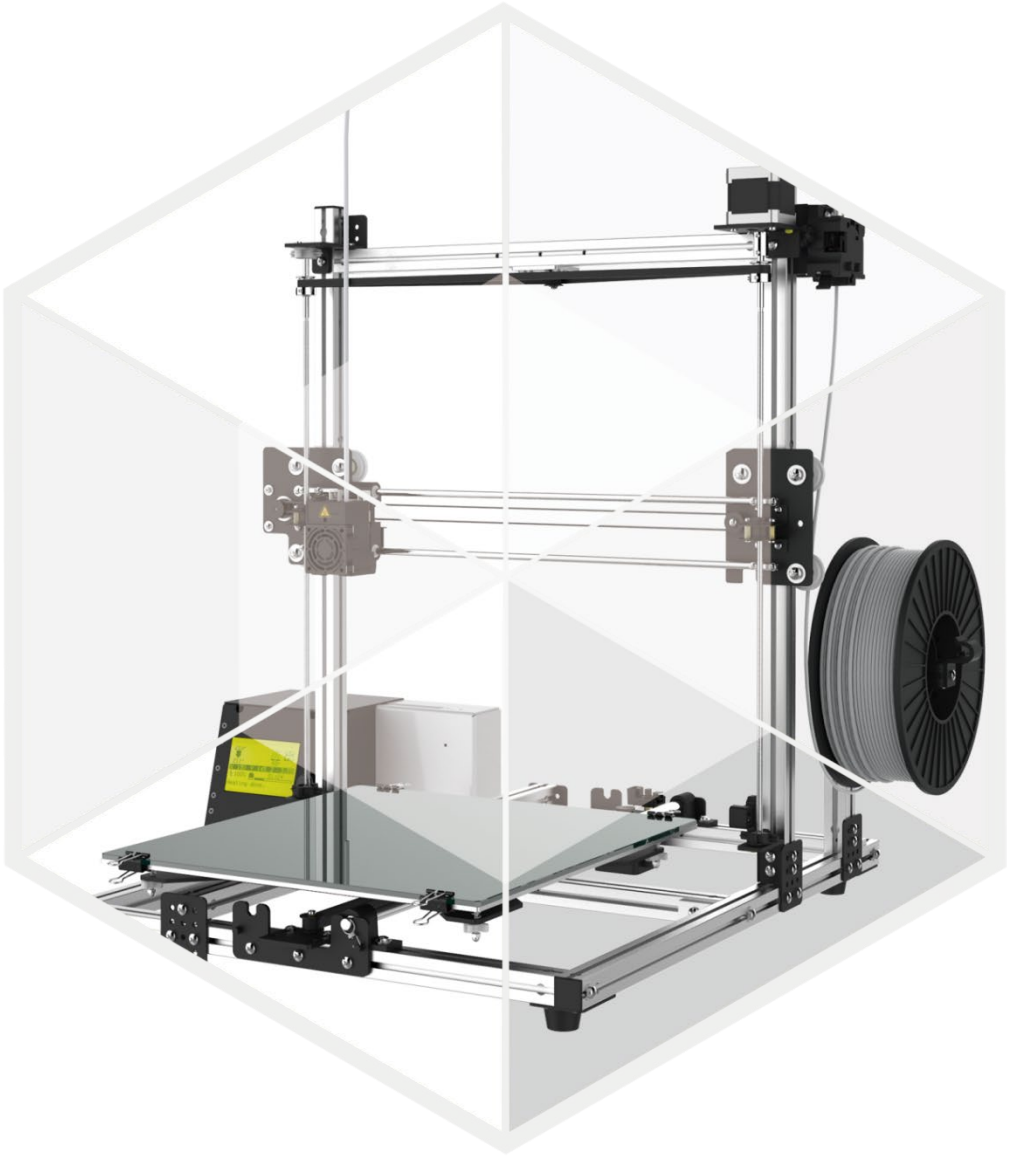
HD23FD1X203

Crazy3DPrint

ENGLISH



# CZ-300

## USER MANUAL



**WARNING**: This 3D Printer - when used with a styrene filament (ABS / HIPS / or PC-ABS) can expose you to chemicals, including Styrene, which is known to the State of California to cause cancer. For more information, visit www.p65warnings.ca.gov

**The manual and quick guide can be downloaded from below URL**
https://www.crazy3dprint.com/support

# CONTENTS

Contents

# SAFETY AND COMPLIANCE

This manual is designed for users to understand how to use the **CZ-300** 3D printer in a safe manner. Please read through all sections, especially the safety instructions carefully before unpacking, assembling, operating, replacing, and removing any part of this product.

## USED SYMBOLS

This manual contains warnings and safety notices.

Provides important and additional information, tips, and/or hints that help users understand the content of this user manual with ease.

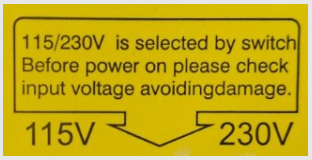
Warns of a situation that may cause permanent device damage and/or unintentional personal injuries if you do not follow the safety instructions.

## SAFETY INFORMATION

- The device is intended for indoor use only. Do not store or operate the printer in a dusty and humid environment.
- Always place the printer on a flat and stable surface to prevent it from falling or tipping over.
- The device is supplied from 100~120V/200~240VAC. Make sure to select the correct power-supply voltage based on your region and area before operating the printer. (115V/230V AC selected by switch.)
- Do not leave the device and power cord to a place where children can reach in order to prevent personal injury and electric shock.
- Do not allow children access to the tools and accessories kit in case of any possible injuries and harm.
- Do not connect the device to an unknown power supply, which may cause a malfunction or permanent damage to the printer.
- Never place any liquid-containing items on top of the device or power supply. If any liquid spills into the unit, fire or electric shock may result.
- The device may generate some odors during the printing process. It is recommended to use the printer in an open and well-ventilated area for comfortable working atmosphere.
- Do not touch the extruder module, nozzle tip, or heated print bed during the printing process or heating up process. It is noted that the nozzle tip can reach temperatures of up to 260 °C; and the print bed can reach temperatures of up to 100 °C. High temperatures can cause harm to human body.
- Always do parts replacement after the device cooling down.
- Do not move the device when it is powered on.
- The motherboard is a precision electronic component. Please be careful not to damage by static electricity or external force when disassembling and assembling; for example, wearing appropriate equipment such as antistatic bracelet before manipulating the motherboard.
- Do not clean the device with alcohol and flammable chemicals to avoid the risks or danger.

## SAFETY PRECAUTIONS


This label indicates that:
Always unplug the main power supply from the socket before carrying out maintenance or intervention of this product.
Children under 14 years of age **Must Not** to use this product in order to prevent any possible injuries and harm.
**CAUTION: AC INPUT VOLTAGE RANGE: 100~120V/200~240VAC; 115V/230V AC SELECTED BY SWITCH**




Indicates that 115/230V is selected by switch. Before power on, please check input voltage avoiding damage.

**CAUTION: AC INPUT VOLTAGE RANGE: 100~120V/200~240VAC; 115V/230V AC SELECTED BY SWITCH**

Indicates that users Must Not put hands on the extruder module during the printing process.

**WARNING: DO NOT TOUCH THE HOT SURFACE**

# HAZARDS

## FEDERAL COMMUNICATIONS COMMISSION NOTICE

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference. (2) This device must accept any interference received, including interference that may cause undesired operation.

Before turning the power on, do make sure to switch the AC input at either 115 or 230 volts depending on the region/area's voltage. (AC input voltage range: 100~120V/200~240VAC.)

## RISK OF BURNS

There is a risk of burns from touching the heated-up device unit during the printing process. This is because the nozzle tip can reach temperatures of up to 260 °C; and the print bed can reach temperatures of up to 100 °C. High temperatures can cause harm to human body.

# INTRODUCTION

Thanks for choosing the **CZ-300** 3D printer. We always believe that creativity can be simple **but not ordinary** while making it a reality. **Crazy3DPrint** was born by enthusiasts of 3D printing with one goal in mind – to building solid objects from scratch for the maker community with cost-effective.

Please always refer to the updated version of **CZ-300** user manual
https://www.crazy3dprint.com/support

This manual is designed for users to understand how to use the **CZ-300** 3D printer in a safe manner. Please comply with the instructions of important information and relevant safety precautions.

Every effort has been made to ensure the accuracy and completeness of the contents of this manual. If you have any questions or discover any errors or inaccuracies in the document, please notify us by email so that we can make the amendments from your valuable feedback.

## OUR PRINTER

**Crazy3DPrint** can make your scratch design become solid objects with generated G-code from 3D files by using free and open source software with multiple options (e.g., Slic3r and Cura etc.). The **CZ-300** is made based on the 3D printing technology of FFF (Fused Filament Fabrication) that offers rapid and cost-effective prototyping.

The printing process is that a spool of filament material is loaded and fed through the heated print nozzle. Then, the motor pushes molten filament out of the nozzle tip onto the print bed glass, where cools it down and makes it solidified as an object layer by layer along the specified coordinates.

Children under 14 years of age ***Must Not*** to use this product in order to prevent any possible injuries and harm.

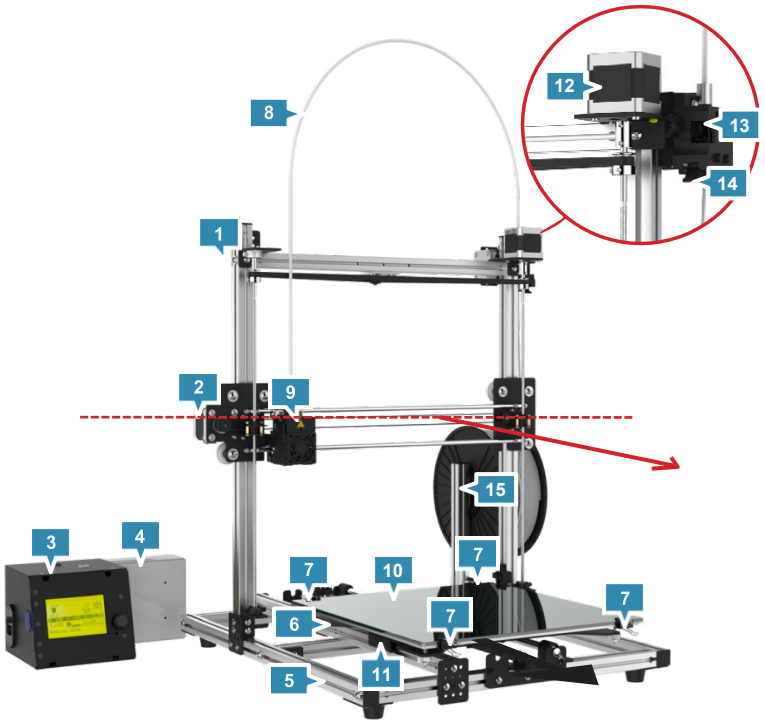
## PRODUCT FEATURES

The **CZ-300** is an easy-to-use 3D printer designed with simple frame structure that separates in two parts (upper and lower frames) for you to start with. You can easily assemble this kit yourself and instantly build it from anywhere at any time. This printer is not heavy, and particularly, it does not occupy too much space. You can hand carry our **CZ-300** to anywhere to do your 3D printing job.

- Easy installation & operation
- Large build size
- Easily module replacement design
- Heated print bed & constant temperature control
- LCM graphical interface
- Supported multiple filaments
- Product safety certification

Before turning the power on, do make sure to switch the AC input at either 115 or 230 volts depending on the region/area's voltage. (AC input voltage range: 100~120V/200~240VAC.).

# CZ-300 APPEARANCE




| | | | |
|---|---|---|---|
| 1 | Upper Frame | 9 | Extruder Module |
| 2 | X-Motor | 10 | Print Bed Glass |
| 3 | Control Box | 11 | Heated Bed |
| 4 | Power Supply | 12 | Z-Motor |
| 5 | Lower Frame | 13 | Extruder Motor |
| 6 | Y-Motor | 14 | Release Arm |
| 7 | Platform Clips x4 | 15 | Spool Holder |
| 8 | Filament Tube | | |

The orientation arrow can be referred pointing in the correct direction of the machine during installation.

## SPECIFICATIONS

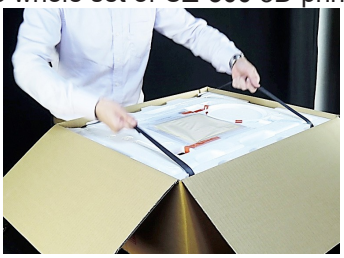
| | |
|---|---|
| **PRINTING** | |
| Product Name | CZ-300 3D Printer |
| Print Technology | FFF (Fused Filament Fabrication) |
| **DIMENSIONS & WEIGHTS** | |
| Machine Dimensions (WxDxH) | 534 x 503 x 582 mm (21.0 x 19.8 x 22.9 in) |
| Packing Dimensions (WxDxH) | 558 x 592 x 295 mm (22.0 x 23.3 x 11.6 in) |
| Gross Weight | 16.5 kg (36.4 lbs) |
| Net Weight | 14.5 kg (32.0 lbs) |
| **PERFORMANCE** | |
| Build Size (WxDxH) | 300 x 300 x 300 mm (11.8 x 11.8 x 11.8 in) |
| Layer Resolution | 0.1 - 0.4 mm |
| Alignment Precision | X/Y: 0.0125 mm |
| **MATERIALS** | |
| Printing Materials | PLA, ABS, PETG, Carbon Fiber PLA*, Metallic PLA* etc. (*Option Extruder) |
| Filament Diameter | 1.75 mm |
| **OPERATING REQUIREMENTS** | |
| Power Requirements | AC input voltage range: 100~120V / 200~240VAC; 115V / 230V AC (selected by switch) |
| Operating Temperature | 15~32 °C / 59~89.6 °F |
| Storage Temperature-Filament | 0~38 °C / 0~104 °F |
| **HARDWARE** | |
| Nozzle Diameter | 0.4 mm |
| Nozzle Temperature | Max. 260°C |
| Print Bed | Non-removable; Heated (40-100 °C) |
| User Interface | 3"LCD |
| Transmission | USB2.0 / SDHC (Storage Range: 2GB to 32GB) |
| **SOFTWARE** | |
| Host Software (Slicers) | Open source with multiple options (e.g., slic3r / Cura etc.) |
| Supported File Type | STL / G-code |
| Operating System(s) | Windows / Mac OS / Linux |

# UNPACKING AND INSTALLATION

## UNBOXING

1) Remove the outer carton box packaging material; following use a cutting tool to remove the tape.


