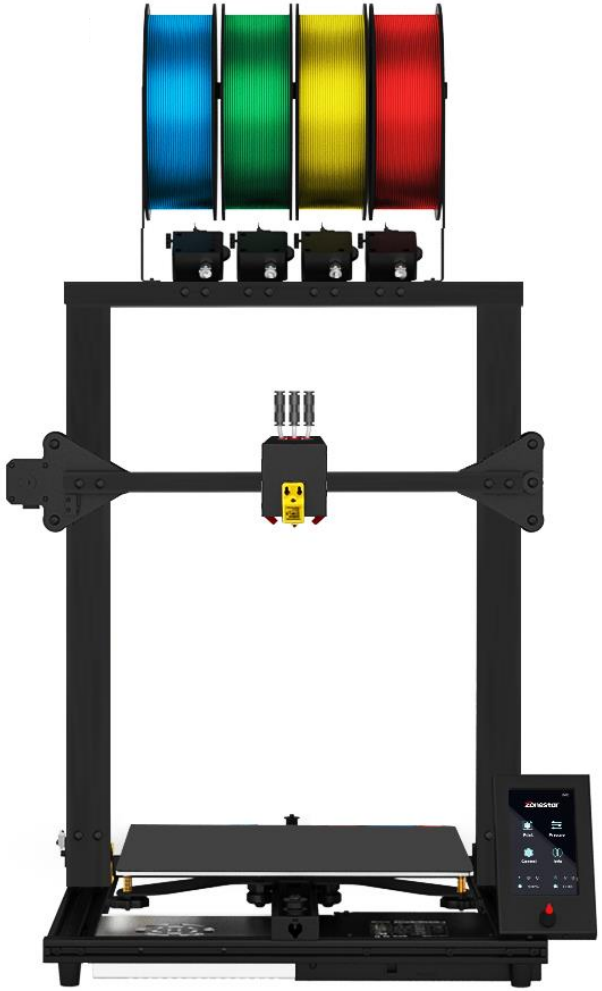


Model: Z8PM4-MK2

User Guide

!! ATTENTION !!

Please strictly follow the standard operation when installation.

Please put the printer away from the reach of kids.

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

Take care when installation, to avoid electrical shock hazards.

Caution: Hot!
Hotend has high temperature even the printer stop working.

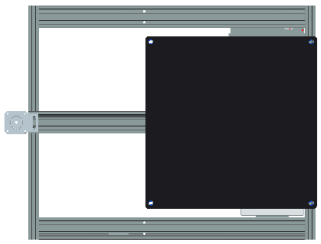
Caution: Hot!
Hotbed has high temperature even the printer stop working.

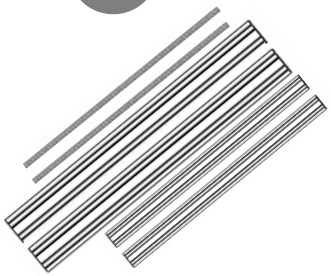
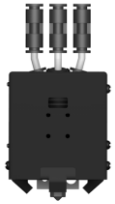
Please keep well-ventilated condition! May produce toxic gases when printer working.

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

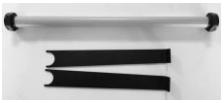
The newest documents download link: https://bit.ly/3Vvn7D2

Parts List



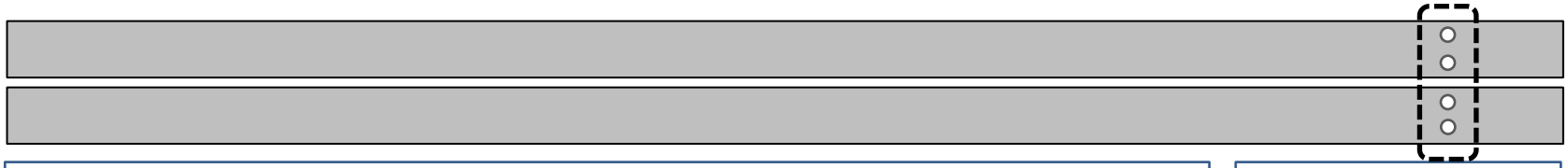




No.	Name	Check	No.	Name	Check
1	Base Module	☐	8	TFT-LCD Contol Panel	☐
2	Extruders (x4)	☐	9	Accessories	☐
3	Z-axis Motor Modules (x2)	☐	10	Filament Roll Bracket	☐
4	Lead screw & Profiles	☐	11	SD card	☐
5	Print head with X carrier	☐	12	Tools	☐
6	Z carrier(left)	☐	13	USB cable	☐
7	Z carrier(right)	☐	14	Power cord	☐

Description of Item No.4 & No.9



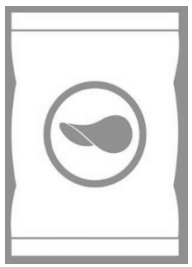
Z Profiles: 2* 2040 aluminum profiles for Z axis , the flat surface toward the front.

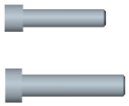
These two holes on the bottom when install

Top Profile: 1* 2020 aluminum profile installed to top.

X Profile: 1* 2020 aluminum profile, there are 4 hole on the front and 2 big hole on the back.

lead screws: 2* T8-500mm lead screws (*They are put inside the Z aluminum profiles*).



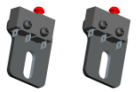


20* M4x18

8* M5x25

4* PTFE Tube

Cable tie



2* Z ENDSTOP

2* Z lead blocks

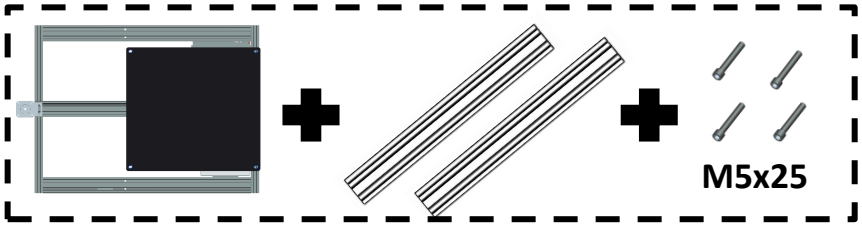
Nozzle (Spare part)

