

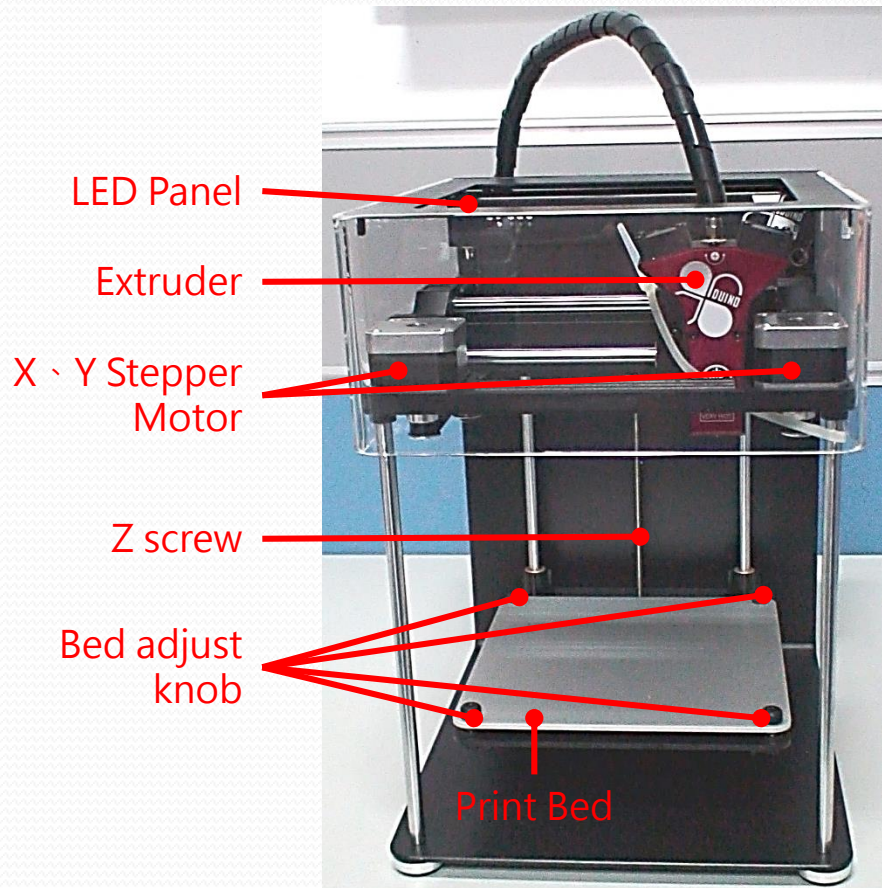
86Duino ENJOY Quick Start Manual



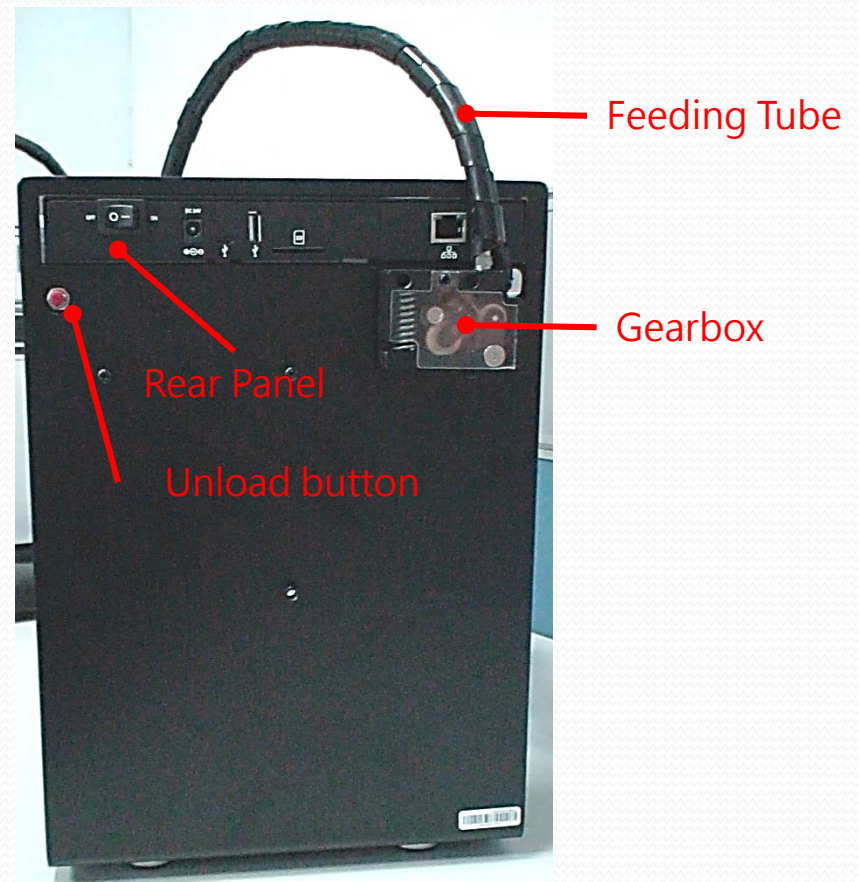
Content

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86Duno ENJOY outline



Front view



Rear view

Software Installation

S/W-Print software install (1/6)

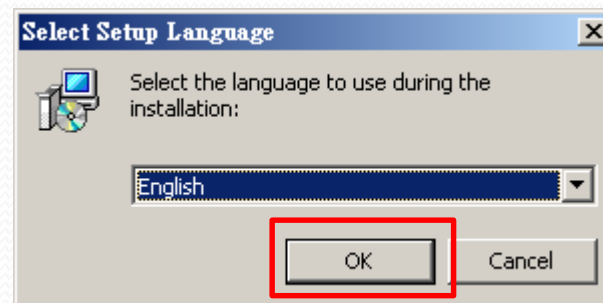
- Download 86DuinoRepetierHost file from following to your computer:

http://www.86duino.com/?page_id=11763

- Double click the setup file icon ◦

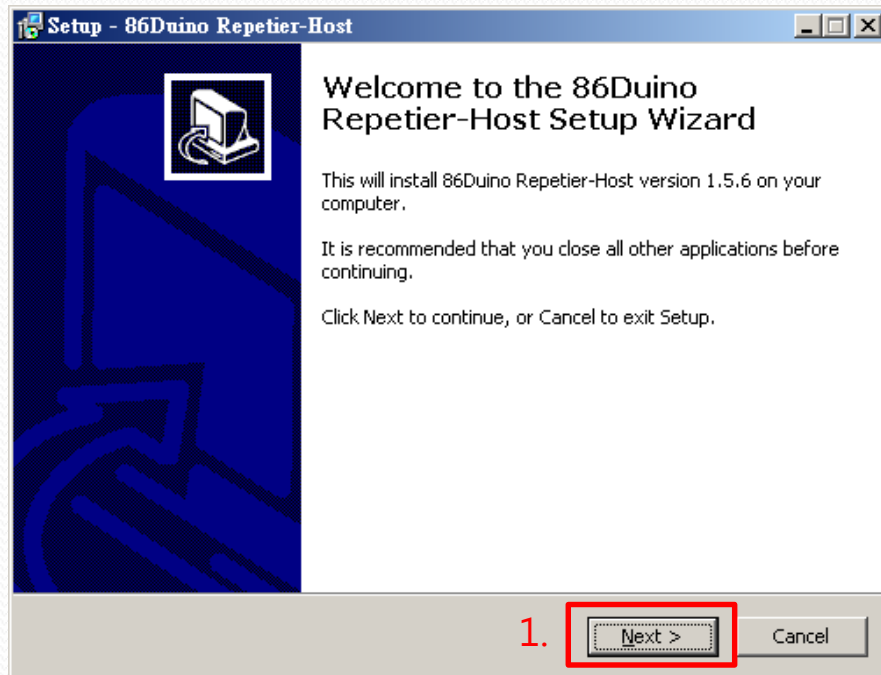


Setup icon

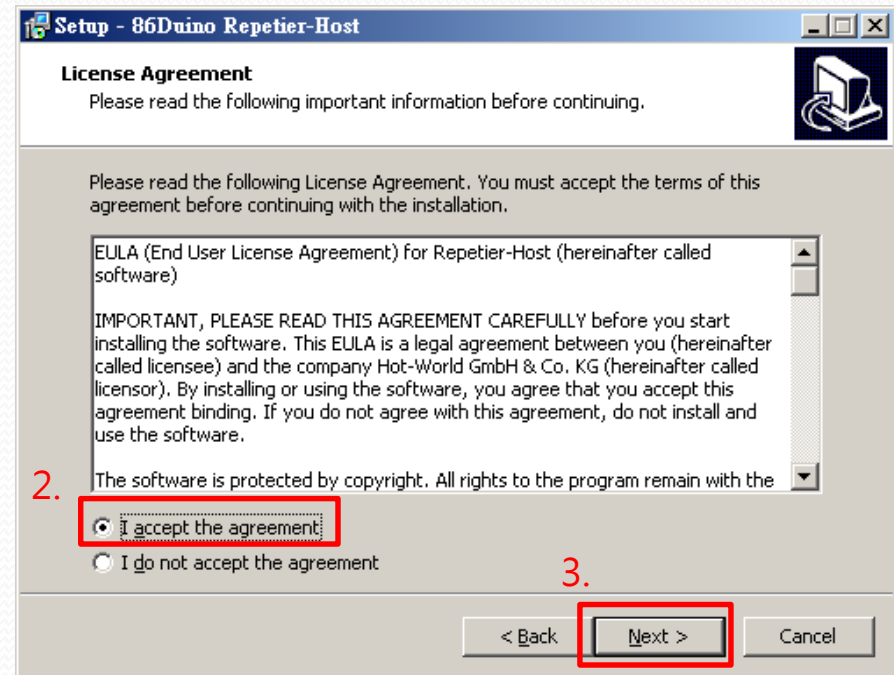


Select the language you prefer and click "OK"

S/W-Print software install (2/6)

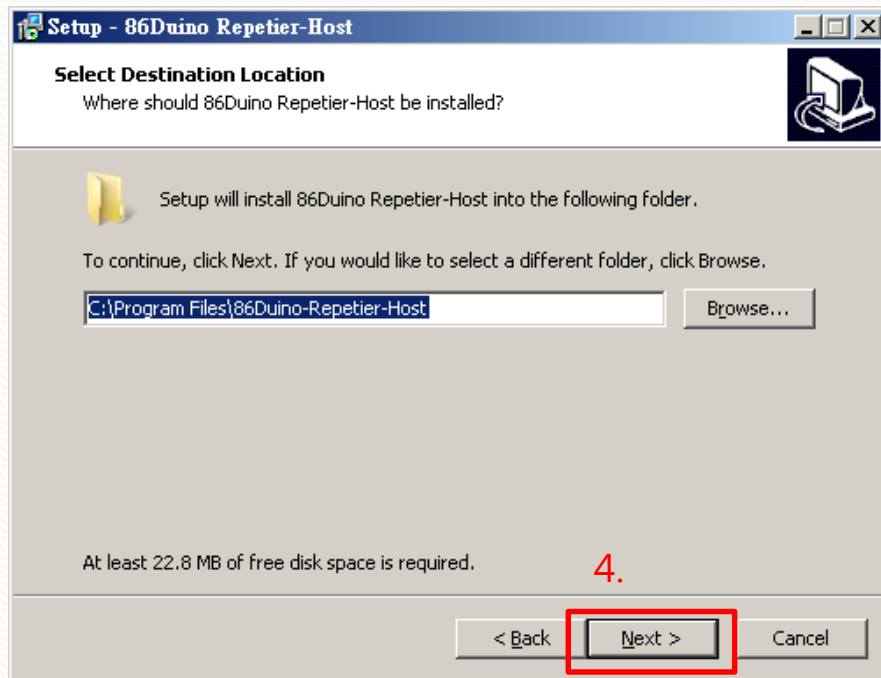


Click “Next” on Setup Wizard :

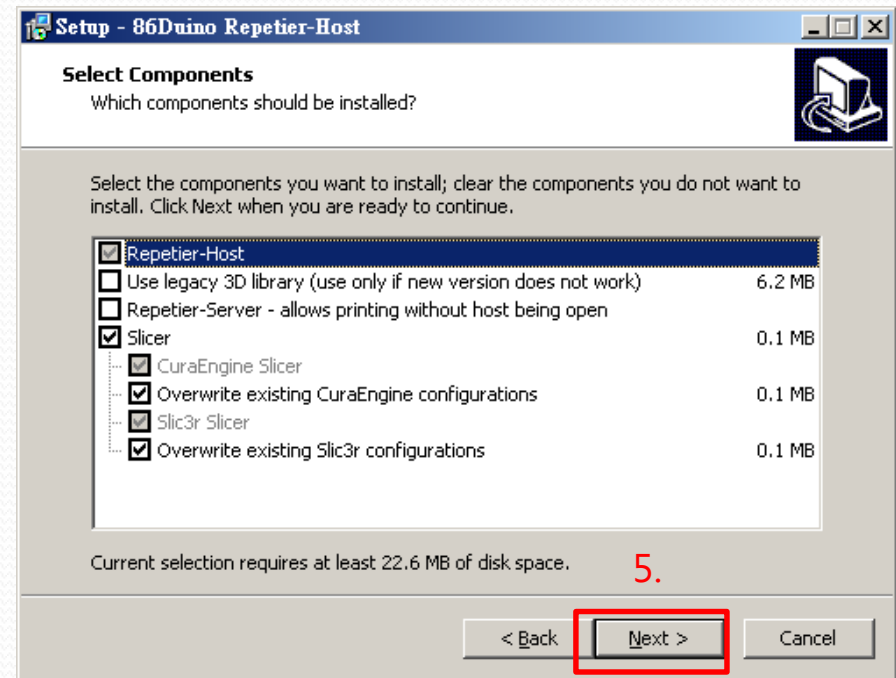


Read the License Agreement and if in agreement, Select “I accept the agreement” and then click “Next” .

S/W-Print software install (3/6)

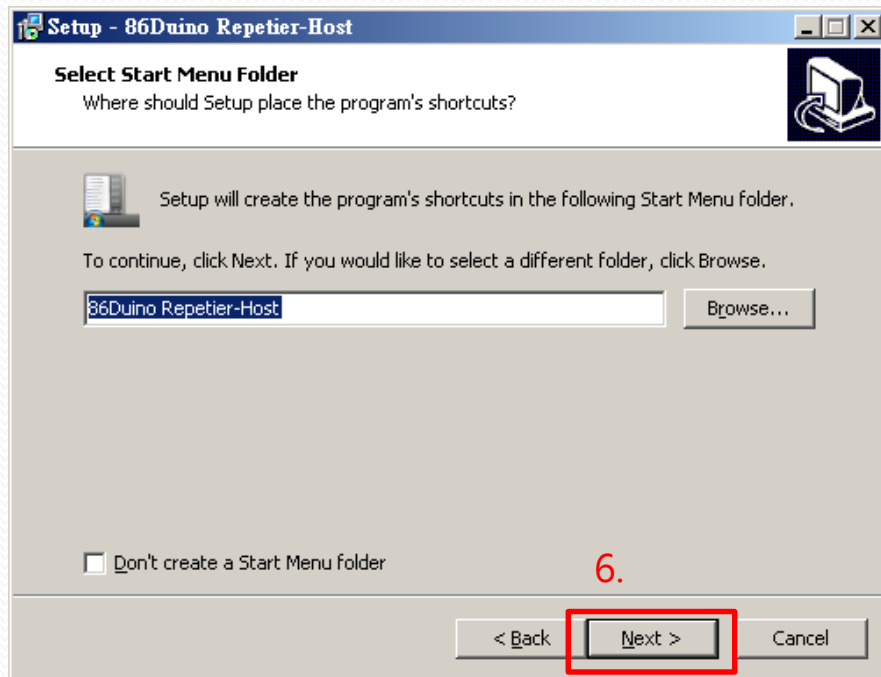


Click “Next” if you like to put it under “Program Files” or you can choose your preferred location by clicking “Browse...”