2) Open the box and take out the whole set of **CZ-300** 3D printer; following cut the pp strap off.

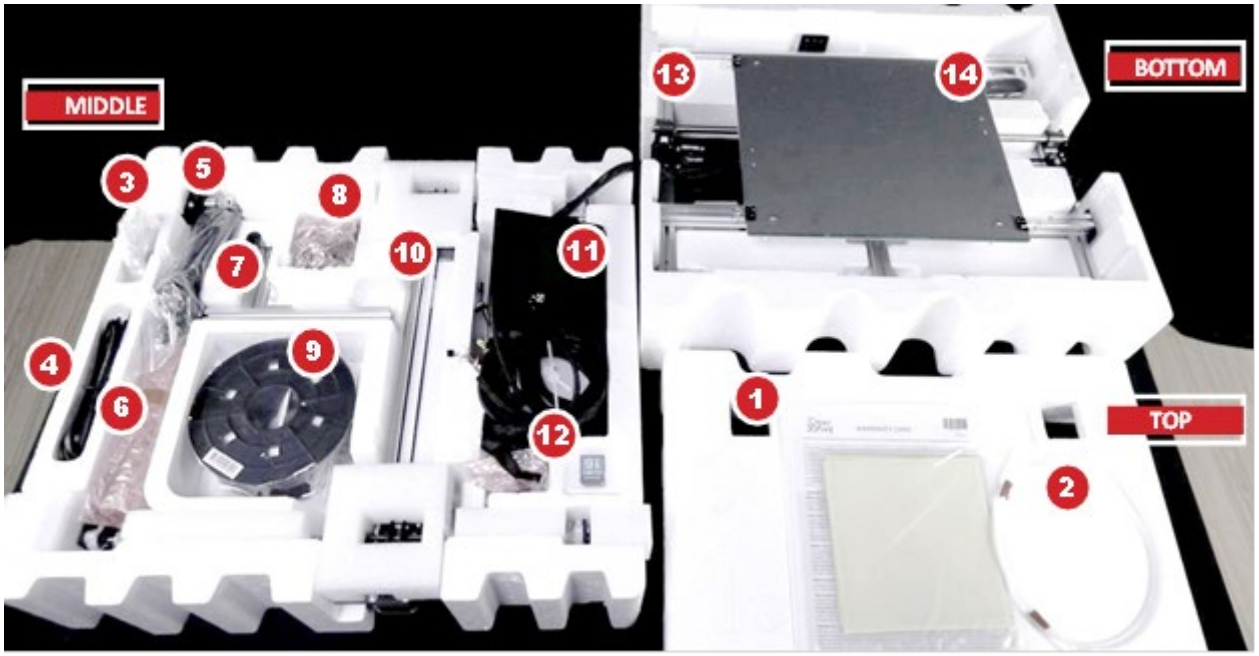




Lifting up the set of printer gently to prevent intentional damage of the device and loss of the accessories. Also be careful the print bed glass and avoid to damage as well as get hurt.

3) Remove all tapes and foam packaging; following place the printer parts on a flat and stable table.



## ACCESSORY CHECKLIST




Following items include extra amount that is reserved for the buffer: No. 3-3, 3-4, 3-5, 3-7, 3-8, 4-2, 4-6

| NO | ITEM | | QTY. | NO | ITEM | | QTY. | NO | ITEM | | QTY. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 |  | Print Bed Tape*2 & Warranty Card & Quick Guide | 1 | 3-8 |  | Screw M4x8 | 11 | 6 |  | Crosshead Screwdriver | 1 |
| 2 |  | Filament Tube | 1 | 4-1 |  | USB Cable | 1 | 7 |  | Spool Holder | 1 |
| 3-1 |  | Clean Spring | 5 | 4-2 |  | Cable Tie | 13 | 8 |  | Extruder Motor | 1 |
| 3-2 |  | Metal Plate | 1 | 4-3 |  | Dust Brush | 1 | 9 |  | Random Color PLA Filament (300g) | 1 |
| 3-3 |  | Holder Lock | 2 | 4-4 |  | Clean Pin | 1 | 10 |  | Upper Frame | 1 |
| 3-4 |  | Shaft Spring Hook | 2 | 4-5 |  | Flathead Screwdriver | 1 | 11 |  | Control Box & Power Supply | 1 |
| 3-5 |  | Nut M4x3.2 | 14 | 4-6 |  | End Cap | 1 | 12 |  | SD Memory Card | 1 |
| 3-6 |  | Screw M4x30 | 2 | 4-7 |  | Corner Bracket | 1 | 13 |  | Lower Frame | 1 |
| 3-7 |  | Screw M4x10 | 4 | 5 |  | Power Cord | 1 | 14 |  | Scraper | 1 |

The use of accessories listed above is required an adult supervision and assistance for proper functioning. Do not allow children access to those tools in case of any possible injuries and harm.

# INSTALLATION

Each superscript number refers to the tools kit listed in the table of **ACCESSORY CHECKLIST;** During the installation, please also refer to the orientation of machine in the section of **CZ-300 APPEARANCE**

## INSTALLING SPOOL HOLDER

**Accessory Preparation**

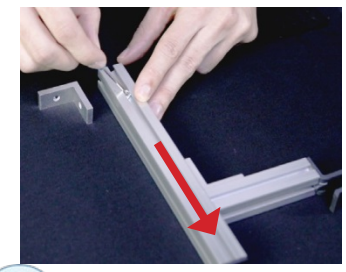
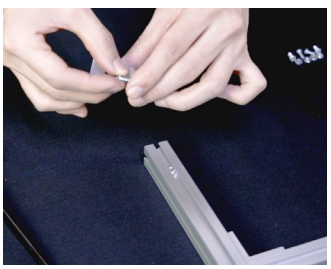
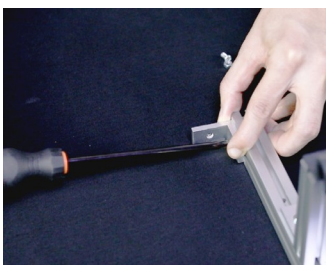
3-2 Metal Plate (*1) 3-5 Nut M4x3.2 (*6) 3-7 Screw M4x10 (*2) 3-8 Screw M4x8 (*4)

4-7 Corner Bracket (*1) 7 Spool Holder (*1) 13 Lower Frame (*1)

**Tools Preparation (may use own tools if desired)**

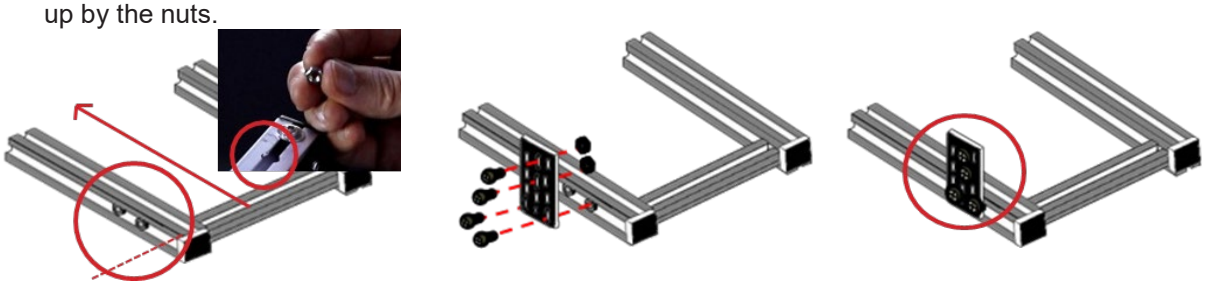
4-5 Flathead Screwdriver (*1) 6 Crosshead Screwdriver (*1)

1) Insert a nut into the spool holder groove; following insert a screw M4x10 into the corner bracket hole and lock up onto the spool holder by using a screwdriver.

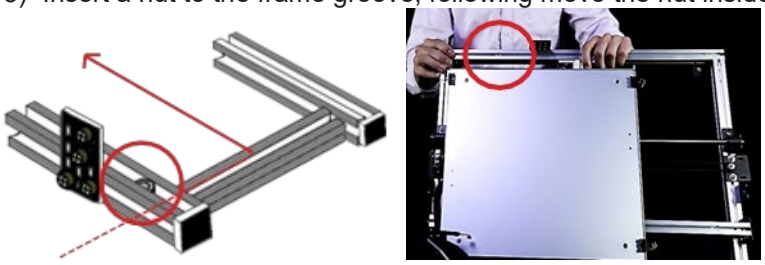
Do not fully tighten both screw and nut first, and keep it freely moving.

2) Insert two nuts to the lower frame groove; following insert two screws M4x8 through the bottom metal plate and lock the metal plate to the nuts. Insert other two screws M4x8 through the upper-middle holes of the metal plate and lock up by the nuts.



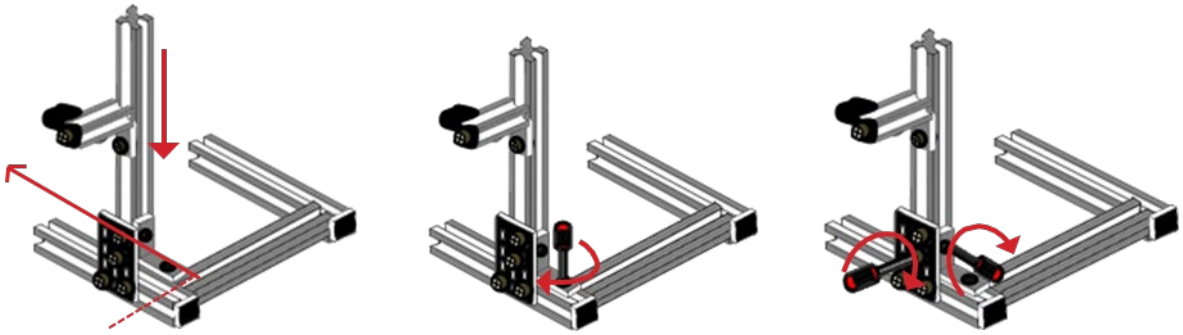
Users may take out the end cap in case difficult of inserting nuts to the groove. Also, do not fully tighten all screws and nuts first, and keep the metal plate freely moving.

3) Insert a nut to the frame groove; following move the nut inside the frame groove to a proper place for later installation.



Users may use the provided flathead screwdriver to move the nut if necessary.

4) Slide the spool holder set (with installed corner bracket) into the lower frame groove; following insert a screw M4x10 and lock to the nut. Then slightly tighten all screws and nuts.



## INSTALLING UPPER FRAME & LOWER FRAME

**Accessory Preparation**

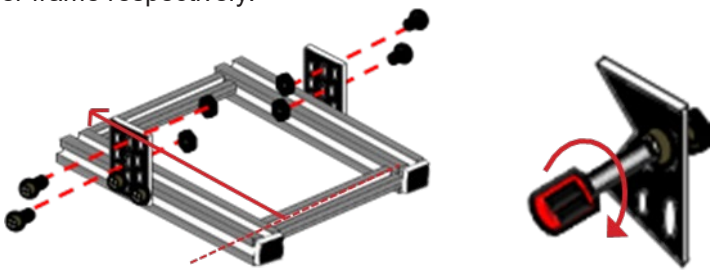
3-5 Nut M4x3.2 (*4) 3-6 Screw M4x30 (*2) 3-8 Screw M4x8 (*4) 10 Upper Frame (*1)

13 Lower Frame (*1)

**Tools Preparation (may use own tools if desired)**

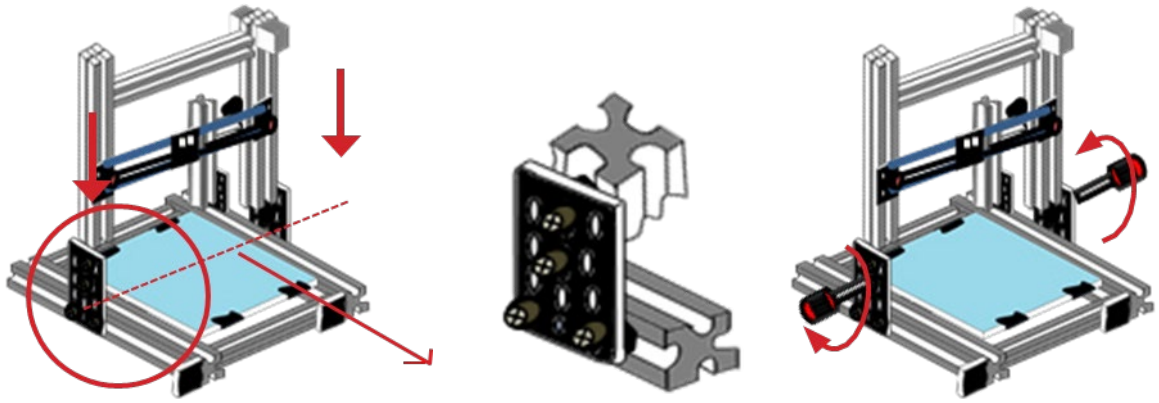
4-5 Flathead Screwdriver (*1) 6 Crosshead Screwdriver (*1)

1) Insert two screws M4x8 through the upper-middle metal plate hole and lock up by the nuts for both sides of the lower frame respectively.

