X5SA-500
Installation instructions

TRONXY SHENZHEN TRONXY TECHNOLOG CO.,LTD

1 Product assembly

Step 1: frame assembly

Assemble material specification and quantity：						
Aluminium profiles 1 20*20*740 2pcs	Aluminium profiles 2 40*40*780 4pcs	Aluminium profiles 3 20*40*660 2pcs	screws PM5*45 8件	screws PM6*25 8件	Angle code 20pcs	spacer 40pcs
boat nuts M4 40个	L type angle code 12pcs	Meter screws M5*5 24pcs	screws PM4*8 40pcs			

1. Take 1 Angle code, 2 washers and 2 screws PM4*8, assemble them in the direction shown, and screw in 2 boat nuts.Assemble 20 components and set them aside.
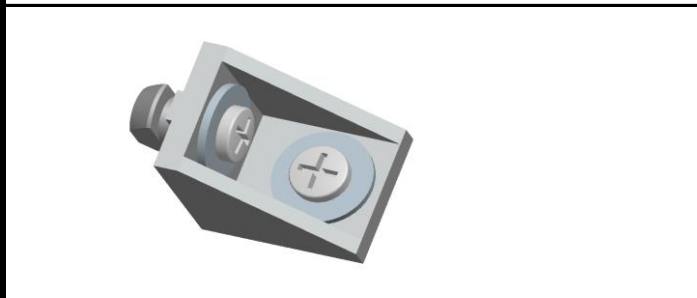
2. Take 1 set of L Angle code and 2 set screw M5*5. Screw in 2 set screw according to the direction shown.Assemble 12 components and set them aside.

3. Take 1 piece of aluminum profile 2, 2 pieces of aluminum profile 2, and 1 piece of aluminum profile 3, align them according to the position shown, and face the sunk hole of the aluminum profile to the outside.Take the L Angle code component, insert the joint Angle of aluminum profile 1 and aluminum profile 2, screw 2 PM6*25 screws, align the aluminum profile edge and lock the screws;Take the screw PM5*45 through the sinking hole of aluminum profile 2, screw in the tooth hole of aluminum profile 3, align the edge of aluminum profile and lock the screw;Take the Angle code assembly, align and sink the ship's screws with the aluminum profile groove, and fasten them on the aluminum profile with screws.

Assembly technique of M4 boat nuts: first, align the M4 nut with the aluminum profile groove and put it into the aluminum profile groove. Unscrew with the screwdriver and release the M4 boat nut to cross the aluminum profile inner groove and then screw it forward.

Repeat step 3 and assemble the other frame.

Aluminum 3

Aluminum2

Aluminum1

L type angle code

screws PM6*25

angle code

screws PM5*45
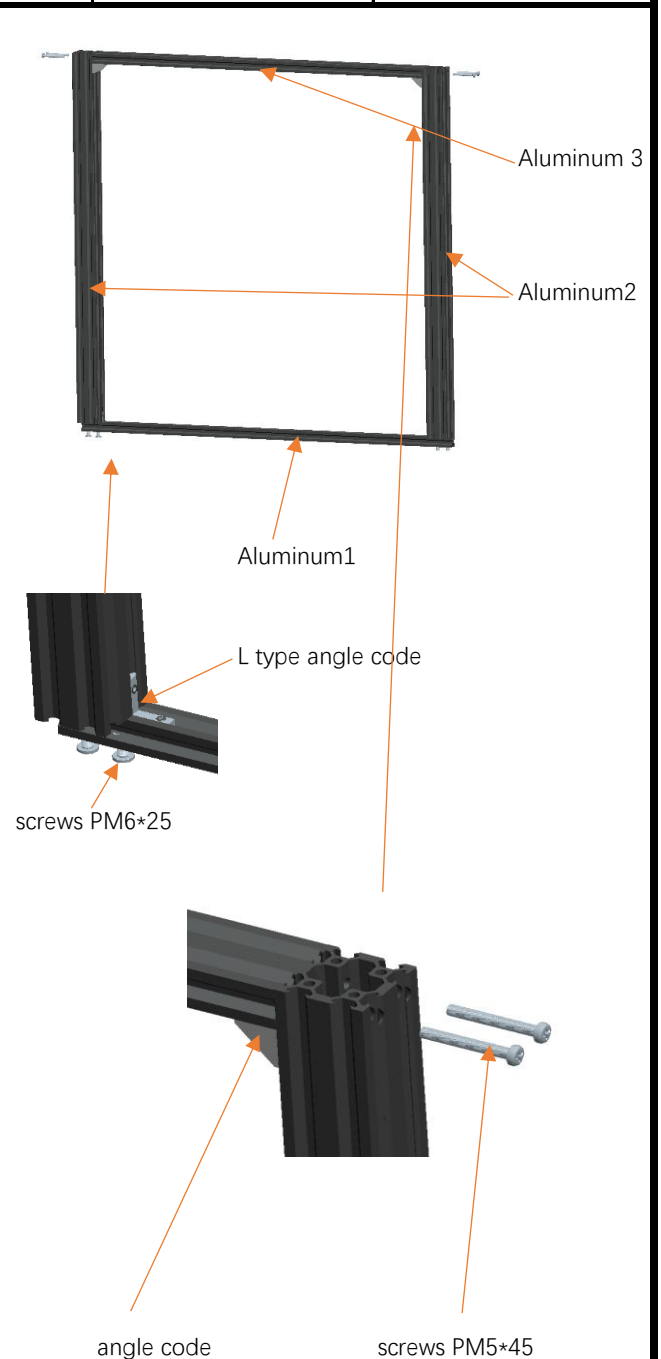
Step 2: frame assembly

Assemble material specification and quantity :					
Framework components 2pcs	Aluminum4 20*40*630 2pcs	angle code component 20pcs			

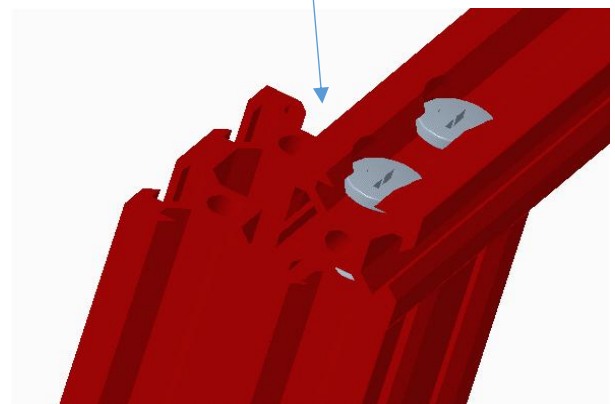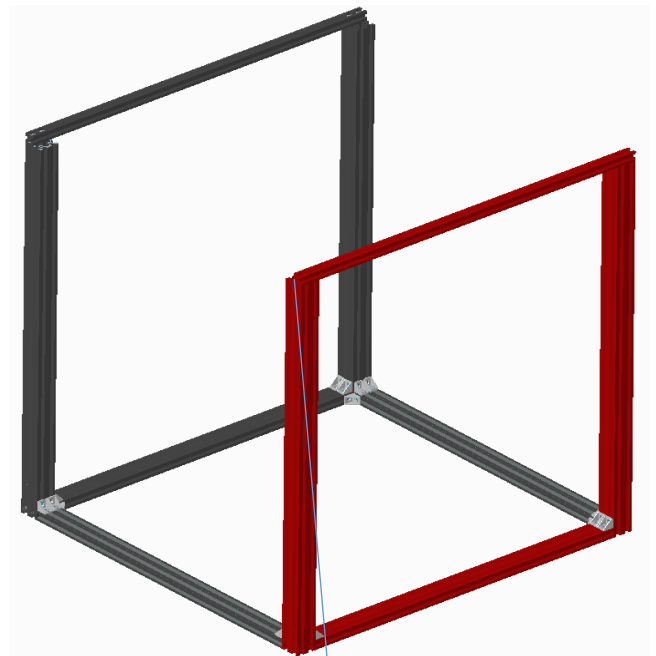|	
1. Take 1 piece of frame assembly and 2 pieces of aluminum profile 4, and place them according to the position shown. The hole in the middle of aluminum profile 4 is on the inner side, the sunk hole is below, and the frame aluminum profile 1 is on the upper and outer side.Align the sides of aluminum profiles, and lock them together with 6 sets of corner codes.	2. Take another frame component and place it according to the position shown. Frame aluminum profile 1 is on the upper and outer side, align the edge of the aluminum profile and lock the aluminum profile with 6 sets of Angle codes.
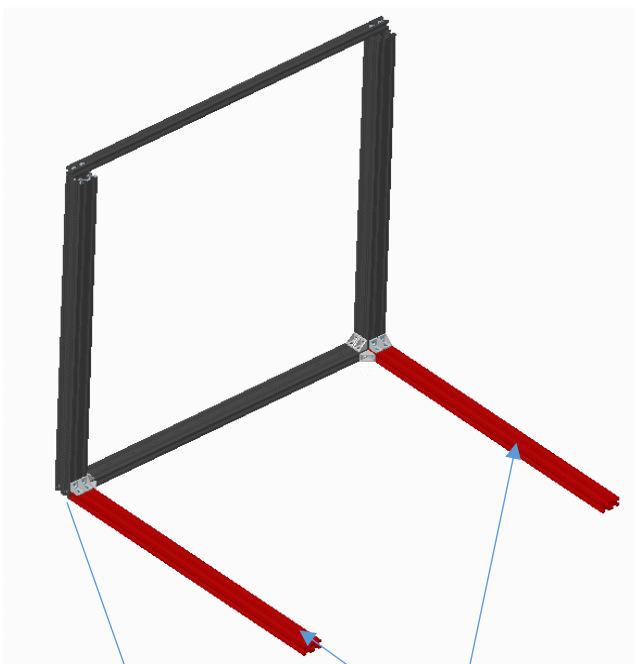
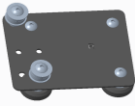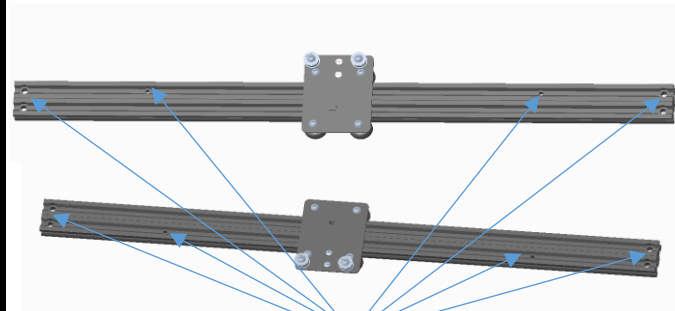Aluminum4/the hole on the inside,counterbore face down
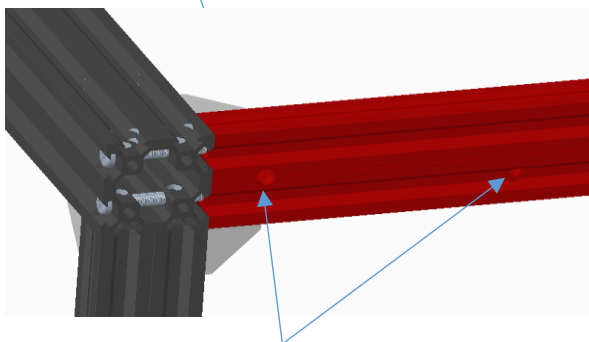
Aluminum4/the hole on the inside,counterbore face down

Step 3: install the sliding plate

Assemble material specification and quantity :							
underframe 1pcs	left sliding plate component 1pcs	right sliding plate component 1pcs	Aluminum5 20*40*670 2pcs	L type angle code component 8pcs	screws PM6*25 8pcs		

1. Take 5,2 aluminum profiles, and insert the left and right components of the slide respectively, as shown in the figure.Note: two rows of pulleys are on the side of the middle hole, and the sliding plate is on the side of the sink hole.
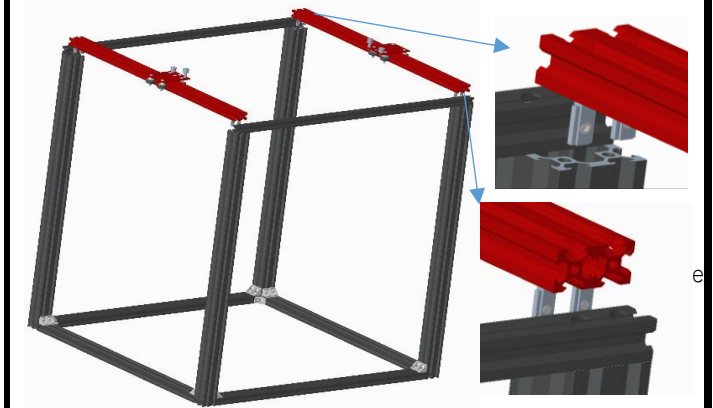
2. Put the end of aluminum profile 2 of the bottom frame component into L Angle code, as shown in the figure;Screw on the M5*5 meter.(do not lock tightly to facilitate subsequent adjustment)

Pay attention to the sink hole

e
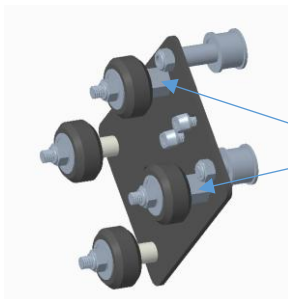
The eccentric nut

Adjust pulley clearance by rotating eccentric nut

3. Assemble the aluminum profile 5 components according to the position shown in the diagram, align the L Angle code to the position of the aluminum profile groove, and screw PM6*25 into the position shown in the diagram.(do not lock tightly to facilitate subsequent adjustment)
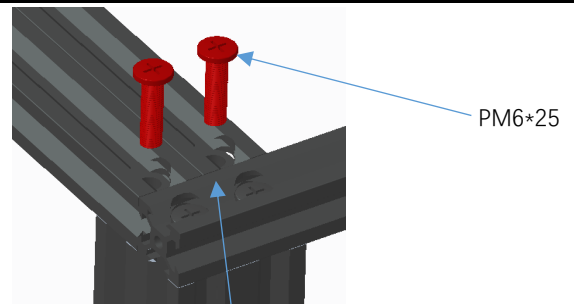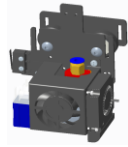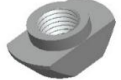
PM6*25
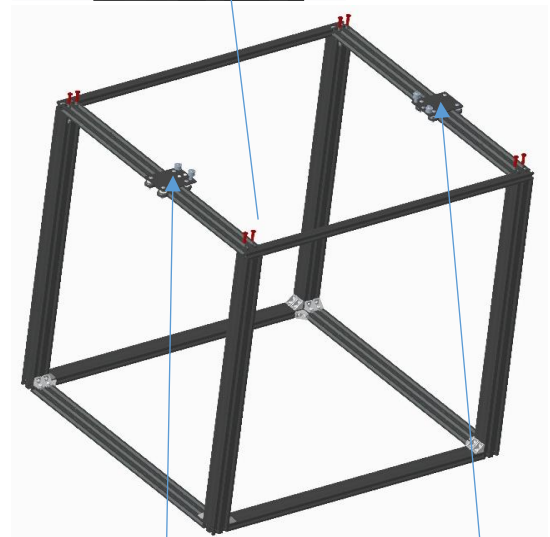
left sliding plate component   right sliding plate component

