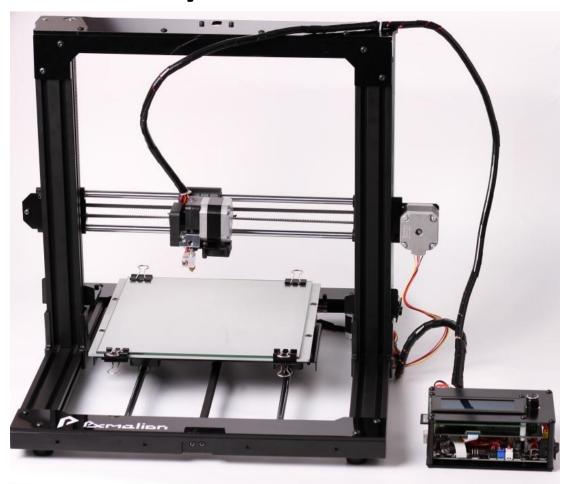
Core 13

Assembly Instructions

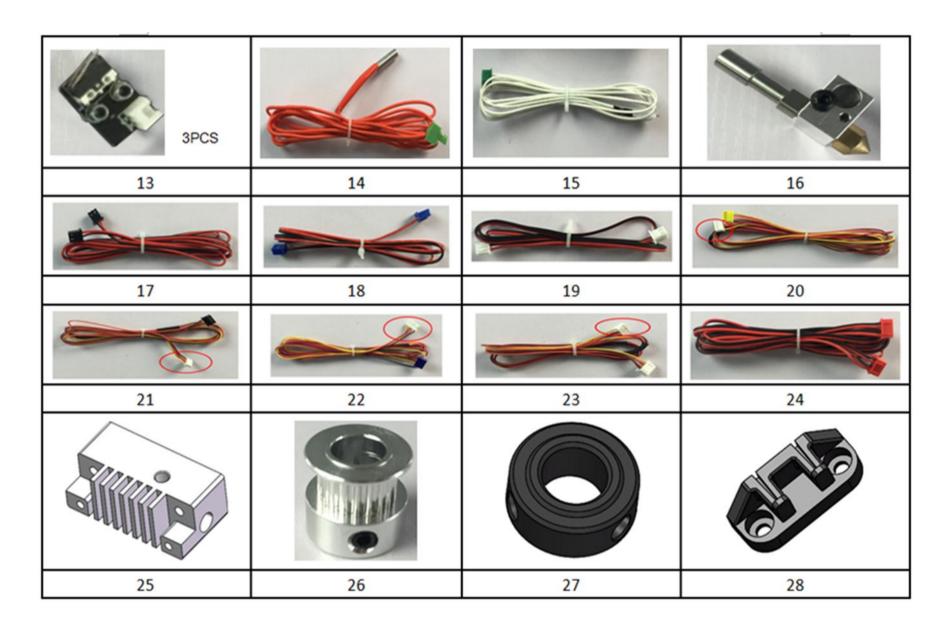


I Components













Bag #1 Countersink head hex socket screw Item Descriptions Specs Quantity 1 Countersink head hex socket screw Carbon steel, M4x8 2 Botton head hex socket screw Carbon steel, M4x8 20 3 T-nut EU style, M4x10x6 32 4 4 Cup head hex socket screw Carbon steel, M4x14 5 7 Cup head hex socket screw Carbon steel, M3x8 Botton head hex socket screw **Bag #2** Descriptions Quantity Item Specs 304 stainless steel, M4 1 Lock nut 10 2 Botton head hex socket screw Carbon steel, M4x25 10 3 Cup head hex socket screw Carbon steel, M3x16 2 4 Cup head hex socket screw Carbon steel, M3x10 10 Cup head hex socket screw **Bag #3** ltem Descriptions Specs Quantity 1 Countersink head hex socket screw Carbon steel, M4x35 4 2 4 Spring 3 7 Cup head hex socket screw Carbon steel, M3x14 Cup head hex socket **Bag #4** self-tapping screw Descriptions Quantity Item Specs Lock nut 304 stainless steel, M3 1 35 2 Cup head hex socket screw Carbon steel, M3x25 2 3 7 Cup head hex socket screw Carbon steel, M3x18 4 T-nut Cup head hex socket screw Carbon steel, M3x12 10 Cup head hex socket screw Carbon steel, M3x6 14 **Bag #5** Quantity Item Descriptions Specs Lock nut Filament tube 4*2 1 1 2 Nylon spacer 2 1 3 Nylon spacer 4 5

6

Carbon steel, M3x12

2

2

Screw Packing List

4

5

Nylon spacer

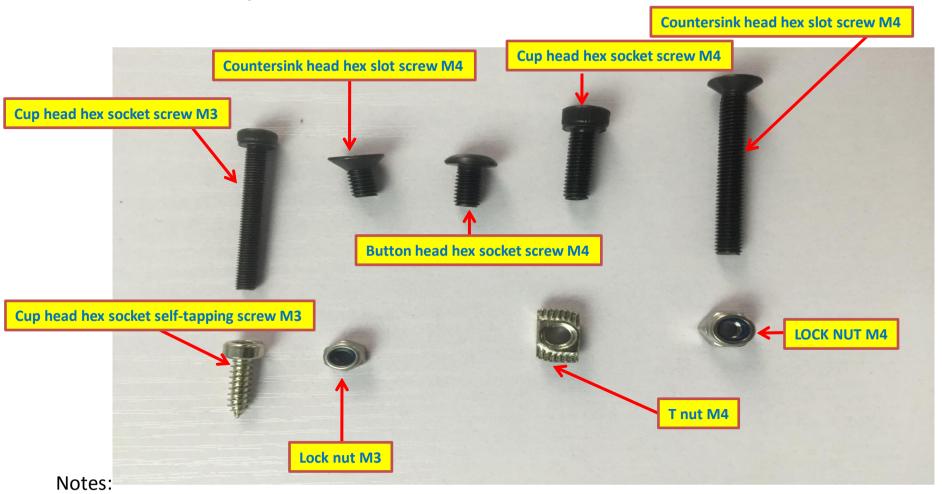
Cup head hex socket self-tapping screw

Tools:



Screws and nuts:

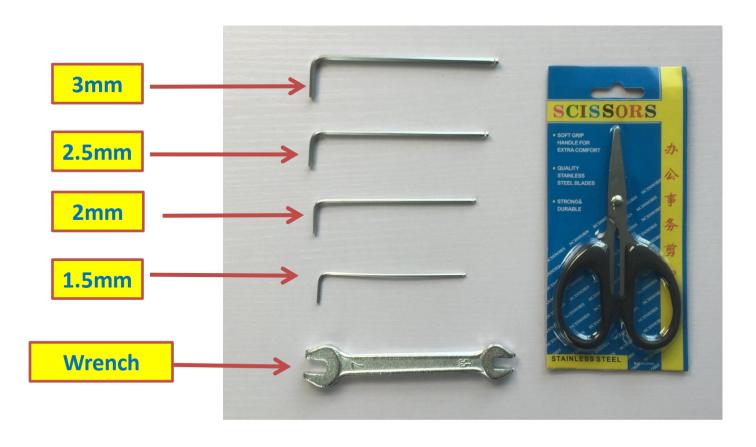
Please refer to below pictures for definitions of screws and nuts to be used.



- T nut must be flat in aluminum profile slot, when a screw is turned into it, it wouldn't
 follow as fixed by walls of slot, thus screw can be tightened. If it's not in correct position,
 screw won't be able to be tightened into it.
- 2. Definitions of screw spec M3X8, M3X10, M4X8, M4X10,: M3 or M4 indicates the tooth type and diameter, x8 or x10 means its length.

II List of Tools

Wrench x 1 (5.5-7mm), Allen Keys x 4 (Size: 1.5, 2, 2.5, 3mm), Scissor x1



III Sequence of Assembly

- 1. Prepare to assemble Y motion system
- 1.1 Assembly the frame
- 1.2 Install the stroke switch for Y motion
- 1.3 Pre-install the PMMA covers



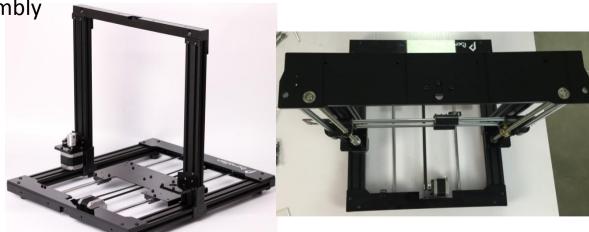
- 2. Assembly Y motion system
- 2.1 Build up the idle pulley assembly
- 2.2 Mount pulley assembly to the frame
- 2.3 Mount Y motion motor
- 2.4 Install the foot pads and a piece of profile
- 2.5 Put the timing belt on
- 2.6 Fix the PMMA covers



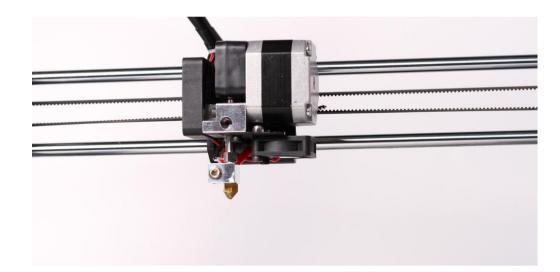
- 3. Add X motion system
- 3.1 Assemble the sliding mechanisms
- 3.2 Install the idle pulley
- 3.3 Install the stroke switch
- 3.4 Install 2 driving screws
- 3.5 Install X motion motor
- 4. Prepare to assemble Z motion system
- 4.1 Assembly Z motion motor assembly
- 4.2 Install the right angle pieces
- 4.3 Install the belt adjustment block
- 4.4 Install the frame (profiles) for Z motion
- 4.5 Install Z motion motor assembly
- 4.6 Install the connection bar
- 4.7 Install the decoration plate
- 4.8 Fix the 2 driving screws
- 4.9 Install the timing belt



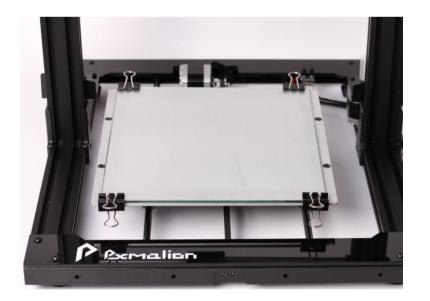




- 5. Assemble hot end assembly
- 5.1 Install the smaller cooling fan
- 5.2 Install extrusion motor
- 5.3 Assembly nozzle and connected components together
- 5.4 Install the bigger fan
- 5.5 Install nozzle assembly
- 5.6 Install X motion belt



- 6. Install the platform
- 6.1 Install the heating plate
- 6.2 Put on the glass top

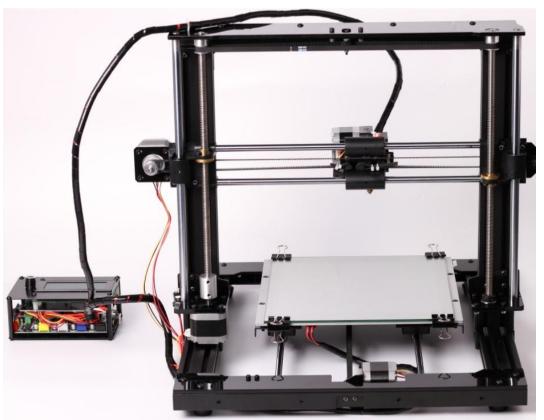


- 7. Wire connection instructions
- 7.1 Connect wires to 3d printer
- 7.2 Connect wires to control box



9. Filament sensor installation

10. First print after set up



IV Process Details of Assembly

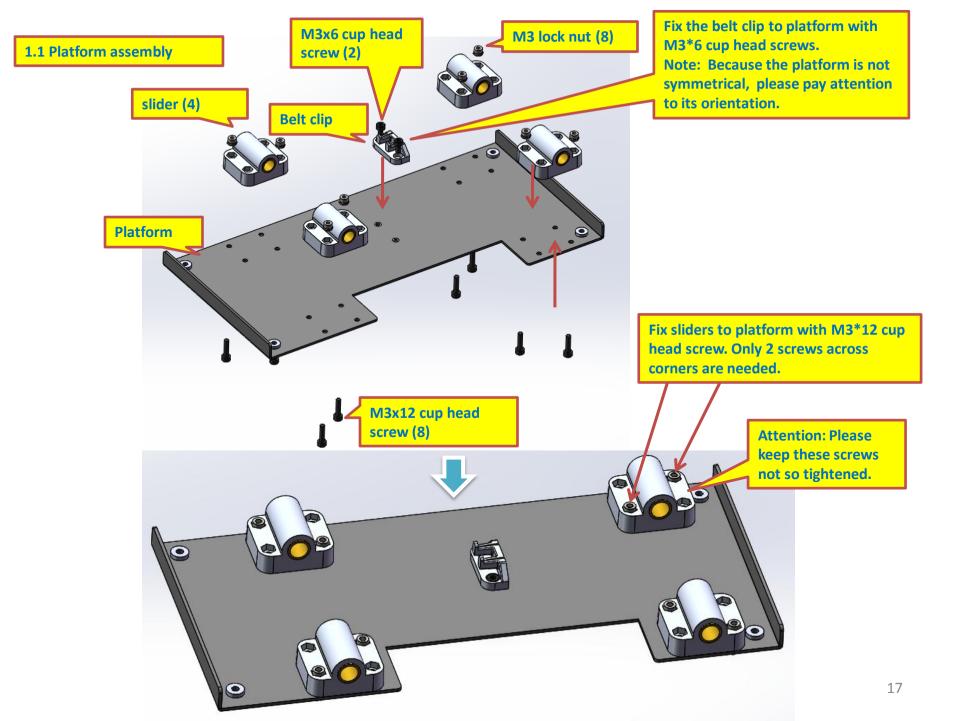
Material list #1:

Sequence	#	Description	Q'TY	Remark
	1	Aluminum profile	2	The longer ones
	2	Connection bar	2	Plastic
	3	Guiding pin	2	The longest
	4	Slider	4	Plastic
Y motion system assembly	5	Foot pad	4	
	6	Idle pulley seat for Y	1	Sheet steel
	7	Motor seat for Y	1	Sheet steel
	8	Platform	1	Sheet steel
	9	Idle pulley	2	Plastic
	10	Pulley	1	Pre-assembled to motor
	11	Stepper motor	1	
	12	Timing belt	1	Open ended one with shorter length
	13	PMMA pc - A	1	РММА
	14	PMMA pc - B	1	РММА
	15	Stroke switch	1	
	16	Nylon spacer	2	Height: 4mm
	17	Belt clip for Y	1	Plastic



Attention:

- ① Use the longer aluminum profiles for this step.
- ② Use the open-ended timing belt with shorter length for this step.