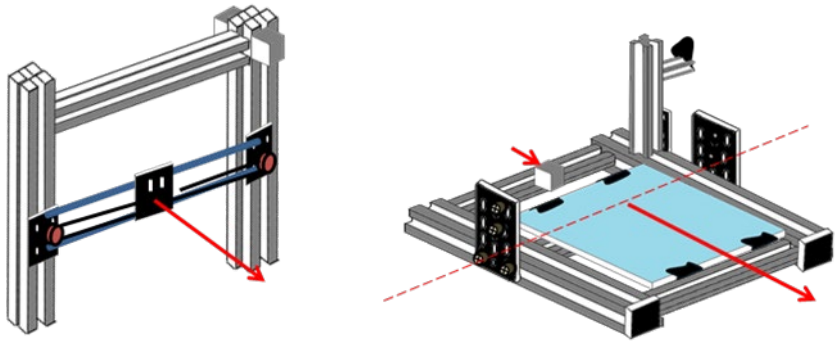


For locking up, you may use tools if desired. Do not fully tighten all screws and nuts first, and keep the metal plate freely moving.

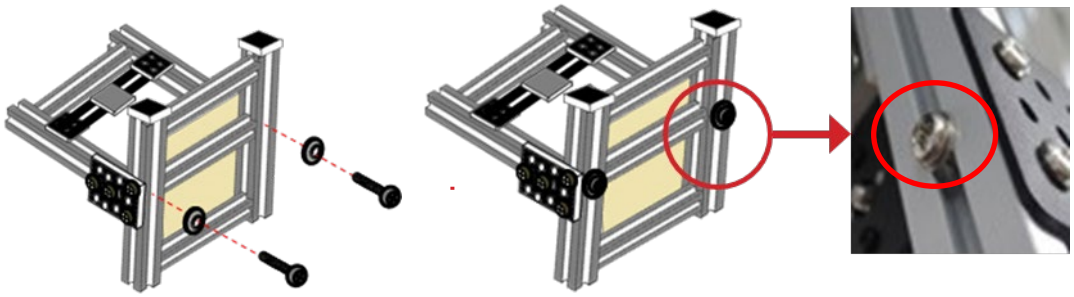
2) Slide the upper frame groove into the metal plates installed with nuts and tighten the screws by using a screwdriver.



Before the installation, make sure the orientation of upper frame as following.



3) Turn over the whole frame module to one side; following install two screws M4x30 into the bottom of the lower frame for both sides and lock up tightly by using a screwdriver.



Be careful the print bed glass and avoid to damage as well as get hurt. All screws on the metal plates can be fully tightened up (but not including the ones of the spool holder.

## INSTALLING EXTRUDER MOTOR

**Accessory Preparation**

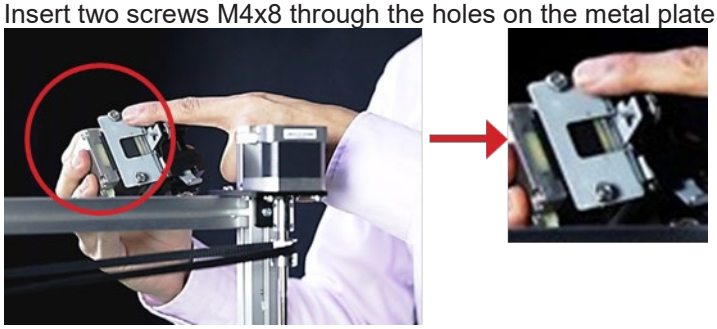
[3-5] Nut M4x3.2 (*2) [3-8] Screw M4x8 (*2) [4-6] End Cap [8] Extruder Motor (*1)

[10] Upper Frame (*1)

**Tools Preparation (may use own tools if desired)**

[6] Crosshead Screwdriver (*1)

1) Insert two screws M4x8 through the holes on the metal plate of the extruder motor and lock up by the nuts.

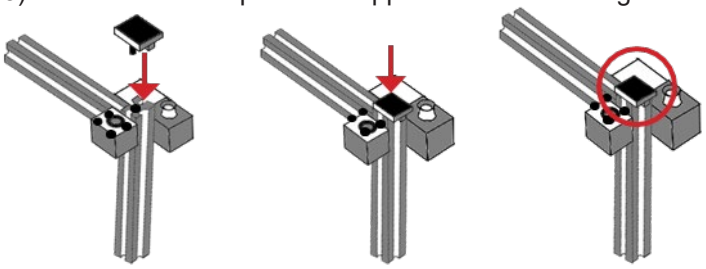


Do not fully tighten both screw and nut first, and keep it freely moving.

2) Slide the extruder motor into the upper frame groove behind the Z-motor; following fully tighten the screws by using a screwdriver.

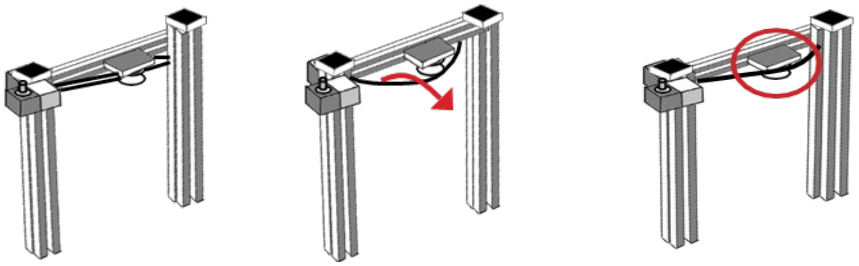
The 3D printer parts can be referred to the names in the table of **CZ-300 APPEARANCE**. The height of extruder motor should be parallel to the upper frame end – avoiding collision to the release arm when Z shaft rising.

3) Insert the end cap into the upper frame hole and groove.



Users may use hand hardly press the end cap into the upper frame.

4) Install the Z axis driving belt to the upper frame pulley.



## INSTALLING EXTRUDER MODULE

**Accessory Preparation**

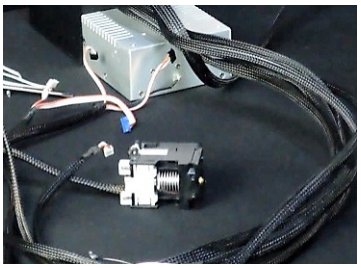
3-3 Holder Lock (*1) 3-7 Screw M4x10 (*1) 11 Control Box & Power Supply (*1)

**Tools Preparation (may use own tools if desired)**

4-5 Flathead Screwdriver (*1) 6 Crosshead Screwdriver (*1)

1) Use a cutting tool to remove the cable tie and place all the cable with the extruder module on a table.

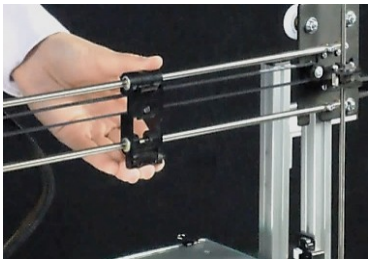
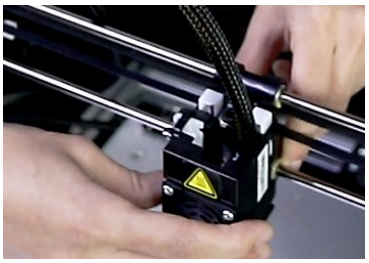




Please hold the end of cable near the control box to prevent unintentional pulling of the device causing any electrical damage while placing and arranging the cable.

The 3D printer parts can be referred to the names in the table of **CZ-300 APPEARANCE**.

2) Move the extruder module holder to the middle of the roller shaft; following directly mount the extruder module on the holder.

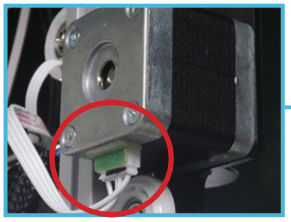
3) Mount the driving belt to the pulley locating on the upper frame; following place the holder and lock up with a screw M4x10 and the inside nut to secure the extruder motor cable.


## INSTALLING ELECTRICAL PARTS

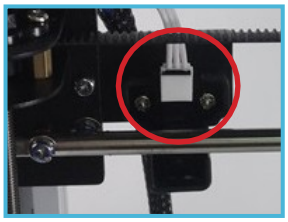
**Accessory Preparation**

11 Control Box & Power Supply (*1)  4-2 Cable Tie (Min. *4)

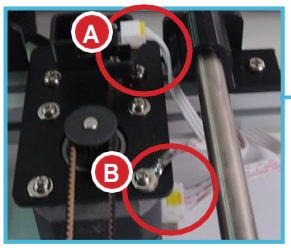
**Must Not** turning on the power supply during the assembly, it easily gets electric shock. For easy identification, users may refer to the color marking for installation.



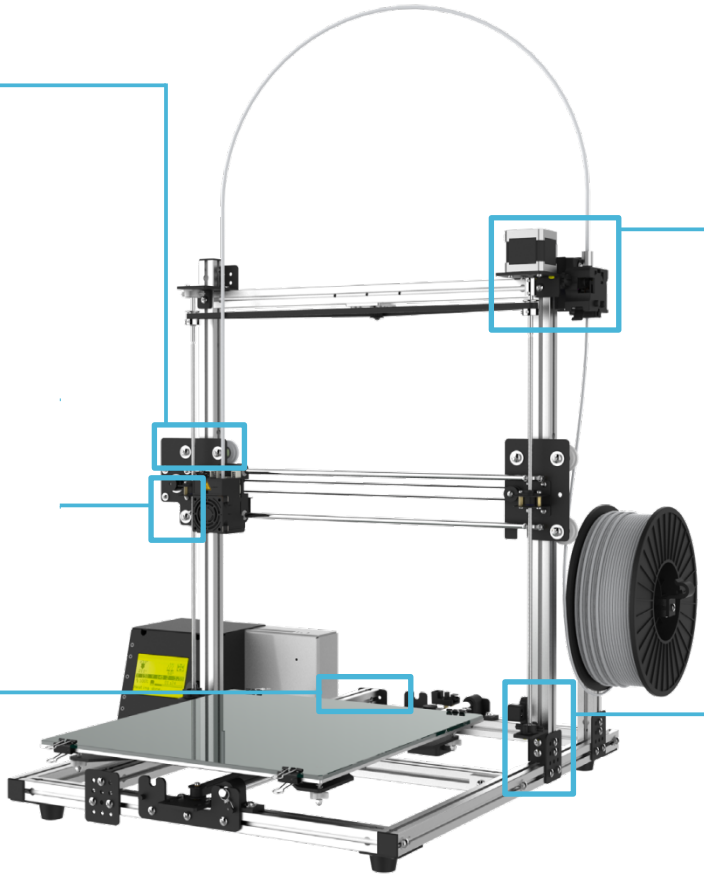
X Axis Motor
(6PIN Black Housing)

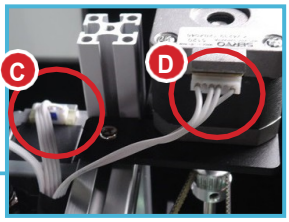


X Axis Sensor
(3PIN Black Housing)



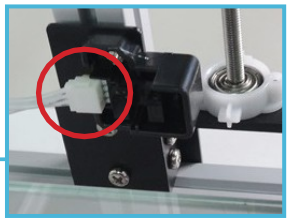

A: Y Axis Motor
(6PIN Yellow Housing)
B: Y Axis Sensor
(3PIN Yellow Housing)






C: Extruder Motor
(6PIN Housing)
(Install the longer wire onto the extruder motor)

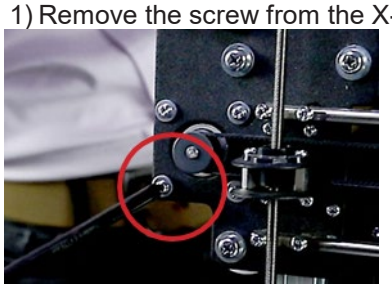
D: Z Axis Motor
(6PIN Housing)
(Install the shorter wire onto the Z axis motor)

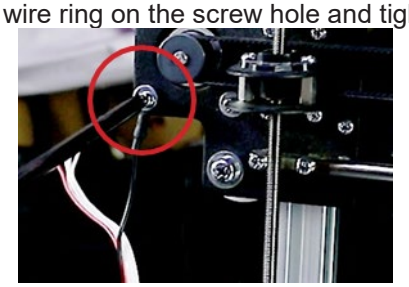


Z Axis Sensor
(3PIN White Housing)

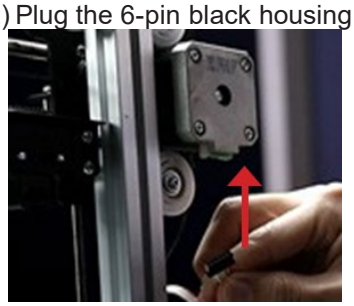
### X-Motor & X-Sensor (Black Marking)

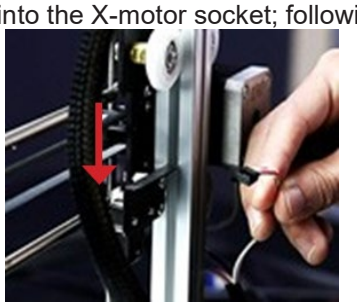
1) Remove the screw from the X-motor; following place the ground wire ring on the screw hole and tighten by the screw.

