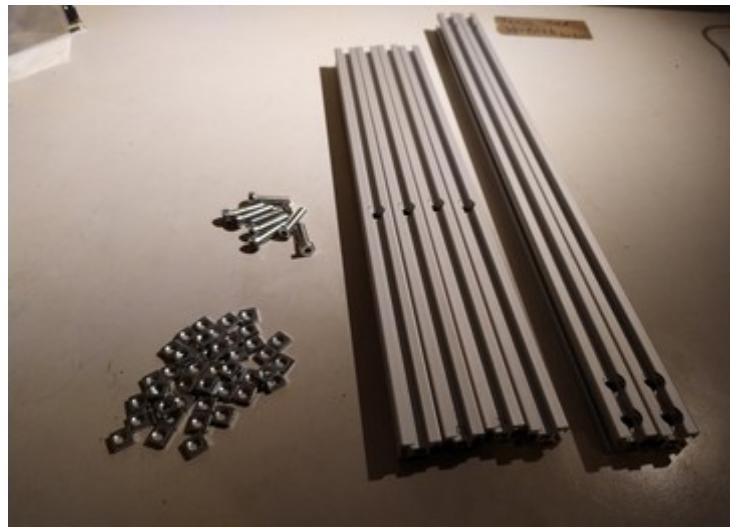


**Subassembly-BOM Maker's Friend MF05 3D-Printer, UniProKit UPKlib V2.06**

**Assemble Base-Frame**

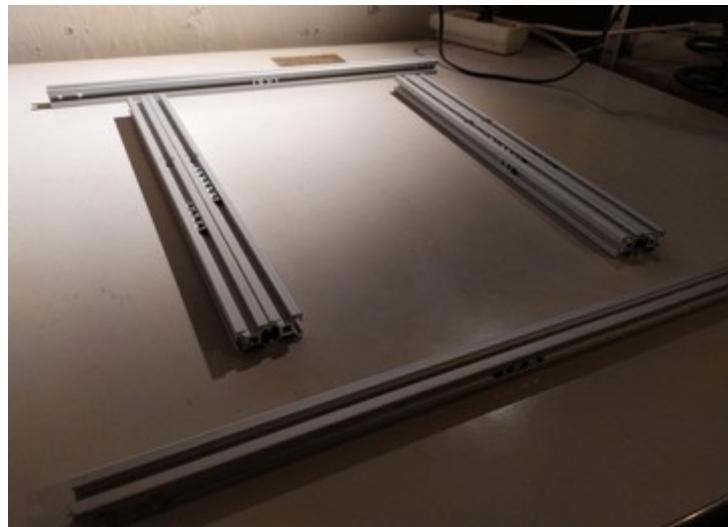
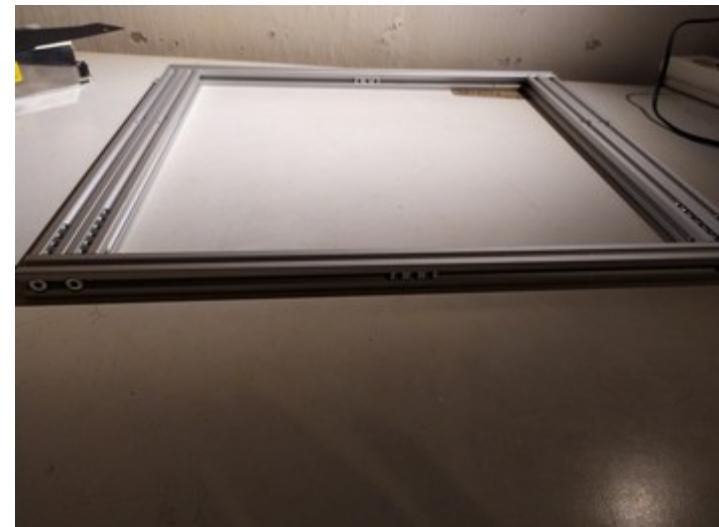
tslot40con\_16  
tslot48con\_double  
m6x25cyl  
m6nutplate

4      Framepart y-direction  
2      Framepart x-direction  
8      connect frameparts  
46     preparation



**m6nutplate preparation**

x-vorne , aussen	3
x-hinten, aussen	2
y-left aussen	4
y-right, aussen	4
x-vorne, innen	4
x-hinten, innen	3
y-left, innen	2
y-right, innen	2
y-left, top, linker	4
y-left, top, rechter	6
y-right, top, linker	4
y-right, top, rechter	6
y-left, bottom, rechter	1
y-right, bottom, linker	1

**Bottomview parts****Bottomview parts**

**Bottom-rearview**



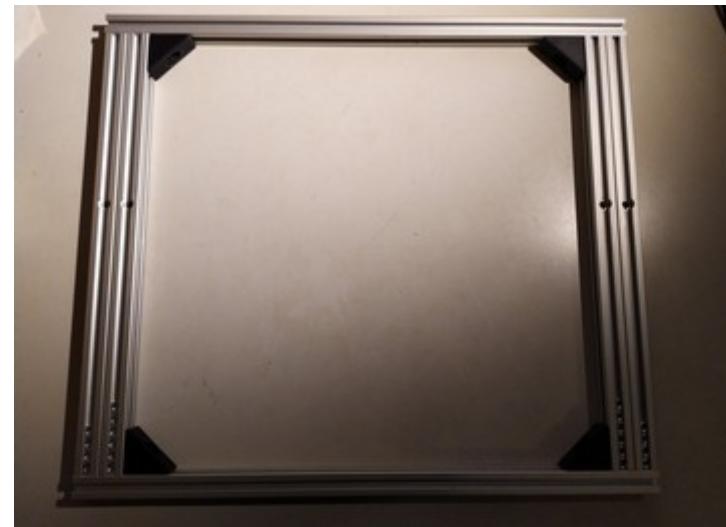
**Topview**



### Mount ra-connector

ra-connector  
m6x12

4 frame corners  
8 mount ra-connector

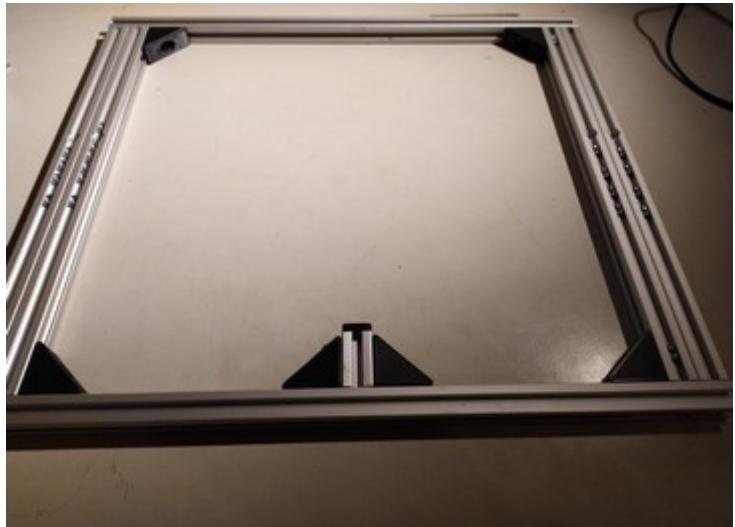


### Mount tensioner-framepart

tslot4  
endcap1e  
m6x8  
ra-connector  
m6nutplate  
m6x12

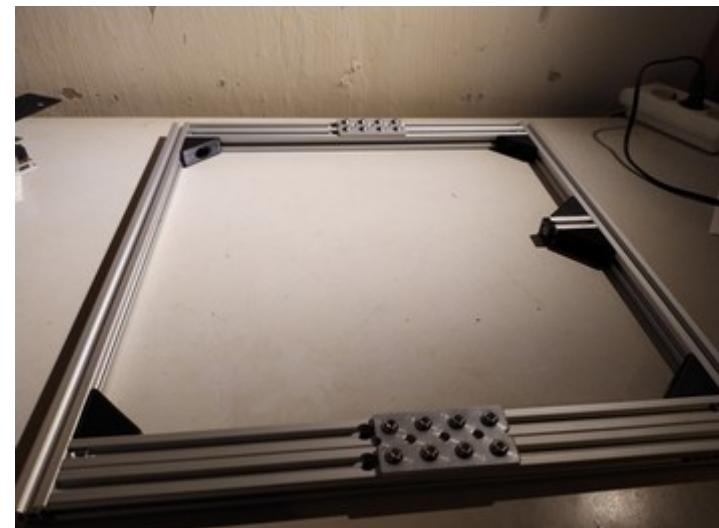
- |   |                              |
|---|------------------------------|
| 1 | framepart for tensioner      |
| 1 | endcap for tslot4            |
| 1 | screw for endcap             |
| 2 | mount tslot4 to frame        |
| 2 | mount ra-connector to tslot4 |
| 4 | mount ra-connector to frame  |





### Mount connector

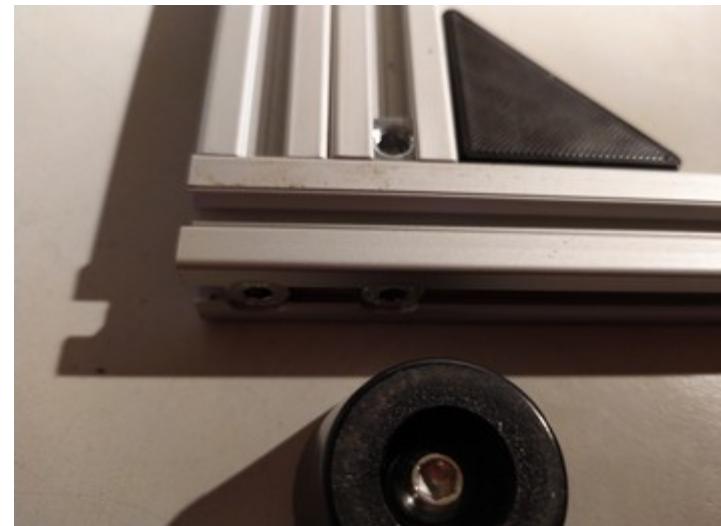
flatplate8 m6x8	2 16	connects tslot40con16.5 connects tslot40con16.5
--------------------	---------	--

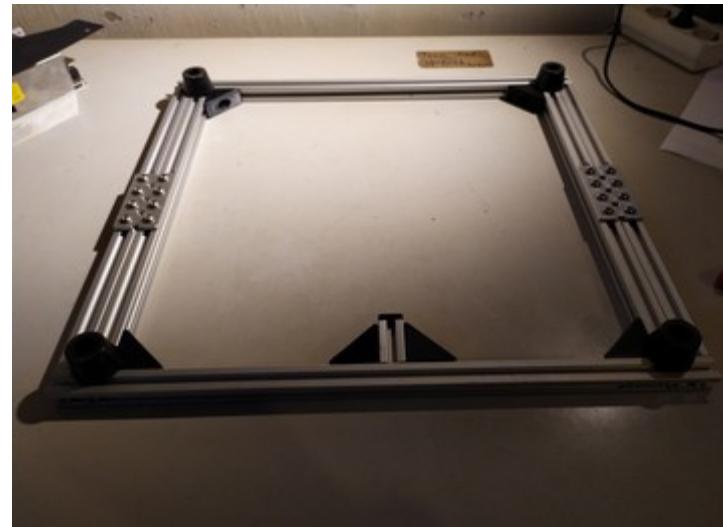


### Mount machine-feet

foot-35x24  
foot-38x25  
m6x16

4 machine-foot, h 24 dia 35 depth 13  
0 machine-foot, h 25 dia 38 depth 12  
4 mout foot to frame



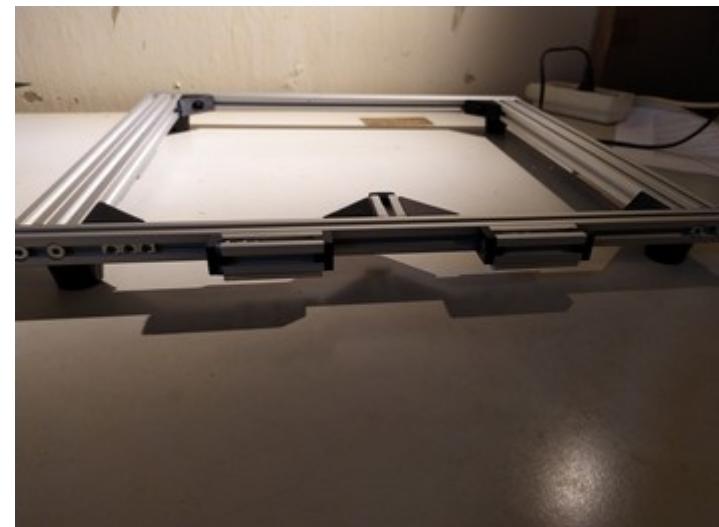
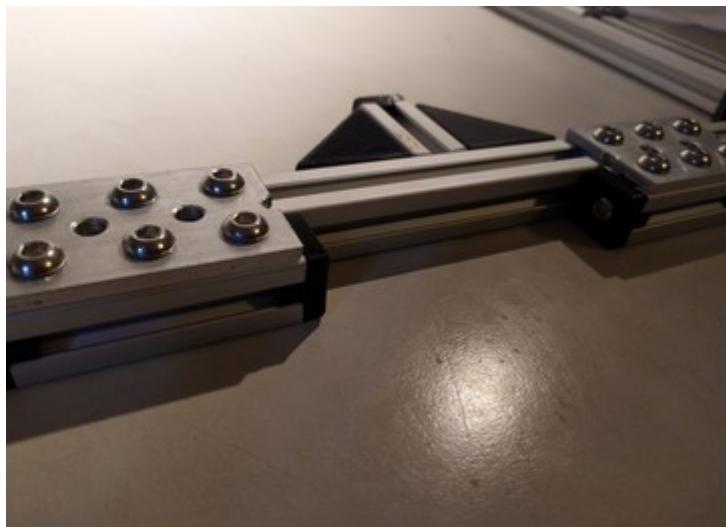
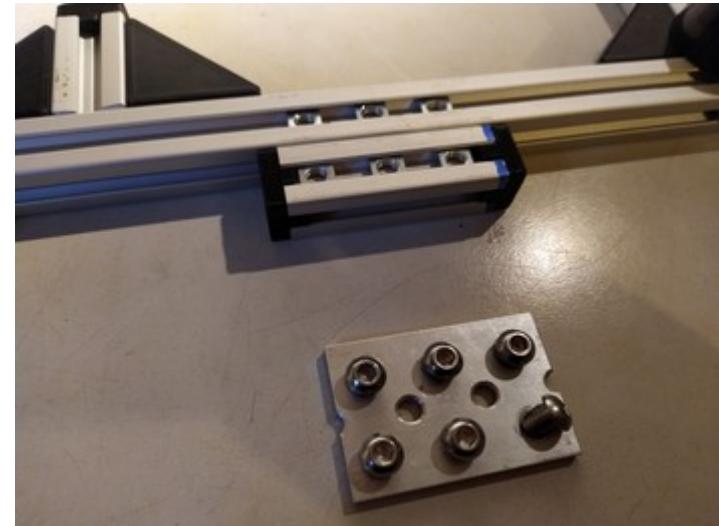
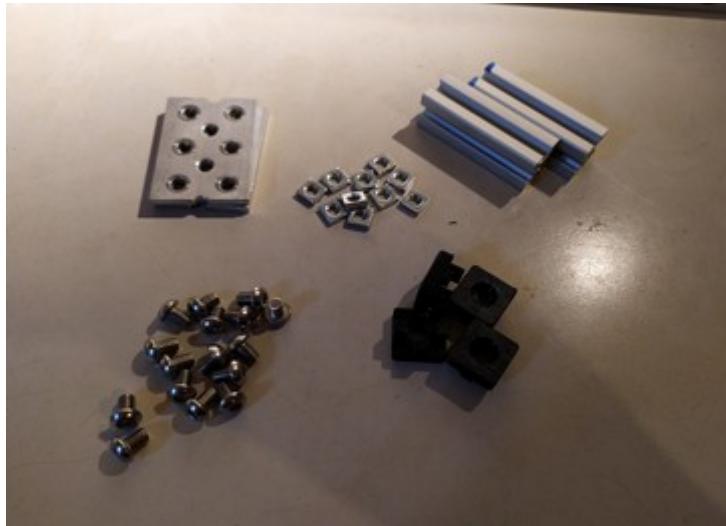


### Mount Y-Distancer

tslot6  
endcap2e  
flatplate6  
m6x8  
m6nutplate

2	Distancer
4	endcaps for distancer
2	connect distancer to frame
16	mount flatplate and endcaps
16	mount flatplate

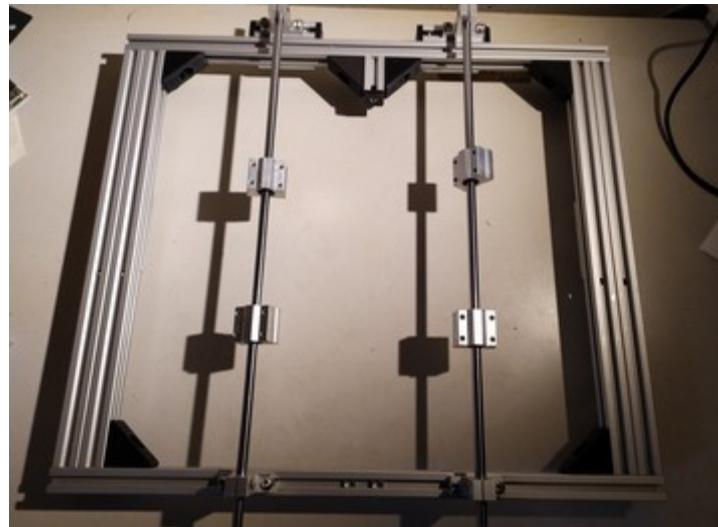
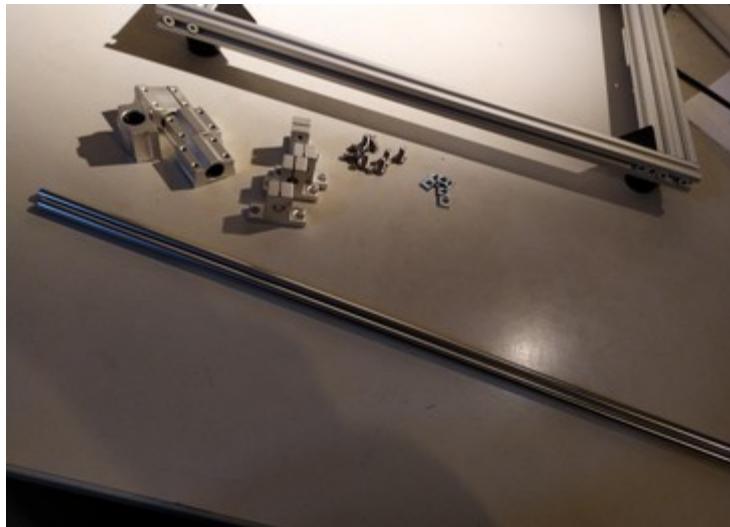
Maker's Friend MF05, UniProKit 2.06



**Mount Y-Slider and mount sk8 to frame**

shaft8x480  
sk8  
m4x14cyl  
sc8uu  
lm8uu  
m6x12  
m6nutplate

2	slider axis
4	holder for shaft
4	screw for sk8
4	lm8uu block
4	linear bearing
8	mount sk8 to frame
6	mount sk8 to frame



