

New Open Vectorize Save as Machining Settings Help

Create point Line Endpoints Rectangle Circle Ct + Pt

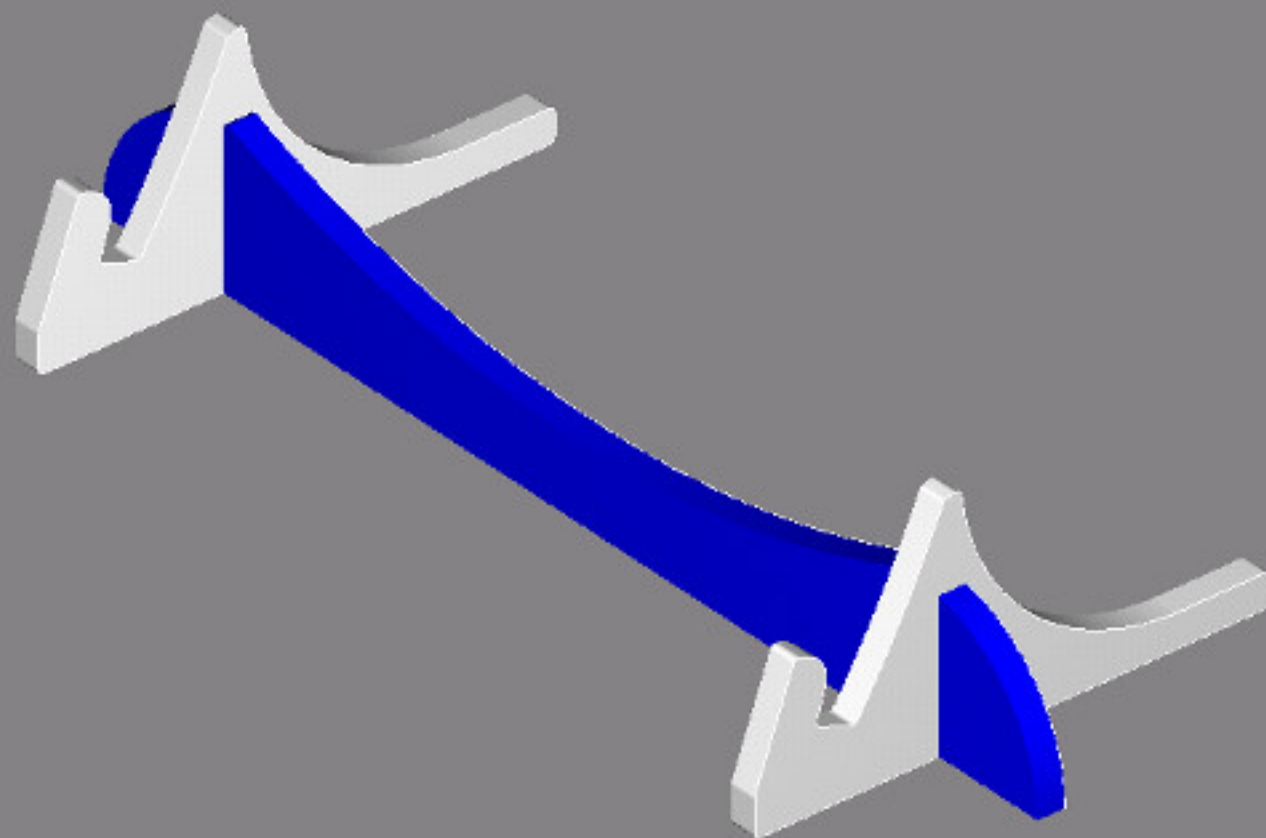
Undo Delete Split Translate

Side Iso

Geometry Toolpath

Machine: LaserGBRL
Laser Cut D.0.3 (Laser Set1)
Parameters
Toolpath (138)

This simple tutorial shows how to create a toolpath to cut the part with a Laser, Plasma or Waterjet machine.



Change Post

Run Post

Show/Hide toolpaths

X: 1.574 Y: 9.245

SNAP
OFF

90°

Grid

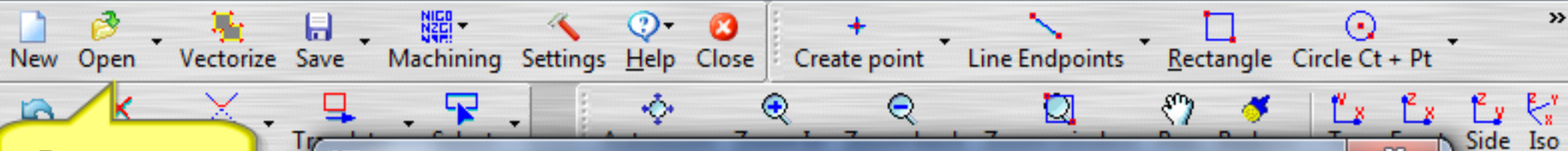
Isoplane

Grid

STOP

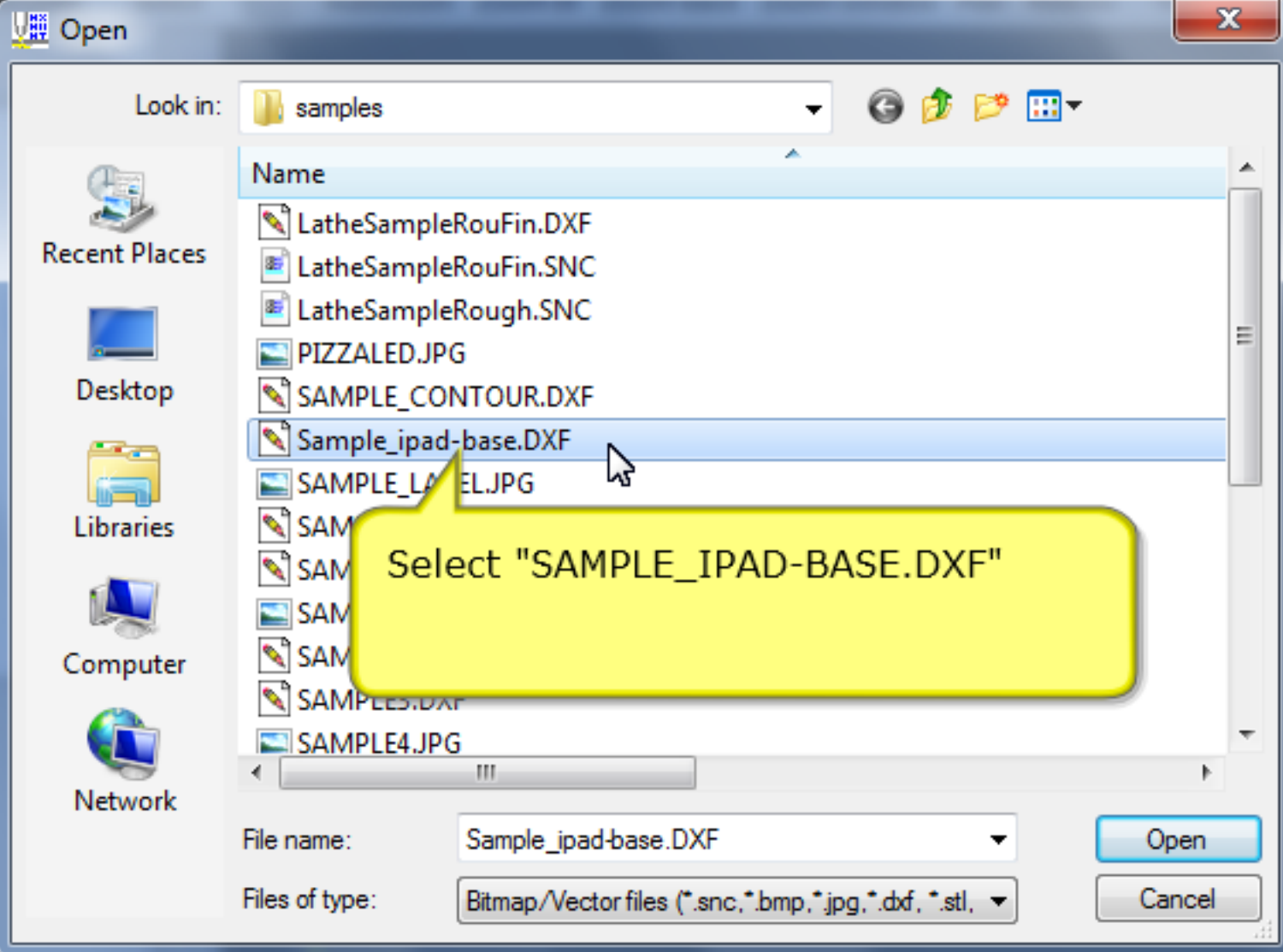
✓

Current layer: 0 Label1

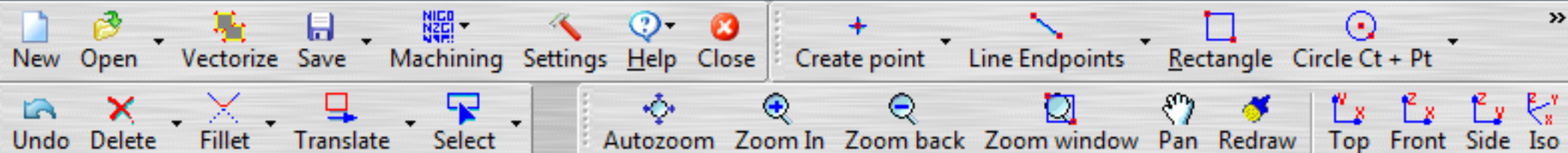


Open

Geometry

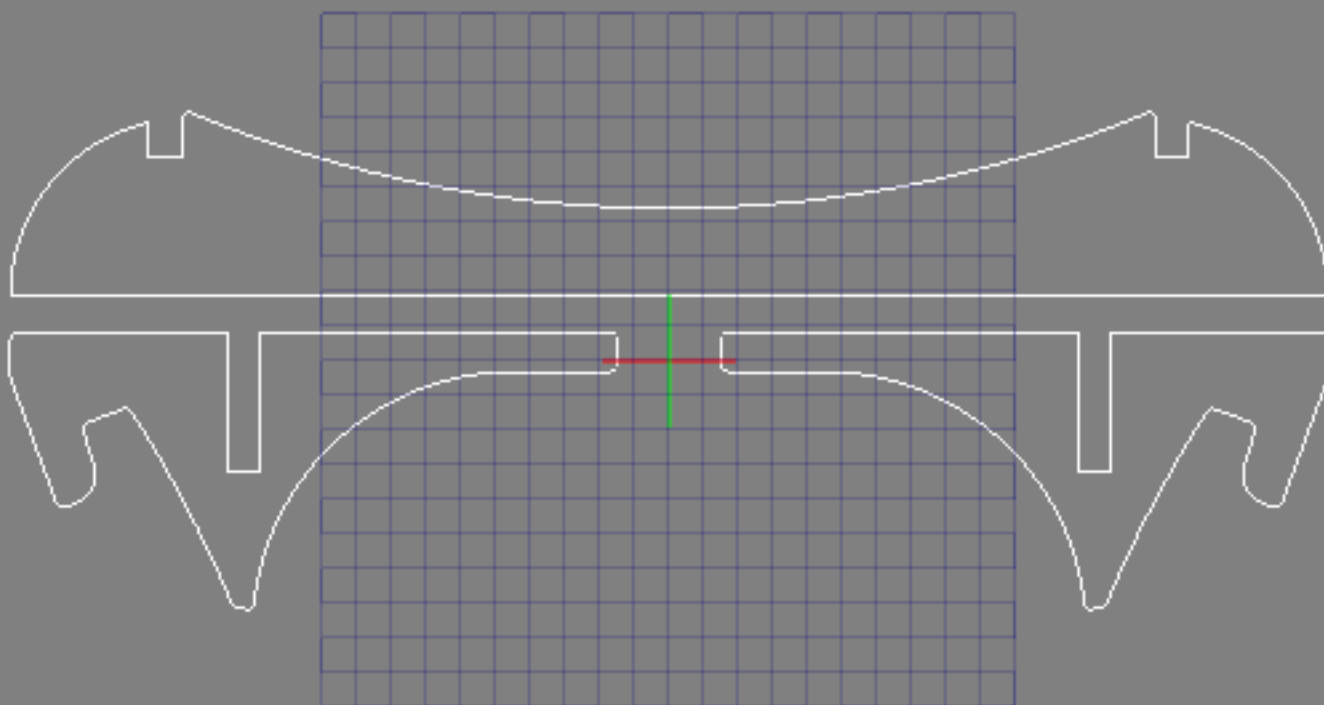


Select "SAMPLE_IPAD-BASE.DXF"



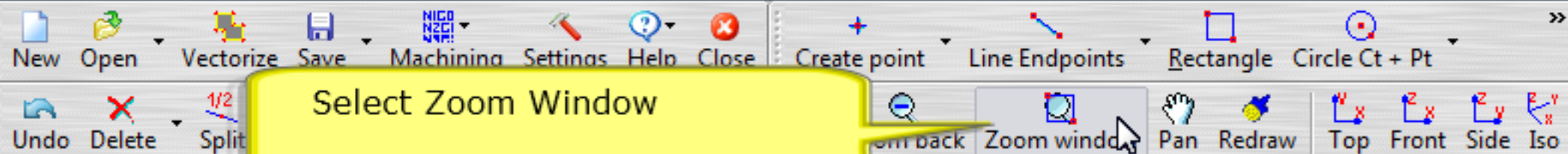
Geometry Toolpath

- Layer:0
- Arc
- Arc
- Line
- Arc
- Line
- Arc
- Polyline
- Arc
- Line
- Arc
- Arc
- Line
- Arc
- Line
- Arc



19.23
mm

X: 25.768 Y: -6.538



Geometry Toolpath

Arc
Line
Arc
Polyline
Arc
Line
Arc
Arc
Line
Arc
Line
Arc
Line
Line

Divide:

	X	Y
Point 1:	-95	9.396
Point 2:	0	9.396

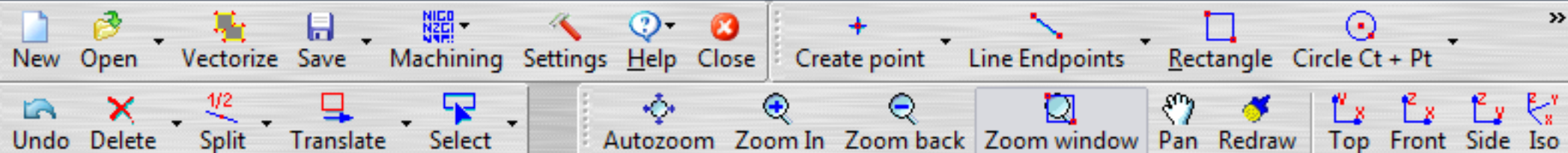
Update

1/2



X: -38.719 Y: 43.346

SNAP
OFFCurrent layer: 0 ■ Label119.267
mm



Geometry Toolpath

Arc
Line

Click first point

Arc
Arc
Line
Arc
Line
Arc
Line
Arc
Line

Divide:

	X	Y
Point 1:	-95	9.396
Point 2:	0	9.396

Update

1/2

1/2



X: -38.719 Y: 43.346

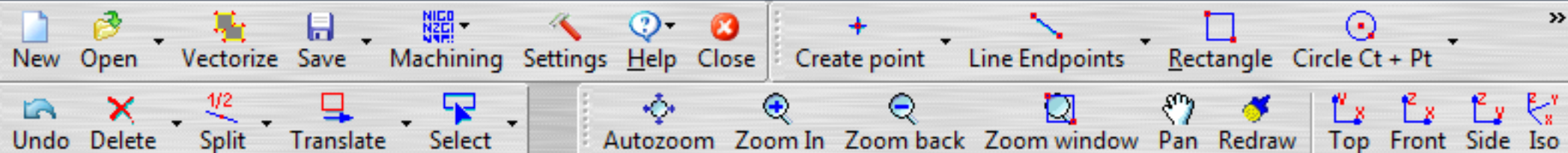
SNAP
OFF

90°

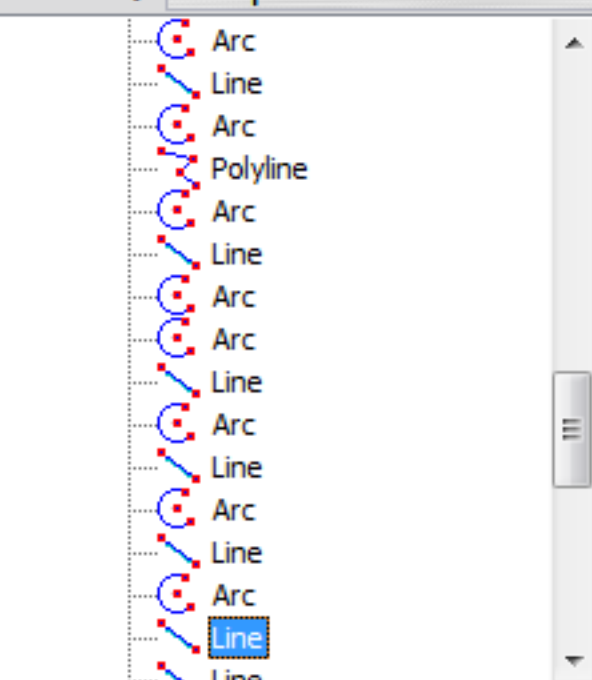


Current layer: 0 Label1

19.267
mm



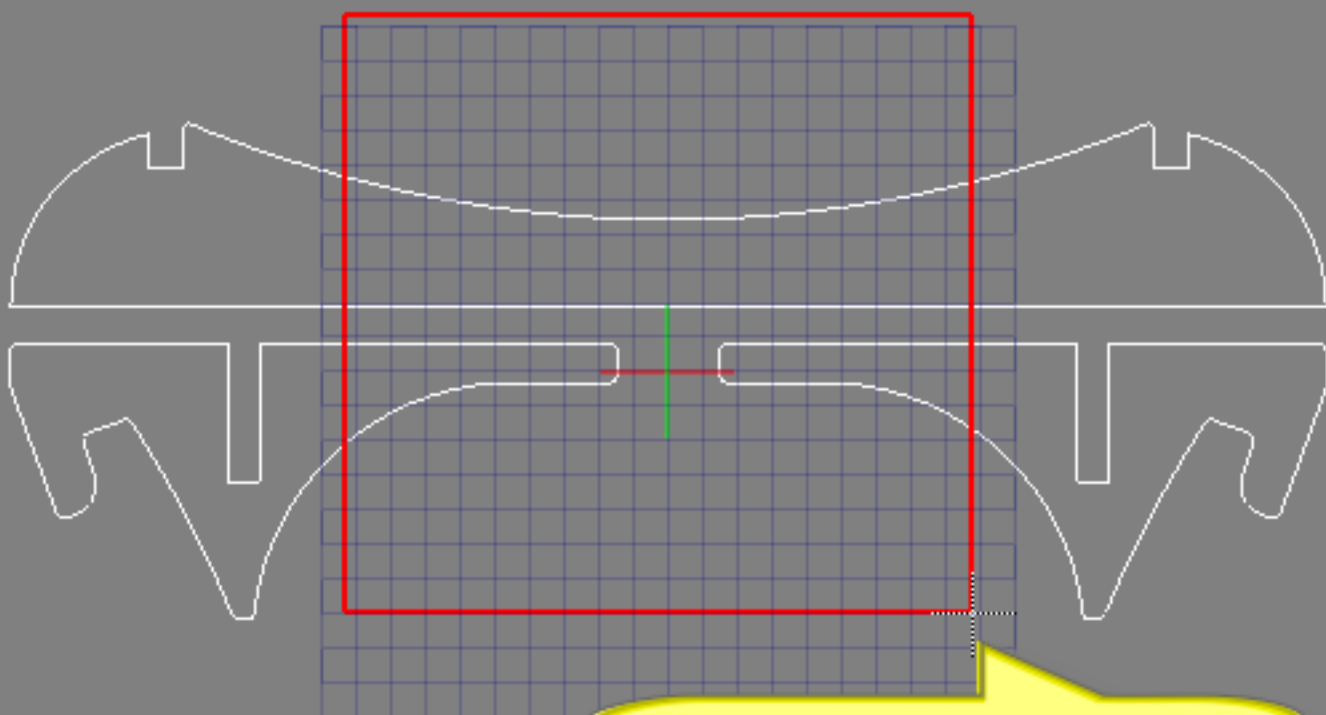
Geometry Toolpath



Divide:

	X	Y
Point 1:	-95	9.396
Point 2:	0	9.396

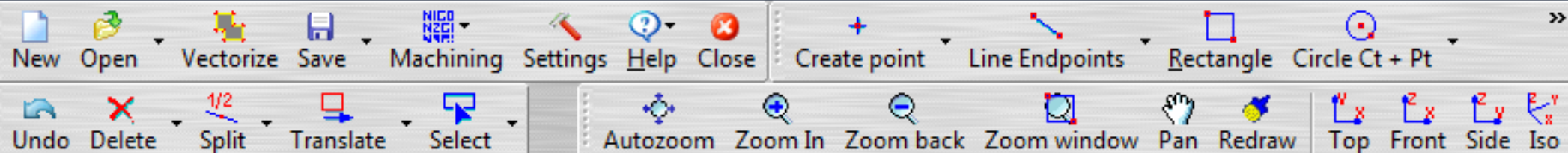
Update



19.267
mm

X: 43.735 Y: -34.68

Select the second point of the area.



Geometry Toolpath

Arc
Line
Arc
Polyline
Arc
Line
Arc
Arc
Line
Arc
Line
Arc
Line
Line

Divide:

	X	Y
Point 1:	-95	9.396
Point 2:	0	9.396

Update

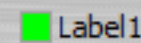
1/2



X: 20.613 Y: -8.786

SNAP
OFF

Current layer: 0



Label1

New Open Vectorize Save

Machining

Settings Help Close

Undo Delete Fillet Translate

Geometry Toolpath

Layer:0
Arc
Arc
Line
Arc
Line
Arc
Polyline
Arc
Line
Arc
Arc
Line
Arc
Line
Arc

New
Laser Cut
Laser Engraving
Write
Edit G-Code
Grbl Panel

Creating new operation.

Select "Laser Cut" from
Machining menu.

X: -83.843 Y: 84.612

SNAP
OFF

90°

Grid

Units

Grid

STOP

Check

Current layer: 0 Label1

9.59
mm

Laser Cut

Laser, Plasma, .
Profiles
Parameter

Profiles definition:

☐ Layer profile

Select
WinSelect

Chain
Reverse

Unselect last
Unselect all
Chains Manager

Cutter Compensation:

Offset Side: Off

Offset distance: 0.15

Start in mid ☐

Cutter compensation in Cnc (G41/G42) ☐

Change Post
Run Post

Show/Hide toolpaths

1/2

X: -38.464 Y: 16.917

9.59 mm

SNAP OFF
90°
Grid
Label1

Current layer: 0

Laser Cut

Laser, Plasma, .
Profiles
Parameter

Profiles definition:

☐ Layer profile

Select
WinSelect

Chain

Unselect last
Unselect all
Chains Manager

Cutter Compensation:

Offset Side: Off

Offset distance: 0.15

Start in mid ☐

Cutter compensation in Cnc (G41/G42) ☐

Profile definition

Select Chain

Close
Create point
Line Endpoints
Rectangle
Circle Ct + Pt

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

Y
X

9.59 mm

X: -38.464 Y: 16.917
SNAP OFF
90°
Grid
Label1
Current layer: 0

Laser Cut

Laser, Plasma, ...ProfilesParameter

Profiles definition:

☐ Layer priority

Go To

All

Last

WinSelect

Select

Reverse

Chain

Unselect last

Unselect all

Chains Manager

1 closed chain

Cutter Compensation:

Offset Side: Off

Offset distance:

0.15

Start in mid ☐

Cutter compensation in Cnc (G41/G42) ☐

Change PostRun Post

Show/Hide toolpaths

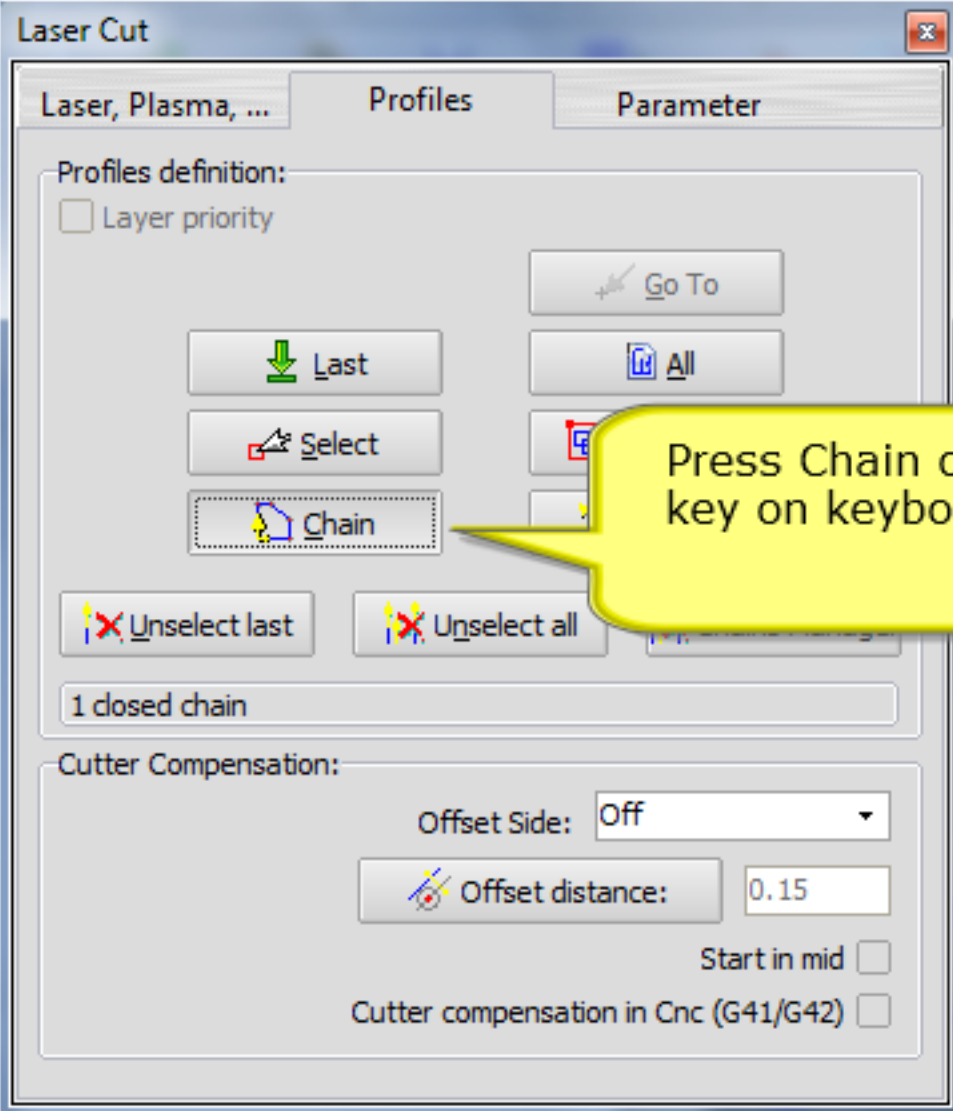
1/2

CloseCreate pointLine EndpointsRectangleCircle Ct + Pt

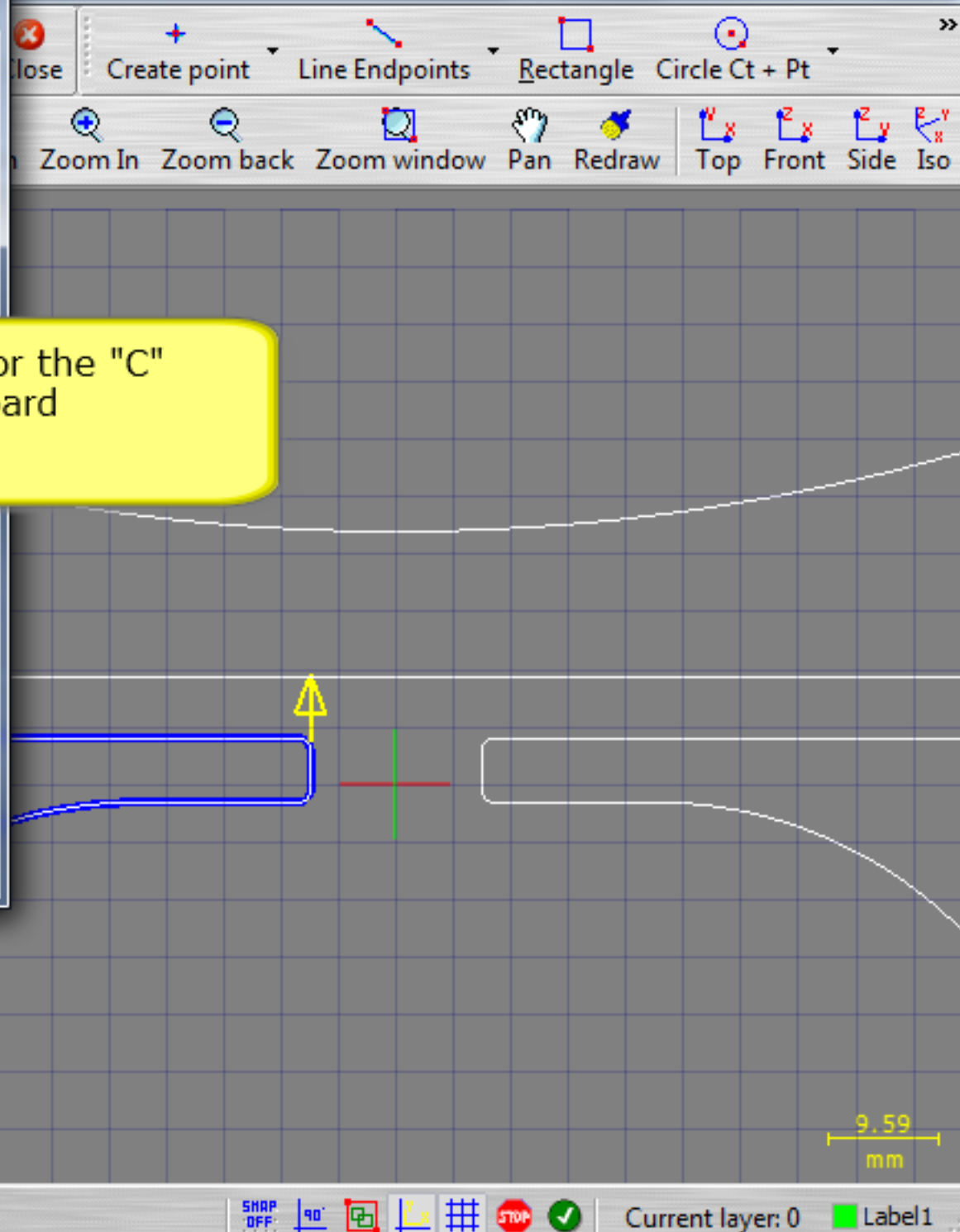
Zoom InZoom backZoom windowPanRedrawTopFrontSideIso

Click on profile to define the machining geometry

9.59 mm



Press Chain or the "C" key on keyboard



X: -33.093 Y: 22.479

SNAP
OFF

90°

Grid

Units

Grid

STOP

✓

Current layer: 0

Label1

Laser Cut

Laser, Plasma, ...

