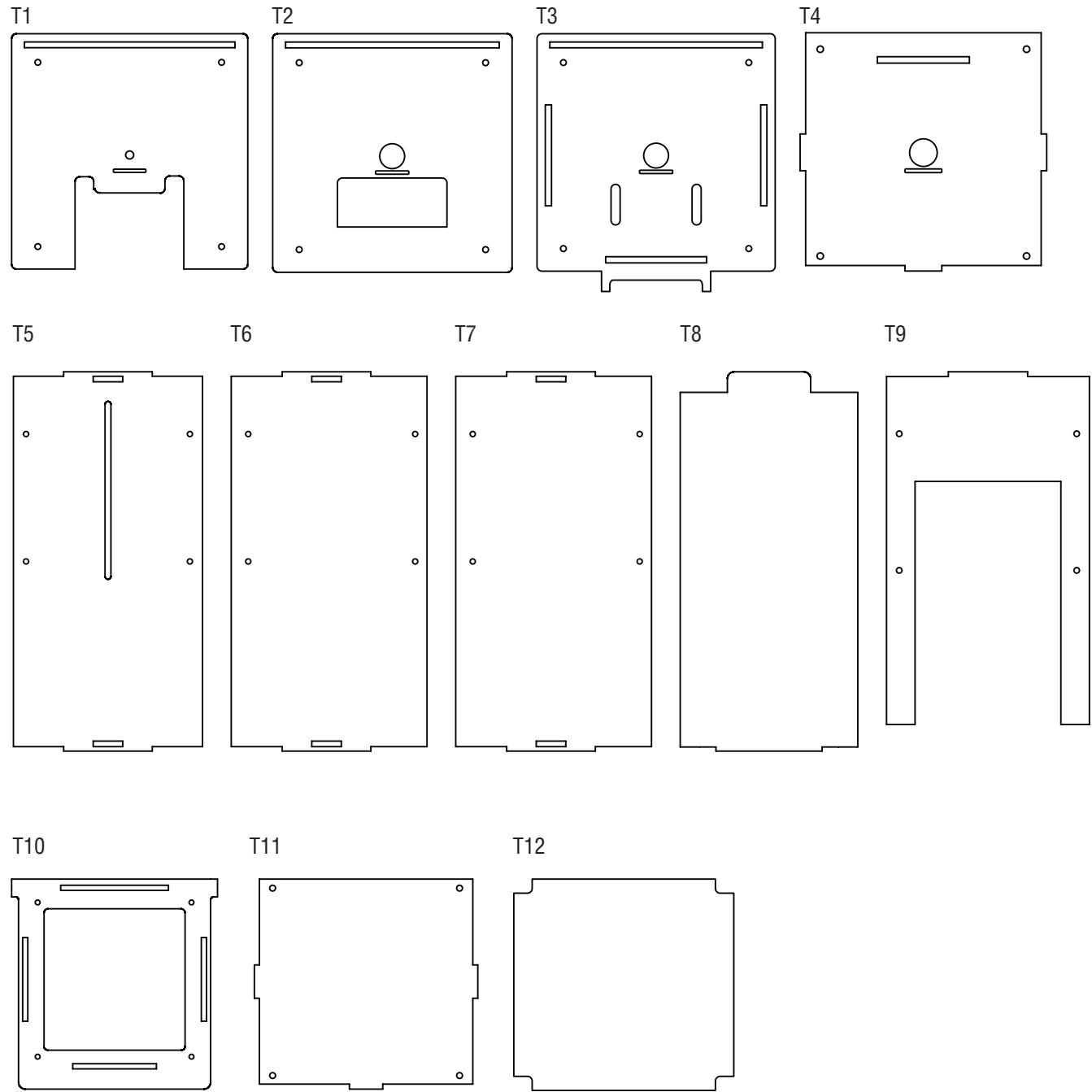


Fluorescence Imaging Station

Top Module Parts



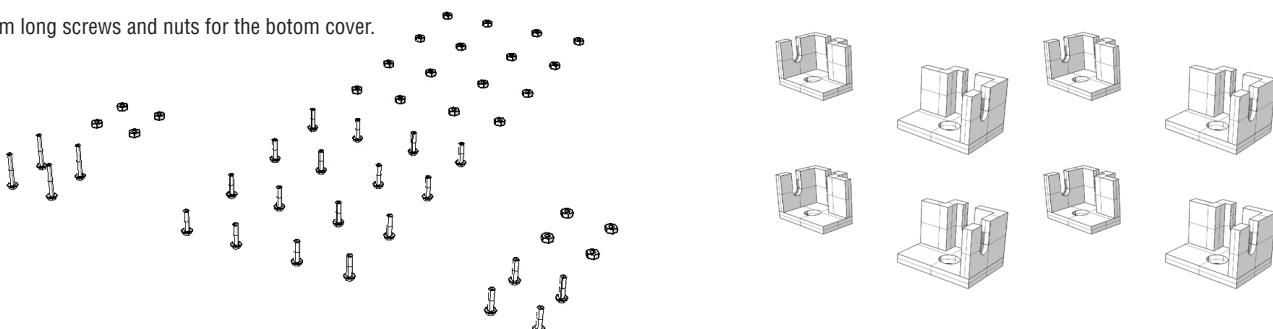
Screws and Nuts

4 M3 15 mm long screws and nuts for the top cover.

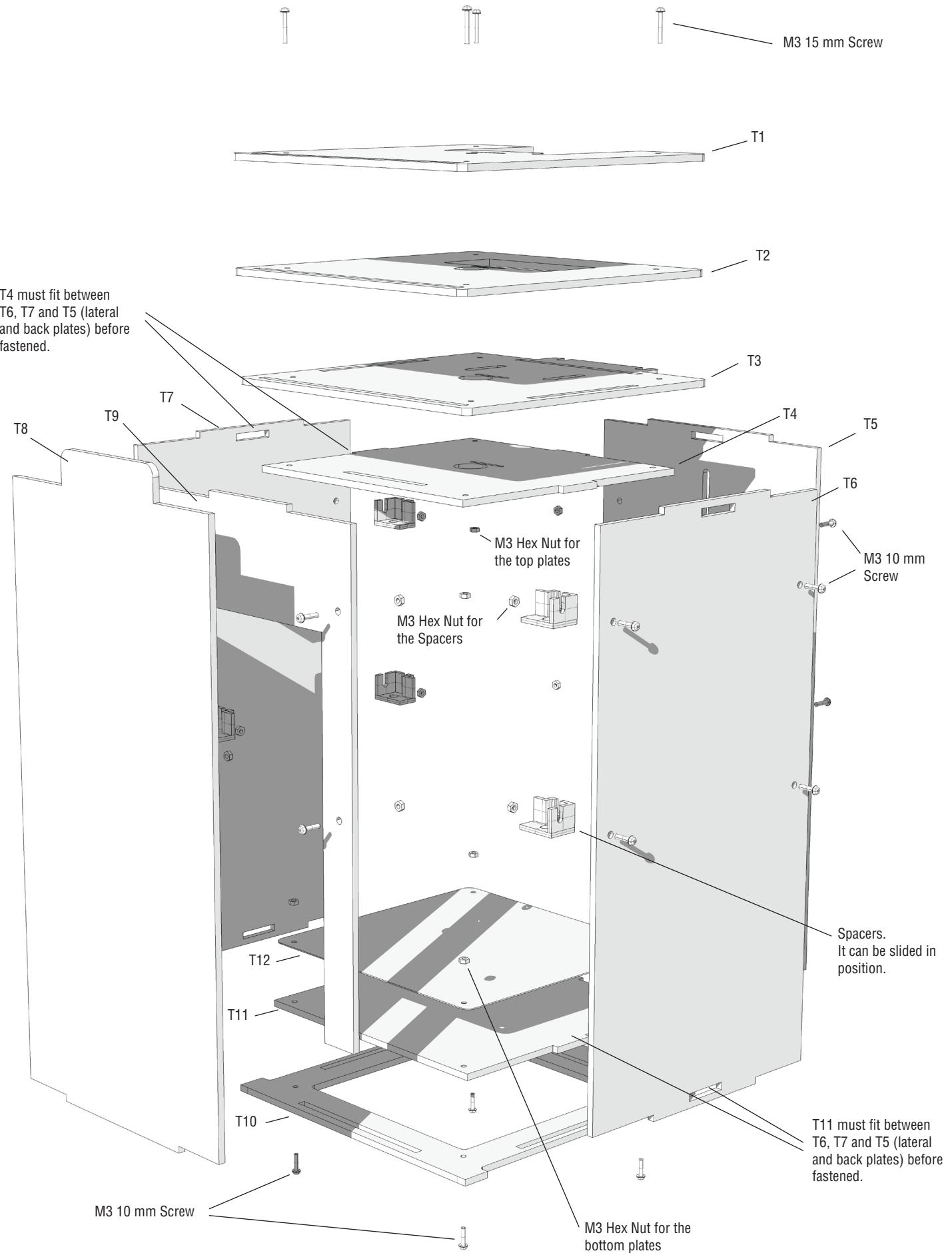
16 M3 10 mm long screws and nuts for the vertical plates.

4 M3 10 mm long screws and nuts for the bottom cover.

4 Spacers R and 4 Spacers L



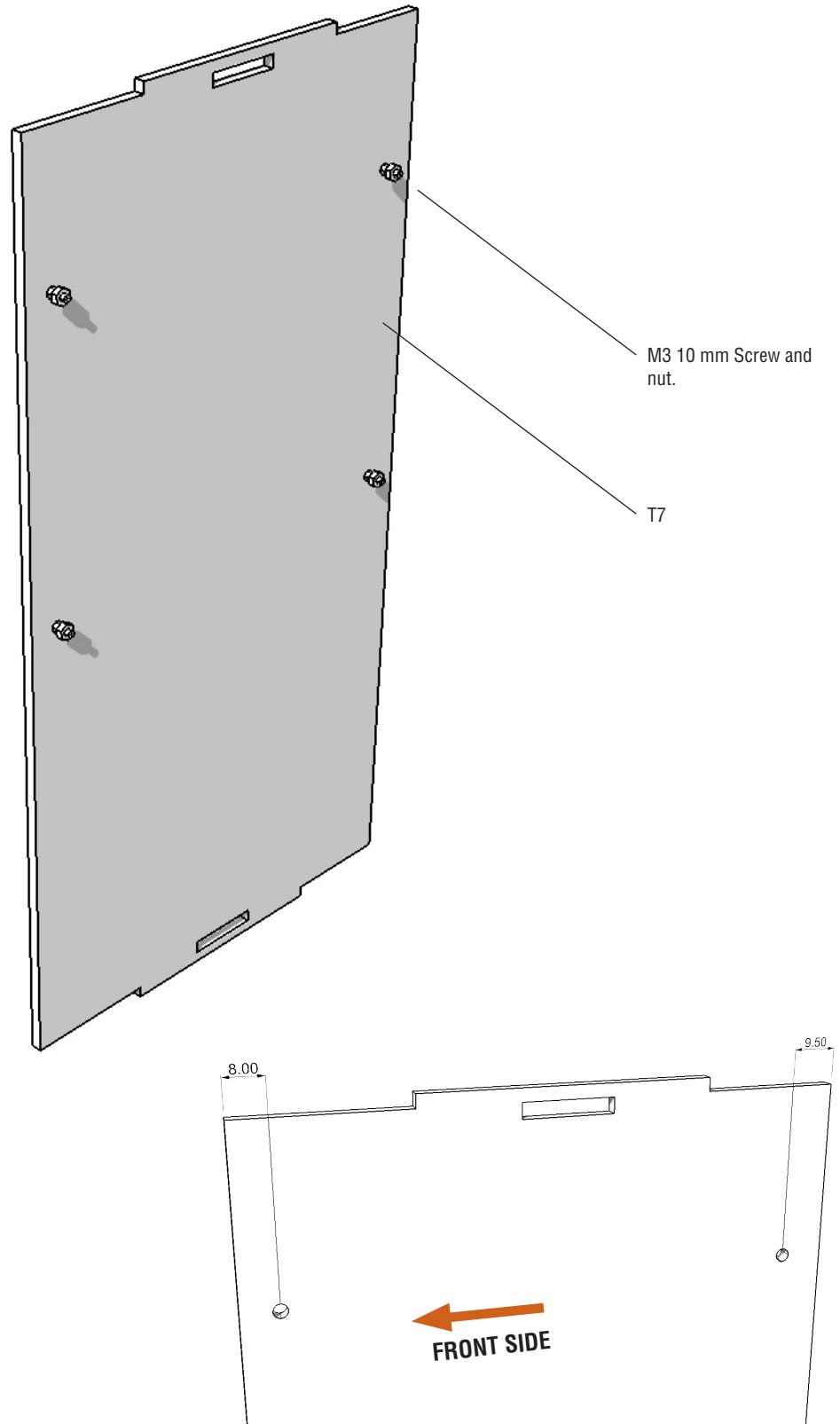
Top Module Explosion



Top Module Assembly

Step 1

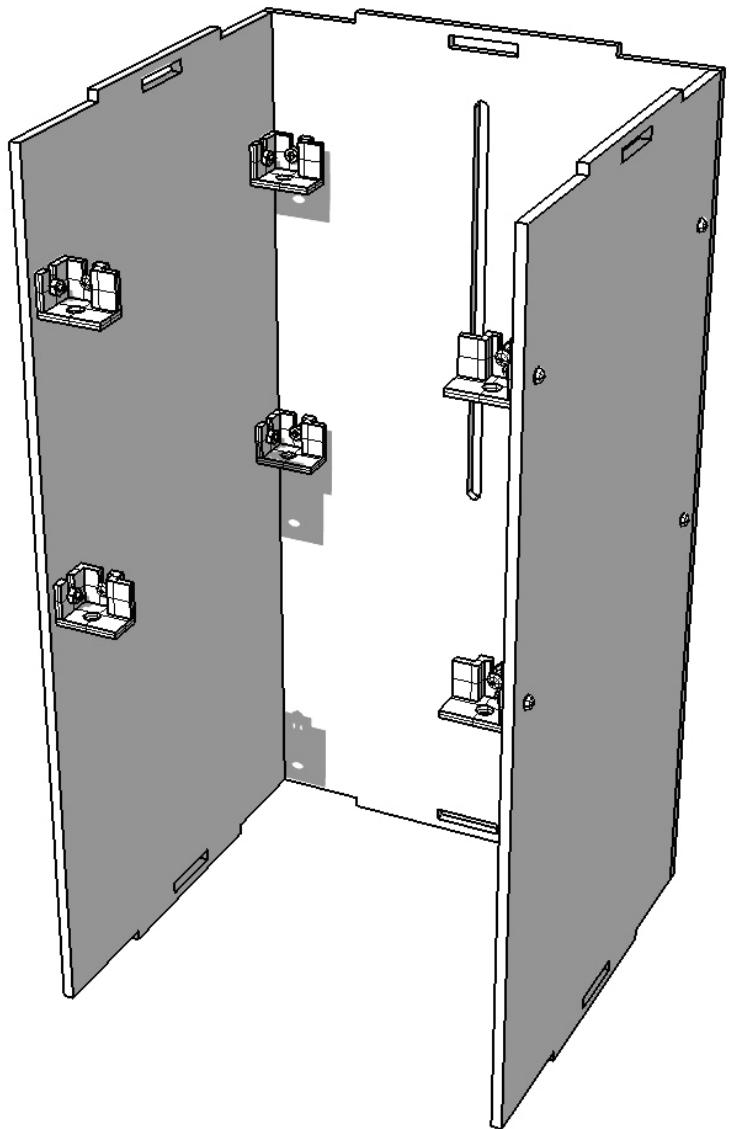
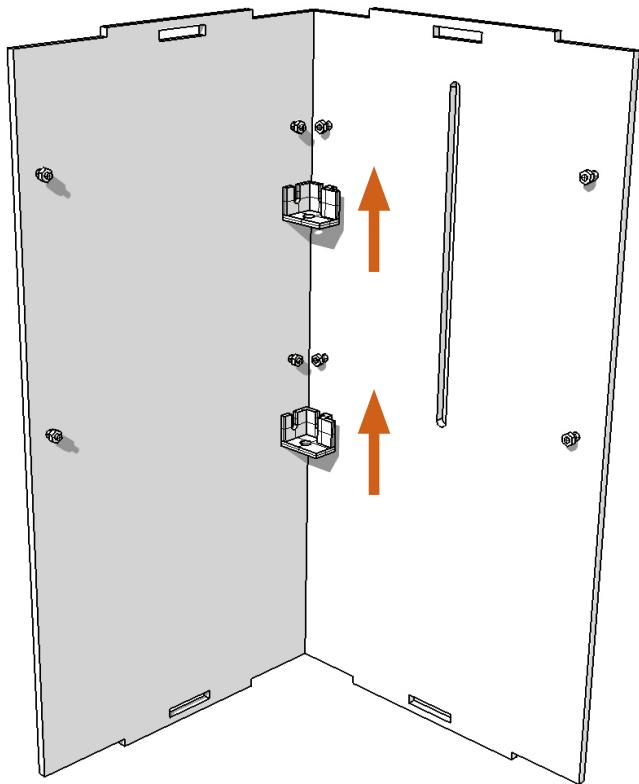
Place the M3 10 mm screws and nuts loosely in the holes on the vertical plates (T5, T6, T7, T9) as shown in the picture.



