



### **CreatBot 3D Printer**

## User manual

English V7.3

Henan Suwei Electronics Technology Co., Ltd.



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#### Icon conventions



Tip icon to remind users to have a good method or technique. Note icon, to remind the user must be given adequate attention.

Prohibition icons, prevents users from unauthorized operation.



## Notice

### **Read First**

Thank you for choosing CreatBot 3D printer!

This manual contains important information about the installation, use, maintenance and common problems of CreatBot 3D printer. Please read this manual carefully before using 3D printer. All losses caused by the breach of the notes and the operation process of the operation process will be borne by the user. Please use the filament provided by CreatBot, or high quality filament by third manufacturers. Due to the use of third party inferior material caused by the failure of the printer, the loss will be borne by the user.

Software running environment, 2G or above processors, at least 1G memory, compatible with Windows, MAC, or Linux, please use memory as much as possible.

I wish you have fun with CreatBot 3D printer!

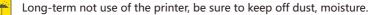
### Danger Warning

- M The nozzle's temperature will reach 300 degrees, don't touch.
- The platform's temperature will reach 120 degrees, don't touch.
  - Please make sure that the printer connected to the ground.
- Do not attempt to open the case, be careful of electric shock.

### Working Environment



The 3D printer can work in the indoor environment of 5 °C to 30 °C.



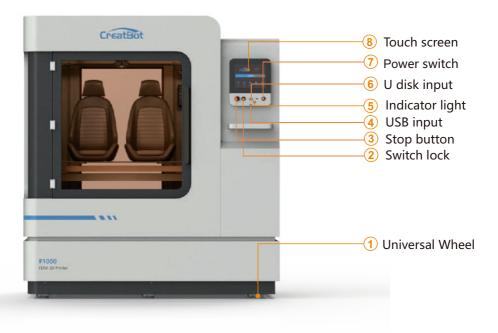
Ũ

Long-term not use of the filament, please be sealed to prevent deterioration.



## Machine Diagram

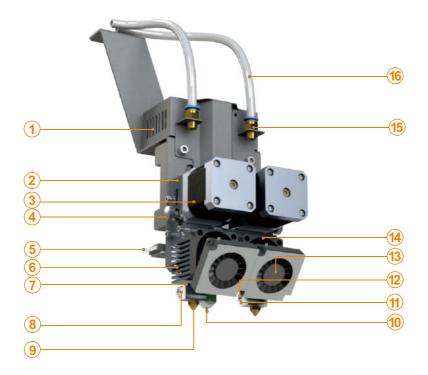
Front





## Machine Diagram

### New Printer Head



- 1. PCB box
- 2. Extruder box
- 3. Extruder motor
- 4. Filament press button
- 5. X limited switch

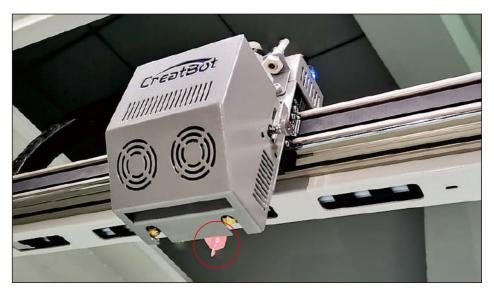
- 6. Heat sink
- 7. Heatbreak
- 8. Heat block
- 9. Nozzle
- 10.Bltouch
- 11.Thermistor

- 12.Heating tube
- 13.Cooling fan
- 14. Cooling fan
- 15.Connector
- 16.Feeding tube



## Machine Diagram

### F1000 Has three new features



Auto leveling system Auto-leveling working plate make leveling easily



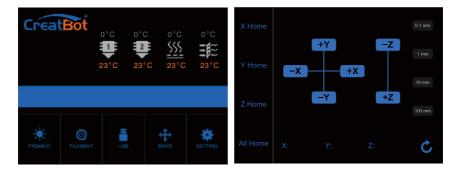
Hot Chamber system can make inside temperature up to 60 degree.



Filament dry room have 2 temperature options to set. (45 degree /65 degree.) Note: The PLA,PVA,HIP filaments are disable the drying function of the consumables bin.



### Leveling Platform









#### How to levelling the bed for the first time?

The entire platform consists of beams, brackets and four glass platforms.

#### Leveling platform manually

1. Turn on the printer.

2. On touch screen, press "Move axis" -> "All home" to return the axis XYZ to zero.

3. Then press "-Z" until the "Z" value become 0 and the nozzle go near to the platform.

4. Adjust the 4 nuts under the beam so that the bracket is in a horizontal position parallel to the beam.

5. Move the extruder by hand to 4 corners and center of bed. During this movement, tighten or loosen 4 black nuts below the bed to make sure the distance between nozzle and bed is 0.05mm -0.1mm around. (Approximately the thickness of one piece of paper)

6. Repeat above movement process several times and finally adjust the platform so that each platform is positioned horizontally relative to the X/Y plane. Leveling the 4 glass platform in return.

