

2019-12-29 – How to Level the Anycubic Chiron & Basic Getting Started Help.

Modified there was a missing step.

Being that I bought a Chiron as my 1st printer, I had zero experience and it has been massive undertaking learning what's going on, so here is my hopefully very simplified how to get started.

1st thing, have a read of the manuals assembly instructions.. that part is fairly simple.. but **IMPORTANT**, check all the various bolts are tight on the parts already assembled, after about a week I noticed things were very loose.. as I didn't do this..

Ok.. you have the machine together.. the bed should move freely forward and back, but this will cause the display to light up if you have power off.. as you are generating power by spinning the motor, be gentle.. the faster you go more power you create and could do damage, I haven't heard of anyone doing this.. but it's a risk.. Same with the print head assembly, known as Hot End, it should move left right..

Ok.. before you power up double check you have all the connectors in place and snapped/clicked/locked into place.

You should also get some filament out and get it in place thru the extruder.. its easier to get in if you cut the end with an angle rather than straight across.. (my 2nd printer manual told me that.. and OMG yes) You need to pull the little lever towards the adjustment knob on the extruder and kind of move it more less as you are trying to push in the filament, since the filament is not ever really straight kind of a bit of luck and you will get it in there..

This step would be better after you do Part 1 of Leveling but I'll finish this though here since I'm talking about the getting ready let's get that filament fully loaded.. you can see it pushing in thru the translucent tube that connects to the Hot End, you can only push so far then we need to get it hot to fully load the end.. So let's do that, plug in machine.. turn it on.. Hopefully you get Home Menu, and there should be three options. Choose "Tools" then "Preheat" and PLA.. once it reaches temp you can either manually keep pushing filament or in tools choose Filament and Select in, good time to check the knob on the extruder I'd suggest loosen it from front you turn it counter clockwise.. the filament will start slipping.. so tighten it till its going in and just a little tighter so it doesn't slip.. should be ready now after the Machine is Leveled:

Leveling – Three Parts

1st Part: Manual

Using the adjusters under the build plate at the four corners you want to adjust with the nozzle in each corner so that a piece of paper moves between the nozzle and build plate with just a bit of drag.. Now you need to do this carefully as moving one up or down can affect the others.. so when you move the head move slow and make sure it's not hitting, or doesn't hit the build plate. You may need to go back and forth checking these a few times till all four corners are good and equal.

NOTE: the Build Plate is Large and not 100% Flat, most seems to be lower in the center as they are supported in the corners.. so they sag.. not an issue once you do the next step.

2nd Part – Auto-Level

This Part uses a probe and checks 25 points in a 5x5 grid and remembers the differences of each area and assumes the change between each is an even slope.

So to install probe, be careful if you had your end heated it will be very hot close to where you put this, they suggest you run, Tools->Cooling , Pg18 - 19 of my manual shows you these parts and where it connects onto the HotEnd, its magnetic, but you need to plug in to the connector on the top. Once you have that connected. You then run the “Auto_Leveling.gcode” that ready's the machine for the probe use.

Next you need to select Tools->More->Level-> “Probe” It will ask you to confirm probe is in place..and then it should start. (Don't worry about the lines.. no one's seems to actually probe on the intersections)

When it's done, Remove the probe, if you try to print now the head is way above the build plate.. this is normal.. you can't tell but as it moves now it's going up and down keeping the exact distance from the build plate.. so you need to tell it lower down till it's at the correct height..

3rd Part – Tuning Level after Auto-Level

They provide a file called, “Level_Test.gcode” this prints a big target like thing.. the idea is to start this and while its moving.. you use the screen to lower the nozzle till its close enough and is doing what it should.. to close it stops flowing really to close you will damage the bed.. too far and it will not stick.. so once it starts to get close be careful.. The Controls you need are, Tools/More/Level at this display make sure all the 25 dots are Red, if not press the “ALL” in the bottom left corner to make them red. Now use the “-“ button beside that “ALL” button to lower the head.. it will need a bit I forget how far somewhere 8-10mm I think, but you simply keep watching if your more than a few mm above the build plate, press “-“ and lower the numbers fast.. when your closer, be patient.. few mins will be worth it.. once your close and you think you have it.. I’d stop printing clean build plate, I like isopropyl alcohol, and clean lint free cloth.. you don’t want grease on bed or nothing will stick.. Now start that level or use the other that is in the Facebook Group File Section or direct from <https://www.thingiverse.com/thing:3515310> this is handy as it prints flat circle at all 25 spots.. and if any are not printing correct you can fine tune in that Level section but selecting the corresponding dot and then “+” or “-“ as needed for that spot..