## Mount y-steppermotor

Gt2-20-6-m5-pulley

m4x6lockscrew

nema17-40con

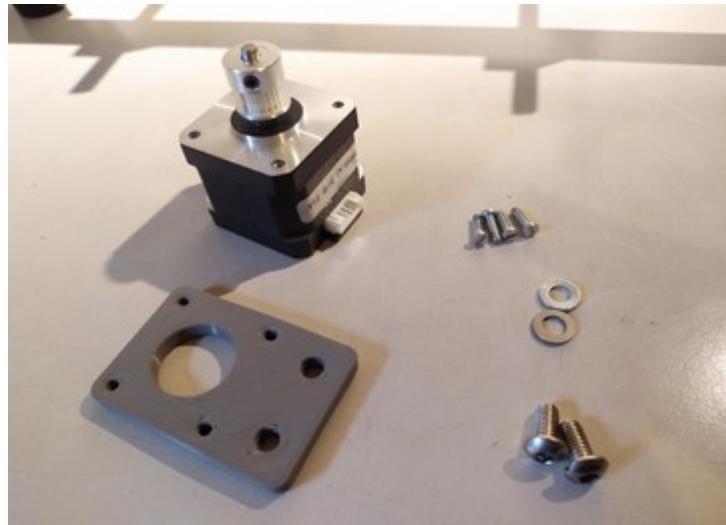
nema17holder6mm

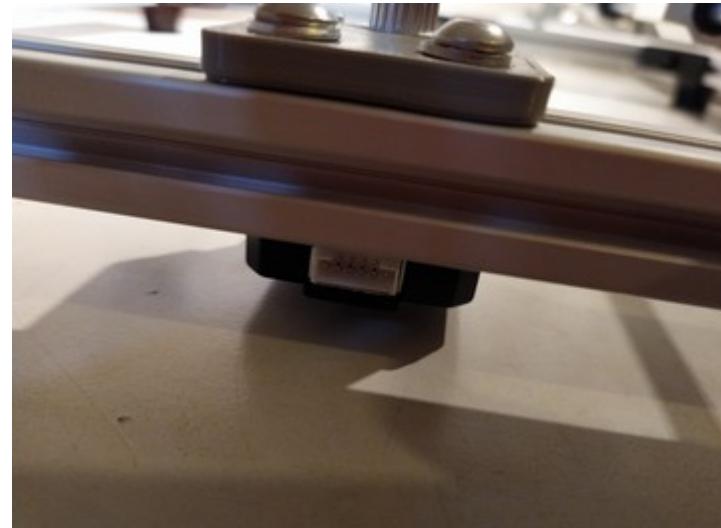
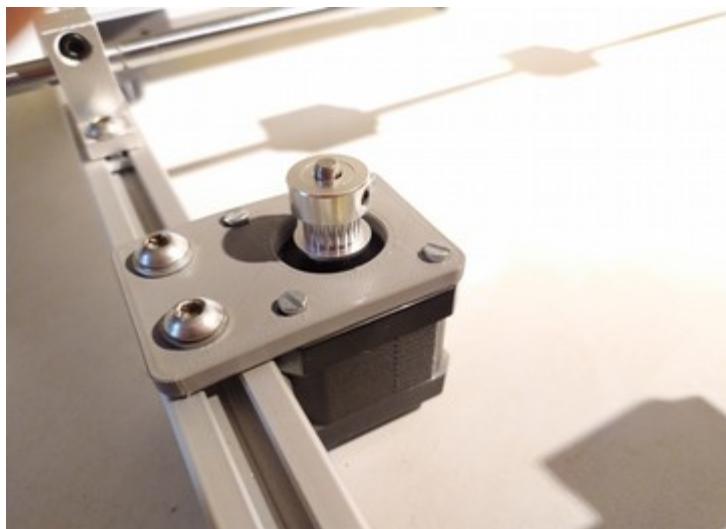
m3x10cyl

m6x12

m6washer

- |   |                                   |
|---|-----------------------------------|
| 1 | pulley, 20 teeth, 5mm, gt2-6-belt |
| 2 | for pulley                        |
| 1 | y stepper motor                   |
| 1 | stepper holder, 6mm               |
| 4 | mount stepper to holder           |
| 2 | mount holder to frame             |
| 2 | mount holder to frame             |



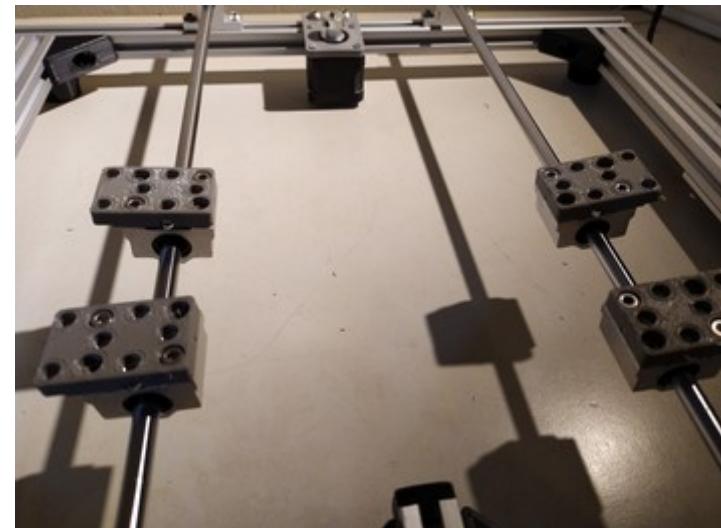
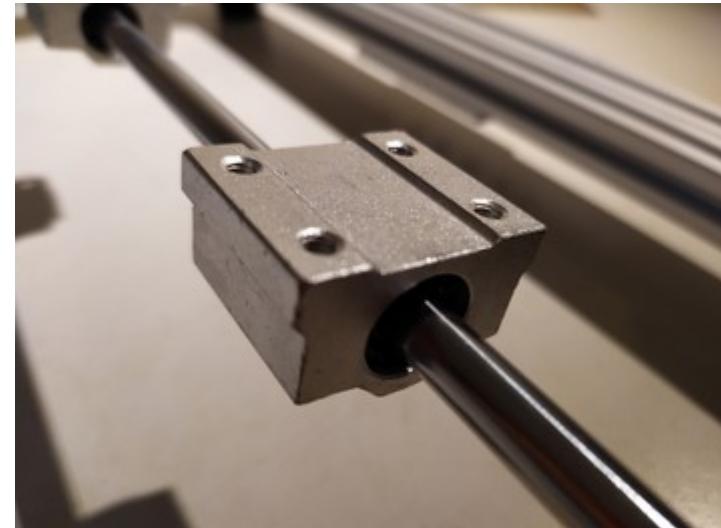


### Mount Sc8uu-adapter2g

Sc8uu-adapter2g  
m4x10cyl  
m6nutplate

4	SC8UU Adapter
16	mount Sc8uu-Adapter
16	mount something

Maker's Friend MF05, UniProKit 2.06



### Build carriage from flatplates

flatplate24

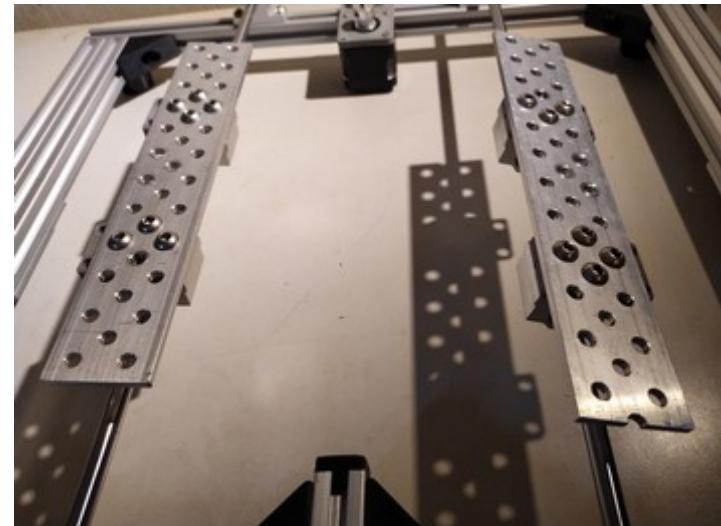
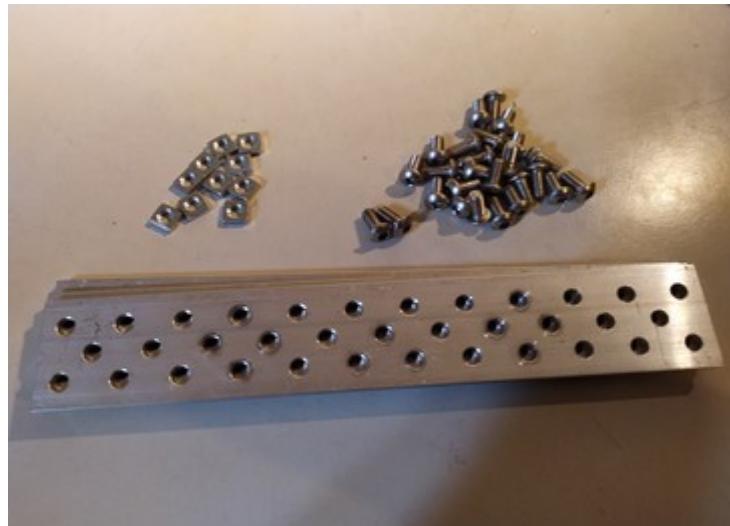
m6x12

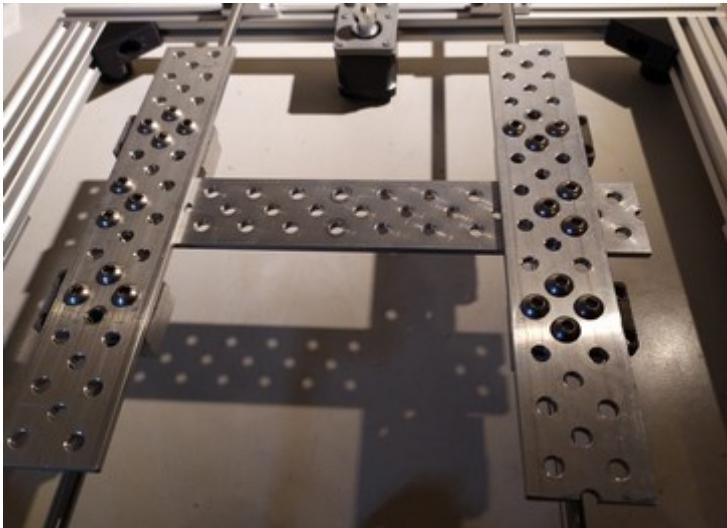
m6nutplate

3 carriage parts

26 mount carriage-flatplates

10 interconnect carriage-flatplates



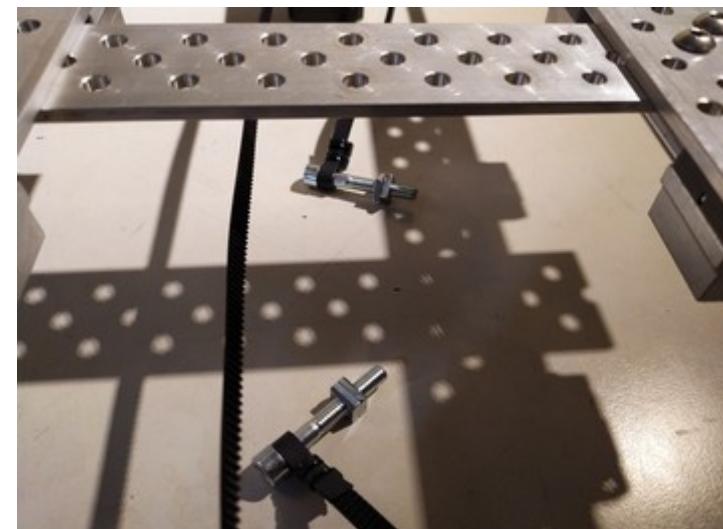


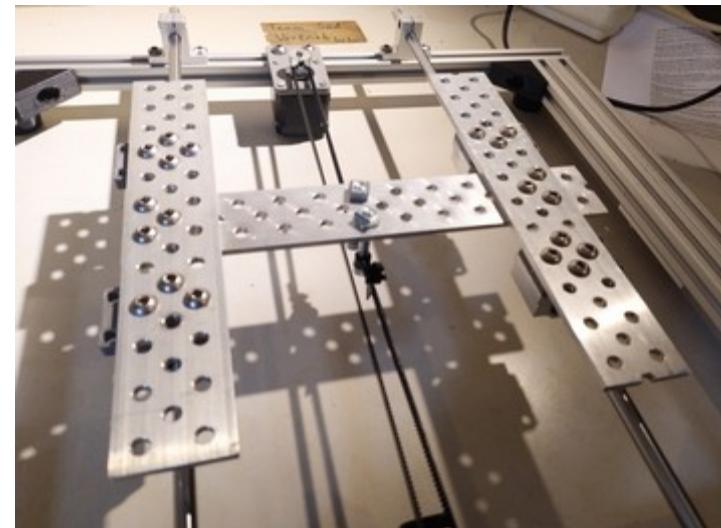
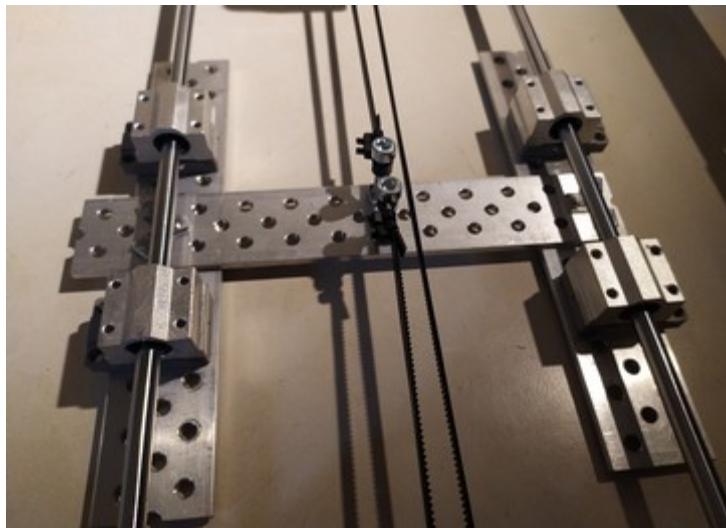
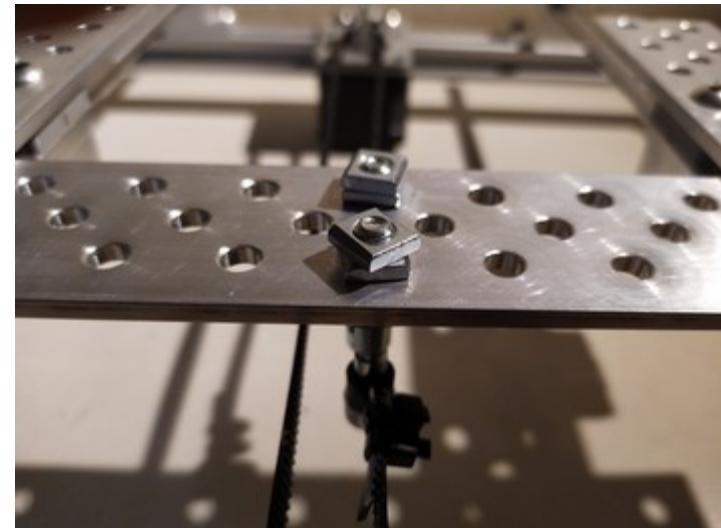
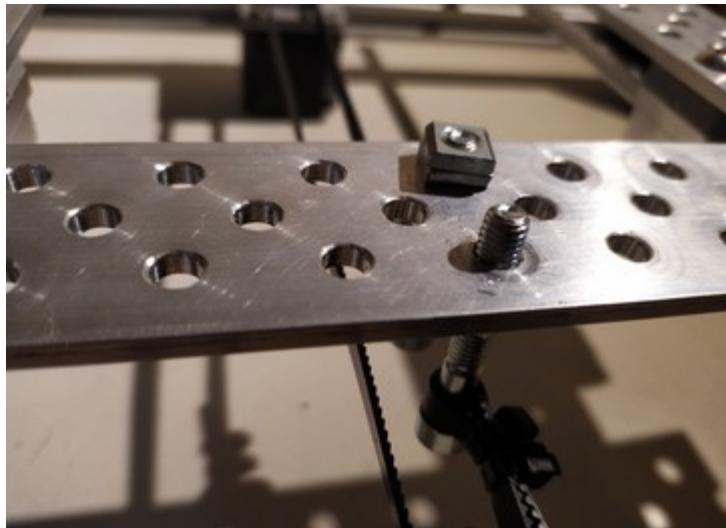
### Mount y-belt

gt2-6-belt  
m6nutplate  
m6x40cyl  
cablebinder10  
m4x8  
hammermutter-m4  
belt-tensioner

1	y-belt, 90cm
8	mount belt on carriage
2	mount belt on carriage
4	cablebinder 10cm
2	mount tensioner
2	mount tensioner
1	belt-tensioner (assembly)

Maker's Friend MF05, UniProKit 2.06

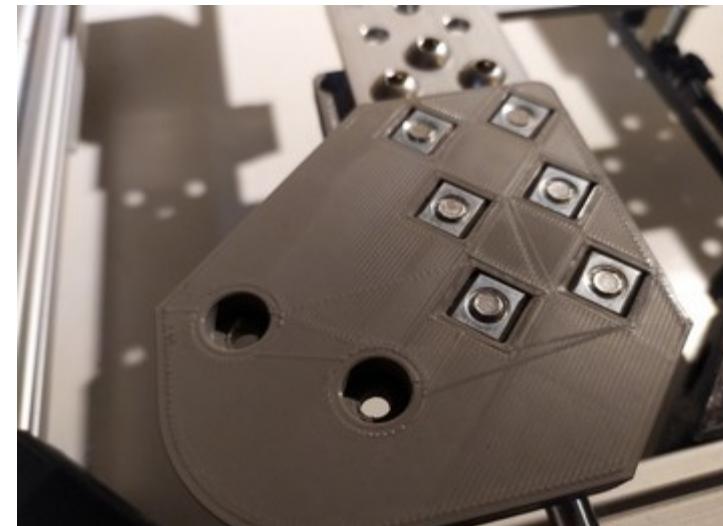


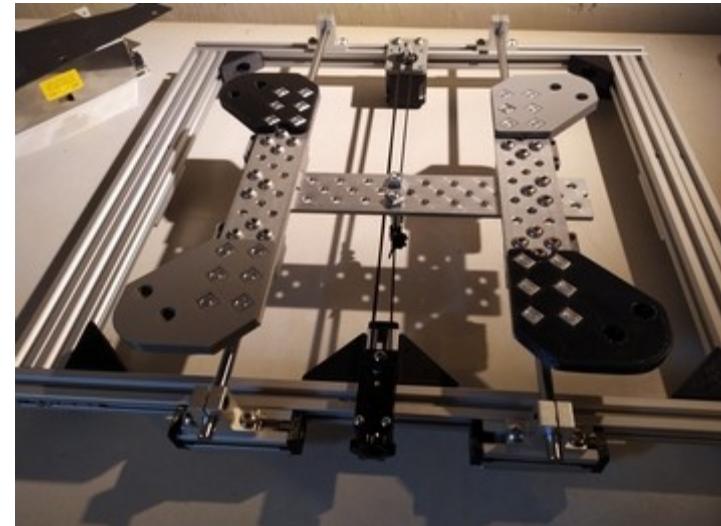
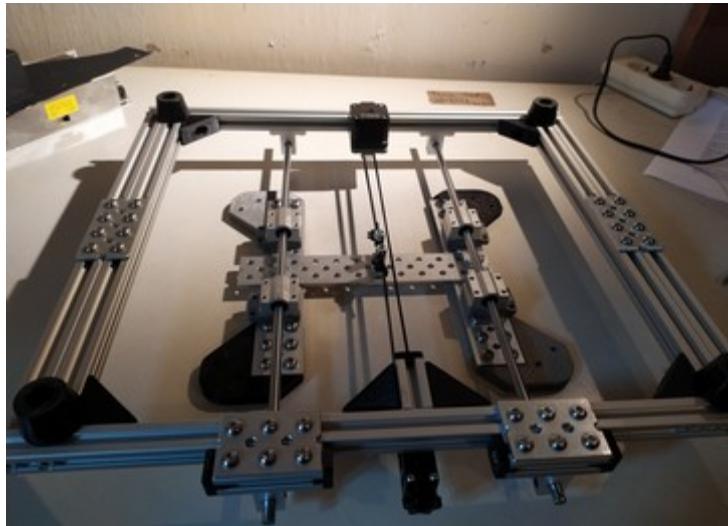