Profiles

Parameter

Profiles definition:

☐ Layer priority

Go To

Last

All

Select

WinSelect

Chain

Reverse

Unselect last

Unselect all

Chains Manager

2 closed chain

Cutter Compensation:

Offset Side: Off

Offset distance: 0.15

Start in mid ☐Cutter compensation in Cnc (G41/G42) ☐

Change Post

Run Post

Show/Hide toolpaths

X: 17.353 Y: 8.094

Click on profile to define the machining geometry

SNAP
OFF

90°

Grid

Snap

Grid

STOP

✓

Current layer: 0

Label1

Laser Cut

Laser, Plasma, ...

Profiles

Parameter

Profiles definition:

☐ Layer priority

Go To

Last

All

Select

Chain

Press Chain or the "C"
key on keyboard

Unselect last

Unselect all

2 closed chain

Cutter Compensation:

Offset Side: Off

Offset distance: 0.15

Start in mid ☐Cutter compensation in Cnc (G41/G42) ☐

Change Post

Run Post

Show/Hide toolpaths

X: -32.326 Y: 26.891

SNAP
OFF

90°

Grid

Laser

STOP

✓

Current layer: 0

Label1

9.59
mm

Laser Cut

Laser, Plasma, ...

Profiles

Parameter

Profiles definition:

☐ Layer priority

Go To

All

WinSelect

Reverse

Last

Select

Chain

Unselect last

Unselect all

Chains Manager

3 closed chain

Cutter Compensation:

Offset Side: Off

Offset distance: 0.15

Start in mid

Cutter compensation in Cnc (G41/G42)

