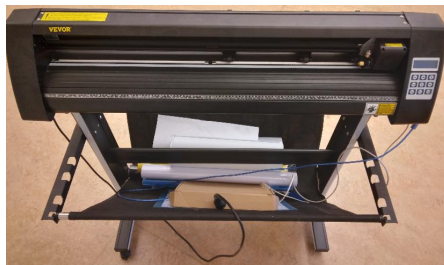


# Vinyl cutter to T-shirt manual

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Our Vevor vinyl cutter from the front



Our Vevor vinyl cutter from an isometric perspective



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Manual for using the Vevor vinyl cutter to create a T-shirt

## Time estimates

- Most time will be spent peeling plastic from the vinyl
- Schedule two hours to produce your first T-shirt with one print
- Schedule 10 minutes to produce your tenth T-shirt with one print, 15 minutes for two print

## Procedure

Overview of the procedure

1. Install Inkcute
2. Setup Inkcute
3. Get T-shirts
4. Get vinyl
5. Connect the vinyl cutter
6. Place foil of vinyl cutter
7. Set up Inkcute connection
8. Use Inkcute
9. Transfer vinyl to T-shirt

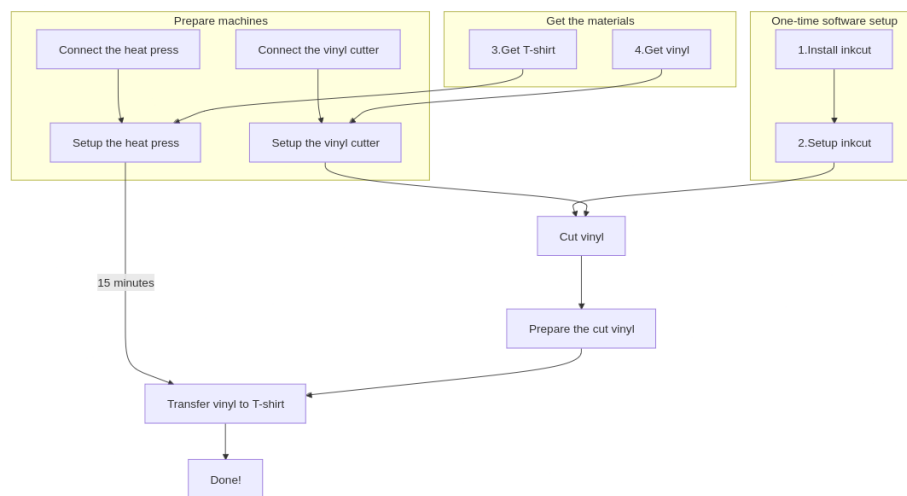


Figure 1: Overview of the procedure

## 1. Install Inkcute

Inkcute is a program to send things to cut to the vinyl cutter. It works under Linux, Mac and Windows. This guide shows how to do this for Linux.

Install the Debian packages:

```
apt-get install python3-pip python3-pyqt5 python3-setuptools  
apt-get install libcups2-dev python3-pyqt5.qtsvg
```

Create a (mandatory!) virtual environment for Inkcute:

```
python3 -m venv ~/inkcut_venv
```

Install the Inkcute and PyQt5 Python packages in the virtual environment”

```
~/inkcut_venv/bin/pip install inkcute PyQt5
```