### Mount bedmount

bedmount1d\_left  
bedmount1d\_right  
m6washer  
m6x8  
m6nutplate

2	bedmount left
2	bedmount right
24	mount bedmount
24	mount bedmount
24	mount bedmount

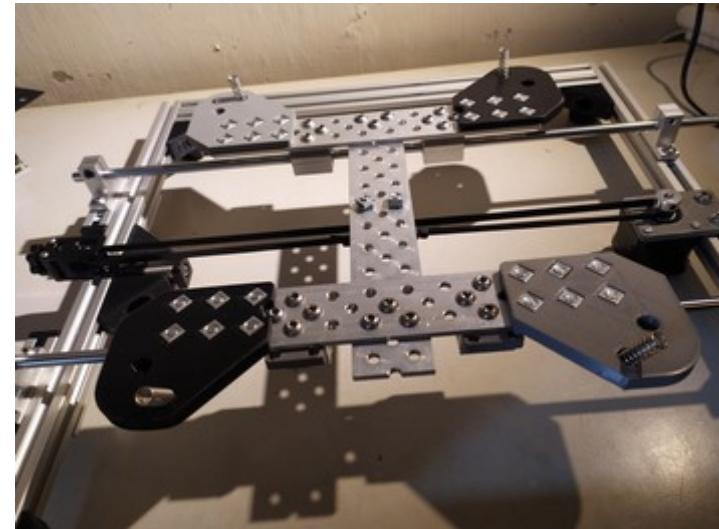
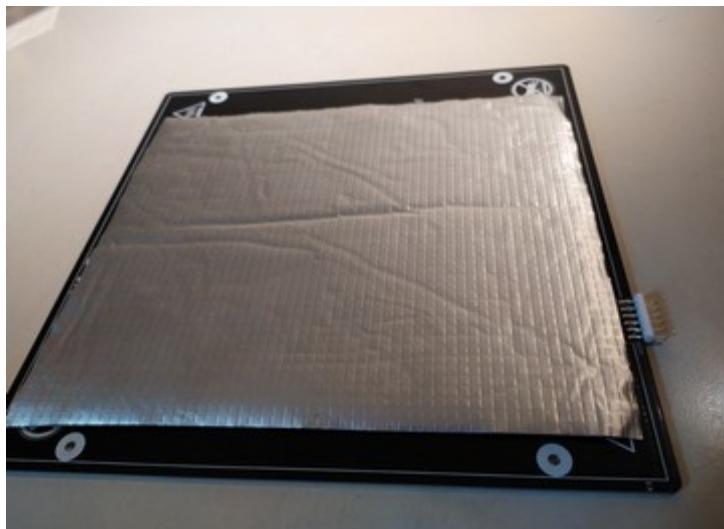
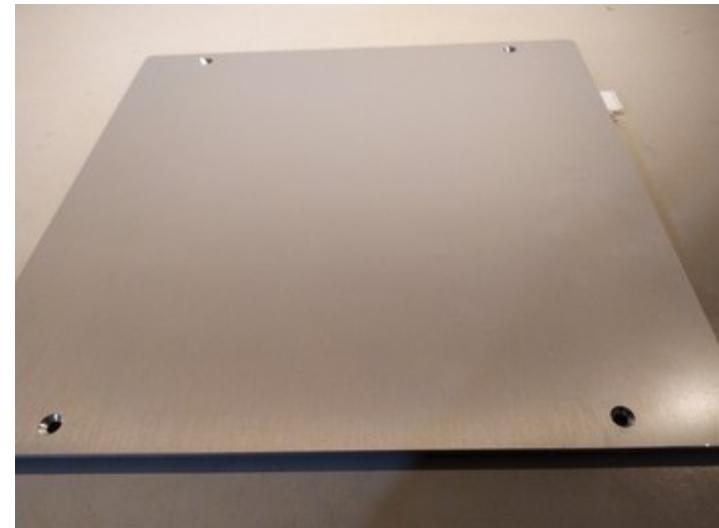


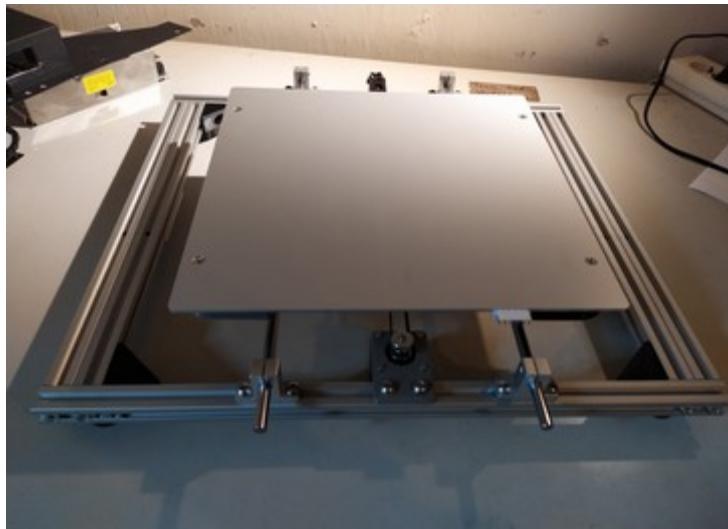


### Mount Heatbed

heatbed300\_276\_209  
m4x30cone  
bedlevel-knob  
spring\_8x25

- 1 300mm with hole-edge-distances 12 and 45.5 mm
- 4 mount heatbed
- 4 adjust heatbed
- 4 distance-spring for heatbed

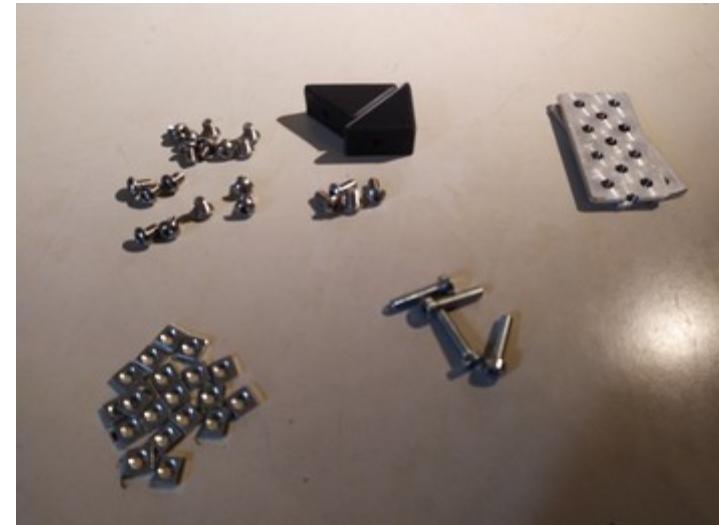
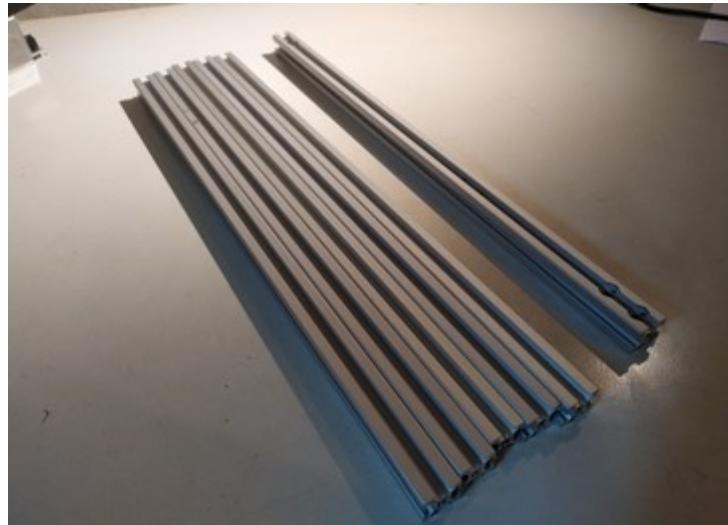




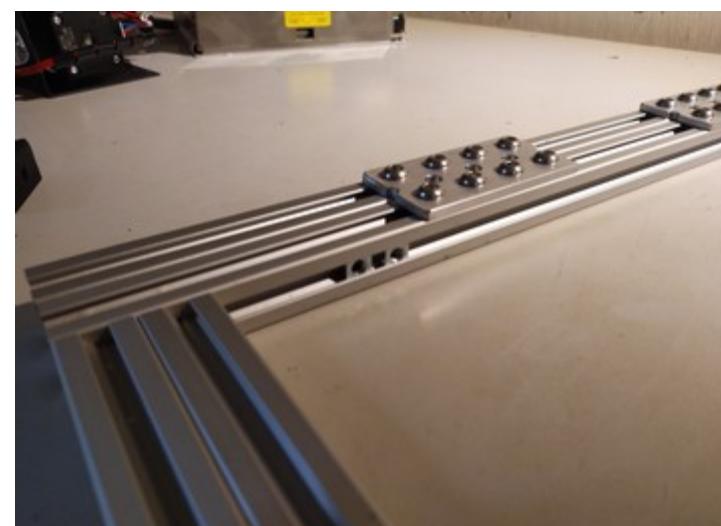
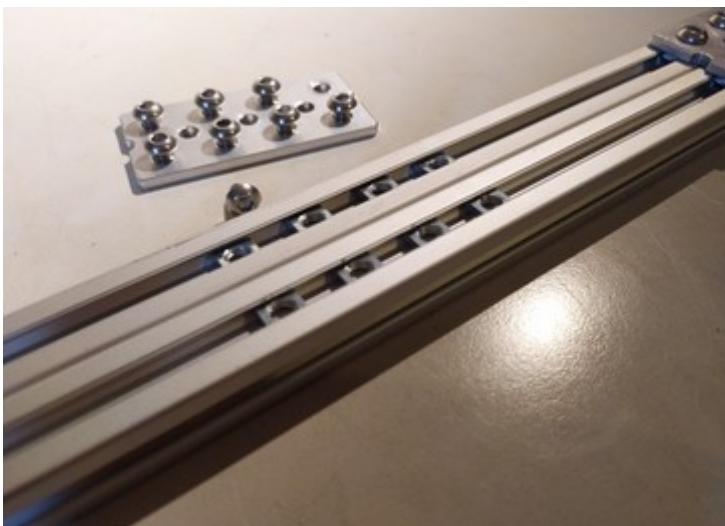
### Assemble z-frame

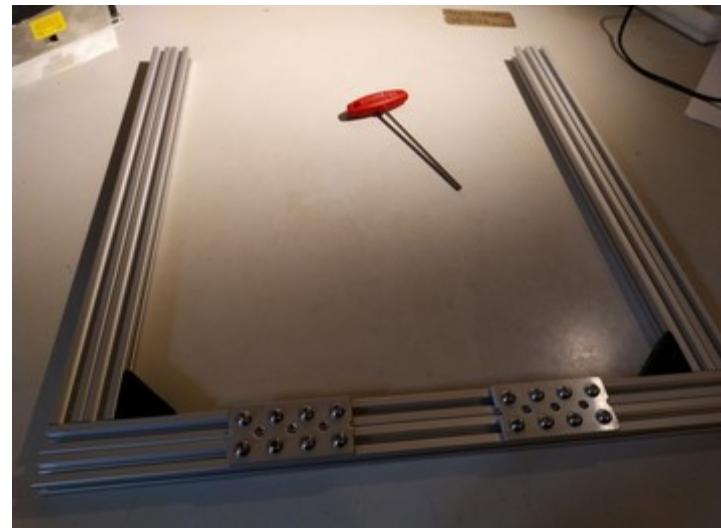
ra-connector  
m6x12  
flatplate8  
m6x8  
m6nutplate  
m6x25cyl  
tslot48  
tslot48con\_doppel

2	mount z-frame
4	mount ra-connector
2	connect tslots
16	connect flatplate
20	connect flatplate
4	connect z-frame with y-base
5	frame-beam
1	frame-beam



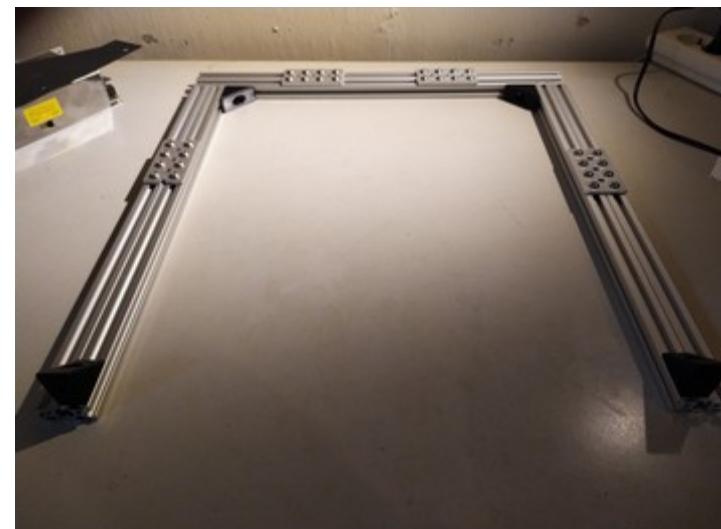
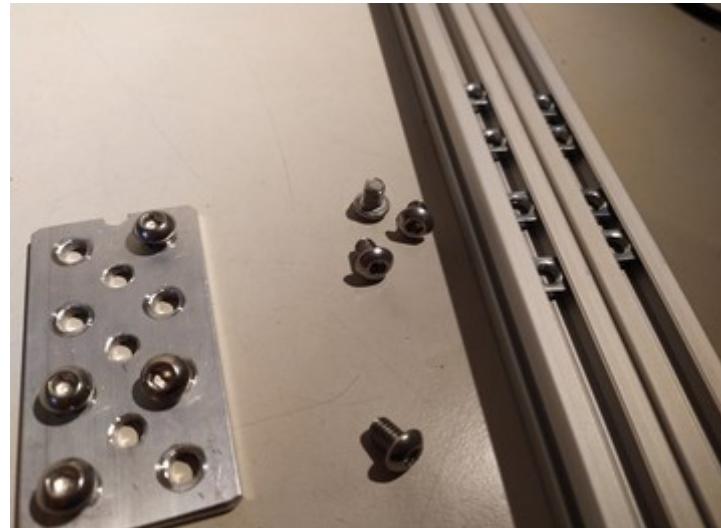
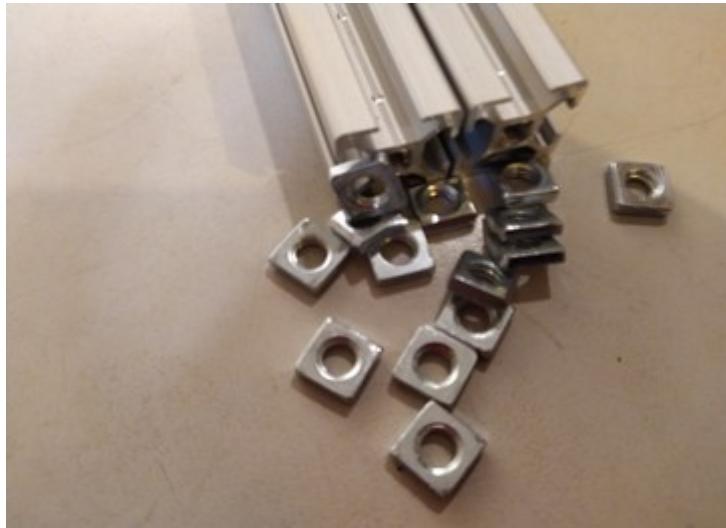
Maker's Friend MF05, UniProKit 2.06

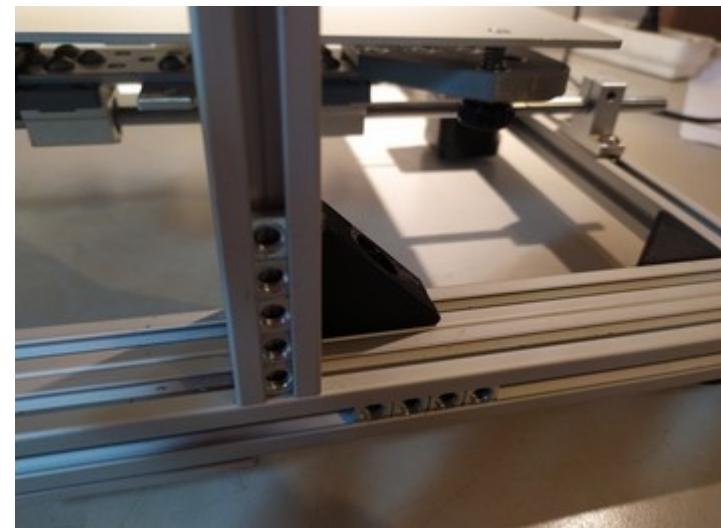
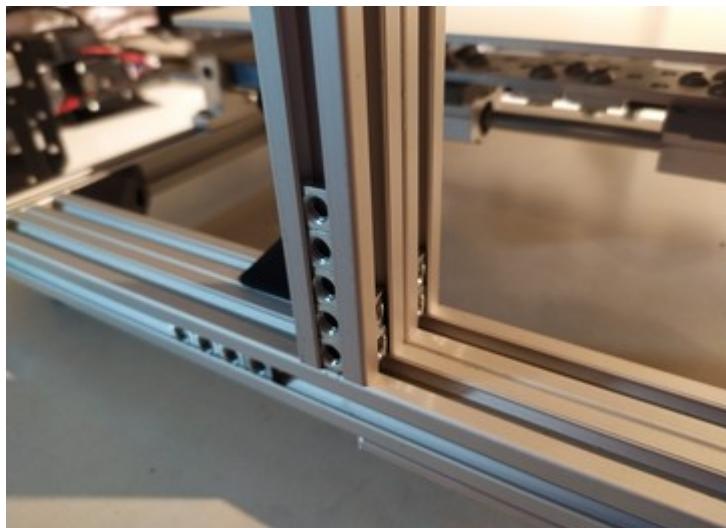




### **mount z-frame**

ra-connector	2	mount z-frame
m6x12	4	mount ra-connector
flatplate8	2	connect tslots
m6x8	16	connect flatplate
m6nutplate	38	connect flatplate
m6x25cyl	4	connect z-frame with y-base