#### || Auto leveling

1Go to "Settings "---" auto leveling "— " Probe on the screen. Wait for the Probe to complete.

2. Enter "setting" -- "Z home" on the screen, confirm the height of Z platform is 0 on the status page, and Observe the distance between the nozzle and the platform.

3.Z offset (Servo Z offset) is in the automatic leveling menu option. If the nozzle is too far away from the platform, increase the Z offset value (0.1mm each time); If the nozzle is too close to the platform or even touches the platform, reduce the Z offset value (decrease by 0.1mm each time).

4. Probe need to be redone once you increased or decreased the Z offset.



### Load Filament



Preheat head



Straightened filament





Tighten the nut

- Load filament
- 1. Preheat the hotend before loading filament.
- 2. Straightened filament and check the filament do not self-winding.
- 3.load filament, and fix it on the filament shelf.
- 4.load the filament until filament beyond quick fitting. Insert
  - filament to extruder hole manually and through it until melted and flowing naturally.(Or choose extrude filament on touch screen).
- 5. Tighten the compression nut, tightness appropriately. Do same like the photo in red area. (Do not overtight, otherwise filament will be cut off. )



Notice: Pressed filament too tight or too loose will affect normal wire feeding.



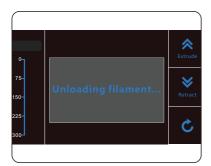
### Unload/Change Filament



Unload filament menu



Preheat head



Unloading filament



Pull out filament

1. Enter "Filament" menu -> "Unload filament", and select the head you want unload.

2. Wait for the nozzle heated to a suitable temperature.

3. After reching temperature, feeder will send a certain number of filament, and then automatically withdraw filament.

4. To manually unload filament, same as above mentioned.



### Touchscreen

Main Menu			
Creat	<b>Bot</b> 0°C 1 23°C	0°C 0° 22 23°C 23	$\frac{1}{23^{\circ}C} = 23^{\circ}C$
PREHEAT	<b>O</b> FILAMENT	JSB MOVE	SETTING
Preheat PLA	Cool down	Move axis	<b>Filament menu</b>
Resume	Setting	Open U-disk	USB unavailable
Zup	Pause	Stop	Z down



Status Page



Touch and set up the temp of the nozzle. **210°C** Preset nozzle temperature **210°C** Current nozzle temperature



Touch and set up the temp of the nozzle. **45°C** Preset nozzle temperature **40°C** Current nozzle temperature



Touch and set up the temp of the hotbed. **210°C** Preset platform temperature **200°C** Current platform temperature



Touch and set up the temp of the hot wind. **45°C** Preset hot air temperature **40°C** Current hot air temperature



Detail page					
Сгеа	tBoť	210°C	23°C 2 23°C	ADJUST 45°C SSS 45°C	23°C
	60%	5 00:0	0 Z: 0	.00	
	O CHANGE	PAU	SE	STOP	
60.00%	<mark>00:</mark> 00 Z:0.00	Cu	rrent pr	inting pr	ogress
O Ch	ange	11	Pause		Stop



10 mm Head1 Head2 20 mm 30 mm Unload 50 mm #1 extruder Click and 10 enter a value #2 extruder 10 mm (unavailable) Adjust value when extrude/retract Unload Retract filament 20 mm filament Extrude Retract Back filament filament



Printing page

CreatBot				ADJU	IST	
Creat	2	210°C	23°C 2 23°C	<u></u>	5	23°C
	60%	00:00	Z:	0.00		
	CHANGE	PAUSI		STOP		
		_				

60.00% 00:<mark>00 Z:0.00</mark>

Current printing progress



Pause and Change filament.



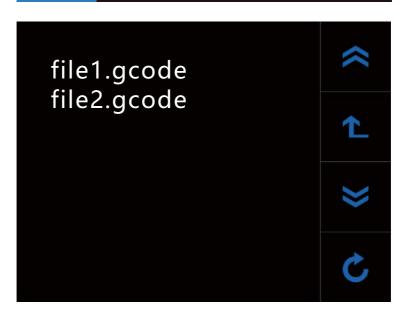
Cancel print



Pause print



SD Card/U-disk







Last page





Superior menu





Axis operation					
X Home				7	0.1 mm
Y Home	-x -		X	Z	1 mm 10 mm
Z Home		-Y	+	Z	100 mm
All Home	X:	Y:	Z:		Ç
1mm Mir	nimum units	8	X Home	Move	X to home
±X/Y Mo	ve X/Y axis		Y Home	Move`	Y to home
<b>-Z</b> Z u	р		Z Home	Move	Z to home
<b>+Z</b> Z d	own		All Home	All axi	s to home
Y:00.00	X,Y,Z curre position o hotend.			C	Back



Setting menu

Motion Calibration				
X motor step: 106.6667	Y motor step: 106.6667			
Z motor step: 1600.0000	E motor step: 128.0000			
Save	C Back			

<b>X step:</b> 106.6667	<b>Z step:</b> 106.6667	X/Y/Z and exturder motor
Y step: 1600.0000	E step: 128.0000	setting (range:5-9999)





Info. page			
	Creat 河南速维电子科 Henan Suwei Elec. 1	支有限公司	).
	www.CreatB +86 4000 55 sales@creatb	58 930	
Time used 0000:00:00	Firmware v6.0.xxxxxx	UI version V5.0.0	Ċ
<b>Time used</b> 0000:00:00	Print time used	V5.0.(	0 Screen version
Firmware V6.0.XXXXXX	Firmware version	C	Back



## Software Operation CreatWare Setup

Download CreatWare installation package from the CD-ROM or www.CreatBot.com, follow the prompts to install the software, try using the default installation path as well.