X Belt idler

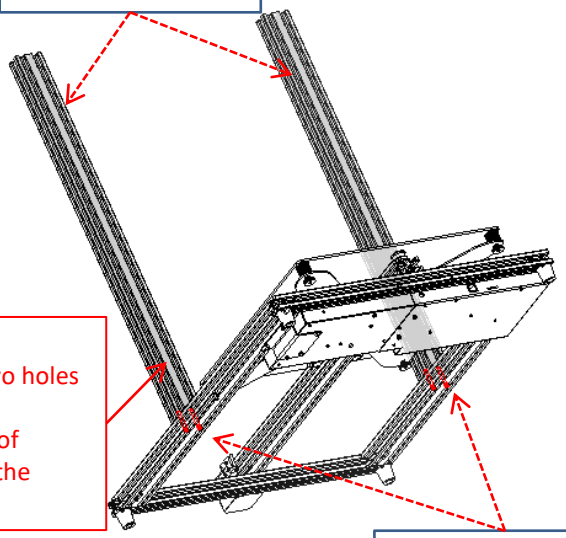
X Timing Belt

Wheel (Spare part)

Install Z axis Parts



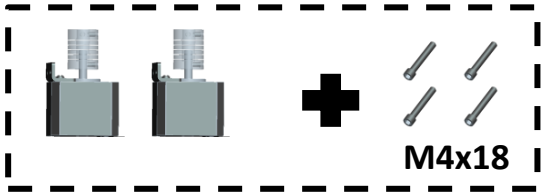
2040 profiles



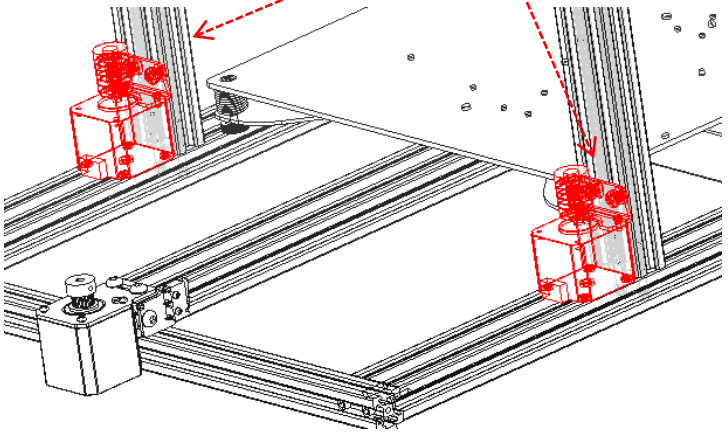
NOTE:
1. The side with two holes on the bottom.
2. The flat surface of profiles toward the front

M5x25 *4

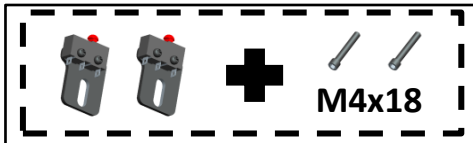
Install Z profiles to base



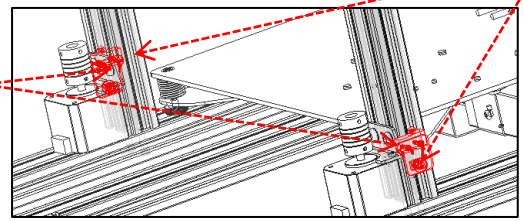
M4x18 *4



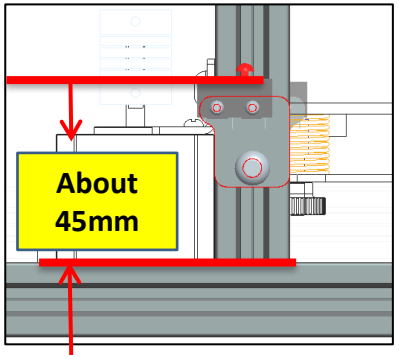
Install Z motor module to the Z profiles



Z ENDSTOPs



M4x18 *2



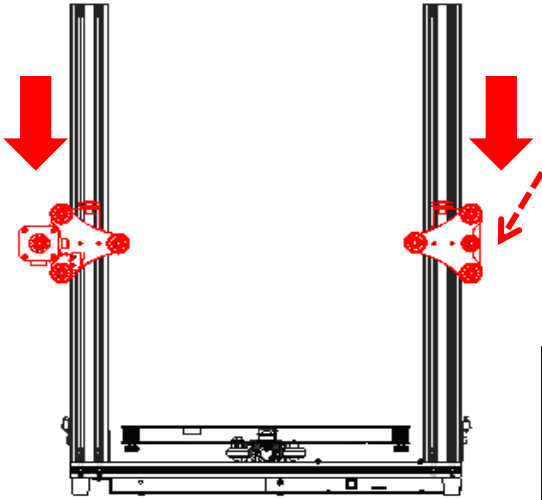
Install 2 PCS Z ENDSTOP to the out side of the Z profiles

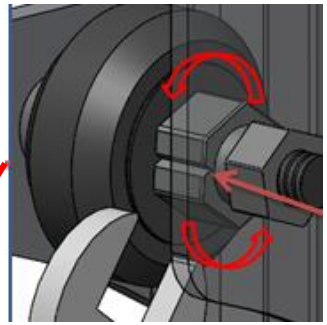
Layout Extruder’s Cable

Put the extruder cables into the groove behind the right Z profile and cover it with plastic profile covers.
Note that a distance of 10mm should be left at the top and the cables should be pulled out.

Install Z axis Parts

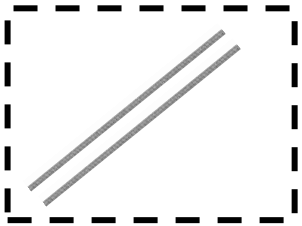
Install Z Carrier

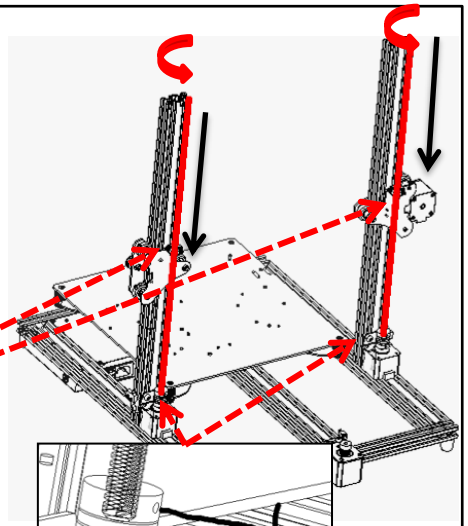


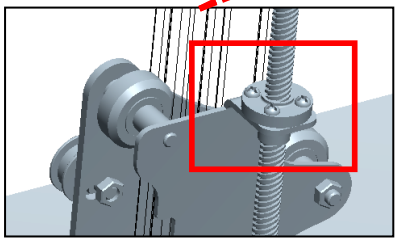


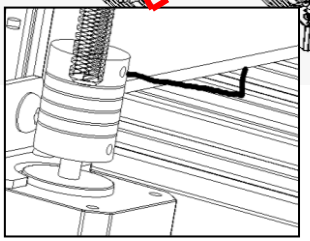
Note:
Adjust the eccentric cloumns let the carrier hold the rail well and move smoothly.

