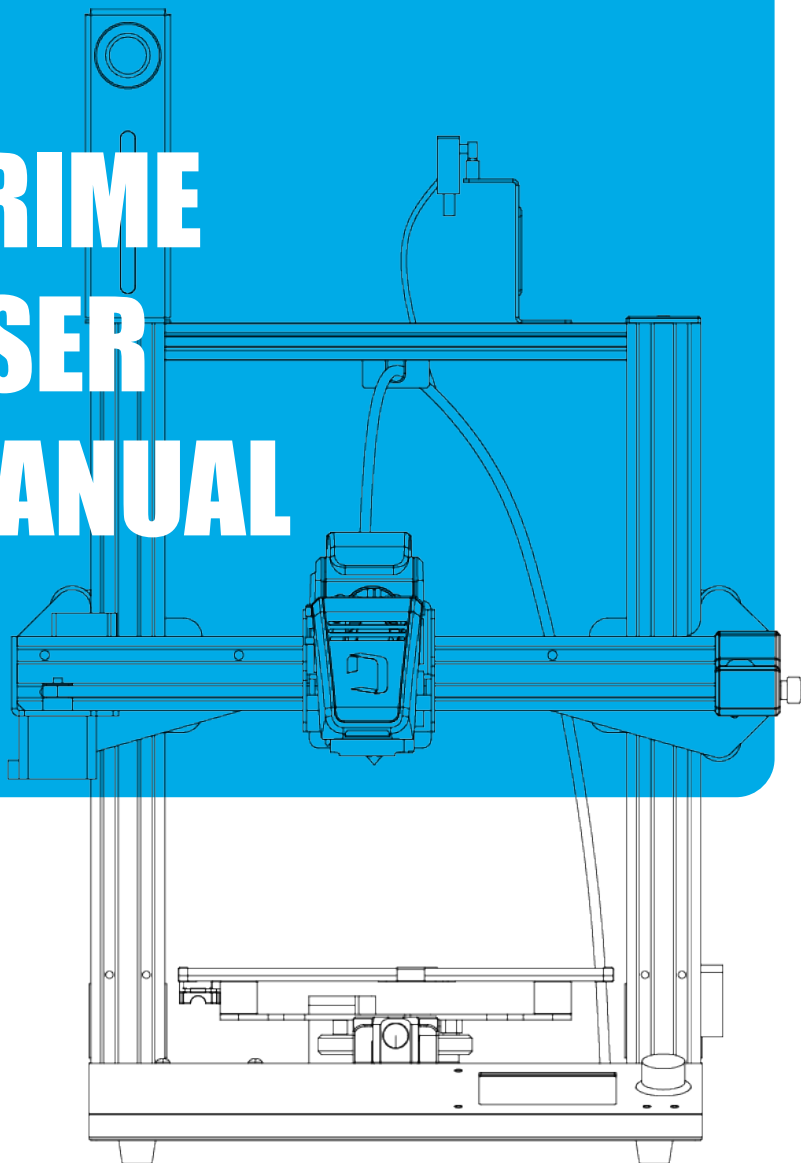


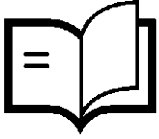
PRIME USER MANUAL



AUTO LEVELING EXTRUSION 3D PRINTER

IMPORTANT

HOW TO GET THE MOST OUT OF YOUR 3D PRINTER



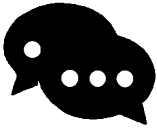
READ THIS MANUAL CAREFULLY

You will be able to set up with ease



VISIT OUR WEBSITE FOR TUTORIAL VIDEOS AND GUIDES

eng.3dcubicon.com



Reddit

VISIT OUR COMMUNITY, REDDIT

<https://www.reddit.com/user/Rising-Cubicon>



EMAIL US! WE'RE ALWAYS HAPPY TO HEAR FROM YOU

ask_cubicon@3dcubicon.com

TECHNICAL SUPPORT

If the product is not performing up to your expectations or you experience any issues, please contact us before returning the item.

We are experienced in resolving problems through phone and email.

