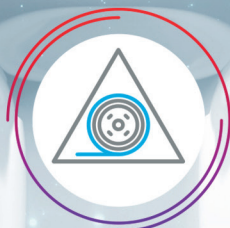




# THE SUPERVISOR



**FILAMENT JAM DETECTION**



**DUAL EXTRUSION  
PRINT HEAD**



**NEW MOTOR CONTROL  
FOR QUIET PRINTING**



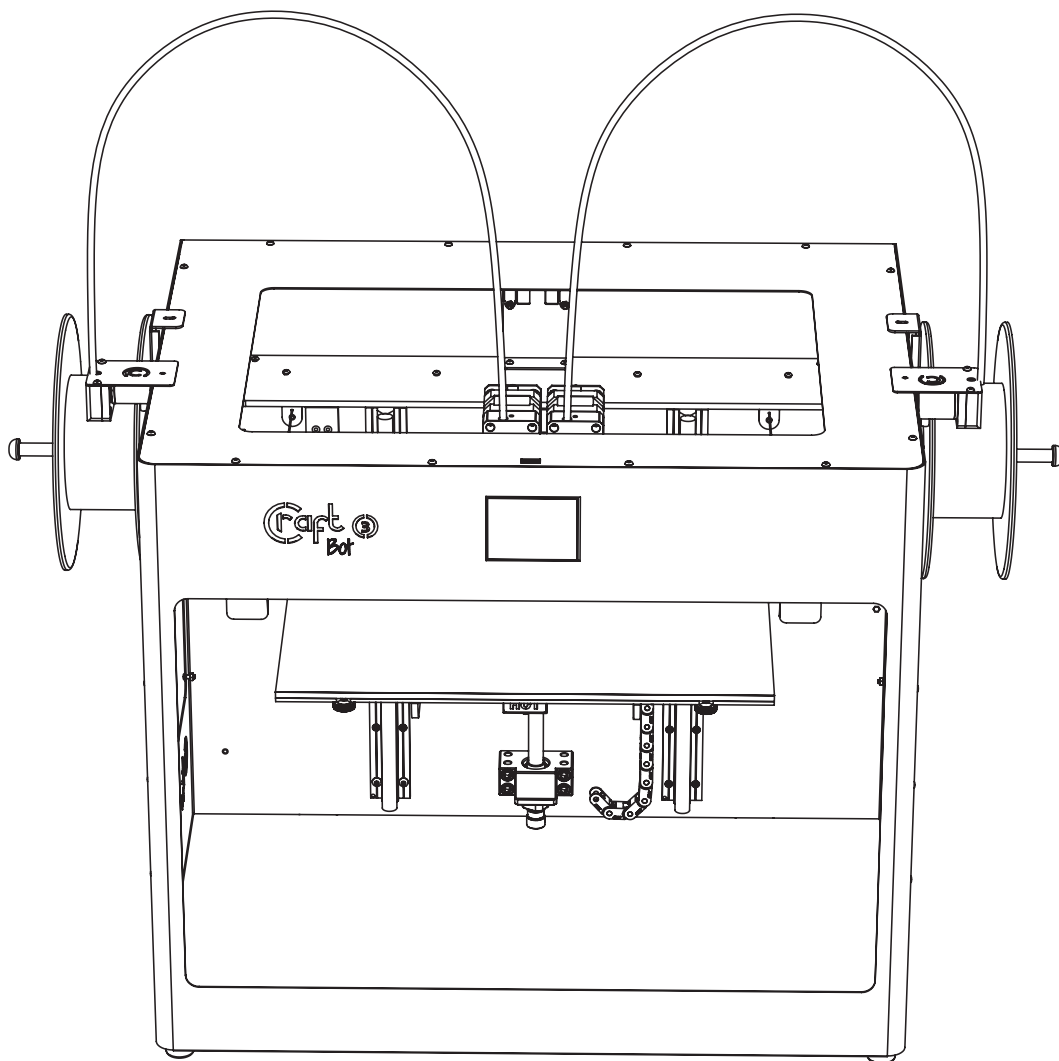
# USER MANUAL

# TABLE OF CONTENTS

1. INTRODUCTION	3
1.1. Important	4
1.2. Warnings	4
1.3. Caution	4
1.4. Unpacking the printer	5
1.5. Contents of box	5
2. INTRODUCTION TO THE CRAFTBOT 3	6
3. ASSEMBLING THE PRINTER	7
3.1. Installing the encoders	7
3.2. Installing the filament guide tube	7
3.3. Installing the filament spool holders	7
3.4. Mounding the filament spools	8
3.5. Attaching the power cord	8
4. FIRST STEPS	9
4.1. Switching on the appliance	9
4.2. Setting the language	9
4.3. Select the heat measure (Celsius / Fahrenheit).	9
4.4. Setting the clock	9
4.5. Connecting the CraftBot3 printer to a wireless network	10
5. PREPARING THE PRINTER	11
5.1. Heating up the printer	11
5.2. Loading the filament	11
5.3. Removing the filament from the extruder	12
5.4. Calibration settings	12
5.4.1. Leveling the build plate	12
5.4.2. Dual head calibration (Z)	14
5.4.3. Dual head calibration (X-Y)	16
5.4.4. FMS operation	17
5.4.5. Wizard settings	19
5.4.6. Other menu settings - adjusting the lighting	19
5.4.7. Activating the fans	20
5.4.8. Sound settings	21
5.4.9. Report function	21
5.4.10. Dome menu	21
5.4.11. Configuration of colored red strip	22
5.4.12. Printing modes	23
5.4.13. Reset settings /you can reset all the printer setting/	23
6. NAVIGATE THE BUILD PLATE AND THE EXTRUDERS	24
7. USING THE PRINTER	25
7.1. Using CraftWare to convert 3D design into printing commands	25
7.2. dual head printing in craftware	26
7.3. Printing objects from usb flash drive	28
7.4. In-print adjustment	28
7.4.1. Tweak function menu	29
7.4.2. Pause next layer menu	29
7.4.3. Pause menu	30
8. MOBILE APPLICATION	30
8.1. Using craftware to convert 3d design into printing commands	30
9. CLEANING AND MAINTENANCE	31
10. TROUBLESHOOTING	32
10.1. Preventing/ fixing a clogged extruder	32
10.2. Removing the nozzle	33
11. FIRMWARE UPDATE	34
11.1. Firmware update with software	34
11.2. Firmware update on older printers	36
12. APPLYING A NEW LAYER OF PROTECTIVE KAPTON SHEET TO YOUR BUILD PLATE	36
13. USEFUL THINGS	37
13.1. G and M codes	37
13.2. Useful links	40
14. GUARANTEE	41
15. LIMITATION OF LIABILITY	41

# 1. INTRODUCTION

Congratulations on your purchase of the CraftBot 3D printer and welcome to the world of 3D crafting! At CraftUnique we believe that 3D printing opens a new window to enhance creativity. It offers outstanding crafting experience even without prior programming or 3D printing experience. How does the printer work? The CraftBot 3D printer makes solid, three-dimensional objects out of melted plastic filament. Design Your objects with the help of a 3D design program. Then use the CraftWare program (downloadable from [www.craftunique.com/craftware](http://www.craftunique.com/craftware)) to transform Your 3D design files into printing instructions for the CraftBot 3D printer. Transfer this to Your CraftBot 3D printer via USB drive or USB cable. The CraftBot 3D printer will melt plastic filaments and squeeze it out onto the building plate in thin lines to print your object layer by layer.





## 1.1. IMPORTANT

Read this user manual carefully before you use the appliance, and save it for future reference.

All information in this user manual is subject to change at any time without notice and is provided for convenience purposes only. CraftUnique reserves the right to modify or revise this user manual in its sole discretion and at any time. By using the manual, you agree to be bound by any modifications and/or revisions. For up-to-date information contact the CraftUnique Service Support (support@craftunique.com).

## 1.2. WARNINGS

- Check if the voltage indicated on the sticker at the back of the appliance that it corresponds to the local mains voltage before you connect the appliance.
- Do not immerse the power cord, plug or any other parts into water or any other liquid. This may cause electrical shock.
- Do not use the appliance if the plug / mains cord or the appliance itself is damaged or not operating properly.
- If the mains cord is damaged, you must have it replaced in order to avoid hazard.
- Only connect the appliance to grounded wall sockets.
- Keep the mains cord away from hot surfaces.
- Do not let the mains cord hang over the edge of the table or worktop on which the appliance stands.
- Keep the appliance and its cord out of the reach of children.
- This appliance can be used by children from the ages of 8 years and above; and by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge. Only under supervision and adequate instruction concerning the use of the appliance in a safe way, understanding the hazards involved. Cleaning and user maintenance shall not be made by children.
- Children can receive great educational benefits from designing 3D objects. But the printing process should not be done by small unsupervised children.
- Do not touch moving parts or heated elements, it can cause injuries.
- Never reach inside the machine when turned on. Different parts of the machine (mainly the extruder and heated build plate) operate at very high temperatures and can cause severe burns.
- Never leave the CraftBot 3D printer unattended while it is plugged in and is in operation.
- Make sure that the power supply is off and that the power cord is disconnected before servicing. Allow at least 5 minutes for the device to cool down after unplugging it before reaching inside to service.
- Always turn off the printer and disconnect from the computer when it is not being used.

## 1.3. CAUTION!

- Make sure to level the build plate properly before use.
- Make sure not to force anything, whether it be during unpacking, setup, operation or service.
- Service and oil the suggested parts as often as recommended. Use only substances recommended by CraftUnique. (Normally after every 50 printing ours)
- The CraftBot 3D printer melts plastic during printing. Plastic odors are emitted during this operation. Make sure to set up the CraftBot 3D printer in a well-ventilated area.



## 1.4. UNPACKING THE PRINTER



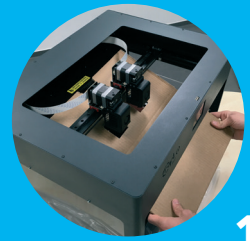
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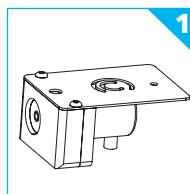
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1. Place the CraftBot cardboard box on an even surface with open space around.
2. Open the box with care, avoid damaging the contents when using any cutter tools.
3. Remove the protective cardboard cover. You will find the Quick Start Guide at the top of the inner packaging.
4. The accessories (including a USB pen drive with copy of the CraftBot user manual) are placed in the upper foam tray. We suggest keeping the accessories in a secure place, avoid losing them.
5. The CraftBot 3D printer is under the upper foam tray enclosed in a protective plastic bag supported with side foams to avoid any damage while shipping.
6. First remove the side foams then open the plastic bag.
7. Firmly grasp the frame of the CraftBot under the LCD screen and the handle at the back of the printer. Make sure not to touch the extruder or the electronic panel inside the device!
8. Consider its weight. Request physical help if needed. Lift the printer from inside the plastic cover and remove it from the cardboard packaging.
9. Place the CraftBot 3D printer on a stable and even surface with sufficient space around.
10. Remove the cardboard panel fixing the two heads inside the printer.

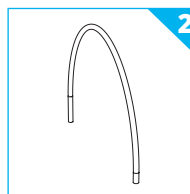
## 1.5. CONTENTS OF THE BOX

It's time to unpack additional parts. Below you can see the contents of the box. First of all, check the list to make sure nothing is missing!

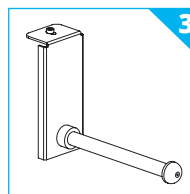
1. Filament encoder (2x)
2. Filament guide tube (2x)
3. Filament spool holder (2x)
4. Hex wrenches (5x)
5. USB Flash storage
6. USB A-B cable
7. AC power cable
8. 2x Nozzle kit boxes which includes assortment of Nozzle tips, Spacer cards, and a nozzle spanners/Wrench



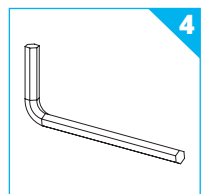
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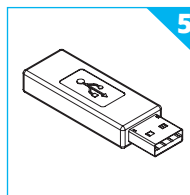
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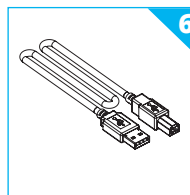
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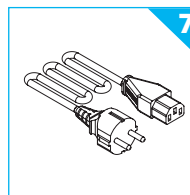
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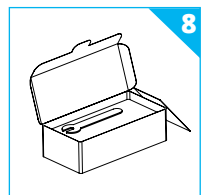
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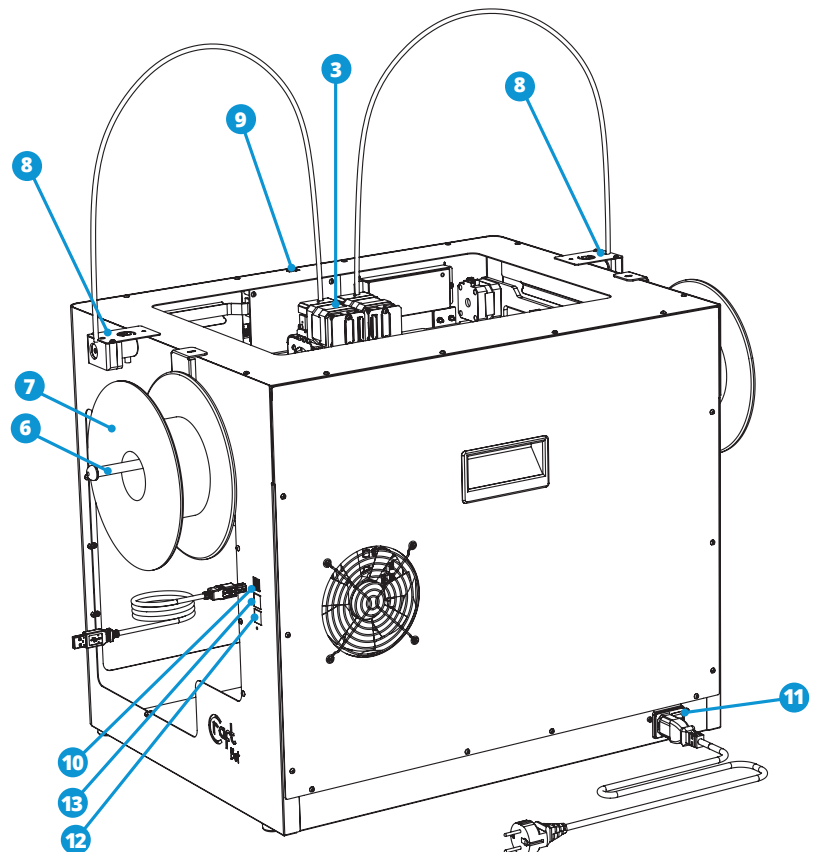
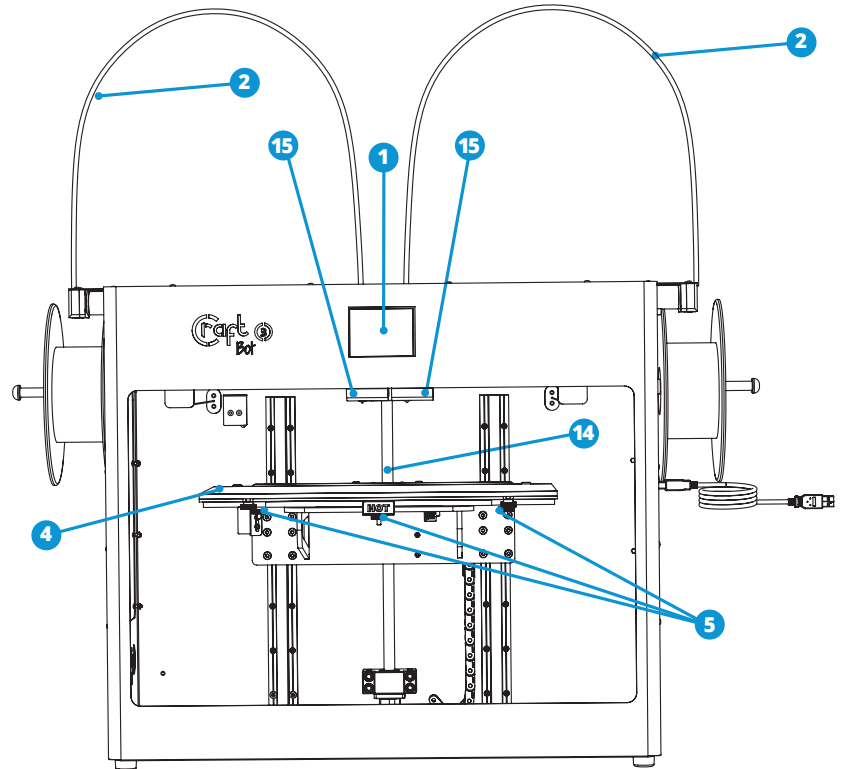


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You should also get 2 spools of 0.75kg PLA filament, along with an assortment of colours to get you started along with the box containing your CraftBot.