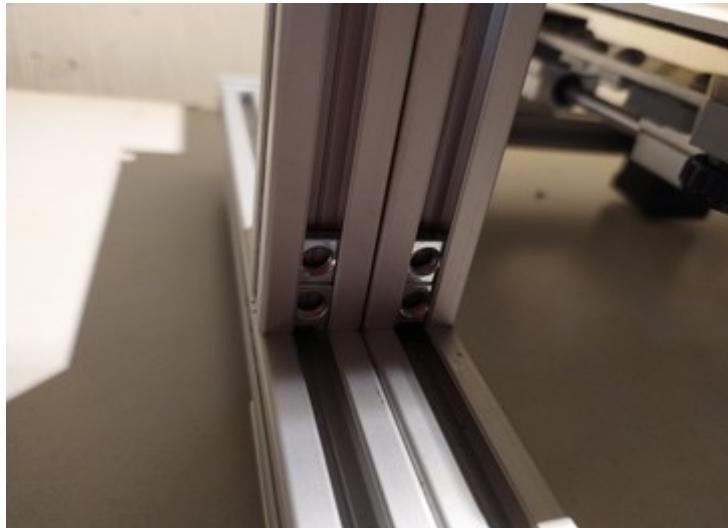






### **mount z-distancer**

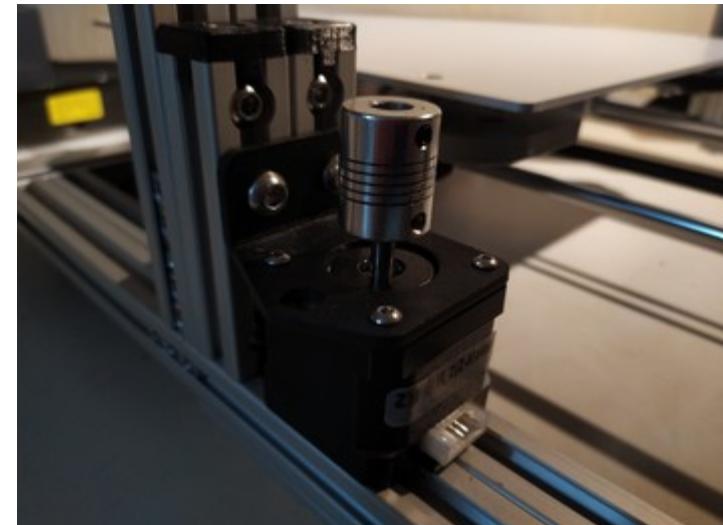
m6x20	8	mount tslot
Tslot8con	2	distancer
m6nutplate	4	mount z-bottom
m6x8	4	mount endcap
endcap1e	1	endcap



### mount z-stepper

nema17-40con  
z-bottom-left  
z-bottom-right  
coupling-5-8  
m4x6lockscrew  
m3x6  
m6x8

2 z-stepper-motors  
1 left z-bottom-holder  
1 right z-bottom-holder  
2 couples stepper 5 with thread 8  
8 for coupling-5-8  
8 mount stepper  
4 mount z-bottom



**mount z-top-holder**

angle8  
m6x8  
m6nutplate

2      mount z-top-holder  
4      for angle8  
2      for angle8





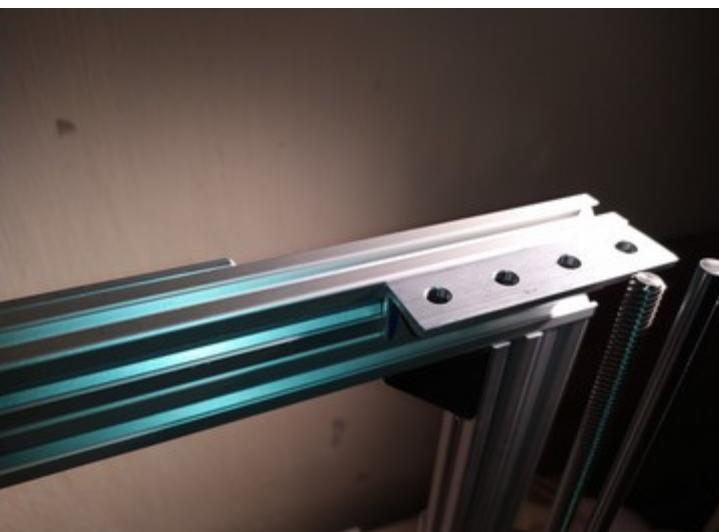
**mount z-axis thread**

Shaft8x490

Trapezoidal\_thread\_480

2	z-shaft for lm8uu
2	z-thread

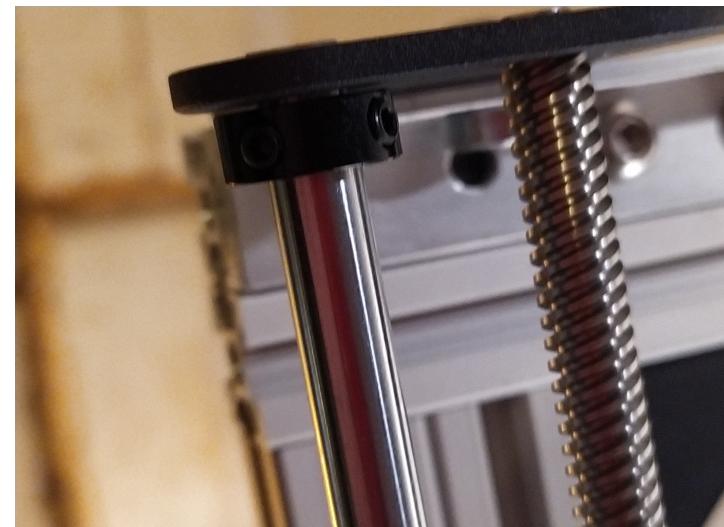
Maker's Friend MF05, UniProKit 2.06



**close z-axis**

z-floating-bearing  
adjustring8mm  
m6nut  
m6x12

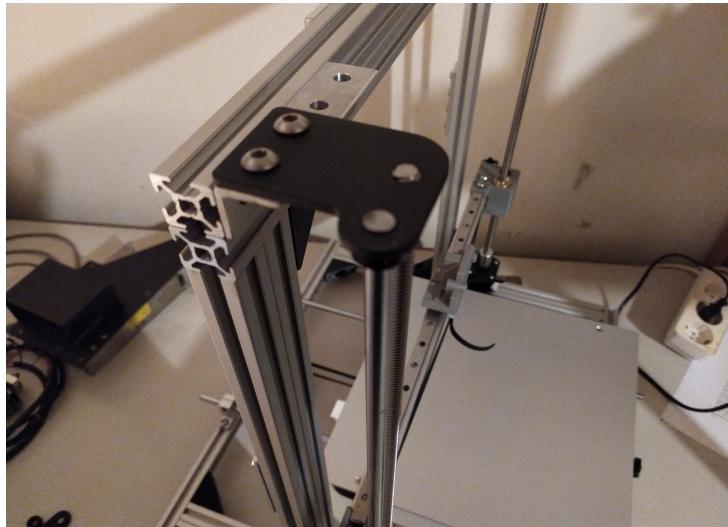
2 z-top holder  
2 blocks z-shaft top  
4 mount z-floating-bearing  
4 mount z-floating-bearing



Before closing the z-axis you have to mount the x-axis on to the shaft and the thread.

Or, otherwise, before you mount the x-axis, you have to re-open the top closing.

How to assemble the x-axis is described below.



## X-Achse

### Mount mgn12-rail

mgn12h-rail-400  
mgn12h-block  
m3x8cyl  
hammermutter\_m3  
tslot48

1 Rail, mgn12, 400 mm  
1 Block, mgn12  
16 mount rail on frame  
16  
1 framepart



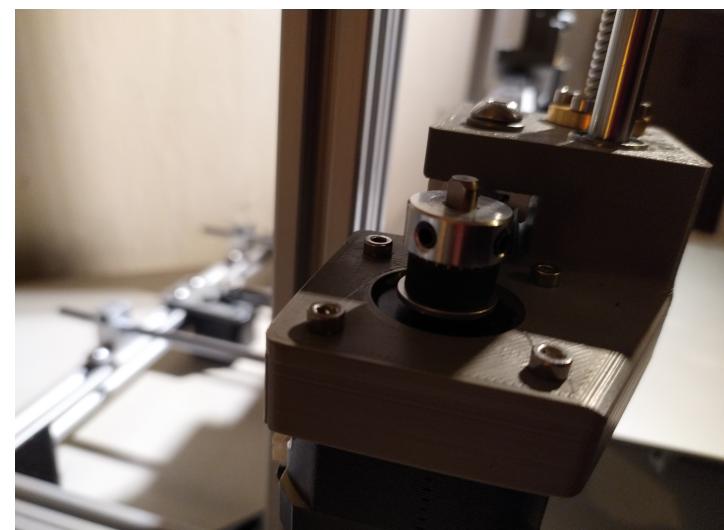
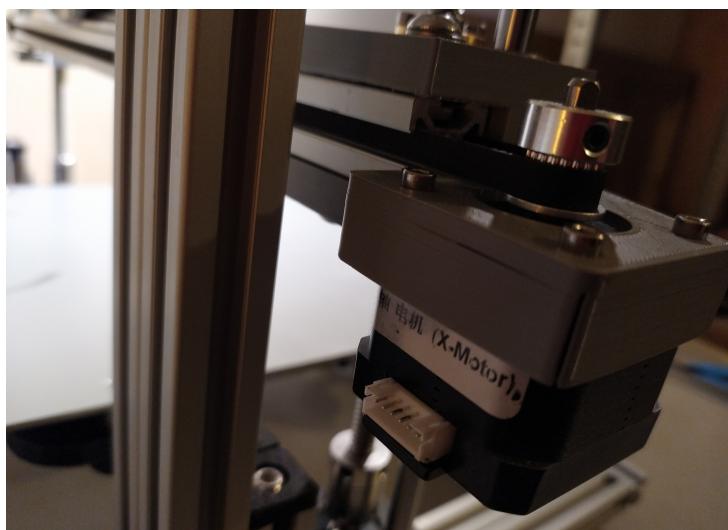
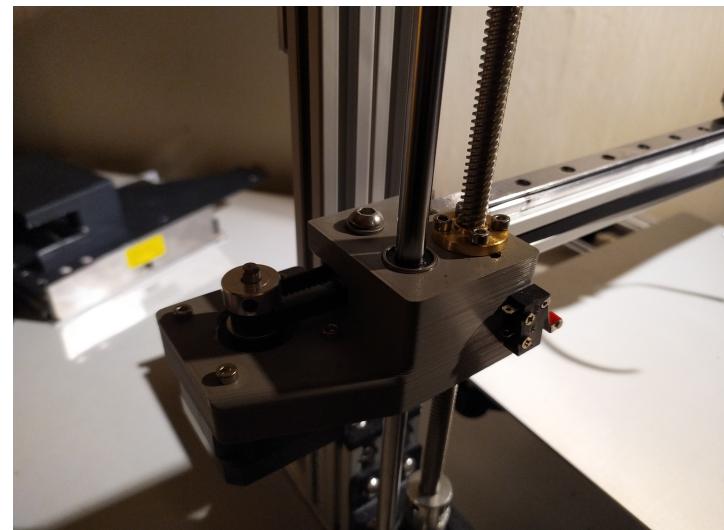
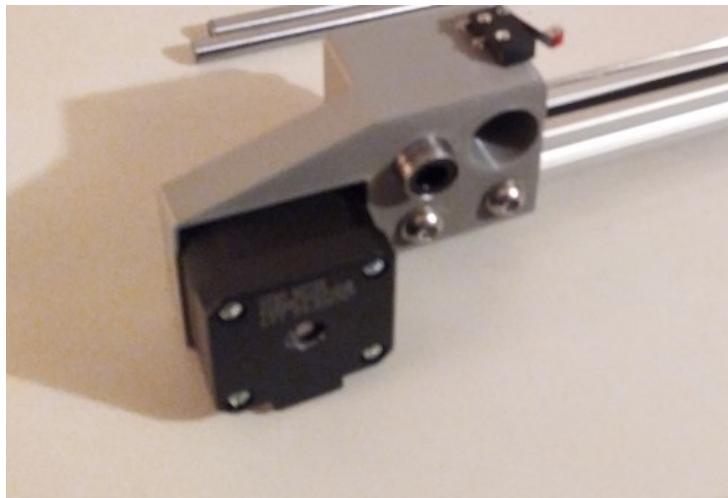
**Mount stepper**

mf\_steppermount  
m6x16  
m6washer  
m6nutplate  
trapezoidal\_nut  
m3x10cyl  
lm8uu  
Gt2-20-6-m5-pulley  
m4x6lockscrew  
nema17-40con

1 x-stepper, z-carriage-left  
3 mount idler on tslot  
3 mount idler on tslot  
3 mount idler on tslot  
1 drive nut  
4 mount trapezoidal nut  
2 linear bearing  
1 pulley, 20 teeth, 5mm, gt2-6-belt  
2 for pulley  
1 y stepper motor



Maker's Friend MF05, UniProKit 2.06



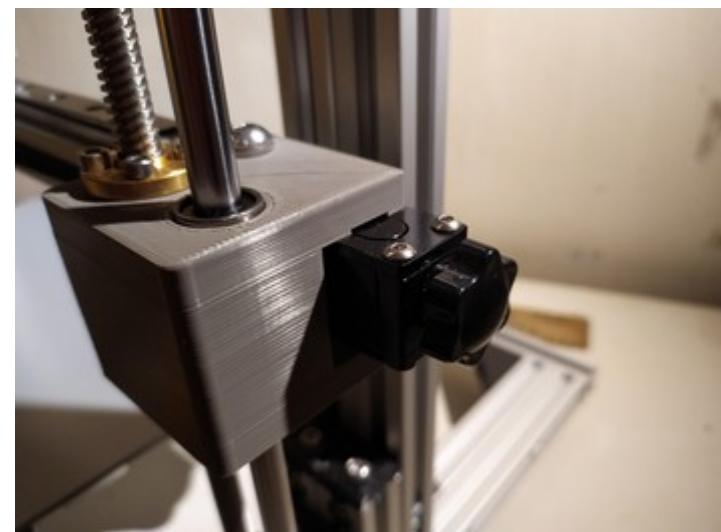
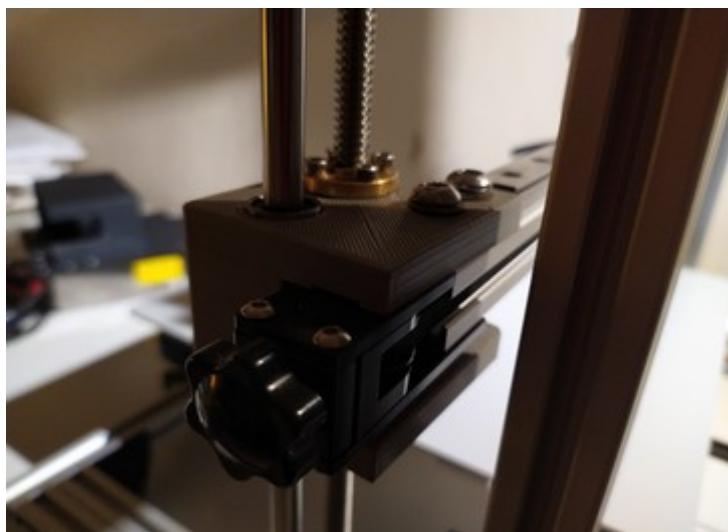
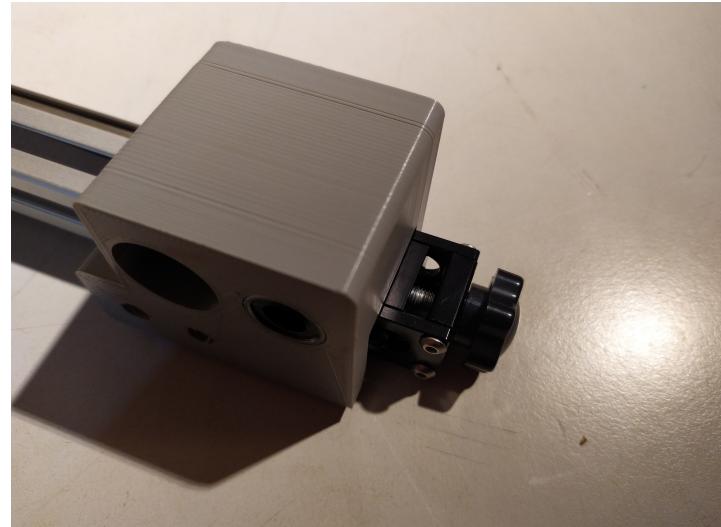
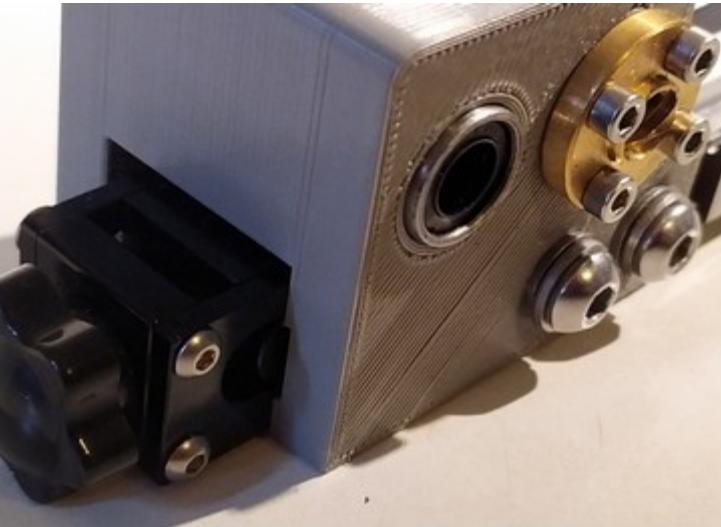
## Mount idler

mf\_idler  
m6x16  
m6washer  
m6nutplate  
trapezoidal\_nut  
m3x10cyl  
lm8uu  
belt-tensioner

1      x-idler, z-carriage-right  
2      mount idler on tslot  
4      mount idler on tslot  
2      mount idler on tslot  
1      drive nut  
4      mount trapezoidal nut  
2      linear bearing  
1      belt-tensioner (complete)



Maker's Friend MF05, UniProKit 2.06



### Mount extruder Adapter on carriage

extruder\_adapter

m3x8cyl

m3x20cyl

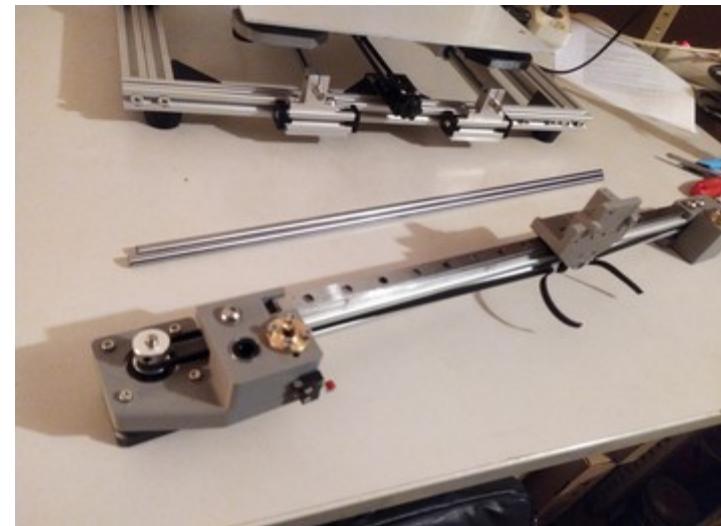
- 1 extruder adapter to mount on mgn12
- 4 mount adapter on mgn12
- 2 pole for belt