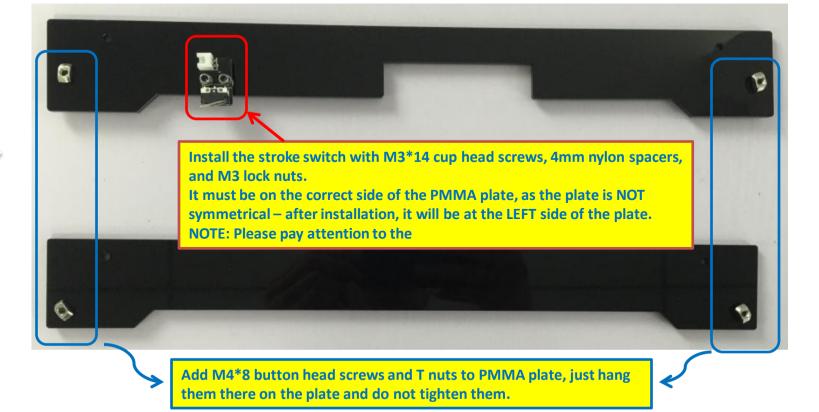


1.2 Remove the protective film from PMMA plates

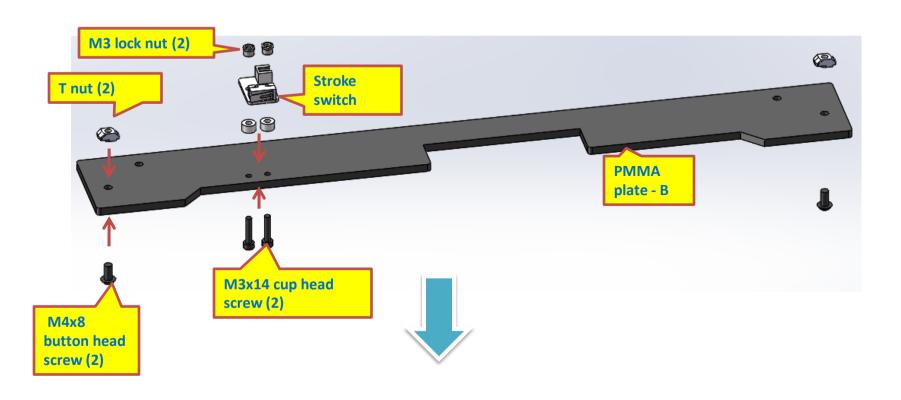


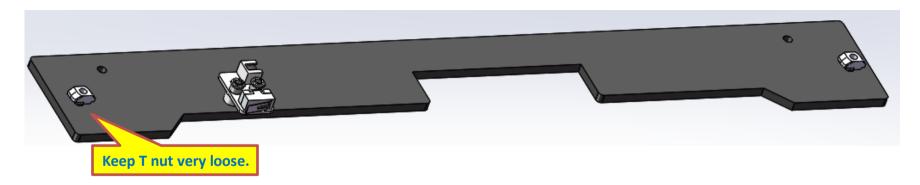
Install the stroke switch with screws / nuts, pay attention to its orientation.





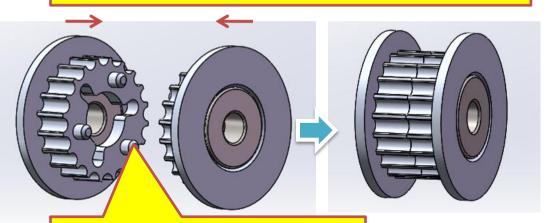


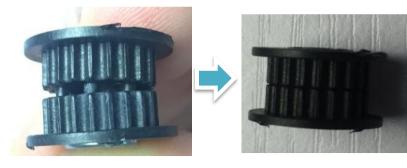




2. Assembly Y motion system

2.1 Build up the idle pulley assembly (3 sets needed)





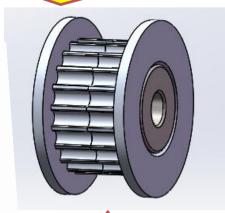
The 2 sides of idle pulley is snapping fitted with 3 pillars into slots. Pay attention to the orientation to ensure they match EXACTLY.

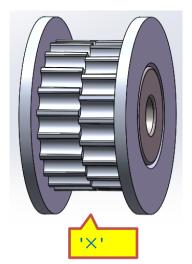
The teeth of the 2 sides must match EXACTLY.