Be aware of the front side of the lateral plates (T6 and T7).

Step 2

Slide the spacers up until they fit completely and the tighten the screws to form the vertical structure of the top module.

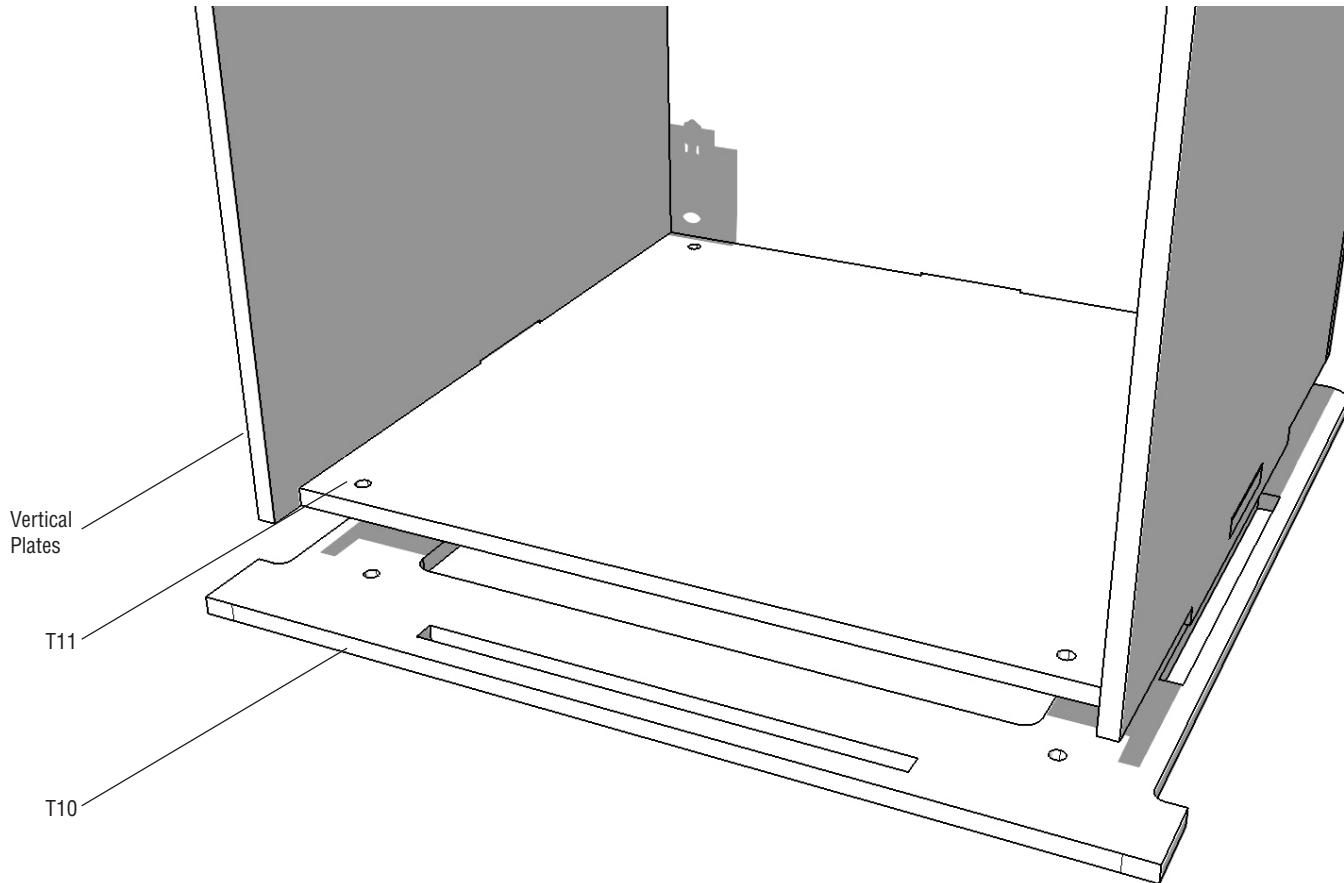


Final assembly view.

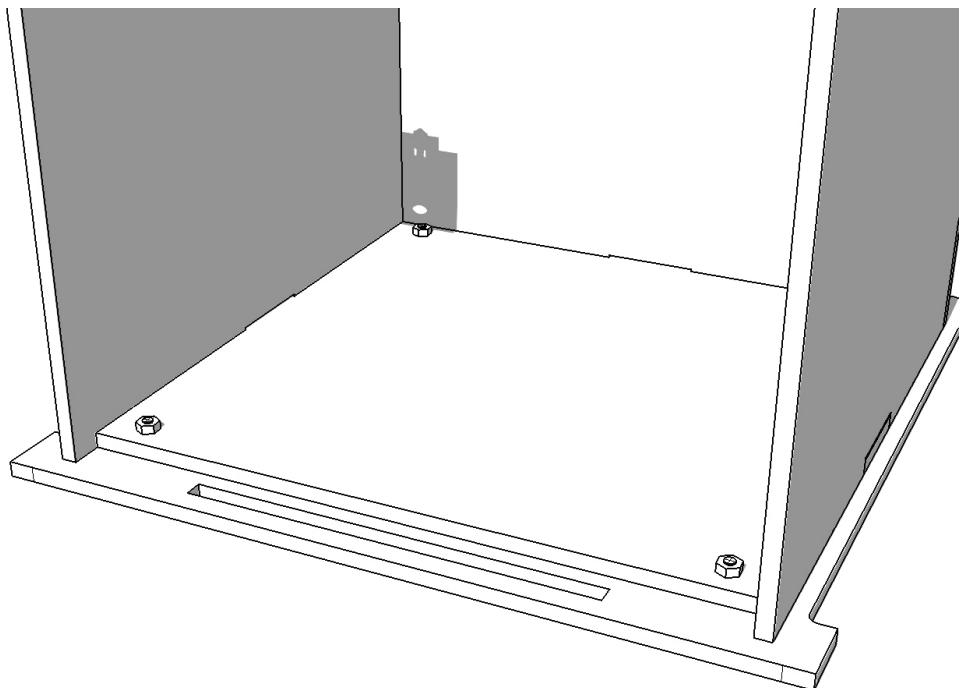
Step 3

With the vertical structure fastened, place T11 between the three vertical plates before placing T10 and fastening the screws.

Place the paper diffusor on top of T11 before use.



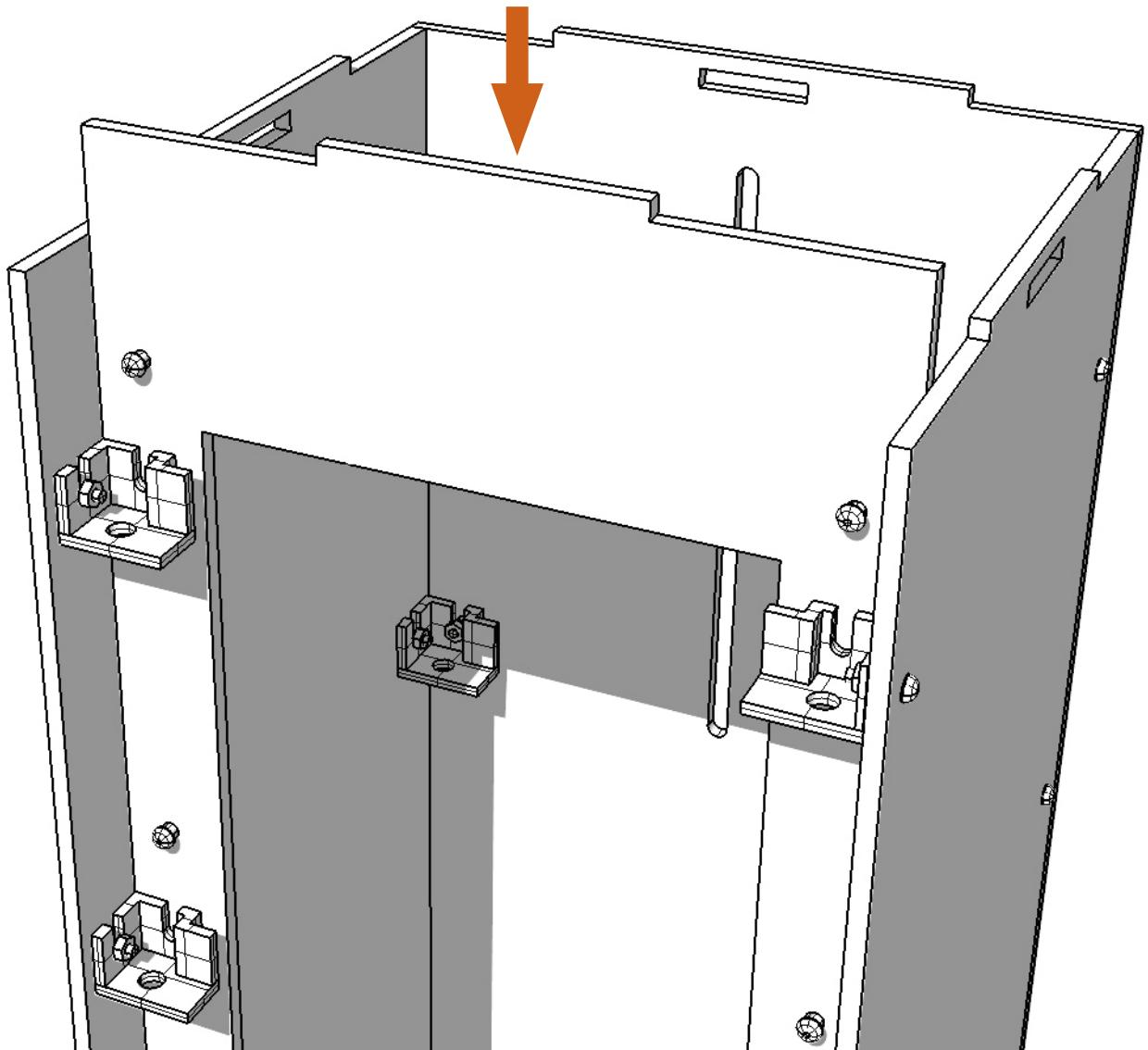
Final assembly view.



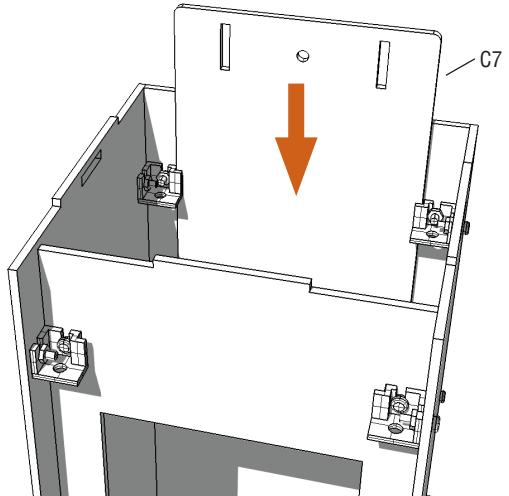
Step 4

Slide down the frontal plate (T9) until the screws fit in the spacers and tighten.

Make sure the front spacers are in the correct position (as in picture).