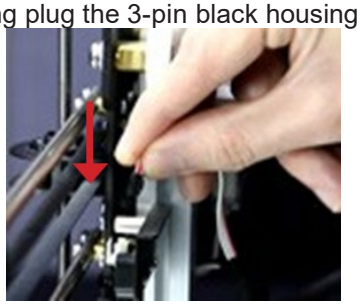




2) Plug the 6-pin black housing into the X-motor socket; following plug the 3-pin black housing into the X-sensor socket.

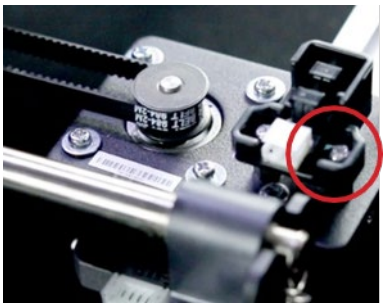


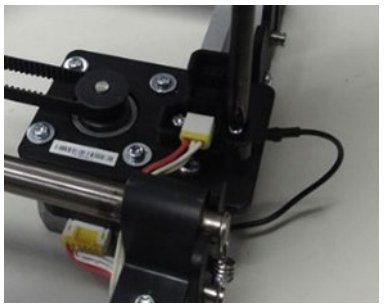




### Y-Motor & Y-Sensor (Yellow Marking)

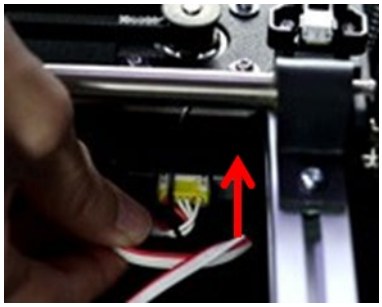
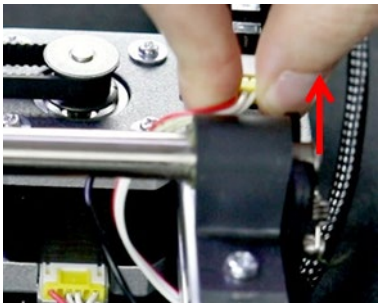
1) Remove the screw from the Y-motor plastic cover; following place the ground wire ring under the plastic cover and insert back the screw as well as tighten it.





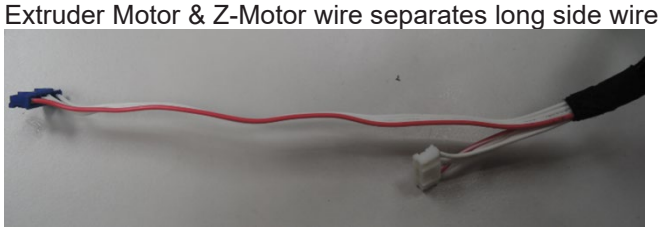
The cable should be placed underneath the lower frame to prevent accidental pulling by the rod and the print bed while printing

2) Plug the 6-pin yellow housing into the Y-motor socket; following plug the 3-pin yellowing housing into the Y-sensor socket.

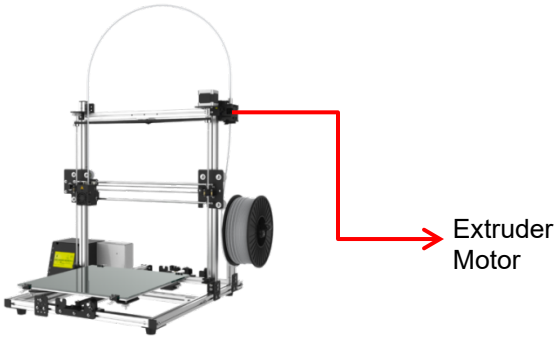



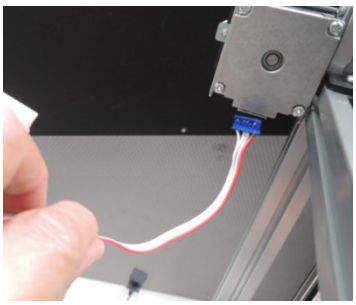
## Extruder Motor & Z Axis Motor

Extruder Motor & Z-Motor wire separates long side wire and short side as below photo.

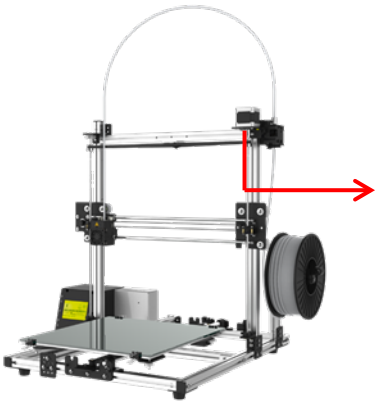


1 ) Plug the 6-pin housing of longer wire to the extruder motor socket as below illustration.

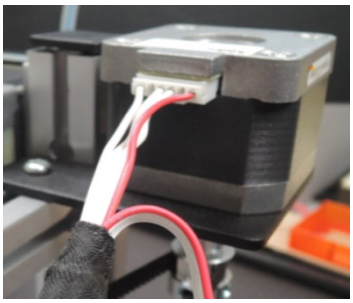


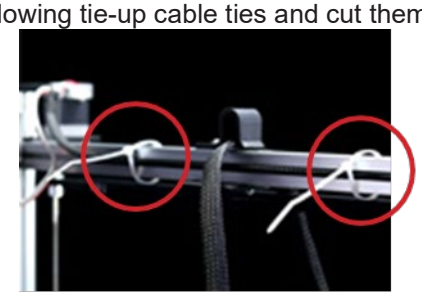
2 ) Following plug the 6-pin housing of shorter wire to the Z axis motor socket as below illustration.



Z axis motor

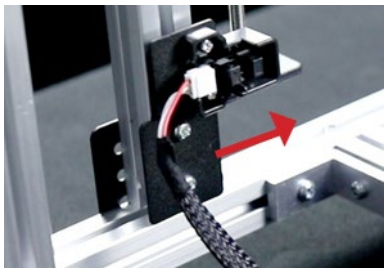


3 ) Press the cable into the groove; following tie-up cable ties and cut them to a proper length.

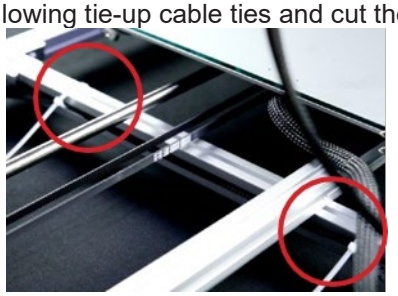
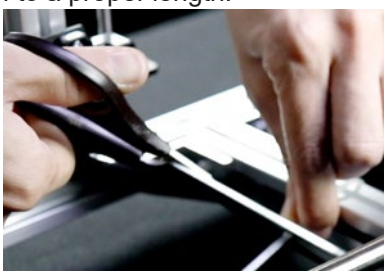




## Z-Sensor

1) Plug the 3-pin white housing into the Z-sensor socket.

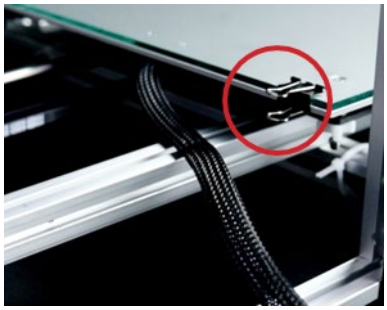
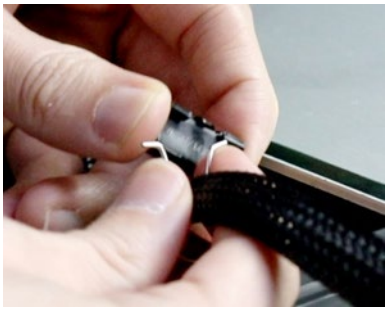
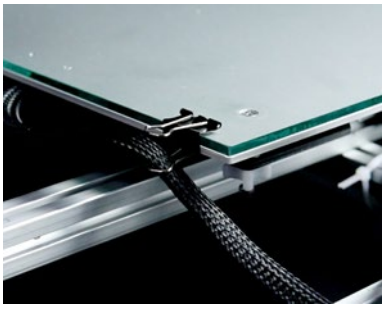


2) Press the cable into the groove; following tie-up cable ties and cut them to a proper length.

## SECURING PRINT BED CABLE

1) Take out the platform clip; following install the cable with it and clip back to the print bed.

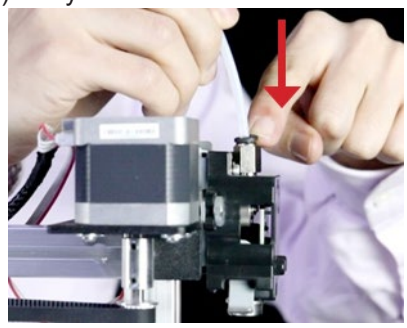
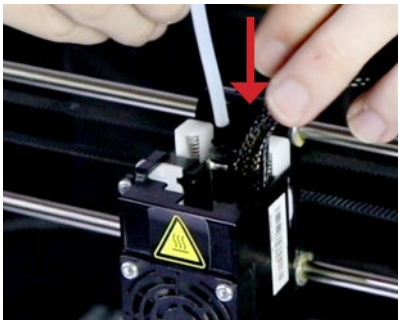




## INSTALLING FILAMENT TUBE

**Accessory Preparation**

[2] Filament Tube (*1)

1) Fully insert the filament tube into the extruder motor and the extruder module.

## FINAL CHECKING

**Accessory Preparation**

[5] Random Color PLA Filament (300g)

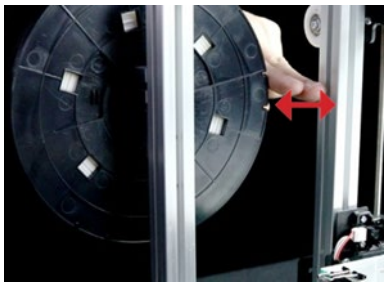
[11] Control Box & Power Supply (*1)

**Tools Preparation (may use own tools if desired)**

[6] Crosshead Screwdriver (*1)

### Spool Holder Adjustment

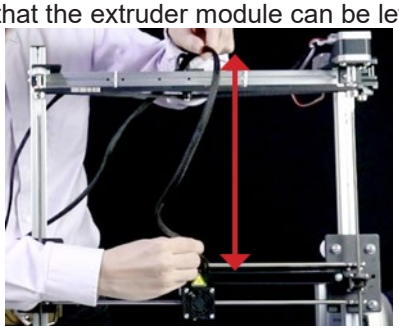
1) Place the filament on the installed spool holder; following adjust it to a suitable position then tighten the screws to secure the holder with the filament.




It is suggested that the filament spool should maintain 2 fingers interval to the upper frame.

### Extruder Module Cable Adjustment

1) Make sure the length of the extruder module cable is placed at least 20cm from the holder lock to the module; so that the extruder module can be left-right moving freely while printing.



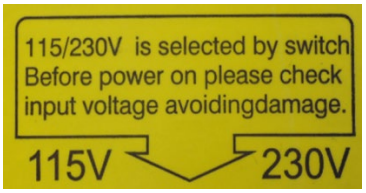
## Power Switch Checking

Do make sure all the screws are fully tightened at this stage, and all the printer parts and cables are secured to the right position.

**Accessory Preparation**

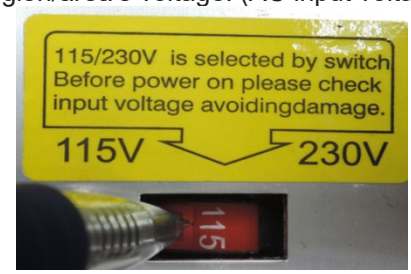
5 Power Cord 11 Control Box & Power Supply

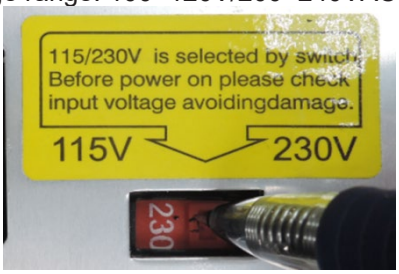
1 ) User must check the two caution labels before turn on the power

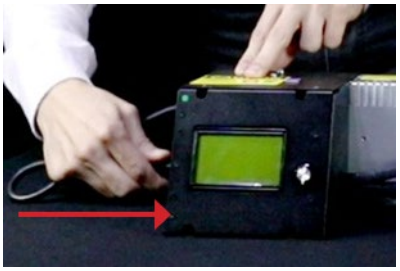


2 ) Before turning the power on, do make sure to switch the AC input at either 115 or 230 volts depending on the region/area's voltage. (AC input voltage range: 100~120V/200~240VAC.).




3 ) Insert the power cord to the control box.



4 ) Turn on the power and the display.

It is suggested to use extra cable ties to secure the extruder module harness while printing; they can be tightened onto the aluminum extrusion, filament tube and holder locker where suitable.