Install lead screws





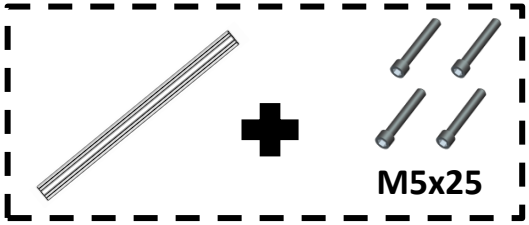


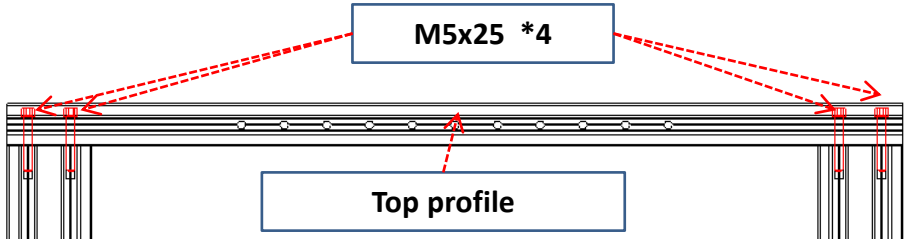


Through the copper nut

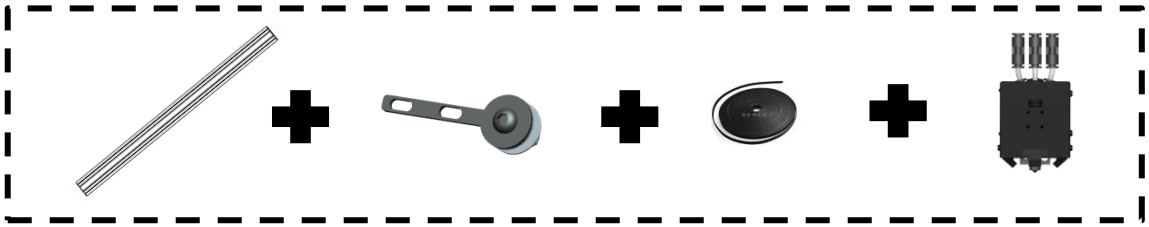
Fixed on the coupling of Z axis motor

Install Top profile





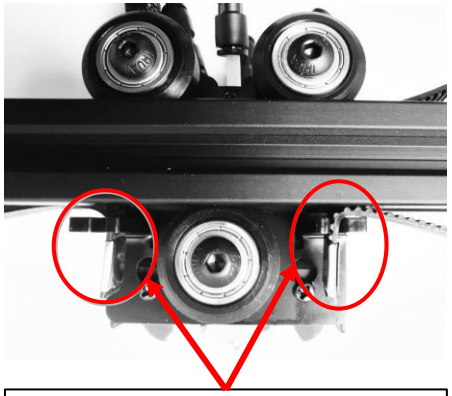
Install X axis Parts



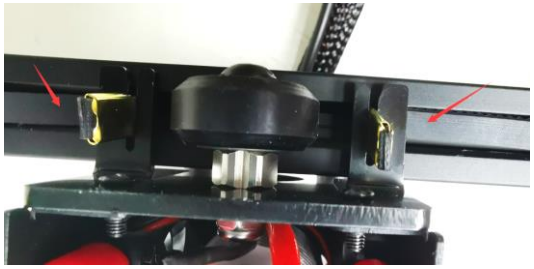
Install X belt idler to X profile

Install X belt

Insert X carrier from the left side, keep the belt in the groove of X profile

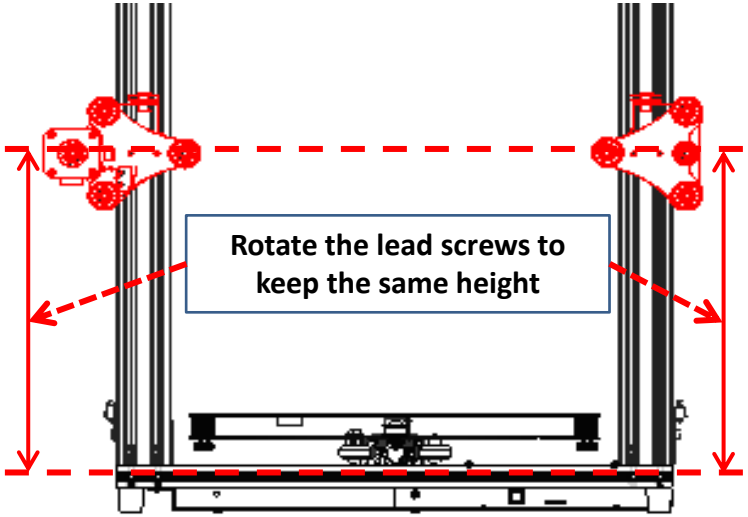


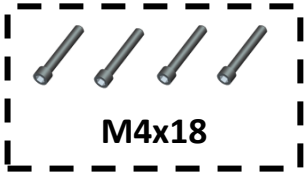
Fasten the belt to the hook of X carrier



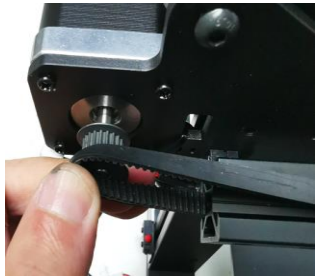
Move the belt to the center of the profile

Install X axis Parts



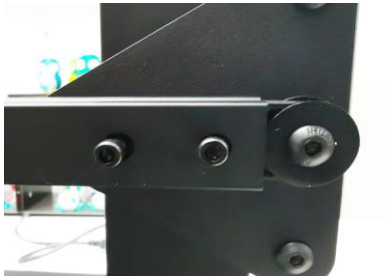


Insert X idler to Z right carrier

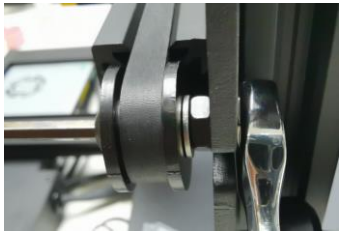


Hang the belt to the timing pulley

Turn the wheel to let the belt in



Fix X profile
(Don't tighten at first)