PS: you can use this other file the same way to adjust the head height as it does a couple laps around the outside which should be long enough to get it into place, your choice.

You should be ready to start.. there are so many other things.. need to learn about the slicing software’s.. there are quite a few.. many free some that are not.. you need to pick one and go..

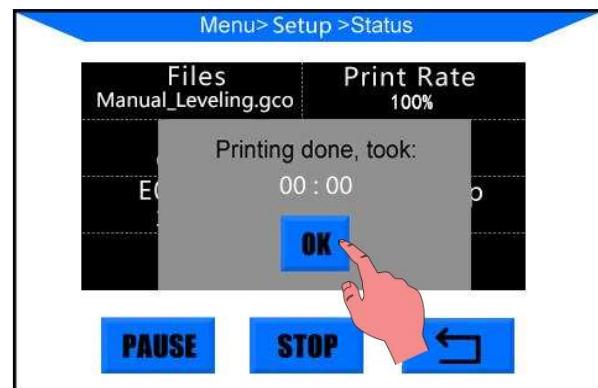
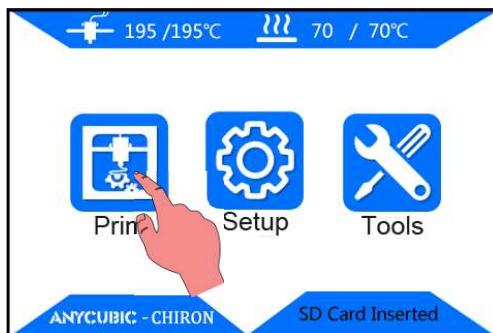
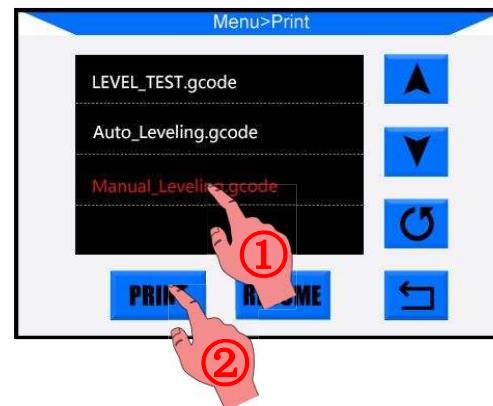
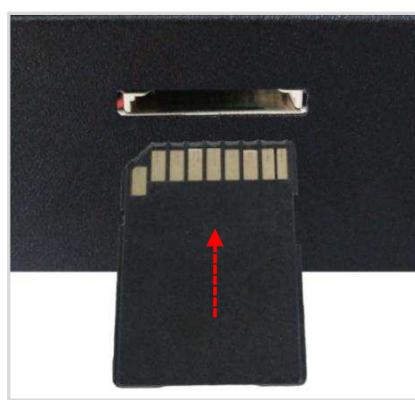
You can contact me thru Facebook.

Andy Hopper, Ottawa, ON Canada

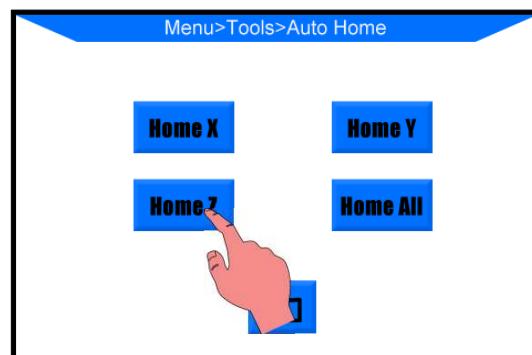
It is essential to level the platform of a 3D printer. There are two ways to level the Chiron, ① Manual Leveling (Default) & ② Assisted Auto Leveling. We suggest to use simple Manual Leveling first if you could get good results.

1. Manual Leveling

Step 1. Insert memory card into the slot at the bottom right side of the printer. On the Home Menu of the touch screen, click “Print”, then choose the file “Manual_Leveling.gcode” and print it to set the machine to manual leveling mode. When printing done in seconds, click “OK” and return to the Home Menu.