## 2. INTRODUCING THE CRAFTBOT 3D PRINTER

1. Touchscreen LCD display
2. Filament guide tube
3. Separated dual heads
4. Removable build plate
5. Leveling knobs
6. Filament spool holder
7. Filament spool
8. FMS encoder
9. USB for flash drive
10. USB for PC connection
11. AC power socket and ON/OFF switch
12. Encoder 1 connection
13. Encoder 2 connection
14. Z Spindle
15. Z screw top support screws



# 3. ASSEMBLING THE PRINTER

## 3.1. INSTALLING THE ENCODERS

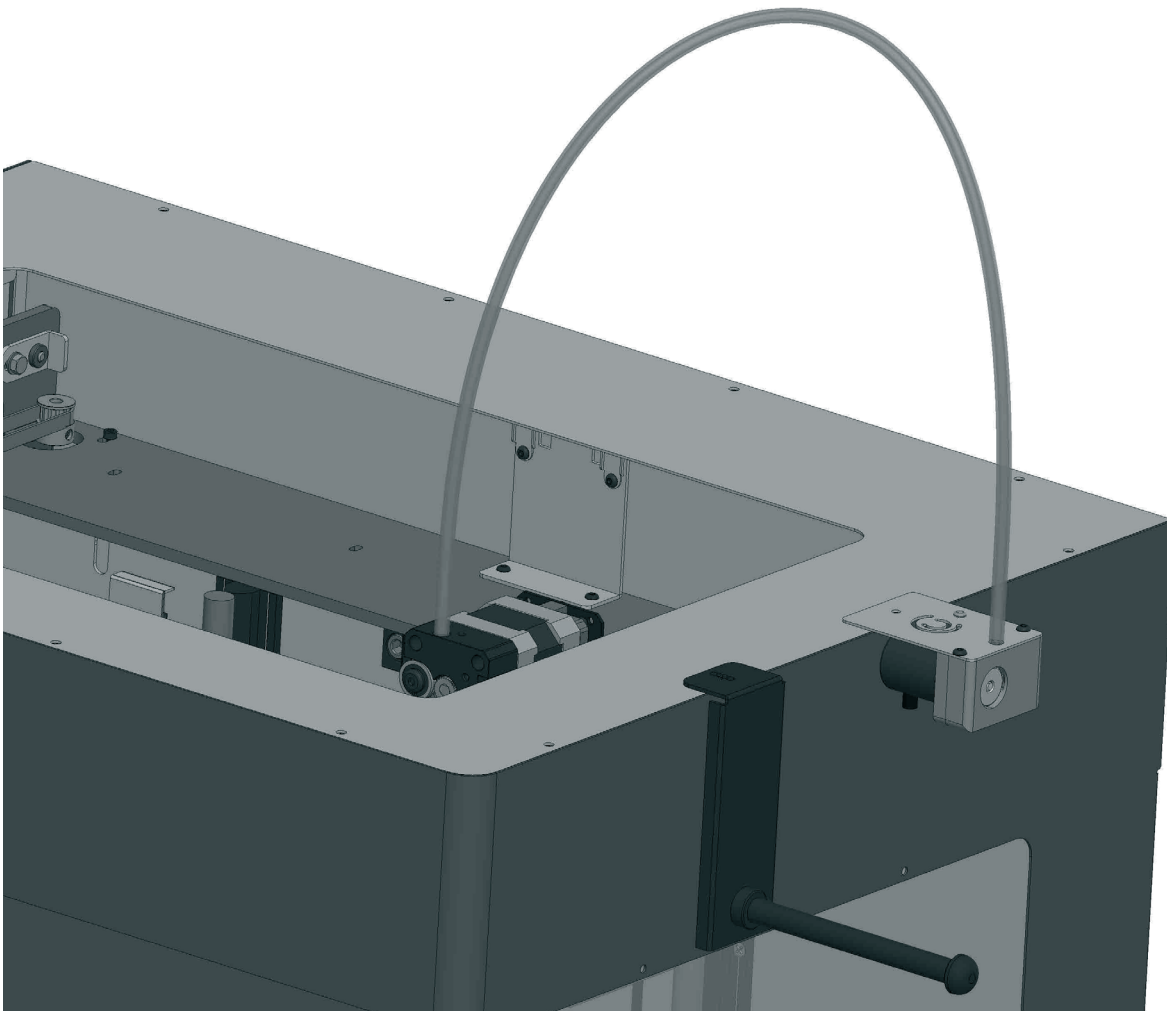
- Select the desired position for the encoders. Choose their position so that the filament spool bracket fits beside them. And the filament drives directly up into the encoders from the spool.
- Plug the 2 Encoder cables into the encoder ports on the side of the printer. found beneath the USB connector on the side of the machine. The upper one is number 1 and the lower one is number 2.
- When looking at the machine, the extruder on the left side is number 1, and the extruder on the right is number 2.

## 3.2. INSTALLING THE FILAMENT GUIDE TUBE

- Fit the filament guide tube to the top of the extruder and the top of the encoder.

## 3.3. INSTALLING THE FILAMENT SPOOL HOLDERS

- Locate both of the filament spool holders.
- Using a hex wrench, install the filament spool holder next to the 2 FMS Encoders.



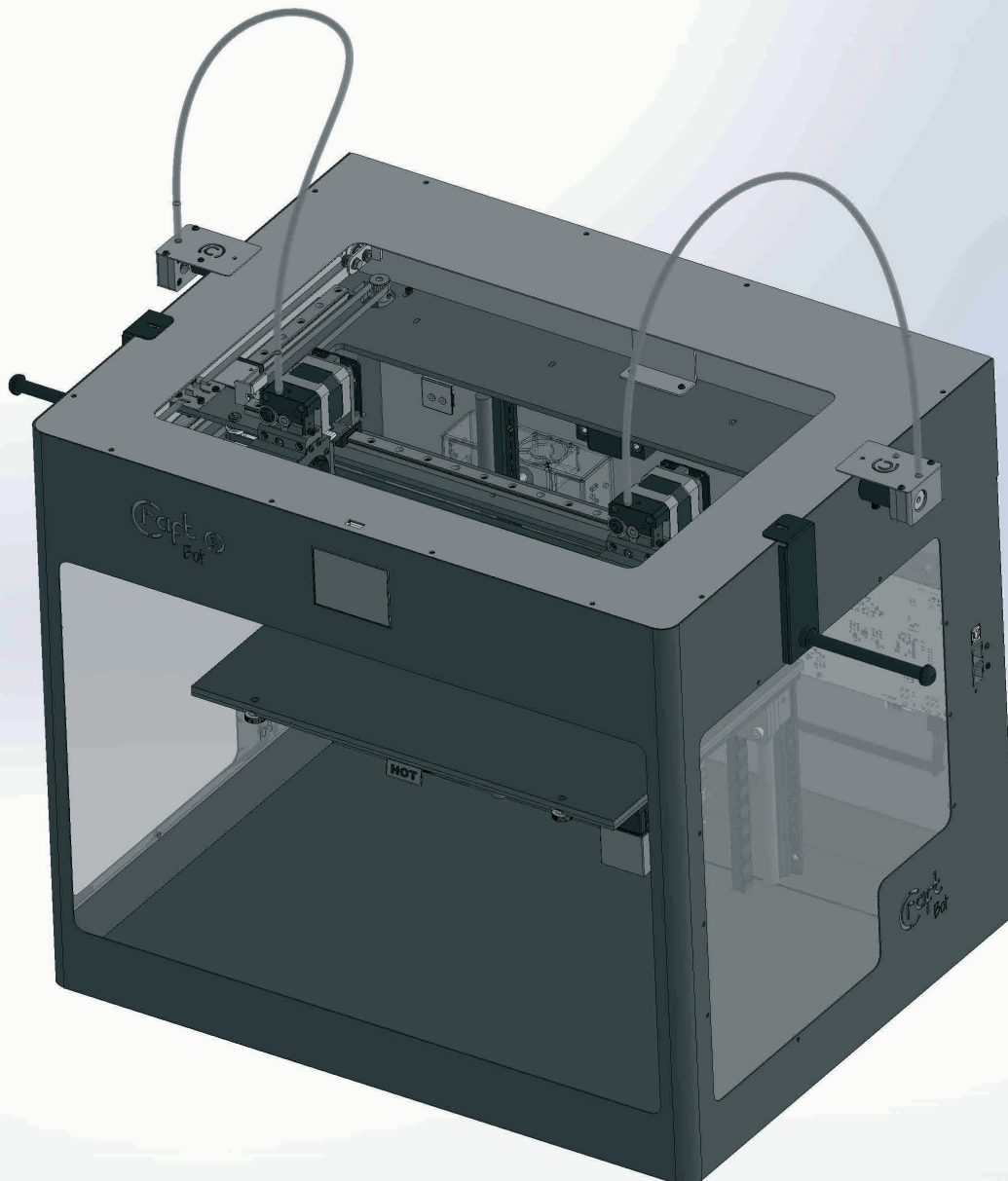


### 3.4. MOUNDING THE FILAMENT SPOOLS

- Fit both of the filament spools onto the filament spool holders, so that the filament feeds, directly up into the Encoder and up into the guide tube.

### 3.5. ATTACHING THE POWER CORD

- Ensure that the power switch on the CraftBot is set to the OFF position.
- Find and insert the AC power cord into the power input on the back of the CraftBot.



# 4. FIRST STEPS

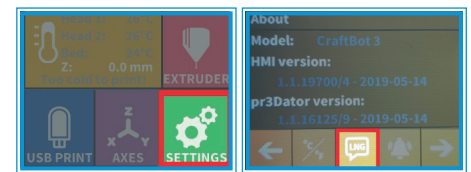
## 4.1. SWITCHING ON THE APPLIANCE

- Switch on CraftBot by the ON/OFF button located on the back part of the appliance.
- The LCD panel on the front will light up.



## 4.2. SETTING THE LANGUAGE

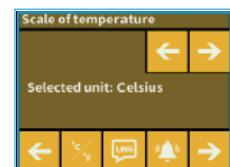
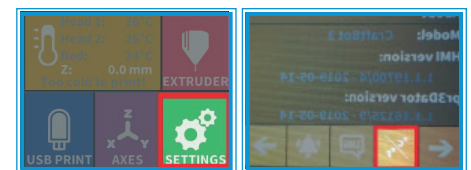
- Go to „Settings“ on the LCD screen and go to page 2 using the right arrow icon.
- Select the language icon .
- Select by scrolling to the desired language.
- Confirm your selection by using the OK icon.
- Use the left arrow at the bottom of the screen to get back to the main menu.



## 4.3. SELECT THE HEAT MEASURE

Temperature can be displayed in Celsius or Fahrenheit.

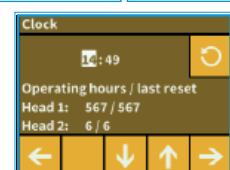
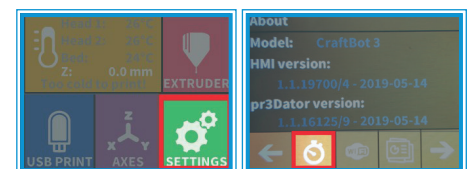
- Select the Settings menu on the LCD screen and go to page 2 using the right arrow icon.
- Select the temperature icon .
- The unit can be changed by pressing the right or the left arrows at the top of the screen.
- Use the left arrow at the bottom of the screen to get back to the main menu.







## 4.4. SETTING THE CLOCK

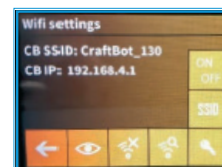
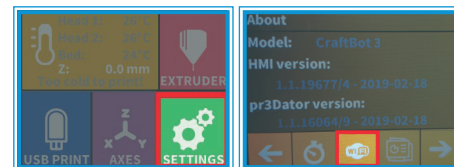
You can set the time and reset the operating hour counter. This function helps to track printing time between maintenance sessions.

- Select the Settings menu on the LCD screen and go to page 3. using the Right Arrow. Select the clock icon .
- Set the time by using the Up and Down Arrows. To switch between Minute and Hours just push pushing the Right Arrow.
- Total operating hours are measured and cannot be reset back to 0.
- The individual head counters at the bottom has 2 counters, total working hours and / time between each maintenance period, you can reset this by using the reset icon button, Top Right of the screen.



## 4.5. CONNECTING THE CRAFTBOT3 PRINTER TO A WIRELESS NETWORK

- Select the Settings menu  in the LCD screen and go to page 3 with right arrow. Select the Wi-Fi icon 
- Select the search Wi-Fi Network" icon  – the third icon in the bottom row.
- Scroll down with up-down arrows. Select desired network with the left arrow.
- Enter password.
- Confirm password with the tick mark . In the right bottom corner.
- Selected Wi-Fi network is displayed indicating host name and LAN IP.
- By pressing the "eye" icon you can toggle the wifi's visibility on / off.
- SSID: You can modify the printer's unique identifier name. click on the SSID icon to the right make your changes and confirm it.

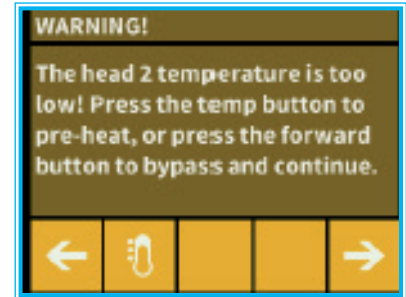
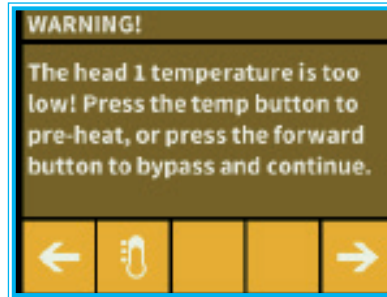




# 5. PREPARING THE PRINTER

## 5.1. HEATING UP THE PRINTER

For printing or loading / unloading the filament, heat up the printer according to the type of filament you are printing with. On the main menu press the thermometer icon.