### Mount Belt

gt2-6-belt  
cablebinder10

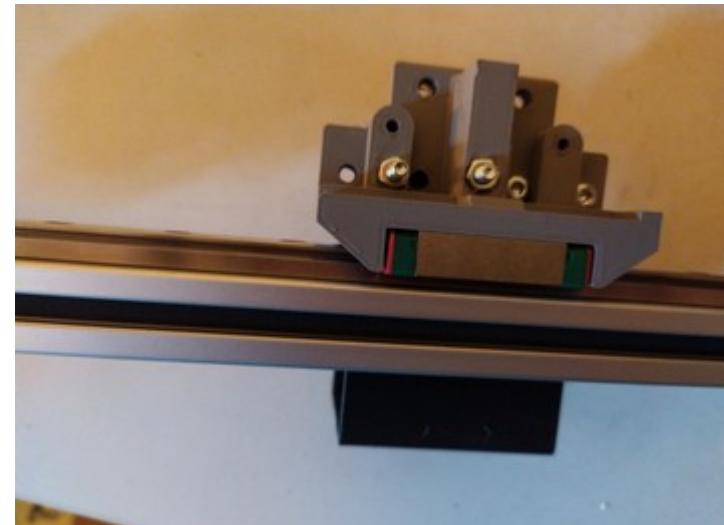
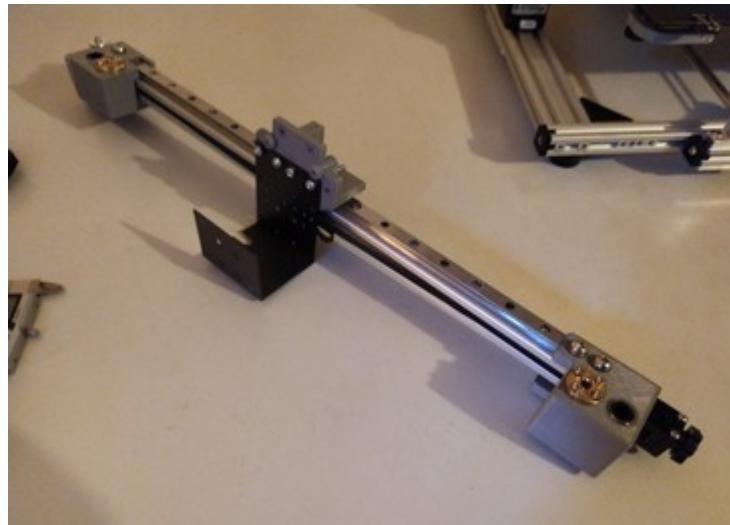
1      y-belt, 100cm  
4      cablebinder 10cm



### Mount Extruder Holder

M4nut  
M4x12cyl  
M4x30cyl  
Extruder-Holder

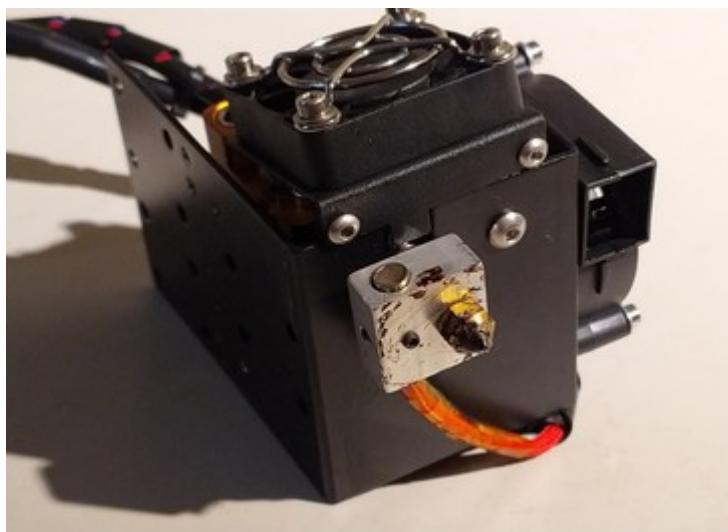
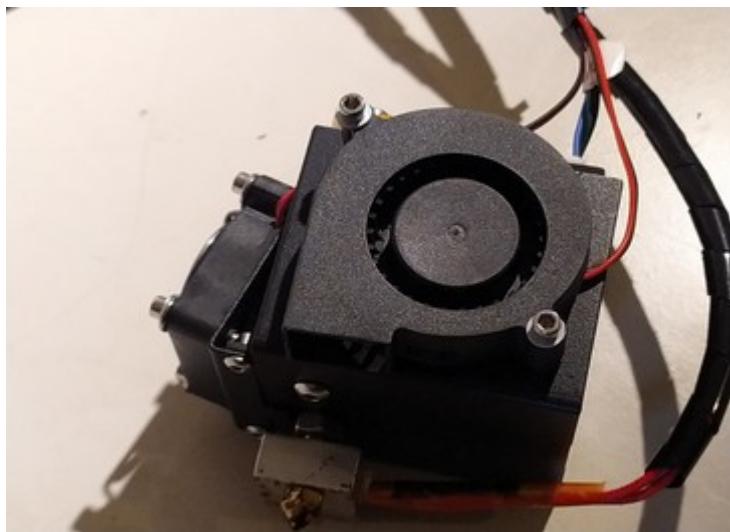
4 for extruder holder mounting  
2 for extruder holder mounting  
2 for extruder holder mounting  
1 for extruder mounting



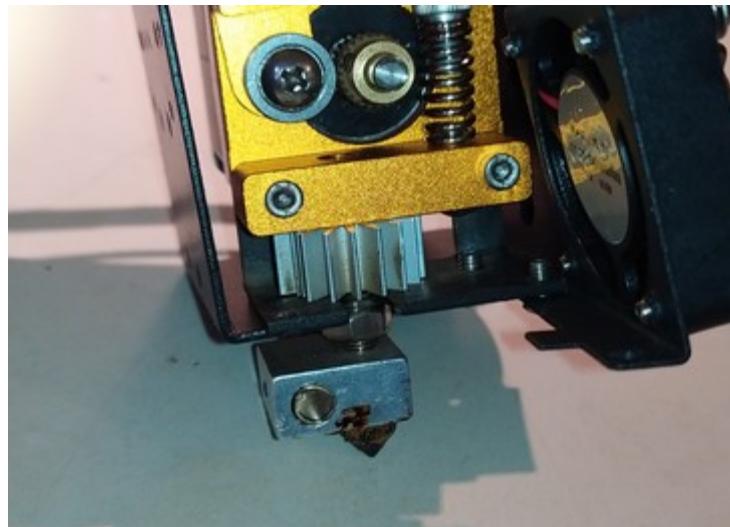
### Mount Extruder

Extruder

1 direct extruder, MK8 type



The extruder can be installed in one peace into the extruder-holder. Its clamped by the hotend-hexnut and additionally secured by the screw beside (which can be seen better when the fan is removed)



### Mount Powersupply-holder

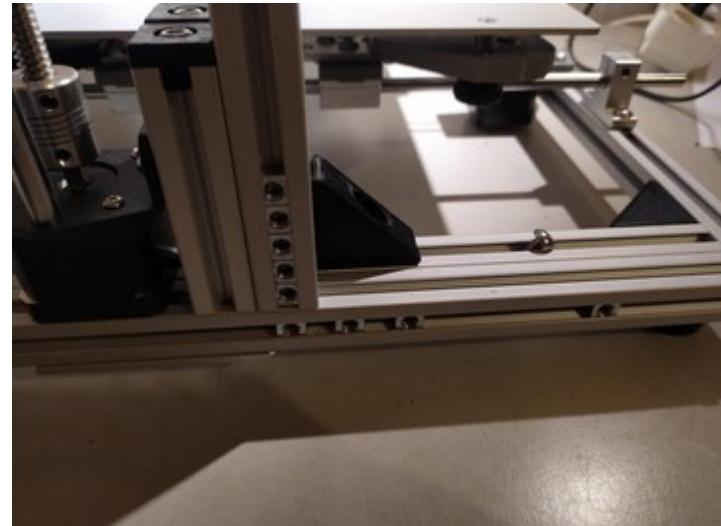
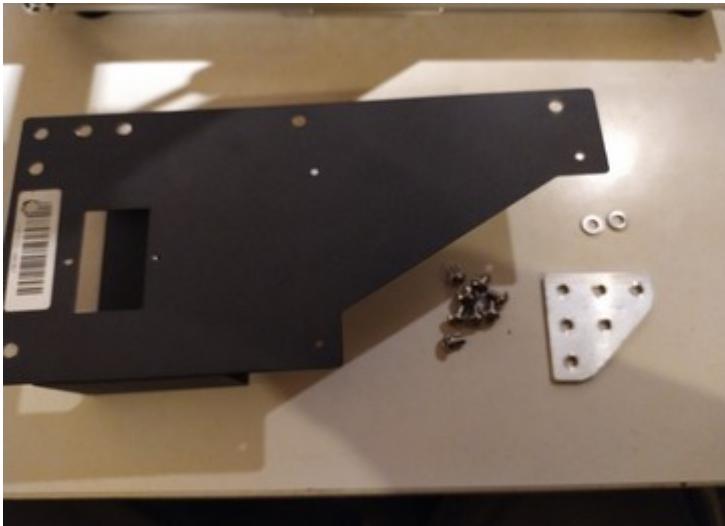
powersuply-holder

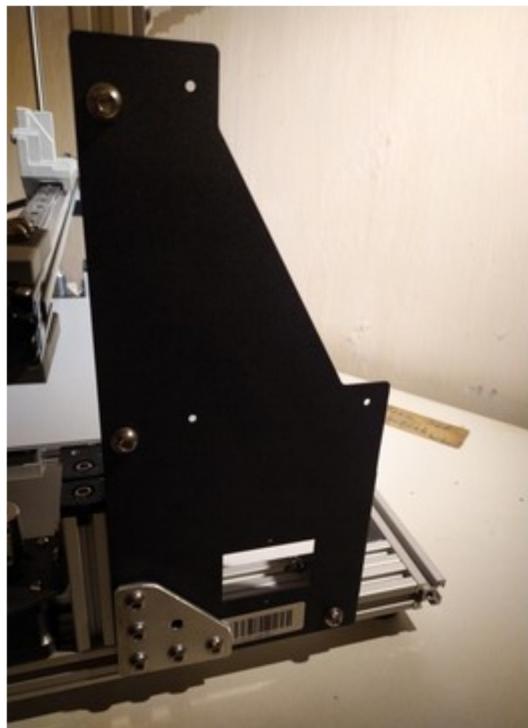
m6x8

m6washer

lcon

- |   |                                      |
|---|--------------------------------------|
| 1 | holder for powersupply (modifiziert) |
| 9 | mount holder and Lcon                |
| 3 | mount holder                         |
| 1 | stabilizes frame                     |

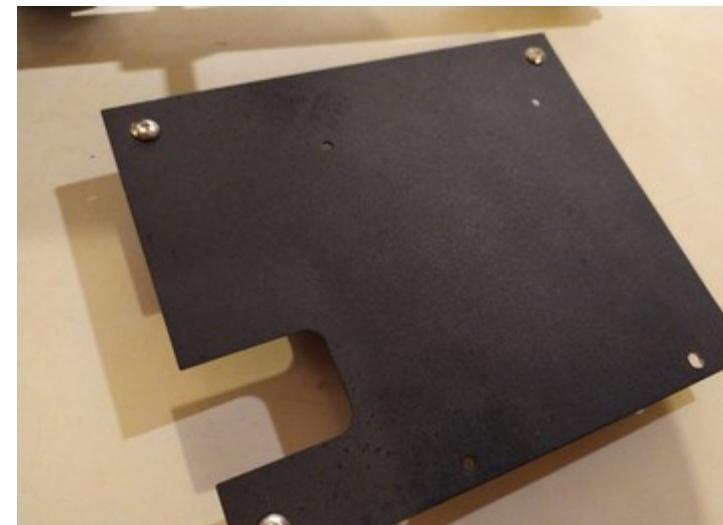
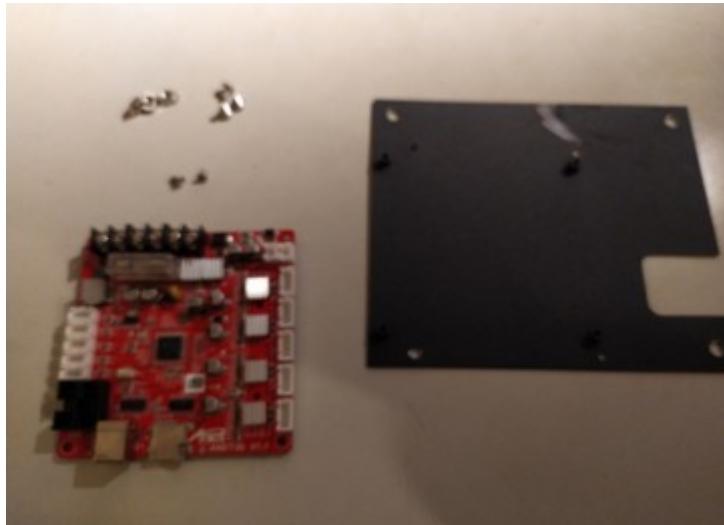




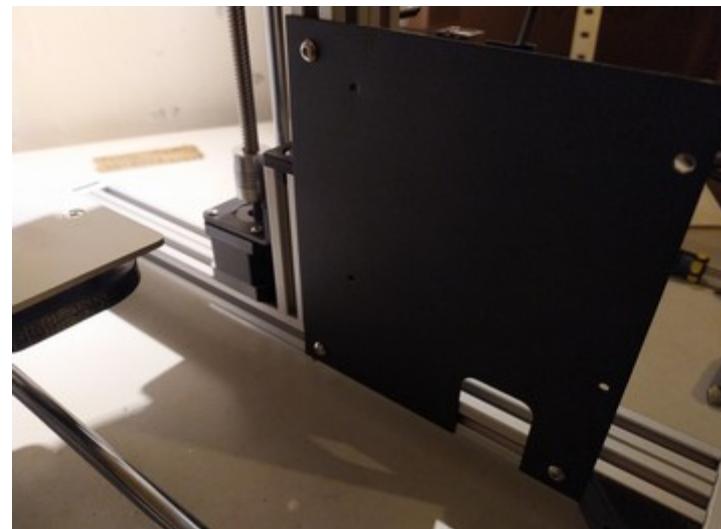
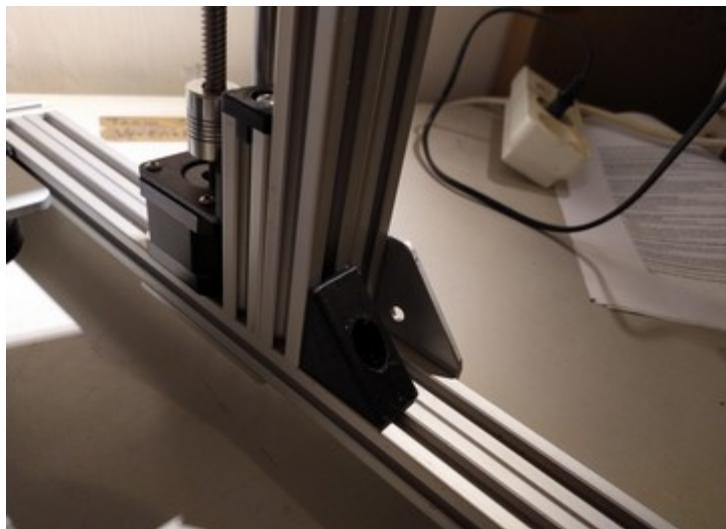
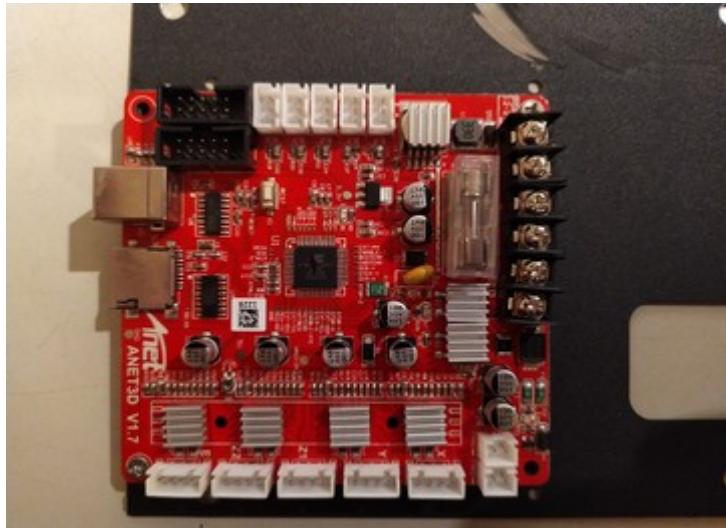
### Mount mainboard

anetboard1.7  
electronics-holder  
m4x6  
hammermutter-m4  
m3x6cone  
Icon  
m6x8

- 1 mainboard, 24V
- 1 mountplate for mainboard
- 3 screws for electronics-holder
- 3 hammer-nut for m4x6
- 2 mount mainboard on holder
- 1 stabilizes frame
- 5 mount Icon



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## Mount Switches

limitswitch-2pol

3 Simple limitswitches for x, y, z

## Mount Y-Switch

y-switchholder

m2.5x12ws

m6washer

m6x8

m6x12

m6x20

tslot6

m6nutplate

endcap1e

1 Holder for y-limitswitch

4 M2.5 x 12 woodscrew

2 for lifting y-switchholder a bit

1 mount holder and endcap

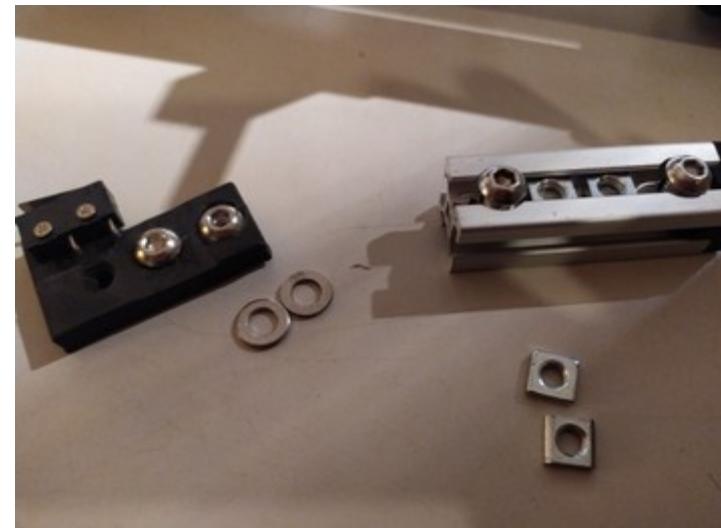
2 mount holder

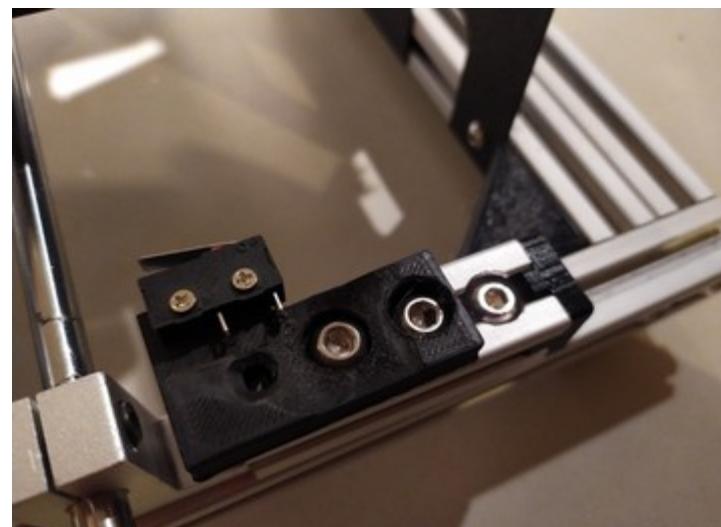
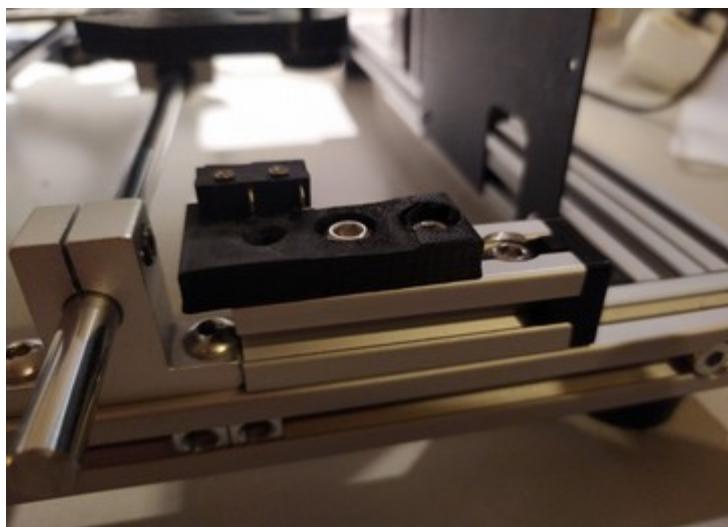
2 mount tslot6

