

# Short Tutorial to gCncCam

This tutorial gives a short introduction into gCncCam CAM Tool.

## Debian Setup

The install of the .deb debian package is tested on Debian Etch and Ubuntu 6.06 (Used by EMC2 Live CD)

1. Install libgnomeuimm:

```
apt-get install libgnomeuimm-2.6-1c2a
```

2. Install gCncCam

```
dpkg -i gcncam_0.4.2-1_i386.deb
```


### 1) Start gCncCam

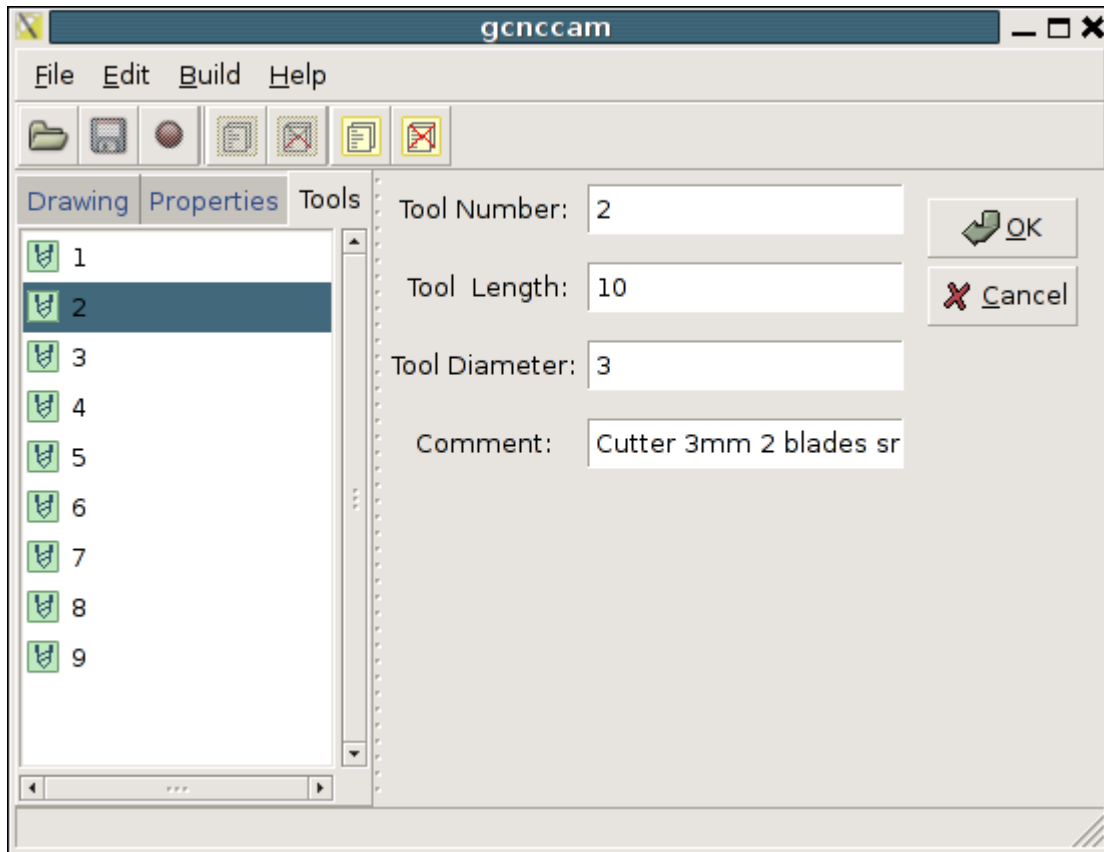
gCncCam is installed under Application Menu | Graphics | gCncCam

You can start gCncCam by Application menu or manually by executing `gcncam` from the shell.

## 2) Creating Tools

After starting gCncCam you have to setup you're milling tools.


To add a new tool selects the "Tools" Tab of the tree view and click  in the menu bar.



Enter the four values for the tool:

1. Tool Number (Pocket number) as use in the CNC Tool Table
2. Tool Length in CNC Machine Units (mm or inch)
3. Tool diameter in CNC Machine Units (mm or inch)
4. Optional Description of the tool

Press ok to save the Tool.

