

SimplyCam Pocket toolpath

In this tutorial you will open a Dxf file and create the toolpath to remove the material contained in a closed profile.

Geometry Toolpath

Machine: Mach2
Pocket - T3
Paramet
Toolpath
Pocket - T1
Paramet
Toolpath

gcEditor v 0.9.9.2

File Edit Text Tools Help

C:\ProgramData\SimplyCam 3\gcode\test.nc

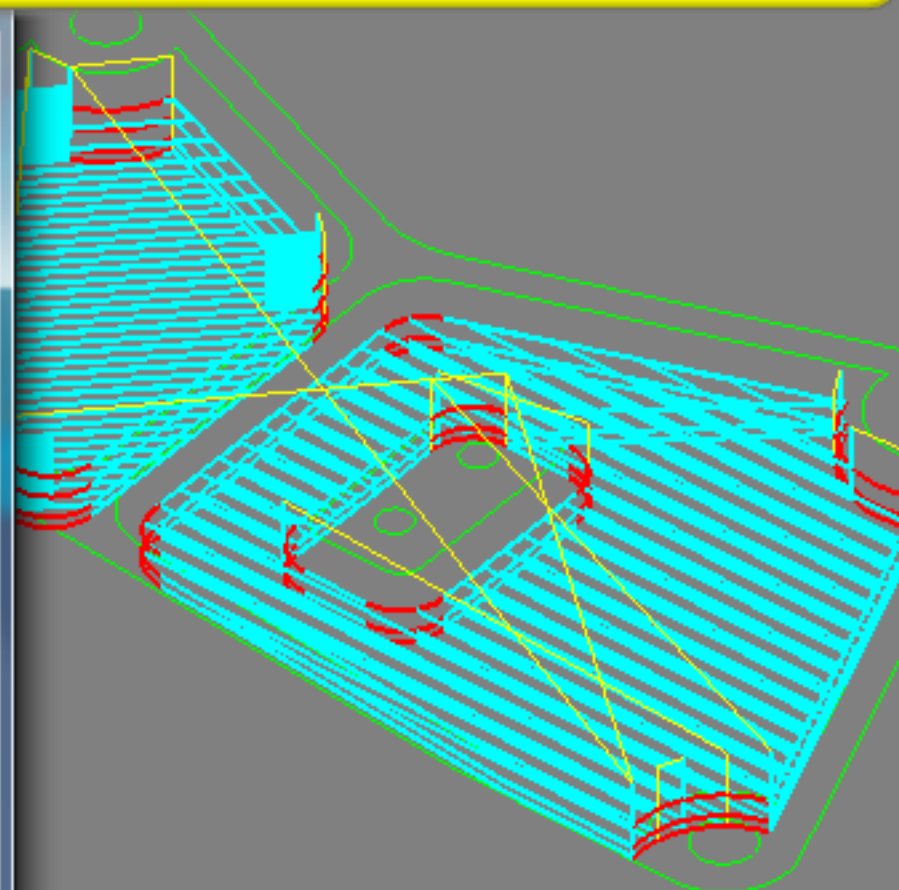
```
%  
N1 (POST PROCESSOR: MACH2-3)  
N2 (TEST.NC)  
N3 G21 (UNITS: MM)  
N4 G00 G17 G40 G49 G80 G90  
N5 G64 (Constant Velocity Mode)  
N6 T3 M6 (TLDIA=4)  
N7 G91.1 (IJ Incremental mode for a  
N8 G00 X95.079 Y5.1 M03  
N9 G43 H3 Z2.  
N10 G01 Z-2. F50.0  
N11 G01 X82.523 Y5.1 Z-2. F100.0  
N12 X51.412 Y7.5  
N13 X95.17  
N14 X95.235 Y7.818  
N15 G00 Z2.  
N16 X96.032 Y9.9
```

Change Post

Show/Hide to

Current Z: 0

In 0 col 0



X: 68.582 Y: -39.497

29m, 49s

10.005
mm

SNAP
OFF

90°

Grid

Isometric

Stop

Check

Current layer: 0

Label1

New Open Vectorize Save Machining Settings Help Close Create point Line Endpoints Rectangle Circle Ct + Pt

Undo Delete Fillet

Geometry Toolpath

Machine: Mach2-3

Look in: samples

Recent Places

Desktop

Name

- LatheS
- LatheS
- LatheS
- PIZZA
- SAMPLE_POCKET.DXF

Caution:

CNC machines are potentially dangerous.
The post-processor can output code unsuitable for your machine's control.
Check the G-code file before sending it to a CNC machine.

Network

File name: SAMPLE_POCKET.DXF

Files of type: Bitmap/Vector files (*.snc;*.bmp;*.jpg;*.dxf;*.stl)

Open Cancel

Change Post Run Post

Show/Hide toolpaths

X: -11.869 Y: -12.121

Open file (*.snc;*.dxf;*.stl;*.svg;*.bmp;*.jpg)

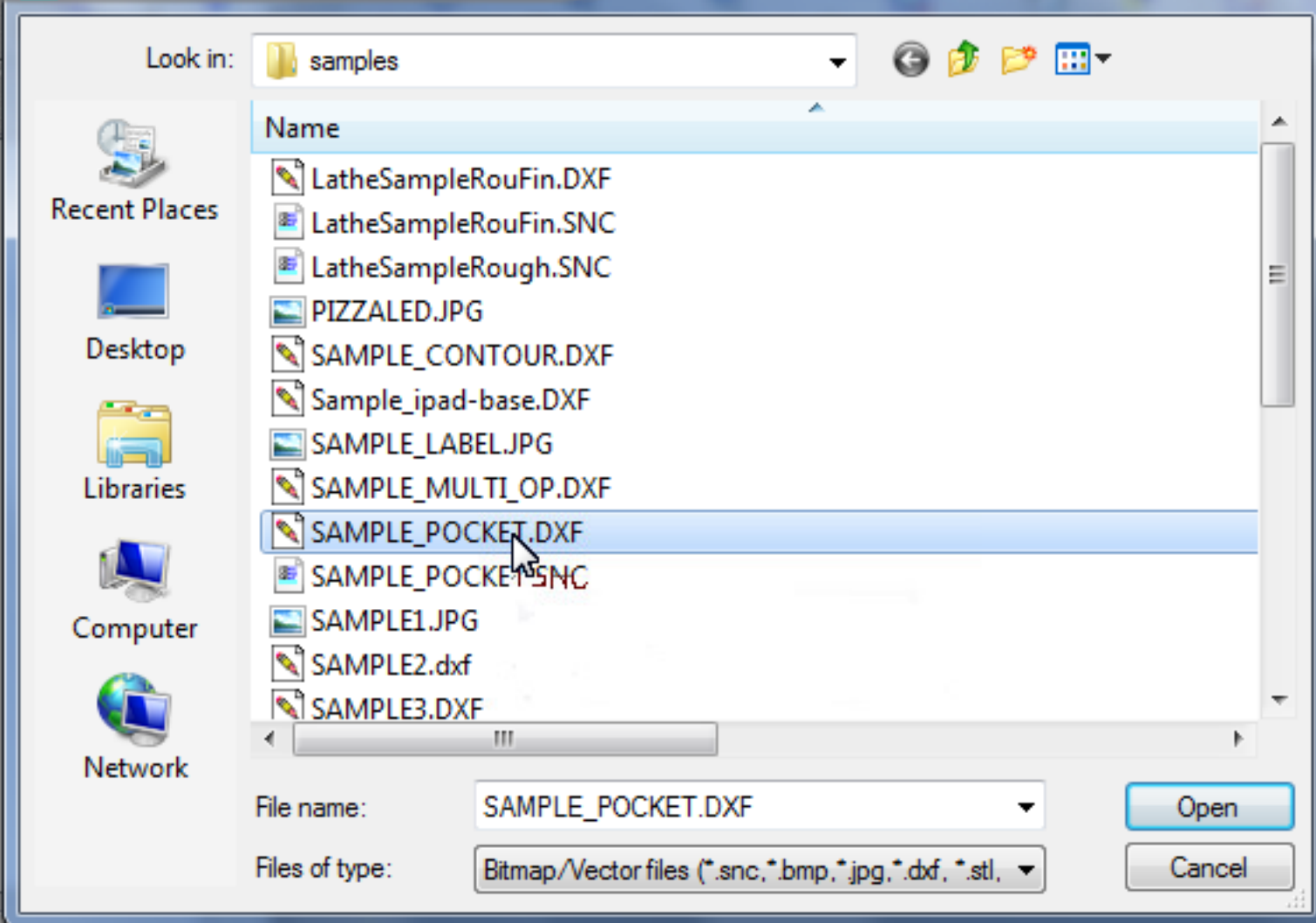
SNAP OFF 90°

Current layer: 0

Label1

3.157 mm

Open the Dxf file with the
"Open" button.



Change Post

Run Post

Show/Hide toolpaths

X: -11.869 Y: -12.121

Open file (*.snc;*.dxf;*.stl;*.svg;*.bmp;*.jpg)

SNAP
OFF

90°

L

R

G

STOP

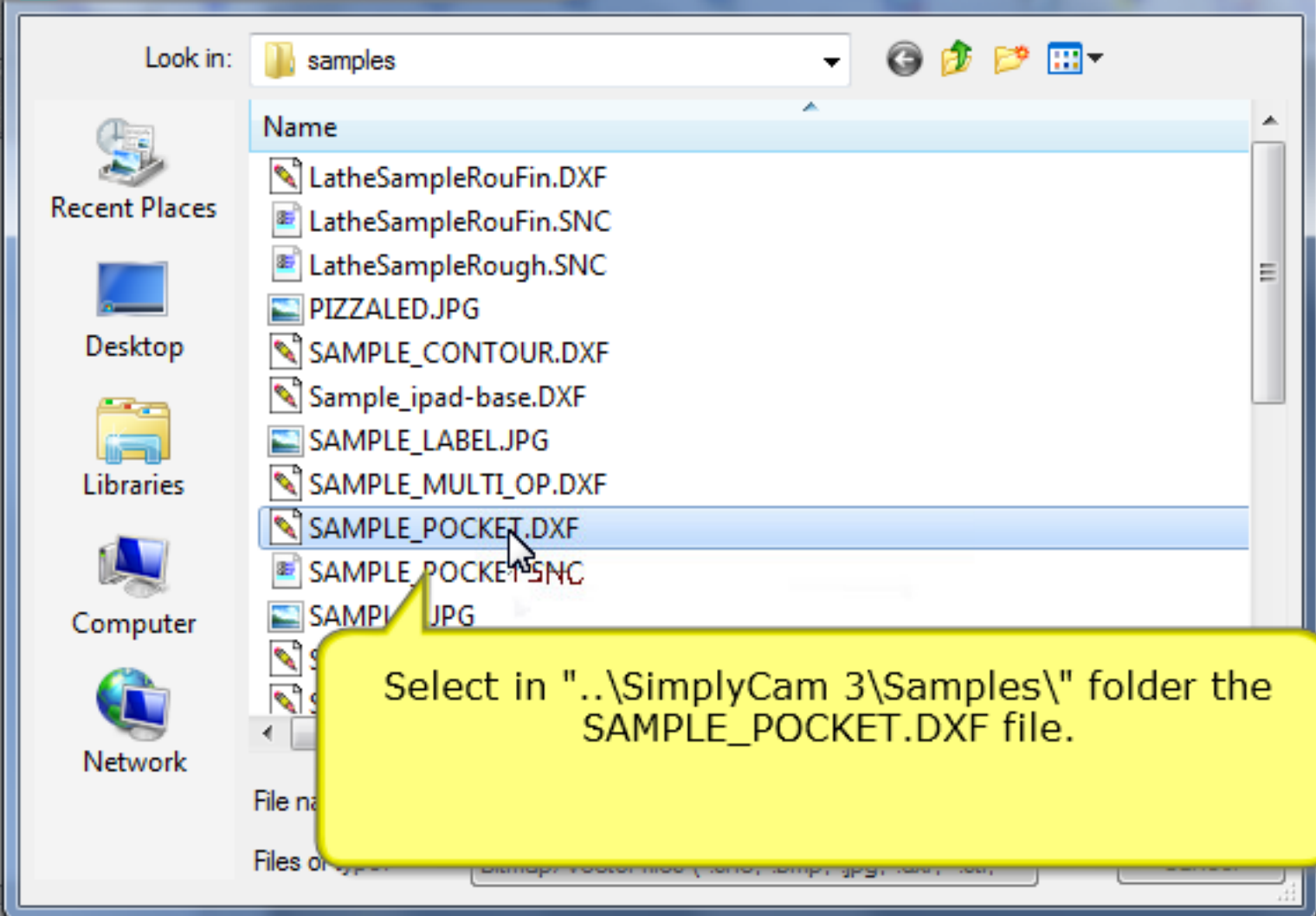
✓

Current layer: 0

Label1

3.157
mm

Open the Dxf file with the "Open" button.



