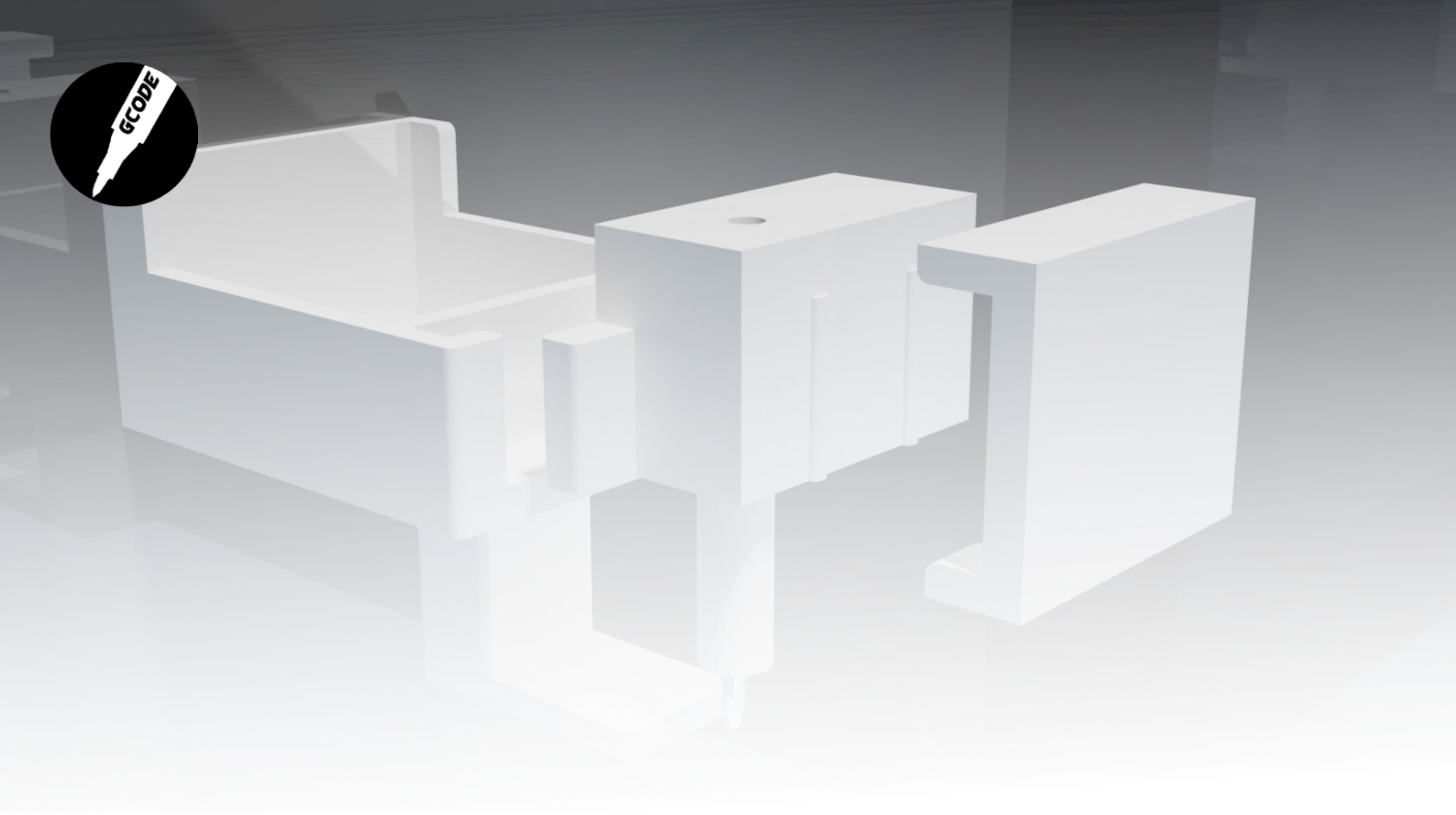


MKP SUPPORT

使用说明书

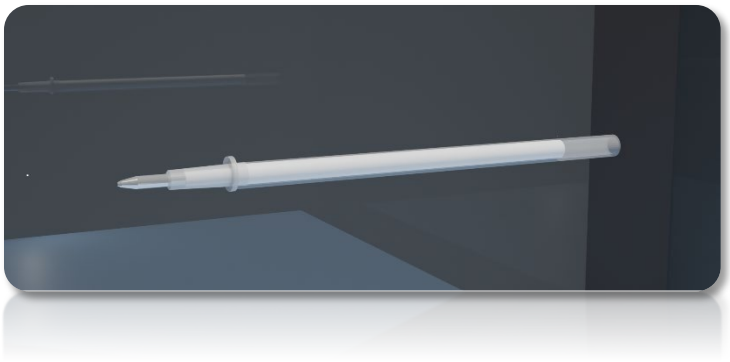
USER MANUAL

JHMODEL01@OUTLOOK.COM

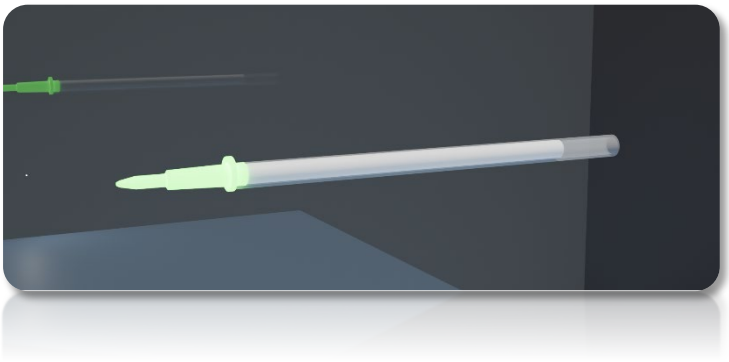
Contents

Preparation

1) Glue pen refills



Tips:
The pen tip contains a spring. Even if the liquid on the ball dries, pressing the tip will compress the spring, allowing the glue to re-wet the ball. This enables normal operation even if the cap is left off for extended periods.



Carefully detach the green-highlighted parts. Some tools may be required. After this, soak the tip in 75% alcohol for approximately 1 hour.

2) Liquid Glue and Alcohol

