

Running an Open Source Hackerspace





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Knox Makers
Knoxville, TN
knoxmakers.org



CORE VALUES

Opportunity

Focus

Volunteerism

Inclusivity

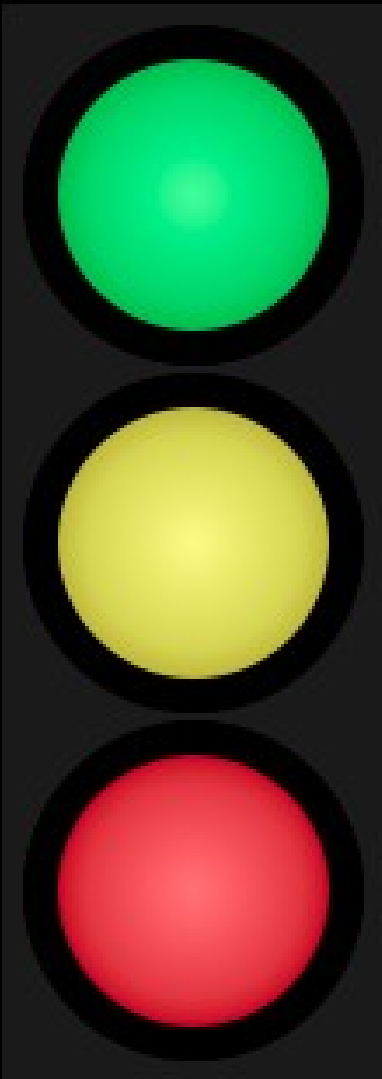
Non-commercialism

Privacy

Sharp & Electrified

Fun



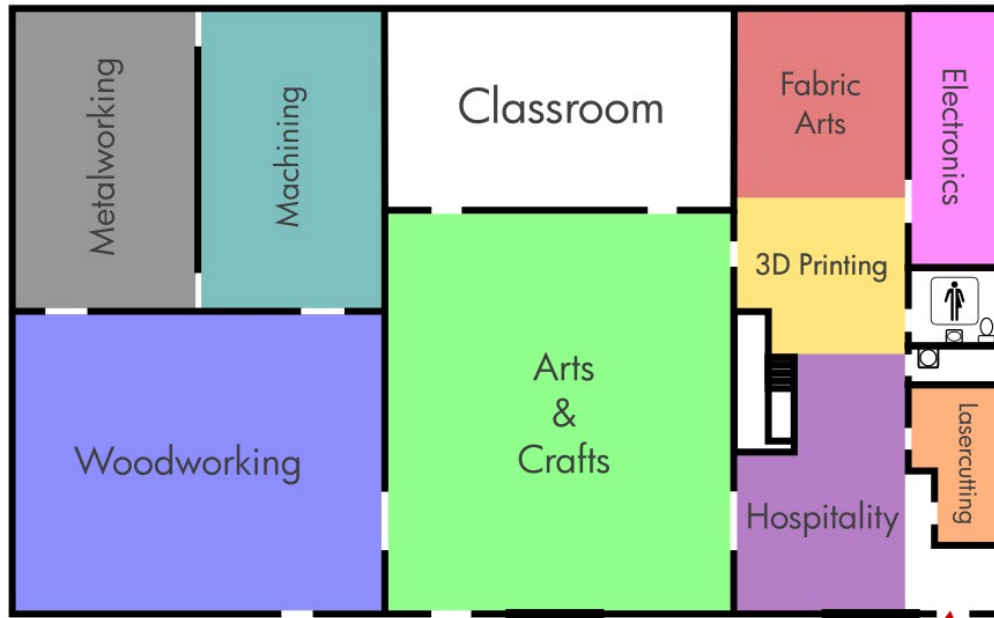


Fully open

Proprietary but self contained
OR
Accessible via open tool chain

Proprietary



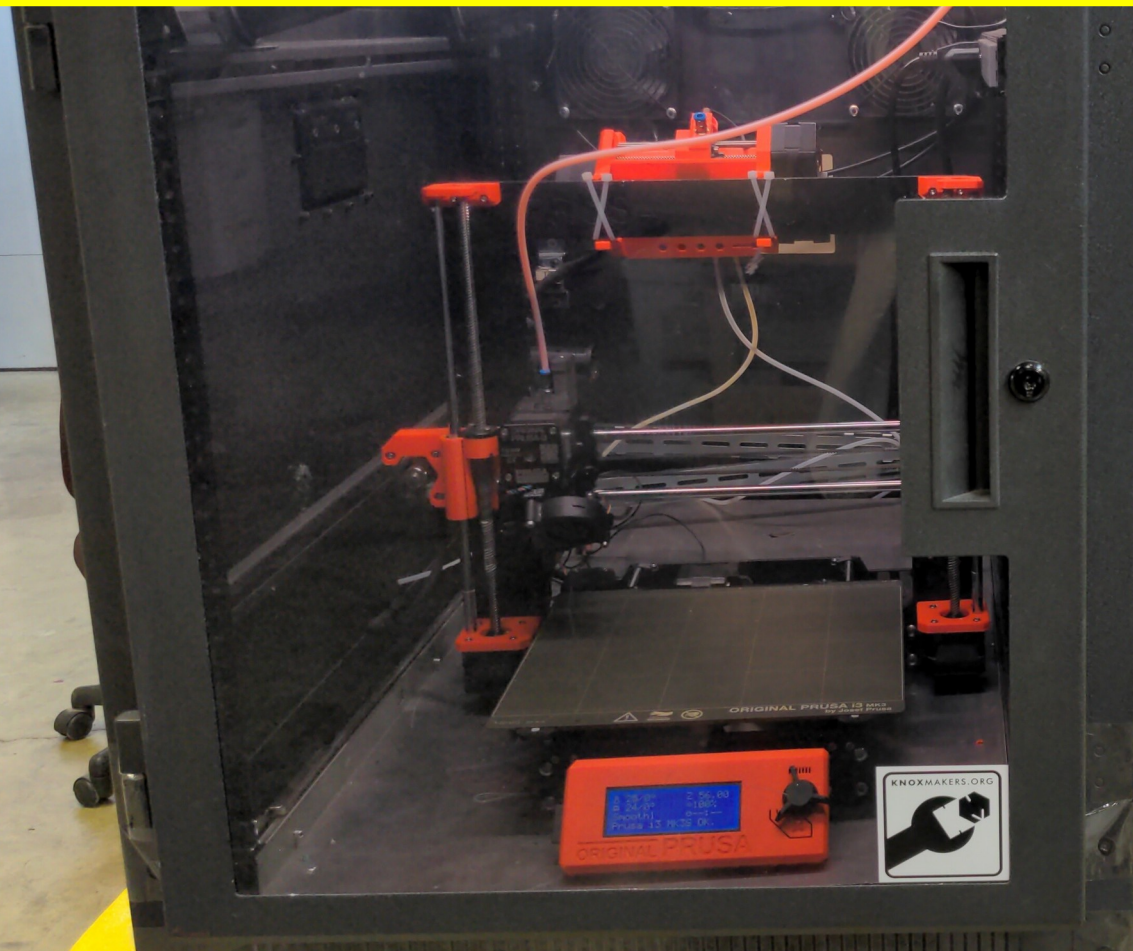


You are here!