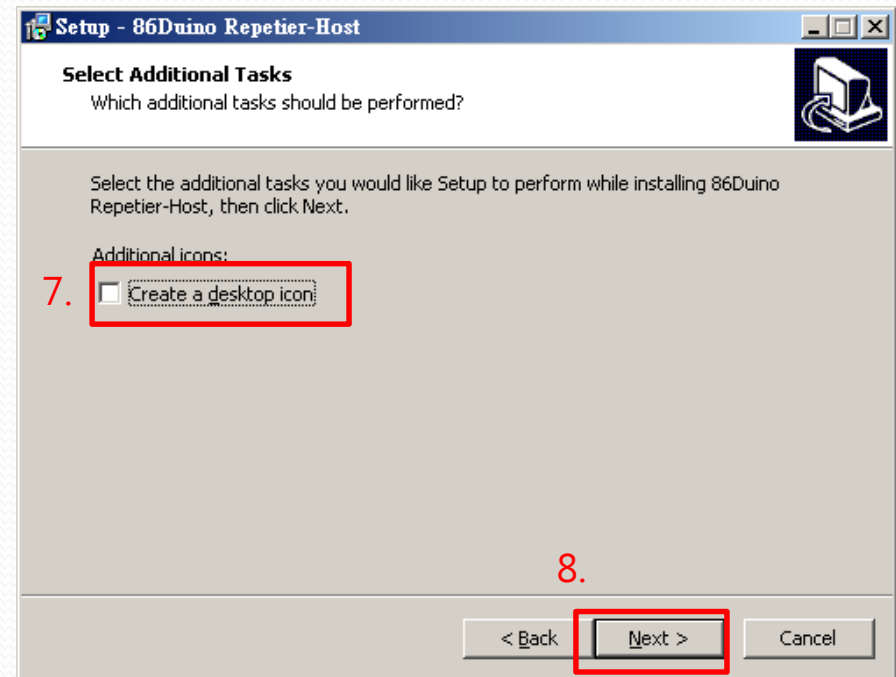


then click “Next” (default setting)

S/W-Print software install (4/6)

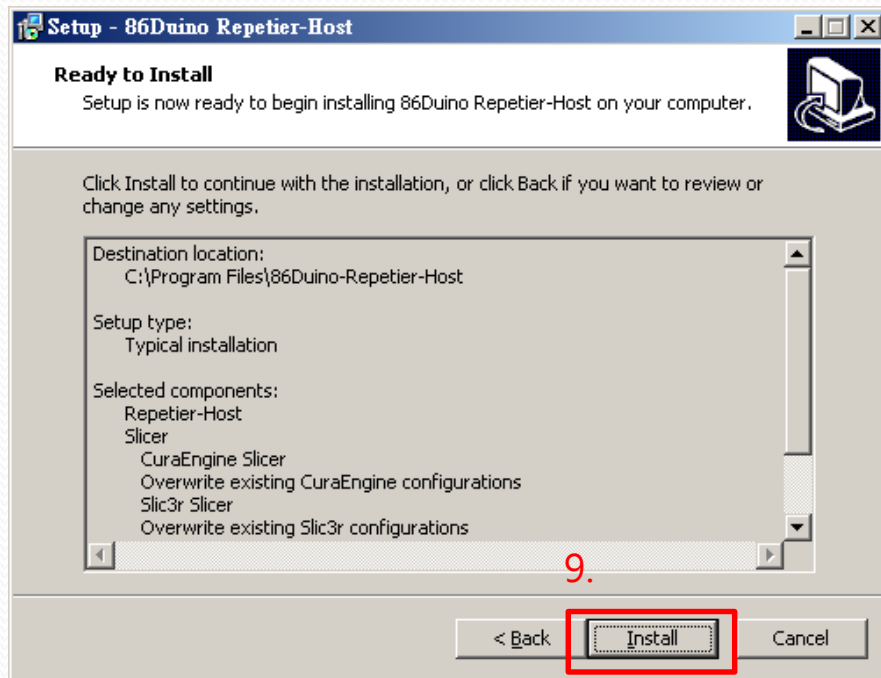


Click "Next" if you like to put the shortcut in "86Duino Repetier-Host" folder or you can click "Browse..." to choose a different folder.

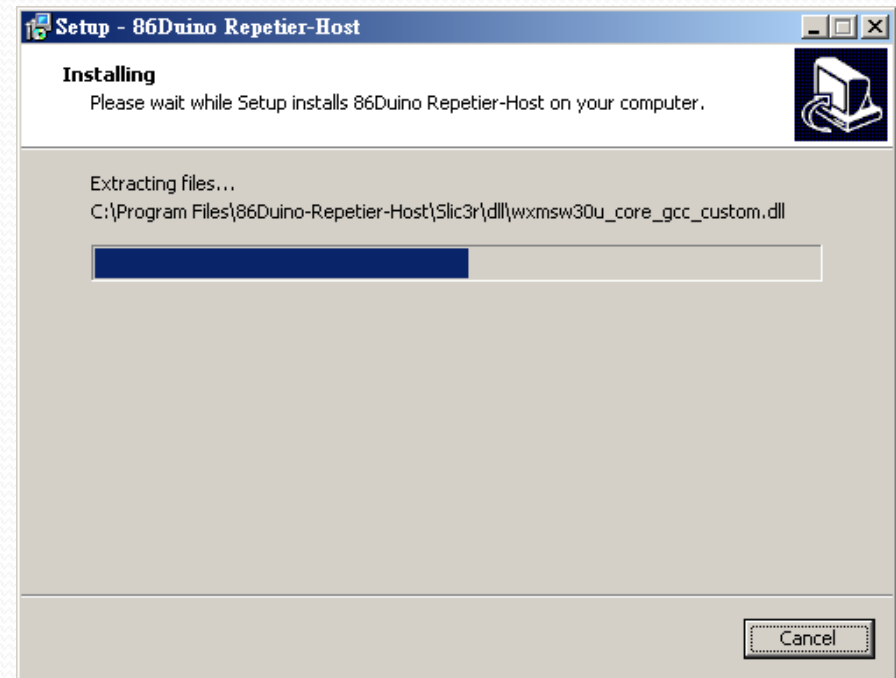


If you would like to create a desktop icon, check off, "Create a desktop icon" and then click "Next".

S/W-Print software install (5/6)



Click “Install” to start the installation.



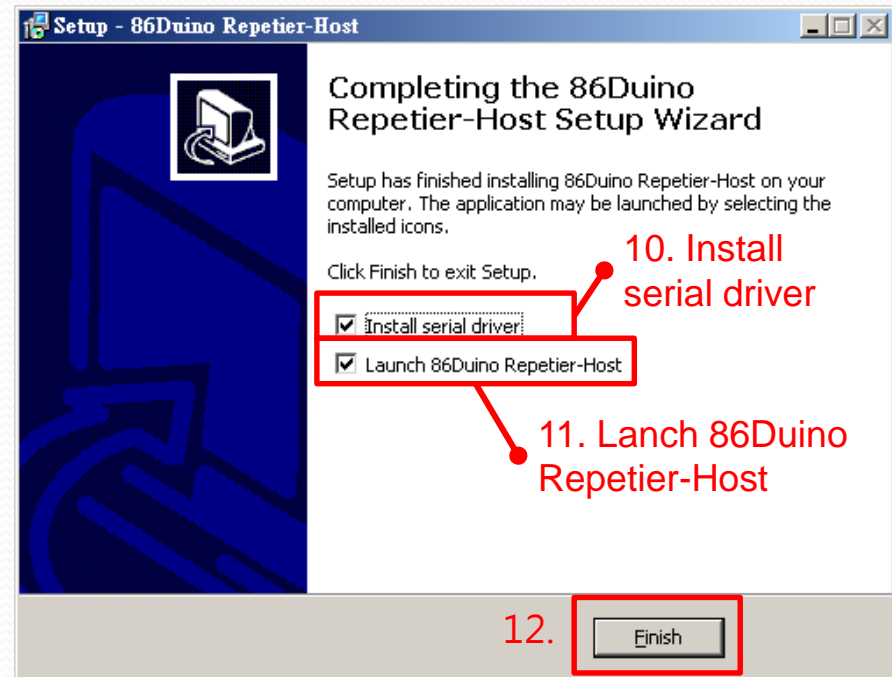
Software Installation

S/W-Print software install (6/6)

- After installation is complete, you can choose whether to continue to install the driver.
- If the previous driver has been installed, you can skip the "Driver Installation" teaching content.
- If you do not execute software now and then, can be performed by clicking "RepetierHost.exe" file.



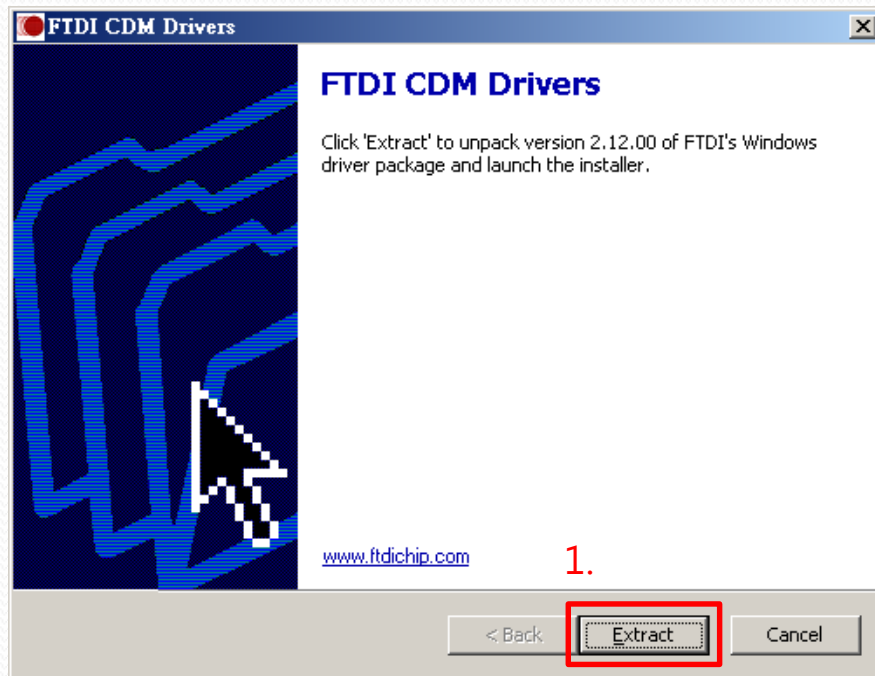
RepetierHost.exe
86Duino Repetier-
Host Icon



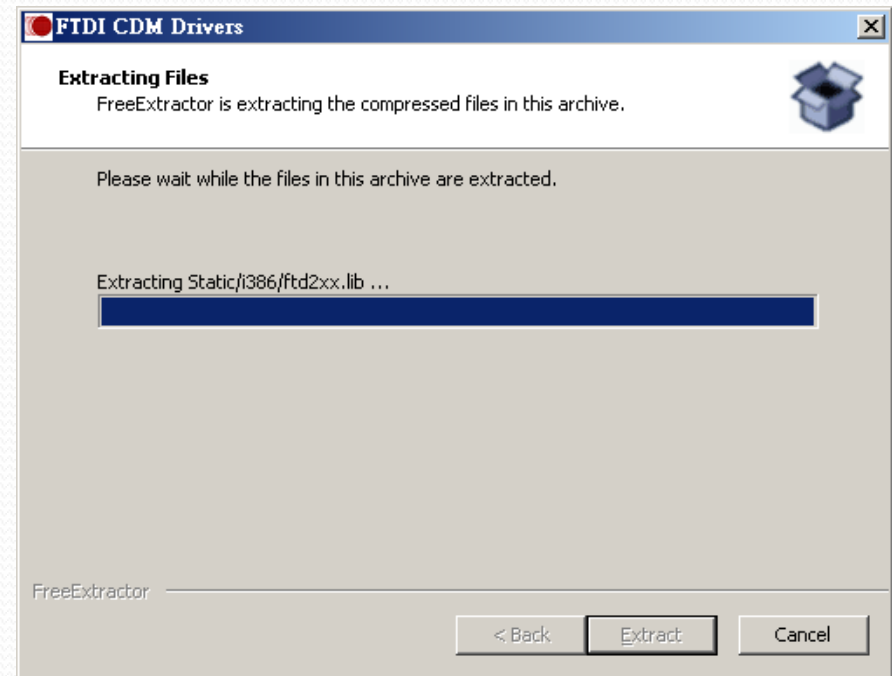
Installation completion

S/W-Driver install(1/3)

- If you choose to print software installation to continue after the completion of driver installation, the following installation screen will appear, please follow the instructions to complete the installation:

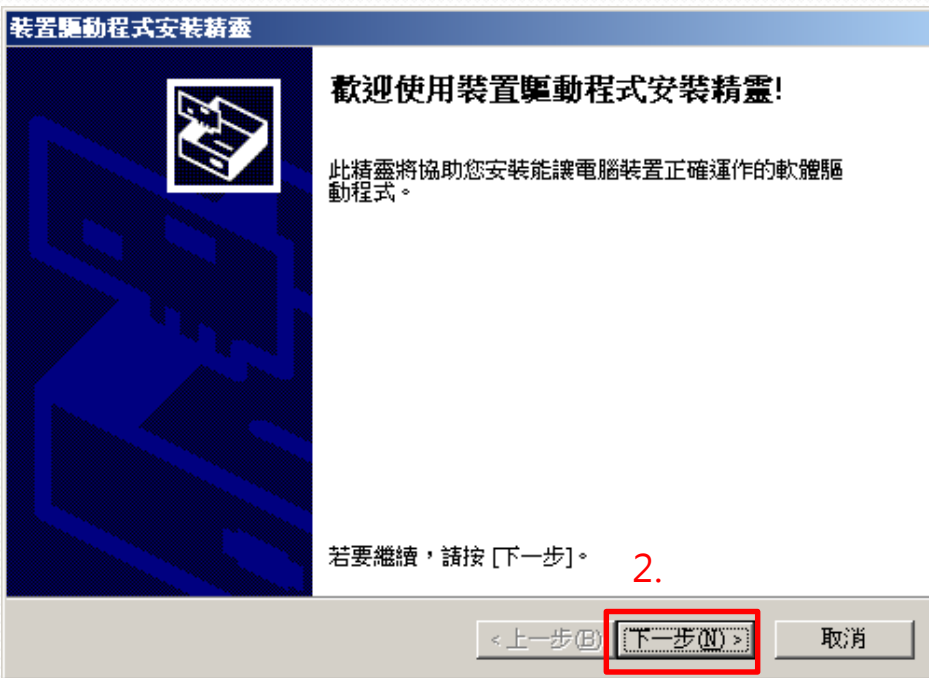


Driver extract confirmation screen



Driver extracting screen

S/W-Driver install(2/3)



Click “Next” for Setup Wizard :

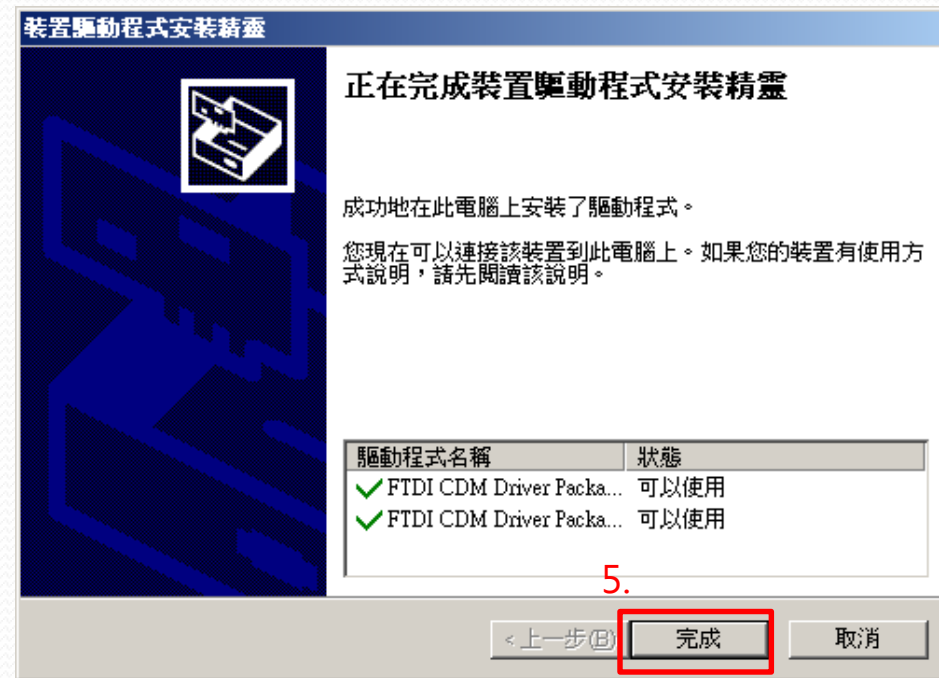


Read the License Agreement and if in agreement, Select “I accept the agreement” and then click “Next” .

