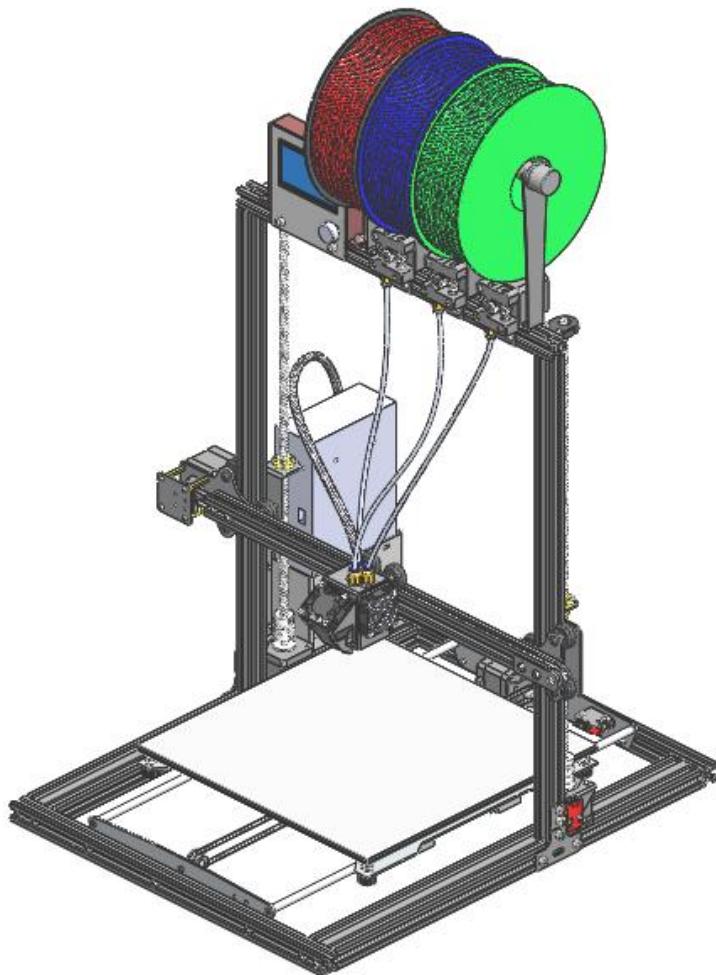


ZONESTAR



Model: Z8 2nd Edition
User Manual

ZONESTAR product line and naming rules

Z8 | S | F | U — M2

Configuration	
NULL: Base Edition	U:High configuration
Assembled Edition	
NULL: Base Edition	F: Pre-assembled Version
Hardware Edition	
NULL: The First Edition	S: The Second Upgrade Edition
T: The Third Upgrade Edition	
Produce Serial	
P802Q: Metal Prusa i3, Stainless Steel Frame	Hotend & Extruder
M8: Metal Prusa i3, black metal Frame	NULL : Singel extruder
Z5: Full Metal Aluminum Frame, 220x220x220mm	R2: Dual extruder and dual nozzle
Z6: Full Metal Aluminum Frame, 150x150x150mm	
Z8: Full Metal Aluminum Frame, 300x300x400mm	M2: 2-IN-1-OUT Mixing Color
Z9: Closed Full Metal Aluminum Frame, 300x300x400mm	
Z10: Full Metal Aluminum Frame, 300x300x400mm	

Specifications and configuration

Specifications:

Building mode	FFF/FDM	Build volume	300mm x 300mm x 400mm (LxWxH)
Nozzle diameter	0.4mm default	Layer height	0.1~0.36mm
Extruder number	2~3	Print speed	Max. 150mm/s (Recommend is 40~50mm/s)
Printing precision	±0.1mm	Support file format	stl, obj, gcode
Hotbed power	24V 360W +-10%	Hotbed temperature	110 degree max
Printing material	PLA,ABS,PETG,HIPS,PVA, etc. (recommend material is PLA for Mixing color hotend)		
Host software	Repetier-host, Cura, etc. (recommend is Repetier-host)		
Host software system	Linux,Windows and OSX		

Configuration:

SKU	Extruder Qty.	Nozzle Qty.	mix color	FROD	Bed Auto Level	Laser engraving	TFT LCD Screen	WiFi	Power Fail Resume	Print Finish Auto OFF
Z8S-R2	2	2	○	○	○	○	○	○	○	○
Z8S-M2	2	1	●	○	○	○	○	○	○	○
Z8S-R3	3	3	○	○	○	○	○	○	○	○
Z8S-M3	3	1	●	○	○	○	○	○	○	○

Remark:

● : Default equipped with this feature. ○ : This function is not available.

○ : This function is not available default, but you can upgrade it (Need to add accessories).

FROD: Filament run out detection.

!! ATTENTION !!



Please strictly follow the standard operation when installation.



Please put the printer away from the reach of kids.



Must be guided by adults when children are installed or used.



Take care when installation, to avoid electrical shock hazards.



Caution: Hot!

Hotend has high temperature even the printer stop working.



Caution: Hot!

Hotbed has high temperature even the printer stop working.



Please keep well-ventilated condition! May produce toxic gases when printer working.

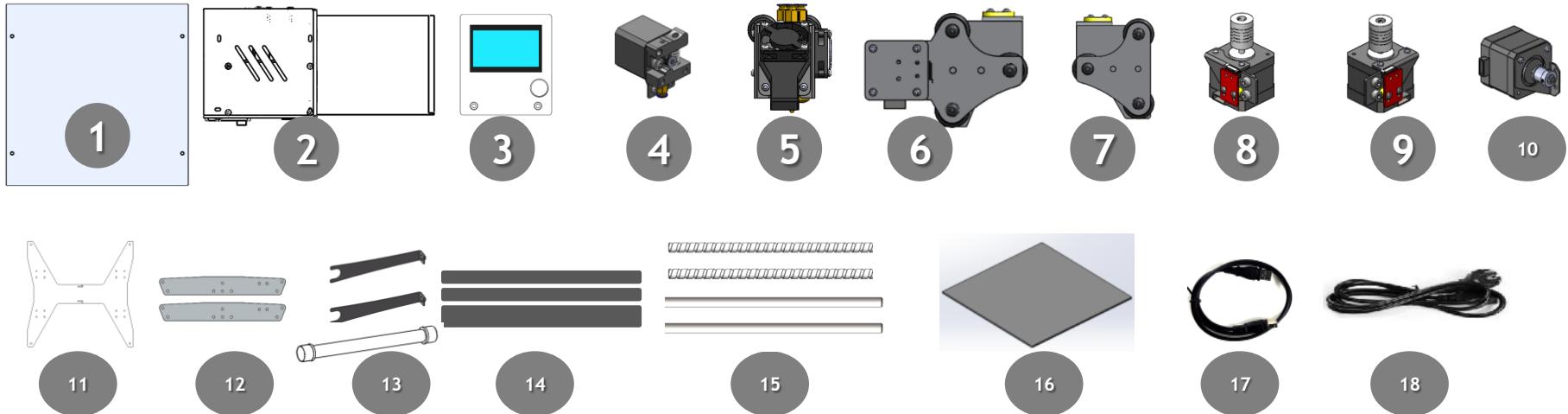


Please make sure you have set the AC power select switch to the correct position before power on.



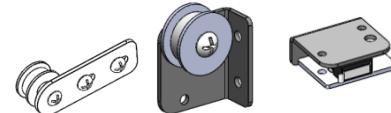
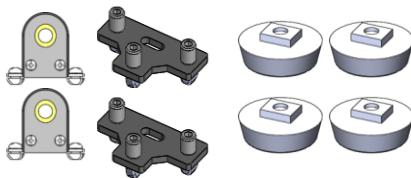
For mixing color printer, must load filament to both of the extruders, even if you print single color 3D object.

Parts



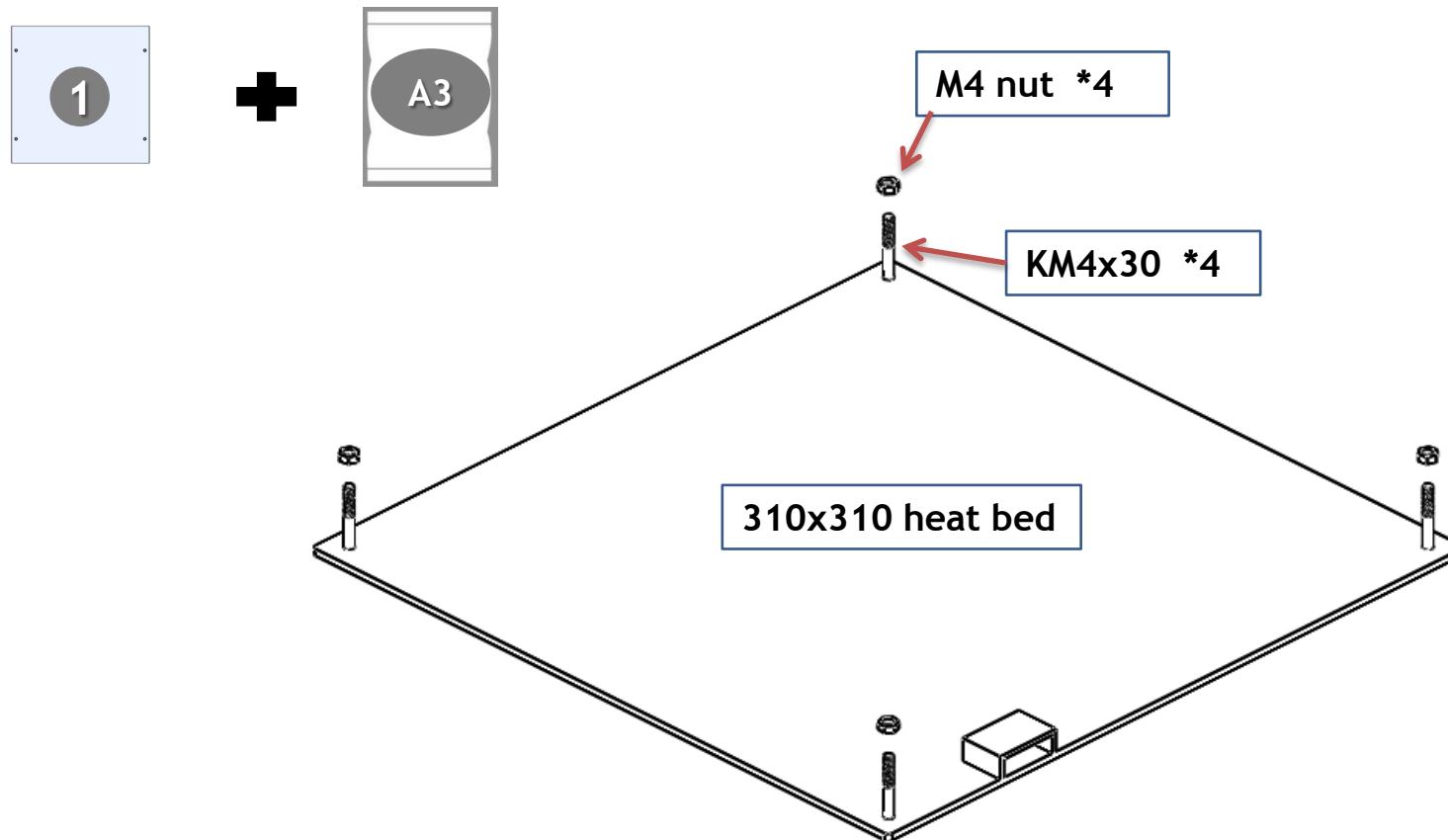
1	Hot Bed	10	Y Driver
2	Control box	11	Hot bed bracket
3	Control Panel	12	Y-axis bracket
4	Extrusion feeder	13	Filament roll bracket
5	Print head (Hotend module)	14	Aluminum profile (Total 8 pcs)
6	Z carrier left (with X motor)	15	T8 lead screw x2, Slider rod x2
7	Z carrier right	16	Hot bed film
8	Z driver left	17	USB cable
9	Z driver right	18	Power cord

Parts



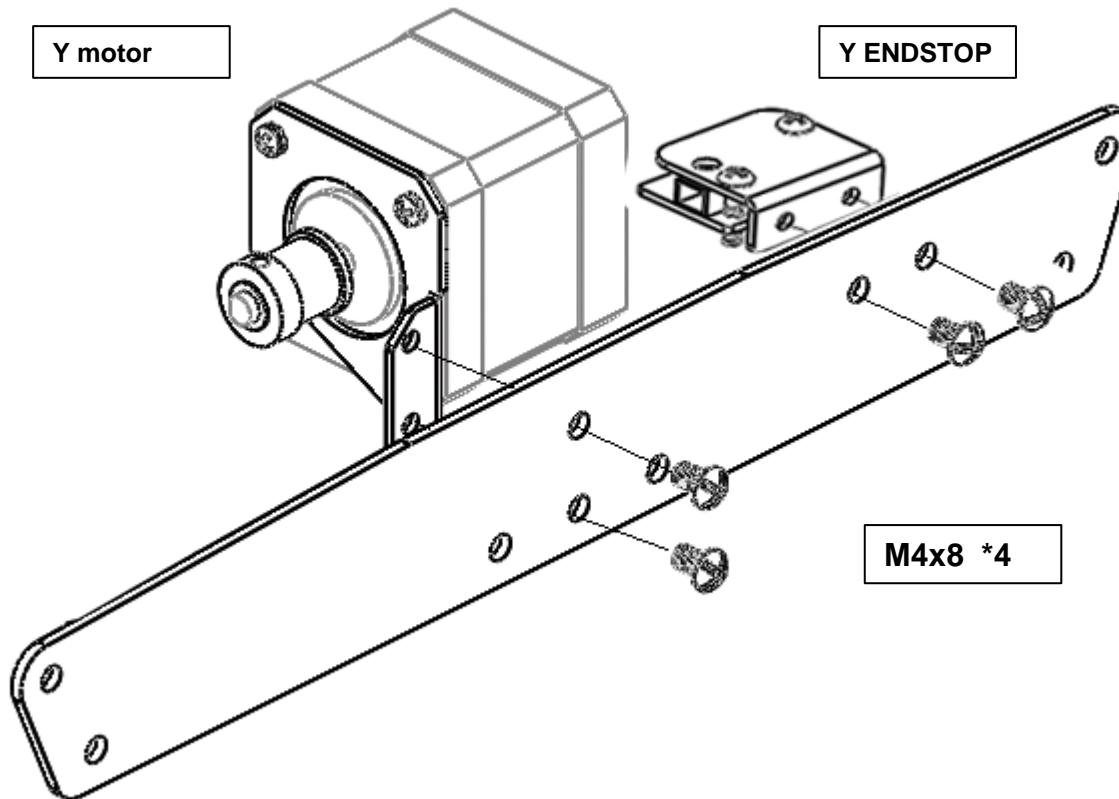
A1	Lead screw fix module/Z-axis bracket/Rupper pads	B1	Tools
A2	X ider/Y ider/Y Endstop module	B2	PTFE (filament guide) tube/Belt/cable tie/LCD cable/profile End Cover
A3	Screws and strings		
A4	SD card/Nozzle(gift)		
A5	Proximity sensor		

Assemble Heat Bed



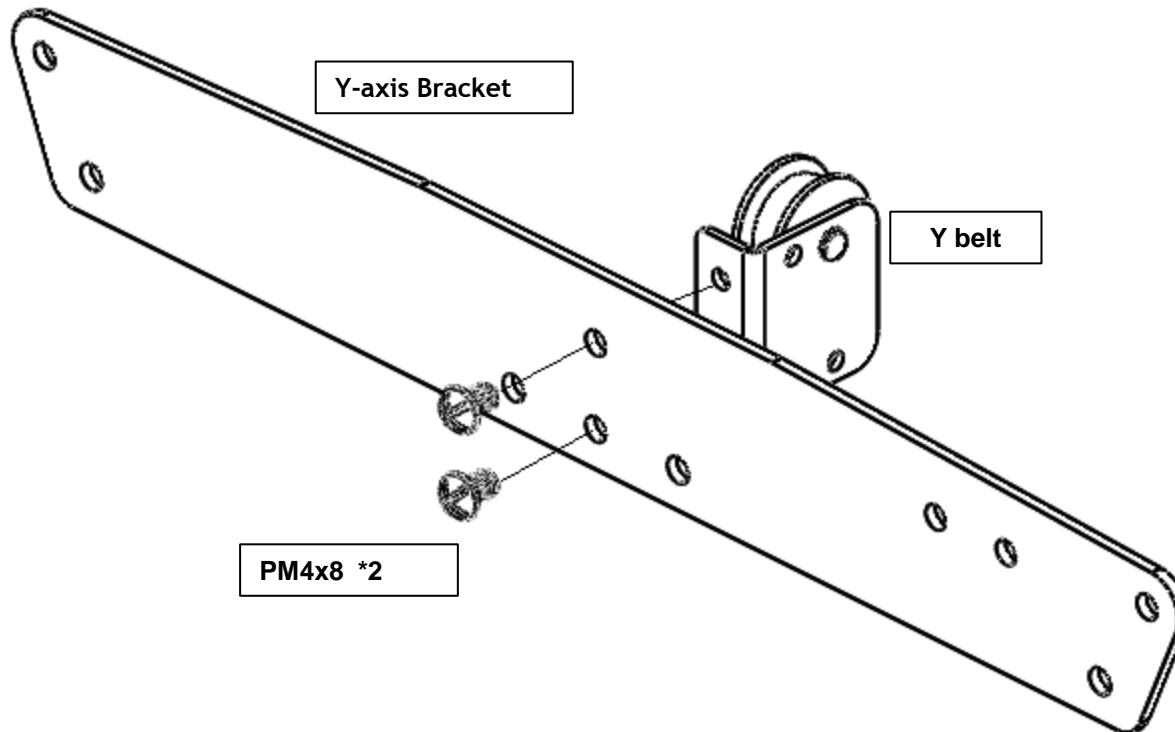
Note: Don't tighten the screw in this step.