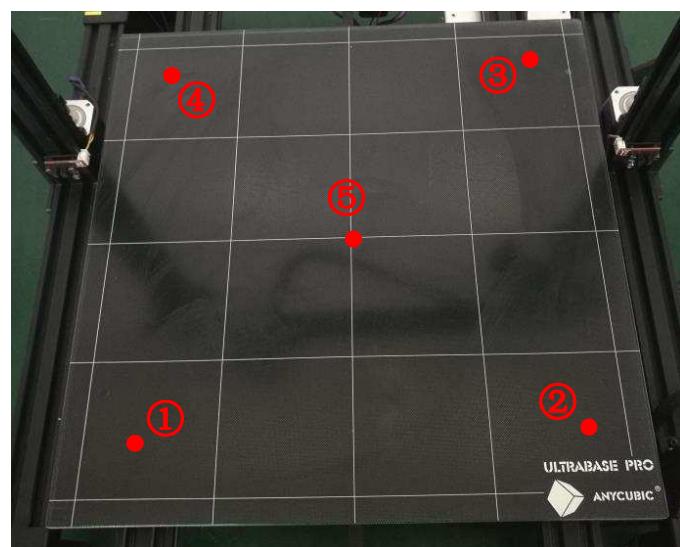
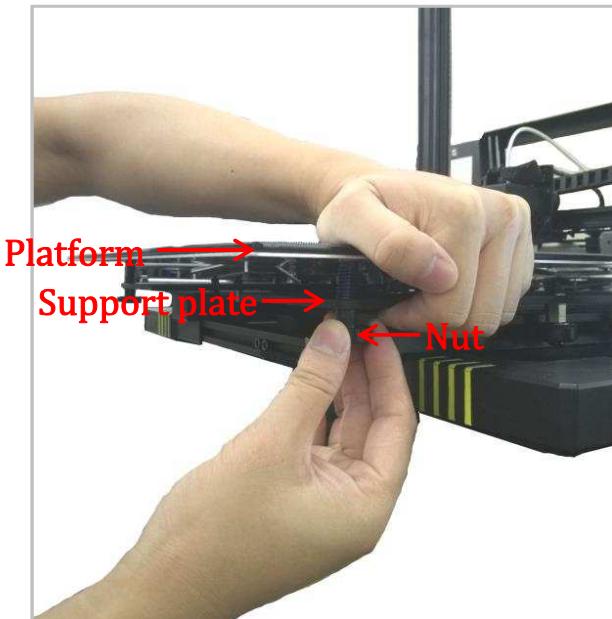
Step 2. Manually move the print head to the far left side until touch the X limit switch. Click “Tools” → “Home” → “Home Z” .



Leveling

Step 3. (If the printer has been printed before leveling, please use tweezers to clean the residue on the nozzle, otherwise it would affect the leveling results.)

Put a piece of paper onto the print platform, and then manually move the print head and platform back and forth to let the print head travel to the 4 points and center spot one by one (①→②→③→④→⑤), as shown below. **(Avoid nozzle rub against the platform directly without the paper in-between)**



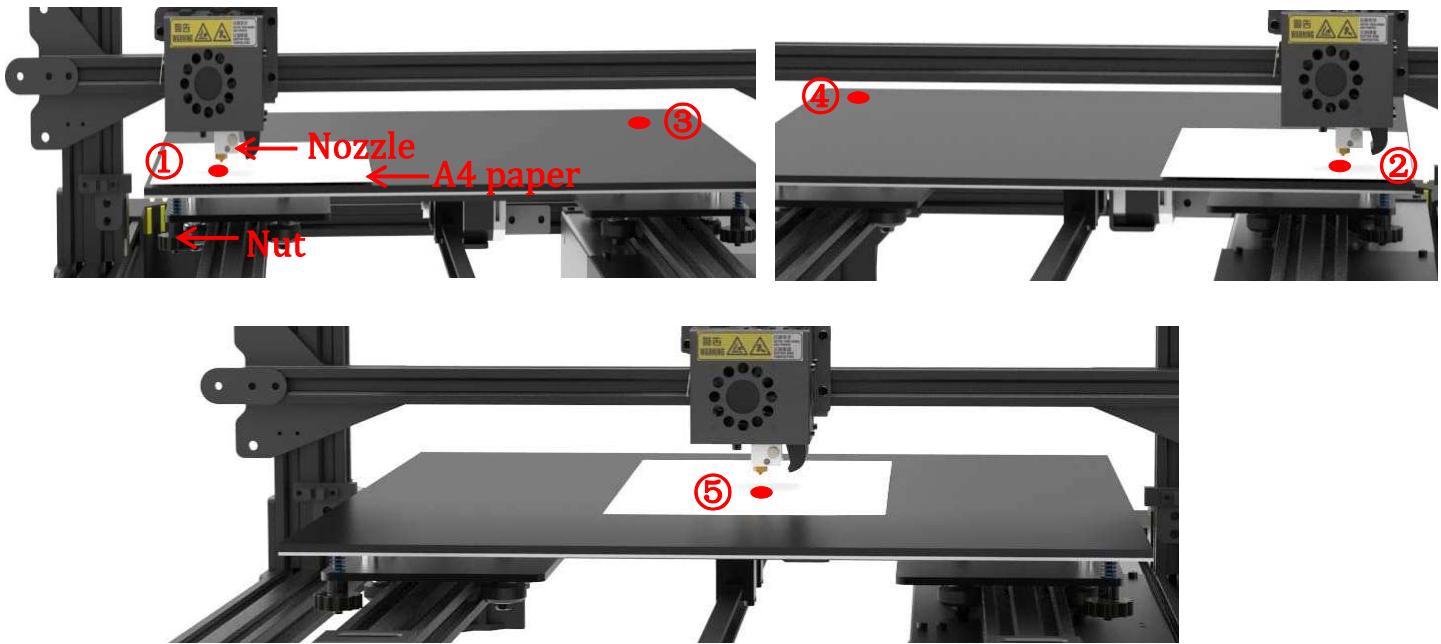
Step 4. When nozzle has been moved to point ①, press the platform and support plate , then manually adjust the corresponding nut underneath the print platform. **Loosen the nut clockwise, the platform rises. Tightened the nut counterclockwise, the platform descends.**