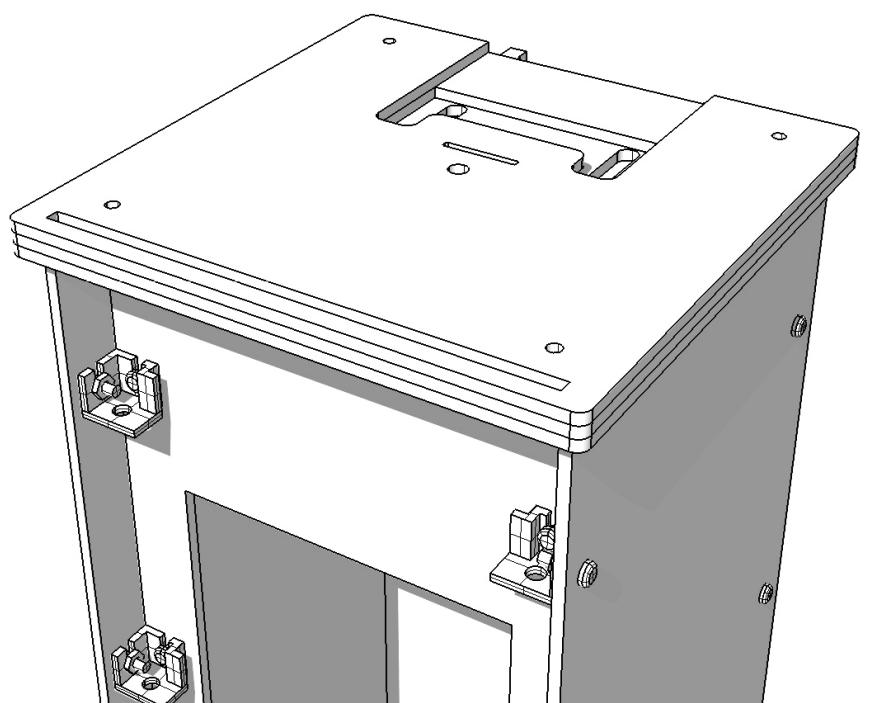
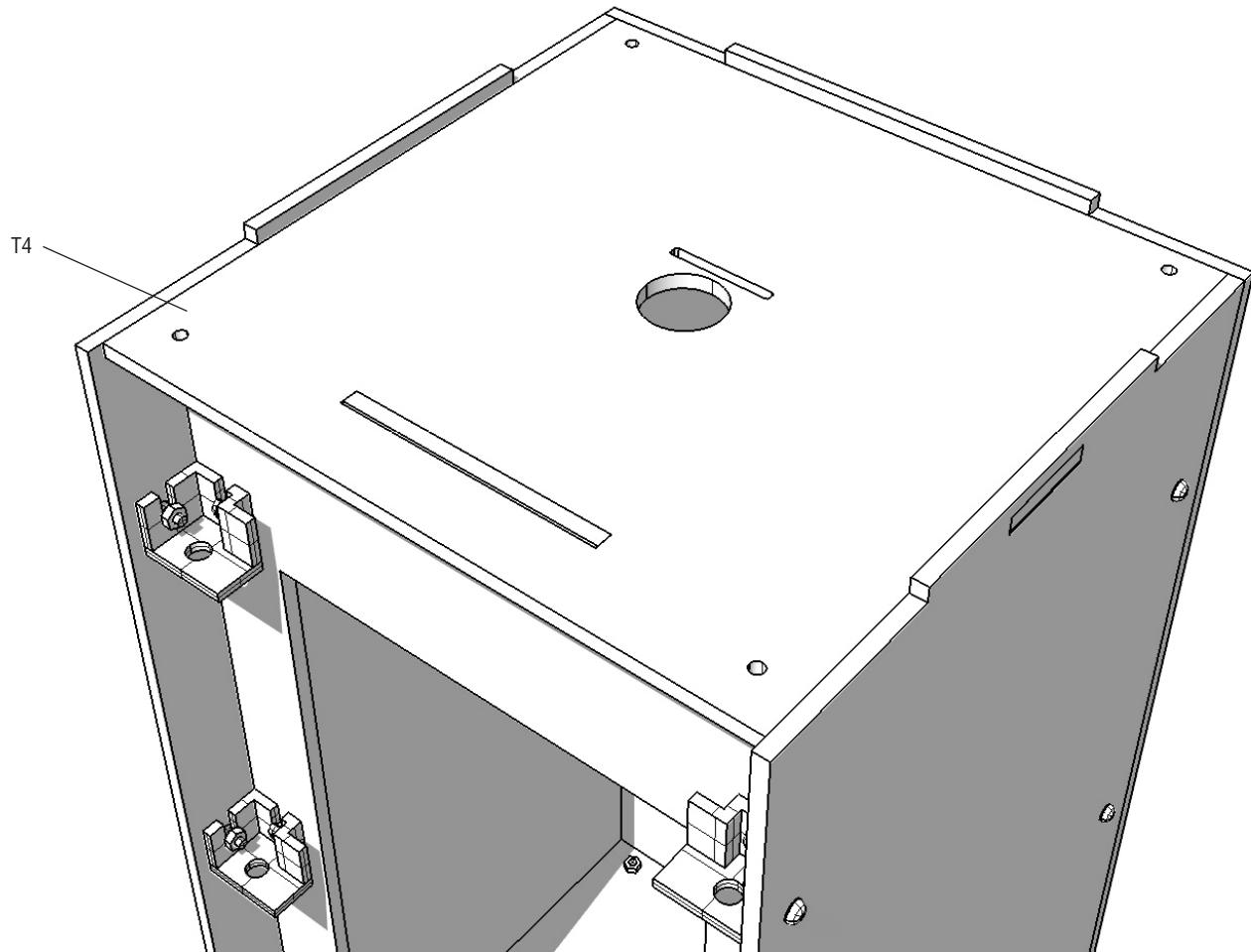


Slide down the back plate of the vertical movement bed. Must fit in the rail formed by the spacers.



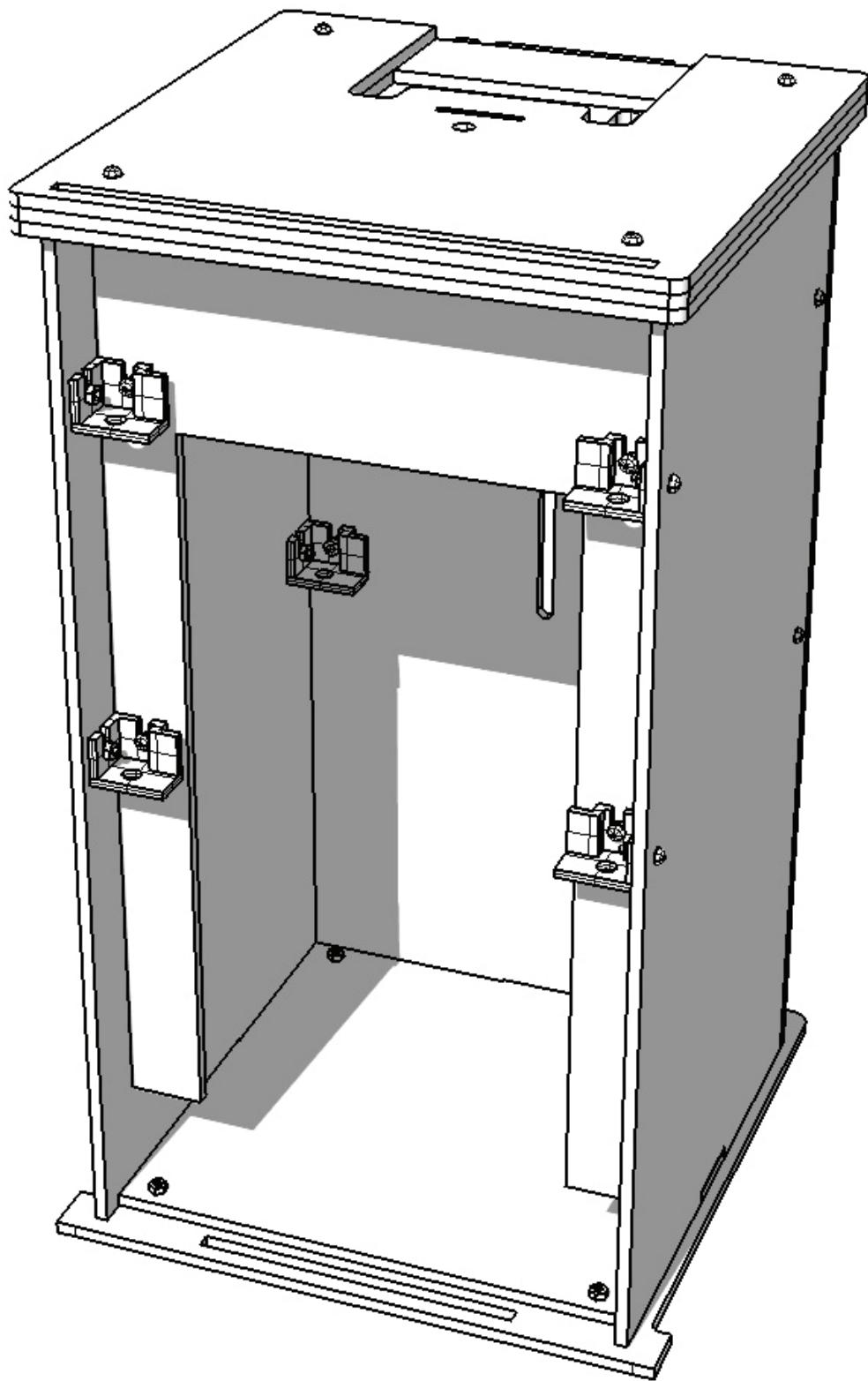
Step 5

Place T4 in the slot of the vertical plates before putting the rest of the plates (T1, T2, T3).



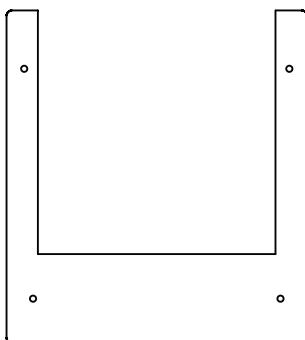
Final assembly view.

Fully Assembled Top Module Main Structure

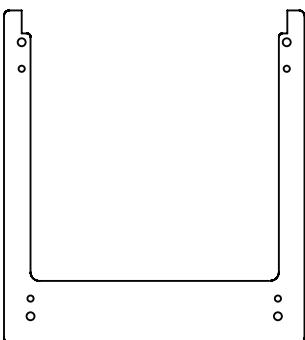


Bottom Module Parts

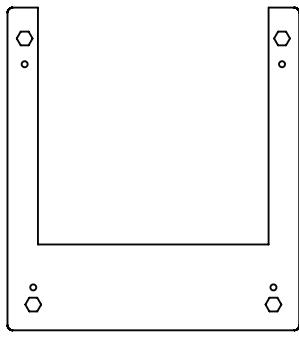
B1



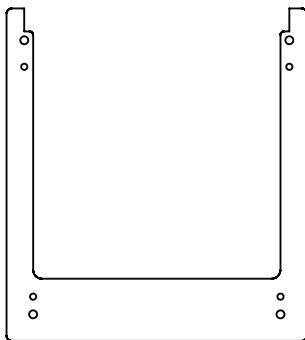
B2



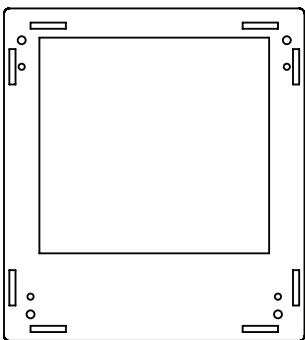
B3



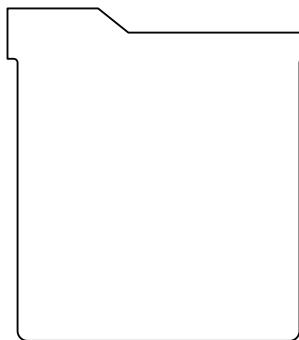
B4



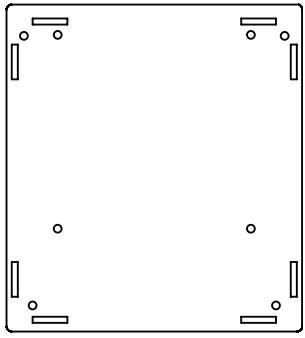
B5



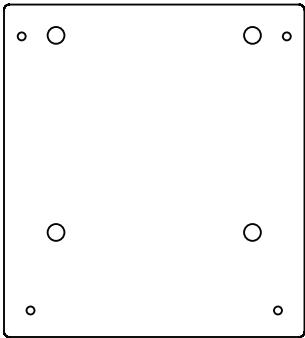
B6



B7



B8



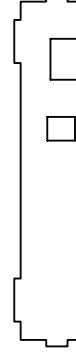
B9



B10



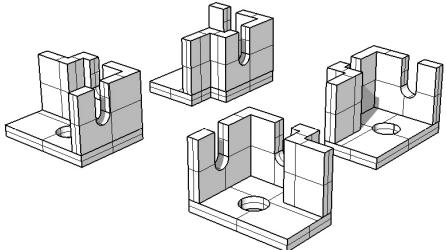
B11



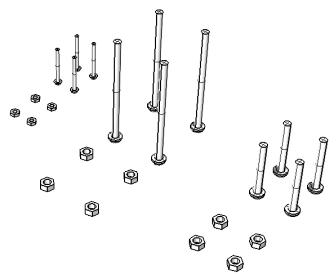
B12



2 Spacers R and 2 Spacers L



Screws and Nuts

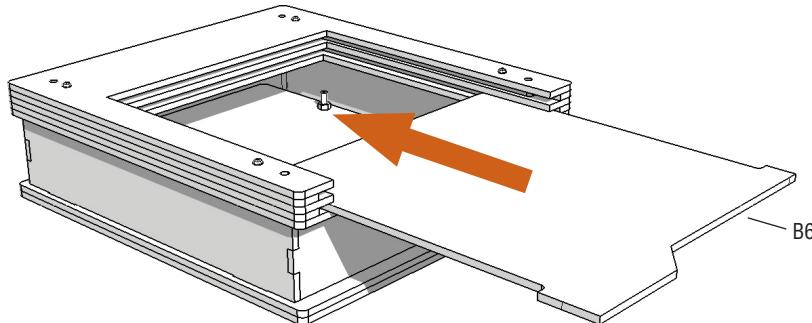
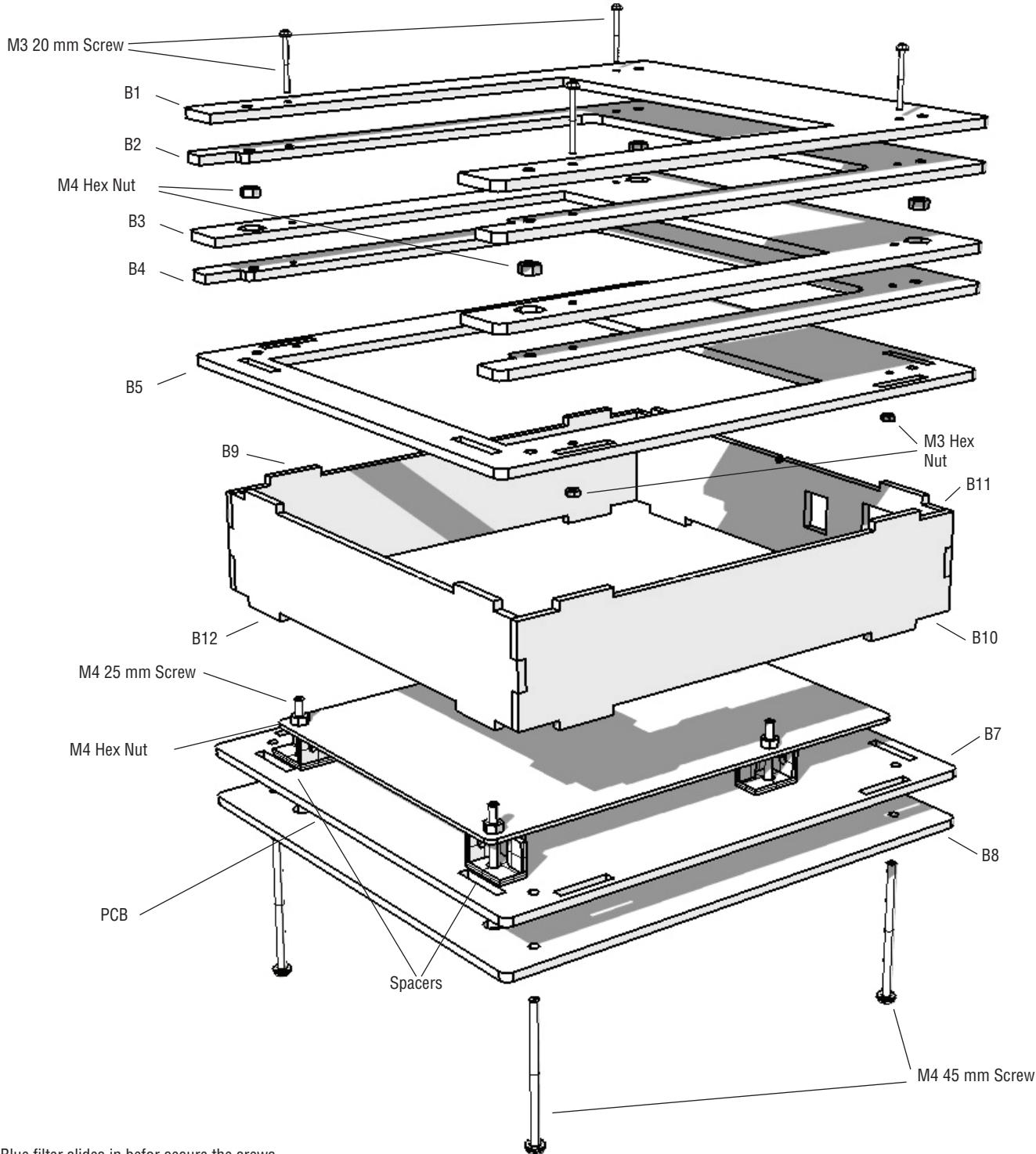