Assemble Y-axis driver



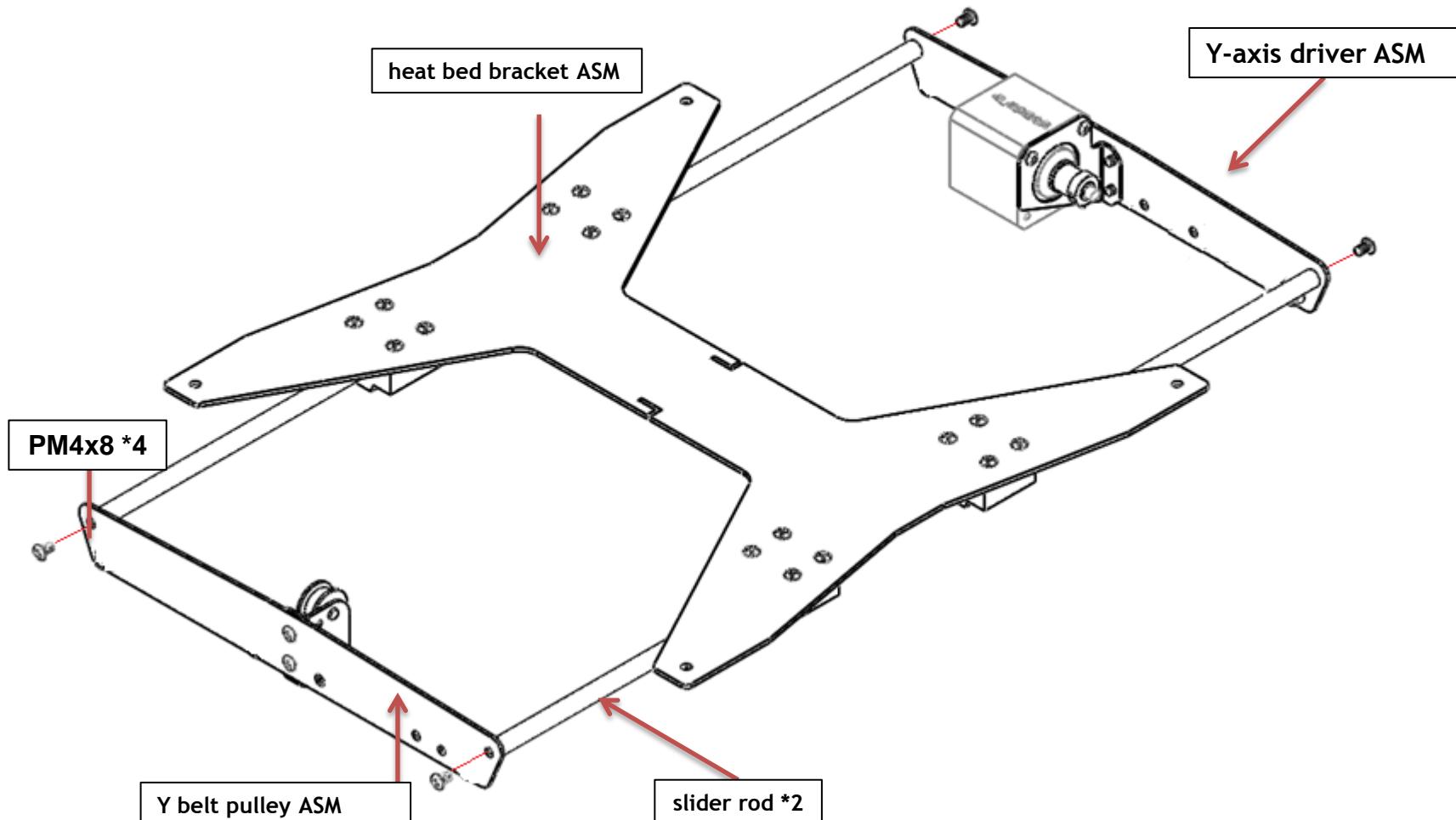
Note: The screws are pre-installed on the parts, take down them before installation.

Assemble Y belt pulley



Note: The screws are pre-installed on the parts, please take down them before installation.

Assemble heat bed bracket



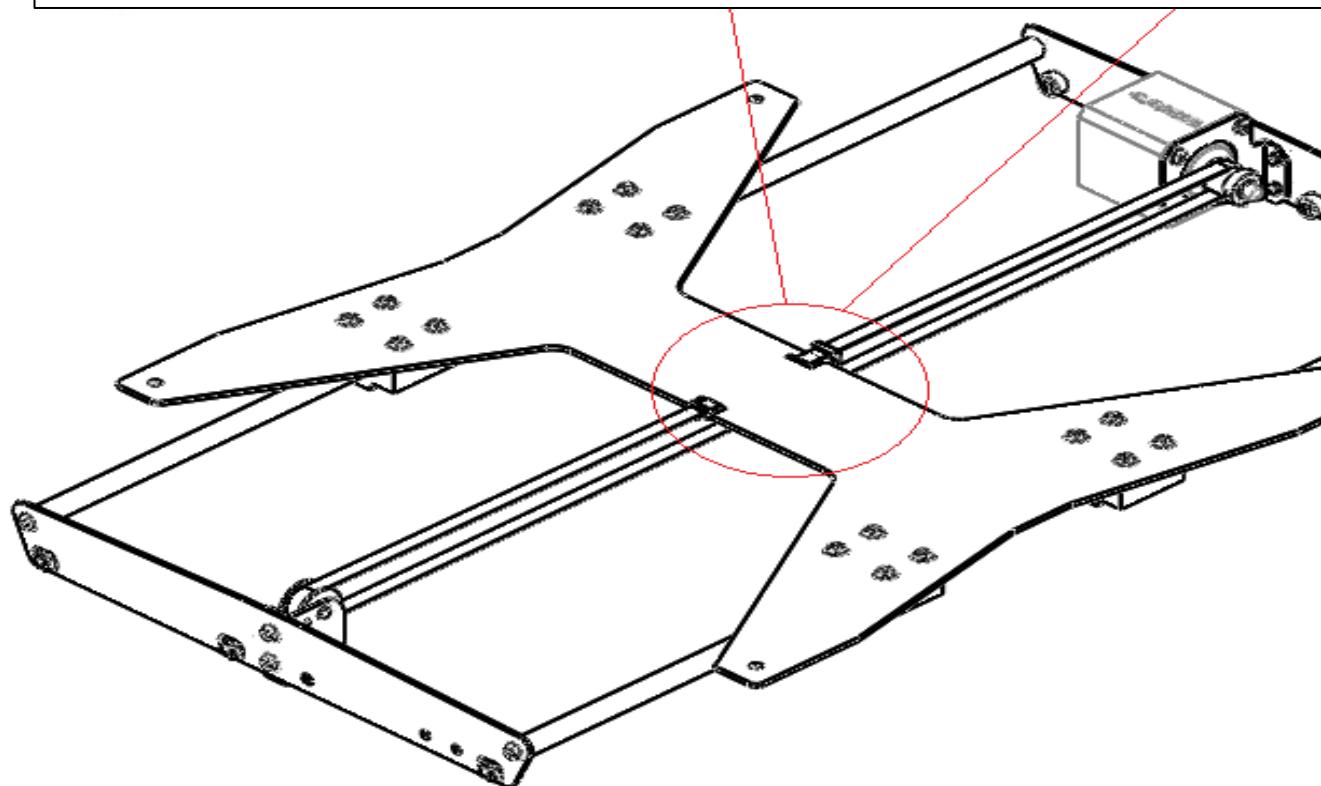
NOTE1: The screws are pre-installed on the parts, take down them before installation.

NOTE2: Note that the polished rod should be installed to the lowest position.

Install Y belt

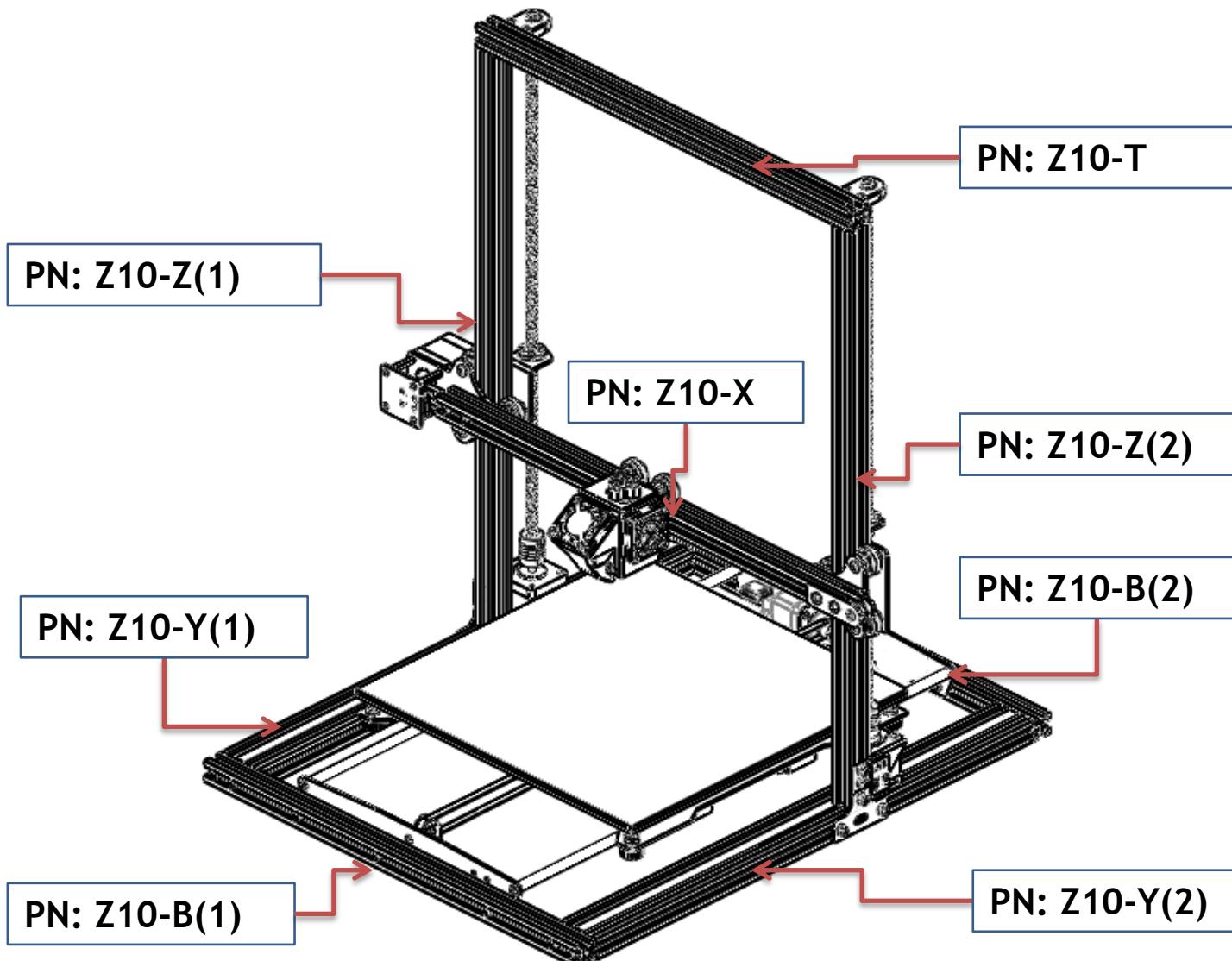
B3

Tighted the belt and use 2 PCS cable tie to lock it on the heat bed bracket

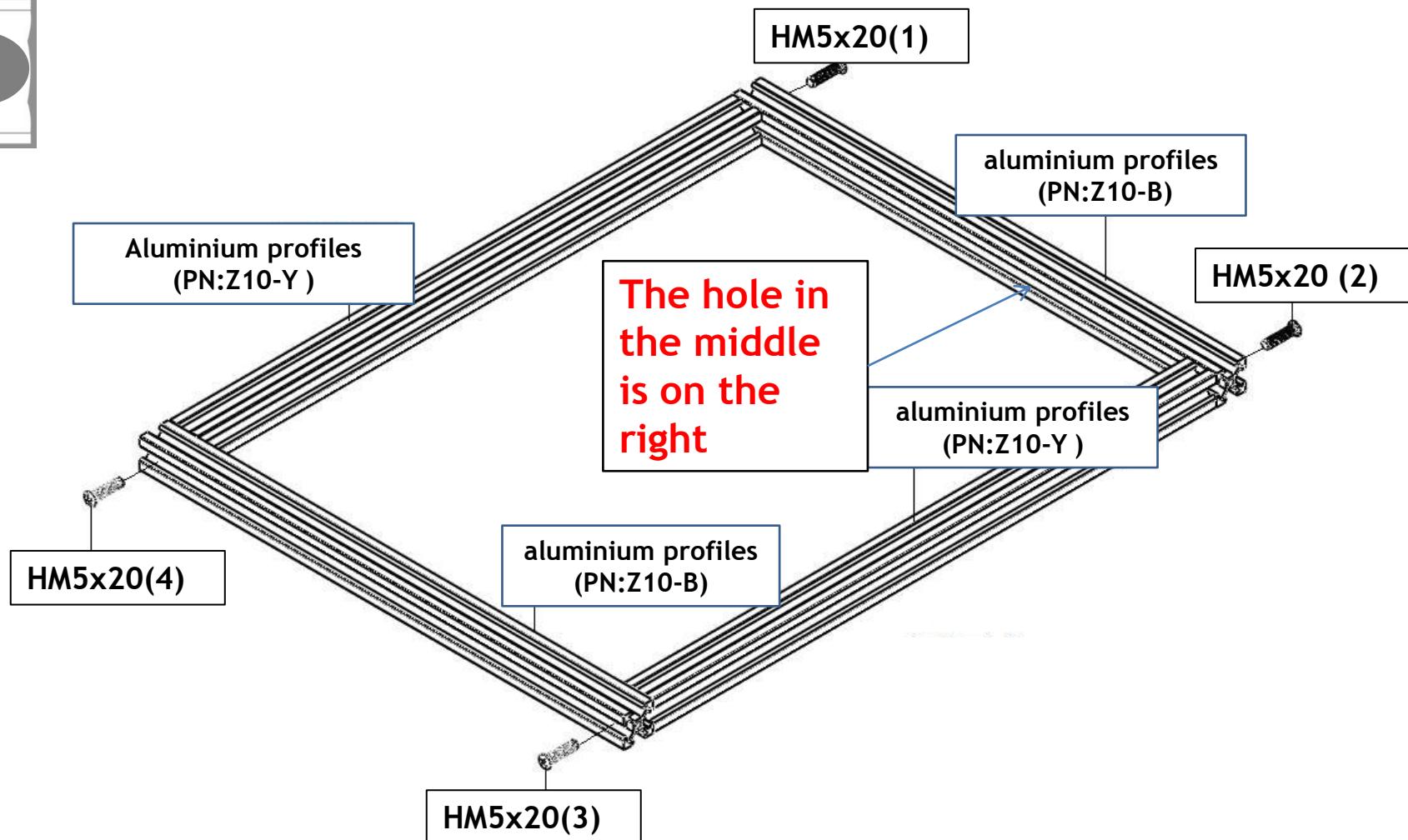


NOTE: Check if the hot bed bracket can move smoothly, if not, please loosen the screws which fixed the bearing and lock them again.