# OPERATION

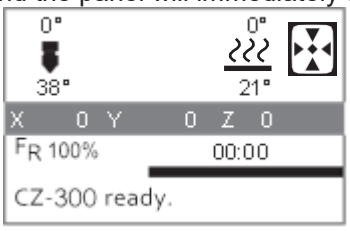
## LCD PANEL CONTROL

| MAIN MENU | FUNCTIONAL MENU | ADVANCED SETTING | PAGE |
|---|---|---|---|
| Info Screen | | | P17 |
| Prepare → | Main ↑ | | P18 |
| | Auto home | | |
| | Set home offsets | Prepare ↑ | |
| | Set Origin | Move 10mm → | |
| | Level Bed → | Move 1mm → | |
| | Move axis → | Move 0.1mm → | |
| | Disable steppers | | |
| | Preheat PLA → | Prepare ↑ | |
| | | Prepare PLA | |
| | | Prepare PLA Bed | P18 |
| | Preheat ABS → | Prepare ↑ | |
| | | Prepare ABS | |
| | | Prepare ABS Bed | |
| | Cooldown | | |
| Control → | Main → | | P19 |
| | Temperature → | | P19 |
| | | Control ↑ | |
| | | Nozzle: 210 | |
| | | Bed: 70 | |
| | | Autotemp: On | |
| | | Min: 210 | |
| | | Max: 240 | |
| | | Fact: 000.10 | |
| | | Preheat PLA conf ↑ | P19 |
| | | Preheat ABS conf | P19 |
| No SD card/ Print from SD → | | | P17 P25 |
| Init. SD card/ Change SD card | | | P17 P17 |

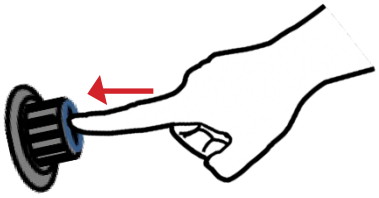
The functions may really depend on the usage of users' preference and needs during printing. This manual describes the general use with suggested settings for guide purpose only

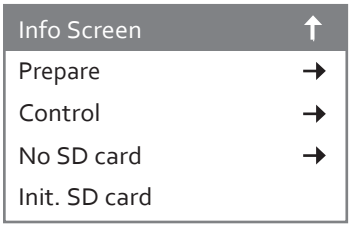
## INSTALLING FILAMENT TUBE

1) Turn on the control box power and the panel will immediately display.

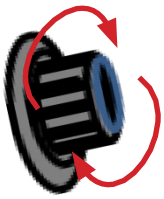


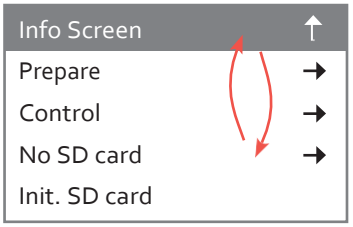

2) Knob control: Press = enter the function





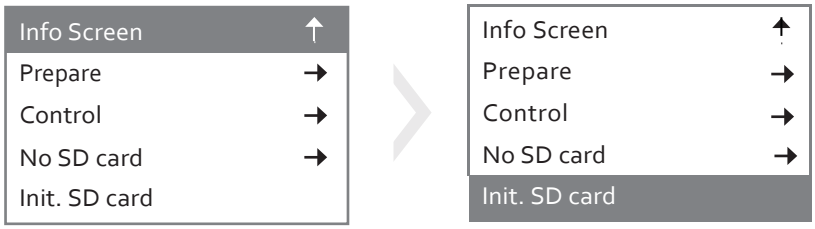

3) Knob control: Turn = scroll up or down for selection.



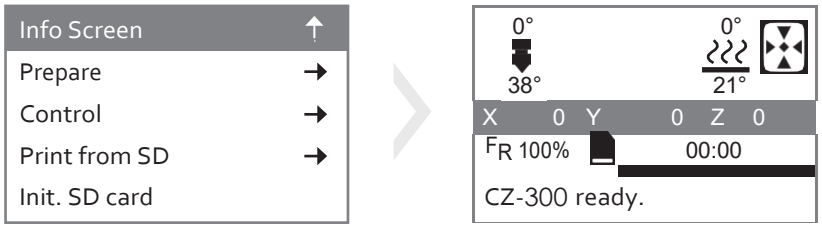



## INIT. SD CARD

1) After tuning on the power, insert a SD card to the slot; following turn the knob to "Init. SD card" and press the knob.



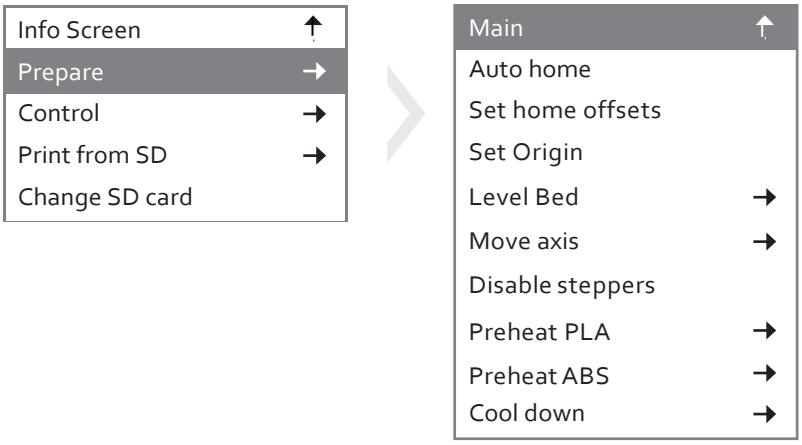

2) Select "Info Screen" and press the knob to be back to the main menu.




3) Select "Change SD card" to change another SD card if needed by following the same steps.

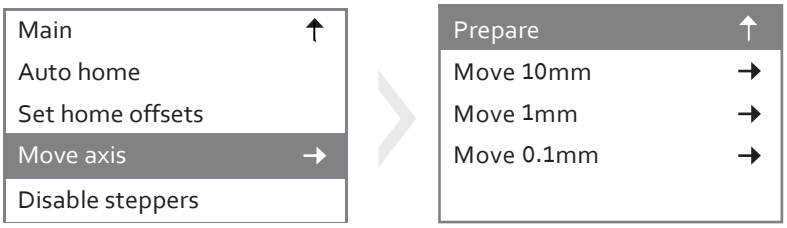
## PREPARE

1) Select “Prepare” and press the knob to show the functional menu.

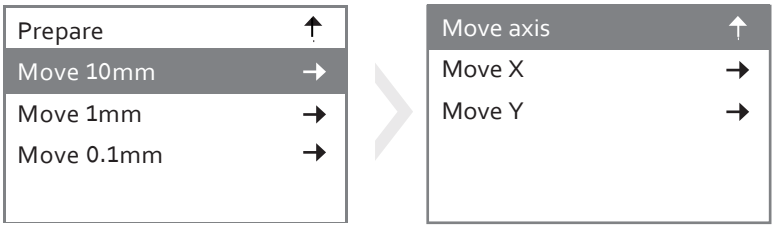



## Move axis

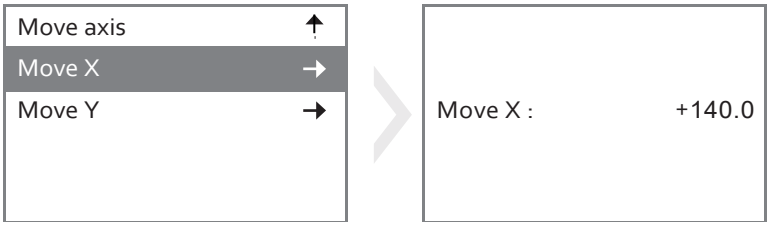
1) Select “Move axis” and press the knob to show the advanced setting menu.




2) Turn the knob to “Move 10mm” and press the knob to adjust print head X-Y axis movement.

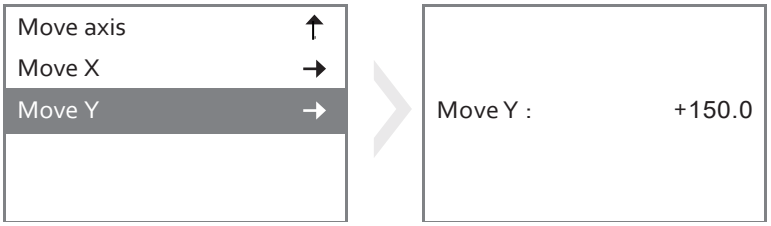



3) Turn the knob to “Move X” and press the knob after setting.




Turn Clockwise “ **+** ” increase the value.

4) Turn the knob to “Move Y” and press the knob after setting.

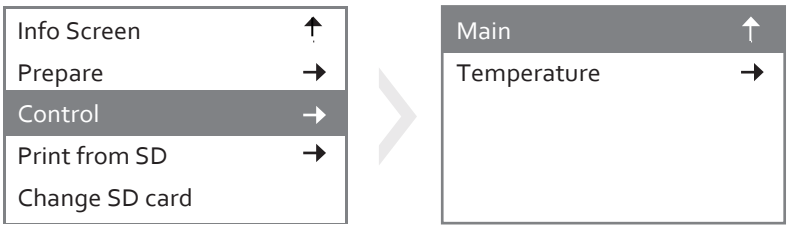



Turn Anti-Clockwise “ **-** ” decrease the value.

For the adjustment of Z axis and extruder movement, users may turn the knob to “Move 1mm” or “Move 0.1mm” for further setting.

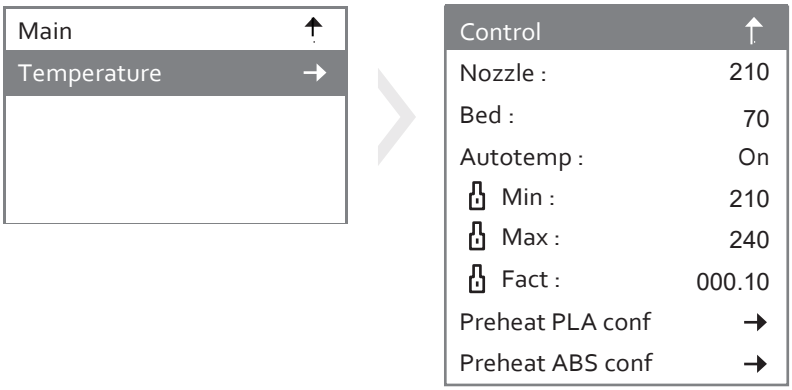
## CONTROL

1) Select “Control” and press the knob to show the functional menu.

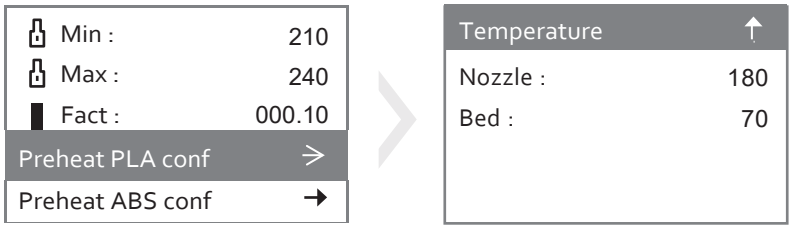



## Temperature

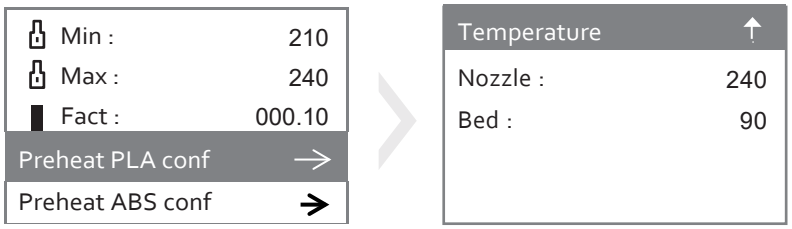
1) Select “Temperature” and press the knob to show the advanced setting menu.




2) Select “Preheat PLA conf” and press the knob for pre-heating when using PLA filament.

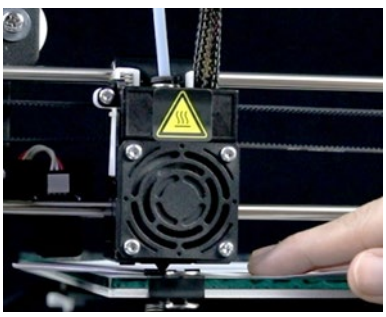



3) Select “Preheat ABS conf” and press the knob for pre-heating when using ABS filament.



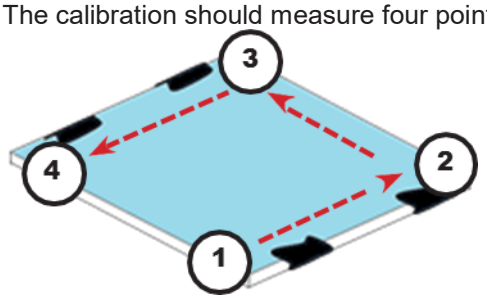

# PRINT BED CALIBRATION

1) Prepare a sheet of A4 paper for calibration.

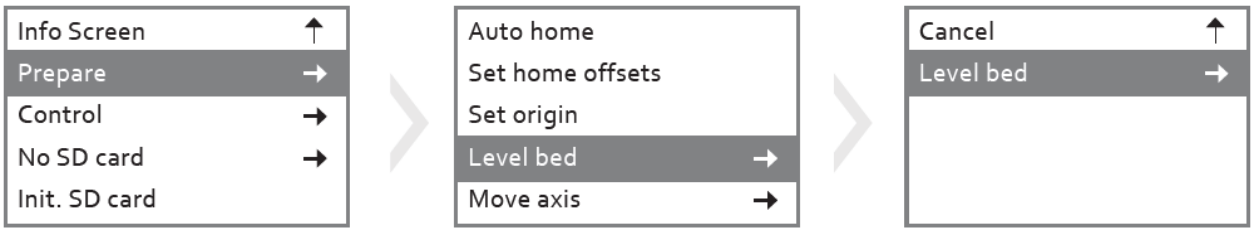


It is suggested to use a standard folded A4 paper for printing material of PLA; non-folded for ABS.

2) The calibration should measure four points as below illustration.