Fix the X idler

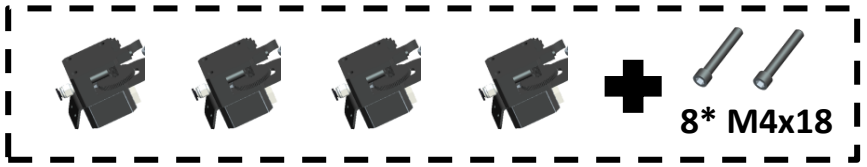
Zonestar

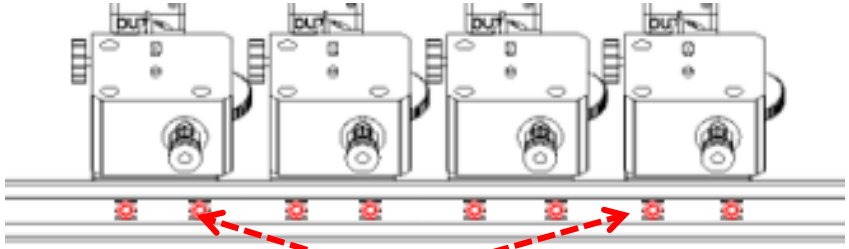
Install the other parts

Loosen the screw

Install the LCD screen

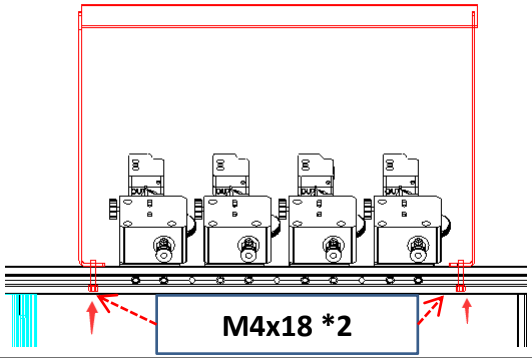
Install the LCD screen on the right/bottom of printer





8* M4x18

Install Extrusion feeders to the top profile

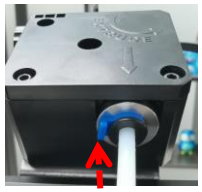


M4x18 *2

Install the filament roll bracket to the top of the frame

Note: The PTFE tubes are a little longer than need, you can cut it by a knife if need.

Insert PTFE



Install clamp

Connect to Hotend

Connect the extrusion feeder with the print head
by filament guide (PTFE tube)

Debug the Z Movement system

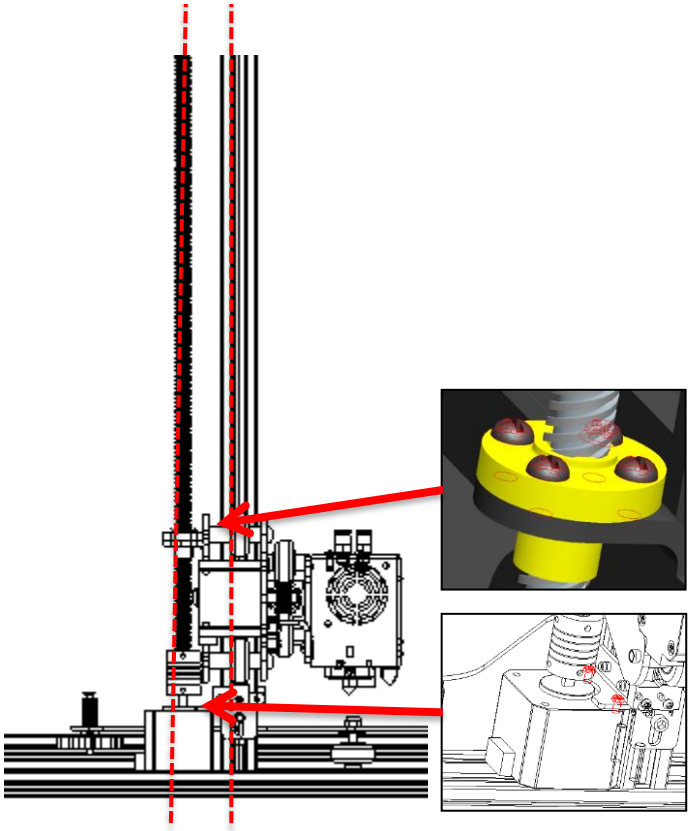
Keep the lead screws parallel to the Z axis profiles as far as possible will help to obtain better printing quality, please debug them refer to the following steps:

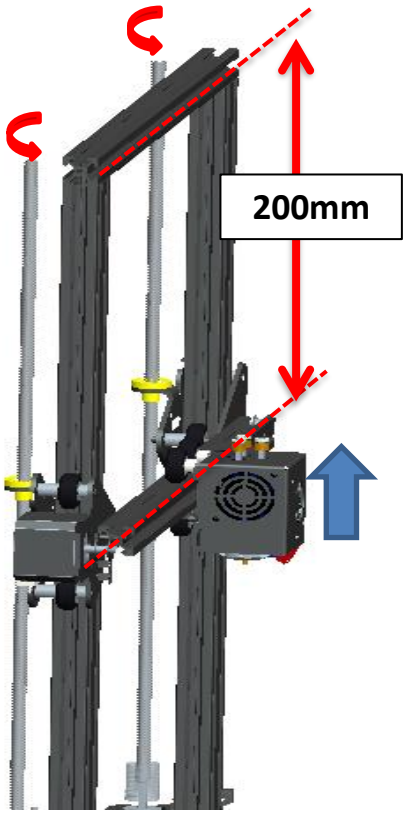
Step 1. Loosen all the screws a little that fixed the Z motors and T8 copper nut.

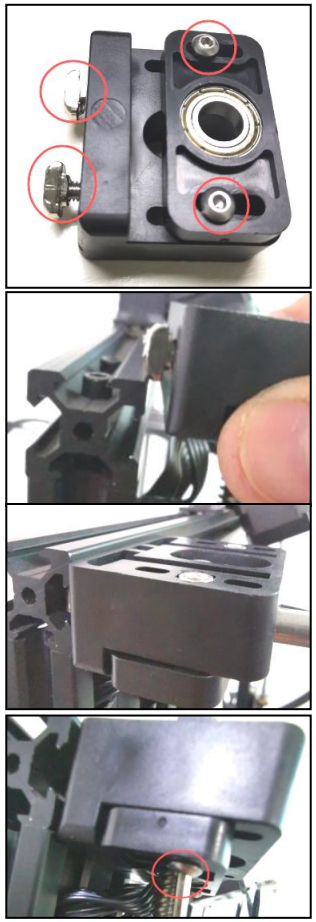
Step 2. Synchronous Rotate the couplings to move up the X axis to 1/2 height of the printer.