1 distance holder

4 mount holder and tslot6

1 endcap





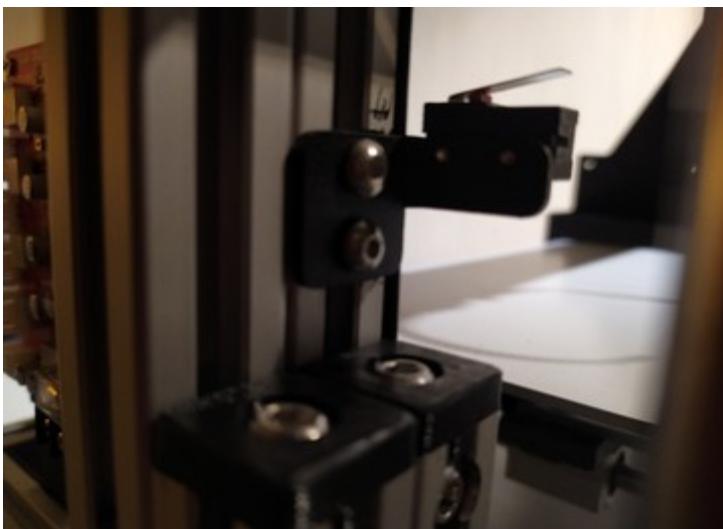
### Mount Z-Switch

z-switchholder  
m4x8  
hammernutter-m4  
m2x10

- 1 Holder for z-limitswitch
- 2 screws for mount z-switchholder to tslot
- 2 hammer-nut for m4x6
- 2 screws for mount limitswitch to holder



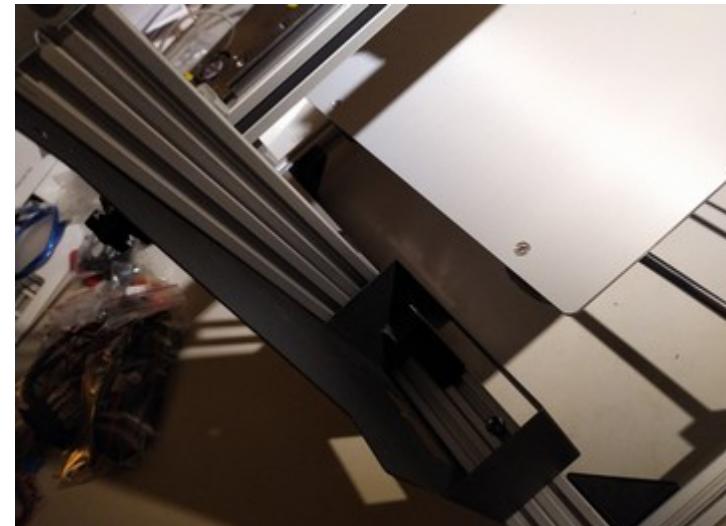
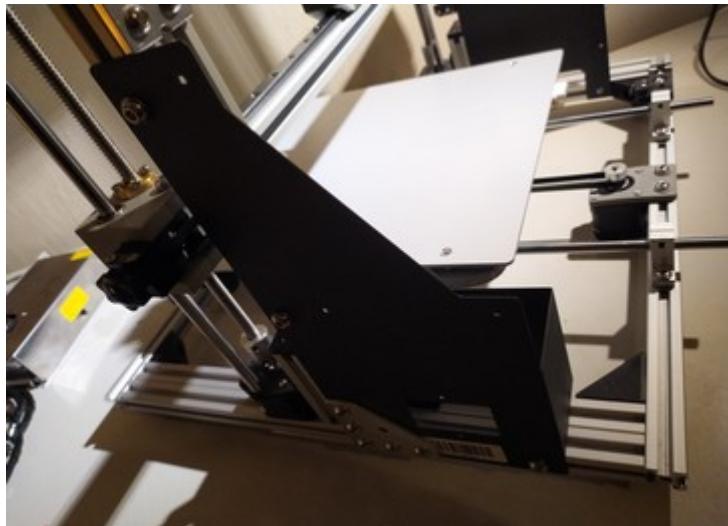
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### Mount powersupply

ps24V15A  
m3x6  
ac-plugswitch

1 PowerSupply 24V 15 A  
5 mount Powersupply  
1 Mainswitch and Main-AC-Power-Plug





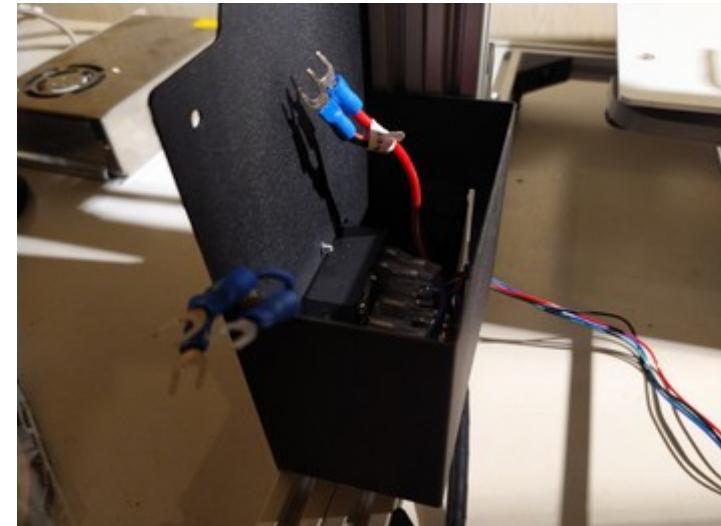
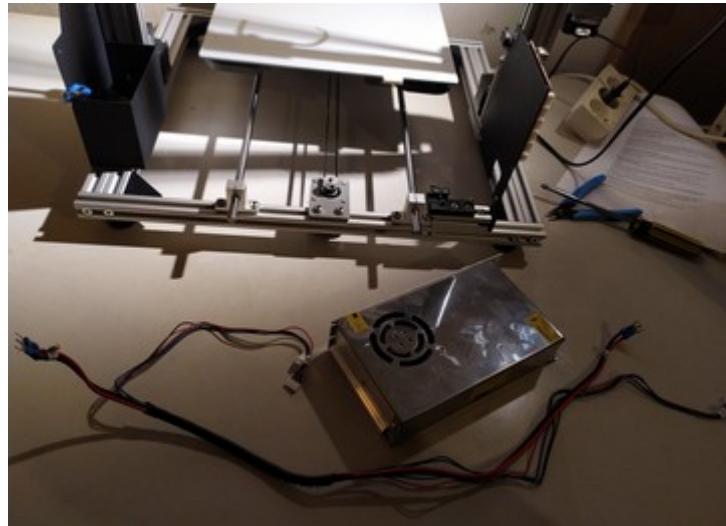
## Connect Powersupply

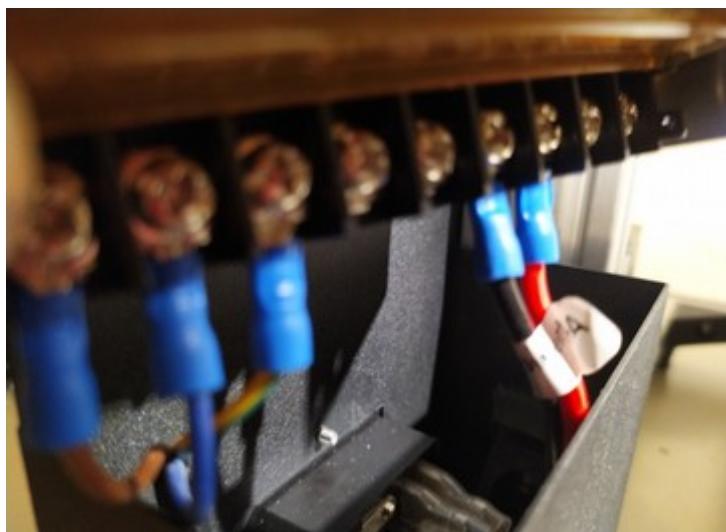
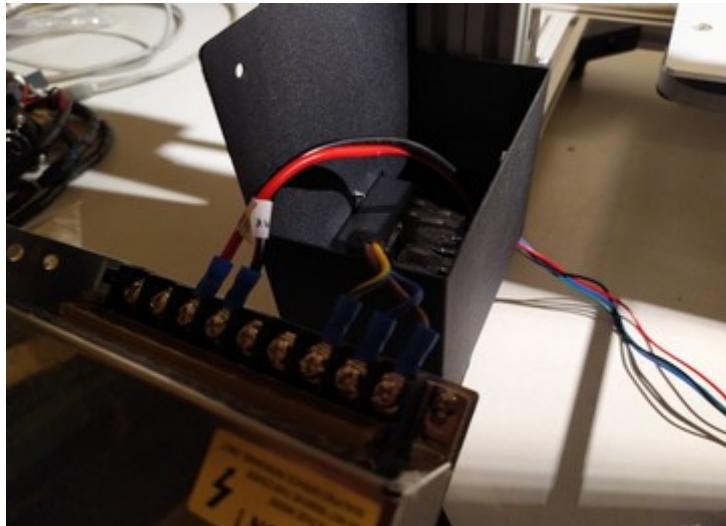
### ps-cables

ps-mainboard-2pol  
cablehose  
z-motor-4pol

- 1 Powersupply to mainboard
- 1 hose for collecting/binding cables, 20 cm
- 1 cable for Z1 stepper motor

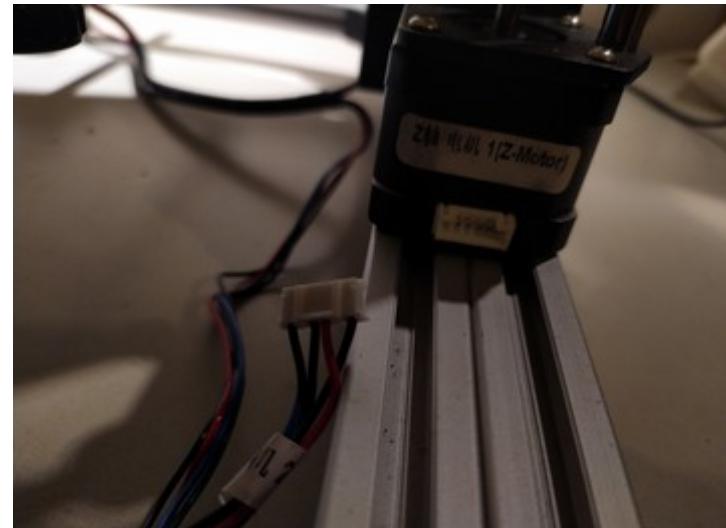
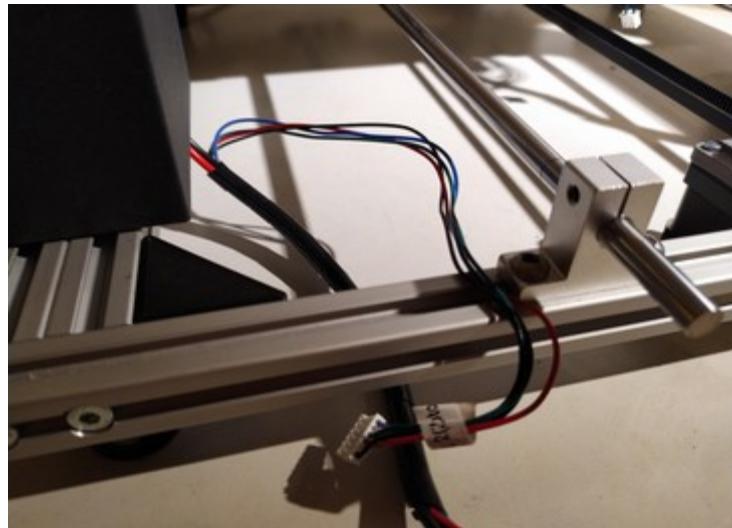
Put the z-motor-epol cable for the z2 stepper motor alltogether with the ps-mainboard-2pol cable into the same cablehose.







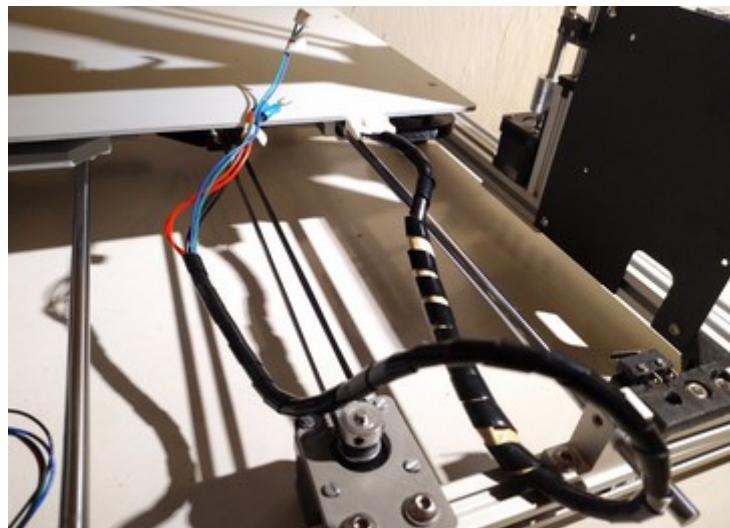
Connect Z1 Steppermotor



### Heatbed-cables

h-6pol  
cablehose

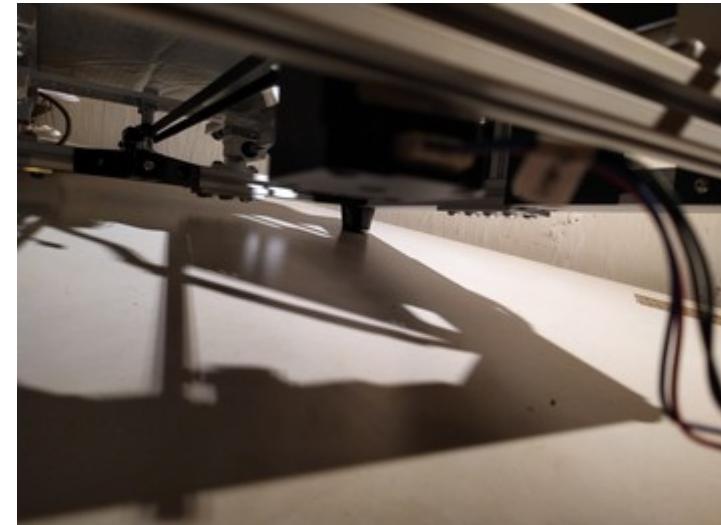
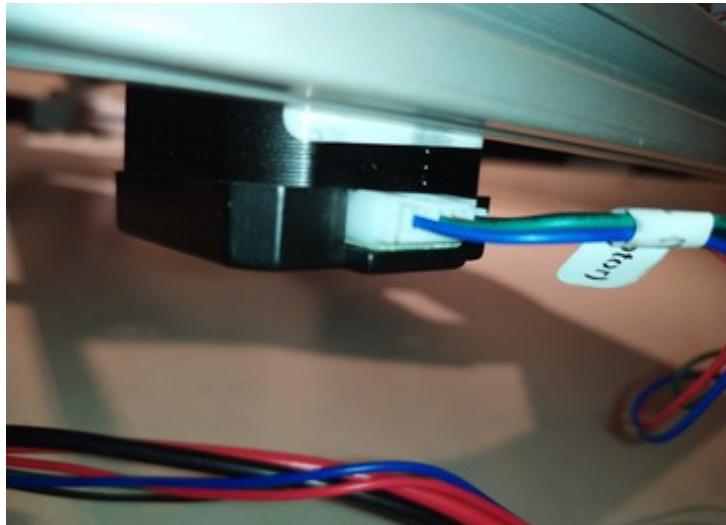
- 1      cable for h-power and h-tempsensor  
1      hose for collecting/binding cables, 64 cm