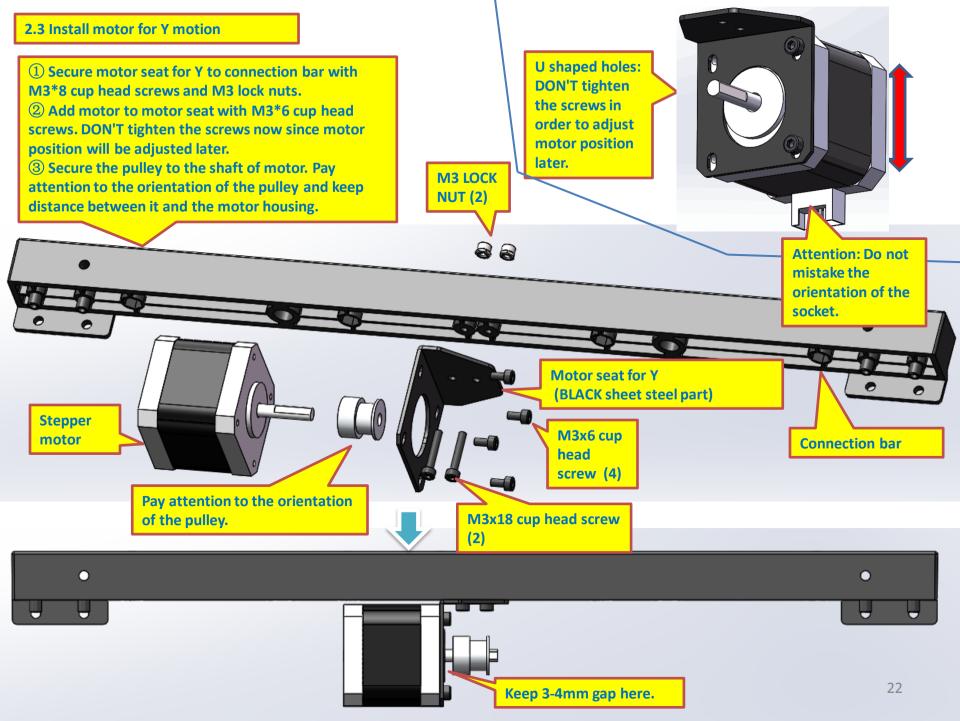


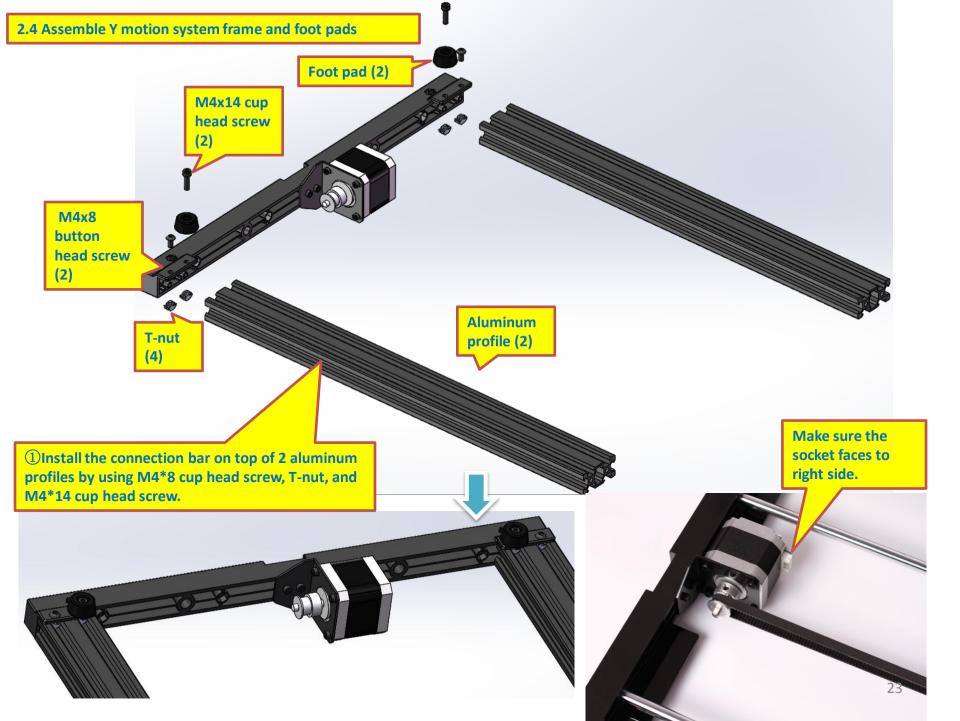


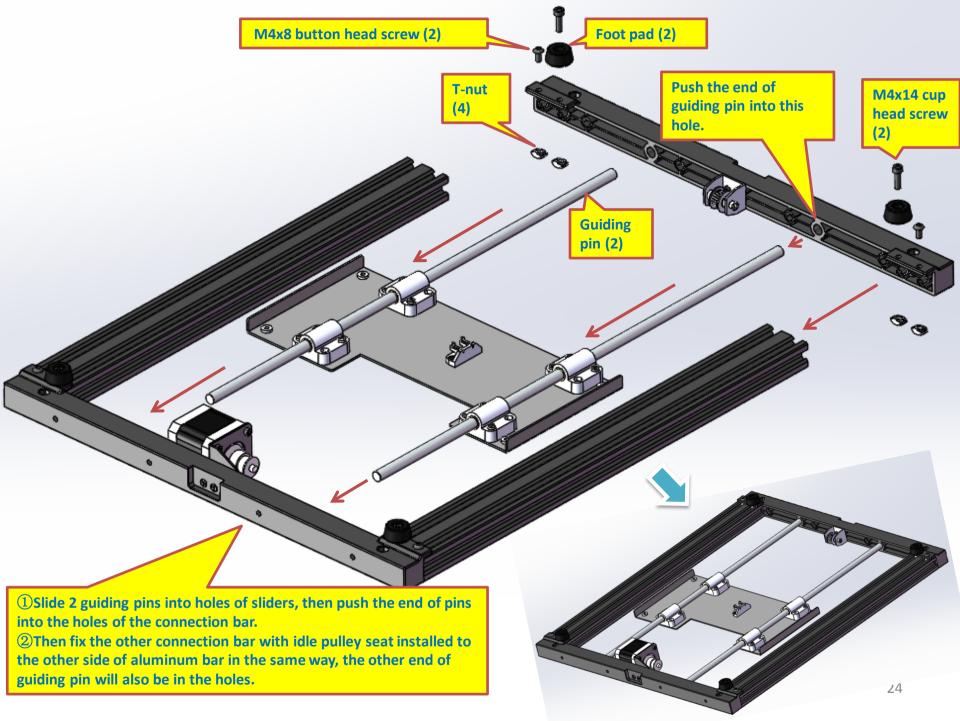


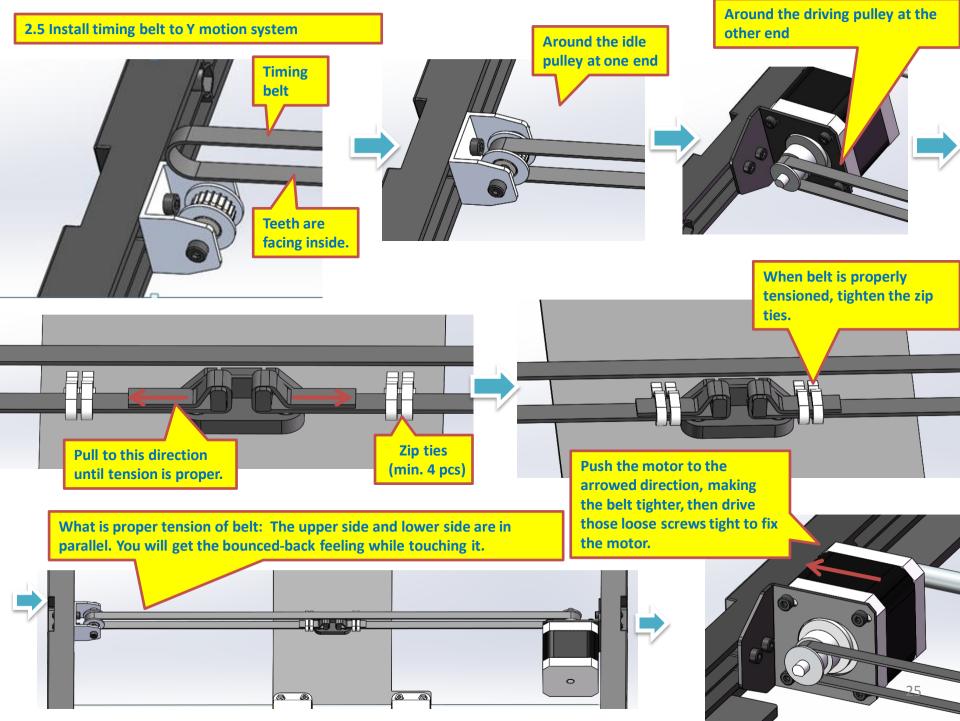


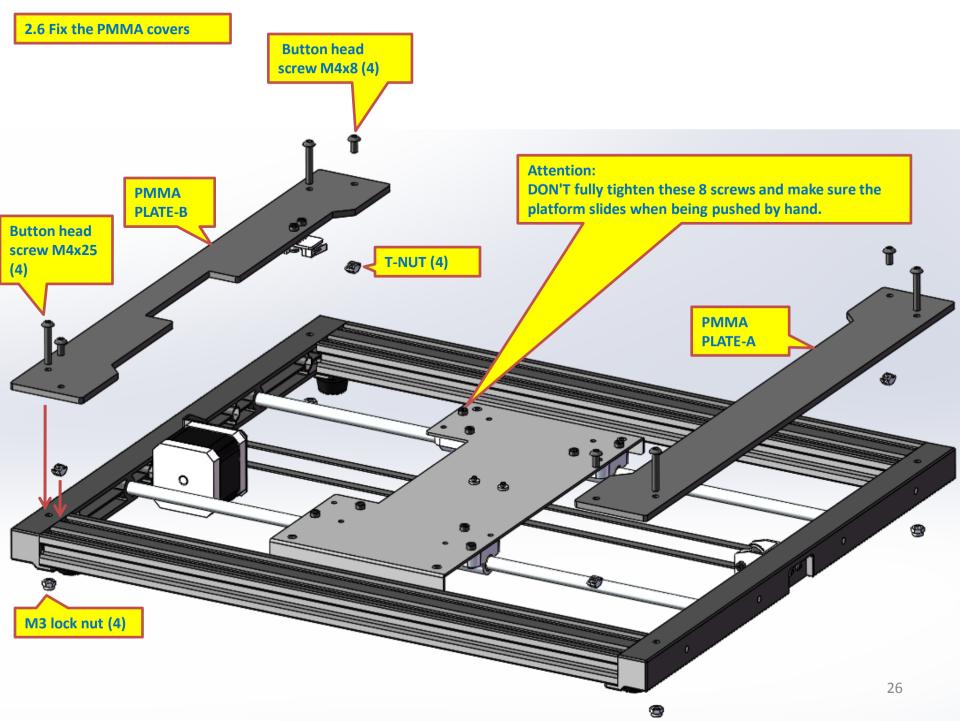
2.2 Mount pulley assembly to the frame 1) Fix the idle pulley seat to the connection bar with M3*18 cup head screws. 2 Then add the idle pulley by using M3*25 cup M3 lock head screw. 4mm nylon spacers, and M3 lock nuts. nut (3) Idle pulley seat for Y (black sheet steel component) M3 lock nut M3x18 cup head screw (2) M3x25 cup head screw 4mm **Idle pulley** nylon spacer (2) Attention: 21 DON'T over tighten the screw. When the pulley is touched by hand, it should be able to move smoothly.



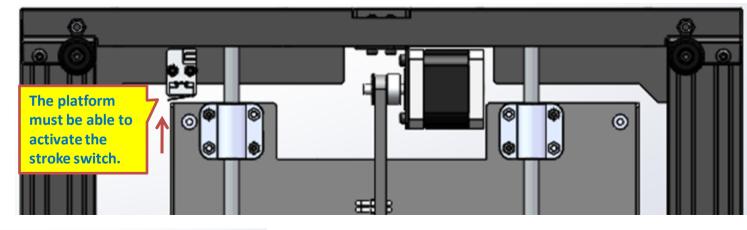






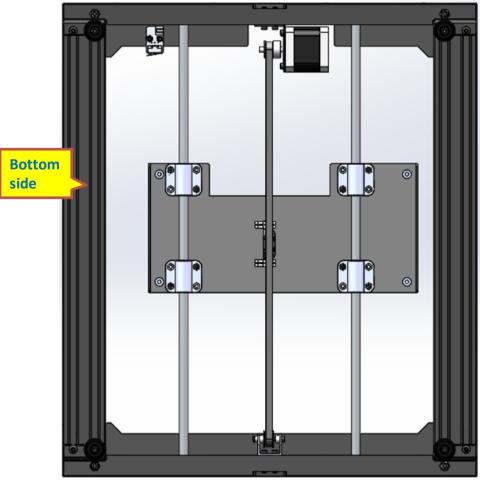


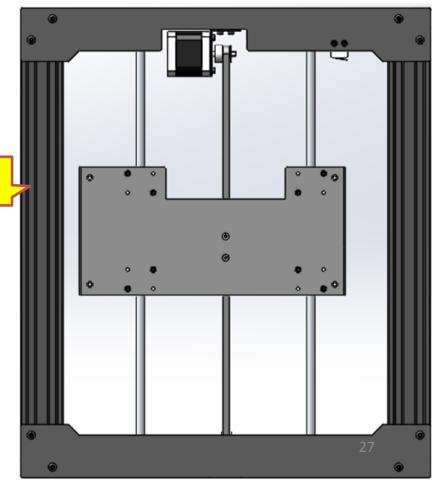
Assembly of Y motion system is complete.



Top

side





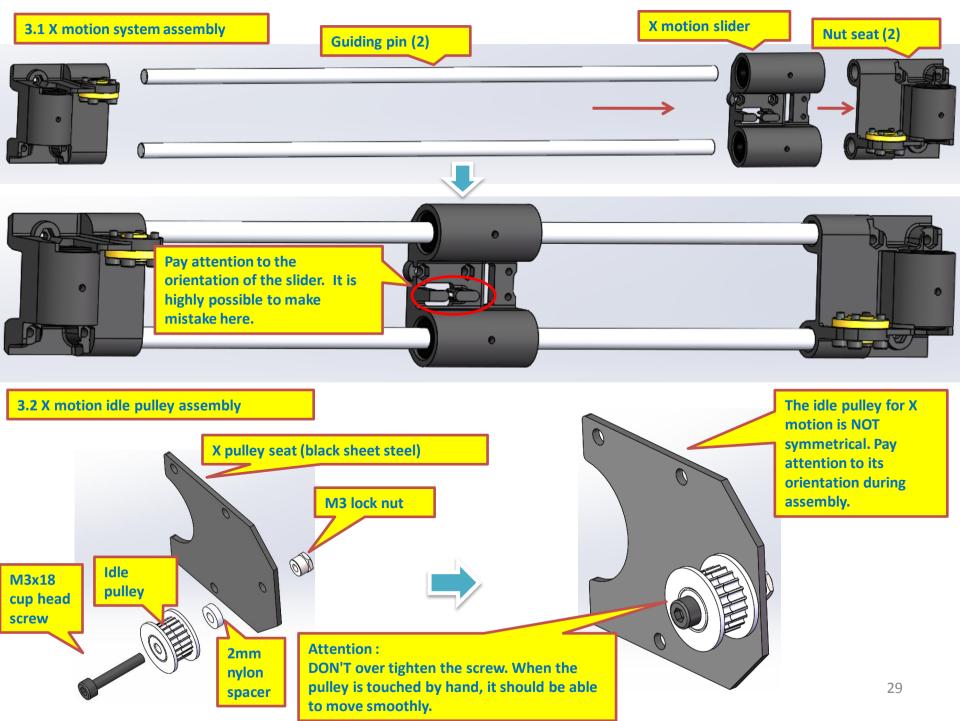
Material list #3:

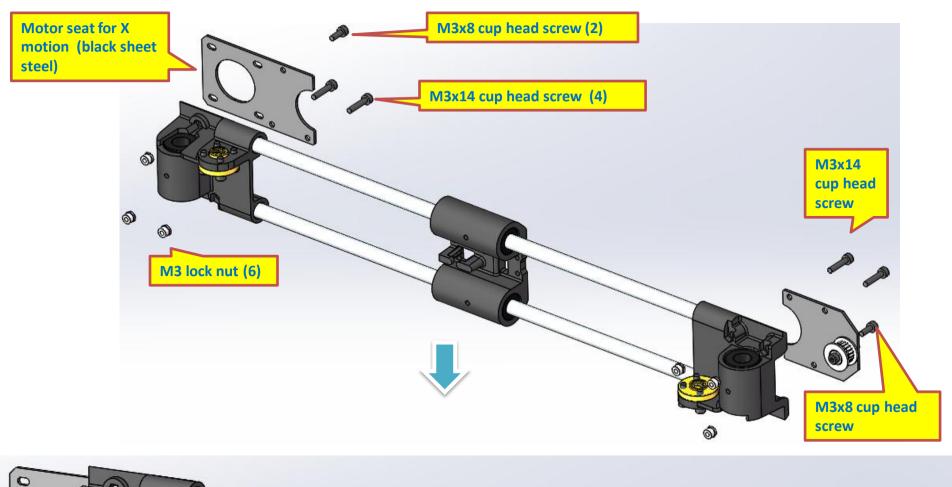
Sequence	#	Description	QTY	Remark
X motion system	1	Nut assembly	2	Plastic
X motion system	2	Guiding pin	2	
X motion system	3	X motion slider	1	Plastic
X motion system	4	Nylon spacer	1	Height: 2mm
X motion system	5	Nylon spacer	2	Height: 6mm
X motion system	6	Idle pulley for X	1	Sheet steel
X motion system	7	X motion motor seat	1	Sheet steel
X motion system	8	Toothed block	2	Plastic
X motion system	9	Stepper motor stepper motor	1	
X motion system	10	Pulley	1	The one with smaller hole
X motion system	11	Stroke switch stroke switch	1	
X motion system	12	Drive screw	1	Short one
X motion system	13	Drive screw	1	Long one
X motion system	14	Pulley	2	The one with bigger hole
X motion system	15	Bearing	3	
X motion system	16	Washer for drive screw	1	Plastic
X motion system	17	Timing belt	1	The longer open ended one

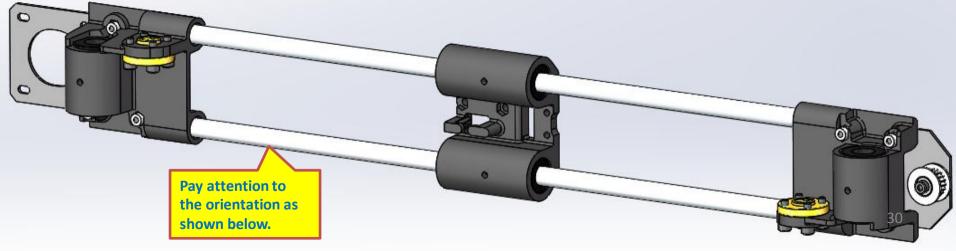


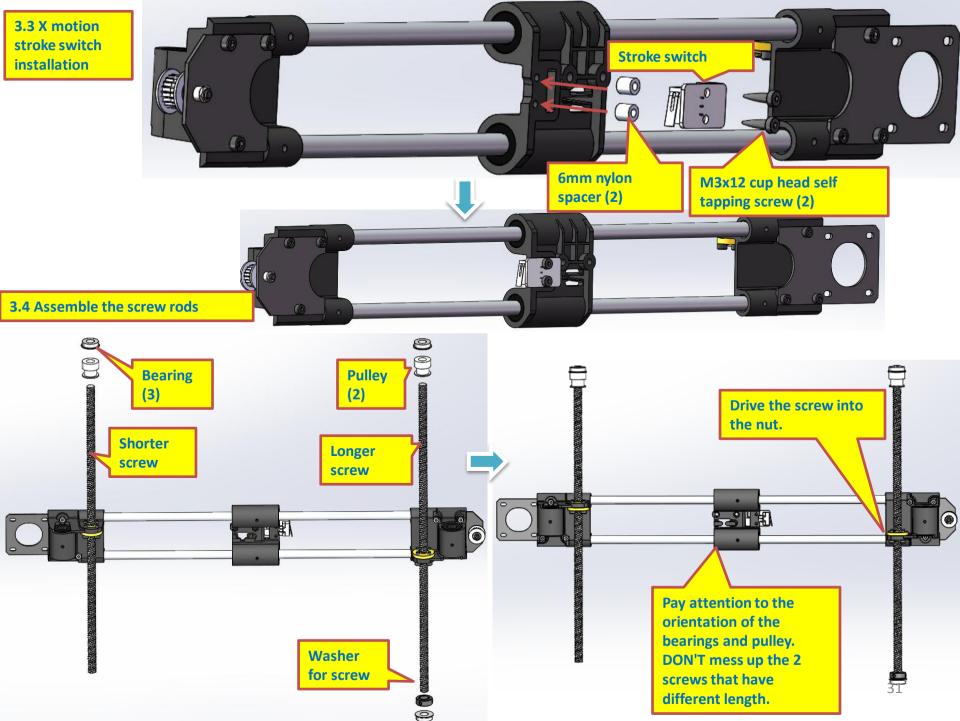
Attention:

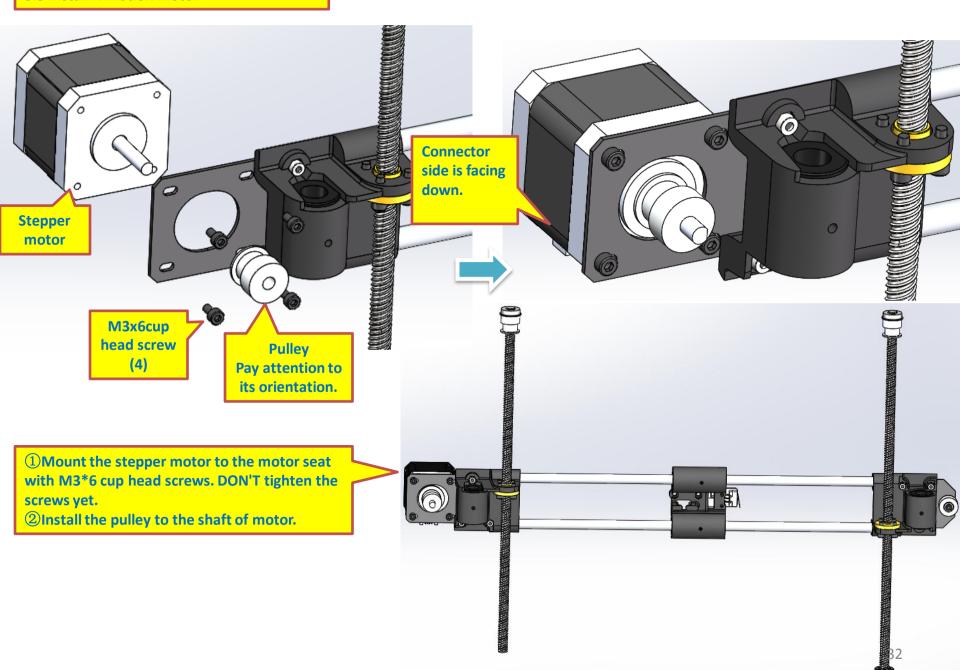
①The open-ended belt with longer length will be used here.