Now you can start inkcute with:

```
~/inkcut_venv/bin/inkcut
```

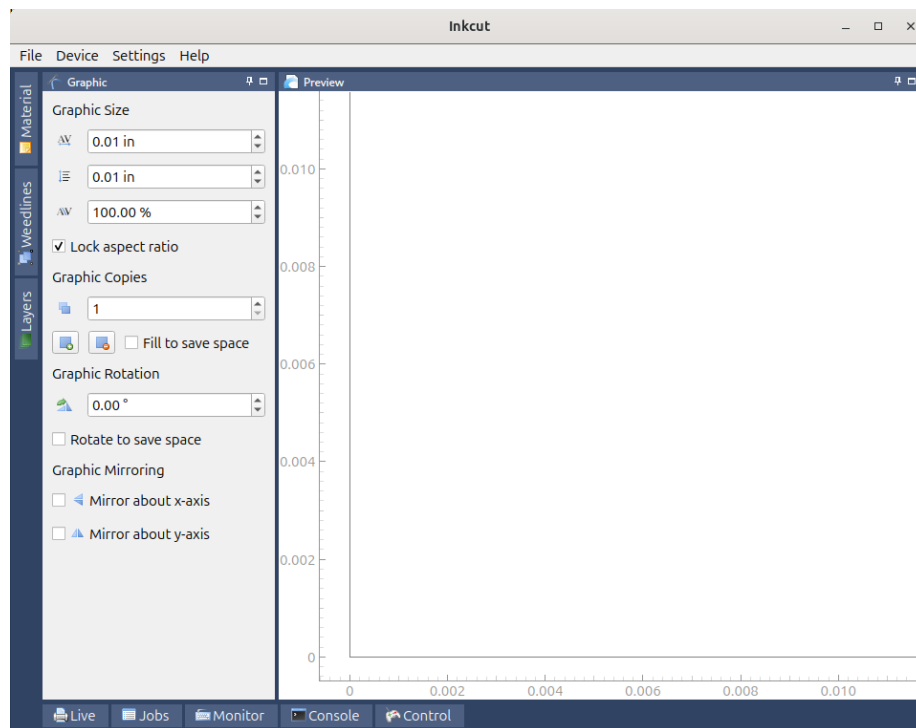


Figure 2: inkcute in action

## 2. Setup Inkcute

- See Setup Inkcute notes for the notes behind this

Add yourself to the `dialout` group:

```
sudo usermod -a -G dialout "$USER"
```

Restart (yes, a cold boot!).

## 3. Get T-shirts

Get one or more T-shirts.

Company	Address	Price	Description
Lager 157	Kungsgatan 95	30	Has S, M, L and XL
New Yorker	Marknadsgatan 1	79	?All sizes

- Price is in kroner per (cheapest) T-shirt

## 4. Get vinyl

Get suitable vinyl

Suitable foil looks like this:

- The foil feels smoother than a sticker ('klistermärke')
- The foil is shinier than a sticker

A good place to vinyl is at <https://www.scandraft.se/>, where we have bought Siser P.S. Film Easyweed, which works well. You can order longer rolls: we've ordered rolls of 25 meters, for an unknown price (if you know the price, please contribute).