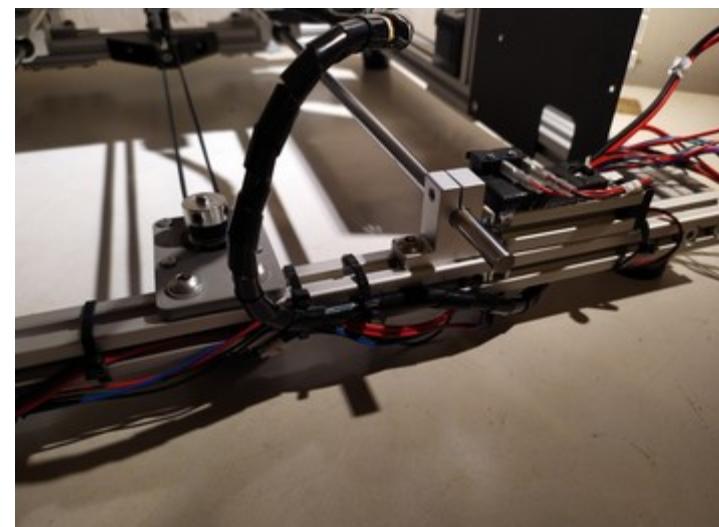
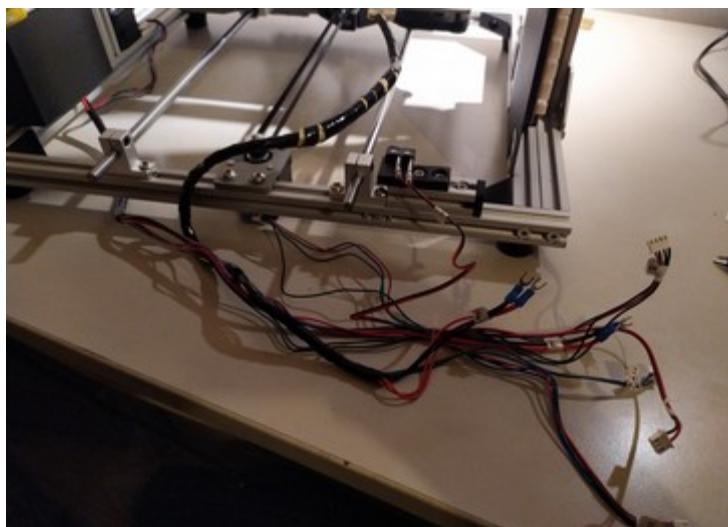
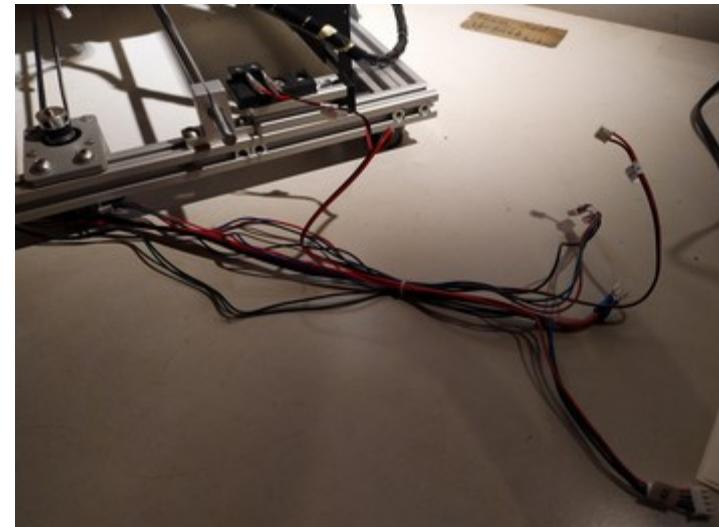
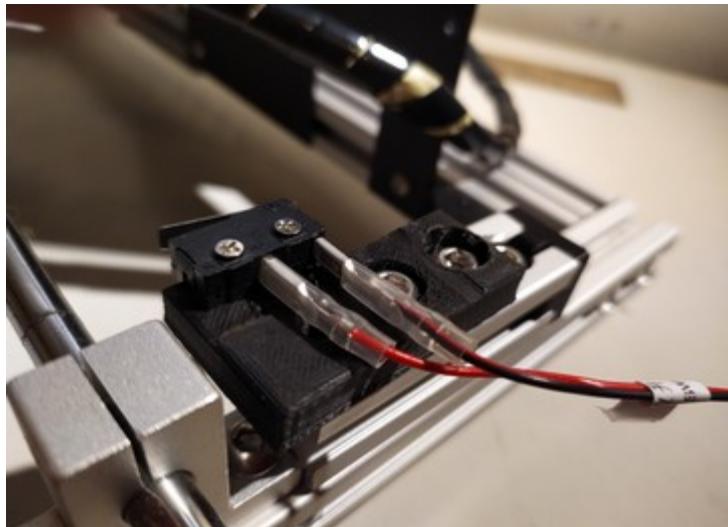


**Y-cables**

y-motor-4pol  
y-switch-2pol

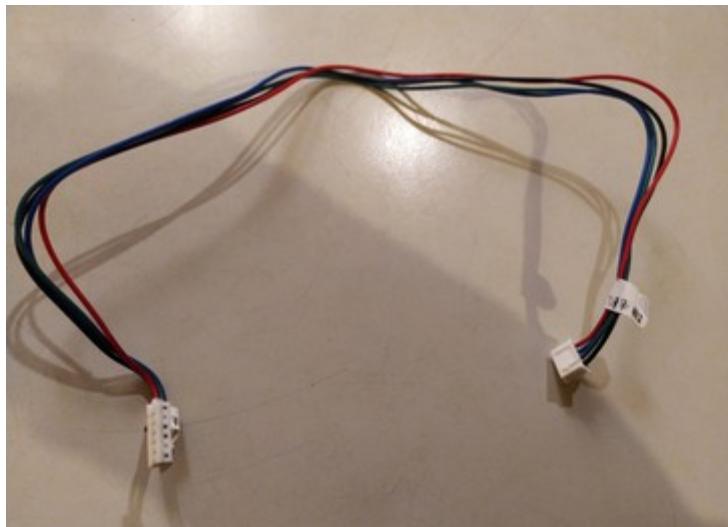
- 1      cable for X stepper motor  
1      cable for X-switch



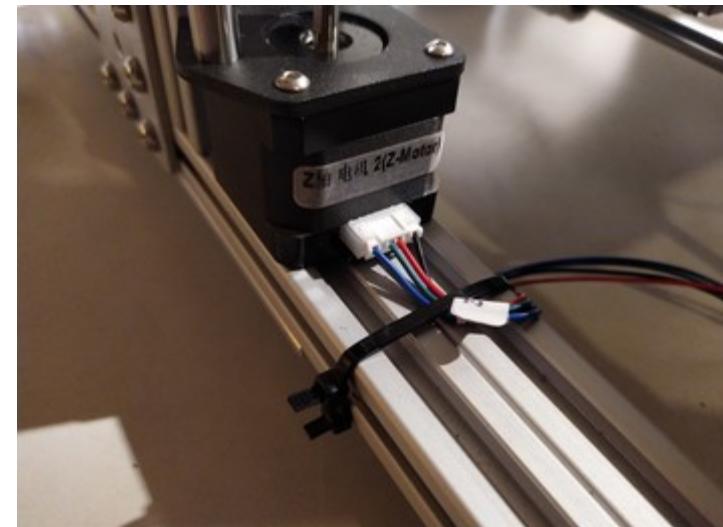


### Connect Z1 Stepermotor

z-motor-4pol

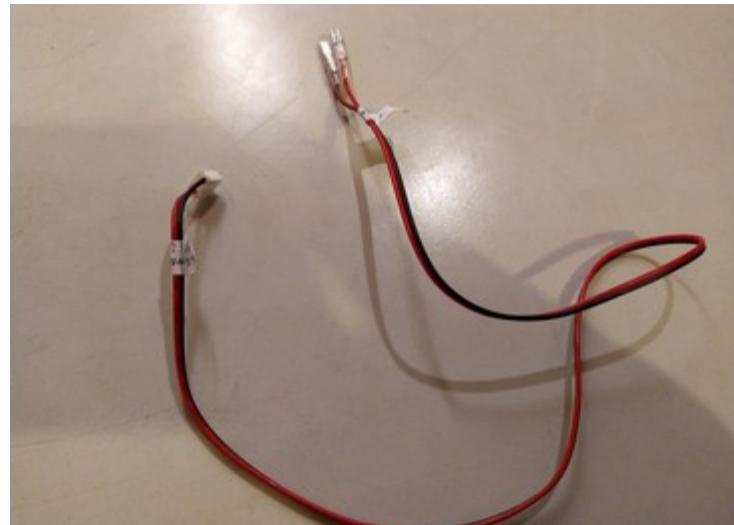


1 cable for Z2 stepper motor

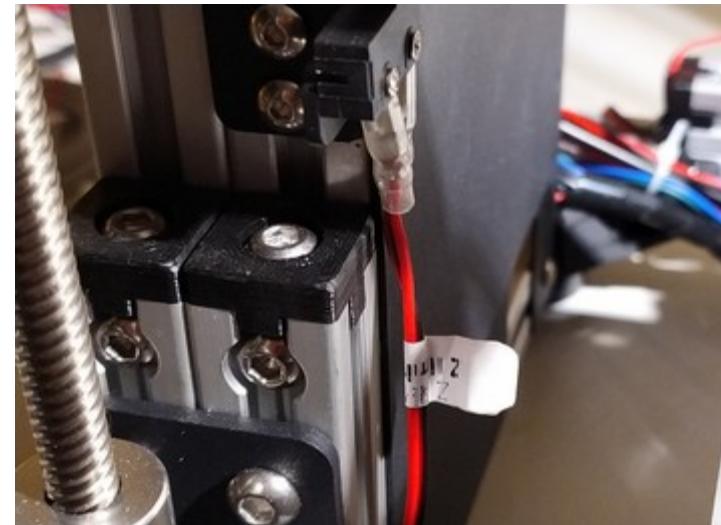


### Connect Z-switch

z-switch-2pol



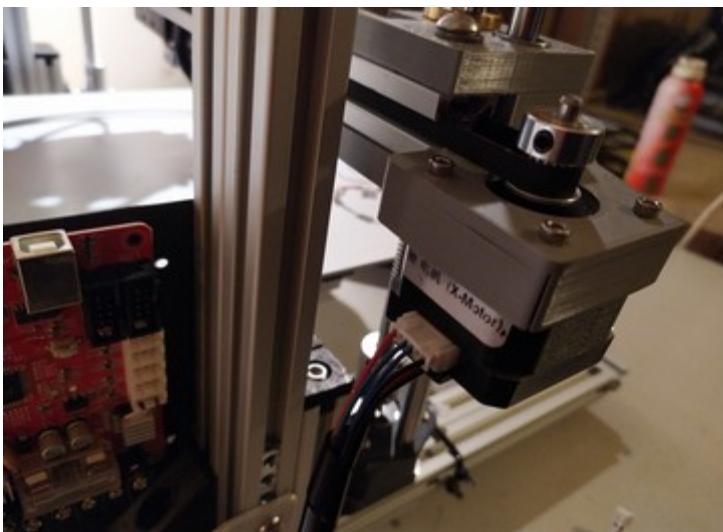
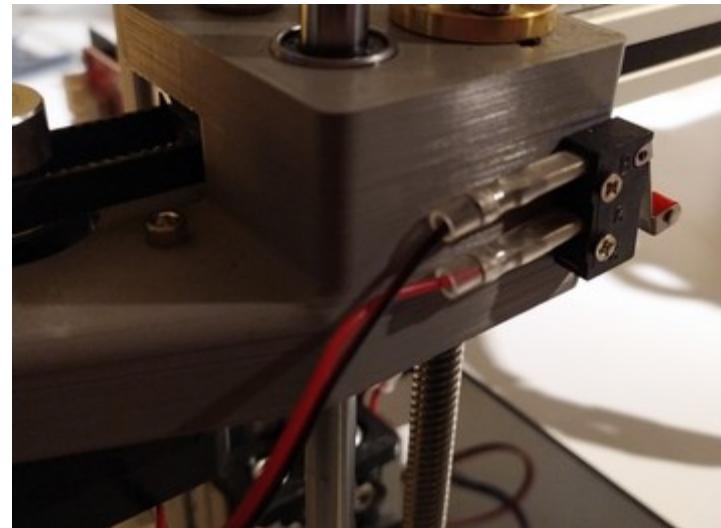
1 cable for Z-switch



### Connect X Steppermotor and X-switch

x-motor-4pol  
x-switch-2pol  
cablehose

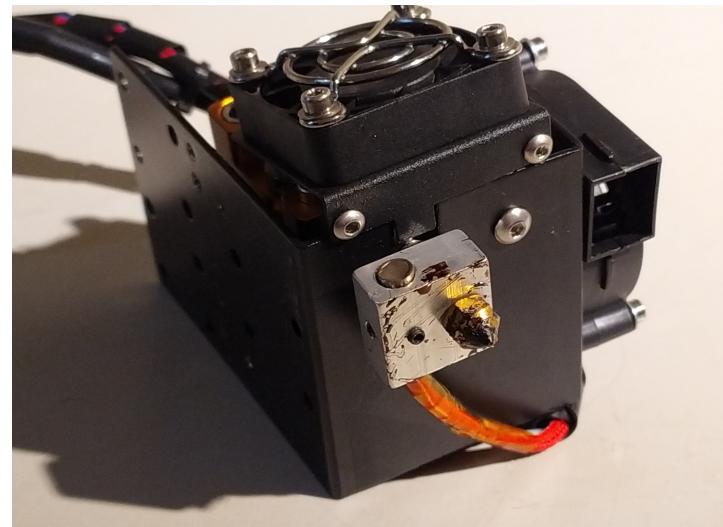
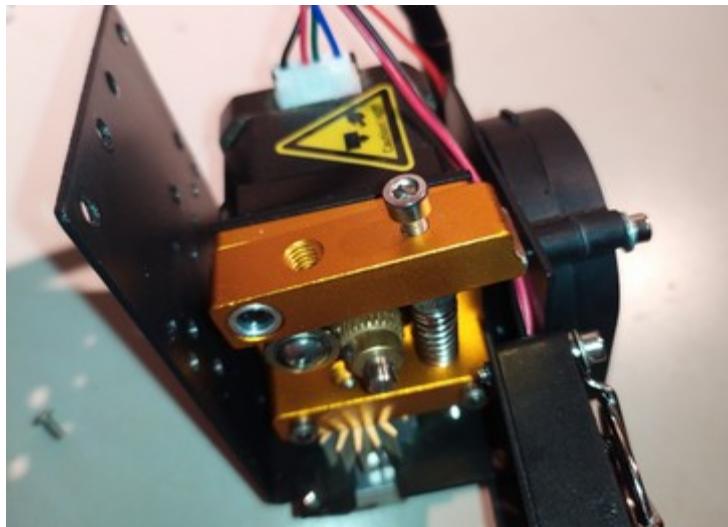
1 cable for X stepper motor  
1 cable for X-switch  
1 hose for collecting/binding cables, 48 cm



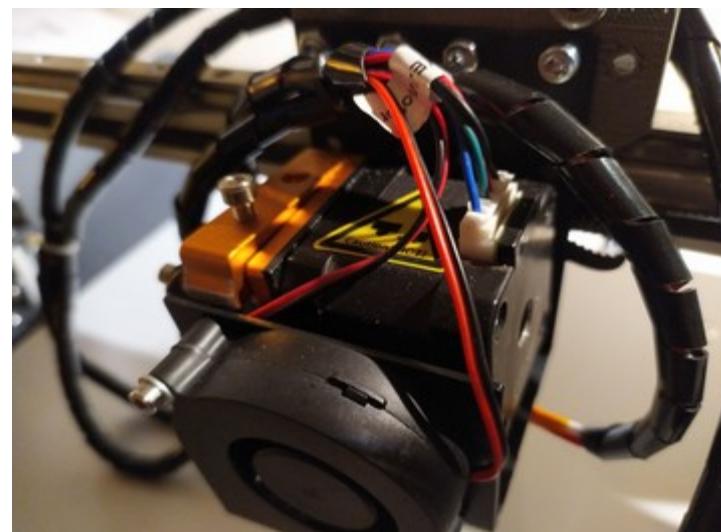
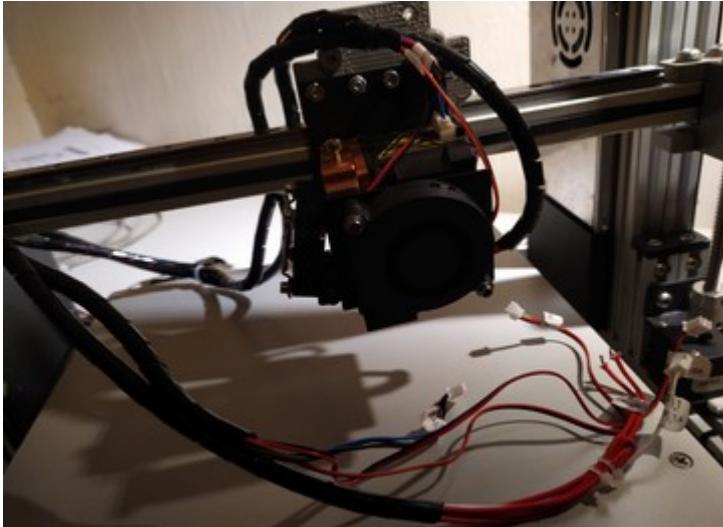
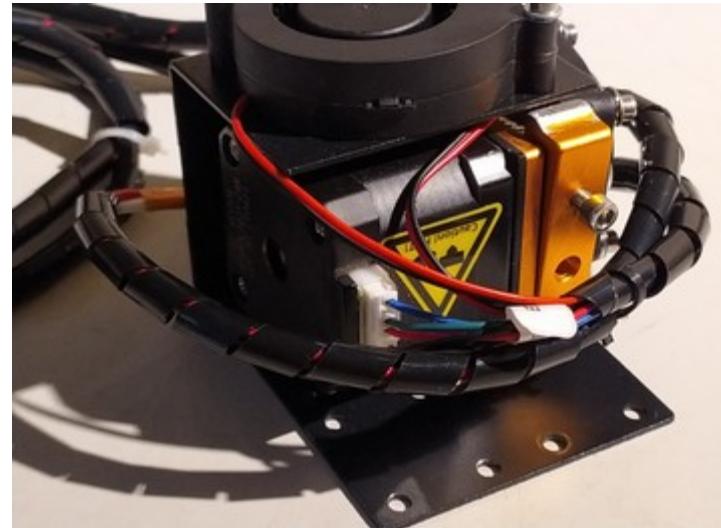
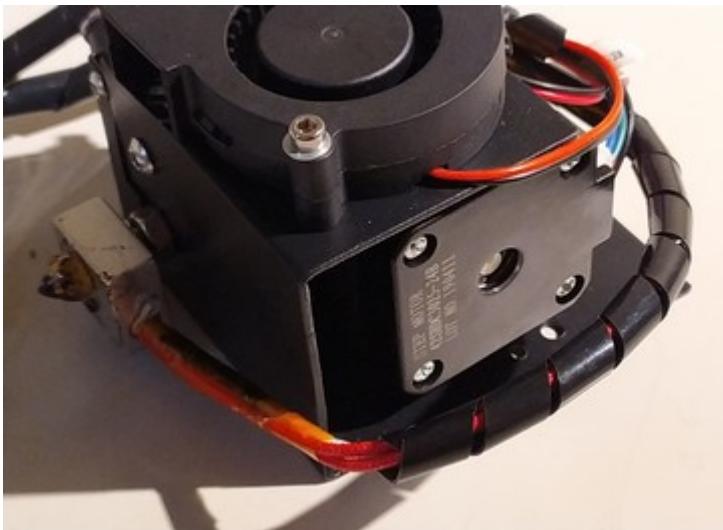
### Connect extruder cables

fan-cable  
e-motor-4pol  
e-thermistor-2pol  
e-nozzle-2pol  
cablehose

2 cable for Fan1 and Fan2  
1 cable for extruder stepper motor  
1 cable for nozzle temp-sensor  
1 cable for nozzle heater cartridge  
2 hose for collecting/binding cables, 75 and 90 cm