Blacksmithing

3D Printing



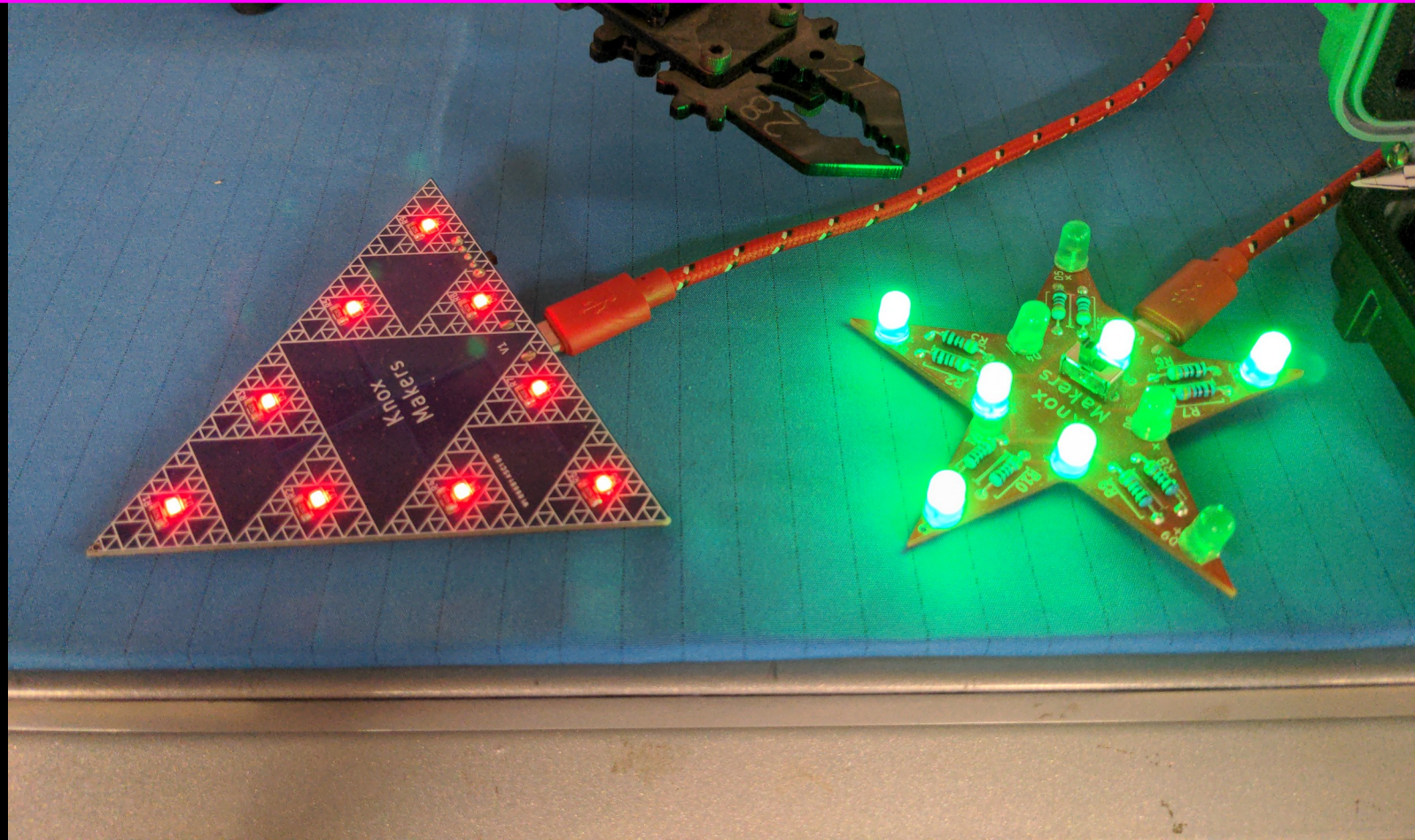
3D Printing



Electronics



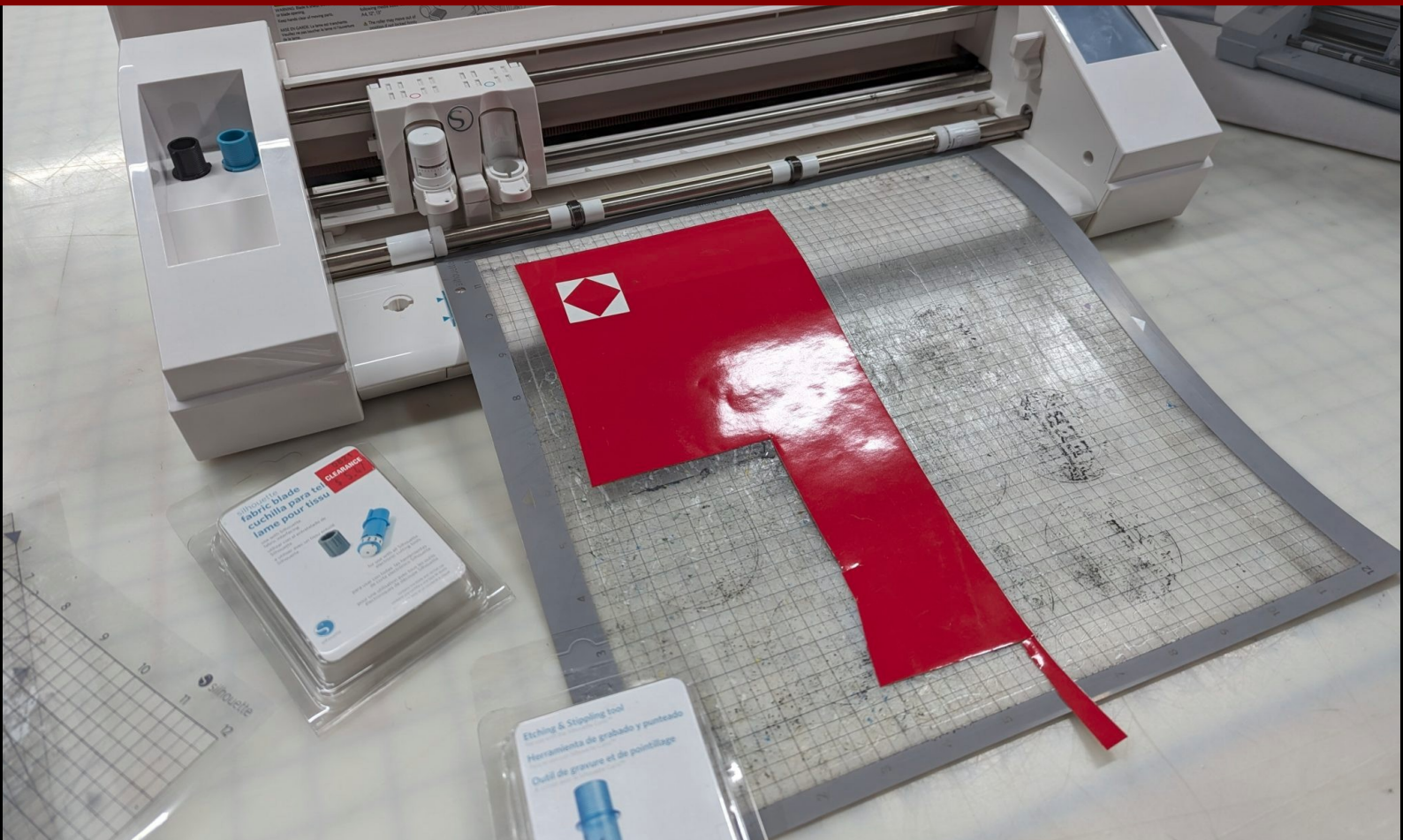
Electronics



Fiber Arts

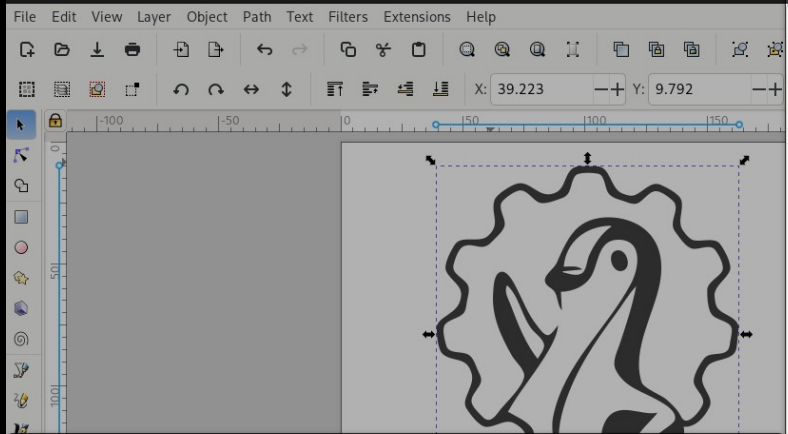


Fiber Arts



Fiber Arts





Embroidery Params

FillStitch Fill Underlay

Inkscape objects

These settings will be applied to 1 object.
• Disabling this tab will disable the following 1 tabs.