4 M3 20 mm long screws and nuts for the top cover.

4 M4 45 mm long screws and nuts for the bottom cover and main assembly.

4 M4 25 mm screws and nuts for the PCB mounting.

Bottom Module Explosion

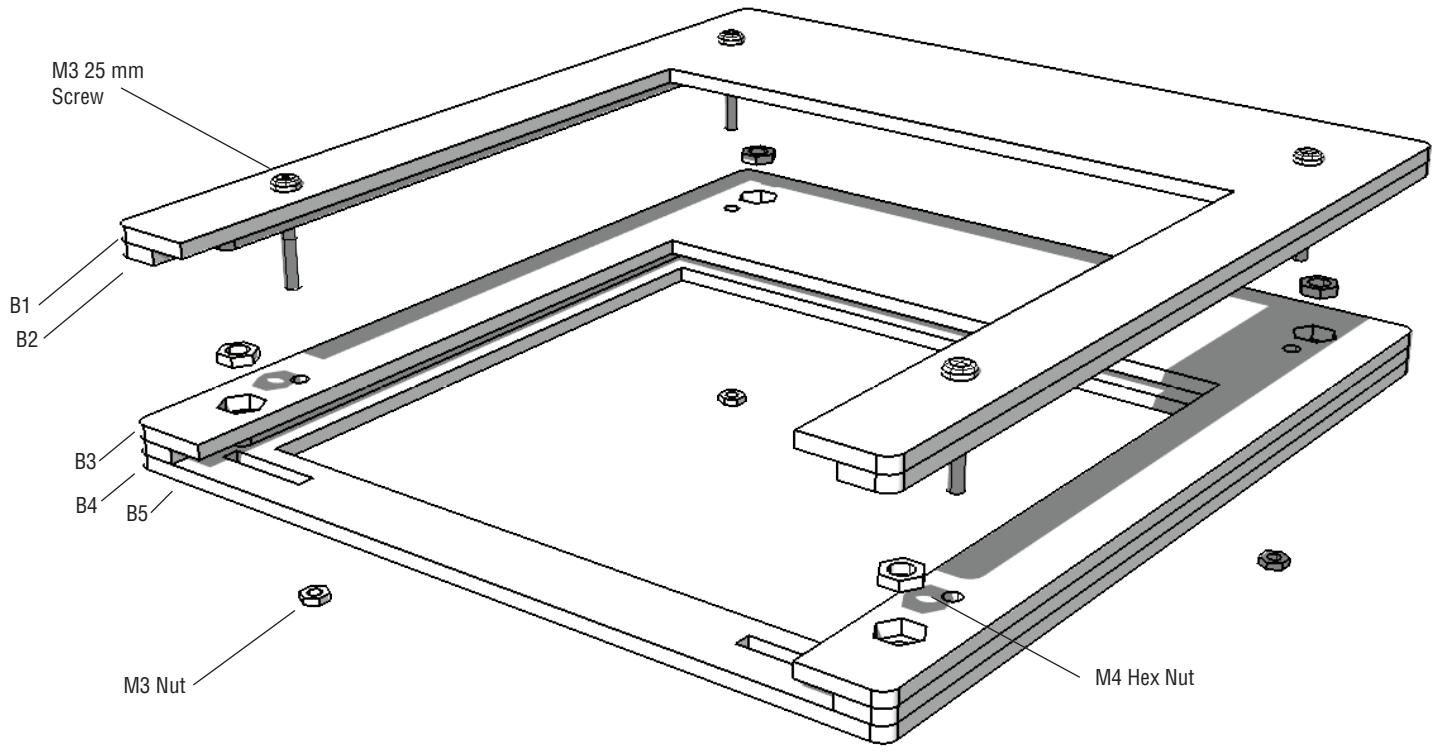


Top Module Assembly

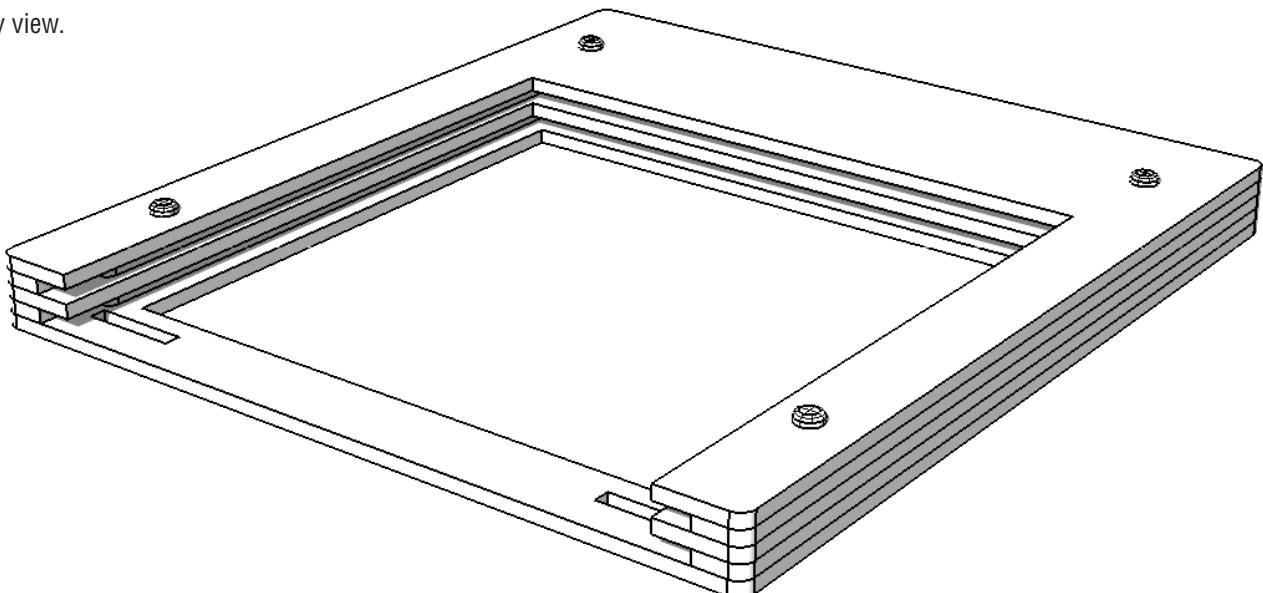
Step 1

Assembly top cover. Put together B1, B2, B3, B4 and B5. Make sure you place the M4 Hex nut inbetween B2 and B3. You can place the parts upside down to make it easier.

Fasten with the 4 M3 20 mm screws and nuts.



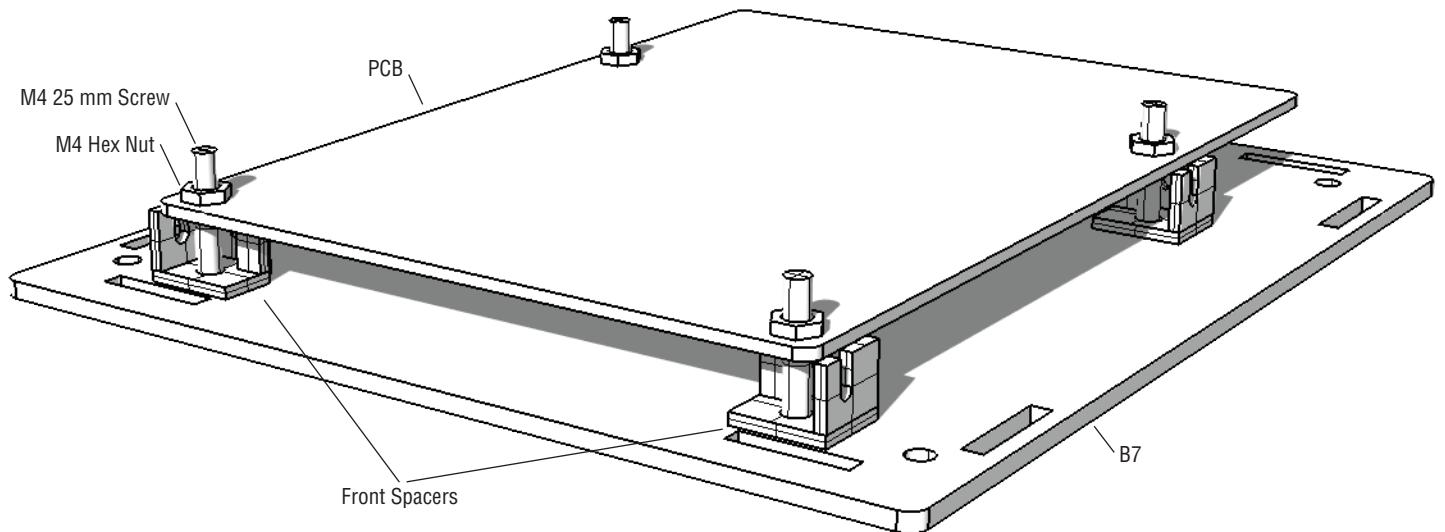
Final assembly view.



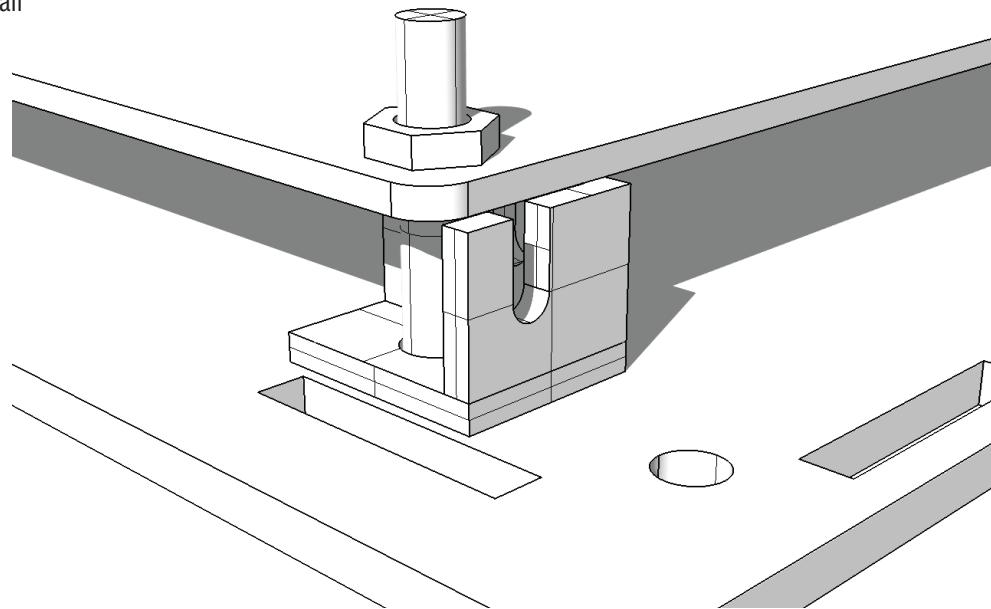
Step 2

Assembly B7 with the PCB using the 4 M4 22 mm screws and nuts and 2 spacers R and 2 Spacers L as shown in the picture.

Make sure the front spacer are in the same position as in picture.