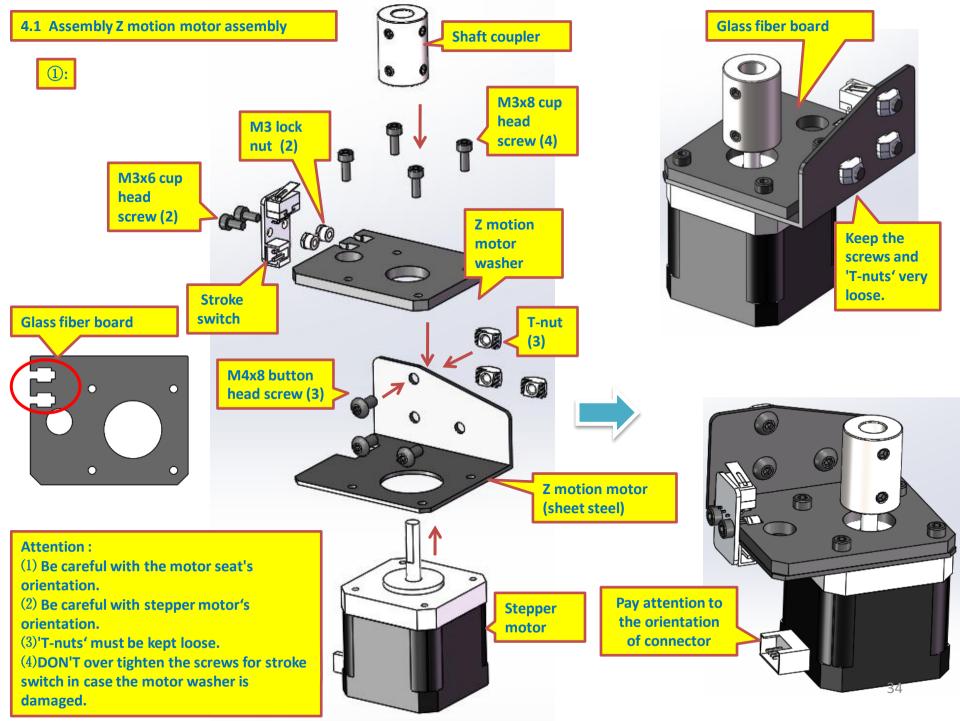
Material list #3

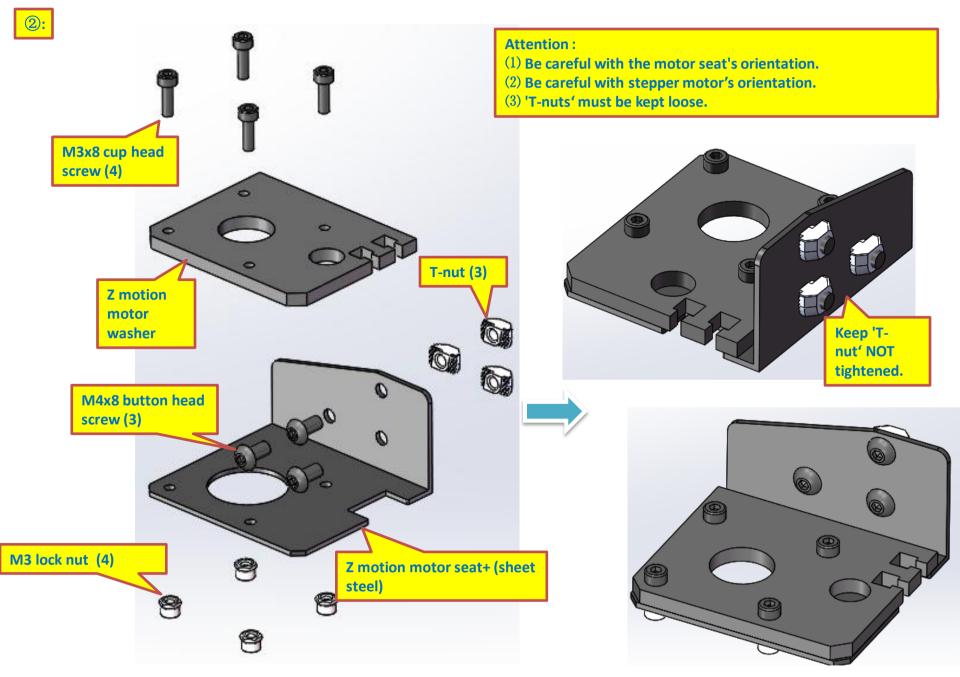
Sequence	#	Description	QTY	Remark
Z motion system assembly	1	Right angle connector	4	Plastic
Z motion system assembly	2	Al profile	2	The shorter one
Z motion system assembly	3	Z motion motor seat	1	Sheet steel
Z motion system assembly	4	Z motion motor seat +	1	Sheet steel
Z motion system assembly	5	Z motor washer	1	PMMA
Z motion system assembly	6	Z motor washer++	1	Glass fiber board
Z motion system assembly	7	Stepper motor	1	
Z motion system assembly	8	Shaft coupler	1	
Z motion system assembly	9	Stroke switch	1	
Z motion system assembly	10	Guiding pin	2	Thicker one with shoulder
Z motion system assembly	11	Timing belt	1	Close ended
Z motion system assembly	12	Connection bar	1	Plastic
Z motion system assembly	13	Z motion transmission plate	1	PMMA
Z motion system assembly	14	Belt adjustment piece	1	PMMA
Z motion system assembly	15	Z fixation plate	1	PMMA
Z motion system assembly	16	Nylon spacer	1	4mm high
Z motion system assembly	16	Base with teeth	2	Plastic

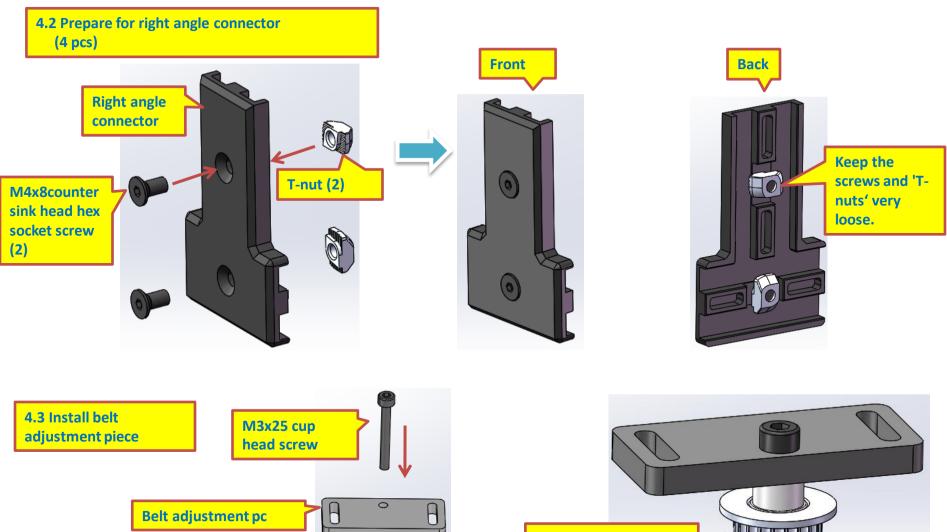
Attention:

- ①Use the shorter aluminum profiles for this step.
- ②Use the thicker and shouldered guiding pins.
- **3**The timing belt is close ended.