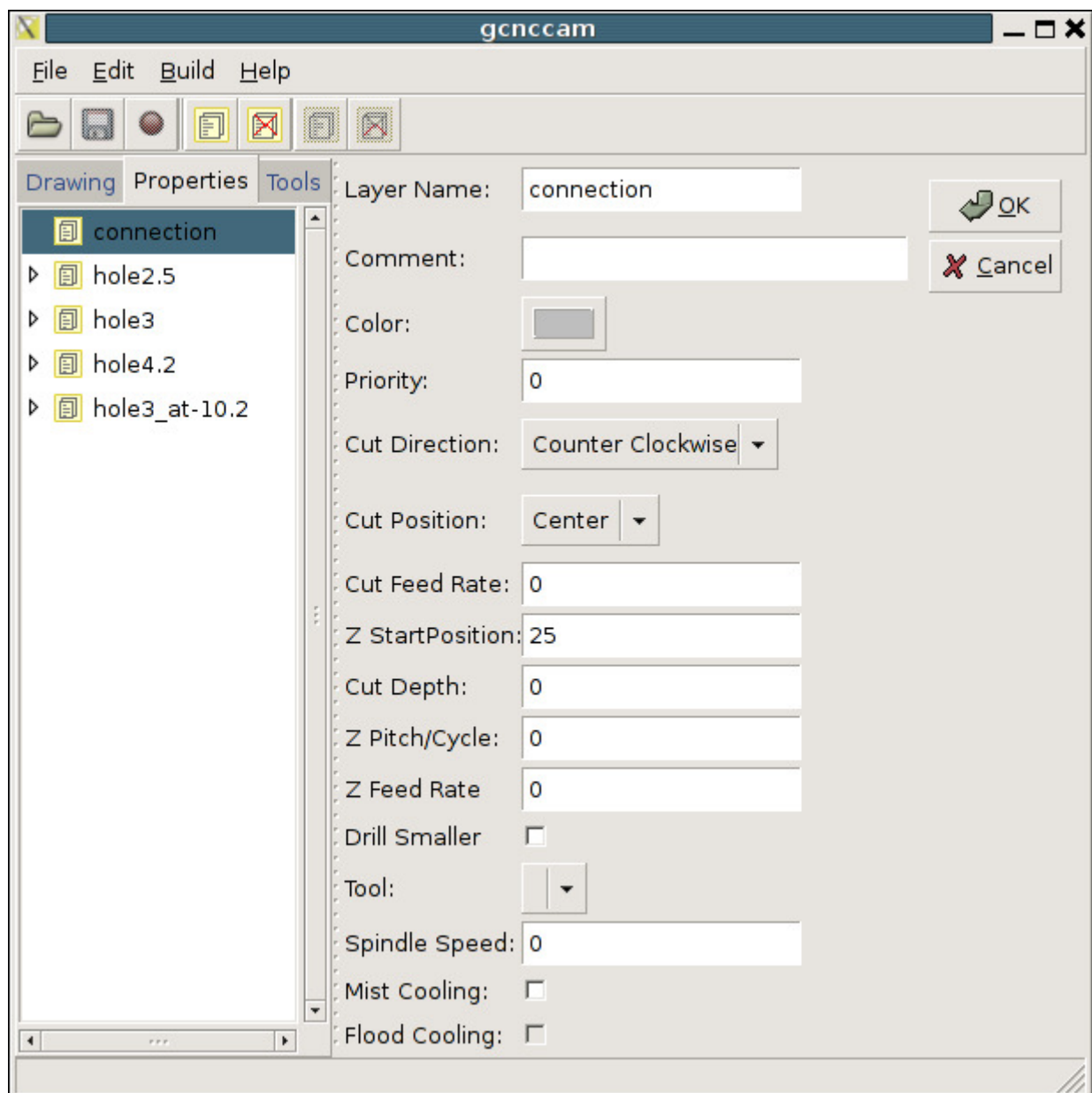
Tools can be deleted by selecting the tools in the tree view and clicking .

