A-3 Assembly Diagram
## Contents

### Chapter 1  Control system, transmission mechanism on Z-axis
1. Overview of components ........................................... 4  
2. Installation of mainboard and LCD display .............. 5  
3. Installation of limit switch and motor base on Z-axis ... 6  
4. Installation of power supply on Z-axis ...................... 7  
5. Installation of T-shaped nuts ................................. 8

### Chapter 2  Transmission mechanism on Y-axis
1. Overview of components ........................................... 10 
2. Installation of electric motor and back supporting-block on Y-axis ................................................................. 11 
3. Installation of 688 lip type bearing and front supporting-block ................................................................. 12 
4. Installation of box type bearings ........................................ 13 
5. Installation of belt clips on Y-axis  Y ........................................ 14 
6. Installation of screws ........................................... 15 
7. Installation of aluminum sheets ................................. 16-18 
8. Installation of synchronous belt ........................................ 19 
9. Installation of limit switch on Y-axis .............................. 20 
10. Installation of hot bed aluminum substrate ....................... 21 
11. Whole Y-axis installed to the main sight board ............... 22-23
Chapter 3 Transmission mechanism on X-axis
1. Overview of components..................................................25
2. Installation of electric motor on X-axis.................................26
3. Installation of 693 bearings with edge..................................27
4. Installation of polished rod and linear bearings.....................28
5. X-axis installed to the lead screw of Z-axis..........................29
6. Installation of fixed block....................................................30
7. Installation of synchronous belt on X-axis..........................31-32
8. Installation of cover plate....................................................33

Chapter 4 Extrusion mechanism
1. Overview of components..................................................35
2. Installation of sprayer suites...............................................36
3. Installation of turbofan and guide tuyere ............................37
4. Installation of limit switch on X-axis...................................38

Chapter 5 Control circuit and frame installation
1. Overview of components..................................................40
2. Installation of electric circuits...........................................41-49
3. Installation of winding pipes..............................................50-52
4. Installation of left and right cover plates............................52-54
Chapter 1  Control system and transmission mechanism on Z-axis
Mainbody

Power supply, 2*M3*8 screw

X-axis passive base

X-axis motor base

8*M3*10 plastic screw

Mainboard

2*T-shaped nuts (should be screwed out when installing)

2*Z-axis motor fixing plate, 8*M3*12 screw, 4*M6*10 cup head screw

Z axis Limit switch

2*5mm abs pillar, 2*M2*16 screw

Socket and power switch (installed before delivery)

Display screen

2*Lead screw motor

2*Motor

2*Z-axis motor fixing plate, 8*M3*12 screw, 4*M6*10 cup head screw

Z axis Limit switch

2*5mm abs pillar, 2*M2*16 screw

Socket and power switch (installed before delivery)

Display screen

2*Lead screw motor
Installation of Mainboard

Get the mainboard and main body ready
Align the holes
Screw the mainboard with the plastic screws by allen wrench (4* M3*10 screw)
Complete

Installation of LCD Display

Get the lcd display ready
Align the holes and rubber mat
Screw the lcd display with the plastic screws by allen wrench (4* M3*10 screw)
Complete
Installation of Z-axis limit switch

1. Get the limit switch ready
2. Put the cord through the main body
3. Put the screw M2*16-2pcs through the limit switch and sheathe the 5mm shoot-through column
4. Use a socket head wrench to tighten the screws

Complete

Installation of Z-axis electric motor

1. Get the Z-axis lead screw motor and motor fixing seat ready
2. Use a socket head wrench to tighten the screws: M3*12-8 pcs
3. The threaded hole of M6 should align with the wiring duct of the lead screw motor

Complete
Z-axis Installation

Get two lead screw motors ready
Align the hole site (same handling for left side)
Use a socket head wrench to tighten the screws: M6*10-4 pcs (same handling for left side)

Power Supply Installation

Get the power supply ready
Align the hole site
Use a socket head wrench to tighten the screws: M3*8-2 pcs
Complete
Installation of T-shaped Nuts to the X-axis motor fixing base

Get the T-shaped nuts and X-axis motor fixing seat ready
Align the holes
Use a socket head wrench to tighten the screws 3*M3*16 and 1* M3*10 screw
Complete