Step 4: print head installation

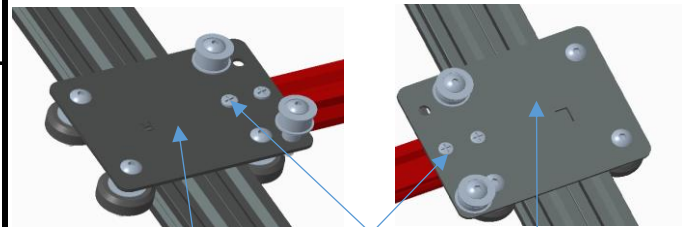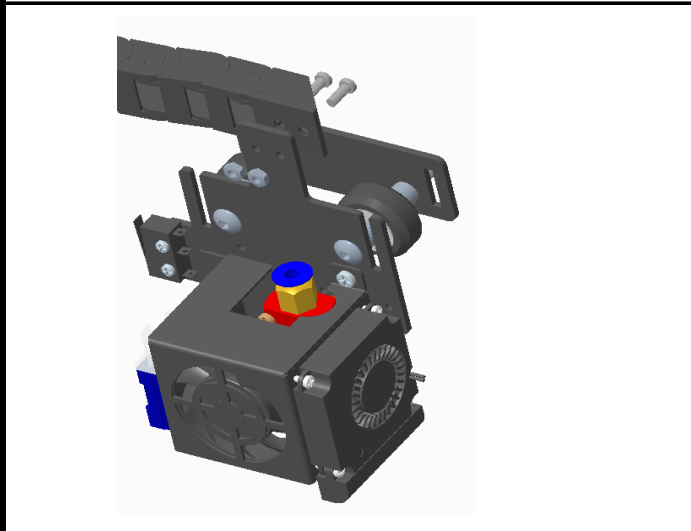| Assemble material specification and quantity：								
underframe 1pcs	Aluminum6 20*20*654 1pcs	Print head assembly (with drag chain) 1pcs	boat nuts M4 2pcs	nuts M3 4pcs	drag chain riser 1pcs	screws PM3*8 4pcs	screws PM4*8 2pcs	screws PM4*12 4pcs

1. As shown in the figure, two PM3*8 screws are put through the drag chain, A axis bracket and locked with two nut M3.

PM4*12

2. Insert aluminum4 into the print head assembly, as shown in the figure.The eccentric nut clearance adjustment

Hole location   The position of the roller

The eccentric nut

PM3*8

M3
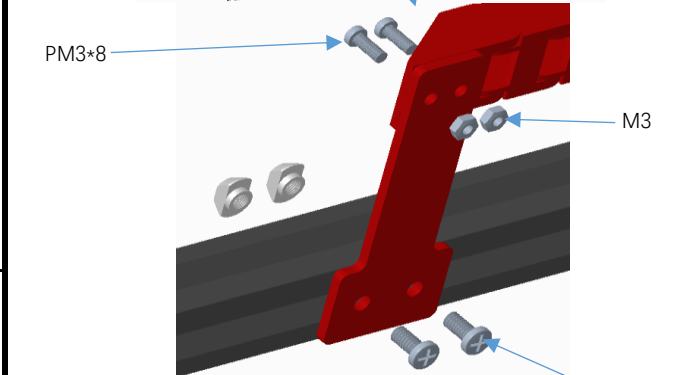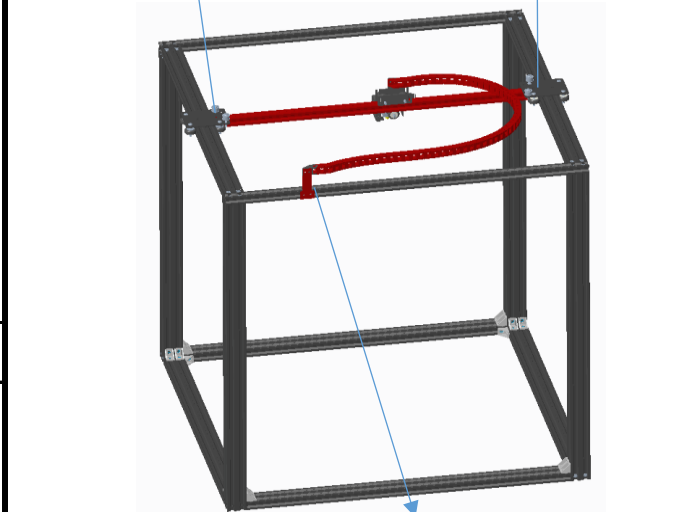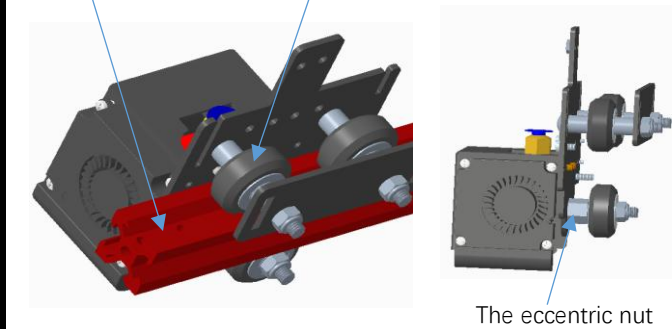
3. Align the drag end plate with the drag end hole, as shown in the figure, through with 2 PM3*8 screws, and tighten with 2 M3 nuts;Place the aluminum profile 6 on the left and right sliding plate, use 2 PM4*8 screws through the drag chain riser, screw on 2 boat nut M4, go through the aluminum profile groove, lock the screw PM4*8.
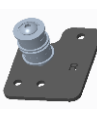
PM4*8
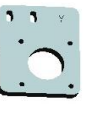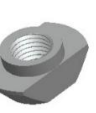
4. As shown, Install aluminum6 and left -right sliding plate parts together with 4pcs screws PM4*12, as shown, move aluminum sliding before and after 6, move and flexible, locking PM4 * 12 screws, move aluminum 6 again, move and flexible, locking in aluminum 5 PM6 * 25 screw, move aluminum 6 again, confirm the move and flexible.Otherwise, please adjust it repeatedly to ensure that the slide table moves flexibly and without clearance shaking after locking the screw.Finally lock the meter screws on the L - Angle code.
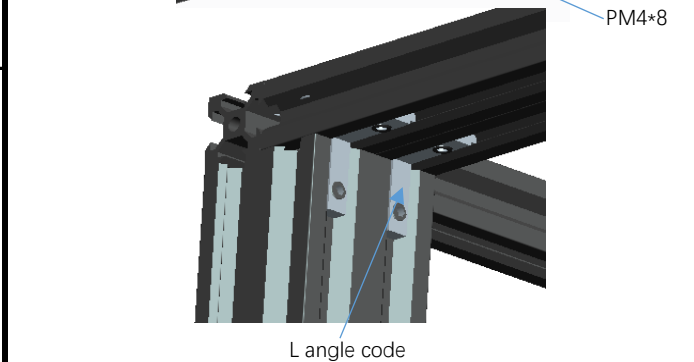
L angle code

Step 5: installation of XY axis motor and wheel

Assemble material specification and quantity：

underframe 1pcs	right wheel component 1pcs	left wheel component 1pcs	motor 2pcs	Y motor plate 1pcs	X motor plate 1pcs	boat nuts M4 10pcs	screws PM4*8 6pcs	screws PM3*10 8pcs	screws PM4*12 4pcs

1. Take 1 motor and 1 piece of Y motor board, align them at the position as shown in the figure, use 4 screws of PM3*10, screw into the motor and fasten them, use 2 screws of PM4*12 through the acrylic board, and screw on 2 ship type nuts M4.Also assemble 1 piece of X motor board component.
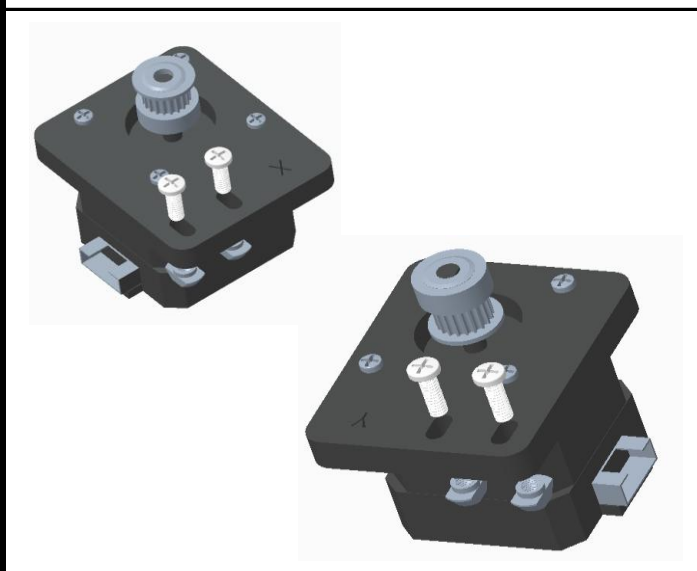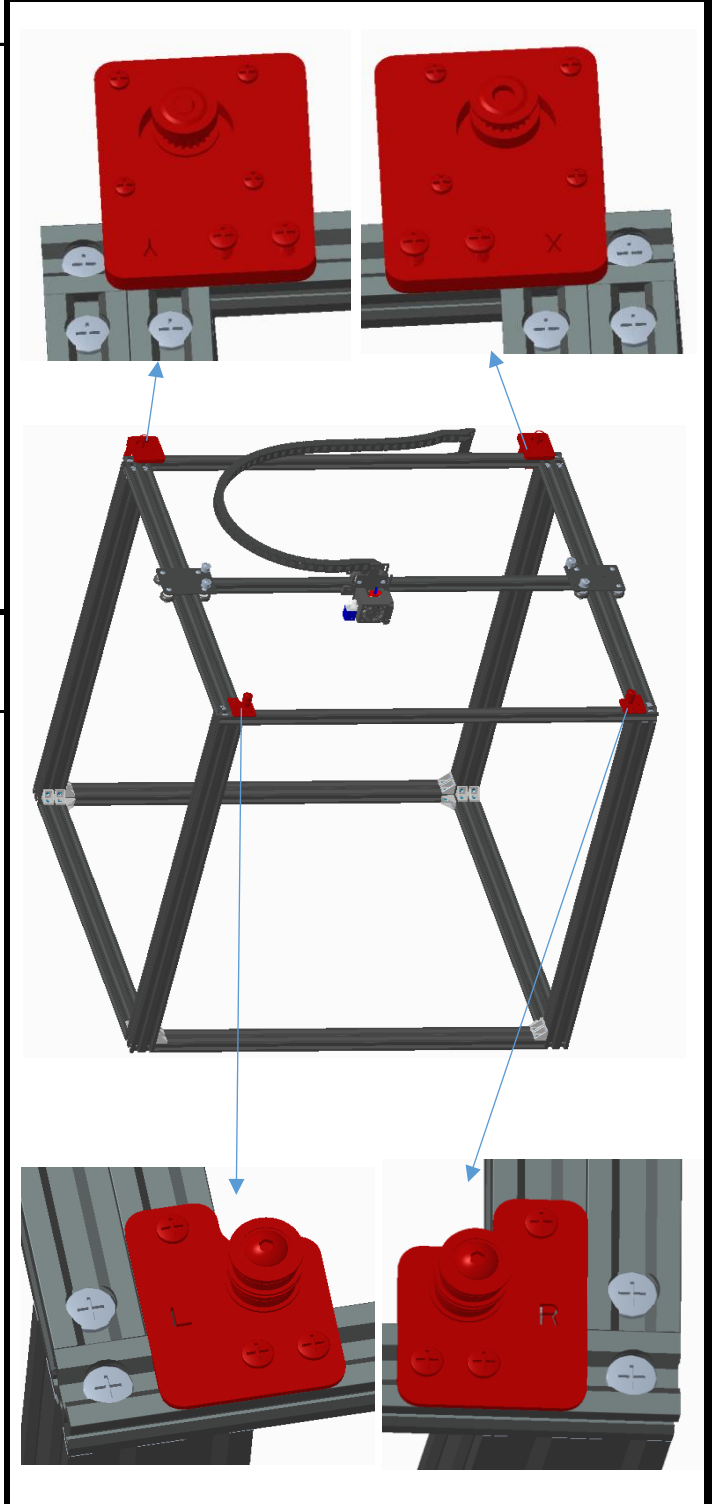

2. As shown in the figure, take the right cross wheel assembly, use three screws of PM4*8, three boat nuts, align the positions, and screw on three boat nuts M4.Also assemble 1 left wheel block.

3. Place the X/Y motor component, left/right via wheel component, and fix it on the aluminum profile with boat nut M4 according to the position shown. Align the edge.
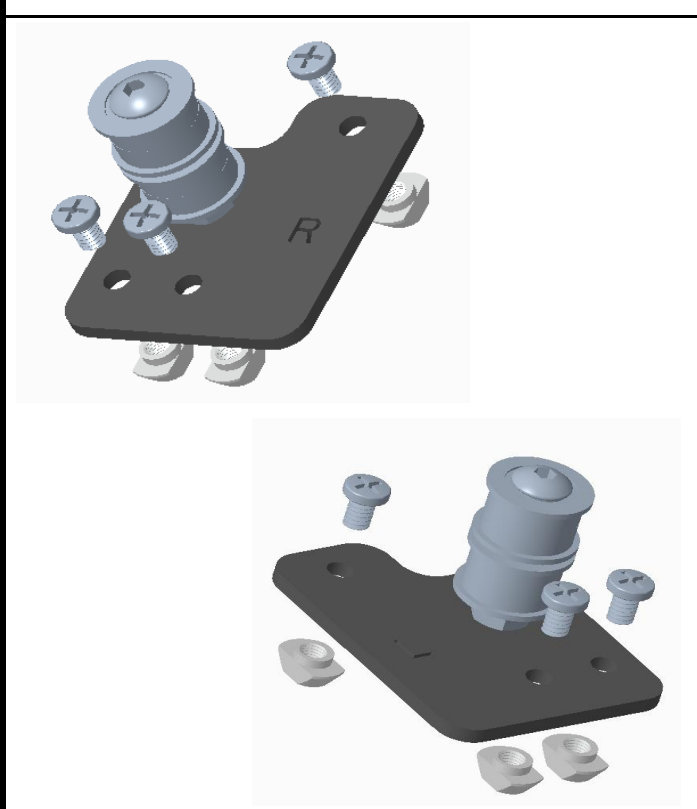
Step 6: belt assembly