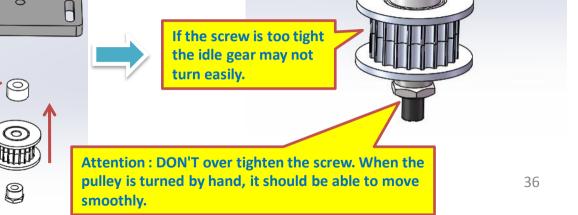


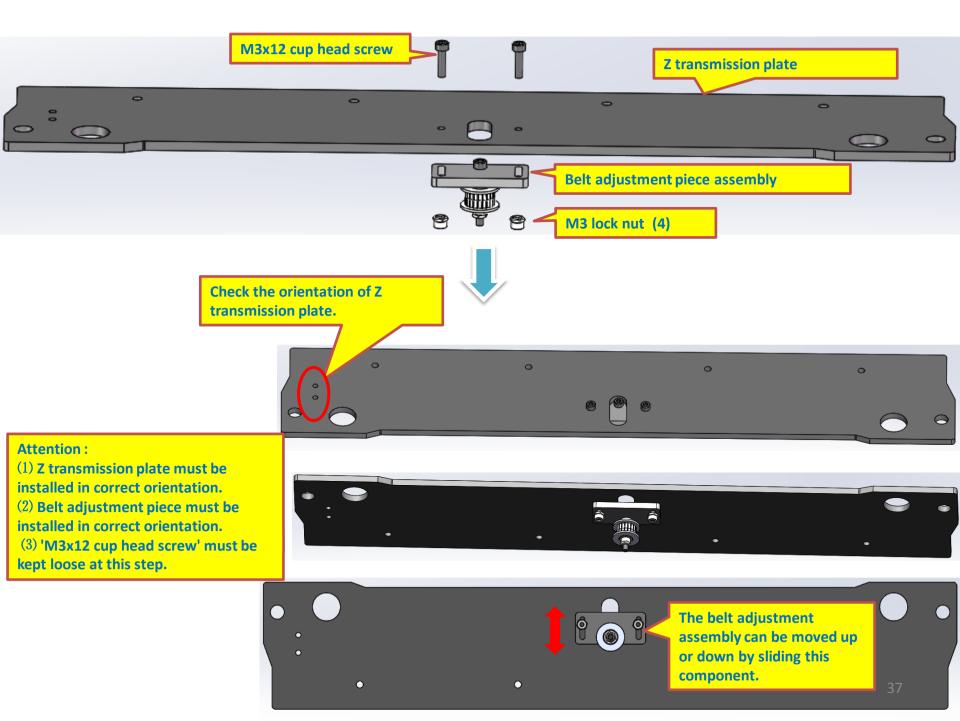


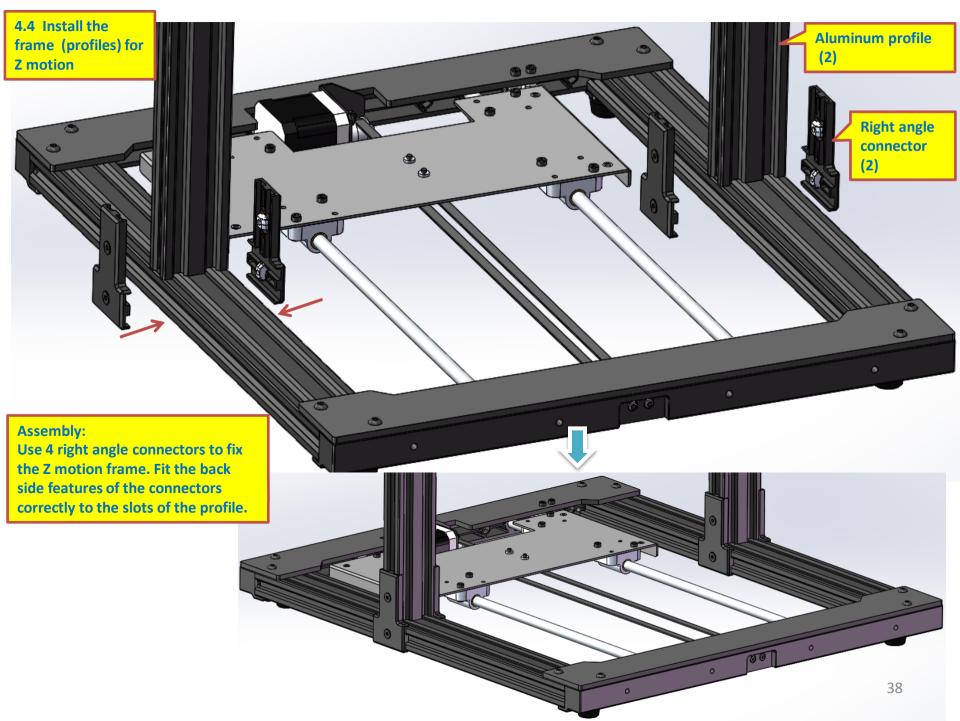
4mm nylon spacer

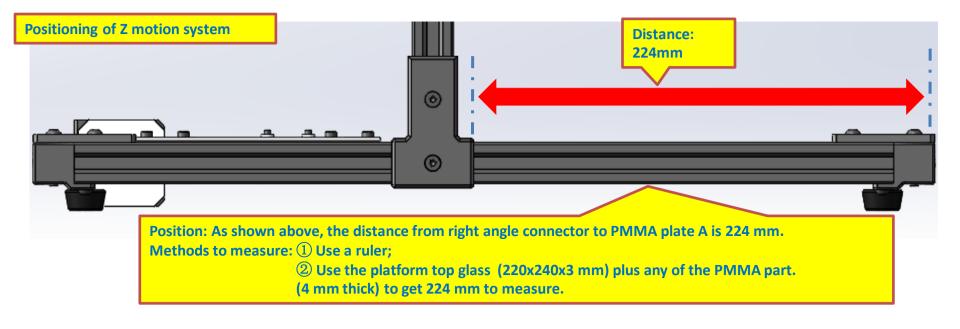
Idle pulley

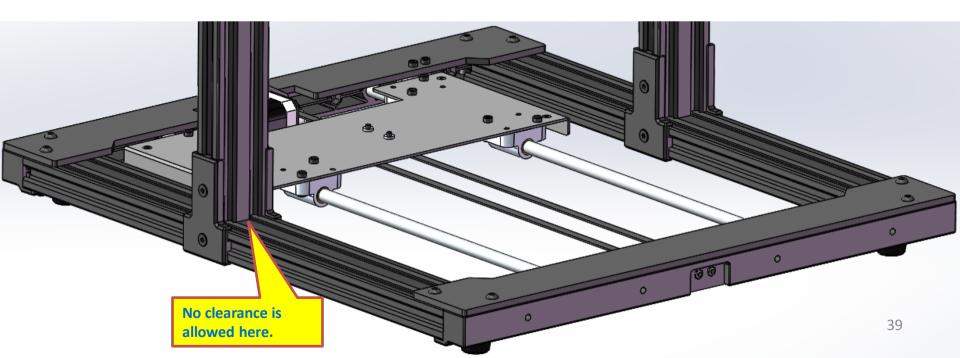
M3 lock nut

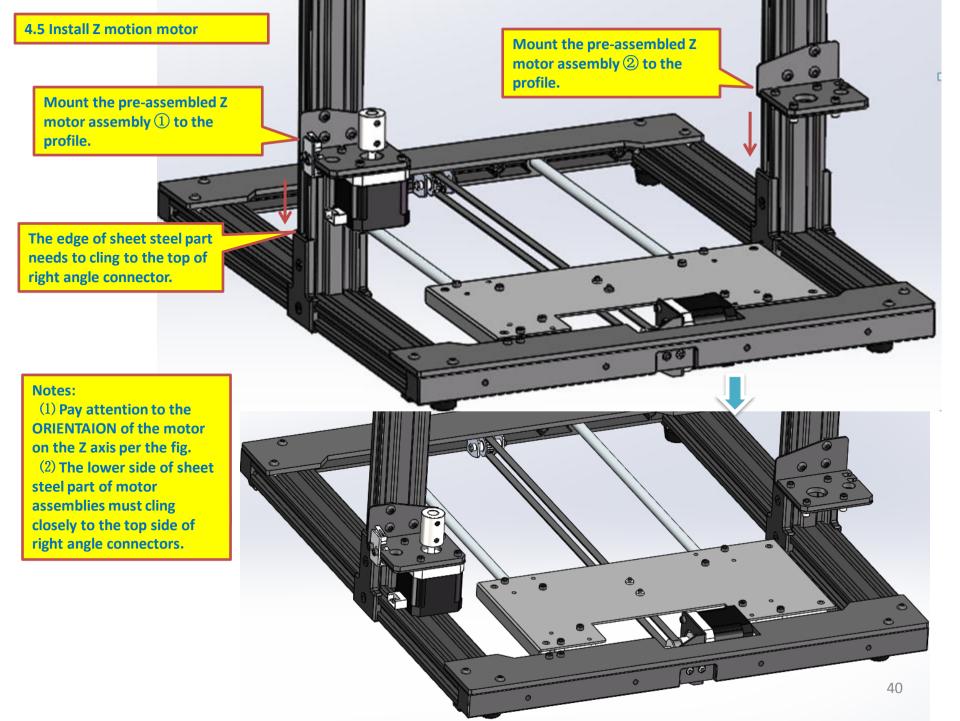


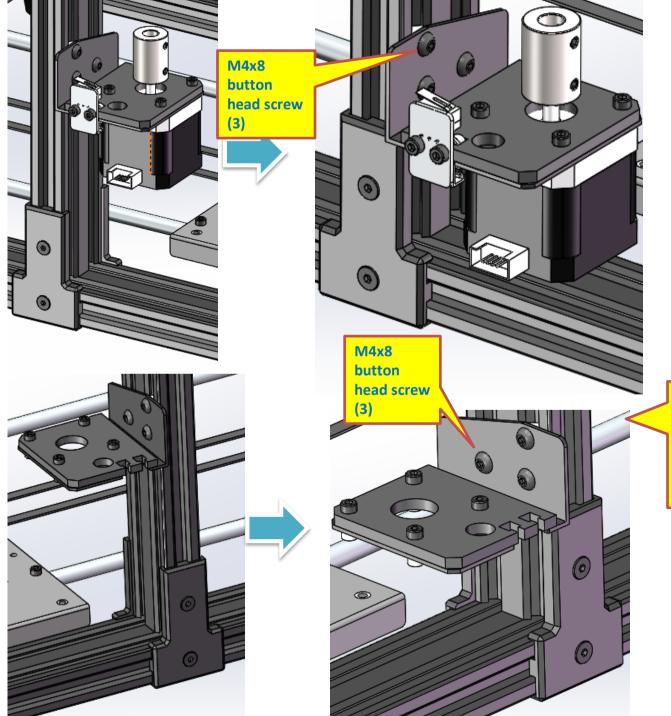




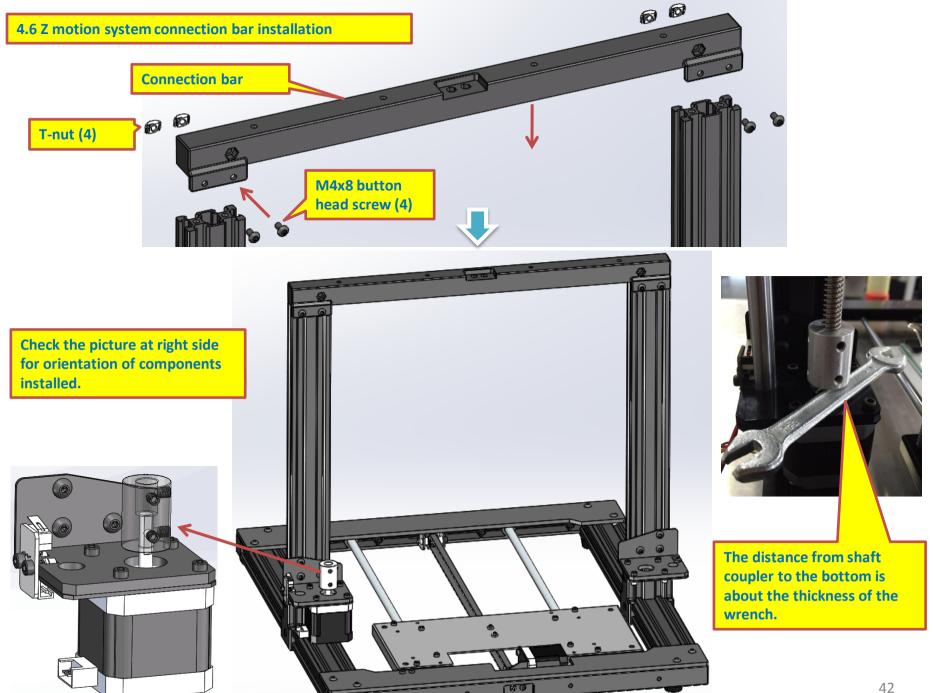


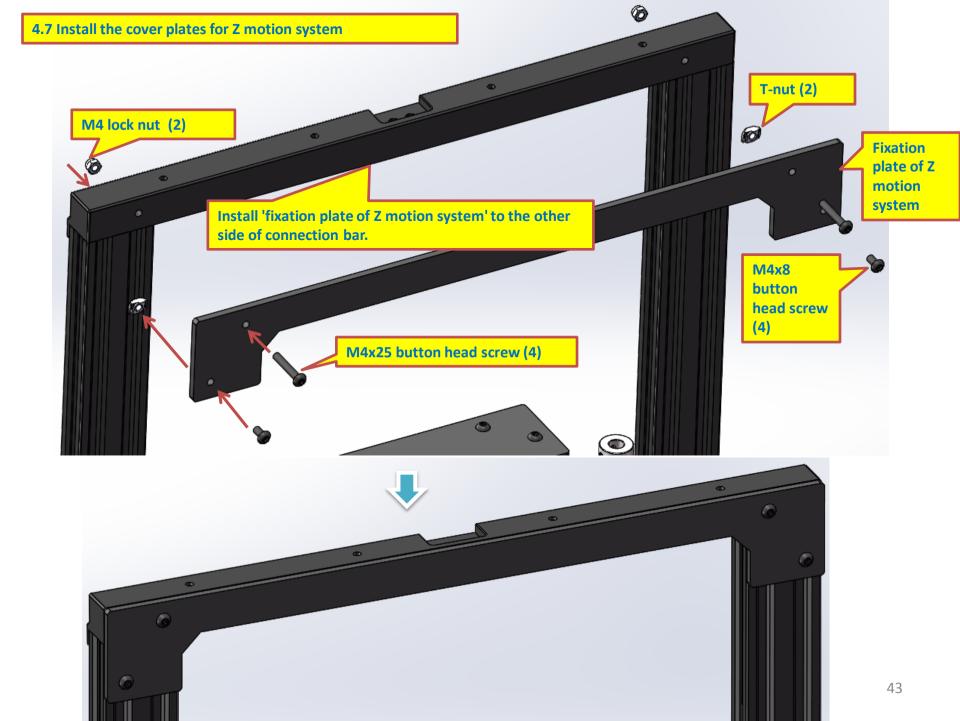


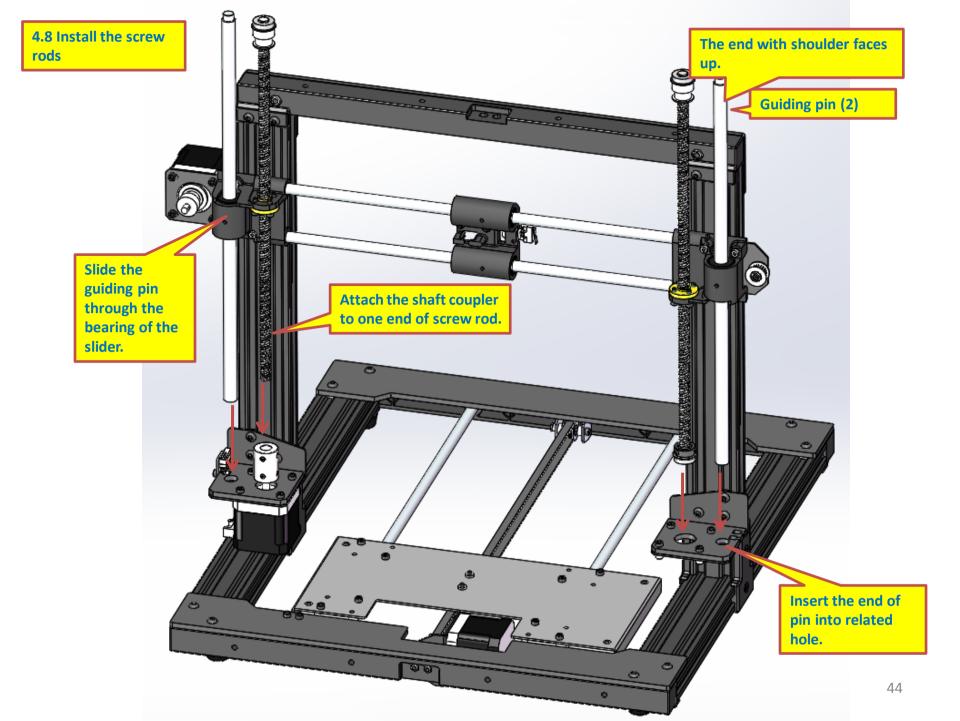


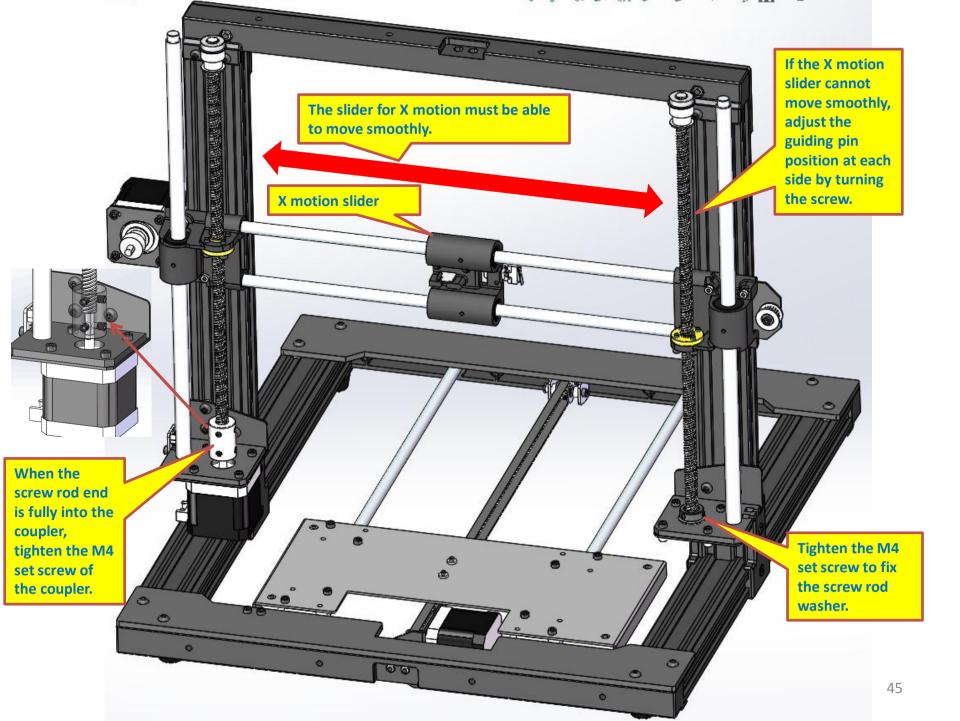


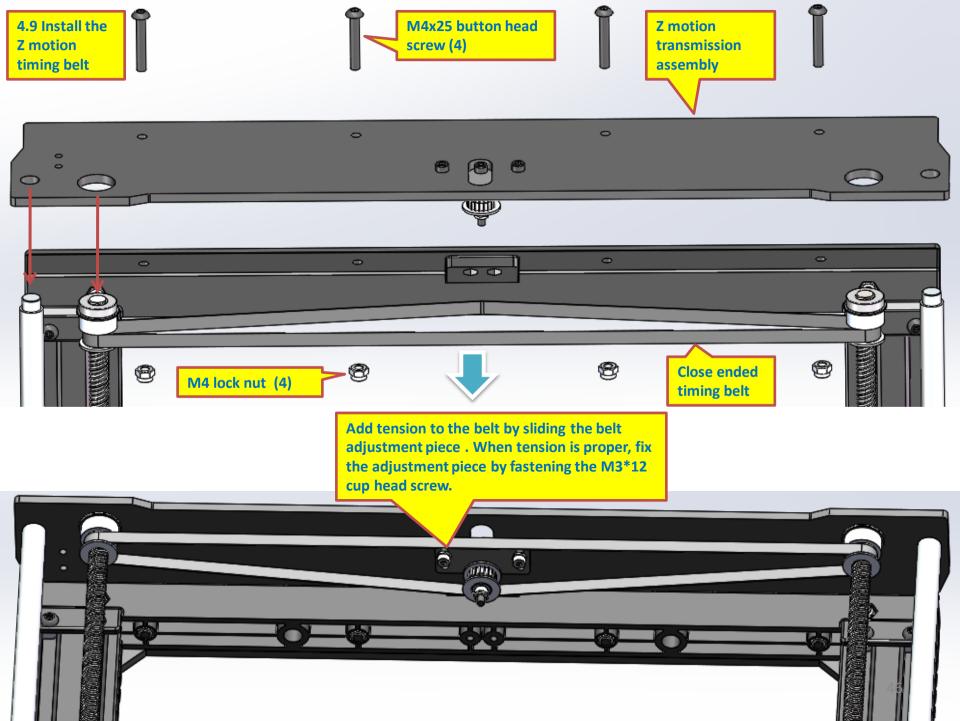
Secure assemblies ①
and ② to aluminum
profiles with preassembled M4x8
button head screws
and 'T-nuts'.