Automatically routed fill stitching

Fill method

Auto Fill

Expand

0 mm

Angle of lines of stitches

0 deg

Maximum fill stitch length

3.0 mm

Spacing between rows

0.25 mm

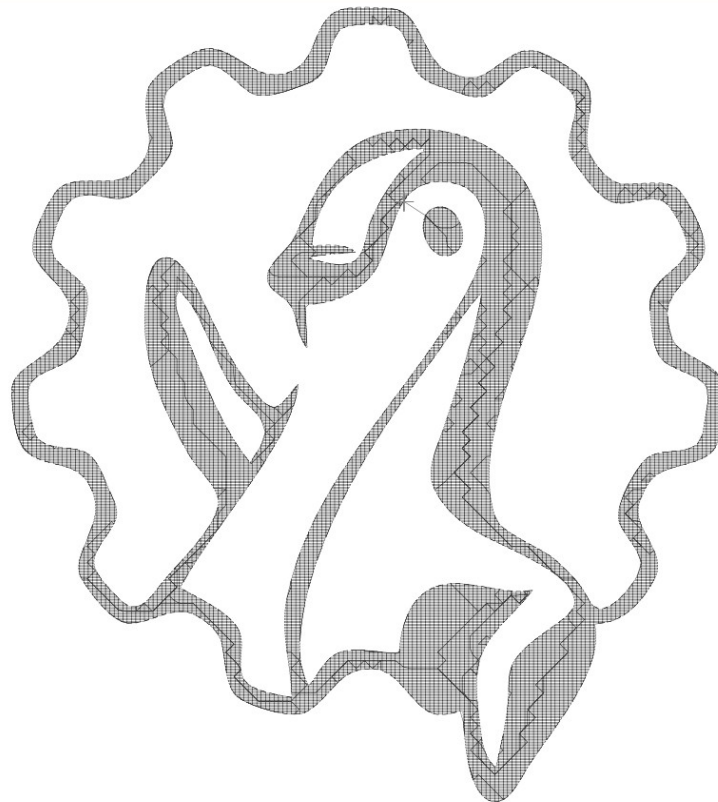
End row spacing

mm

Stagger rows this many times before repeating

4

Skip last stitch in each row



9 mm

13437

13437

13437

Speed: 2687 stitches/sec

STITCH



inkstitch.org

Arts and Crafts



Arts and Crafts



Lasercutting



File Machine View Help

Manual Control [F3] MDI [F5] Preview DRO

Axis: X Y Z
 - + Continuous
 Home All Touch Off
 Tool Touch Off

Spindle: Stop
 - +

| | | | |
|--------|--------|--------|-------|
| X: | 0.000 | DTG X: | 0.000 |
| Y: | 34.719 | DTG Y: | 0.000 |
| Z: | 15.375 | DTG Z: | 0.000 |
| G54 X: | 0.000 | G92 X: | 0.000 |
| G54 Y: | 0.000 | G92 Y: | 0.000 |
| G54 Z: | -9.560 | G92 Z: | 0.000 |
| G54 R: | 0.000 | | |
| TLO X: | 0.000 | | |
| TLO Y: | 0.000 | | |
| TLO Z: | 0.000 | | |
| Vel: | 0.000 | | |

Feed Override: 100%
 Rapid Override: 100%
 Spindle Override: 100%
 Jog Speed: 1823 mm/min
 Max Velocity: 3200 mm/min

```

1: ( AXIS "splash g-code" Not intended for actual milling )
2: ( To run this code anyway you might have to Touch Off the Z axis
3: ( depending on your setup. As if you had some material in your mill... )
4: ( Hint jog the Z axis down a bit then touch off )
5: ( Also press the Toggle Skip Lines with "/" to see that part )
6: ( If the program is too big or small for your machine, change the scale below )
7: ( LinuxCNC 19/1/2012 2:13:51 PM )
8: #<depth>=2.0
9: #<scale>=1.0
  