Assemble material specification and quantity：

mainframe 1pcs	belt 2pcs	Tie 4pcs				

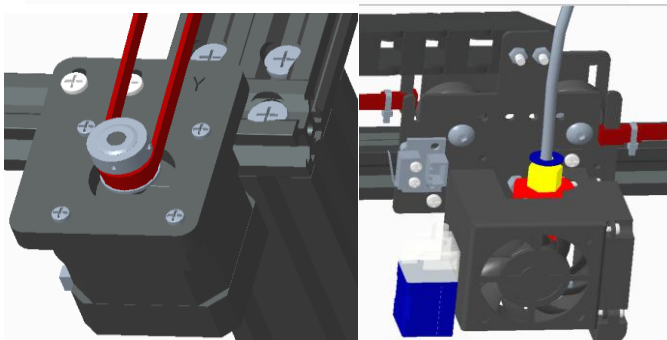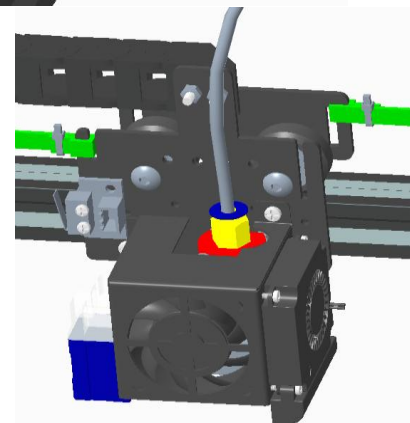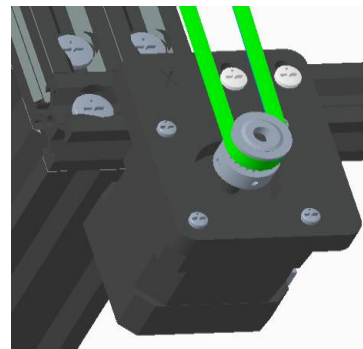|	
1. Move the belt through as shown, wrap the motor gear on the rack surface, and determine the belt trend. Press the slide plate against the motor bottom plate and fasten it with the tie belt at the lower end of the sheet metal groove of the print head assembly.Loosen the motor baseplate screw, pull the motor assembly outward, tighten the belt (do not force too much), and lock the screw.	2. Move the belt through as shown, wrap the motor gear on the rack surface, and determine the belt trend. Press the slide plate against the motor bottom plate and fasten it with the tie belt at the lower end of the sheet metal groove of the print head assembly.Loosen the motor baseplate screw, pull the motor assembly outward, tighten the belt (do not force too much), and lock the screw.
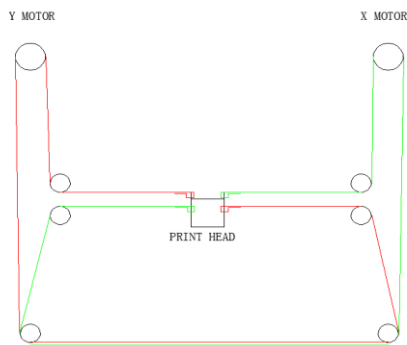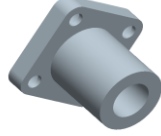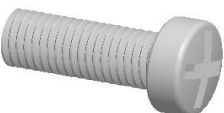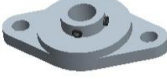
Diagram of tie belt
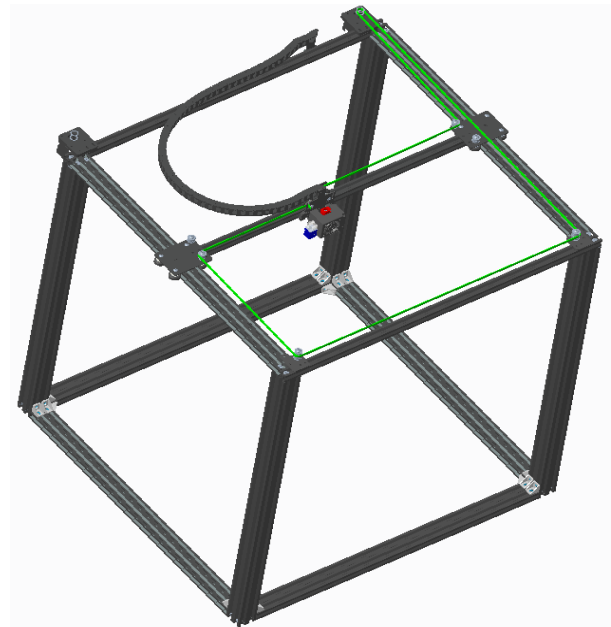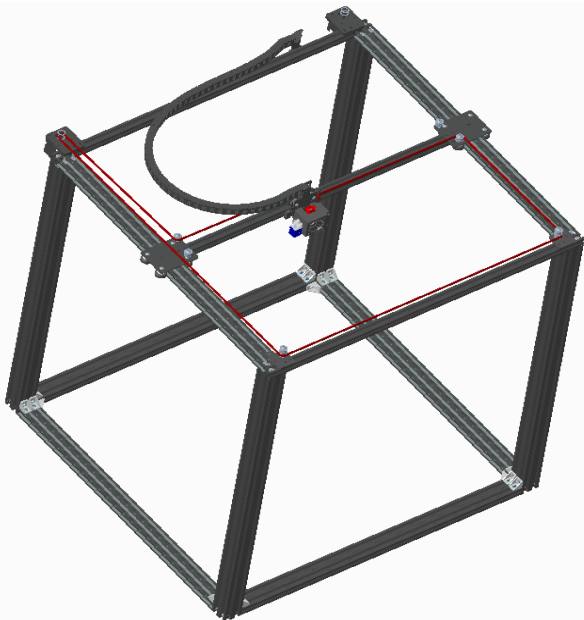
Step 7: assemble linear bearing and z-axis motor

Assemble material specification and quantity：				
diaphragm 2pcs	LMK 4pcs	feed screw nut 2pcs	screws PM3*8 8pcs	Z axis motor component 2pcs
screws PM4*8 24pcs	boat nut 8pcs	bearing block 2pcs		

1. Take 1 piece of horizontal plate, 2 pieces of linear bearing and 1 piece of screw nut, align them according to the position shown, and lock them with 4 PM3*8 screws and 8 PM4*8 screws.As shown in figure.Assembly 2 sets.

PM4*8   PM3*8   PM4*8

2. Take 1 piece of bearing block, insert 2 screws PM4*9 into the position shown, and screw on 2 boat nuts M4.Assembly 2 sets.

3. Take 1 piece of motor component of Z axis, insert 2 screws PM4*8 as shown in the figure, put 2 M4 spring pads on, and screw 2 boat nuts M4.Assembly 2 sets.
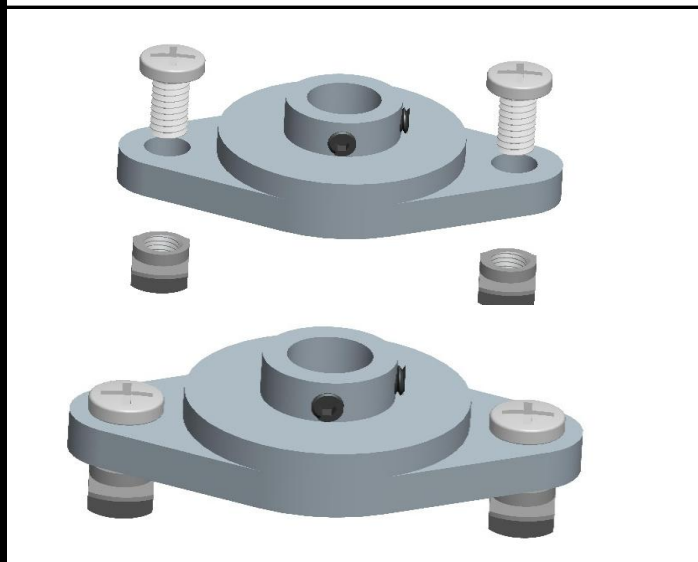
Step 8: Z axis assembly

Assemble material specification and quantity :

frame base component 1pcs	Z axis motor bracket 2pcs	diaphragm component 2pcs	Bearing assembly 2pcs	Polished rod Φ12*760 4pcs	lead screw T8*665 2pcs	screws PM4*20 8pcs	

1. Take 1 piece of horizontal plate, insert 2 pieces of polished rod into linear bearing, screw the screw rod nut, and take the motor component, as shown in the figure. Insert the screw rod into the coupling hole, and the motor base plate is flush with the polished rod.Assemble a total of 2 sets --Z axis sliding rack.
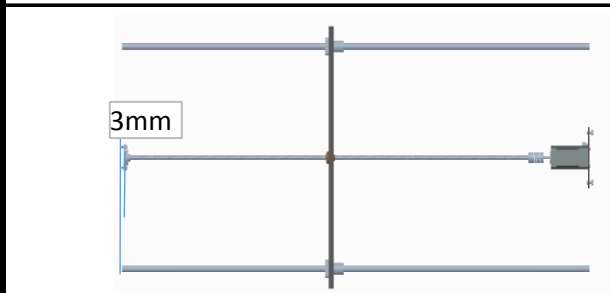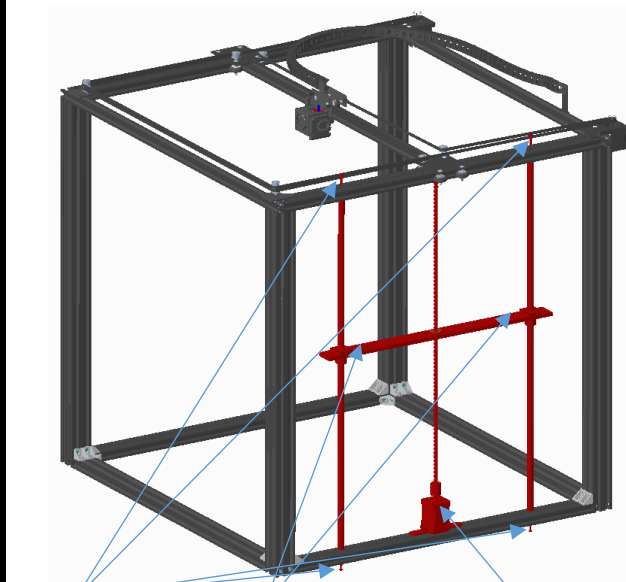Note: when the screw rod is assembled, the tail is about 3mm inside than the polished rod

3mm

There is a gap or too long between the polished rod and the upper and lower aluminum profile. Please loosen the fixed Angle code of the aluminum profile below and tighten the Angle code after adjusting.
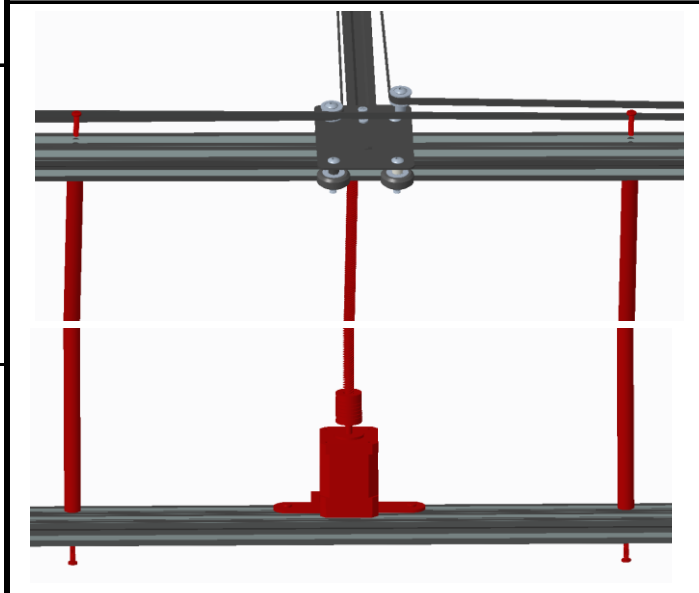

2. Adjust the ship nut of the black iron plate of the z-axis sliding rack, put the z-axis sliding rack into the aluminum profile 2 in the position shown, and the hole of M3 is on the inner side. Align the polished rod with the hole of the upper and lower aluminum profile, and use the screw of PM4*20 to pass through the hole of the aluminum profile, and connect with the M4 screw hole at the second end of the polished rod, as shown in the figure.Turn the screw rod, slide the cross plate assembly and the bearing seat assembly to the top, lock the two screws PM4*20 at the top of the polished rod, then lock the boat nut on the bearing seat, and then lock the two meter screws on the bearing seat.Turn the screw rod, lower the cross plate assembly to the bottom, lock the 2 screws at the bottom of the polished rod, lock the boat nut screw on the motor bottom plate, and lock the meter screw on the coupling.Turn the screw again to make sure that the board slides up and down smoothly.Otherwise, please loosen the screw to adjust.
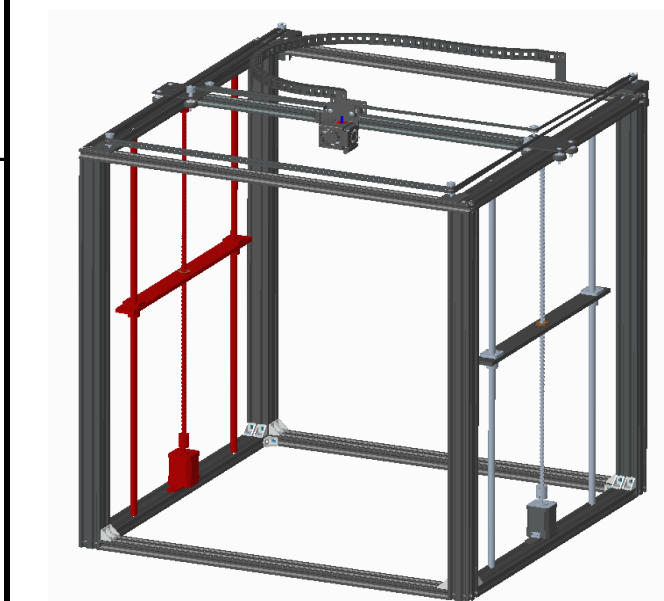
3. Repeat step 2 to assemble another z-axis slide carriage, as shown in the figure.

PM4*20   2-M3Hole on the inside   motor scew inner side

Step 9: feed motor installation

Assemble material specification and quantity :				
mainframe 1pcs	feed motor component 1pcs	boat nuts M4 2pcs	screws PM4*6 2pcs	

1. Assemble the feeding motor components as shown in the picture with 2 PM4*6 screws and boat nut M4.
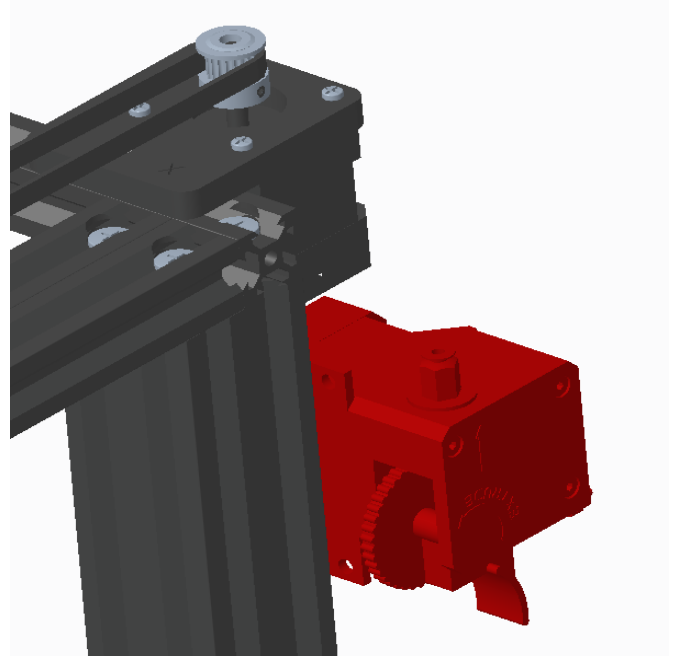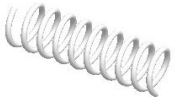
2. Lock the feeding motor components in the position indicated by 2 PM4*6 screws and boat nut M4 on the feeding motor components.
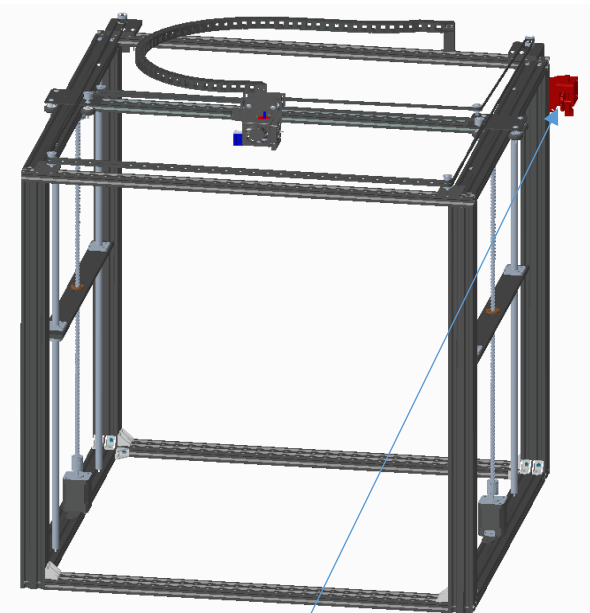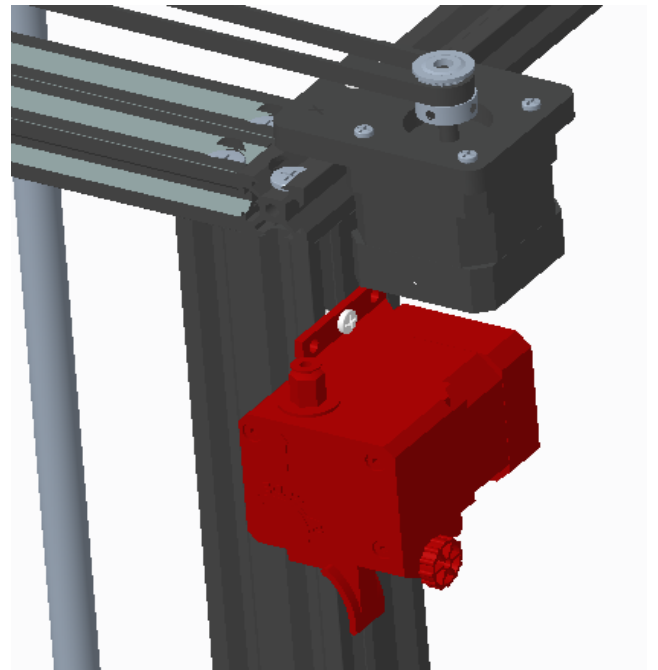
feed motor component

Step 10: print platform assembly

Assemble material specification and quantity：

mainframe 1pcs	Hot bed (with drag chain)500*500*3 1pcs	beam 2pcs	boat nuts 2pcs	plastic nuts M3 6pcs	screws PM4*8 2pcs	spring 6pcs
nuts M3 8pcs	screws KM3*35 6pcs	screws PM4*12 8pcs	screws PM3*6 2pcs	screws PM3*10 2pcs	Drag chain plate 1pcs	

1. Take the hot bed, pass through the hot bed with 6 KM3*35 screws, and lock it with M3 nut, as shown in the figure;Insert the spring into the screw of KM3*35, extend from the hole corresponding to the beam, and screw into the plastic nut of M3 to adjust the spacing between the hot bed and the beam by about 10mm.The relation between beam position and wire is shown below.

