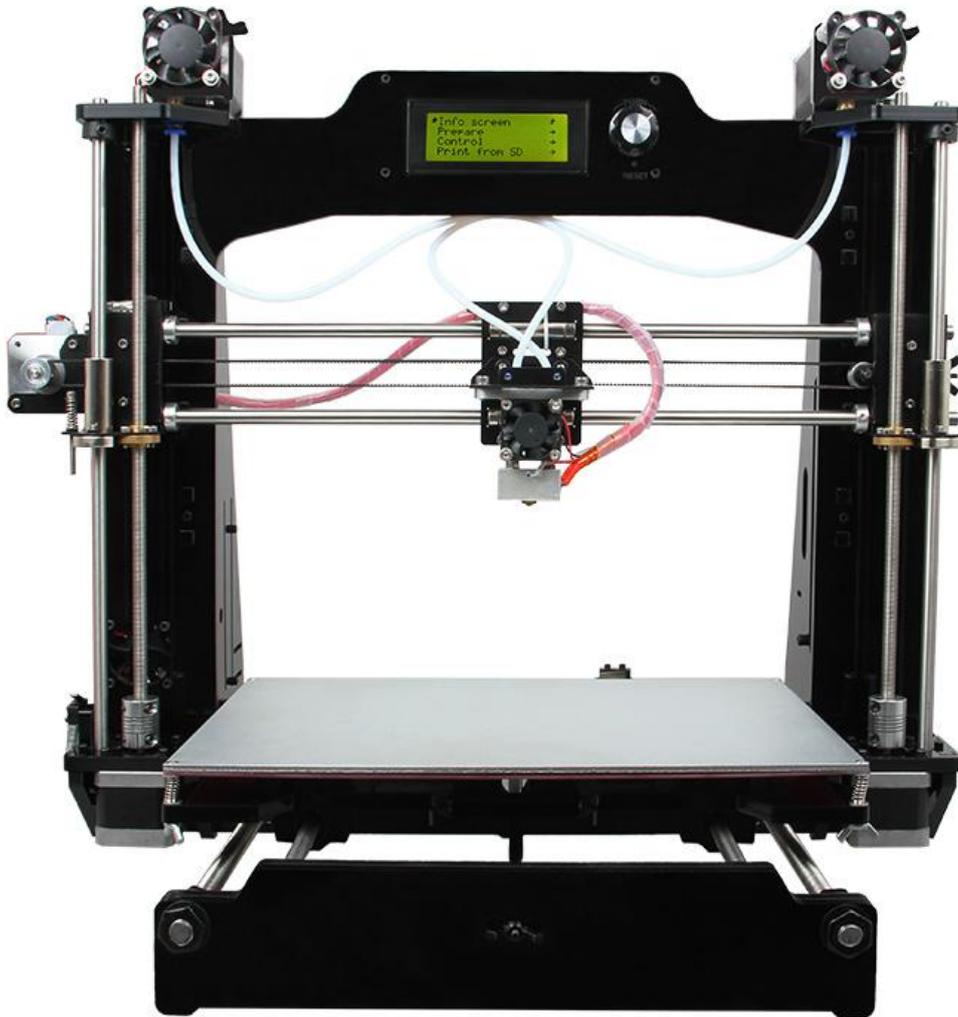


## Building Instructions of Geeetech Prusa I3 M201



(Version 04-11-2016)

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## **Safety Instructions**

Building the printer will require a certain amount of physical dexterity, common sense and a thorough understanding of what you are doing. We have provided this detailed instruction to help you assemble it easily.

However ultimately we cannot be responsible for your health and safety whilst building or operating the printer, with that in mind be sure you are confident with what you are doing prior to commencing with building or buying. Read the entire manual to enable you to make an informed decision.

Building and operating involves electricity, so all necessary precautions should be taken and adhered to, the printer runs on 12V supplied by a certified power supply, so you shouldn't ever have to get involved with anything over 12V but bear in mind there can still be high currents involved and even at 12V they shouldn't be taken lightly.

High temperatures are involved with 3D Printing, the Extrusion nozzle of the hot end can run about 230 °C, the heated bed runs 110 °C and the molten plastic extruded will initially be at around 200 °C, so special care and attention should be made when handling these parts of the printer during operation.

We wouldn't recommend leaving your printer running unattended, or at least until you are confident to do so. We cannot be held responsible for any loss, damage, threat, hurt or other negligent result from either building or using the printer.

## **Preparation**

1. Unpack the kit and check if all parts are in the box and check the condition of each part, there might be some damage during shipping. To help you with this, there is BOM in the box and each bag was labeled with part number.

2. Contact our customer service immediately by email or through the website if you find any missing or damaged parts. And on the bottom of the BOM, there is a signature of reviewer, please take a picture of it and attach the picture in your mail.

3. Read through each chapter of these instructions to gain an over-all idea of what is involved and how long it might take, before starting on the work described. Or you can watch the video [here.](#)

4. Before you start, you can put all the part in order to save your time especially those screws and nuts. Do not mix them up.

5. Some printed parts may need more filing than others to ensure a secure fit when screwing together.

Please do not over file a part, it is best to remove a small amount of excess plastic and test the fit then re-file as necessary. No excessive forces should be required to bring parts together.

6. Ensure you have the necessary skills to carry out the work, or enlist the help of someone who does.

7. Work on a big firm table or bench in a clean dry well-lit area.

8. This kit contains tiny parts; please keep them away from kids under 3.

9. Ask for help if you run into any problems - our contact details are on the website and we will always do our best to resolve any problems encountered.



Part name	Part ID	Required number	pic
M10 washer	No.9	4	
M10 hex nut	No.13	4	
Y axis front support	No.A9	1	
Y axis front support	No.A10	1	
Y axis rear support	No.A11	1	
Y axis rear support	No.A12	1	

Thread the plate to both end of the threaded rod in the following order:2

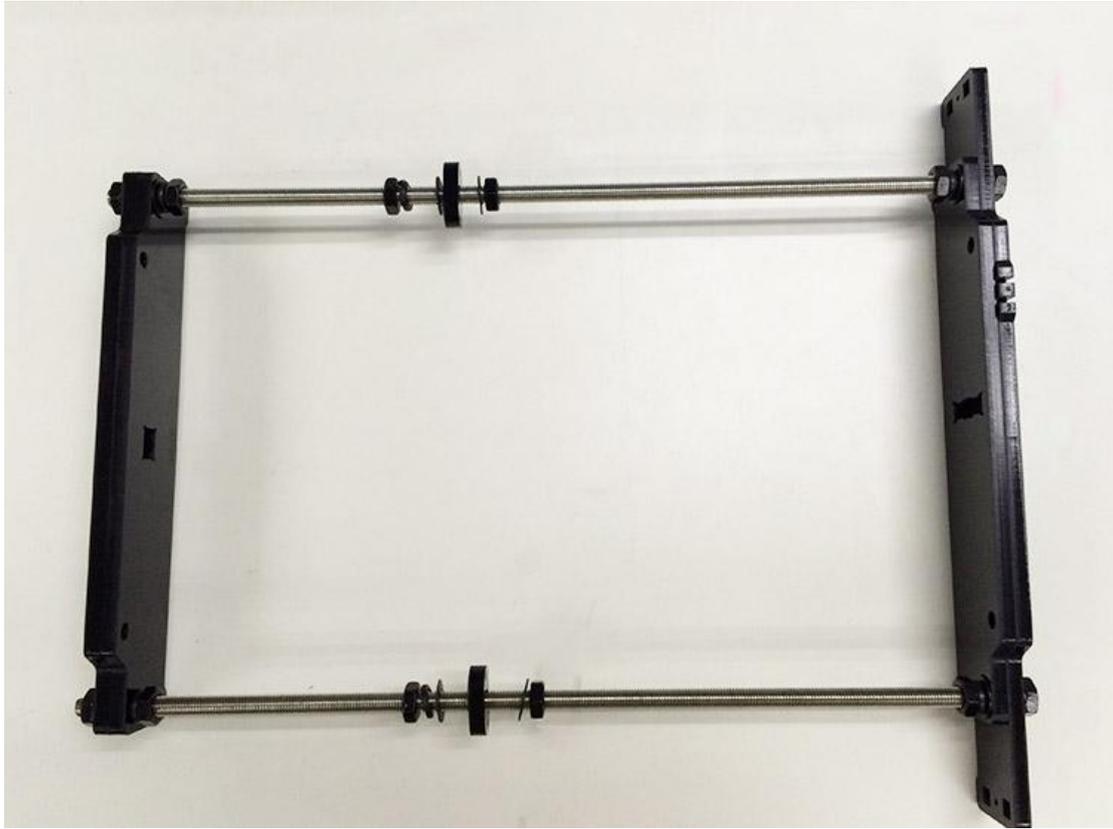
Front outside support plate: No.A9

Front inside support plate: No.A10

Rear outside support plate: No.A12

Rear inside support plate: No.A11

Screw up the threaded rods and support plates with M10 nut and M10 washer at both end. Hand tighten the M10 Nuts against the M10 Washers. Try to keep the rods parallel and the four acrylic pieces parallel.



**\* Tips:**

the Y-axis must be a rectangle, that is the rods on both side should be parallel, so is the front and back plate. Otherwise it will cause obstruction for the belt later.

You can watch the video [here](#).

**3. Thread the smooth rods and linear bearings.**

Part name	Part ID	Required number	pic
PCS8UU Linear Bearing	No.39	4	
420mm Smooth rod	No.3	2	
locking ring	No.37	2	

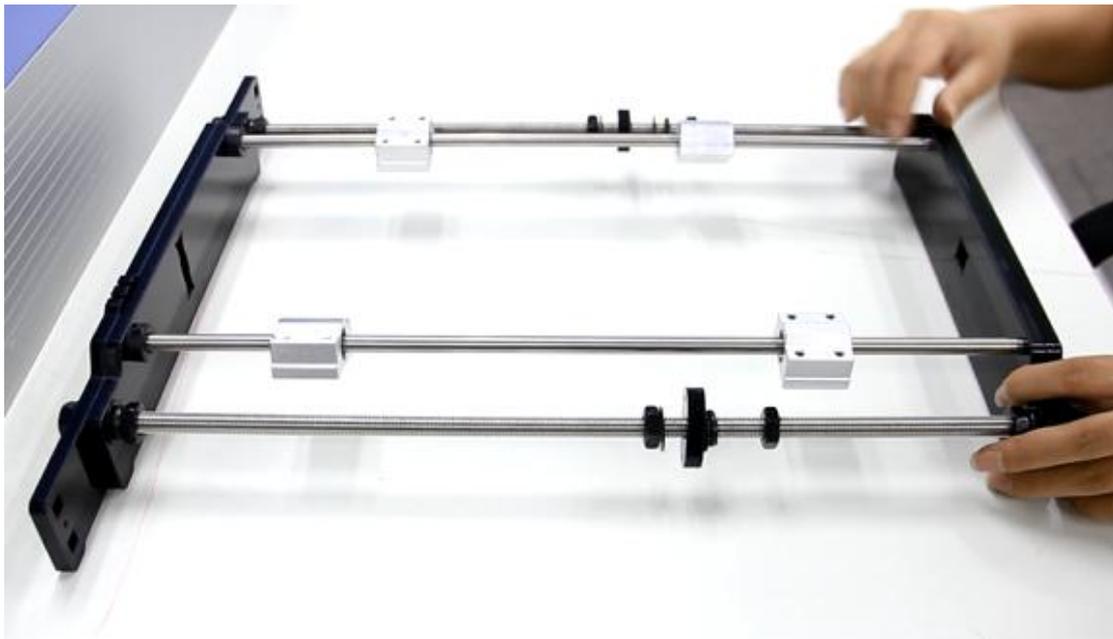
\* Photos with PCS8UU linear bearings in this instruction is the previous version, here we use PCS8UU instead. Picture is just for reference. The assembly is the same.

PCS8UU linear bearings is a modified version of SCS8UU linear bearings, the block is made of high strength ABS, which is lighter and more flexible.

Why we changed the SCS8UU linear bearings into the PCS8UU ?

To lighten the loads of the building platform and reduce the drag of Y axis so that the building platform can move more flexible therefore increase the precision of printing.

Thread the smooth rod into the Y axis support plate from rear to front, and thread the locking ring and 2 PCS8UU Linear Bearing on the smooth rod in turn.



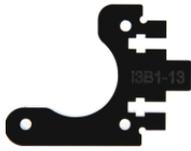
(\*SCS8UU in the picture are just for reference, you are using the PCS8UU linear bearings )

Screw up the locking ring.

Watch the [Video](#) here.

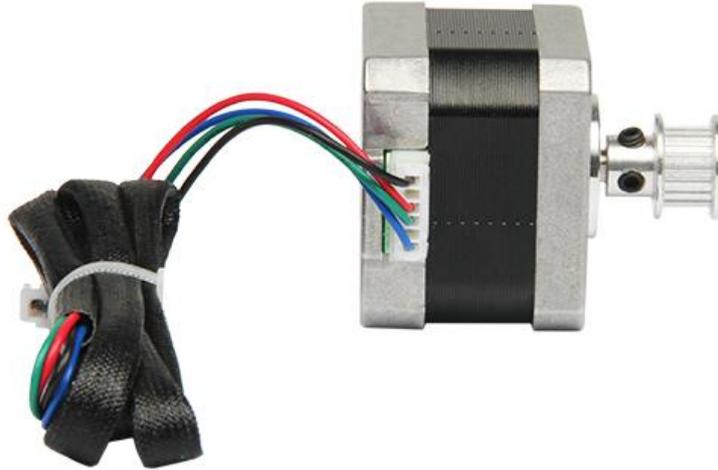
#### 4. Mount the Y motor

Part name	Part ID	Required number	pic
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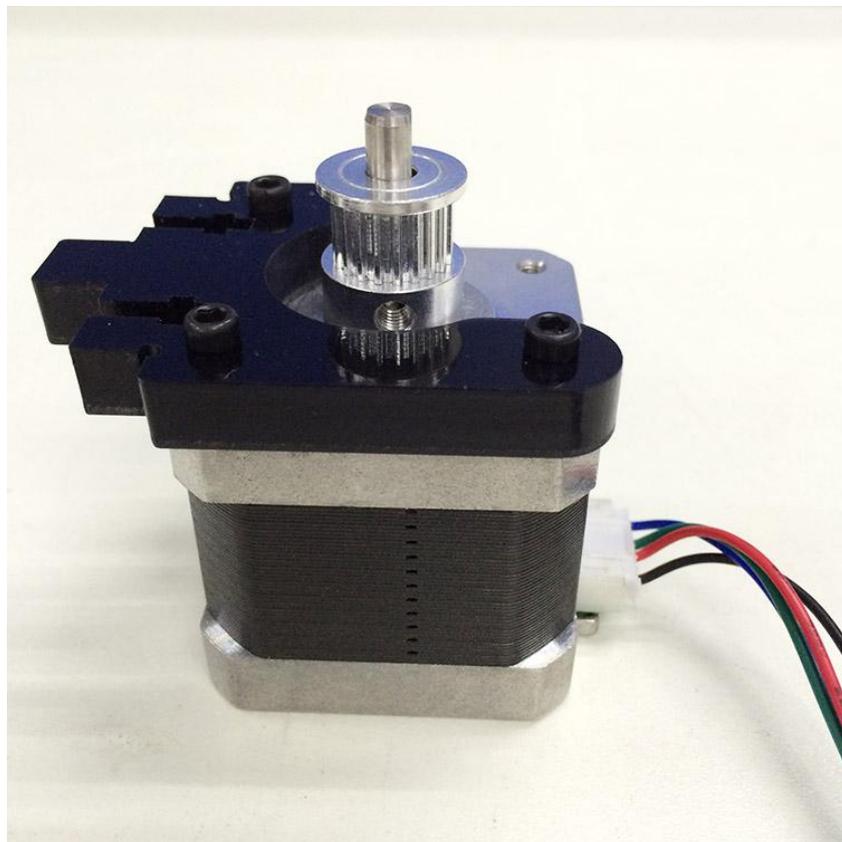
stepper motor	No.65	1	
Y motor holder	No.A13	1	
M3 x12mm screw	No.25	3	
M3 x 20mm screw	No.27	2	
M3 washer	No.7	5	
M3 square nut	No.17	2	
Pulley	No.45	1	

**Note:** In some picture, the pulley is a bit different but it won't affect your assembly.

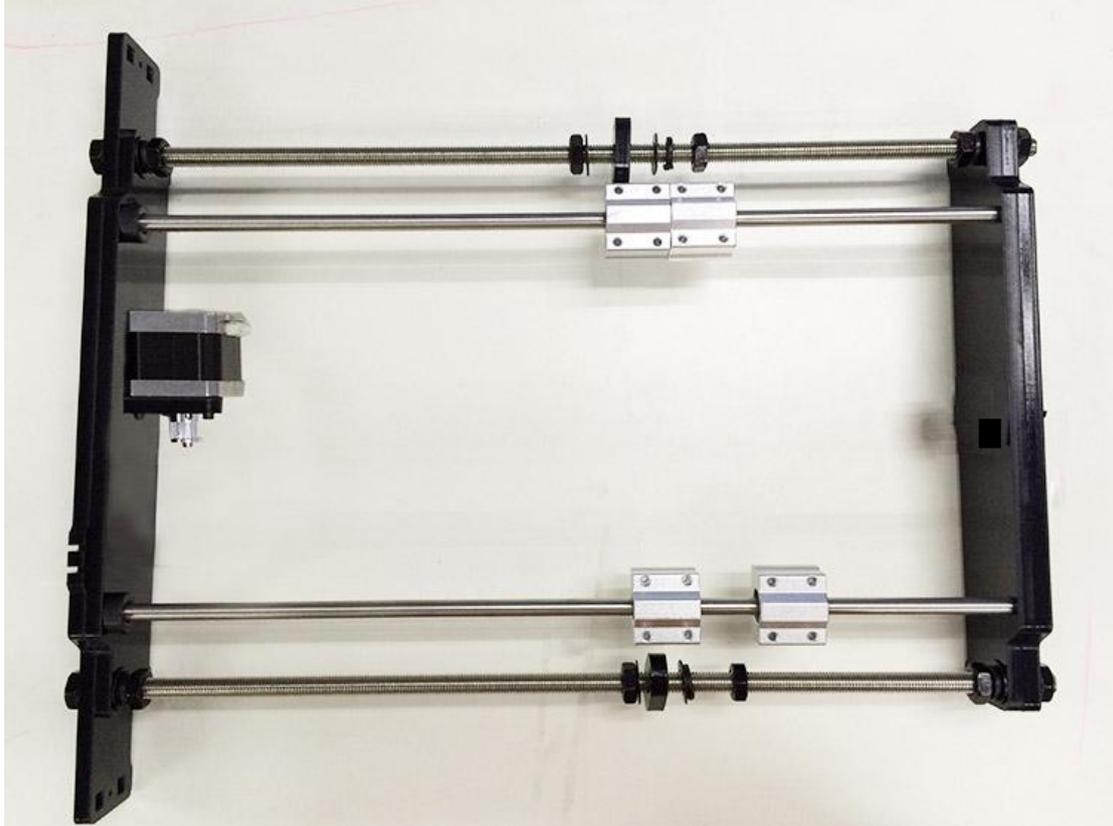
Step1. Mount the pulley on the motor shaft, one of the screws should be screwed on the cross section of the shaft. Screw it tightly.



Step2. Then screw the motor on the Y motor holder with 3 M3 x 12 screws and M3 washers.



Step 3. Push the Y Motor holder tab into the square hole in Rear -Outside Plate and Rear - Inside Plate. You may need to use a little force, but be careful not to break or crack any of the Acrylic pieces. Secure the Y Motor holder with 2 M3x20 mm Screws , 2 M3 Washers and 2 M3 Square Nuts.



(\*SCS8UU in the picture are just for reference, you are using the PCS8UU linear bearings )

You can watch the [video](#) here.

### 5. Y belt driving wheel

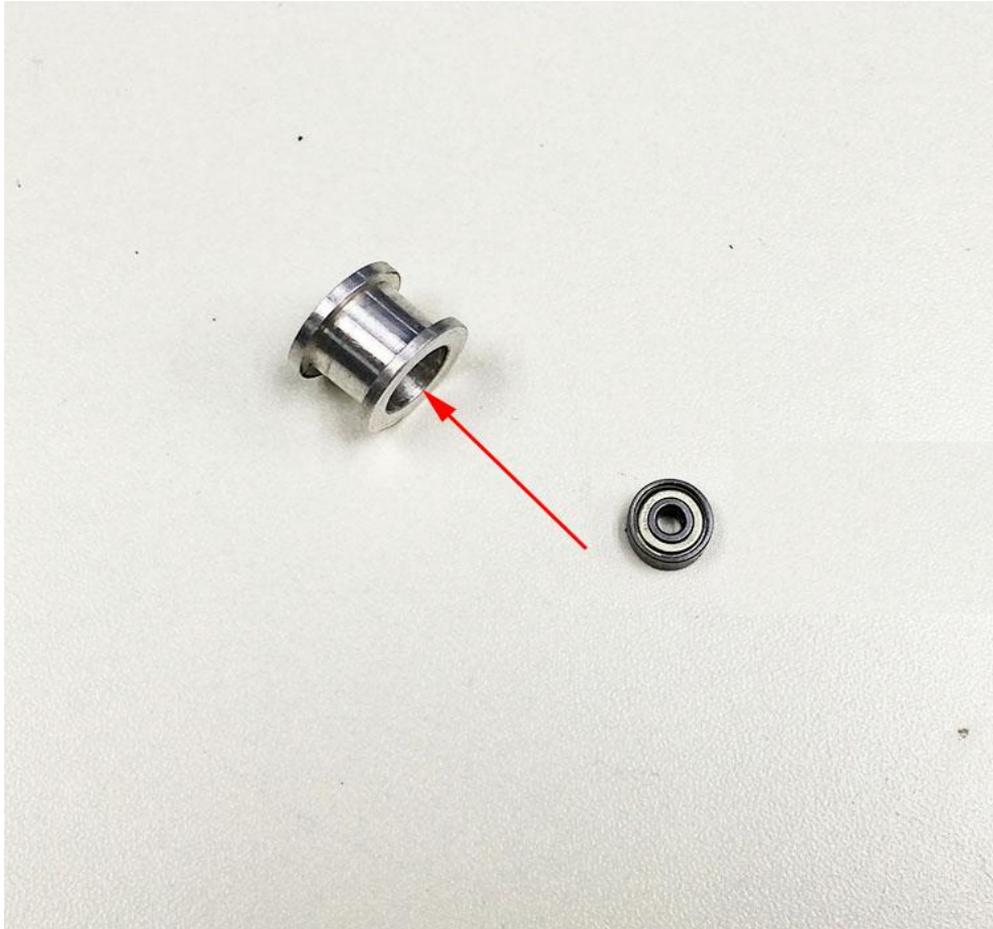
Part name	Part ID	Required number	pic
Driven wheel holder	No.42	1	

Driven wheel	No.43	1	
R84zz Ball Bearing	No.44	2	
M3 x20mm screw	No.27	1	
M4 x 25mm screw	No.35	1	
M3 washer	No.7	1	
M4 washer	No.8	1	
M4 lock nut	No.14	1	
wing nut	No.15	1	

Step1. Thread the M3 x 20 screw and M3 washer through the Driven wheel holder .



Step2. Insert the two MR84zz ball bearings into both ends of the driving wheel.