Select File Associat	lions
	ns you want associated with CreatWare V6.4.1
	e types you want to automatically open with CreatiVare V6.4.1:
⊡.am⊧ ⊡.gco	
⊠.ccore ⊠.cei ⊠.s⊓.	Please associated common 3D file format
dvanced Installer	< Back Next > Cancel
	C BARRY THERE & BARRA
CreatWare V6.4.1	Setup — 🗆
Select Installation	Folder
Select Installation	
Select Installation This is the folder wh	Folder
Select Installation The is the folder wh To instal in this fold "Bronse", Eolder:	Folder ere CreatWare V6.4.1 wil be installed. er, clck "Next". To install to e different folder, enter it below or clck
Select Installation The is the folder wh To instal in this fold "Browse", Eolder:	Folder ere CreatWare V6.4.1 wil be installed.
The is the folder wh To instal in this fold "Bronse", <u>Folder:</u> [C:]Program Files (xB	Folder ere CreatWare V6.4.1 wil be installed. er, clck "Next". To install to e different folder, enter it below or clck
Select Installation The is the folder wh To instal in this fold "Bronse", Eolder: [C::Program Files (x0)	Folder ere CreatWare V6. 4.1 will be installed. er, clck "Next". To install to a different folder, enter it below or clck 6)(5).Wei Inc)CreatWare V6. 4.1\ Browse

Please associated common 3D file format.

When there is a driver digital signature, please choose to agree. When finished the driver folder will locate at installation directory.

The software will select the correct language according to your OS, please select the right machine type and number of nozzles and ignore the other option and guide.



## Software Operation Quick Print UI





When insert U-disk, the toolpath will saved to the U-disk. The file name can not contain non-Latinn characters.

### Print Your First Model

Insert U-disk to the card reader, open the CreatWare, load 3D model file[1], choose correct filament and option [2], finally click save button[3], you can now finish slice model.

Insert U-disk to the printer, browse and select the Gcode file you just saved, the printer will automatically start to heating, when the temperature reaches, the printing will start.



# Software Operation

### **Mouse Operation**



Left click Select model, hold and move to change position, double-click to load 3D models.



### Right click

Hold and move to rotate the viewpoint around the 3D model.



Left + Right Hold and move the mouse to zoom.



### Scrollwheel

Use the scroll wheel to zoom in or out.



Left + Shift Click and drag in rotary model can according to

each 1 degree angle.

(			<b>]</b> +	-
		~		$\Big]$
ſ	S	h	if	t

### Right + Shift

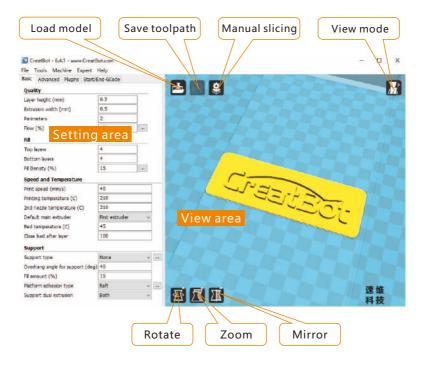
Hold and move the mouse to pan the 3D view.

### **Keyboard Shortcut**

Ctrl+L	Load model/Picture	Ctrl+S	Save model as
Delete	Remove model	F5	Refresh view area
Ctrl+E	Export setting	Ctrl+,	Preferences



## Software Operation Full Setting UI



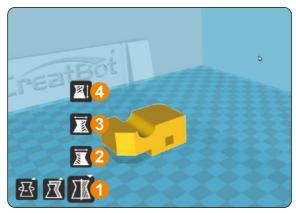
As you can see from the complete UI, the left side of the software is setting area, the right side is view area. The setting area contain "Basic", "Advanced", "Plugins", "Start/End GCode" four tabs. The Basic tab is the most common settings, usually the most frequently used parameters are here. Each parameter has a mouse-over tips, you can set parameters according the prompt. If you want to restore the default settings, please click on the menu "Tools"->"Restore Default".

NI LICEA

*Tip: Double-click view area can quickly load 3D model file. The view mode and edit icon will appear when you select the 3D mode.* 



## Software Operation Model Mirror



Click the mirror button [1], you can pop up the mirror menu. Button [2] is a mirror along the X axis.