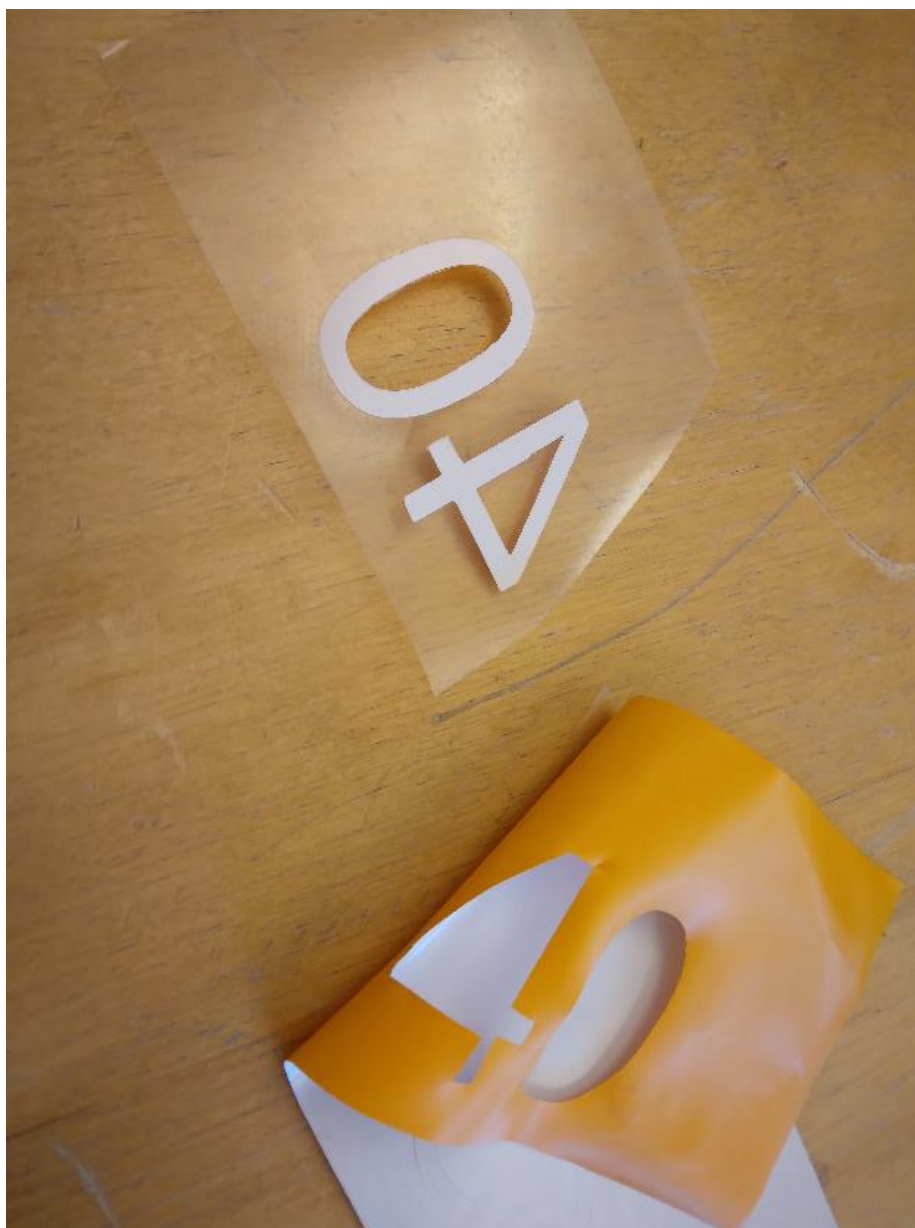
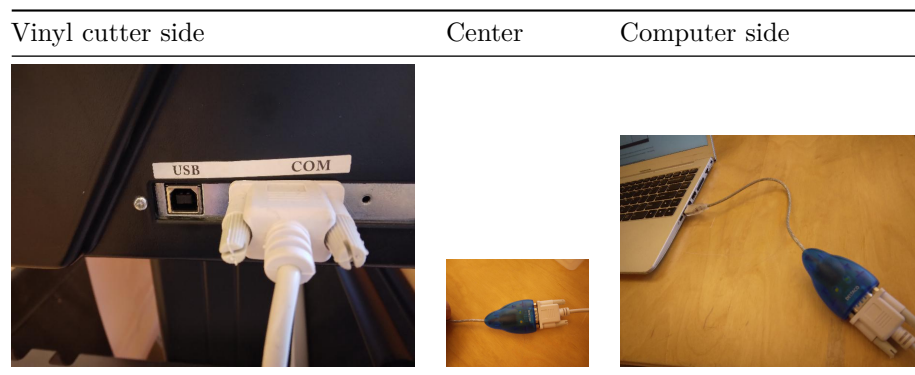


Figure 3: Transfer foil ready for transfer

## 5. Connect the vinyl cutter

Plug in the correct USB cable from the vinyl cutter to your computer:



## 6. Setup the vinyl cutter

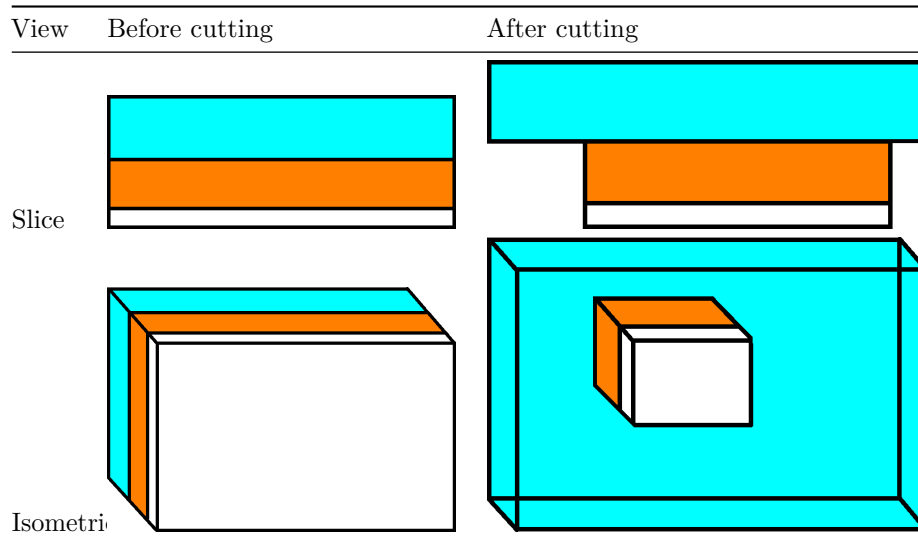
The vinyl cutter has three parameters:

- Origin: the bottom-left of the cut, move the red dot to the bottom-left of the vinyl
- Speed: the speed of the blade
  - If the speed is too high, no idea what happens. Please contribute if you know!
  - If the speed is too low, the process takes needlessly longer
- Force: how much force the blade applies to the vinyl
  - If the force is too high, the cutter will go through the vinyl
  - If the force is too low, the vinyl cannot be removed easily

Vinyl	Speed (mm/s)	Force(g)	Recommendation source
Siser P.S. Film	20	120	Trying out, works!
Siser P.S. Film	300	60	manual

## 7. Place foil of vinyl cutter

Place the foil on the vinyl cutter, with the white side up.



Structure of the foil and what will be cut away. Light-blue: thick, transparent layer, do not cut, can be separated from orange layer by hand. Orange: the color of the print. White: the glue connecting the print to the T-shirt

The knife cuts the white and colored layer only. The thick and transparent layer needs to remain intact.

## 8. Set up Inkcute connection

Go to the 'Configure device | Connection':

- Type: Serial port
- Port: `tttyUSB0`. If you cannot select `tttyUSB0`, you've used the wrong USB cable coming out of the vinyl cutter :-)
- Baudrate: 38400