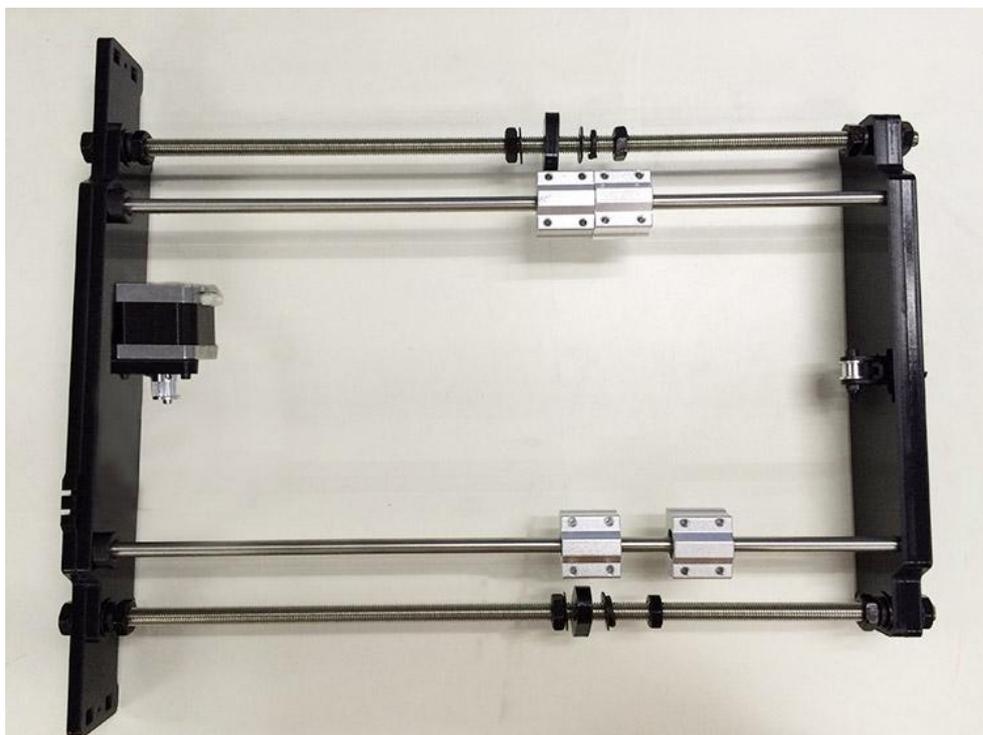
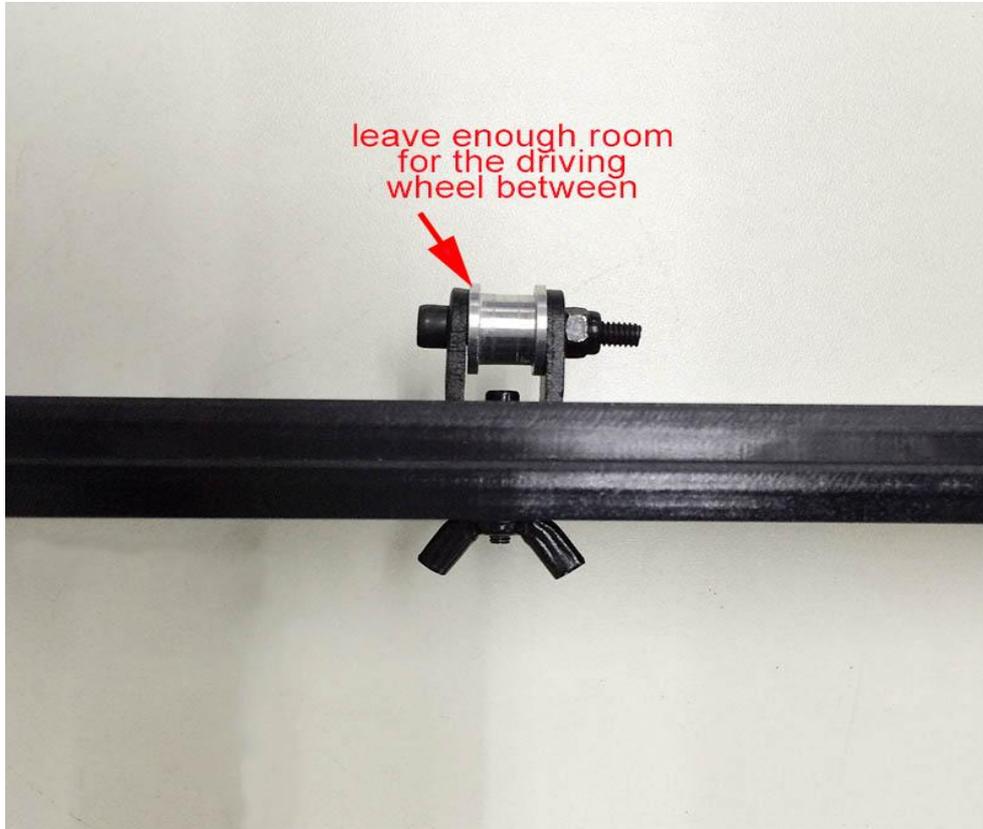


Step3.Put the M4 x25 screw and M4 washer through the driving wheel. Lock the other end with a M4 lock nut . You may need a wrench to tighten locking nut.



\*Do not screw it too tight, you should leave enough room for the wheel to turn freely.

Step4. Mount the assembled bearing holder onto the front support plates. And screw it with a wing nut.

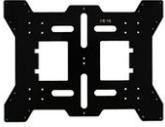


(\*SCS8UU in the picture are just for reference, you are using the PCS8UU linear bearings )

Look at this picture, the driving wheel and the pulley should be in a straight line.

You can refer to the video [here](#).

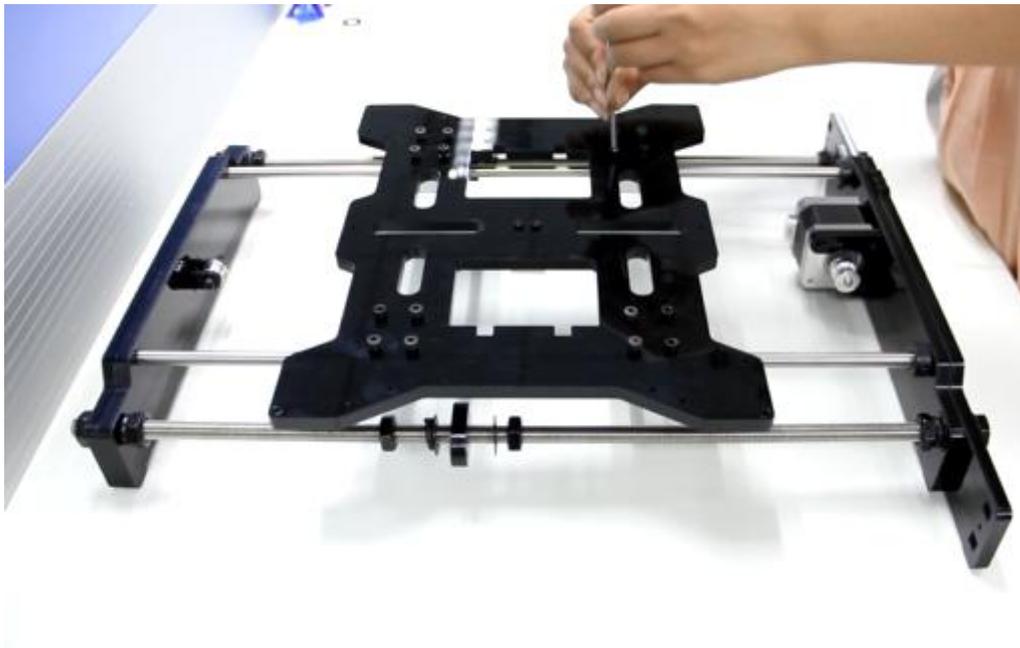
## 6. Build the print platform

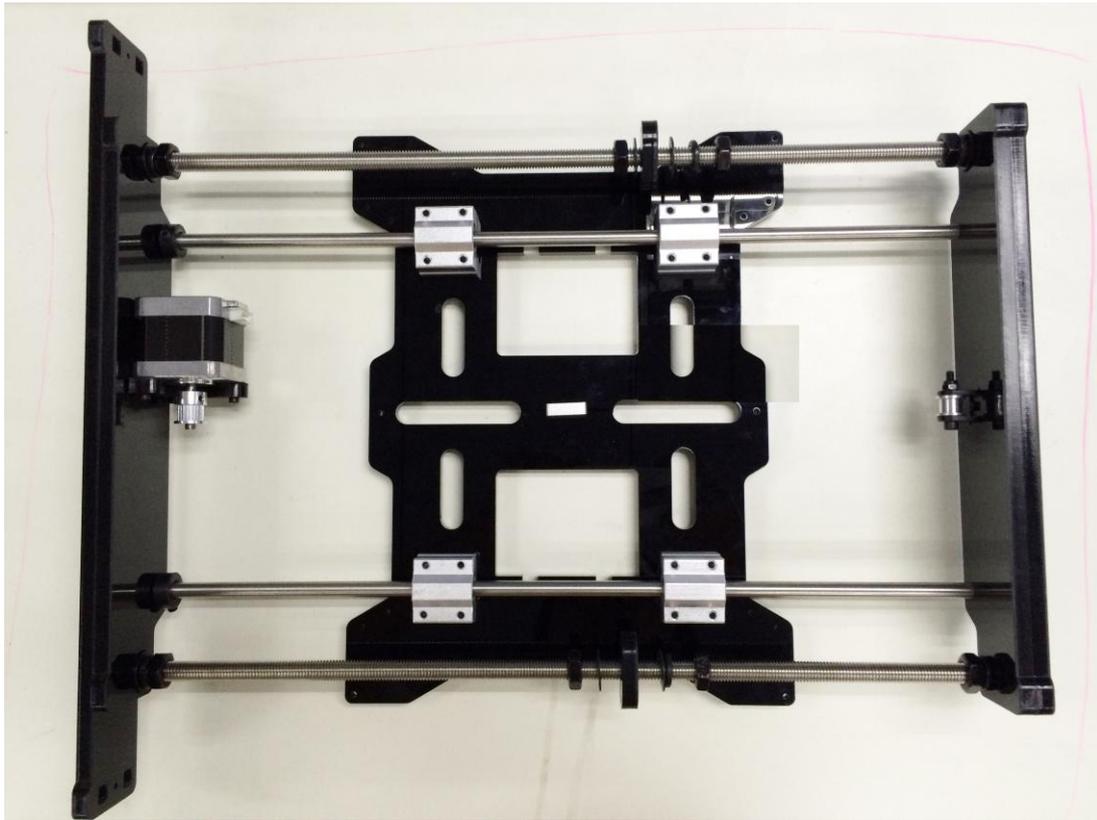
Part name	Part ID	Required number	pic
Building platform support	No.A15	1	
Belt mount	No.38	1	
M3 x12mm screw	No.25	2	
M4 x 16mm screw	No.34	16	
M3 washer	No.7	2	
M4 washer	No.8	16	
Hex Nut	No.12A	16	

Step1. Mount the belt mount at the middle of the building platform support with 2 M3 x12mm screws and M3 washers.



Step2. Mount the the building platform support on the 4 PCS8UU linear bearings on the rod with M4x16mm screws and M4 nut.





(\*SCS8UU in the picture are just for reference, you are using the PCS8UU linear bearings )

\* Note the direction of the building platform support, you can judge from the direction of the belt mount, whose direction is corresponding to the Y axis.

You can refer to the video [here](#).

## 7. Mount the Y belt

Part name	Part ID	Required number	pic
Timing belt	No.46	1	
M3 x8mm screw	No.23	2	
M3 washer	No.7	2	

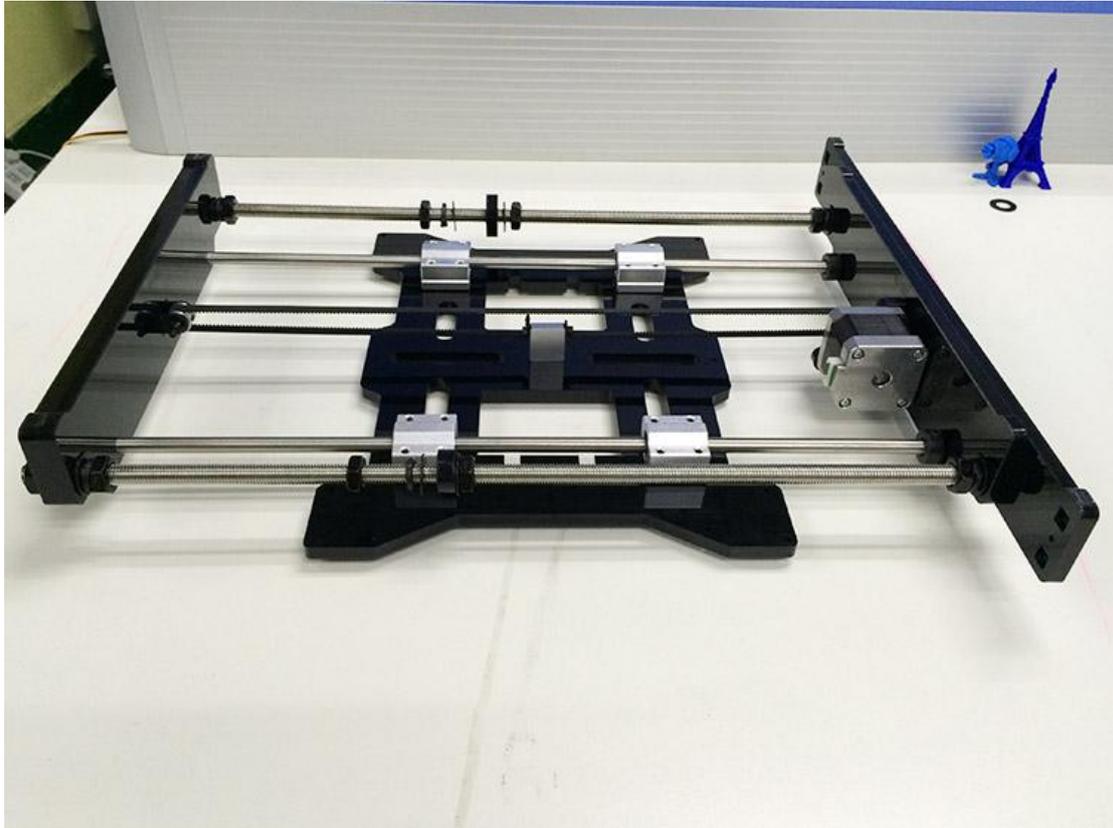
Step1. Punch a M2.5 hole on one end of the belt (the hole can be as the diameter of the M2.5 screw , leave enough margin)

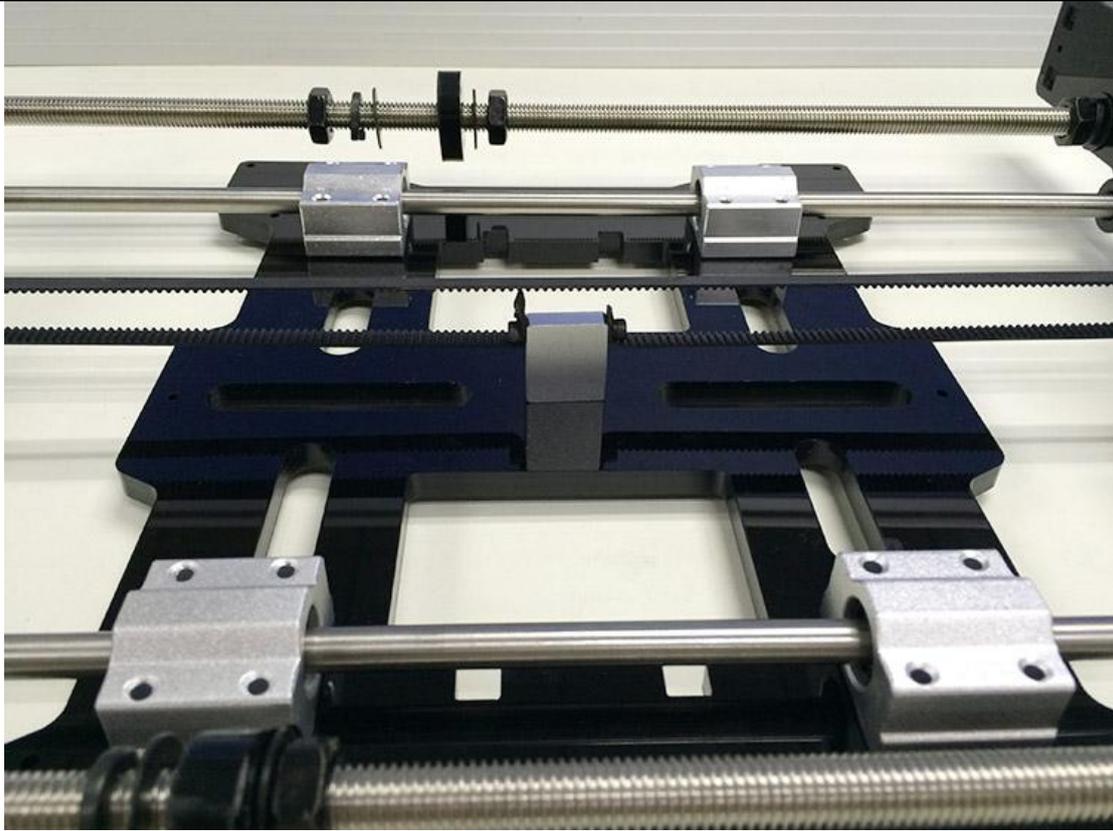
Step2. Fix the belt on one side of the belt -mount with a M3 x 8 screw and washer(.

Step3. Thread the belt around the pulley on the motor and the driving wheel.

Step4. Taut the belt to determine the length of the belt, punch another hole and and fix the other end of the belt mount with a M3 x 8 screw and washer.

Step5. Cut off the rest of the belt





(\*SCS8UU in the picture are just for reference, you are using the PCS8UU linear bearings )

**\*Tips:**

1. Before you drill your second hole, make sure to pull belt tightly to find the proper placement of hole for a tight belt, if it is too loose, it will hinder the move of the print platform.
2. Loosen the Y idler wing nut when tightening belt onto the Y belt mount in order to make securing the belt to the block easier. Be sure to tighten wing nut fully once done.
3. The belt should be vertical with the Y axis support plate.

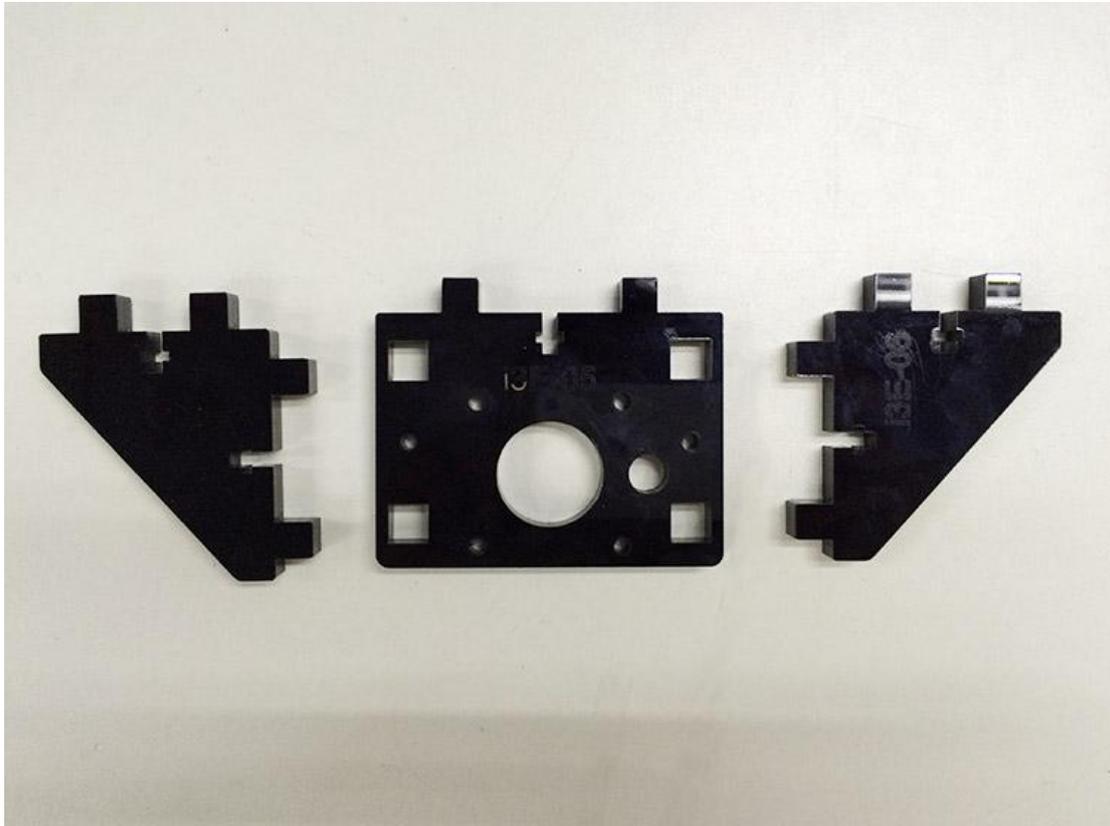
Watch the video [here](#).

**8. 1 Right Z motor mount**

Part name	Part ID	Required number	pic
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M3 x 16mm screw	No.26	5	
M3 Square nut	No.17	5	
M3 washer	No.7	5	
Motor holder (right)	No.A5	1	
Motor Holder support	No.A6	2	

Step1. Assemble the 2 A6 and A5 together, screw up with 3 M3 x 16mm screw ,M3 washer and M3 Square nut .



**\*Note the direction of the A5,the small round hole is on the right.**

Step2. Fix the assembled motor mount on the right-bottom of A1 with M3 x 16mm screw, M3 washer and M3 Square nut.



