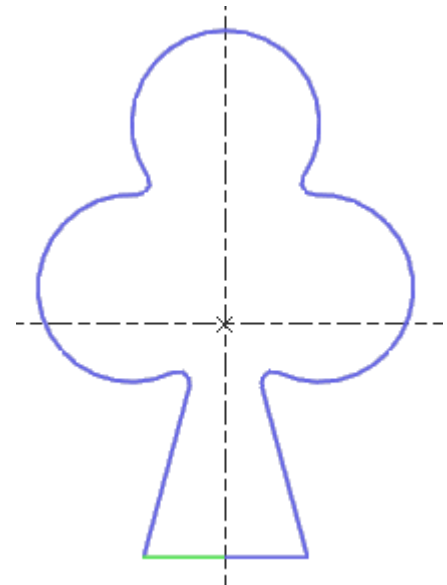


- Create a clover shape using the drawing command.
- Kindly refer to the 4-Axis Layout Document provided.



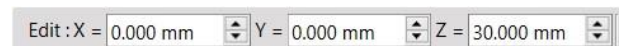
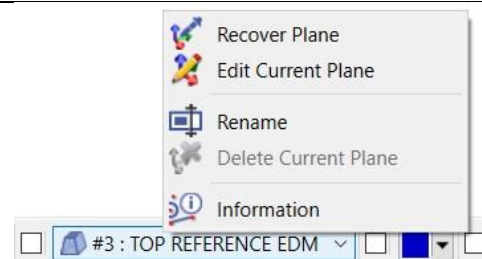
9. Finishing:

- Use command **Drawing**  to obtain the final shape of clover.
- Create 1 mm **Fillet** 
- Divide**  the geometry relative to threading point.



10. Change altitude:

- Right click on **list of views**, select **Edit current plane**
- Enter the profile Z value in Z 30
- Left click on **Ok** to validate



II. Single-pass 4-axis machining:

A) Application of machining :

1. Start:

- In the menu



Automatically create stock based on your geometry.

Note: This is a default definition of parallelepiped stock, with a constant overflow of 5 mm around the geometry

- Left click on to make the height of stock equal to the height of two geometric shapes

Validate.



Overflow = 5.000 mm

Zmini = 0.000 Zmaxi = 30.000

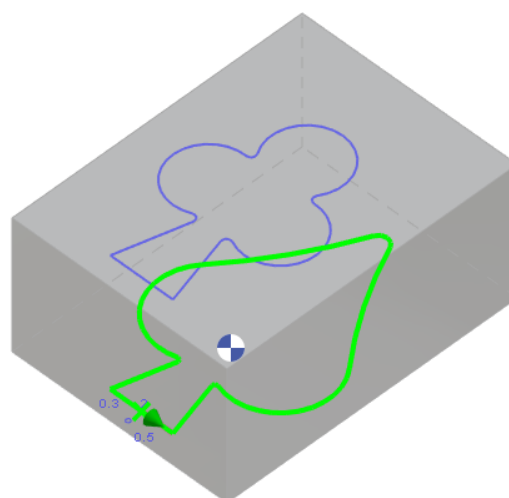
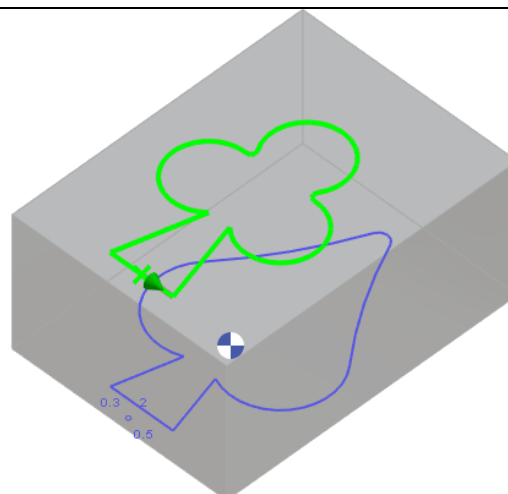
2. Machining :

- Left click on the menu 4 Axes
- Left click on selection of profile
- First select the clover at the top (top profile)