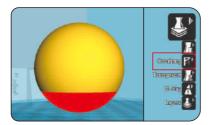
Button [3] is a mirror along the Y axis.

Button [4] is a mirror along the Z axis.

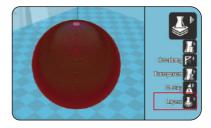
Note that the mirror transformation is different from the rotation, such as the mirror transformation will lead to a change in the direction of rotation,

and the rotation will not change the model.

### View Mode



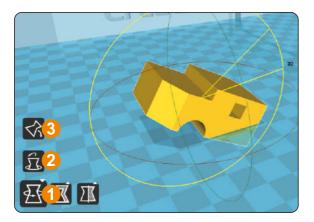
From the overhang view, you can see the suspended part of the model which is shown in red color. By changing the supporting angle can be seen suspended parts size is dynamically changing.



By slice view can easily observe the generated path, you can easily observe the different layers of sliced by slicing altitude indicator, use Ctrl + arrow keys can also be observed layer-by-layer.



## Software Operation Model Rotate



Click on the left corner of the rotate button [1], you can see three ring line around the model, respectively along the X, Y, Z direction. The default rotation angle is 5 degrees, press the Shift key can restrict the rotation angle to 1 degree.

Button [2] to is the reset button, can restore rotate status to the default state.

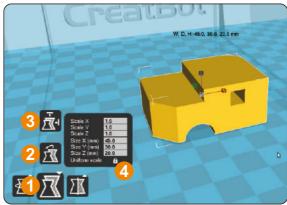
Button [3] is lay flat button, can lay the model flat on the platform automatically.

### Model Scale

Click the left corner of the zoom button [1], you can see a contour line around the model, and shows the current size of the model. You can input the value of the zoom ratio in Scale X / Y / Z, may also directly enter the size you need. Button [4] indicates locking scaling.

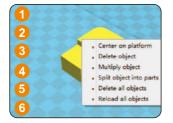
Button [2] is zoom reset button, you can restored the model to the default size.

Button [3] for the zoom model size to the maximum print size.





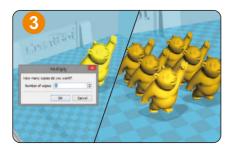
## Software Operation Right Click on Model

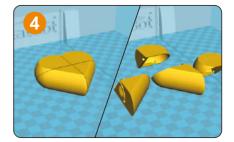


Right-click on the model pop-up shortcut menu, here are more features:

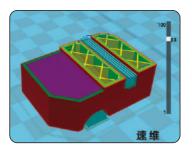
[1] "Centered" make the model back to the center position of the platform. [2] "Delete" to remove the currently selected model. [3] "Multiply" to copy the currently selected model and automatically position, which is useful for printing more than one model at a time. [4] "Split" multi-

component model can be split into its separate components, this process more timeconsuming, try to split the model in the modeling software, models splited can be printed individually and then assembled together . [5] "Delete All" to delete all the models loaded. [6] "Reload all" Reload all models, same as F5.





### **Toolpath Structure**



Red represents "outer shell"

Green represents "inner shell"



Purple represents "bottom and top shell"

Drag layer indicator can browse different level paths, Ctrl + arrow keys to browse layer by layer. 3D printing is the superposition of these different layers and built layer by layer.



# Software Operation

Π.	•	Catting	
ва	SIC	Setting	

File	Tools Machine Expert	<
Basic		
Qua		
Laye	rheight (mm)	0.2
Extr	usion width (mm)	0.5
Perir	meters	2
Flow	(%)	100 <
Fill		
Тор	layers	4
Bott	om layers	4 <
Fil D	15	
Spe	ed and Temperature	· · · · · · · · · · · · · · · · · · ·
Print	speed (mm/s)	40 <
Print	ing temperature (C)	210
2nd	nozzle temperature (C)	210
Defa	ult main extruder	First extr
Bed	temperature (C)	45
Close	e bed after layer	100 <
Sup	port	
Supp	port type	None
Ove	40 <	
Fil a	mount (%)	15
Platf	form adhesion type	Raft <
Supp	port dual extrusion	Both

100

- Layer height: This is the most important setting to determent the quality of your print, maximum value not exceed 80% of the nozzle diameter.
- **Shell thickness:** Refers to the total thickness of the inner and outer walls, the outer wall is only one, the inner wall can be more, set this value to an integer multiple of the diameter of the nozzle.

**Flow:** Refer to the amount of printing material, 100% standard dosage, the more material the model prints more plump.

- **top/bottom thickness:** Is the thickness of the upper and lower models, usually a multiple of layer height.
- **Fill density:** Control how density filled the insides of your print will be, a value around 20% is usually enough, 0% for hollow.
- **Print speed:** Speed at which printing happens. Print speed is affected by many factors, it is recommended to use low speed for complex model, high speed will cause the feed shortage, need improve nozzle temperature to compensate.
- **Nozzle temperature:** Is the melting temperature of filament, general use 200 °C for PLA and 240 °C for ABS.