*\*Be very careful here, if you can not insert it into the hole you can loose the screw on the motor mount and try again.*

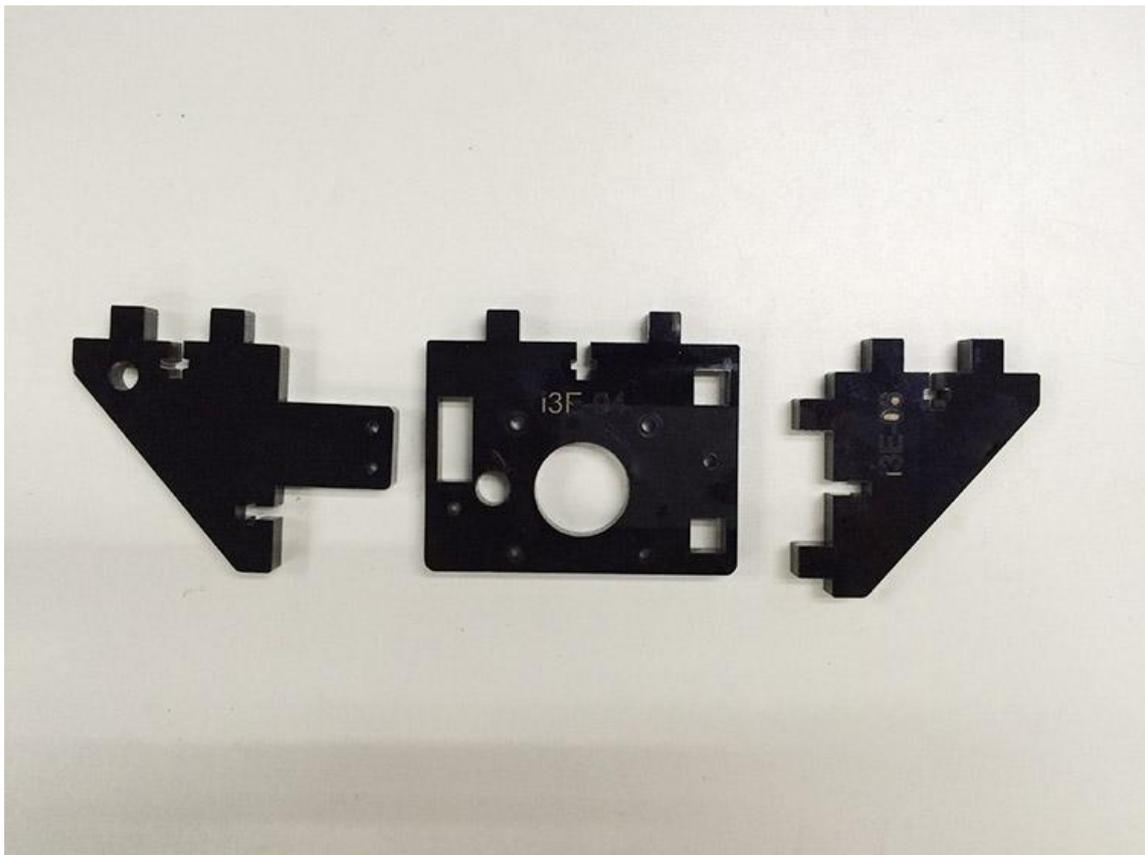
Watch the video [here](#).

### 8. 2 Left Z motor mount

Part name	Part ID	Required number	pic
M3 x 16mm screw	No.26	5	
M3 Square nut	No.17	5	
M3 washer	No.7	5	
Motor holder (left)	No.A4	1	

Motor Holder support	No.A6	1	
Motor Holder support	No.A7	1	
Main frame	No.A1	1	

Step 1. Insert the A6 and A7 into A5, note the detail:A7 is on the left and A6 is on the right. **\*Note the direction of the A4,the small round hole is on the left.**



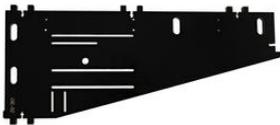
Step 2. Fix the assembled motor mount on the left-bottom of A1 with M3 x 16mm screw, M3 and square nut.



\*Be very careful here, if you can not insert them into the hole you can loose the screw on the motor mount and try again.

Watch the video [here](#).

### 9. Side panel assembly

Part name	Part ID	Required number	pic
M3 x 16mm screw	No.26	6	
M3 Square nut	No.17	6	
M3 washer	No.7	6	
Side panel(left)	No.A2	1	

Side panel(right)	No.A3	1	
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Fix the side panels on A1 with M3 x 16mm screw, M3 Square nut and M3 washer.

Watch the video [here](#).



If the tab doesn't fit the hole, there must be some manufacturing faulty, please use the file to trim it.

### 10. Main frame assembly

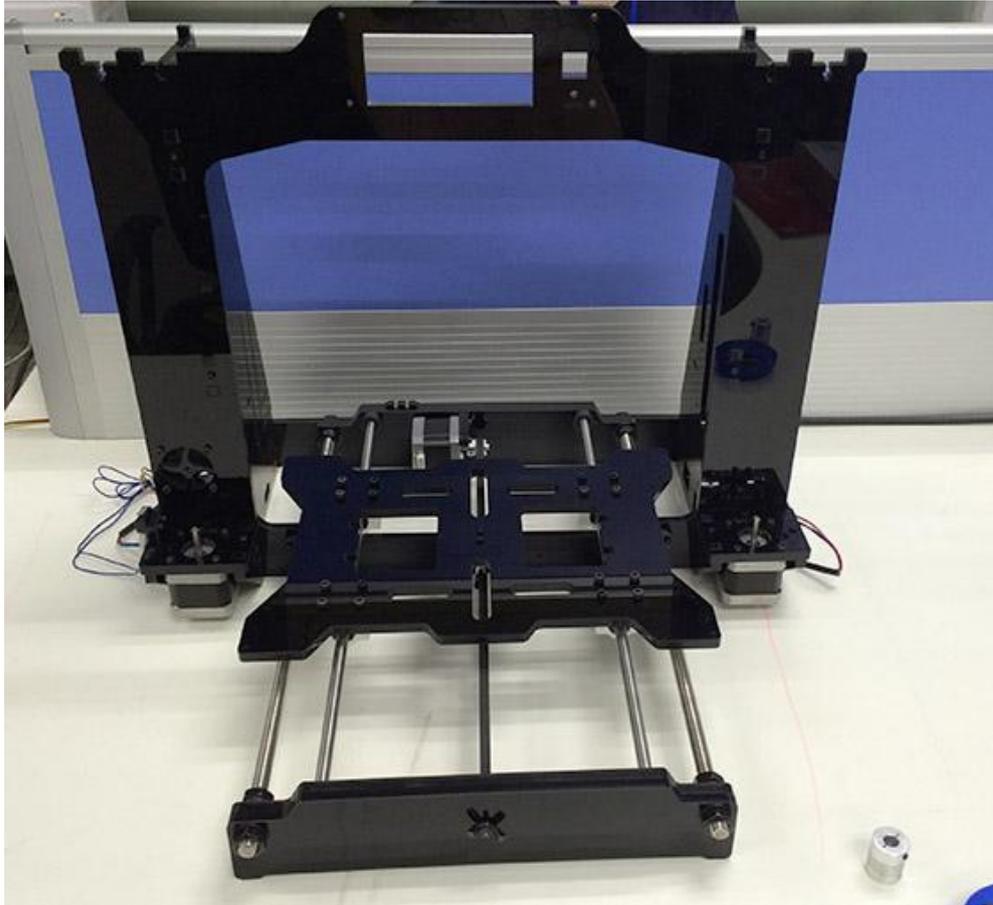
Part name	Part ID	Required number	pic
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M3 x 16mm screw	No.26	2	
M3 x 20mm screw	No. 27	4	
M3 hex nut	No.12	4	
M3 square nut	No.17	2	
M3 washer	No.7	6	

Step 1. Put the assembled Y axis into the main frame, put the main frame between the connecting fender and the M10 nut. The Connecting fender is at the front part of the Y axis.

Step 2. Connect the side panel to the rear support plate, screw it up with M3 x 16mm screw, M3 washer and M3 square nut.

Step 3. Fix the connecting fender to A1 with M3 x 20mm screw, M3 washer and M3 hex nut.

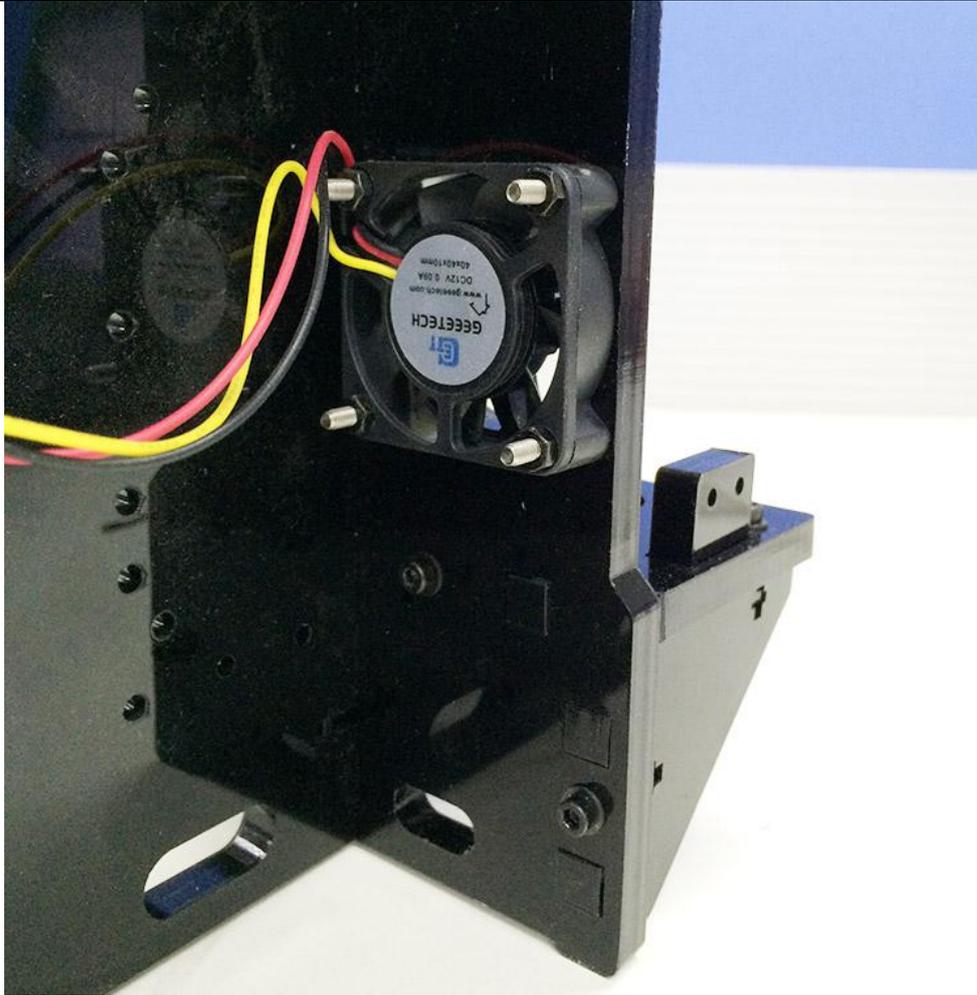


Watch [video](#) here.

### 11. Fan mount

Part name	Part ID	Required number	pic
M3 x 25mm screw	No. 28	4	
M3 hex nut	No. 12	4	
M3 washer	No.7	6	
Fan	No.51	1	

Mount the fan on the BACK of the left side of the A1. Fix it with 4 M3 x 25 mm screw, M3 washer and 4 M3 hex nut.



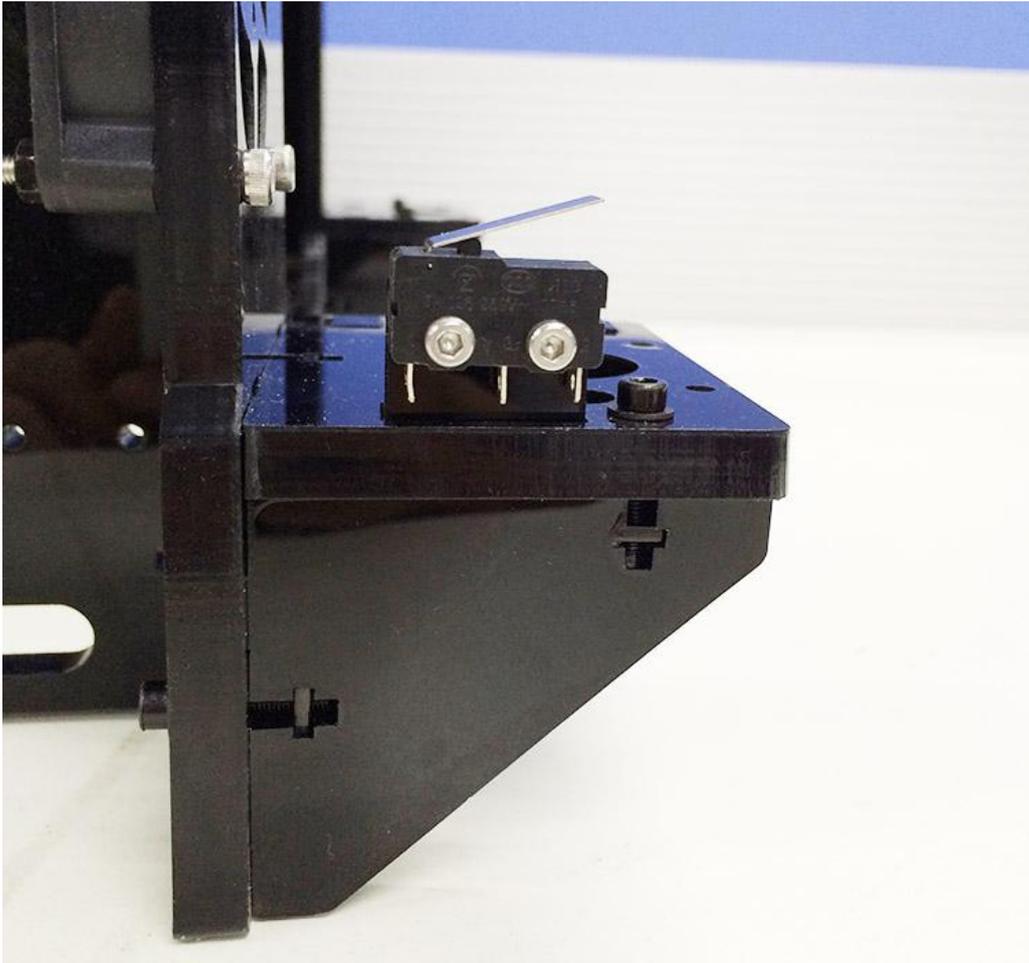
Note the direction of the fan, the side with wires is at outside. The fan is for the heat dissipation of the control board. You can see from the video.

Watch the video [here](#).

## 12. Mount the Z endstop

Part name	Part ID	Required number	pic
M2.5 x 16mm screw	No. 21	2	
M2.5 hex nut	No. 11	2	
End stop	No.54	1	

Mount the endstop on the outside of A7 with M2.5 x 16mm screw and M2.5 hex nut

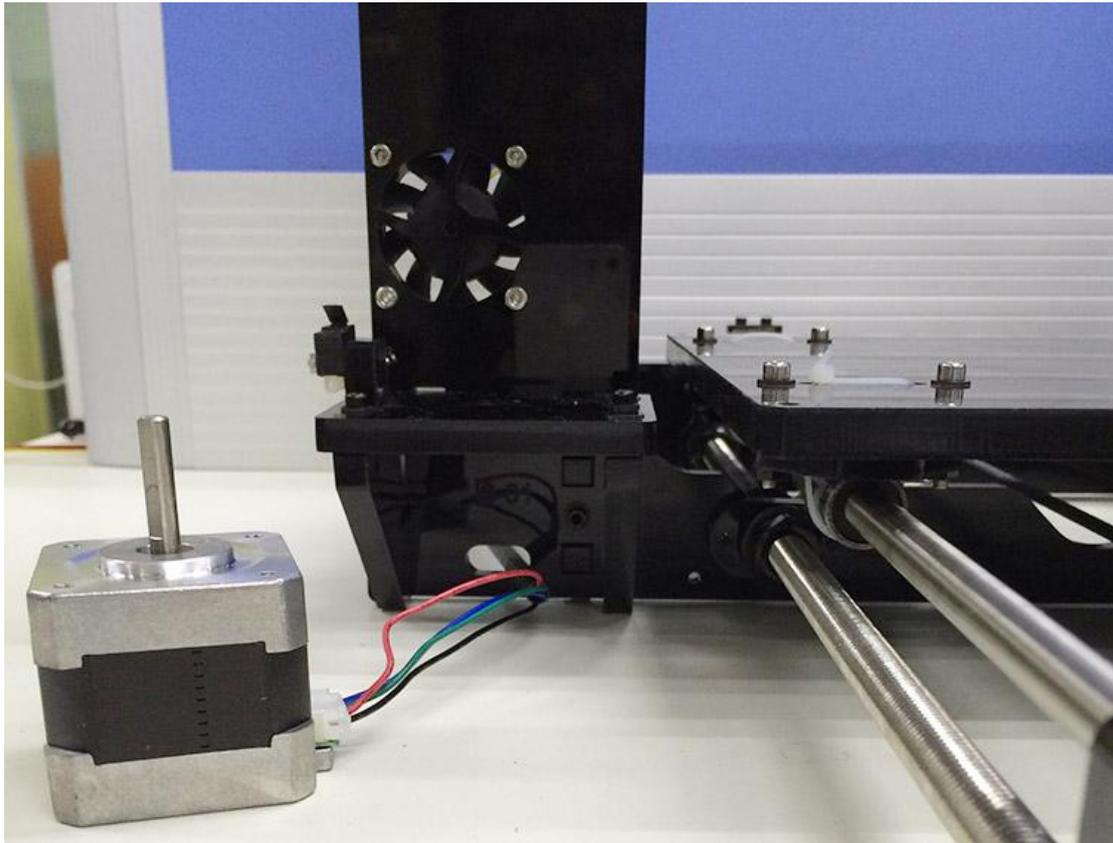


Watch [video here](#).

### 13. Mount the Z motors

Part name	Part ID	Required number	pic
stepper motor	No.65	2	
M3 x12mm screw	No.25	8	
M3 washer	No.7	6	

Step1.Thread the wires of the motor through the holes on the bottom of A1.



Step2.Screw up the motors on A5 with 4 M3 x 12 screws and M3 washers.

Mount the other Z motor on A4 in the same way.

For detailed assembly process, please watch [here](#).



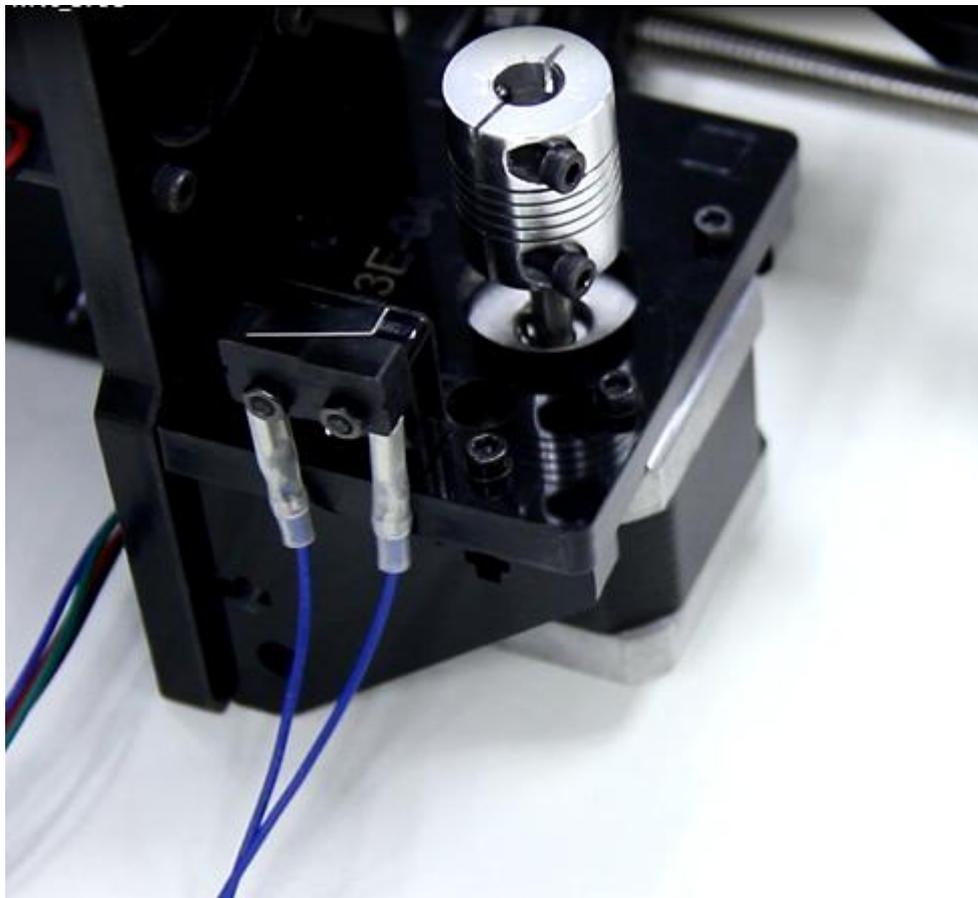
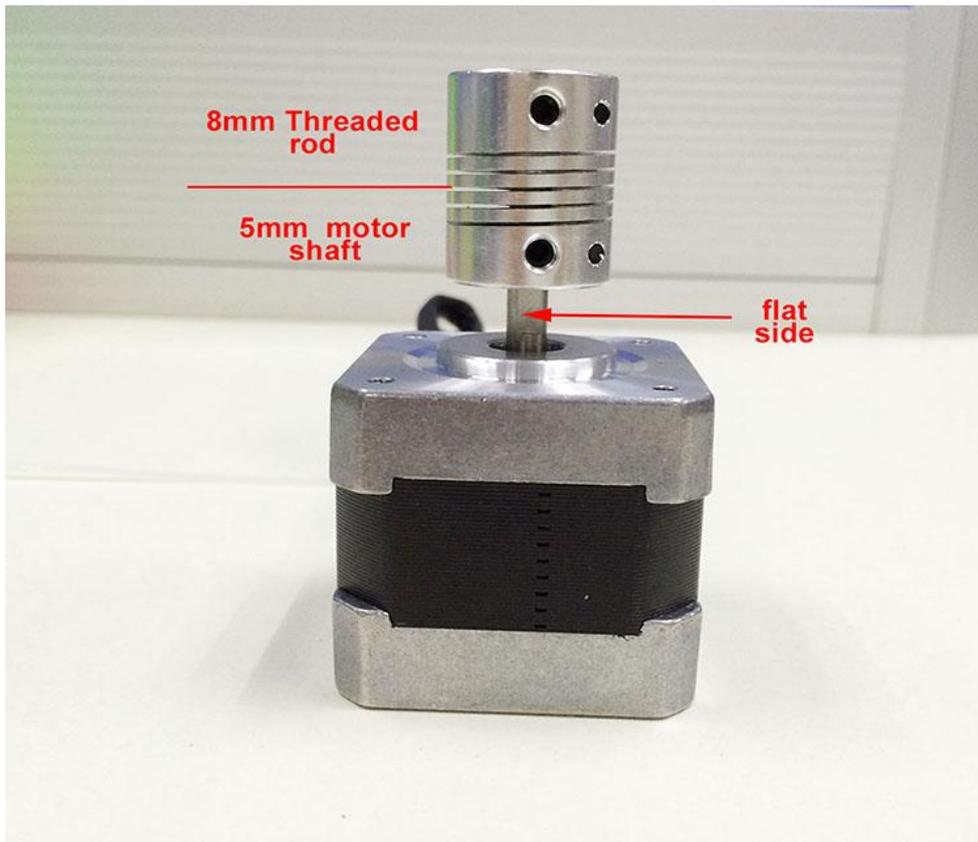
#### 14. Mount the couplings

Part name	Part ID	Required number	pic
Coupling	No.48	2	

Step 1. Fix the two couplings on the Z motor shaft separately.

**Please note:**

1. The opening of both end, one is 5mm, another is 8mm, connect the 5mm hole to the motor shaft.Half and half. Screw it tightly.
2. The screw should be fixed on the cross section (the flat side) of the motor shaft.



Repeat the steps for another couplings.

\* the bottom of the coupling is better to be leveled with No. A4.

Watch [video here](#).