```

ESTOP No tool Position: Relative Actual

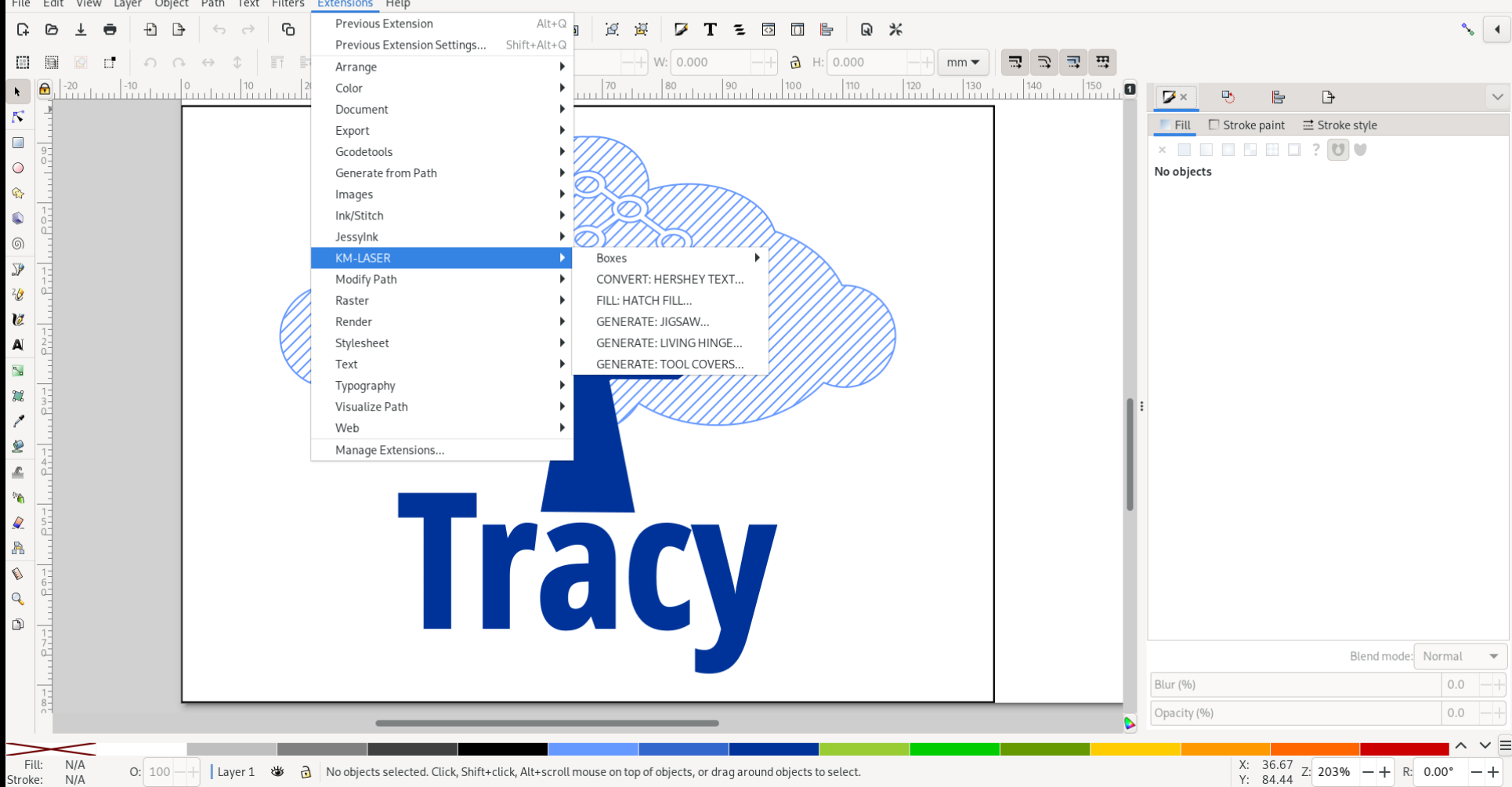
KNOXMAKERS.ORG

SET 0,0
 BOUNDING BOX
 PROBE TOUCH OFF
 BED UP
 BED DOWN

Elapsed Time
 0h 0m 0s



linuxcnc.org



inkscape.org



VECTOR SETTINGS

RASTER SETTINGS

Baltic Birch [3mm]

| Pass | Stroke | Preset | Feedrate | Power |
|------|---|---------|----------|-------|
| 1 |  | ENGRAVE | 2100 | 10 % |
| 2 |  | ENGRAVE | 2100 | 10 % |
| 3 |  | CUT | 1500 | 50 % |







Lasercutting



Meerk40t v0.9.3030 git main - Galvo-Fiber

File Edit View Panes Tools Help Languages

Ribbon

Project Modify Config

Open Save Notes Delete Cut Copy Paste Undo Redo Navigation Property Window Camera Console Wordlist Spooler Controller Galvo Light Red Dot On Center Simulate

mm 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115

Tree

Burn-Operation Details

- Operations
 - [Image] Image 1000.0mm/s @30% 30.0kHz #000000 <stop>
 - [Raster] Raster 1000.0mm/s @30% 20.0kHz
 - [Engrave] Engrave 1000.0mm/s @30% 500.0kHz #0000ff0-S
 - [Cut] Cut 10.0mm/s @90% 20.0kHz #ff00000-S
- Elements
- Regmarks

Laser-Control

Device

Galvo-Fiber

Start Pause Stop

Arm Outline Simulate

Optimize

Laser Jog Plan Optimize Move

#2: Controller: Active C1 C2 C3 E1 E2 E3 E4 E5 E6 E7 > Snap to Grid Snap to Element



github.com/meerk40t/

Material Library



Library

How to use

Matching library entries

▼ Gold

#7.1 - 14K White, (<All Lasertypes>, 22 ops)

▼ Granite

#8.1 - Black, (<All Lasertypes>, 1 ops)

▼ Knox Makers

#9.1 - Metal Card, (Fibre-Laser, 6 ops)

#9.2 - Steel Coins, (Fibre-Laser, 6 ops)

▼ Leather

#10.1 - Standard, (<All Lasertypes>, 7 ops)

▼ Polyester

#11.1 - Cut, (<All Lasertypes>, 1 ops)

▼ Powder Coat

Information

Title

Metal Card

Set



Material

Knox Makers



Thickness

| # | Operation | Id | Label | Power | Speed | Frequenc |
|----|-----------|----|------------------------------|-------|--------|----------|
| #1 | Image | I1 | Image | 300.0 | 1000.0 | 30.0 |
| #2 | Raster | R1 | Raster | 300.0 | 1000.0 | 20.0 |
| #3 | Engrave | E1 | Engrave | 300.0 | 1000.0 | 20.0 |
| #4 | Engrave | E2 | Hatch (0.05) | 300.0 | 1000.0 | 20.0 |
| #5 | Cut | C1 | Rough Cut (single pass) | 900.0 | 10.0 | 20.0 |
| #6 | Cut | C2 | Multipass/Wobble Cut (0.1... | 800.0 | 1000.0 | 25.0 |

Add new

Get current

Load into Tree

Use for statusbar

Delete

Duplicate

Import

[Log in](#)[Main page](#)[Discussion](#)[Read](#)[View source](#)[View history](#)

Main Page

Welcome to the Knox Makers Wiki!