The purpose is to adjust the distance between nozzle and print platform to about a piece of paper thin (~0.1-0.2mm). Therefore, when just feel the drag resistance as pulling the paper around, it means good leveling for this particular point.

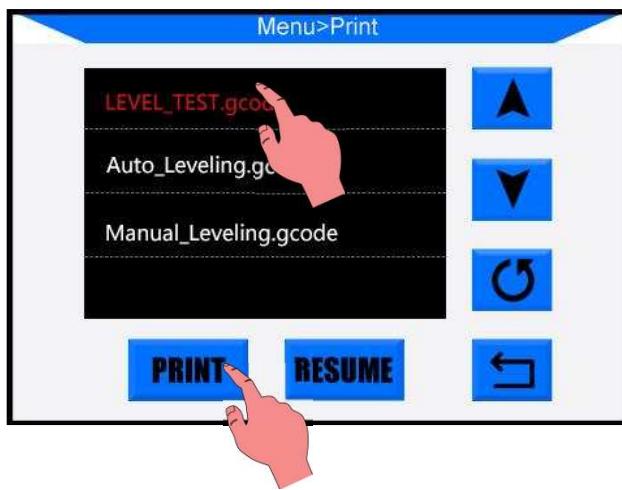
(Note: “just feel the drag resistance” means the paper can be moved, but with resistance)

Please do so to the rest points and center spot. Perform double check to ensure the results, and check the points in diagonal order: ①→③, ②→④.

Note: **ANYCUBIC promise the nature levelness of the Ultrabase Pro is within 0.25mm because it is HUGE.**



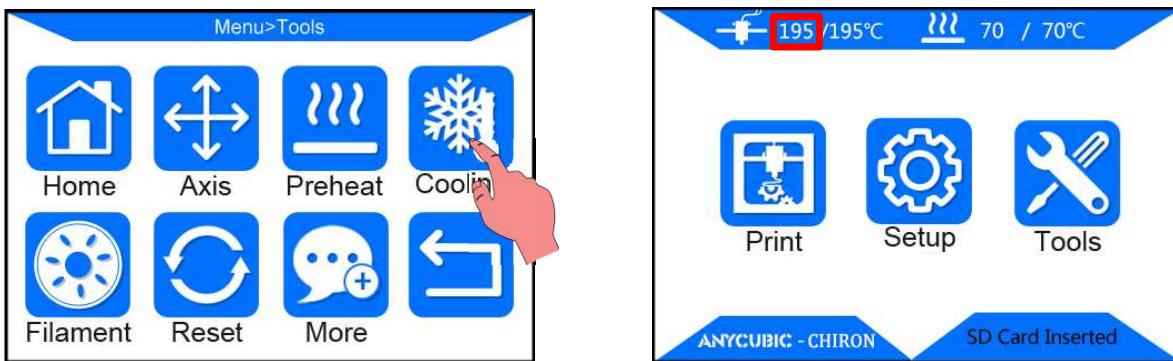
Step 5.Test print: On the Home Menu, click “Print”, select "LEVEL_TEST.gcode" and then click "PRINT" to verify the leveling results. Refer to Page20&21 for more details, and it may need fine adjustment few times to achieve the best results.