Change Post

Run Post

Show/Hide toolpaths

X: -11.869 Y: -12.121

Open file (*.snc;*.dxf;*.stl;*.svg;*.bmp;*.jpg)

SNAP
OFF

90°

L

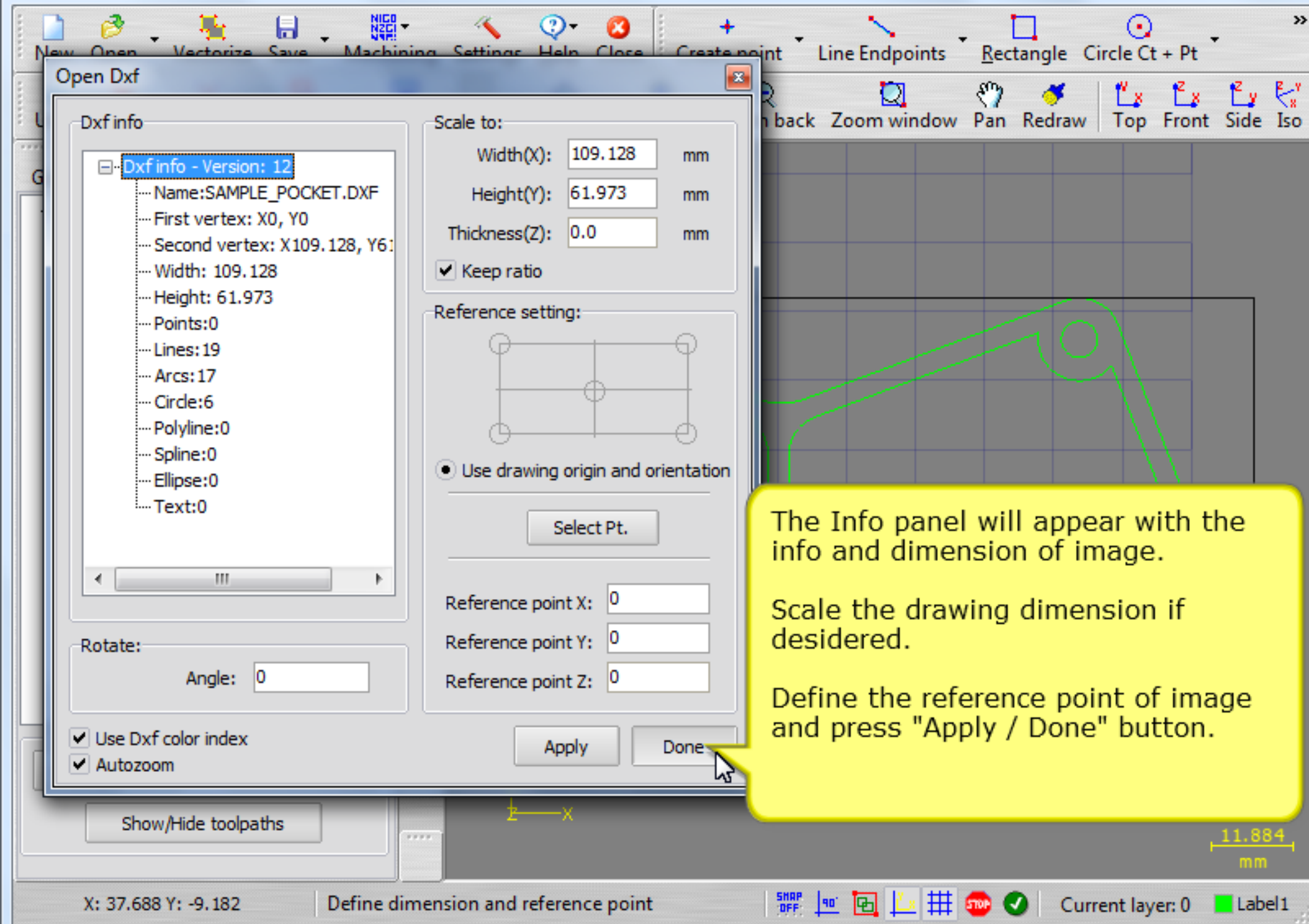
B

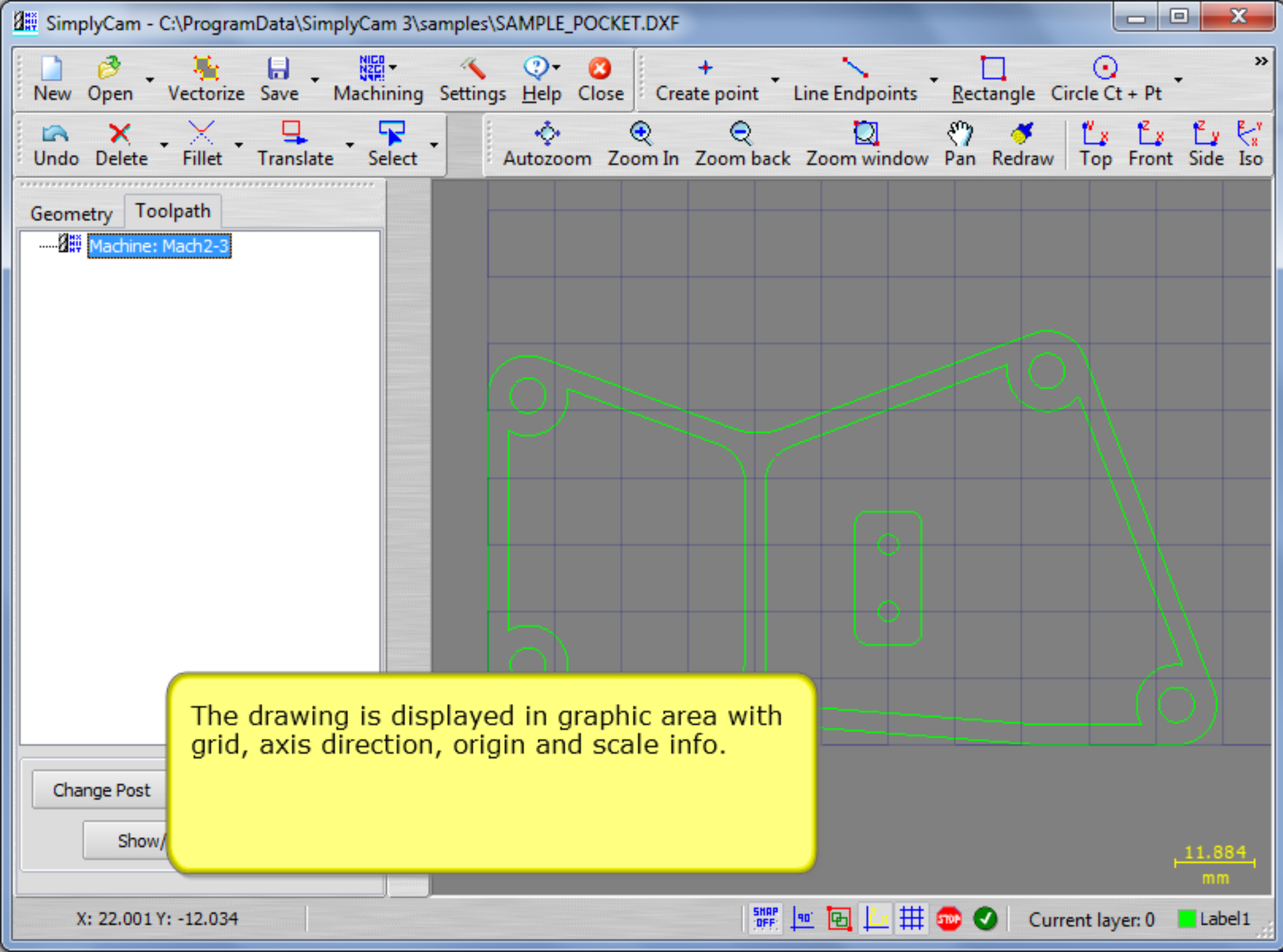
STOP

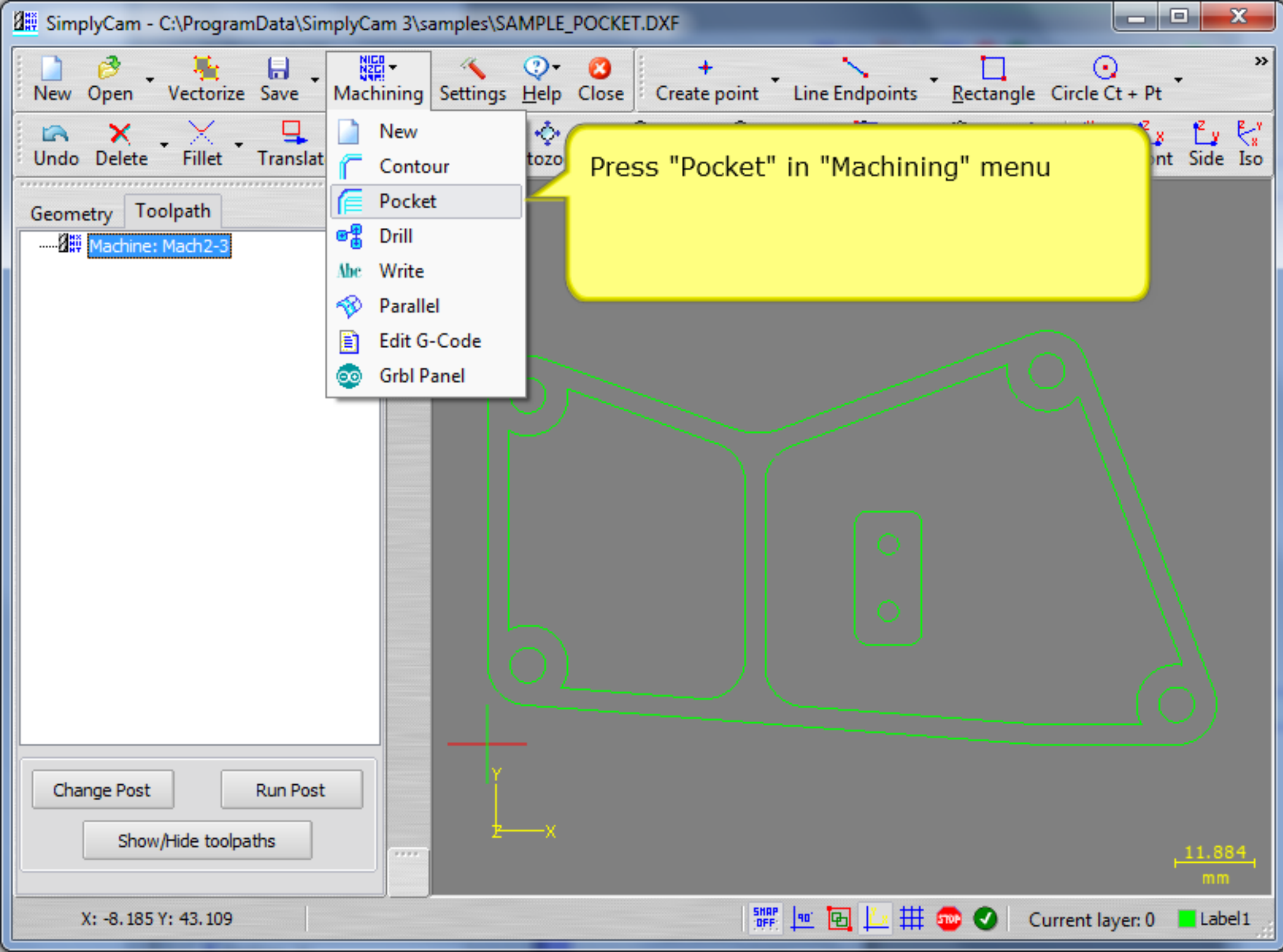
✓

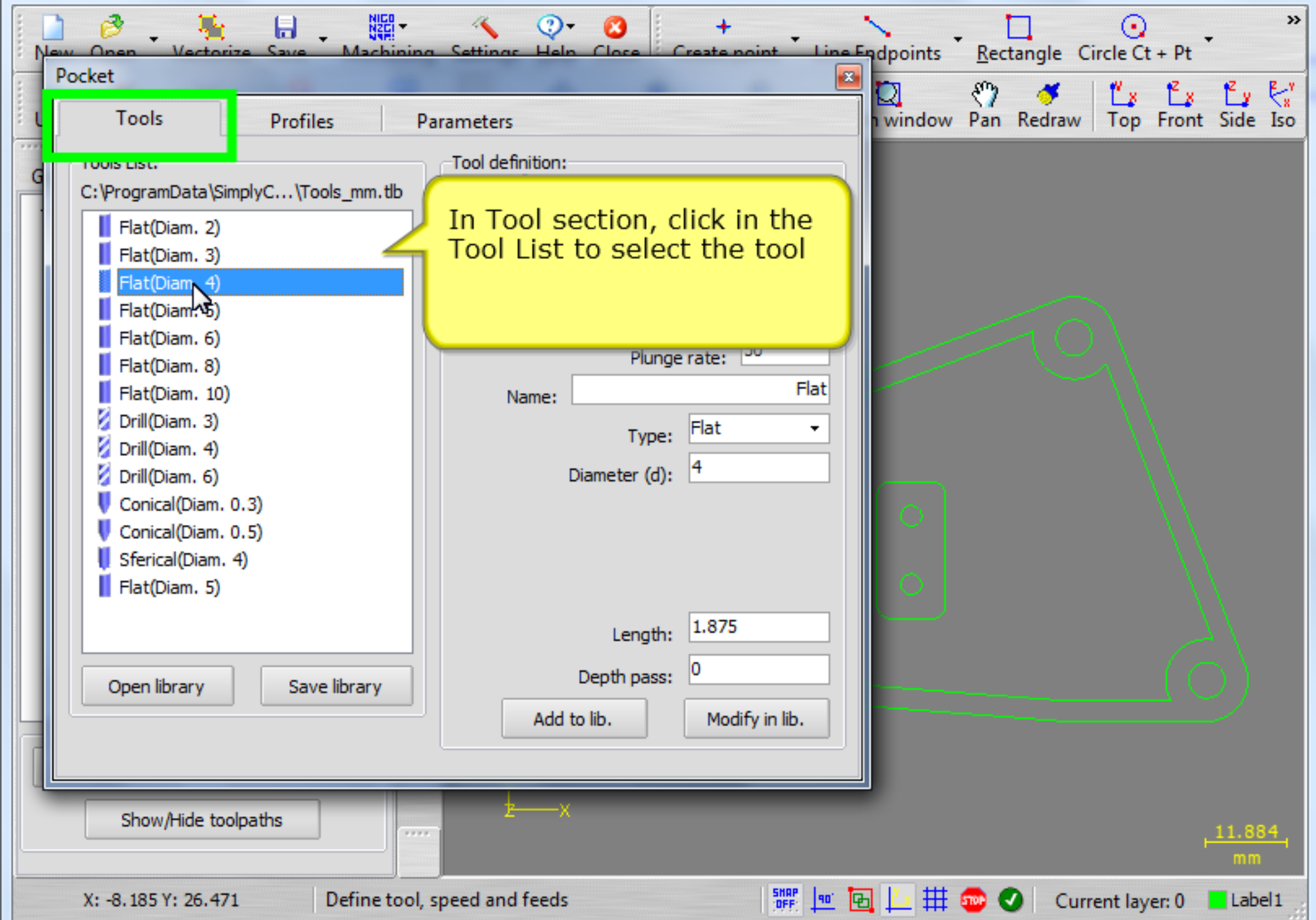
Current layer: 0 Label1

3.157
mm









New Open Vectorize Save Machining Settings Help Close Create point Line Endpoints Rectangle Circle Ct + Pt