Change Post

Run Post

Show/Hide toolpaths

Close

Create point

Line Endpoints

Rectangle

Circle Ct + Pt

Zoom In

Zoom back

Zoom window

Pan

Redraw

Top

Front

Side

Iso

Click on profile to define the machining geometry

9.59 mm

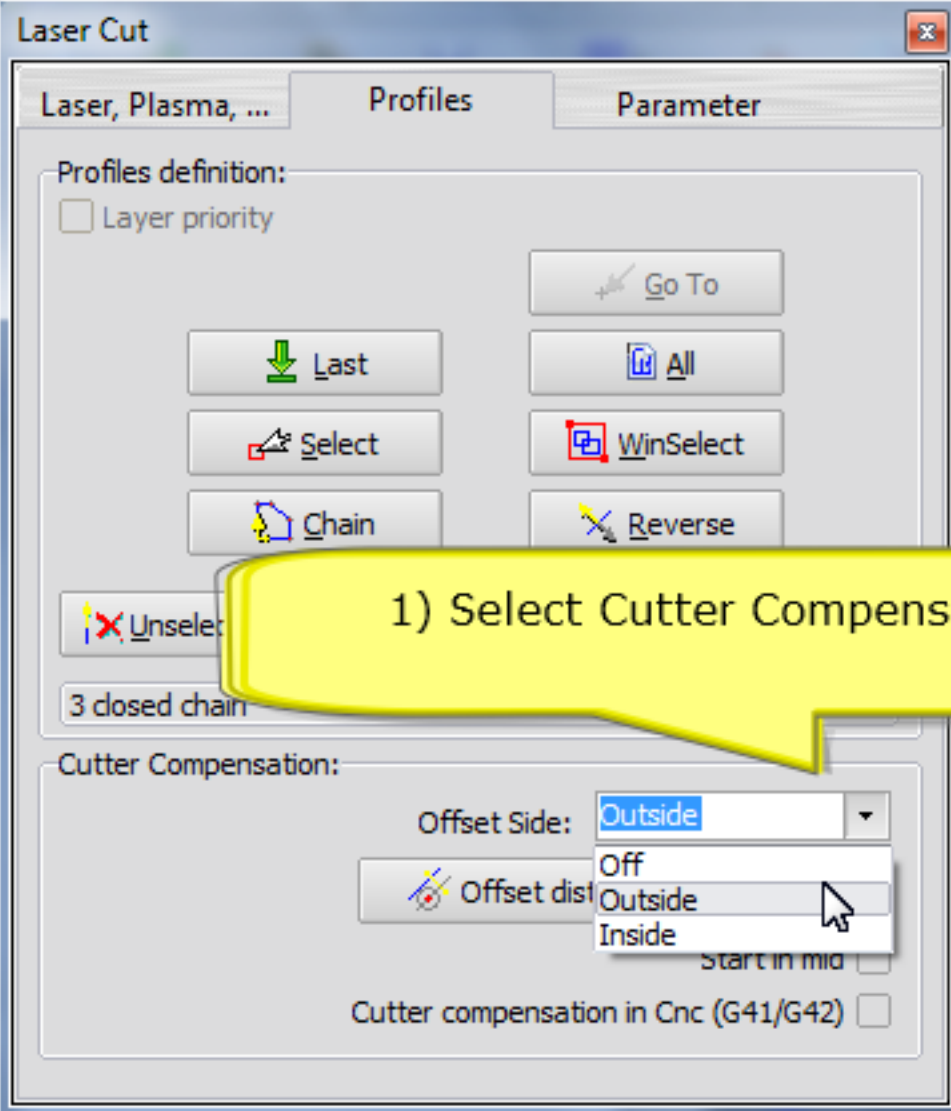
SHAP OFF

90°

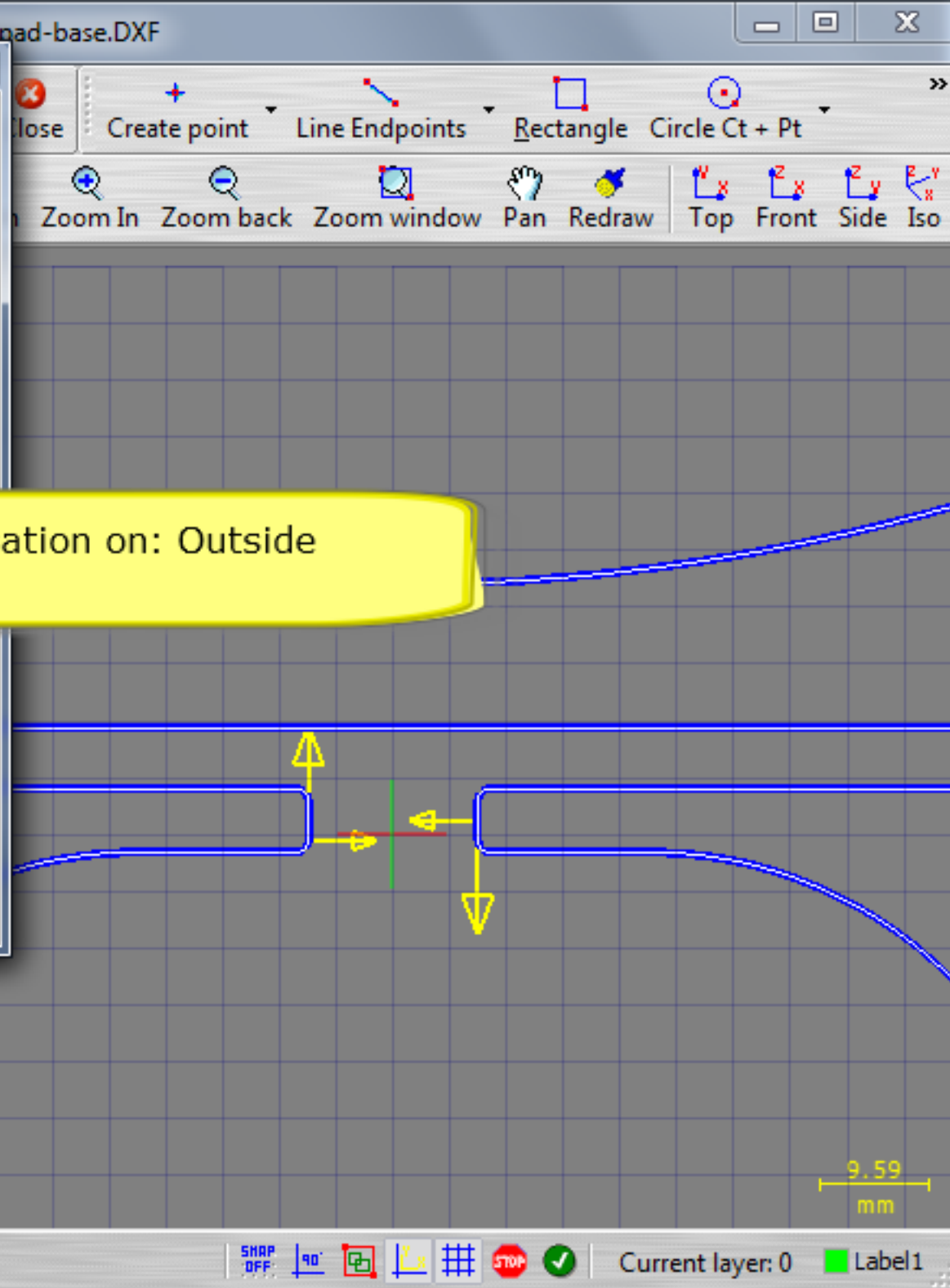
Grid

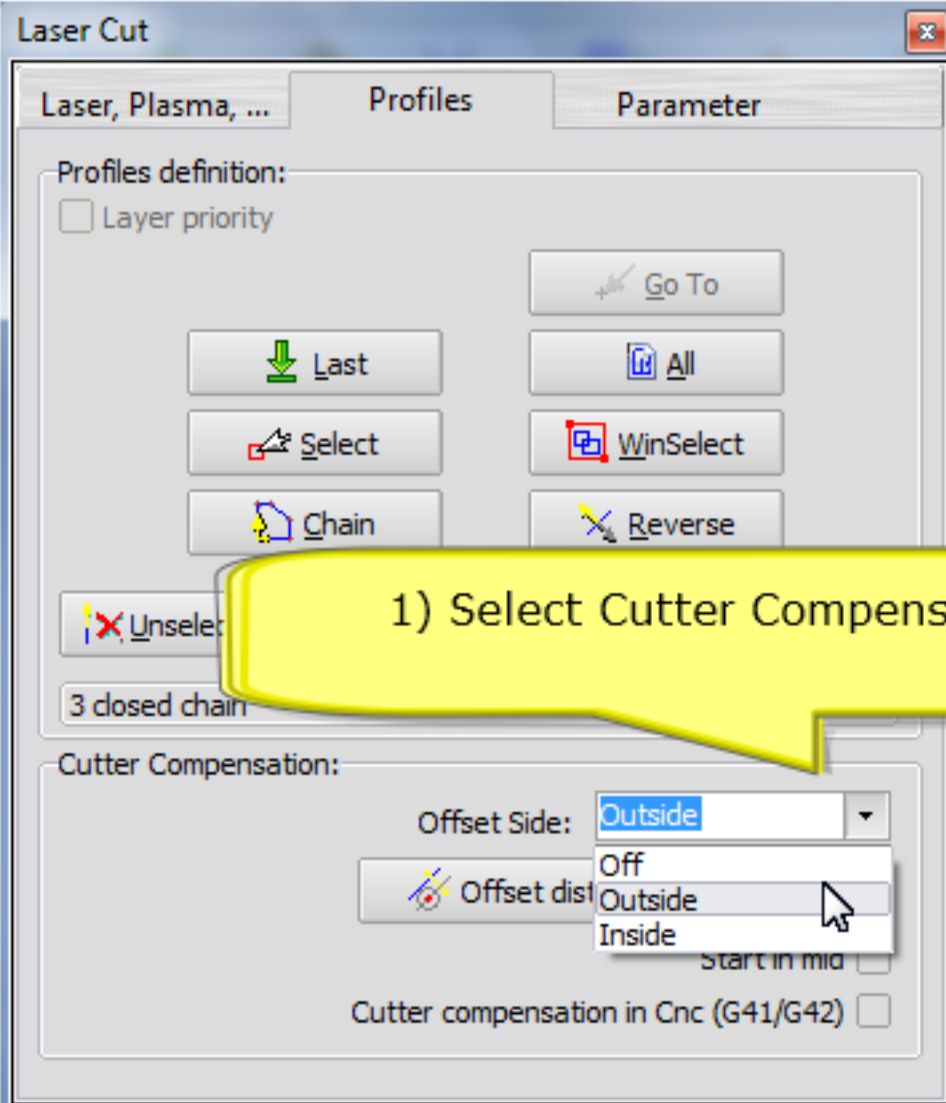
Label1

Current layer: 0



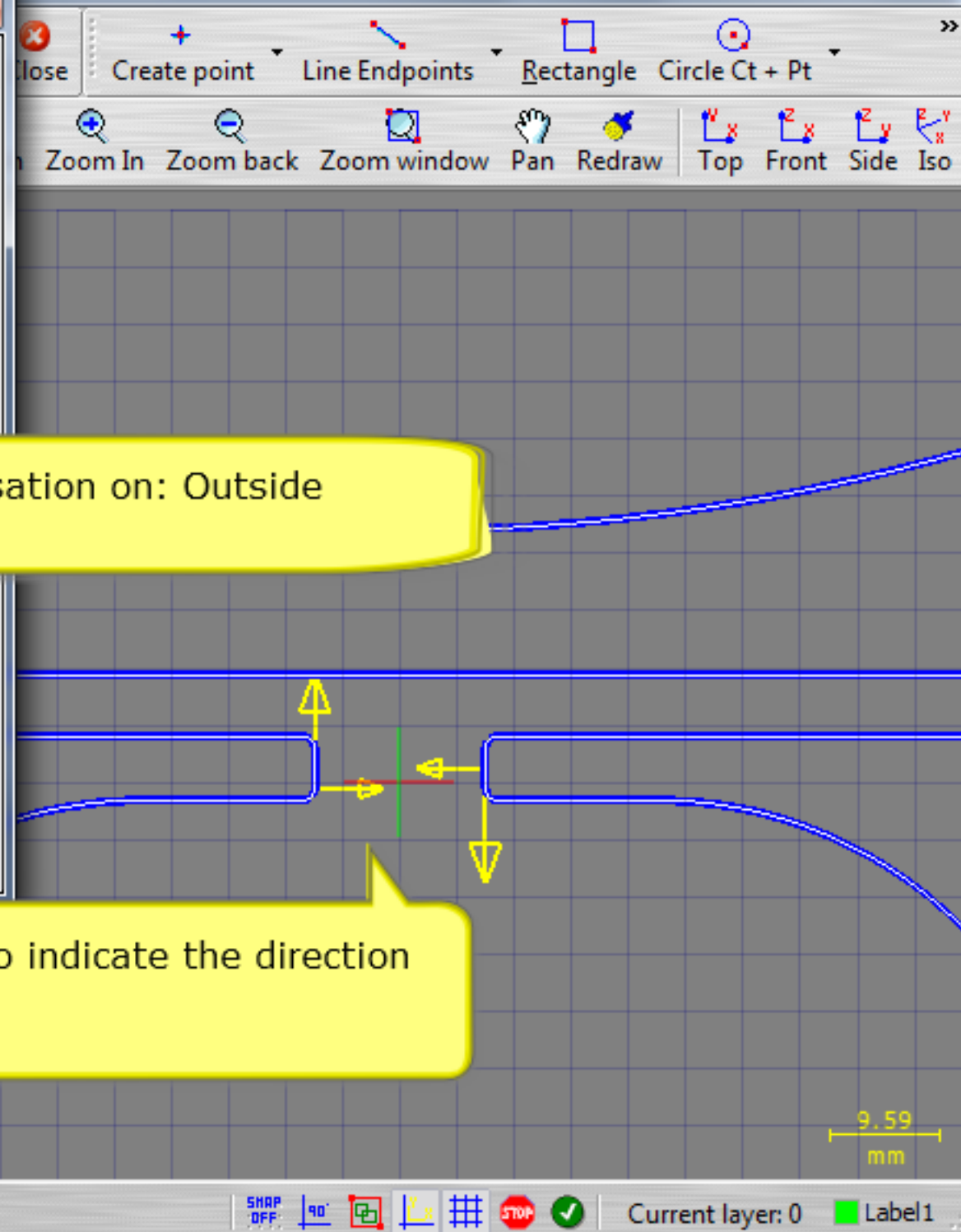
1) Select Cutter Compensation on: Outside





1) Select Cutter Compensation on: Outside

2) A small arrow appears to indicate the direction of cutter compensation



Laser Cut

Laser, Plasma, ...

Profiles

Parameter

Profiles definition:

☐ Layer priority

Go To

All

WinSelect

Reverse

Last

Select

Chain

Unselect last

Unselect all

Chains Manager

3 closed chain

Cutter Compensation:

Offset Side: Outside

Offset distance: 0.15

Start in mid

Cutter compensation in Cnc (G41/G42)

Press Chains Manager to change the starting point of machining

Change Post

Run Post

Show/Hide toolpaths

1/2

Y

X

X: -31.367 Y: 24.973

SHAP OFF

90°

STOP

Current layer: 0

Label1

9.59 mm

Chain settings

1 closed chain

2 closed chain

3 closed chain

Delete selected

Start point:

Ok

Cutter compensation in Cnc (G41/G42) ☐

1) Select Chain 1

Load-base.DXF

Line Endpoints

Rectangle

Circle Ct + Pt

Zoom In

Zoom back

Zoom window

Pan

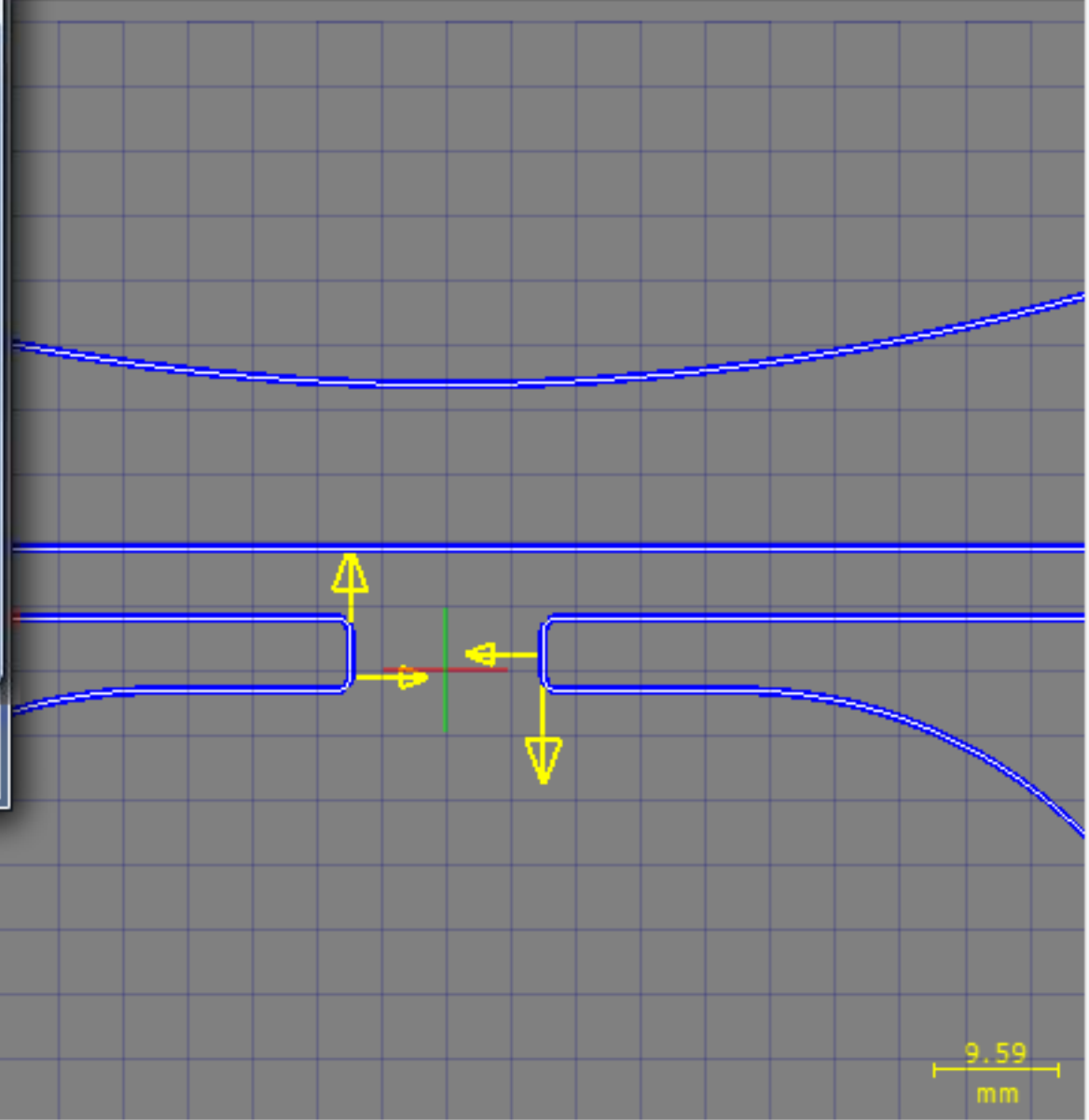
Redraw

Top

Front

Side

Iso



X: -31.367 Y: 24.973

SNAP OFF

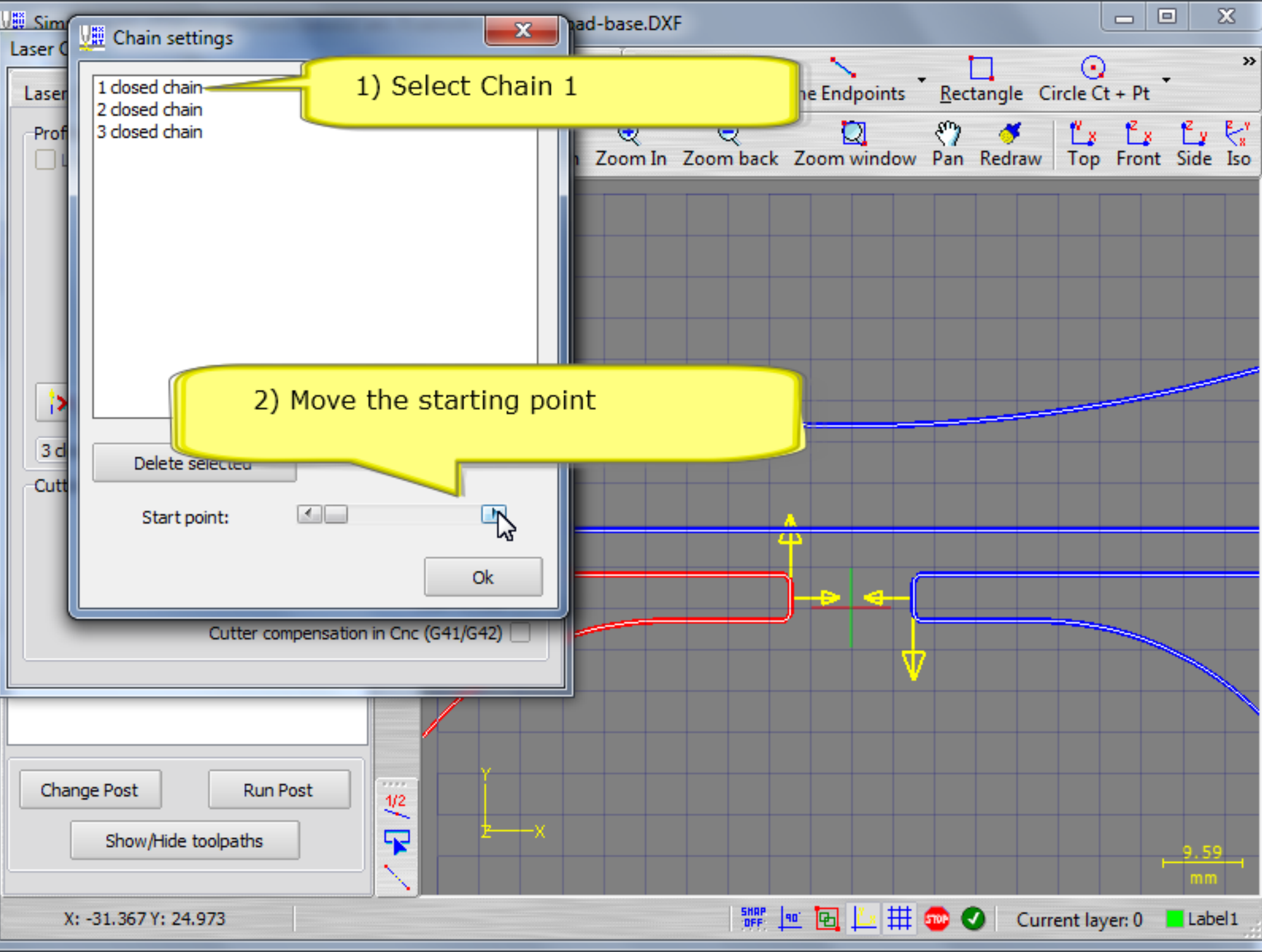
90°

STOP

✓

Current layer: 0

Label1



Chain settings

1 closed chain
2 closed chain
3 closed chain

1) Select Chain 3

Delete selected

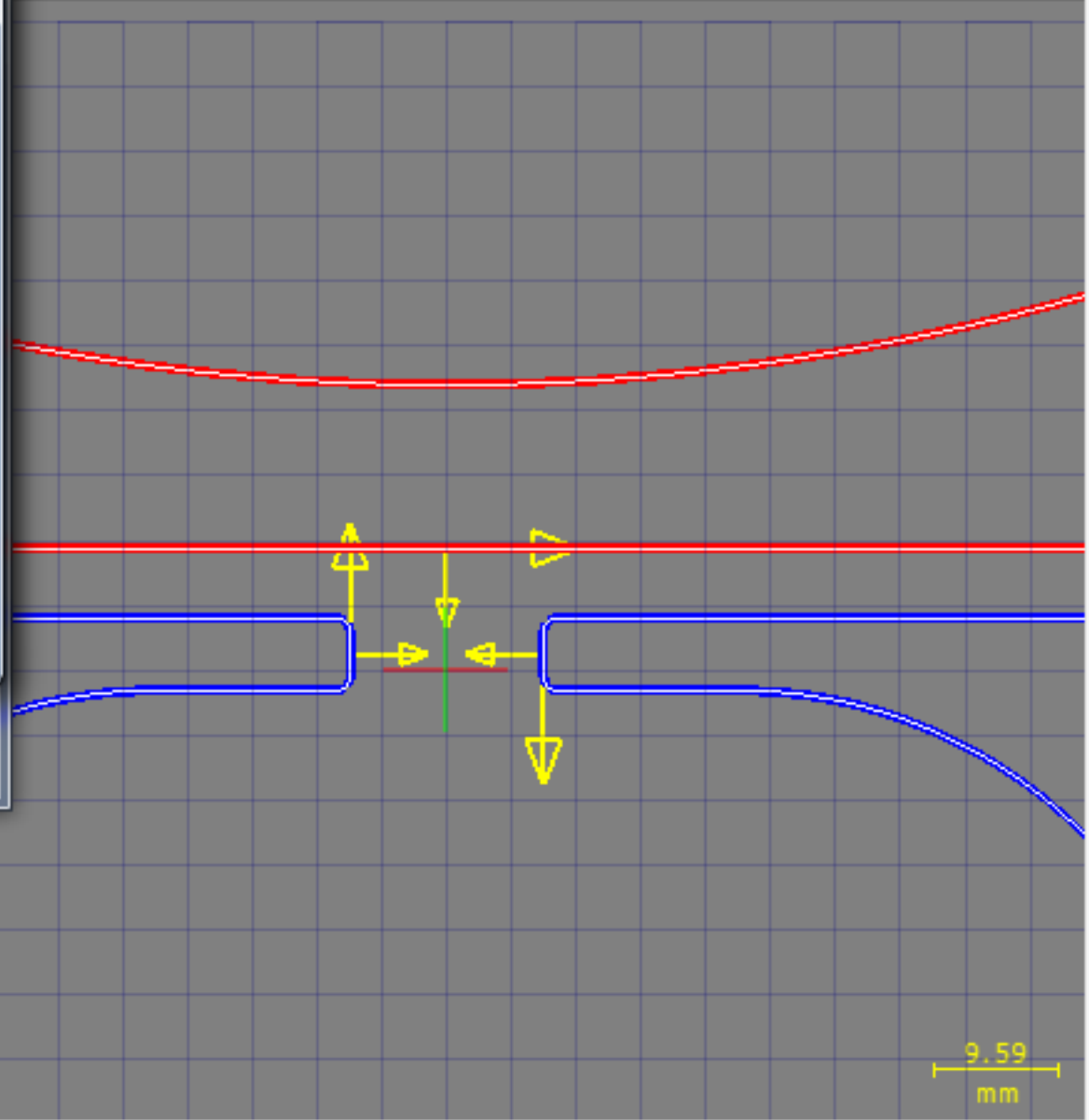
Start point:

Ok

Cutter compensation in Cnc (G41/G42) ☐

Close Create point Line Endpoints Rectangle Circle Ct + Pt

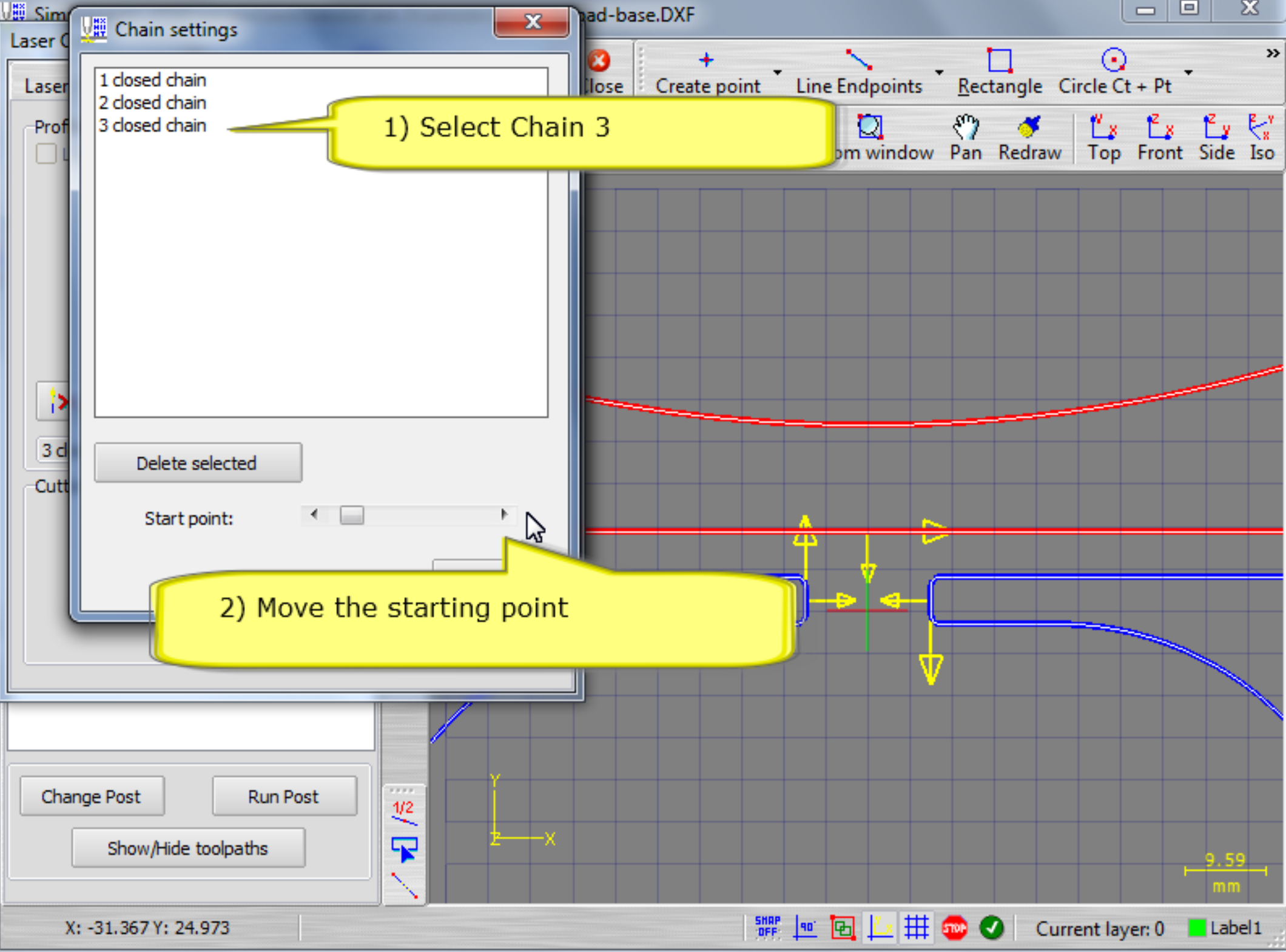
Zoom window Pan Redraw Top Front Side Iso



X: -31.367 Y: 24.973

SHAP OFF 90°

Current layer: 0 Label1



1) Select Chain 3

2) Move the starting point

X: -31.367 Y: 24.973

9.59
mm

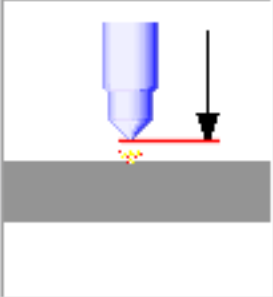
Current layer: 0 Label1

Laser Cut

☐ Laser, Plasma, ...
 ☐ Profiles
 ☒ **Parameter**

Cut parameters:

Laser feed plane:



Stock to leave:

Lead In/Out:

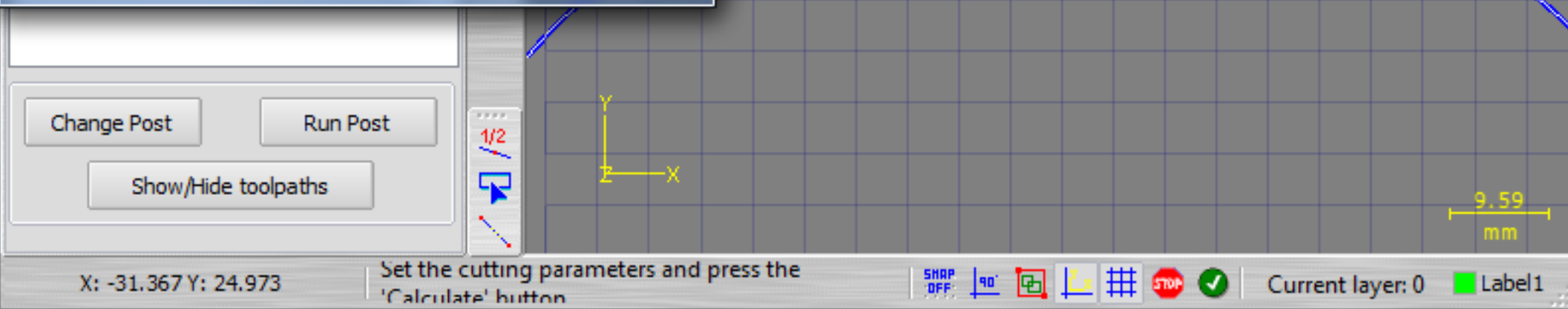
Num. of passes:

☐ Holding Tabs

Calculation Method:

Cutting rules:

Parameters operation

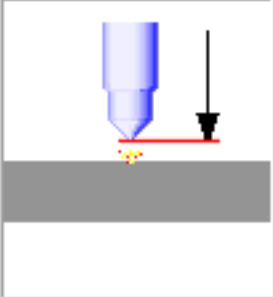


Laser Cut

Laser, Plasma, ... Profiles **Parameter**

Cut parameters:

Laser feed plane:



Stock to leave:

Lead In/Out (none)

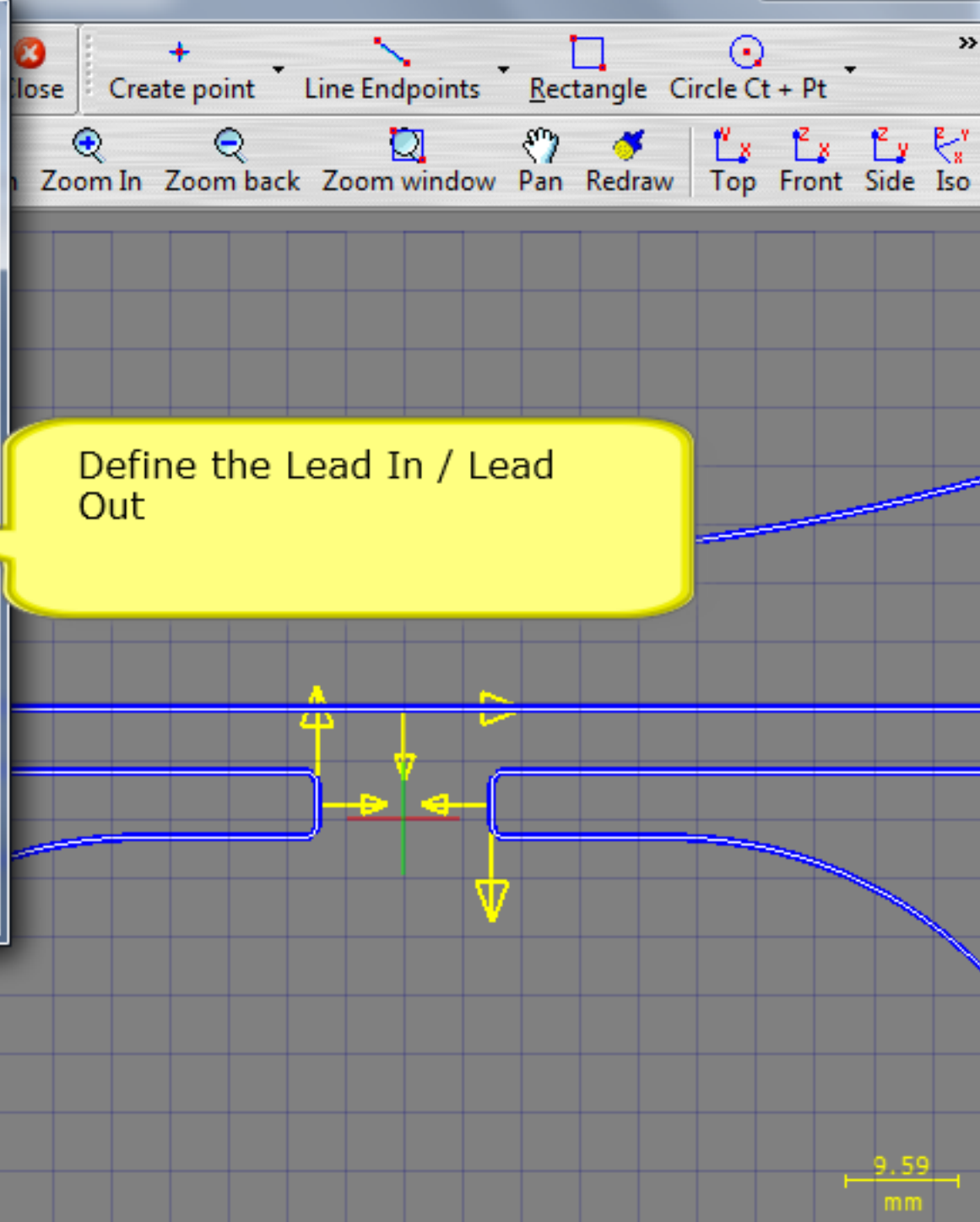
Num. of passes:

☐ Holding Tabs

Calculation Method:

Cutting rules:

Define the Lead In / Lead Out



Change Post

Run Post

Show/Hide toolpaths

X: -31.367 Y: 24.973

Set the cutting parameters and press the 'Calculate' button

SNAP OFF

90°

Grid

Layers

Stop

Check

Current layer: 0

Label1

Entry / Exit

Lead in:

Lead in: Line

Size: 1

Set Lead In: Line
Set Size: 1

Ok

Stock to leave: 0

Lead In/Out (none)

Num. of passes: 1

☐ Holding Tabs

Calculation Method: Standard

Cutting rules: None

Transform

Calculate

Cancel

Change Post

Run Post

Show/Hide toolpaths

X: -31.367 Y: 24.973

Set the cutting parameters and press the
'Calculate' button

SNAP
OFF

90°

Grid

Units

Grid

STOP

Check

Current layer: 0

Label1

9.59
mm

Entry / Exit

Lead in:

Lead in: Line

Size: 1

Lead out:

Lead out: Line

Size: 1



Do the Lead Out same

Stock to leave: 0

Lead In/Out (none)

Num. of passes: 1

☐ Holding Tabs

Calculation Method: Standard

Cutting rules: None

Transform

Calculate

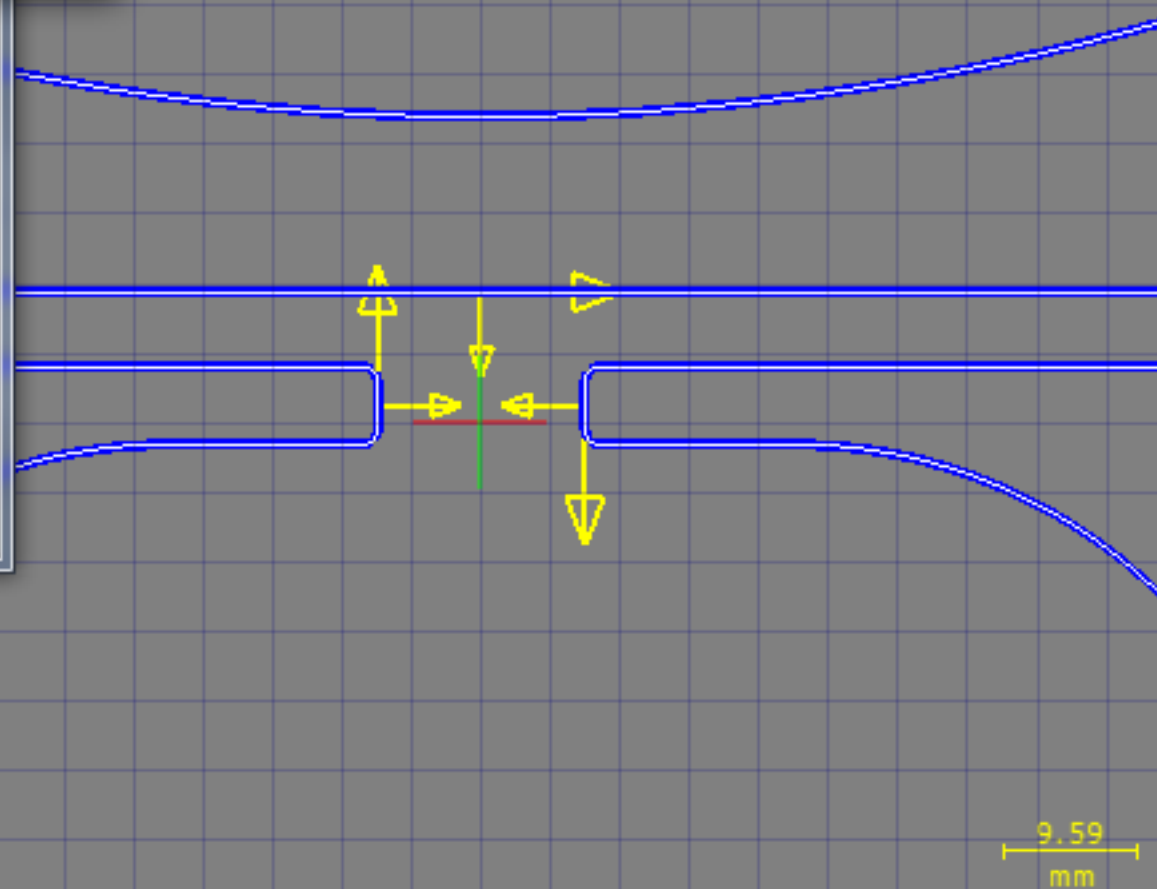
Cancel

Change Post

Run Post

Show/Hide toolpaths

Create point Line Endpoints Rectangle Circle Ct + Pt
 In Zoom back Zoom window Pan Redraw Top Front Side Iso