Prepare: aluminum profile overview



Assemble Framework : bottom

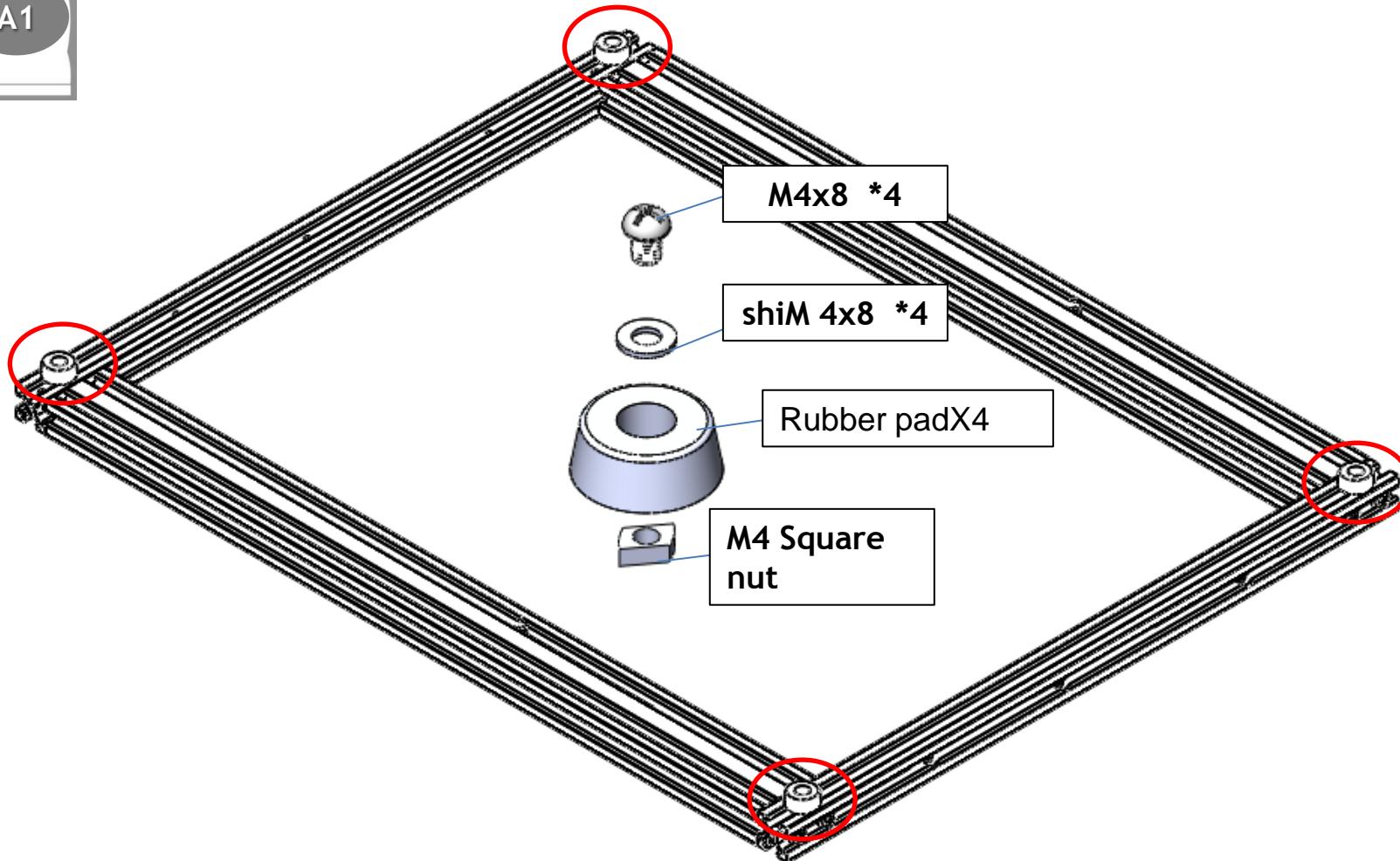


Note 1: Note holes position of the aluminium profiles Z10-B

Note 2: Level all of the aluminium profiles before locked the screws.

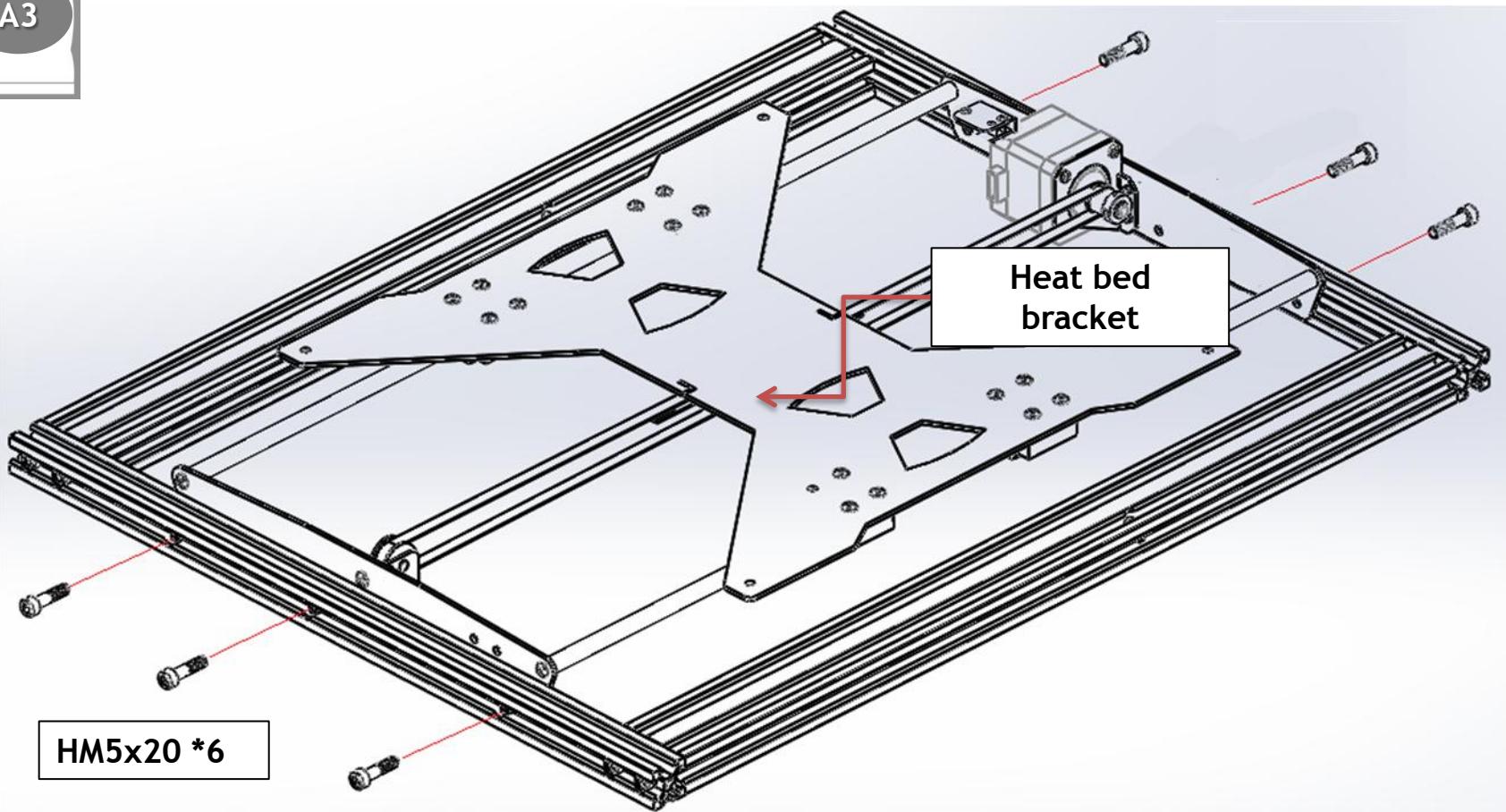
Install Rubber pads

A1



Install heat bed bracket

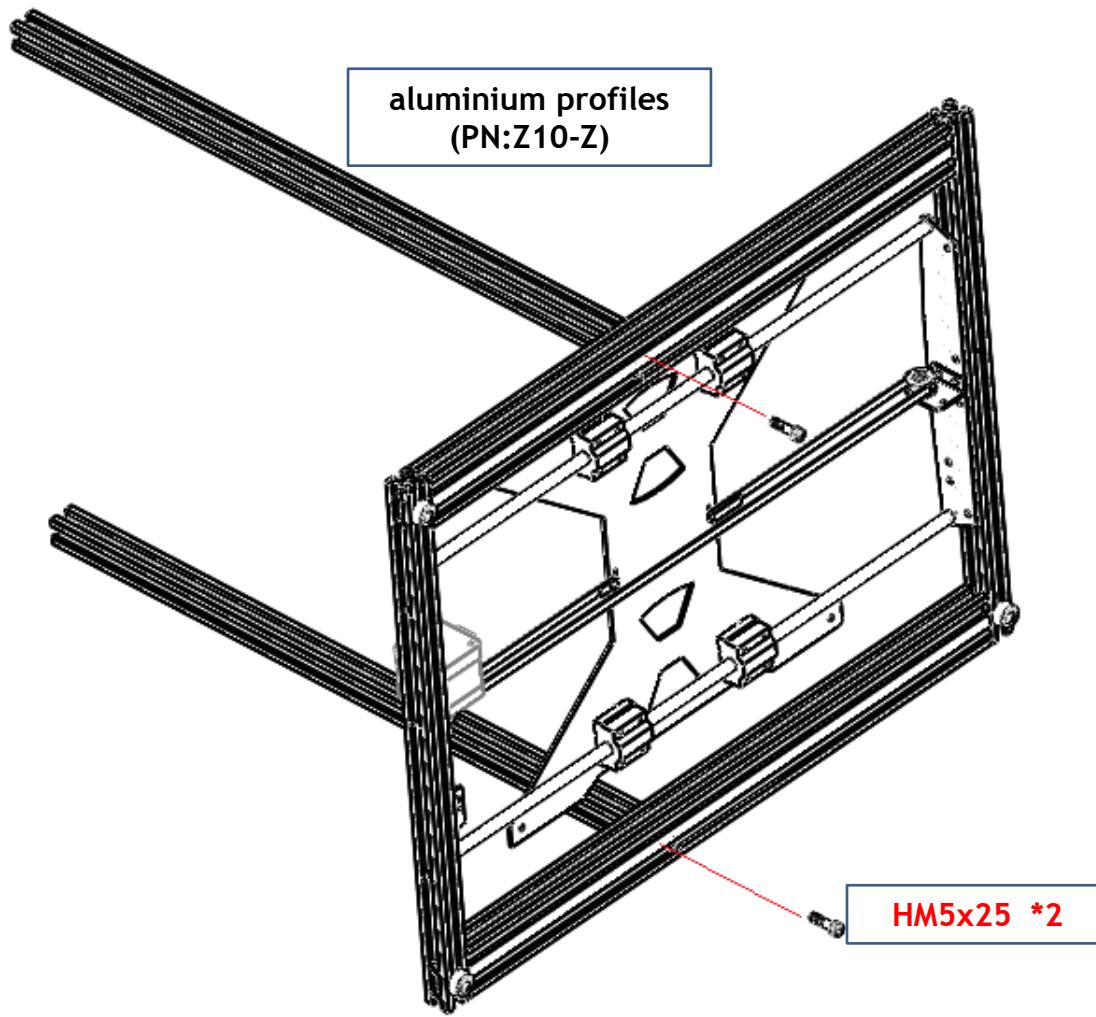
A3



NOTE: The picture of the hot bed bracket is slightly different from the actual part.