Write Access to this wiki is limited to members.

About Knox Makers

Here is a [history of Knox Makers](#)

[Bylaws](#)
[Rules](#)
[Policies and Procedures](#)

[Navigation](#)



All files

Recent

Favorites

Shares

Tags



Name



Board Shared



Czar Shared



Maker Market



Space-Punch-List.md







zoneminder.com



PEOPLE



ASSETS

PEOPLE » TRACY HOMER

PERSON

THUMBNAIL

PERMISSIONS

RFIDS

FIRST NAME

TRACY

LAST NAME

HOMER

EMAIL

tracy@knoxmakers.org

MEMBERSHIP

MEMBER

DBA

True

RENEW DEADLINE

SPONSORED BY

JOIN DATE

2016-07-11

PHONE NUMBER

TRIAL ENDS

2016-08-11



Find channel

Insights

- AREA: 3D Printing
- AREA: Arts & Crafts
- AREA: Blacksmithing
- AREA: Electronics
- AREA: Fiber Arts
- AREA: First Aid
- AREA: Hospitality
- AREA: Lasercutting
- AREA: Machining
- AREA: Metalworking
- AREA: Woodworking

TOPICS

- TOPIC: AI
- TOPIC: Alternate energ
- TOPIC: Art
- TOPIC: Android
- TOPIC: Assistive Technol...
- TOPIC: Birding
- TOPIC: Books
- TOPIC: Cars
- TOPIC: Cats
- TOPIC: CNC
- TOPIC: Coding

Welcome to Knox Makers

Tip: Try Ctrl Shift F to search this channel

sachinbhosale 14:20

Can we super glue a metal patch over that for the time being? It wouldn't be destructive - the glue could be removed easily at any time.

jpb_yah 14:22

or... do not leave, unless you know who is in the building, and that you are 100% sure they have

(I ask to see it myself, unless I've known the member for some time.)

jimbale 14:24

I do always ask if I don't know, we have enough members where it's not reasonable to ask everyone to take the blame for it. If they're about it then it becomes a different problem.

paulmgreen 14:26

I make it a habit of asking anyone left in the building if they have their key, even if it's been a while since they've been a member.

jpb_yah 14:27

It's a nice way to introduce yourself, and meet members you may not know.

paulmgreen 14:28

I have definitely never forgotten my key at the house and had to slip out the emergency exit.

andrew.messersmith 14:29

I think its far more likely that the button got hit at some point on accident.

sachinbhosale 14:34

I have been tempted to push it and

daryl.houston 14:32

Maybe we electric it?

We do say the place is sharp and a bit hot, after all.

billy 14:35

#channel <https://discord.com/channels/knoxmakers.org/>

Share and Share

Write to All Members



Mattermost®

Find channel

Insights

FAVORITES

haxbot

DIRECT MESSAGES

ZONES

- AREA: 3D Printing
- AREA: Arts & Crafts
- AREA: Blacksmithing
- AREA: Electronics
- AREA: Fiber Arts
- AREA: First Aid
- AREA: Hospitality
- AREA: Lasercutting
- AREA: Machining
- AREA: Metalworking
- AREA: Woodworking

TOPICS

- TOPIC: AI
- TOPIC: Alternate energ
- TOPIC: Art
- TOPIC: Android
- TOPIC: Asslstive Technol...
- TOPIC: Birding
- TOPIC: Books
- TOPIC: Cars