Tel : +86-70-4601-6315 (Hours: Mon to Fri from 9:00 AM to 6:00 PM Korea Time)

Email : ask_cubicon@3dcubicon.com

Website : eng.3dcubicon.com



SAFETY INFORMATION

Read the instructions carefully. Keep this document for future reference. Follow all warnings and instructions marked on the product. Observe the following guidelines when connecting and disconnecting power to the external power supply unit:

- Install the power supply unit before connecting the power cord to the AC power outlet.
- Unplug the power cord before removing the power supply unit from the printer.
- Operate on a table or flat, stable surface, ensuring that the machine can't fall and is level.
- Do not operate outdoors.
- Do not use solvents to clean the printer as they may damage the screen.
- Disconnect the printer from AC before storage or when not used for a long period of time. This 3D printer is connected to the electrical network with an input of 115 or 230 VAC, 50/60 Hz, and has an operational voltage of 24V.
- Do not allow anything to rest on the power cord. Do not locate this product where people will walk on the cord.
- If an extension cord is used with this product, make sure that the total ampere rating of the equipment plugged into the extension cord doesn't exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet doesn't exceed the fuse rating.
- Use the product only with the supplied power supply cord set.
- In case of malfunction, disconnect the printer immediately from network.
- Do not attempt to fix this product by yourself, as opening or removing covers may expose.

you to dangerous voltage points or other risks. Refer all repairs to qualified service personnel. Please send an email to your national supplier or contact technical service at:

ask_cubicon@3dcubicon.com

Unplug this product from the wall outlet and refer servicing to a qualified service personnel:

- The power cord or plug is damaged, cut or frayed.
- Liquid has been spilled in the machine.
- The machine was exposed to rain or water.
- The machine has been dropped or the case has been damaged.
- The machine doesn't operate normally after following the operating instructions.

DISPOSAL INSTRUCTIONS

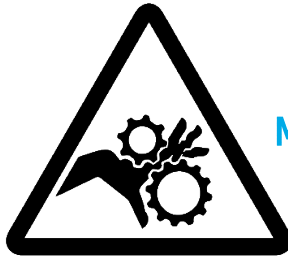


Do not throw this electronic device into the waste when discarding. To minimise pollution and ensure protection of the environment, please recycle or return to Photocentric for recycling.

SAFETY INSTRUCTIONS

Before you get started, please read these safety instructions.

CAUTION : CUBICON 3D Printers include moving parts that can cause injury. Never reach inside the CUBICON 3D Printer while it is in operation, and allow time for the printer to cool down after operation.



MOVING PARTS



Do not leave the CUBICON 3D Printer unattended during operation.



Do not point sharp tools at yourself when dealing with model stripping.



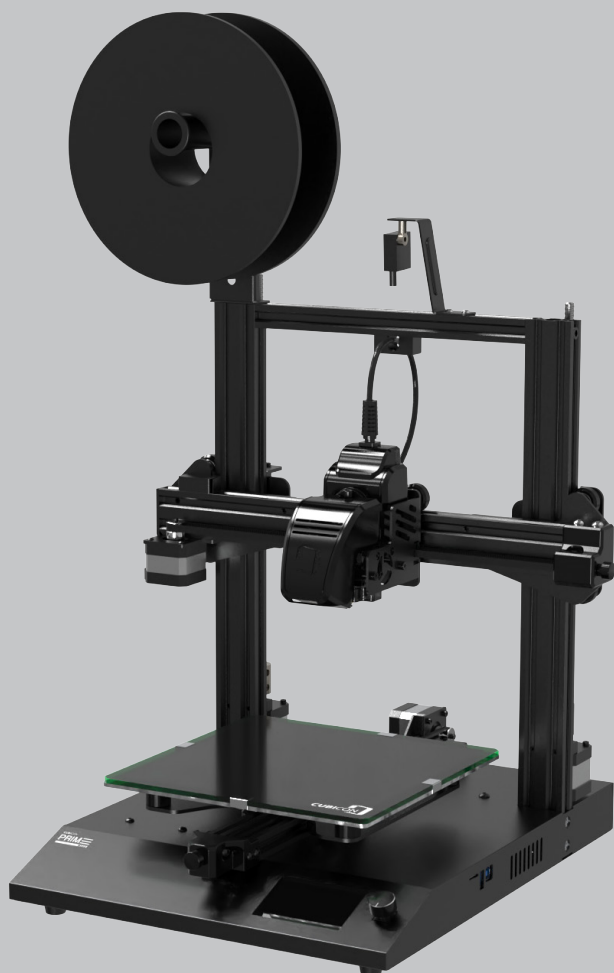
During the printing process, do not have a strong collision with the printer.