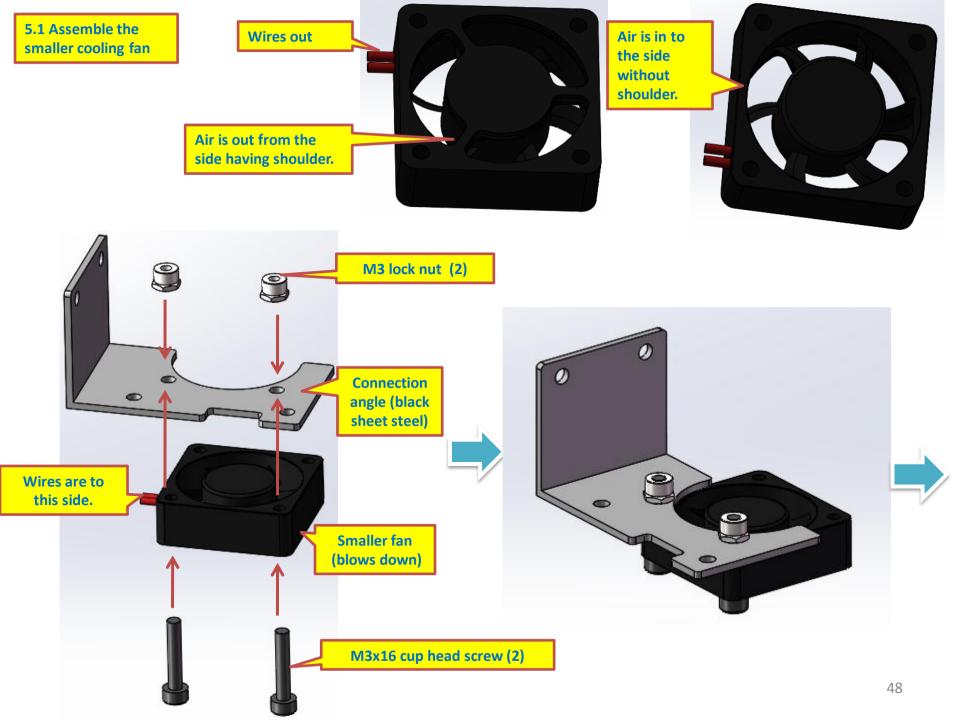
Material list #4:

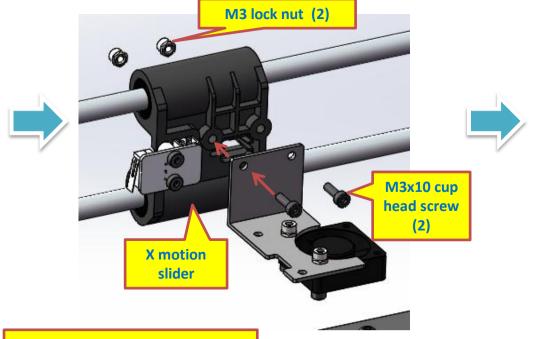
Sequence	#	Description	QTY	Remark
Hot end assembly	1	Heat sink	1	Aluminum
Hot end assembly	2	Extrusion motor	1	Motor
Hot end assembly	3	Heat sensor	1	Wire
Hot end assembly	4	Heater	1	Wire
Hot end assembly	5	Throat	1	
Hot end assembly	6	Bigger fan	1	
Hot end assembly	7	Smaller fan	1	
Hot end assembly	8	Nozzle assembly	1	
Hot end assembly	9	Connection plate	1	Sheet steel
Hot end assembly	10	Timing belt	1	Open ended one with longer length

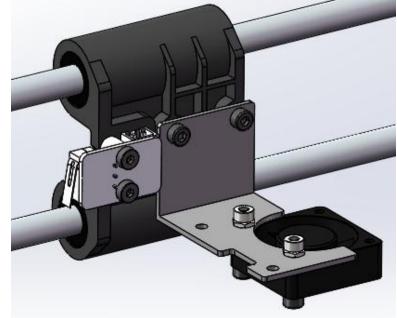


Attention:

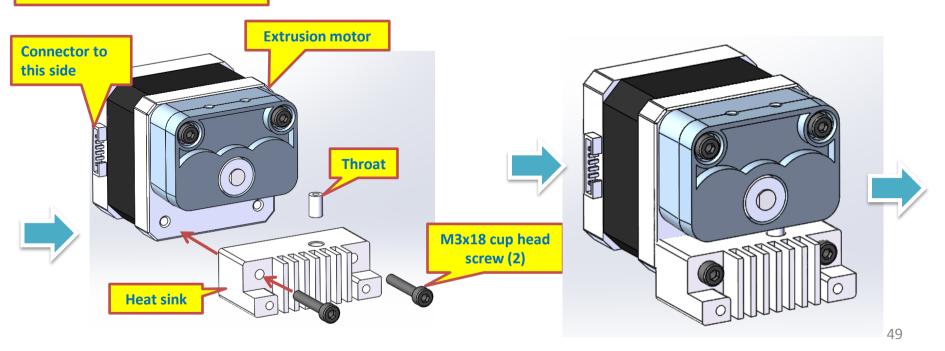
①The open ended belt with shorter length will be used here.





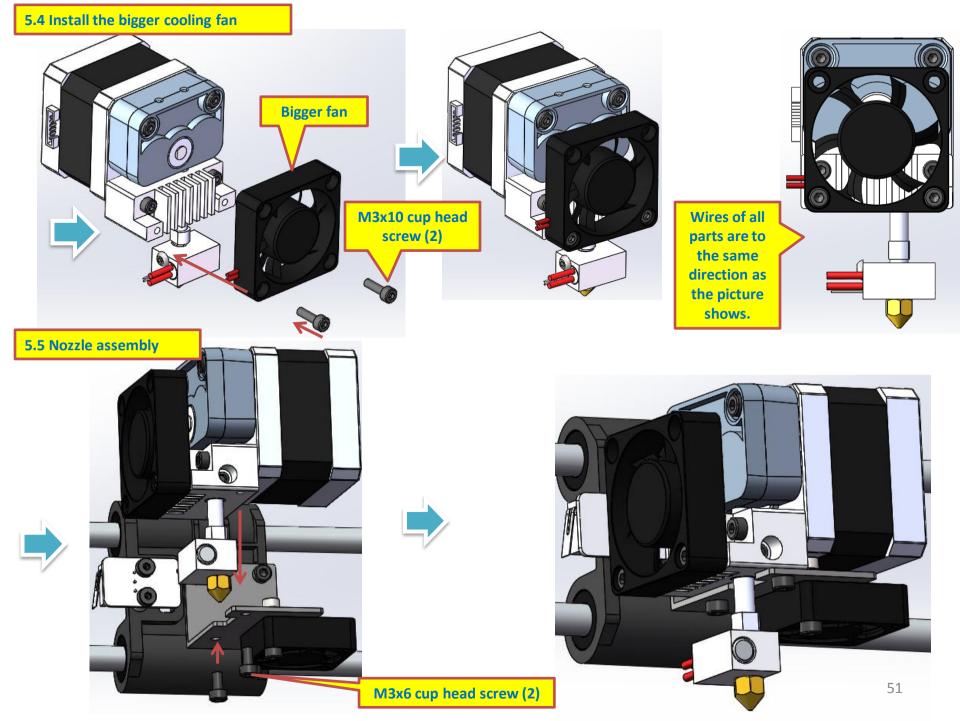


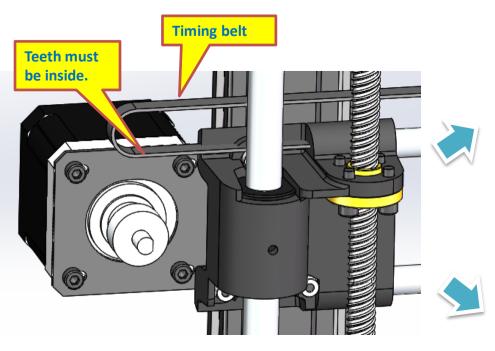
5.2 Install extrusion motor

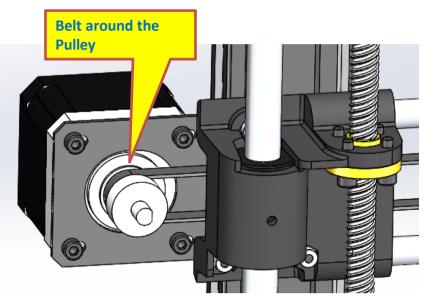


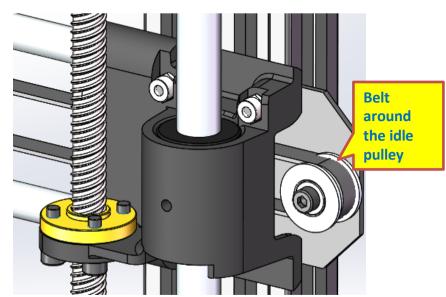
5.3 Assembly nozzle and connected components together Nozzle assembly Heater Heat sensor M3x3 button head screw M4 set screw Fully push the When throat is pushed in, throat into **Throat** lock it with M4 set screw. heat sink

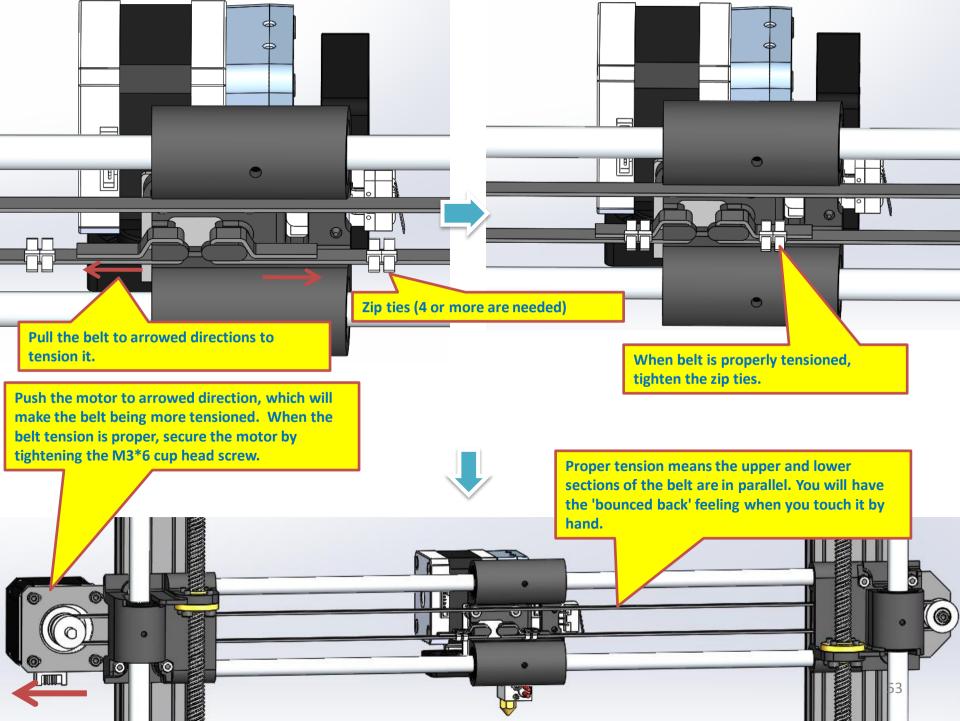
50











Material list #5:

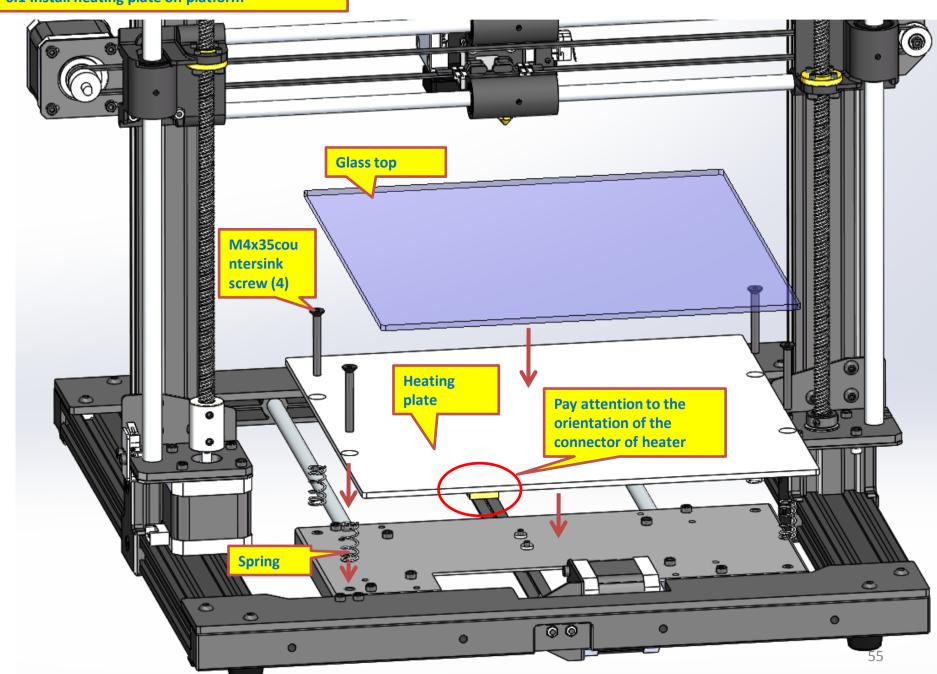
Sequence	#	Description	QTY	Remarks
Platform assembly	1	Heating plate	1	
Platform assembly	2	Top glass	1	Size: 220x200x3mm
Platform assembly	3	Clip	4	
Electrical circuit	4	Control box	1	
Wire	5	Power cord	1	
Binding tube	6	Binding tube	2	
Power supply	7	Power adaptor	1	