X: -31.367 Y: 24.973

Set the cutting parameters and press the 'Calculate' button

SNAP OFF

90°

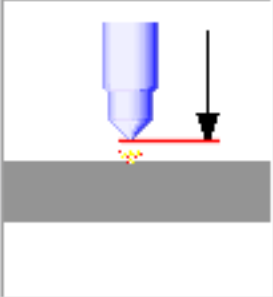
Current layer: 0 Label1

Laser Cut

Laser, Plasma, ...
Profiles
Parameter

Cut parameters:

Laser feed plane: 2



Stock to leave: 0

Lead in: 1 Lead out: 1

Num. of passes: 1

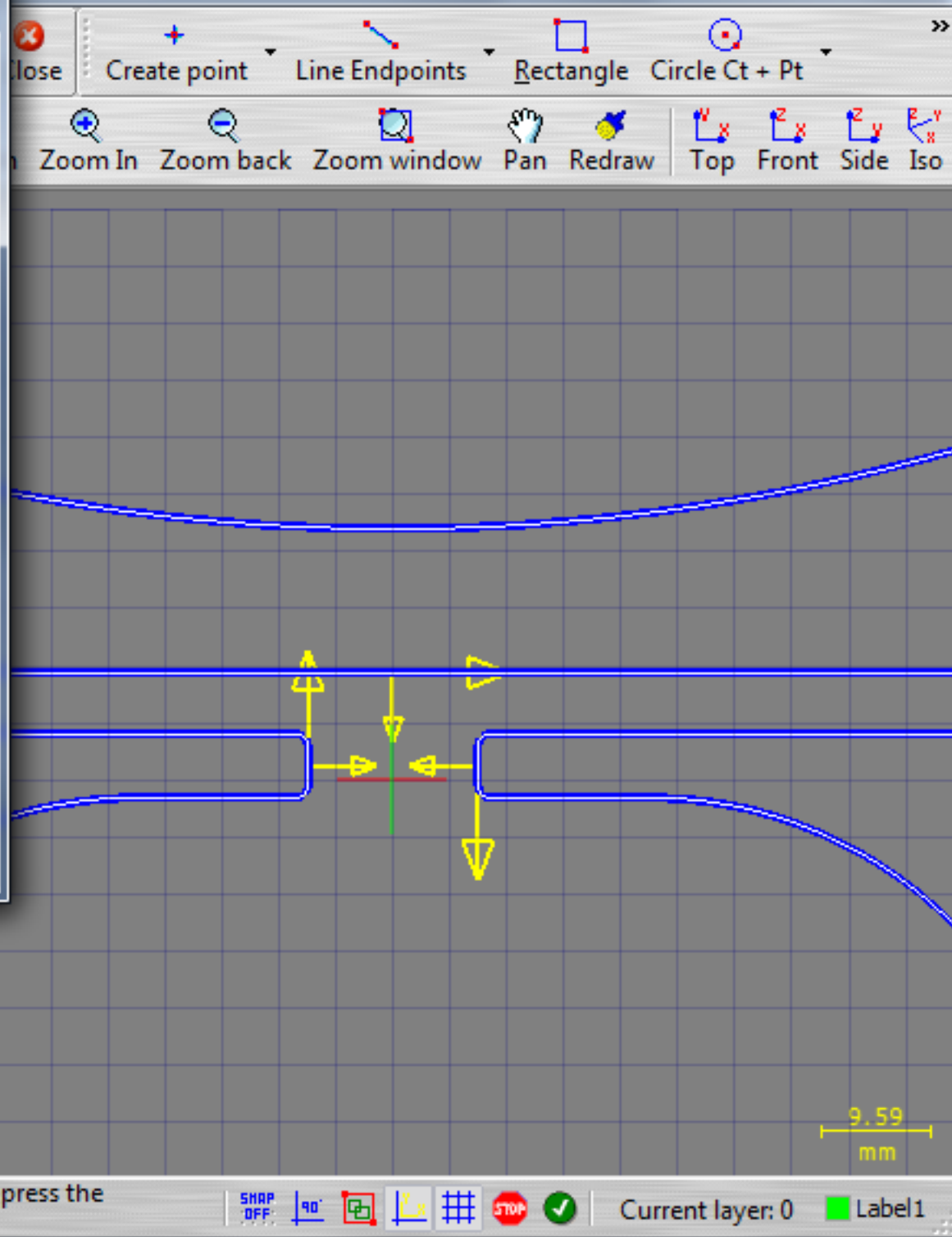
☐ Holding Tabs

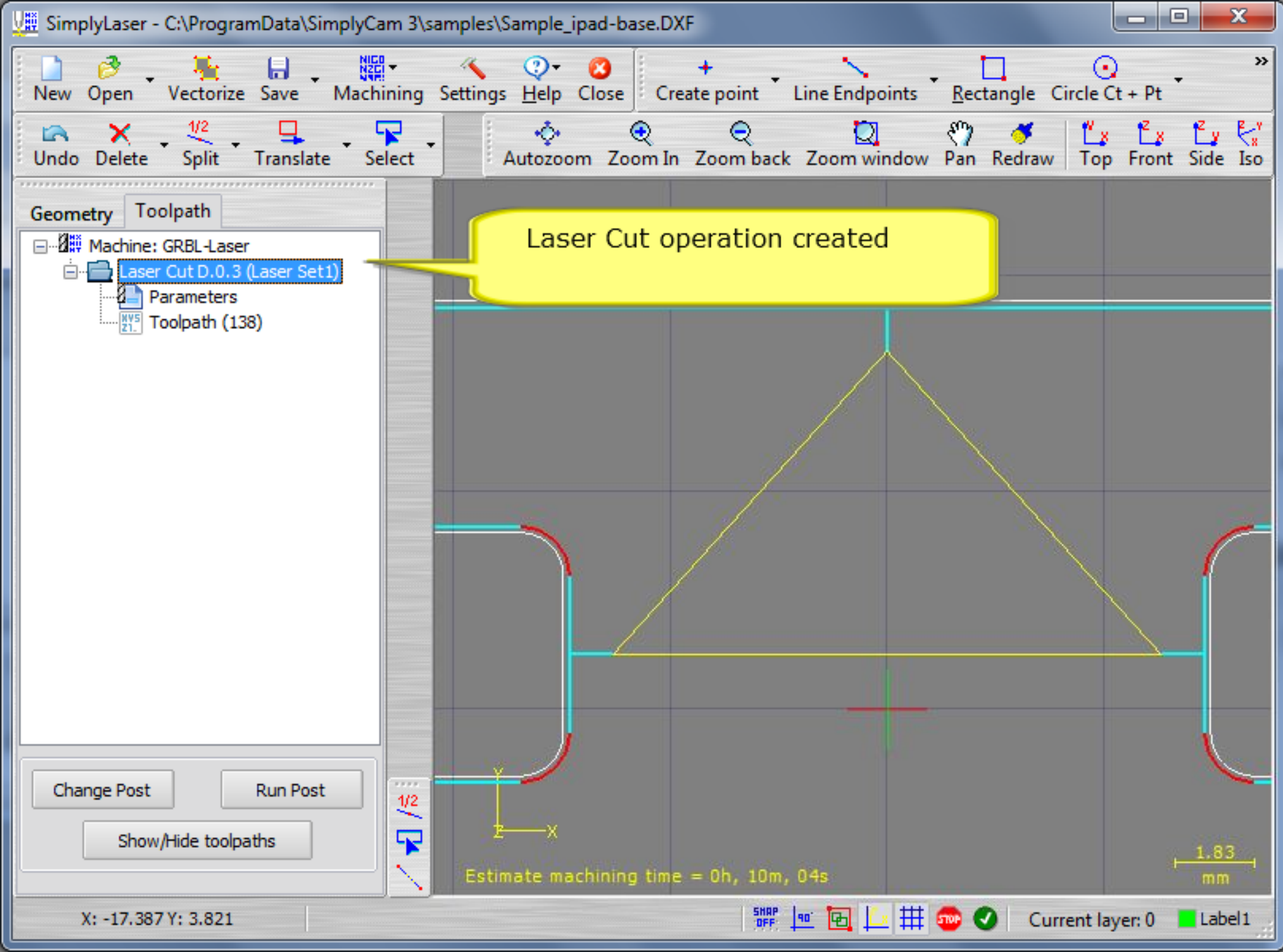
Calculation Method: Standard

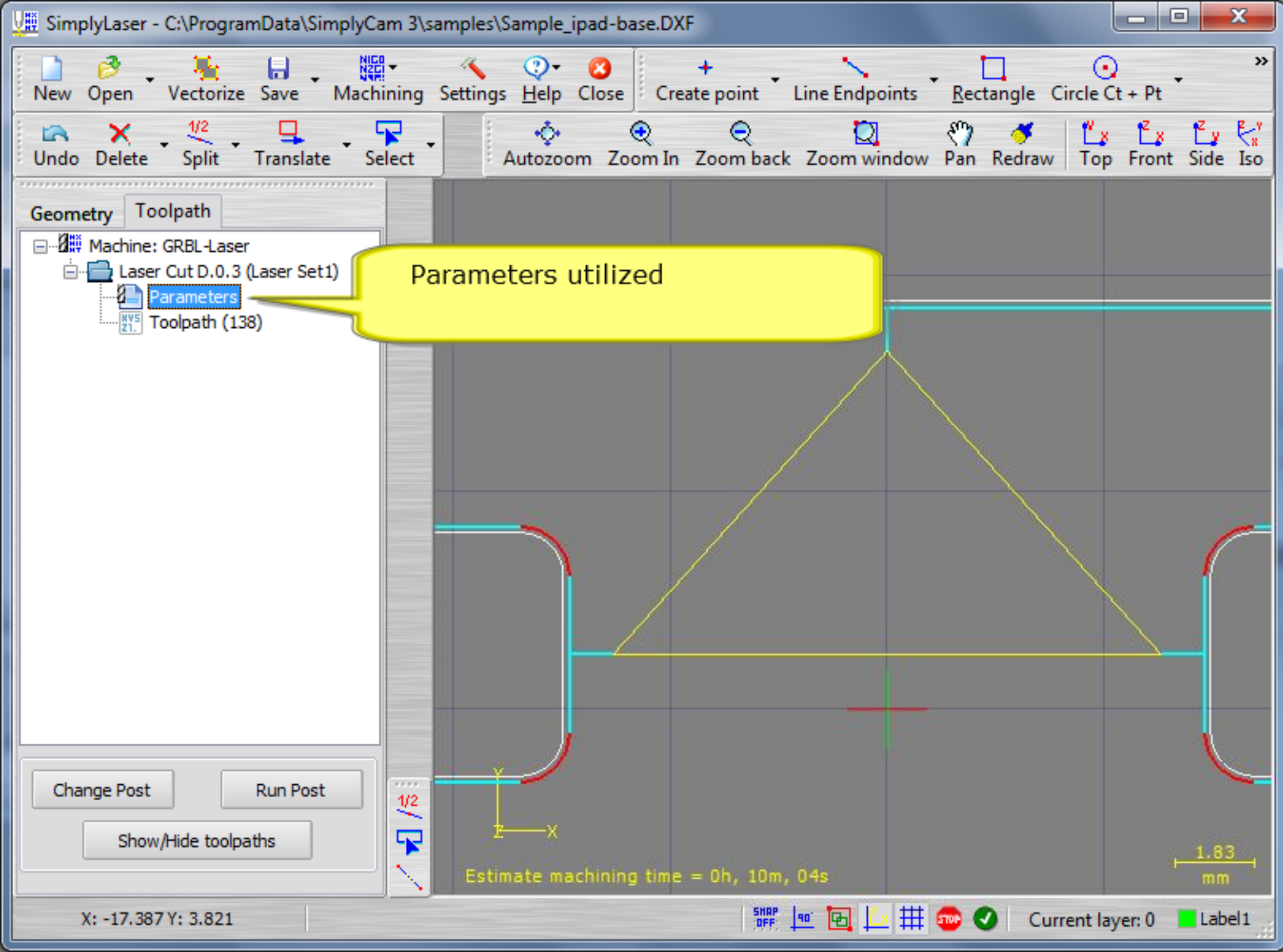
Cutting rules: None

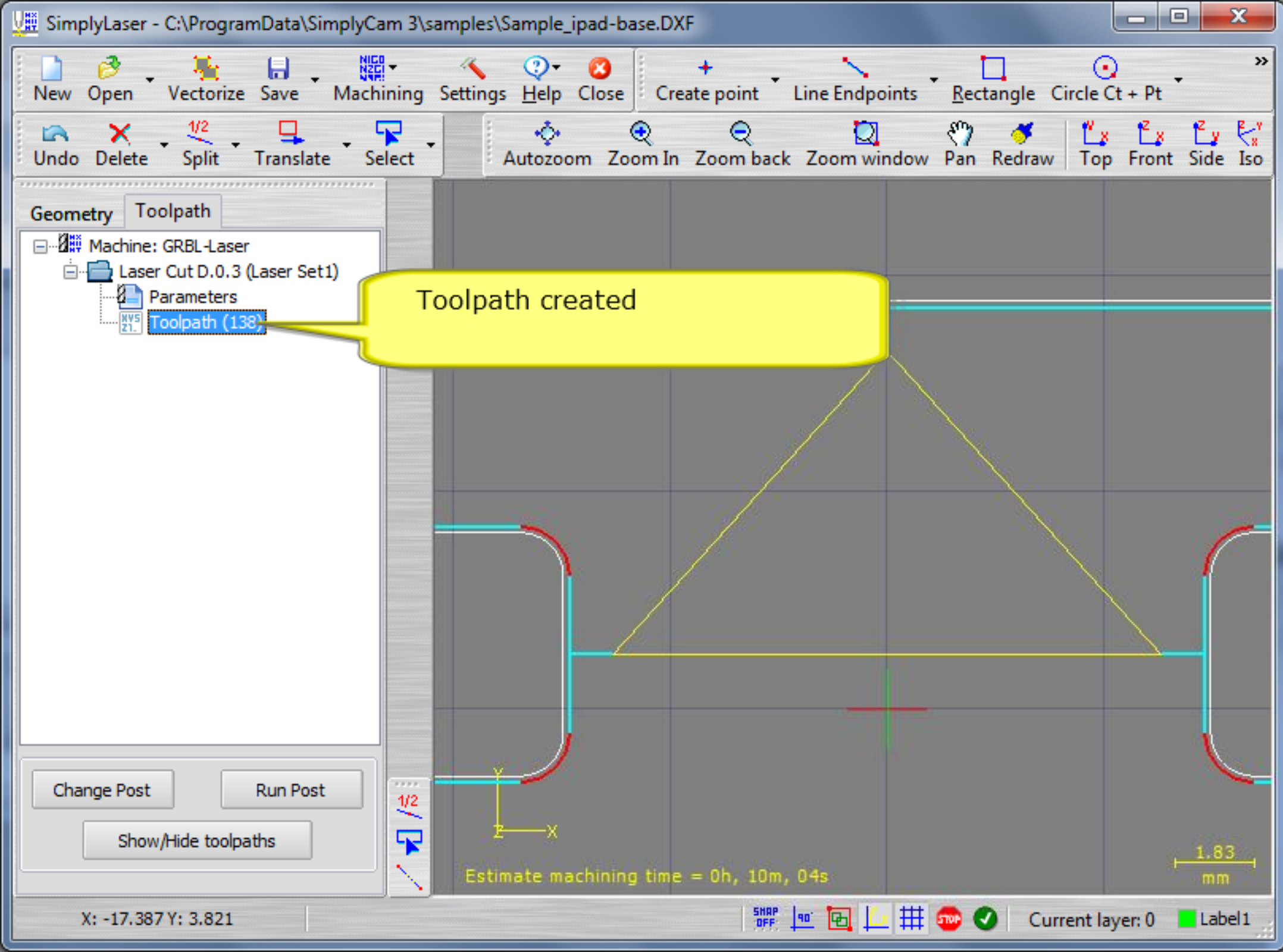
Transform Calculate Cancel

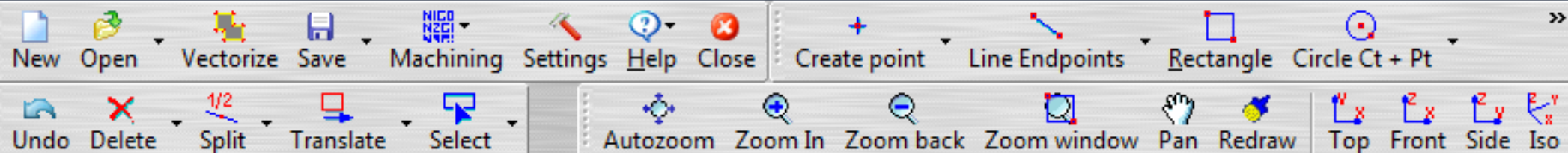
Press "Calculate"