2. Turn the two screw rods to make the left and right side plates on the same plane and fasten the hot bed components to the side plates with 8 PM4*12 screws, as shown in the figure. The drag chain bracket is close to the side of the feeding motor component.Rotate the screw rod in the same direction to make the platform move up and down synchronously, and make sure the movement is flexible. Otherwise, loosen the screw PM4*12 and adjust the screw at the both end of the polished rod.

10mm

Leading position of wire   4 holes

screws PM4*12
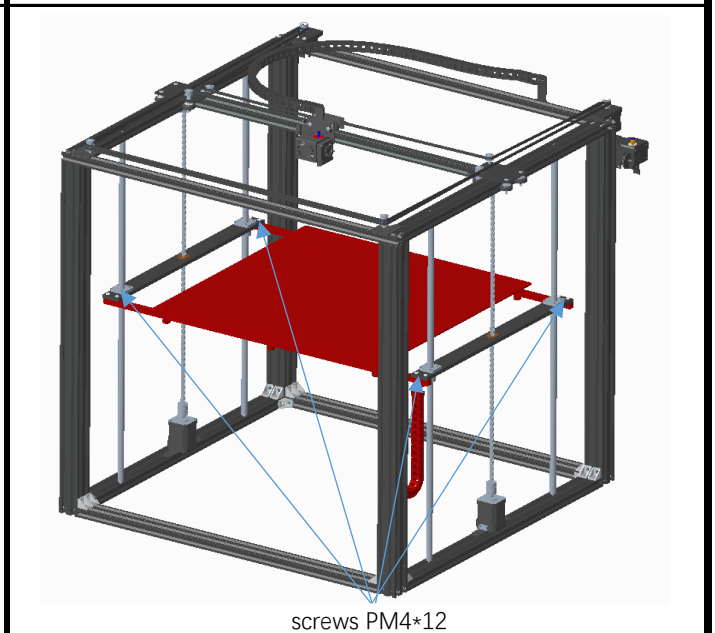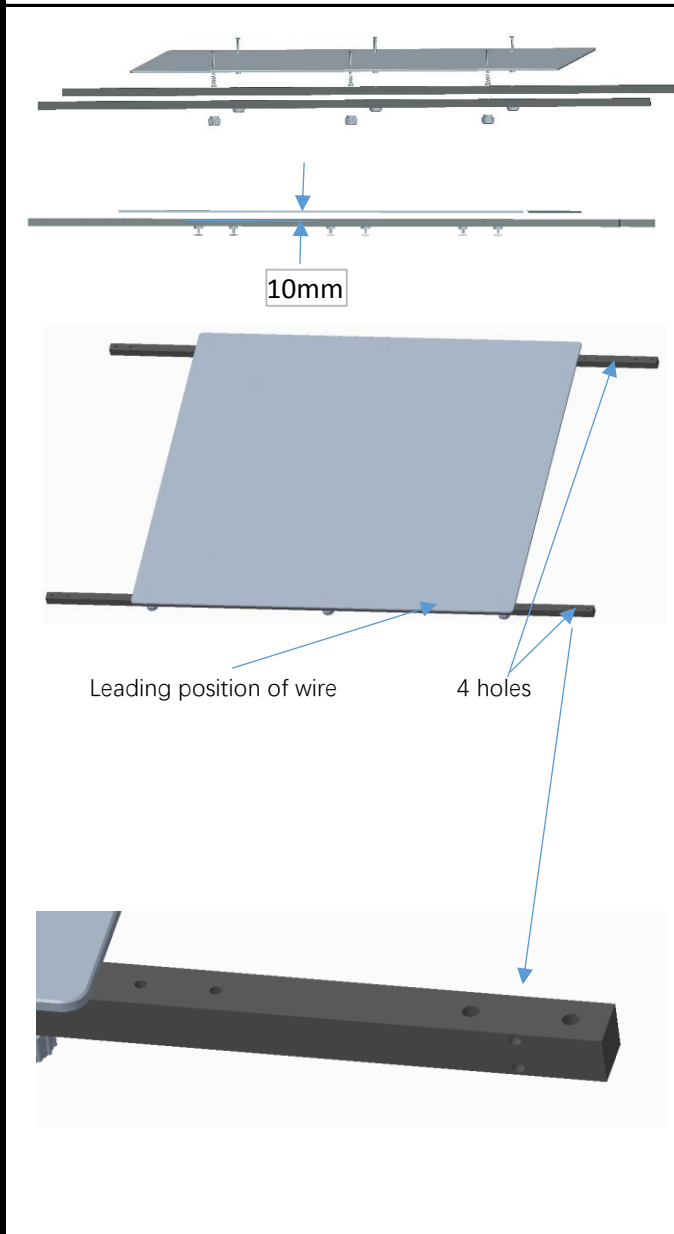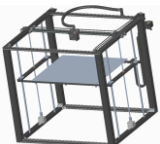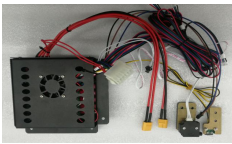
3. Take 2 PM3*6 screws   , as shown in the figure, and lock the beam and the drag chain;Move the Z axis screw let the printing platform to the bottom, take 2 PM3*10 screws through the drag chain and drag bottom plate, and lock with 2 M3 nuts. As shown in the figure, take 2 PM4*8 screws through the drag chain bottom plate, screw by nut M4, finish the drag chain and lock on the aluminum.

PM3*6   M3   Drag chain plat   PM4*8   PM3*10
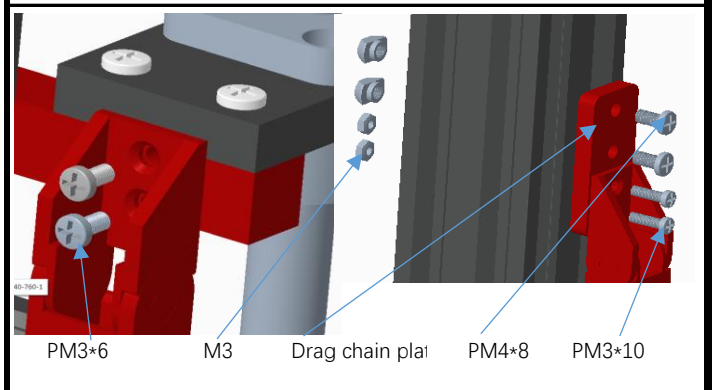
Step 11: control box assembly (this step can be installed after wiring)

Assemble material specification and quantity：

mainframe 1pcs	control box 1pcs	boat nuts M4 4pcs	screws PM4*6 4pcs		

1. Take 1 piece of the control box, and take 4 screws and boat nut. Assemble them according to the position shown.	2. Align the side of the control box with the aluminum profile of the mainframe, as shown in the figure, and lock it in the groove of the aluminum profile with the boat nut.
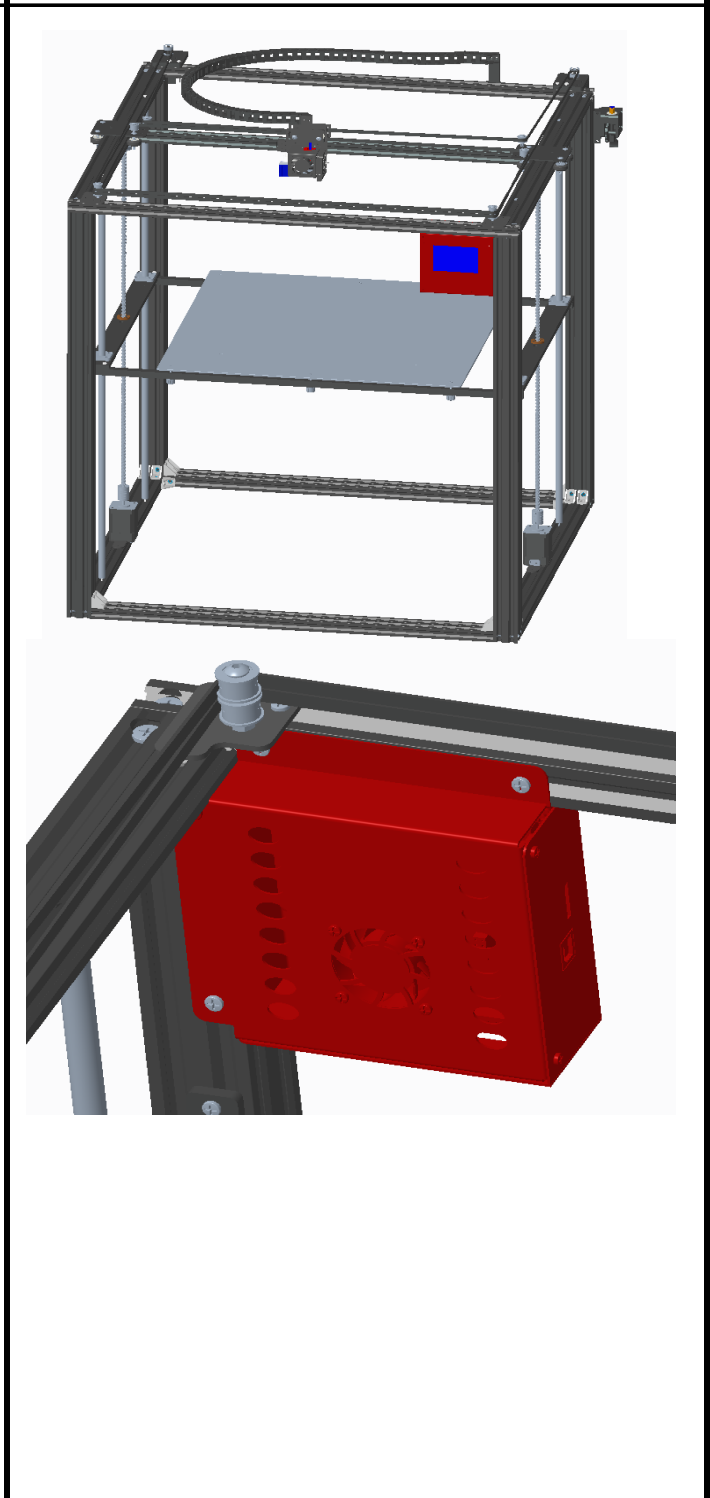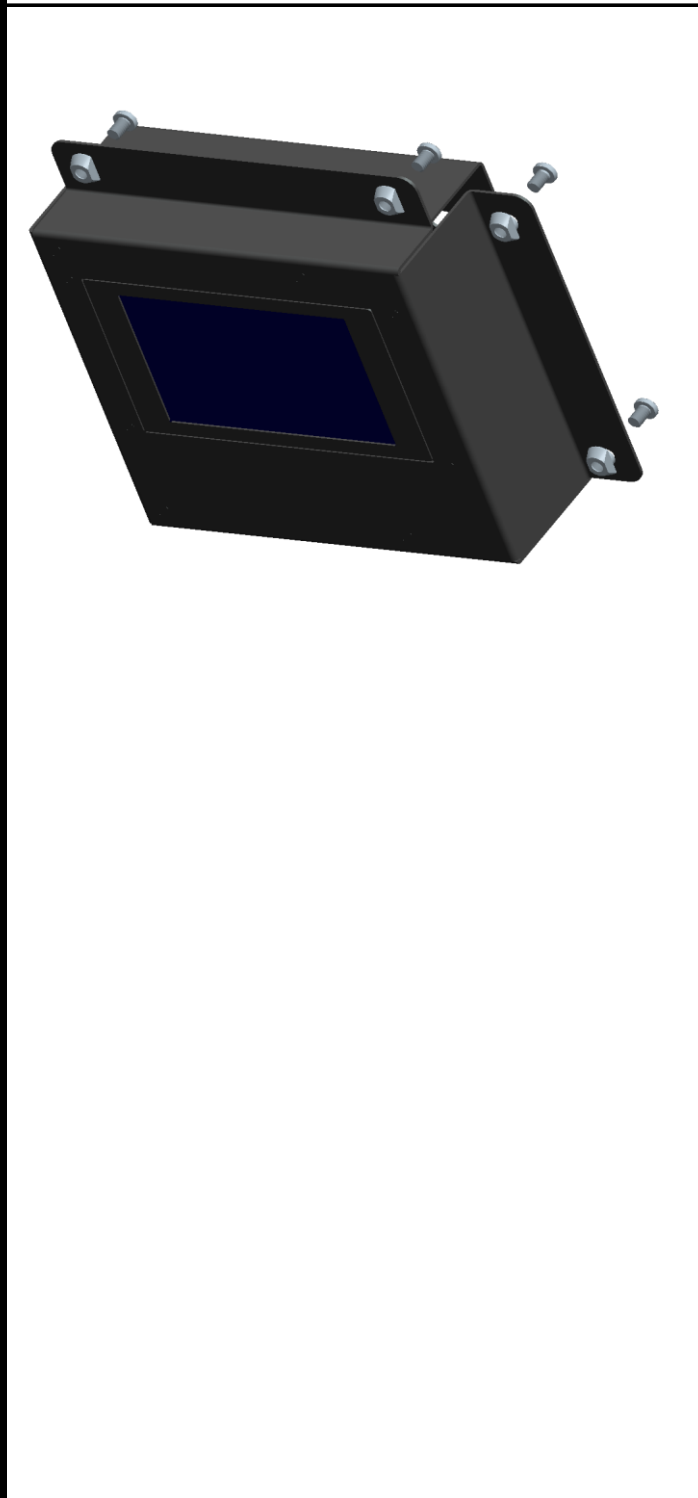
Step 12: power installation