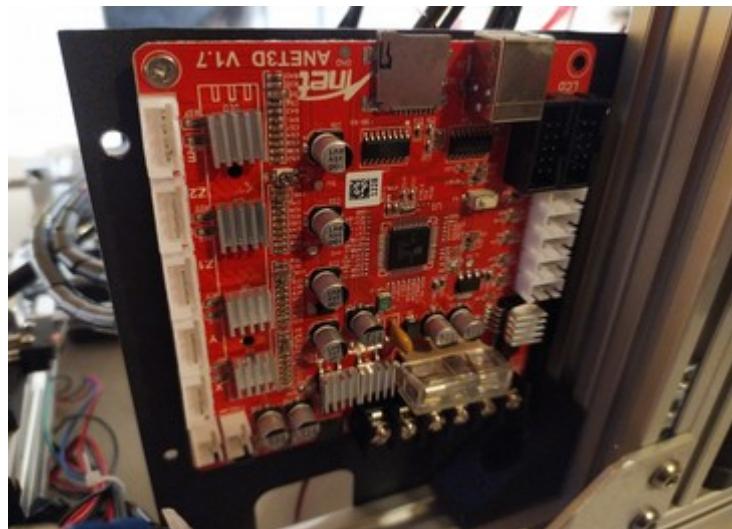
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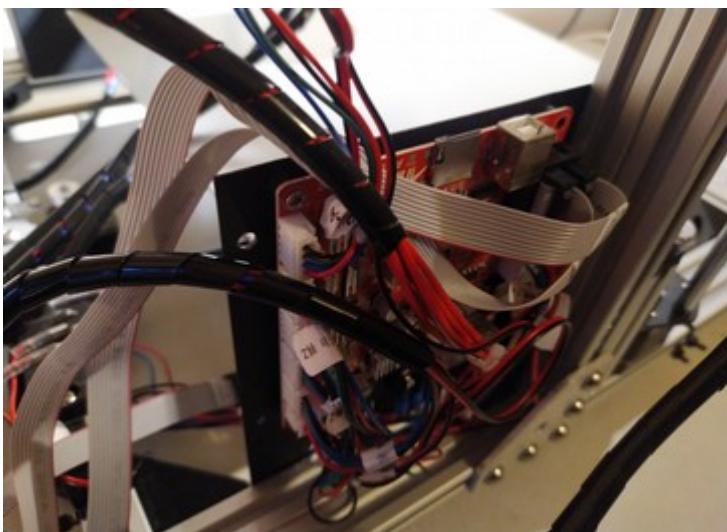
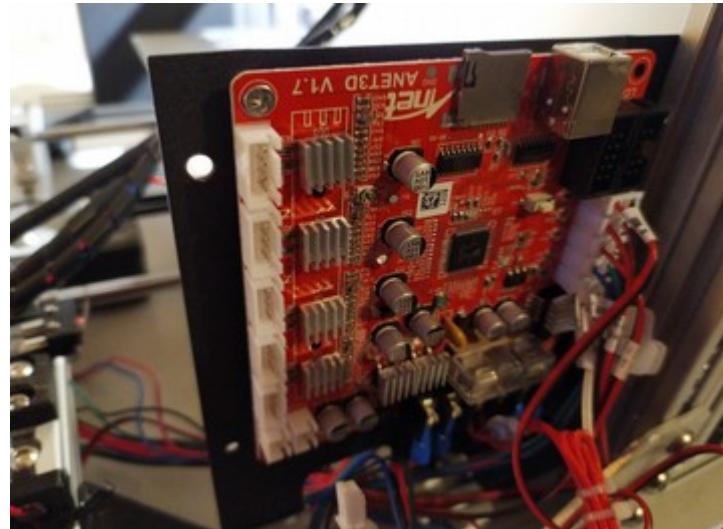
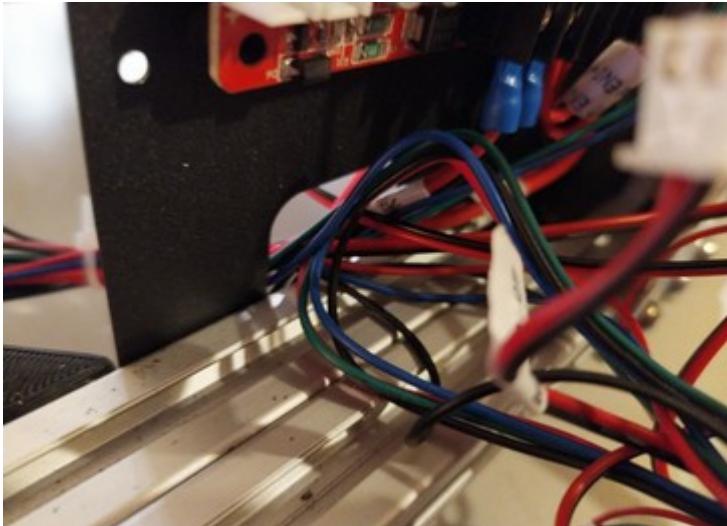


Connect all cables into electronics-box

display-10pol

2 Pfostensteckerkabel f. LCD-Display

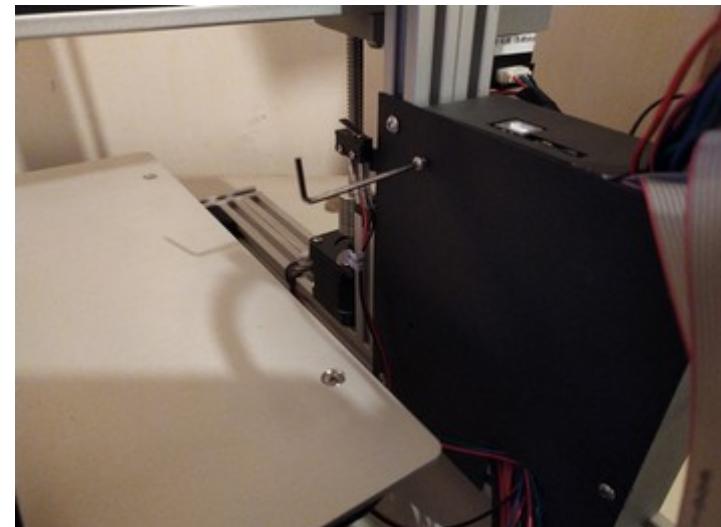
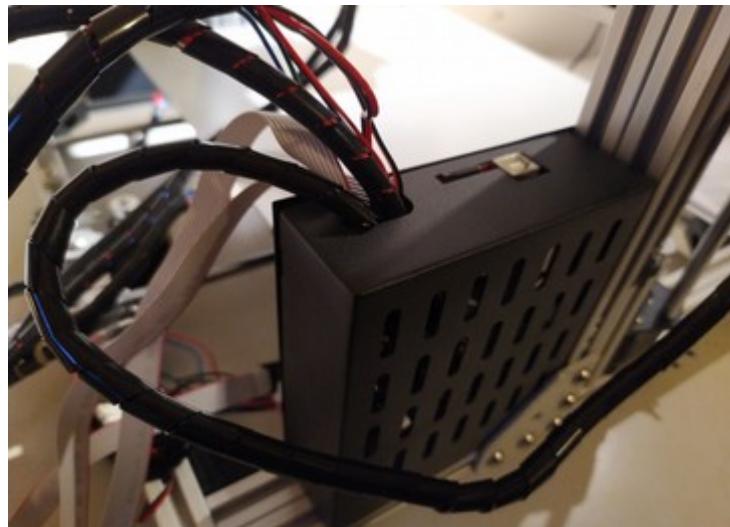




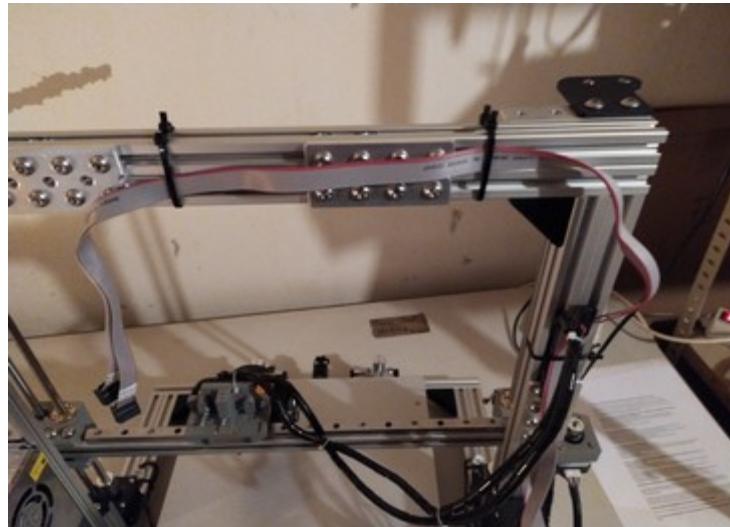
**close electronics-box cover**

m3x6  
electronics-cover

4      screws for electronics-cover  
1      housing for mainboard



**Mount LCD- and extruder-cables with cabebinder**



**Put M6nutplates for Spool- and Display-Holder in top Tslot and install all endcaps**

endcap1e

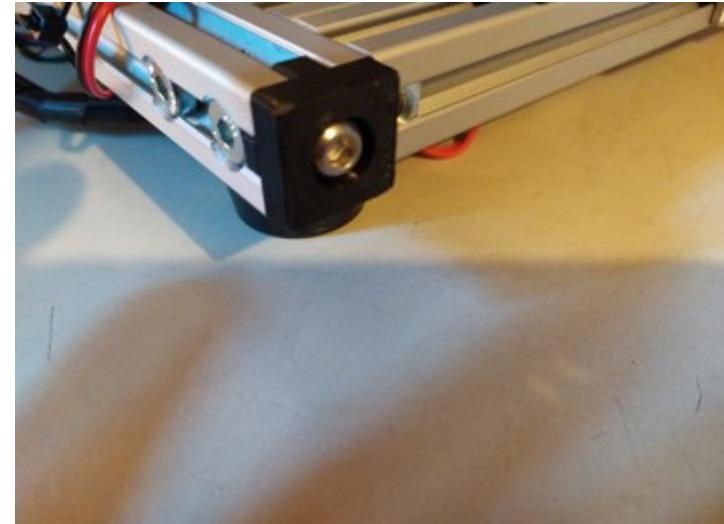
M6x8

m6nutplate

8 Endcaps for Tslots

8 Screws for Endcaps

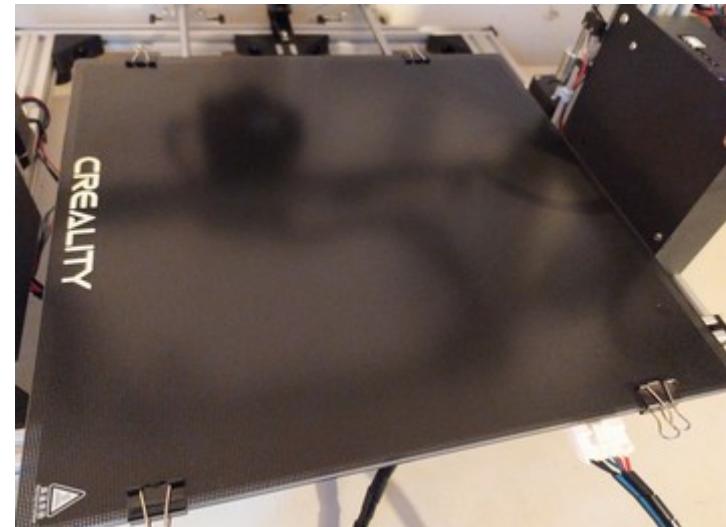
4 Nutplates for Spool- and Display-Holder



**Mount glasplate or ultrabase on heatbed with headbed-clips-small**

ultrabase310  
heatbed-clips-small  
glasplate300

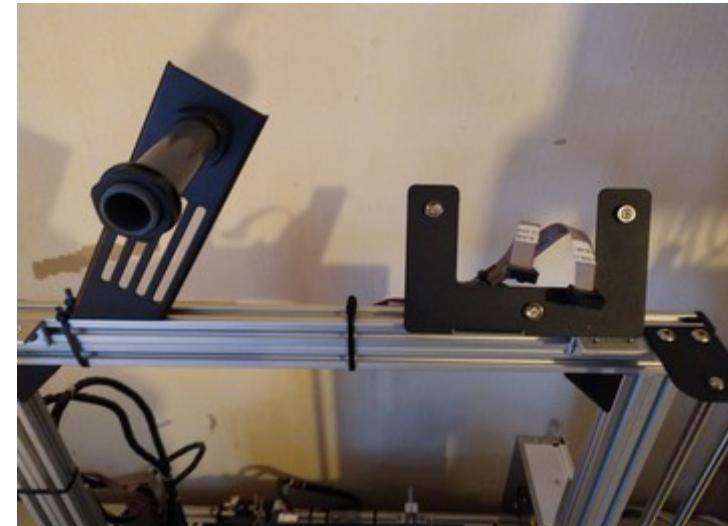
1      Creality Ultrabase glasplate, 310x310mm  
4      Clips for mounting glasplate on heatbed  
1      glasplate 300x300mm

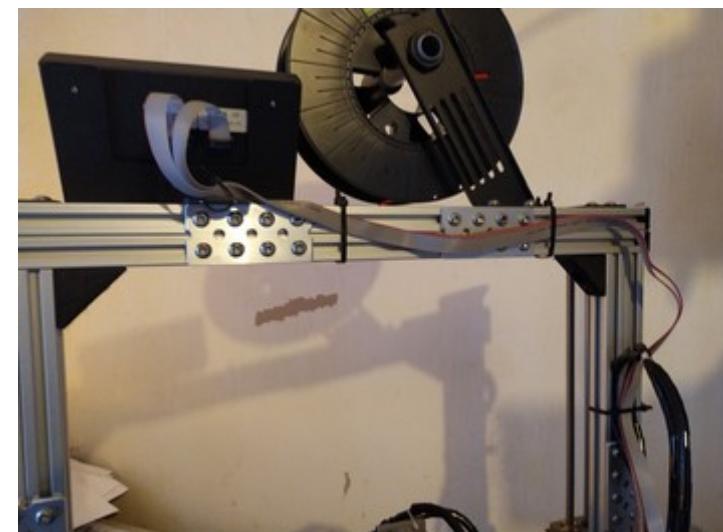
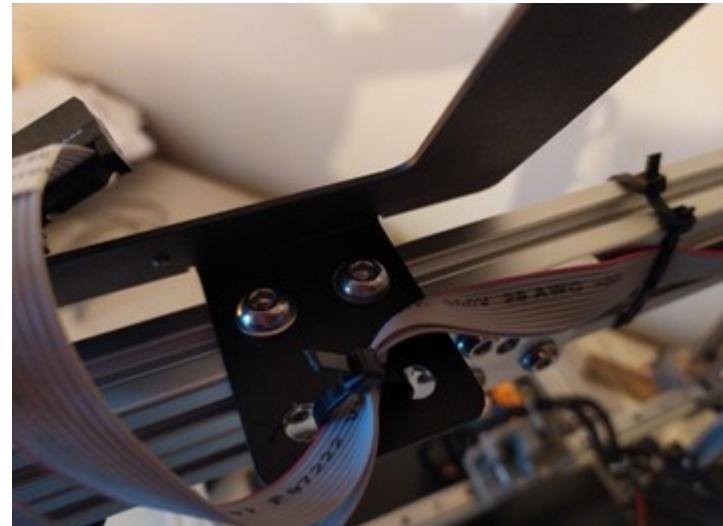
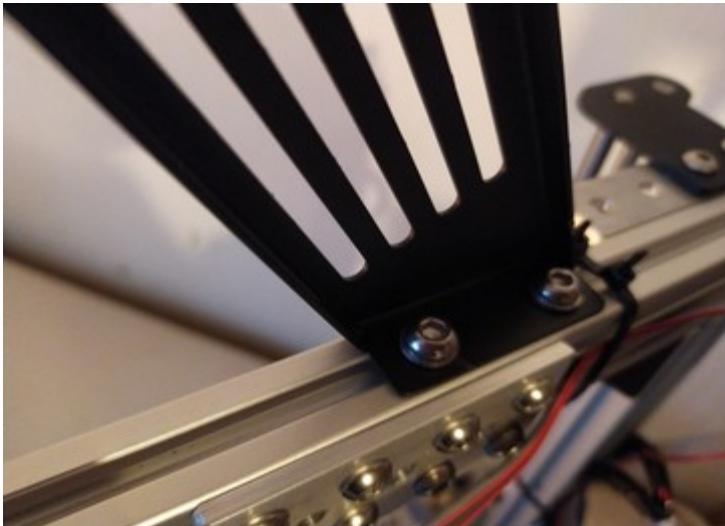


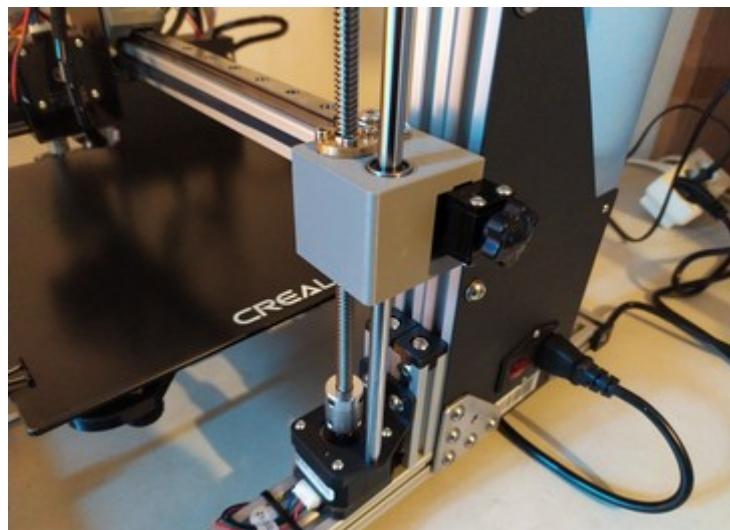
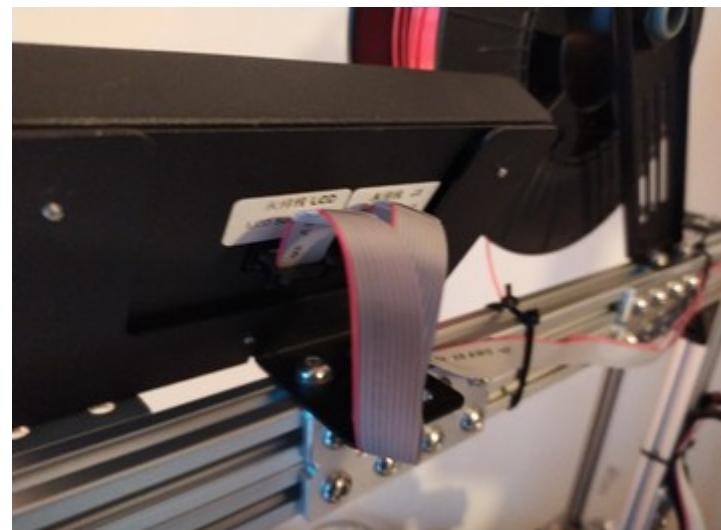
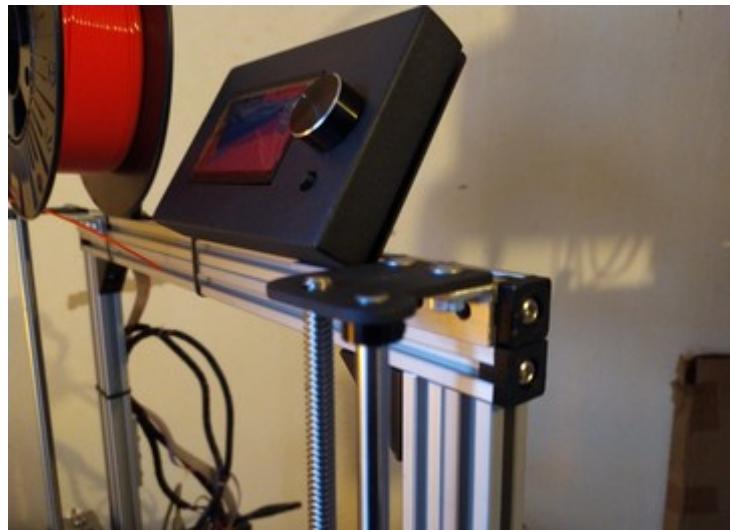
**Mount LCD-Display and Spool Holder and plugin cable\_220v for powersupply. Then load filament-sample.**

PLA-Sample  
LCD-Display  
Cable\_220v  
spool-holder  
display-holder  
m6x8  
m6washer

1 Stück Filament zum testen  
1 LCD-Display im Metall-Gehäuse  
1 230V-AC Netzkabel  
1 Filament Spooler  
1 Holder for LCD-Display  
4 Screws for display- and spool-holder  
4 Washer for display- and spool-holder







**Congratulations, your MakerFriend MF05 is ready to print !**

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