Installation of T-shaped nuts to X-axis motor passive base

Get the T-shaped nuts and X-axis motor driven seat ready
Align the hole
Use a socket head wrench to tighten the screws 3*M3*16 and 1* M3*10.
Complete
Chapter 2  Transmission Mechanism on Y-axis
Y-axis belt clip: M3*10-4 pieces, nut: M3-4 pieces
Nut: M8-16 pieces
Spring: 4 pieces, butterfly nuts: 4 pieces
Screw: M8*410-2 pcs
Φ8*380-2 pieces
Y-axis limit switch
Box-type bearings: 3pcs
Screw: M8*30-1
Nut: M8-1, 688 lip type bearings-2
Screw: M2*10-2 pieces
Screw: M3*12-3pcs
Screw: M4*8-12pcs
Y-axis motor fixing seat
Y-axis electric motor
Y-axis supporting block: 2 pieces
Y-axis  supporting block-2 pieces
Ribbon: 2 pieces
Aluminum substrate (posted with blue-strap colored paper, which cannot be torn off in assembly)
Aluminum sheet
Synchronous belt
688 lip type bearings fixing seat
Screw: M8*25-4 pieces
Spacers: M8-12 pieces
Installation of Y-axis motor and back supporting block

Get the Y-axis motor, motor seat and supporting block.

Align the Y-axis motor with the hole of the supporting block.

Hole of the limit switch up

Use a socket head wrench to tighten the screws M3*12-3 pcs

Complete

Align the hole

Use a socket head wrench to tighten the screws: M6*10-2pcs

Complete
Installation of 688 bearings with edge and front supporting block

Get the Y-axis supporting block, bearing fixing seat and 688 lip type bearings ready.

Align the hole.

Use a socket head wrench to tighten the screws M6*10-2 pcs.

Put the screw M8 through the bearing fixing seat.

Put the 688 lip type bearing into the U-shaped slot. (The lip side should be next to the side of the bearing fixing base.)

Tighten the cap, then complete.
Installation of box-type bearings

Get ready 3 box-type bearings and 1 piece of aluminum sheet.

Align the front and back holes.

The other two are the same. Use a socket head wrench to tighten the screws M4*8-12pcs (not too tight).

Complete.
Installation of Y-axis Belt Clip

Y-axis belt clip, install the aluminum sheet of the box-type bearing well.

First put 2pcs of screws M3*10 through the aluminum sheet and put on the caps (don not tighten).

Put the U-shaped slot on one end of the Y-axis belt clip through the downside of the screw hole. The other side is the same.

Use the tools to clamp the screw cap and tighten it.

Complete.
Installation of M8 Screw Rod

Get ready 2 screws of M8*410 and 16 screw caps of M8 (Only use 12 caps, the rest 4 will be tightened on the screw rod
Spacer: M8-12 pieces

Install following the order: screw cap--spacer*2pcs—screw cap—screw cap--spacer*1pc; Reverse the screw rod, screw cap--spacer*1pc

The other one screw rod is the same, These screw caps cannot be tightened.

Complete

-15-
Installation of aluminum sheets

Get ready 2 slick rods Ø8*380-2pcs and the modules on pages 7, 8, 10 and 11.

Install the slick rod into the Y-axis motor supporting block and the protruded part should align with the Y-axis motor supporting block.

Install the screw rod from the downside of the slick rod and put the box-type bearings on the aluminum sheet through the slick rod.

Install one end of the slick rod into the supporting block of the 688 lip type bearings and the slick rod should align with the surface of the supporting block.
Screw the cap outside to the supporting block. The other one is the same.

Fill up the cap on the protruded screw.

The protruded two ends should be equal in length. The other one is the same.

Use a solid wrench to tighten.
After tightening the screw rod, screw one cap.

Use a solid wrench to tighten.

Slide the aluminum sheet with hand to see whether it moves smoothly.

Adjust the upper screws according to the tightness, but not too tight.

Complete
Installation of synchronous belt

Get ready the synchronous belt

Turn over the aluminum sheet

Imbed the synchronous belt into the belt clip and turn back the synchronous belt and tighten it with a ribbon.

The side with synchronous teeth round passing the bearing and synchronous wheel

Imbed the other end into the belt clip and turn it back. Use the ribbon to tighten and tools to cut the redundant ribbon head. Complete
Installation of Y-axis limit switch

Get ready the Y-axis limit switch.

Install the switch on the supporting block with two box-type bearings and next to the Y-axis motor.

The shrapnel of the limit switch is toward the box-type bearings. Use the socket head wrench to tighten the screws M2*10-2pcs.