In case of emergency turn off the 3D printer by unplugging the power outlet.

- The printer must not be exposed to water or rain, or the printer will be damaged.
- The printer is designed to be used in ambient temperatures, ranging from 15°C to 30°C.
- The printer is designed to be used in humidity levels ranging from 20% to 50%.
- Operating the printer outside the recommended temperatures and humidity levels may result in low quality print models.
- When adjusting the height of the Z-axis with the jog, touching the button several times in a row may cause damage to the bed and the bed as the nozzle collides.

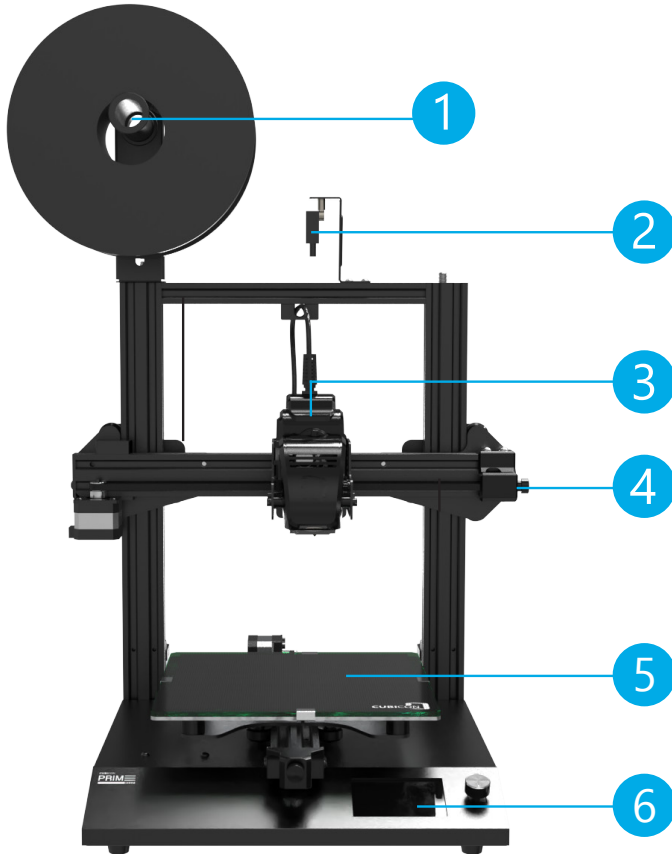
Read this manual carefully,
it will bring you great convenience.