Window Pan Redraw Top Front Side Iso

Pocket

Tools Profiles Parameters

Tools List:
C:\ProgramData\SimplyC... \Tools_mm.tlb

- Flat(Diam. 2)
- Flat(Diam. 3)
- Flat(Diam. 4)**
- Flat(Diam. 5)
- Flat(Diam. 6)
- Flat(Diam. 8)
- Flat(Diam. 10)
- Drill(Diam. 3)
- Drill(Diam. 4)
- Drill(Diam. 6)
- Conical(Diam. 0.3)
- Conical(Diam. 0.5)
- Sferical(Diam. 4)
- Flat(Diam. 5)

Open library Save library

Tool definition:

 Tool number: 3
Speed: 1500
Spindle CW
Feed rate: 100
Plunge rate: 50
☐ Coolant
Name: Flat
Type: Flat
Diameter (d): 4
Length: 1.875
Depth pass: 0
Add to lib. Modify in lib.

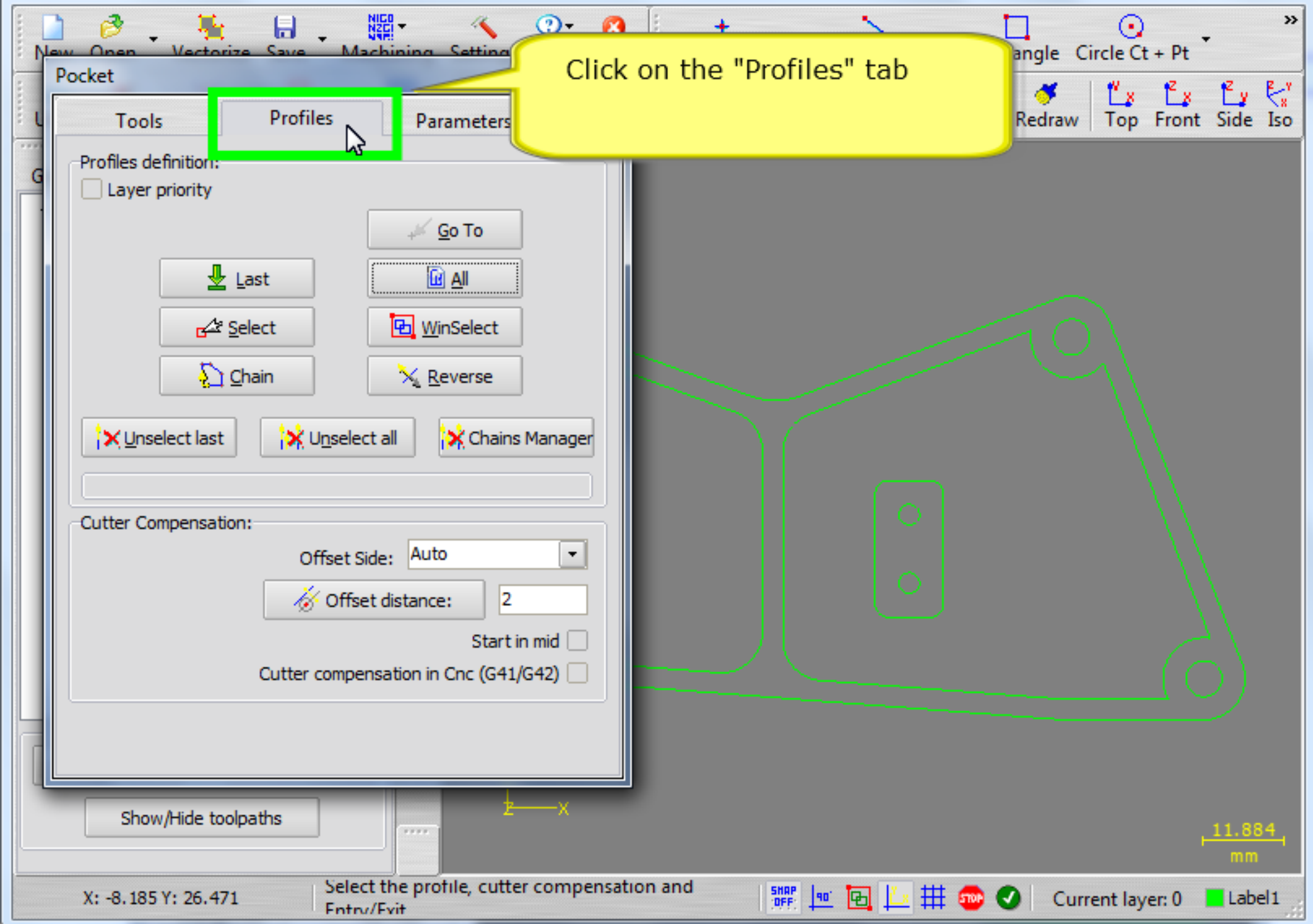
..and set feeds and speed of the tool.

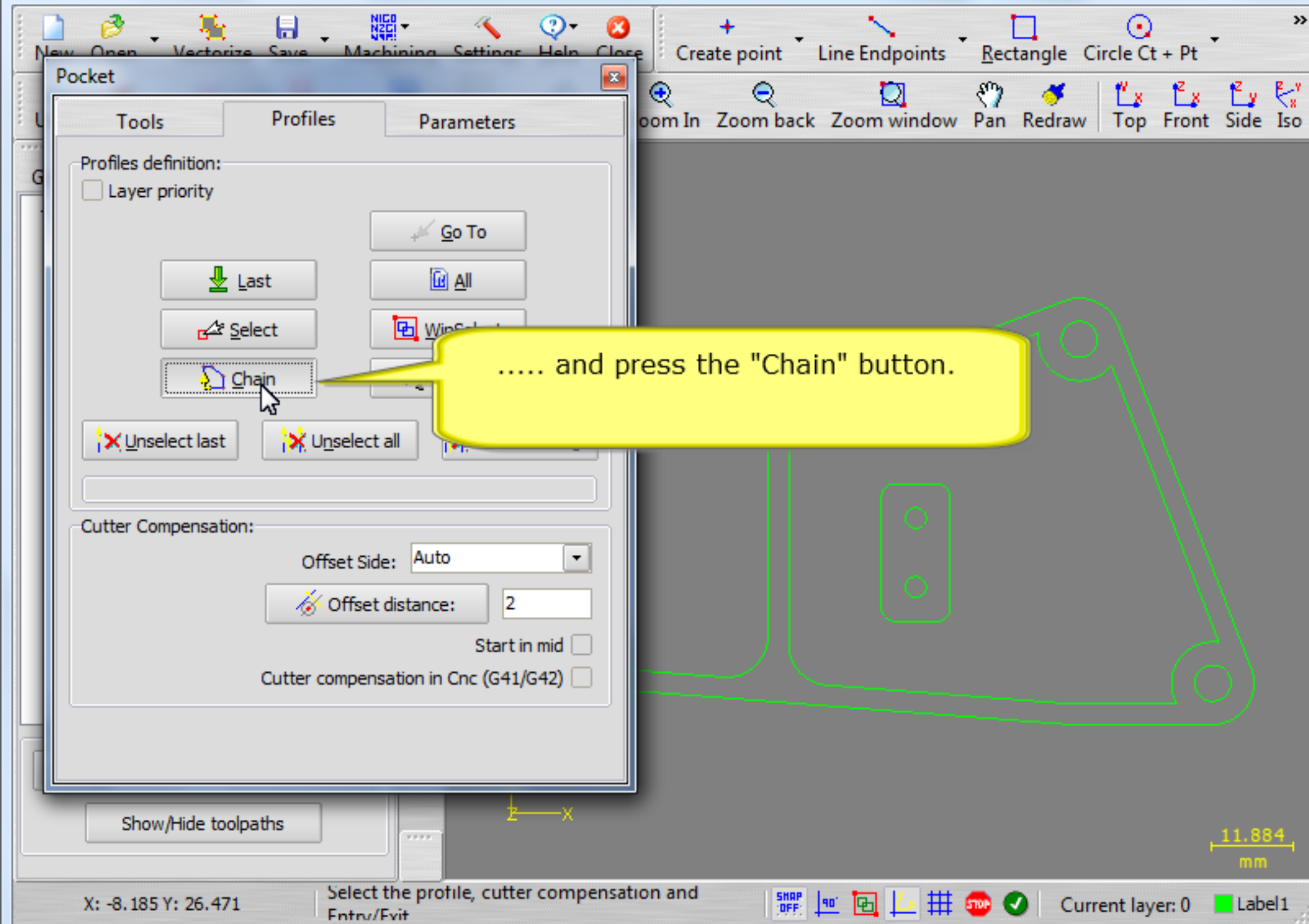
Show/Hide toolpaths

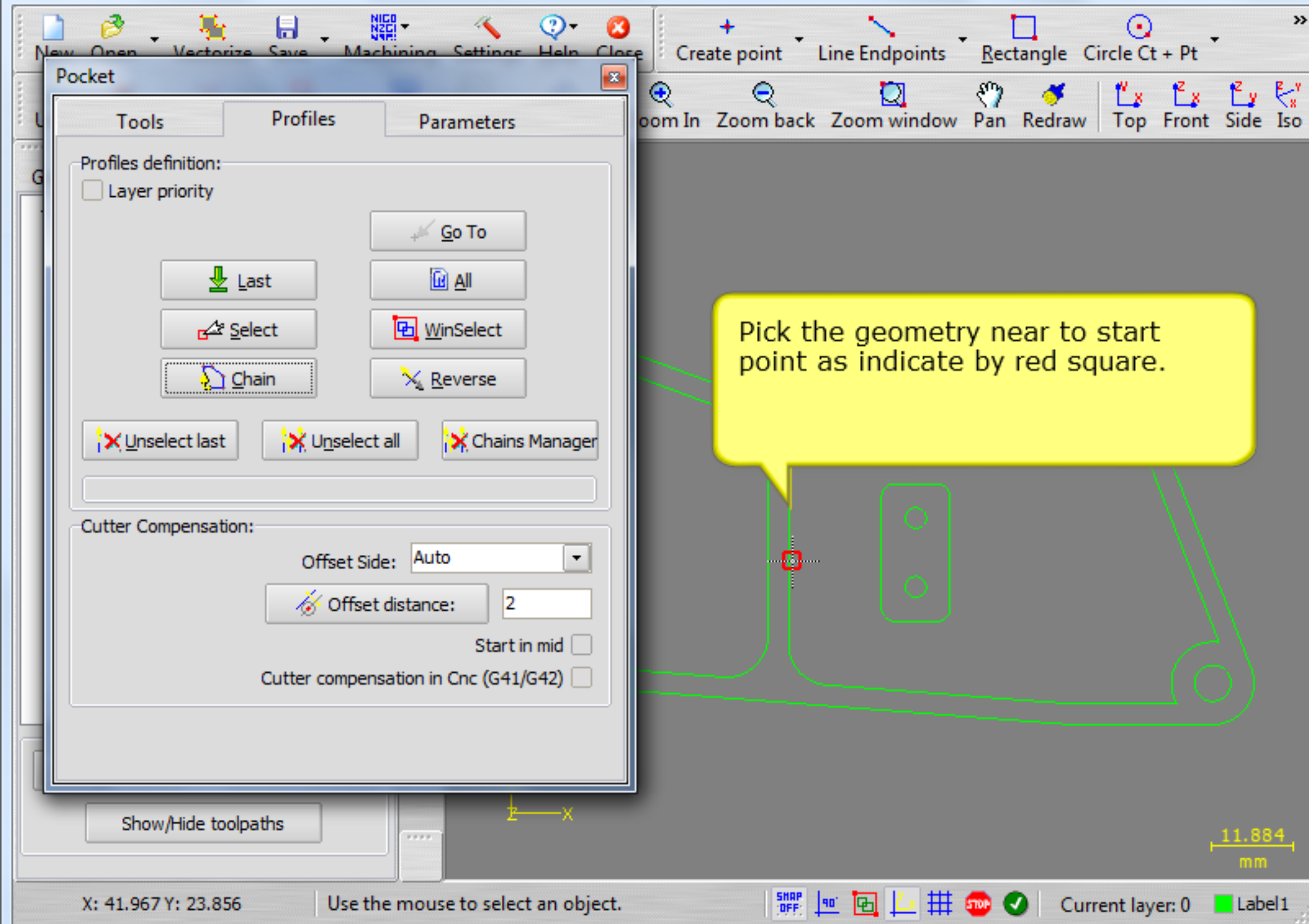
X: -8.185 Y: 26.471 Define tool, speed and feeds