- Left click on Closed profile, then on Profile OK and validate

- Select the spade at the bottom for the second profile (bottom profile)

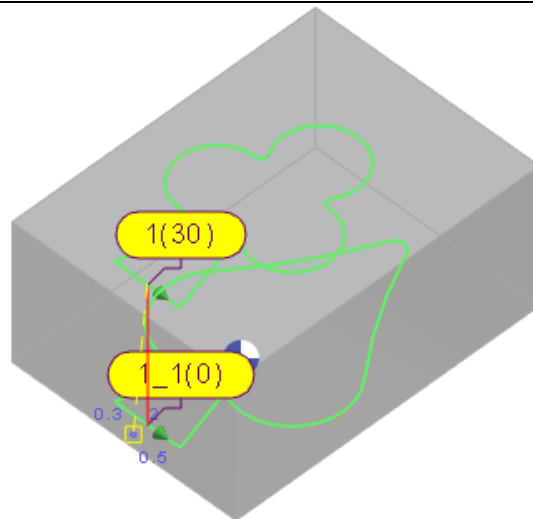
- Left click on Closed profile, then on Profile OK to validate




- Choose mode Punch
- Check whether the Top Z and Bottom Z are correct

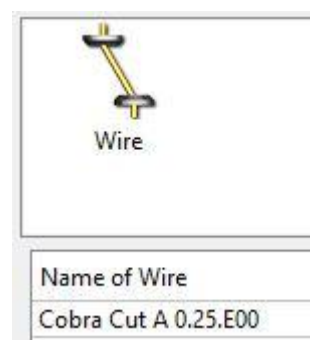


- Left click on **Threading Point** , then click on the point




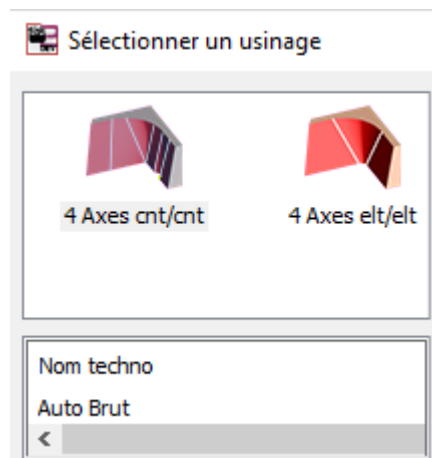
3. Selection of Tool:

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



4. Selection of cycle :

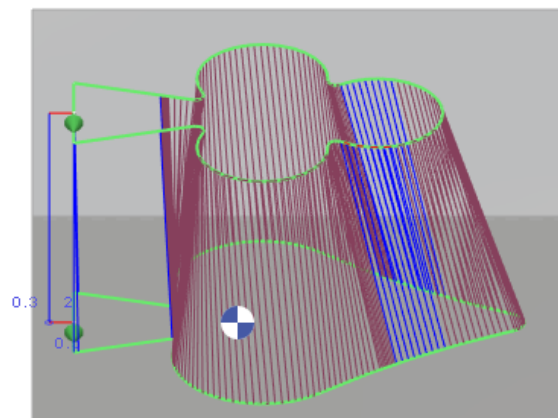
- Left click on 
- Select cycle 4 axes Cnt/Cnt



5. Calculation of cycle:

- Left click on **Cycle Calculation** 


We can see that the wire is delayed on the bottom profile, so we will place a marker to synchronize the wire's passing on the top and bottom profile.




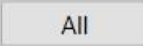



B) Synchro Points:

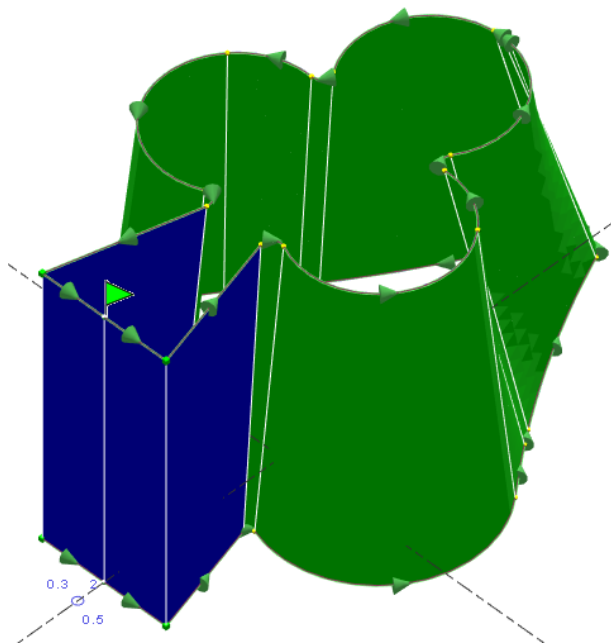
1. Start:

- In the menu **design**



- Left click on  EDM geom

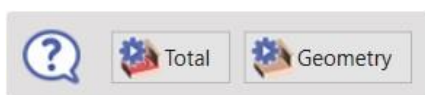
2. Add Synchro Points:

- Use command **Synchro points** 
- Left click on Top profile, then bottom profile
- Check whether the mark is in punch mode
- Click  to allow automatic linking of all existing points
- The command **adding synchros**  is activated, just click one end of the top profile and connect it to the end of the bottom profile
- If the end does not exist, use command **cut profile**  so that synchro point can be created at the ends
- Left click on  to validate

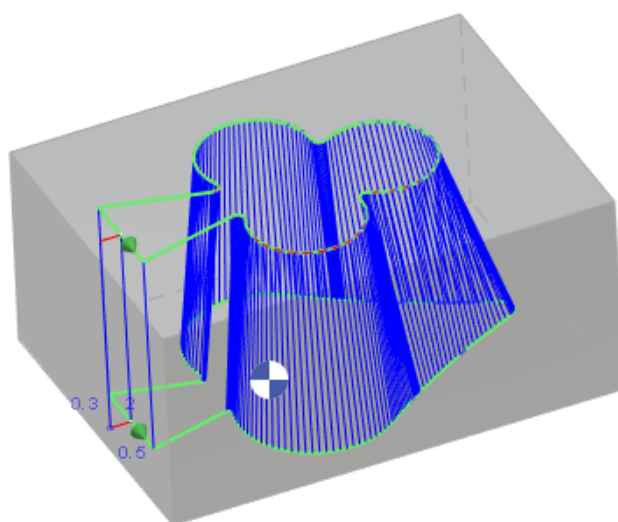


3. Update toolpath :

- Return in menu  EDM
- Left click on **update** , then on **Total**







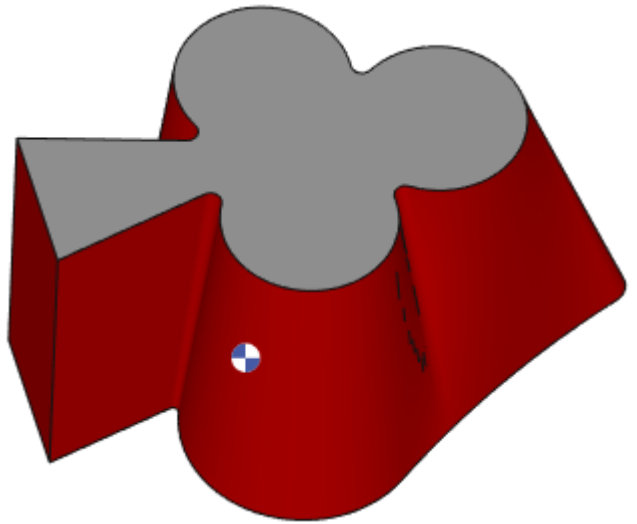
Toolpath is recalculated based on added synchro points.



C) Simulation and NC output:

1. Simulation :

- Enter in menu  NC File
- Left click on Simulation 
- Left click on  Or click the space bar to start the simulation in step-by-step mode
- Left click on  Or press the Escape key to stop the simulation.



2. Generation of NC program :

- Left click on 
- In the proposed list, Left click on the post-processor »E60_Charmilles_Robofil «.
- Open and confirm

ISO program is generated.

- Left click on **Open**, then on **Confirm**

The ISO program is generated.