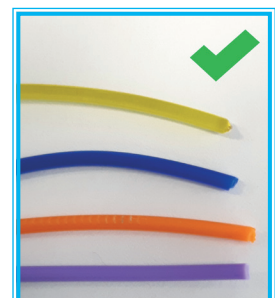
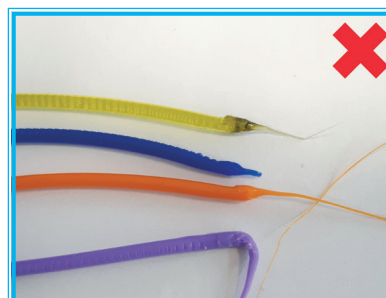
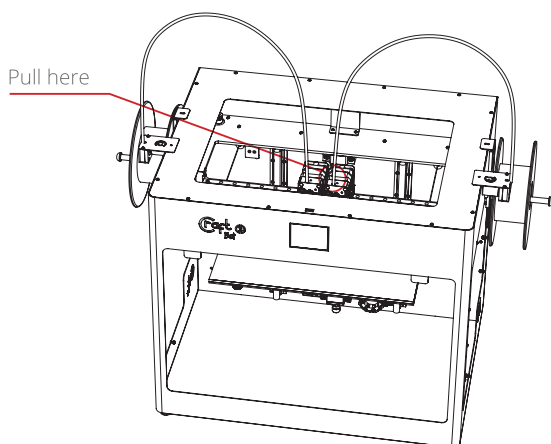


At this point you will see a new menu indicating both Head temps" plus the "Bed temp". Select the Extruder icon (thermometer icon) and the Bed icon (line with 3 wavy lines above) to commence the heating process. Once the extruder reaches the target temperature of your filament (keeping in mind that different materials such as PLA, ABS, and PET have different temperature settings), you can start printing.

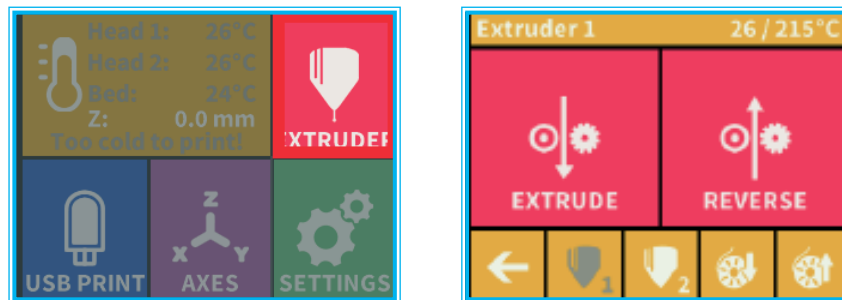







## 5.2. LOADING THE FILAMENT

1. Heat up the printer.
2. Remove the filament guide tube from the insert hole on top of the extruder.





3. Cut the end of the filament free from any kinks and bad ends. Insert the filament from the spool into the bottom hole of the filament FMS encoder. Please make sure that the filament spool feeds directly into the FMS encoder from the bottom so that the filament keeps itself straight on course and free from any snagging. This way you will avoid any unnecessary bending of the filament and any wrong diagnostics from the filament monitoring system.



4. Enter into the extruder  menu. Push the filament into the extruder hole, against the drive gear.
5. Press the bottom icon for the extruder you are about to use now using or load filament button  on the screen. The load button will extrude 15 cm of filament automatically, this can be interrupted by pressing the back button at any time.
6. You can also use the “extrude”    menu on the touchscreen to extrude filament in /out of the nozzle manually. Re-insert the filament guide tube back into the hole at the top of the extruder. The two heads and the build platform can now be set individually.

### 5.3. REMOVING THE FILAMENT FROM THE EXTRUDER

Never remove the filament from the extruder if the extruder is cold! Always preheat the extruder before removing or changing filaments. Removing the filament from a cold extruder might damage it! You don't have to remove the filament between prints.

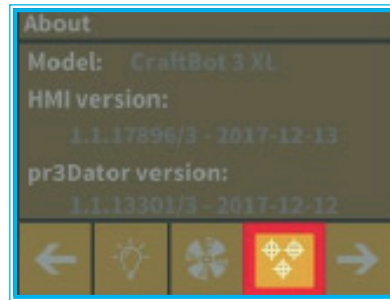
1. Heat up the extruder first to the correct temp for that filament type.
2. Press the Load  first for 1 or 2 seconds and then press the  button. This will automatically extrude a small amount of filament to prevent clogging and switch into reverse until filament removed from the extruder head.
3. Once the gears have begun to retract the filament you will be free to pull it out from the printer back to the spool ready to load a new filament.

### 5.4. CALIBRATION SETTINGS



#### 5.4.1. LEVELING THE BUILD PLATE

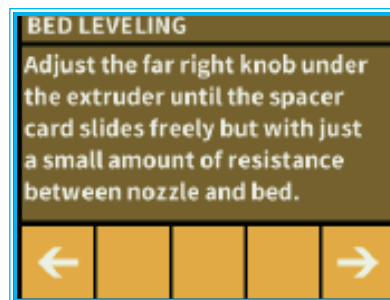
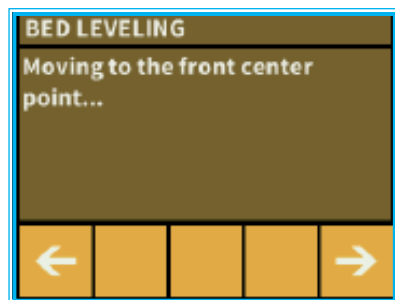
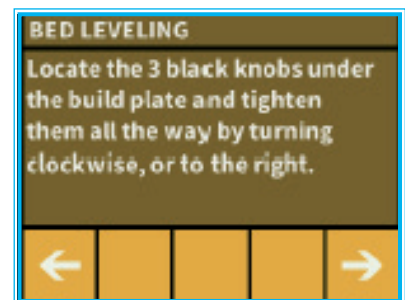
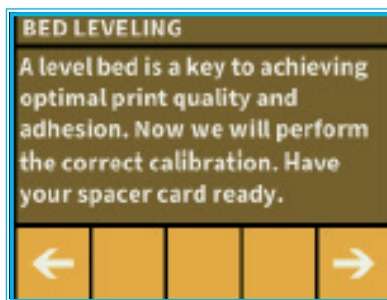
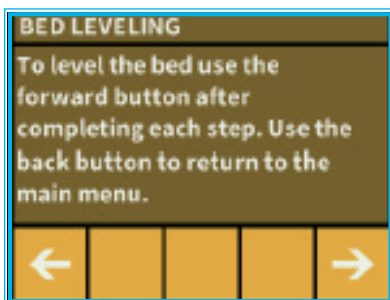
CraftBot has a leveling procedure which ensures that the extruder and the heated build plate are at optimal distance and they must be leveled evenly. Smaller gap or uneven levelling may lead to the damaging of the Kapton cover sheet on the build plate or the extruder itself.

After calibrating the build plate the Z-calibration is recommended.

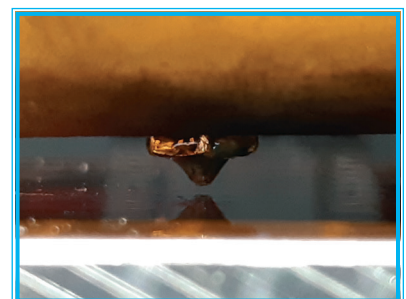
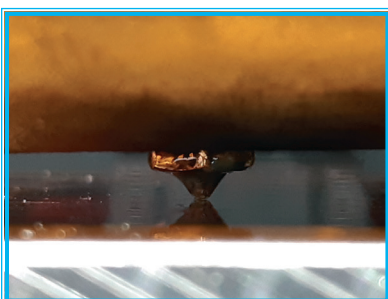


Calibration process:

1. Heat up the heads and remove the filaments. It's easier without filament.
2. Select the Settings menu  on the LCD screen go to. page 1 select the Leveling icon (three crossed circles which represent the three knobs and screw) .
3. Follow the step-by-step instructions on the LCD screen:
  - It is recommended to turn all three black knobs holding the build plate, all the way to the right until the springs in between have been compressed fully and the knobs begin to feel tight. (Under the heater plate There is one knob at the front in the middle and two in the back left and right corners of the build plate). Do not force them!
  - Locate the 0.35mm spacer card that are located in the Nozzle kit boxes among the other accessories that came with the printer. This card will ensure the optimal distance between the build plate and the extruder nozzle. Please keep this card for future use.



- The preprogrammed leveling process will first set the front center point. Press the right arrow to continue. wait for the nozzle to get to the correct point on the build plate. Place the spacer card above the front center black knob on the build plate, Adjust the front center knob if needed, based on the instruction on the screen.

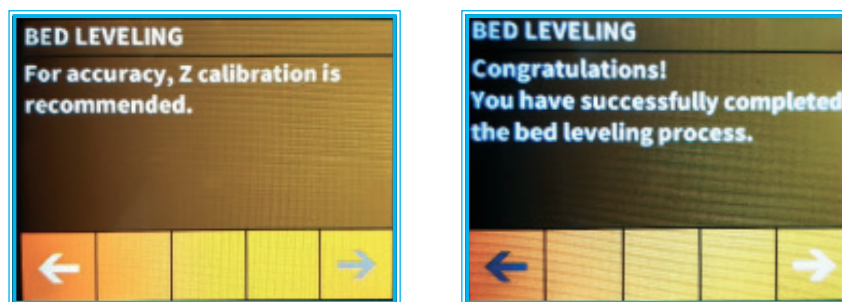




- Repeat the process with the two back knobs. First the right back, then the left back knob will be adjusted.



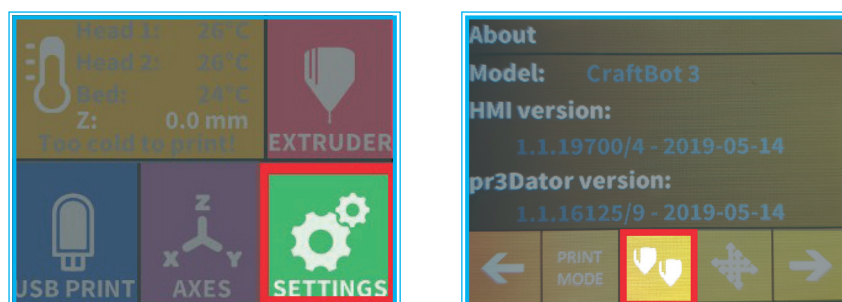
- Before switching from knob to knob, please remove the leveling card. When the nozzle is in the correct location replace the card as necessary for further testing at that location point.
- Process is to be repeated twice to make sure that all 3 knobs are in the correct position.
- As a result, the building plate should be evenly calibrated.





- You can return to the main menu by pressing the right arrow.

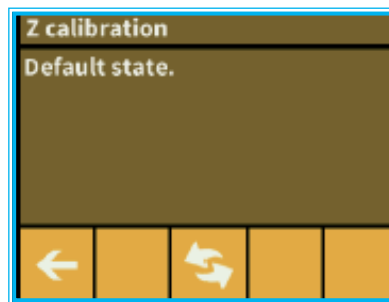
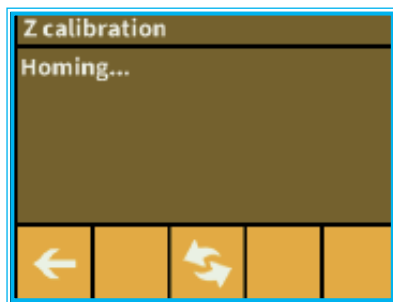
#### 5.4.2. DUAL HEAD CALIBRATION (Z)

The Z axis must be calibrated so that the two heads are at the same height and are at the same distance from the build platform. If there is a height variation between the two heads, it will be visible on the printed object.

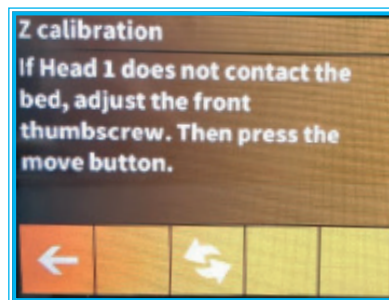
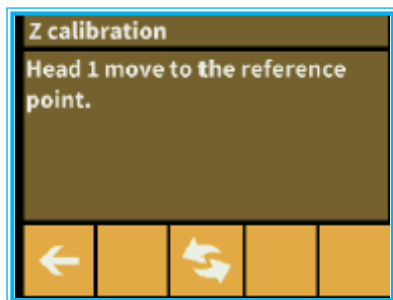


Calibration process:

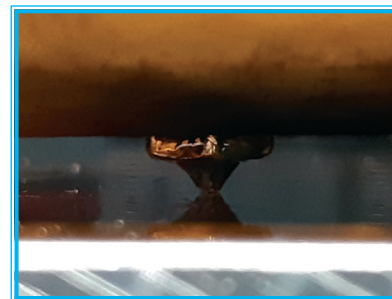
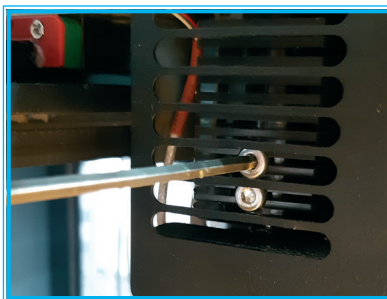
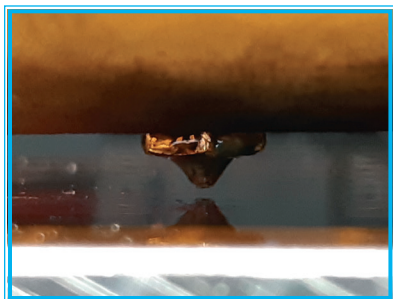
- Heat up the heads and remove the filaments!
- Select the Settings menu  on the LCD screen and go to the 5th. page using the right arrow. Select the Z calibration icon . 2 printheads icon.)
- The calibration must be initiated
- select the 2 arrow icon



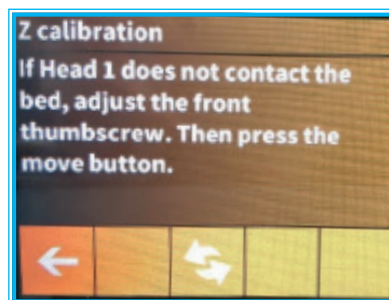
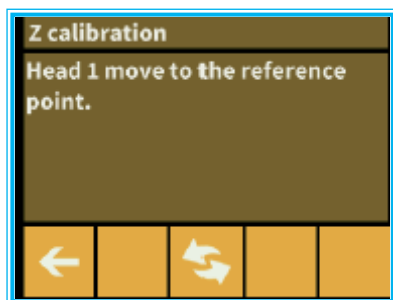
5. When the first head has moved to the reference point which will be at the front screw point, the build platform and the nozzle tip must be set perfectly to each other with the nozzle JUST touching the surface of the build platform. with no space between nozzle and bed.
6. Then, press the change heads button in the middle.



7. The First head will move back to the home position and the second head will move to the same reference point at the front of the build platform.
8. loosen the two screws on the left side of the Black heatsink. Drop the nozzle to the bed and tighten the screws.