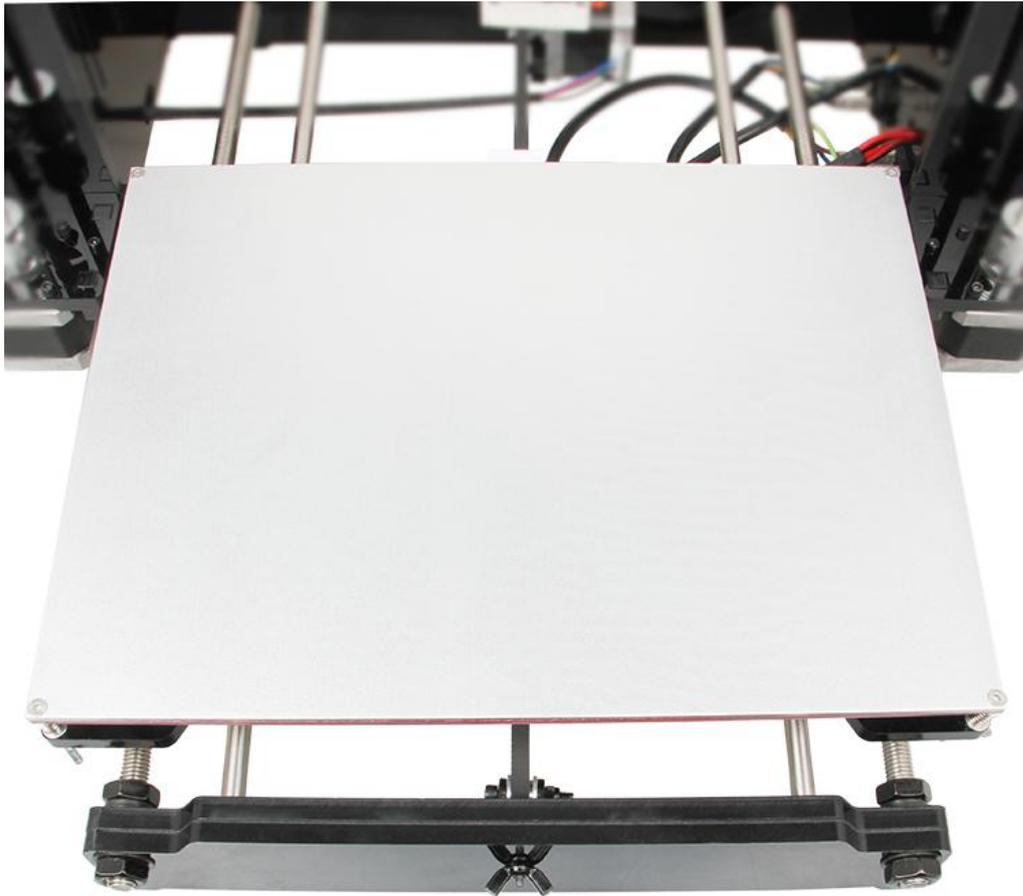
### 15. Mount the building platform.

Part name	Part ID	Required number	pic
Thermometry & Heating wire	No.58	1	
Heatbed set	No.59	1	
Building platform	No.60	1	
wing nut	No.15	4	
M3x30 mm Hex Counter-sunk-head screw	No.19	4	
Spring	No.36	4	

Step 1.Stack the heatbed and the aluminum plate together with the aluminum plate above, the heat bed below.

Step 2.Connect the heatbed and the aluminum plate to the acrylic plate with 4 Hex Counter-sunk-head screw with the spring in between.

Step 3. Lock the screw with a wing nut .



For detailed video tutorial, please watch [here.](#)

**16. Assemble the left end of the X axis (motor end)**

For the whole process of assembly of this part, please refer [here.](#)

**16. 1. Mount the Z-axis nut, linear bearing**

Part name	Part ID	Required number	pic
Z-axis nut	No.16	1	
X-axis motor end	No.M1	1	

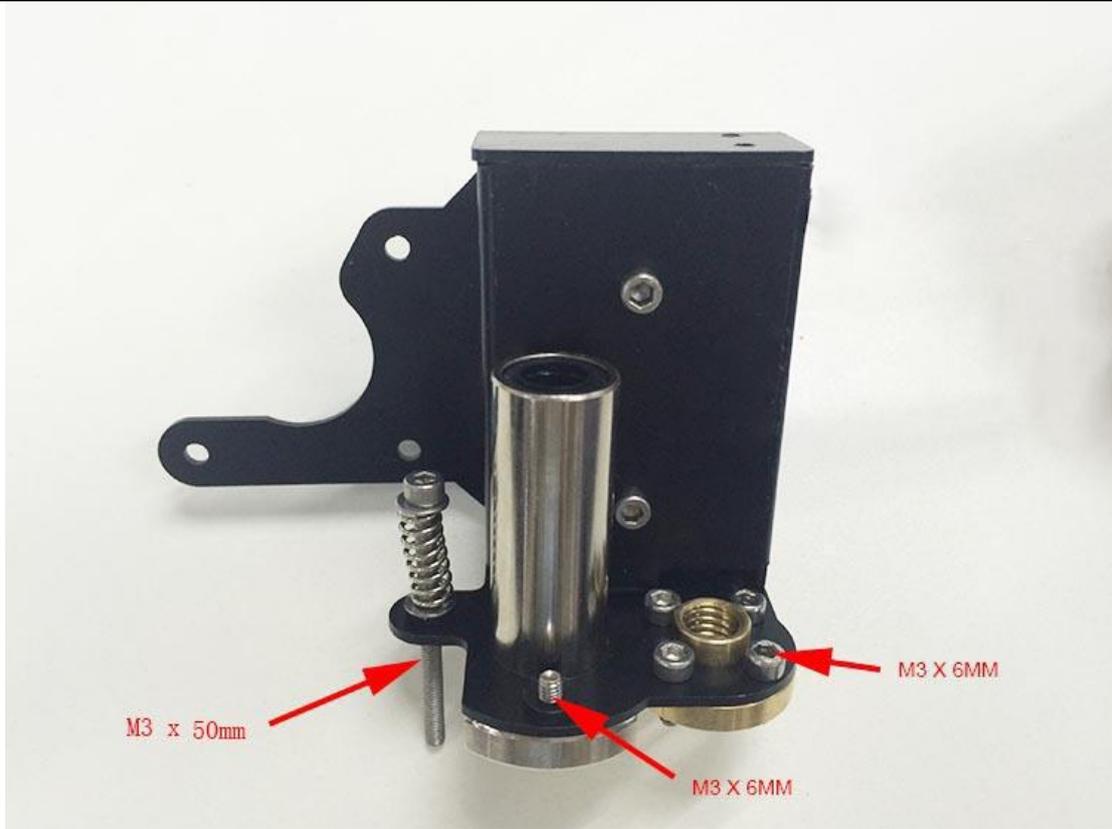
Linear Bearing LMH8LUU	No. 41	1	
M3 x 50 screw	No.31	1	
M3 x 6mm screw	No. 22	8	
M3 washer	No. 7	2	
Spring	No. 36	1	

Step1. Mount the Z nut on the X-axis left end from bottom to up, fix with M3 x 6mm screws.

Step2. Mount the linear bearing on X-axis motor end from bottom to up. Fix it up with M3 x 6mm screws .

### 16.2 Mount the endstop trigger.

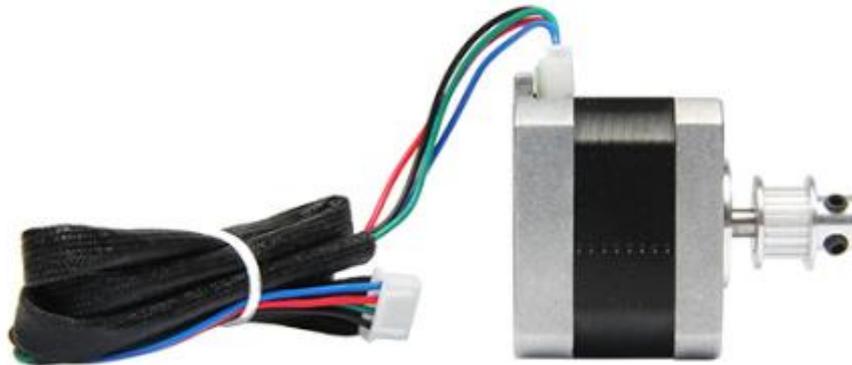
1. Thread a M3 washer> spring> M3 washer in order to the M3x50mm screw.
2. Thread half of the M3x50mm screw into the screw hole.



**16. 3 mount the X motor.**

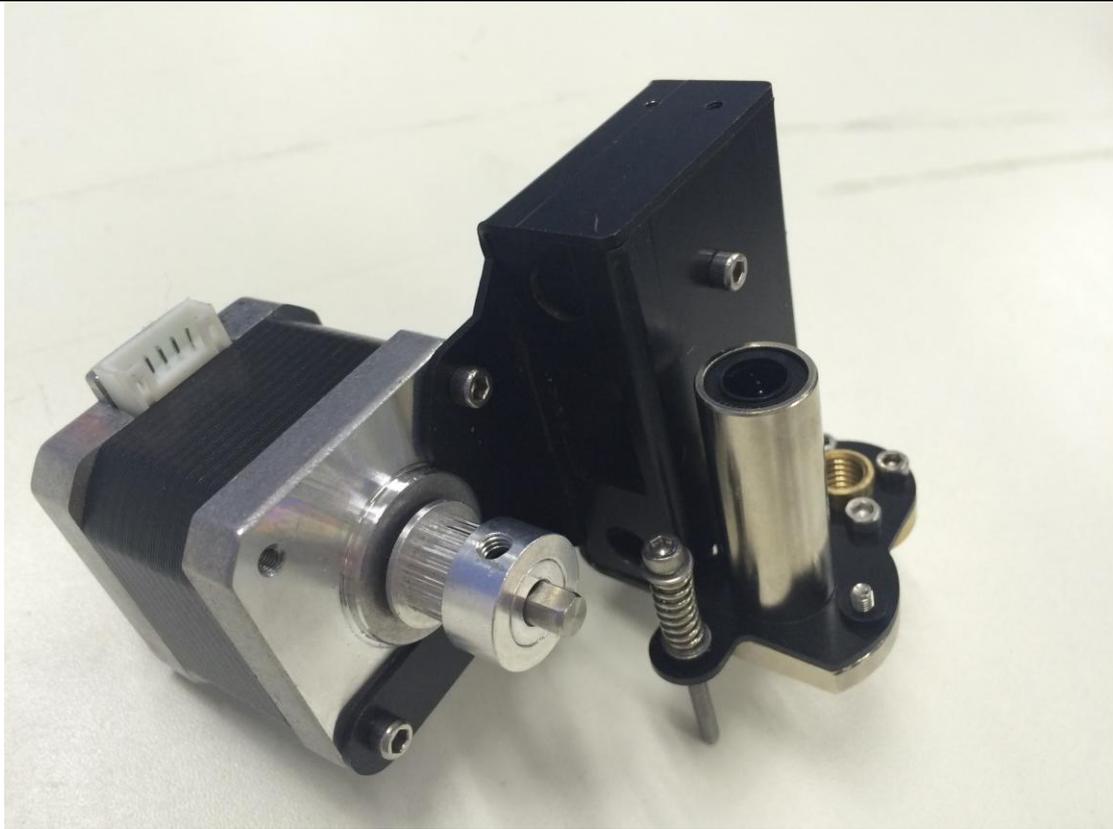
Part name	Part ID	Required number	pic
M3 x 6 mm screw	No. 22	3	
Stepper motor	No.65	1	
Pulley	No.45	1	

Step 1. Mount the pulley on the motor shaft. Screw it on the flat side.



Step 2. Mount the stepper motor on the motor end with 3 M3 x 6 mm screw.





#### 16.4 Mount the endstop

Part name	Part ID	Required number	pic
M2.5 x 8 mm screw	No. 20	2	
End stop	No.54	1	

Mount the endstop on the top of X-axis motor end with two M2.5 x 8mm screw.



**17. Assemble the right end of the X axis. (X idler end)**

For the whole process of assembly of this part, please refer to the [video](#) here.

<b>Part name</b>	<b>Part ID</b>	<b>Required number</b>	<b>pic</b>
Z-axis nut	No.16	1	
X-axis idle end	No.M2	1	
Linear Bearing LMH8LUU	No. 41	1	
M3 x 6mm screw	No. 22	8	

Step1. Mount the Z axis nut on the bottom of X-axis right end with 4 M3 x 6mm screws.

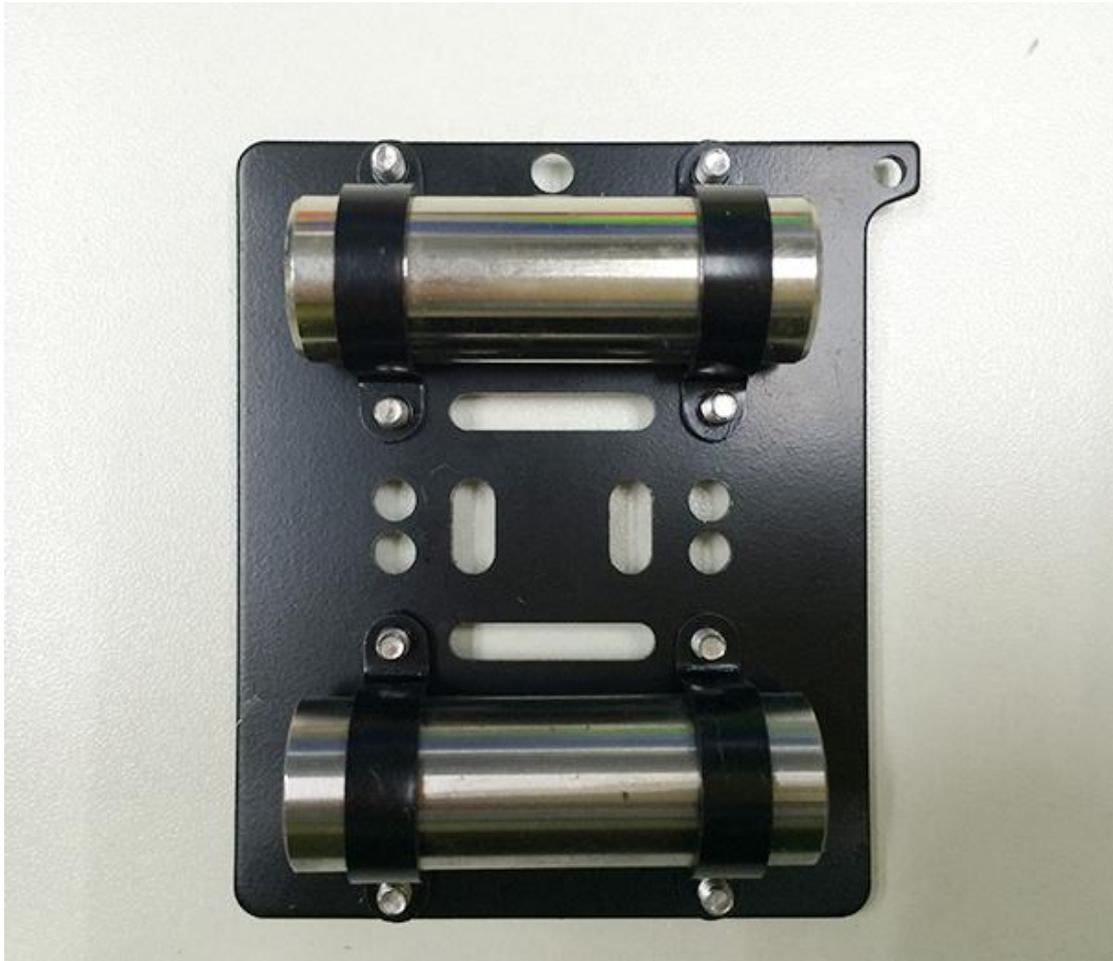
Step2. Mount the linear bearing on X-axis motor end from bottom to up. Fix it up with M3 x 6mm screws .



### 18. Assembly of the extruder carriage

Part name	Part ID	Required number	pic
X Carriage	No.M3	1	
Bearing Bracket	No.M4	4	
Extruder holder	No.M5	1	
Linear Bearing LM8LUU	No.40	2	
Belt bracket	No.47	1	
M3x6mm screw	No. 22	8	
M3x12mm screw	No. 25	2	
M4x6mm screw	No. 32	2	
M3 nut	No.12	2	

Step1.fix the 4 Bearing Brackets on the back of the X Carriage loosely with M3x6mm screws. Insert the linear bearing into the slot and screw the bracket tightly.

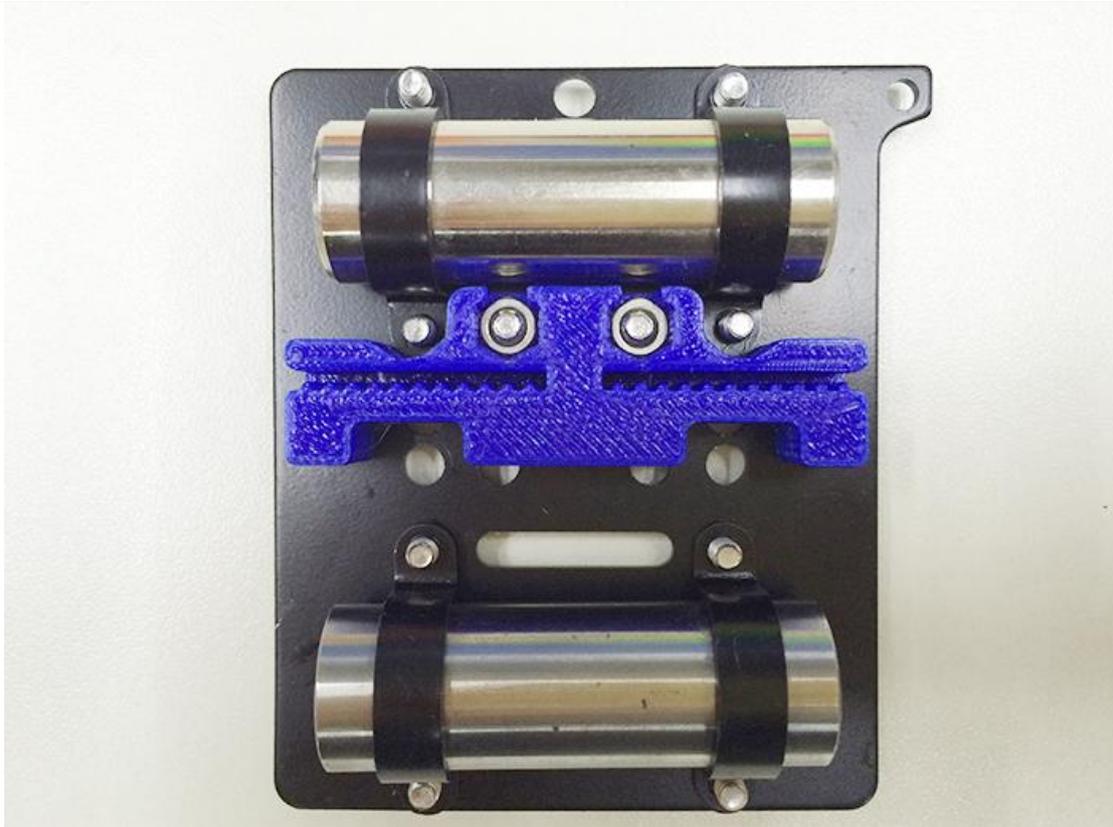




Please notice the front and back of the plate.

The following steps differs from the video, please build based on this manual.

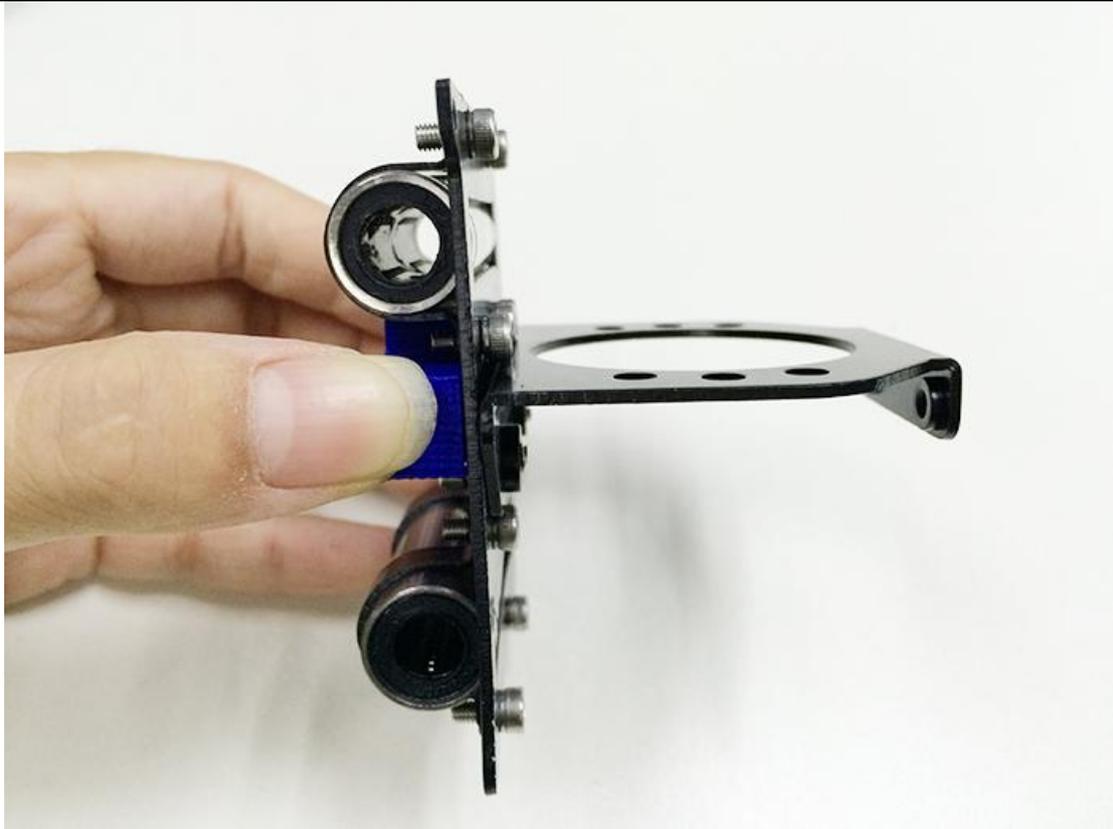
Step2.Fix the belt mount on the back of the carriage with 2 M3x 12mm screws and M3 hex nuts.



Step3. Fix the extruder holder on the front side of the X carriage using M4x6mm screws.