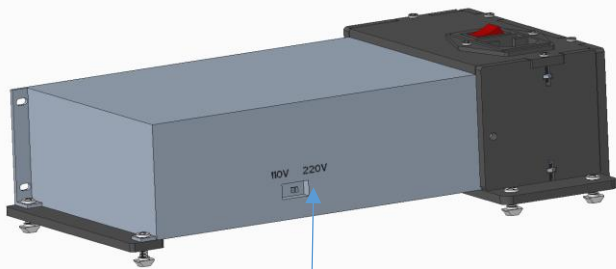| Assemble material specification and quantity：							
mainframe 1pcs	power component 1pcs						

1. Select the power component and select the voltage of 110V/220V according to the power supply voltage in the region.Adjust the gear with one word screwdriver. Select 220V and slide the gear into 220V, as shown in the figure.Select 110V and slide the shift to 110V.
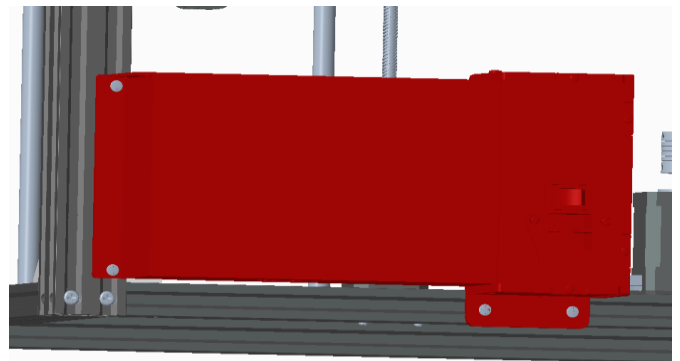

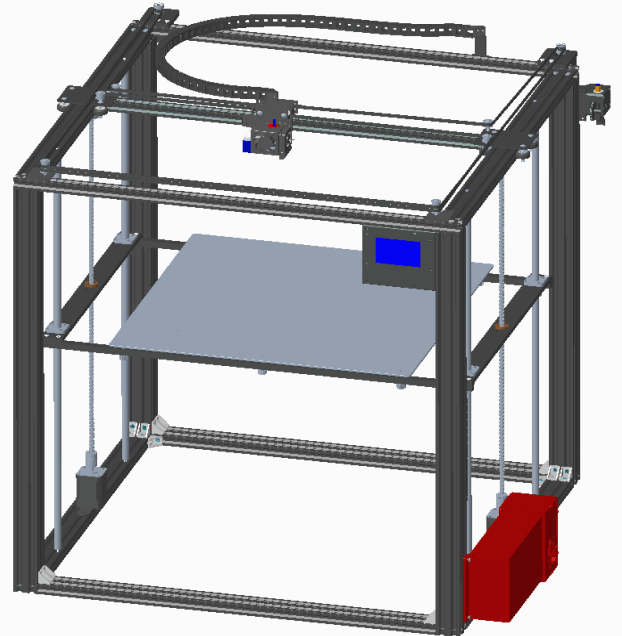
Voltage selection

110/220V is seiected by switcn
Before power on please check
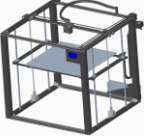input voltage avoiding damage
110V   220V

2. Fix the aluminum profile groove with boat nut and lock the 4 screws PM4*8, as shown in the figure.

Step 13: assemble the rack

Assemble material specification and quantity：					
3d printer 1set	material rack 1pcs	boat nuts M4 2pcs	screws PM4*6 2pcs		

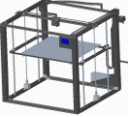| 1. Pick 1 piece material rack plate, 2 screwsPM4*6, 2 boat nut M4, assemble as shown.	3. Fix the material rack assembly into the aluminum profile groove with boat nut, and lock the 2 screws PM4*6, as shown in the figure.(hang the material plate on the screw rod)
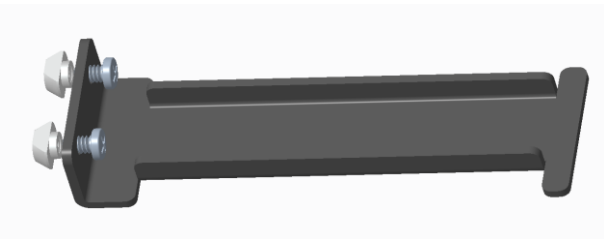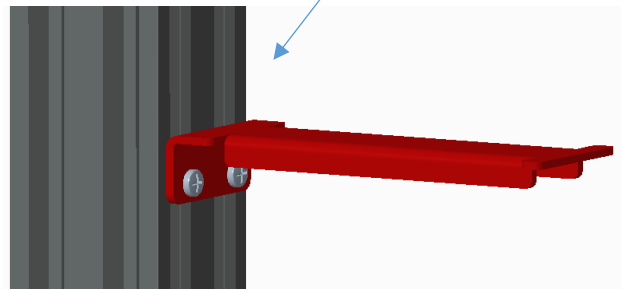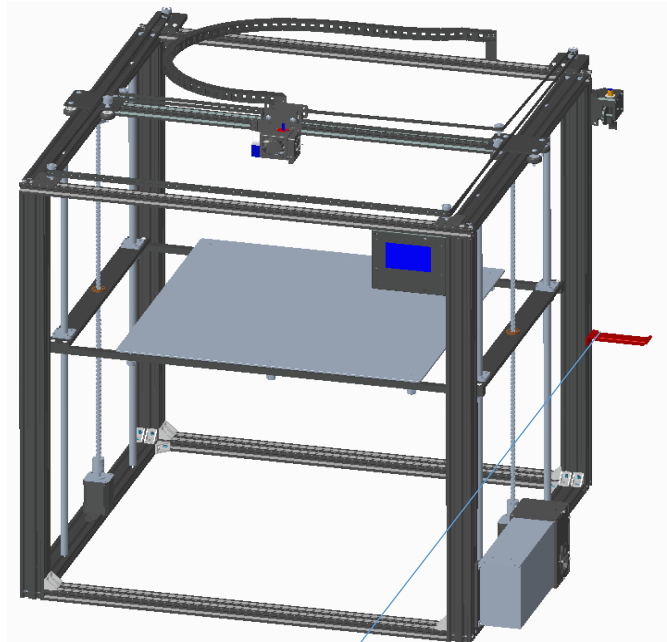
Step 14: decorative strip and feeding tube, lattice glass assembly

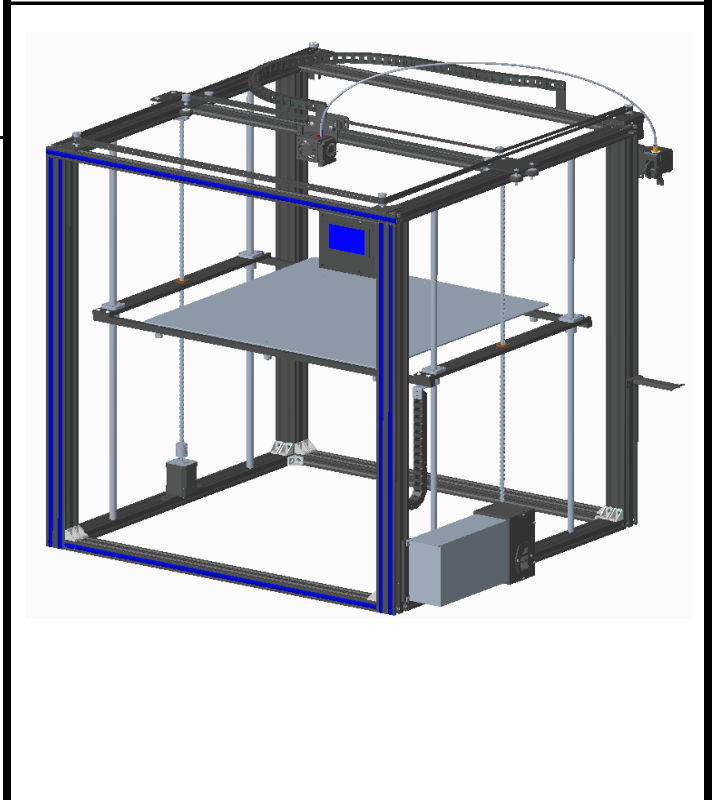| Assemble material specification and quantity :				
3d printer 1set	Decorative strip 1 roll	feed tubeΦ4 1pcs	Print platform sticker 1pcs	

1. Pull the feeding tube into the air nozzle hole of the feeding component, press down the plastic outer ring of the air nozzle, insert the feeding tube, loosen the plastic ring and jam the feeding tube, as shown in the figure.Make sure the material tube is jammed.Then put the other end of the feeding tube into the air nozzle of the printing head assembly and confirm that the feeding tube is tightened.
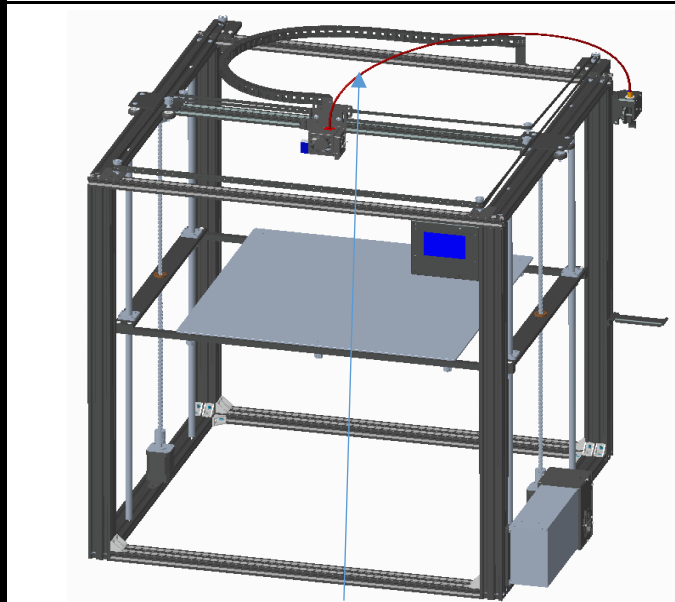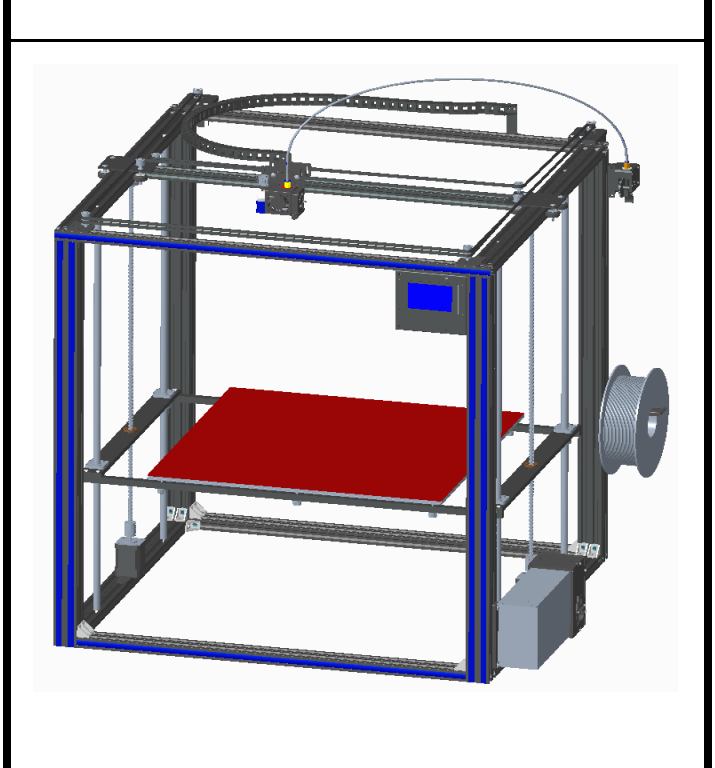

feeding tube

2. Cut the decorative strip to the appropriate length and press it into the aluminum profile groove, as shown in the figure.
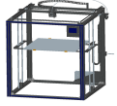

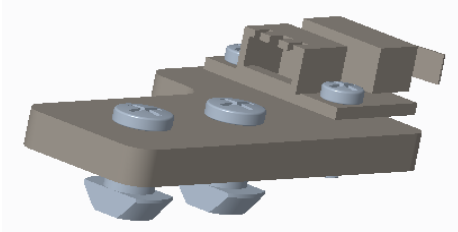3. Place the print platform sticker on the heatbed.

Step 15: limit switch assembly

Assemble material specification and quantity：										
3d printer 1pcs	Y Switch 1pcs	screws PM4*8 2pcs	boat nuts M4 2pcs							

1. Put 2pcs screw PM4*8 through Y switch component, then lock with T nut M4, same as illustration.

2. Fix the Y switch assembly in the aluminum profile groove with boat nut, as shown in the figure. The edge of the switch seat is aligned with the end face of aluminum profile 4, and lock the 2 screws PM4*8, as shown in the figure.

Edge alignment
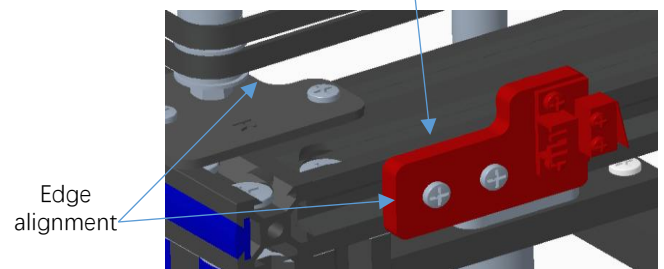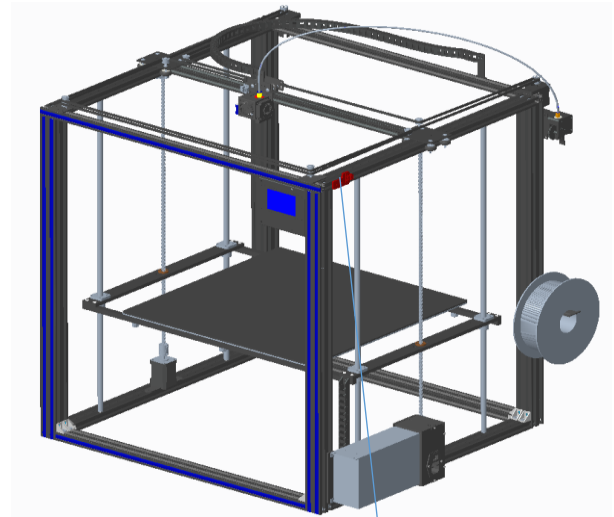
Step 16: assemble the filament run out detector