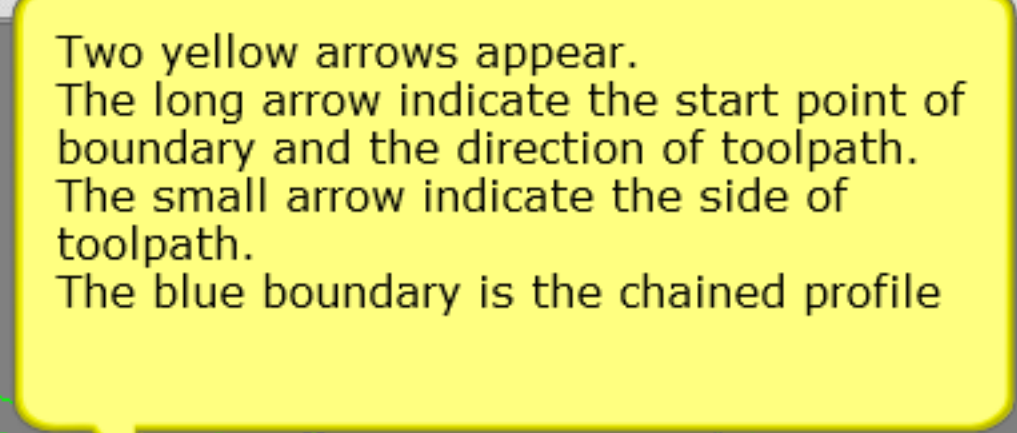
11.884 mm

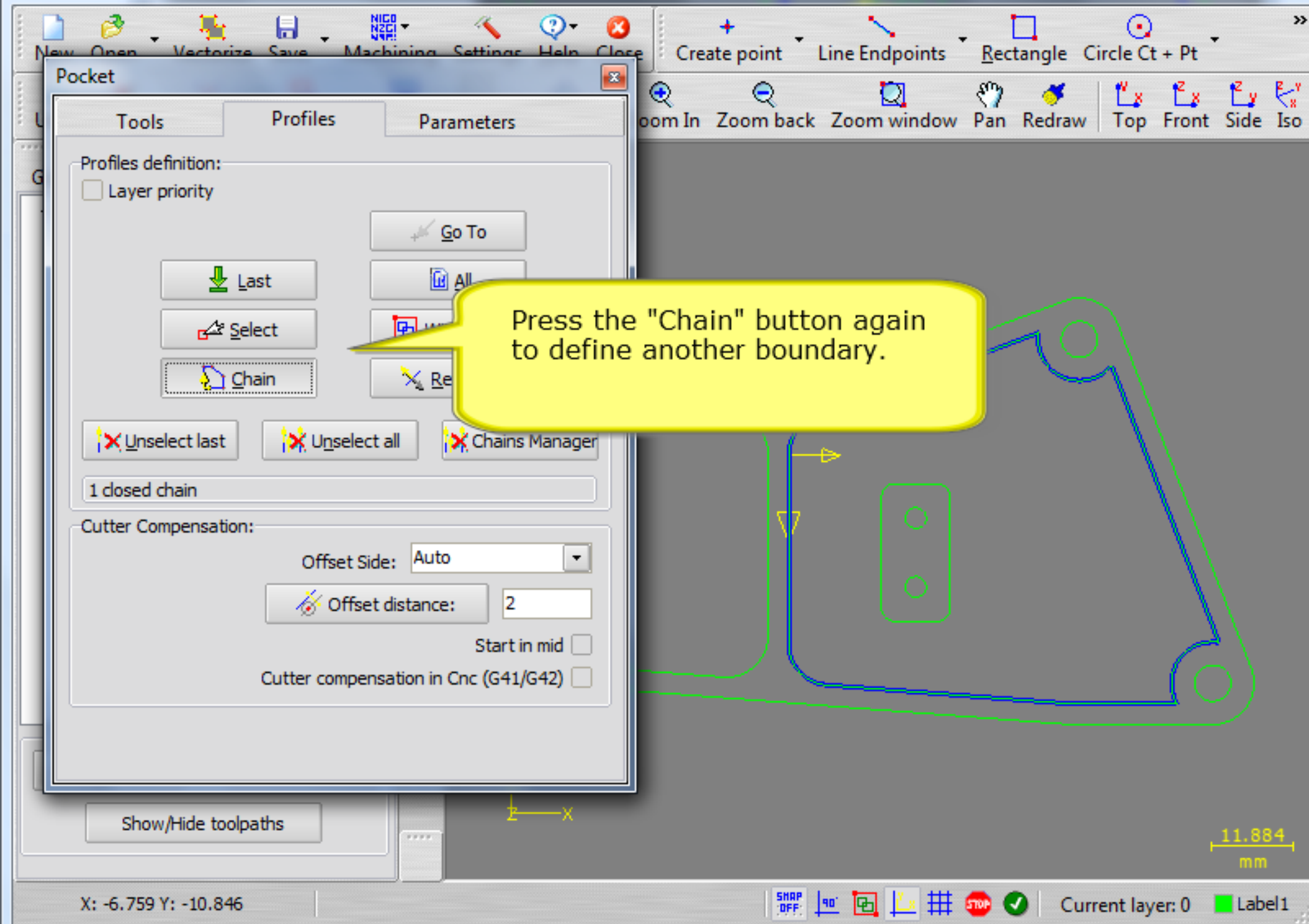
Current layer: 0 Label1

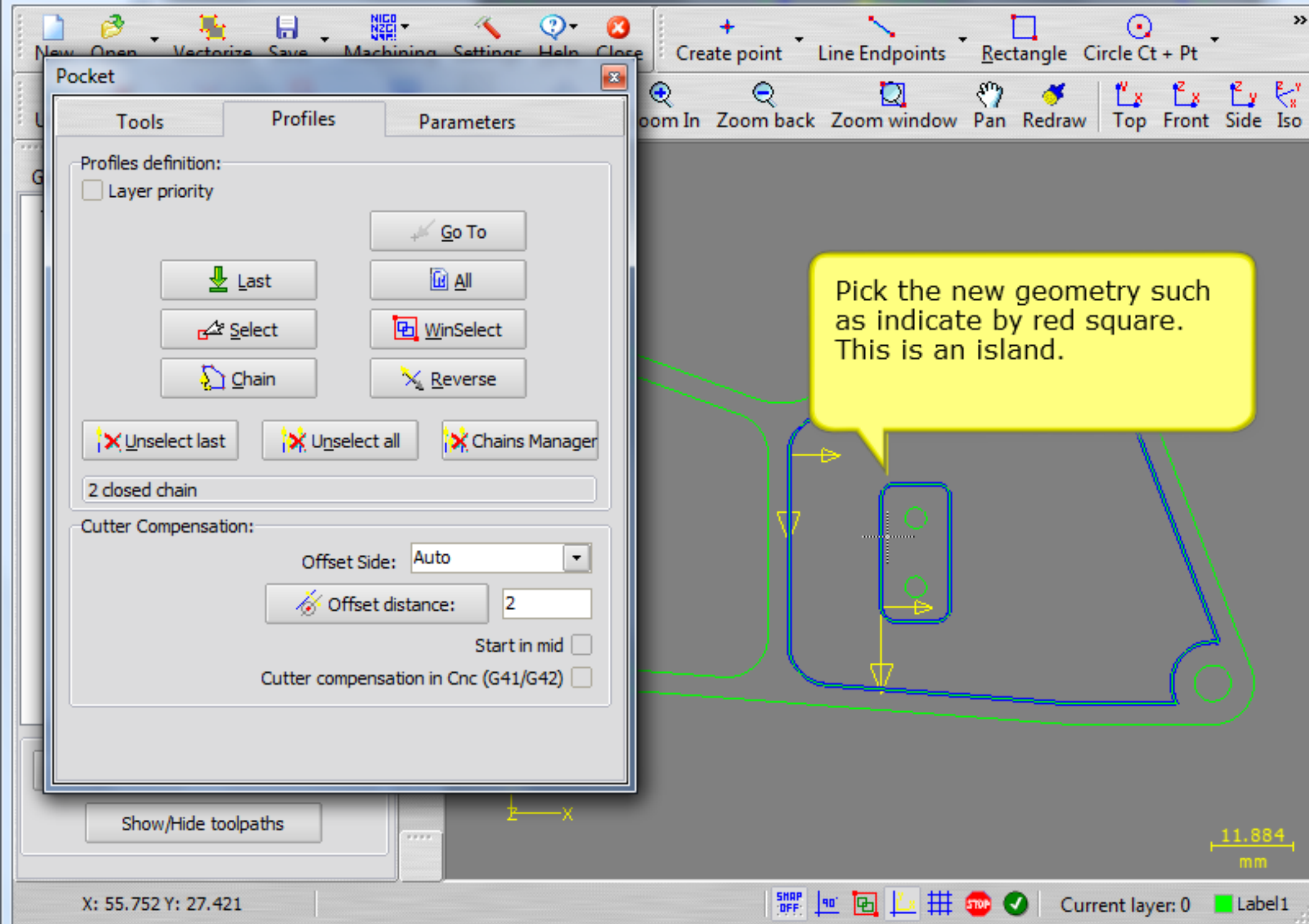


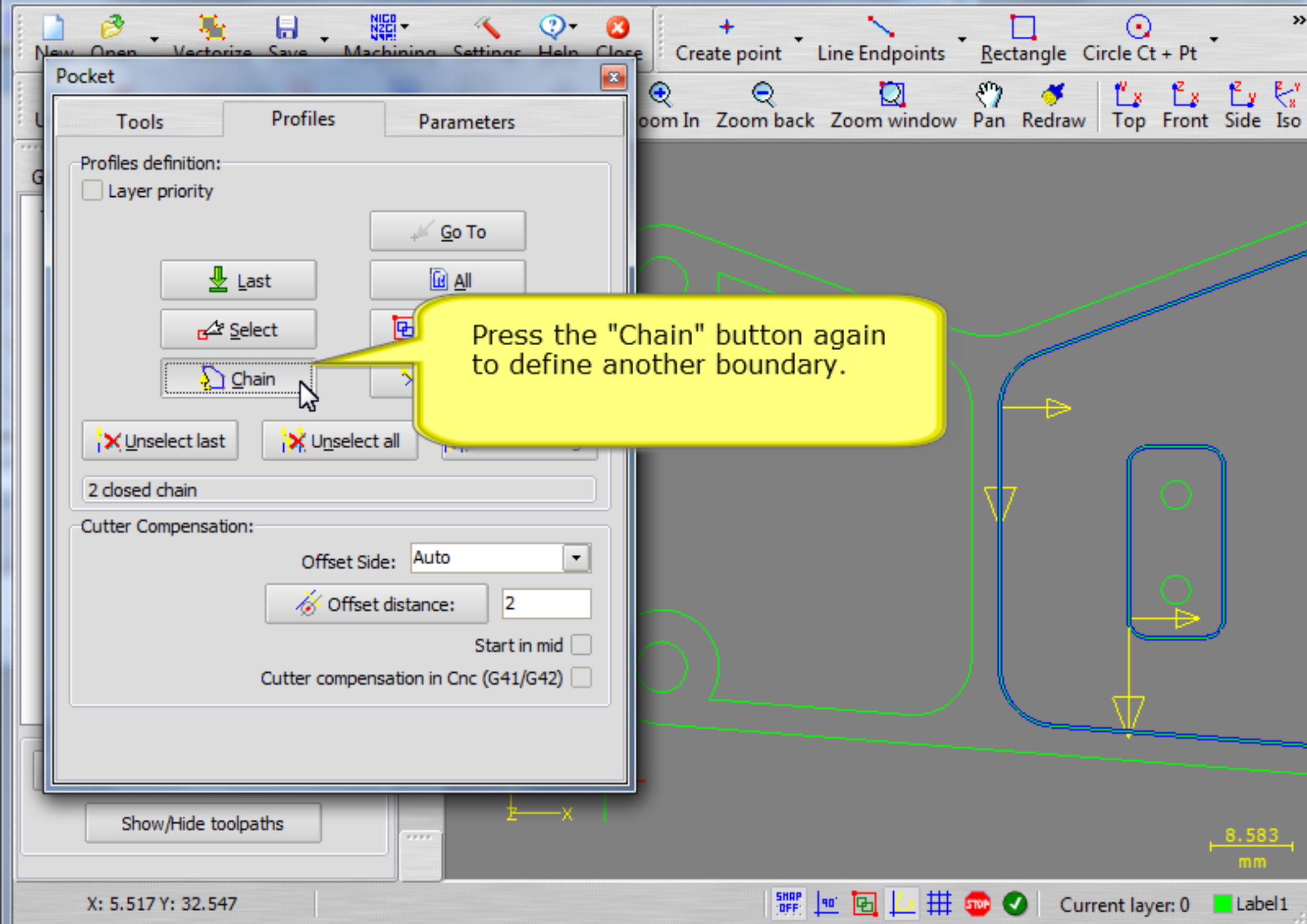


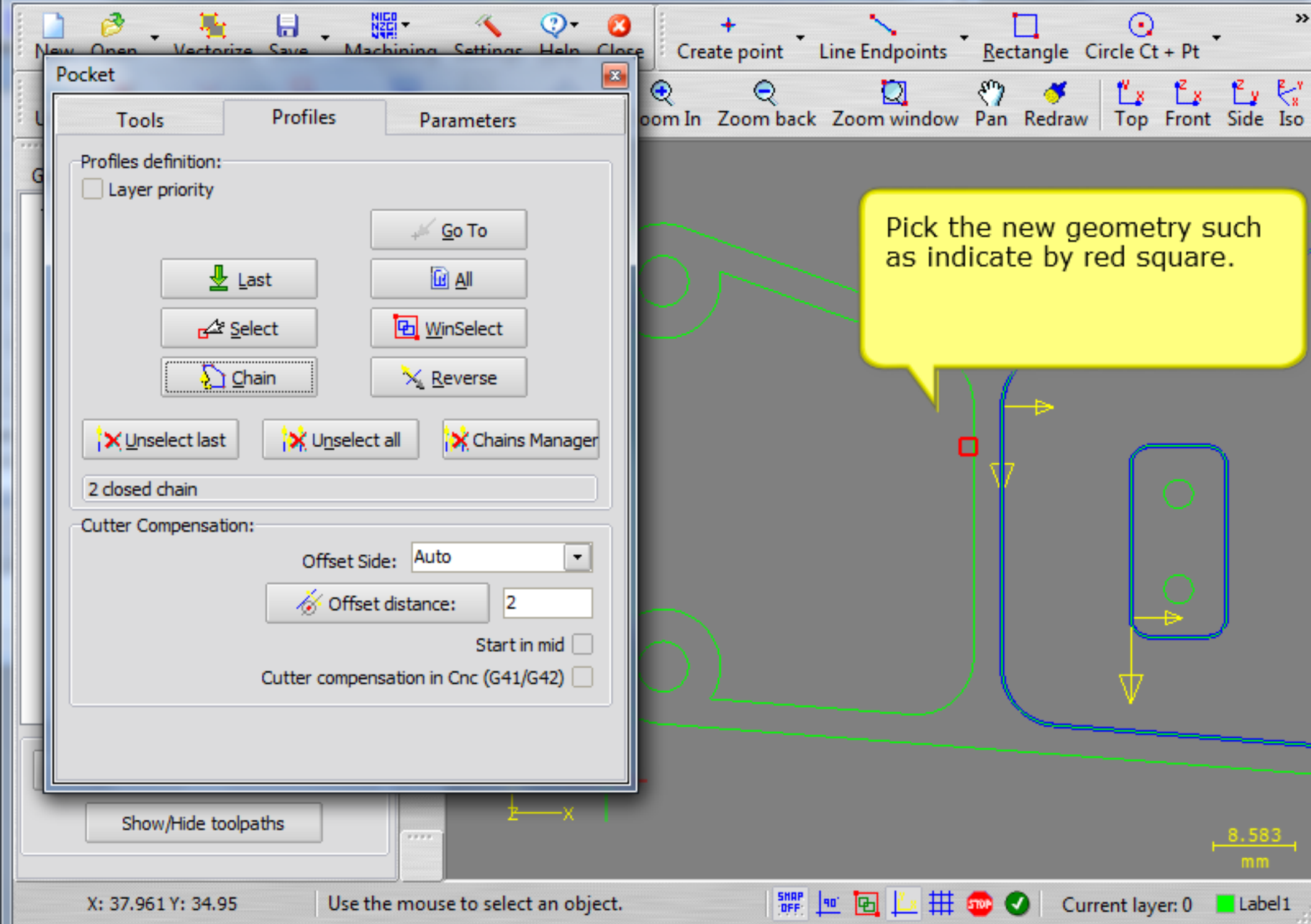


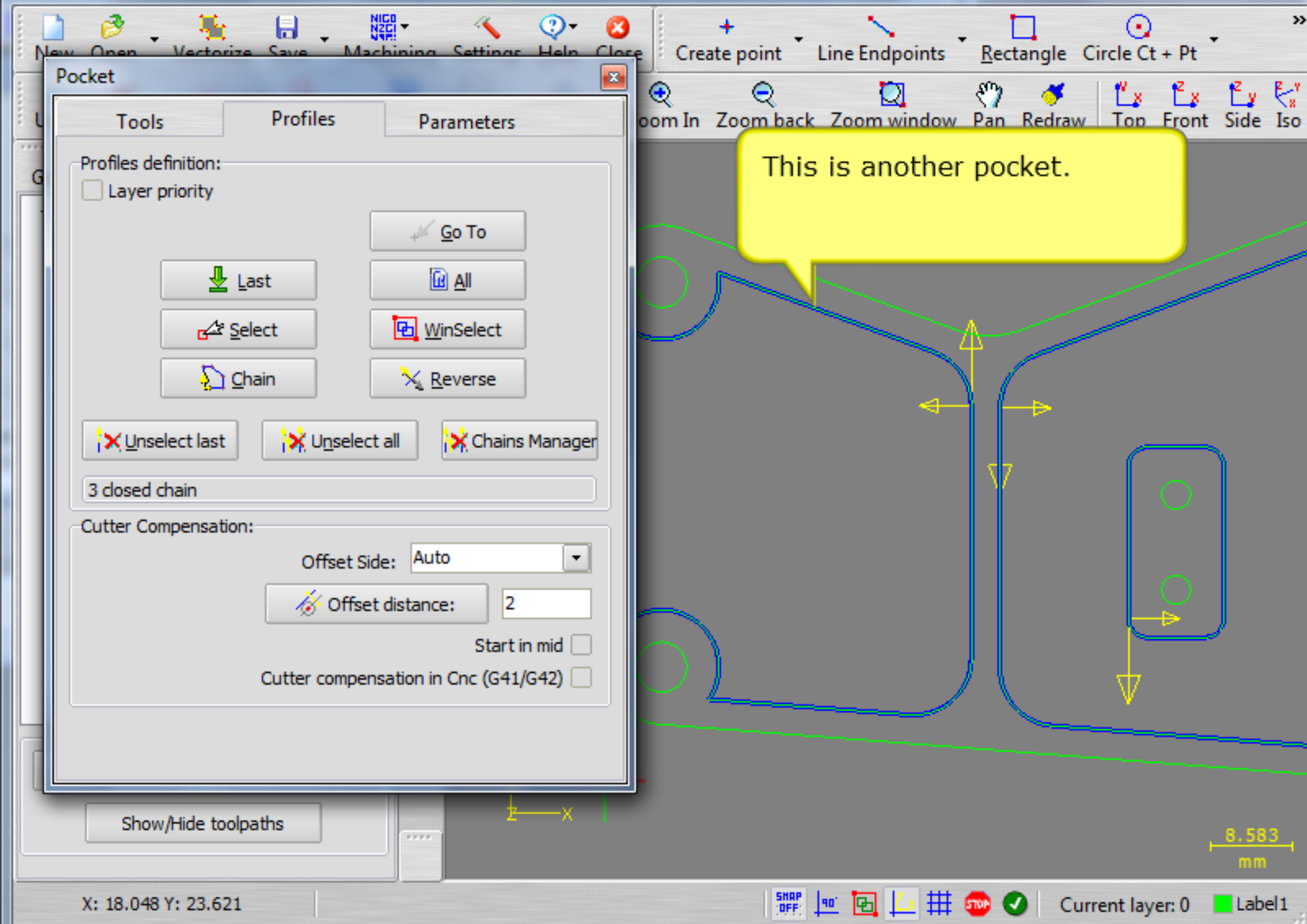












Pocket

Tools Profiles **Parameters**

Pocket parameters:

Feed Plane: 2

Top of part: 0

Depth: -1

Depth increment: 1

Depth Entry: None ☒ Keep tool down

Stock to leave: 0

Step over(%): 60

N. 1

Finish cuts size: 0.0

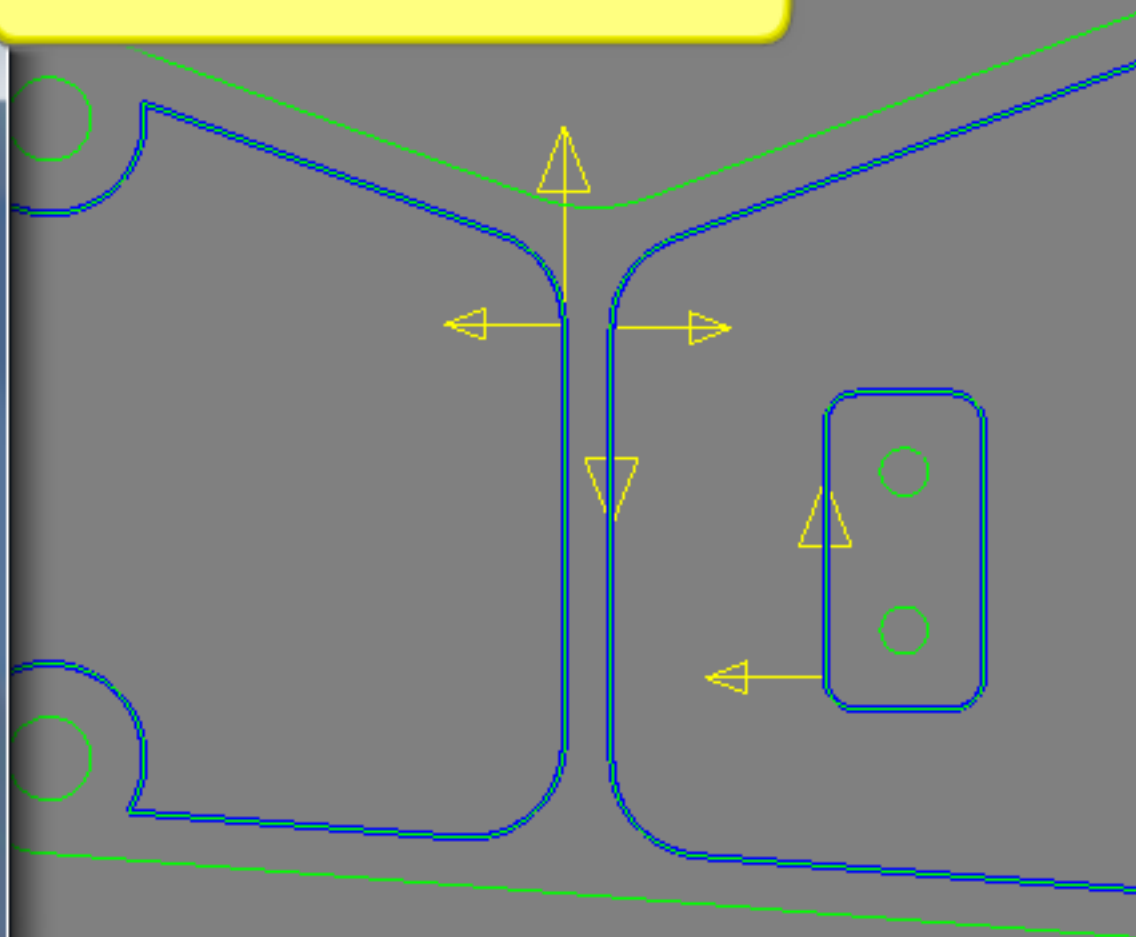