S/W-Driver install (3/3)



Install screen



Installation completion screen

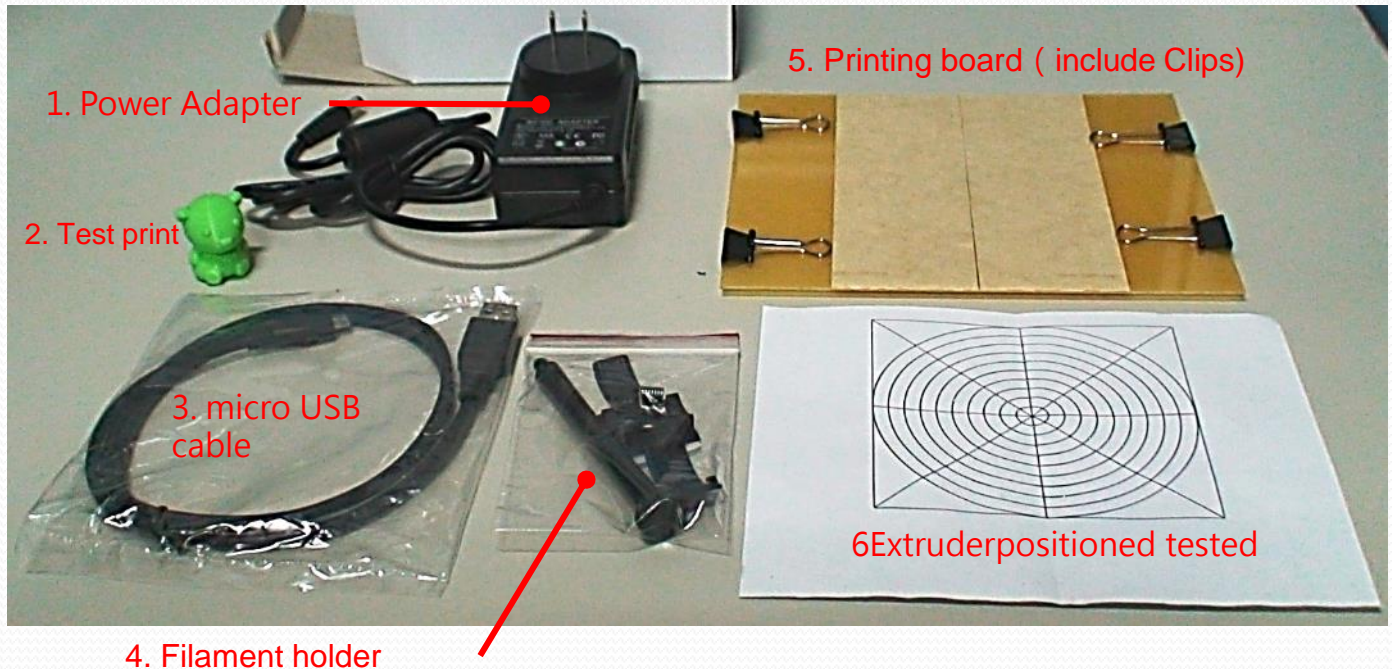
Hardware assembly

Hardware description

- ENJOY includes the following items at the box:



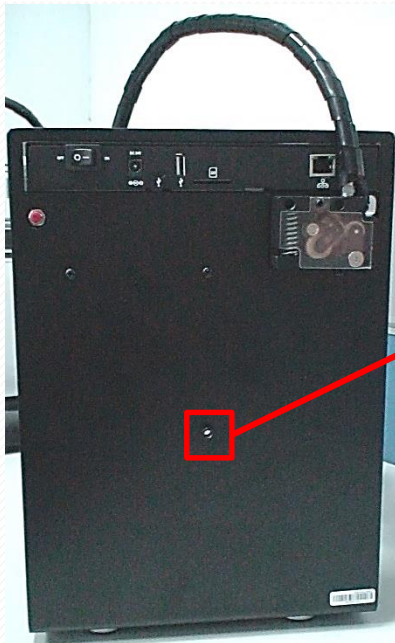
ENJOY Printer



Accessories

H/W-Loading Filament (1/5)

- Mounted filament holder on the rear of the printer:

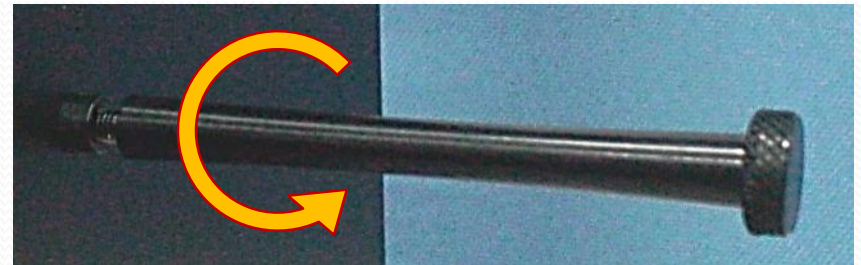


ENJOY rear view

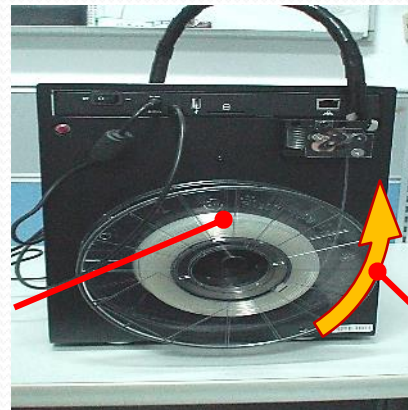


Filament holder
mounting holes

Holder



1. Counterclockwise direction of the mounting holder

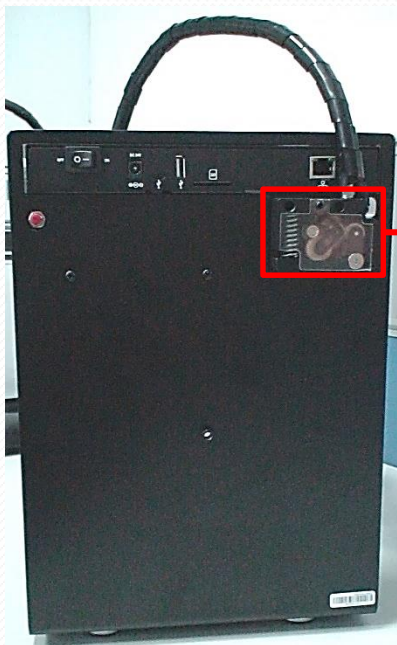


2. Place the Filament
hanging on the holder
(note direction)

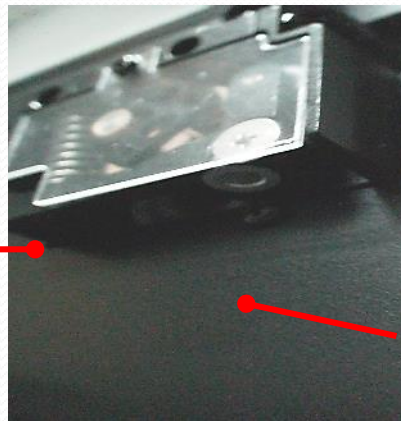
Direction

H/W-Loading Filament (2/5)

- Prior to each use, remove the harden/used end of the filament by cutting off 2 inch from the end to be loaded into the extruder.

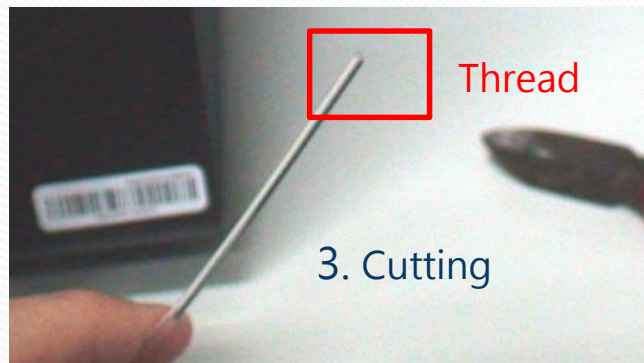


ENJOY rear



4. feed the filament into the Feeder

Feeder

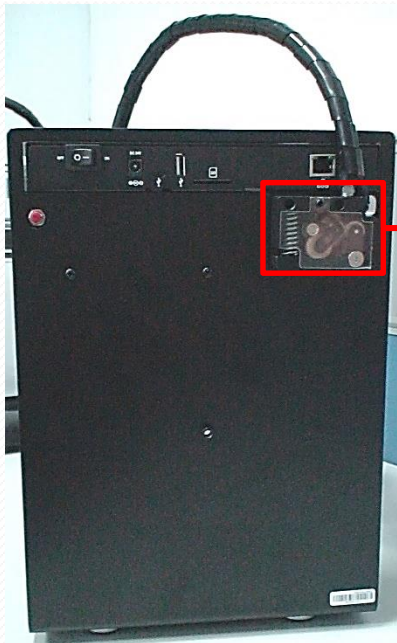


Thread

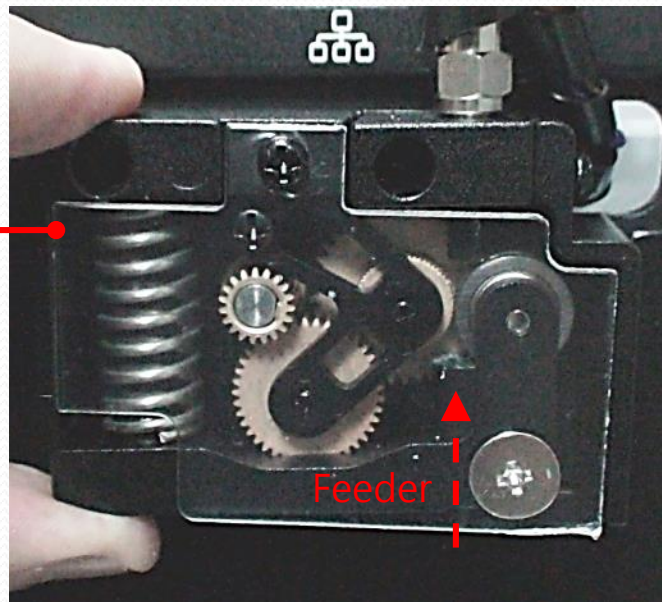
3. Cutting

H/W-Loading Filament (3/5)

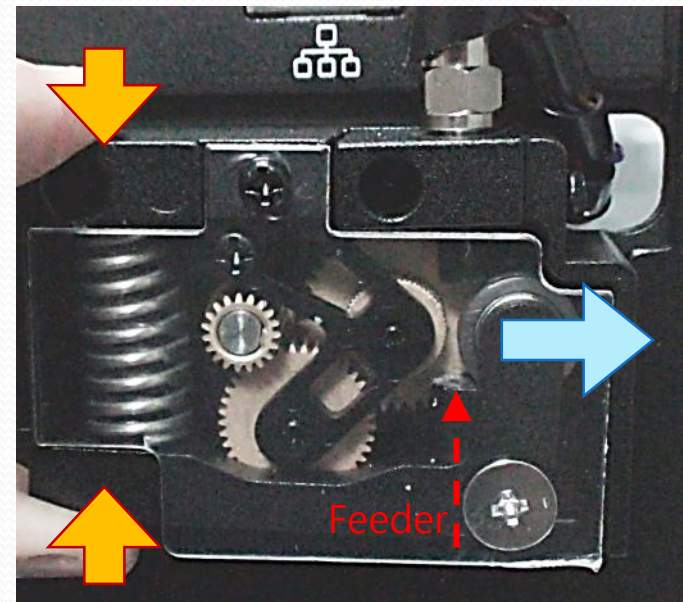
- Push up on the spring to the left while feeding the filament up into the tube.



ENJOY rear



5. Push up on the spring



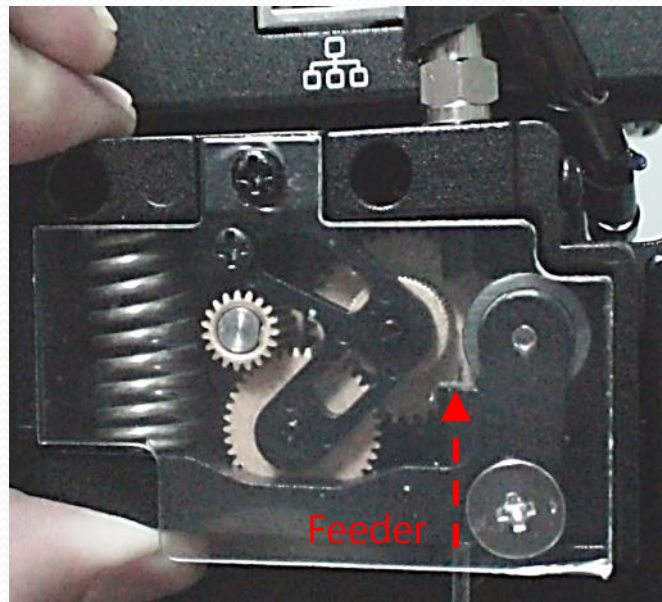
6. gears will be moved to the right, to generate the space

H/W-Loading Filament (4/5)

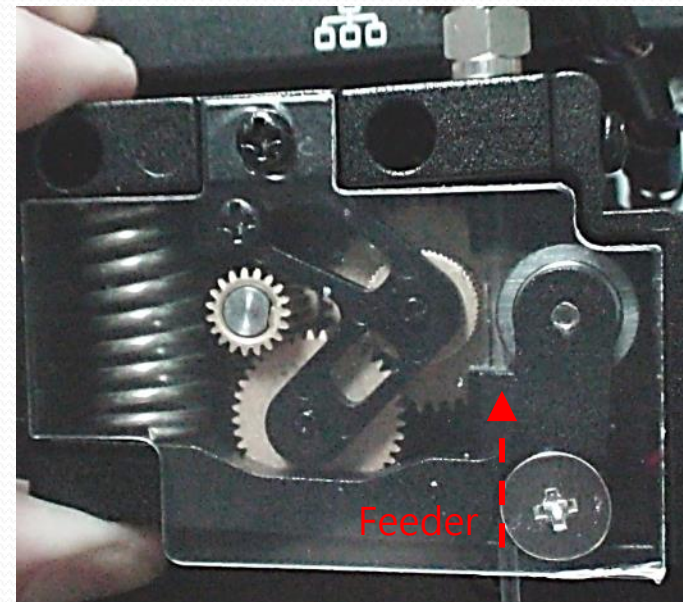
- Continue to feed the filament up into the extruder until you feel there is NO room for more filament.



ENJOY rear



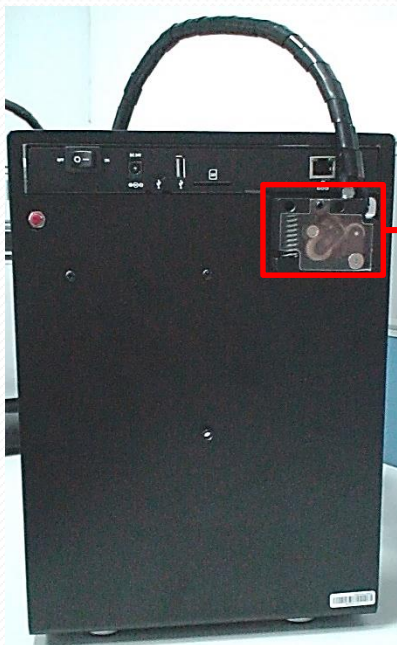
7. Feed the filament up into the feeder



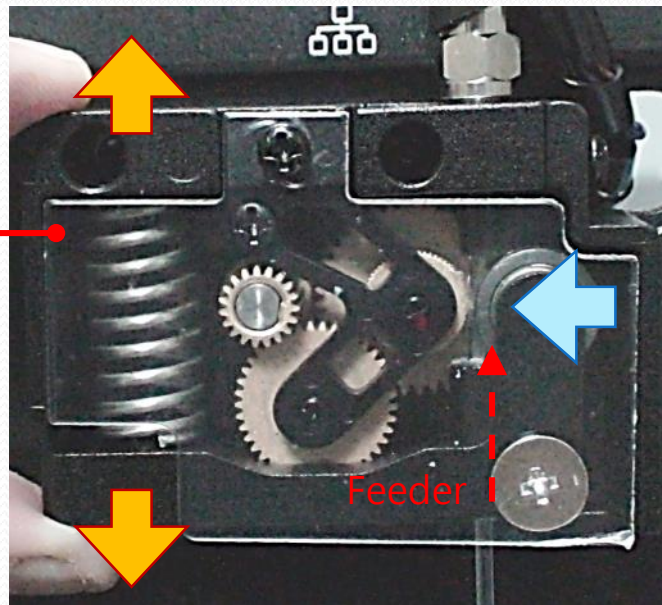
8. until you feel there is NO room for more filament.

