PCB writer

Model S-63

	LPKF Laser & Electronics
Origin	Made in Slovenia
Type	ProtoMat S63
Serial No.	2623000610
Year MFD	2013
Voltage	100 - 240 V
Frequency	50 - 60 Hz
Power	450 W

LPKF Laser & Electronics AG
Osteriede 7   30827 Garbsen
Germany   www.lpkf.com

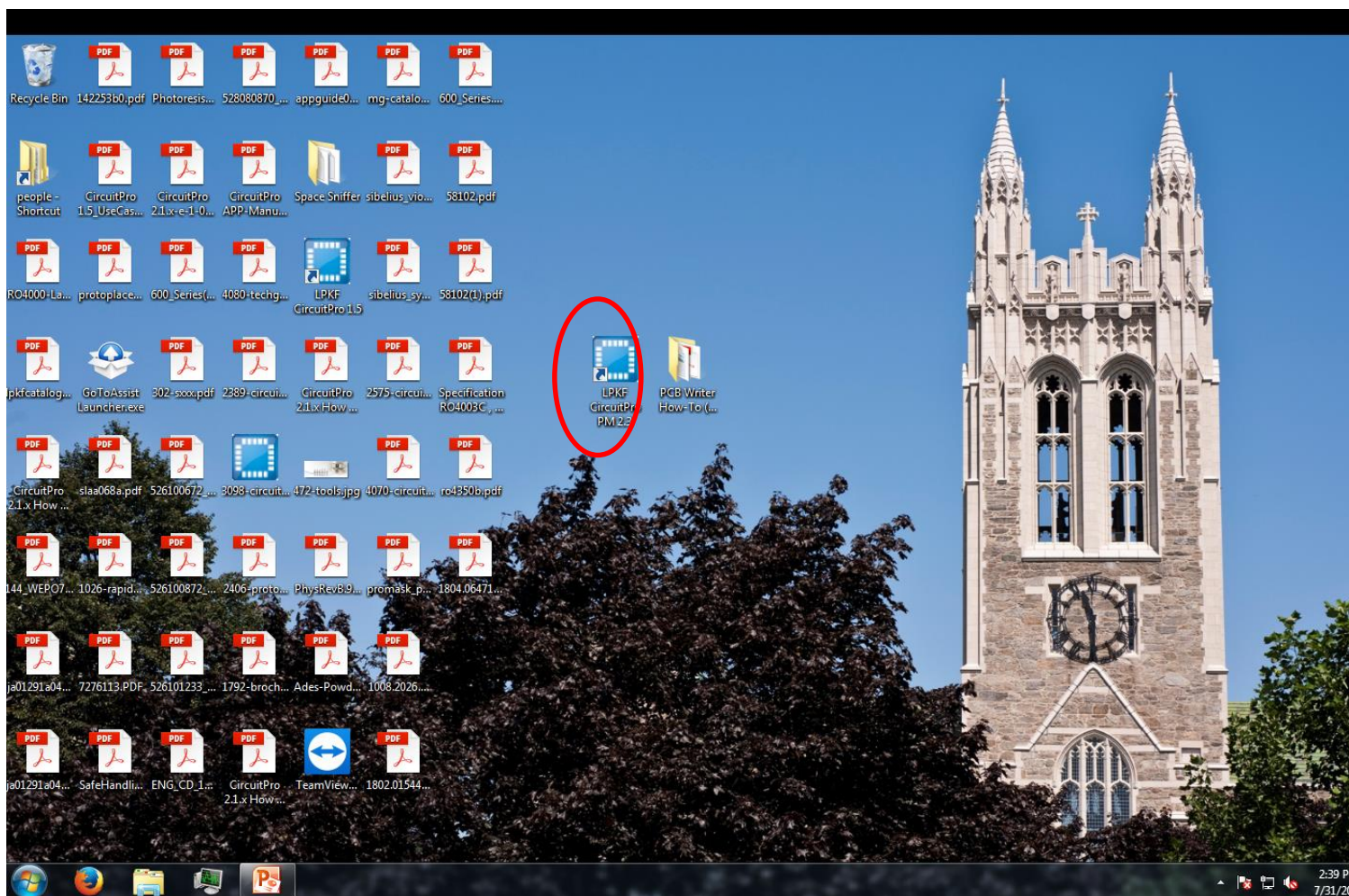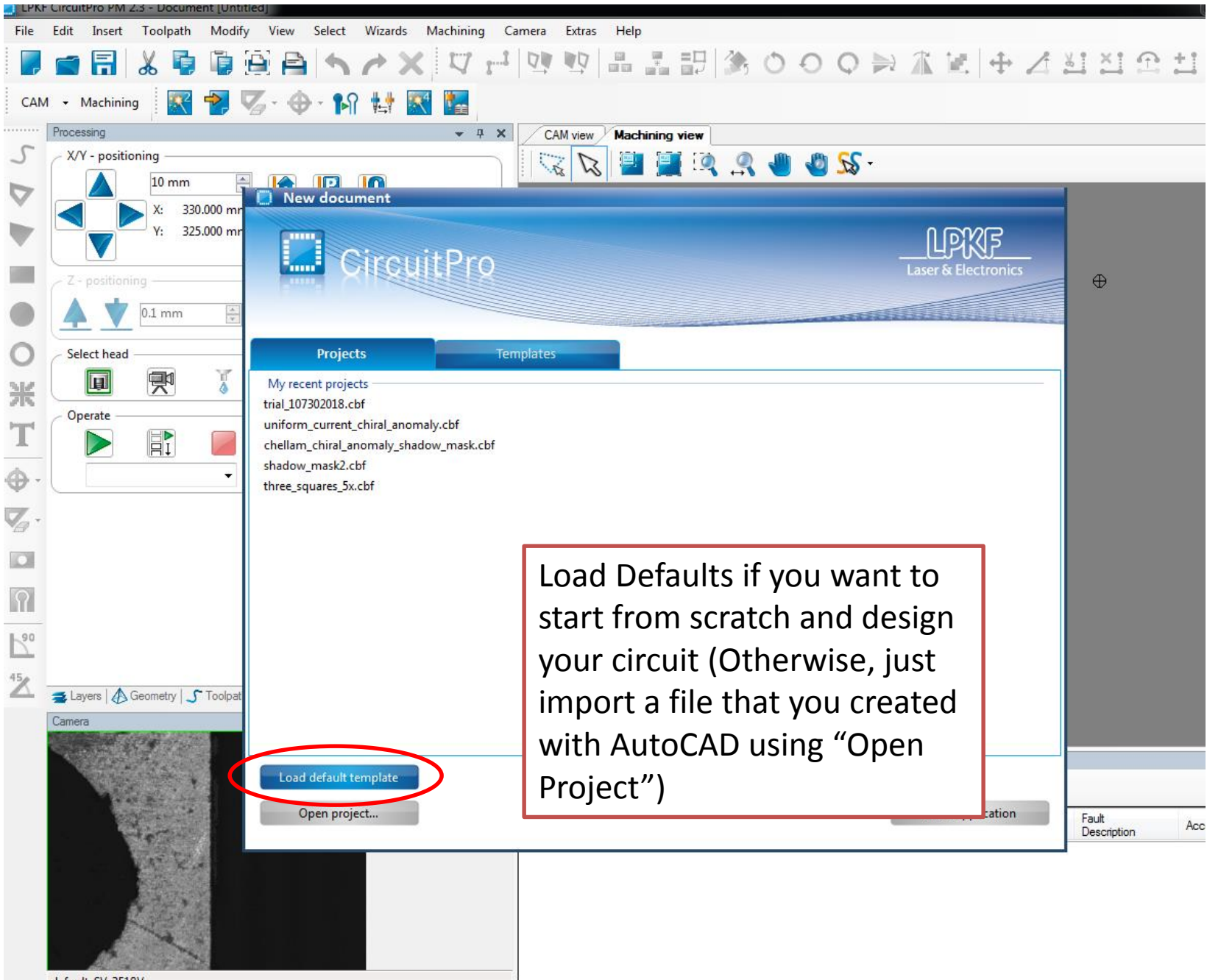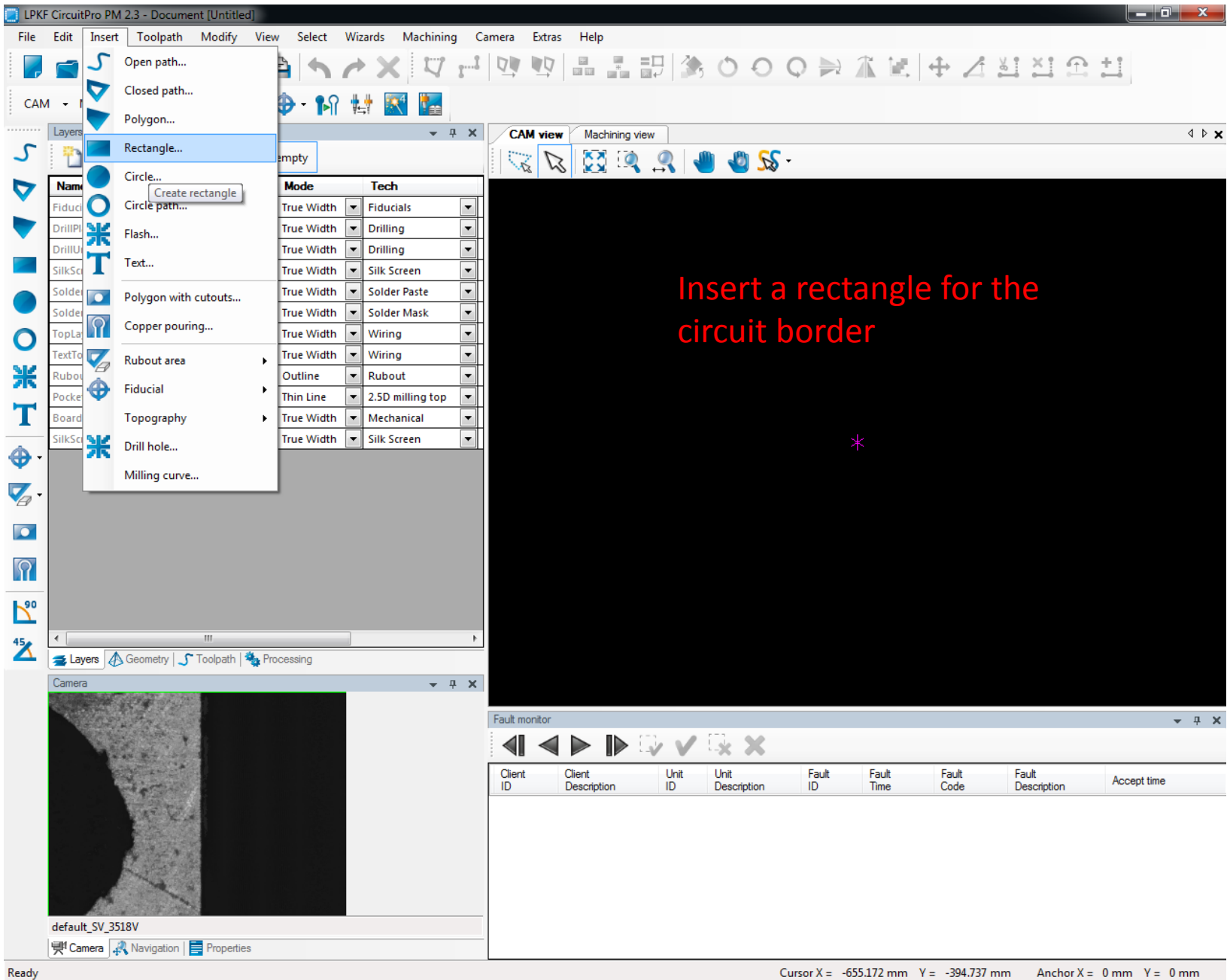CE