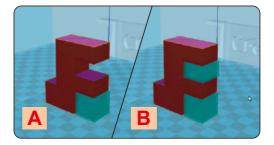
**Bed Temperature**: General use 45 °C for PLA and 70 °C for ABS.

- **Default main head:** The default is the first nozzle, can also be set to other nozzles, this can reduce the times of changing filament.
- Support type: The touching build plate support type is shown in figure [A], everywhere support is shown in figure [B].Support angle: The larger the angle, the more support generate.

Fill amount: The larger the fill, the more support generate. Platform adhesion type: The model which is not easy adhesion

on the platform please use Brim, which easy to warped or ABS filament please use Raft.

### Support Type





## Software Operation Advanced Setting

New States and the second s	start/End-GCode
Infill	
Sold infil top	
Sold infil bottom	
Retraction	
Enable retraction	☑ <
Speed (mm/s)	30
Distance (mm)	10
Quality	<
Initial layer thickness (mm)	0.2
Initial layer Flow (%)	100 <
Cut off object bottom (mm)	0
Continue print from cut off	
Speed and Temperature	<
Travel speed (mm/s)	70
Bottom layer speed (mm/s)	25 <
Solid layer speed (%)	80
Outer shell speed (%)	80
	90 <
Inner shell speed (%)	202020
	100

**Solid fill top:** Refers to whether to print the top surface of the model, uncheck will print it with infill method.

Solid fill bottom: Same as above, and so on.

**Spiralis print:** Refers to the method of spiral printing the outer wall of the model (single layer), and this feature is very suitable for print glass vase model.

**Enable retraction:** When the nozzle is moving over a noneprinted area, withdraw a certain length length filament to prevent overflow.

**Retract speed:** The speed of retraction, too fast can lead motor out of step, too slow increase printing time.

**Retract distance:** The length of the filament when enable retraction.

First layer thickness: Height of the first layer of printing, generally greater than 0.15mm.□

**First layer flow:** When the set of the first layer is too high, it can be appropriate to increase the extrusion.

**Cut off object bottom:** This can be used for objects that do not have a flat bottom.

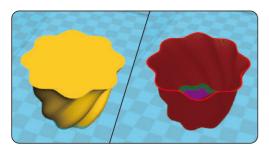
**Continue print:** Being "power outages continued" be substituted.

**Travel speed:** The speed when moving over a non-printed area.

First layer speed: Slightly slow speed can enhance adhesion

model on the platform.

**Solid layer speed:** The speed is a percentage here, which reference to the global print speed, a combination of different speeds, you can both get a good print quality and a faster print



time.

### **Spiralise Printing**



# Software Operation

Expert config

**Export Setting** 

Nozzle size: Set the nozzle size. Diameter: Accurate measurement of your filament gives better quality prints. Minimum travel: The minimum distance which can trigger filament retract. Minimum extrusion: The minimal amount of

- minimal amount of extrusion that needs to be done before retracting.
- Enable combing: Combing is the act of avoiding holes in the print for the head to travel over.
- Wipe tower: Is a small tower next to your print where the nozzle wipes itself clean when switching nozzles.

#### Nozzle 0.4 Nozzle size (mm) Filament 3.0 Diameter (mm) Diameter2 (mm) 3.0 Retraction 2 Minimum travel (mm) Minimal extrusion before retracting (mm) 0.02 Z hop when retracting (mm) 0 Enable combing All Dual extrusion Wipe&prime tower 15 Tower volume per layer (mm3) Ooze shield 0.1 Dual extrusion overlap (mm) Dual extrusion switch amount (mm) 15 Infill Infill overlap (%) 10 Infill prints after perimeters $\checkmark$ Black Magic Spiralize the outer contour Only follow mesh surface Skirt 1 Line count Start distance (mm) 3 Minimal length (mm) 260

Cool	
Enable cooling fan	
Minimal layer time (sec)	5
Fan full on at height (mm)	0.0
Fan speed min (%)	100
Fan speed max (%)	100
Minimum speed (mm/s)	10
Cool head lift	
Support	
Structure type	Lines
Distance X/Y (mm)	1
Distance Z (mm)	0.1
Brim	
Brim line amount	5
Raft	
Extra margin (mm)	5
Line spacing (mm)	3.0
Base thickness (mm)	0.3
Thickness (mm)	0.25
Airgap (mm)	0.2
Layers	3
Fix horrible	
Combine everything (Type-A	A) 🗹
Combine everything (Type-E	3) 🗌
Keep open faces	

- **Dual extrusion switch amount:** Amount of retraction when switching nozzle with dualextrusion, a value of 15mm seems to generate good results.
- **Cooling fan:** The extra cooling fan is essential while printing small model, but when print ABS material, the max fan speed should not more than 50%.
- **Skirt:** The skirt is a line drawn around the model at the first layer. This helps to prime your extruder, and to see if the model fits on your platform.
- Brim: The amount of lines used for a brim, more lines means a larger brim which sticks better.