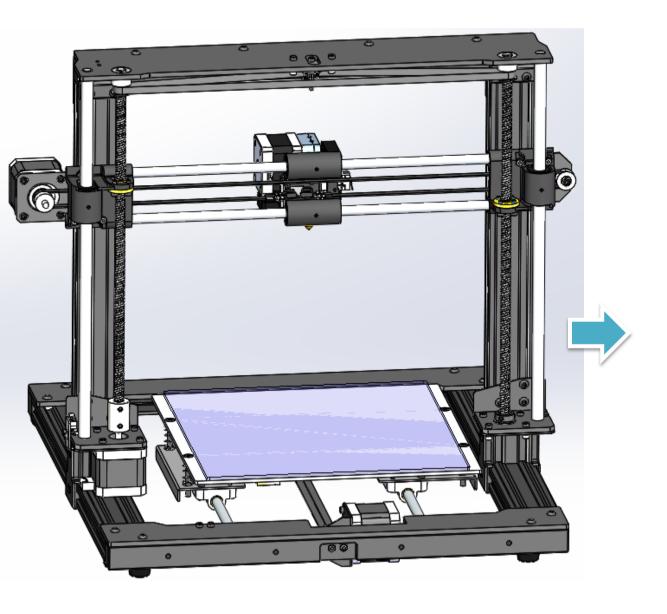




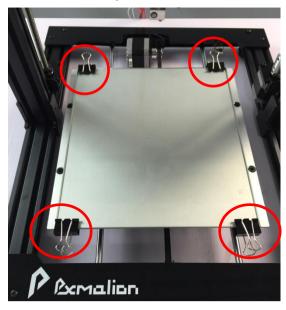






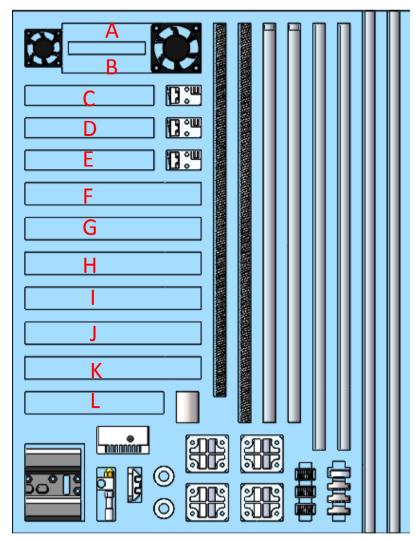


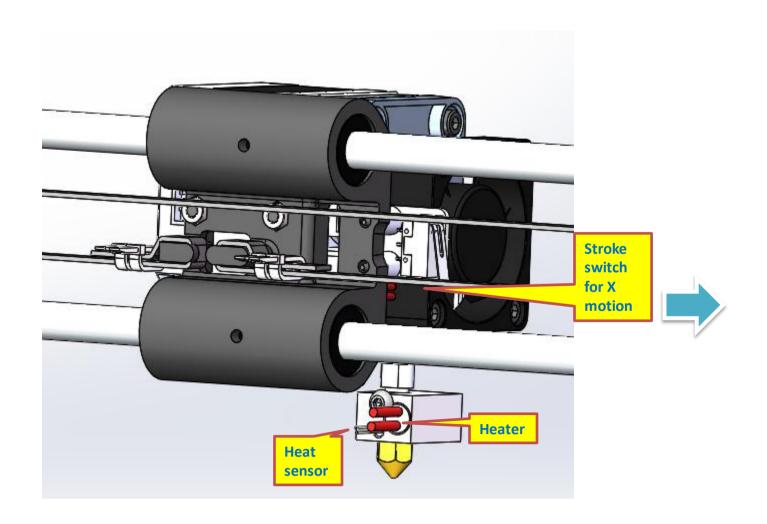
Use clips to fix the glass on the heating plate

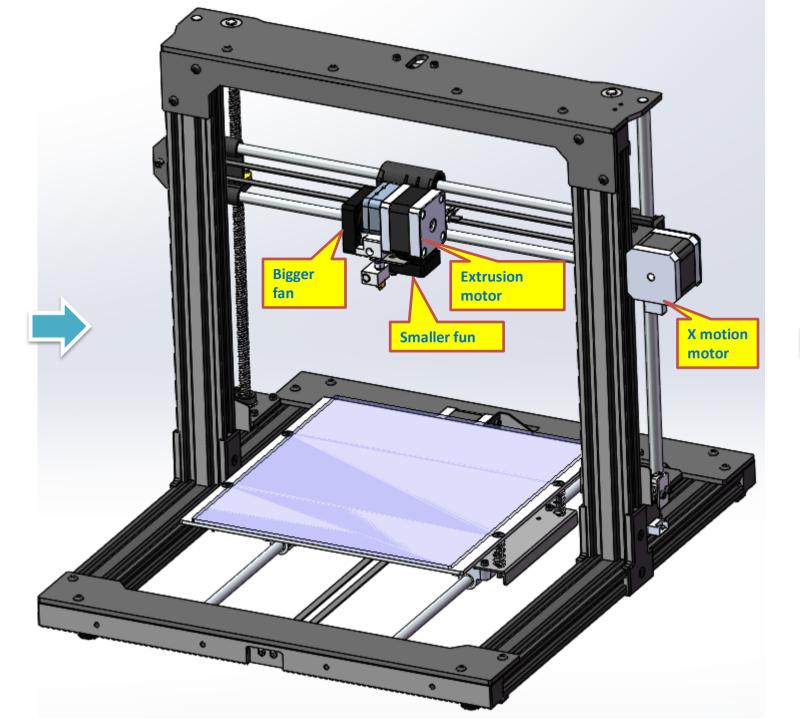


Material list #6:

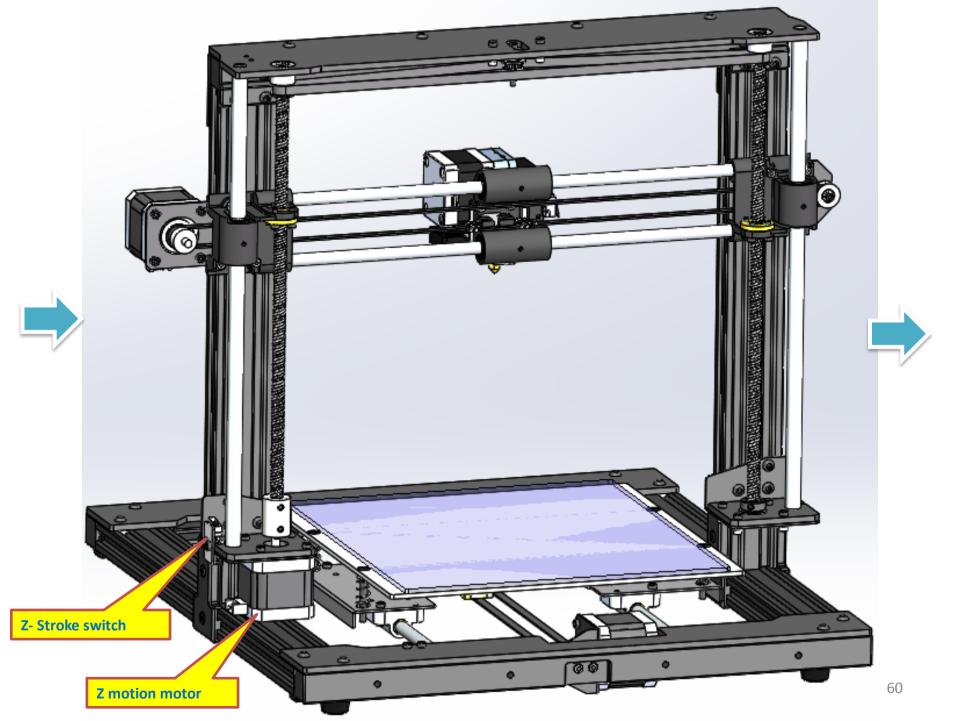
#	Descriptions	# of wires	Connector color	Position
1	Bigger fan	2P	Yellow	А
2	Smaller fan	2P	Red	В
3	X- Stroke switch	2P	Black	С
4	Y- Stroke switch	2P	Blue	D
5	Z- Stroke switch	2P	White	E
6	Heater	2P	Green	F
7	Heat sensor	2P	Green	G
8	Heating plate	4P	Red	Н
9	Extrusion motor	4P	Yellow	I
10	X motion motor	4P	Black	J
11	Y motion motor	4P	Blue	К
12	Z motion motor	4P	White	L

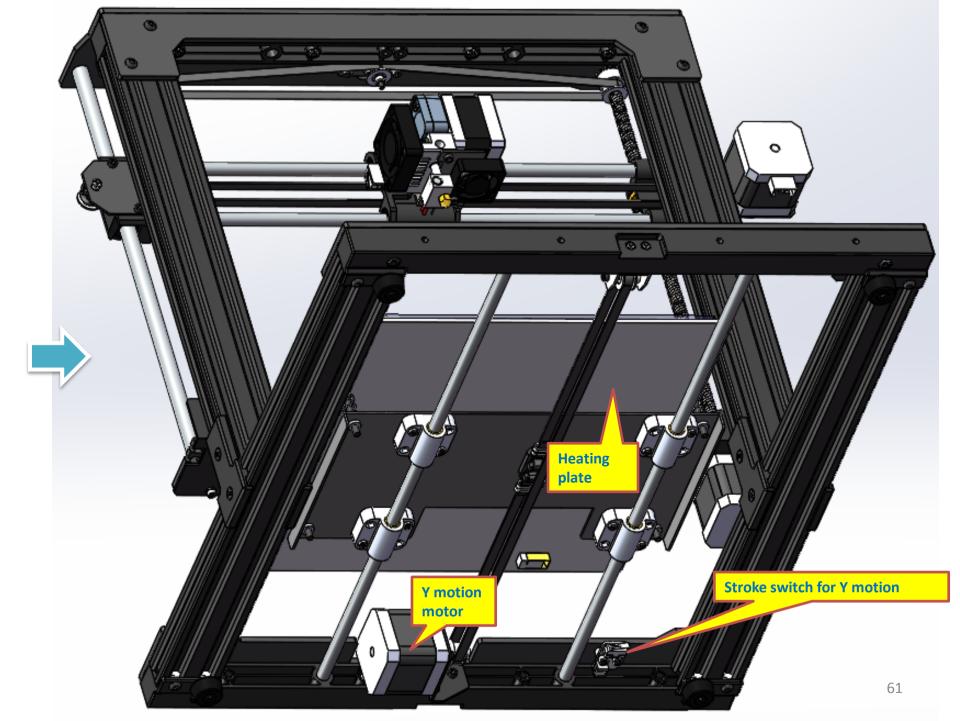








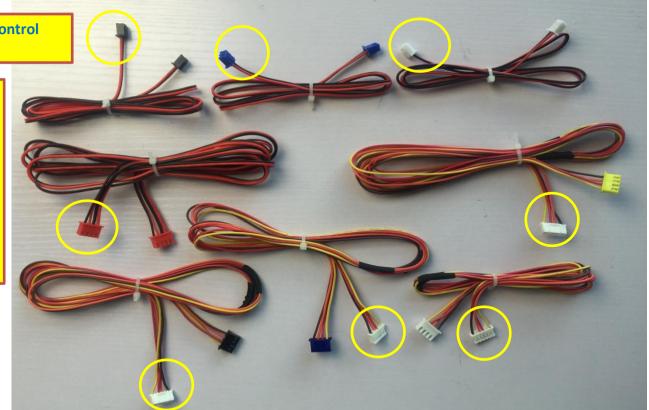


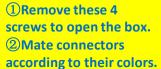


7.2 How to connect wires to the control box

As shown at right side, the yellow circled connectors will be plugged into related hardware (such as motors, funs, heater, etc.)

The connector at the other end will be connected to the motherboard, where has matching connectors in the same colors.

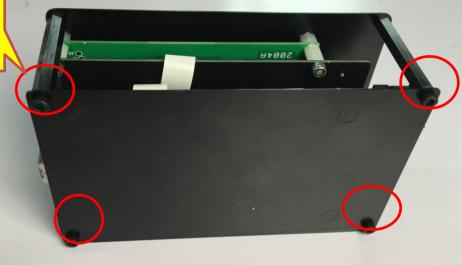












Mother board connector map

X motion motor marking: X-MOT socket: XH-4P black Y motion motor marking: Y-MOT socket: XH-4P blue Z motion motor marking: Z-MOT socket: XH-4Pwhite Extrusion motor marking: E-MOT socket: XH-4P yellow Nozzle thermistor marking: NOZ-TEMP socket: XH-2P green Nozzle heater marking: NOZZLE socket: EDG-2P green

<u>Demalion</u> 国でリ LOSP2

Nozzle cooler fan marking: NOZ-FAN socket: XH-2P red

Extruder cooling fan marking: E-FAN socket: XH-2P yellow

Heating bed marking: HOTBED socket: XH-4P red

LCD display marking: LCD socket: FPC-20P white

X motion stroke switch marking: X-MIN socket: XH-2P black Y motion stroke switch marking: Y-MIN socket: XH-2P blue Z motion stroke switch marking: Z-MIN socket: XH-2P white Power on the unit



Operation: Enter Info screen, click then turn the knob, click Prepare then Adjust Z axis. Nozzle assembly will start to move up and down, and repeat for 3 full cycles.