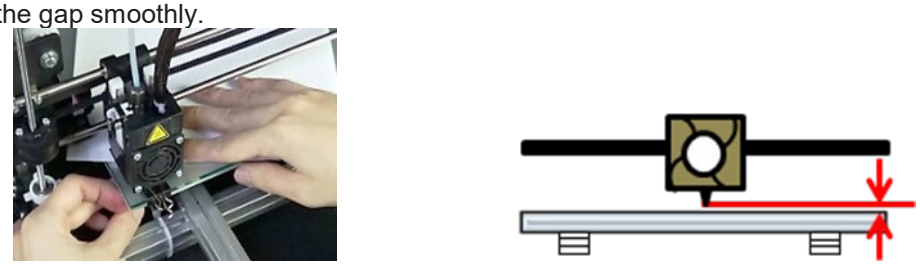

3) Select “Prepare”, “Level bed”, and then “Level bed” and press the knob.



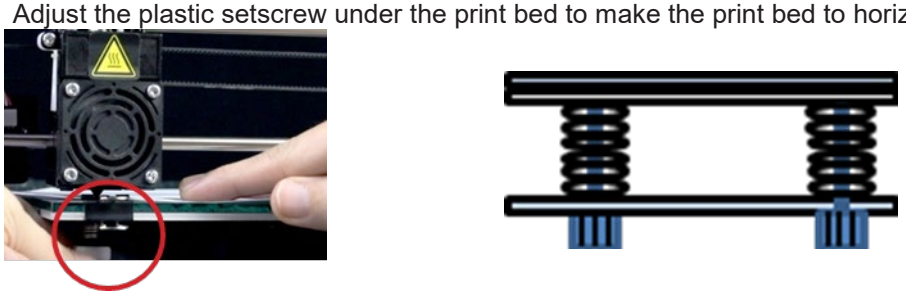

The operation of controlling the panel can refer to the section of LCD PANEL CONTROL.

4) Calibrate the print bed one point by one point; that comes with a “BEEP” sound after completion at each step.


4.1) Insert the paper between the nozzle tip and the glass surface at each step; where the paper shall pass through the gap smoothly.

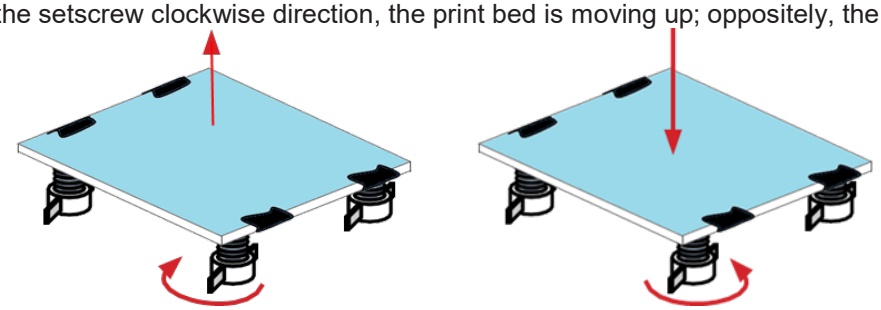


4.2) Adjust the plastic setscrew under the print bed to make the print bed to horizon position if needed.



Users may use a tool to prevent the metal setscrew from spinning while doing the adjustment.

4.3) Turn the setscrew clockwise direction, the print bed is moving up; oppositely, the print bed is moving down.



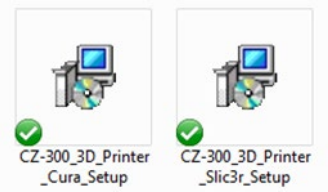
# SOFTWARE SETTINGS

The **CZ-300** printer can make your scratch design become solid objects with generated G-code from 3D files by using software such as Slic3r, and Cura etc.

This manual assumes that users have already had the up-to-date version of software well-downloaded and installed under relevant operating system. **Crazy3DPrint** provides the installation file – ***CZ-300_3D Printer_Cura_Set-up_1.0.4.exe*** & ***CZ-300_3D Printer_Slic3r_Setup_1.0.3.exe*** – for users easily setting up the parameters in terms of printer dimensions, extruder details, and other specific commands.

**Support Cura and Slic3r and you can download the profile from below URL**

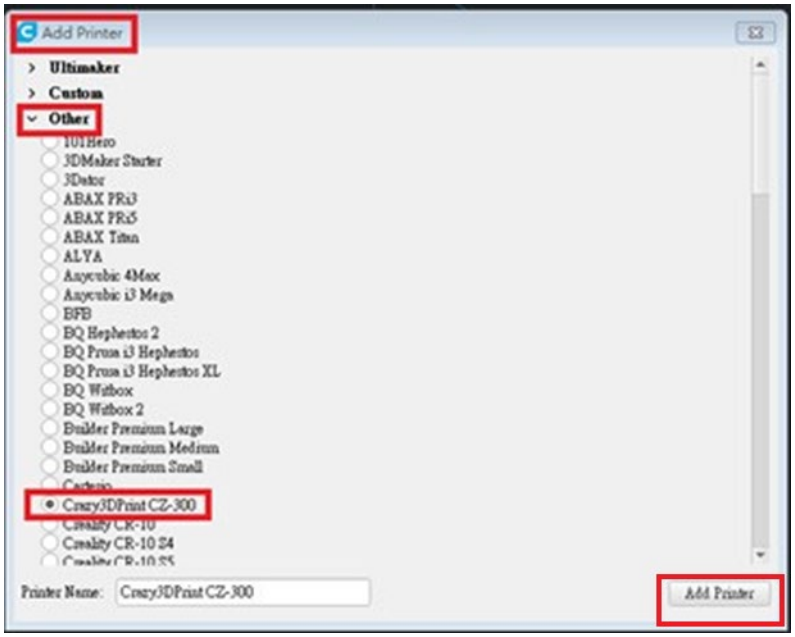
1. Cura: https://ultimaker.com/software/ultimaker-cura
2. Slic3r: https://slic3r.org/download/



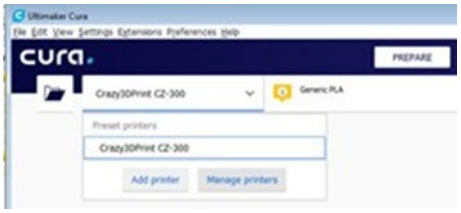

Users can find the software from “Software Folder” in the **SD Memory Card** [12]; or download it from the website via: https://www.crazy3dprint.com/support

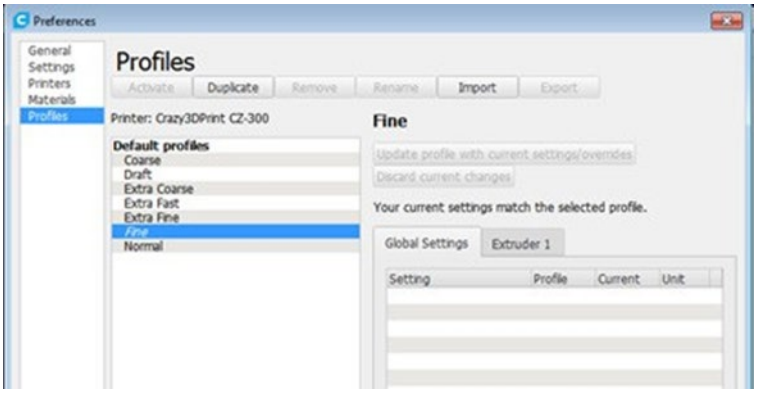
## CURA SOFTWARE – 3D PRINTER MANUAL SETTING

1) After installation, double-click the Cura icon to display the default page.
2) Select “Add Printer” -> “Other” -> “Crazy3DPrint CZ-300”; following add the printer.
3) It is suggested that users preset the parameters as below for better print results:




4) Select “Manage printers” -> “Profiles”, and click “Import”.

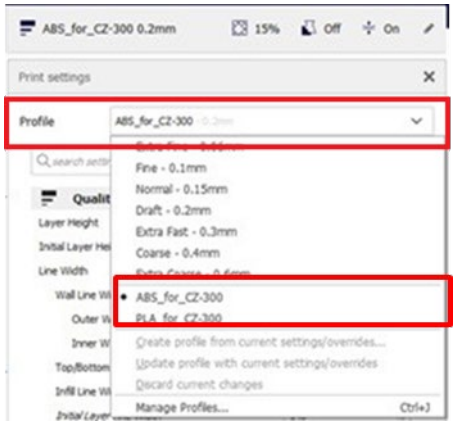



5) Browse the file(s), select it, and click “Open”.

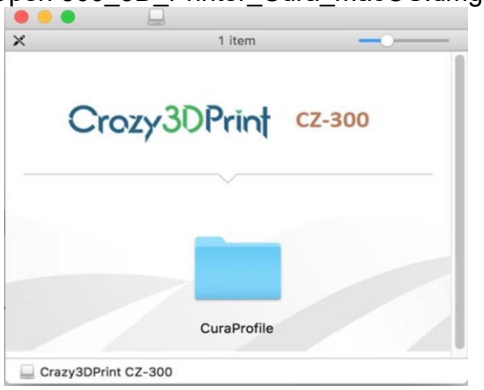
- Libraries\Documents\ABS_for_CZ-300.curaprofile
- Libraries\Documents\PLA_for_CZ-300.curaprofile

Before printing, remember to select the profile with suggested parameters for better print results.

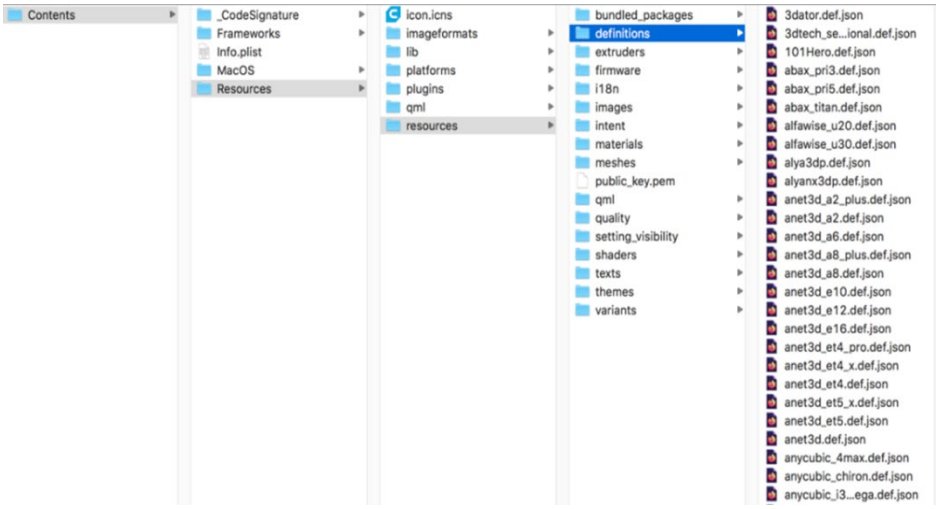



## CURA SOFTWARE – 3D PRINTER MANUAL SETTING (MAC INSTALLATION)

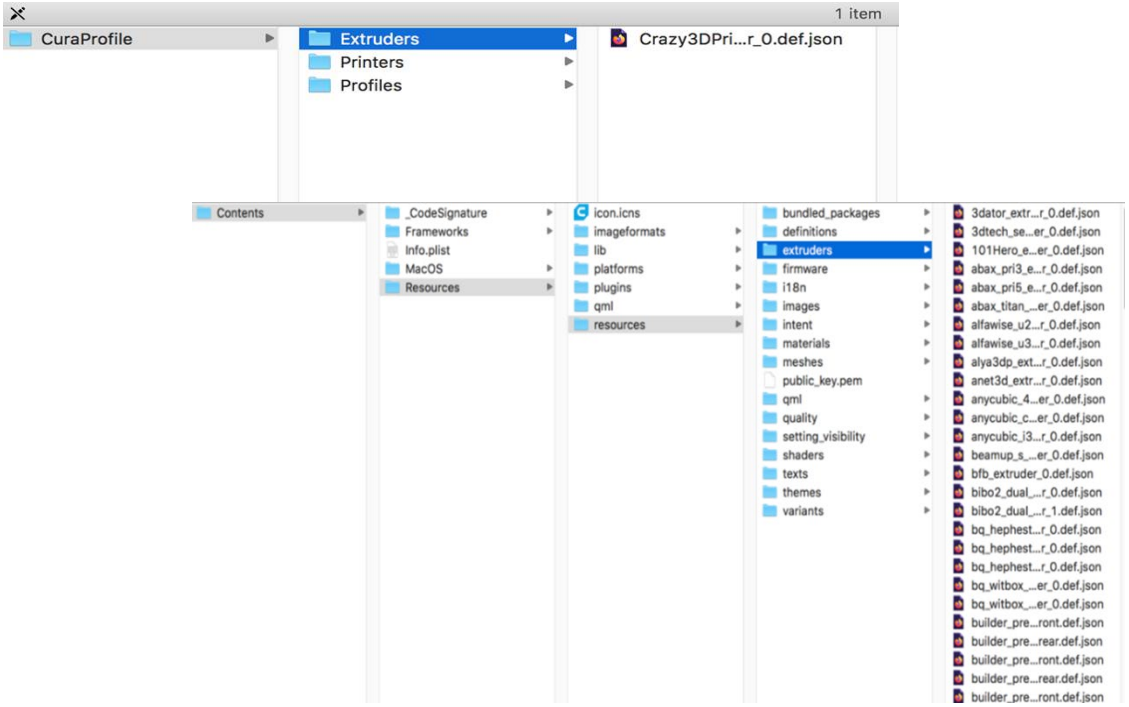
1) Open 300_3D_Printer_Cura_macOS.dmgfil, enter Cura Profile file.