Front Spacers Position Detail

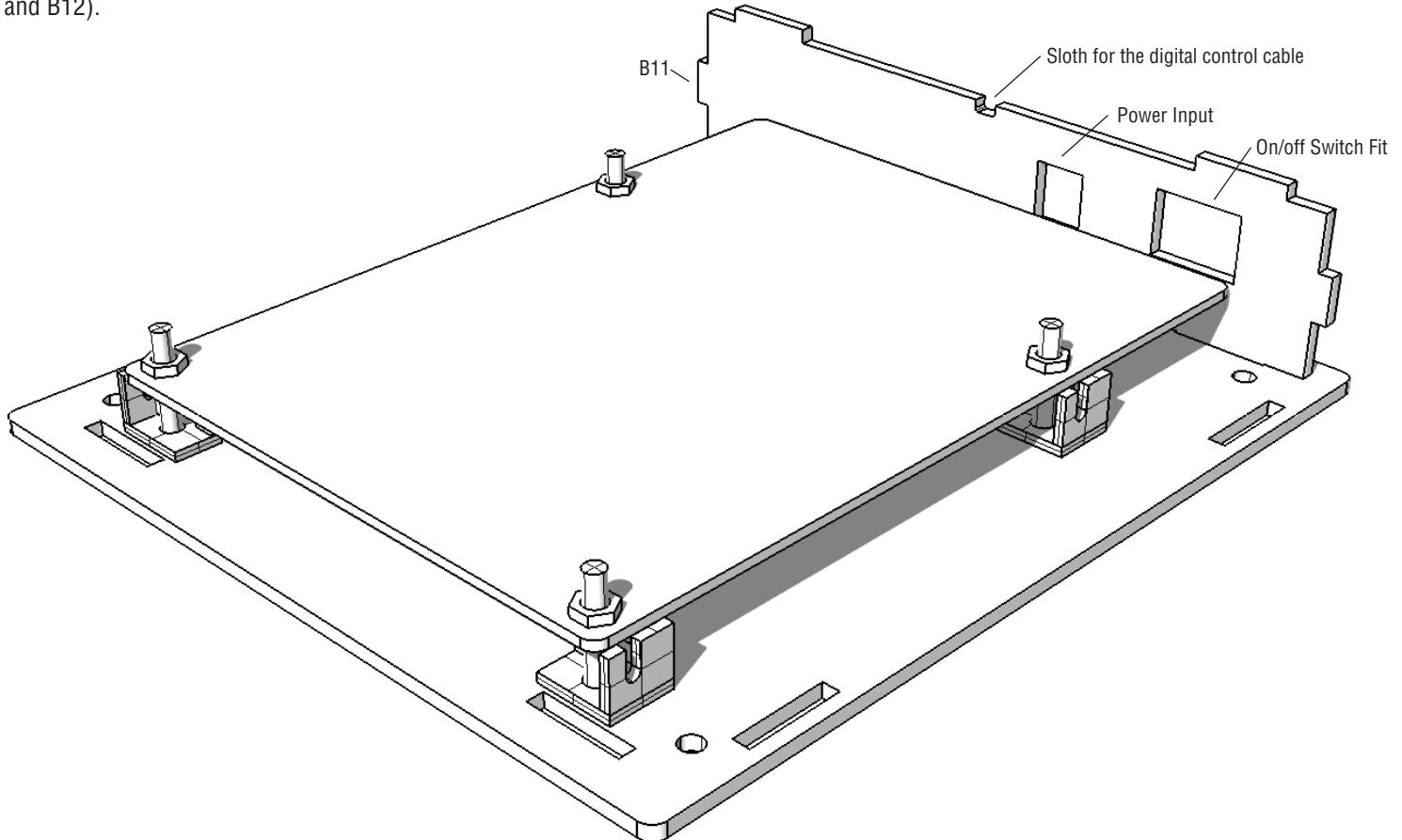


Step 3

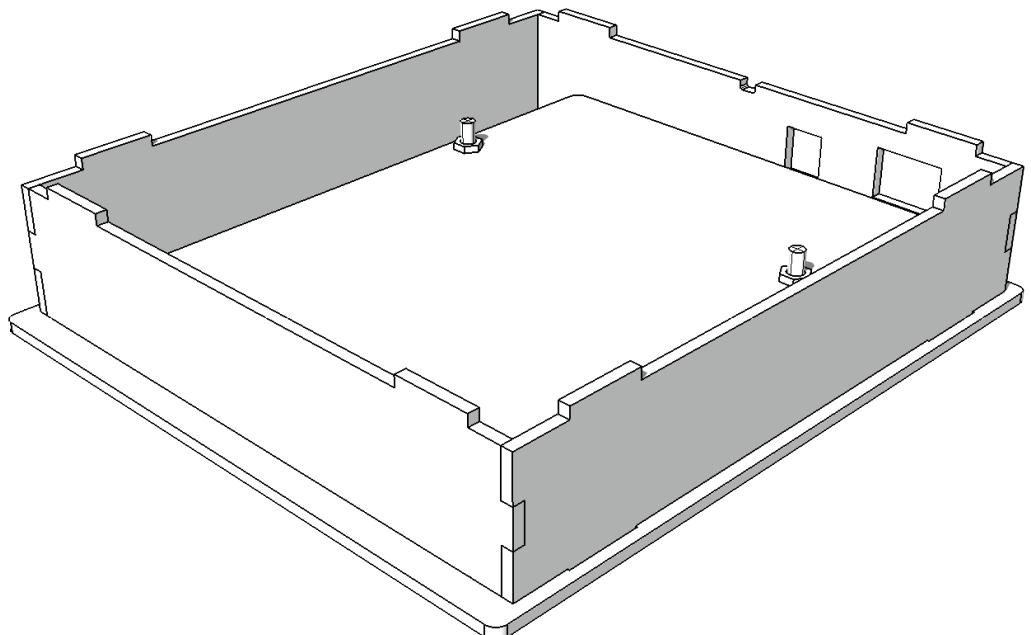
Assembly the on/off switch by snapping it to the back plate (B11), then solder into the pcb.

Make sure the cable for the digital control goes through the little slot on top of B11.

With all the electronics in place, put the rest of the plates in (B9, B10 and B12).



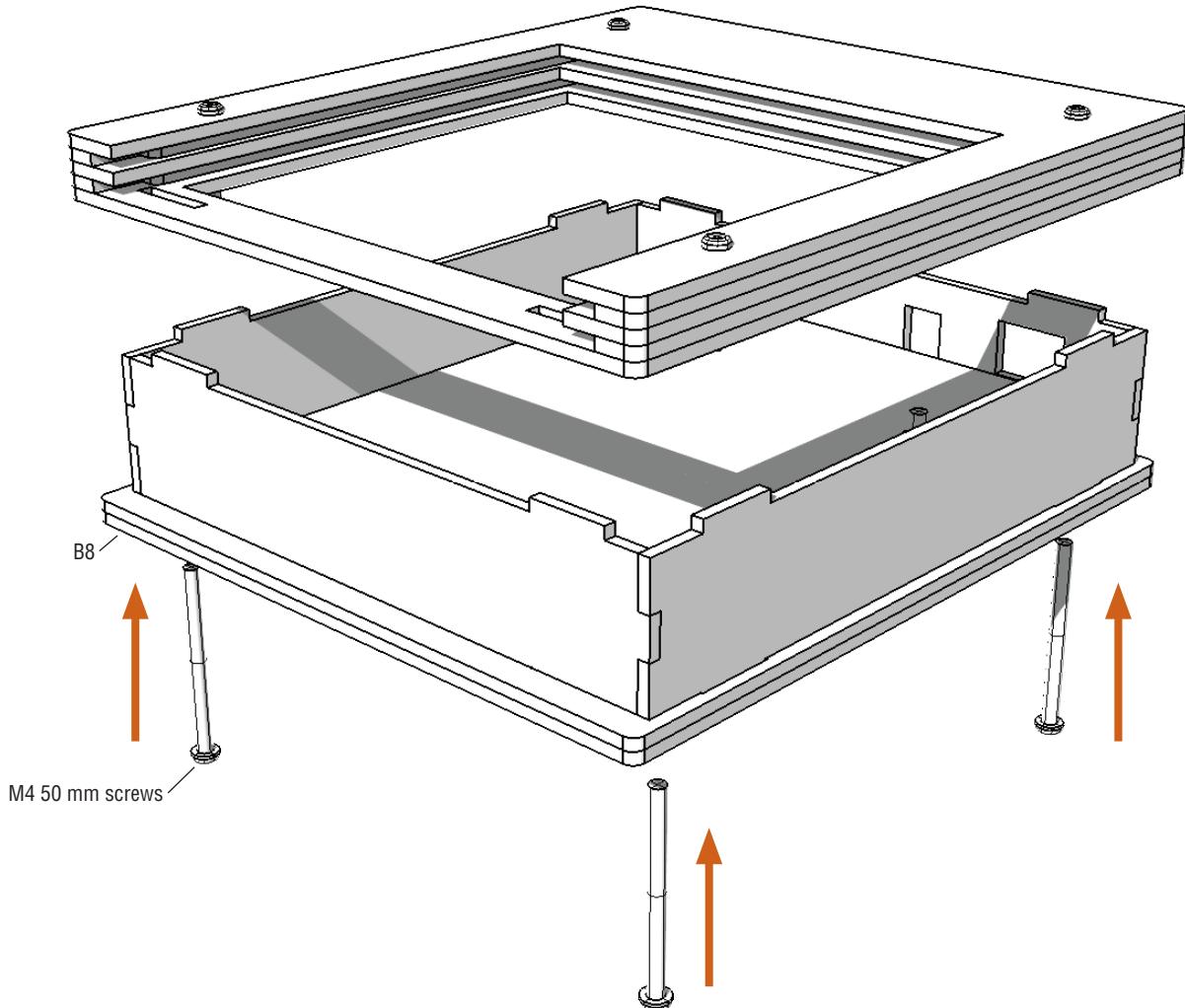
Final Assembly View



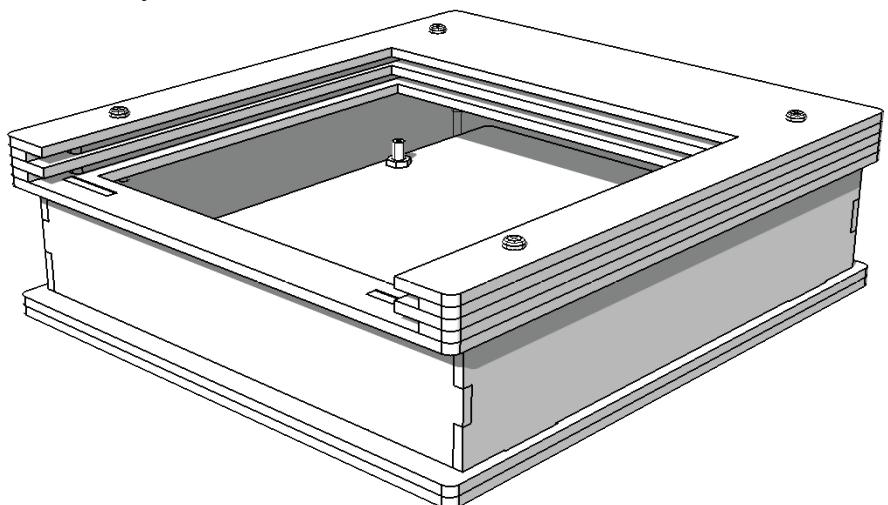
Step 4

Assembly the top cover in the lateral plates. fasten with the 4 M4 50 mm long screws in the nuts inside the top cover. Place B8 on the bottom before putting the screws.

Don't tighten the screws too hard, you will need them loose to slide in the top module and the filter.

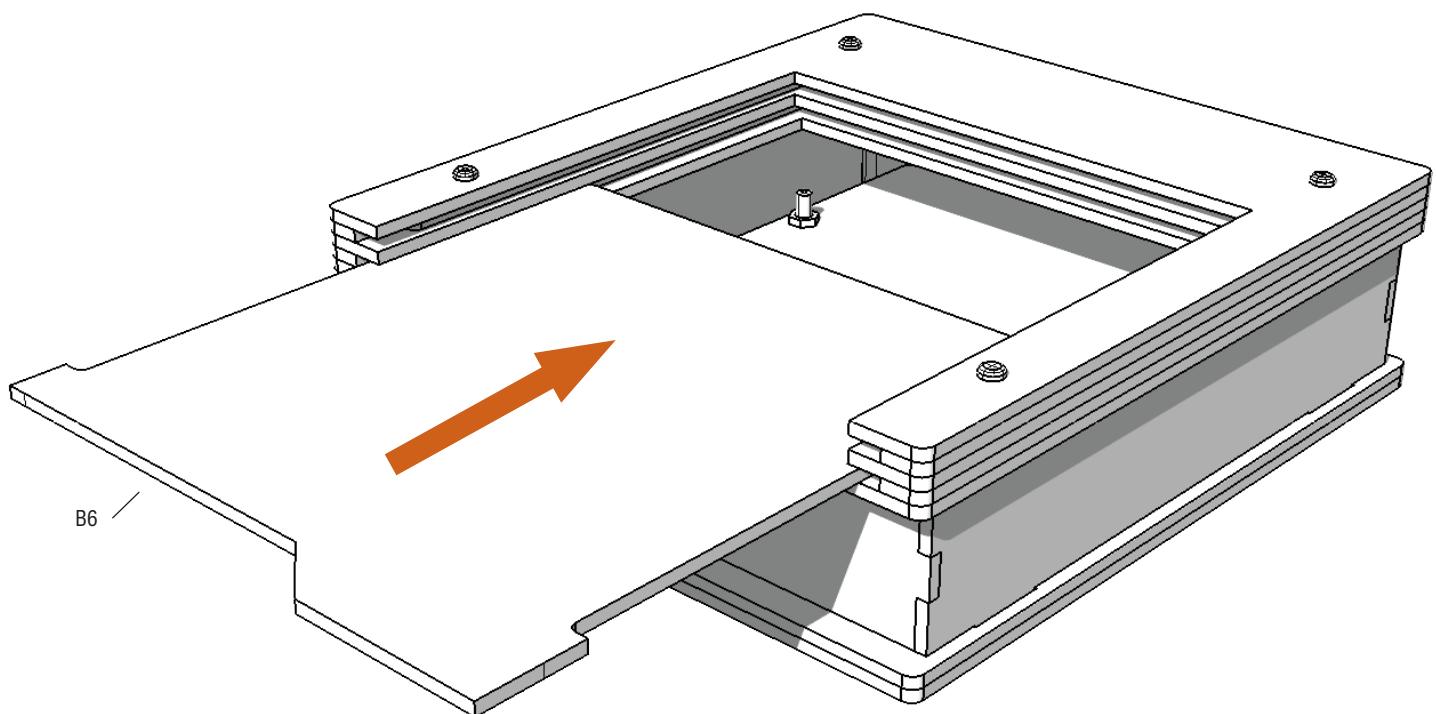


Final Assembly View



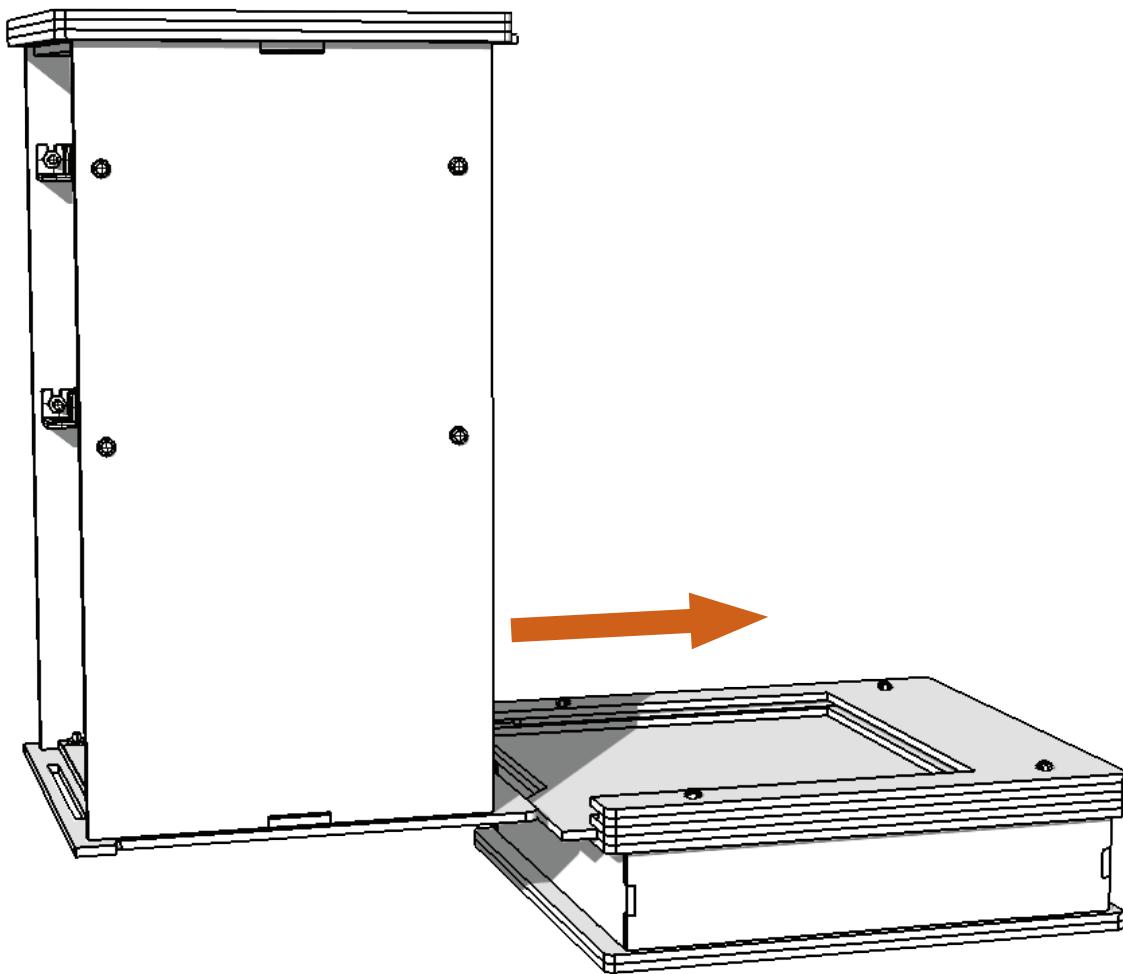
Step 5

Slide in the blue filter (B6) on the bottom sloth.