Step 3. Keep the lead screws parallel to the Z profiles, then tighten the screws that fixed the Z motor and T8 copper nuts.

Step 4. Install the Z lead screws fix blocks on the top profile after done.







Loosen a little

Put in

Fixed

Fixed

!!ATTENTION!!

Take care when installation, to avoid electrical shock hazards!

Set the 110V/220V swicth (on the side of power supply) to correct position according to your city power voltage!

DC-IN, HOTBED has lager operating current, please make sure these wires contact well with the terminal.

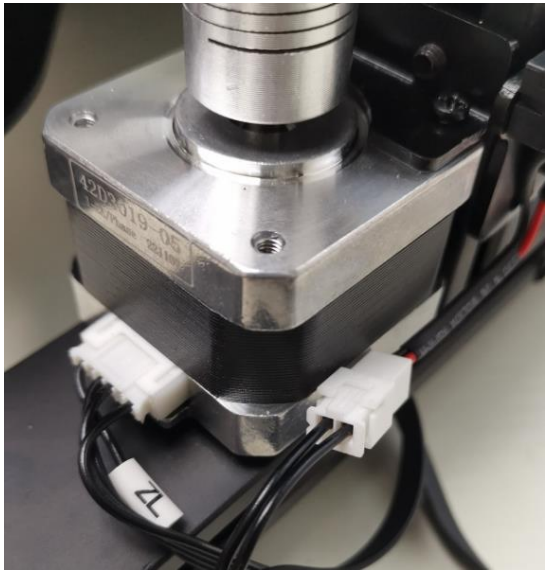
Double check the wiring! WRONG WIRING MAY DAMAGED THE ELECTRONIC DEVICE!

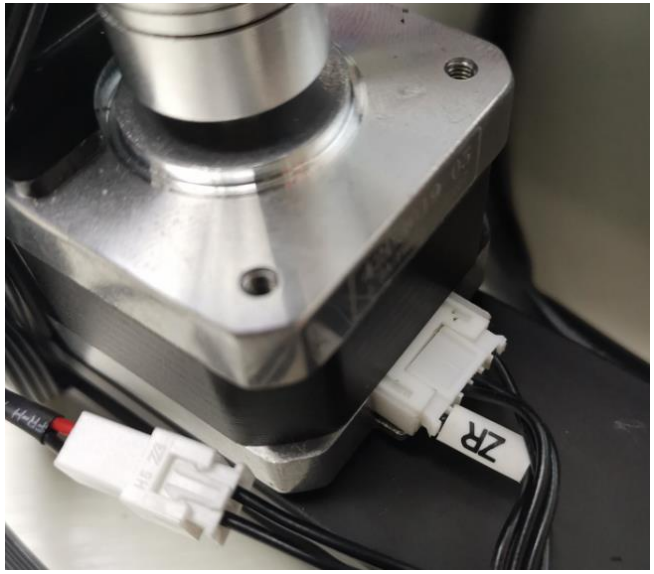
Stop working immediately if the motor has abnormal vibration or noise,, otherwise the driver modules may be damaged!

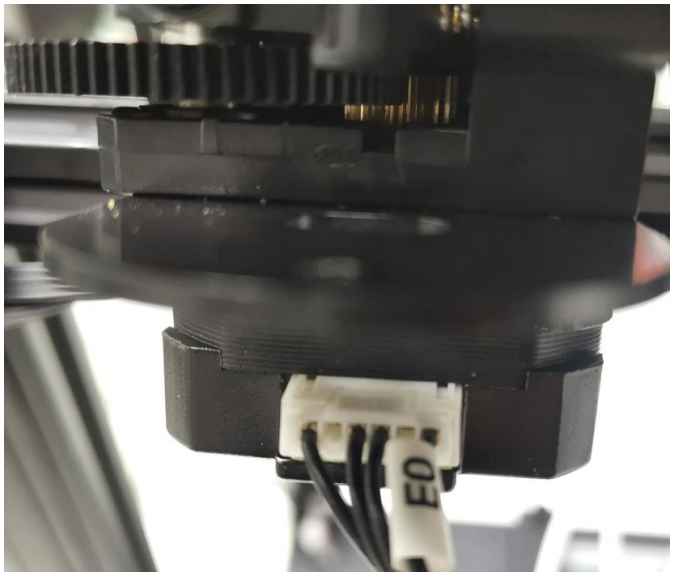
Make sure the hotend cooling fan is working when the nozzle temperature is over 60 degree, otherwise check the wiring again.

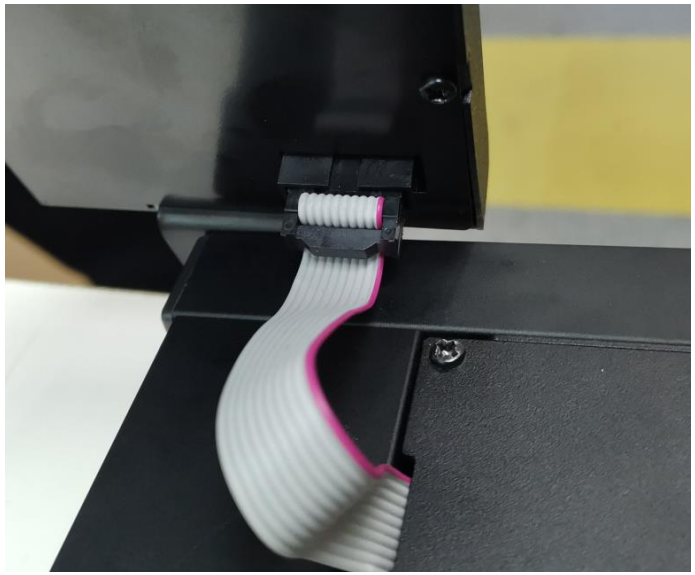
Put the motor wire to the grooves of profile and cover them by plastic profile cover, and using cable tie to wrap the free wires.