Assemble material specification and quantity：

3d printer 1set	detector 1pcs	screws PM4*12 2pcs	boat nuts M4 2pcs						

1. Take the boat nut M4, screw PM4*12, as shown in the figure, align with the switch assembly, and screw in the boat nut M4.	2. Fix the switch assembly with boat nut M4 and screw PM4*12 on the aluminum profile at the lower end of the feeder, as shown in the figure, the arrow direction is upward.
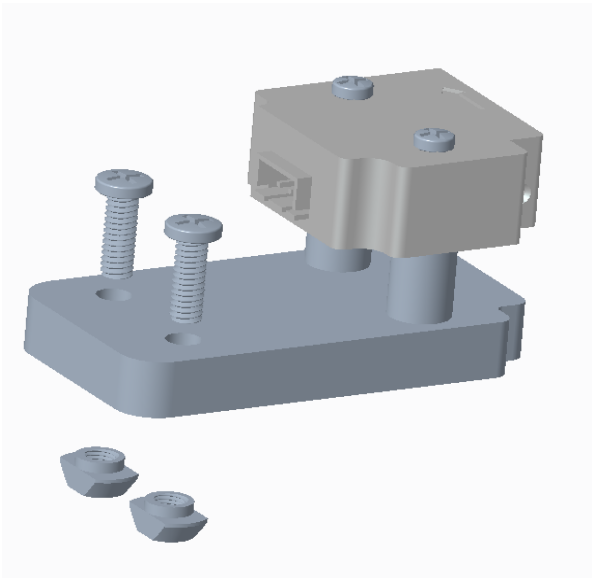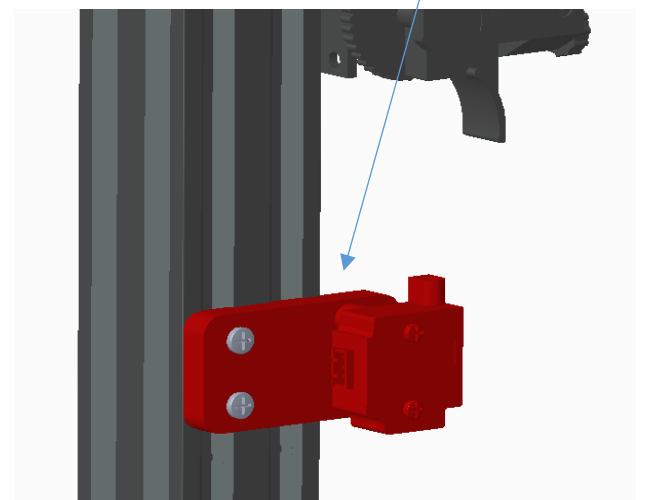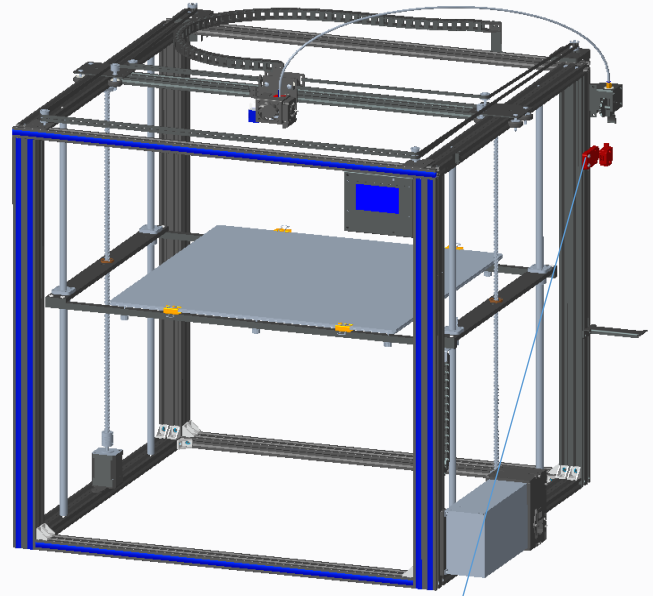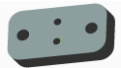
Step 17: strengthen rods and chains assembly

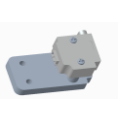## Assemble material specification and quantity：

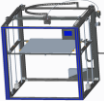| 3d printer 1pcs	strengthen rods 2pcs	boat nuts M4 8pcs	screws PM4*16 4pcs	screws PM4*12 4pcs	chains base 2pcs	Drag chain 1pcs	screws PA3*10 4pcs	Foot cup 4pcs	End cover 4PCS

1. Take 1 strengthen rods , 2 boat nuts and 2 screws PM4*16, and screw in the stiffener according to the position shown
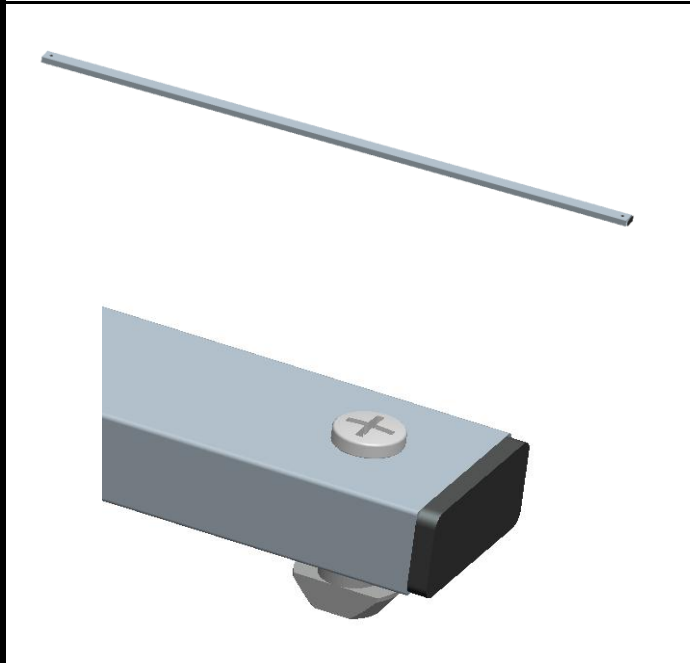
2. Fix the strengthen rods assembly on the aluminum profile with boat nut M4 and screw PM4*16, as shown in the figure.
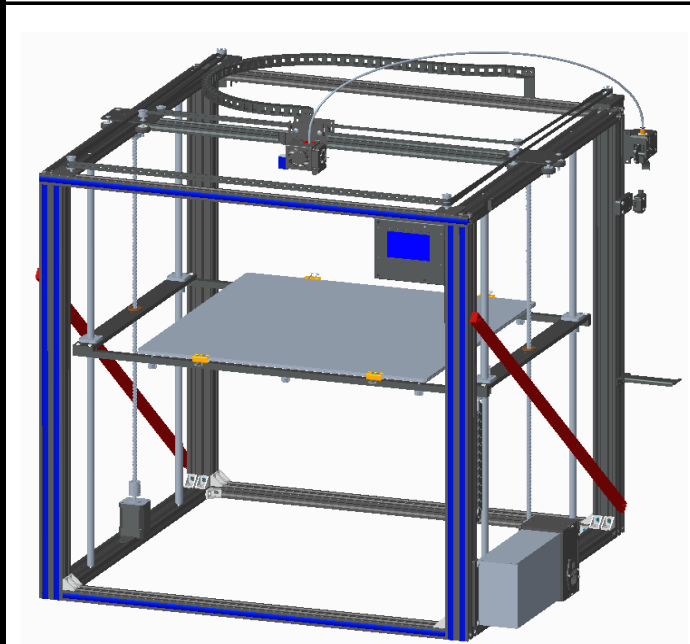
3. Screw PA3*10 to the drag chain base, as shown in the figure, screw PM4*8 and boat nut to the drag chain base.

scews PA3*10   PM4*12

4. Put out the wire of the extrusion head through the drag chain, and fasten the drag chain on the aluminum profile with the boat nut, as shown in the figure.Twist the foot cup on the aluminum profile and adjust the machine smoothly.To press the end cover into two side aluminum end up and down

End cover

Foot cup
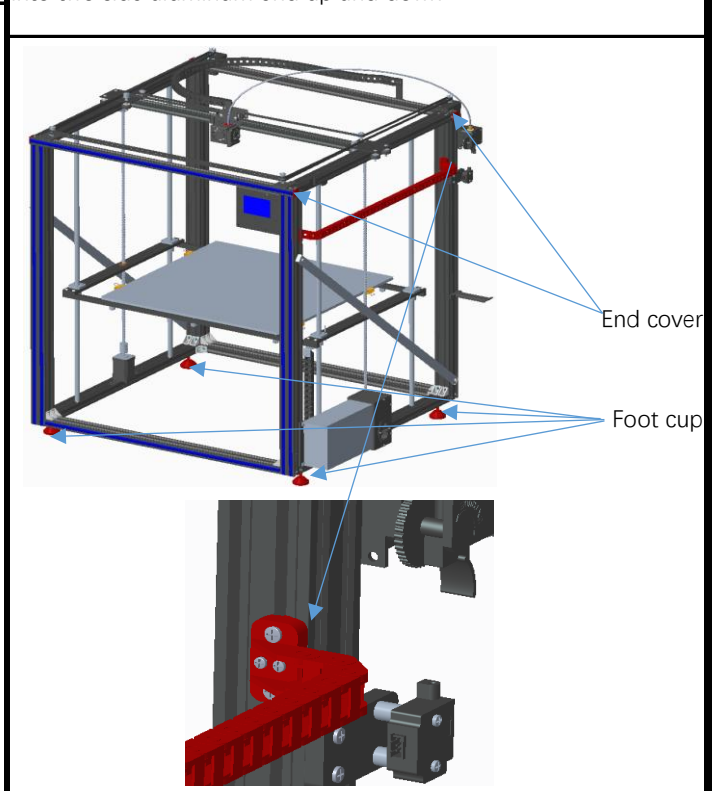
Step 18: wiring
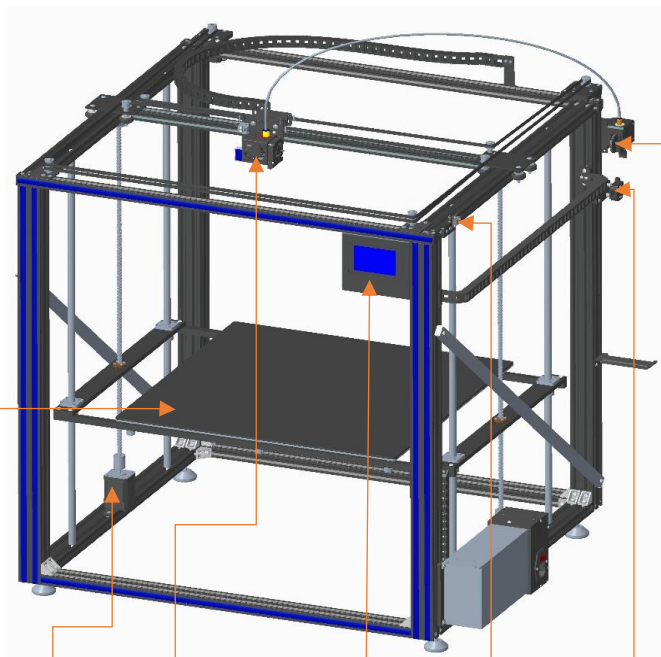
| Heat bed | Z1-motor | Printing head | The host box | YSTOP | FSTOP | E-motor |

BTEMP

ZSTOP

Printing head

HOTBED

Power

X-Motor

Y-Motor

Z1-Motor

Z2-Motor
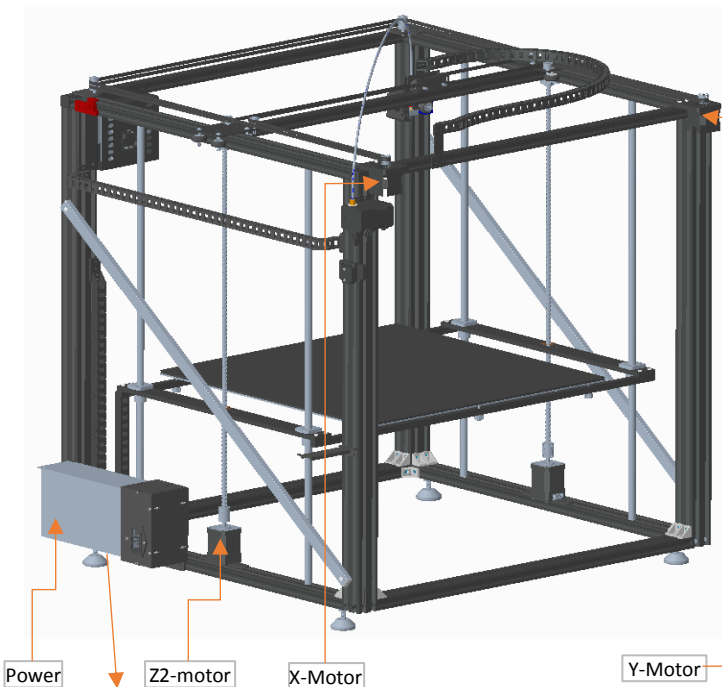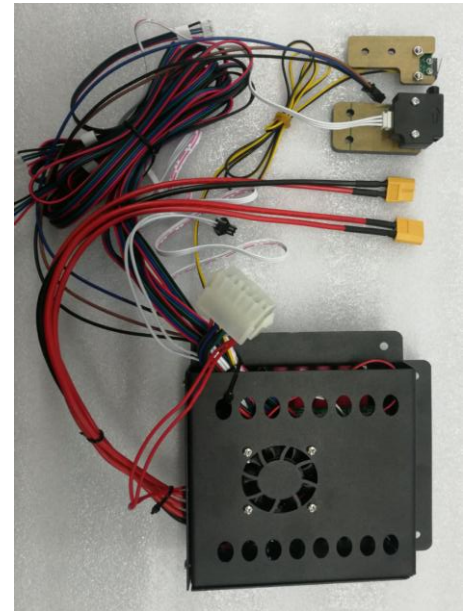
E-Motor

YSTOP

FSTOP

| Power | Z2-motor | X-Motor | Y-Motor |

110/220V is seiected by switcn
Before power on please check
input voltage avoiding damage
110V   220V
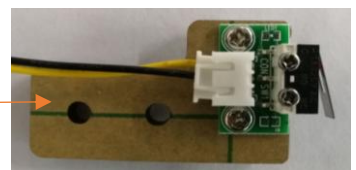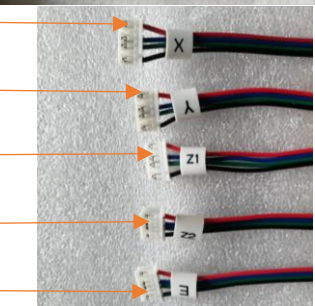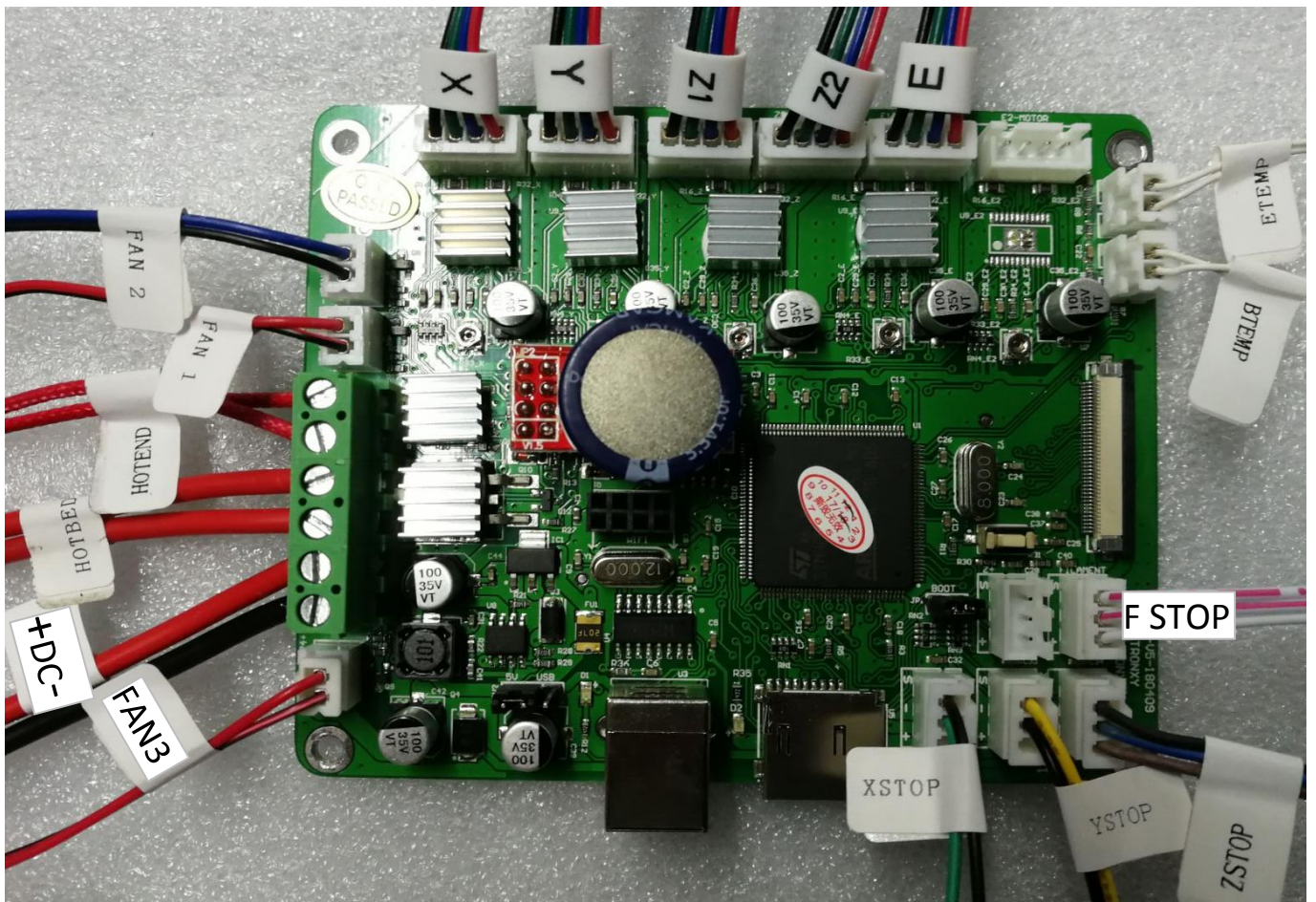
X5SA-500 Physical wiring diagram