USING PRIME THE FIRST TIME



PRODUCT OVERVIEW

PRINTER FRONT VIEW

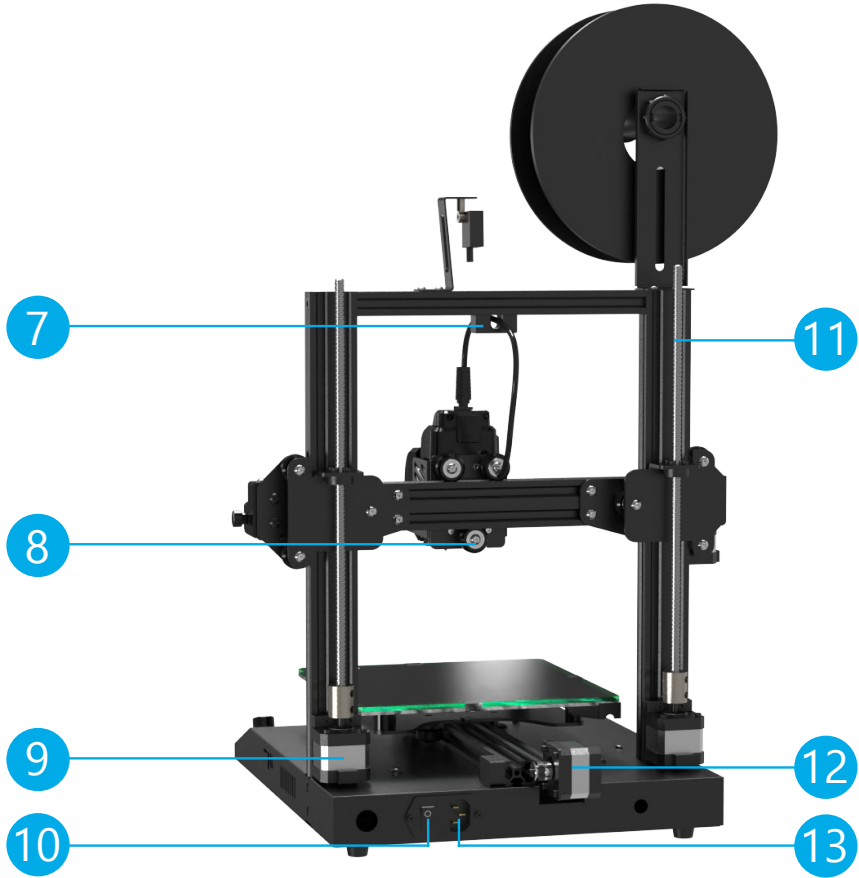


- 1. Filament Holder
- 2. Filament Detector
- 3. Extruder

- 4. X-axis Belt Tension Adjuster
- 5. Carbon Glass bed
- 6. Touching screen

PRODUCT OVERVIEW

PRINTER REAR VIEW



7. Extruder Cable Block

8. X-axis Roller

9. Z-axis Motor

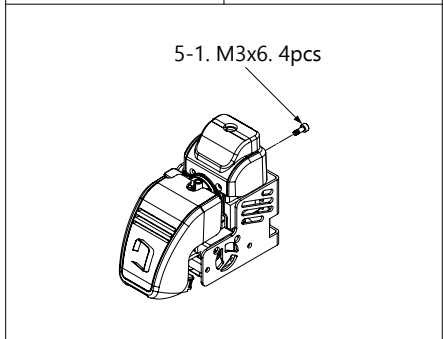
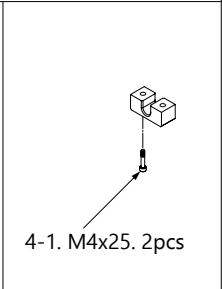
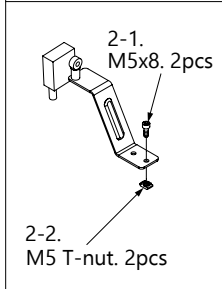
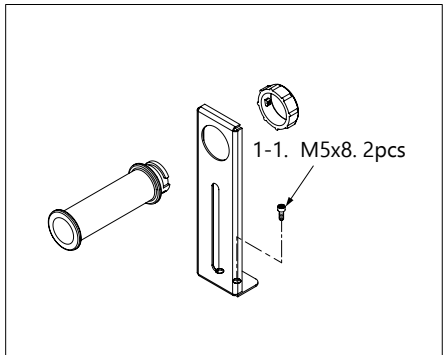
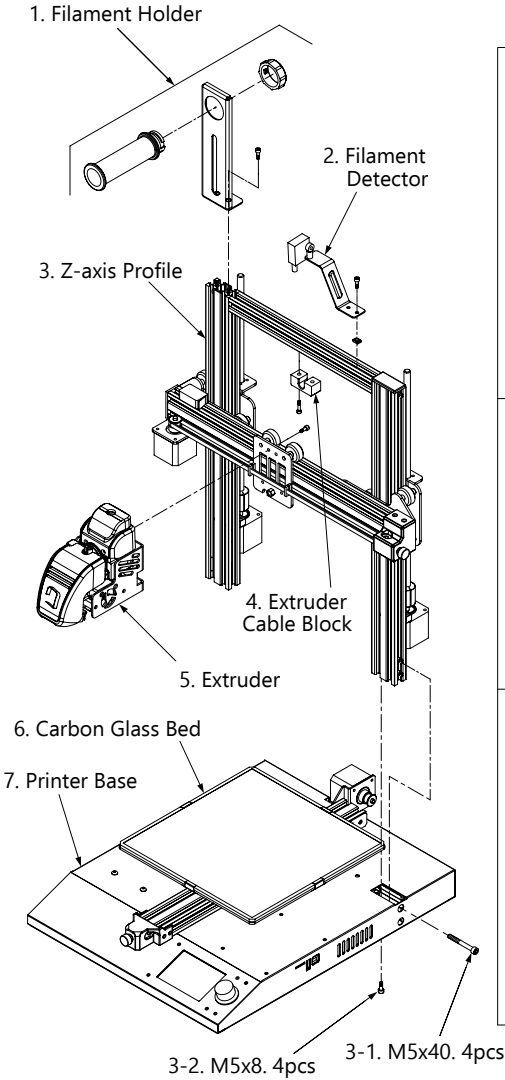
10. Power Switch