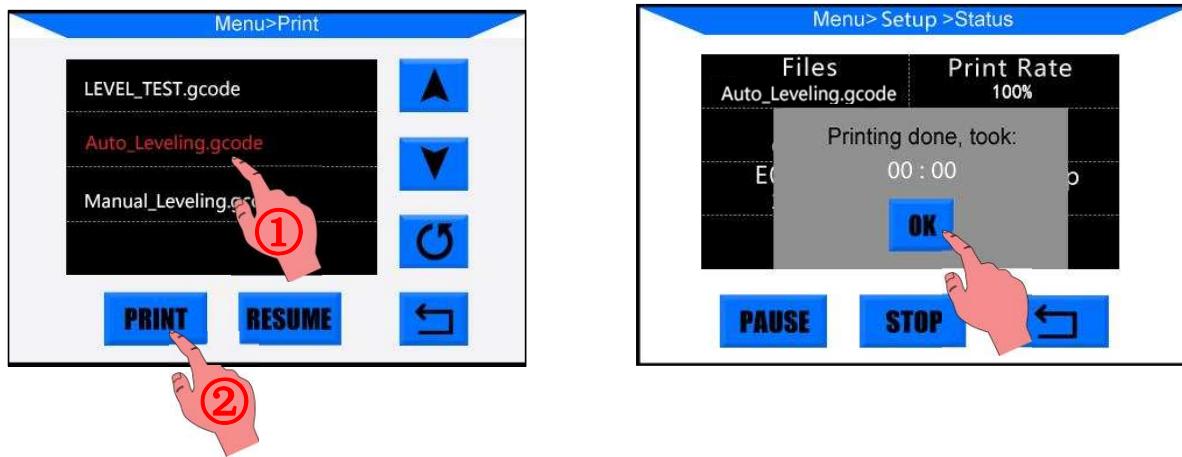
2、 Assisted Auto Leveling [Please read before action]

Step 1. Before leveling, if the nozzle is hot and in order to **avoid burns** when installing the leveling sensor, it is highly recommended to **cool it down first**. Click “Tools” → “Cooling” on the screen, wait until the temperature in the highlighted box drops down to below 60°C before proceed with the leveling.

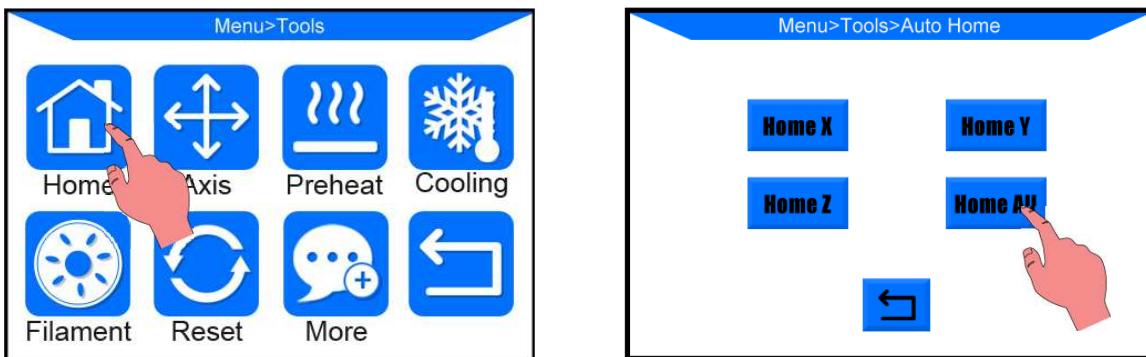
Leveling



Step 2. Click “Print” on Home menu, then choose and print the “Auto_Leveling.gcode” to set the machine to Assisted Auto Leveling mode. Click “OK” after printing done in second and return to the Home Menu.

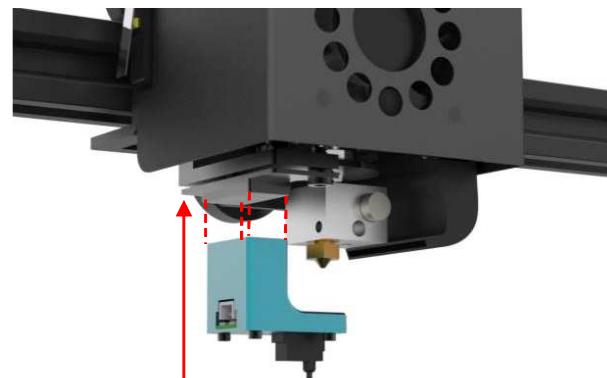
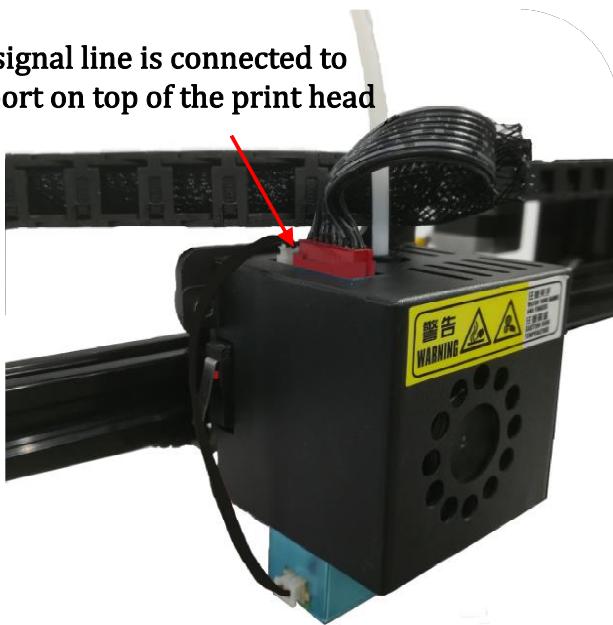