H/W-Loading Filament (5/5)

- When you feel there is NO room for more filament. Release the spring. The filament is now loaded.



ENJOY rear



9. Release the spring



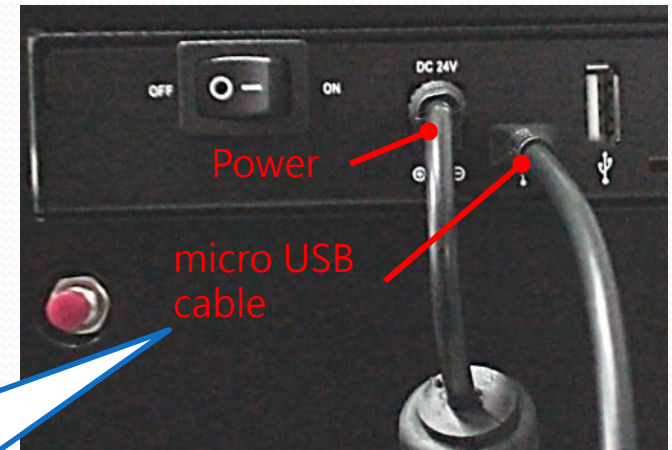
10. The filament is now loaded

H/W-Connect Enjoy Printer(1/2)

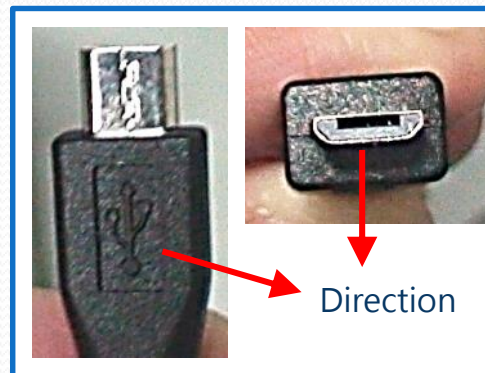
- With the Power switch in the OFF position, connect the provided power supply to an AC (100-240V) source and the USB cable to a computer.



Panel (Before)



Panel (After)

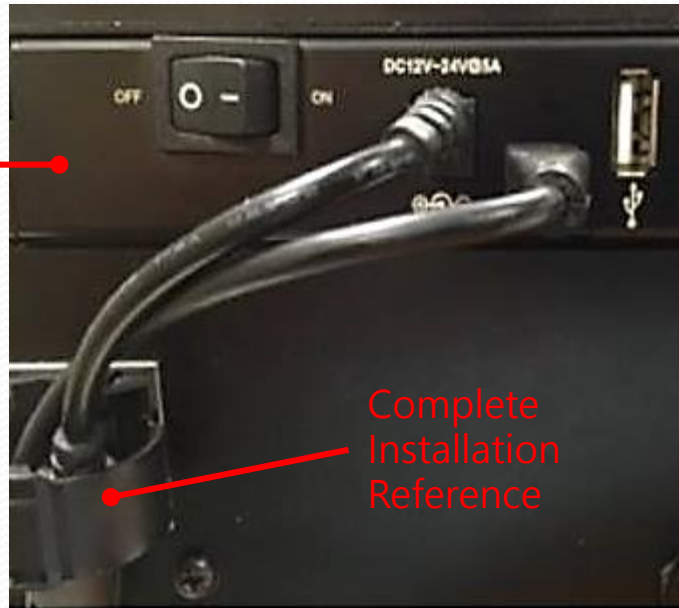


Direction

*Please note that micro USB connector direction

H/W-Connect Enjoy Printer(1/2)

- If you are worried of cables may affect the filament rotates, the entire line can be used to secure the wire loop:



Cable ring (before)



Direction

Cable ring (after)

Calibration

Calibration- Software setup and connection (1/7)

- Power on, then all LED on the panel lights blink once after leaving Red lighted.



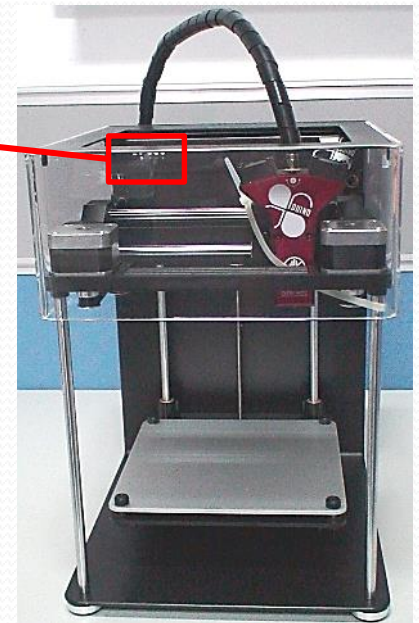
1. Power adapter



2. Switch power on



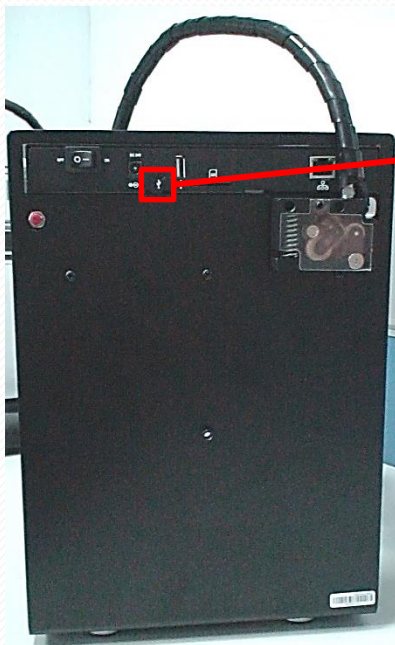
3. all LED on the panel lights blink once after leaving Red lighted.



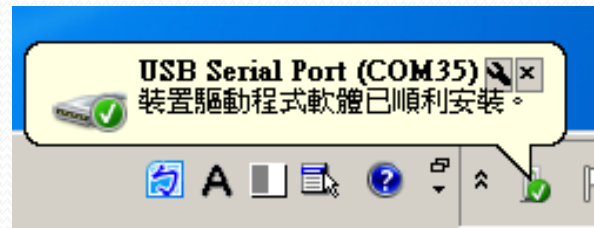
ENJOY front view

Calibration- Software setup and connection (2/7)

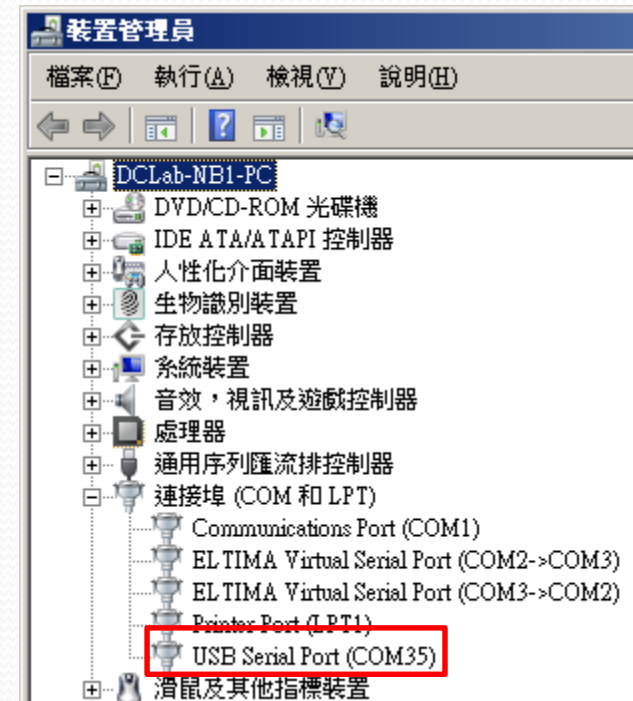
- Enjoy Printer via micro USB cable to the PC, then the PC will automatically install the driver.



4. Micro USB
Cable connect to PC



5. Driver installed



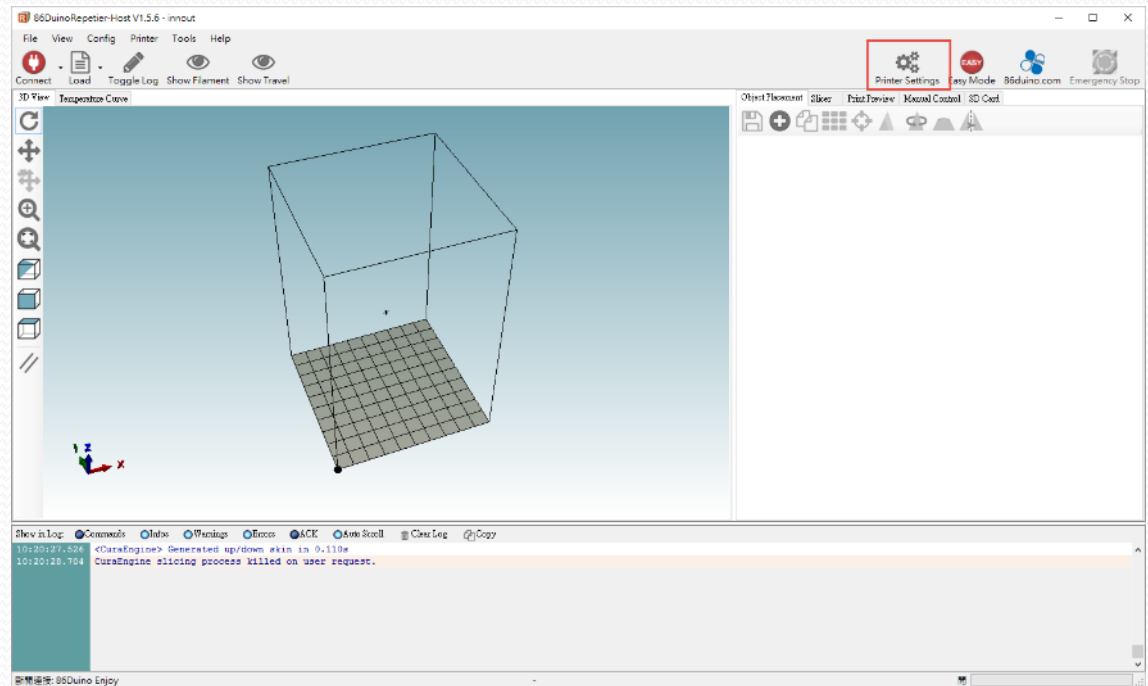
6. Device manager
confirmed

Calibration- Software setup and connection (3/7)

- Run 86Duino-Repetier-Host (RH) program, and check printer status:



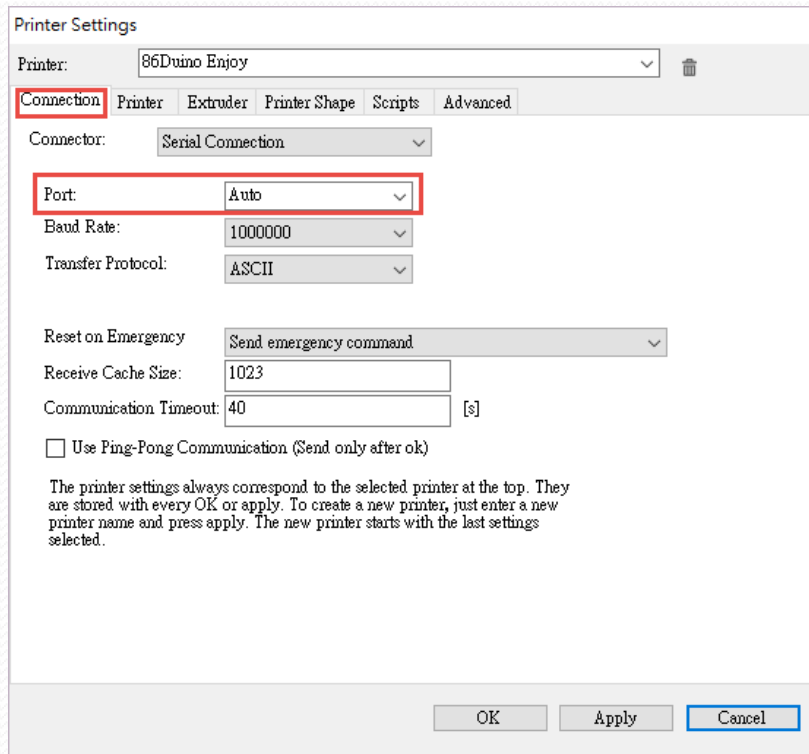
1. Start screen



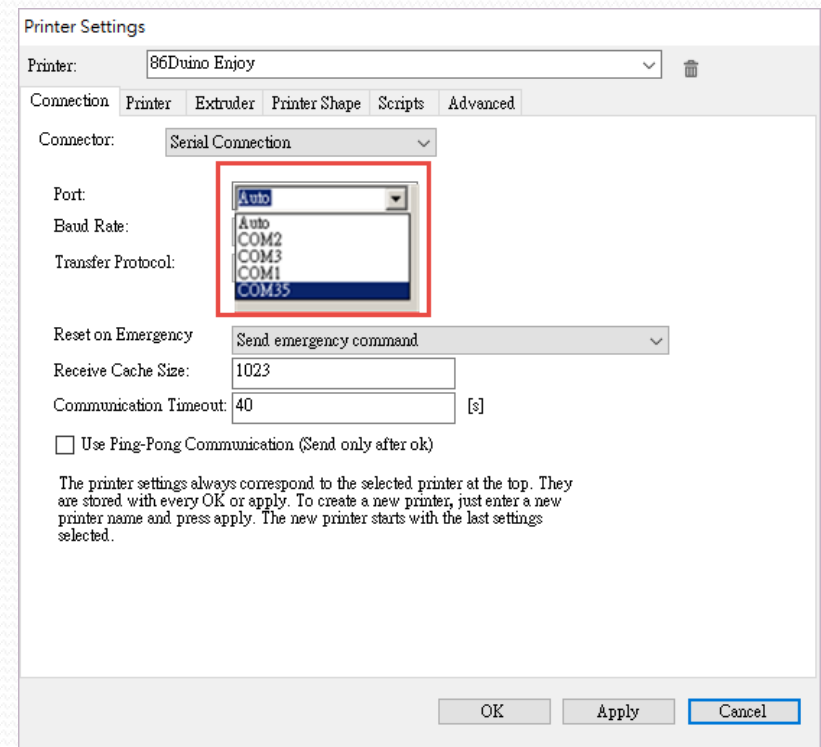
2. click "Printer Setup" button

Calibration- Software setup and connection (4/7)

- Printer Setup-If cannot connect the Enjoy printer to PC(default Auto does not work)



3. Select "Connection" tab and click "Port" tab



4. Manually select the port

Calibration- Software setup and connection (5/7)

- Printer Setup - Printer and setting (default)

The 'Printer Settings' window shows the 'Printer' tab selected. The printer name is '86Duino Enjoy'. The 'Travel Feed Rate' is 4800 [mm/min], 'Z-Axis Feed Rate' is 100 [mm/min], 'Manual Extrusion Speed' is 2 [mm/s], 'Manual Retraction Speed' is 30 [mm/s], 'Default Extruder Temperature' is 195 °C, and 'Default Heated Bed Temperature' is 55 °C. There are checkboxes for 'Check Extruder & Bed Temperature' (checked), 'Remove temperature requests from Log' (checked), 'Send ETA to printer display' (unchecked), 'Disable Extruder after Job/Kill' (checked), 'Disable Motors after Job/Kill' (unchecked), 'Go to Park Position after Job/Kill' (unchecked), 'Disable Heated Bed after Job/Kill' (checked), and 'Printer has SD card' (checked). A slider for 'Check every 3 seconds' is set to 3. 'Park Position' is X: 0, Y: 100, Z min: 0 [mm]. 'Add to comp. Printing Time' is 50 [%]. 'Invert Direction in Controls for' has checkboxes for X-Axis, Y-Axis, and Z-Axis, all of which are unchecked. Buttons for 'OK', 'Apply', and 'Cancel' are at the bottom.