11. Z-axis Screw

12. Y-axis Motor

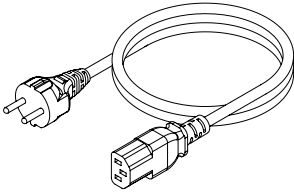
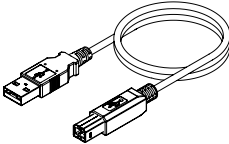
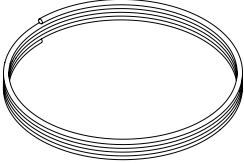
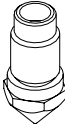
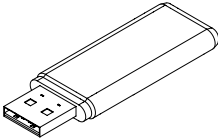
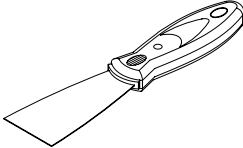
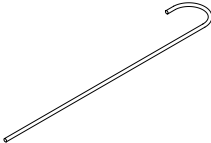
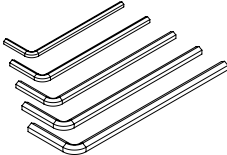
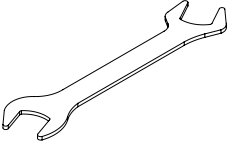
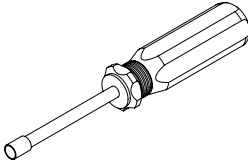
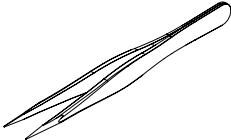
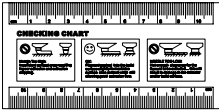
13. Power Socket

PRODUCT COMPOSITION



CONTENTS

The box contains

		
8. Power Cable	9. USB Cable	10. Filament
		
11. Spare Nozzle	12. USB	13. Shovel
		
14. Extruder Cleaner	15. Hexagon Wrench	16. Spanner
		
17. Box Wrench	18. Tweezers	19. Leveling Paper

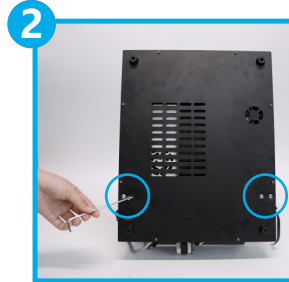
ASSEMBLING AND INSTALLATION



ASSEMBLY
VIDEO



Place the print base on a flat table and install the Z-axis profile on the base. Then use **M5x40 bolt 4pcs** bolt to lock the Z-axis profile onto the base.



Place the bottom of the printer base visible. Then lock **M5x8 4pcs** on the left and right sides.



Install the printing head onto the gantry. Then to lock the head with **M3x6 4pcs** locking screw.



Loosen the 2 bolts locked in the cover on the back of the extruder and open the cover. Then connect the extruder cable to the extruder.



Close the cover on the back of the extruder and lock with the 2 bolts.