Lead In/Out (none)

Pocket type: ZigZag

Angle: 0

Transform Calculate Cancel

Click on the "Parameters" tab and set up the following parameters:



Pocket

Tools Profiles Parameters

Pocket parameters:

Feed Plane: 2

Top of part: 0

Depth: -5

Depth increment: 1

Depth Entry: None ☒ Keep tool down

Stock to leave: 0

Step over(%): 60

N: 1

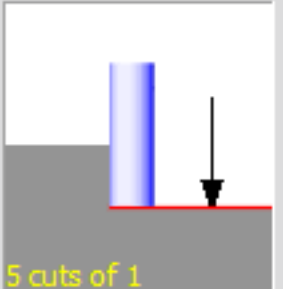
Finish cuts size: 0.0

Lead In/Out (none)

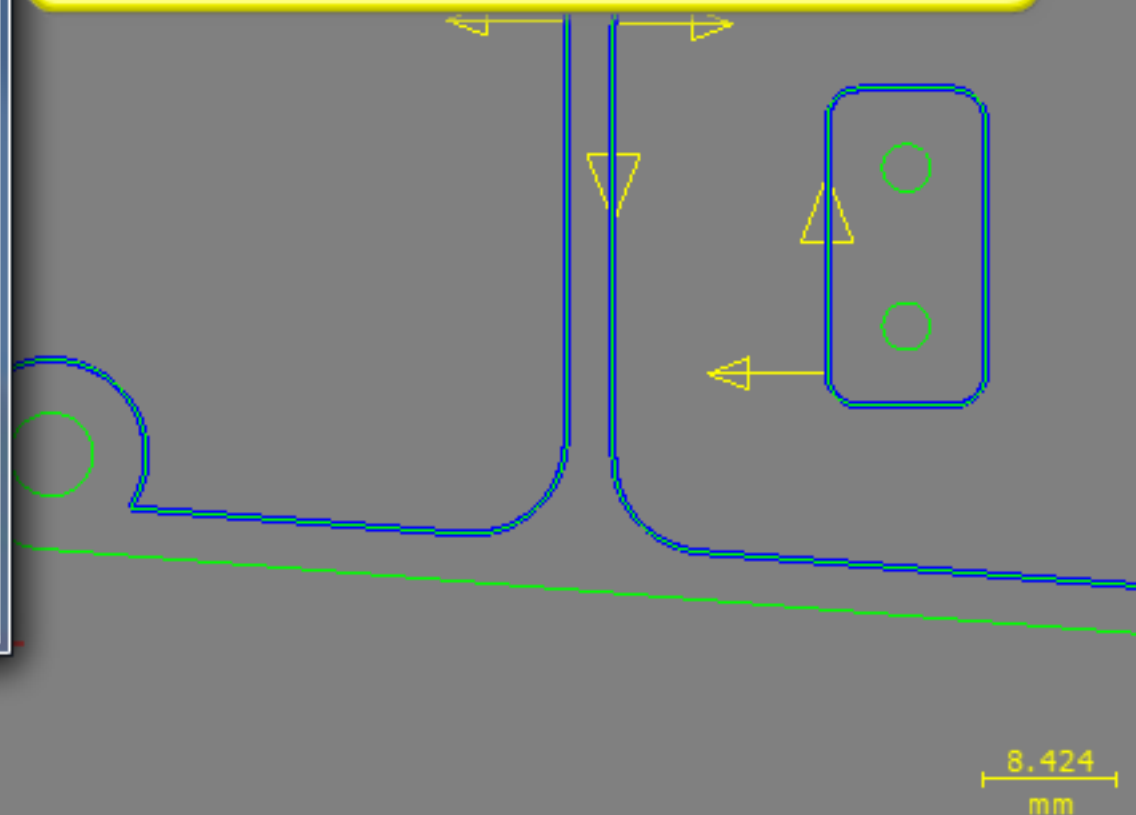
Pocket type: ZigZag

Angle: 0

Transform Calculate Cancel



Depth:
set the final machining depth (absolute).