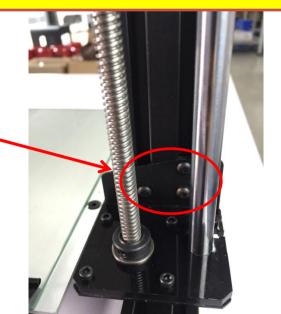


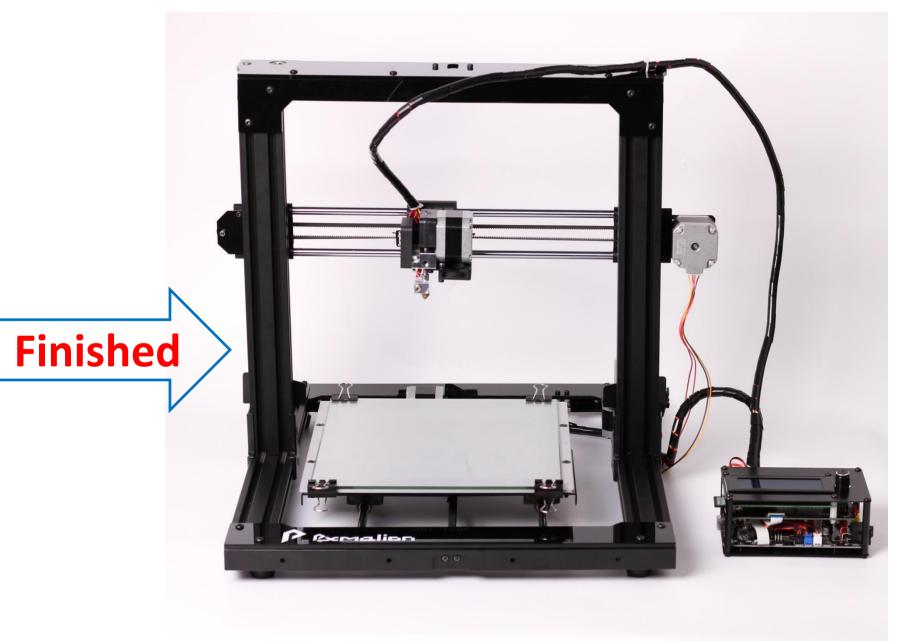
8.2 Please loosen those screws in red circle before making nozzle moving up and down. While the nozzle assembly is moving, tighten those screws little by little. The parallelism of the 2 screw rod and guiding pins for Z motion can be adjusted effectively by repeating the action. You can hence repeat it for a desired result.

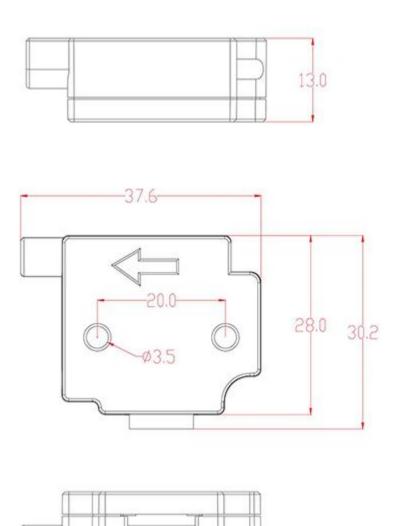


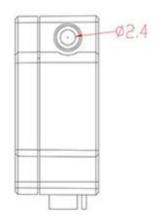


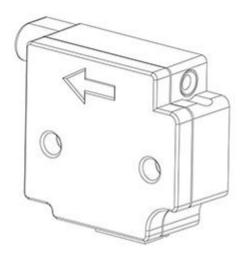
2While nozzle assembly is moving up and down, tighten them gradually.

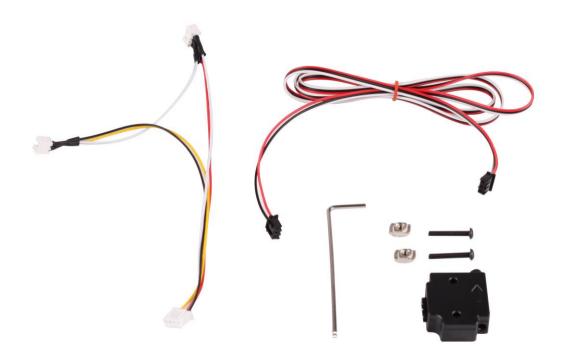












Tools used for installation:

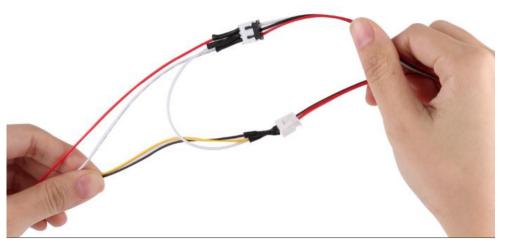
- 1 x Filament sensor
- 2 x Cup head hex socket screw M3x20mm
- 2 x T nut M3
- 2 x Cables
- 1 x 2.5mm Allen Keys

2 M3x20 screws pass through filament sensor. Then 2 T nut M3 cover the 2 M3x20 screws separately and screw the T nut M3 by 3 turns (over fastening may be difficult to install later).





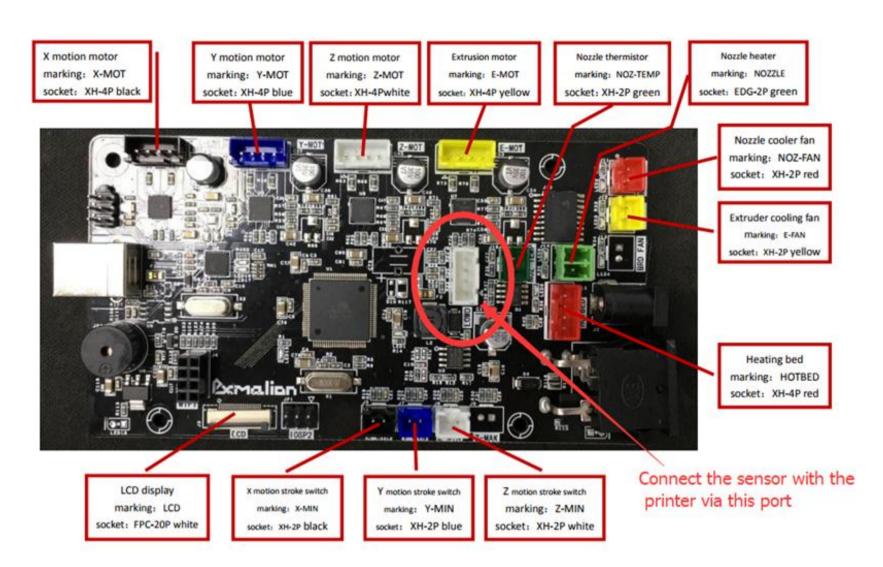
The cable has a 3-pins port and a 2-pins port. The 3-pins port is used to connected with the filament sensor. The other 2-pins port is to connect the auto leveling.



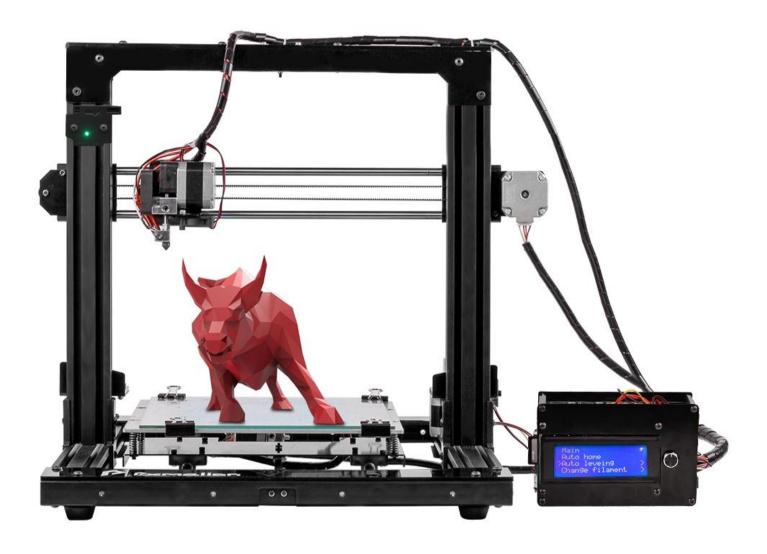




Connect sensor with the 4-pins port to the 3d printer via the white port shown in the below image.



You are advised to install the sensor on the place shown in the below image.

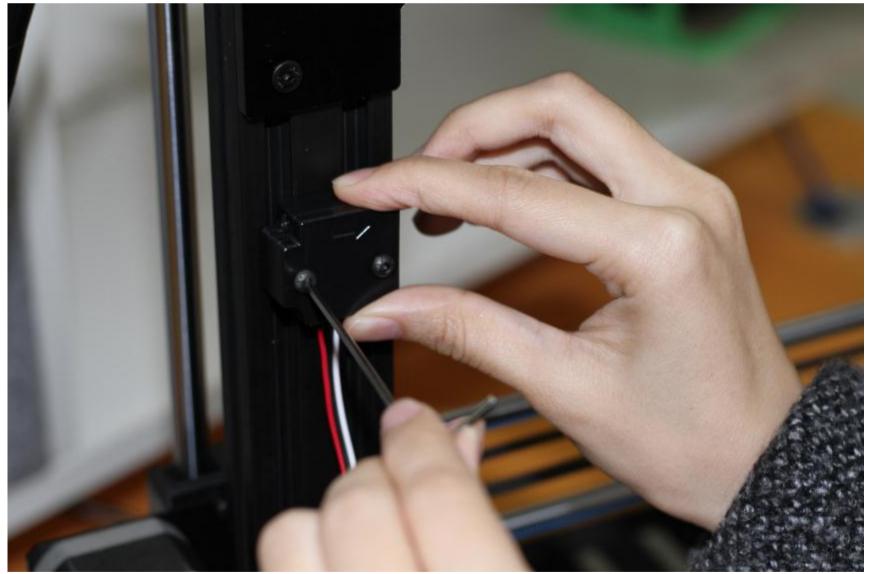


Turn the T nut M3 and insert them into the groove inside.

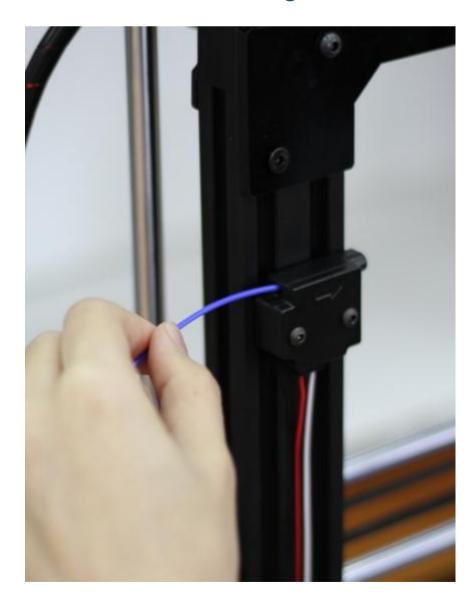


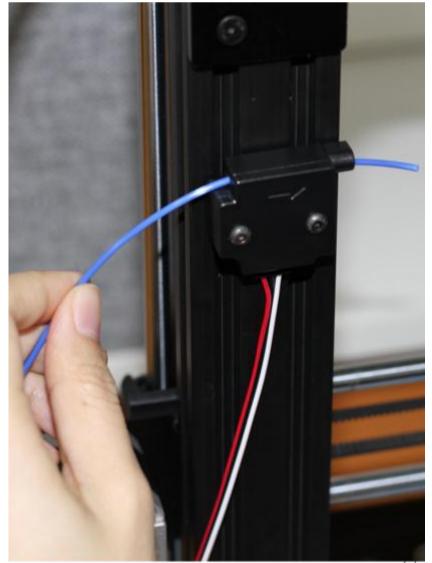


Use 2.5mm Allen key to fasten both of them.



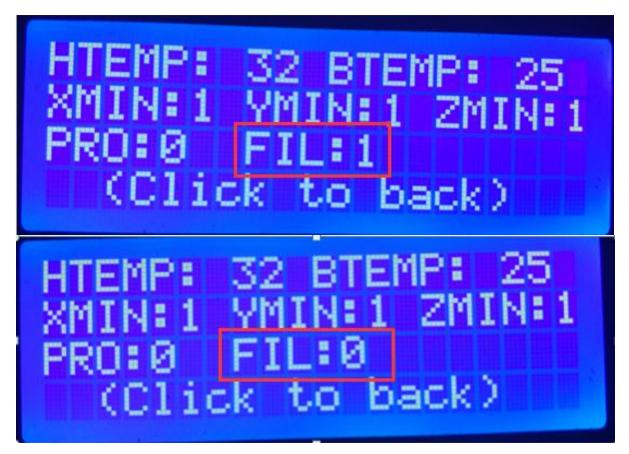
Insert the filament through the hole into the extruder.





Check for the sensor after installation

- 1. Enter 'About Printer' => 'Sensor Info'. If:
- a. If the data of 'FIL' shows '1', it means the sensor detects filament and the installation succeeds.
- b. If the data of 'FIL' shows '0', it means the sensor cannot detect any filament. You are advised to recheck the wiring. If you can't verify this issue, please contact Pxmalion for further support.



10. First print after set up

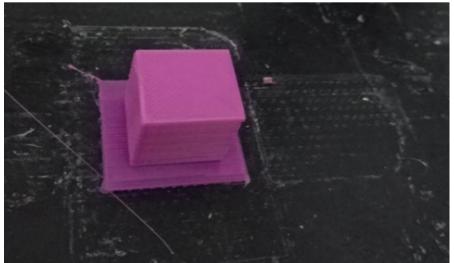
Offline printing

1. Enter 'Prepare' -> Change filament -> Load filament. After loading filament, you can start test printing. There is a Gcode files in SD card. Enter menu -> Print from SD -> click square.gcode.



2. Printer will start printing a small cube.

Heat bed temperature of 'square.gcode' is 40 centigrade. Extruder temperature is 203 centigrade. The setting works for most PLA filaments. For all kinds of PLA, It's suggested to do adjustment in Cura in order to have better results.



10. First print after set up

Offline 3D printing with SD card

Users can use Cura, Simplify 3D or Repetier to do slicing and output Gcode file. Users should consider the size of extruder, printing size of Pxmalion 3d printer and the type of PLA filament to be used.

Save Gcode file in SD card. Insert SD card into SD slot and follow the steps the same as print from 'square.gcode'.

Note:

- 1. Pxmalion Corel3 Kit provides slicing software of 14-16 version. If the Cura included in SD card isn't compatible with your computer, please download the corresponding version.
- 2. If you prefer Simplify 3D or other slicing software, you can do slicing by referring to the setting in Cura.