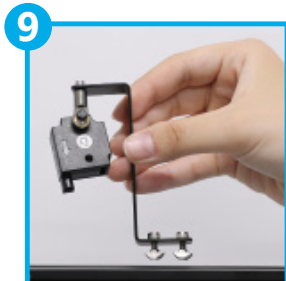
Fasten the extruder cable under the upper profile using the extruder cable block and **M4x25 2pcs**. Set the cable so that it bends to the right when the extruder is close to the upper profile.



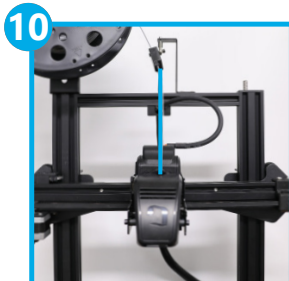
Install the stand of filament holder onto the left side upper profile by **M5x8 2pcs**.



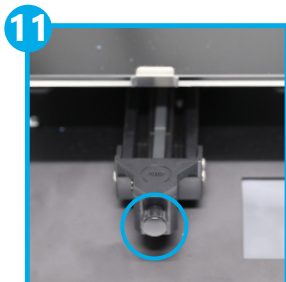
Install the filament holder in front of the stand and rotate the nut to lock it.



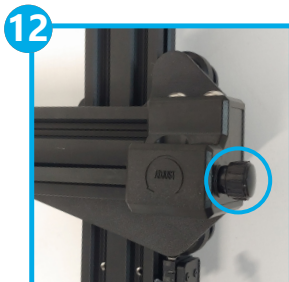
Install **M5x8 2pcs** with the **T-nut** to the filament detector stand.



Install the filament detector stand in the position where the hole of filament detector and the filament entrance of extruder is aligned.



Rotate the Y axis belt tension adjusting knob clock wise to tighten the belt tension. You can check the tension by use one finger to push the belt.



Rotate the X axis belt tension adjusting knob clock wise to tighten the belt tension. You can check the tension by use one finger to push the belt.

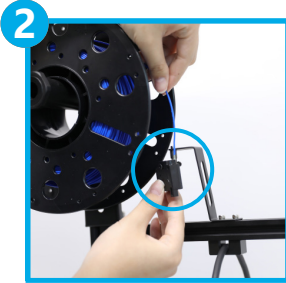


Connect the cable to the printer with the same alphabet.

LOAD THE FILAMENT



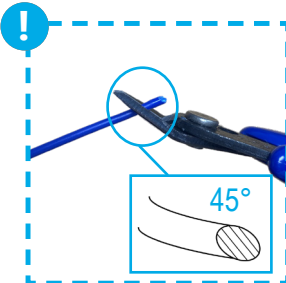
1 Hang the filament on the filament holder so that the filament is loosened in the direction of the extruder.



2 Pass the filament through the filament detector.



3 Press the extrusion spring and insert the filament until the nozzle along the extrusion.



For an easy filament rod, cut the end of the filament to 45 degrees.

TECHNICAL SPECIFICATIONS

Build Size	220 x 220 x 235 mm
Structure	Mendel
Feeder System	Direct
Transportation	Roller Type
Max Print Speed	150mm/s
SW	Cura, Simplify
OS	Mac, Windows
Material	PLA, ABS, TPU
Z-axis	Dual
Bed Temperature	110°C
Bed Type	Carbon Glass
UI	3.5" Touch Screen
Power Supply	350W
Auto Leveling	Nozzle leveling
Interface	USB
Features	Wifi, Filament sensor

QUICK GUIDE

CUBICON Cura Setting

1. If the Cura was installed on your PC, delete it.
2. Fit the usb included in the box to the 3D printer.
3. Install the file 'Cura' on your computer.
4. Run the Cura and set printer to 'Cubicon Prime – M22Z'
5. Load any file with the following extensions : .STL, .OBJ, .DAE, .AMF.
6. Slicing and saving on USB.

Auto Leveling Setting

1. Tab the menu in order on the main screen. : [Tool] - [Auto-level]
2. Auto-leveling is performed at 16 points and please click [Save] once it is done.

Note : Please refer to the FAQ if there is any problem after auto leveling setup.