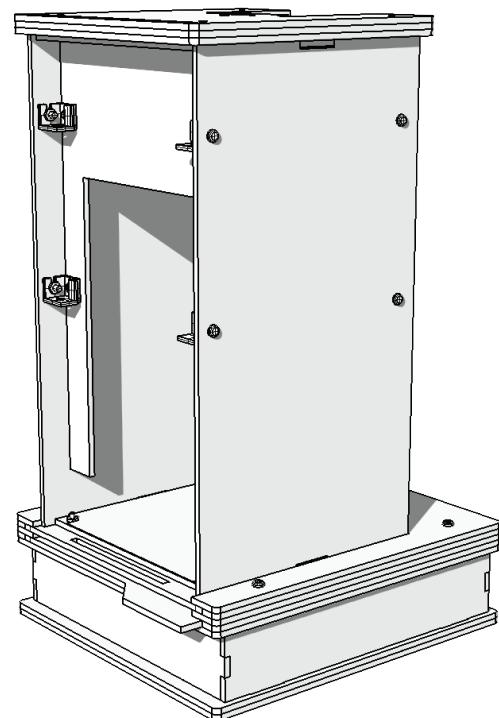
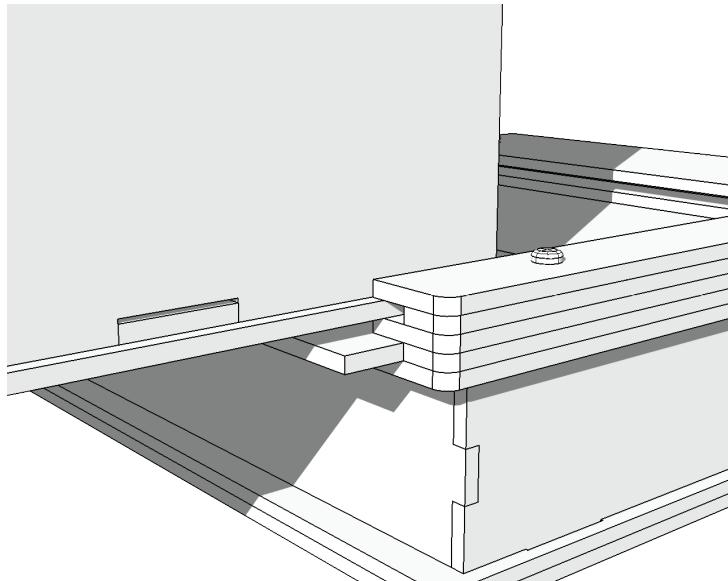
Top Module and Bottom Module Assembly

Slide the top module in the bottom module slots.



Slide the top module in the superior sloth. Push carefully until the top module fit all the way into the bottom module.

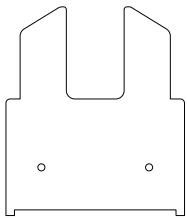
If it is too tight, loose the top screws or the bottom screws.



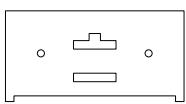
Final assembly view.

Camera Bed Parts

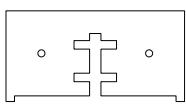
C1



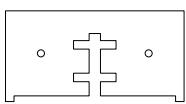
C2



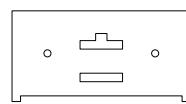
C3



C4



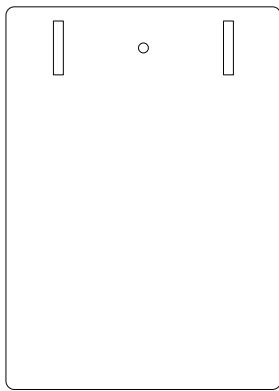
C5



C6



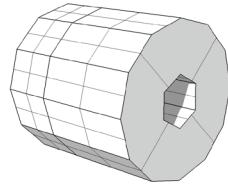
C7



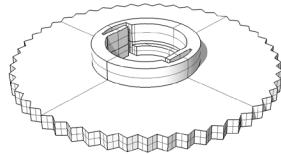
C8 C9



Main Knob



Focus Knob

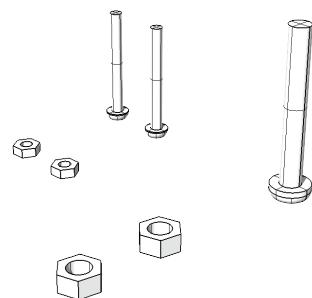


C10



Screws and Nuts

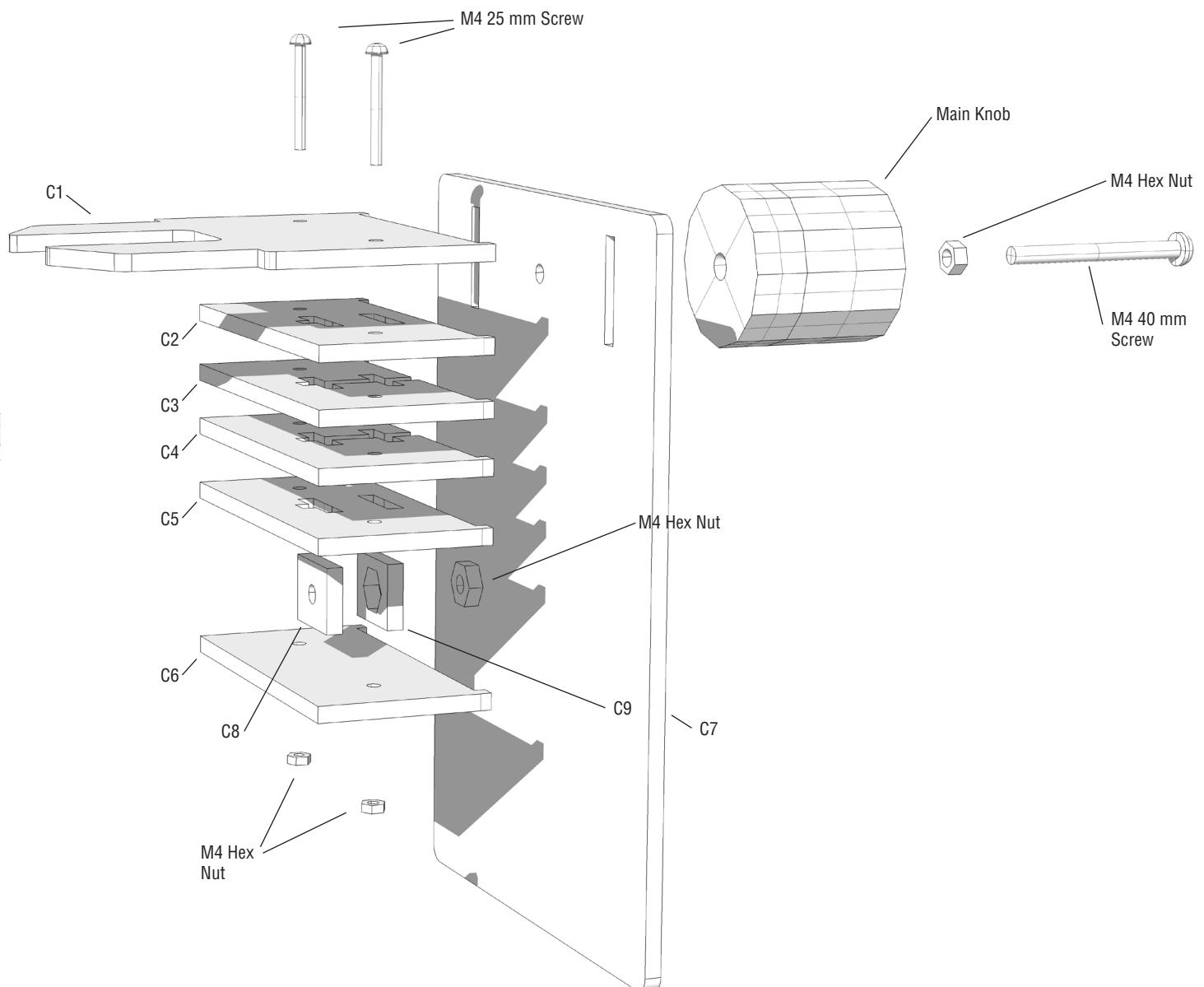
2 M4 25 mm long screws and nuts for the bed.



1 M4 40 mm long screw and nut for the main knob.

1 M4 Hex Nut to fix the bed to the knob.

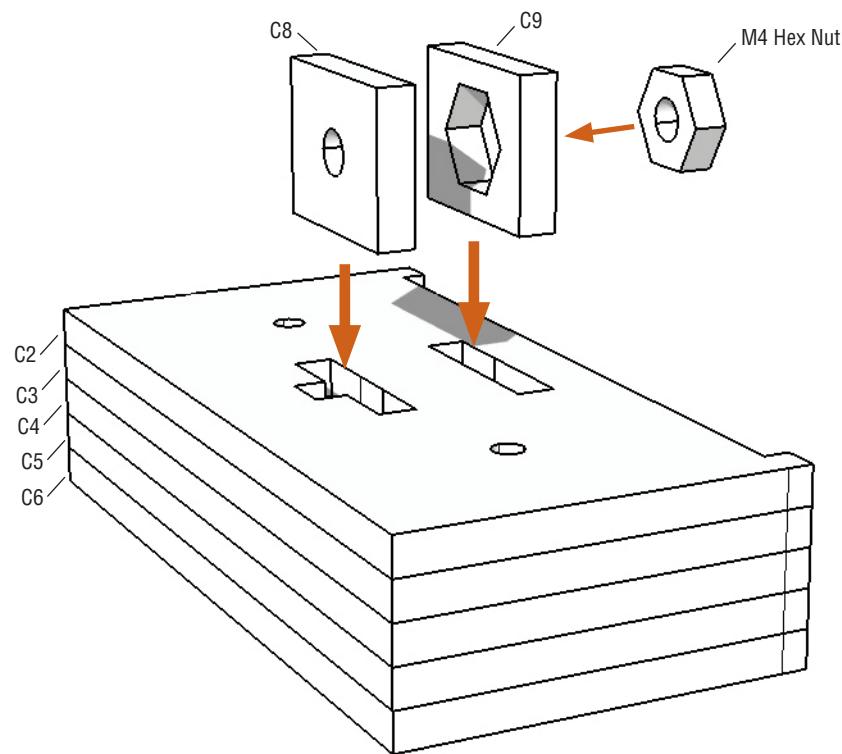
Camera Bed Explosion



Camera Bed Assembly

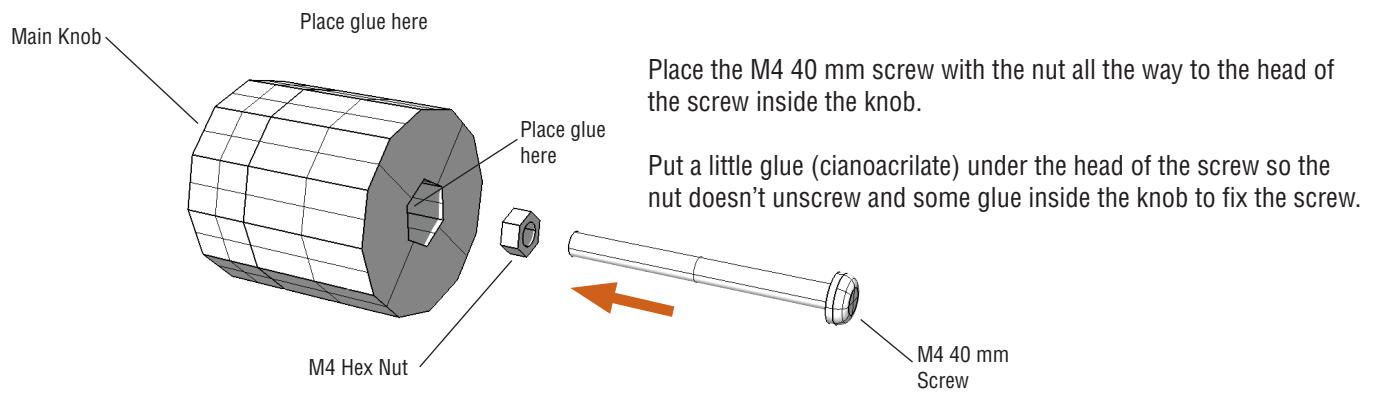
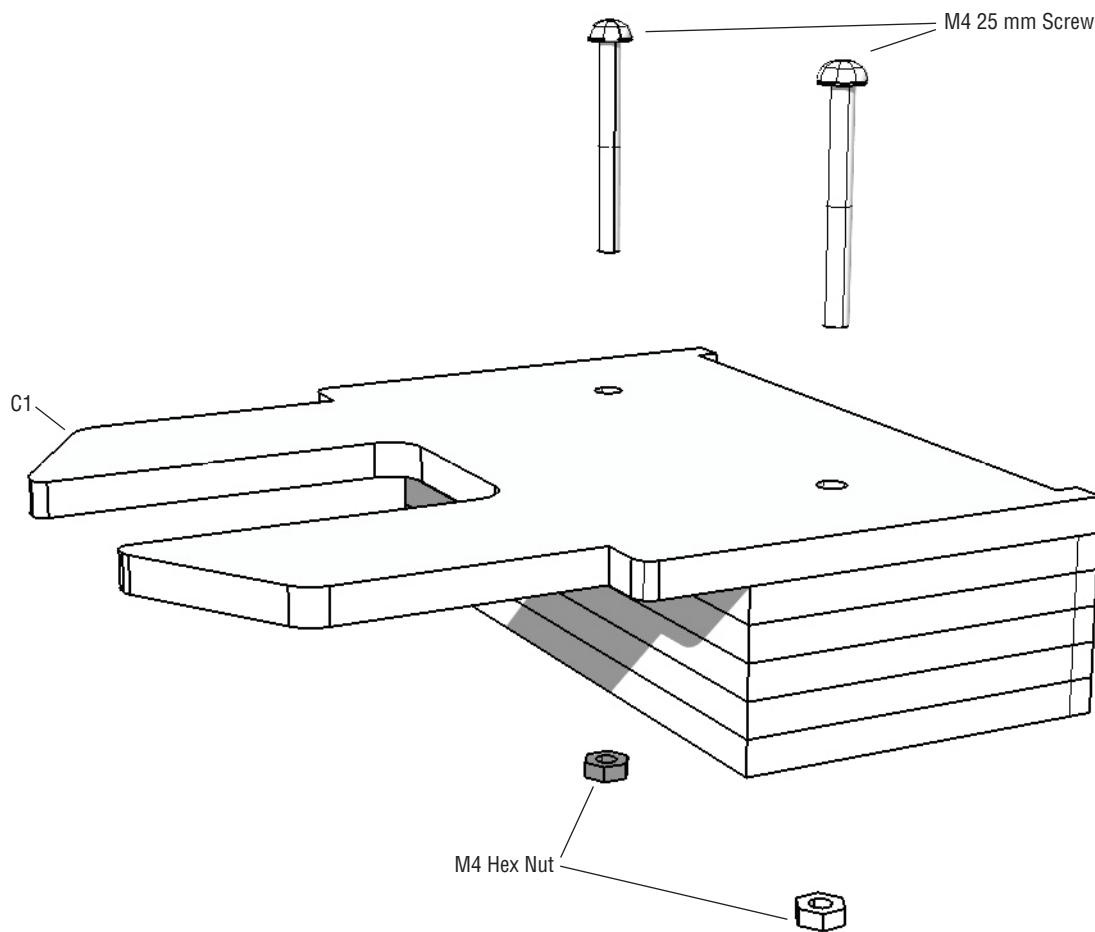
Step 1

Place C2, C3, C4, C5 and C6 together and slide in C8 and C9 (with the M4 Nut inside).