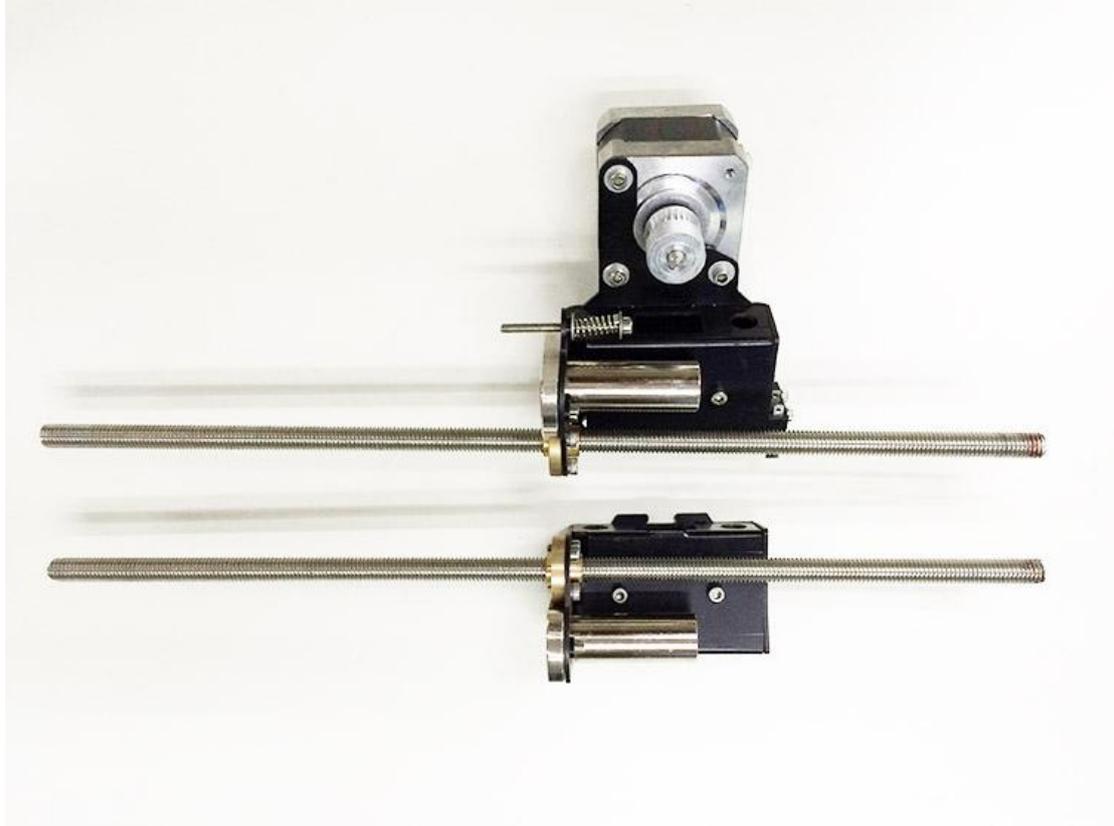
### 19. Assemble the the X&Z axis

Part name	Part ID	Required number	pic
L320mm threaded rod	No.4	2	
L340mm smooth rod	No.1	2	
L470mm smooth rod	No.2	2	
locking ring	No.37	4	

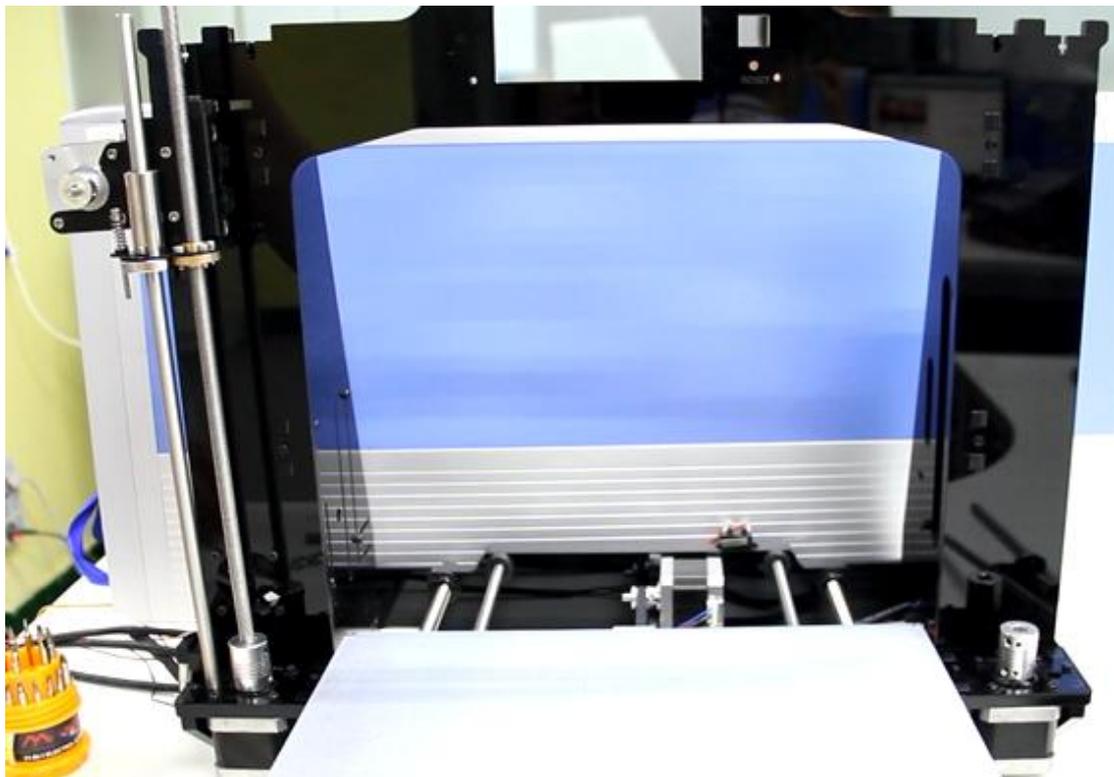
Step1. Thread the threaded rod to the nut of both end of X axis.

Keep both end of X axis at the same place of the rod, you are advised to measure the

distance of the both side so that they are at the same level when you put them up.

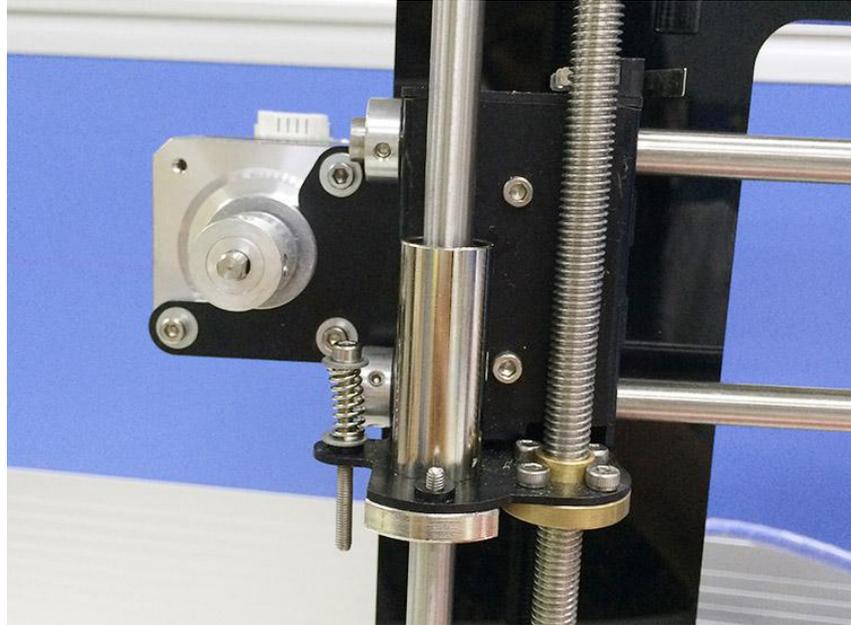


Step2. Plug the threaded rod on the X motor end to the left coupling on the left bottom of the Z axis. Then thread the 340mm smooth rod into the linear bearing.



Step3. Thread the L470mm smooth rod into the X motor end > thread the extruder carriage> thread the locking ring on the two rods.

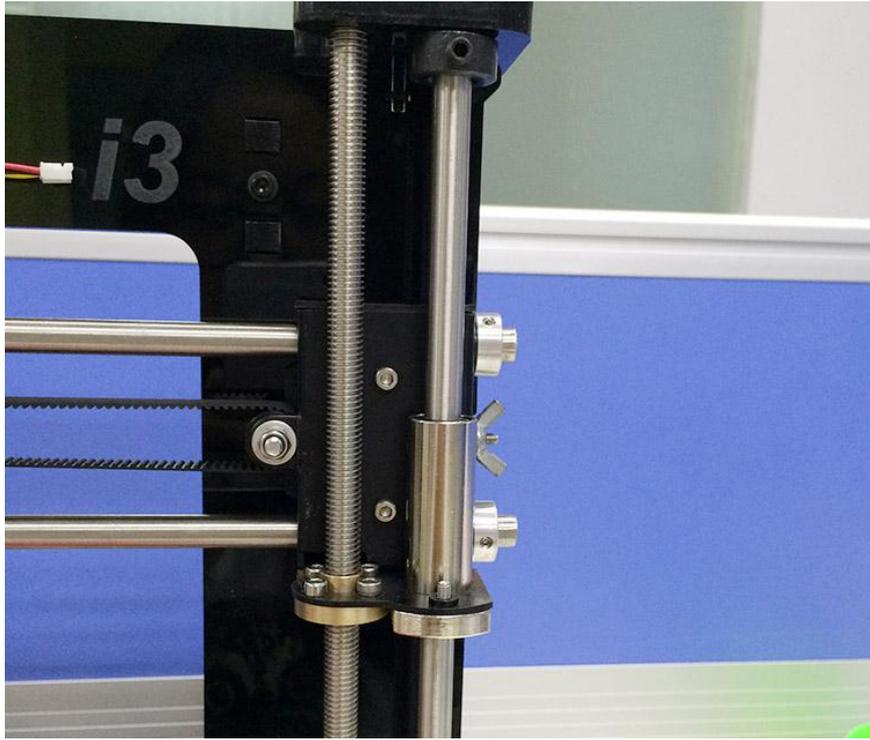
\* Attention please, as a modification on the design, you need to fix the locking ring on the end of the rods, out side the carriages.



Step 4. Thread the two X axis smooth rods into the hole of X idler end.

Step 5. Plug the vertical threaded rod into the coupling on the right bottom of the Z axis. Then thread the 340mm smooth rod into the linear bearing.

Step 6. Add another two locking rings on the end of smooth rod and screw up the 4 locking rings.



Note: the smooth rods and the threaded rod of Z axis is **vertical**, and the X axis is **horizontal**, which is very important, or it will hinder the move of the Z axis.

Watch [video here](#)

(the location of the locking ring is different in the video, please assemble referring to this manual)

## 20. Assemble the Z axis top mount

Part name	Part ID	Required number	pic
Z top mount	No.A8	2	
M3 x 16mm screw	No.26	6	
M3 Square nut	No.17	6	

locking ring	No.37	2	
M3 washer	No. 7	6	

Step1. Put the locking ring on the two smooth rods separately.

Step 2. Add the Z top mount (No.A8) to the top of A1. slowly rotate the rods into the holes, or add some lubricants on the rods. Do not force it, or u will break the acrylic piece.

Step 3. Screw it up with M3 x 16mm screw and M3 Square nut.

Step4. Screw up the locking ring on smooth rods.

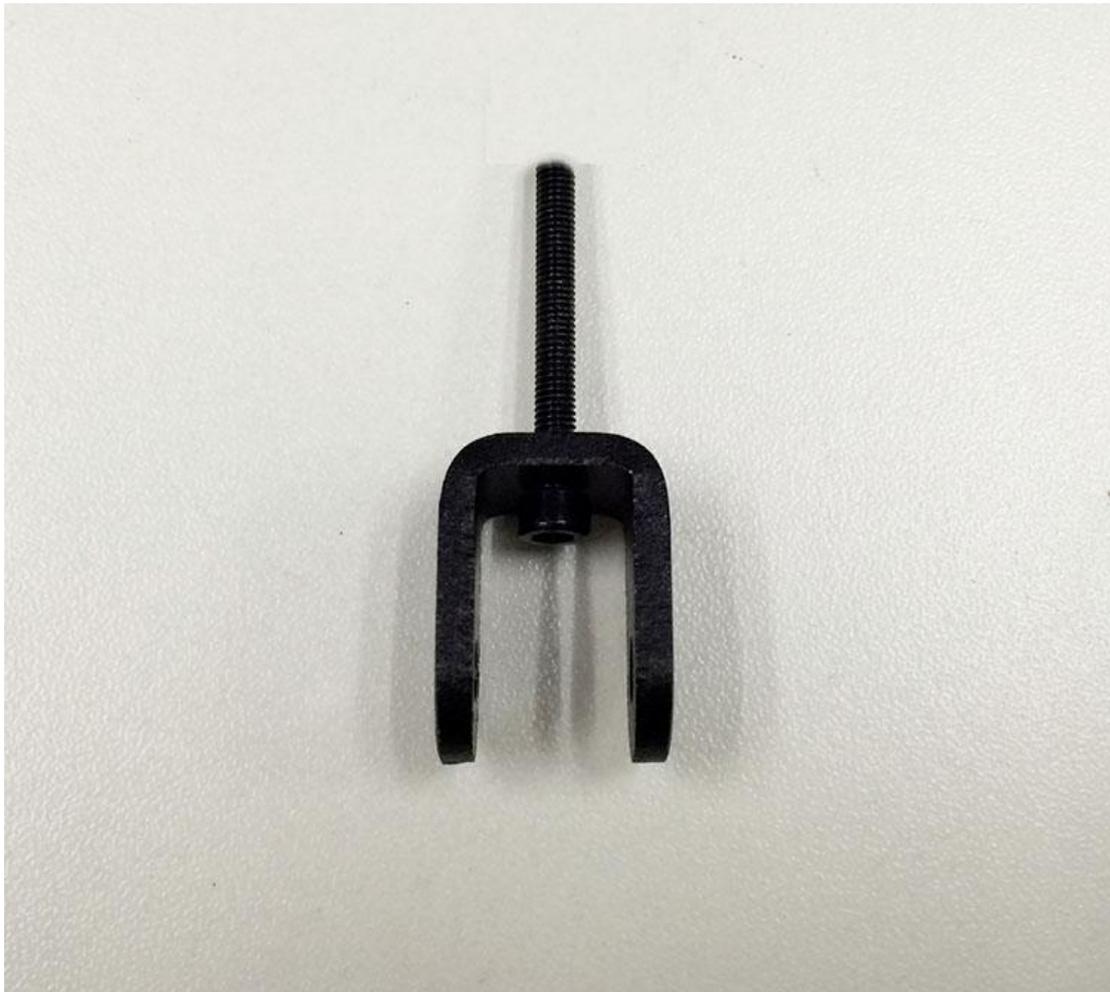
Watch the video [here](#).

## 21. X belt driving wheel

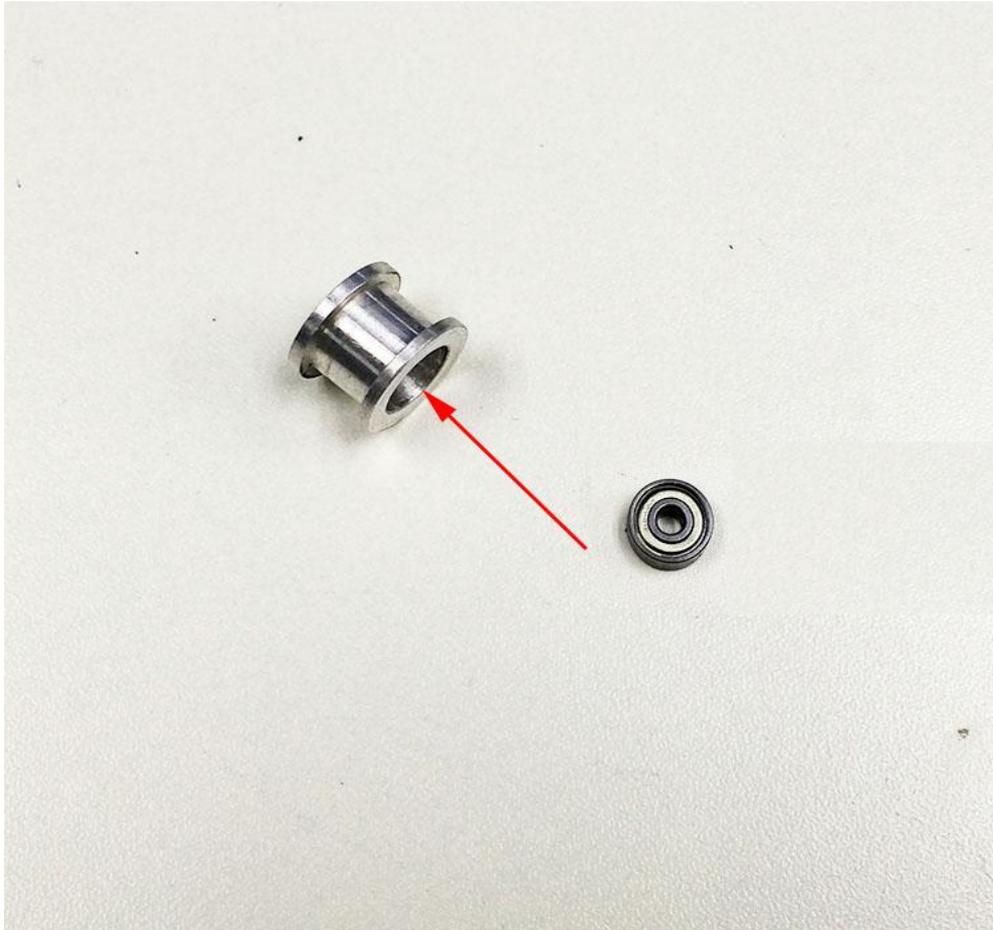
Part name	Part ID	Required number	pic
Driven wheel holder	No.42	1	
Driven wheel	No.43	1	
MR84zz Ball Bearing	No.44	2	
M3 x40mm screw	No.30	1	
M4 x 25mm screw	No.35	1	
M3 washer	No.7	1	

M4 washer	No.8	1	
M4 lock nut	No.14	1	
wing nut	No.15	1	

Step1. Thread the M3 x 40 screw and M3 washer through the Driven wheel holder .



Step2. Insert the two MR84zz ball bearings into both ends of the driving wheel.



Step3. Put the M4 x25 screw and M4 washer through the driving wheel. Lock the other end with a M4 lock nut . You may need a wrench to tighten locking nut.





**\*Do not screw it too tight, you should leave enough room for the wheel to turn freely.**

[Video](#)

## 22. Add the belt

Part name	Part ID	Required number	pic
Timing belt	No.46	1	
Belt bracket	No.47	1	

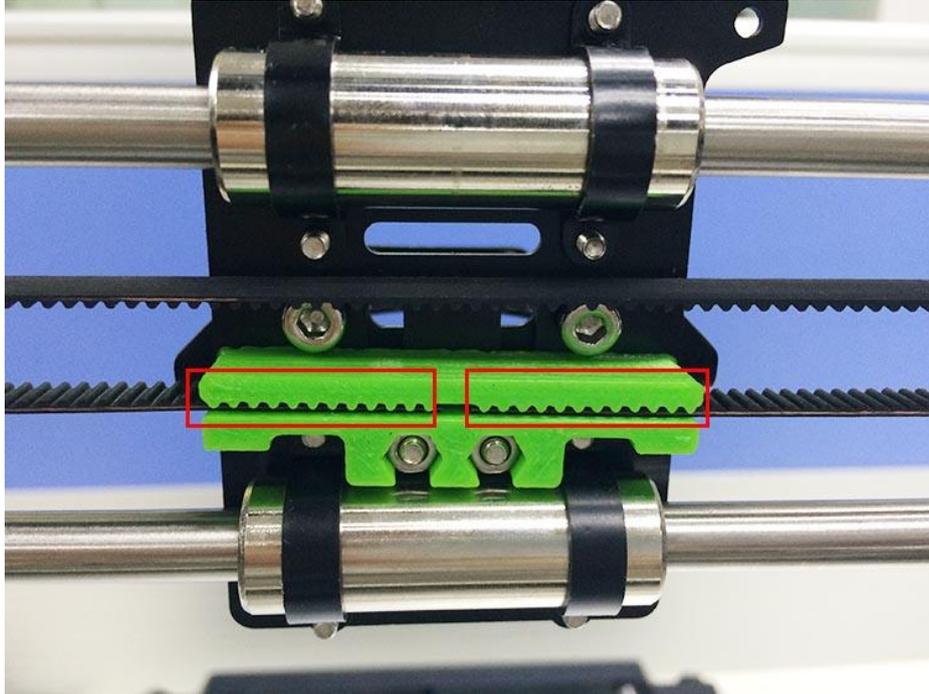
Step1. Insert one end of the belt in the groove. Pay attention to the tooth mesh of the belt and the groove.

Step2. Thread another end of the belt through the X motor end around the pulley.

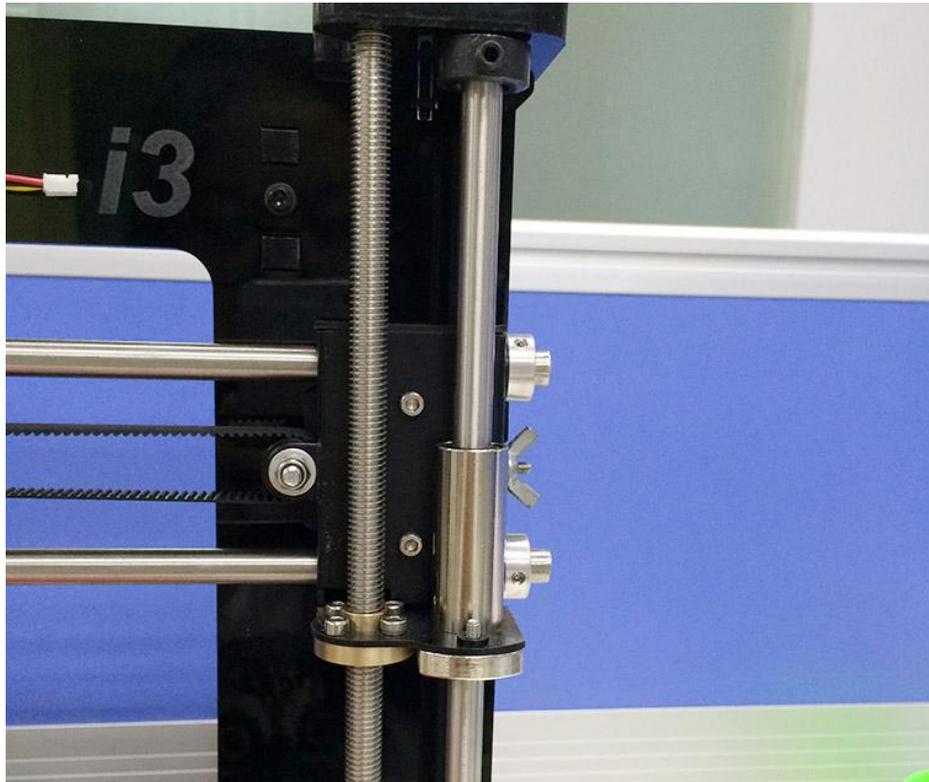
Step3. Threaded the belt through the belt driving wheel and put the driving wheel into the X idler end, lock it with a wing nut.

Step4. Insert another end of the belt into the groove. Cut the spare part. Be sure of the length of the belt.

Step5. Taut the belt and tighten the wing nut on the idle end.



Tighten the locking rings.



\*Note the direction of the bolt on the driving wheel, the side with bolt head should be towards the A1, and the side with pitch facing out, or it will scratch the acrylic plate.