FAQ



CS
VIDEO

01 Language Setting

- Can choose language on "Setting-Language"

02 WiFi Connection Method

1. Setting - WiFi - Reconnect - Choose user Wifi - IP address check
2. Install "Cura" - Machine setting : Cubicon Prime-M22Z
3. Run "Cura" - Setting - Printer - Manage Printers - MKS WiFi Connection
- Input IP address checked from no.1 above

03 Auto-leveling Error

[1] Check nozzle appearance

- If a residue of filament is attached to the end of the nozzle, it may affect the measurement of the Z value.
- It is recommended to check the appearance of the nozzle before auto-leveling.

[2] Manual Leveling

1. Start auto-leveling when clicking the Tool - [AutoLevel] button.
2. After auto-leveling is complete, click the [mm] button on the lower left corner and then set the unit you want to move at once.
(You can choose from 0.01mm, 0.05mm, 0.1mm)
3. Adjust the gap between nozzle and bed with [Zoffset+] and [Zoffset-] buttons.
4. Check the gap between the nozzle and the bed and click [Save] button with the leveling paper provided.
(Refer to the image no. 2 of 'Gauge for Zaxis and Nozzle' on leveling paper.)

Note : Be careful that the nozzle and the bed may bump each other when you click the [Zoffset-] button several times in a row.

FAQ

04 USB Recognition Error

- Recommended to use the USB provided.
- There's a possibility other USB can't well operated.

05 Thumbnail Missing

- Save slicing file by [Save as TFT file] after slicing through "Cura".
- Thumbnail can't be shown if it was saved as [Save to Disk].

06 Slicing File Recognition Error

[1] Check the USB

- Recommended to use the USB provided.
- There's a possibility other USB can't be well operated.
- TFT card is not supported.

[2] Check the File Type

- Slice through Cura and save as [Save as TFT file].
- Thumbnails is not visible when saved as [Save to Disk].

07 Check Filament Discharge Condition before Printing

1. Extruder pre-heat
: Set Extrusion on Tool-Preheat and increase temperature with [Add] button.
2. Set the unit you want to discharge at once by clicking the [mm] button at the bottom of the Tool-Extrusion. (Options : 1mm, 5mm, 10mm)
3. Filament is discharged when clicking [In] button.
4. If it is not discharged normally, refer to [no. 13 <Fillament discharge error>](#).

FAQ

08 Filament Residual on Auto-leveling

- * Discharging small amount of filament at the stage of auto-leveling before printing is normal, but If you want to do a seperately clean the filament, please proceed as follows for safety reasons.
 - * **Be careful when cleaning the bed.**
1. Click the [Pause] button after auto-leveling.
 2. Clean the bed with shovel and click the [Resume] button.

09 The Filament Connected to the Extruder Got Stuck

1. Extruder pre-heat
: Pre-heating by pressing [Add] button after setting as extrusion on "Tool-Preheat".
2. Remove filament from extruder pressing left lever.

10 Machine Rebooting after Printing Starts

- Check slicing file : Need to set machine to 'Cubicon Prime-M22Z'.

11 FW Update Method

- * Firmware file extention will be changed after updating firmware from <.bin> to <.cur> If you need to update it again then the user needs to insert firmware file again to USB.
 - * Download the firmware file according to steps below and update your 3D printer.
1. Access to the page where you purchased Cubicon Prime-M22Z
 2. Click and download the 'User Guide' file in the <Product Guides and Documents> category.
 3. Save downloaded firmware files to USB provided.
 4. Put the USB into a 3D printer and power on the 3D printer with the switch.
 5. [Setting] - [EEPROM Set] - [Revert setting to factory defaults].

FAQ

12

Check the XYZ-axis Driving Condition

- * In case of noise, shaking or malfunction on the XYZ axis, refer to the following:

[1] Check the X and Y axis Driving Part

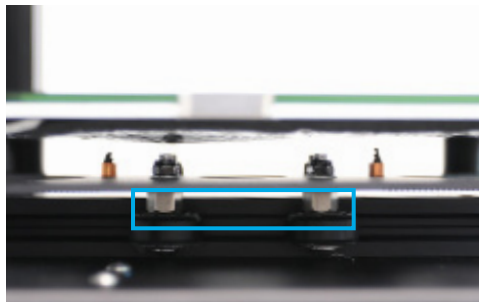
- * To prevent electric shock, operate it with the turning it off.
 - * Be careful of high temperature when operating the bed and extruder.
1. X-axis : Check if noise or shaking occurs by moving the extruder left and right.
 2. Y-axis : Check if noise or shaking occurs by move the bed back and forth.
 3. If the problem is found in 1 and 2 above, refer to [2] and [3] below.