- Use a dust mask when opening the cover
- Open the cover and turn on the system
- Double click on **LPKF circuitpro 2.3**
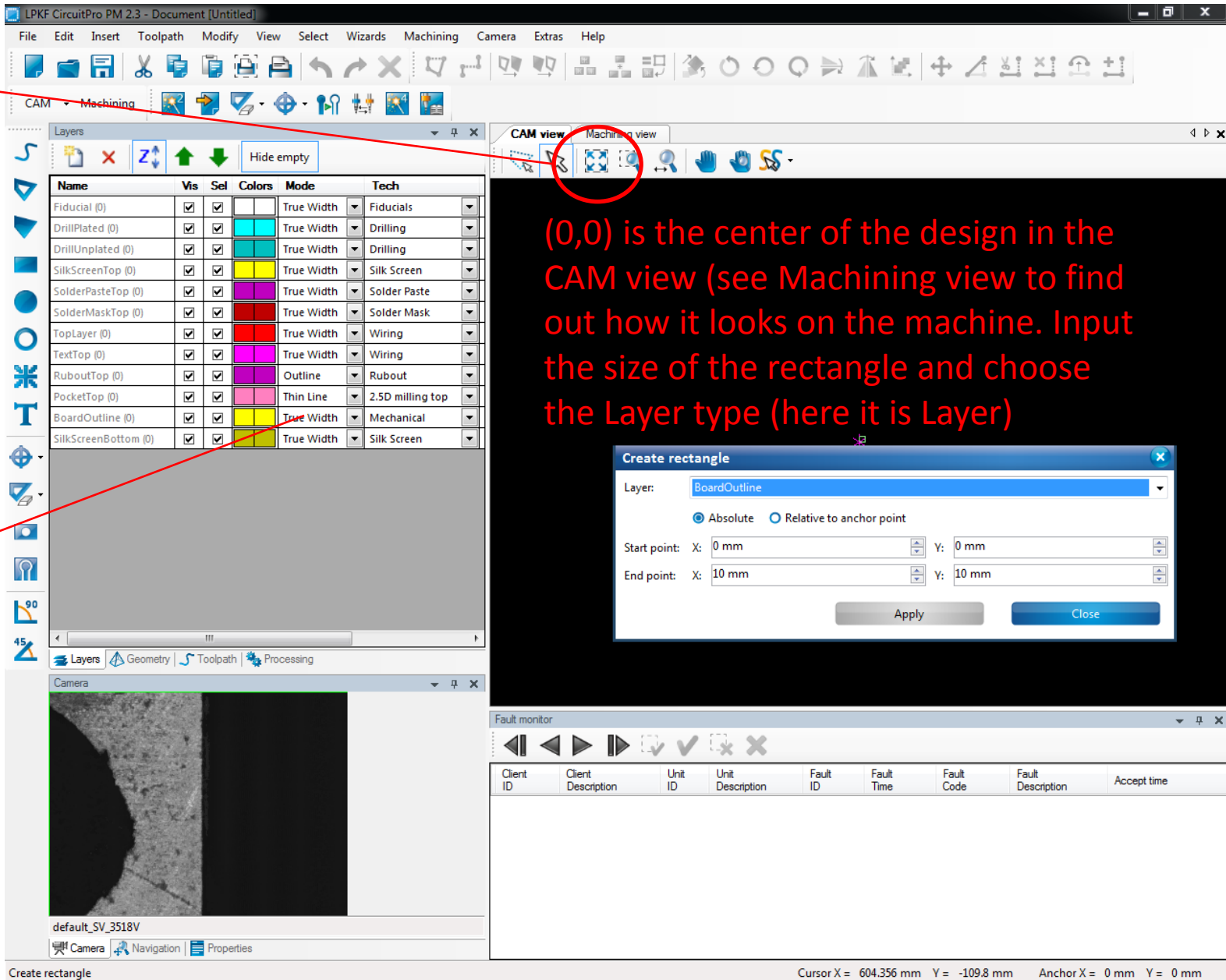- Do not run the other version of the program (1.5)