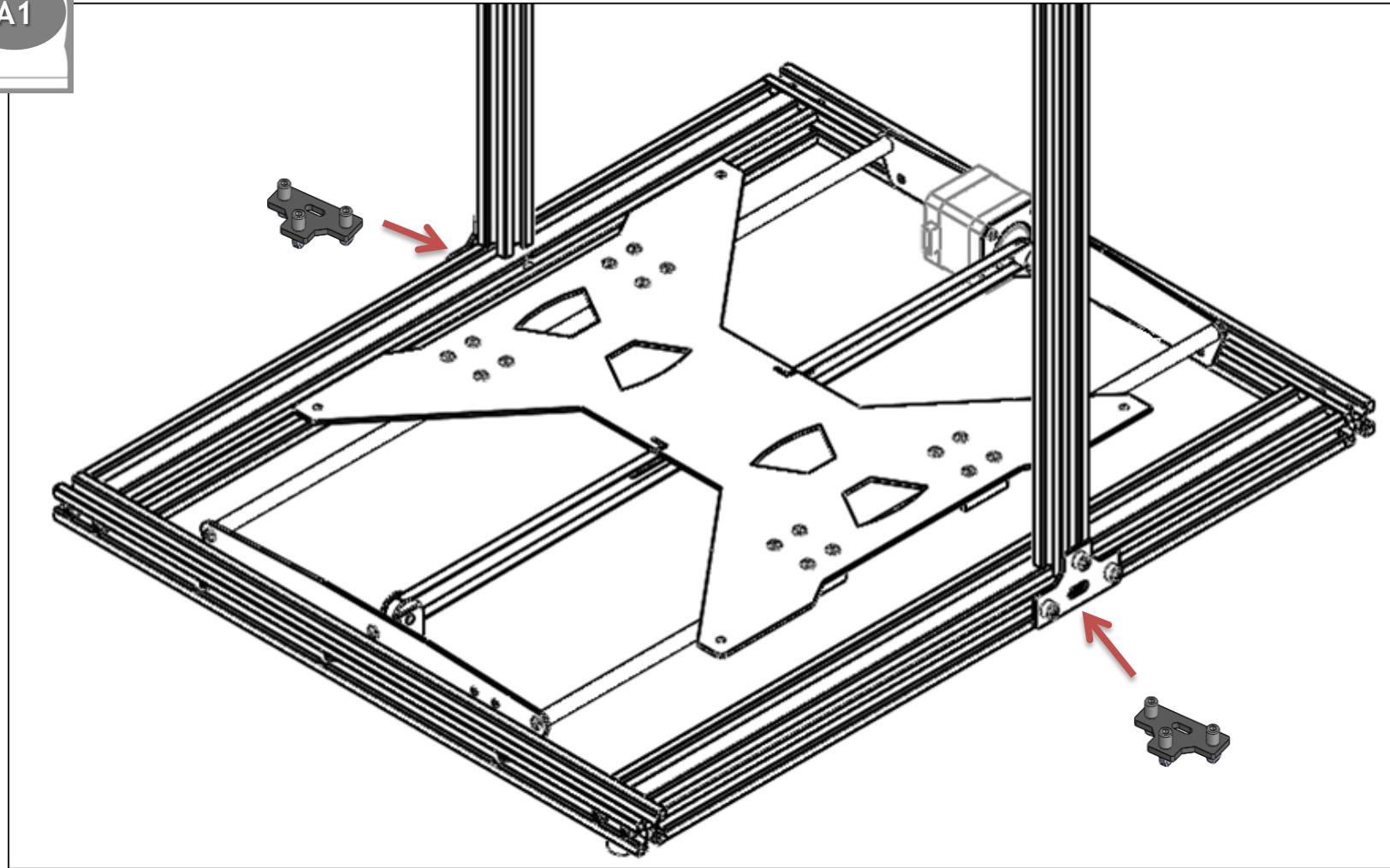
Assemble Framework: Z-axis

A3

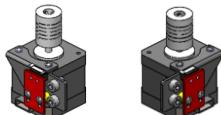


Assemble Corner code

A1

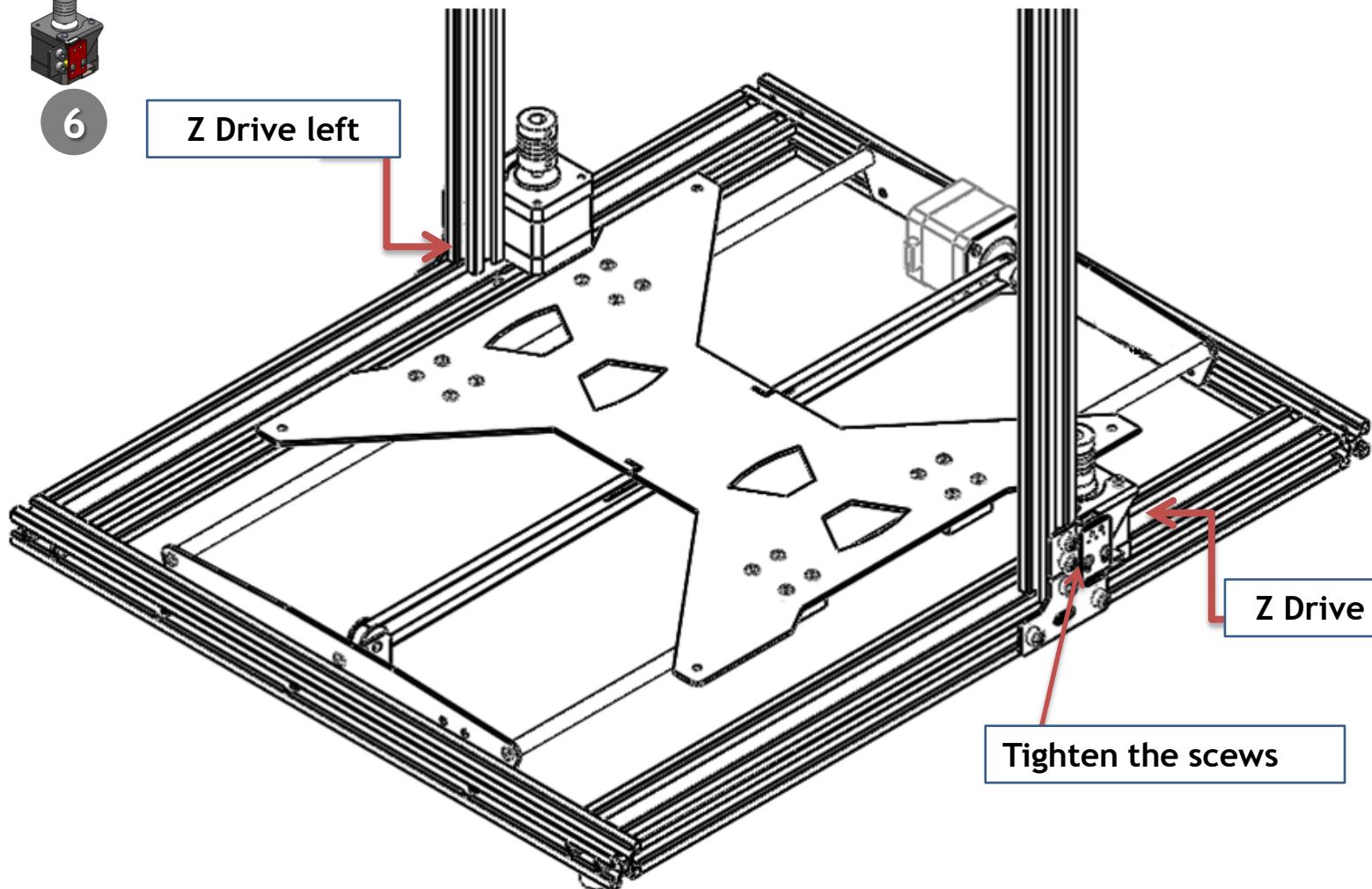


Install Z-axis driver mechanism



5

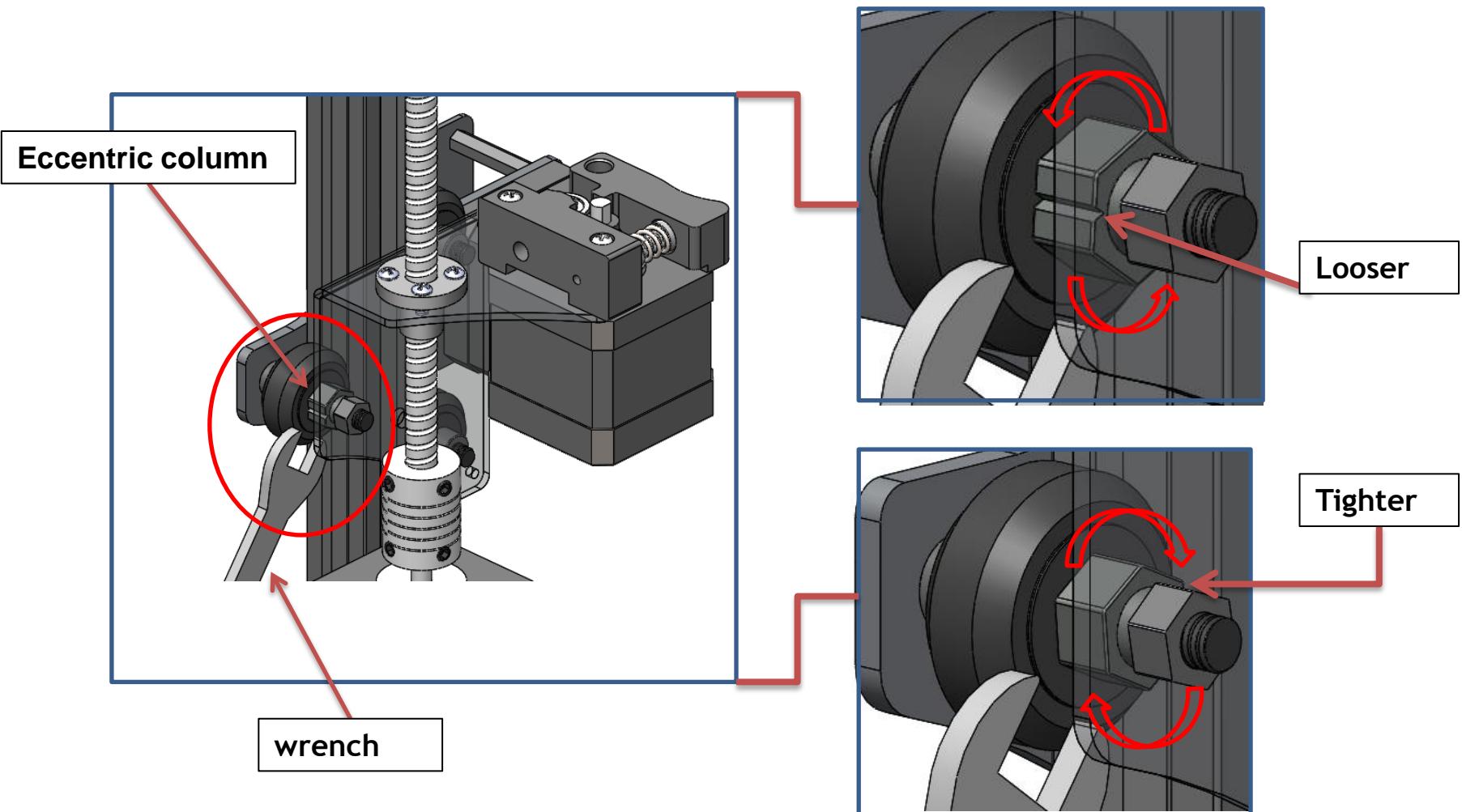
6



Z Drive right

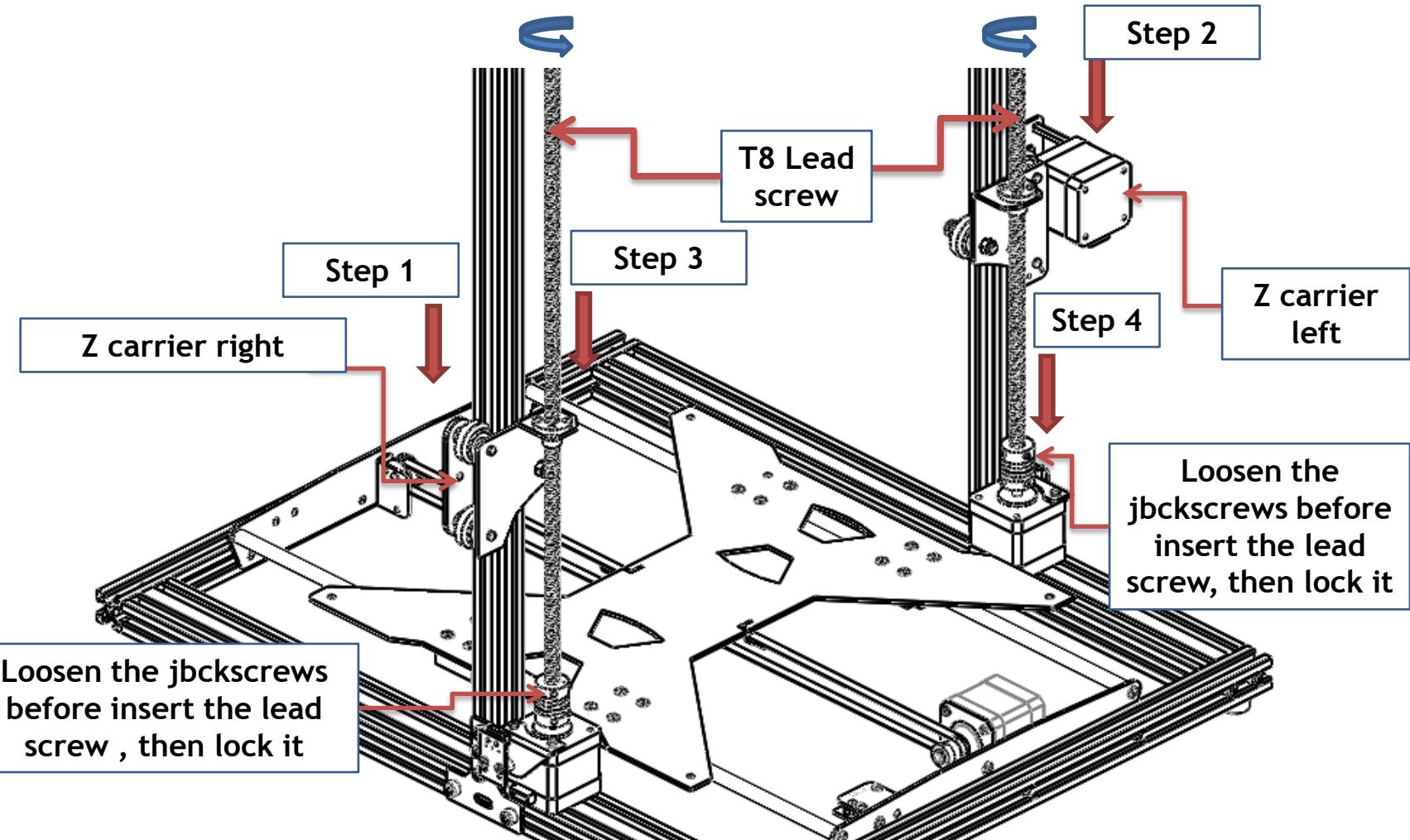
Tighten the screws

Prepare: How to adjust the Eccentric column



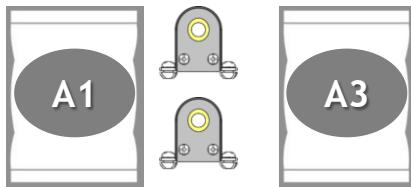
Note: Before install Z carriers, rotate the eccentric column to loosest postion.

Install Z-axis carriers

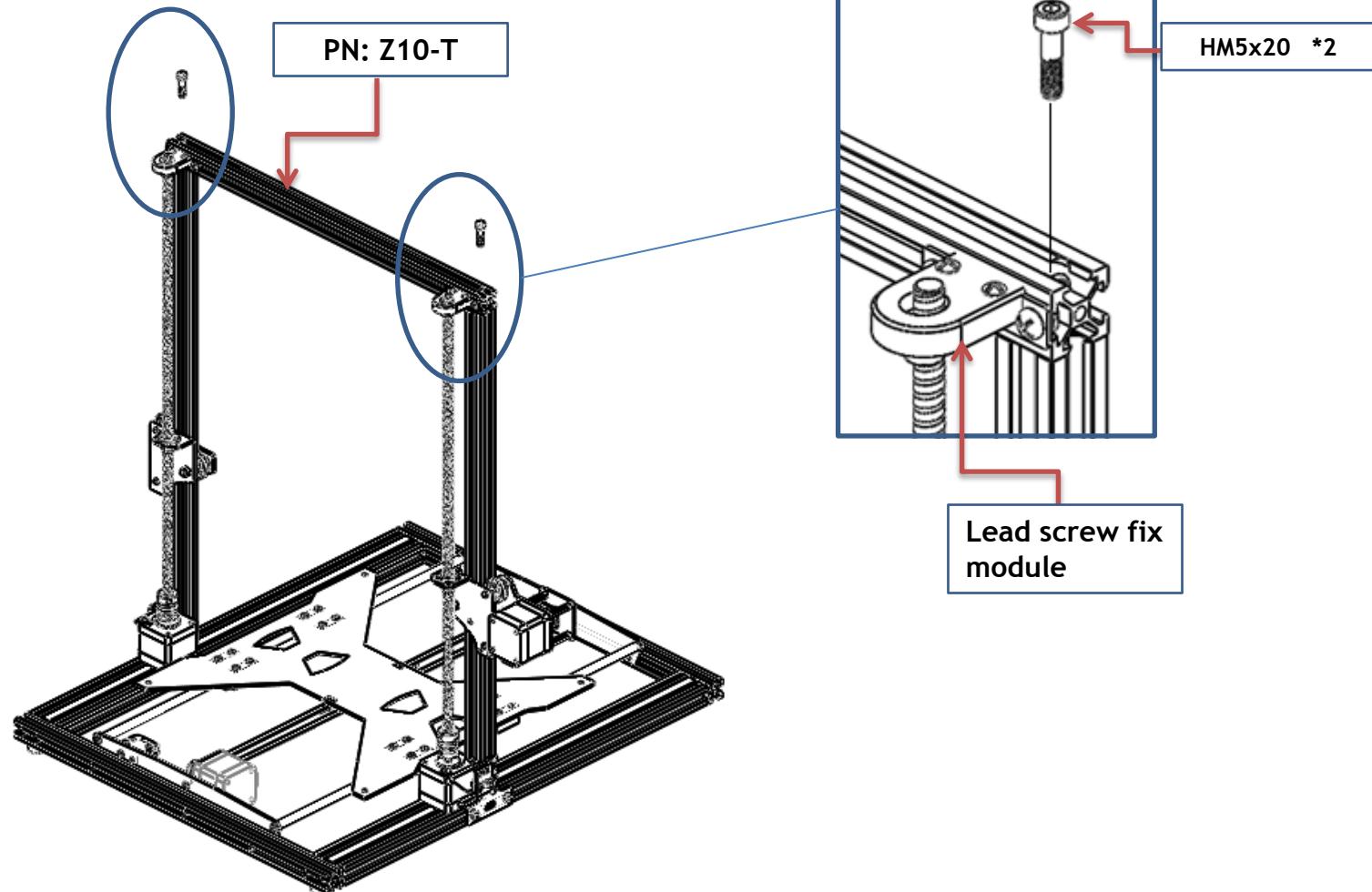


Note: After install Z carriers, rotate the eccentric columns to tighten the carriers, and make sure them can move smoothly on the profile rail.