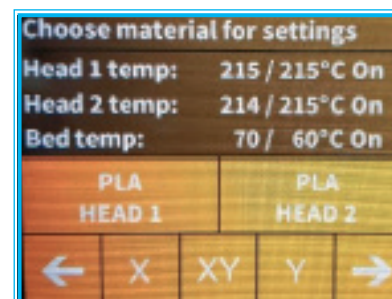
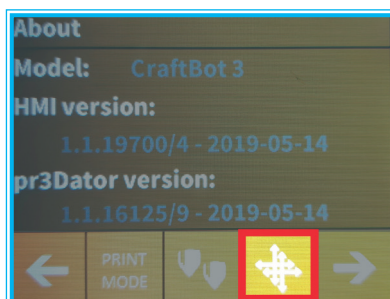
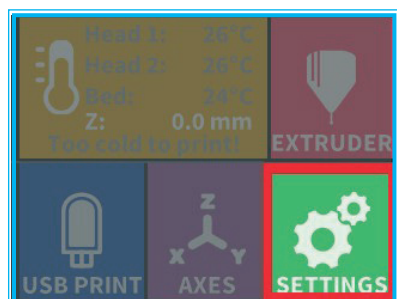
9. Repeat this twice to make sure that both heads 1 and 2 are at the correct same Z height position.





If you have moved the build plate leveling screws please go back to redo a bed leveling.

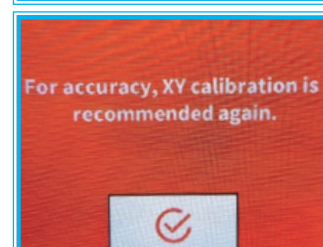
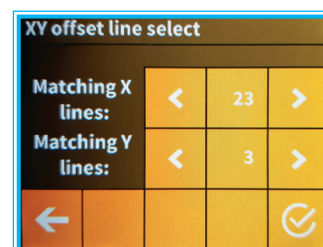
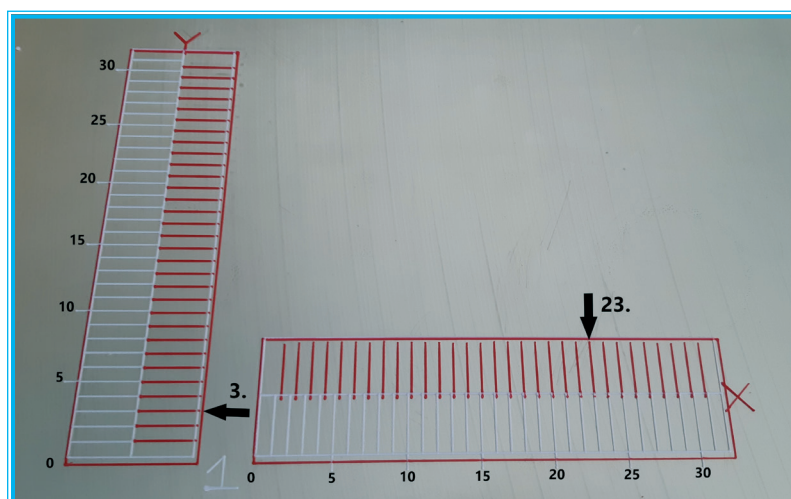
### 5.4.3. DUAL HEAD CALIBRATION (X-Y)

The X-Y axis must be calibrated so that the coordinate system of the two heads is completely aligned. So, if we send both heads to the same coordinates then they should be at the same point. This is important when we are printing an object with both heads. If there is any deviation, the print will be misaligned; for example, if there is a gap between two materials or if the two materials are printed onto each other. Calibration can be performed on the X and Y Axes individually, or on both axes at the same time in an automated program by using centre XY button.



Calibration process:

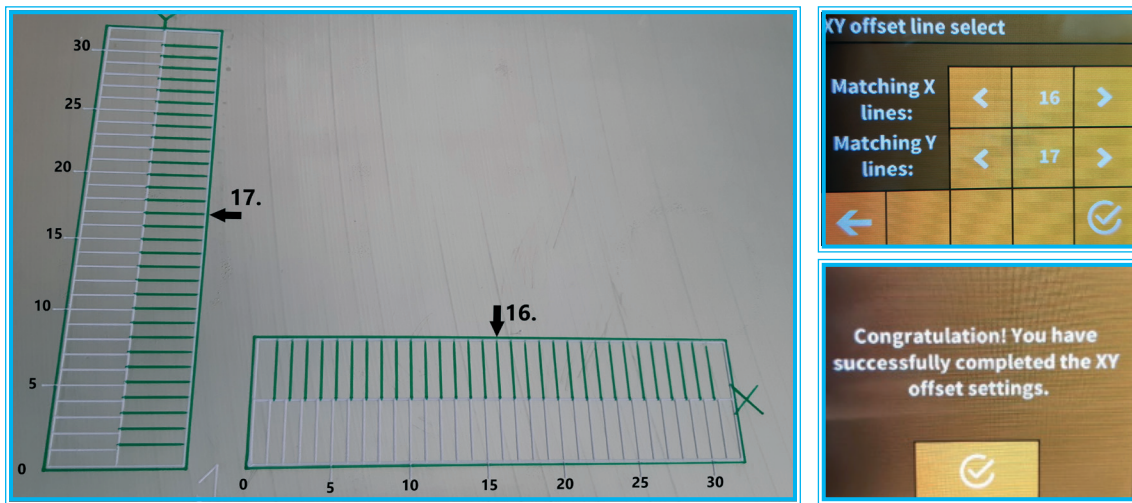
1. Heat up the heads and load the filaments into both extruders!
2. Select the Settings menu  on the LCD screen and go to the 5th page. Select the calibration icon  (to the offset coordinate systems)
3. Head and bed temperature must be entered (what material is placed into the extruder head: ABS-PLA-PET)
4. Start the calibration of the X, Y, or the automated XY axes
5. The printer will print the calibration lines with both printheads. It will print the number 1 next to the first line.
6. The user must determine which of the lines printed by the the two heads is aligned fully. This head's number must then be chosen from the display after the printing. In the case of the simultaneous calibration of both axes, the matching lines must be given first for the X, then for the Y axis.
7. To make sure it is calibrated and the 16th lines are aligned.
8. When your lines are **Not aligned** at the 16th lines:
  - Chose the head's number in the LCD screen, and wait for the text message. If you see the red message, the calibrate is not correct so you need to start a new XY calibration with the new rate.





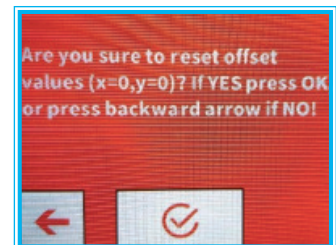
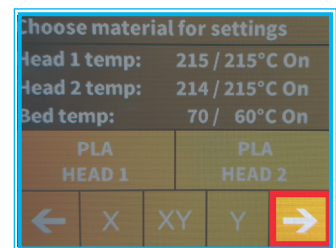
## 9. When your lines aligned in the 15th, 16th or 17th lines:

- Chose the head's number in the LCD screen, and wait for the text message. If you see the yellow congratulation message, the calibration is correct and you can exit to the main menu.



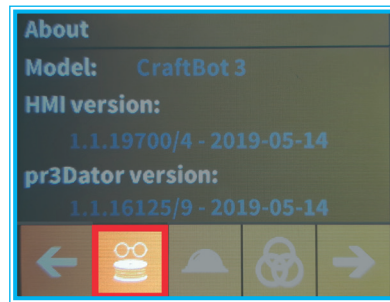
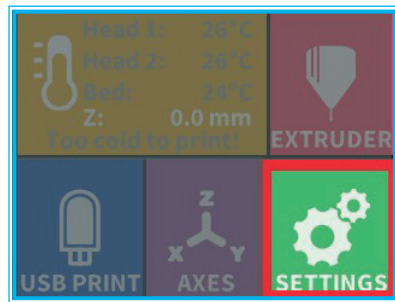
## 10. When you have completed the calibration the first time An extra second or third calibration is always recommended to get the perfect settings.

- Left arrow : you can step back to the X-Y main menu.
- Right to fine tune the X,Y calibration settings in the Set the X,Y offset page.
- Up arrow: you can enlarge the number's value.  
X offset +1 Moving the lines to the right with 1 mm.  
Y offset +1 Moving the lines to the up with 1 mm.
- Down arrow: you can reduce the number's value.  
X offset -1 Moving the lines to the left with 1 mm.  
Y offset -1 Moving the lines to the down with 1mm.
- Left arrow head: you can move between selected number groups you wish to change
- Right arrow head: you can move between selected number groups you wish to change
- Reset icon: you can reset the values.





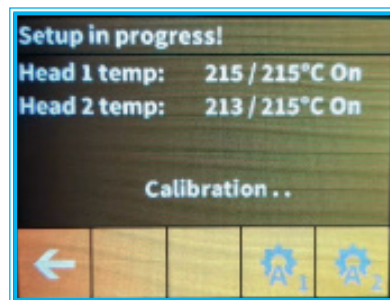
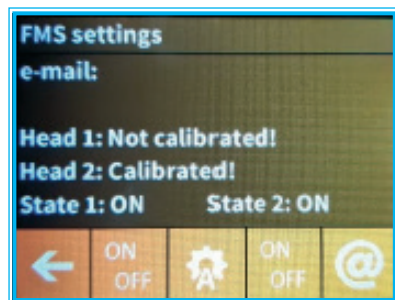
### 5.4.4. FMS OPERATION

The filament monitoring system observes the filament flow during printing. If the printer detects a jam during printing, it will try to resolve it on its own. If it is unable to resolve the jam, then an error message will appear on the display, the message will appear in the application, and the printer will also send an email message. Please note, the wifi should be set up correctly first.

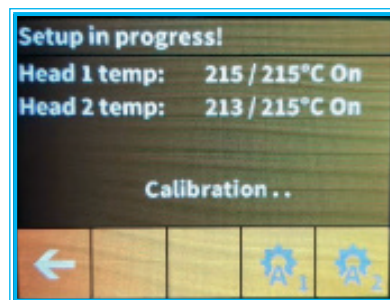
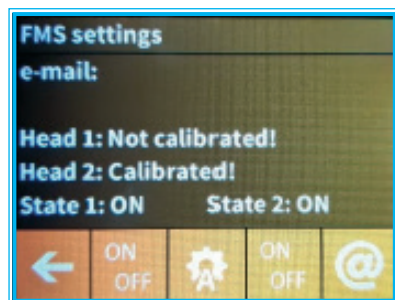


### Calibration:

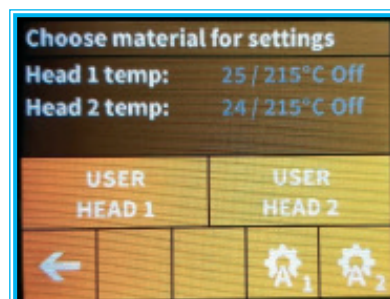
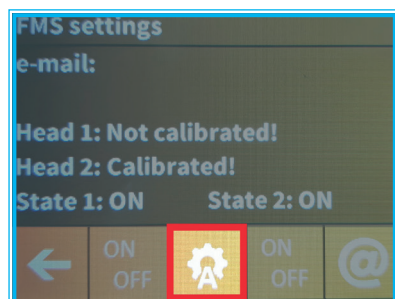
1. Select the Settings menu  on the LCD screen and go to the 4th page. Select the encoder settings icon .
2. Here you can view the status and see whether the function is turned on or off. You can change this with the first button.



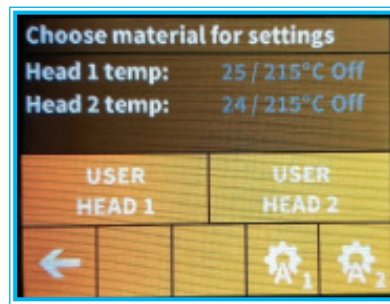
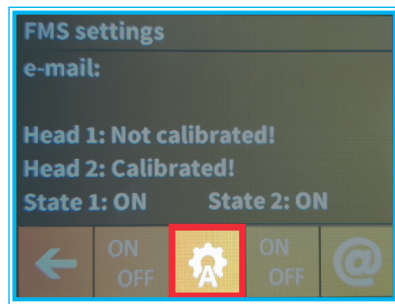
3. You can provide your email address into the system just go to the @ icon, The printer will automatically send a message if it is unable to resolve a jam.



4. Calibration can be initiated by touching the icon resembling an A with a cog . You can set the head temperature here. You can calibrate the appropriate encoder with the help of the first two icons.



5. A test message can be sent after calibration so the user can check whether the email function is working. In addition to the email, a message will also appear in the application and on the FMS reporting.

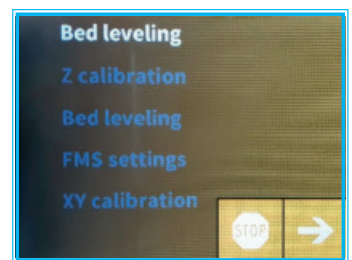
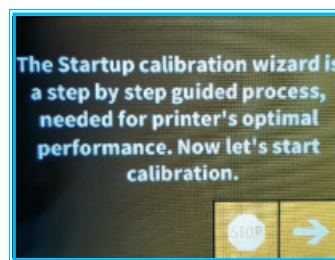
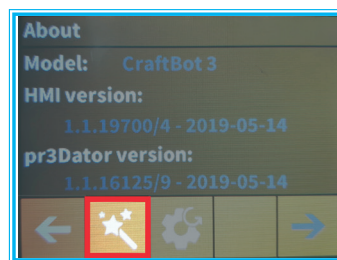
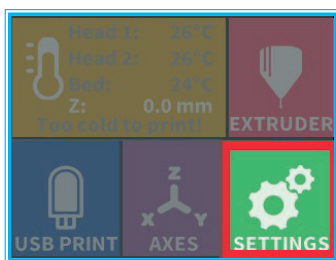





Automatic error correction process :

- The printer enters paused status, the head goes to the pause position.
- It then retracts the filament, following which it attempts to extrude.
- Point two will be attempted three times.
- It will attempt to extrude 6cm of filament to determine whether extrusion will cause clogging. again
- If not, then printing will resume automatically. If it does, an error message will be sent.
- If the user has resolved the error, you can press resume printing to continue printing immediately.

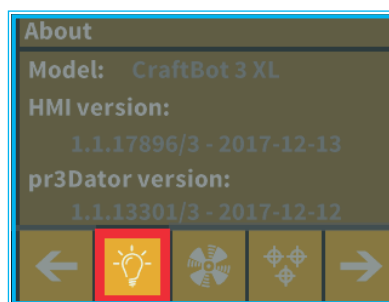
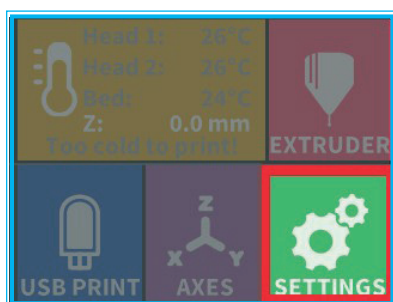
#### 5.4.5. WIZARD SETTINGS



All calibrations are available in this menu. If you start the wizard, then it all calibration starts by itself.



1. Select the Settings menu  on the LCD screen and go to the 6th page. Select the wizard settings icon  (magic wand).
2. Select the right arrow in the right corner. 
3. Do all calibration.