Load Defaults if you want to start from scratch and design your circuit (Otherwise, just import a file that you created with AutoCAD using "Open Project")

Insert a rectangle for the circuit border

To magnify

Choose Outline mode from dropdown menu here

(0,0) is the center of the design in the CAM view (see Machining view to find out how it looks on the machine. Input the size of the rectangle and choose the Layer type (here it is Layer)

Create rectangle

Layer: BoardOutline

○ Absolute   ○ Relative to anchor point

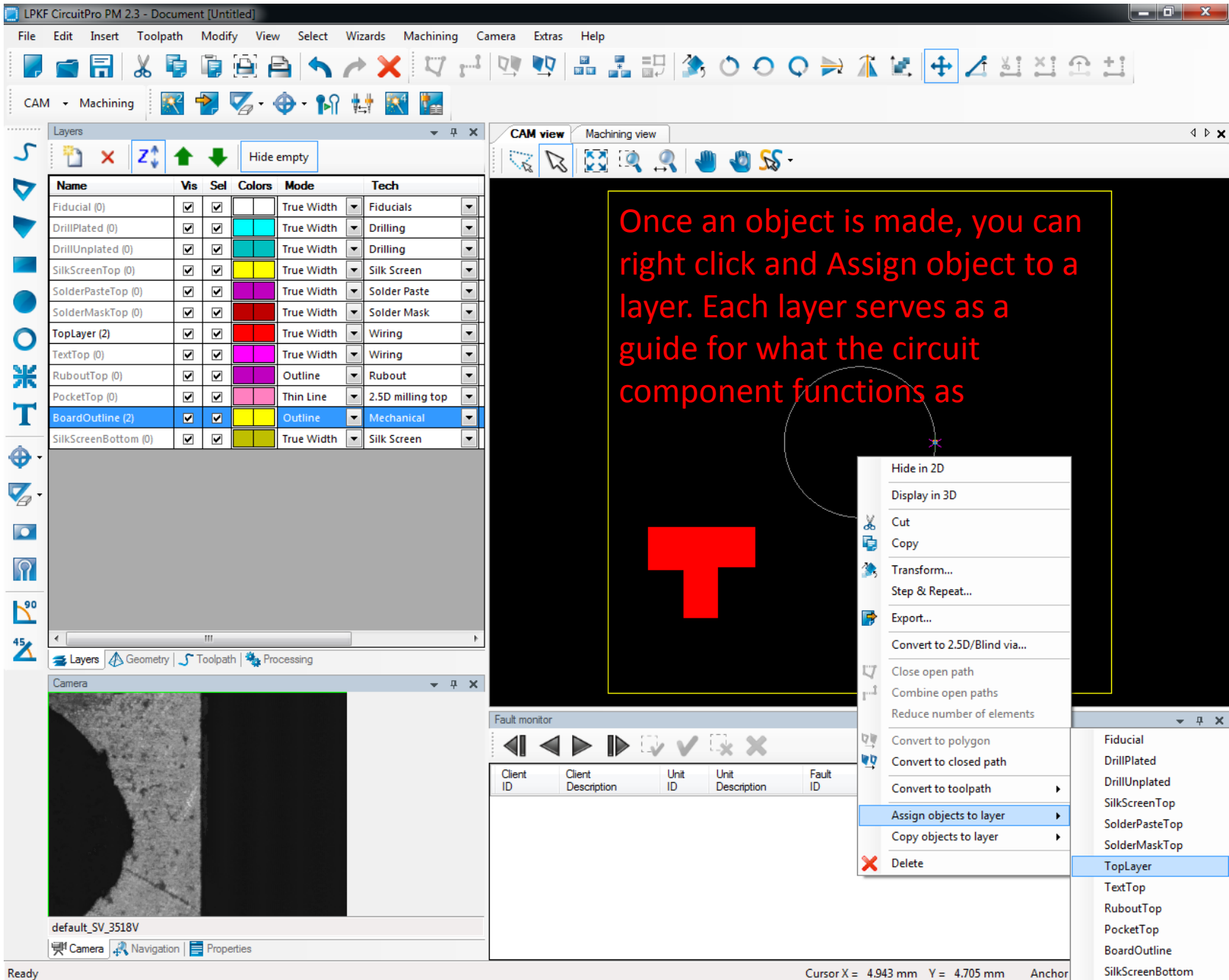Start point: X: 0 mm   Y: 0 mm
End point: X: 10 mm   Y: 10 mm