Install framework: Top

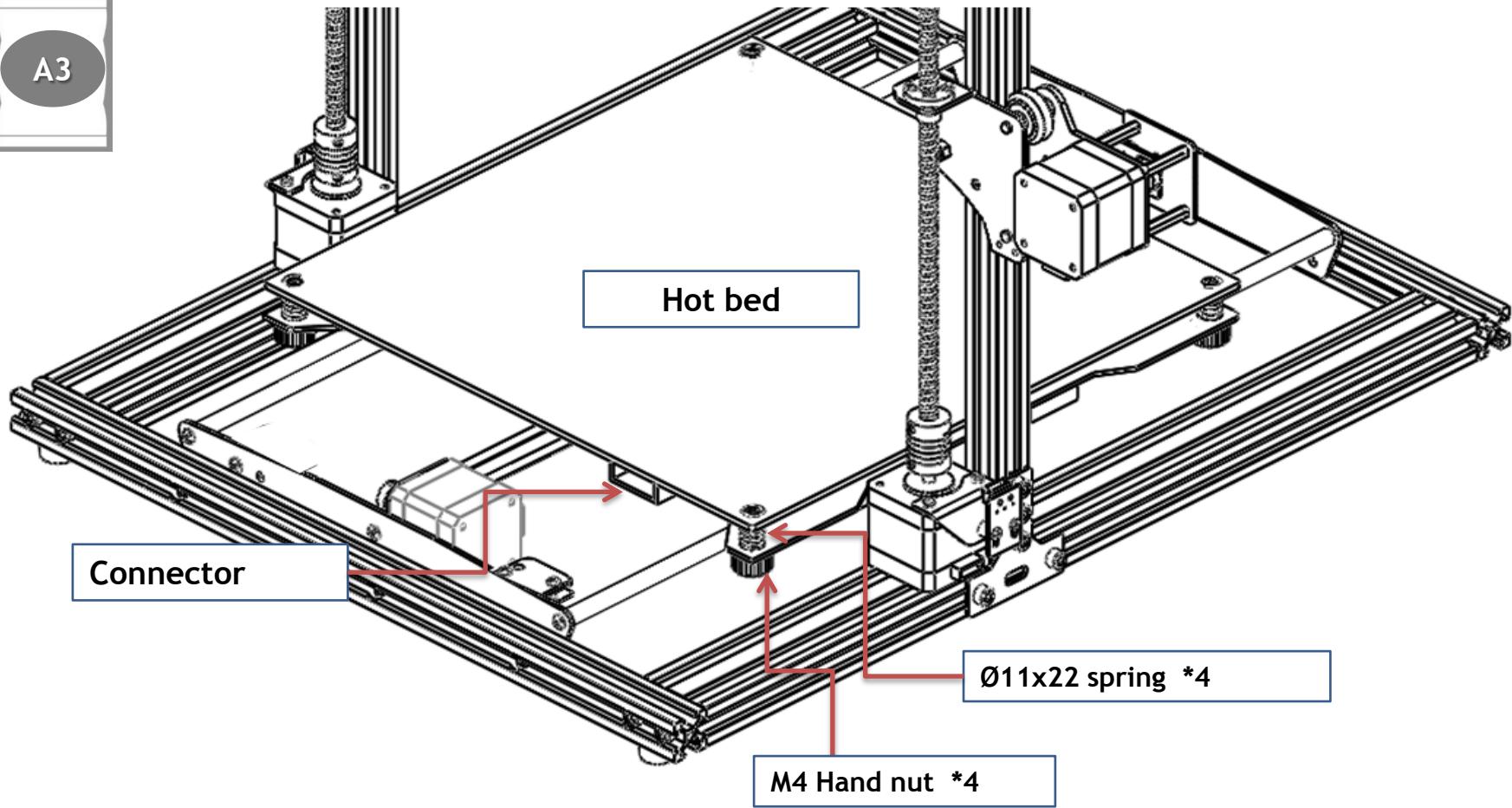


Note: Intall the Z lead screw fix modules on the top Frame first, and then install the ASM to the printer.



Install hot bed

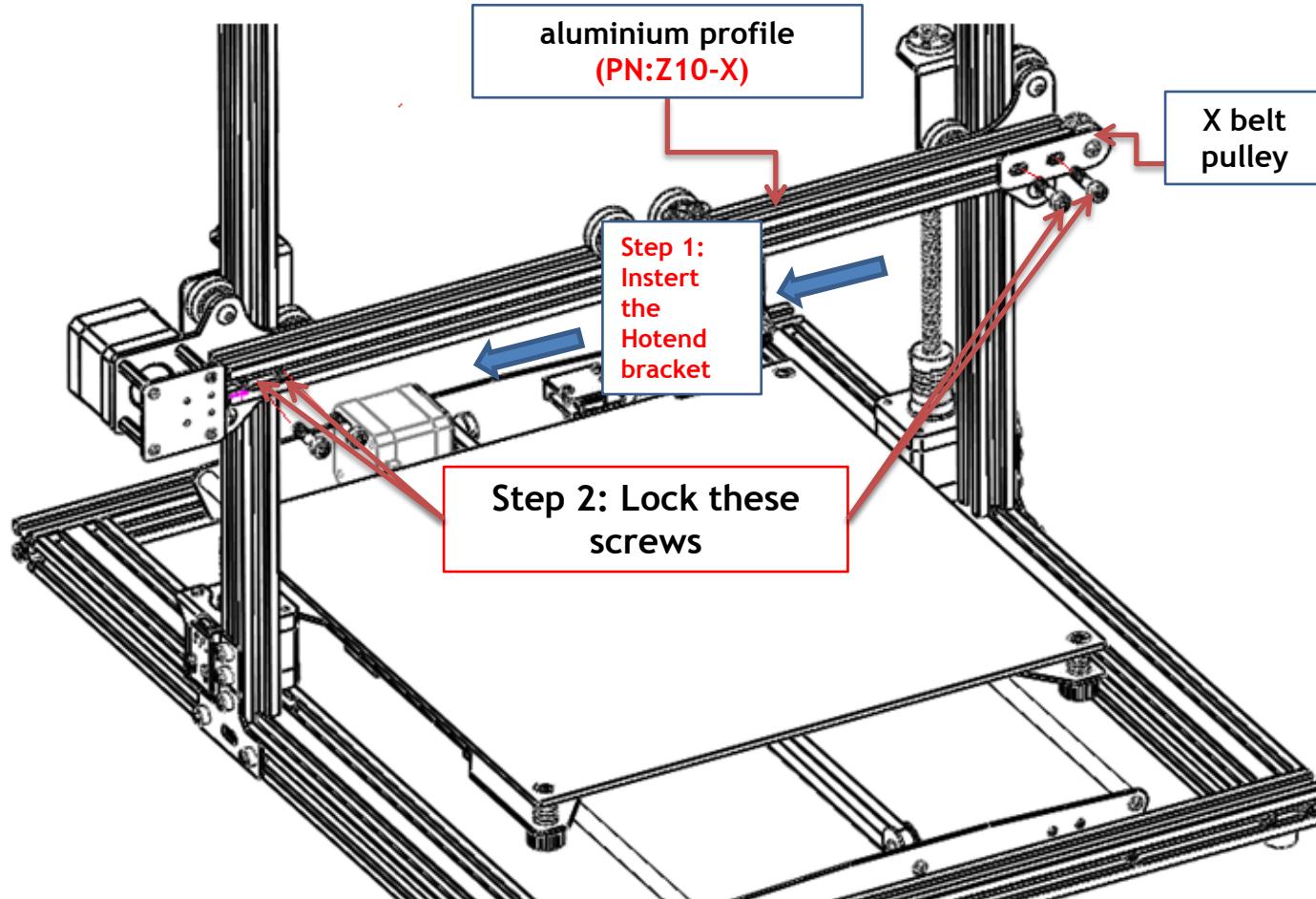
A3



We recommend that you paste the hot bed sticker on the hot bed after the machine has been debugged, but not in this step.

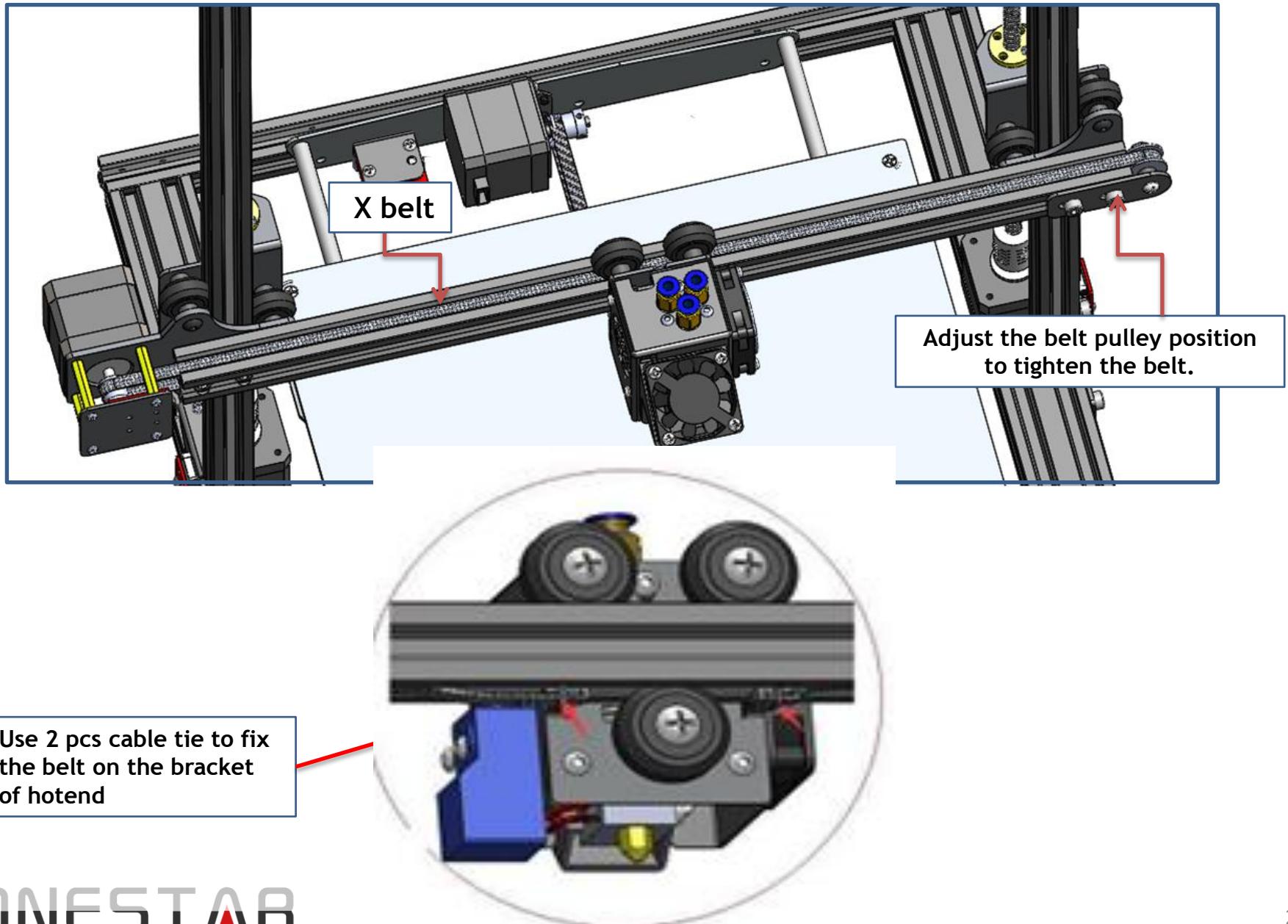
Install X-axis rail

A3

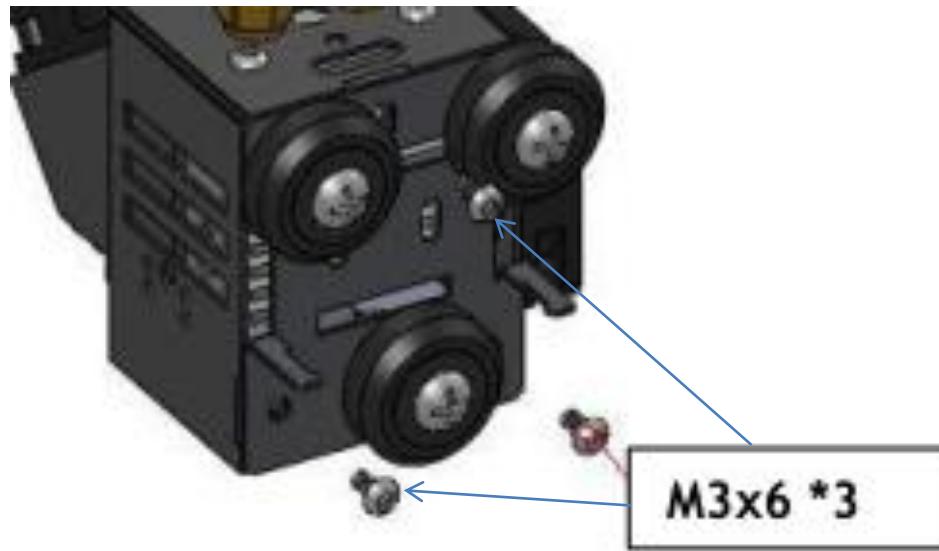


NOTE: Don't install the print head in this step.