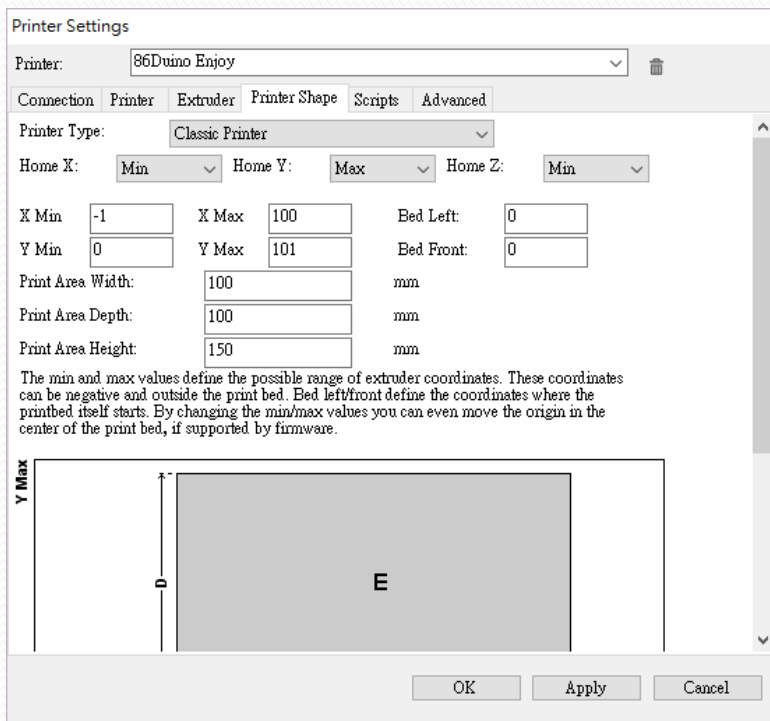
5. Select "Printer" tab, the default setting as shown

The 'Printer Settings' window shows the 'Extruder' tab selected. The printer name is '86Duino Enjoy'. The 'Number of Extruder' is 1. 'Max. Extruder Temperature' is 275, 'Max. Bed Temperature' is 150, and 'Max. Volume per second' is 12 [mm³/s]. There is an unchecked checkbox for 'Printer has a Mixing Extruder (one nozzle for all colors)'. Under 'Extruder 1', the 'Name' is '86Duino Enjoy', 'Diameter' is 0.3 [mm], 'Color' is blue, 'Temperature Offset' is 0 [°C], 'Offset X' is 0, and 'Offset Y' is 0 [mm]. Buttons for 'OK', 'Apply', and 'Cancel' are at the bottom.

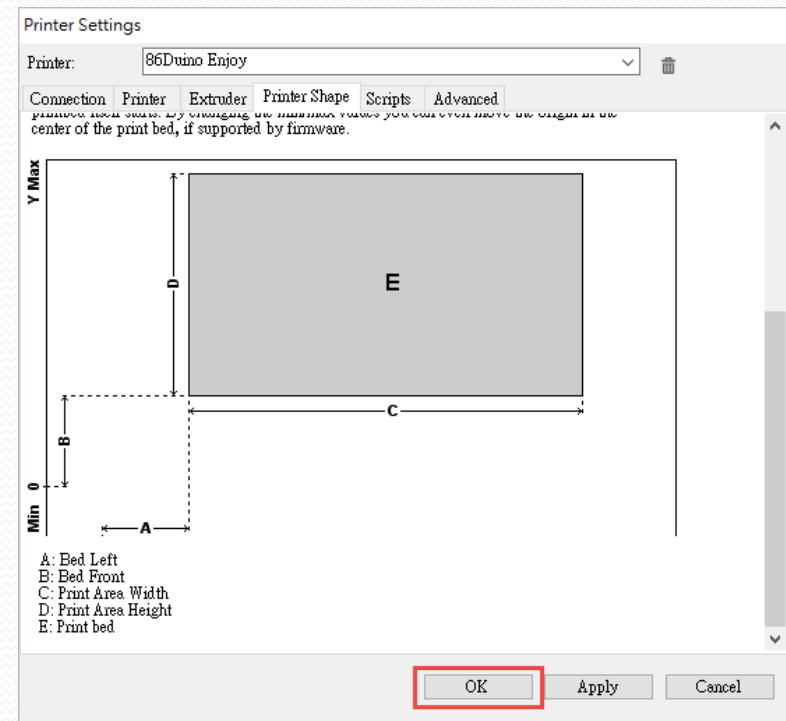
6. Select "Extruder" tab, the default setting as shown

Calibration- Software setup and connection (6/7)

- Printer Setup - Printer Shape setting (default)

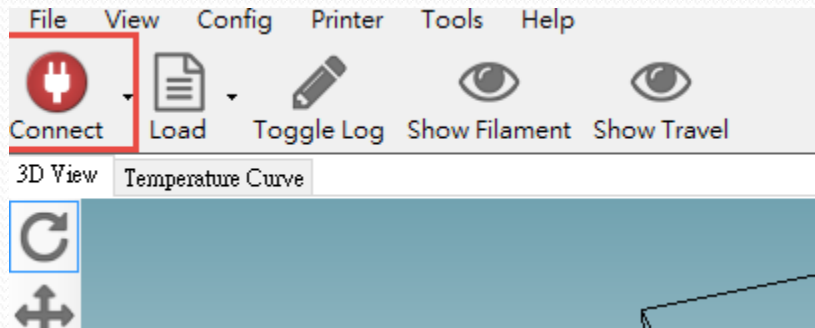


7. Select "Printer Shape" tab, the default setting as shown

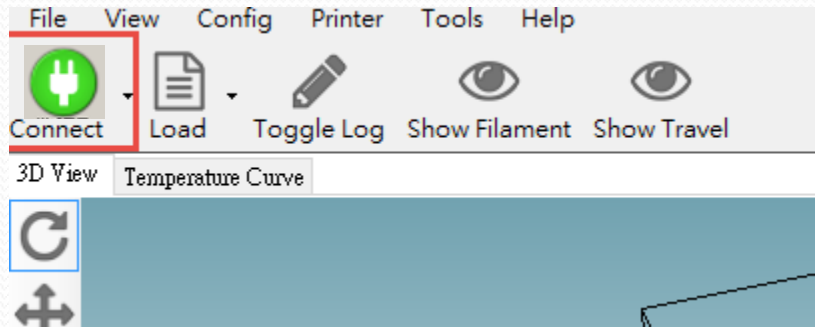


8. Click ok and Exit

Calibration- Software setup and connection (7/7)



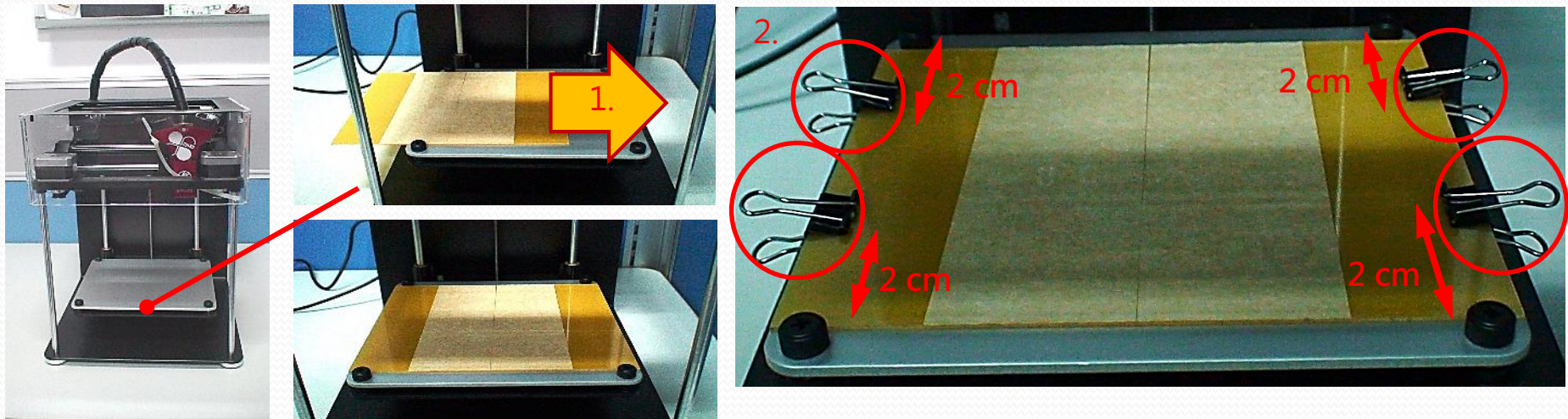
9. Confirm the printer power on and micro USB cable connected PC, press the top left "Connect" button



10. The Enjoy Printer will emit a short 3-beep peeping sound and the red "Connect" icon will turn green

Leveling the Platform – Extruder correction(1/10)

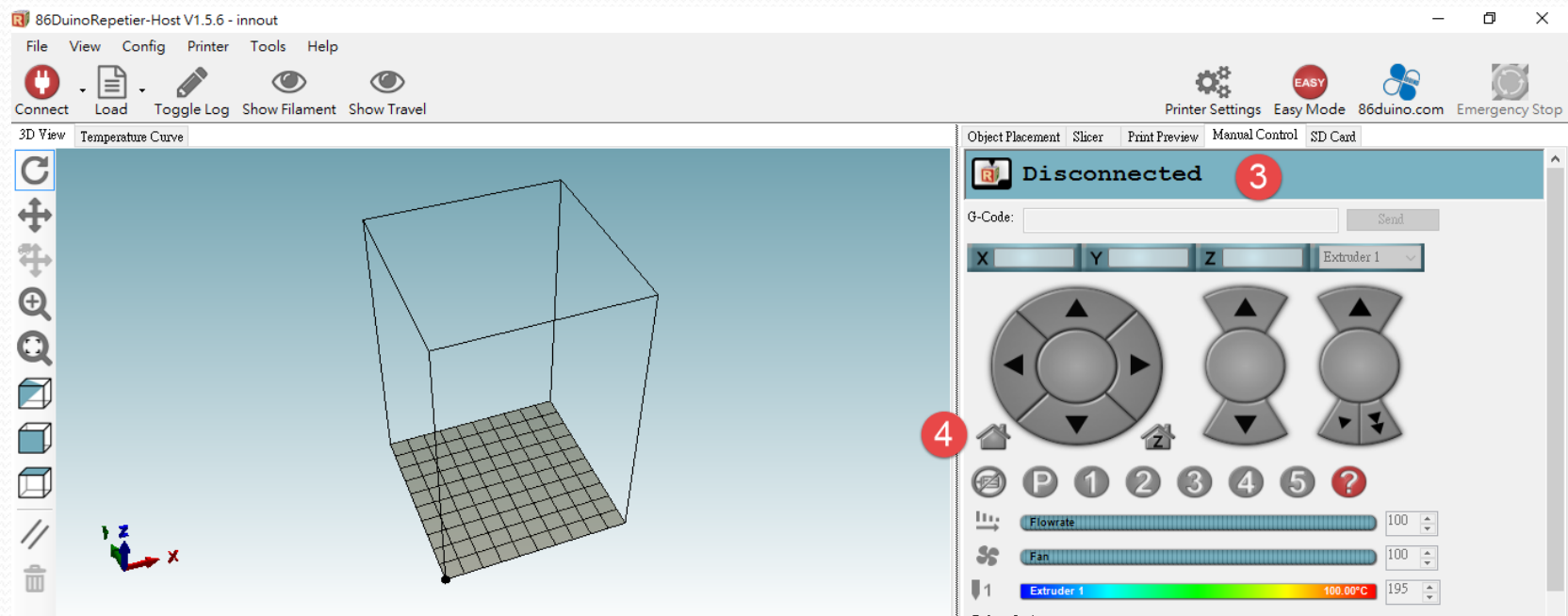
- Extruder home position operation



1. The object is placed on the tray to print bed (Attention the direction)
2. The clips sandwiched around object tray, the tray will be fixed on the print bed, clips should be noted from the level of about 2 cm above the knob, so as not to affect the follow-up bed horizontal adjustment.

Leveling the Platform – Extruder correction(2/10)

- Extruder home position operation



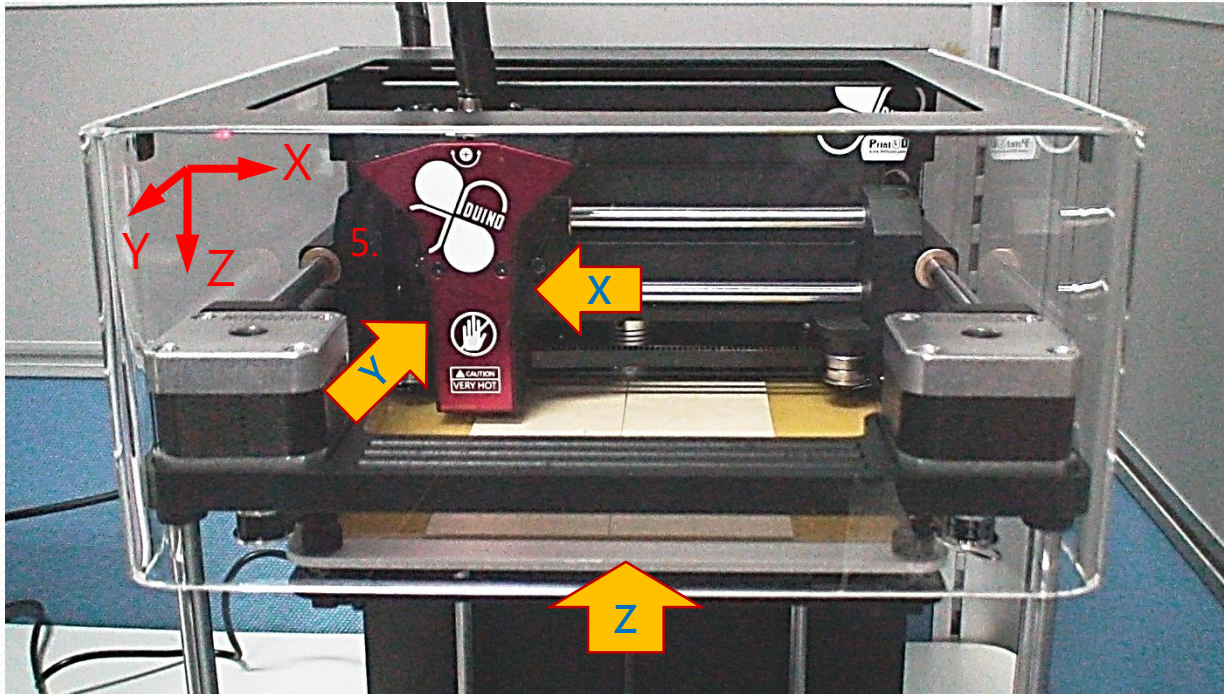
3. Click the "Manual Control" tab on the right side

4. then click on the Home icon, then the printer begins to move the extruder and print bed to home position

*note! Make sure to dismount the cable ties and other protective components of the fixed printer after this operation to avoid motor damage.