Apply   Close

From Modify choose Step & Repeat to duplicate objects or use this

Once an object is made, you can right click and Assign object to a layer. Each layer serves as a guide for what the circuit component functions as

Create toolpath, Material Type is FR4 (copper and plastic) and the copper thickness is 64 um (make sure to change it correctly)

For Contour Routing, make sure to NOT choose the **No gaps** option

If the design is small (< 10 mm) go to details menu of the Contour Routing and choose a smaller Tool size
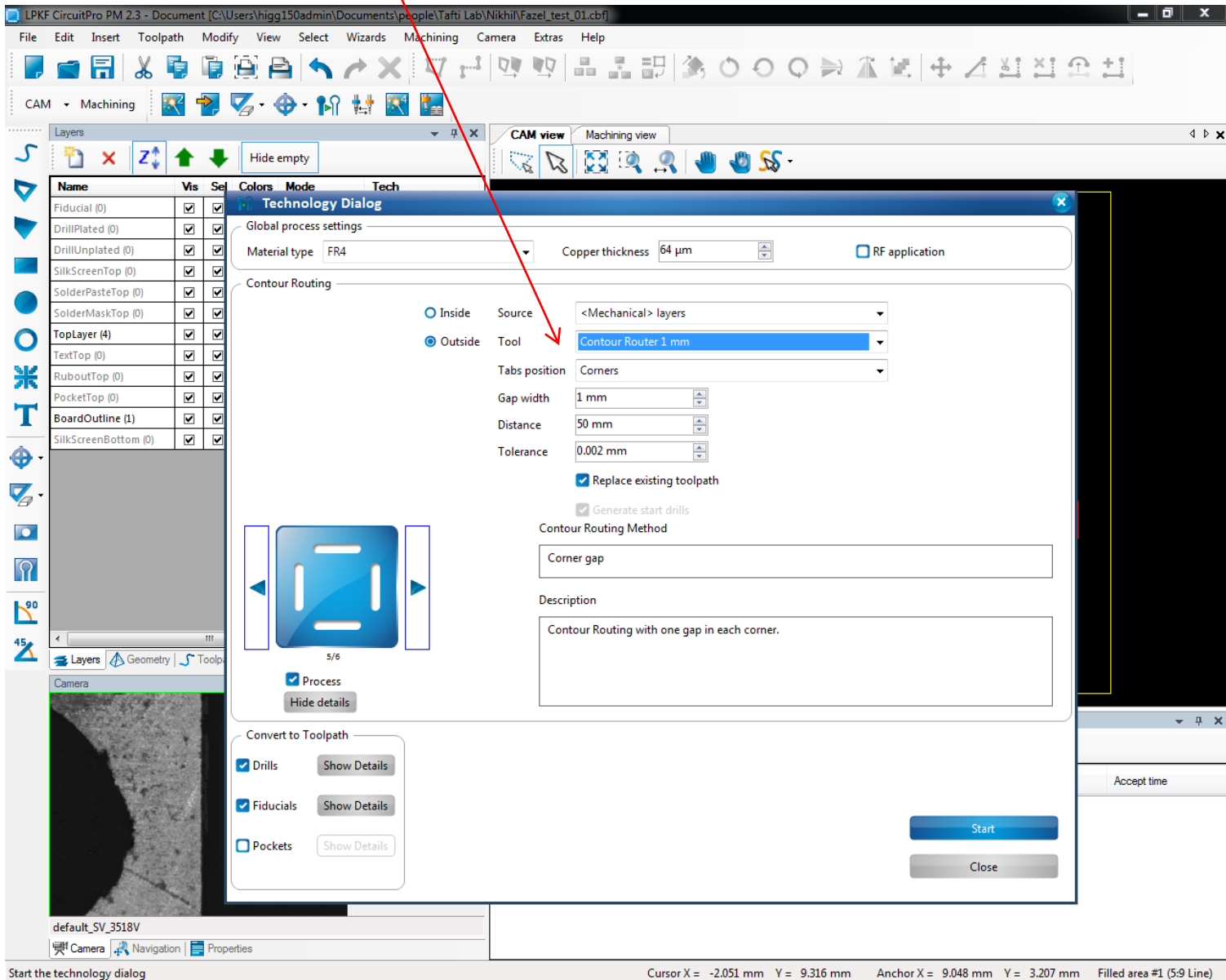
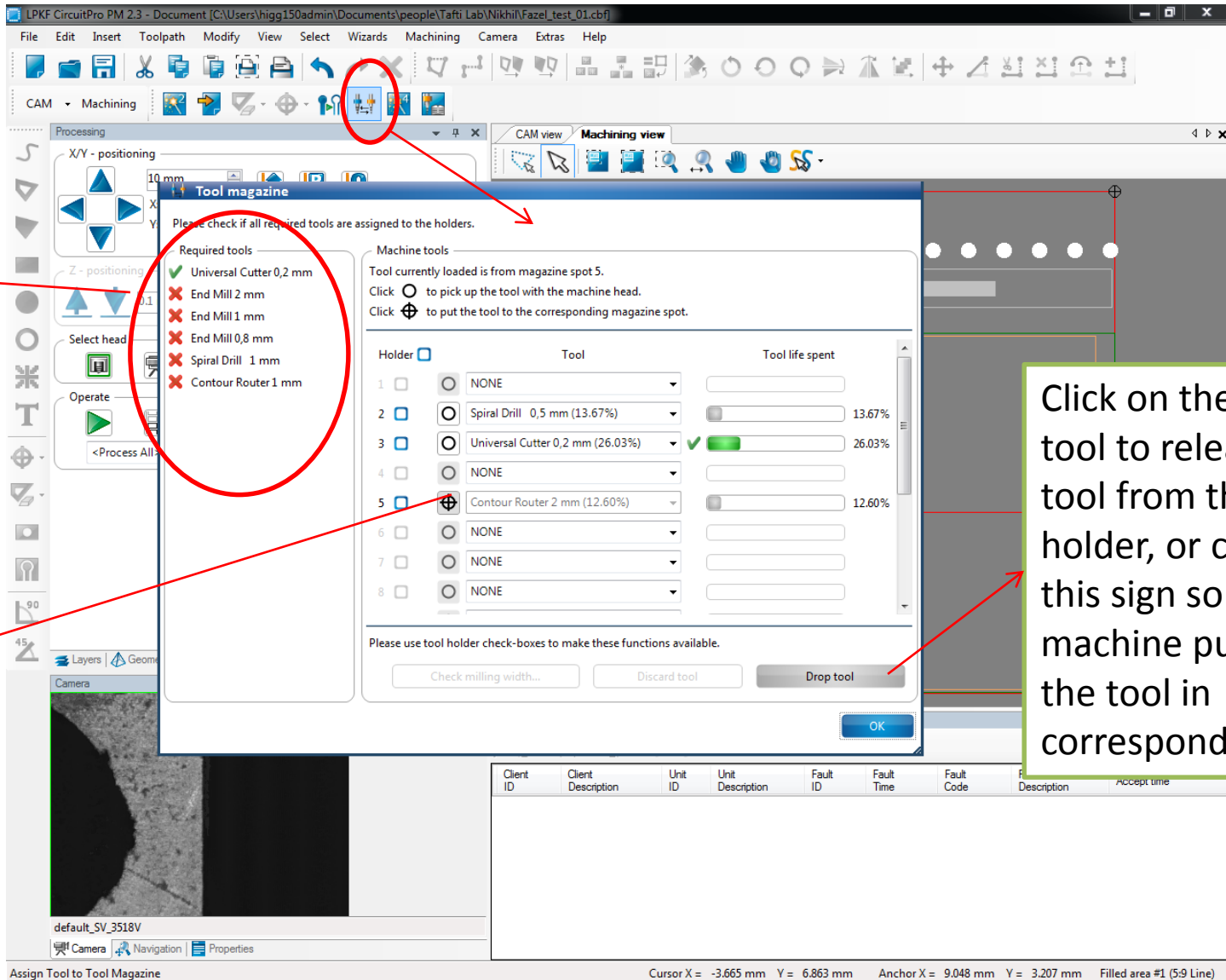Make sure to save your design in "Tafti Lab" folder under your name. Then click on the Tool magazine to open its dialogue box

You need all of these tools

This tool is already inside the tool holder

Click on the drop tool to release the tool from the holder, or click on this sign so the machine puts back the tool in corresponding spot

Teach tool-holder positions by adjusting the last and the first spots

From Wizards use Board Production Wizard and follow through.