X: -5.163 Y: -1.559

Set the cutting parameters and press the
'Calculate' buttonSNAP
OFF

90°

L

L

L

STOP

✓

Current layer: 0 Label1

Pocket

Tools

Profiles

Parameters

Pocket parameters:

Feed Plane: 2

Top of part: 0

Depth: -5

Depth increment: 2

Depth Entry: None

☒ Keep tool down

Stock to leave: 0

Step over(%): 60

N. 1

Finish cuts size: 0.0

Lead In/Out (none)

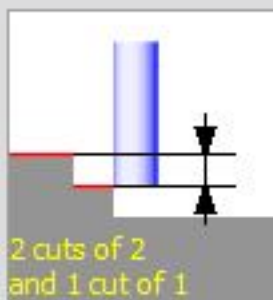
Pocket type: ZigZag

Angle: 0

Transform

Calculate

Cancel



Depth increment:
set the maximum amount of material to
remove for each Z cut.

Change Post

Run Post

Show/Hide toolpaths

X: -5.163 Y: -1.559

Set the cutting parameters and press the
'Calculate' button

SNAP
OFF

90°

L3

Grid

STOP

✓

Current layer: 0

Label1

8.424
mm

Pocket

Tools Profiles Parameters

Pocket parameters:

Feed Plane: 2

Top of part: 0

Depth: -5

Depth increment: 2

Depth Entry: Ramp auto

None
Ramp auto
Helix auto

Step over(%): 60

N: 1

Finish cuts size: 0.0

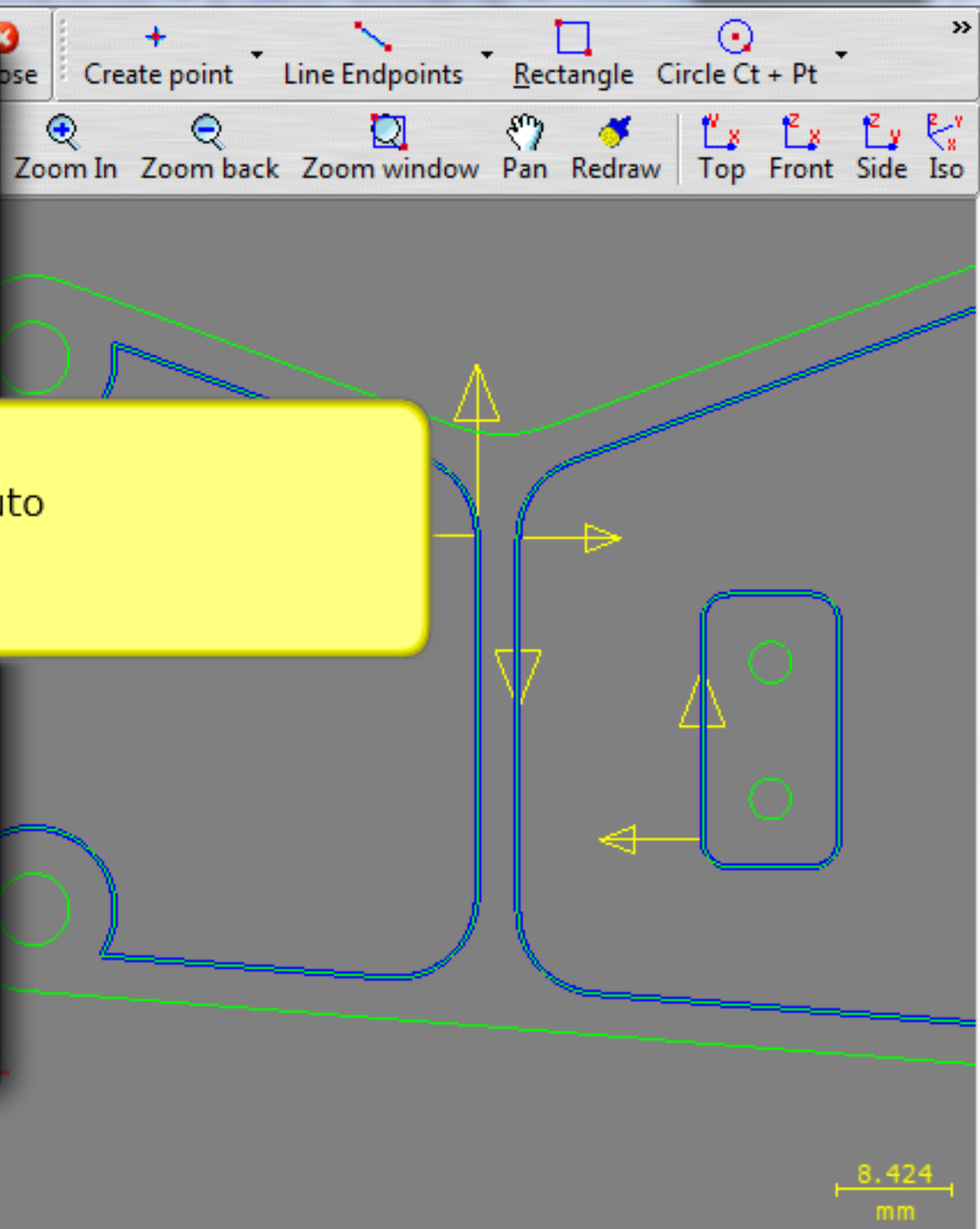
Lead In/Out (none)

Pocket type: ZigZag

Angle: 0

Transform Calculate Cancel

Depth Entry:
set Ramp Auto



X: -5.163 Y: -1.559

Set the cutting parameters and press the 'Calculate' button

SHAP OFF 90° 8.424 mm Current layer: 0 Label1

Pocket

Tools

Profiles

Parameters

Pocket parameters:

Feed Plane: 2

Top of part: 0

Depth: -5

Depth increment: 2

Depth Entry: Ramp auto

☒ Keep tool down

Stock to leave: 0

Step over(%): 60

N. 1

Finish cuts size: 0.1

Lead In/Out (none)

Pocket type: ZigZag

Angle: 0

Transform

Calculate

Cancel

Change Post

Run Post

Show/Hide toolpaths

X: -5.163 Y: -1.559

Set the cutting parameters and press the
'Calculate' buttonSNAP
OFF

90°

Grid

L3

Grid

STOP

Green checkmark

Current layer: 0

Label1

Number of finish cuts / Finish cut size:
set the number of finish pass and the amount
of material to remove for each finish pass.

8.424
mm

Pocket

Tools

Profiles

Parameters

Pocket parameters:

Feed Plane: 2

Top of part: 0

Depth: -5

Depth increment: 2

Depth Entry: Ramp auto

☒ Keep tool down

Stock to leave: 0

Step over(%): 60

N. 1

Finish cuts size: 0.1

Lead In/Out (none)

Pocket type: Spiral

Spiral In-Out

ZigZag

Spiral

Transform

Calculate

Cancel

Change Post

Run Post

Show/Hide toolpaths

X: -5.163 Y: -1.559

Set the cutting parameters and press the
'Calculate' buttonSNAP
OFF

90°

Grid

L3

Grid

STOP

Green

Current layer: 0

Label1

Create point Line Endpoints Rectangle Circle Ct + Pt

Zoom In Zoom back Zoom window Pan Redraw Top Front Side Iso

Pocket type:
define the cutting methods when
roughing the pocket.

8.424
mm

Pocket

Tools

Profiles

Parameters

Pocket parameters:

Feed Plane: 2

Top of part: 0

Depth: -5

Depth increment: 2

Depth Entry: Ramp auto

☒ Keep tool down

Stock to leave: 0

Step over(%): 60

N. 1

Finish cuts size: 0.1

Lead In/Out (none)

Pocket type: Spiral

Spiral In-Out ☒

Transform

Calculate

Cancel

Press the "Calculate" button to machining the chained geometry with the cutting parameters.