Step 2

Use C1 to cap all the other pieces and fasten with the two M4 22 mm screws and nuts.

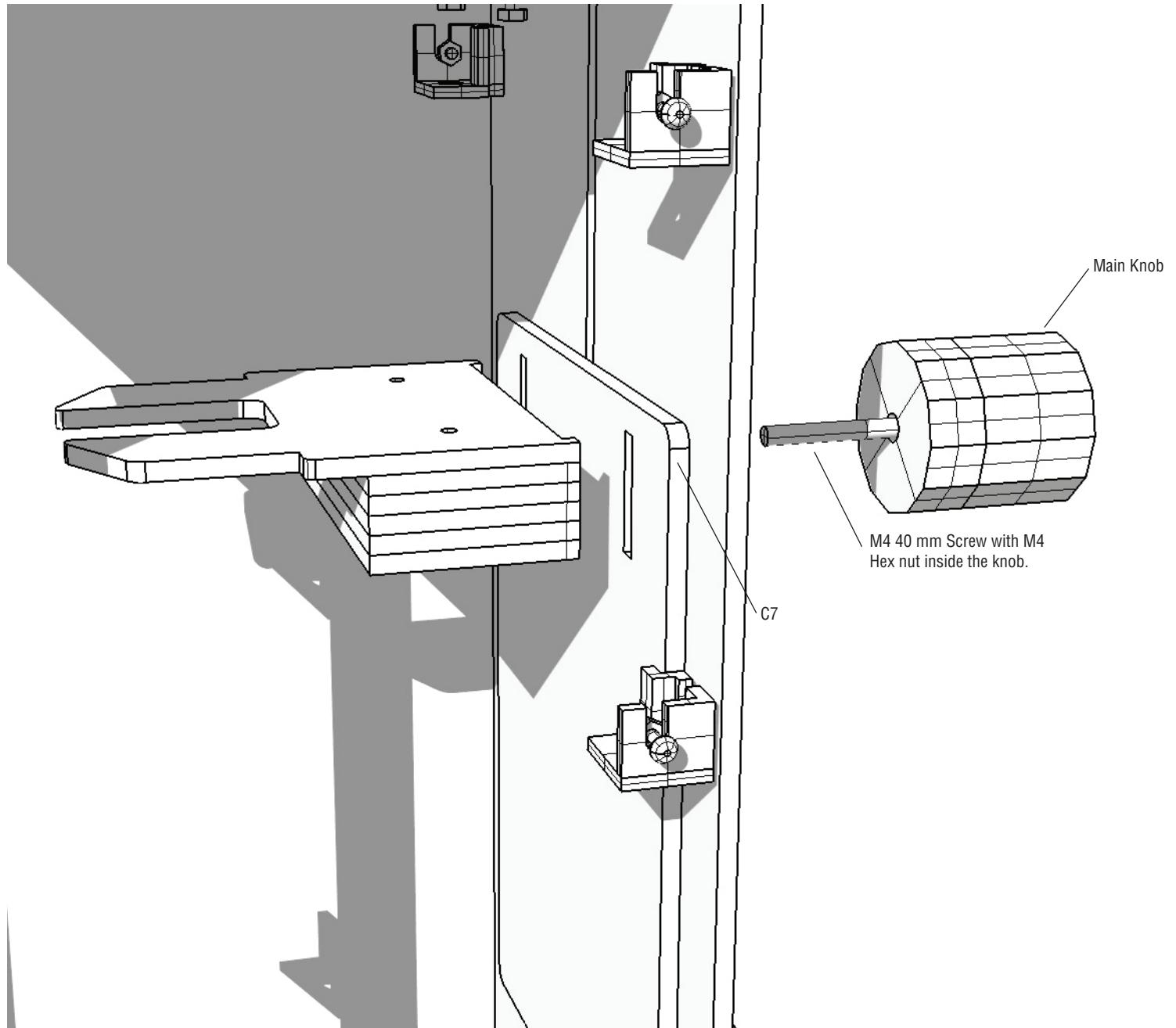


Step 3

Mount the main knob with the M4 40 mm long screw and nut as in picture.

First, place the back plate (C7) by sliding it in the spacers.

Then, use a screwdriver to fasten the main knob to the vertical bed.



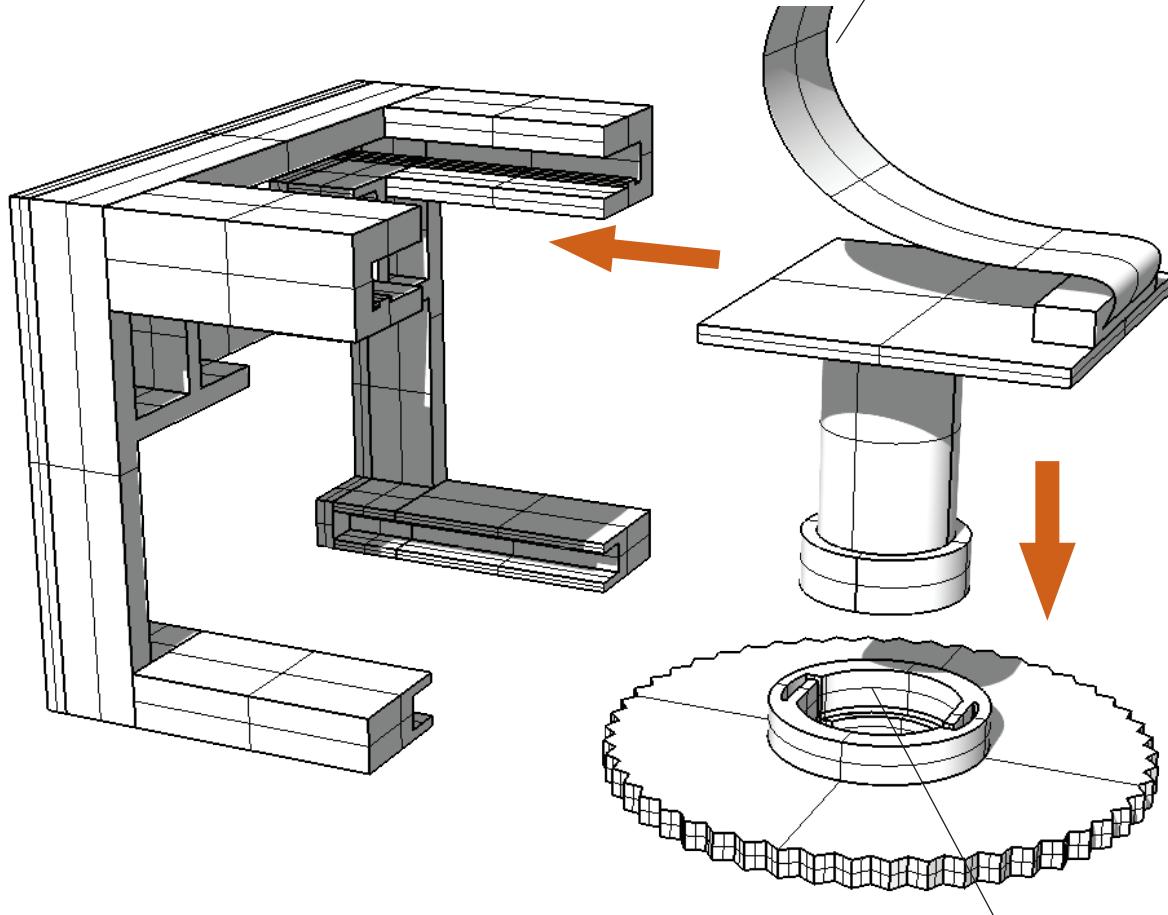
Camera Adaptor Mount

Mount the focus knob to the camera as in the picture, press the camera lens down on the knob until it fits. Use a drop of glue to fix.

Mount the camera on the adaptor by sliding it in.

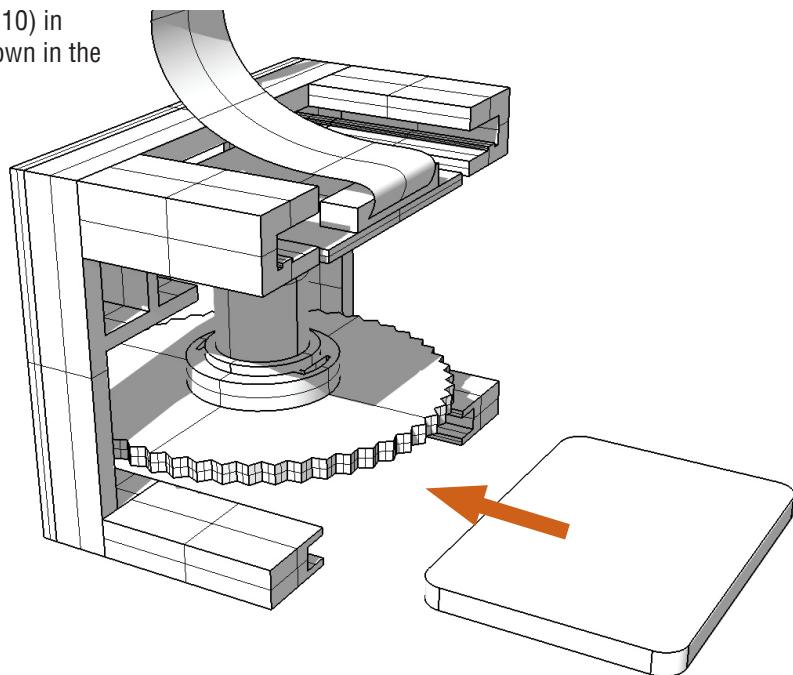
Bend the ribbon cable and push the camera board in the slots on the inside of the adator until it's secured.

Focus Knob and Camera Module Mount



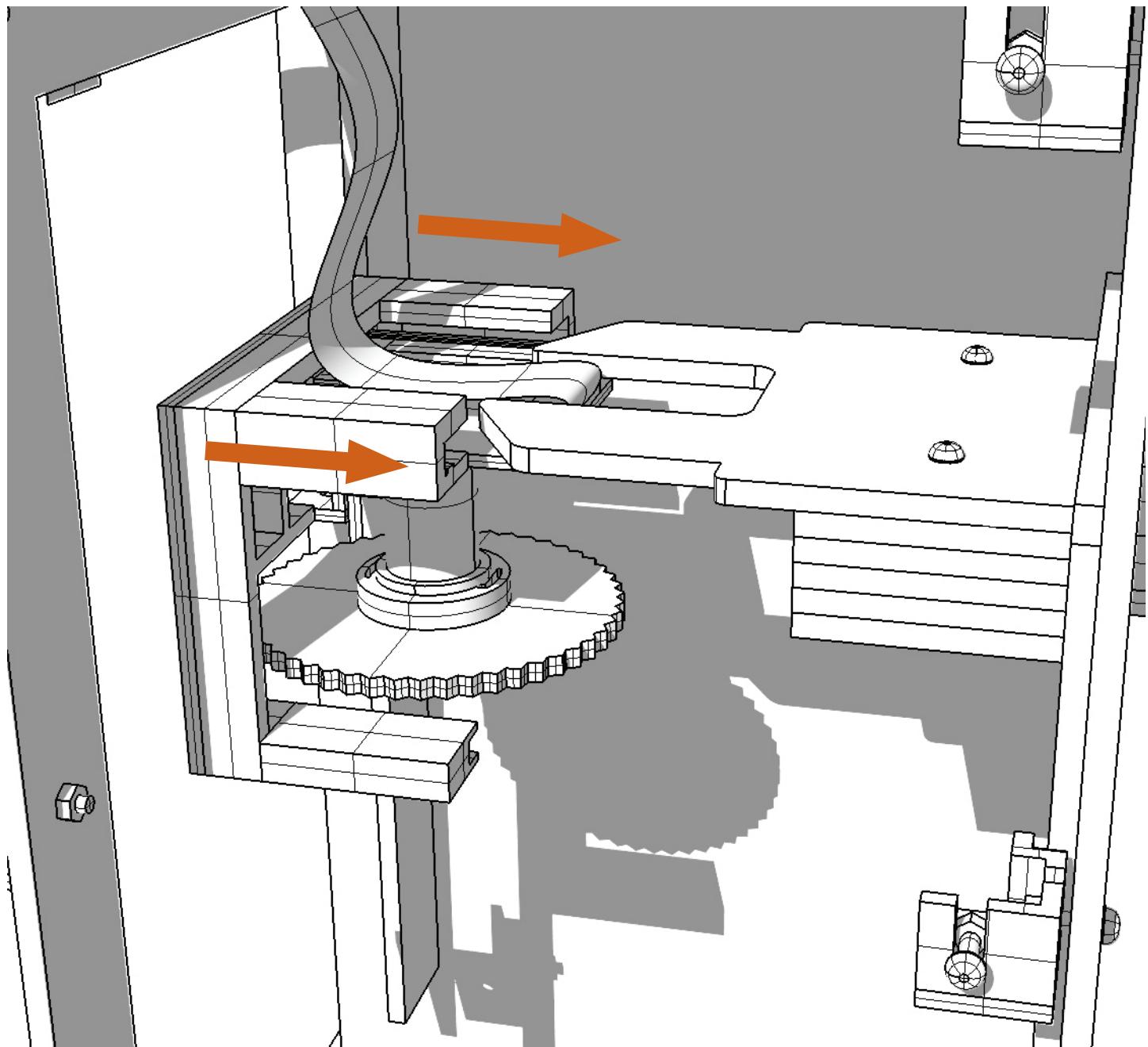
Slide in the amber filter (C10) in the camera adaptor as shown in the picture.

Place a dot of super glue (cyanoacrylate) on the inner surface of the knob. Then, push the camera in place and hold.

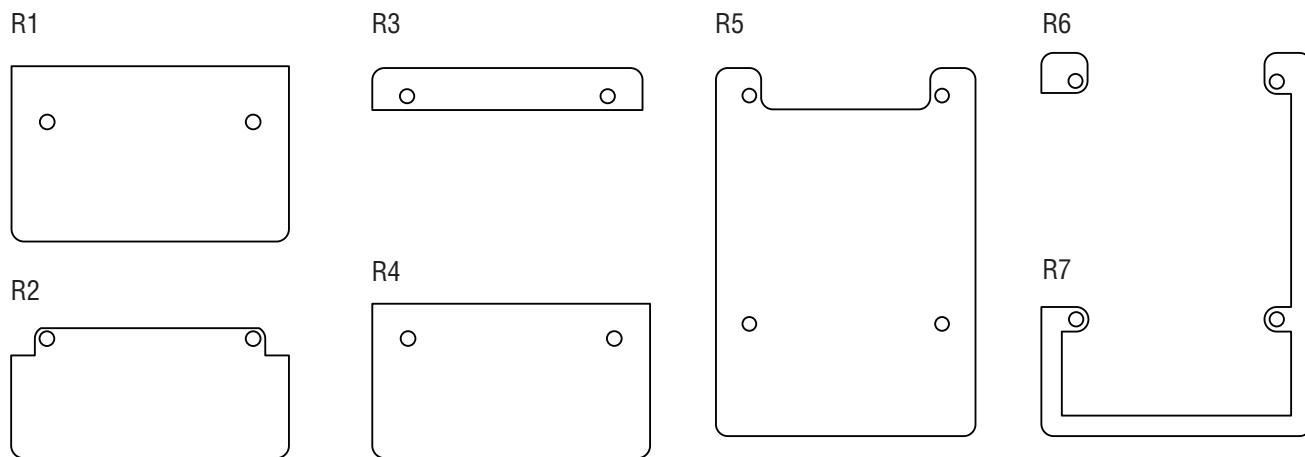


Camera Adaptor Final Mounting

Slide the camera adaptor in the vertical movement bed until fits firmly.