2 Touch screen operation guide

1. Enter the main screen of the startup, display the system and tools, print three main menus, and click on the three sub-menus, as shown in the figure.Basic functionality for displaying submenus.
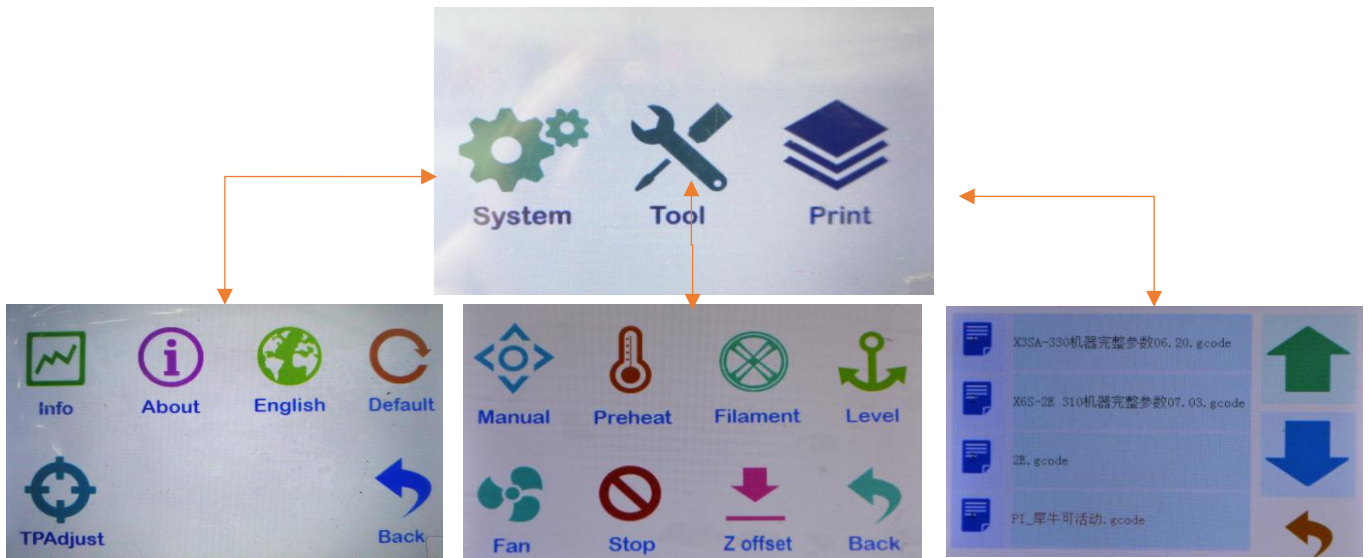
2. Click the system menu and enter it into the system submenu, as shown in the figure: click back menu and return to the superior menu.

2.1 click the state and display as shown in the figure: display the machine position state parameters.Click back menu to return to the superior menu.
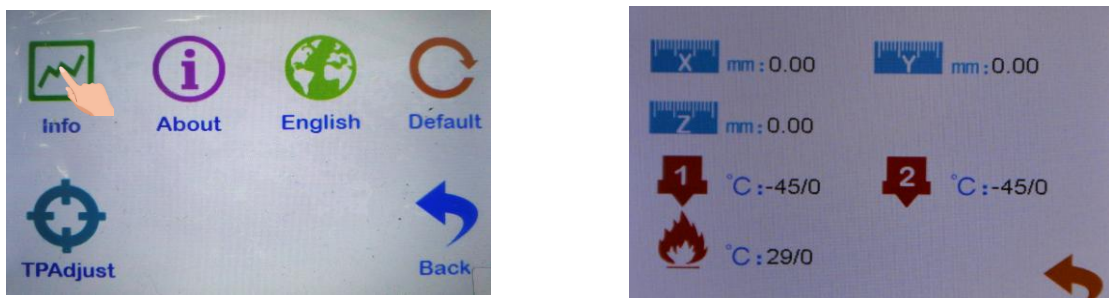
2.2 click the machine information and display the following figure: display the machine brand, ID, version and other information.Click back menu to return to the superior menu.
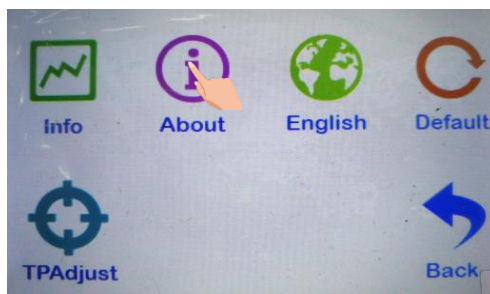
2.3 click the menu to enter Chinese and English.Click back menu to return to the superior menu.
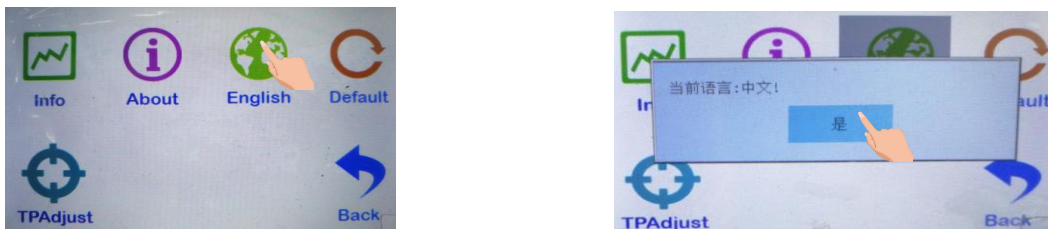
2.4 click factory Settings to ask whether the factory Settings are restored.Click to return to restart and restore the factory Settings.
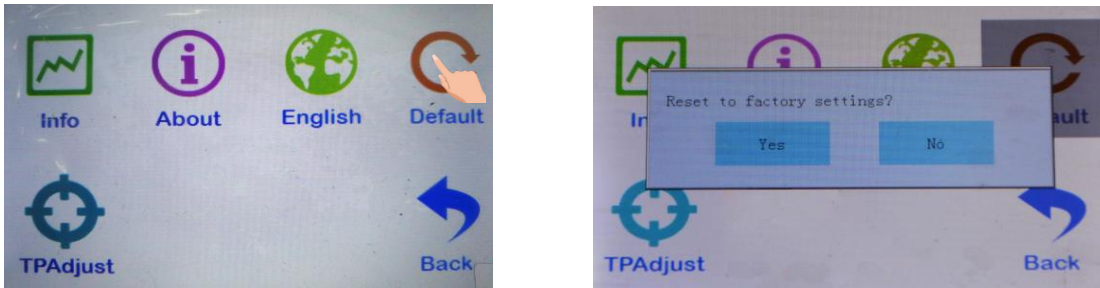
2.5 click the screen correction icon to enter the screen correction and click the cross position for correction.Adjust the screen when the menu is off, save it back.

3. Click the tools menu to enter the machine parameter setting and adjustment.

3.1 click the manual menu and enter the manual adjustment mode.Adjust the motor rotation, e. extruder feeding/discharging, XYZ shaft motor moving, ICONS 0.01mm, 0.1mm, 1mm, 10mm,click on the dark display, such as icon 10mm, each click on the motor stroke moving 10mm.Click the icon and the machine returns to the origin. icon   back to superior menu.
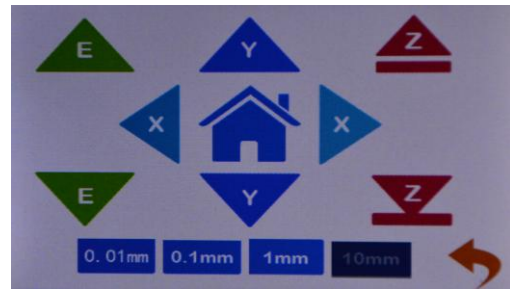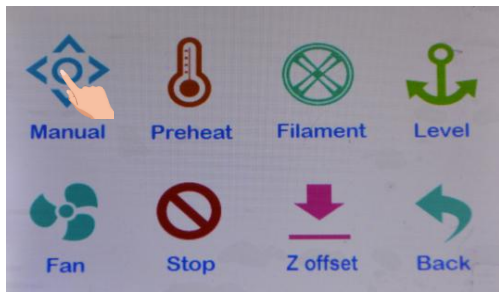
3.2 click the icon of preheating, as shown in the figure, set the heating temperature of the machine extrusion head and the hot bed, heat the icon 🔥 hot bed and heat the icon extrusion head, and click the icon in the right and left direction to adjust the setting temperature heating.Use the heating function when replacing consumables.
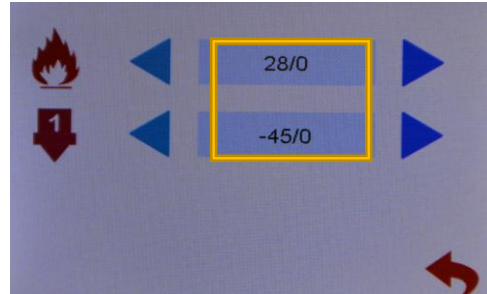
3.3 click the icon of loading and unloading consumables to indicate preheating.Remove the consumables to warm up before pulling them out.Set the heating temperature, the temperature reached, click the icon to return the material.When installing the filaments, make the filaments go straight out into the hole of the filament run-out detector and press down the feeder's pressing block, as shown in the figure. Pass the filaments through the feeder to the filaments pipe and then click the icon to send the filaments to the nozzle.Click the icon to stop.
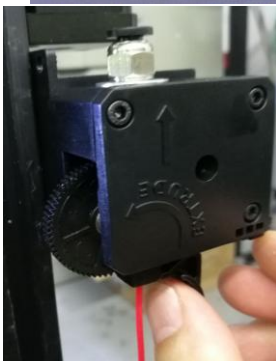
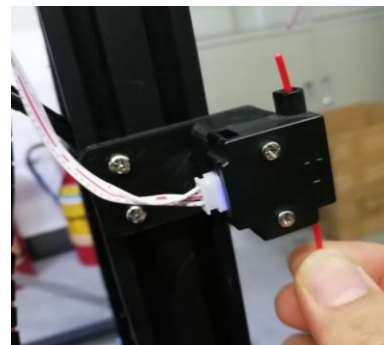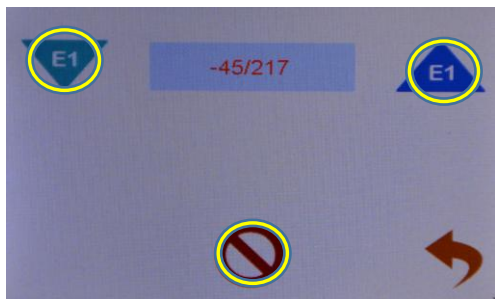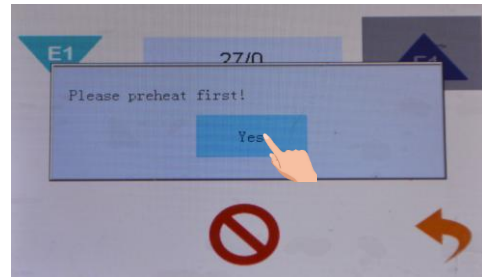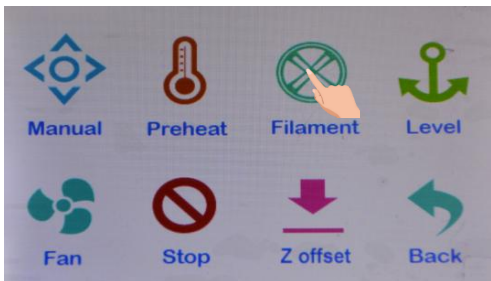3.4.1 click the leveling icon and enter the leveling menu. There are 3 options: auto leveling, manual leveling and cancel.Click cancel to return.
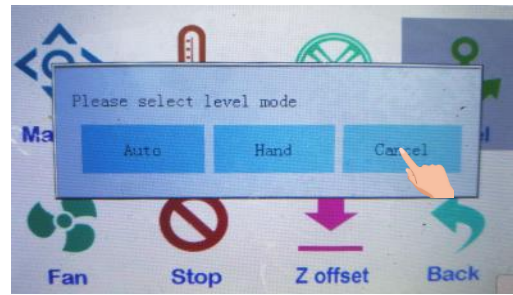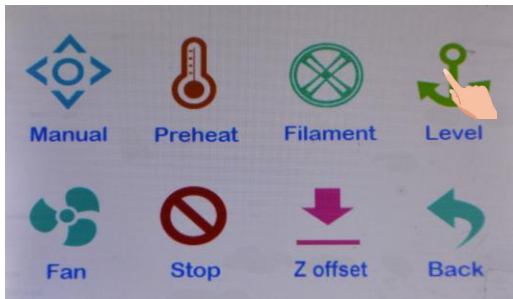
3.4.2 click automatic leveling, the machine will move automatically, read the location parameters set and save.If the reading deviates from 0.8 or above, adjust the nut under the platform at that point and then relevel it.