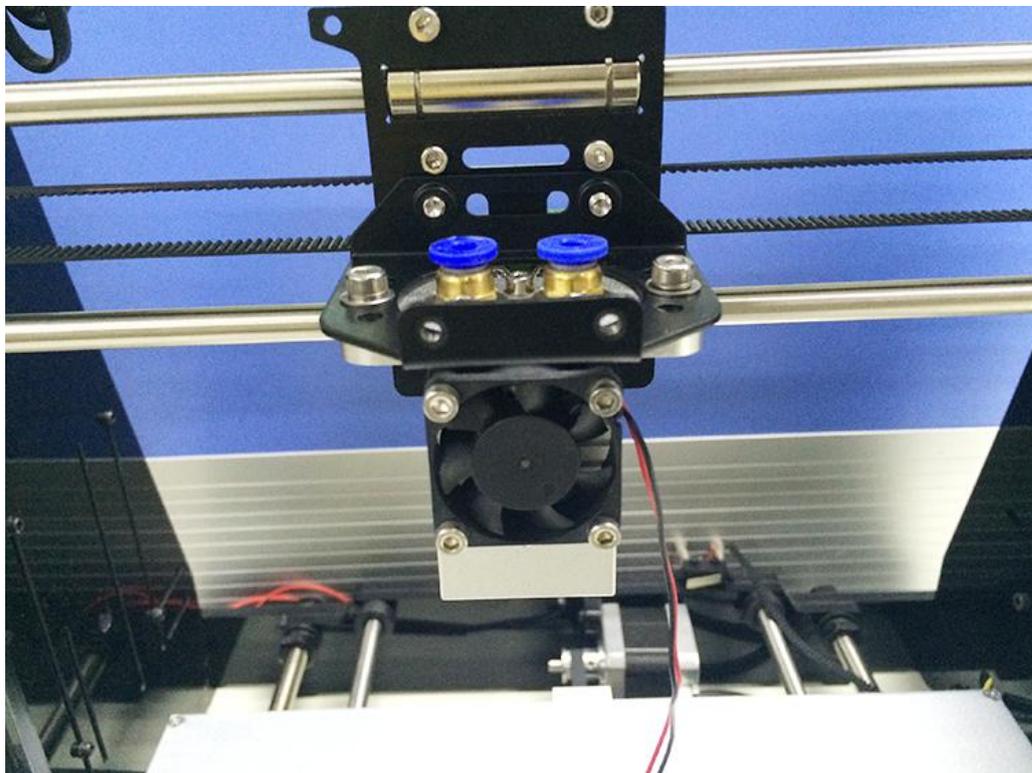
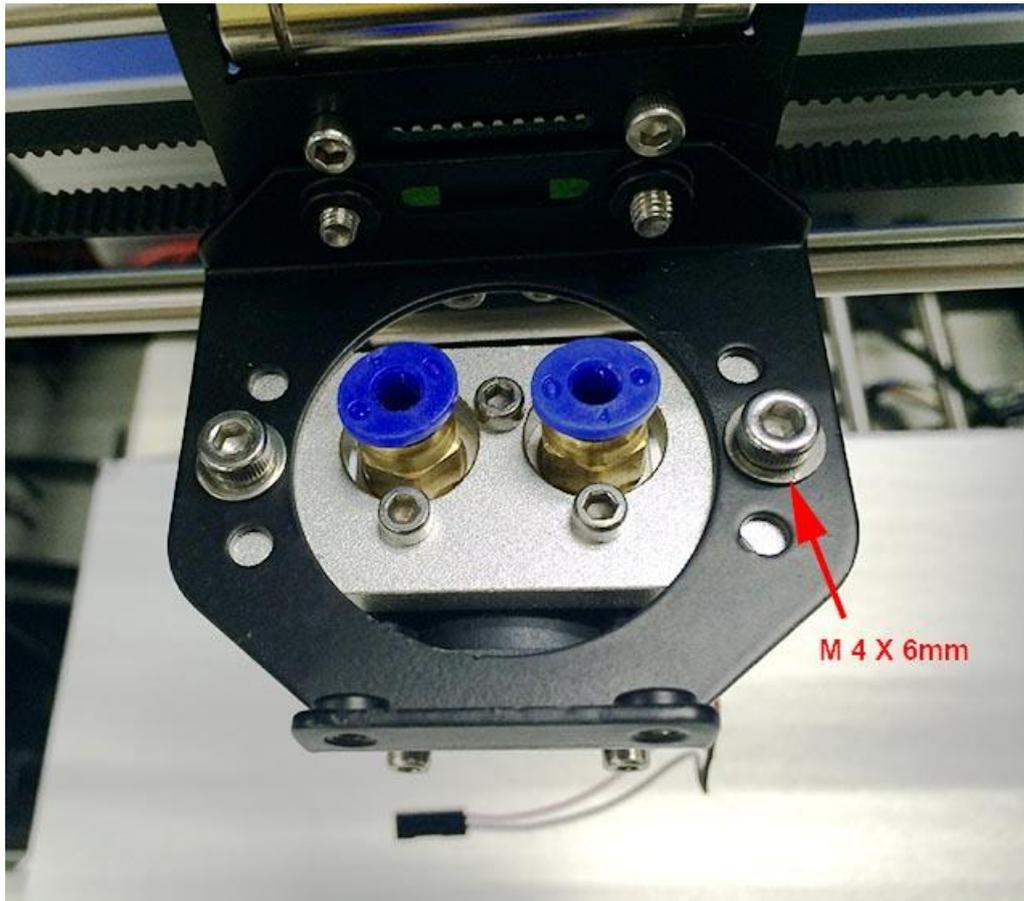
[Video](#)

(the location of the locking ring is different in the video, please assemble referring to this manual)

### 23. Mount the hotend

Part name	Part ID	Required number	pic
Hotend	No.66	1	
M4x6mm screw	No. 32	2	
M4 washer	No.8	1	

Mount the hot end on the extruder holder plate from bottom to up with 2 M4x6mm screws and M4 washers.

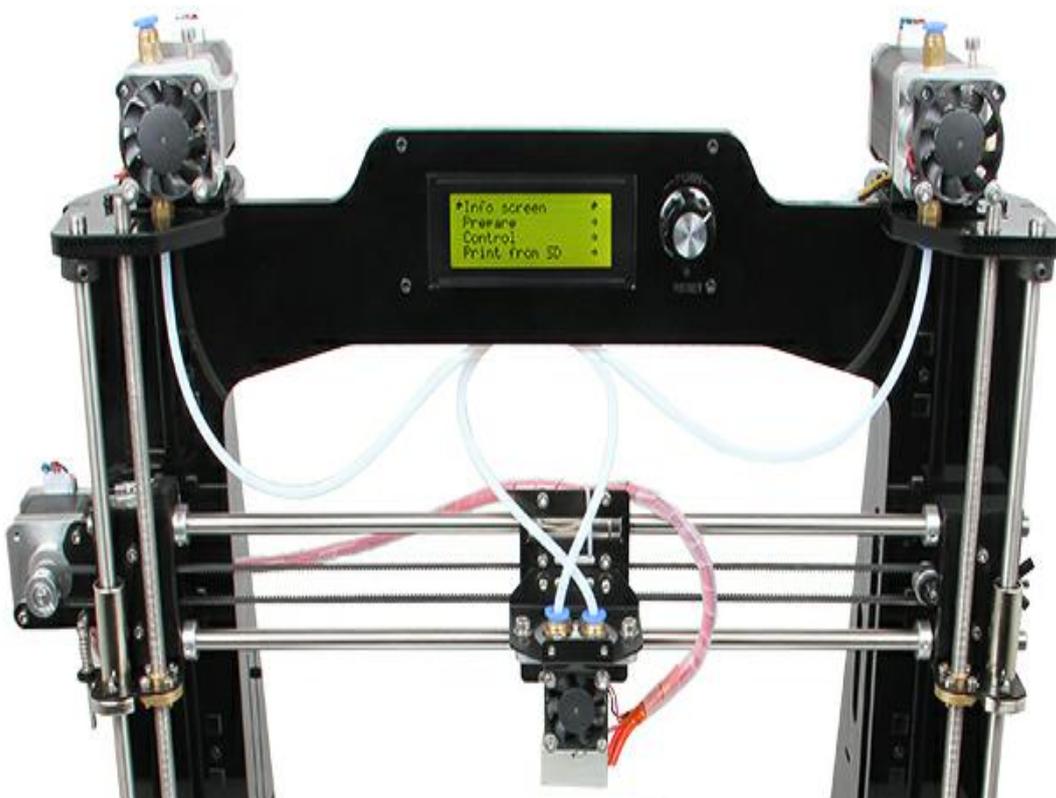


[Video](#) (Note the extruder holder should be upside down.)

### 24. Mount the extruders

Part name	Part ID	Required number	pic
Extruder	No.60	2	
M4x12mm screw	No.33	8	
M4 washer	No.8	8	

Mount the extruders on top of the main frame with M4x12mm screws.



[Video](#)

### 25. Mount the LCD panel

Part name	Part ID	Required number	pic
LCD 2004	No.67	1	
Knob	No.50	1	
Spacer	No.49	4	
M3 x 12mm screw	No.25	4	
M3 washer	No.7	1	

Step 1. Insert the spacer into the 4 holes on the LCD panel from front to back.

Step 2. Insert the LCD in the LCD frame on A1, fix it with 4 M3 x 12mm screws and M3 washers .

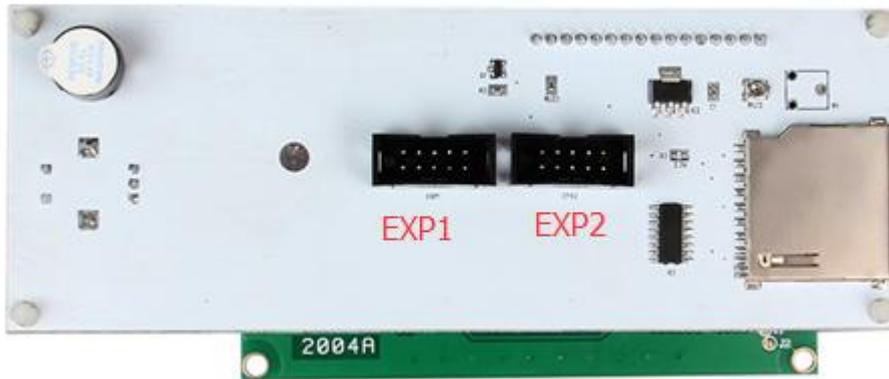
Step 3. Screw up the knob .

**\*Pay attention to the two connectors at the back of the LCD.**

**EXP 1 is for the LCD.**

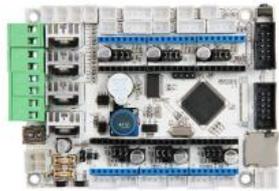
**EXP 2 is the SD card reader.**

**Do not mix them up.**



[Here](#) you can watch the video.

### 26. Mount the control board.

Part name	Part ID	Required number	pic
Control board kit	No.68	1	
Sticker	No.56	1	
Heat sink	No.55	1	
Spacer	No.49	4	
M3 x 12mm screw	No.25	4	
M3 washer	No.7	1	

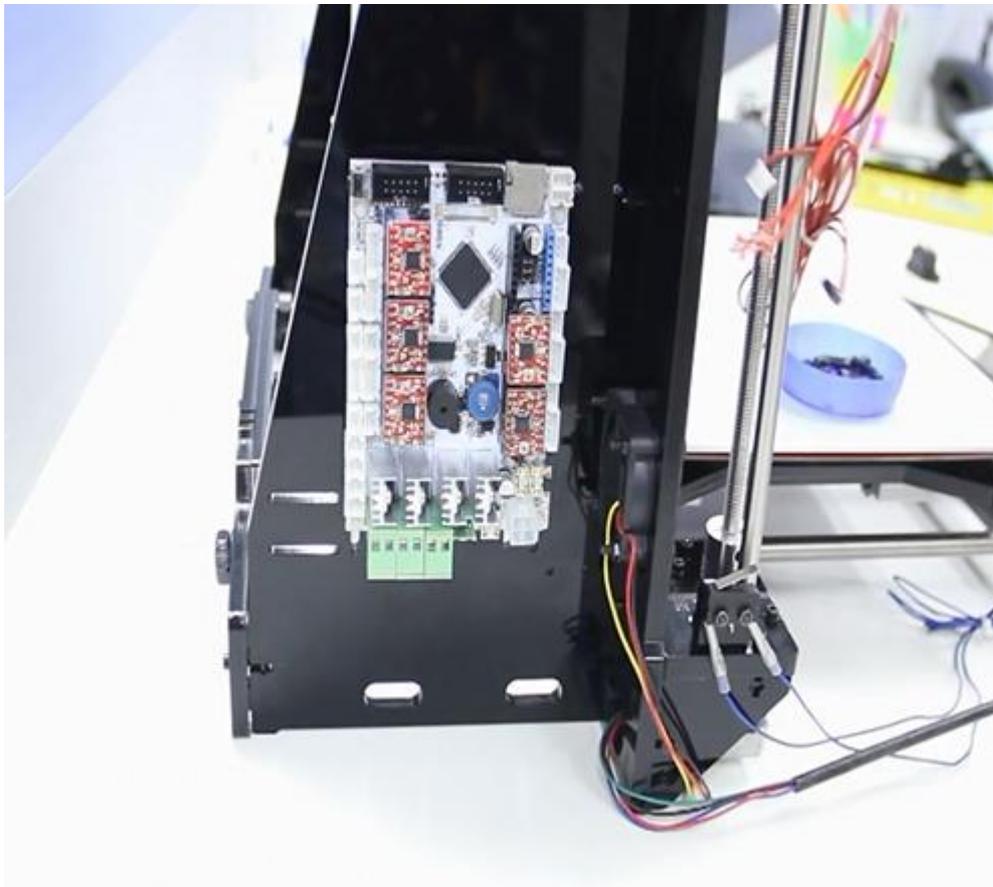
Step 1. Cut the sticker into small pieces.

Step2. Past the heat sink onto the chip of the A4988 drivers(on the main board) . The sticker is double sided adhesive.

Step 3. Insert the spacer into the 4 holes of the board from back to front.

Step 4. Mount the board kit on the left side panel with 4 M3 x 12mm screws and M3 washers .

Note the direction of the board, the green connectors are downwards to got enough heat dissipation from the fan.



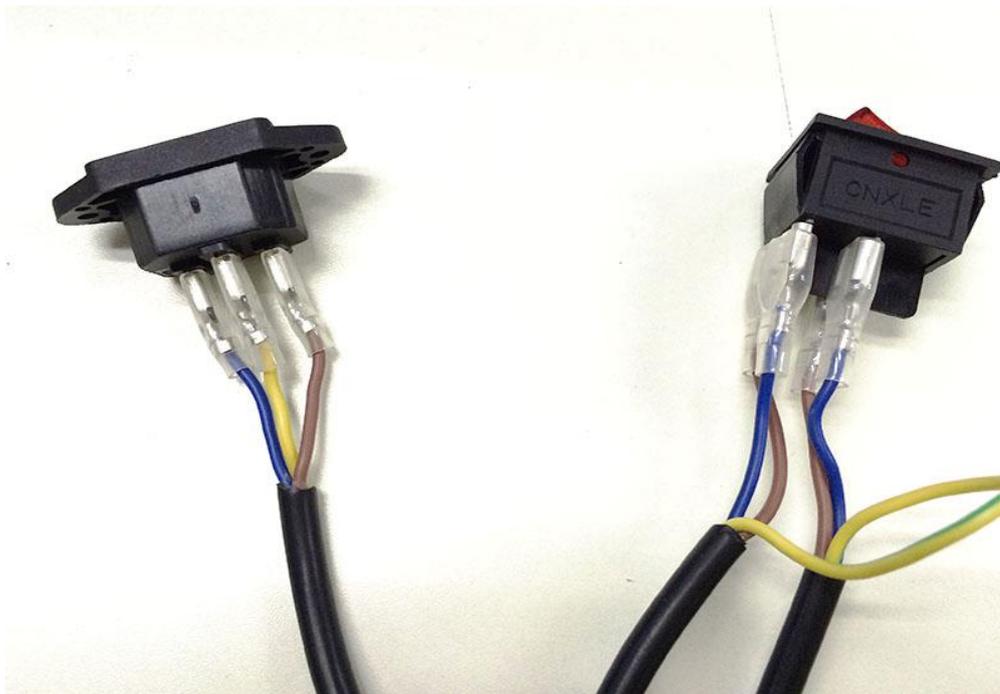
[Here](#) is the video.

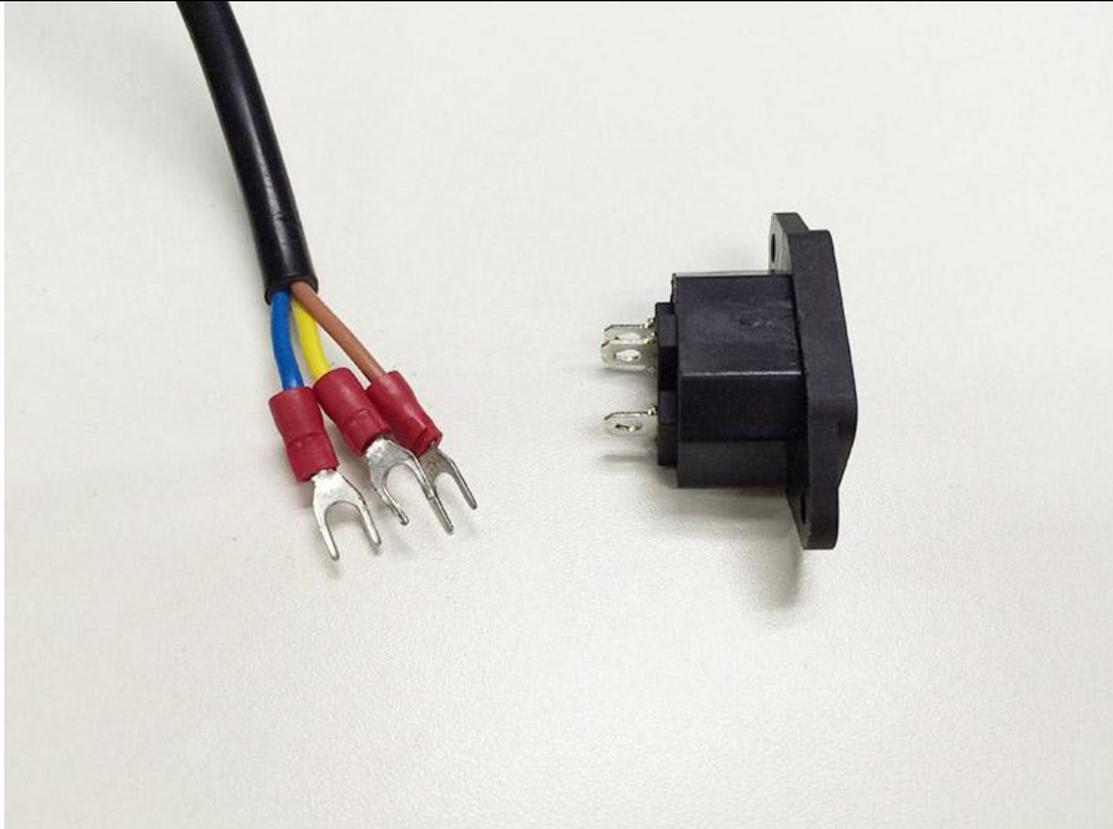
### **27. Mount the power supply unit(PSU ) and the socket.**

<b>Part name</b>	<b>Part ID</b>	<b>Required number</b>	<b>pic</b>
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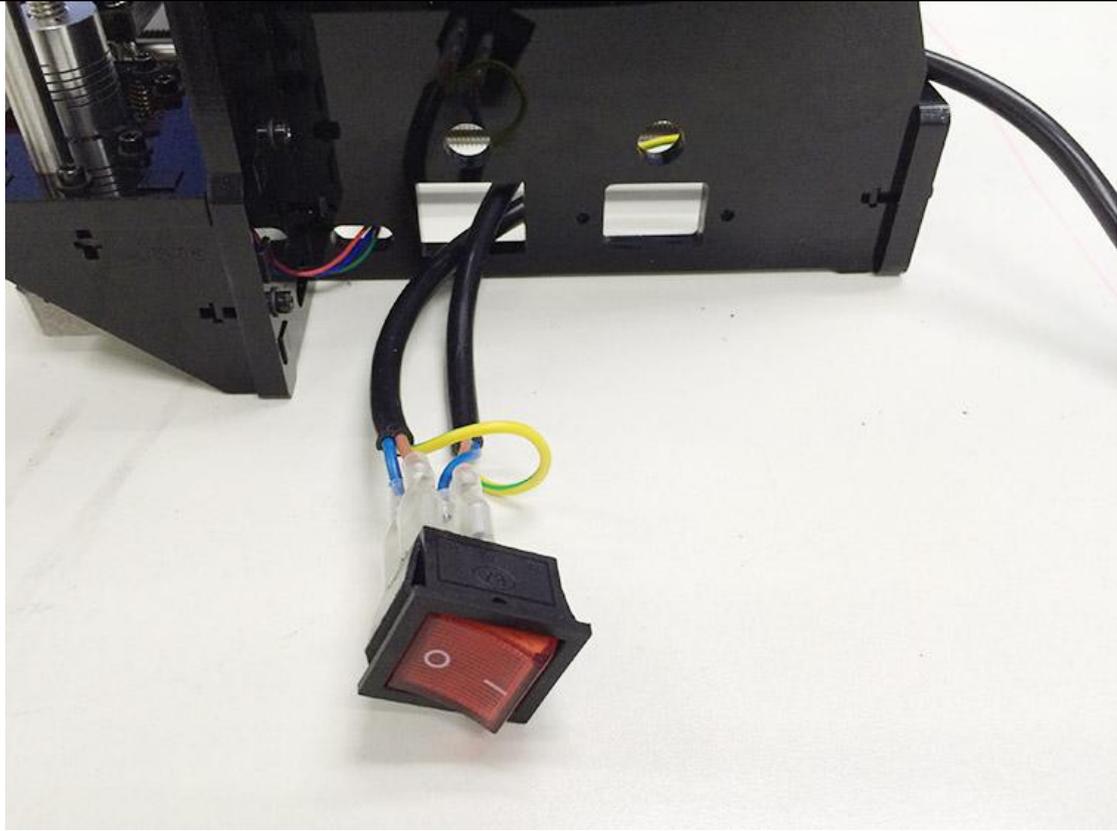
Power supply Unit	No.61	1	
3D Power Cable	No.62	1	
M4 x 12mm screw	No.33	3	
M3 x 16 screw	No.18		
M3 hex nut	No.12	2	
M4 washer	No.8	1	
Power Cable	No.63	1	

Step 1, take off the wires connected to the socket, before you do, please take a photo of the wire connection, in case you connect them wrongly later.