[2] Check Belt Tension

- Need to adjust belt tentioner on X and Y axis

[3] Check Roller Bolting Condition on X and Y axis

1. X-axis : Need to adjust the degree of bolt tightening of the roller under the extruder with a spanner (Wider side).
2. Y-axis : Need to adjust the degree of bolt tightening of the roller under the bed with a spanner (Wider side).



<Side View of the Bed>

FAQ

12

Check the XYZ-axis Driving Condition

[4] Check Bed Base Bolting Condition

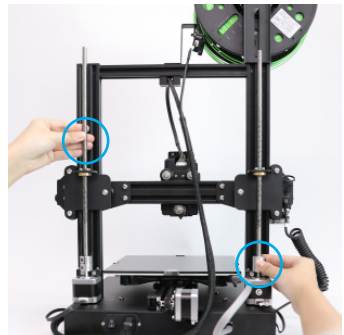
1. Remove the clips installed on the carbon glass bed.
2. Remove carbon glass bed.
3. Check the bolting condition of the 4 pcs bolts whether it is well locked or not. If not, please adjust bolts to be well locked.

[5] Check Left and Right Balance of Z axis

* To prevent electric shock, manipulate it with the power off.

1. Measure the height from the Z-axis motor to the X-axis profile with leveling paper. (Each left and right)
2. If the left and right sides are the same height : No additional adjustment is required.
If the left and right heights are different : Proceed 3 below
3. Hold the screw of which height is okay by hand not to be moved and try to rotate screw coupler on the other side to balance the height.

Note : Gloves are recommended as the lubricant on the screw may be onto your hands.



[6] Check a Cable

- Insert cables to the points matching with the same alphabets.

FAQ

13

Filament Discharge Error

- * If a filament discharge error occurs, refer to the following information.
- * The nozzle kit is consumable, so the replacement cycle may vary depending on the amount of use.
- * **Be careful of the high temperature when operating.**

[1] Nozzle Cleaning

1. Removal of filaments inserted on extruder.
: Refer to [no. 9 <The filament connected to the extruder got stuck>](#)
2. Fit box-wrench at nozzle under extruder and rotate it to counterclock wise.
3. Nozzle inside cleaning by using sharp needle.

[2] Nozzle Kit Replacement

1. Removal of filaments inserted on extruder.
: Refer to [no. 9 <The filament connected to the extruder got stuck>](#)
2. Disassemble nozzle kit
: Fit box-wrench at nozzle under extruder and rotate it to counterclock wise.
3. Assemble nozzle kit
: Fit box-wrench at nozzle under extruder and rotate it to clock wise.

[3] Extruder Cleaning

1. Removal of filaments inserted on extruder.
: Refer to [no. 9 <The filament connected to the extruder got stuck>](#)
2. Connect the extruder nozzle cleaner to filament slot as pressing left lever and clean inner side of the extruder by pressing the cleaner toward the nozzle.

Note : In case of exceedingly repeating of action 2, the risk of contamination inside of the filament slot can be occurred due to string made when filament is getting cool.

FAQ

13 Filament Discharge Error

[4] Check a Filament

1. Workable temperature
 - : The workable temperature of beds and nozzles varies by filament.
 - : Need to check if you have selected right filament to be used for printing during the slicing stage.
2. Storage method and expiration date
 - : The printing quality may be affected by the method of storing the filament and the expiration date of filament.

TEL : +82-07-4601-6315

(Hours : Mon to Fri from 9:00 AM to 6:00 PM Korea Time)

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Gyeonggi-do, Republic of Korea

Email : ask_cubicon@3dcubicon.com

Website : eng.3dcubicon.com