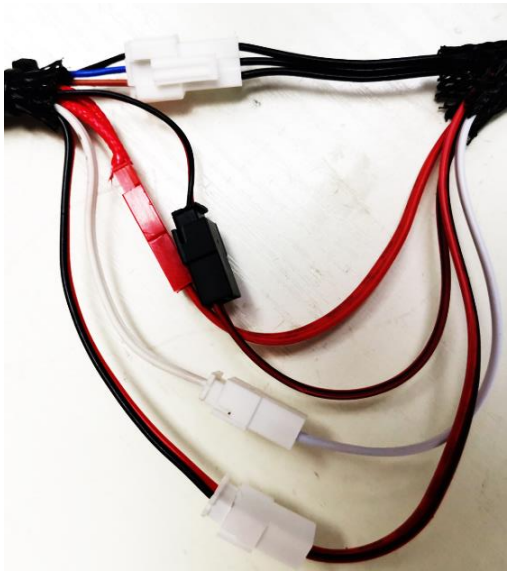
Wiring



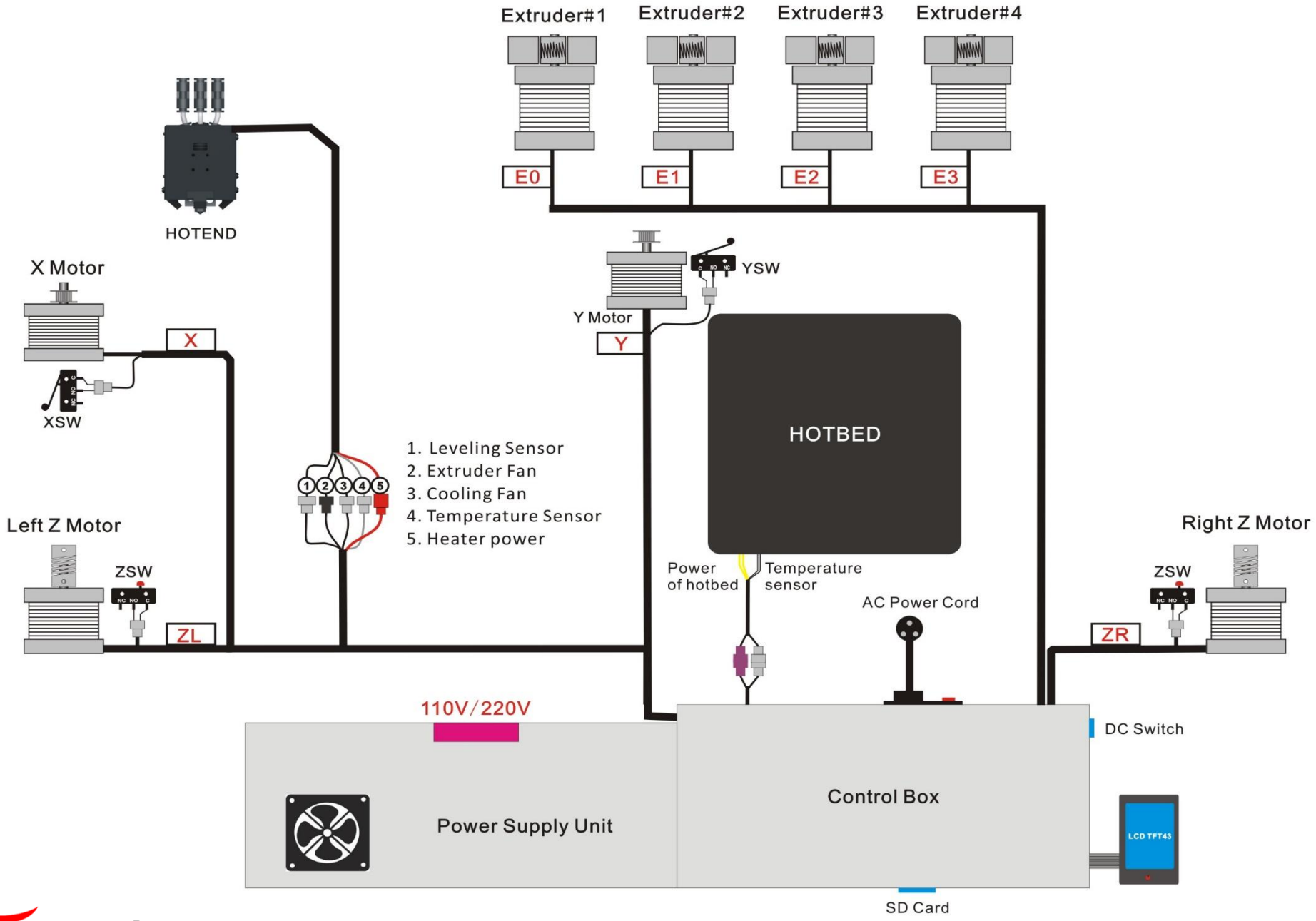








Wiring Block



Check before power on

It is very important to check the machine before power on. It can eliminate the trouble brought by some hardware to ensure the smooth printing!

Step 1: Check if the X&Y axis timing pulley are fixed on the shaft of motor, and the couplings are fixed on the shaft of the Z motors.

Step 2: Check if the lead screws have been fixed on the shaft of coupling.

Step 3: Move the hot end and hotbed to their respective limit switch positions to check whether the contact is good and there is a clear sound. Otherwise, please check the limit switch and reassemble it.

Step 4: Manually move the hot end and hotbed to see if the movement is smooth, otherwise, adjust the eccentric nut until the motor moves smoothly. Refer to the installation procedure.

Step 5: Check whether the X and Y-axis drive belt is firmly installed. If it is too loose, please try to tighten it.

Step 6: Check whether the screw rod is assembled in place and whether the screw is tightened.

Step 7: Manually rotate the left and right z-axis motor couplings at the same time to move down the Z carriers to check whether the z-axis limit switch contacts reliably.

Power ON / Power OFF

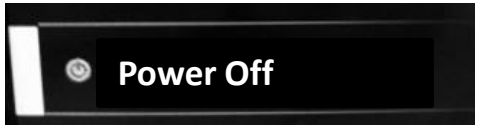
!!ATTENTION!!

MAKE SURE THE AC VOLTAGE SELECT SWITH HAS BEED SET TO THE CORRECT POSITION!!!

POWER ON

Plug in power cord → Turn ON AC Power Switch → **Push and hold** DC power button → Wait about 5 seconds until the LCD shows Logo

POWER OFF



Do “Prepare>>Power Off” on LCD Screen → Wait the LCD screen off → Turn OFF AC Power Switch

Zonestar

LCD Menu and Operation

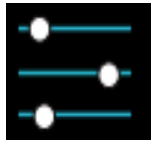
Title bar

Menu bar

Status bar

Control handle

Printing from SD card



Prepare to print

Setup the machine

Information of the machine

Control handle:

Rotation: Select the next/previous menu item or modify the setting value.