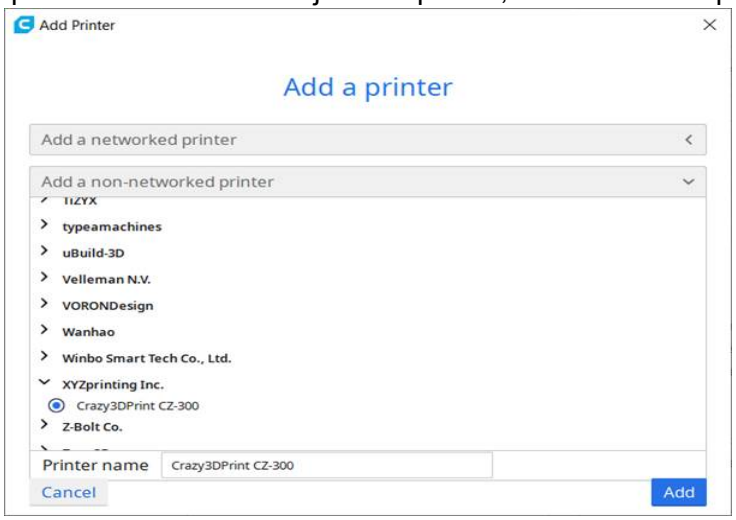

2) Copy .json file from CuraProfile\Printers to Cura.app (Refer User Installation content) inside the Contents/Resources/resources/definitions.



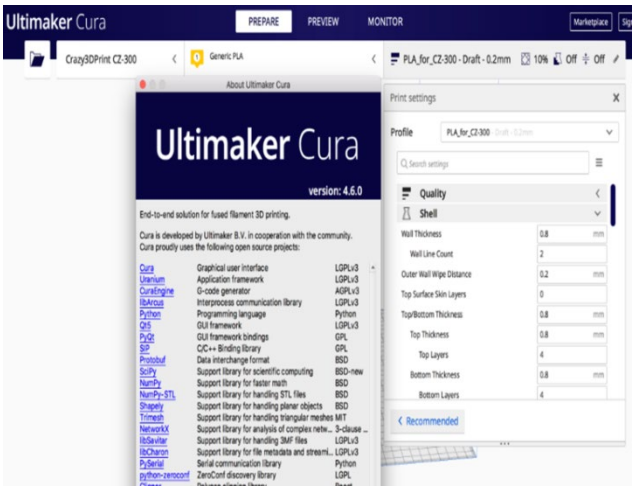

3) Copy .json file fromCuraProfile\Extrudes to Cura.app (See user installation content) inside the Contents/Resources/resources/extruders.




4) Open Cura and select to join the printer, and select XYZprinting Inc under the Crazy3DPrint CZ-300。



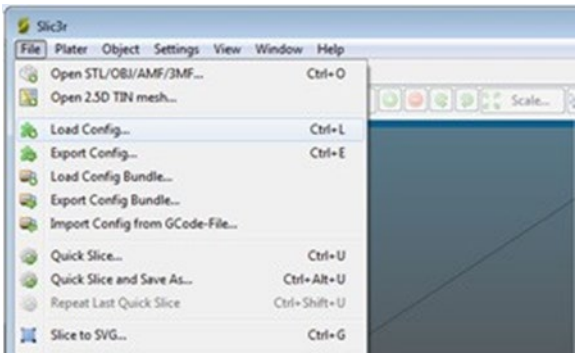
5) At last, import ABS or PLA profile.


## SLIC3R SOFTWARE – 3D PRINTER MANUAL SETTING

1) After installation, double-click the Slic3r icon to display the default page.

2) Select “File”, and click “Load Config…”.




3) Browse the file(s), select it, and click “Open”.

- Libraries\Documents\Crazy3DPrint CZ-300_ABS.ini
- Libraries\Documents\Crazy3DPrint CZ-300_PLA.ini

# FIRMWARE-UPDATE: WINDOWS (DURCH SAM-BA)

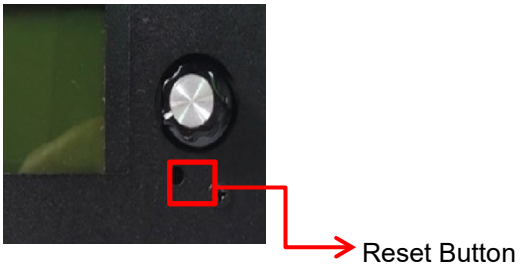
This manual suggests users to update the printer firmware by using ***Microchip SAM Boot Assistance (SAM-BA)*** software, a programming tool to overwriting an existing firmware version where needed. It is assumed that users have already had the software installed under relevant operating system.

Both versions of ***SAM-BA 2.15*** and ***SAM-BA 2.18*** are tested for the use of firmware update.

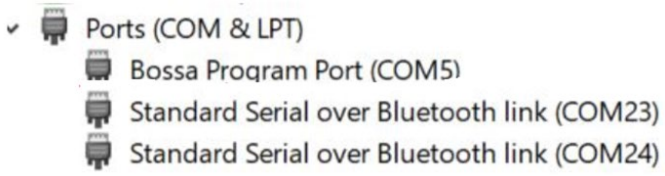
Users can download the up-to-date version of ***CZ-300 firmware*** from the website via:
https://www.crazy3dprint.com/support

Prepare the **USB cable**[4-1] to connect the control box with your laptop or computer.

1) Press and hold the reset button – under the knob control; following turn on then off the power, wait 5 - 10 second check monitor light off, then turn on power again. Check fan is stop running.



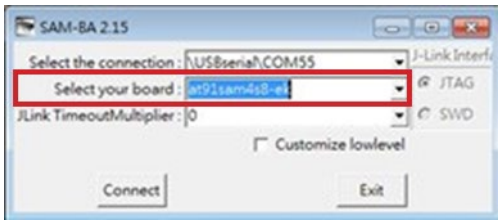
2) The device manager will show information Bossa program port (Com Port)

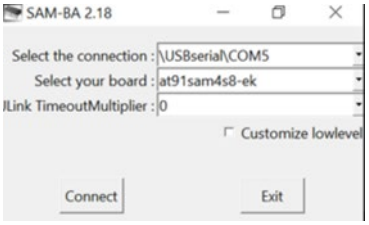



Users may use a tool or the **flathead screwdriver**[4-15] to press the button, and may check the status of connection appears in device manager as “Bossa Program Port (COM…)”.

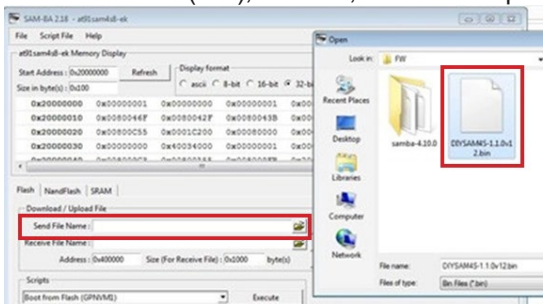
Users can download the up-to-date version of ***CZ-300 firmware*** from the website via:
https://www.crazy3dprint.com/support

3) Open the SAM-BA; following select the board as “at91sam4s8-ek”.



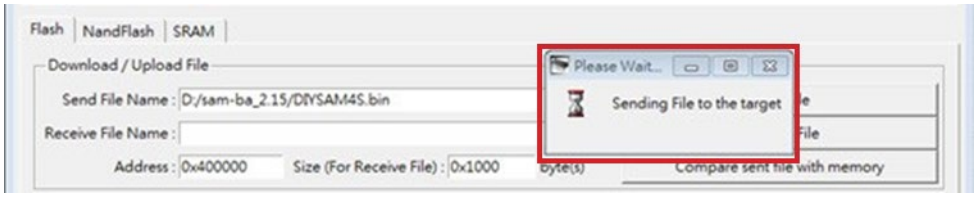




4) Browse the file (.bin), select it, and click “Open”.

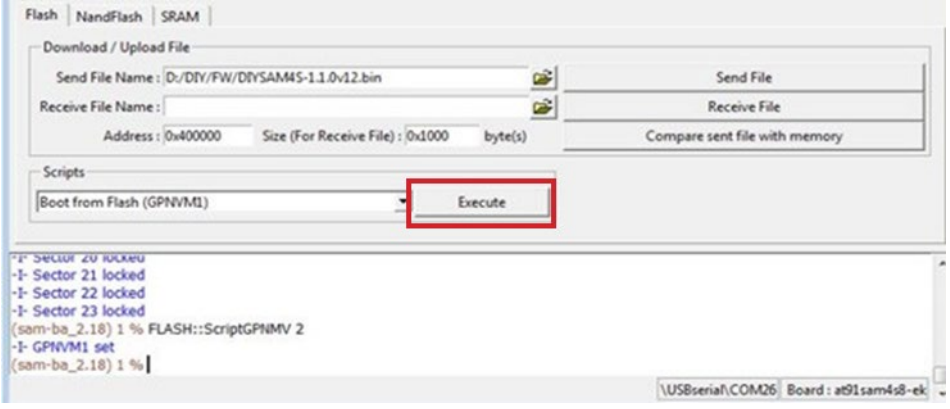


Users can download the up-to-date version of ***CZ-300 firmware*** from the website via:
https://www.crazy3dprint.com/support

5) Click “Send File” button, and click “Yes” to “Unlock/Lock region(s)”.




6) Click “Execute” button few times until the log information is terminated.



7) Reboot the printer.

Turn off the machine and wait for a few seconds before turning it on again.

8) Close the SAM-BA; following check the port connection appears in device manager as “CZ-300” to make sure if the PCB version is successfully burned.

## FIRMWARE-UPDATING: macOS (BY BOSSA )

This firmware is the open source tool BOSSA and is the best choice for macOS and Linux, you may also use BOSSA with your Windows PC.

BOSSA have many dependencies to the other open source libraries based on GPL issue their does not including in BOSSA app packages, end-user should install by himself using brew tool when you use macOS, using apt tool to install BOSSA when you use Linux.

At first if you are trying to run the BOSSA app and got crash report. Please note, before use BOSSA , you should use ‘brew ’to install some dependencies libraries.

1) There are three steps to install the BOSSA as below:
   a. Install Homebrew
   b. Install dependencies libraries
   c. Install BOSSA

Step 1 Install Homebrew

a. For Chinese version, please refer https://brew.sh/index_zh-tw
b. For English version, please refer https://brew.sh
c. Please follow the instruction to install Homebrew for macOS

Step 2 Install dependencies libraries

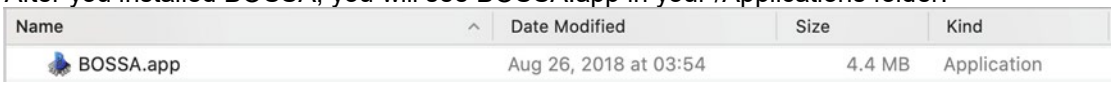
a. Open terminal tool.
b. Paste below command in a macOS Terminal, this command will install 3 open source GPL software into your mac
   $ brew install libpng libtiff jpeg

Step 3 Install BOSSA

a. $ brew cask install bossa

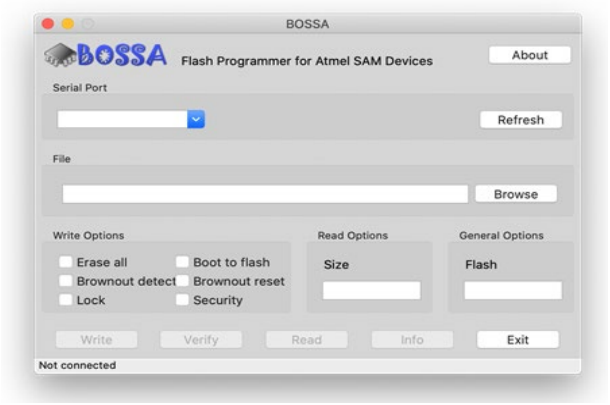
If you already have BOSSA.app from BOSSA website and follow that instruction installed into /Applications folder. However you still got error on Terminal window, you may ignore the error if you can open the BOSSA.app by double c`ick the BOSSA.app in the /Applications folder.

1) After you installed BOSSA, you will see BOSSA.app in your /Applications folder.

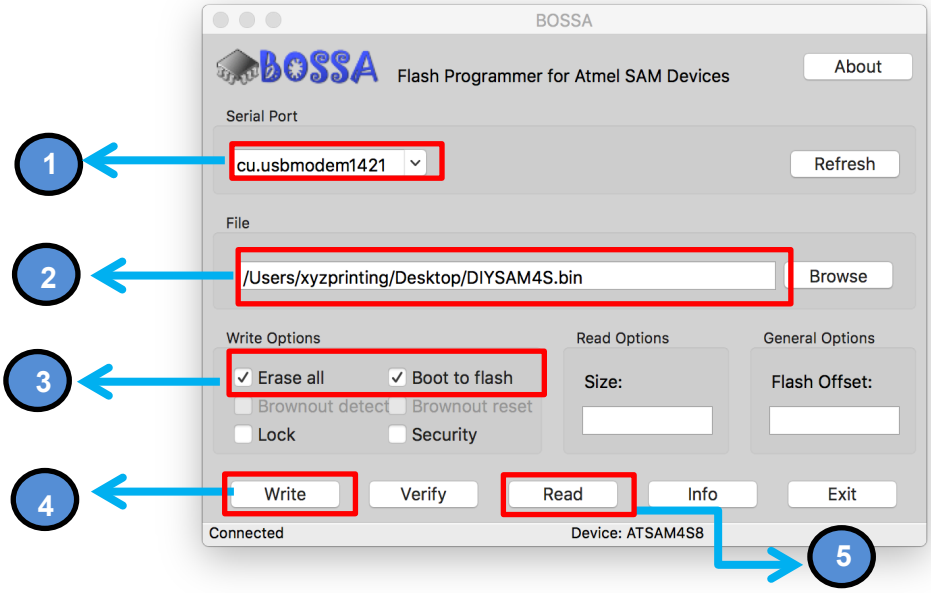




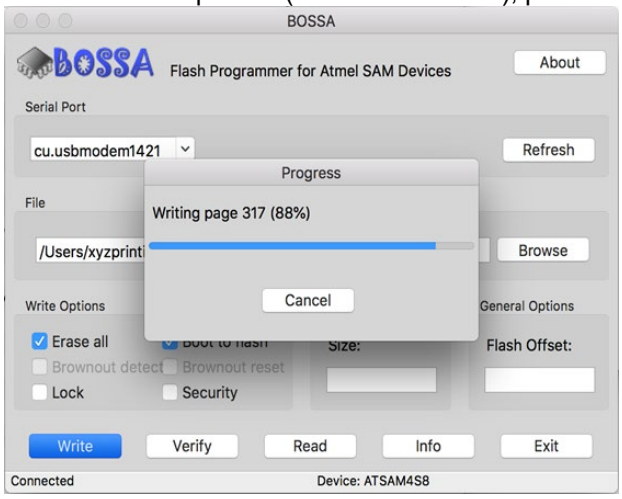
2) Double click BOSSA.app , you will see the below screen.