Colorless, viscous liquid glue (which is widely used in various occasions). Mix it with medical-grade alcohol at a certain ratio before injecting it into the Gluetank. (1:1 is suggested)

3) Magnets and Screws

Required: Two M2.5×5 screws and four magnets (4mm diameter, 1.5mm

thickness). Modify the STL files if the exact parts listed are unavailable.

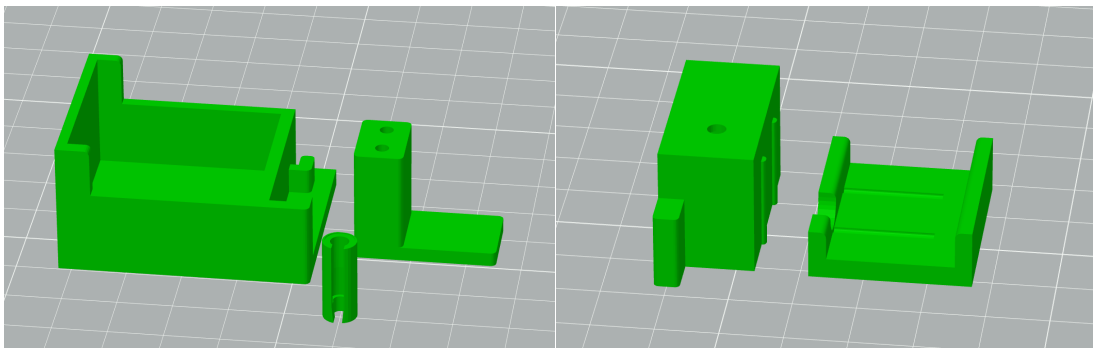
Additional Materials:

- Syringe for glue injection (use without the needle for easier suction).
- Transparent PET double-sided tape (1cm or wider) for fixing the Gluetank.
- Soft paper/fabric to attach between the dock and pen tip.