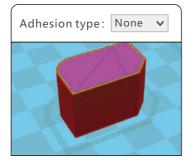


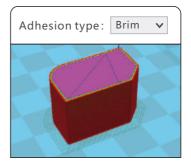
Notice: Most of the setting have been optimized, If you want restore default configuration, use the menu "Tools"->"Reset profile to default".

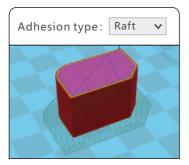


# Software Operation

Skirt  $\cdot$  Brim  $\cdot$  Raft





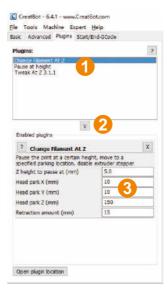


Plugin enable you to easily include your own features, without having to modify the source code or Gcode. In the screen shot above, these can be enabled by clicking on the arrow down button, then you can configure the plugin.



Notice: Please remove the plugin before you close the software.

### Plugins





## Software Operation Start / End GCode

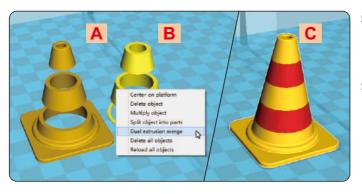
extruder heater :Uncomment this heated beate	can
:Uncomment this	can
neated bed heate	
	r o
;relat	1ve
retra	ct
el speed} ; move :	Z u
Inove :	X/Y
absolute position	nin
	2
	ateppera off

The start and end gcode are the startup and end procedure of the print, editing this requires knowledge of GCode.

If you want to set the automatic heating station after printing, you can remove the ";" in the code ";M190 S50".

start.gcode is the start code of single extruder, start2.gcode is the start code of double extruder, and so on.

### **Dual Head Printing**



Step 1: Load 2 models you want as shown in figure [A] and [B].
Step 2: Fist click [A], then right click on [B], you will get the option: dual extrusion merge, this will merge both models into

one model [C].

Step 3: Set parameters like ordinary single color model and save the GCode.



*Tip: The model select first will print by main extruder, the right clicked one by second extruder.* 



# Software Opertation

Align Dual Head Vertical





Step 1: loose the screws on the back.
Step 2: raise or lower hotend with heads after cooling nozzle
Step 3: Lower left nozzle step by step same with right nozzle.
(Note: every time you raise or lower nozzle, you need to adjust the offset value in autoleveling menu)



Tip: You can rising right nozzle as long time not use.

### Add Multi Type Printer

You can add more than one type of CreatBot to the software, and easily switch between them without re-config all the different machine

C Cr	catBot	- 6.	4.1 - w	ww.Creat	Bot.com	
Ele	Tools	Ma	chine	Expert	Help	
Basic	Adva	•	CreatBot_F1000			
Quality			Add new machine			
Layer height			Machine settings			
Extrusion w			Install custom firmware			
Perimeters		-	2			

© CwatSoL_F160(160*160*200 mm) © CwatSoL_F430(400*300*300 mm) © CwatSoL_F45:s00(300*300*400 mm) © CwatSoL_DX_P4s:s00(300*300*400 mm) © CwatSoL_DX_P4s:(300*250*520) © CwatSoL_DX_P4s:(400*300*320) © CwatSoL_F1000(1000*1000*1000) © ohw many extruder do your machine have: 0 1	Select you	ur machine
O1 ●2 ○3     The collection of anonymous usage information helps with the continued improvement of CreatWare     This does NOT submit your models online nor pathers any privacy related information.     Submit anonymous usage information:	CreatBat_F430(400°300°300 mm) CreatBot_PEEK-300(300°300°400 mm) CreatBot_OX (300°250°300°400 CreatBot_DX_Plus (300°250°520) CreatBot_DE_Plus (400°300°520) CreatBot_DE_Plus (400°300°520)	
The collection of anonymous usage information helps with the continued improvement of OreatWar This does NOT submit your models online nor gathers any privacy related information. Submit anonymous usage information: For full details see: http://www.creatbot.com	how many extruder do your machine have: 01	
	This does NOT submit your models online nor gath Submit anonymous usage information:	



## Software Operation Align Dual Head Horizontal

Aachine settings				×
CreatBot_D600_2				
Printer settings		Printer head size		
E-Steps per 1mm filament	0	Head size towards X min (mm)	75.0	
Maximum width (mm)	600	Head size towards Y min (mm)	18.0	
Maximum depth (mm)	600	Head size towards X max (mm)	18.0	
Maximum height (mm)	600	Head size towards Y max (mm)	35.0	
Extruder count	2 ~	Printer gantry height (mm)	60.0	
Heated bed		Communication settings		
Machine center 0,0		Serial port	AUTO	~
Build area shape	Square ~	Baudrate	AUTO	~
Extruder 2			La conservación de la conservación	
Offset X	28.0			
Offset Y	0.0			

There are alignment problem while printing dual color model, this is because the small difference in multi-nozzle assembly, CreatWare built fine-tuning features.