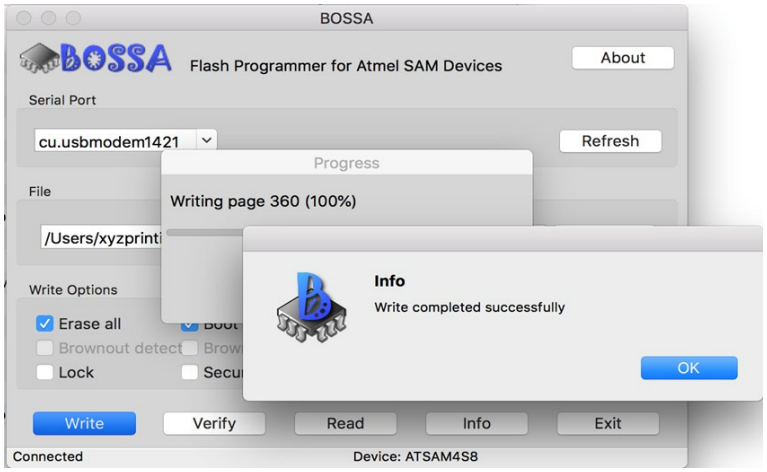



3) If you connect printer via USB to your Mac, you may see below screen.




1. To show which port was the device connected
2. To show which new FW bin file will be upload to device
3. Please check-out the “Erase all” and “Boot to flash” check box.
4. Click “Write” button to do the F/W update process.
5. Do not click “Read” button that will read binary data from device and then replace the correct bin file.
6. After write and updated (see below screen), please reboot your device then you will have a new version of firmware.



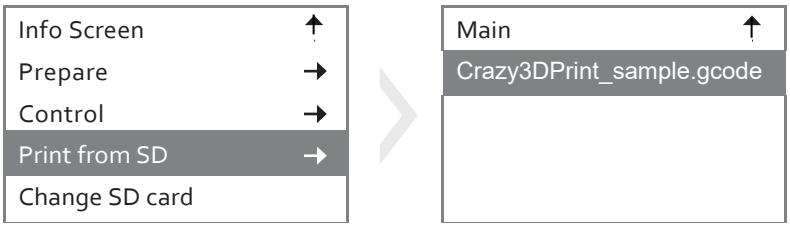



# FIRST PRINT

It is suggested to do the calibration every time before printing for better outcomes. Users may refer the procedure from the section of PRINT BED CALIBRATION.

## PRINT FROM SD CARD

1) Insert a SD card to the slot; following select “Print from SD” and choose the file.



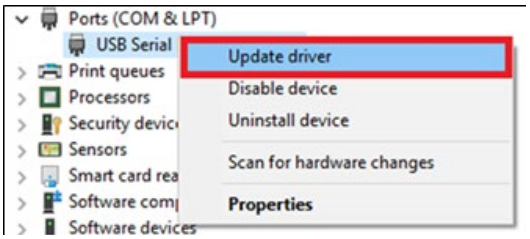

## PRINT FROM THE CABLE

1) Prepare the USB cable4-1 to connect the control box with your laptop or computer; following open the file with software generated G-code.

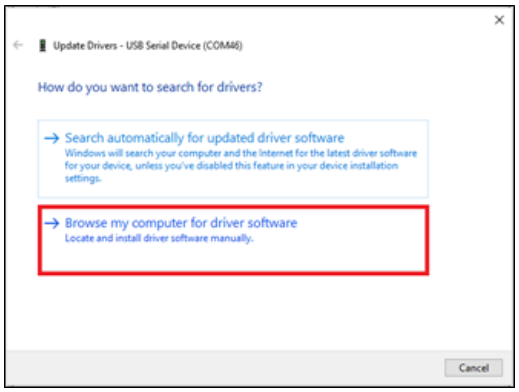

Each superscript number refers to the tools kit listed in the table of accessory checklist. If there is no suitable serial port driver, please follow the next setting guide.

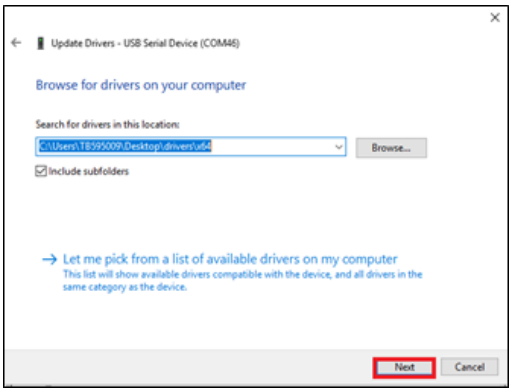
## INSTALLING USB-SERIAL DRIVERS

1) Open the “Device Manager” in the “Computer Management” window; following right click “USB Serial” and select “Update driver”.



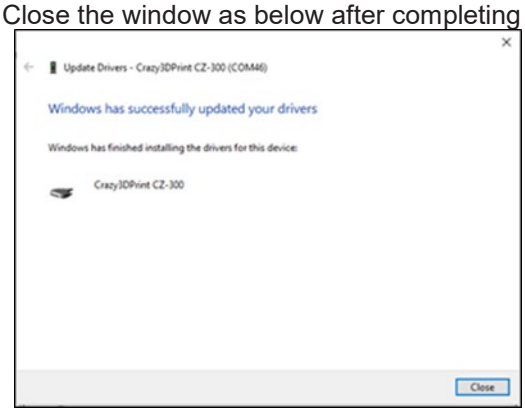

2) Select “Browse my computer for driver software”; following browse a suitable driver file for the version of your Windows.




Users can find the drivers from zip file format in the SD Memory Card[12]; or download it from the website via: https://www.crazy3dprint.com/support

3) Close the window as below after completing the update.

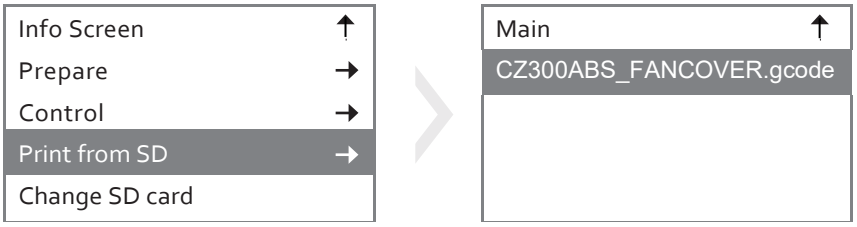


# ABS PRINTING TIPS (FAN COVER)

In order to print with ABS, users may follow the steps below for better printing results.

## PRINT THE FAN COVER FROM SD CARD

1) Insert a SD card to the slot; following select “Print from SD” and choose the file.

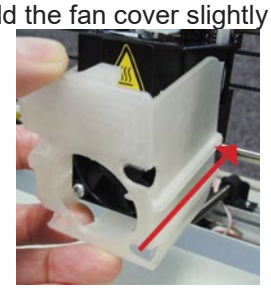



2) Prepare a roll of PLA filament and mount to the spool holder and start to print the fan cover.

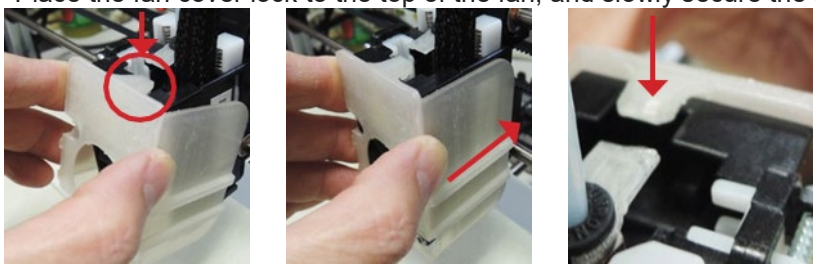
## INSTALL THE FAN COVER

1) Fan Cover Appearance.


2) Hold the fan cover slightly upward, and slowly push the fan cover bottom go in the fan bottom first.



3) Place the fan cover lock to the top of the fan, and slowly secure the top cover on the fan.

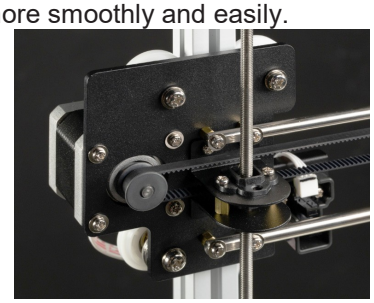


4) Check the top, back and bottom of the top cover and make sure the top cover completely mount on the fan.

# MAINTENANCE

## PRINTER LUBRICATION

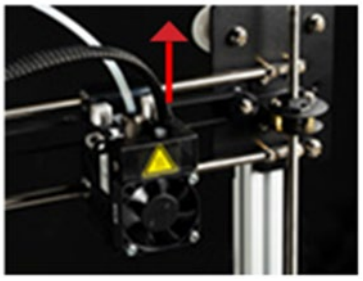
To keep the **CZ-300** printer running its best condition as expected, it is highly recommended to lubricate all the moving parts periodically. Users can put two to three small drops of sewing machine oil onto the shafts of extruder module and print bed. The grease is also commonly used for lubrication of Z-shaft. This is a beneficial way to reduce the friction so that the parts can be moving more smoothly and easily.

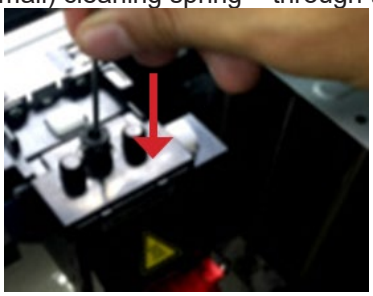


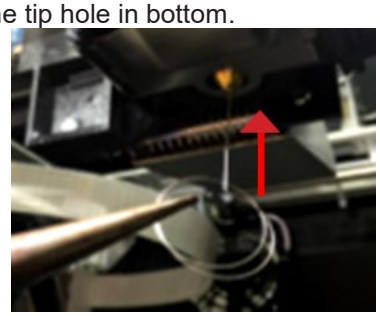
## EXTRUDER MODULE CLEANING

The printing process can cause the nozzle clogging that further impacts the quality of printing outcomes. Material clogged in the extruder can even lead to filament loading problems. It is suggested to clean the extruder module regularly by following the steps below:

(1) Remove the filament tube[15] from the extruder.
(2) Insert the cleaning pin[18] into the feed hole, and push it down to drill the filament out from the tip.
(3) Use needle nose piers to push one (small) cleaning spring[19] through the tip hole in bottom.





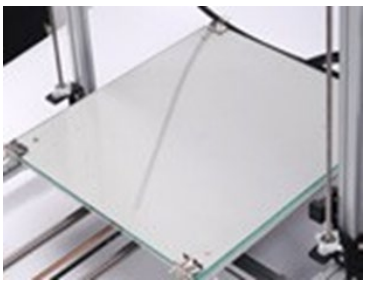


Each superscript number refers to the tools kit listed in the table of accessory checklist

## PRINT BED GLASS CLEANING

Always keep the print bed glass clean, there might be excess glue or left plastic from previous prints stuck to the surface. This can cause a warped or uneven print surface that makes poor printing outcomes. It is suggested to clean the print bed glass with the tips below :

- Wipe down the glass with isopropyl alcohol. Or
- Wash the glass with warm water and a bit mild dish detergent if necessary, then rinse thoroughly.



Always make sure that the printer is powered off and the print bed has cooled down before the maintenance. Do not use any tools that might intentionally scratch (score) the glass surface

# TROUBLE SHOOTING

## ERROR MESSAGE

| Item | Error message | Description | Simple fix solution |
|---|---|---|---|
| 1 | Thermal Runaway<br>**PRINTER HALTED**<br>Please reset | **Nozzle Raising Temperature Abnormal:**<br>1. Unable reach the designated temperature (54°C) within 30secs.<br>2. Unable reach the designated temperature (147°C) within 60secs.<br>3.Abnormally slow during raising temperature<br>(less than 2 degrees °C within 20secs).<br>4. Temperature suddenly change to abnormal after reaching the designated temperature.<br><br>**Print bed Raising Temperature Abnormal :**<br>1.Abnormally slow during raising temperature<br>(less than 2 degrees °C within 60secs).<br>2. Temperature suddenly changes to abnormal after reaching the designated temperature.<br>Any of the above occurring will display the error message. | Check the hardware circuit |
| 2 | ENDSTOPS | Sensor has detected the signal, and stop running | This is the warning, and check sensor circuit whether abnormal.<br>If sensor does not connect well and easily cause mis-judgment |
| 3 | SD read error | SD read the error information to cause mistakenly | Check SD card and the files whether abnormal. |