Step 3. Click “Tools” → “Home”, then install the leveling module as shown below.



Leveling

The signal line is connected to the port on top of the print head

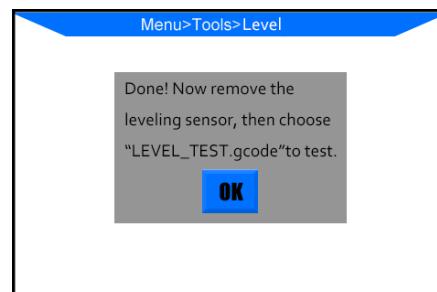


The sensor is magnetically attached onto this steel block.

Step 4. Return to the Home Menu, click “Tools” → “More” → “Level” → “PROBE” and the screen will pop up messages as shown below. **Ensure the leveling sensor is installed firm and properly before click “OK”.**



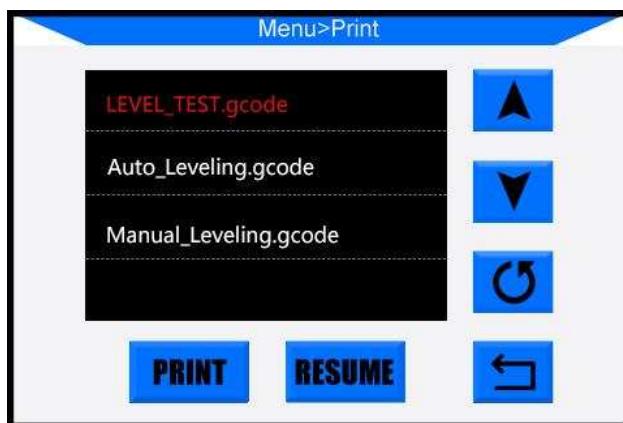
Step 5. After click “OK”, the machine will home all axis and probe 25 spots on the platform indicated by red spots below. The actually probe spots maybe slightly shifted due to installation differences but it would not affect the result. After probing and **before click ‘OK’**, **remove the leveling sensor** (otherwise it maybe damaged during test printing)



Leveling

Due to the vibration from shipping or installation differences, factory nozzle height might be changed unpredictable. To avoid unnecessary first time frustration of nozzle rubbing against the Ultrabase Pro, the default nozzle offset of the test print has been purposely set a few millimeters (2~4mm) higher. Please follow the steps below to fine tune it.

Step 6. Test print : [Do not do test print until read to Page23] Remove the leveling sensor first, then click ‘OK’ to enter the “Print” interface. Choose and print the “LEVEL_TEST.gcode”. The printer will automatically home and start printing when reaching to target temperature.



3. Fine adjustment

There might be 3 kinds of results for the first layer of the test prints : A-nozzle too high, B-nozzle too close, and C-proper nozzle height.