### 3) Creating Layer Properties

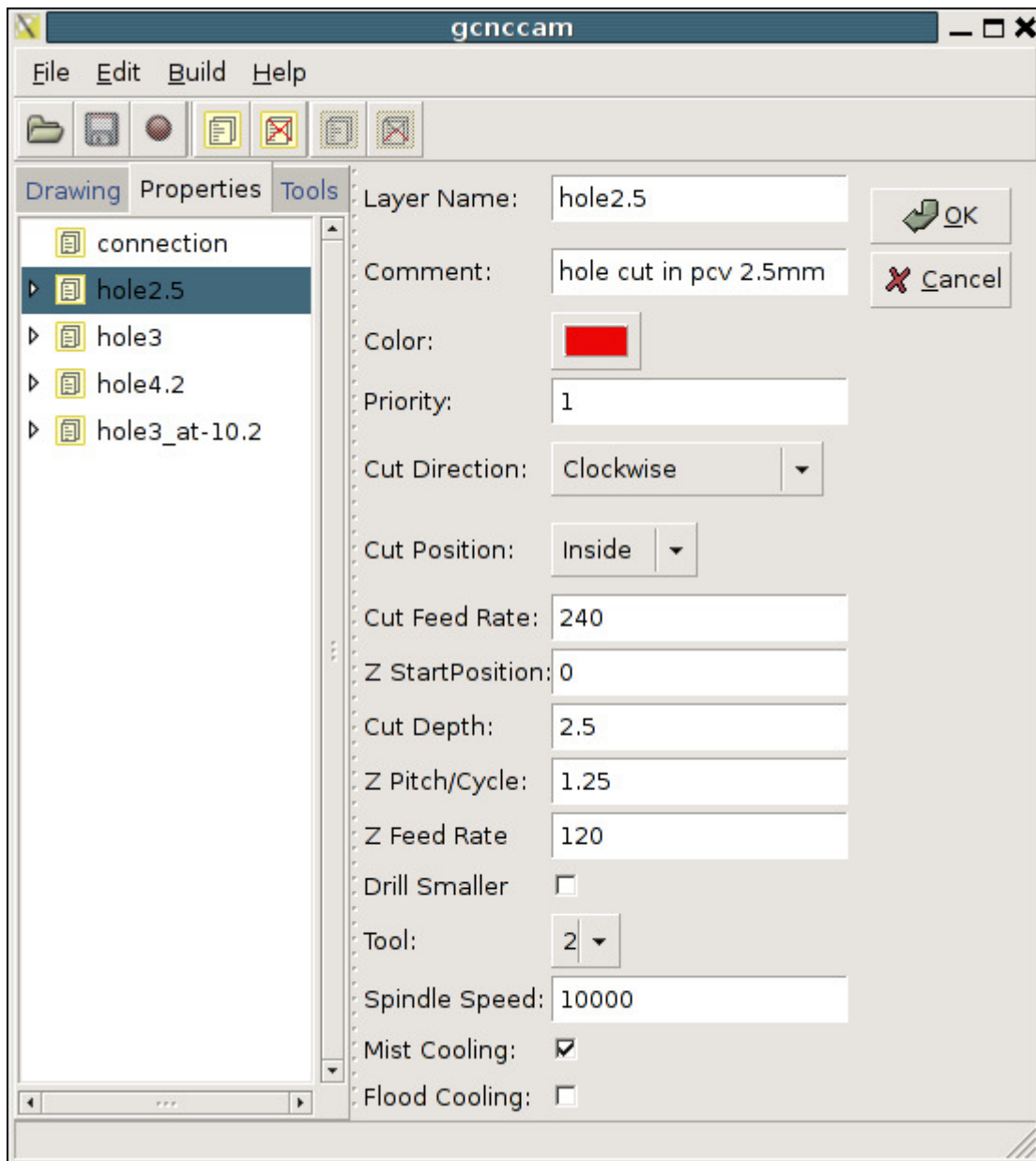
Layer Properties and Milling functionality to the CAD Layers of your DXF File. The link of a Layer Property to the CAD Layer is done by using the same name.

there is on fix layer connection. the connection is used for moves between milling items. Only to properties are use on connections: color and "Z\_StartPosition".

the "Z\_StartPosition" is the height of the connection move above the Zero Point (touch off point) of your material. If mm is selected as Machine units the "Z\_StartPosition" = 25 will move in a height of 25mm above the Zero Point (touch off point). All other Properties will be ignored for the connection Layer Property.



To add a new Layer Property select the "Properties" Tab of the tree view and click 



Enter the next values for the Layer Property:

1. Name: Name of the Layer to mill. Same name as used in the CAD drawing of the DXF File
2. Comment: add descriptive name for the Layer Property
3. Color: Chose the color in the color picker
4. Priority: The order in that all layer are milled after each other. start with priority 1 for the first layer to mill, 2 for the second ...
5. Cut Direction: Clockwise or Counter Clockwise. normally hole cut a made clockwise
6. Cut Position: Outside | Inside | Center. The CNC like EMC2 supports tool path compensation so we can cut inside or outside of the line off the drawing.
7. Cut Feed Rate: in Machine units (e.g. 240mm/min)
8. Z start Position: the base height were we start milling related to the zero point (touch off point).