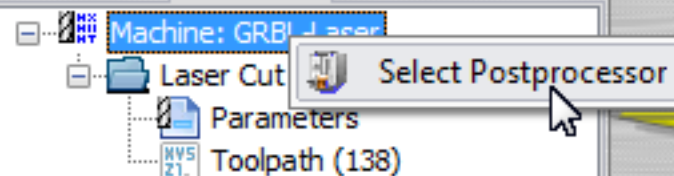








Geometry Toolpath



Select Postprocessor

Right click with mouse on the "Machine"
and Select Postprocessor

Change Post

Run Post

Show/Hide toolpaths

Estimate machining time = 0h, 10m, 04s

1.83
mm

X: -10.246 Y: 8.879

SNAP
OFF

90°



Current layer: 0 Label1

Select postprocessor

Post Processor

GRBL-Laser

Post GRBL-Laser

No Modal G code, XY

No Z move

M3/M5 Laser On/Off

S0-S255 Laser power grayscale

Space between instruction

No Block number

Output metric ☒

Output inch ☐

Output file extension:

nc

Rapid feedrate:

10000

Edit

Ok

Change Post

Run Post

Show/Hide toolpaths

1/2



Estimate machining time = 0h, 10m, 04s

1.83 mm

X: -9.587 Y: 9.171

Define the postprocessor

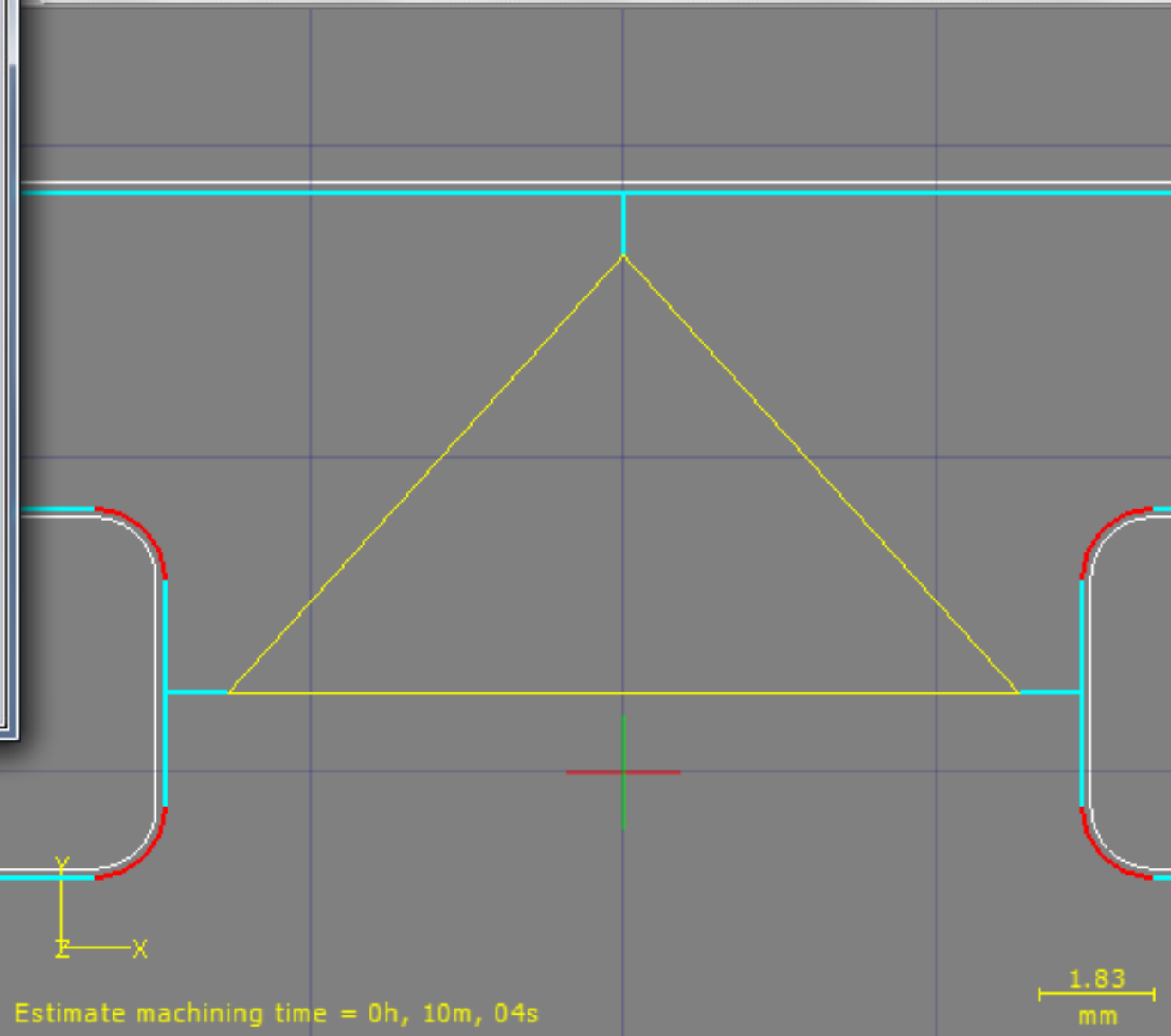
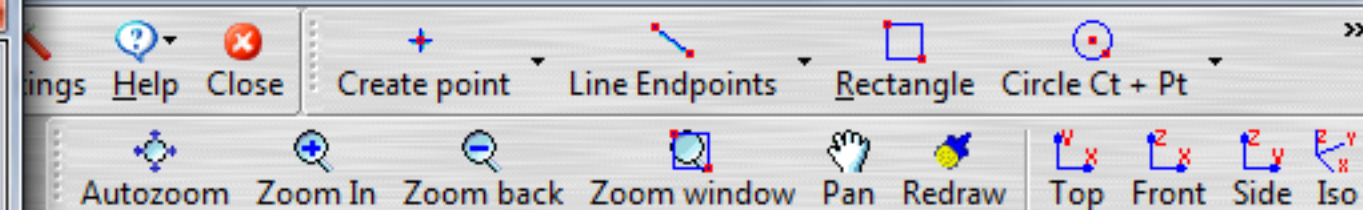
SNAP OFF

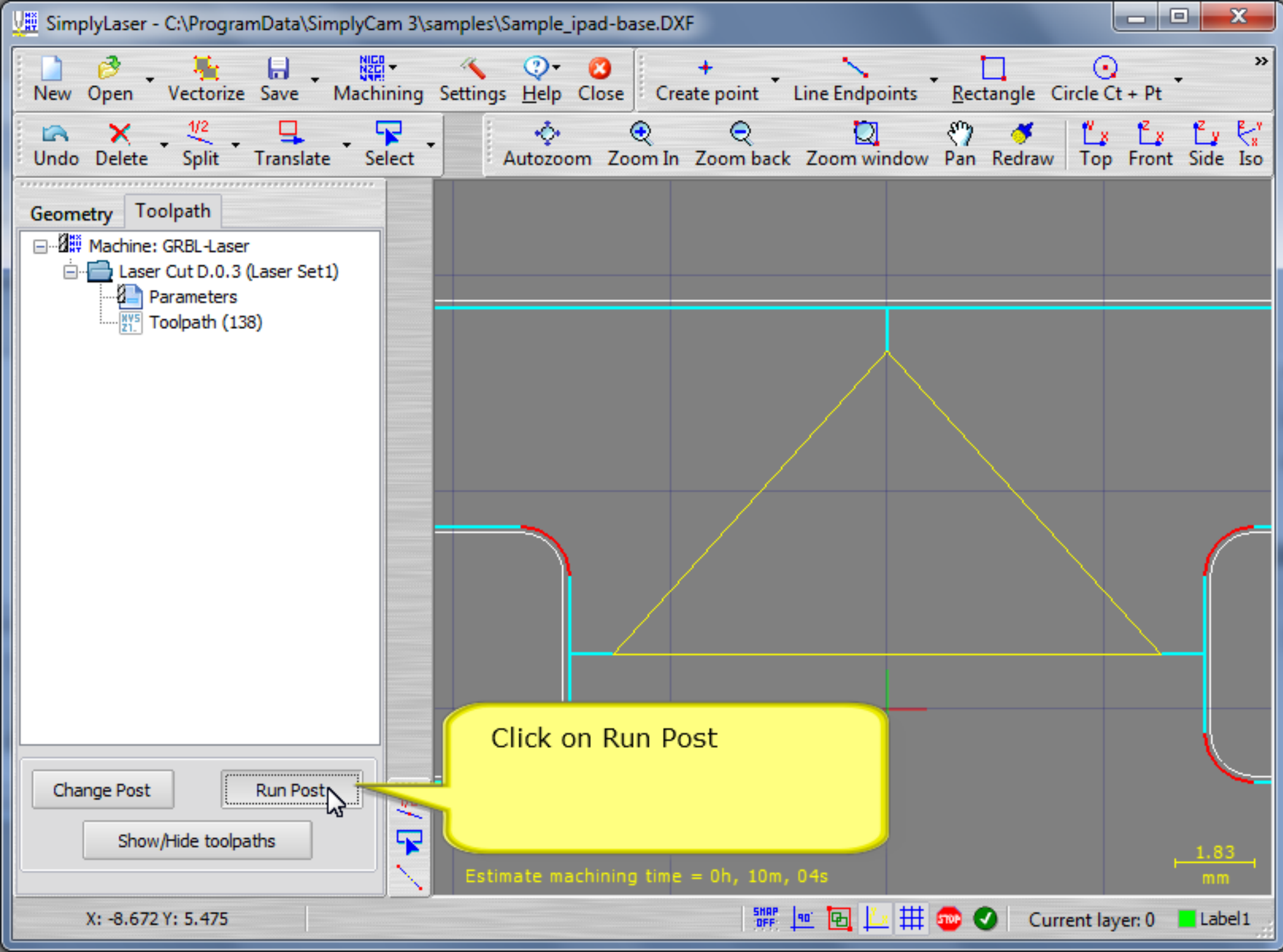
90°

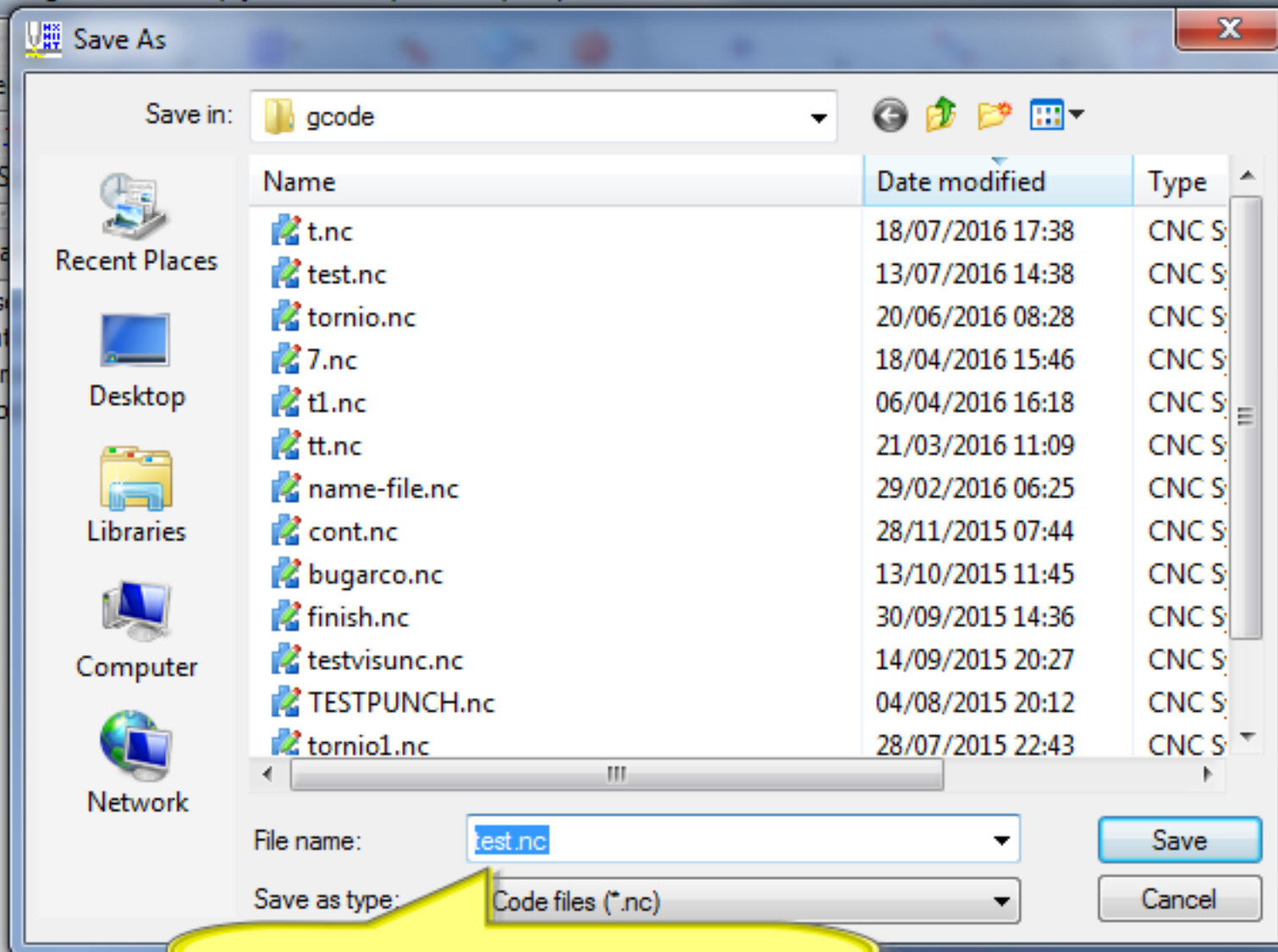


Current layer: 0

Label1







Change Post

Run Post

Show/Hide toolpaths

Estimate machining time = 0h, 10m, 04s

X: -9.587 Y: 9.171

Define the postprocessor

SHAP OFF

90°

L

L

L

STOP

✓

Current layer: 0

Label1

1.83 mm

gcEditor v 0.9.9.2

File Edit Text Tools Help

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

```
G28; home all axes
G21; Set units to millimeters
G90; Use absolute coordinates
G92; Coordinate Offset
G00X-6.315Y1.251
M4
M18
G01X-7.315Y1.251F100
G01X-7.315Y3.057
G03X-8.465Y4.207I-1.15J0.
G01X-59.001Y4.211
G03X-59.151Y4.061I0.J-0.15
G01X-59.151Y-15.789
G01X-63.551Y-15.789
G01X-63.549Y4.061
G03X-63.699Y4.211I-0.15J0.
G01X-94.Y4.214
G03X-95.15Y3.064I0.J-1.15
G01X-95.15Y-2.269
G03X-95.08Y-2.665I1.151J0.
G01X-88.514Y-20.558
G03X-87.038Y-21.241I1.08J0.396
G01X-85.713Y-20.755
G03X-82.674Y-15.321I-1.644J4.487
G01X-84.338Y-10.049
G02X-83.814Y-8.983T0.812T0.263
```