Install belt of X-axis

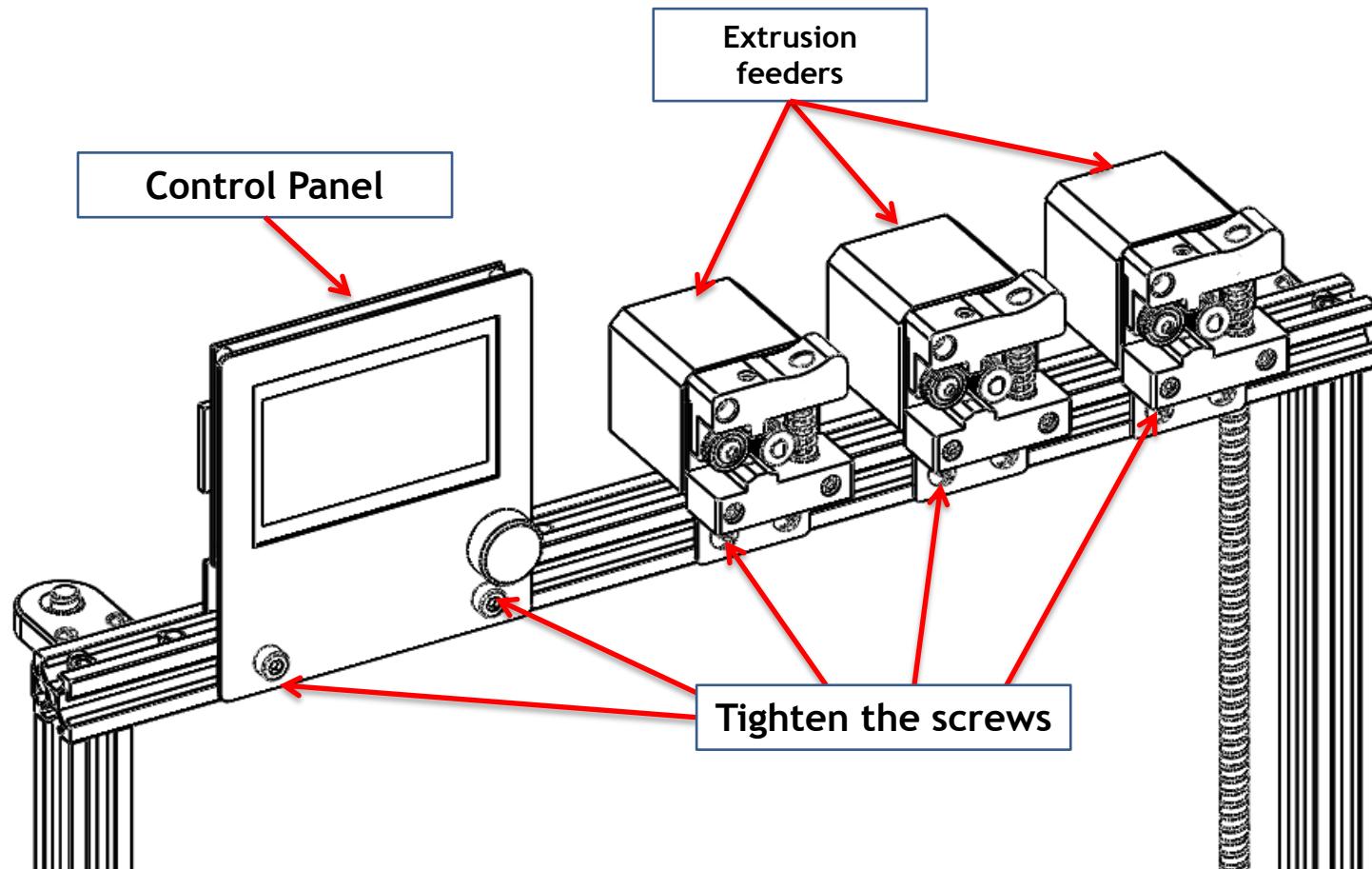


Install print head to the hot end bracket



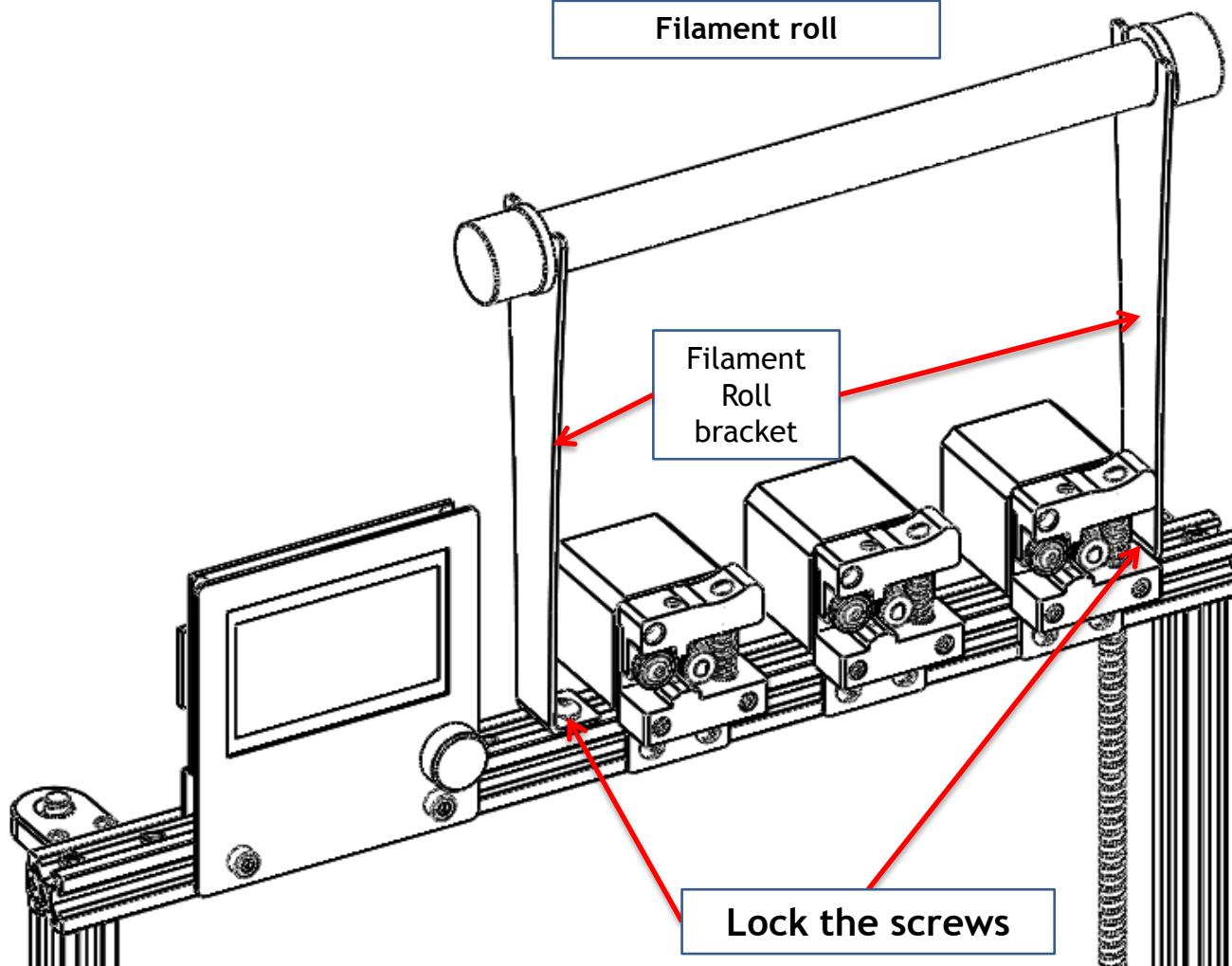
NOTE:Don't lock the screws too tighten!

Install Control panel and Extrusion feeders

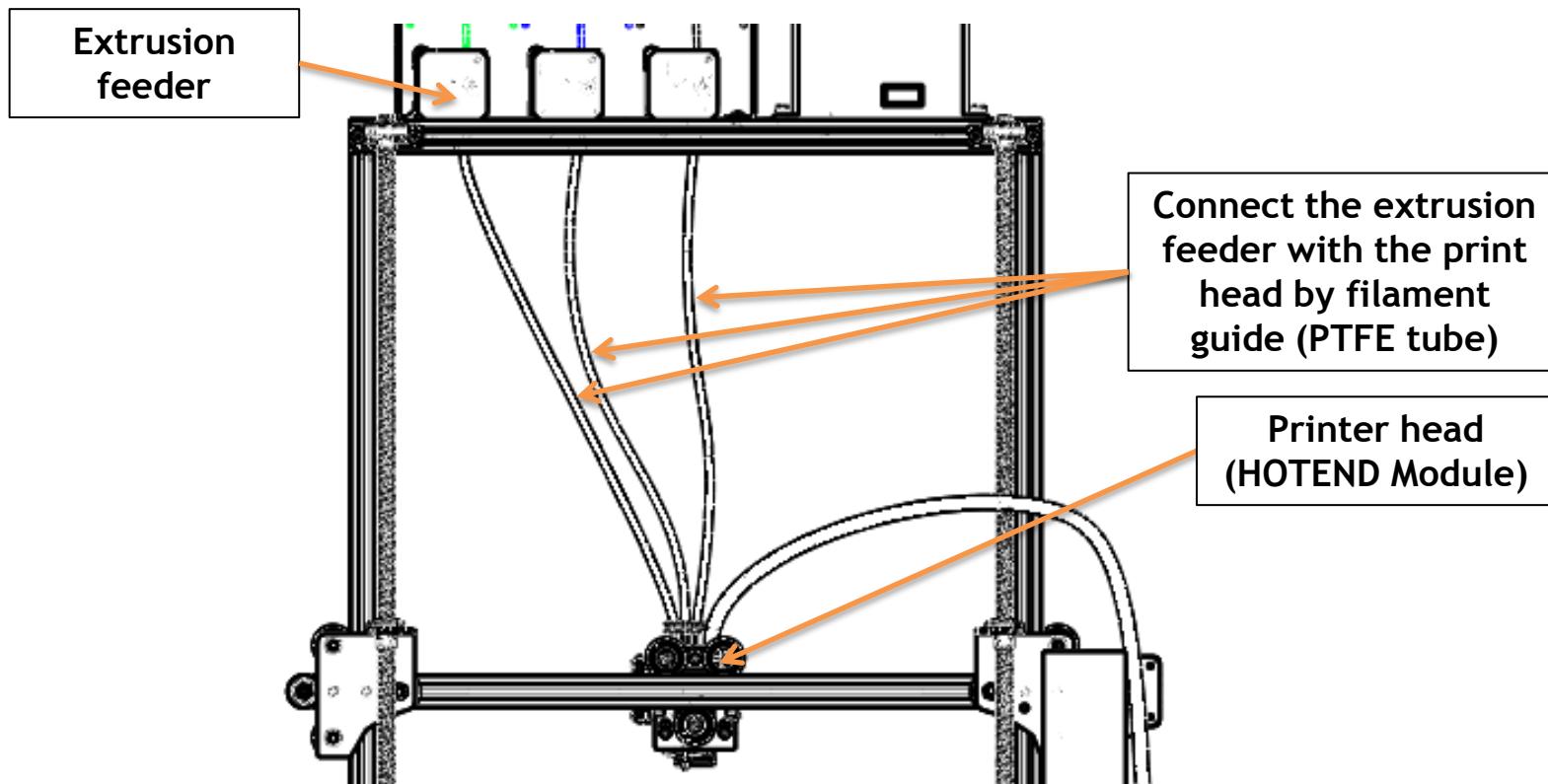


NOTE: Extrusion feeder quantity depends on the model.

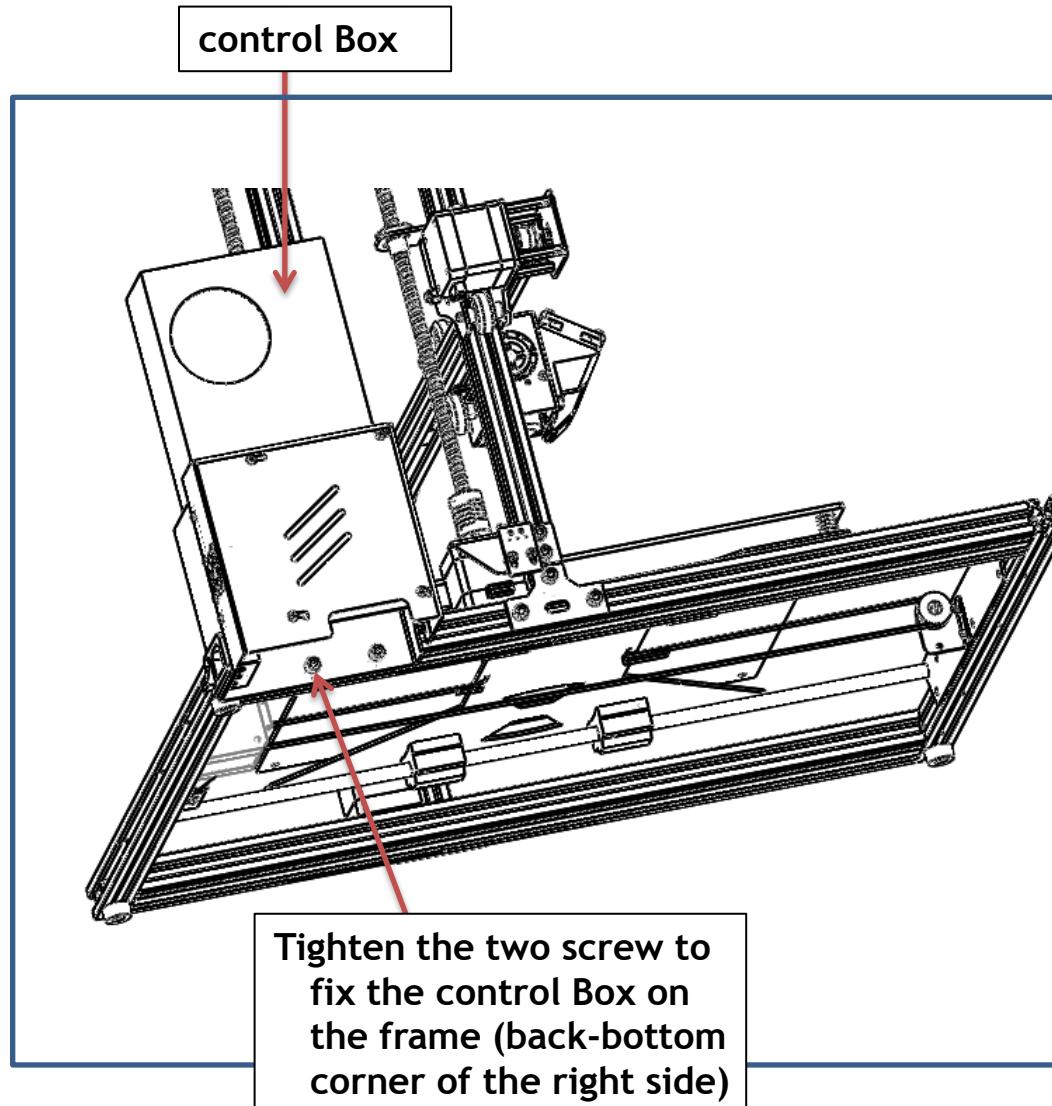
Install Filament Roll bracket



Install filament guide



Install control box



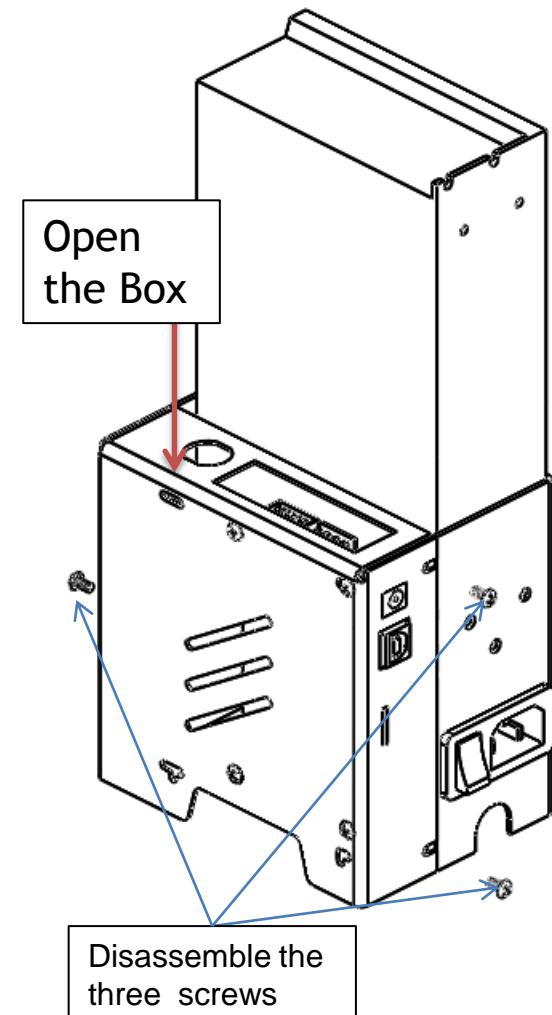
Wiring

Step 1: Set the AC power switch to 110V or 220V according to your city power voltage.