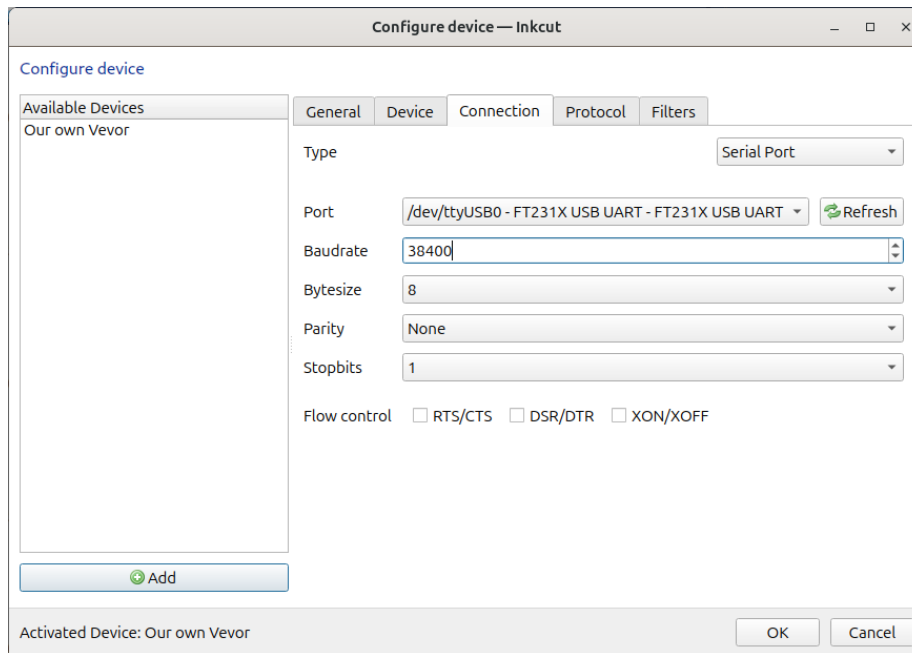


Figure 4: Use the serial port with a baudrate of 38400

Use the serial port with a baudrate of 38400. If you cannot select `tttyUSB0`, you've used the wrong USB cable coming out of the vinyl cutter



## 9. Use Inkcute

Load an SVG.

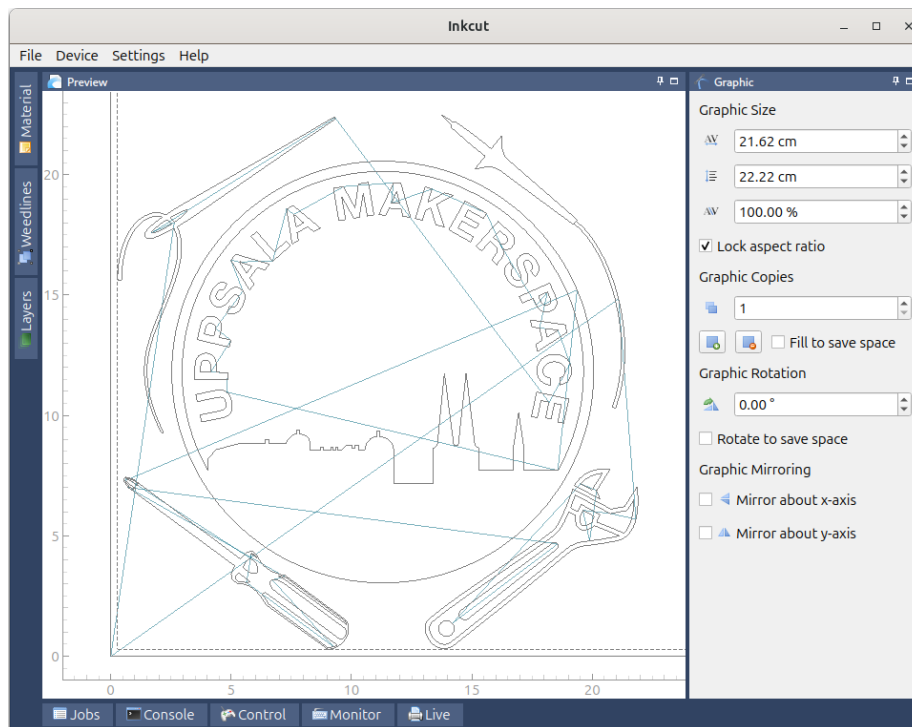


Figure 5: Inkcute in action

Fig 5. Inkcute in action

Fig 6. Don't forget to mirror letters. These letters will be mirrored when put on a T-shirt

Fig 7. Don't do two copies like this, this is wasteful.