Leveling the Platform – Extruder correction(3/10)

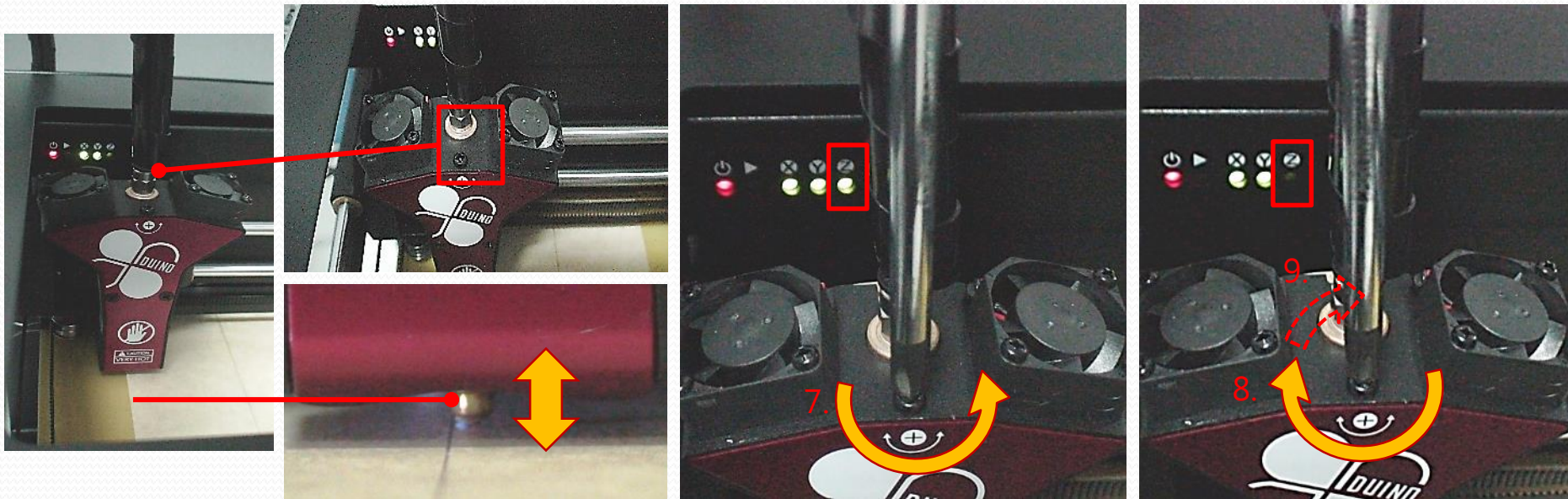
- Extruder home position operation



- Extruder and print bed will move to home position
- The extruder and print bed will reposition then stop. The X and Y LED will light up green, but NOT the Z LED

Leveling the Platform – Extruder correction(4/10)

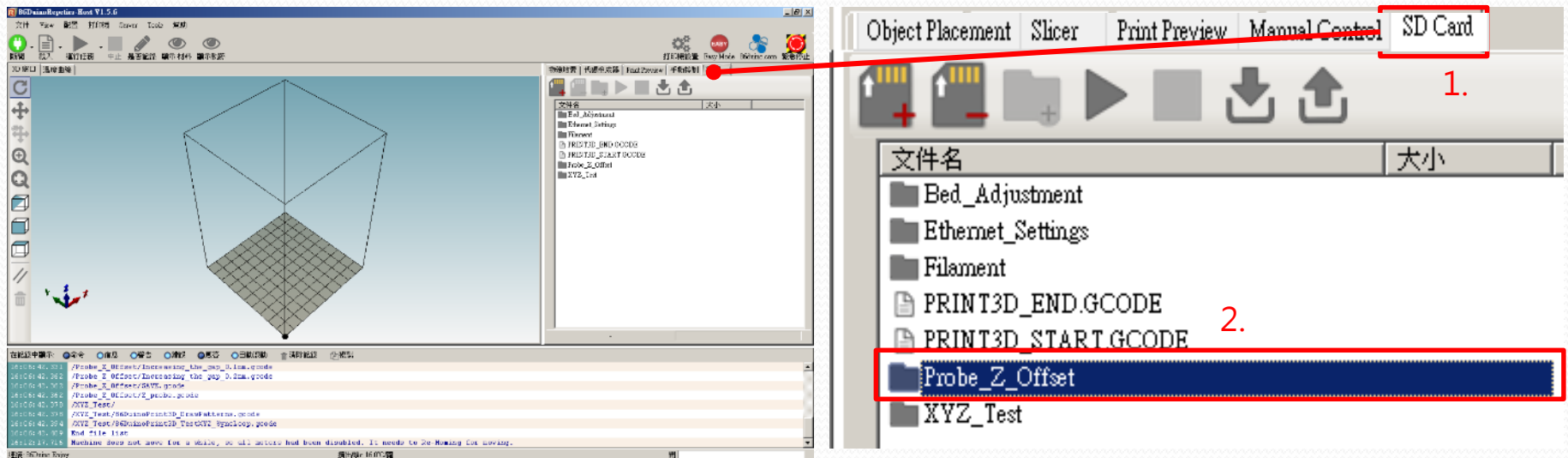
- Extruder home position operation



7. Using a Philips screwdriver, turn the screw (shown in the picture below) counter clockwise until the Z LED lights up green
8. Then, turn the screw back, clockwise, half a turn or until the Z LED turns off again.
9. In this case, please re-clockwise about a quarter turn more, let extruder in good position

Leveling the Platform – Extruder correction(5/10)

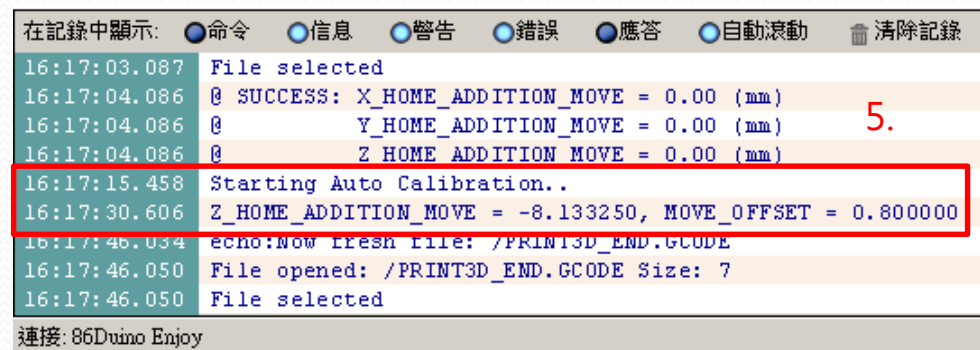
- Extruder Z offset



1. Click the “SD Card” tab
2. then double click on the “Probe Z offset” folder

Leveling the Platform – Extruder correction(6/10)

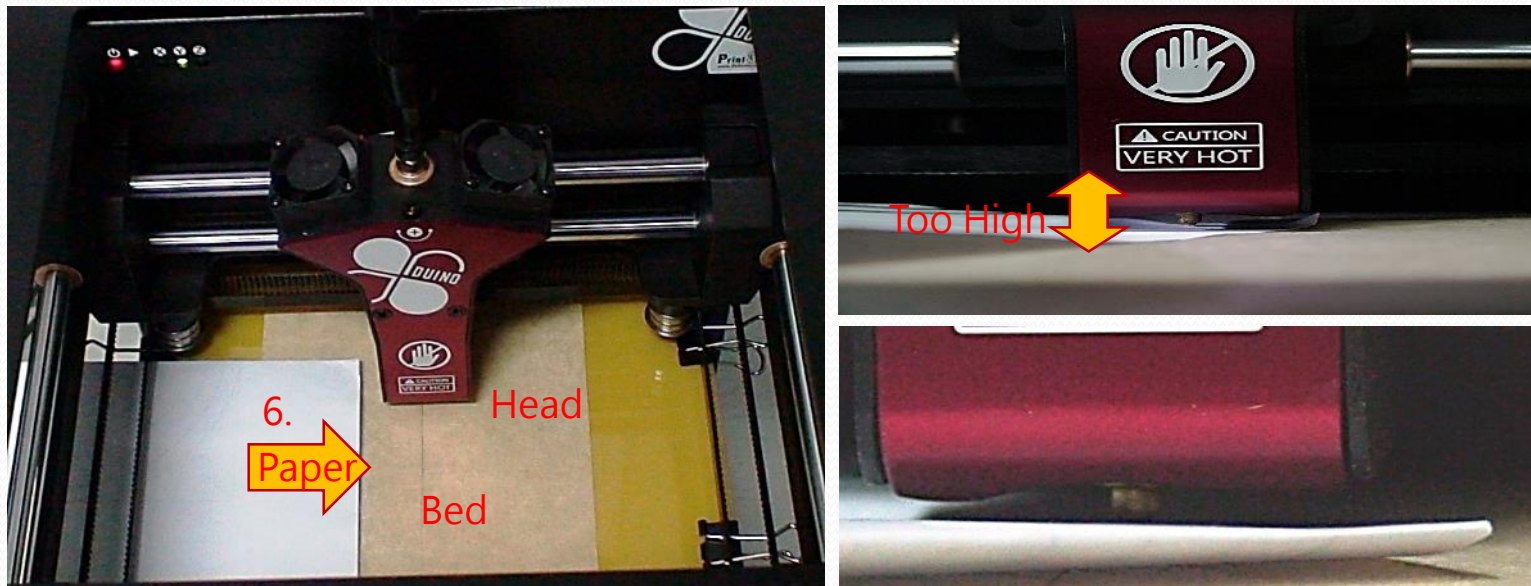
- Extruder Z offset



- Click the “Z Probe gcode”
- Click the “Start” 「▶」 icon at the top
- The head will reposition and stop at the center of the platform/bed, status windows also show adjustment result.

Leveling the Platform – Extruder correction(7/10)

- Extruder Z offset



6. Using a strip of test paper (e.g., using a regular A4 sized paper,), try to insert the test paper between the head and the bed:

If you can insert the test paper between head and bed, but feel no resistant as you move the test paper around, the gap between the head and the bed is too large. You will need to click on `Decreasing_the_gap`

If you can NOT insert the test paper between the head and bed, the gap between the head and the bed is too small. You will need to click on `Increasing_the_gap`

Leveling the Platform – Extruder correction(8/10)

- Extruder trimming

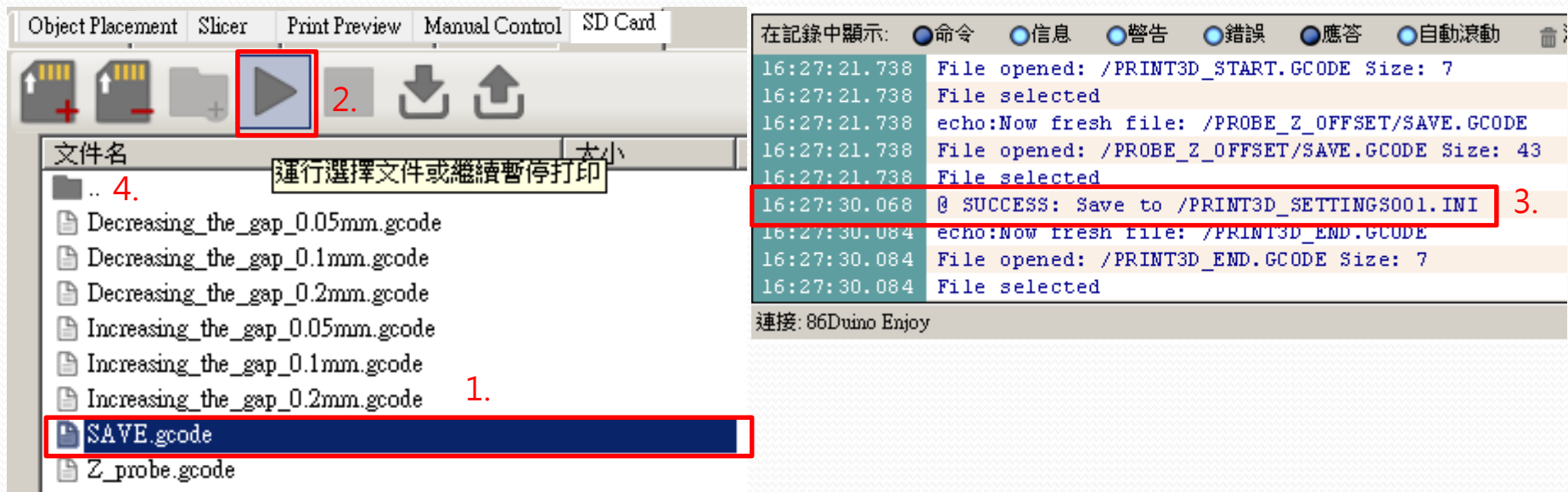


Option	Note
Decreasing_the_gap_0.05mm	0.05 mm
Decreasing_the_gap_0.1mm	0.10 mm
Decreasing_the_gap_0.2mm	0.20 mm
Increasing_the_gap_0.05mm	0.05 mm
Increasing_the_gap_0.1mm	0.10 mm
Increasing_the_gap_0.2mm	0.20 mm

1. Select Decreasing or Increasing option
2. click the “Start” icon at the top of the screen. The head and bed will re-calibrate
3. Repeat the above two steps until you can insert the test paper between the head and bed, and feel resistance when you move the test paper around

Leveling the Platform – Extruder correction(9/10)

- SAVE Extruder trimming



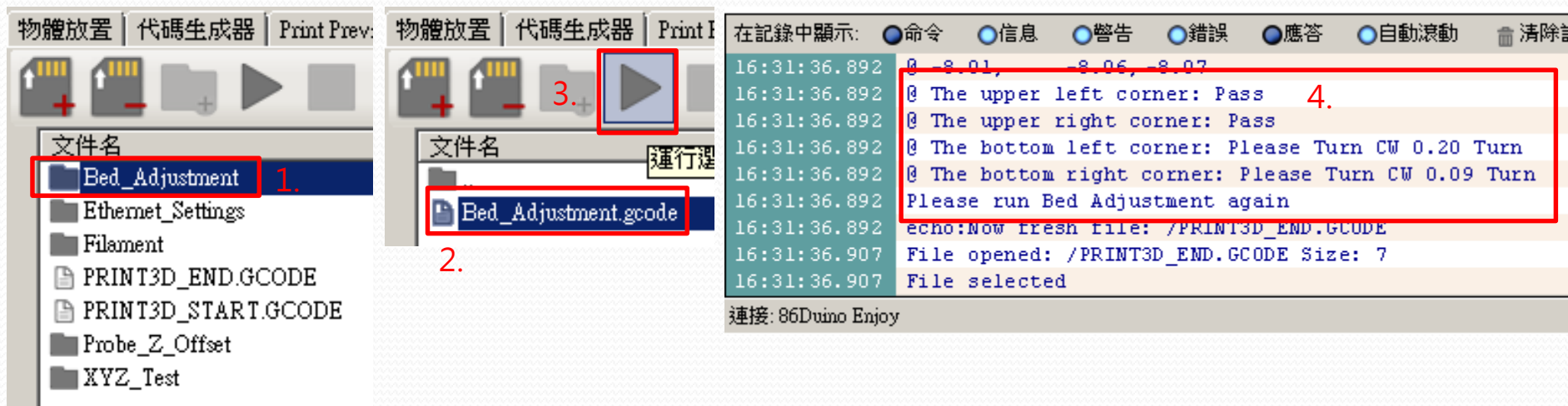
1. Now you can click "SAVE gcode"
2. Click on the 「▶」 icon at the top of the screen
3. Status Windows will show SAVE success*
4. Double click on the folder icon(#4) to go back to the previous manual

*** Do not turn off the Printer before the save completed or disconnect the connection, otherwise it will cause serious damage to the system !**

Leveling the Platform – Extruder correction(10/10)

- After the completion of the extruder correction and save, you do not need to do correction every time, but if the following situations occur, recommended do extruder correction again:
 1. Printers have moved
 2. Extruder collision with objects
 3. Object will not stick to build plate
 4. Objects warping

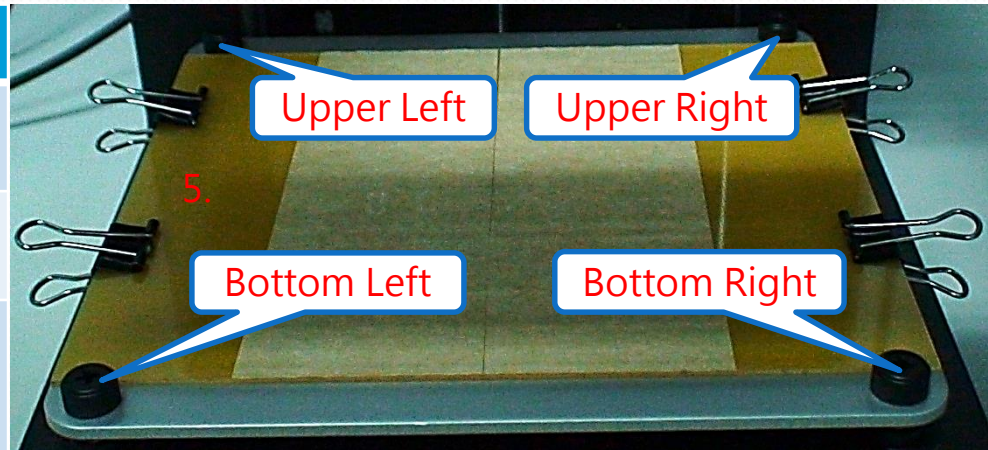
Leveling the Bed(1/3)



1. Double click on the “Bed Adjustment” folder
2. Click on “Bed_Adjustment.gcode”
3. click on the “Start” icon (#2) at the top. The head will do a 9 point test. Wait until the head has stopped completely
4. Review the Log window at the bottom left, scrolling down/up if needed, to see the following result

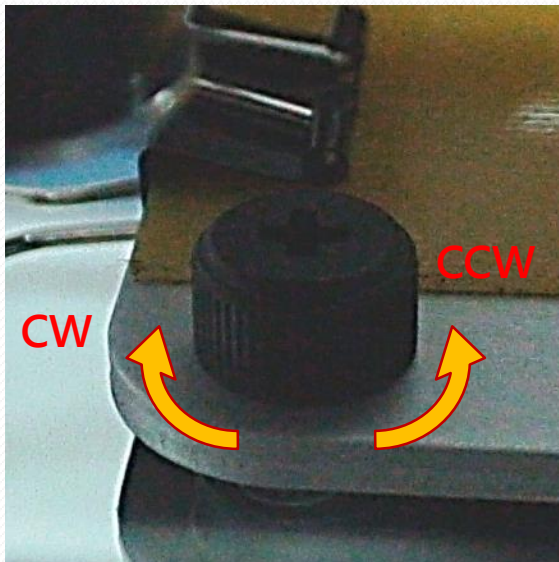
Leveling the Bed(2/3)

Position	Knob	Note
The upper left corner:	Pass	passed and do not need any adjusting
The upper right corner:	Pass	passed and do not need any adjusting
The bottom left corner:	Please Turn CW 0.20 Turn	Turn the adjustment knob Clockwise 0.20 of a turn.
The bottom right corner:	Please Turn CCW 0.09 Turn	Turn the adjustment knob Counterclockwise 0.09 of a turn.