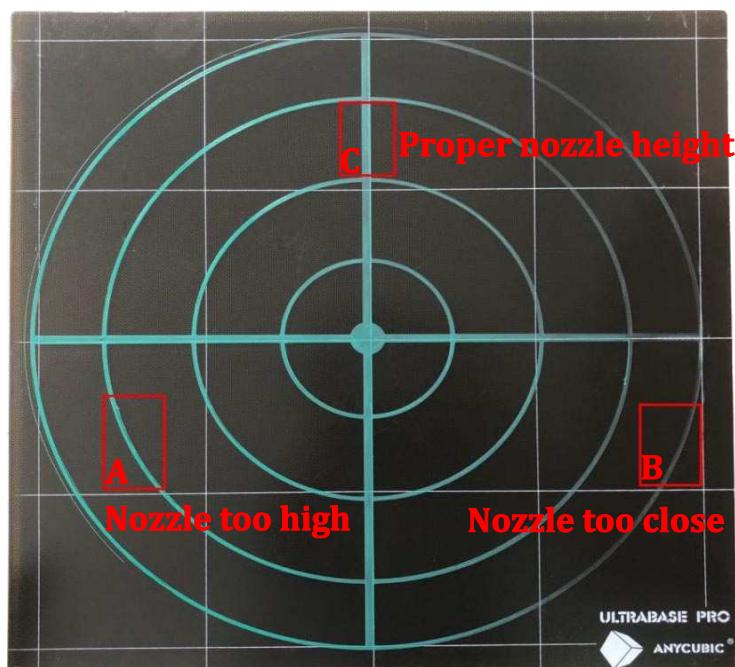
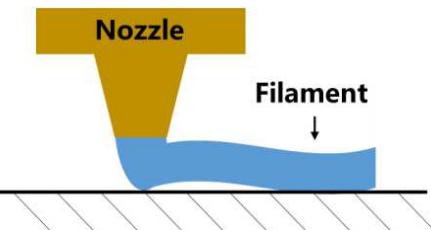


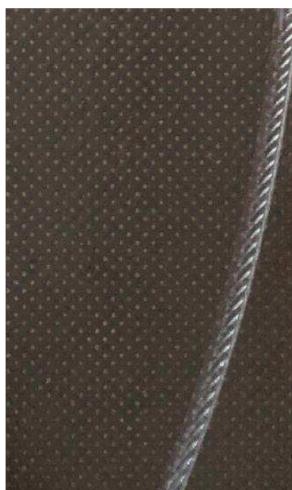
Figure.(1)



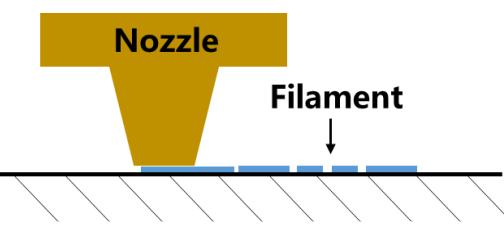
Nozzle too high



A: large gaps, filaments could not adhere to the platform



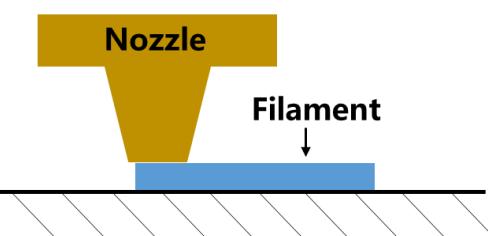
Nozzle too close



B: Lack of extrusion, the nozzle rubs against the platform.



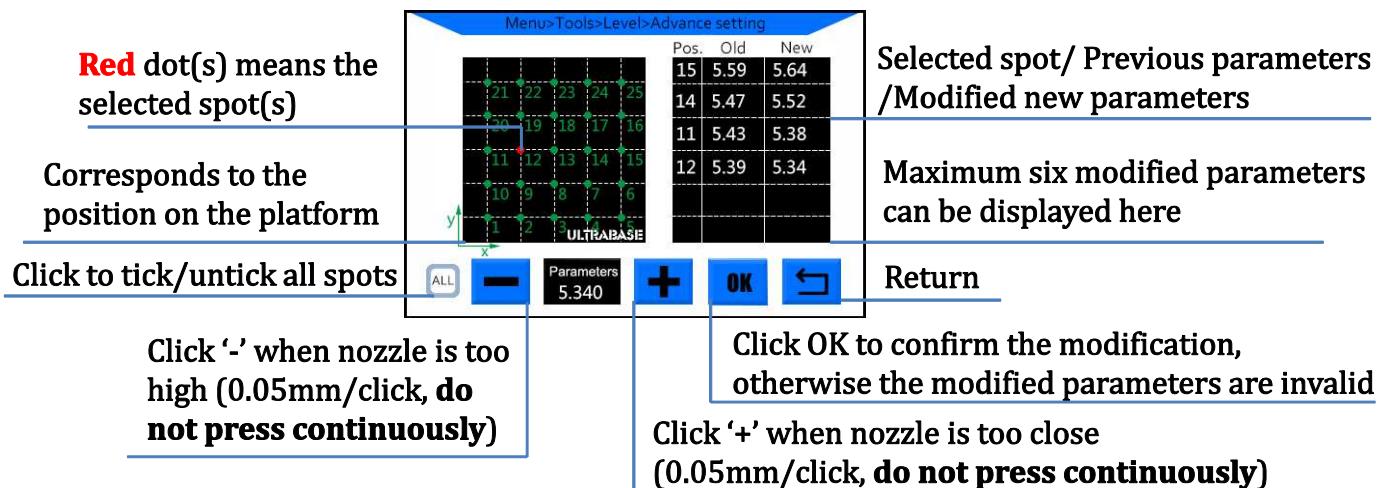
Proper nozzle height



C: Good extrusion and adhesion

When the nozzle is too high (close) from (to) the platform, it can be adjusted during or after the test print. It is suggested to adjust it during test print. **During test print, please return to Home Menu, click: “Tools” → “More” → “Level” → “ADVANCE SETTING”.**