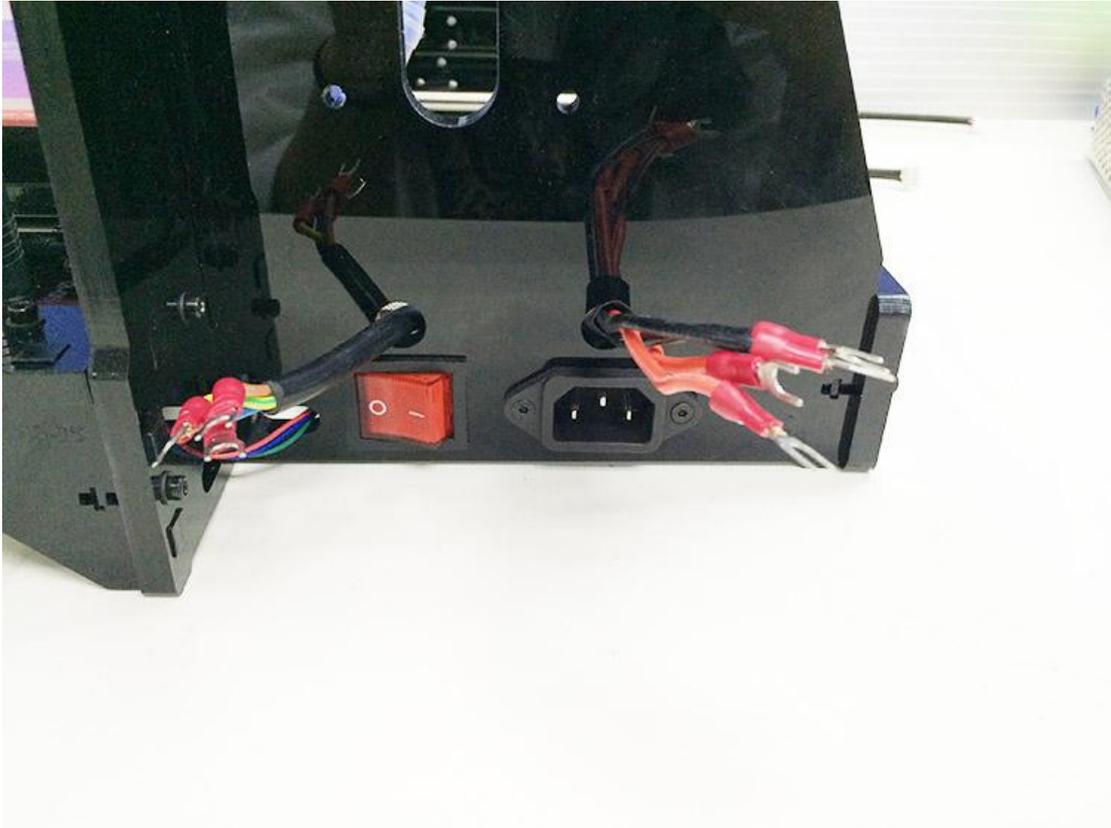


Step 2. Thread the wires that is connected to the red switch through another hole on the bottom of the right side panel( A2) from outside to inside and connect the 3 wires (brown, blue, yellow) to the socket, do not mix them up. Refer to the above picture. Then pull the other wires out.



Step3. Mount the socket on the bottom of the right side panel( A2) with 2 M3 x 16 Hex Counter- sunk-head screws and M3 hex nut .

Step 5. Thread the power cable from inside to outside.



Step4. Mount the PSU on the right side panel with 3 M4 x 12mm screws . And M4 washer.

Step5. Connect the wires to the PSU.

As you can see, there are 7 wires and 9 screws in total.

Note the correspondence between the color of wires and the connector.

Color of wire	connector
<b>Brown</b>	<b>L</b>
<b>Blue</b>	<b>N</b>
<b>Yellow</b>	<b>GND</b>

<b>Red</b>	<b>+ V</b>
<b>Black</b>	<b>COM</b>



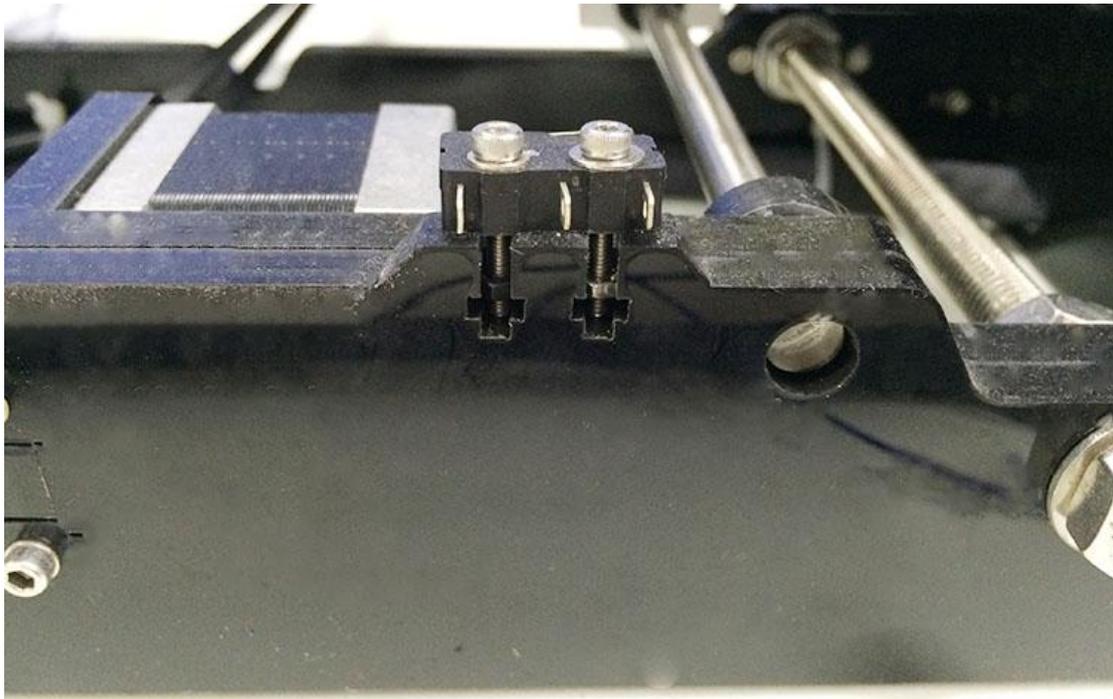
[Video](#)

### 28. Mount the Y endstop

Part name	Part ID	Required number	pic
M2.5 x 16mm screw	No. 21	2	
M2.5 hex nut	No. 11	2	

End stop	No.54	1	
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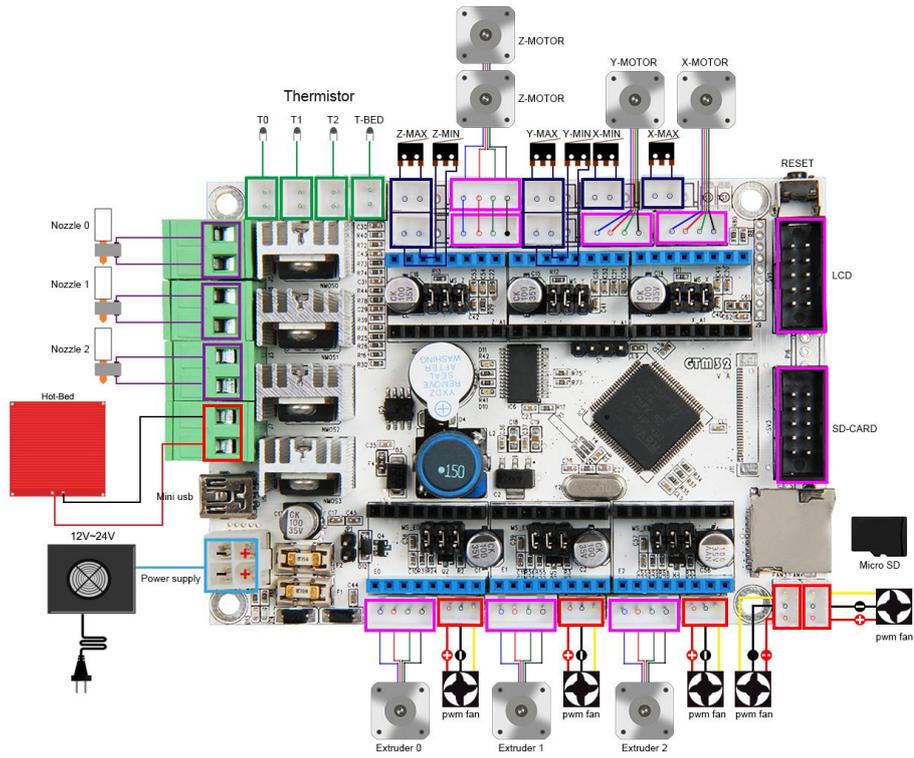
Mount the Y axis endstop on A12 with M2.5 x 16mm screw and M2.5 hex nut



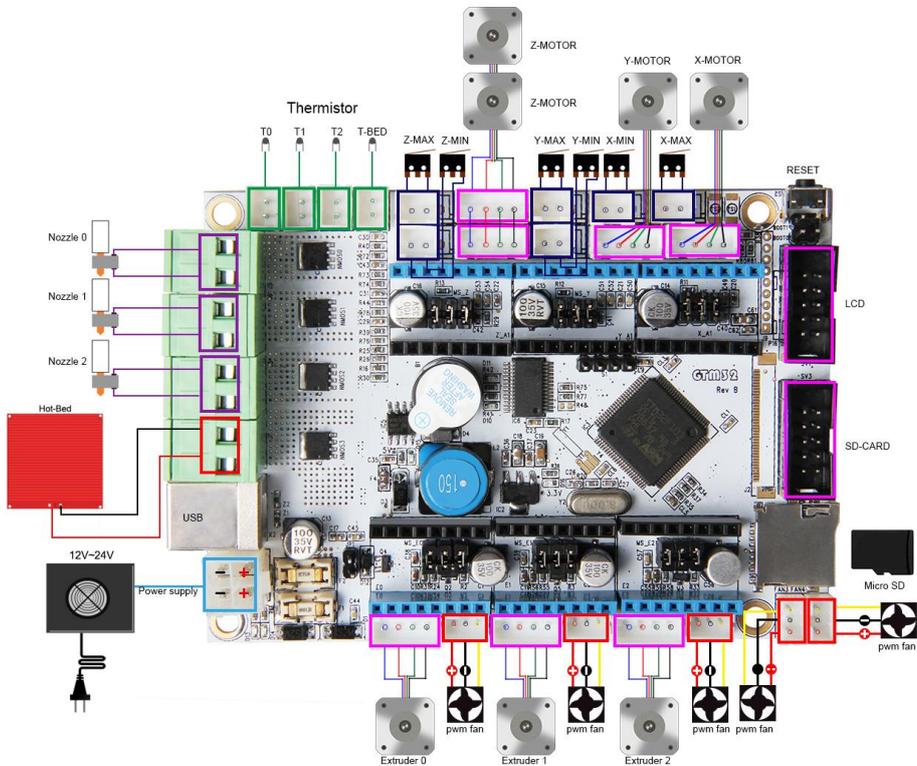
[Video](#)

## 29. Wiring

Before you start wiring, please take a look at the wiring schematics.



Rev A



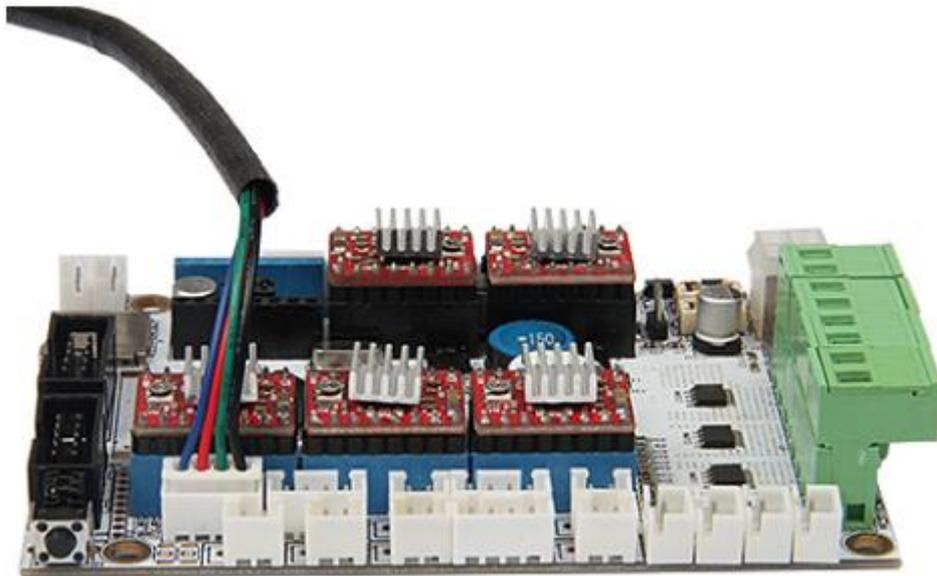
Rev B

Note: The only difference between the Rev A and the Rev B here is the USB port, the layout of other connectors are exactly the same. You can refer to both wiring diagrams.

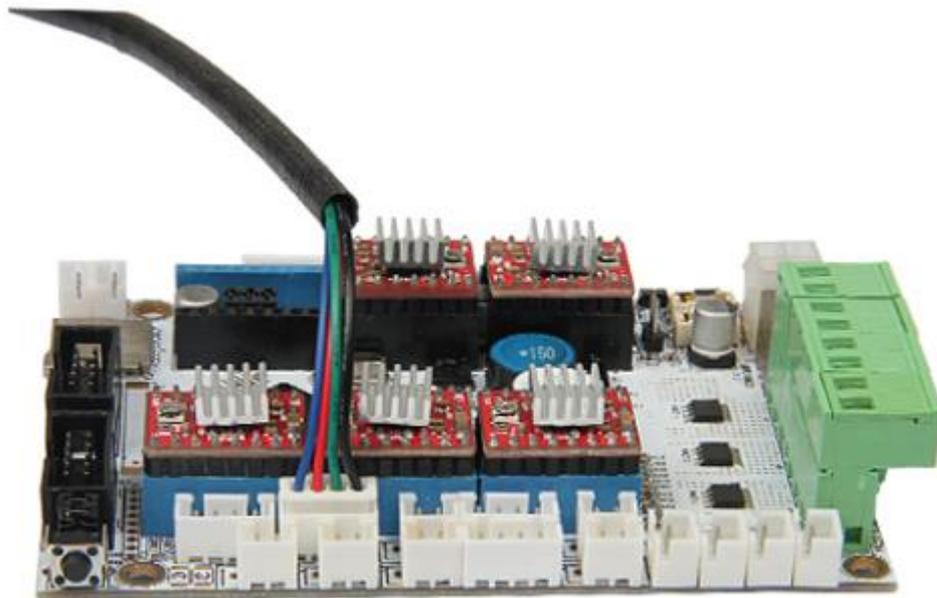
You can see original picture [here](#).

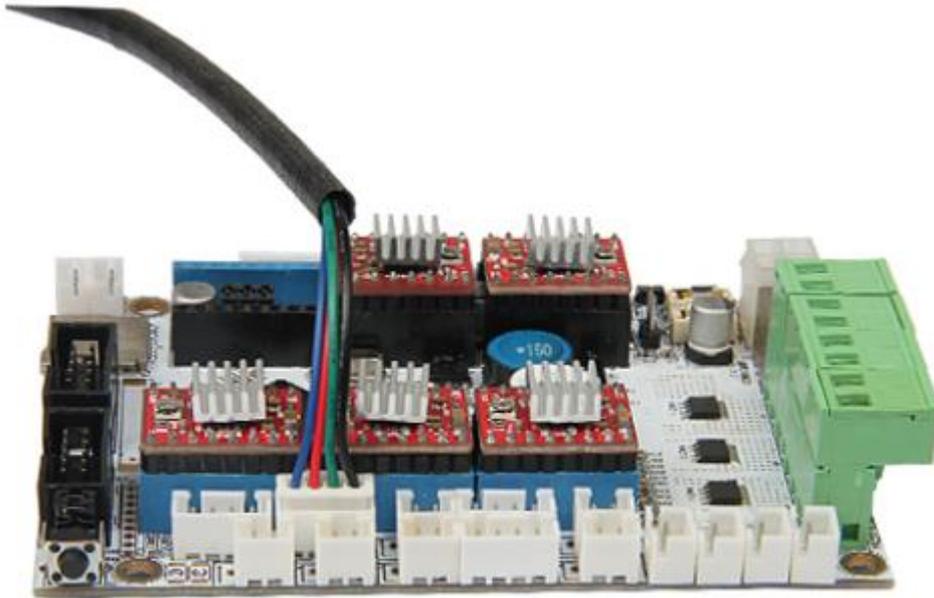
**Step1. Connect wires for motors.**

1) Connect wires for X-axis motor.

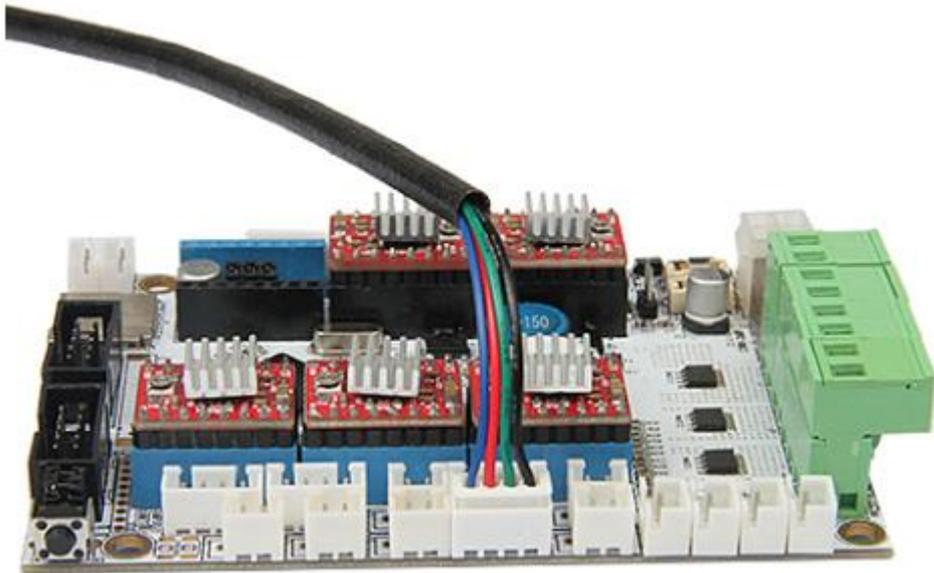


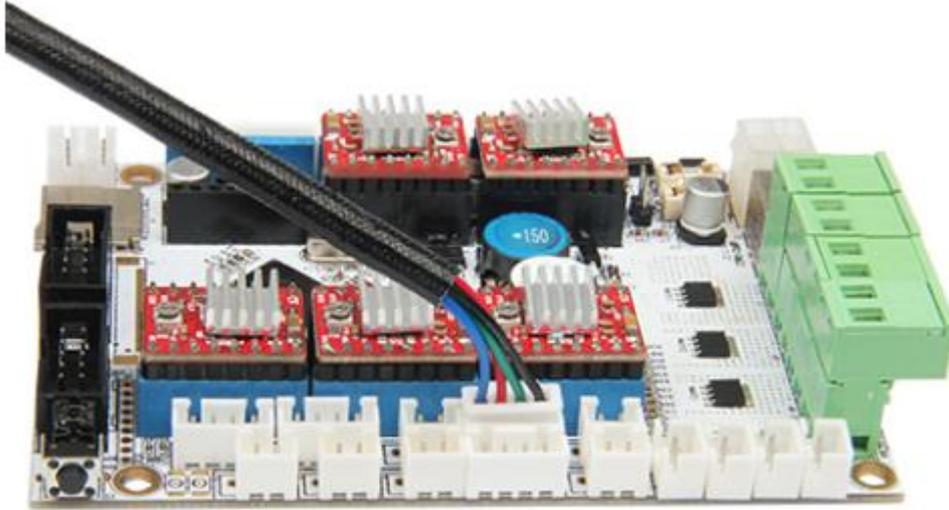
2) Connect wires for Y-axis motor.



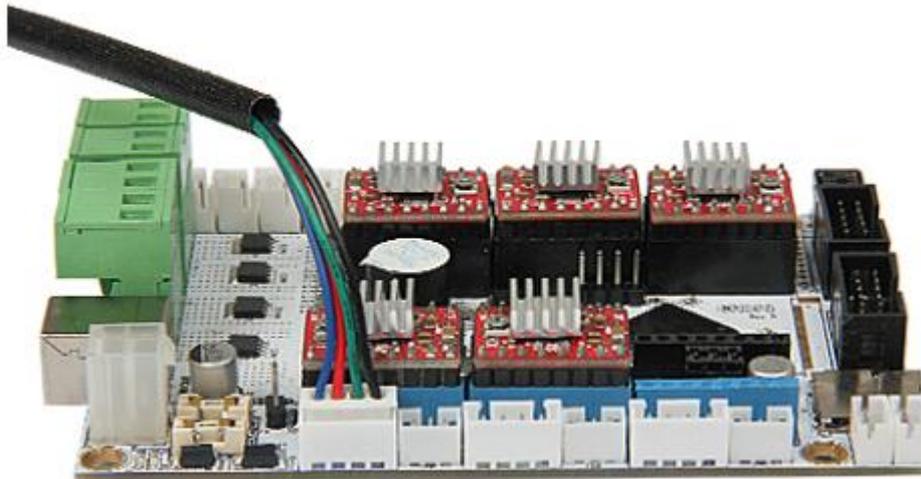


3) Connect wires for the 2 Z-axis motors.

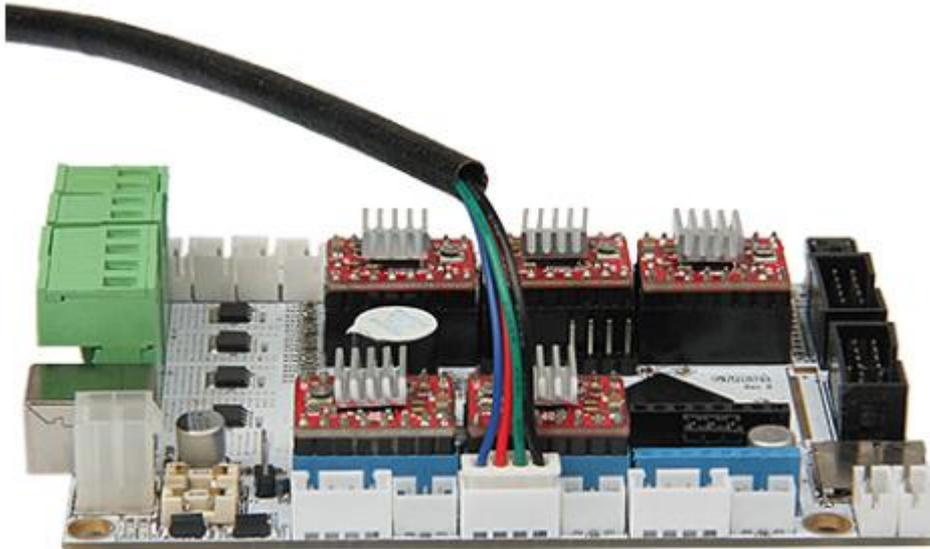




4) Connect Extruder motors. Connect extruder 0.