Box-type bearings should thoroughly bear the shrapnel of the lower limit switch. Complete.
Installation of hot bed

Get ready the aluminum substrate (Do not tear the blue-strap colored paper off.)

Put the aluminum substrate on the aluminum sheet and the wiring duct should be toward the Y-axis motor

Tighten the 4 screws M3*25 and 4 springs and 4 butterfly caps

Install the spring between the aluminum substrate and aluminum sheet, and install the screw M3 through the aluminum substrate and sheet. Then tighten the butterfly cap.

Complete
Whole Y-axis installed to main body

Put the components of Y-axis next to the cap of the motor (a bit loose)

The Y-axis module screw cap after the alignment with the U-shaped slot fixed with the back end of the batter board

The Y-axis module screw cap after the alignment with the U-shaped slot fixed with the middle end of the batter board
After aligning the hole, check the tightness of the synchronous belt.

If it is a bit loose, then screw outside the left cap to a certain distance; if it is a bit tightened, then screw inside the left cap to a certain distance (The supporting block also moves inside or outside). Until the synchronous belt is properly tight, then tighten the screw cap.

The back screw cap should be tight to the surface. Then tighten it.

Use hands to test whether the platform moves smoothly.

Complete
Chapter 3  Transmission mechanism on X-axis
Synchronous belt

Sprayer fixing seat

X-axis motor

Ribbon

Screw: M3*20-4pcs

X-axis motor seat

Screw: M3*16-1pc

Rear cover

Long linear bearing-1 pc
Short linear bearing-1pc

Slick rod: Φ8*380-2pcs

Self tapping screw M3*8-8pcs

X-axis driven seat

693 lip type bearings-2pcs

Screw cap: M3-1 pc

3D Printer

-25-
Installation of X-axis motor

Get ready the X-axis motor and motor seat

Align the hole site

Install 4 screws M3*20-4 pcs

Use the socket head wrench to tighten

The wiring duct of the motor should be downward. Complete.
Installation of 693 bearings with edge

Get ready the X-axis driven seat and two 693 lip type bearings.

Put the screw M3*16 through one side of the X-axis driven seat.

Install the 693 lip type bearings and its side should align with the side of the X-axis driven seat.

Similarly, install another lip type bearing and the screw cap.

Use the socket head wrench to tighten the screws.

Complete.
Installation of polished rod and linear bearings

Get ready two slick rods of Ø8*380, one long and short linear bearing each, and assembled modules.

Insert the slick rod to the mounting hole.

Install the linear bearing and X-axis driven seat.
The slick rod should be flat and smooth.

Install one short and long moving bearings and insert them into the mounting holes.
Complete.
Whole X-axis installed to Z axis lead screw

Get ready the X-axis and batter board.

While installing, avoid the knob of the display screen and align the whole of the T-shaped nut.

Screw the slick rod with both hands to see whether it moves smoothly. If it doesn’t move smoothly, it is required to move the X-axis motor seat or driven seat inwardly a certain distance until the slick rod can be smoothly screwed. Then install the $8*321-2$ to the Z-axis motor mounting holes.

Revolve the slick rod to see whether it will be stuck or not. Complete.
Installation of fixing base

Get ready the fixing seat, and install the screws M3*5-2pcs.

Align the screws hole to the light but do not tighten them.

Align the two holes and tighten the screws M6*10-2pcs. The other side is the same. And use the socket head wrench to tighten them.

Finally tighten the screw and Complete.
Installation of X-axis synchronous belt

Get ready the sprayer mounting seat, cover plate, synchronous belt, ribbon and countersunk head screws M3*10 and 8 self tapping screw caps.

Check the hole.

Align the hole site.

Take one synchronous belt and align one end of teeth and round it back.
Bind it up with the ribbon.

The other end of the belt rounds through the lip type bearing in the driven seat.

Continue to round it through the synchronous teeth in the X-axis motor seat. The rounding order will vary with the installation order.

Align the teeth.

Fasten with the ribbon.

Complete
Installation of the cover plate

Put the side with the countersink outward, and align the hole site.