Click menu "Machine">"Machine settings", default X offset is: 20.0, default Y offset is: 0.0, adjustment method as shown below:

Extruder 2		Extruder 2	
Offset X:	28.3	Offset X:	27.7
Offset Y:	0.3	Offset Y:	-0.3
	Extr. 1 Extr. 2		Extr. 1 Extr. 2



## Software Opertation

#### Print Setting Of Different Filament

	Nozzle temperature	Hot bed	Plantform adhesion type	Fully enclose or not
PLA	190~210℃	None/45°C	None/Raft	Can open
ABS	240~250℃	90℃	Brim/Raft	Enclosed
Nylon	240~270℃	100 <i>°</i> C	Brim/Raft	Enclosed
HIPS	230~260℃	100°C	None/Brim	Enclosed
PETG	230~260℃	100 <i>°</i> C	None/Brim	Enclosed
Flexible	210~230℃	None/45°C	None	Can open
Wood	190~220℃	None/45°C	None	Can open
PC	230~260℃	100 <i>°</i> C	Brim	Enclosed
PEEK	380~430℃	Bed 120℃/Air 70℃	Raft	Enclosed

\* The data is only for reference, different environmental data will be different.F160 and F430 can print PEEK.



## Frequently Asked Questions Hardware Troubleshoot

#### 1. Display "MINTEMP" ?

The environment is too low, or temperature sensor is damaged, please keep the room temperature above 0 °C.

#### 2. Display "MAXTEMP" ?

Temperature of nozzle or bed too high, or temperature sensor is damaged, please keep their temperature in a suitable range.

#### 3. USB connection problems ?

Please specify the correct port and baud rate (250000), or change a shorter USB cable.

#### 4. Nozzle heats up too slowly?

Temperature in door is too low, or use a fan duct, or turn up output voltage (24.5v).

#### 5. Print head stuck ?

Clean the guide rail and add lubricating oil.

#### 6. Print head can not move ?

Stepper motor chipset burned, or belt damaged, or belt wheel screw loose.

#### 7. Print head hit the framework?

Corresponding axis stop limit or circuit fault.

#### 8. Unable to power on ?

Power switch is damaged or fuse is burned, and please check whether the power adapter is working properly or power check board is damaged.

### **Printing Troubleshoot**

#### 1. How to set the temperature of the nozzle?

Different filament temperature is different, general as follows:

PLA temperature 190 °C ~210 °C, bed 45-60 °C.

ABS temperature 230 °C ~250 °C, bed 80-100 °C.

You must leave enough time for filament heating, so the faster printing speed need the higher temperature, 60mm/s temperature need raise about 10°C. In the same way, larger thickness need higher temperature.

#### 2. How to set the temperature of the hot bed ?

The main purpose of the hot bed is to prevent model wrapped, PLA need about  $45^{\circ}$ C and  $70^{\circ}$ C for ABS is enough, but due to the environment and filament, we often need to increase the temperature, the highest temperature



### **Printing Troubleshoot**

not over 120°C, and you can close the bed above 100mm except printing ABS or other high-temperature required filaments.

#### 3. The model not stick on the platform ?

Please paste masking paper or Kapton tape on the platform, or the nozzle is too far away from the platform, or the bottom of the model is not flat.

#### 4. No or less silk coming on the first layer ?

The distance between nozzle and platform is too small, or the filament has not been sent to the nozzle.

#### 5. Why nozzle is not spit silk?

The filament is not pressed or too tight, or print temperature is too low, or the filament feeder not working.

#### 6. How to prevent model become warped ?

Increase hot bed temperature or use Kapton, or change platform adhesion type to Raft, or cover the baffle, or reduce indoor ventilation.

#### 7. How far from nozzle to platform appropriate ?

Distance should be 0 in theory, but there is no absolutely flat platform, so the distance should +-0.1mm. Finally, with the actual printing effect as the standard, too close will lead to a silk blocked, too far will cause the model not stick on the platform.

#### 8. How to determine whether the temperature is too high ?

PLA temperature is too high will appear liquefaction, ABS will be the carbide, that will block the nozzle.

#### 9. What reasons will causing nozzle blocked?

Filament are impurities or print environment dust too much, bad of thermal conductivity between the nozzle and the heating block.

#### 10. Model surface is loose with crack?

The layer is too high or the printing speed too fast, nozzle temperature too low or filament press nut too loose, or filament is wrapped.

#### 11. How to print a small model ?

Multiple the model, and print them at a time.

#### 12. Dual color model not aligned ?

Adjust offset of second nozzle in machine settings.

#### 13. Dual color model color interference ?

Align two nozzle in vertical direction

#### 14. There is too much silk drag on the model?

Please enable filament retraction, and specified proper retract speed, and distance, the retract distance should not less than 4mm, and the speed not less than 10mm/s.