Show/Hide toolpaths

X: -5.163 Y: -1.559

Set the cutting parameters and press the 'Calculate' button

SNAP OFF

90°

L

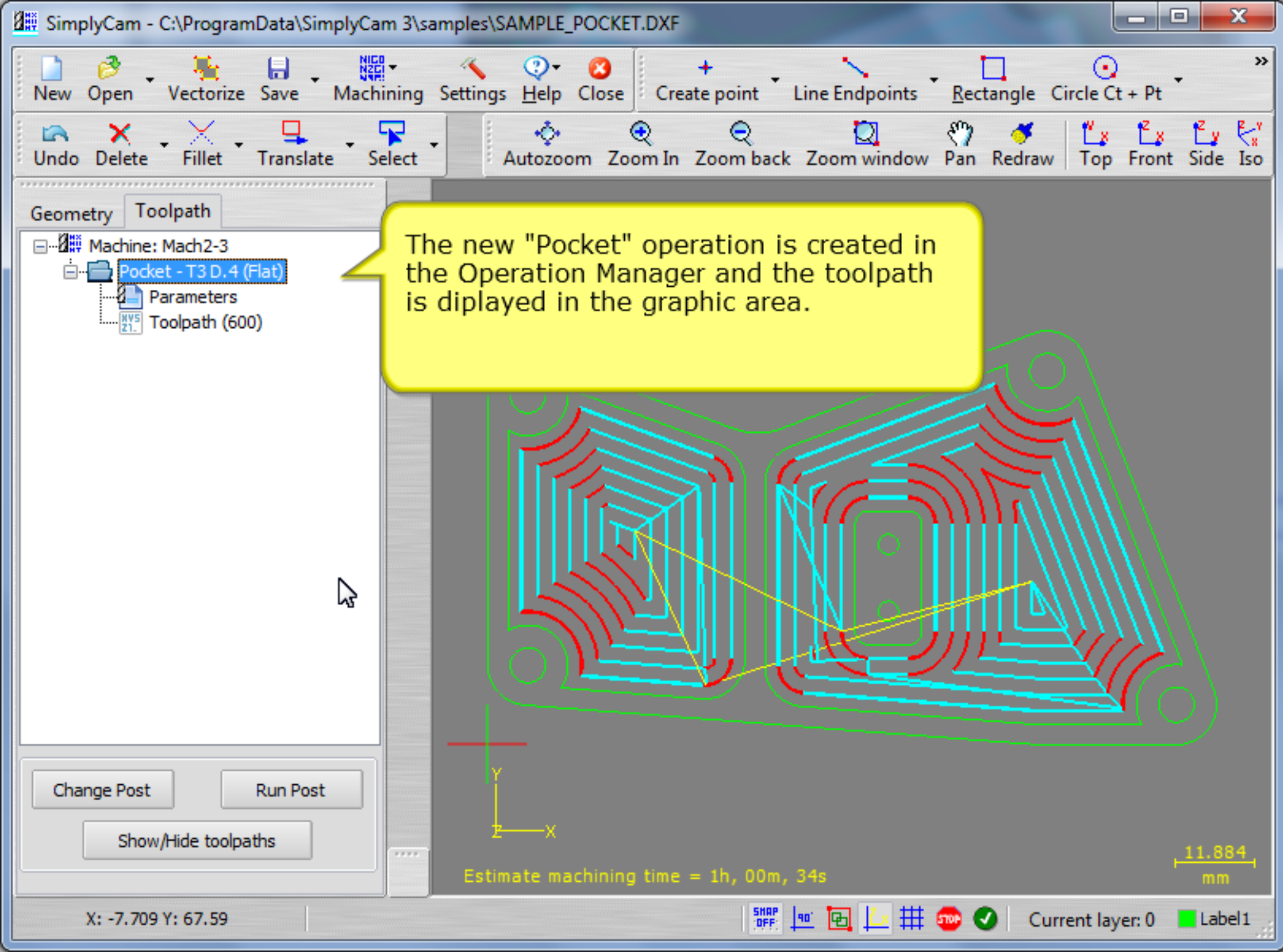
H

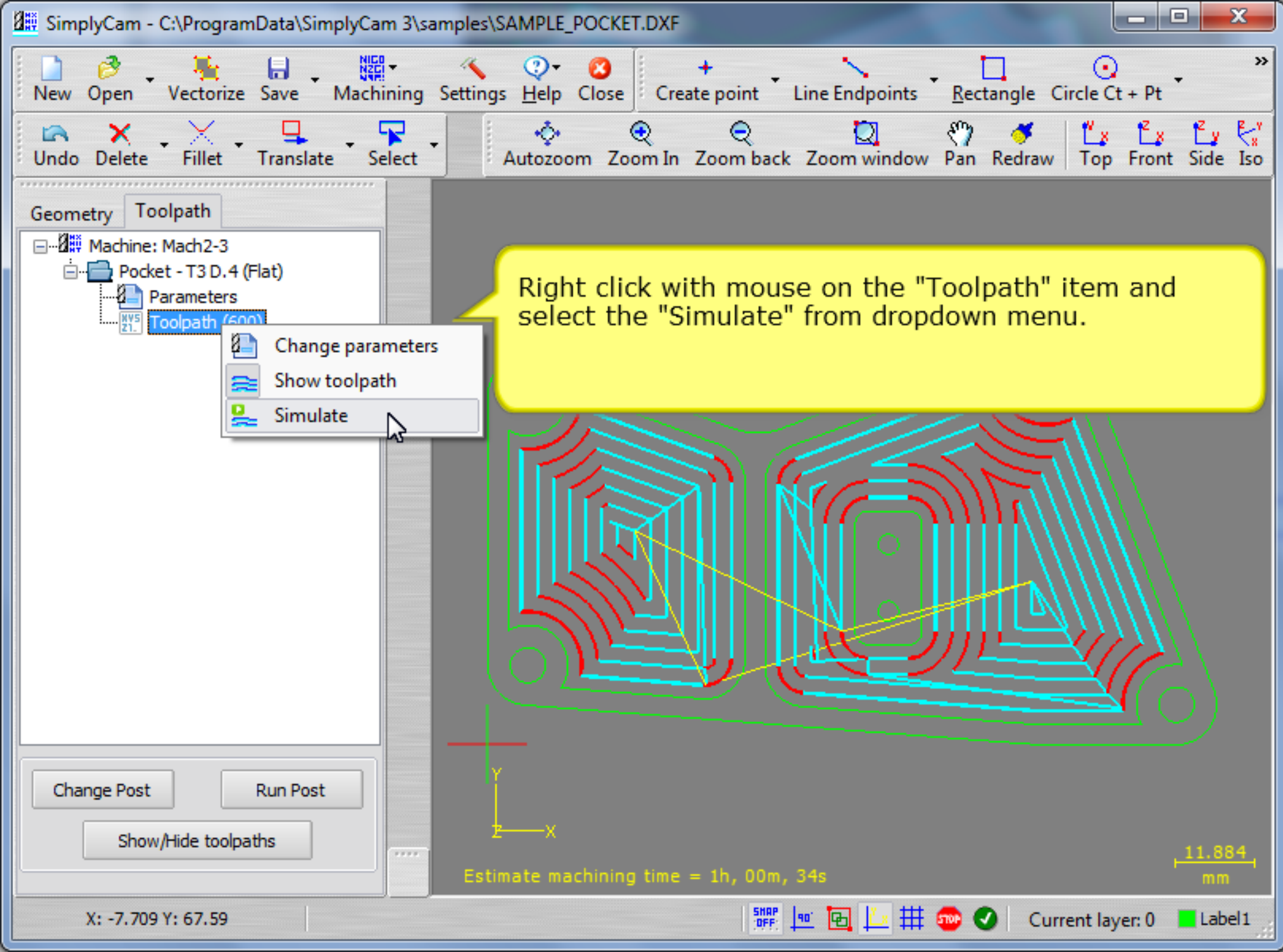
STOP

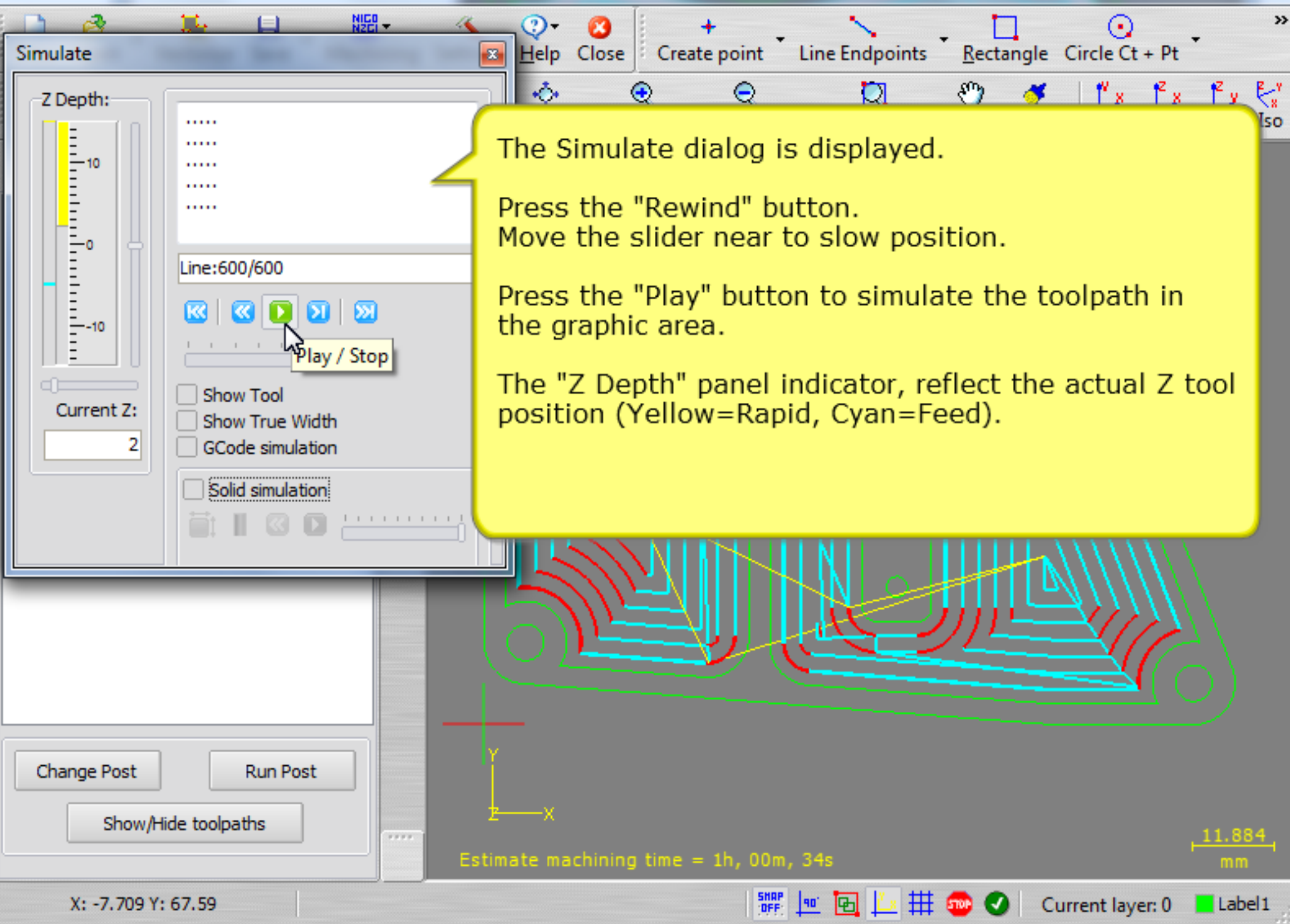
✓

Current layer: 0 Label1

8.424
mm







Simulate

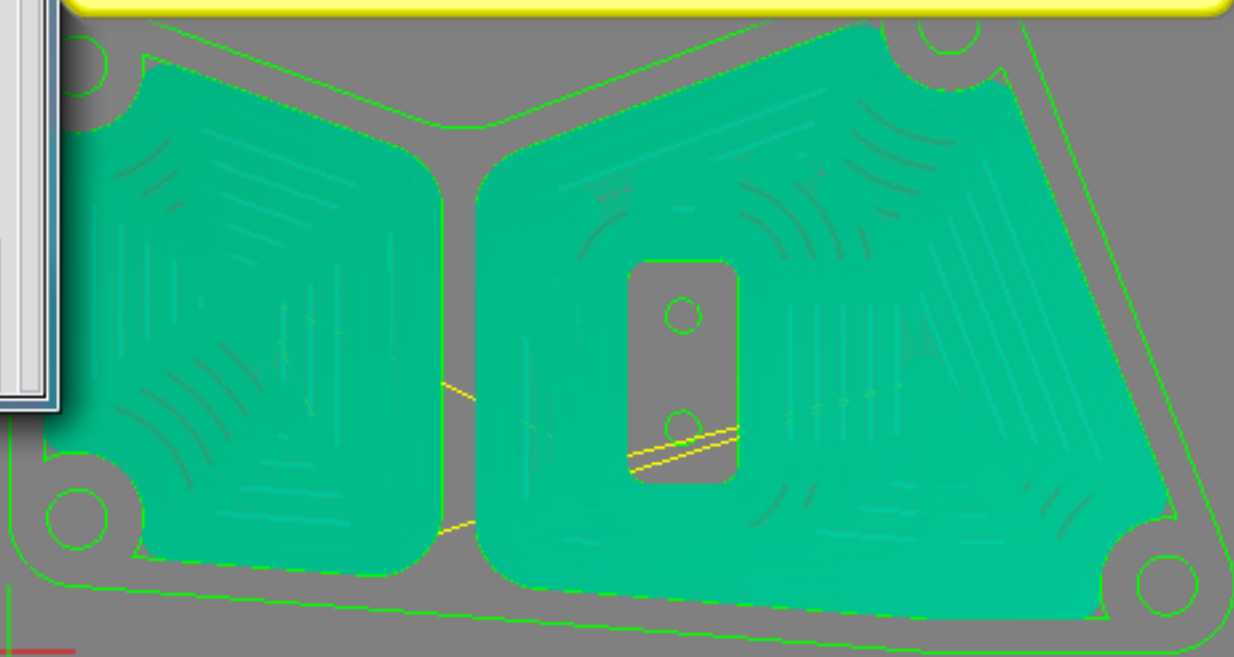
Z Depth:

Current Z: 2

Line: 600/600

☐ Show Tool
☒ Show True Width
☐ GCode simulation
☐ Solid simulation

Simulate toolpath with True Width



Estimate machining time = 1h, 00m, 34s

11.884
mm

X: -7.709 Y: 67.59

Simulate

Z Depth:

.....

Line:600/600

Current Z: 2

☐ Show Tool

☐ Show True Width

☐ GCode simulation

☒ Solid simulation

Origin

X: 0

Y: 0

Z: 0

Size

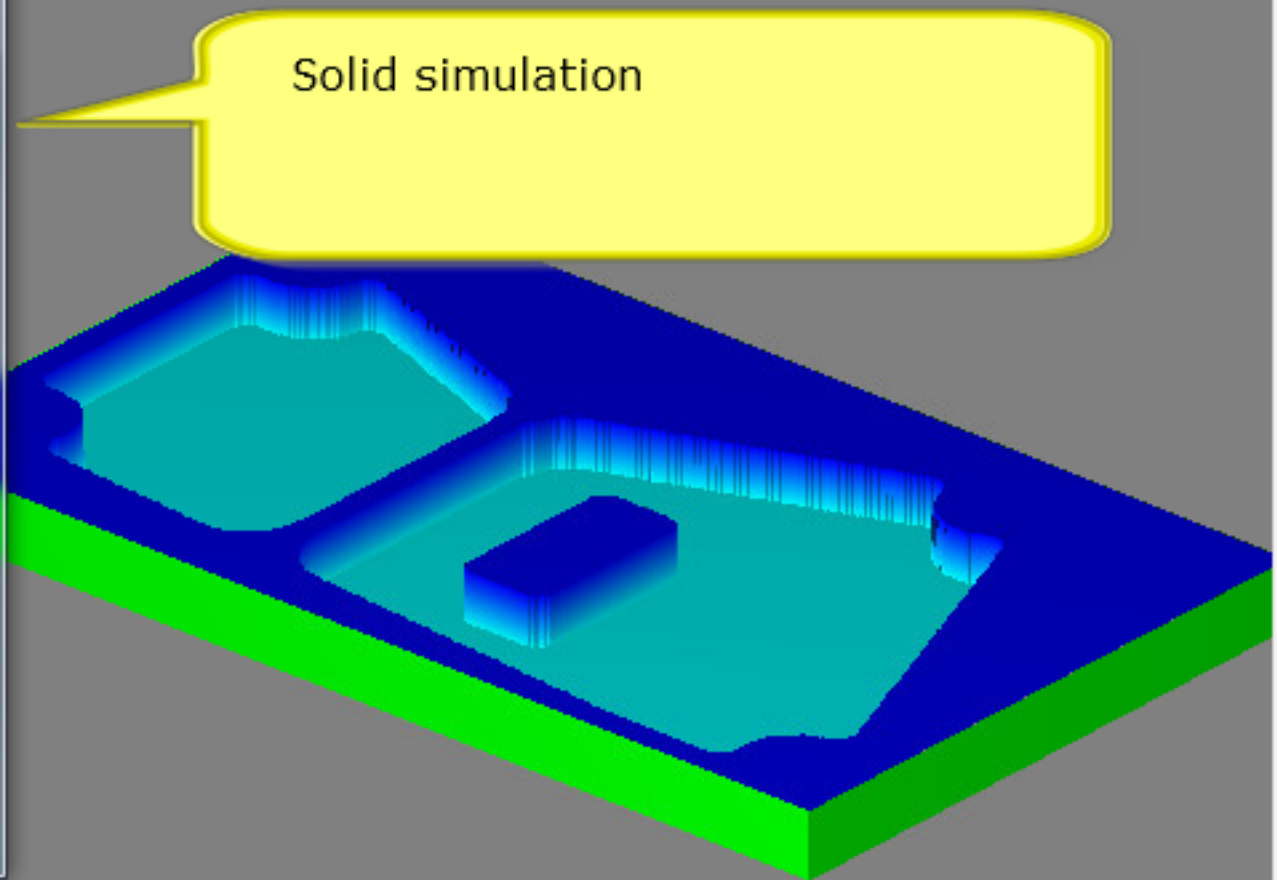
L: 110

W: 65

H: 7

Help Close Create point Line Endpoints Rectangle Circle Ct + Pt

Autozoom Zoom In Zoom back Zoom window Pan Redraw Top Front Side Iso



Change Post Run Post

Show/Hide toolpaths



Estimate machining time = 0h, 00m, 00s

11.884 mm

X: 32.23 Y: -18.677

Select postprocessor

Post Processor

Mach2-3

Post Mach2/3
 Modal G code, XYZ and Feed
 Arc defined with IJ Incremental
 Tool change (T..M6)
 G43H. tool length offset
 Cycle G81, G83, G84
 Comment (...)
 Space between instruction
 Block number

Output metric ☒ Output inch ☐

Output file extension: nc

Rapid feedrate: 10000

Edit Ok

Press "Run Post" button and select the folder and name of Nc file.