New Messages



haxbot BOT 06:42

@tracy /hpeople PEOPLE_ID=144



NAME

TRACY HOMER

PEOPLE_ID

144

EMAIL

tracy@knoxmakers.org

JOIN DATE

2016-07-11

edit

MATTERMOST

tracy

MEMBERSHIP

MEMBER

PHONE

TRIAL ENDS

2016-08-11

Write to haxbot

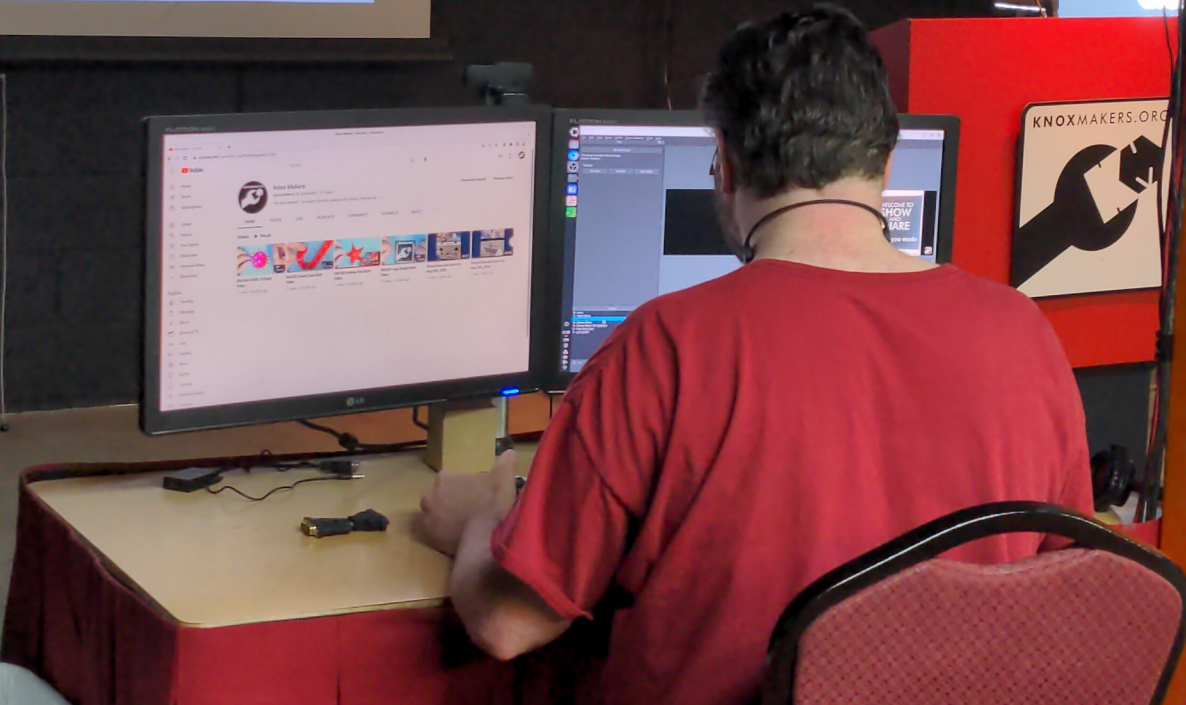
Aa | 🕒 | 📎 | 😊

SHARE

- show one project you made
- for three minutes

SHOW AND SHARE

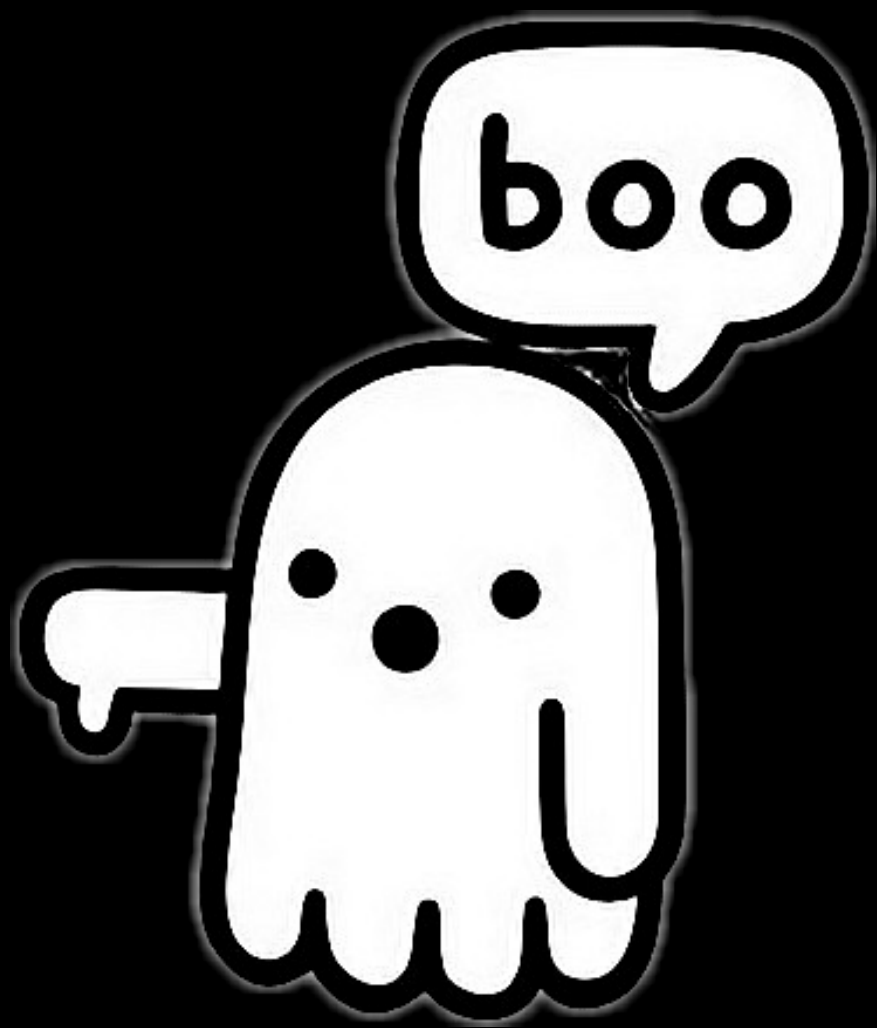
- show one project you made
- for three minutes



obsproject.com



bigbluebutton.org





Knox Makers

community / workshop

👤 1 follower 📍 Knoxville, TN 🔗 <https://knoxmakers.org>

[Overview](#) [Repositories](#) 12 [Projects](#) [Packages](#) [People](#)

Popular repositories

KM-Laser

Public

Inkscape extension for Knox Makers Laser Cutter

Python ☆ 45 🍷 17

Electronics

Public

schematics, board files, firmware, slide decks, and the like

C++ ☆ 3

CodingWorkshops

Public

Source code for coding workshops conducted by the Knoxville Hackerspace.

Arduino ☆ 2 🍷 1

LaserCNC

Public

Files related to Knox Makers laser cnc machine

JavaScript ☆ 2 🍷 2

cncfm

Public

File Manager Web App for CNC

Python ☆ 2 🍷 2

3D_Printing

Public

3D printing repo for Knoxmakers

C ☆ 1 🍷 6



Repositories

🔍 Find a repository...