5. Knob Position

Leveling the Bed(3/3)



在記錄中顯示:		命令	信息	警告	錯誤	應答	自
16:58:31.385	@	-8.14,	-8.12,	-8.05			
16:58:31.385	@	-8.09,	-8.15,	-8.10			
16:58:31.385	@	The upper left corner: Pass					
16:58:31.385	@	The upper right corner: Pass					
16:58:31.385	@	The bottom left corner: Pass					
16:58:31.385	@	The bottom right corner: Pass					
16:58:31.385	echo:	Now fresh file: /PRINT3D_END.GCODE					
16:58:31.401		File opened: /PRINT3D_END.GCODE Size: 7					
16:58:31.401		File selected					

連接: 86Duino Enjoy

Go back to step again and repeat the step until you see all four corner are Pass. Now you have completed the leveling of the platform.

Print a test object

Print object (1/11)

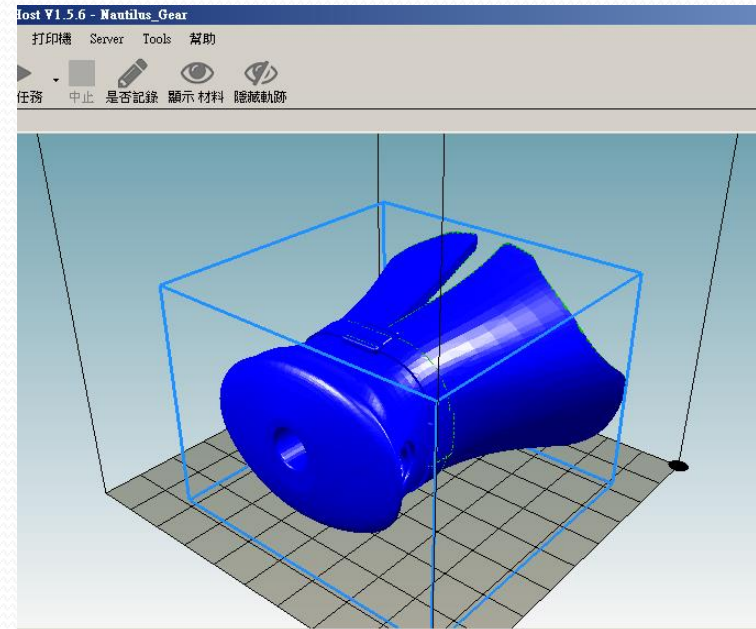
- Load Object



1. Click the “object replacement ” tab
2. Click “Add object”
3. *Select 3D print file you are going to Print (*.STL)
4. Click on to load the file

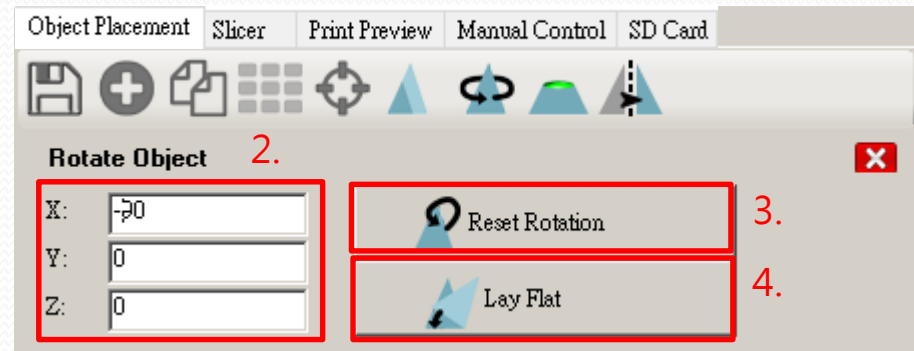
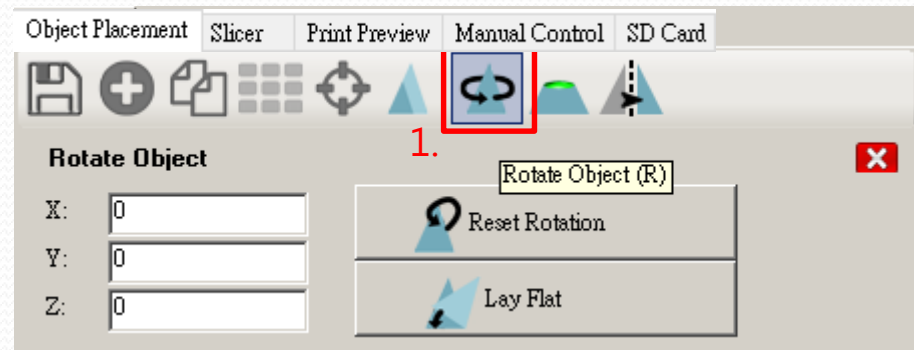
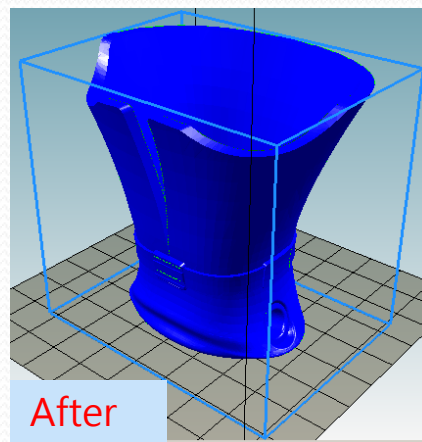
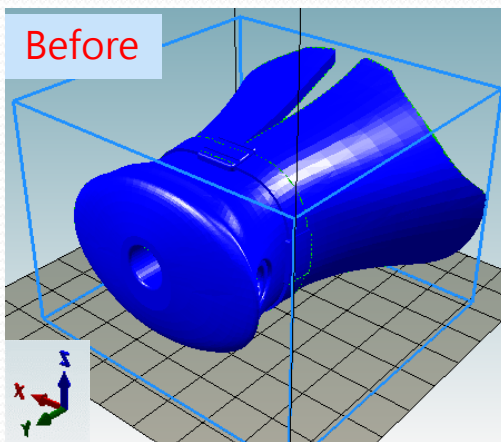
Print object (2/11)

- You can review the file/image with some options on the left side tool bar:
 - Press and hold the left mouse button and move mouse, can change the viewing angle
 - Press and hold scroll wheel and move the mouse horizontally movable perspective
 - Up / down scroll wheel to zoom in / wide view
 - Right-click on the object and hold and move the mouse, the position of the movable object



Print object (3/11)

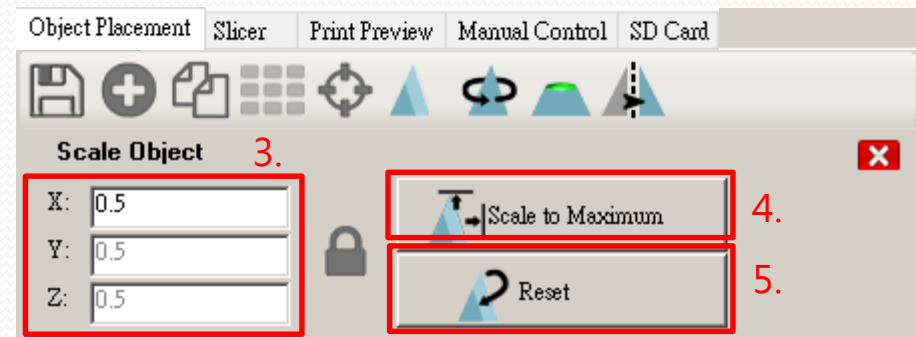
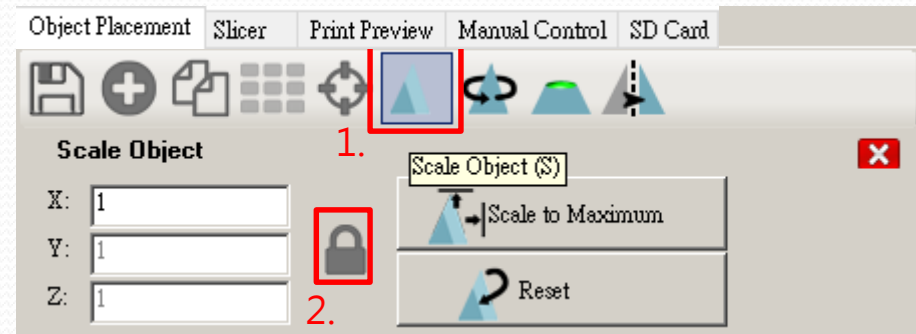
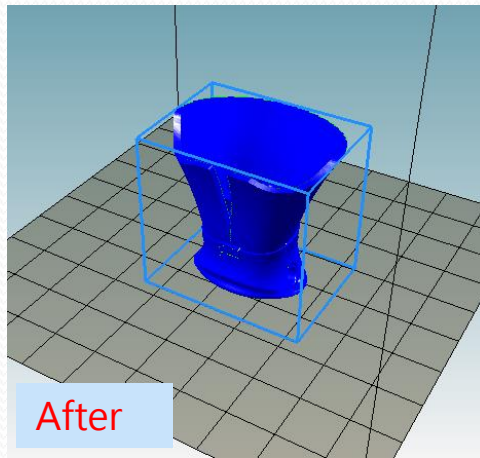
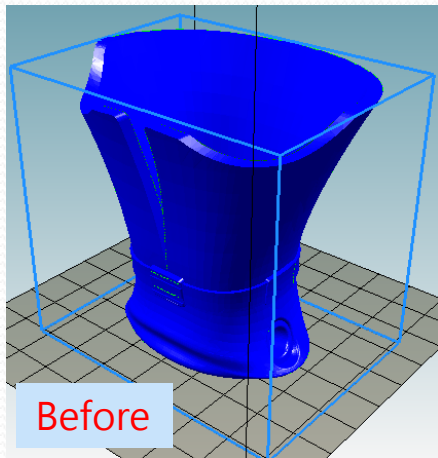
Adjust the print object - rotate object



1. Click Rotate object icon
2. by the X, Y, Z axis input rotation angle, you can see the result of the rotation
3. "Reset Rotation" button to reset the rotation
4. Click on "Lay Flat" button, you can automatically rotate the object closest to the bottom

Print object (4/11)

Adjust the print object - scale object

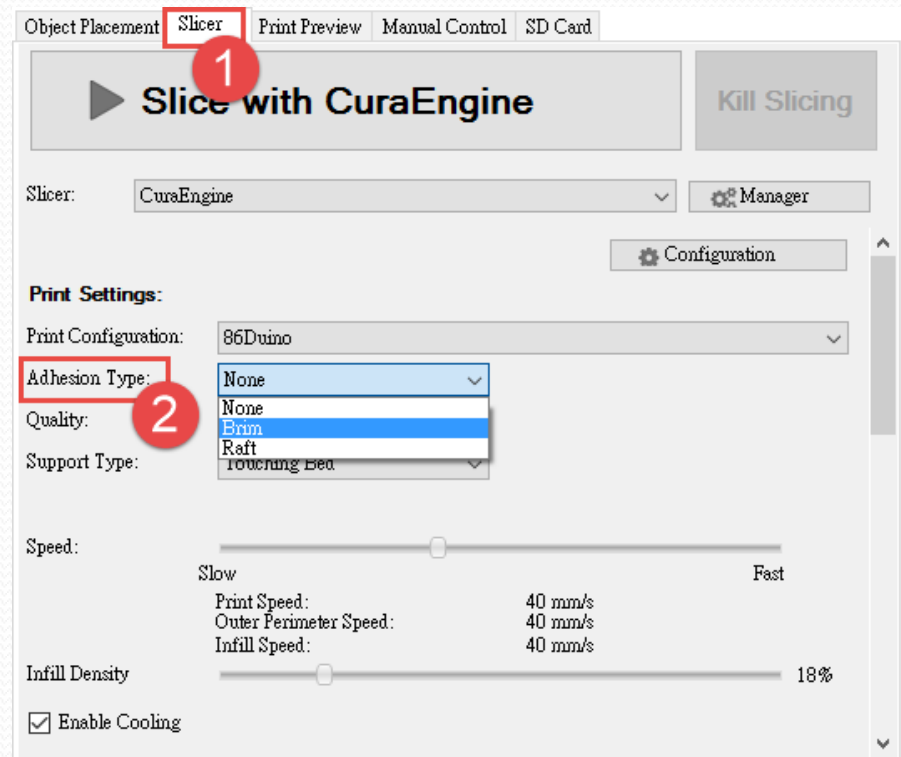


1. Click Scale Object icon
2. Click on the "lock" icon, "🔒" proportional representation triaxial interlocking synchronous scaling; "🔓" indicates each respective axis scaling
3. by the X, Y, Z axis input scaling, you can see the object scaling results
4. Click the "Scale to Maximum" button, you can zoom in to objects Snap maximum print area boundary
5. Click the "Reset" button to restore the object to its original size

Print object (5/11)

- Slice
 - Slice with CuraEngine

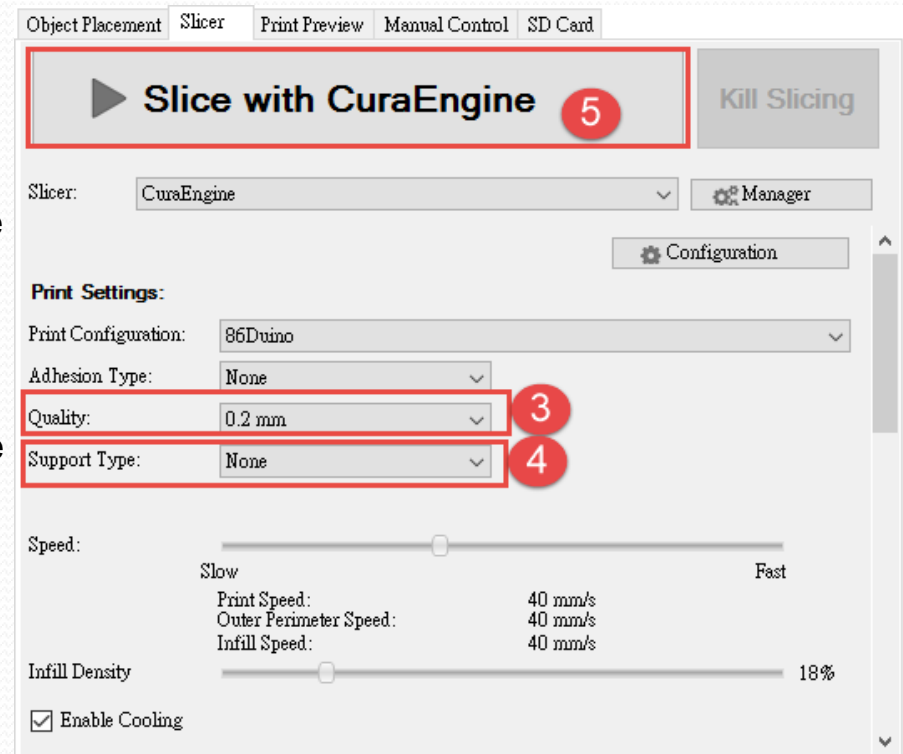
1. Click Slice Tab
2. Click 「Adhesion Type」 menu ,
setting Adhesion type :
 - 1) None : None
 - 2) Brim : Thin layer on the bottom
 - 3) Raft : Thick layer on the bottom