Fig 8. Do many copies like this: this is not wasteful

## 10. Setup heat press

Vinyl	Temperature (C)	Time (s)	Recommendation source
Siser P.S. Film	180	10	Trying out, works!
Siser P.S. Film	150	15	manual

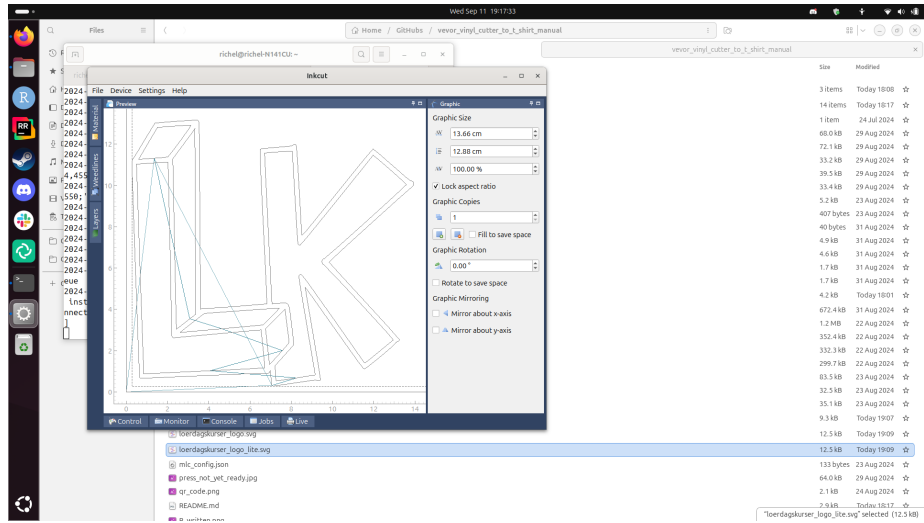


Figure 6: Don't forget to mirror letters. These letters will be mirrored when put on a T-shirt