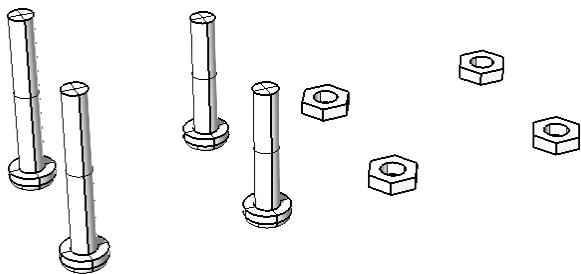


Raspberry Pi Adaptor Parts



Screws and Nuts

2 M3 15 mm Screws and Nuts.
2 M3 20 mm Screws and Nuts.

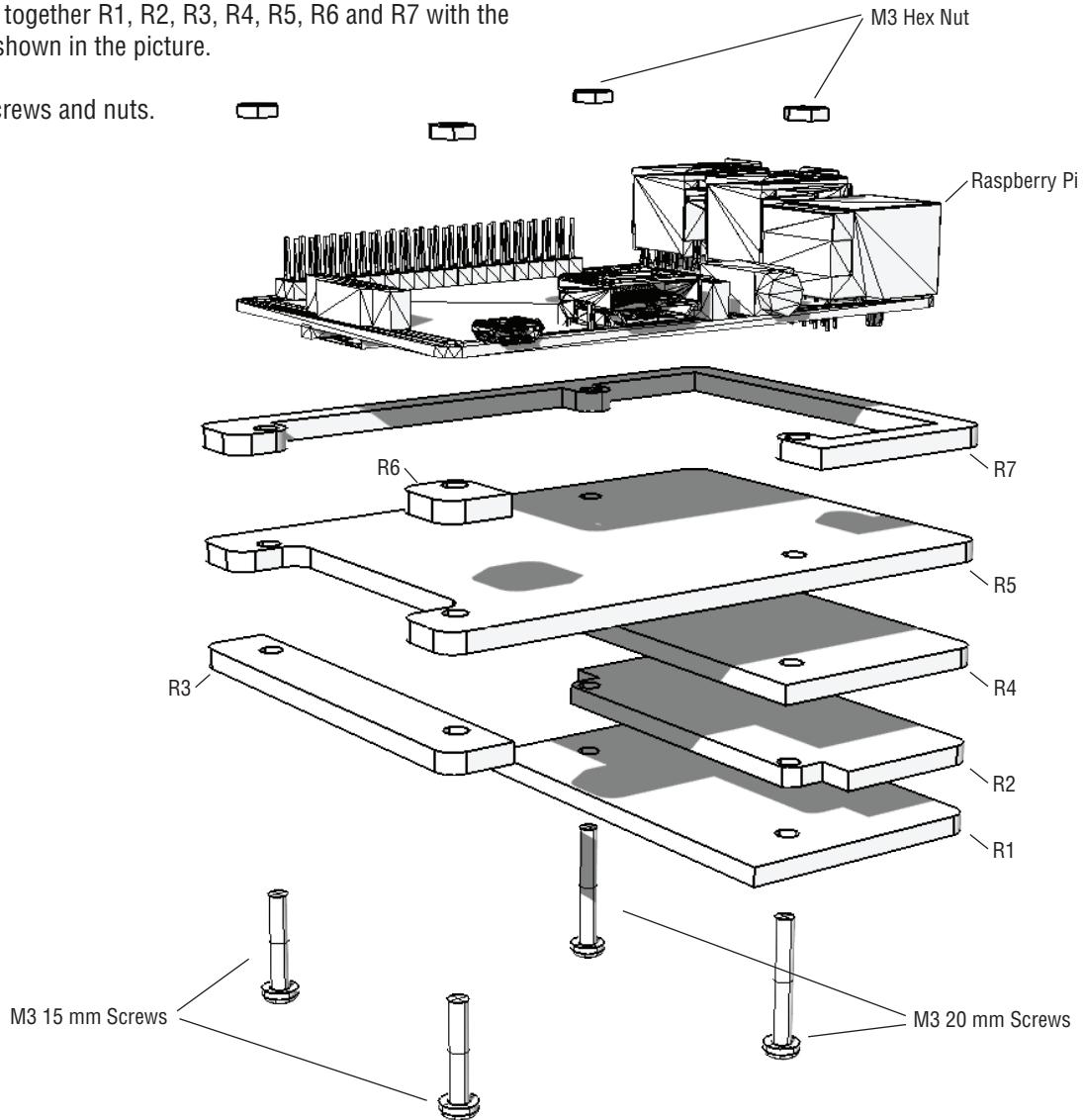


Raspberry Pi Adaptor Assembly

The mounting holes on the Raspberry are slightly smaller than the screws. Use one of the screws to make it bigger by screwing it in and then out of the board.

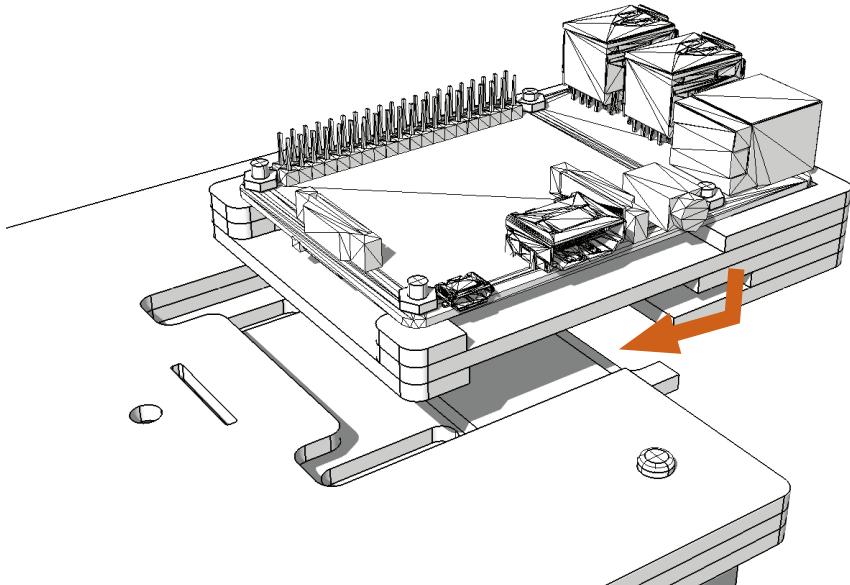
Place the 3 plates together R1, R2, R3, R4, R5, R6 and R7 with the Raspberry Pi, as shown in the picture.

Fasten with the screws and nuts.



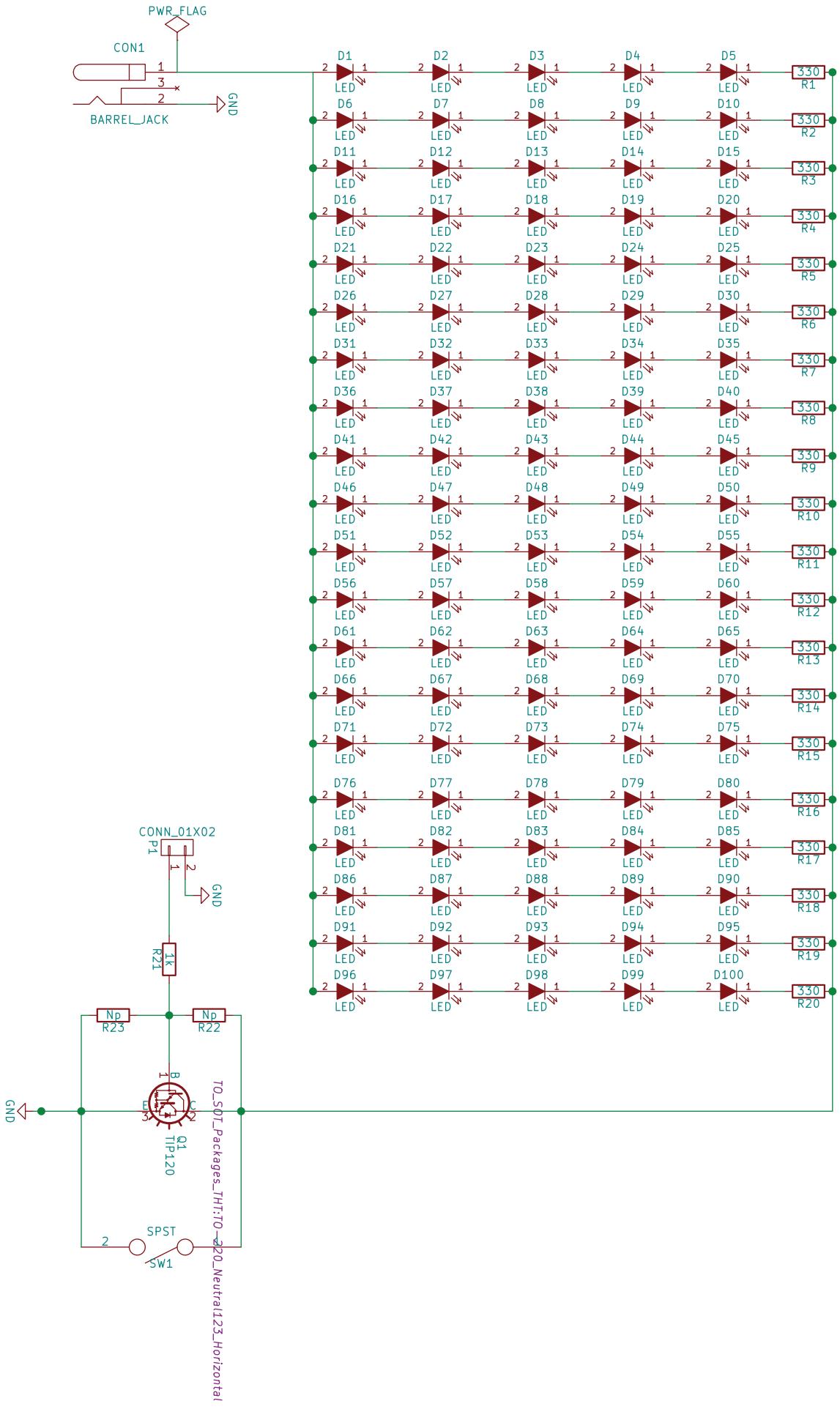
Mounting of the adaptor

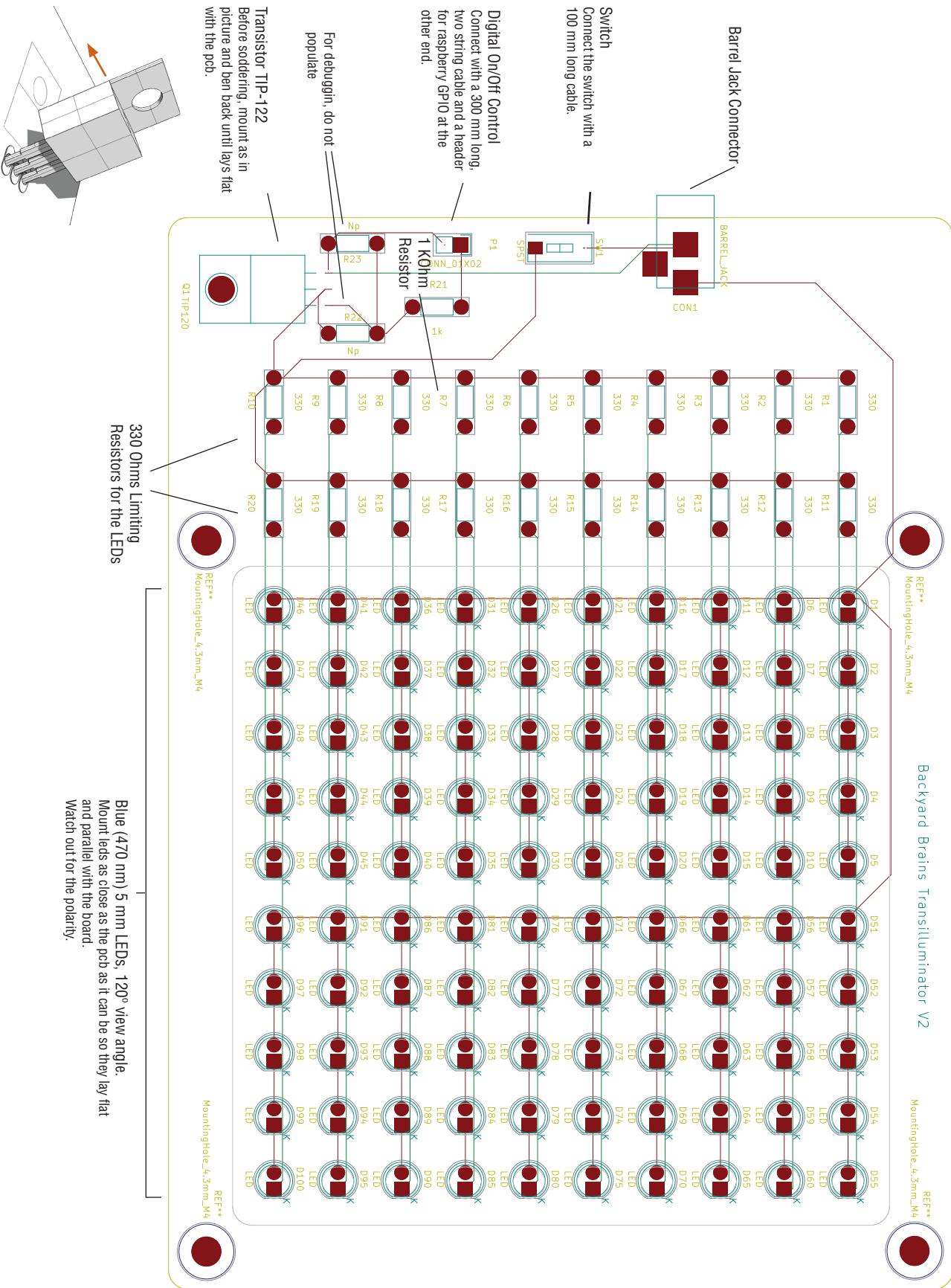
Place the adaptor on top of the top module and slide it forward until it's firmly attached.



PCB

Schematics





Bill of Materials

Fasteners	Cantidad
M4 45 mm	4
M4 25 mm	6
M4 40 mm	1
M4 Nut	11
M3 10 mm	20
M3 15 mm	8
M3 20 mm	4
M3 Hex Nut	32

Electronics	Cantidad
Resitors 330 Ohm	20
Resitors 1 Kohm	1
Blue Leds	100
TIP-122	1
5.5 mm Barrel Jack Connector	1
Rocker Switch SPST 18.5x14 mm cutout	1
Pins Header Connector Male	6
Pins Header Connector Fem	6
Electric Cable	1 Roll