#### 5.4.6. OTHER MENU SETTINGS - ADJUSTING THE LIGHTING

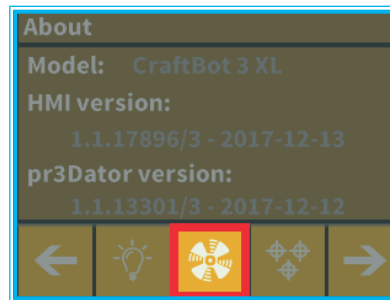
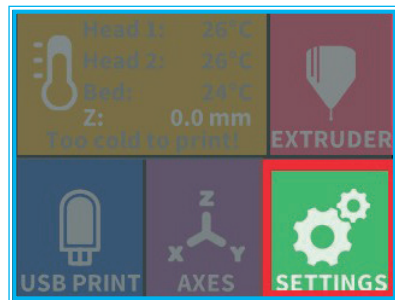




1. Select the Settings menu  on the LCD screen and on the 1st page select the Lighting settings .
2. You will see a variance pop up on the screen: two different touch screen sliders.
3. Adjusting the lighting: Move the line from the left to the right to vary the brightness of either the interior LED lighting of the CraftBot or the LCD display backlighting.

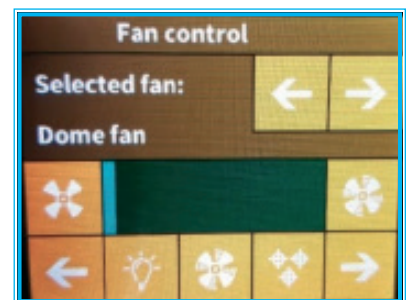
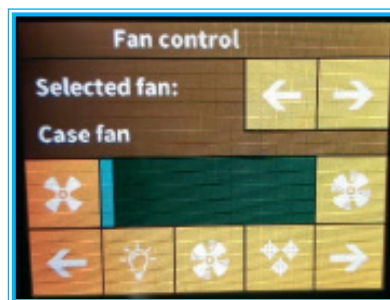
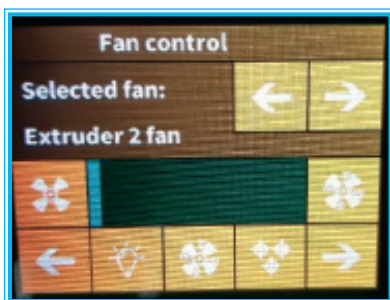
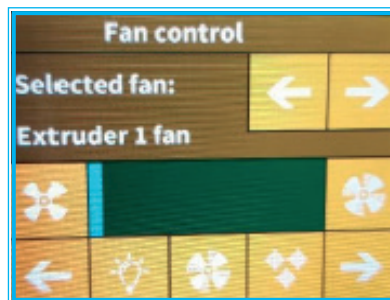
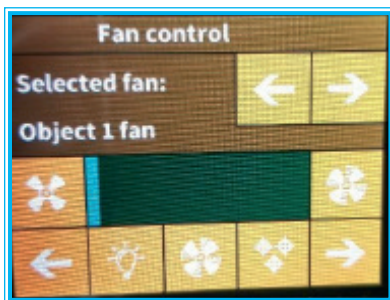


### 5.4.7. ACTIVATING THE FANS

CraftBot has five fans: object 1 fan, extruder 1 fan, object 2 fan, extruder 2 fan, case fan, and dome fan. You can Activate and deactivate some of these fans while the printing is taking place. (The dome has to be activated and set before printing starts).

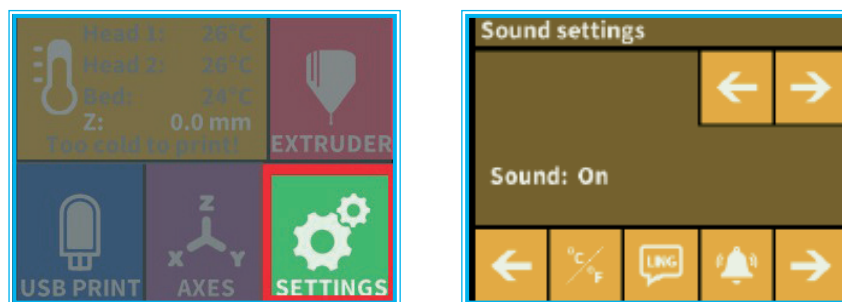




1. Select the Settings menu  on the LCD screen and go to the 1st page select the Fan control  icon.
2. Switch between fans by pressing arrows at the top of the screen. The name of the fan to be controlled is displayed on the left of the screen.



Fan Control: Activate and deactivate the fans before or during printing to match your preferences. Extruder and case fan settings automatically reset to default after 60 seconds.

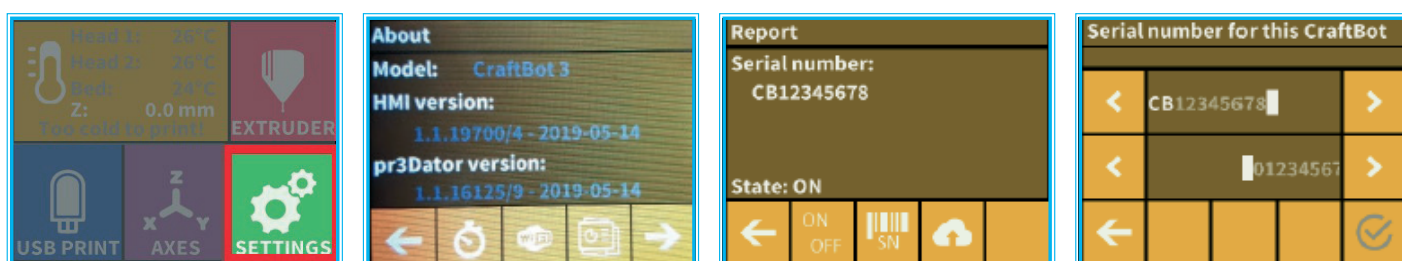
### 5.4.8. SOUND SETTINGS



1. Select the Settings menu  on the LCD screen and go to the 2. page. Select the Bell icon .
2. Use the arrows in the top right corner you can choose between 3 options: Sound On, Sound Off and Warnings Only.

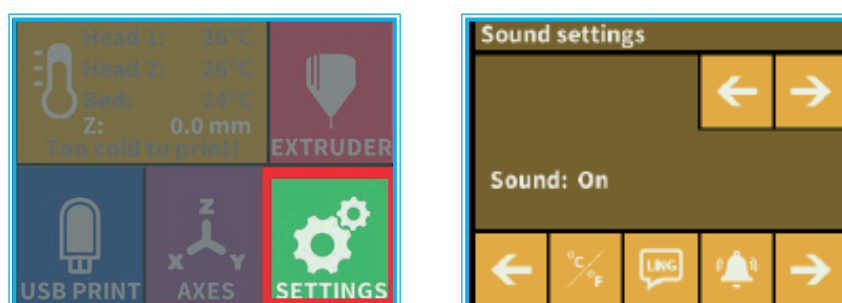
### 5.4.9. REPORT FUNCTION



Registered users on Craftunique website can register their printer using its serial number on the website. After registration, when the function switched on if the printer is connected to wifi then the printer every day at midnight or at the very first power on that day, it will send the actual hours of operation, and the filament usage of the printer to the website.



On the website with the help of time filtering users can check their printers usage (how many hours they printed on a day) and how much filament used.

### 5.4.10. DOME MENU

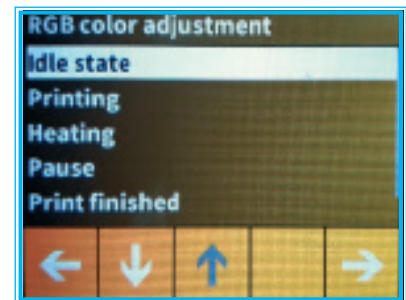
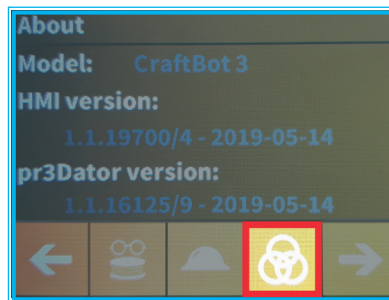
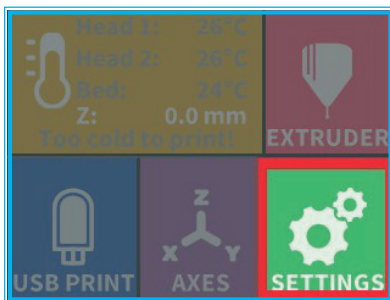




1. Select the Settings menu  on the LCD screen and go to the 4th page. Select the Dome icon .
2. If the dome is mounted you can turn on the dome's fan here. If the dome is turned on then the dome fan will work during printing.

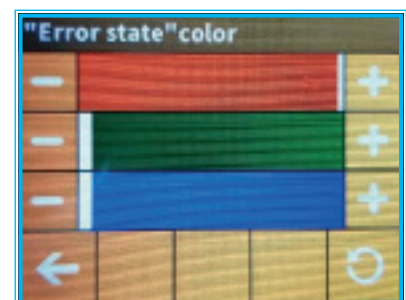
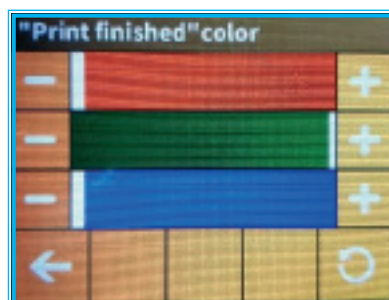
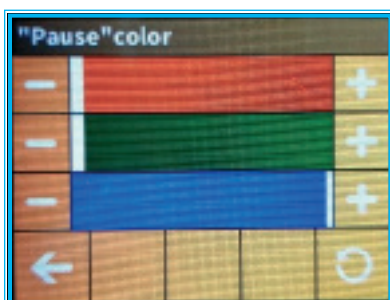
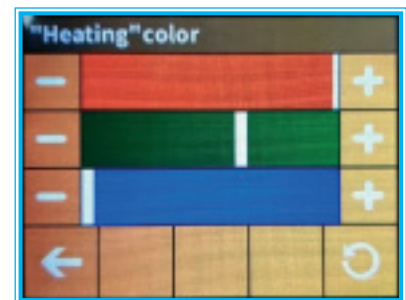
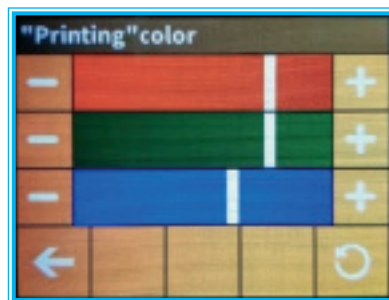
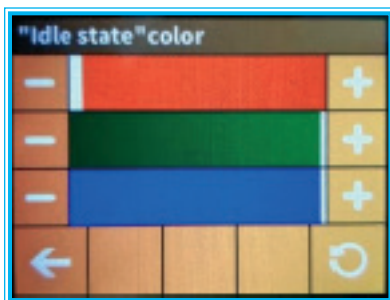


### 5.4.11. CONFIGURATION OF COLORED RED STRIP

A custom colour can be set for each mode of operation. Modes: idle, printing, heating, pause, print finished, error

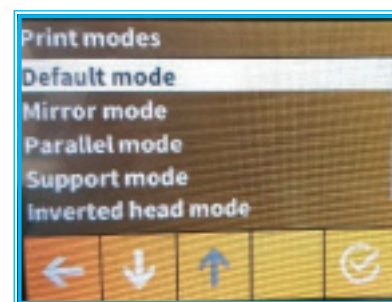
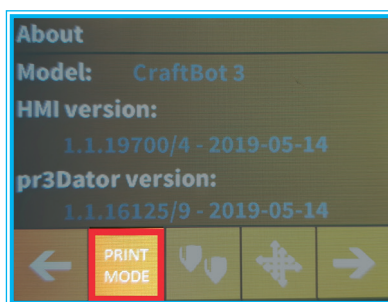
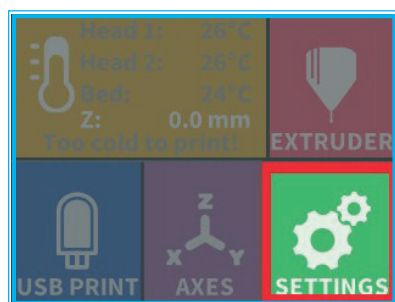


1. Select the Settings menu  on the LCD screen and go to the 4th page. Select the three intersecting rings icon .
2. The operation modes will appear. You must then decide which you would like to set. Once you have made a selection, the colour of the operation mode may be set with the help of the RGB colour sliders and will immediately appear on the LED strip, so the current colour setting will be visible right away.



Once you have set the desired colour, pressing the back arrow this will save the current settings and return to the operation modes.




### 5.4.12. PRINTING MODES

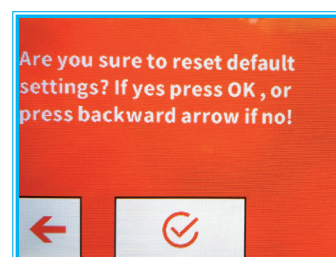
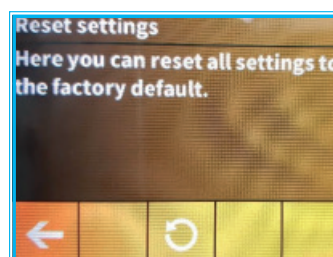
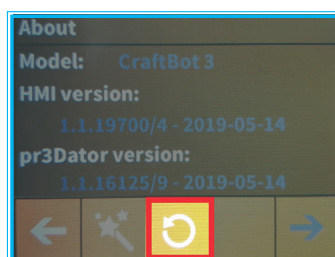
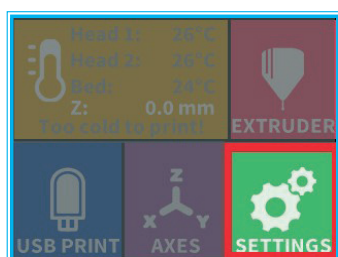


Select the Settings menu  on the LCD screen and go to the 5th page. Select the Print mode icon 

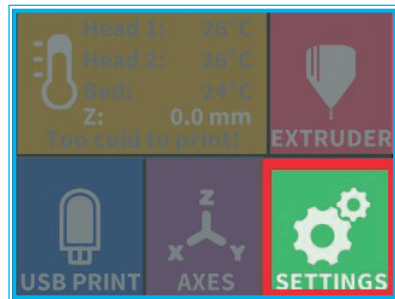
- **Default mode:** Gcode will determine whether the printer operates with one or two printheads. If an object was sliced for a single head printer, but contains a support structure, the CraftBot 3 is able to print the object with normal filament while printing the support with PVA filament. The advantage to this is that you don't have to re-slice the existing gcodes if you also want to print with PVA.
- **Mirrored printing:** If an object fits on half of the build platform, then there is the option of printing two objects at once which will be mirror images of one another. This way, two objects can be made in time it takes to print one object. For example, if printing a hand, the printer can make a right and a left hand at the same time. If a symmetrical object is being created (a heart, for example), both halves can be printed at once and the entire object can be prepared in the time it takes to print half an object.
- **Parallel printing:** If an object fits on half of the build platform, there is the option of printing two objects at once that will be completely identical. This way, two objects can be made in time it takes to print one object. The printer's productivity is therefore doubled.
- **Support printing:** If a model has been sliced for a 1 headed printer and it contains supports, then the printer will recognize the supports automatically and will print them with the 2. head. With this mode you can print supports with soluble material without re-slicing the model.
- **Inverted head:** It swaps the 2 heads while printing ergo a part what should be printed with the first head it will be printed with the second head and vice versa. You do not have to replace the two filaments at the beginning of the print if they are swapped in the two heads
- **Backup:** It can be used when you print with 1 head. While printing, if the first head jams, the second head will continue automatically thus the print won't stop. When using this mode it is recommended to use the same filament (or at least the same color) in both heads so there won't be any difference on the final printed model.