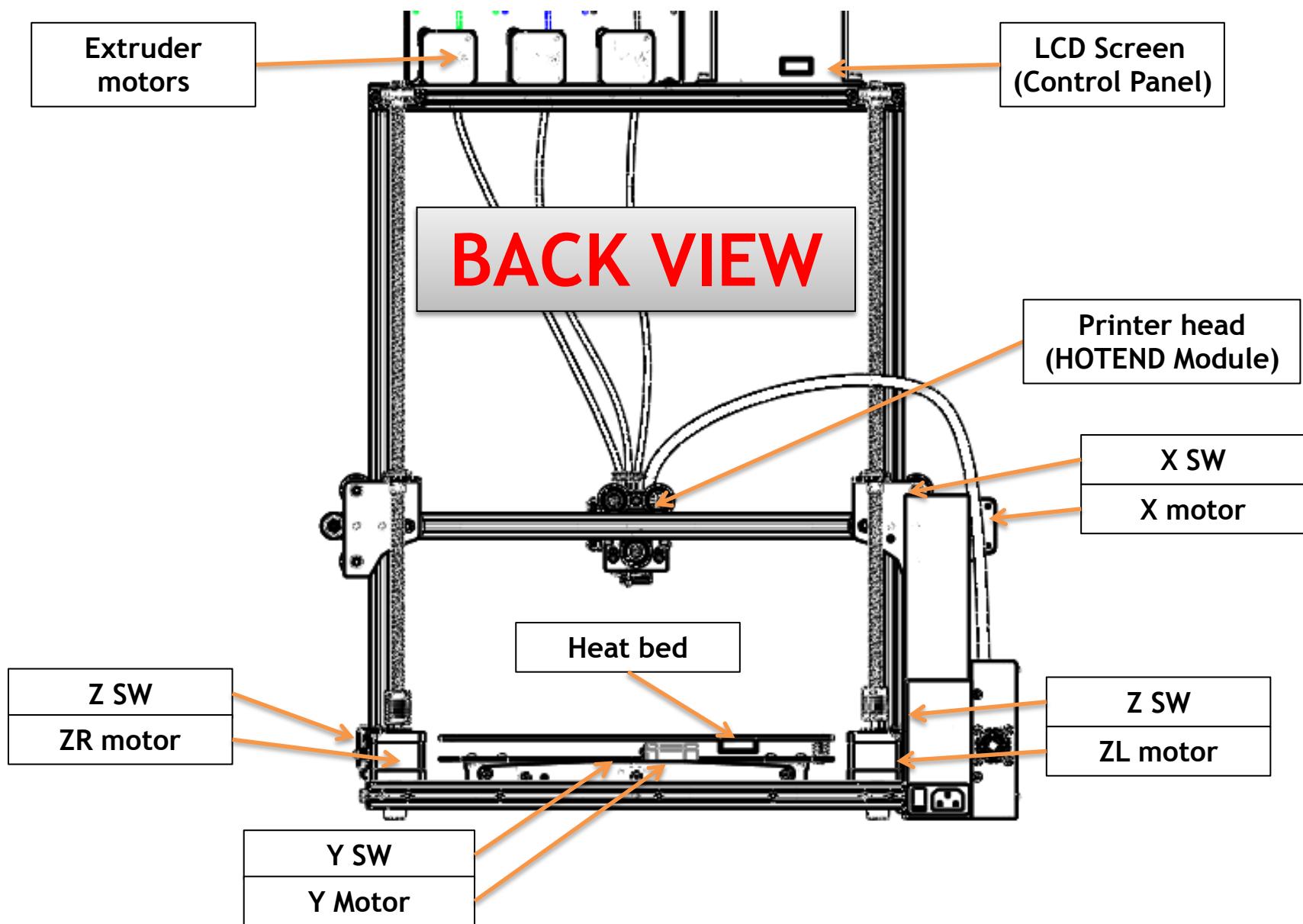
Step 2: Open the control board.

Step 3: Refer to the wiring diagram finish wiring.

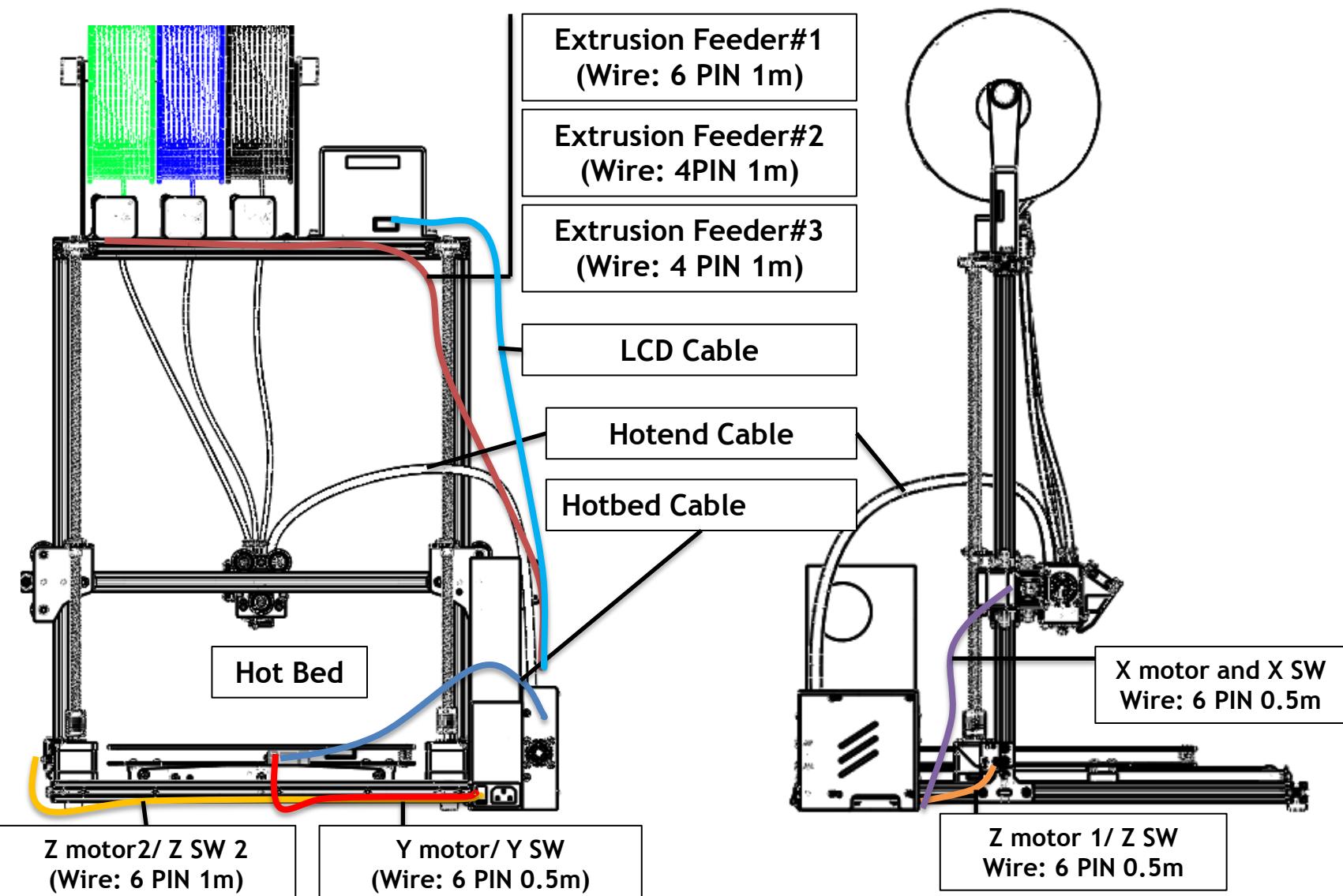
Step 4: Refer to “wiring layout” to Layout wires.



About Electronic Components

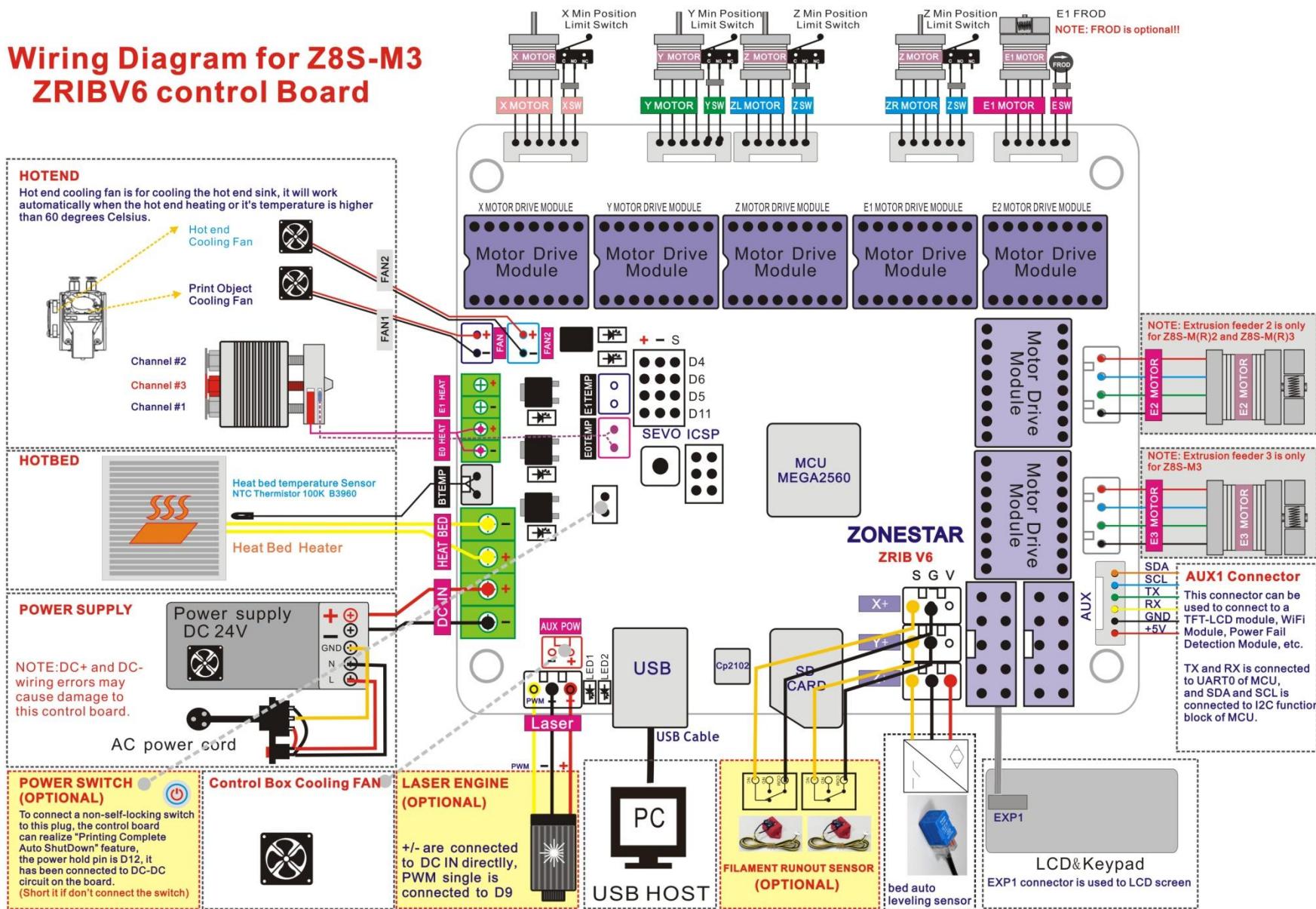


Wires and Wiring layout



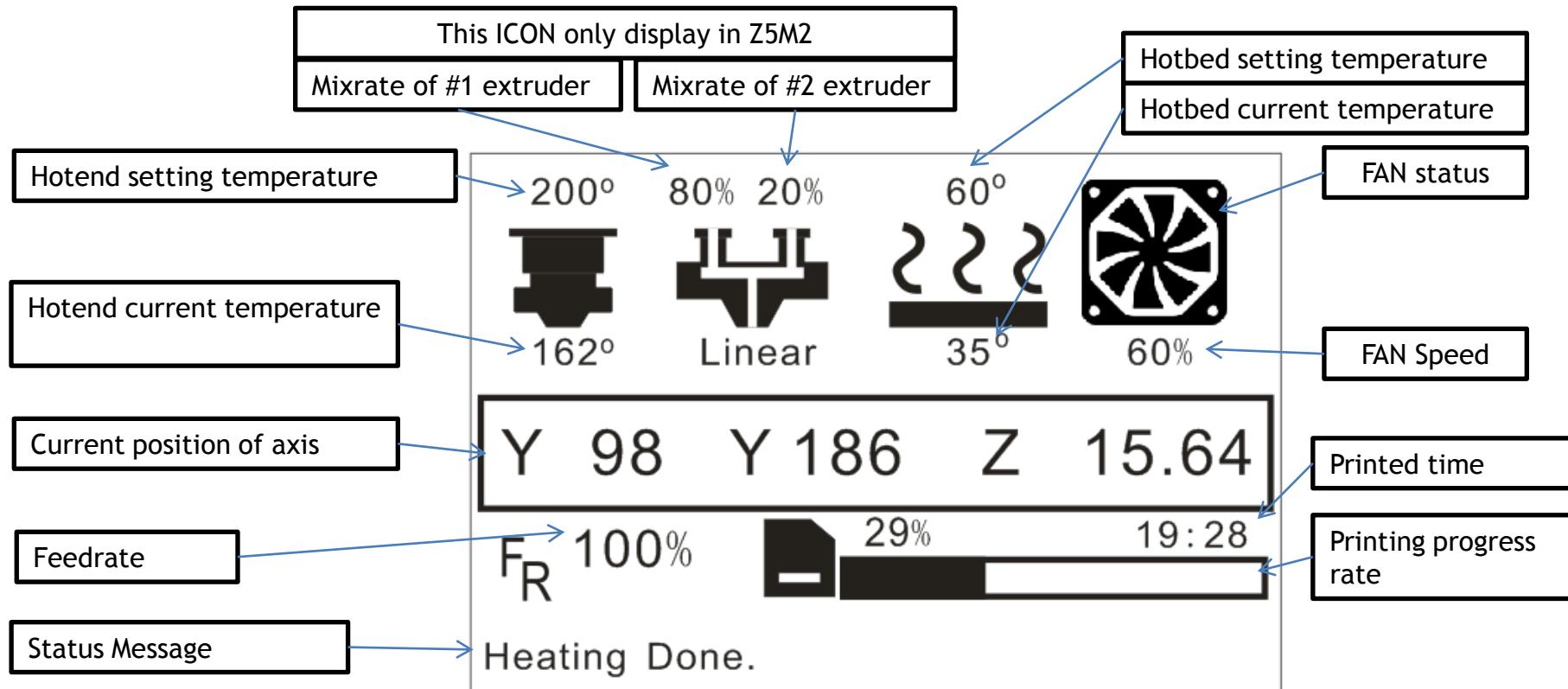
Wiring Diagram

Wiring Diagram for Z8S-M3 ZRIBV6 control Board



LCD Menu and Operation

Knob operation: <**Clockwise rotation**>: Next Item / Value +. <**Counterclockwise rotation**>: Previous Item / Value -. <**Push**>: Enter / Execute.



For details on the LCD menu, please refer to the file "LCD Menu Description.pdf" in the SD card.

Prepare to print - level the hotbed

1

Clean nozzle: make sure there aren't any filament at the end of nozzle, if not, remove it by a diagonal pliers.

2

Choose “Prepare”>> “Auto Home”>>, wait the hotend go to the orig position.

3

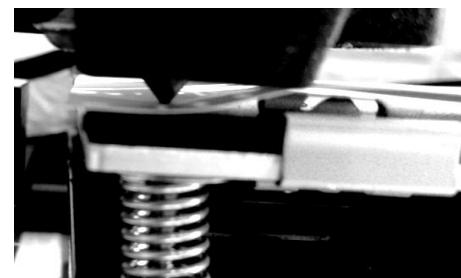
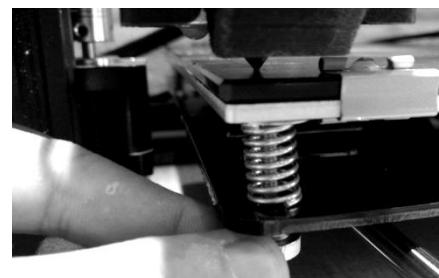
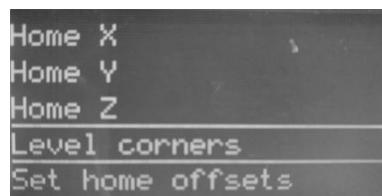
Watch the nozzle and make sure the nozzle is higher than the bed, otherwise tighten the hand nuts under the bed to pull down the hotbed or loosen these nuts to move up the bed.

4

Choose “Prepare”>> “Level Corners”>>, the nozzle will go to the first corner, adjust the hand nuts under the hotbed, let the nozzle almost touch the hotbed. In order to get a proper distance, you can put a A4 paper on the hotbed, and when the distance between the nozzle and hotbed can only insert a paper, it will be perfect.

5

Choose “next corner”, and adjust again. Repeat this step again and again, until all of the four corner at the same height.