9. Cut Depth: the depth the tool will cut. the depth is related to the Z start Position.
10. Z Pitch: If the cutter can not cut the Cut-Depth in one step cutting can be done in multiple step by cutting with the depth of Z Pitch. the Depth is increment after one cycle by the Z-Pitch until the "Cut Depth" is reached.
11. Z Feed Rate: Cut speed of move of the z-Axis move (Drill) in Machine units (e.g. 120mm/min)
12. Drill Smaller: If an arc of the CAD drawing is smaller then the cutter diameter the hole will be drilled if the check box is set.
13. Spindle Speed: The RPM of the Spindle.
14. Mist Cooling: Turn on mist cooling
15. Flood Cooling: Turn on flood cooling

Press OK to save the Layer Property.

Layer Properties can be deleted by selecting the Layer Properties in the tree view and clicking



### **3) Save Template**

To save Layer Properties and Tool and Template click in the File Menu "Save Template". You can also save template as default Template by clicking "Save Template As Default" in the Edit Menu.

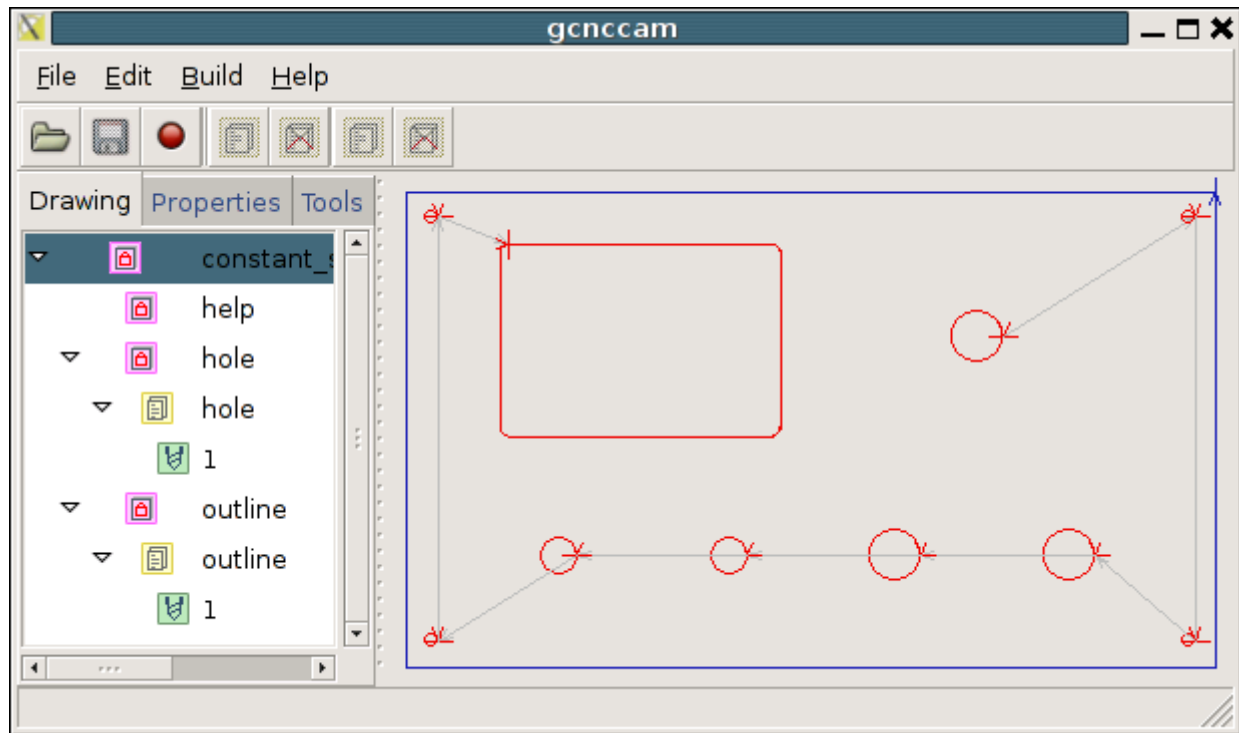
### **4) Open Template**

You can open a saved Template by click in the File Menu "Save Template".

## 5) Open drawing

You can open a CAD Drawing by click the open Folder icon in the Tool Bar or by clicking "Open Drawing" in the File Menu. gCncCam can load CAD-Drawing of the format DXF-File and GERBER NC (Drill) files.

After selecting the Drawing Tab of the Tree View the Drawing is displayed.