## Specifications

	•					
Model	F160	F430	D600			
Build volume	160*160*200	400*300*300	600*600*600			
Nozzles	Single		Single/Dual			
Diameter	0.4mm(0.3/0.6/0.	8/1.0mm can be custo	mized)			
Temperature	260(Max 420) ℃		260 °C +420 °C			
Nozzles Type	Direct					
Hot bed	140 <i>°</i> C	Bed 120℃/Air 70℃	100°C			
Min. Layer	0.04mm					
Accuracy	X、Y、Z axis 0.01r	X、Y、Z axis 0.01mm				
Print Speed	120mm/s (inner/outter, top/bottom, fill, first layer speed can be set separately)					
Travel Speed	200mm/s					
Materials	ABS,PLA,TPU,PETG,	HIPS,PVA, PA,PC,Carbon	Fibre,PEEK,etc			
Fila. Diameter	1.7	75mm	3.0mm			
Motion Structures	Ор	tic axis	Rectilinear orbit			
Auto Turnoff		Yes (pwr manager +	relay)			
Continue Play	Yes (Power outage, lower plate and save data)					
Fila. Check	Yes (pause printing when filament finish, and lower platform)					
Adju. Head	Yes (height-adjustal	ble-nozzles)				
OS	Windows, Linux, Ma	ac OS, OSX				
Languages	Chinese, English mu	ulti-language				
Software	CreatWare Muti-lar	nguage				
File Format	STL, OBJ, GCode, Amf					
Printing Field	Full closed covering					
Display	4.3 inches color tou	ich screen				
Pwr Supply	110/220V 180W	110/220V 1300W	110/220V 1000W			
Dimension	280*280*470mm	660*470*560mm	910*840*1100mm			
Weight	22Kg	60Kg	170Kg			



## Specifications

Model	DX	DX Plus	DE	DE Plus		
Build volume	300*250*300	300*250*520	400*300*300	400*300*520		
Nozzles		Dua	l/Tris			
Diameter	0.4mm(0.3/0.6/0.8/1.0mm can be customized)					
Temperature	400 °C					
Nozzles Type	print head/new	print head				
Hot bed	120°C (can be cl	osed after certain laye	ers)			
Min. Layer	0.04mm					
Accuracy	X、Y、Z axis 0.	01mm				
Print Speed	120mm/s (inner/outter, top/bottom, fill, first layer speed can be set separately)					
Travel Speed	200mm/s					
Materials	ABS,PLA,TPU,PE	TG,HIPS,PVA, PA,PC,Ca	rbon Fibre,etc			
Fila. Diameter	3.0mm (1.75mm	optional)				
Keypad	Yes (nine key)					
Auto Turnoff	Yes (pwr manage	er + relay)				
Continue Play	Yes (Power outag	ge, lower plate and sav	/e data)			
Fila. Check	Yes (pause printi	ng when filament finis	h, and lower platform	)		
Adju. Head	Yes (height-adju	stable-nozzles)				
OS	Windows, Linux,	Mac OS, OSX				
Languages	Chinese, English	multi-language				
Software	CreatWare Muti-	language				
File Format	STL, OBJ, GCode	, Amf				
Chipset	Atmega 2560-16AU (AVR 8 Bit 16MHz , 256KB Flash)					
Display	128*64 monoch	rome multi-language (	support color TFT)			
Pwr Supply	110/220	V 360W	110/220	V 700W		
Dimension	420*380*570	420*380*790	590*430*570	590*430*790		
Weight	35 Kg	40Kg	45Kg	55Kg		



## Specifications

Model	PEEK-300	F1000
Build volume	300*300*400mm	1000*1000*1000mm
Nozzles	Double	
Diameter	0.4mm(0.3/0.6/0.8/1.0mm optional)	1.0 mm (0.4~1.5 mm)
Temperature	Max 500°C	Max 420°C
Hot bed	Max 200 °C	Max 100°C
Min. Layer	0.05mm	0.05mm
Accuracy	X.Y0.011mm;Z 0.025	X.Y0.011mm;Z 0.025
Print Speed	10-150 mm/s	10-120 mm/s
Materials	ABS,PLA,Carbon Fiber,PETG,Nylon,PC,etc.	
Fila. Diameter	1.75 mm	
Auto Turnoff	Yes (pwr manager + relay)	
Continue Play	Yes (Power outage, lower plate and save data)	
Fila. Check	Yes (pause printing when filament finish, and lower platform)	
Adju. Head	Yes (height-adjustable-nozzles)	
OS	Windows, Linux, Mac OS, OSX	
Languages	Chinese, English	
Software	CreatWare Muti-language	
File Format	STL, OBJ, GCode, Amf	
Chipset	Atmega 2560-16AU (AVR 8 Bit 16MHz , 256KB Flash)	
Display	4.3 inches color touch screen	9.7 inches color touch screen
Pwr Supply	110-220v 3000W	220~240 V, 50~60 Hz;4000W
Dimension	650*600*750 mm	1910*1510*2205mm
Weight	100 kg	640 kg





Quality · Experience · Service

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