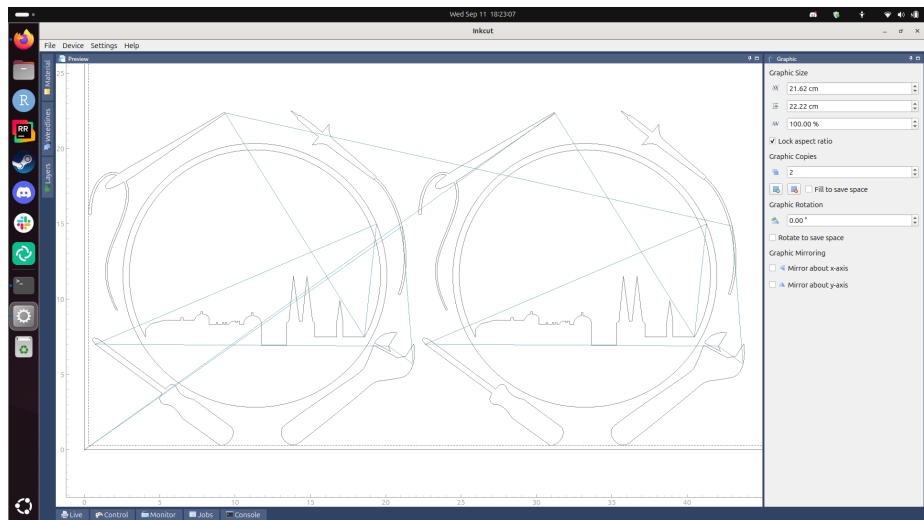


Figure 7: Don't do two copies like this

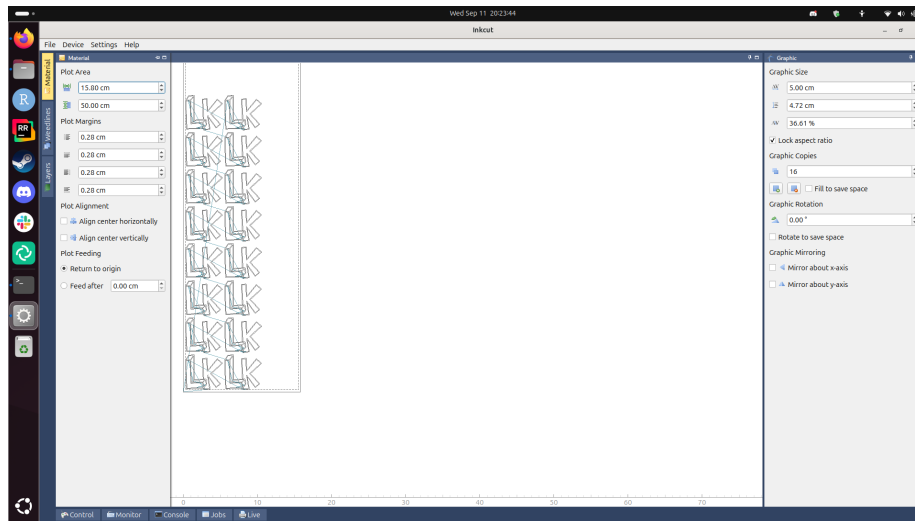


Figure 8: Do many copies like this

## 11. Transfer vinyl to T-shirt

Put the remainder of the foil on the T-shirt, with the colorful side up.

Press not yet ready. It should say T=160/160C. A temperature from 155 to 165 degrees Celcius would also be fine.

Heat up the heat press, this takes about 15 minutes.

Place the T-shirt under the press, with the foil at the right spot.

When the heat press is warmed up, lower the press. After around 20 seconds, the press will start to beep. Raise the press again.

Wait for the print to cool off.

Carefully peel off the transparent layer from the shirt.

Done!



Figure 9: Press not yet ready



Figure 10: T-shirts that are done

## Troubleshooting

### The vinyl cutter is wrinkling the paper

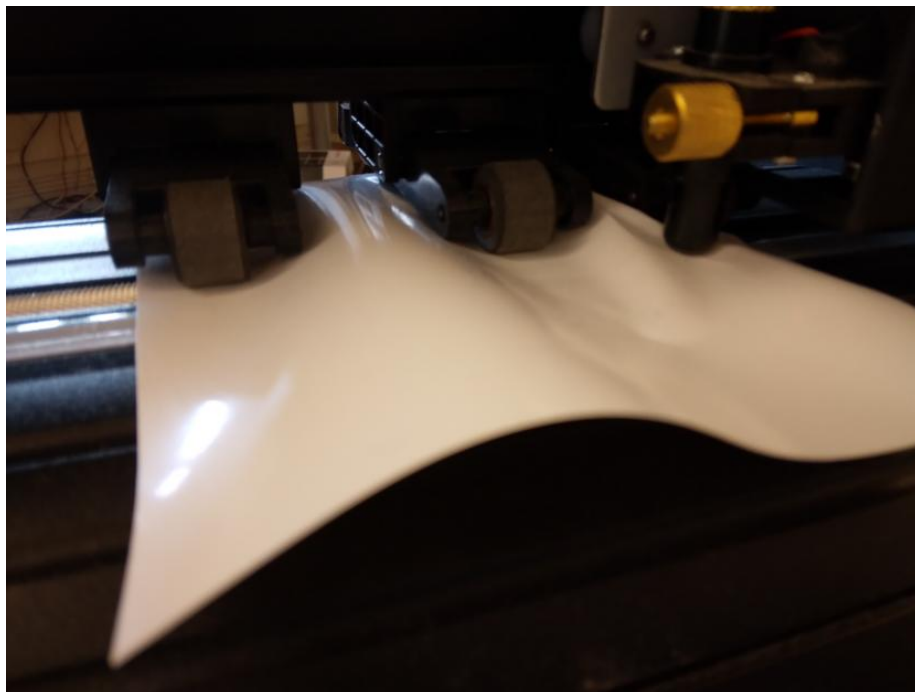


Figure 11: The vinyl cutter is wrinkling the paper

The vinyl cutter is wrinkling the paper.

This happens when at least one wheel of the three movable heads is not on a roller at the bottom:

The right wheel (right rectangle) is not on the roller (partially shown and indicated by the left rectangle)

### The vinyl cutter is confused

This may happen when you send multiple prints at the same time. Press reset, close Inkcute, press reset, start Inkcute and try again



Figure 12: The right wheel is not on the roller



Figure 13: The vinyl cutter is confused