Install one countersink self tapping cross screw M3*10

Tighten it with a cross screwdriver

Install the other end symmetrically

Install the rest 6 screws, Complete

Note: after installation, use hands to move backward and forward to feel the tightness of the synchronous belt. If it is hard to move, it is required to loosen the belt a bit; if it moves unevenly, it should be bit tightened.
Chapter 4  Extrusion Mechanism
2pcs screws: M3*20

Sparyer suites (which have been assembled before delivery)

2pcs self tapping screws: M2*10

3pcs self tapping screws: M3*10

X-axis limit switch
Installation of MK8 Extruder

Get ready the sprayer suites

Align the hole site

Fix with one cross self tapping screw M3*10

Use a cross screwdriver to tighten and install another two by turn. Complete
Installation of turbofan and tuyere

Get ready the turbofan and tuyere.

The side with the nameplate of turbofan faces inside and aligns the hole.

Install 2pcs of screws.

Use the socket head wrench to tighten.

Align the tuyere with the air outlet of the turbofan and install.

Complete
Installation of X-axis limit switch

Get ready the X-axis limit switch and two self tapping screws M2*10.

Align the hole of the limit switch with the hole of the sprayer seat.

Install the self tapping screw M2*10.

Use the small cross screwdriver to tighten the screws.

Complete

Move the whole sprayer limit switch to see whether it can touch the X-axis motor seat.
Chapter 5  Installation of Control Circuit and Frame
Installation of power switch line

Note: In order to let the customers more directly understand the structure of the equipment, here several pictures are specially explained as follows.

Connect the AC socket line to the AC switch.

Connect the AC switch line to the power supply.

Connect the 12V power supply to the mainboard.

Put the red and black lines of the square fan through the hole of the batter board, and connect them to the terminal together with the 12V power supply line. Complete
Installation of LD display line

Connect the sockets to the display screen.

Connect another socket.

Connect the other end to the control hole of the mainboard.

Installation of extrusion motor line

Connect the extrusion motor line to the motor.

The other end puts through the hole of the batter board.

Then other end is connected to the control hole of the mainboard.
Installation of Z-axis motor

Connect the Z-axis motor line to the control hole of the mainboard.
The end with shorter lien is connected to the left motor.
The end with longer line is connected to the right motor.

Installation of Y-axis motor

Connect the Y-axis motor line to the control hole of the mainboard.
The other end is connected to the Y-axis motor.
Installation of X-axis motor

First put one end of the X-axis motor line through the downside hole of the batter board.

And connect it to the control hole of the mainboard.

The other end is connected to the X-axis motor.

Installation of Z-axis limit switch line

One line of the Z-axis limit switch

It is connected to the jack of the mainboard.
Installation of Y-axis limit switch line

One line of the Y-axis limit switch

It is connected to the hole of the mainboard.

Installation of X-axis limit switch line

One line of the X-axis limit switch

It is connected to the jack of the mainboard.
Installation of hot bed line and temperature sensor line

Connect the hot bed line

Strip off the red and black wire head of the other end to show the wire cores.

Press tightly on the mainboard terminal.

One line of the temperature detection line

It is connected to the A14 pin of the mainboard.
Installation of sprayer temperature sensor line

Unfasten the sprayer temperature detection line

Put it through the hole of the batter board.

It is connected to the A13 pin of the mainboard.

Installation of turbofan line

Unfasten the turbofan line

Put it through the hole of the batter board.

Press it tightly on the mainboard terminal.
Installation of extruder heating cable

Unfasten the sprayer heating lines.

Put the line through the hole of the batter board.

Use the tool to strip off the cord.

Press it tightly on the terminal.
Cable diagram of the mainboard

Note: After finished the cables connection, please check according to the diagram again.
Installation of Y-axis winding tube

Align one end of the winding tube with one end of the hot bed line.

The winding tube is wound up the hot bed line.

The whole Y-axis winding tubes after winding
Installation of the extrusion winding tubes

Align one end of the winding tube with all the lines on the sprayer (and leave certain margin; do not pull too tight.)

When the winding tube wraps the hole of the batter board, it is required to cut a certain length.

Put the shortened winding tube through the hole of the batter board.

There should be a certain length when passing through the hole.
Installation of the X-axis winding tubes

Align one end of the winding tube to the X-axis motor line

Wrap the winding tube.

Complete

Installation of the right cover

Get ready the right plate.

Align the back side hole site.

Install the screws M3*6-4pcs.
Installation of the left cover

Align the front side hole.

Install the three screws M3*6.

Use the socket head wrench to tighten all the screws, complete

Get ready the left cover plate.

Align the back side hole.

Install the four screws M3*6.
Align the front side hole.

Install the three screws M3*6.

Use the socket head wrench to tighten all the screws, complete.

Pls assemble the printer follow this above assembly diagrams and printing videos together.