Change Post Run Post

Show/Hide toolpaths

Estimate machining time = 0h, 29m, 49s

X: -8.185 Y: 26.708 Define the postprocessor SHAP OFF 90° 11.884 mm Current layer: 0 Label1

gcEditor v 0.9.9.2

File Edit Text Tools Help

C:\ProgramData\SimpleCam 3\gcode\test.nc

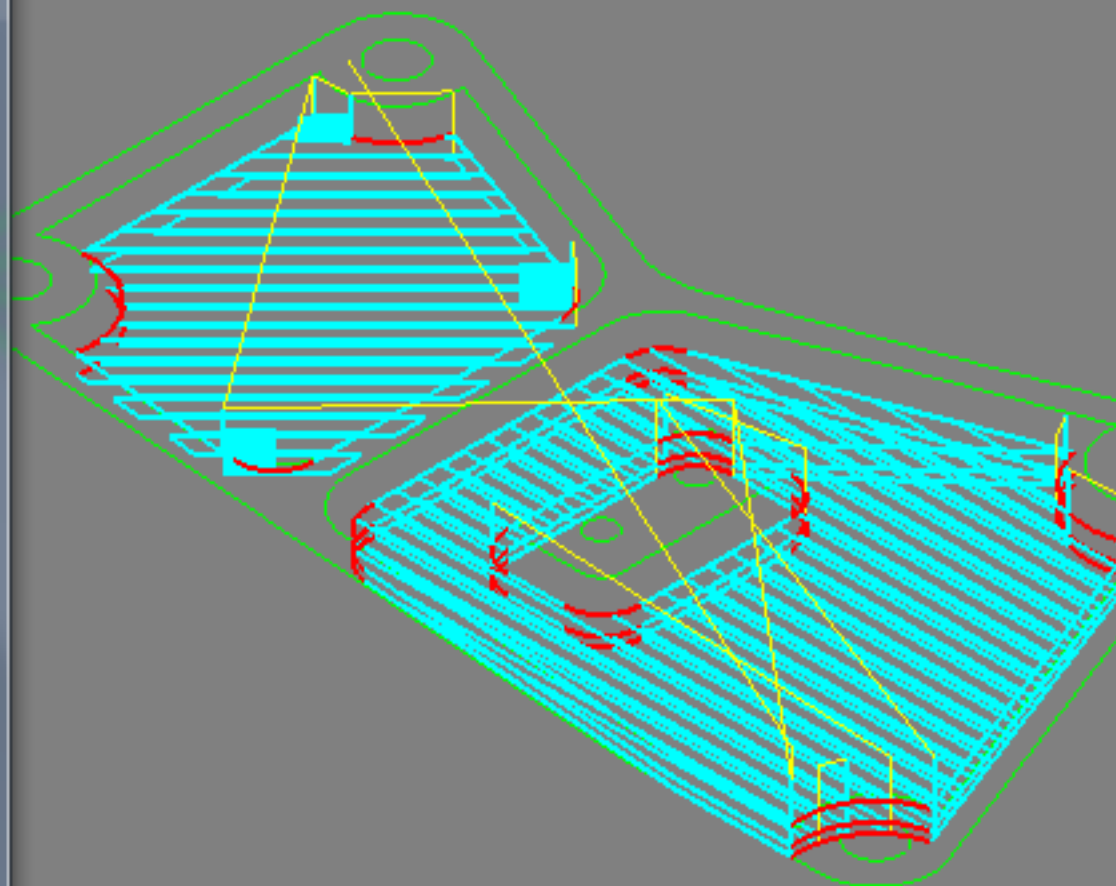
```
N498 X13.642 Y49.622
N499 G03 X13.863 Y50.367 I-7.672
N500 G00 Z2.
N501 X8.729 Y44.679
N502 G01 Z-2. F50.0
N503 G01 X5.9 Y41.851 Z-2.116 F100.0
N504 X8.729 Y44.679 Z-2.325
N505 X5.9 Y41.851 Z-2.535
N506 X8.729 Y44.679 Z-2.744
N507 X5.9 Y41.851 Z-2.953
N508 X8.729 Y44.679 Z-3.163
N509 X5.9 Y41.851 Z-3.372
N510 X8.729 Y44.679 Z-3.581
N511 X5.9 Y41.851 Z-3.791
N512 X8.729 Y44.679 Z-4.
N513 X5.1 Y41.05
N514 Y44.255
N515 G03 X8.555 Y44.617 I0.905 J8.04
N516 G00 Z2.
N517 X5. Y44.366
N518 G01 Z-4. F50.0
N519 G01 X5. Y19.843 Z-4. F100.0
N520 G02 X13.837 Y10.298 I0.999 J-7.
N521 G01 X32.163 Y8.885
N522 G03 X32.646 Y8.874 I0.336 J4.26
```

Cha

Current Z: -2.32

In 505 col 0

The editor is displayed with the G-code file processed.

10.005
mmSNAP
OFF

90°

L

L

L

STOP

✓

Current layer: 0

Label1

X: 16.853 Y: 2.876

gcEditor v 0.9.9.2

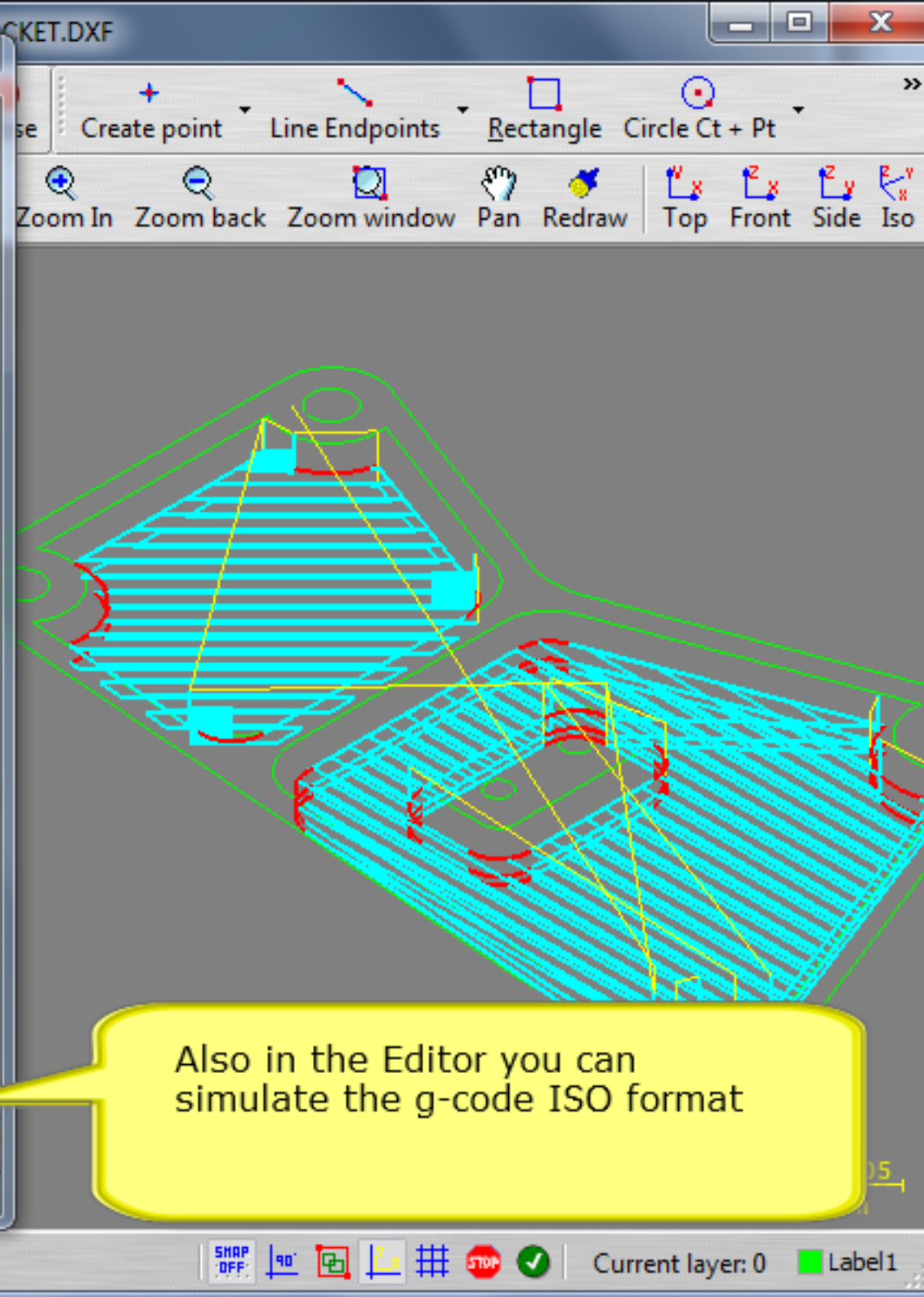
File Edit Text Tools Help

C:\ProgramData\SimpleCam 3\gcode\test.nc

```
N498 X13.642 Y49.622
N499 G03 X13.863 Y50.367 I-7.672 J2.
N500 G00 Z2.
N501 X8.729 Y44.679
N502 G01 Z-2. F50.0
N503 G01 X5.9 Y41.851 Z-2.116 F100.0
N504 X8.729 Y44.679 Z-2.325
N505 X5.9 Y41.851 Z-2.535
N506 X8.729 Y44.679 Z-2.744
N507 X5.9 Y41.851 Z-2.953
N508 X8.729 Y44.679 Z-3.163
N509 X5.9 Y41.851 Z-3.372
N510 X8.729 Y44.679 Z-3.581
N511 X5.9 Y41.851 Z-3.791
N512 X8.729 Y44.679 Z-4.
N513 X5.1 Y41.05
N514 Y44.255
N515 G03 X8.555 Y44.617 I0.905 J8.04
N516 G00 Z2.
N517 X5. Y44.366
N518 G01 Z-4. F50.0
N519 G01 X5. Y19.843 Z-4. F100.0
N520 G02 X13.837 Y10.298 I0.999 J-7.
N521 G01 X32.163 Y8.885
N522 G03 X32.646 Y8.874 I0.336 J4.26
```

Current Z: -2.32

In 505 col 0



Also in the Editor you can
simulate the g-code ISO format

X: 16.853 Y: 2.876

SHAP
OFF

90°

L

H

STOP

✓

Current layer: 0

Label1

You have successfully created the Pocket toolpath with SimplyCam



Caution:

**CNC machines are potentially dangerous.
The post-processor can output code unsuitable for your machine's control.**

Check the G-code file before sending it to a CNC machine.

```
File Edit Text
C:\ProgramData\
N498 X13.64
N499 G03 X1
N500 G00 Z2
N501 X8.729
N502 G01 Z-
N503 G01 X5.9 Y41.851 Z-2.116 F100.0
N504 X8.729 Y44.679 Z-2.325
N505 X5.9 Y41.851 Z-2.535
N506 X8.729 Y44.679 Z-2.744
N507 X5.9 Y41.851 Z-2.953
N508 X8.729 Y44.679 Z-3.163
N509 X5.9 Y41.851 Z-3.372
N510 X8.729 Y44.679 Z-3.581
N511 X5.9 Y41.851 Z-3.791
N512 X8.729 Y44.679 Z-4.
N513 X5.1 Y41.05
N5
N5
N5
N5
N5
N5
N5
N5
N5
N5
```

In 505 col 0

X: 16.853 Y: 2.876

Current Z: -2.32

10.005
mm

SNAP
OFF

90°

Grid

Isoplane

Grid

STOP

✓

Current layer: 0

Label1