Make sure to turn on the vacuum to fix the board in place and prevent dust accumulation during production.

The pump is under the machine.

Make sure the board is firmly stuck to the stage with masking tape.

The camera view is offset from the tool holder position (i.e. you cannot trust the camera view when choosing your material placement). You need to visually inspect the board and place (drag and drop) the tool holder on a good spot.
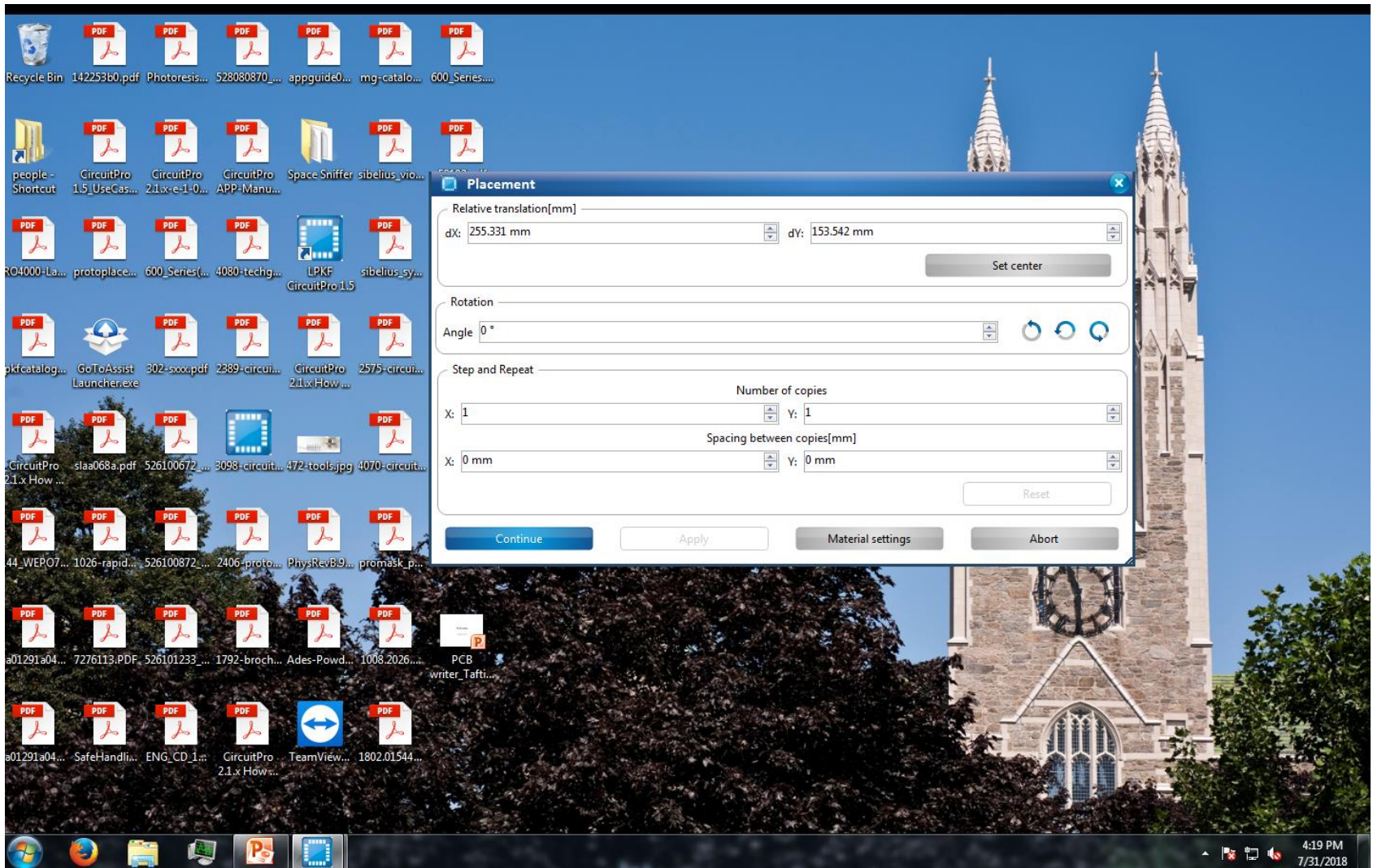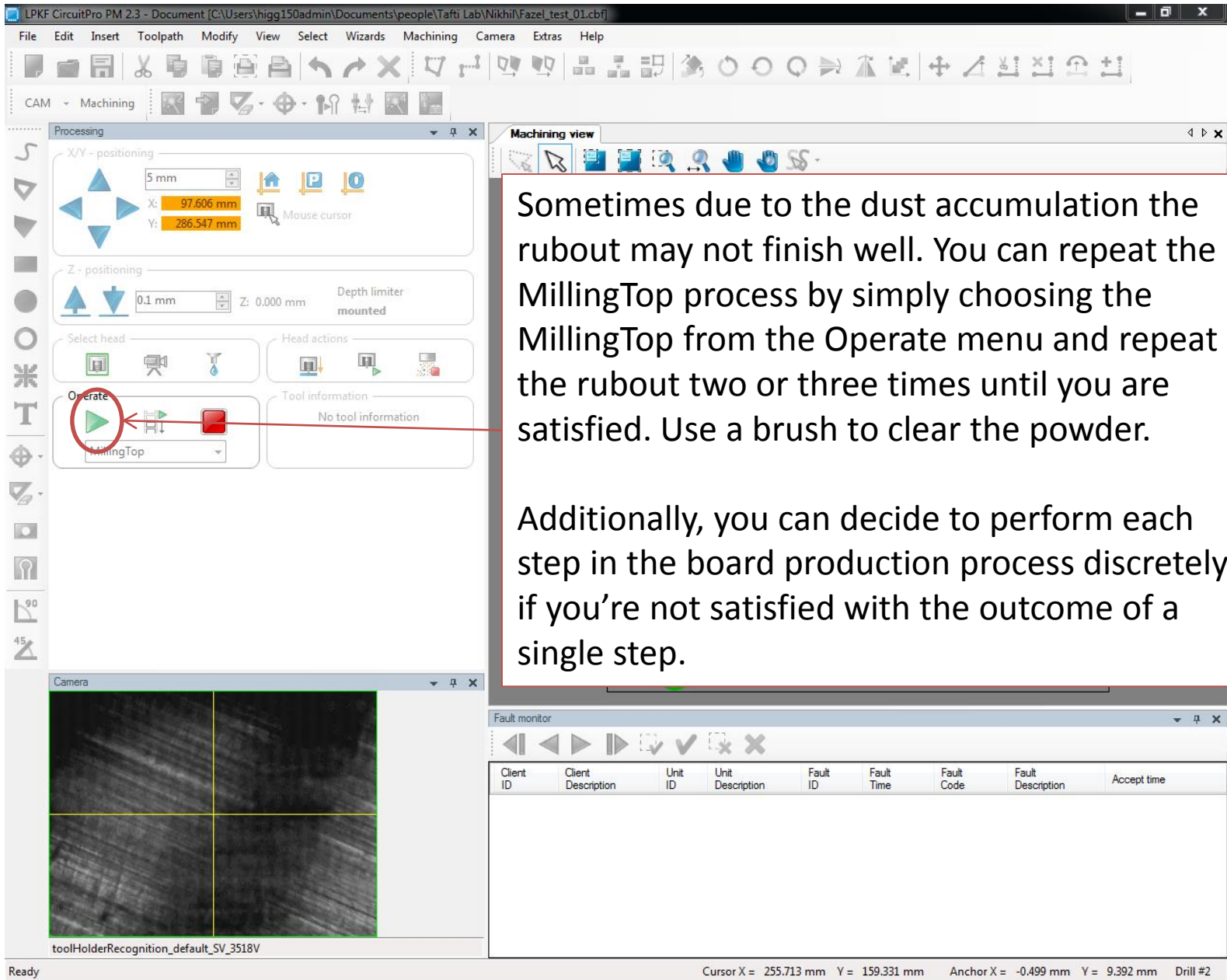
Sometimes due to the dust accumulation the rubout may not finish well. You can repeat the MillingTop process by simply choosing the MillingTop from the Operate menu and repeat the rubout two or three times until you are satisfied. Use a brush to clear the powder.

Additionally, you can decide to perform each step in the board production process discretely if you're not satisfied with the outcome of a single step.

Once you are done with the board production, use a flathead screwdriver or an old drill bit (in the "container" cup next to the PCB writer) to pry off the edges of your board. Alternatively you can remove the tape and then pop off the board using your fingers and a little bit of pressure but that might take a little longer and more steps…

You might then want to manually sand the edges using sandpaper to remove any of the sharp, deformed corners that result from popping out the circuit board from the substrate.

Then, go to Machining > Connect > Disconnect, to disconnect the machine. Once the machine has disconnected you can turn off the machine and quit the software. Don't forget to turn off the vacuum as well.