Print object (6/11)

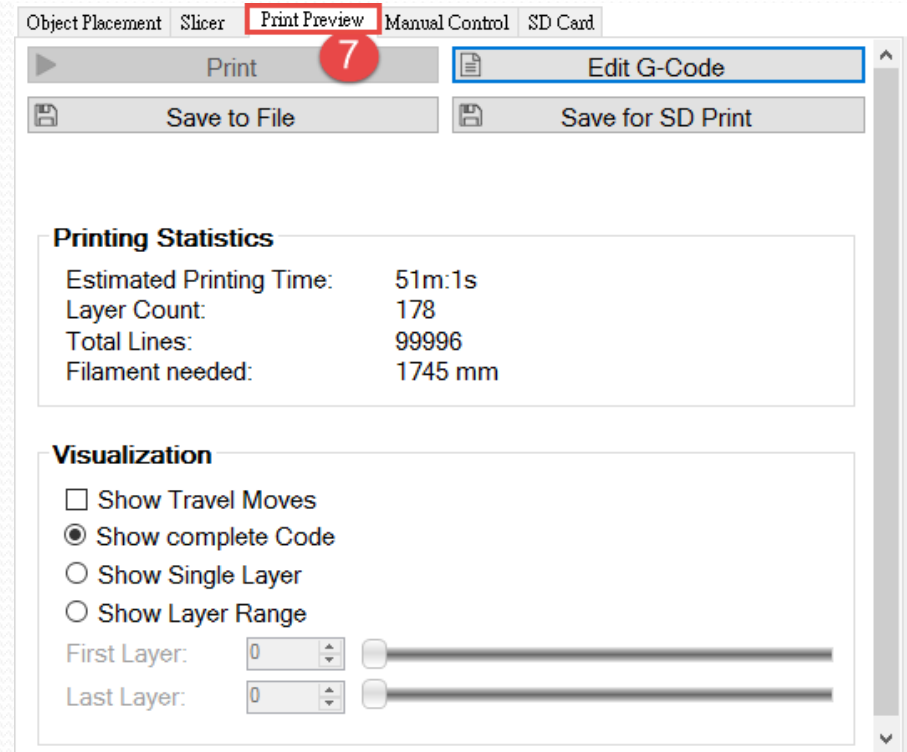
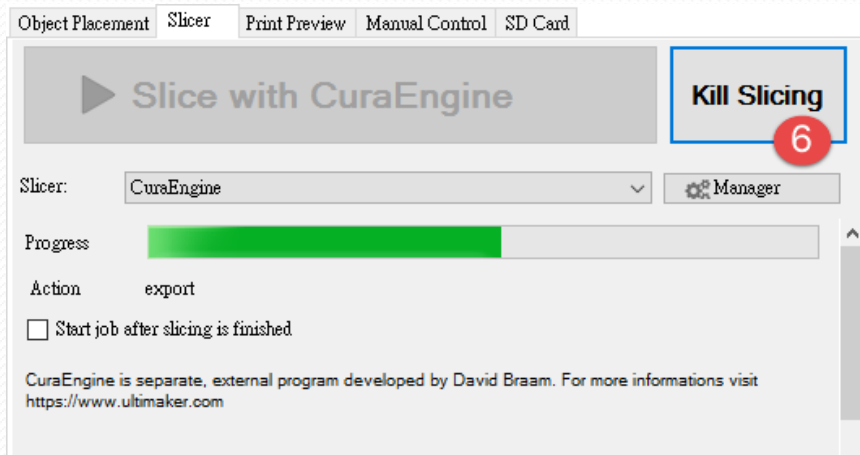
- Slice
 - Slice with CuraEngine

3. Click the "Quality" menu, set * print thickness, have 0.1 mm and 0.2 mm options
4. Click on "Support Type" menu, set the object support mode:
 - None : No support
 - Touching Bed : only the bottom portion of the floating object and generate support layer
 - Everywhere : All objects floating parts are produced support layer
5. Click the "Slice with CuraEngine" produce print codes (G-Code)



Print object (7/11)

- Slice
 - Slice with CuraEngine



6. The Show Print code generation progress, to cancel code generation can click "Kill Slicing" button
7. Print code completion, it will automatically jump to "Print Preview" tab to display the estimated time to print, number of layers and the estimated length of the filament length, and is ready to begin printing

Print object (8/11)

- Slice with Silc3r

1. Print quality setting
 - Excellent(Support):Excellent with support
 - Excellent : Excellent without support
 - Fast (Support) : Fast with support
 - Fast : Fast without support
 - Regular (Support) : Regular with support
 - Regular : Regular without support
2. Extrusion quality (Extruder 1) :
 - Excellent
 - Fast
 - Regular
3. Override Slic3r Settings:this option is reserved for advanced users, no need to checked

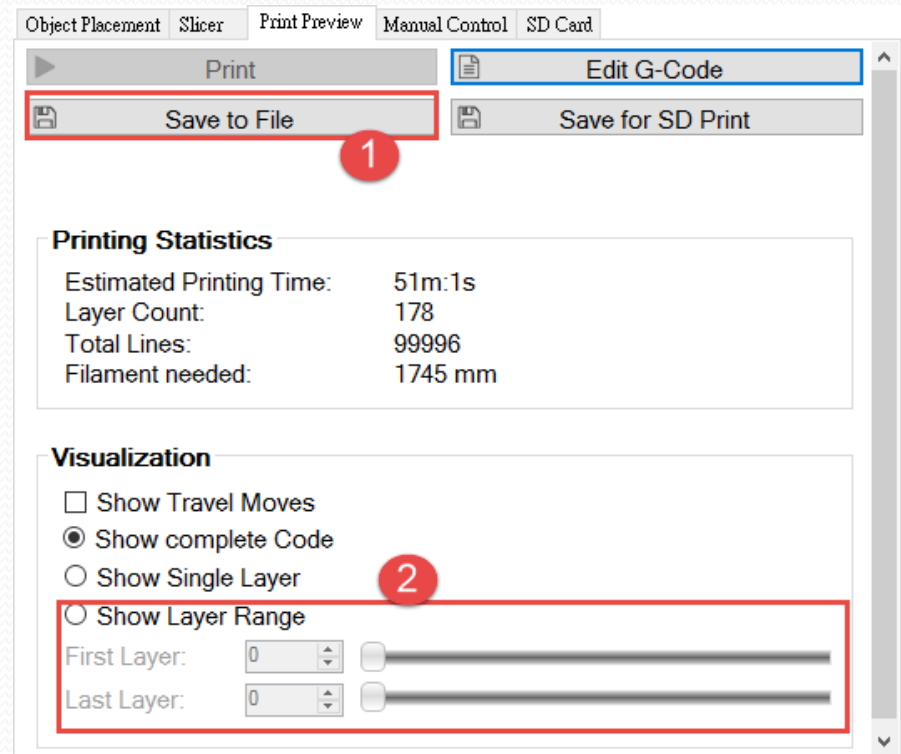
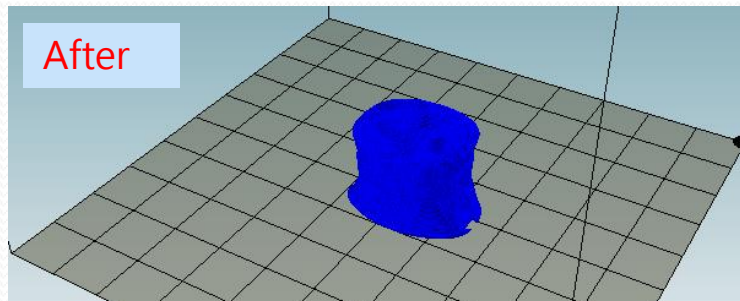
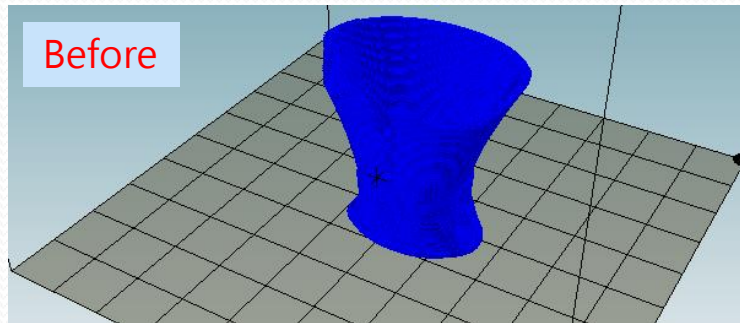
The screenshot shows the Slic3r software interface with the following elements and annotations:

- Top Navigation:** Object Placement | Slicer | Print Preview | Manual Control | SD Card
- Buttons:** "Slice with Slic3r" (with a play icon) and "Kill Slicing".
- Slicer Selection:** A dropdown menu set to "Slic3r" with a "Manager" button.
- Print Setting:** A dropdown menu set to "Excellent (Support)", highlighted with a red box and a red circle with the number "1".
- Printer Settings:** A dropdown menu set to "86Duino".
- Filament settings:** A section header.
- Extruder 1:** A dropdown menu set to "Excellent", highlighted with a red box and a red circle with the number "2".
- Override Slic3r Settings:** A checkbox that is unchecked, highlighted with a red box and a red circle with the number "3". Below it is a button "Copy Print Settings to Override".
- Advanced Settings:**
 - ☐ Enable Support
 - ☒ Enable Cooling
 - Layer Height: 0.2 mm
 - Infill Density: A slider bar.
 - Infill Pattern: A dropdown menu set to "honeycomb".
 - Solid Infill Pattern: A dropdown menu set to "rectilinear".
- Footer:** "Slic3r is separate, external program, which can be started separately. For further informations, please visit the following webpage: <http://www.slic3r.org>"

* If not mind the surface smoothness, select regular to print, can reduce the time to print

Print object (9/11)

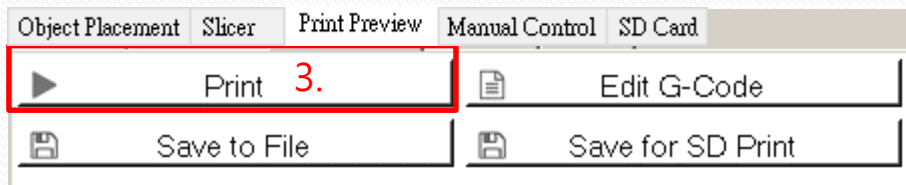
- Start Print



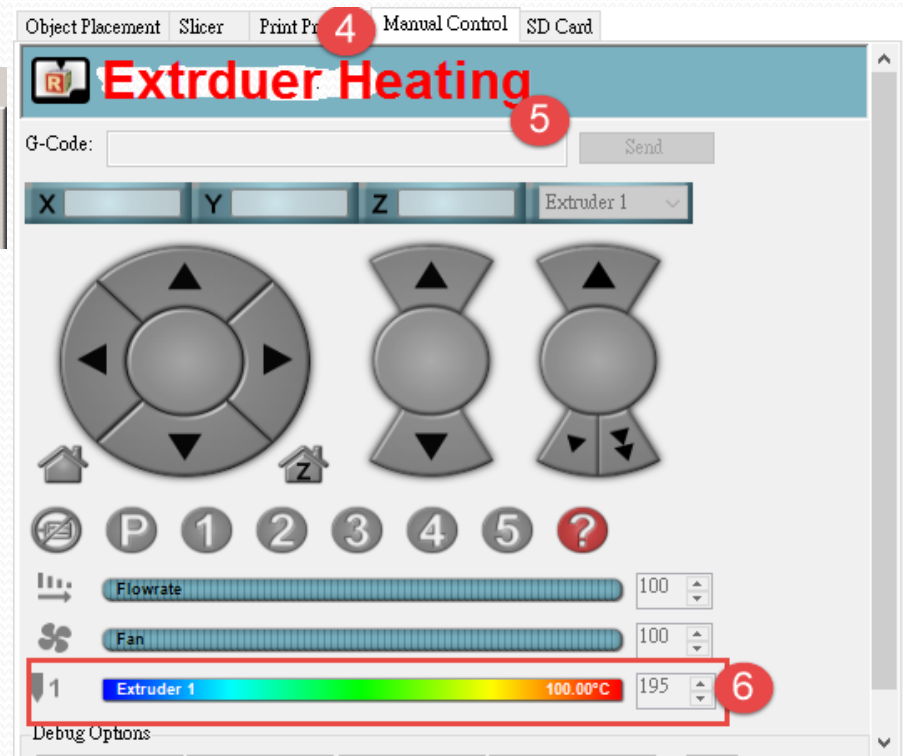
1. Click on "Save to File" button, you can save code as "*" .gcode" type file
2. Slider the "First layer" and "Last layer" or set the number, you can watch the print path between the layers

Print object (10/11)

- Start Print

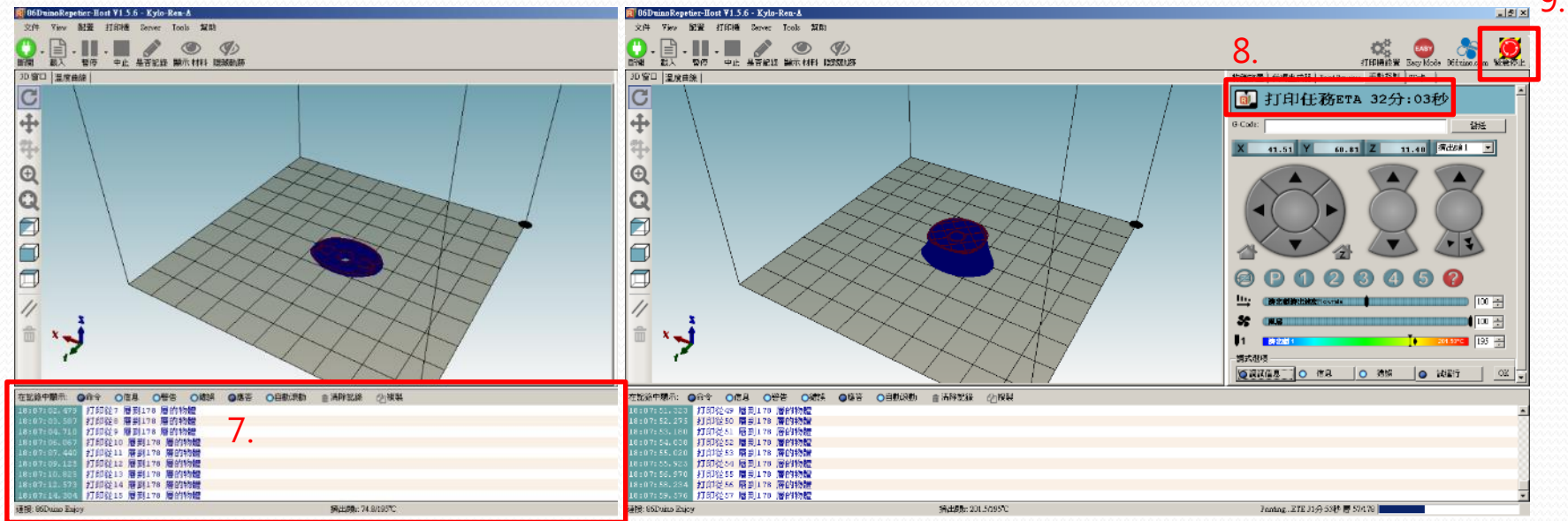


4. Click on "Print" button to start printing
5. At this time will automatically jump to "manual control" tab, and displays the status of print
6. Will first heated extruder before the start of printing, wait a few minutes
7. After the extruder to be heated to a preset temperature will begin to print



Print object (11/11)

- Start Print



- At the same time printing, software will continue to transmit the code to the printer to print
- "Manual control" tab will show "Code Transmission" remaining time (note! Non-print time remaining)
- During the printing process if you need to stop the printing, for whatever reason, click on "Emergency Stop" button on the top right.

Appendix

Appendix-A Unload Filament

1. Within a short time when you will not use printer, suggest unload filament from the extruder, so as to avoid filament solidification leads to clogged extruder.
2. Turn the power on, press and hold the rear red button after three seconds unload release, then the system will issue a warning sound, the system will begin to filament unloading automatically.
3. Unloading takes about three minutes or so, at same time also cleanup extruder when unload filament