### 5.4.13. RESET SETTINGS /YOU CAN RESET ALL THE PRINTER SETTING/

1. Select the Settings menu  on the LCD screen and go to the 6th page. Select the Reset circle arrow icon .
2. Select the circle arrow , and press OK.














## 6. NAVIGATE THE BUILD PLATE AND THE EXTRUDERS



Select the AXES on the menu.

The first “grey” button will, of course, return you to the main menu.

- The small house icon  indicates the „home” position of the extruders which is this location the front corners of the build plate.
- You can reset the extruders and the build plate to the “home” or “zero” position. You can either set each axis one at a time (X , Y  or Z ) , or do all three of them at once by touching the appropriate Home button . If the individual house icons are white, then this means that the motors of each highlighted icon are engaged.
- To disengage the motors, click on the icon in the far right bottom corner (M with an X through it), and you will see all of the house icons turn grey. The motors have now been disengaged and you can freely move the extruders by hand if you wish to do so.
- The directional button to the right of the “home” button can be used to move along the X, Y or Z axis using the motors. After clicking on this button you will be redirected to another display in which you will see six different arrow buttons      . Note that this option can only be used if all of the motors are already activated and the house icons are all white. If the house icons are grey, then nothing will happen. In this case, after clicking on the direction button, you will see all of the arrows in the color grey. To activate the motors, return to the “home” icon and home in; the house icons will now turn white and you can go on to the direction display and move the extruders and bed as you see fit.





# 7. USING THE PRINTER


## 7.1. USING CRAFTWARE TO CONVERT 3D DESIGN INTO PRINTING COMMANDS

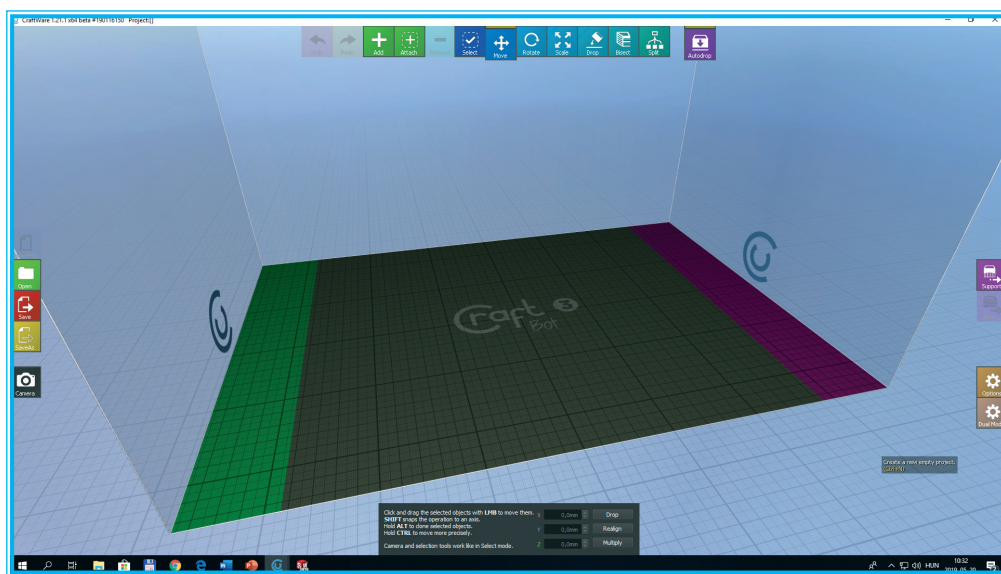
To print a 3D object, CraftBot needs toolpath information generated from 3D object files like .obj or .stl. Toolpath information is simply called “gcode”. CraftWare software converts 3D designs into printing commands for the CraftBot 3D printer. CraftWare has been developed by CraftUnique with the aim of easing and perfecting the printing process.

### 1. Download the CraftWare slicer software

- Open a new browser session on the computer where you'd like to install CraftWare.
- Go to [www.craftunique.com/craftware](http://www.craftunique.com/craftware).
- Scroll down the page to select the latest version of CraftWare
- Select the **Windows** or **MAC/OSX** version according to your operating system.
- Download the installer.
- Open the installer and follow the directions to install the software.

### 2. Open the CraftWare software


- Once CraftWare has been opened up, you will see a virtual build platform which represents your CraftBot's real build plate. Please click on the Options button , and select your CraftBot 3 Printer under the Printer tab page. You can add objects, .stl, .obj files onto this virtual build plate and get an impression of what the real life print will look like before Printing.




### 2. Select your desired Dual Head mode By clicking on Dual Mode button you can change the Dual Head mode. There are four of them:


- Dual Extruder Mode: you can assign an extruder for each object in the project.
- Support Mode: lets you select one of the extruders to create the support bars.
- Mirror Mode: duplicates and mirror the objects, and print them simultaneously.

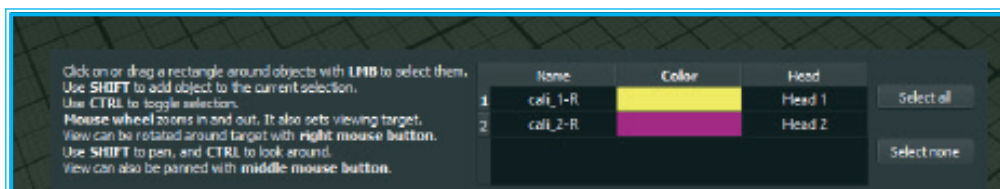
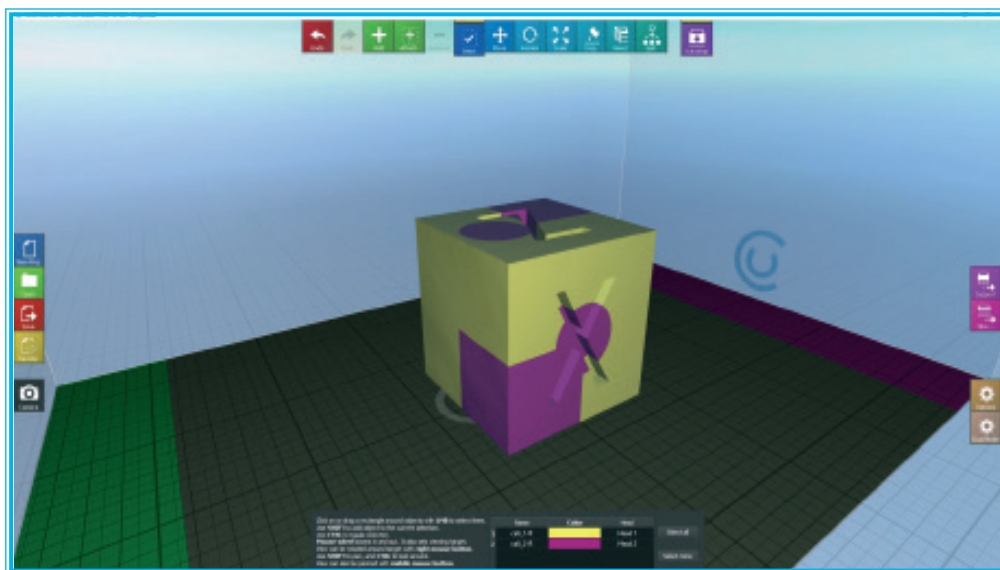
### 3. Importing your design objects

- Click on the “Add” button  located in the top row of icons. Select the 3D design plan you want to print from your computer. The selected object will appear at the center of the virtual build plate. If Dual Extruder Mode is enabled, you can assign heads in the List View under the Selection tool.

4. To generating the toolpath information (gcode) Click on the Slice button  to the right side of the screen. A new screen pops up with options to specify the printing quality and material to be used along with pages of information on adjustable setting for your model. When you have finished making your adjustments press the Slice button at the bottom of the setting page.
5. Saving the gcode
  - Press the save icon on the side of the Craftware to save the generated Gcode onto a USB drive then place the USB drive into the top of the printer. Another way is to send information directly to CraftBot if you are connected via USB cable. The third way is to transfer it via the CraftBot app application on your phone or tablet. or if you do not have this App you can send the file using Craftprint App on your computer, you can send the file using the WIFI system directly to the USB in the top of the printer. For detailed user's instruction of CraftWare, download the user manual from <https://craftunique.com/docs/craftware-user-manual>

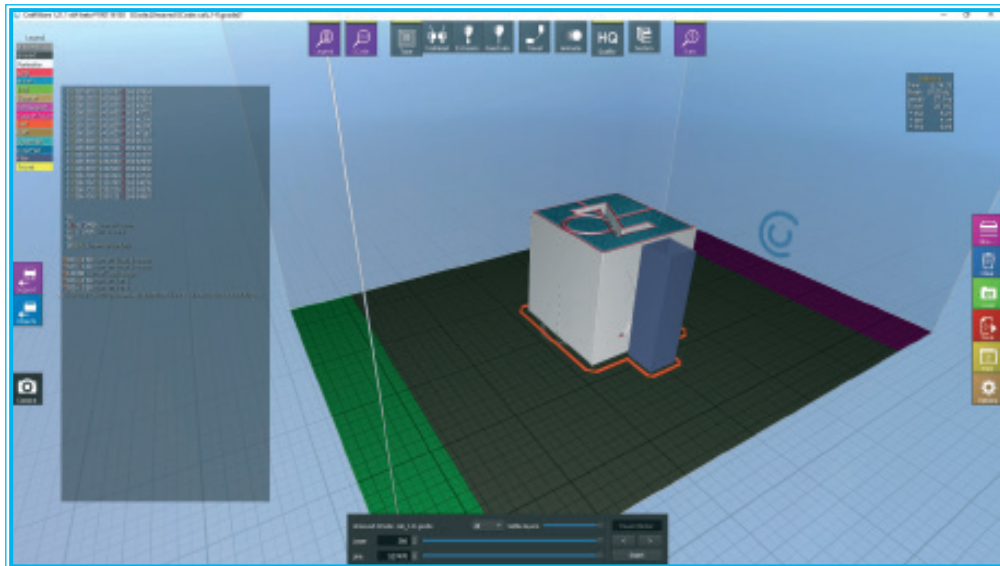
## 7.2. DUAL HEAD PRINTING IN CRAFTWARE

Click the Select icon  and select a part from assembly. In this menu you can calibrate the heads to the individual selected parts of the print. Select any colour for the individual parts for better viewing by clicking on the coloured boxes in the settings box at the bottom the screen.

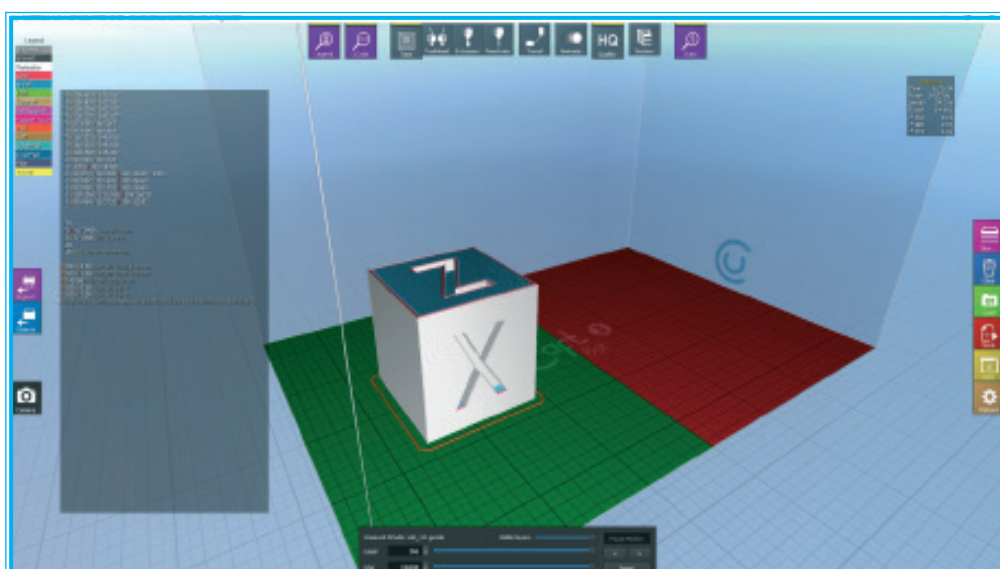
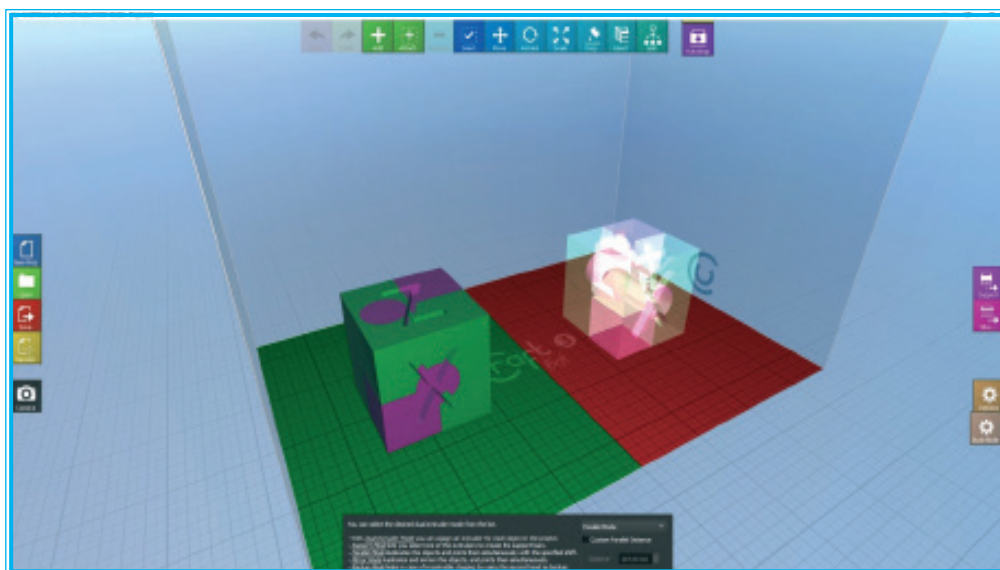


After the Slicing menu you can see the full body.



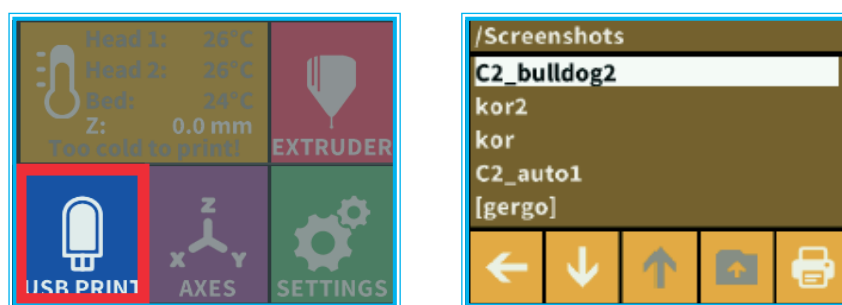


In parallel and mirror printing mode you can see the full body of the model in the left area, on the right side in the red area is the ghost of the original model. After the Slicing you can see just the body in the left, but don't worry about it, it will be printed as well. ( Options to print these dual print modes can also made on the LCD screen on the printer without using craftware).