In the Tree View you can see the CAD Layers that are linked to the Layer Property with the same name and the Tool that is used for the milling of the layer.

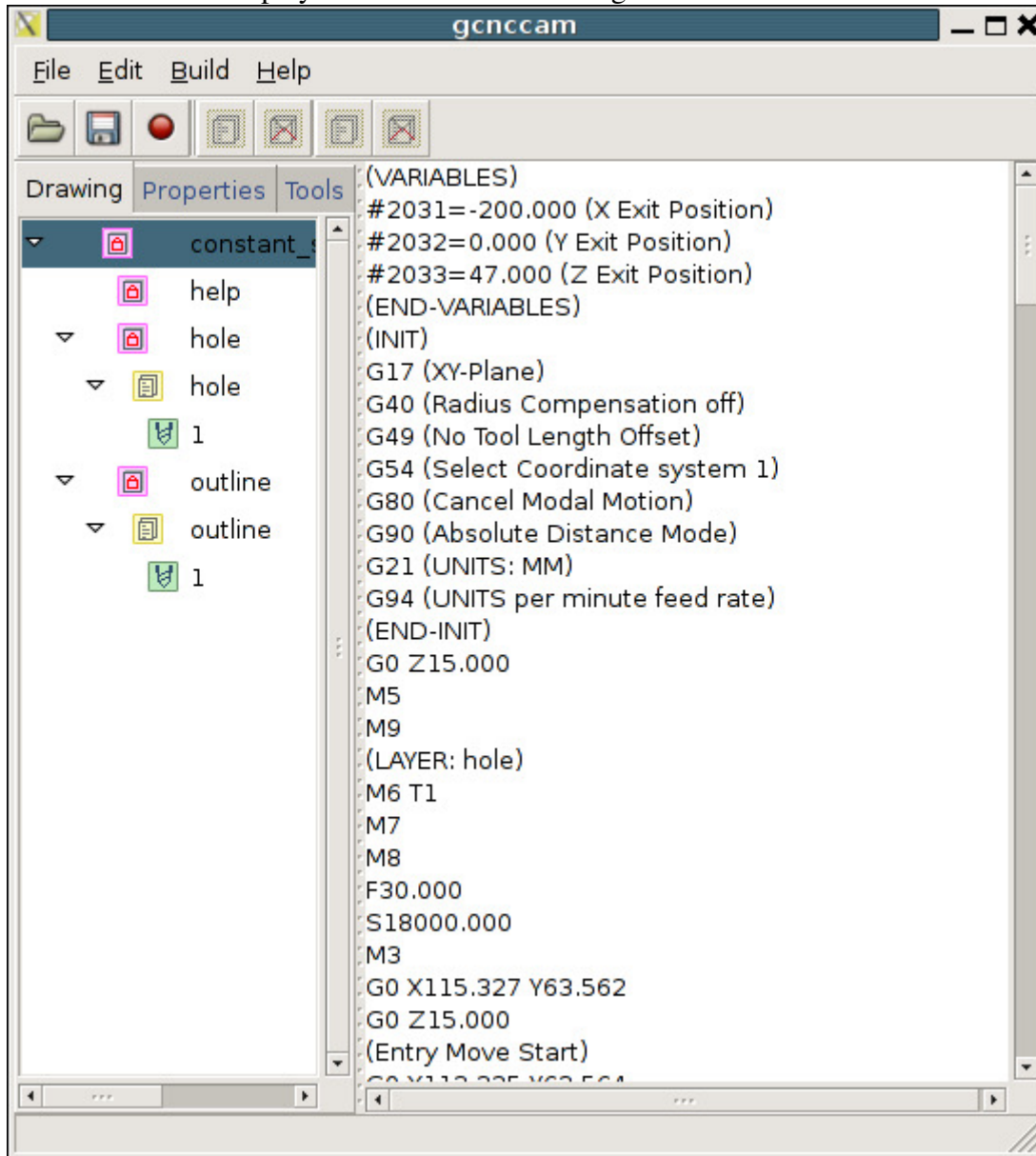
If you the drawing in the Tree View all Layer are displayed. If you select one layer of the drawing only the selected layer of the drawing is displayed.

The cut start point of an shape is displayed as BAR. The cut end point and cut direction of an shape is displayed as Arrow.

## 6) Create CNC code

To build CNC G-Code press the "Build CNC" button of the Tool Bar or select "Build CNC code" in the Build Menu.

The CNC code is displayed in the main frame of gCncCam



To save the CNC code click "Save CNC File" in the file menu.