5) Connect extruder 1

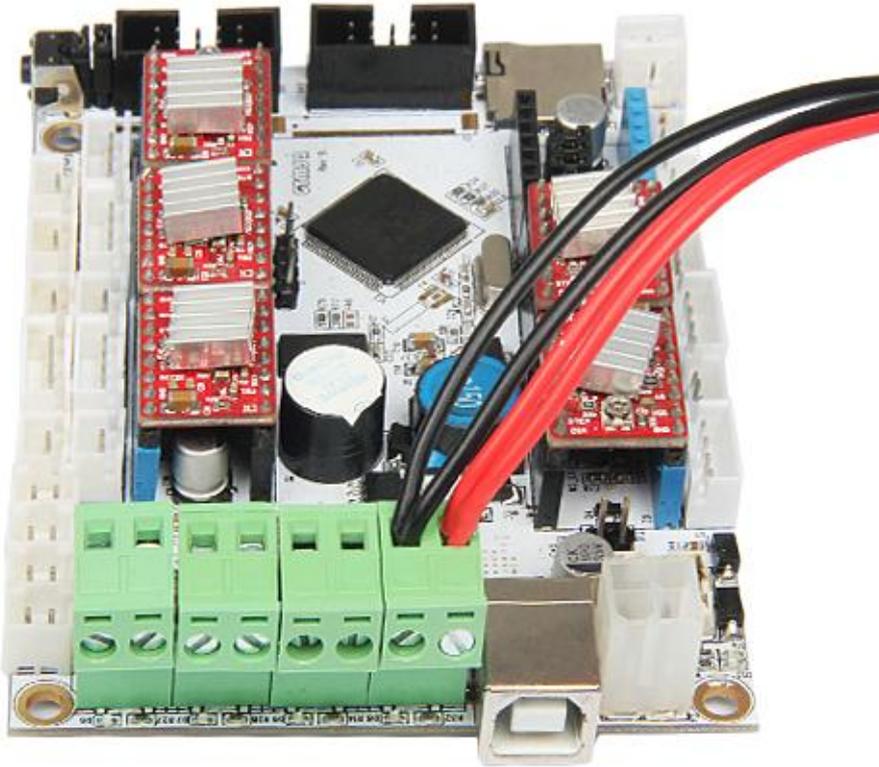


**Step2. Connect heating wires.**

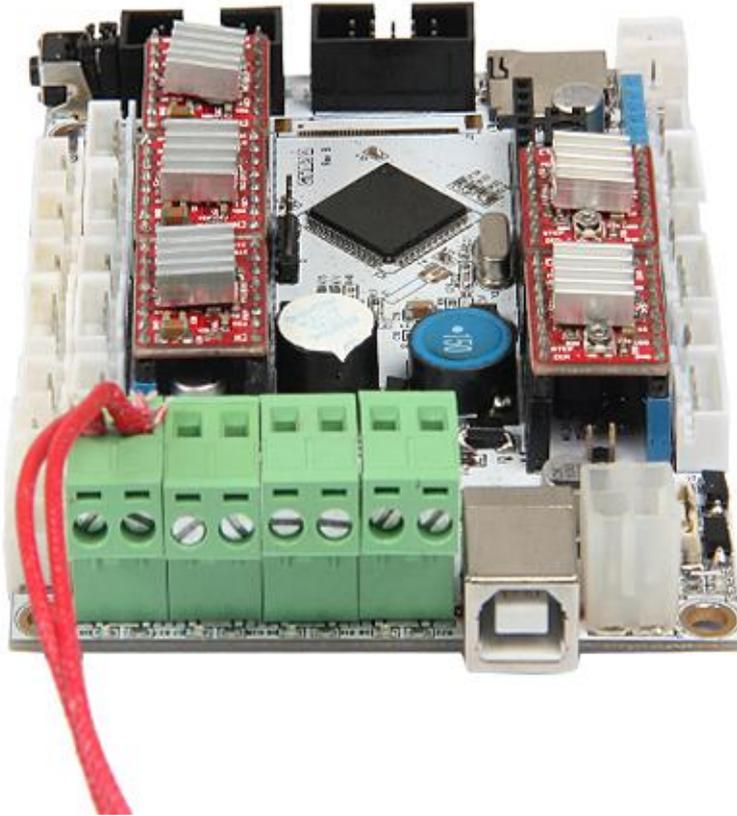
1) Connect heating wires for heatbed.

There are 4 heating wires for the heatbed, 2 black and 2 red, you need to connect the 2 red wires in one screw and the 2 black wires in another.

First loos the screws in the green terminal and put the red and black wires into the slot separately, and screw it up.

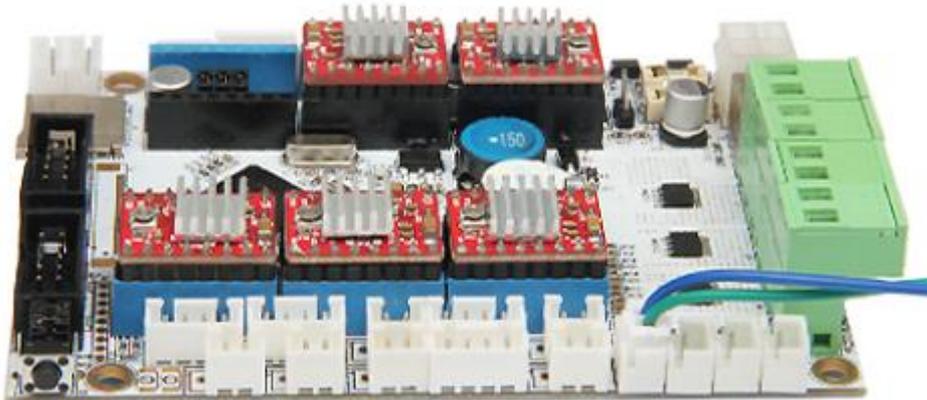


- 2) Connect heating wires for hotend to hotend 0.

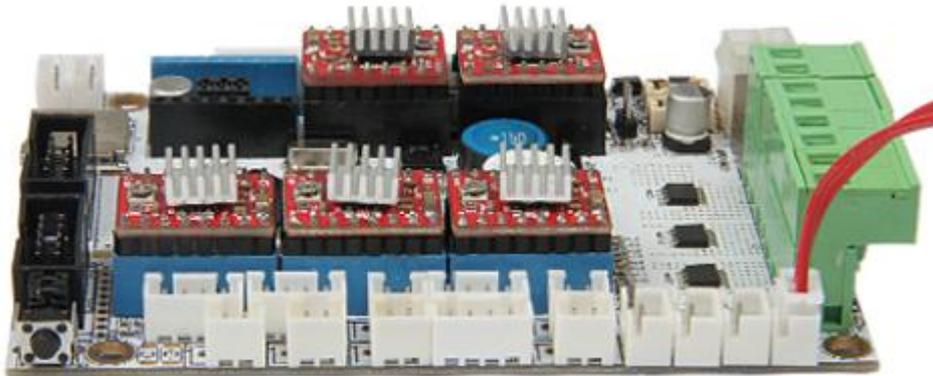


**Step3. Connect wires for thermistor.**

- 1) Connect wires for thermistor of heatbed

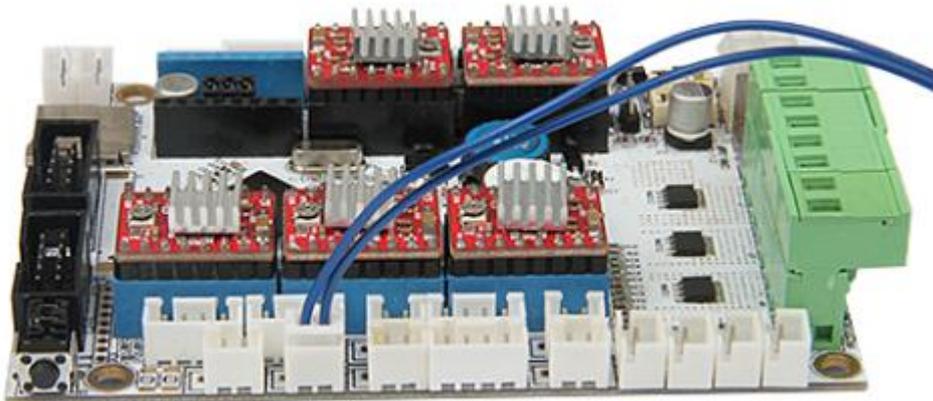


2) Connect wires for thermistor of hotend 0

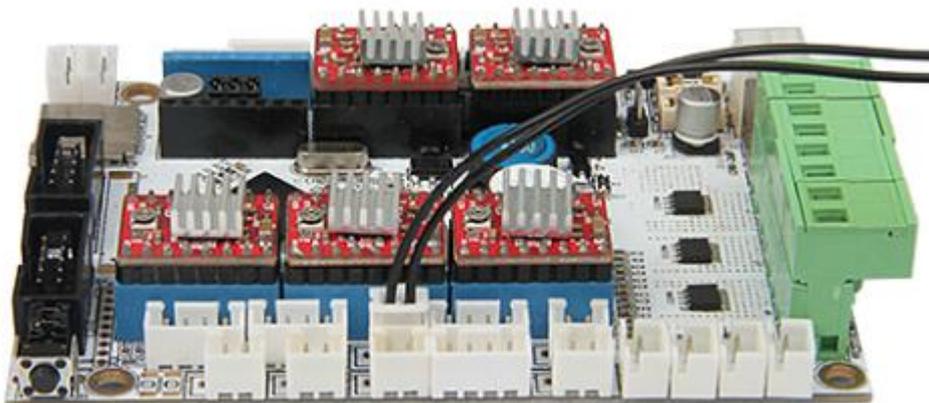


**Step4. Connect wires for endstop.**

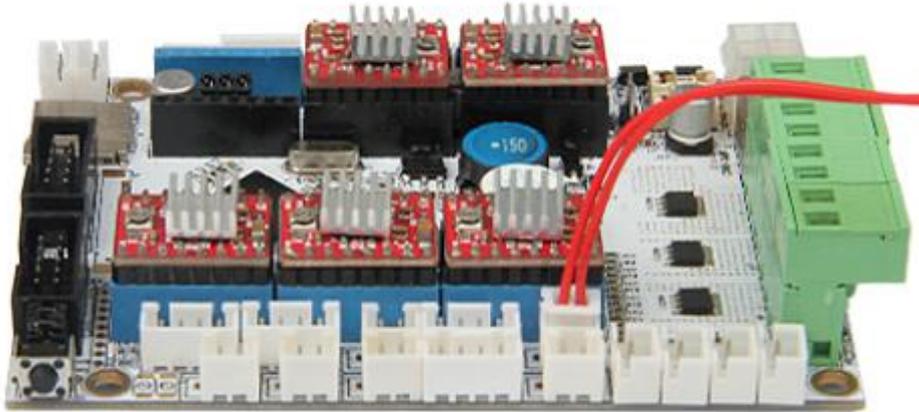
1) Connect wires for endstop of X-axis at X-Min.



2) Connect wires for endstop of Y-axis at Y-Min.

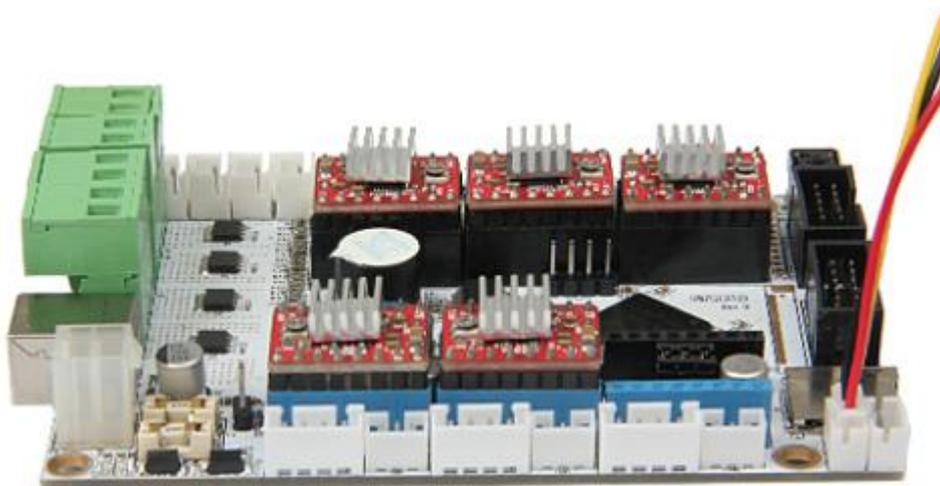


3) Connect wires for endstop of Z-axis at Z-Min.

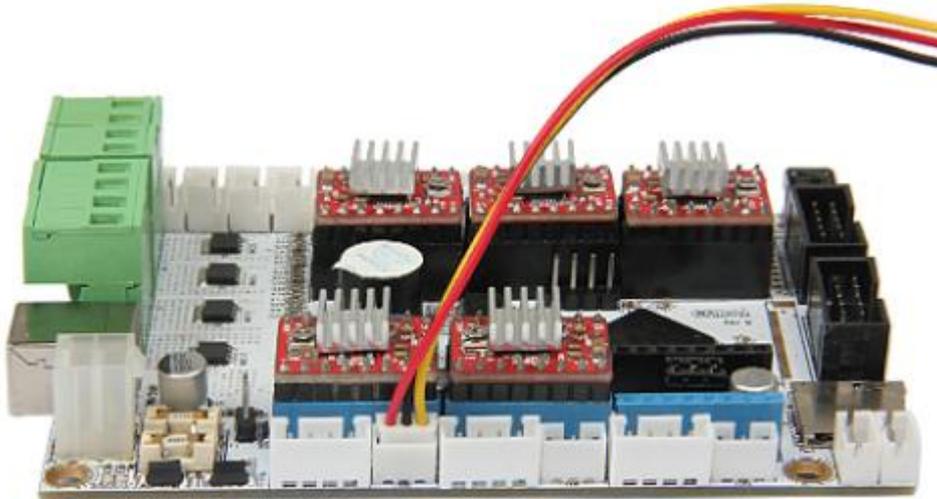


**Step5. Connect wires for Fan.**

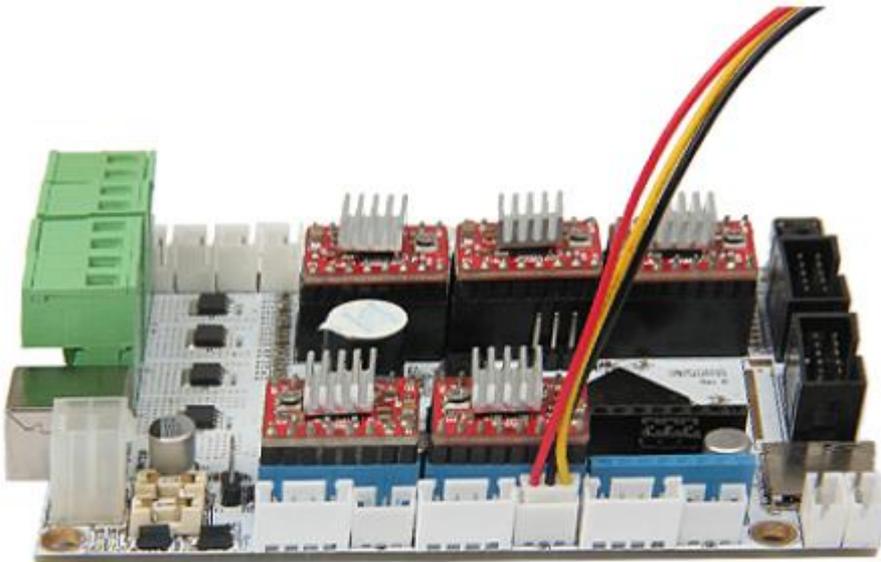
1) Connect fan for control board at FAN3.



2) Connect fan for extruder 0 at FAN0.

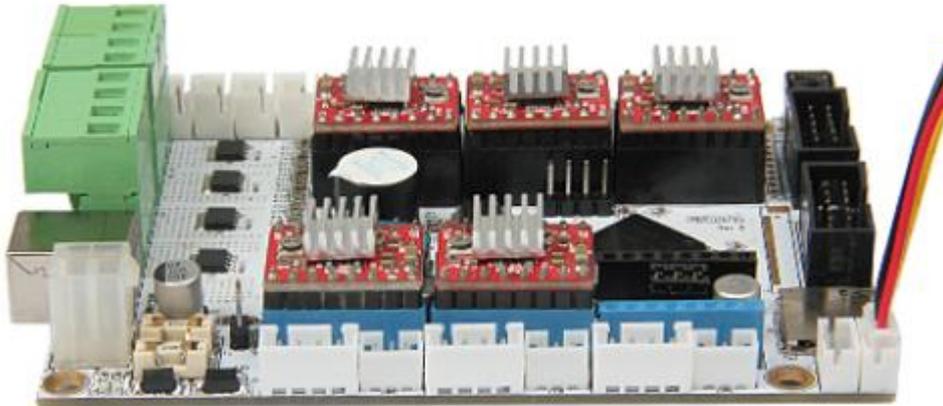


3) Connect fan for extruder 1, connect the other to FAN1.



4) Connect fan for hotend at FAN4.

Note: for the fan of hotend, you will need the extension wire. Just connect the red and black connectors.



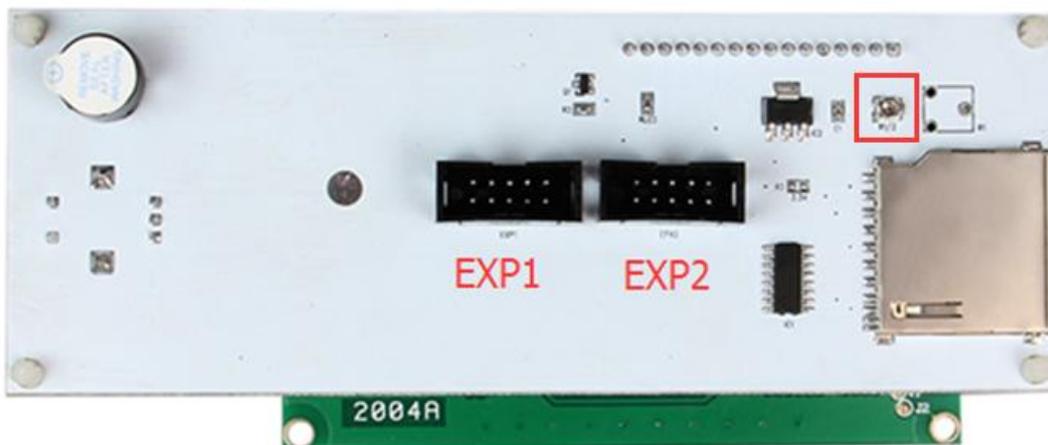
**Step6. Connect wires for LCD panel.**

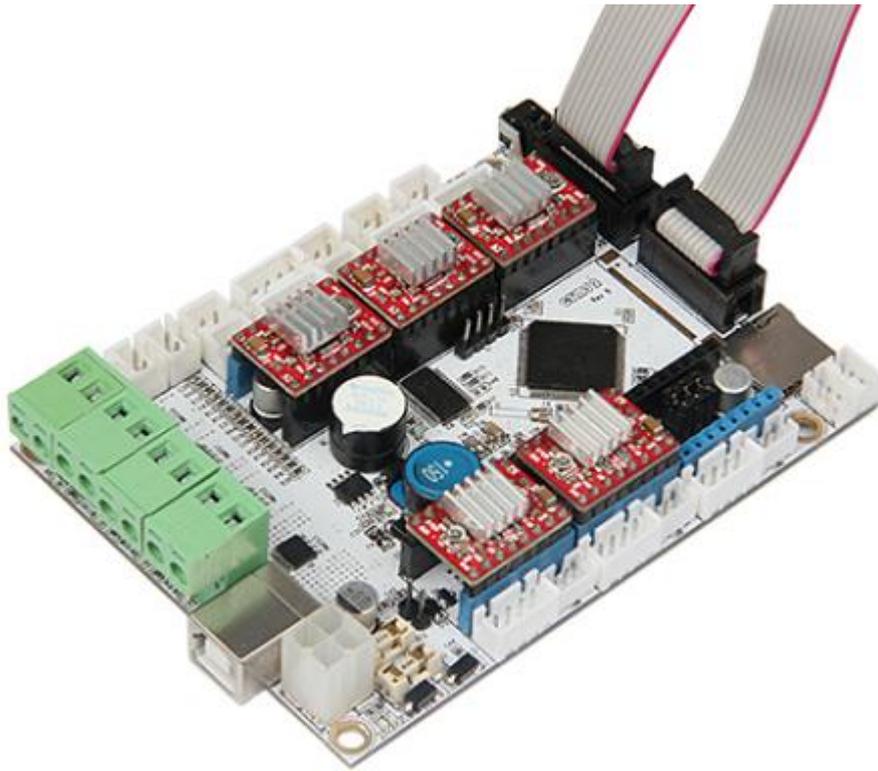
There are two cables, one is for LCD encoder, the other is for SD card.

EXP1 to LCD

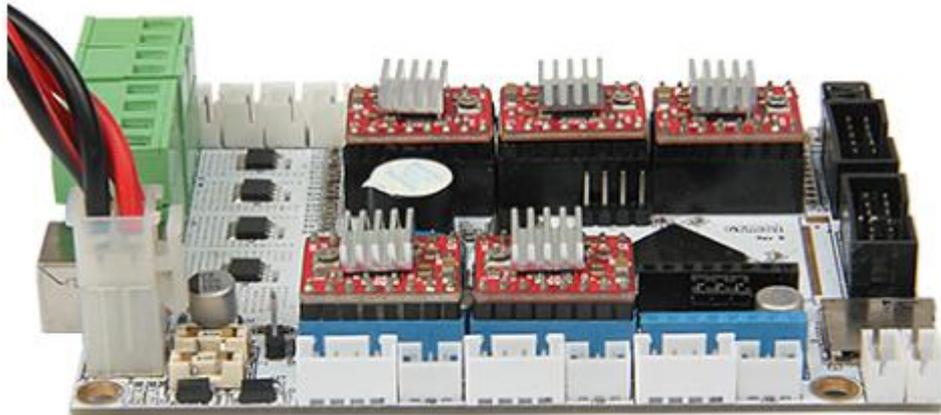
EXP2 to SD card

BTW, do you see the small screw above the SD card reader, if the text in of the LCD phases in an out or there is only blocks on the screen, you can adjust this screw to recovery it.





**Step7. Connect wires for power input.**



**Step8. Connect the wires to the PSU.**

Note the correspondence between the color of wires and the connector.

**Brown-----L**

**Blue -----N**

**Yellow----GND**

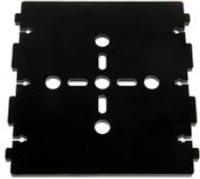
**Red ----- ++ V**

**Black-----COM**

That is all for the wiring of GTM32.

Do not forget to stick the heatsink on the chip of each stepper motor driver board.

**30. Mount the filament spool.**

Part name	Part ID	Required number	pic
M3 x 16mm screw	No.26	6	
M3 Square nut	No.17	6	
M3 washer	No.7	6	
Spool base plate		1	
Spool side pane		2	
PVC tube		1	

PVC tube		2	
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So far, the whole printer is built up, you can tidy up the wires with the zip ties and the coil wire.

Before even attempting the first print it is vital that the printer is correctly calibrated. Skipping or rushing this step will result in frustration and failed prints later, so it is important to take the time to make sure the machine is correctly set up.

Each machine may have its own calibration procedure and this manual will not attempt to cover all the variations. Instead here is a list of key points that should be addressed.

- Frame is stable and correctly aligned.
- Belts are taut.
- Bed is level in relation to the path of the extruder.
- Filament rolls freely from the spool, without causing too much tension on the extruder.

- Current for stepper motors is set to the correct level.

Firmware settings are correct including: axis movement speeds and acceleration; temperature control; end-stops; motor directions.

Extruder is calibrated in the firmware with the correct steps per mm of filament.

The point regarding the extruder step rate is vital. Slic3r expects that the machine will accurately produce a set amount of filament when told to do so. Too much will result in blobs and other imperfections in the print. Too little will result in gaps and poor inter-layer adhesion.