### 7.3. PRINTING OBJECTS FROM USB FLASH DRIVE

1. Save the printing command file created by CraftWare slicer program on a USB flash drive. CraftBot 3 models have Wi-Fi connection and offer the option to upload gcode file using the CraftBot app mobile application. The Pendrive provided with CraftBot has design samples models already saved on it. (3D designs models (stl, obj files must be converted into printable Gcode command file with the help of the CraftWare slicer software).
2. When saved, Insert the USB drive into the USB slot located on the top front of the appliance (above the LCD screen).

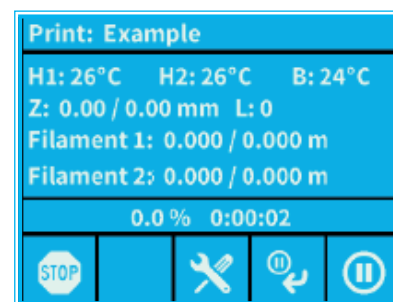


3. Select the USB Print option from the main menu . CraftBot 3 users have the option to initiate a printing via the CraftBot app application.
4. Scroll down with the arrow to select the object's file name.
5. Push the printer icon in the bottom right corner .
6. The appliance will heat up the extruder/s and the build plate to the desired heat setting in the Gcode.
7. Printing will only start if the required operational temperature has been reached – until then you will see the in-print screen, with the status message: "Heating" with the H1, H2, B marked in red until the desired heating temp has been reached.
8. During printing, the status of the print is displayed on the LCD screen, indicating progress, based upon a percentage of the print completed.
9. Please make sure that you have enough filament for the selected project. The quantity is precalculated by CraftWare in a small window box top right of the screen after slicing the model.
10. After the object has been printed, remove the build plate. and let it cool to avoid burns. The Printed object can be removed by gently pushing it aside with one hand while holding onto the printing plate with the other one.

### 7.4. IN-PRINT ADJUSTMENT

During printing CraftBot displays the following information:

- Name of the file/object to be printed
- Head 1 & 2 and bed temperature
- Z position information
- Filament remaining/total
- Time elapsed/total



There are four options available from this menu: Stop, setting, Pause next layer, Pause (in order from left to right)

### 7.4.1. TWEAK FUNCTION MENU

Setting function enables to change temperature, print speed, extrusion ratio, lighting, object fan control settings.

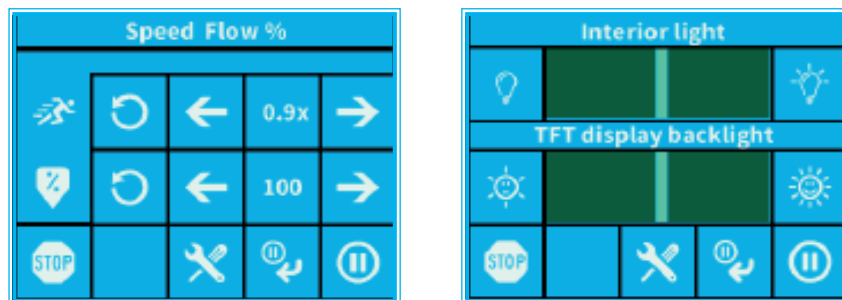
The in-print tweaks overrule the settings in the gcode.

**Temperature modification:** Heads and bed temperature can be changed, with heads object fans. Set the speed of the object fan. By default it is unlocked. If locked gcode can't overwrite setting information.



**Flow modification:** Print speed and extrusion volume can be modified in percentage ratio to the original. Use the reset button to change back the values of the gcode.

**Light settings:** Lighting within the appliance and the display backlighting can be changed



**FMS settings:** The filament monitoring system observes the filament flow during printing.

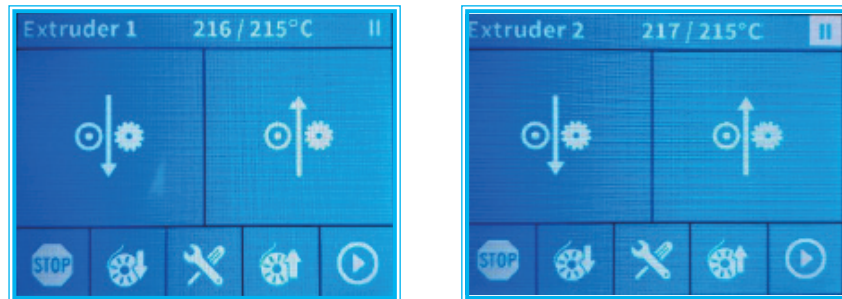


### 7.4.2. PAUSE NEXT LAYER MENU

Pause next layer function will stop printing at the end of the current layer. Once the layer is finished, CraftBot will switch to Pause menu. This is a toggle button – when the icon is crossed out, it means that Pause Next Layer function is active. If pushed before the layer is finished it will continue printing uninterrupted.




### 7.4.3. PAUSE MENU

In Pause menu users can change filament, continue printing or terminate the printing project. Pushing the Play button will continue the printing. For filament change use the Extrude/Reverse functions or the preprogrammed Load/Unload options. For terminating the printing select "STOP". CraftBot will ask for a confirmation. If you pressed the stop button accidentally, you can press the back button to continue the printing process..



## 8. MOBILE APPLICATION

### 8.1. USING CRAFTWARE TO CONVERT 3D DESIGN INTO PRINTING COMMANDS

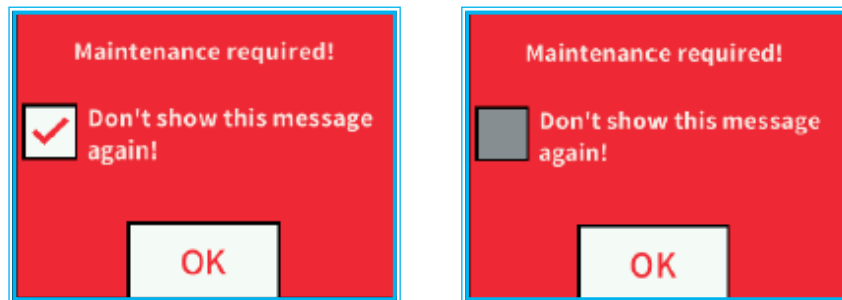
1. To Installing the CraftBot app and connecting to CraftBot 3
  - Download the CraftBot app from the App Store or Play Store and open it.
  - Make sure that your CraftBot 3 printer is switched on and connected.
  - The app will search for your CraftBot 3 in its reach (if there are more, it will find all your printers and you can select your CraftBot 3 to connect to from the list)
  - Select and connect to the printer and you will be directed to the main screen.
2. To Uploading a gcode to the USB placed in the CraftBot 3
  - Select one of the gcodes on the main screen or select the gcode file saved on your mobile device
  - Confirm the file selection – upload
  - Once 100 % of the files has been transferred, close
3. Initiating printing via the CraftBot app
  - Select "Print" on the main menu 
  - Select one of the gcode files and uploaded onto the USB storage in the CraftBot 3
  - Confirm the Gcode file you want to print from selection in the play/pause  button.
  - You can track the progress of printing on screen
  - Printing can be stopped or paused
  - Once 100 % of the files has been transferred, close
4. Changing the CraftBot 3's heat settings via the Craftprint application
  - From the icons in the main menu select "Heat Settings" 
  - You can choose between settings for PLA, ABS, PET or you can set the head and bed temperature settings according to the printing model needs.

App Settings Users can specify how the heat and unit setup information is displayed (Celsius/Fahrenheit, Metric/Domestic)

# 9. CLEANING AND MAINTENANCE

## IMPORTANT!

Cleaning and lubrication should only be conducted while the extruder and built plate are cold. Please allow the CraftBot 3D printer to cool down at least 30 minutes before cleaning or maintenance. It is necessary to clean the printer after every 1000 hour. After every 1000 hour we need to replace any worn the used parts on the printer. The printer will automatically send a warning to the user with a message like the one in the picture.



## CLEANING

Clean the metal housing of the CraftBot by wiping with a damp cloth.

Cleaning the build plate Remove the build plate by unscrewing the 2 white screws located in the front of the plate. Clean the plate with window cleaner/ Acetone. Wipe clean with a dry cloth or paper towel.

## LUBRICATING

The CraftBot printer should be lubricated at least once after every 50 hours of use or every 6 months, depending on the working hours. Problems can occur and print quality can be lost if maintenance is ignored.

Tools needed for lubrication:

- PTFE based spray lubricant or white lithium grease. make sure to have a thin straw on the spray tin to reduce overspray, and spraying directly onto the desired parts.
  - 2 separate lint-free rags or thicker stronger paper towels
  - Personal protection such as gloves and safety glasses/goggles
  - lighting to see the interior of the CraftBot correctly (lamp)
1. Move the build plate and the extruder to the „Home“ position.
  2. Once the extruder and bed are in the home position, turn the CraftBot printer off and unplug it from the electrical outlet.
  3. If you look beneath the build plate you will see three rods that run vertically in which the build platform moves up and down on. The two outside rods are smooth and the center rod is threaded. These three rods are known as the “Z-axis rods”.
  4. Place a folded paper towel or a lint-free rag behind the center rod. This rag is used to protect other areas of the printer from any overspray that may occur.
  5. LUBRICATE ONLY THE PARTS RECOMMENDED IN THIS MANUAL!
  6. Spray the threaded Z-axis rod at a relatively close distance to reduce overspray. Make sure the lubricant reaches the inside of every thread (if using grease, spread with hand wearing gloves).
  7. Make sure not to over lubricate, spray only the minimum required amount from top to bottom!
  8. Do not spray the other two rods directly! Spray the Paper towels first and wipe it onto the rods.



9. Remove the rag from the CraftBot interior.
10. Plug in and power up the CraftBot and move the build plate to the lowest point. (enter the "Axes" menu, home position and then go to the directional menu and press the Z down arrow until the bed reaches the lowest point).
11. Turn the CraftBot printer off and unplug it from the electrical outlet.
12. Place a second clean rag on top of the heated build plate to protect the components and Kapton from any overspray.
13. Repeat the process for the top side of the Z-axis rods the same as you performed on the bottom half: placing a protective rag/ paper towel behind threaded rod. spray, & wipe any excess lubricant on other two outside rods.
14. Power up the CraftBot once again. Press the home button in the Axes menu to raise the build plate back up to the highest position.
15. Turn the CraftBot printer off and unplug it from the electrical outlet.
16. Wipe any excess lubricant off from the bottom side of the Z-axis rods and bearings.
17. Power up your CraftBot once again and move the build plate back to the lowest point.
18. Turn the CraftBot printer off and unplug it from the electrical outlet.
19. Wipe any excess lubricant off from the top side of the Z-axis rods and bearing.
20. Power up the CraftBot once again and raise the build plate back up to the highest position.
21. Turn the CraftBot printer off and unplug it from the electrical outlet. The motors will now disengage so that you can move the extruder freely by hand.
22. Use an oiled rag to lubricate the X and Y linear rails. Do not spray from above! Move the extruders back and forth by hand to both extremes of the axes. When the extruders move absolutely smoothly you are finished.

## 10. TROUBLESHOOTING

### 10.1. PREVENTING/ FIXING A CLOGGED EXTRUDER

The number one inconvenience that you will run across when 3D printing is clogging of the extruder. But we have good news for you! This problem can be easily avoided by following a few simple rules of "3D printing etiquette".

- First, always wait until the extruder and heated build plate are fully heated to their maximum intended print value before inserting the filament. Inserting the filament at a lower temperature is just asking for a clog.
- On the side of the Extruder assembly is a pressure lever that you can adjust the pressure the Bearing that pushing the filament onto the Extruder gear wheel. make sure this set to max pressure.
- When unloading or changing the filament: always heat up all the way first and then "extrude" for 5 seconds and immediately press "reverse" aiding the filament retrieval by pulling a little bit on the filament end coming out from the extruder with your hand.
- It is especially important to clean out as much old leftover filament between using a different filament, as the different characteristics of the filaments may cause problems. Problems may occur from even printing the same material in a different color, can cause clogs from inconsistencies in the filaments. For example: you must heat up to 250°C to clear out any extra ABS left behind before using PLA which melts at much lower temp than ABS.

Clogging is the most common problem in every 3D printer and cannot be prevented 100%, but if you follow these simple steps you will prevent 95% of occurrences. If you still cannot clear the passage with just this method, you may want to move onto the next method by following these next steps to actually remove the nozzle itself...

## 10.2. REMOVING THE NOZZLE

On the original Craftbots before the CB3 you was able to push out old filament from the top of the Extruder but with the CB3 this is now no longer an option. So your option is to now to do this operating from the bottom of the extruder up from the Heat block.

To clean out the extruder properly by removing the nozzle from the heat block. You will need to disconnect the fan assembly first. To remove this entire piece by unfastening the four bolts connecting it to the outside of the extruder assembly. Take care of the delicate connections as you slide the Fan case forward from the Extruder.

You will need to remove the nozzle while the extruder is heated up to 250°C. Now, using both a 7mm Plus a 20mm wrench (from the provided Nozzle kit box). Use the 20 mm wrench to hold the heat block and keep it from moving this is located under the red silicon cover. Now with the 7mm wrench (not provided) start to remove the nozzle itself from the hot heat block. Make sure to use an oven mitt to protect yourself from burns. Also Please make sure that none of the wires are disconnected While removing the nozzle. You can unclog the nozzle tip with a pin. Or just simply replacing it with a new one to save time. It is at this point in time while the Nozzle is off you can use the 2mm Allen Key Wrench to push up any old filament still left in the extruder tubes.

### **All new Printer Hotends.**

Newer mark 2 Nozzles are now in production, that are available from Craftunique these are designed to stop any clogging, from happening with longer length nozzles. This comes with a new heat block and silicon cover to give better temperature control plus a new heatsink with new size screws to hold the newly designed tungsten Heatbreak. All these do come as standard with our new printers.

If you have the older printers and you find that you have the original hotend assembly and you would like to change this for a new upgrade parts, then these are available from the Craftunique webshop. Just remember the new hotends parts, are not compatible with the older hotends. So you will need to purchase a complete new hotend assembly.

# 11. FIRMWARE UPDATE

## 11.1. FIRMWARE UPDATE WITH SOFTWARE

Updating the firmware adds new function(s) and improves performance.

CAUTION: NEVER turn OFF the computer or disconnect the USB cable while updating the firmware.

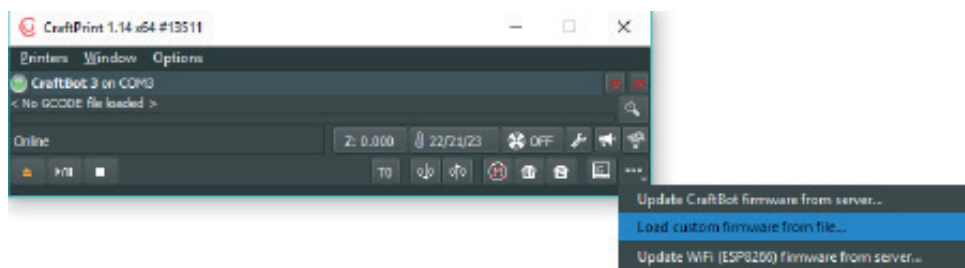
1. Download CraftPrint® software from Craftunique® website: <https://craftbot.com/craftware/>

Get CraftPrint 


2. Install the CraftPrint® application on your computer.
3. Download the pr3Dator® firmware file from Craftunique website and extract the ZIP file on your computer. Please read the attached Release Notes. <https://www.craftunique.com/firmware>
4. Connect the printer to your computer with USB cable.