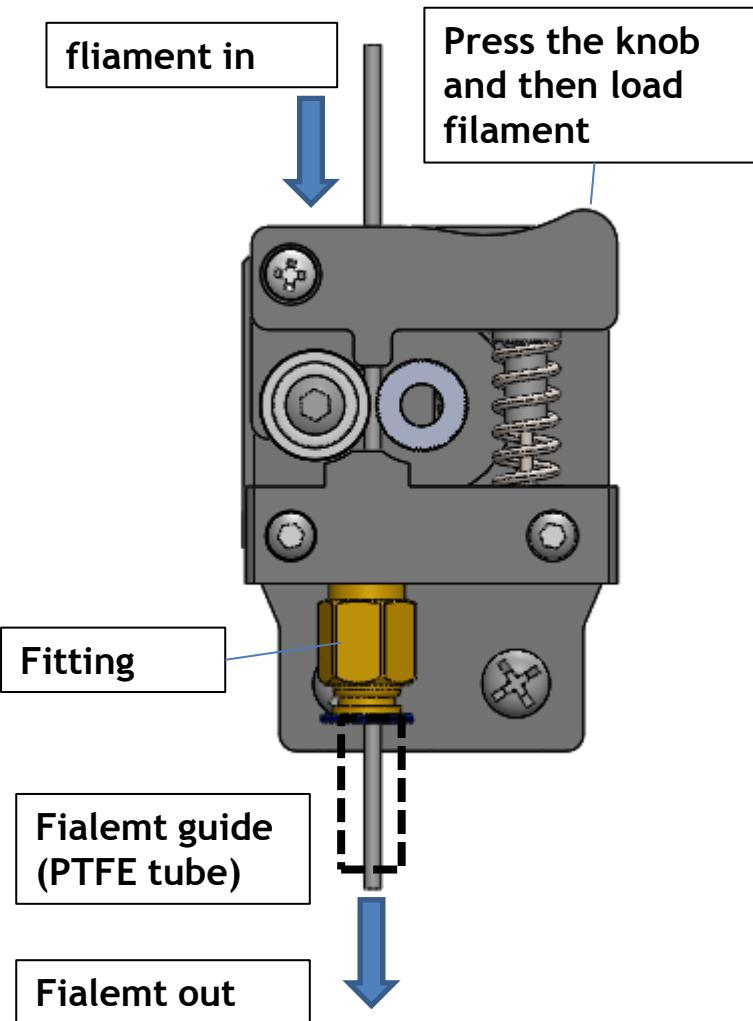
Home all axis

start “level corners” wizard

Adjust bed height

put a paper on the bed to measure the height

How to Load filament



Step 1: Heating the extruder first, you can operat the LCD screen “Menu->Quicksettings->PreHeat PLA”, and then wait the temperature to over 170 degree.

Step 2: Use clippers to remove the front of the filament.

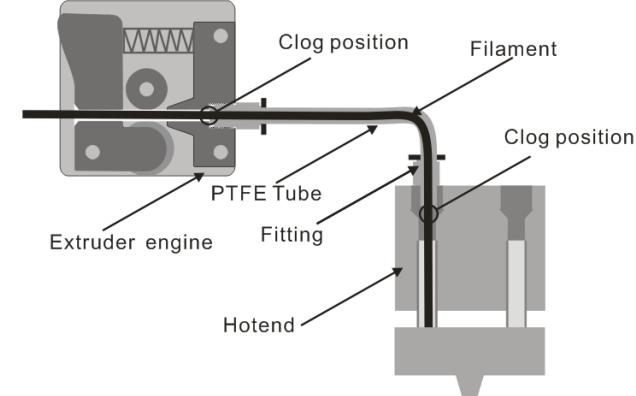
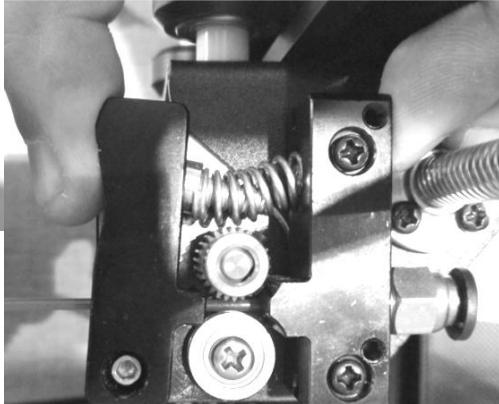
Step 3: Straighten the front of filament.

Step 4: Press the knob and load filament, please observe whether the fialment enter the PTFE tube. If the filament colg in the fitting, please romve it first and let the filament out, and then install it again.

Step 5: Continue to feed filament until it is enter to the Nozzle, the filament maybe clog when it enter the hotend, please remove the fitting on the hotend and make sure the filament reached to the nozzle, and then install the fitting again.

Prepare to print - Load Filament

- 1 Preheat nozzle: Choose “Prepare”>> “Preheat PLA”, then nozzle and hotbed will be heated.
Waiting nozzle temperature reached to setting.
- 2 *If there is filament in the hotend, do this step, otherwise skip this step.*
Choose “Prepare”>> “Move axis”>>“Extruder”>>“Move 1mm”>>“extruder: ****mm”, then Clockwise rotate the knob slowly, until you can see the filament flow from the nozzle.
- 3 *If there is filament in the hotend, do this step, otherwise skip this step.*
Press the handle on the extrude feeder and pull out the filament.
- 4 Press the handle on the extrude feeder and insert filament, make sure the filament has been inserted to the hotend.
- 5 Choose “Prepare”>> “Move axis”>>“Extruder”>>“Move 1mm”>>“extruder: ****mm”, then Clockwise rotate the knob slowly, until you can see the filament flow from the nozzle.



Use a diagonal pliers to cut off the head of filament

Press the handle and insert filament into the extruder engine

When loading filament, make sure it has entered the hotend, if it clog in extruder or hotend, try to remove the fittings and load the filament again.

Print a test 3D object (Print from SD card)

1

Insert the SD card to the SD card socket on the control box, and then power on the control box.

NOTE: the touchpad of Micro SDcard pointing up

2

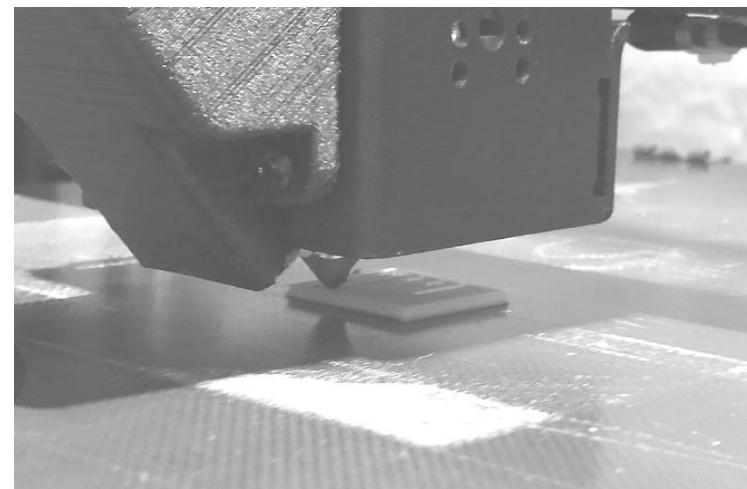
Choose “Print from SD”>> Choose “Test_gcode\Single Color\xyz_cube.gcode”, push the knob to start printing.

3

Wait the printer to finish heating and start to print, watch the distance from nozzle to bed, double click the knob of LCD menu and set the z offset if the distance is not perfect, let the filament can stick on the hotbed well.

4

You need to print a filament roll dock by yourself, please find “Spool_ZSD_V2.gcode” file in SD card and print it out.



Insert SD card to control box and then start to print

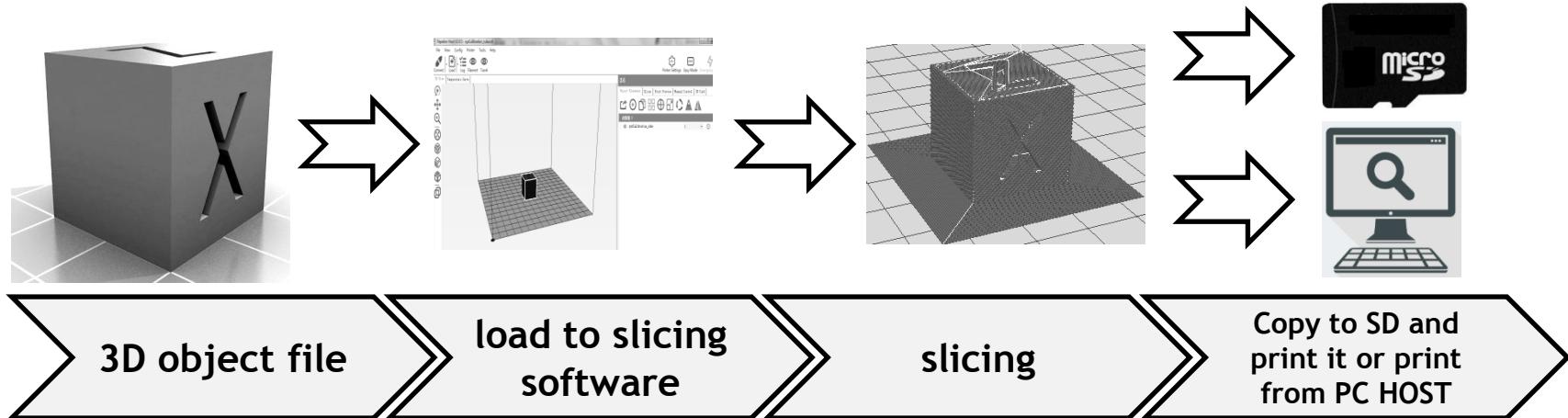
Adjust z offset if the filament can't stick to bed well

Wait for printing finish!

Slicing, control and printing from PC HOST

1

Before building a 3d object by using this 3D printer, you need to use a software to convert the 3D models (stl, obj, etc., depending on the type of slicing software) into a machine-recognizable file - **gcode file**. This process is called “**slicing**”.



2

Our recommended slicing and HOST software is **repetier-host**, which is a free software, you can also use any other software to slicing the 3d model as long as it can support rereprap protocol, for example: **Cura**, **slic3r**, **KISSlicer**, **pronterface**, **simplify3d** etc.

3

For more about slicing, please refer to the document in the SD card, directory: “**PC Software & Driver\slicing & Host software**”. You can also download the latest document from our cloud disk:

<https://drive.google.com/drive/folders/0B9Z1DbxfqbpUjNHRXhBWmIVZVU>

If you want to control the printer from PC HOST, we store the guide in SD card, please find it out and read it.

How to apply the mixing color feature(Z5M2)

Manually extrude mixing color filament (extruding from both of extruders at the same time):

Step 1: Refer to the “Prepare to print - Load Filament” to load filament to both of extruder engine, and make sure the filament has been insert to hotend already.

Step 2: When nozzle temperature reached to the settings, choose “Prepare”>>“Move axis” >> “Extruder”>>“E1 percent”>> change this value, this value means extrusion percent of extruder 1.

Step 3: Choose “Move 10 mm”>>Add this value, watch the extruder engine, you will both of the filament will enter to the hotend, and after extrude about 50mm, the filament will flow from the nozzle and color will be different according to the mixed ratio of the setting.

* At the beginning, the color of filament maybe comes from the remaining in the nozzle.

Manul mixing (Mixing two color filament when printing from SD card):

Step 1: Start to print a monochrome object from SD card.

Step 2: After the printing start, choose “tune”>>“E1 percent” >> change this value. The printer will automatically mix the 2nd extruder's filament according to the setting.

PS: Mixing result is affected by many factors such as object shape, path planning, filament type and so on.

Auto mixing (Converter a monochromatic object to a multi-color object):

Using this function, you can convert a monochrome object into a mixing-color object.

Step 1: Start to print a monochrome object from SD card.

Step 2: After the printing start, choose “tune”>>“Auto Mix Mode” >> change this value to 1 or 2. If choosing “1”, the printer will automatically mix the 2nd extruder's filament, from less to more, according to the printing progress. If choosing “2”, the printer will randomly mix the 2nd extruder's filament to hotend in the printing process.

PS: Mixing result is affected by many factors such as object shape, path planning, filament type and so on.

You can also set the printer to print two colors, mixing colors and use up to 16 virtual extruders when slicing. For more about mixing color feature, please refer to the document in the SD card, directory: “Operation\Tips of mixing color feature”. You can also download the latest document from our cloud disk.

1

2

3

4

Upgrade more feature

1 FROD:

Filament run out detector is a sensor be used to detect the filament roll use up, Z5 control box can connect one FROD. About how to connect this sensor, please refer to the wiring diagam.

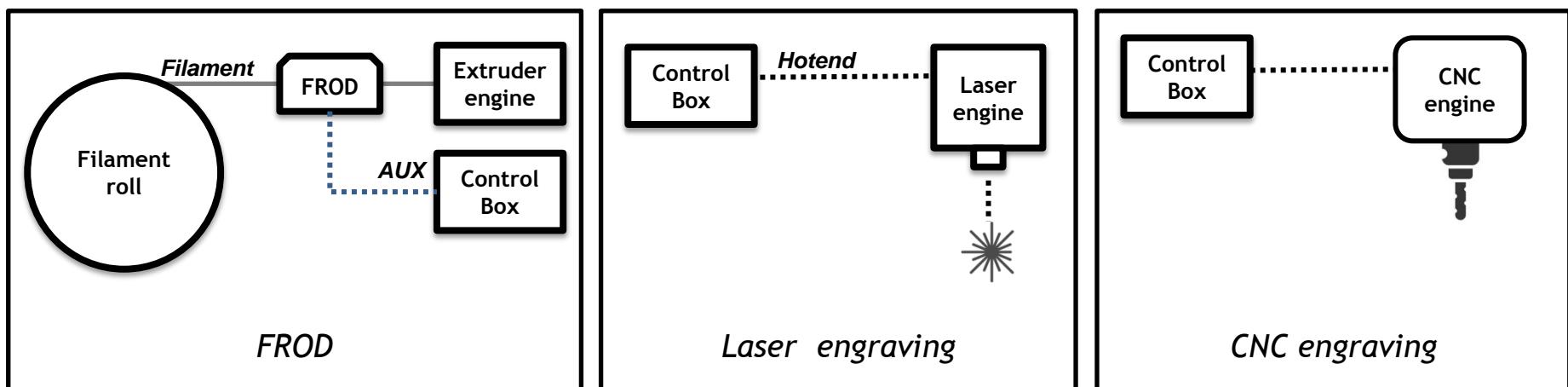
2 Laser engraving:

Only need to install a laser engine on the print head, you can turn this machine into a simple laser engraving machine.

3 CNC engraving:

You can replace the print head with a CNC engraving kit, turn this machine into a simple CNC engraving machine.

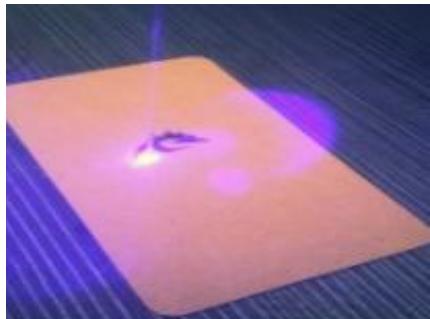
*If you are interesting in these features, welcome to vist our **online store** to purcase.*



Improve: Upgrade a laser engraving kit



[Click to Know More](#)



Scan to purchase!



About ZONESTAR

ZONESTAR Innovation Technology Co., Ltd. is a high-tech manufacturer specializing in the development and production of 3D printers.

Since began to develop and manufacture 3D printers in 2013, we have successively introduced several series of products such as P802, D805, Z5, Z6, Z8, Z9, and Z10, which are popular with customers all over the world. Now, ZONESTAR has Gradually grew to be a leader in the category of DIY 3D printers.

At the same time, we are committed to applying 3D printing technology to a wider range of fields and have successfully developed 3D printers for use in food, advertising, ceramics, and other fields.

ZONESTAR has always regarded ***Innovation***, ***Quality*** and ***Service*** as our core value of the company and strived to provide customers with high-quality and high-tech products and excellent services.



www.zonestar3d.com



Youtube Channle



online store