0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00

If the absolute value of the difference is greater than 0.8, adjust the screw and do it again.
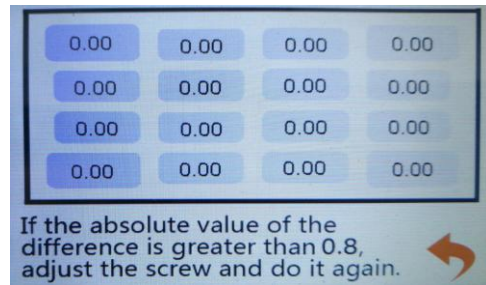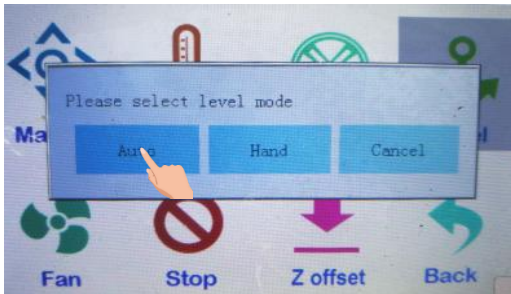
3.4.3 click the manual leveling to enter the menu, please adjust the 4 adjustment nut of heat bed, compress the 4 springs in the shortest possible location, click on the icon circle X icon, stop machine extrusion head moves to set position, please loosen the adjusting nut, release the spring rebound, let between nozzle and hot bed in the thickness of a p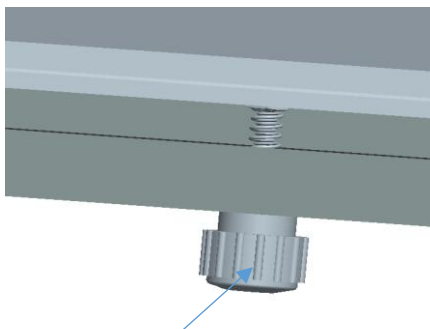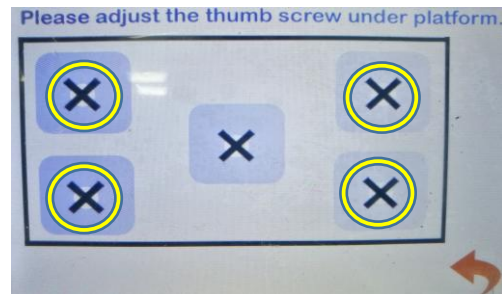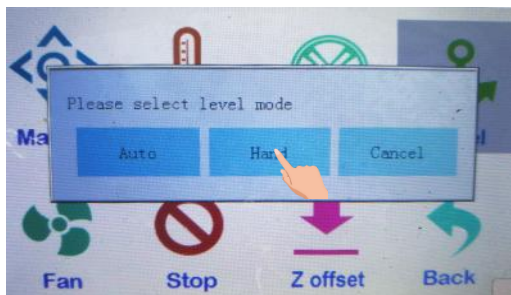iece of A4 paper, A4 paper between the nozzle and the platform moving a sense of resistance, but will not cut paper.Please adjust the four points circled in A4 paper thickness.

Please adjust the thumb screw under platform.

Adjusting nut
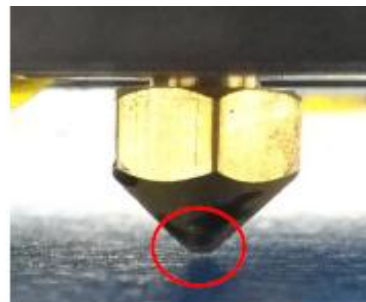
3.5 click the fan icon to enter the fan setting, and turn the fan value 0 OFF, 100 ON, .Click the number box directly to switch between 0 and 100

Fan1(%)	◀	0	▶
Fan2(%)	◀	0	▶
Fan3(%)	◀	OFF	▶
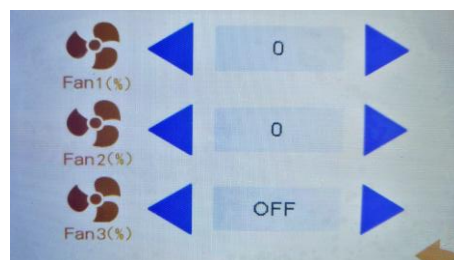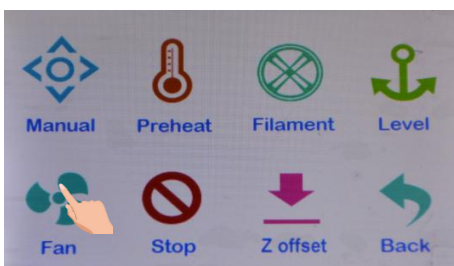
3.6 Click the emergency icon, the machine stops in the current state, and the motor unlocks,Stop heating,Fan1 to stop running.

3.7 click the Z offset icon to enter the Z axis position adjustment.The function of automatic leveling is effective.Select the fine tuning 0.1mm icon, click the icon ▲ Z axis to move up, and click the ▼ Z axis to move down.Adjust the nozzle and platform to A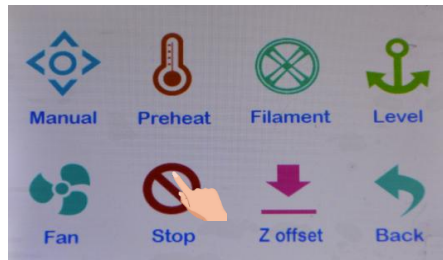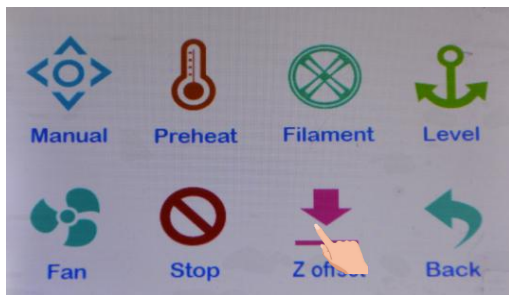4 paper thickness. Click the icon set Z to zero and save the setting.This function is automatically leveling Z axis compensation, with leveling function used, leveling simple.


4.1 click the print icon to enter the print.The screen displays the files in the machine memory card.Click the arrow to scroll up and down.Click the folder, open the folder, and display the folder contents.
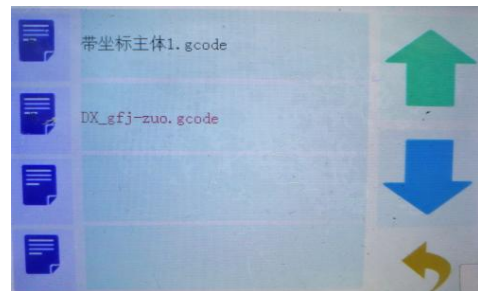
4.2 click on the file and select the file, which is a sliced file, to enter the file screen.Click the icon 🗑 to delete the file.Click the icon ▶ to enter print mode.
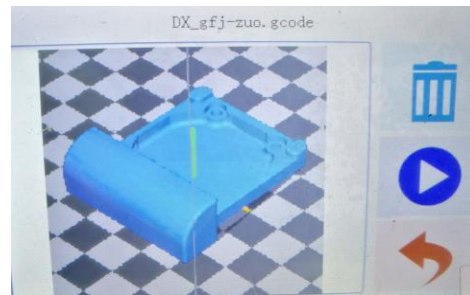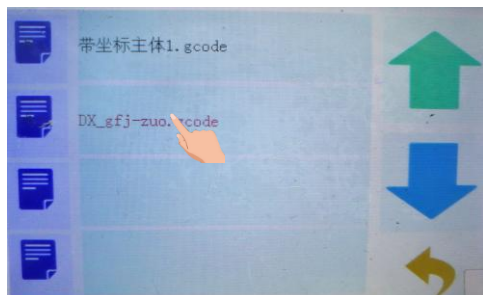
Top left frame preview model;The right picture frame shows the status parameters, the green hourglass shows the printing time, and the blue hourglass shows the time needed after printing.The number beside the pointer icon shows the printing speed and the percentage shows the printing progress.
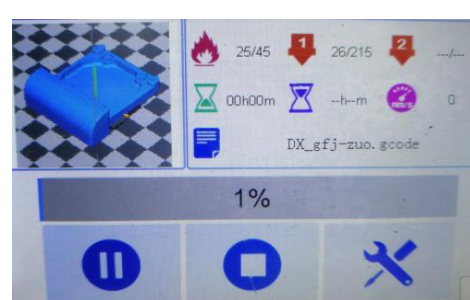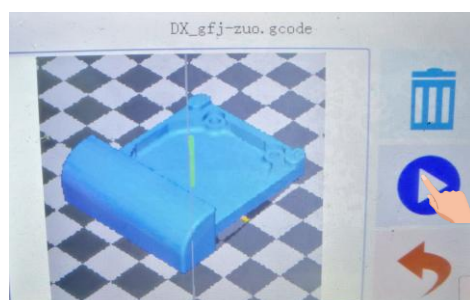
4.2.1 click the icon ⏸ to stop printing and ask whether to replace the consumables.To replace the consumables, click YES the consumables in step 3.3 and return to continue printing.Click no and go back to print.
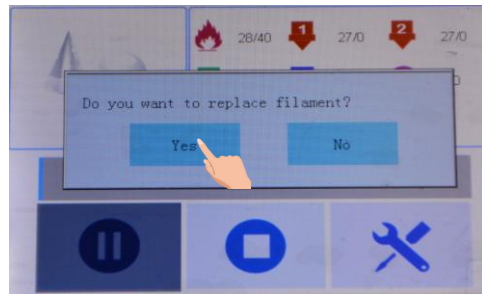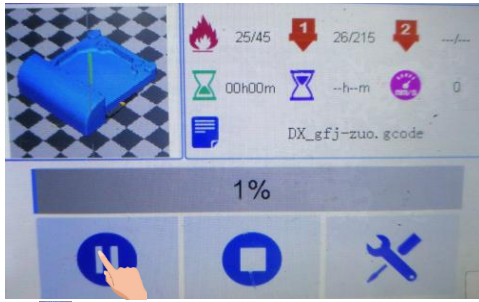
4.2.2 click the icon to stop printing, and the machine asks whether it is saved. Select "save", and the next printing will start from the current state.Select no, machine state reset.Click cancel to continue printing.This function continues for breakpoint.After the model print stops, the stop save state is shut down, and you can continue printing after the next start.Boot prompt last print interrupt, select continue last print.
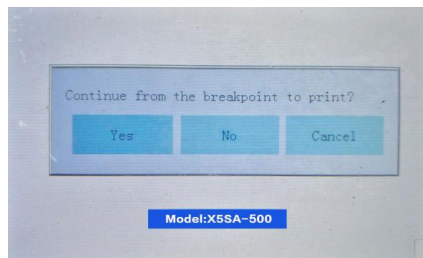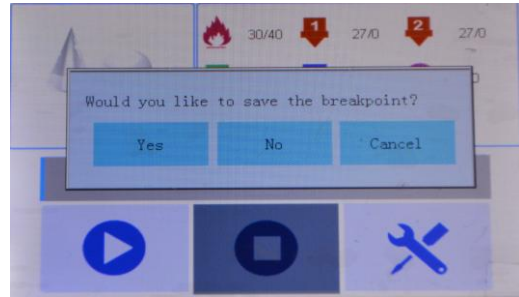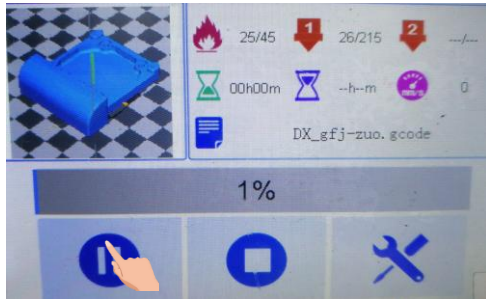
4.2.3 click the icon to enter the machine parameter setting change.The initial   parameters are set by slicing software. The parameters can be changed in printing, as   shown in the figure corre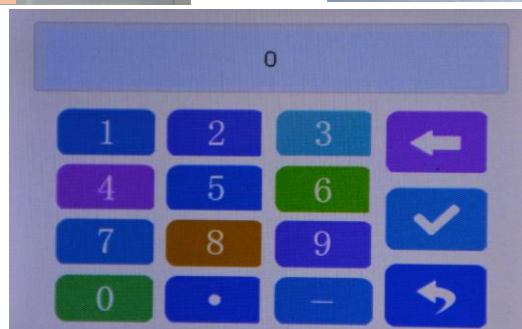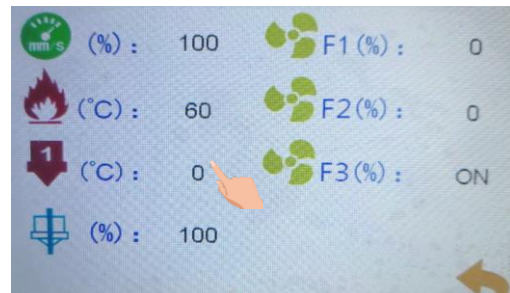sponding to the icon parameters.Click the parameters on the   right side of the icon , enter the parameter setting screen, set the parameters, click   the icon to save and exit, and click the icon to exit without saving.
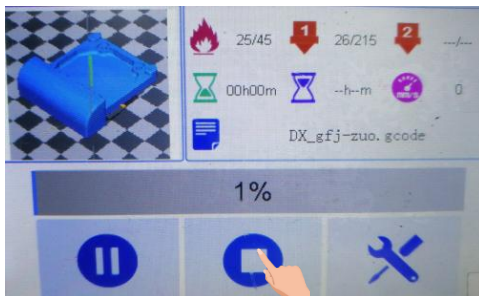
5. Filament run out detector: when the machine is working, the consumables are used up, or the consumables are broken and cannot be supplied to the machine, the machine status is suspended, and the screen indicates that the consumables are exhausted. Please replace the consumables. The picture shows that the consumable 1 of dual-color printer is exhausted.
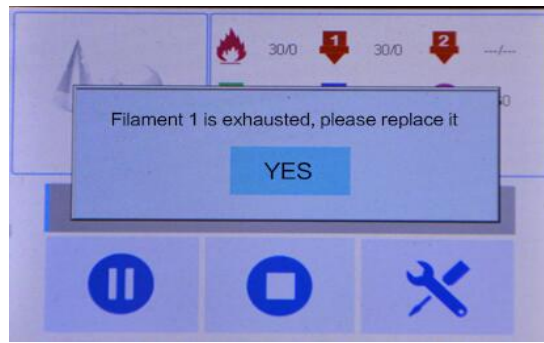
6. Filament run out detector: when the machine is printing, the machine will automatically save the current status parameters. When the machine is restarted, the screen will show that the last time it was hit was interrupted.The option is to print from the breakpoint.Select no or cancel, and the parameters are cleared.
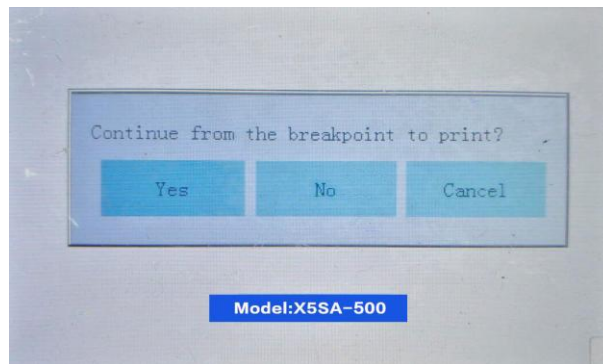
3. FAQ

1.Nozzle plugging material: will the print head heated to above 180 C°, and then use the 0.4 mm (default needle dredge nozzle, until manual feeding normal out of filaments.
2.Pipe plugging material: the printing head is a straight-through pipe. If the feeding pipe is not inserted in it is easy to cause the pipe blocking material. The pipe should be removed and cleaned.
3.Poor quality filaments lead to poor feeding filaments: replace high-quality filaments after removing the
4.Problems such as not reading the card and online failure:
    a.The SD card can be read on the computer, but cannot be displayed on the machine: format the SD card Retry, change GCODE file to uniform format (no special symbol),
    Bad contact with SD card slot.
    b.If the computer cannot display, the SD card is damaged.
    c.Could not be online: serial port was not selected correctly, baud rate was not selected correctly, driver or failed to install, USB data cable was damaged.
    d.The interference of external signal makes it impossible to be online.
5.Rubber leakage of printing head: the nozzle is loose, the heating block is loose, and the throat tube is loose, or worn out due to use, replace accessories.
6.Print the wrong layer, loose the belt, and tighten the belt properly.