The G-Code file is created and can be sent to the CNC

Create point Line Endpoints Rectangle Circle Ct + Pt

In Zoom back Zoom window Pan Redraw Top Front Side Iso

1.83 mm

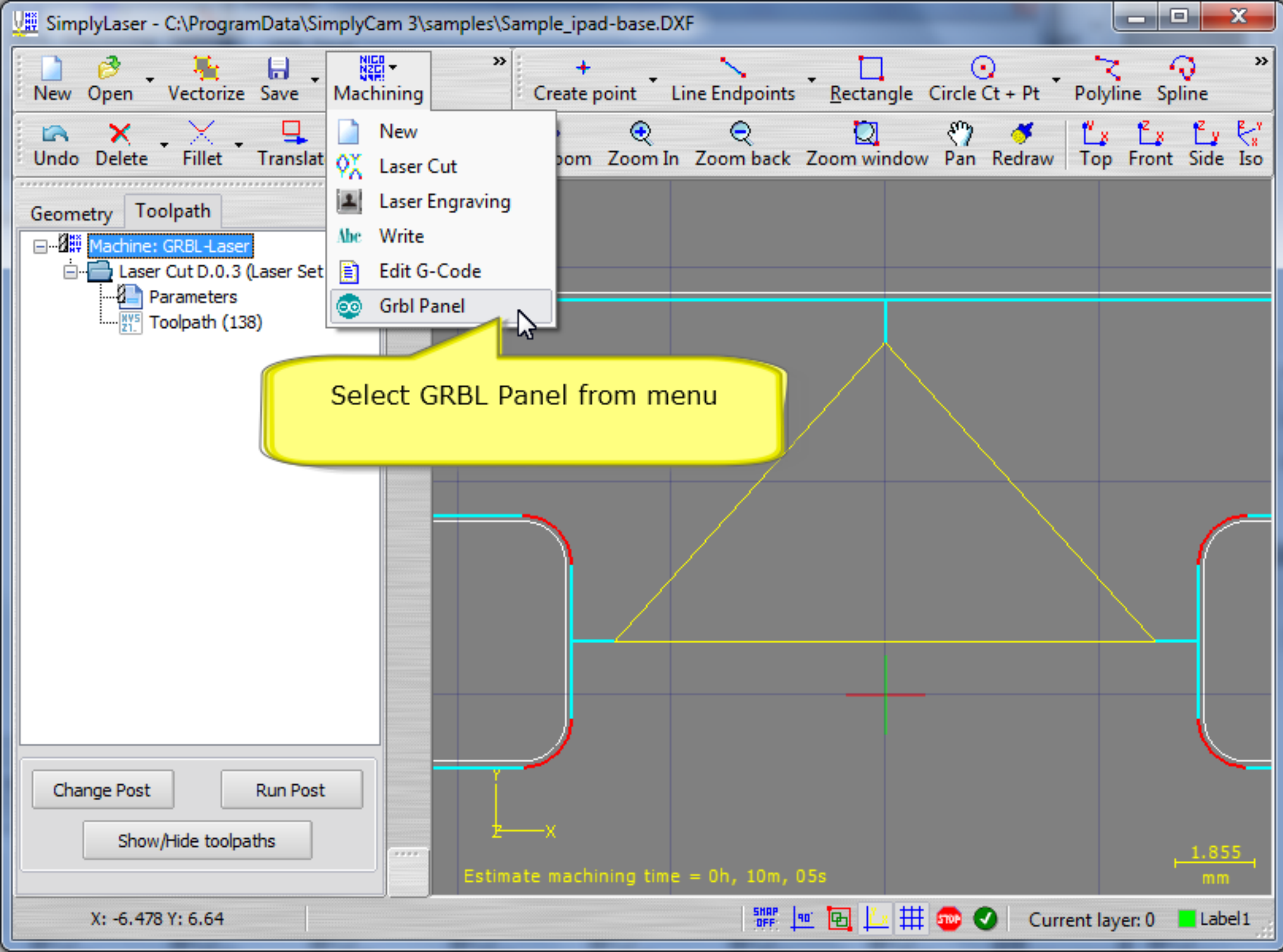
Time = 0h, 10m, 04s

Current Z: 0 Sim

In 0 col 0

SNAP OFF 90°

Current layer: 0 Label1



New Open Vectorize Save Mach
Undo Delete Fillet Translate S

Geometry Toolpath

Geometry

Connection:

Port: COM10

Baud: 115200



Open



Panic Button

Machine Status:

Active State:

Idle

X

-35.168

Y

-12.100

Z

-2.000

Work Coord's

☐ Show position

☐ Show verbose output

Grbl 0.9j ['\$' for help]

Machine Control

File Mode

Macros

Command:

Open the communication port

Machine Control:

Zero XYZ

Step Size

1

Zero X

Y+

Z+

Zero Y

X-

X+

Zero Z

Y-

Z-

G54

G55

G56

G57

G58

G59

Colapse

Close

X: -16.225 Y: 14.015

3.157
mm

Label1

New Open Vectorize Save Mach
Undo Delete Fillet Translate S

Geometry Toolpath

Geometry

Connection:

Port: COM10

Baud: 115200



Close



Panic Button

Machine Status:

Active State:

Idle

X

-43.168

Y

-12.100

Z

-2.000

Work Coord's

☐ Show position

☐ Show verbose output

Grbl 0.9j ['\$' for help]
Grbl 0.9j ['\$' for help]
[G0 G54 G17 G21 G90 G94 M0 M5 M9 T0 F0. S0.]

Machine Control

File Mode

Macros

Command:

[\$H] Run homing cycle

[\$#] View gcode parameters

[\$X] Kill Alarm

[\$G] View parser state

Machine Control:

Zero XYZ

Step Size

1

Zero X

Y+

Z+

Zero Y

X-

X+

Zero Z

Y-

Z-

Move and Zeros the Cnc

Colapse

Close

X: -16.225 Y: 14.015

3.157
mm

Label1

New Open Vectorize Save Mach
Undo Delete Fillet Translate S

Geometry Toolpath

Geometry

Connection:

Port: COM10

Baud: 115200



Close



Panic Button

Machine Status:

Active State:

Run

X

-43.856

Y

-12.100

Z

-2.000

Work Coord's

☐ Show position

☐ Show verbose output

Grbl 0.9j ['\$' for help]
Grbl 0.9j ['\$' for help]
[G0 G54 G17 G21 G90 G94 M0 M5 M9 T0 F0. S0.]

Machine Control

File Mode

Macros

Command:

[\$H] Run homing cycle

[\$#] View gcode parameters

[\$X] Kill Alarm

[\$G] View parser state

Machine Control:

Zero XYZ

Step Size

1

Zero X

Y+

Z+

Zero Y

X-

X+

Zero Z

Y-

Z-

Move and Zeros the Cnc

Colapse

Close

X: -16.225 Y: 14.015

3.157
mm

Label1

New Open Vectorize Save Mach
Undo Delete Fillet Translate S

Geometry Toolpath

Geometry

Connection:

Port: COM10

Baud: 115200



Close



Panic Button

Machine Status:

Active State:

Run

X

-39.876

Y

-12.100

Z

-2.000

Work Coord's

☐ Show position

☐ Show verbose output

Grbl 0.9j ['\$' for help]
Grbl 0.9j ['\$' for help]
[G0 G54 G17 G21 G90 G94 M0 M5 M9 T0 F0. S0.]

Machine Control

File Mode

Macros

Command:

[\$H] Run homing cycle

[\$#] View gcode parameters

[\$X] Kill Alarm

[\$G] View parser state

Machine Control:

Zero XYZ

Step Size

1

Zero X

Y+

Z+

Zero Y

X-

X+

Zero Z

Y-

Z-

Move and Zeros the Cnc

Colapse

Close

X: -16.225 Y: 14.015

3.157
mm

Current layer: 0

Label1

New Open Vectorize Save Mach
Undo Delete Fillet Translate S

Geometry Toolpath

Geometry

Connection:

Port: COM10

Baud: 115200



Close



Panic Button

Machine Status:

Active State:

Idle

X

-44.168

Y

-12.100

Z

-2.000

Work Coord's

☐ Show position

☐ Show verbose output

Grbl 0.9j ['\$' for help]
Grbl 0.9j ['\$' for help]
[G0 G54 G17 G21 G90 G94 M0 M5 M9 T0 F0. S0.]

Machine Control

File Mode

Macros

Command:

[\$H] Run homing cycle

[\$#] View gcode parameters

Move and Zeros the Cnc

Machine Control:

Zero XYZ

Step Size

1

Zero X

Y+

Z+

Zero Y

X-

X+

Zero Z

Y-

Z-

G54

G55

G56

G57

G58

G59

Colapse

Close

X: -16.225 Y: 14.015

3.157
mm

Label1

New Open Vectorize Save Mach
Undo Delete Fillet Translate S

Geometry Toolpath

Geometry

Connection:

Port: COM10

Baud: 115200



Close



Panic Button

Machine Status:

Active State:

Idle

X

0.000

Y

0.000

Z

0.000

Work Coord's

☐ Show position

☐ Show verbose output

Grbl 0.9j ['\$' for help]
Grbl 0.9j ['\$' for help]
[G0 G54 G17 G21 G90 G94 M0 M5 M9 T0 F0. S0.]
[G0 G54 G17 G21 G90 G94 M0 M5 M9 T0 F0. S0.]

Machine Control

File Mode

Macros

Command:

[\$H] Run homing cycle

[\$#] View gcode parameters

Move and Zeros the Cnc

Machine Control:

Zero XYZ

Step Size 1

Zero X

Y+

Z+

Zero Y

X-

X+

Zero Z

Y-

Z-

G54

G55

G56

G57

G58

G59

Colapse

Close

X: -16.225 Y: 14.015

3.157
mm

Label1

New Open Vectorize Save Mach
Undo Delete Fillet Translate S

Geometry Toolpath

Geometry

Connection:

Port: COM10

Baud: 115200



Close



Panic Button

Machine Status:

Active State:

Idle

X

0.000

Y

0.000

Z

0.000

Work Coord's

☐ Show position

☐ Show verbose output

Grbl 0.9j ['\$' for help]
Grbl 0.9j ['\$' for help]
[G0 G54 G17 G21 G90 G94 M0 M5 M9 T0 F0. S0.]
[G0 G54 G17 G21 G90 G94 M0 M5 M9 T0 F0. S0.]
[G0 G54 G17 G21 G90 G94 M0 M5 M9 T0 F0. S0.]

Machine Control

File Mode

Macros

File:

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

Last processed

Open g-code

Send

How fast: 1

Select

☐ Check gcode mode

From File Mode select
the last G-Code file processed

Colapse

Close

X: -16.225 Y: 14.015

3.157
mm

Label1

New Open Vectorize Save Mach
Undo Delete Fillet Translate S

Geometry Toolpath

Geometry

Connection:

Port: COM10

Baud: 115200



Close



Panic Button

Machine Status:

Active State:

Idle

X

0.000

Y

0.000

Z

0.000

Work Coord's

☐ Show position

☐ Show verbose output

G90; Use absolute coordinates
G92; Coordinate Offset
error: Invalid gcode ID:26
G00X-6.315Y1.251
M4

Machine Control

File Mode

Macros

File:

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

Last processed

Open g-code

Send

How often: 1

Send the file to CNC

Colapse

Close

X: -16.225 Y: 14.015

3.157
mm

Label1

New Open Vectorize Save Mach
Undo Delete Fillet Translate S

Geometry Toolpath

Geometry

Connection:

Port: COM10

Baud: 115200



Close



Panic Button

Machine Status:

Active State:

Run

X

-7.316

Y

2.988

Z

2.000

Work Coord's

☐ Show position

☐ Show verbose output

G01X-59.151Y-15.789
G01X-63.551Y-15.789
G01X-63.549Y4.061
G03X-63.699Y4.211I-0.15J0.
G01X-94.Y4.214

Machine Control

File Mode

Macros

File:

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

Last processed

Open g-code

Send

How often: 1

Pause

Abort

Sent / Tot.Rows 17 / 156

☐ Check gcode mode

Colapse

Close

X: -16.225 Y: 14.015

3.157
mm

Label1

New Open Vectorize Save Mach
Undo Delete Fillet Translate S

Geometry Toolpath

Geometry

Connection:

Port: COM10

Baud: 115200



Close



Panic Button

Machine Status:

Active State:

Run

X

-26.128

Y

4.208

Z

2.000

Work Coord's

☐ Show position

☐ Show verbose output

G01X-63.549Y4.061
G03X-63.699Y4.211I-0.15J0.
G01X-94.Y4.214
G03X-95.15Y3.064I0.J-1.15
G01X-95.15Y-2.269

Machine Control

File Mode

Macros

File:

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

Last processed

Open g-code

Send

How often: 1

Pause

Abort

Sent / Tot.Rows 19 / 156

☐ Check gcode mode

Colapse

Close

X: -16.225 Y: 14.015

3.157
mm

Label1

New Open Vectorize Save Mach
Undo Delete Fillet Translate S

Geometry Toolpath

Geometry

Connection:

Port: COM10

Baud: 115200



Close



Panic Button

Machine Status:

Active State:

Idle

X

9.000

Y

0.000

Z

2.000

Work Coord's

☐ Show position

☐ Show verbose output

G01X0.Y9.246
G01X0.Y8.246
M7
M19
G00 X0 Y0; home
G28; home all axes

Machine Control

File Mode

Macros

File:

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

Last processed

Open g-code

Send

How often: 1

Pause

Abort

Sent / Tot.Rows 156 / 156

☐ Check gcode mode

Done!

Colapse

Close

X: -16.225 Y: 14.015

3.157
mm

Current layer: 0 Label1