Click: Enter the next menu / Execute the current command / Confirm the modified value.

For details on the TFT-LCD menu, please refer to **"LCD_DWIN Menu Description.pdf".**

Prepare to print - Level the bed

Before printing, you need to adjust the distance between the nozzle and the hot bed film to a proper value, so that the melted filament can be pasted onto the hot bed film well. This process is also called “level bed”. If the nozzle is too far away from the bed, the filament can't stick to the hot bed. If the distance is too close, the bed film and nozzle will be damaged, or even the hot end will be blocked.

Step 1. Power on the 3d printer and then do ***“Prepare>>Auto Home>>Home All”*** on LCD MENU, wait the hotend go to the HOME position.

Step 2. Tighten the hand nuts under the bed to move down the bed to the lowest position **(Fig 1)**.

Step 3. Do ***“Prepare>> Bed leveling>> Point 1”*** on control panel(**Fig 2**), the nozzle will go to the corners of the bed, loosen the hand nuts under the hotbed (**Fig 3**) and let the nozzle almost touch the hotbed (**Fig 4**). Continue to do “***Point 2/3/4”*** until all of the 4 corners has been leveled.

Step 4. Repeat **Step 3** and do 2 ~ 3 rounds, until all of the four corners at the same height.

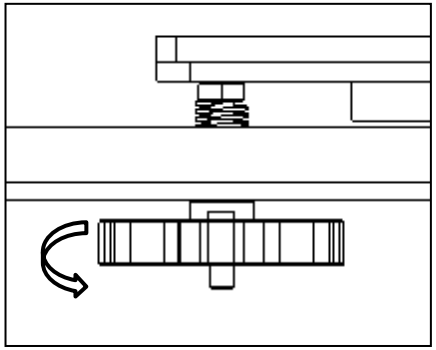


Fig 1

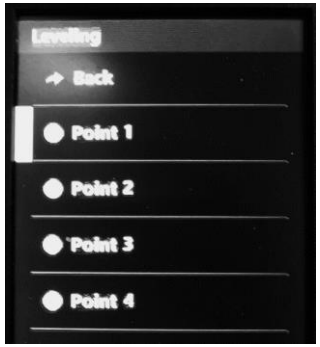


Fig 2

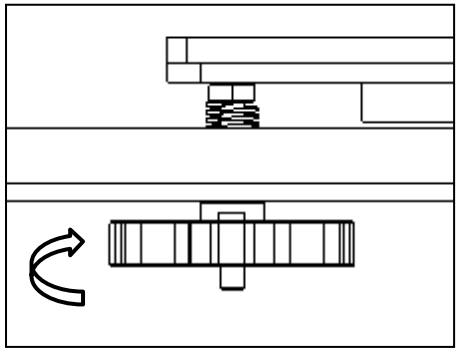


Fig 3

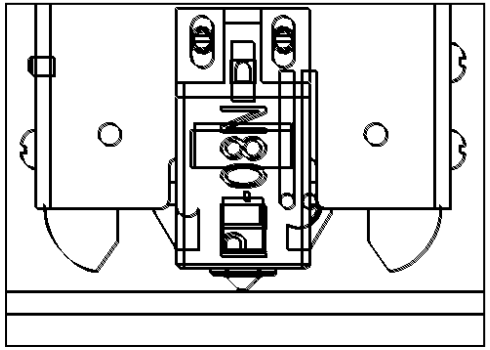


Fig 4

Zonestar

Prepare to print - Load Filament

This printer is equipped with four extruders and one 4-IN-1-OUT color mixing hot end. The extruders and the hot end are connected by a filament guide (PTFE tube). Before printing, you need to load all 4 filaments into the extruder and feed them into the bottom of the hot end.

Step 1. Do ***"Prepare>>Auto Home>>Home All"*** on control panel, and then do "***Prepare>>Temperature>>Preheat PLA"***, w**aiting nozzle temperature reached to 190 ℃ (Fig 1).**

Step 2. Use a diagonal pliers to cut off the head of filament (**Fig 2**), and then press the handle of the extruder#1 and insert filament, push the filament until you can see the filament in the PTFE guide (**Fig 3**). Rotate the gear of extruder #1 (**Fig 4**), watch the filament until it entered the hot end.

Step 3. Using the same method as in step 2 to load the filaments to extruder#2 ~ extruder#4, watch the filaments until them entered the hot end.

Step 4. Slowly rotate the gear of extruder#1 ~ extruder#4 one by one and watch the nozzle, until you can see the filament flowed out from the nozzle(Fig 5).

Fig 1

Fig 2

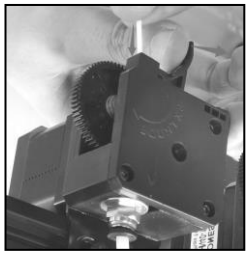


Fig 3

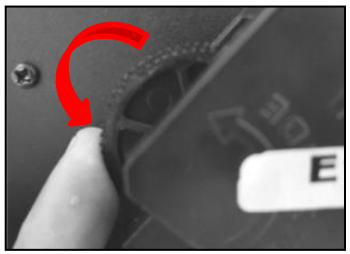


Fig 4

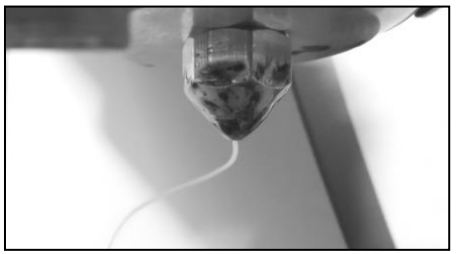


Fig 5

Zonestar

Print the first works

1. Insert the SD card to the SD card socket on the printer (***Fig 1***).
2. Click "**Print**" on the control panel and choose "***Test gcode\xyz_cube.gcode***" (***Fig 2***), click the knob to start printing.
3. Wait until the hotend and hotbed is reached to the setting temperature ***(Fig 3),*** the nozzle will home to the origin position and then move to above of the printing platform and extrude the filament, use a tweezers to remove the outflow filament ***(Fig 4)***.
4. When the nozzle moved to the hot bed and start to print, ***double click the knob*** on the control panel to open a "***Baby steps Z***" menu ***(Fig 5)***, rotate knob slowly to fine tune the height of printing platform, watch the distance from nozzle to bed, until the distance goes well ***(Fig 6).*** Wait the printing finished, you will get your first works ***(Fig 7).***
5. Wait the hotbed cool **(<=25 degree)** ***(Fig 8)***, and then remove the printed object from the hotbed ***(Fig 9)***.