Type ▾

Language ▾

Sort ▾

Security alert Inbox x

Google <no-reply@accounts.google.com>
to me

Images are not displayed. [Display images below](#) - Always display images from no-reply@accounts.google.com

Google
A new sign-in on Linux

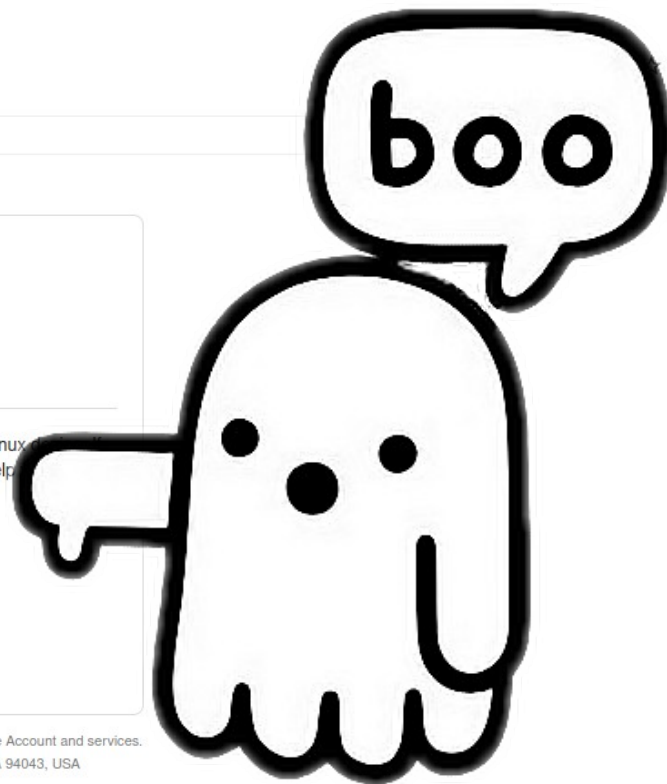
 tracy@knoxmakers.org

We noticed a new sign-in to your Google Account on a Linux device. If this was you, you don't need to do anything. If not, we'll help you secure your account.

[Check activity](#)

You can also see security activity at <https://myaccount.google.com/notifications>

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Reply

Forward

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Dashboard

Banking

Invoicing

Expenses

Employees

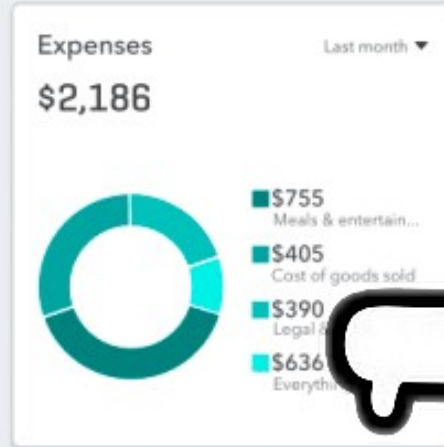
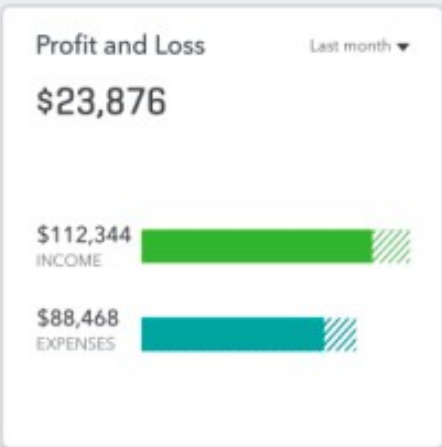
Reports

Taxes

Accounting

Apps

+ LOGO Your Business Name



Bank accounts

Bank of America

Bank balance

In Q...

Reconciled

Updated 1 day ago

to review

Updated 1 day ago

Registers ▾



Break free from the desk

Snap photos of receipts, manage invoices, and more from your phone.

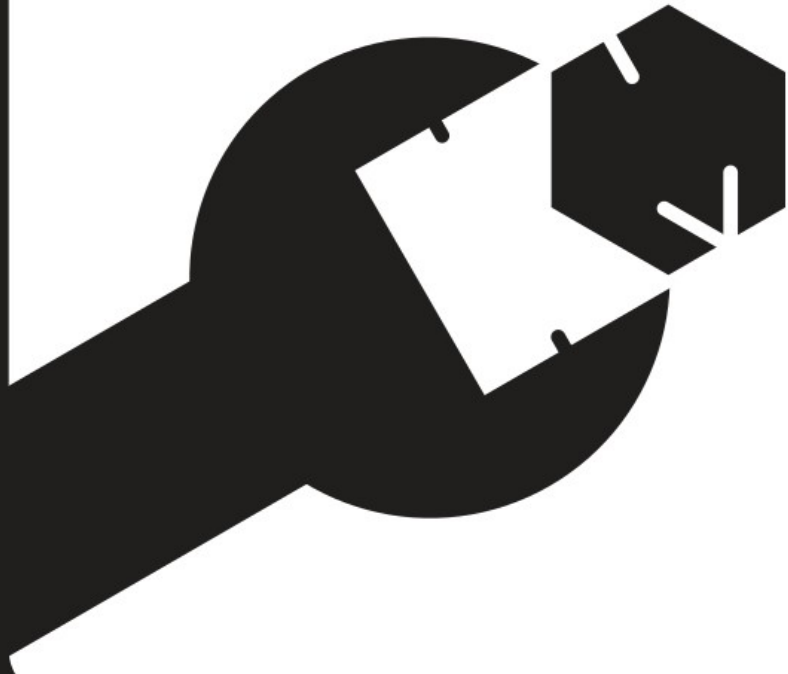
Get the mobile app







KNOXMAKERS.ORG



Thank you!

knoxmakers.org

tracy@knoxmakers.org