Leveling



Nozzle Too high:

- ① for all spots: Click "ALL" and then click "-".
- ② for particular spots: Select **those** too-high-spots and click "-". As shown in **Figure(1)** Page20, you can simultaneously select the spots No.1, 10, 11, 20, 21 and click "-".

Nozzle Too close:

- ① for all spots: click "ALL" and then click "+".
- ② for particular spots: select those too close spots and click "+". As shown in figure(1) Page20, you can select the No. 5, 6, 15, 16 and 25 and click "+".

It is required to click "OK" after modification, otherwise the change will be invalid. You can click 'OK' after change all the parameters.

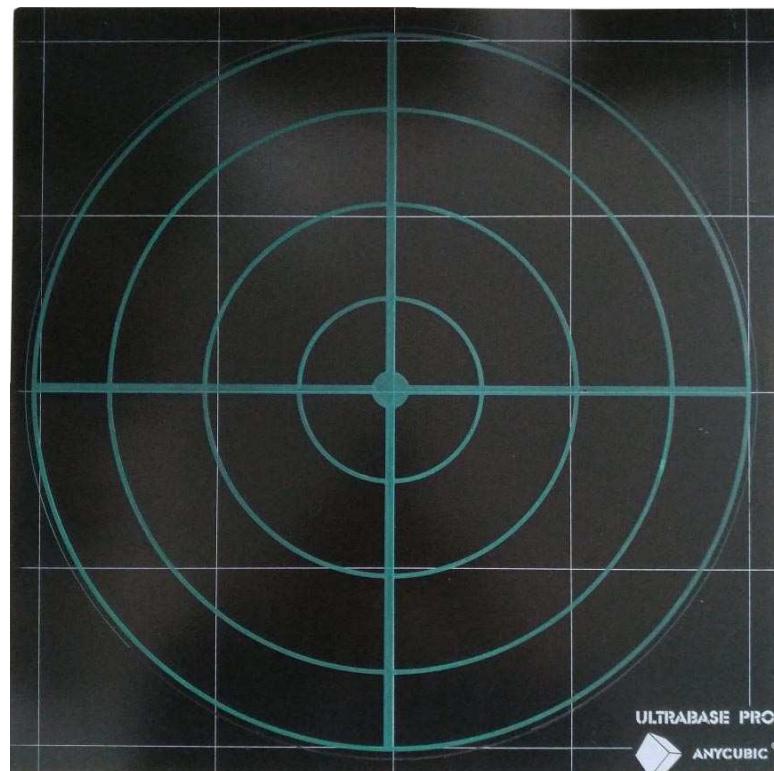
【VERY IMPORTANT】

- ① It is strongly suggested to use "LEVEL_TEST.gcode" testing the leveling results.
- ② Click "-" or "+" only once every time, do not press continuously to avoid nozzle hit the print platform.
- ③ After clicking "-" or "+", the modified command will not be run until the current buffer commands finished. The time for finishing the buffer commands would be vary due to different moving paths, so **please wait and allow** the buffer to finish.
- ④ Because the default nozzle offset has been set 2-4mm higher, **so initially it is OK to click "-" a few more times without unnecessary waiting**. You can always turn off the printer if pressing too much letting the nozzle hit the platform, then you can do the Assisted Auto Leveling again from Page 17. (**continue...**)

[VERY IMPORTANT]**...continue**

- ⑤ If the nozzle directly hit and rub against the platform at the start of the test print, please just turn off and then turn on the power, go to the "ADVANCED SETTING" to increase the parameters 2-4mm for all spots, and then do the test print again to verify until nozzle no long hit platform.
- ⑥ Under "Assisted Auto Leveling" mode, the "ADVANCE SETTING" is functional both during printing and idle, but it is more interactive to adjust during test print. **But under "Manual Leveling" mode, the "ADVANCE SETTING" is disabled.**

It may need adjustment a few times before achieve satisfying results as shown in **Figure(2)** below.

**Figure (2)**