Fig 1

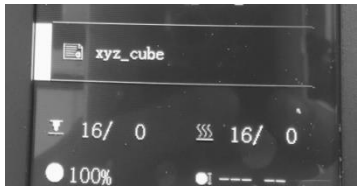


Fig 2

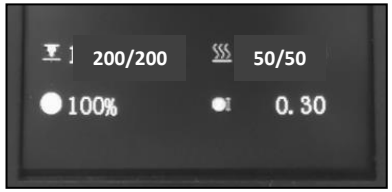


Fig 3

Fig 4

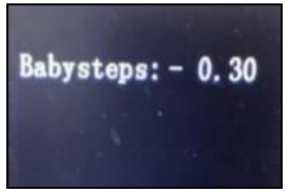


Fig 5

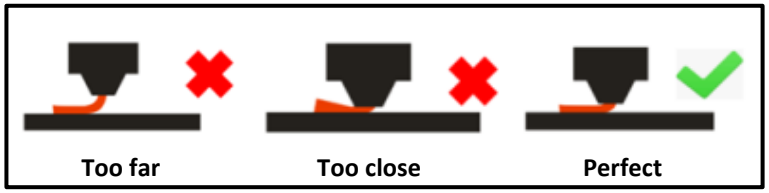


Fig 6

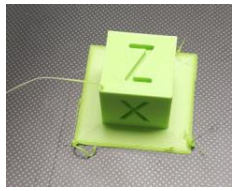


Fig 7

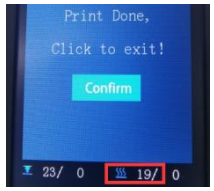


Fig 8

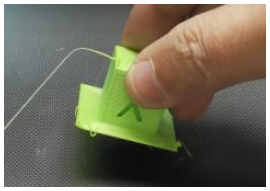


Fig 9

Zonestar

Advance features

NOTE: Do not turn on these functions until you clearly understand how to use them.

◆ Auto Mix Printing

This printer has built-in automatic gradient printing function. You can print monochrome slice print model gcode file into gradient model. For the details, please refer to ***"Auto Color Mixing Feature User Guide"*** .

◆ Bed auto leveling

This printer is equipped with a PL-08N Bed leveling sensor, with this sensor, you can correct the unevenness of the hot bed. For the details, please refer to ***"Bed Auto Leveling Feature User Guide"*.**

◆ Auto power shut down

3D printing usually takes a long time, and you may not be near the machine when printing is finished. You can let the printer auto shut down while printing is finished to save unnecessary power consumption. For the details please refer to "***Auto Shutdown Feature User Guide"*.**

◆ Power loss recovery

While printing from SD card and power is lost, after power on again, the printer will resume to print from the last layer which printed before power lost. For the details, please refer to ***"Power Loss Recovery Feature User Guide"*.**

◆ Auto retract

The strings issue of the mixed color hot end is often more serious than that of the single color hotend. Therefore, an automatic retraction feature is set in the firmware. Using automatic retraction can improve this problem. For the details, please refer to ***" Auto Retract Feature User Guide"*.**

Zonestar

Slicing

The slicing software is a computer software used in the majority of 3D printing processes for the conversion of a 3D object model to specific instructions for the printer. In particular, the conversion from a model in ***STL(Obj, Amf)*** format to printer commands in **g-code** format.

This machine can use a variety of slicing software to complete slicing, We provide download addresses, instructions and video tutorials of common slicing software.

For details, please refer to: https://github.com/ZONESTAR3D/Slicing-Guide

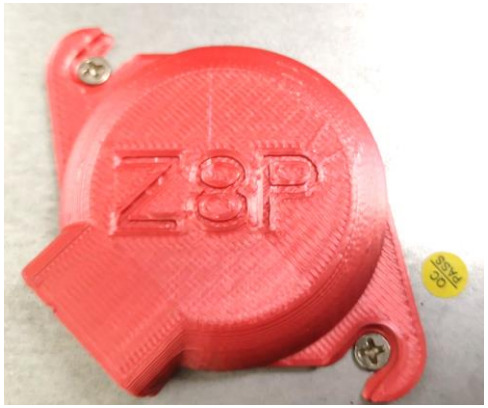
NOTE:

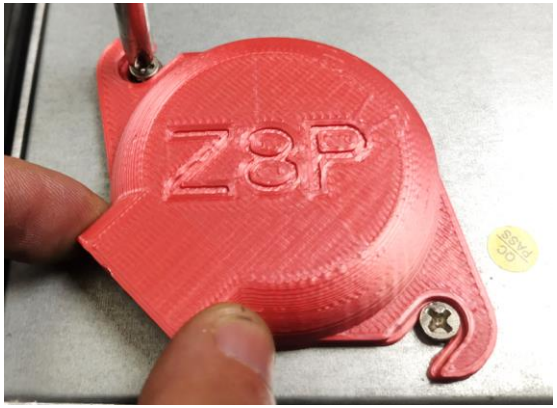
1. Slicing software is not a part of this machine, you can download slicing software for free from the internet.
2. If you print one color, please choose machine "**Z8 + One color**". If you print multi color, please choose machine "**Z8 + M4 hot end**".
3. Some of the user guide and video tutorials are made with reference to our Z9 series 3d printer, and they are fully applicable to Z8PM4.

Upgrade this printer kit

■ Power Supply Fan Cover

You can print a FAN cover and install it to the power supply to prevent debris falling into the fan of the power supply. When installed the fan cover, loosen a little the screws but not remove it, and then insert the FAN cover and fix the screws.





Gcode and stl file stored in “5-PrintParts” directory, file name: PS_FAN_CASE.

■ Filament Run Out Sensor

With these sensors, the printer can pause the printing while one of the filament spool used up, and you can continue to print after load a new roll filament. For the detail, please refer to **here**.

■ Wireless Control

By upgrading a WiFi module, you can control the 3d printer by wireless. For the detail, please refer to **here**.

■ 4-IN-1-OUT Non-mix Color Hotend

By upgrading a 4-IN-1-OUT non-mix color hot end, you use a smaller prime tower when print multi color 3d prints. For the detail, please refer to **here**.

For more upgradable features, please refer to here.

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