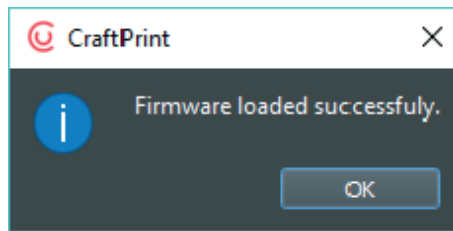
5. Open the CraftPrint program.
6. Select the „Load custom firmware from file” from „...” menu



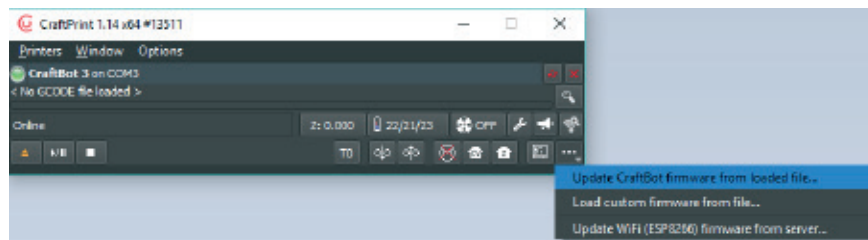
7. Select and open the \*.firmware file

Név	Módosítás dátuma	Típus
 pr3Dator.firmware	2019.02.18. 9:10	FIRMWARE fájl

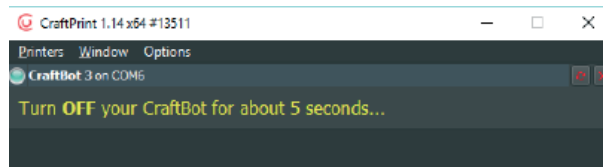
8. On successful load you will get a confirmation message, click OK!



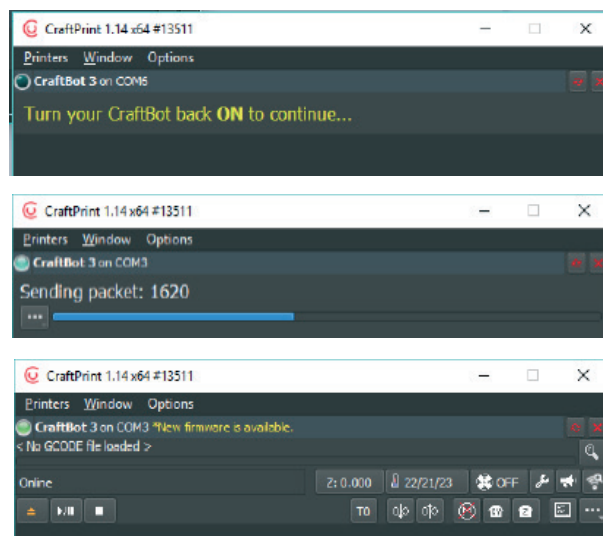
9. Open again the “...” menu and select Update CraftBot firmware from loaded file...



10. When asked please turn off the printer at least 5 seconds.



11. Turn the printer back on and wait until the update finished



12. When the update has finished, power cycle the printer once again. (off/on) and Check the pr3Dator firmware version on the printer LCD screen, select > settings icon and go to the 1st page.
13. Update is done.



## 11.2. FIRMWARE UPDATE ON OLDER PRINTERS

If you have an older printer and update it a long time ago the first need to restart your printer. Follow the next easy instructions and update your Firmware.

From time-to-time you may encounter a traffic jam scenario when attempting to upload this new firmware; in some cases your CraftBot's screen will go completely blank and even seem to be nonfunctional... but do not worry! This situation can be easily remedied by following these easy steps to fix this problem.

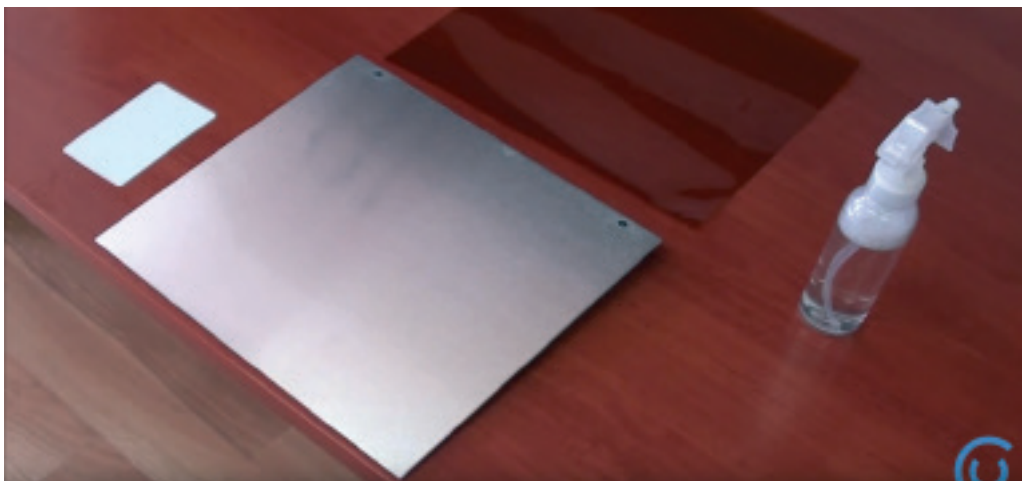
Take a look at your LCD display located at the middle top front of the CraftBot 3D printer. You will need to get around to the back of the LCD HMI board to find erase button. The „erase” button is located on the bottom right corner of the LCD or on the left. Switch off your machine. Wait 10 seconds. Press and hold the „erase” button on the HMI board, while powering up your printer again. Wait 5 seconds, and switch off your printer again and release the erase button.

Main PCB board

To erase the controller PCB Board, while your printer is still switched off, use a piece of filament to insert into the „erase” hole which is located on the right side of the printer, under the USB / Encoder connectors. Press and hold the button ( you should feel and hear a click as you push in this switch) with the filament, while powering up your printer again. Wait 5 seconds, and switch off your printer. Now both controller boards are erased. At this point the screen should still be blank and your CraftBot should still be unresponsive. From this point proceed to the firmware update mentioned previously and after uploading you should have a 100% operational CraftBot 3D printer again!

## 12. APPLYING A NEW LAYER OF PROTECTIVE KAPTON SHEET TO YOUR BUILD PLATE

Build plate Kapton sheets can get worn out over time, or it can be damaged by the nozzle due to incorrect leveling. Reapplying a new Kapton sheet is essential to maximize print qualities if the old one has issues. To reapply a new Kapton sheet, take the build plate out of the machine and remove the old sheet by stripping it off of the aluminum plate. Clean the surface of the aluminum plate with acetone.



Remove the protective sheet from the new Kapton sheet then apply some window cleaning liquid onto the sticky surface of the New sheet, then spray the liquid onto the clean surface of the aluminium build plate. Place the sticky side of the new sheet onto the plate. the access liquid will help you to position the new sheet correctly.

Align the Kapton to the front edge of the aluminium plate (the side where the screws stick out). Once the Kapton sheet is positioning correctly onto the plate, Place the protective sheet (which was removed originally ) onto the top surface on the new Kapton sheet this will help to prevent any scratches or damages during the squeezing out process of the remaining liquid from between the plate and the sheet with a thin but solid object, like an unused credit card..



Start from the center of the plate and move horizontally and vertically. Once all the liquid has been squeezed out and the sheet is applied properly, put the plate somewhere to dry. Allow the sticky part to rest for 1 day before using giving time for the glue to set.

## 13. USEFUL THINGS

### 13.1. G AND M CODES

14.- G1: Linear move: E F S X Y Z

15.- G0: Linear move: E F S X Y Z

16.- G2: Draw lin arc: E F I J U X Y

17.- G3: Draw lin arc: E F I J U X Y

18.- G4: Dwell: P S

19.- G20: Set units to inches.

20.- G21: Set units to millimeters.

21.- G28: Move to origin: X Y Z

22.- G69: Random XY Killer: L Q S U V X Y

23.- G90: Set to absolute positioning.

24.- G91: Set to relative positioning.

25.- G92: Set position: E S X Y Z

26.- G100: Linear move: E F X Y Z

27.- G101: Relative linear move: E F X Y Z

28.- G102: Relative linear move width timeout: E F S T X Y Z 29.- G103: Clear timeout: S

30.- G104: Extrude width timeout: E T  
31.- G195: Reset motion.  
32.- G196: Reset all.  
33.- G197: Pause.  
34.- G198: Resume.  
35.- G199: Immediate pause.  
36.- G194: Immediate abort.  
37.- M18: Disable stepper motors.  
38.- M82: Set extruder to absolute mode.  
39.- M83: Set extruder to relative mode.  
40.- M84: Stop idle hold: S  
41.- M8484: Motors off immediate: S  
42.- M105: Get temperature of extruders and bed: P T 43.- M106: Turn cooling fan on: S T  
44.- M116: Turn cooling fan on: H L S T  
45.- M104: Set extruder temperature: Q S T  
46.- M109: Set and wait head temperature: Q S T 47.- M1400: Start heating and waiting: B E H P Q T  
48.- M107: Turn cooling fan off.  
49.- M110: Print Start or Stop: S  
50.- M114: Get current position.  
51.- M115: Get firmware version.  
52.- M117: Display message.  
53.- M140: Set bed temperature: H L S  
54.- M190: Set and wait bed temperature: S  
55.- M220: Set speed override percent: S  
56.- M221: Set extrusion override percent: S  
57.- M300: Play beep sound: P S  
58.- M424: ...: E F  
59.- M423: ...: E F T  
60.- M422: Start Head Preparation.  
61.- M425: Set nozzle wipe position: S  
62.- M430: Head change ZHop settings: F Z  
63.- M431: Head change Exit Retract settings: E F  
64.- M432: Head change Enter Retract settings: E F  
65.- M433: Head change Enter Prime settings: E F  
66.- M450: Self test: E F  
67.- M900: Linear advance beta version: A D K  
68.- M905: Set feed High/Low: H L  
69.- M73: M73 progressbar refresh: P S  
70.- M1001: Get Printer Version.  
71.- M1002: Get unique ID: S  
72.- M1003: Get firmware version: S  
73.- M1004: Get HMI version.  
74.- M1005: Get HMI board version: S  
75.- M1006: Set limits s=1 Case / S=2 Head: H L S T  
76.- M1014: Get ADC values: S

- 77.- M1015: Get PWM duty.
- 78.- M1020: Puffer mode: S
- 79.- M1104: Get Info: P
- 80.- M1105: Get HMI mode.
- 81.- M1106: Set HMI mode.
- 82.- M1114: Get machine coordinates.
- 83.- M1115: Get queue.
- 84.- M1116: Set Min Q: Q
- 85.- M1123: Set T7 pin high or low: S
- 86.- M1160: Fan control (Case,Dome,Head,Obj): C D H O T 87.- M1161: Fan override: S
- 88.- M1200: Set feed properties: F H L
- 89.- M1202: Set axis soft limit: E X Y Z
- 90.- M1203: Set XY acceleration: A D F
- 91.- M1204: Set Z acceleration: A D F
- 92.- M1210: Set extruder correction: F K
- 93.- M1211: Set extruder correction: F K
- 94.- M1212: Set thermal runaway: Q S
- 95.- M1297: Mem dump: S
- 96.- M1298: Send command: S
- 97.- M1299: Queue report: S
- 98.- M1300: Set extruders PID: D F I P W
- 99.- M1301: Set bed PID: D F I P W
- 100. - M1401: Seat head heating curve: D Q
- 101. - M1402: Seat bed heating curve: D Q
- 102. - M1403: Flush.
- 103. - M1800: Set HMI Baud: S
- 104. - M1885: Set G1 counter: S
- 105. - M1886: Read restart data.
- 106. - M1887: Read startup GPBR.
- 107. - M1888: Backup: Q S
- 108. - M1889: Set RTC: D S
- 109. - M2001: Set max imp: E X Y Z
- 110. - M2002: Set ref imp: X Z
- 111. - M2003: Soft Enable encoder: S
- 112. - M2004: Enable encoder check: S
- 113. - M2005: Set encoder div: Q S
- 114. - M2006: Set encoder calibstate: S
- 115. - M2007: Encoder autose: S
- 116. - M2008: Set encoder params: Q S
- 117. - M3000: Get X Y Z jupers states: J X Y Z
- 118. - M3001: Set LED szalag: L
- 119. - M3002: Set LCD light: L
- 120. - M4001: Set heating overlap: P
- 121. - M4003: Set maximum head heat temp: H S
- 122. - M4004: Get heat state: S



- 123. - M4005: Set maximum bed heat temp: H S
- 124. - M5000: Set XY Z jog feed: X Z
- 125. - M5001: Set mechanical parameters: E X Z
- 126. - M5002: Set XY offset: X Y
- 127. - M5003: Set TMC2130 current: E X Y Z
- 128. - M5004: Get TMC2130 status register.
- 129. - M5005: XY calibration mode: S
- 130. - M6666: Reset: S
- 131. - M6969: Erase flash: S
- 132. - M7001: Set WIFI SSID/Pass.
- 133. - M7002: Wifi List AP First.
- 134. - M7003: HMI send WIFI AP list.
- 135. - M7004: WiFi Report: Q S T
- 136. - M7005: Set e-mail address.
- 137. - M7006: Get AT version number.
- 138. - M7007: Rec WiFi AT version.
- 139. - M7008: Overwrite Wi-Fi SSID.
- 140. - M7009: wifi reset pin check: S
- 141. - M8001: Read motor: Q S
- 142. - M8010: Read errors.
- 143. - M8020: Set thermal motor warning: S
- 144. - M9001: Set LED to function.
- 145. - M9003: ReadMotorDIAG.
- 146. - M9005: Enable/disable cover: S
- 147. - M9006: Set print mode: Q S X
- 148. - M9007: Switch off calculation.
- 149. - M9008: Set nozzle diameter: D T
- 150. - M9090: Set parser limits: S X Y Z
- 151. - M9999: Set MicroStep: E X Y Z
- 152. - M765: calc offset.
- 153. - M766: Meas x y distance: D T
- 154. - T0: Select tool 1: F S X Y Z
- 155. - T1: Select tool 2: F S X Y Z

## 13.2. USEFUL LINKS

User Manuals: <https://support.craftunique.com/258569-User-manuals>

Firmware: <https://craftbot.com/firmware>

Youtube official channel: <https://www.youtube.com/channel/UC04qcXksuyJ2GASsGscNqpA/featured>

## 14. GUARANTEE

For special conditions relating to product guarantee, see the „Guarantee Statement“ on a separate sheet, delivered with the product as well.

## 15. LIMITATION OF LIABILITY

With the exceptions included in the regulations concerning the guarantee and to the greatest extent permitted by the relating act, CRAFTUNIQUE Ltd. is not responsible for any direct, indirect, specific, stochastic or consecutive damage claims which are stem from the breaching of the terms of guarantee, respectively any other legal theory, included, but not limited to

- the loss of usability
- the loss of income, the loss of actual or expected profit (including the profit from contract), the loss of expected savings, loss of business, loss of opportunity,
- the loss of a fair name and injury to a fair name,
- the loss, injury or perishing of data,
- any indirectly or consecutively caused damage or loss, including the damage caused by the changing of equipment/installation or property, respectively
- the cost of the restoration or reproduction of data stored or used on the Product.

The restriction above does not refer to CRAFTUNIQUE Ltd.'s legal liability for intentional, serious negligence and/or default. Certain jurisdictions do not allow the exclusion or limitation of accidental or consecutive damage, therefore if such jurisdiction regulates the guarantee, the restrictions above does not refer to You.