Part Printing and Assembly

1) Slicer Settings

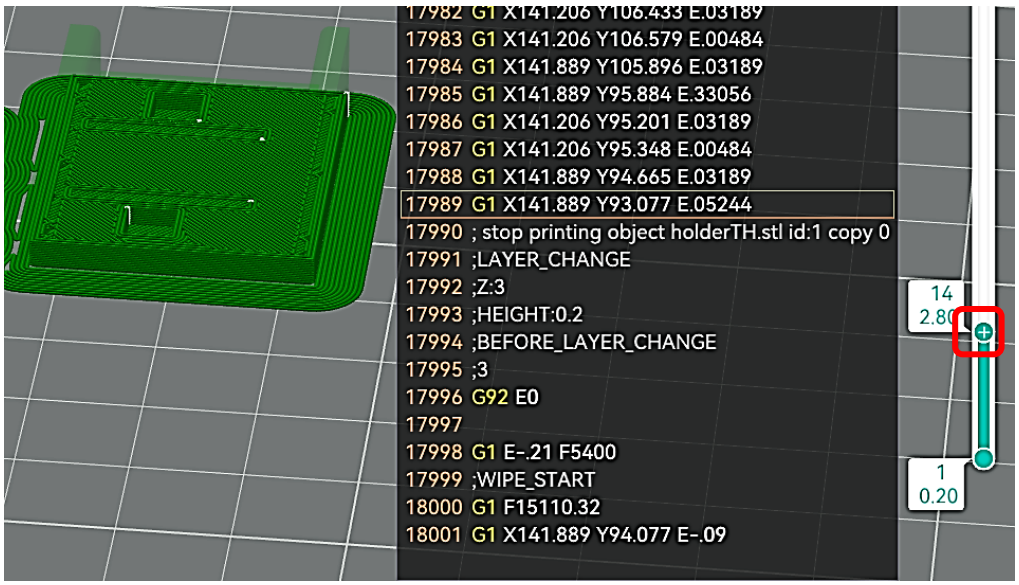
Recommended print layout:



Parts listed on the left pic: Use standard settings.

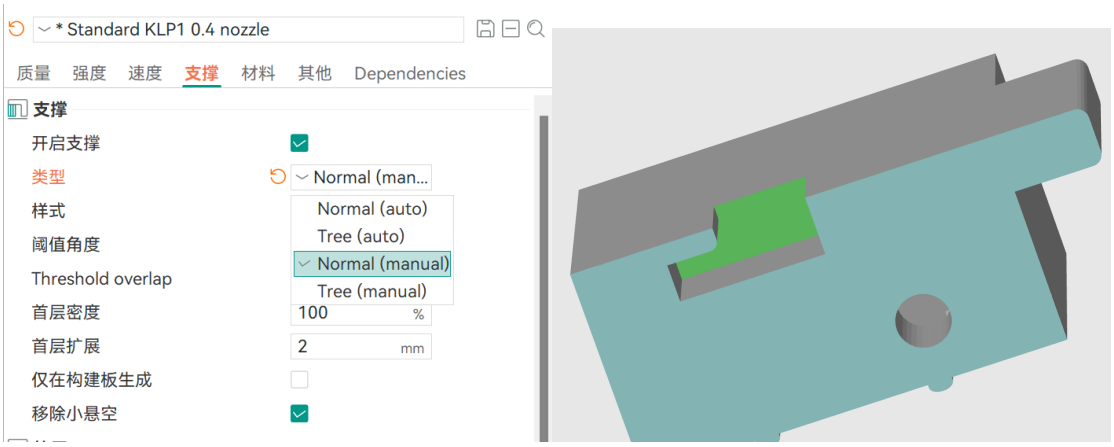
Parts listed on the right pic (Magnet Embedding):

- Add pause-at-height at Z=2.80mm (holderTH) and Z=10.20mm (Gluetk).



- For Klipper firmware, ensure the pause command is PAUSE, not M601.

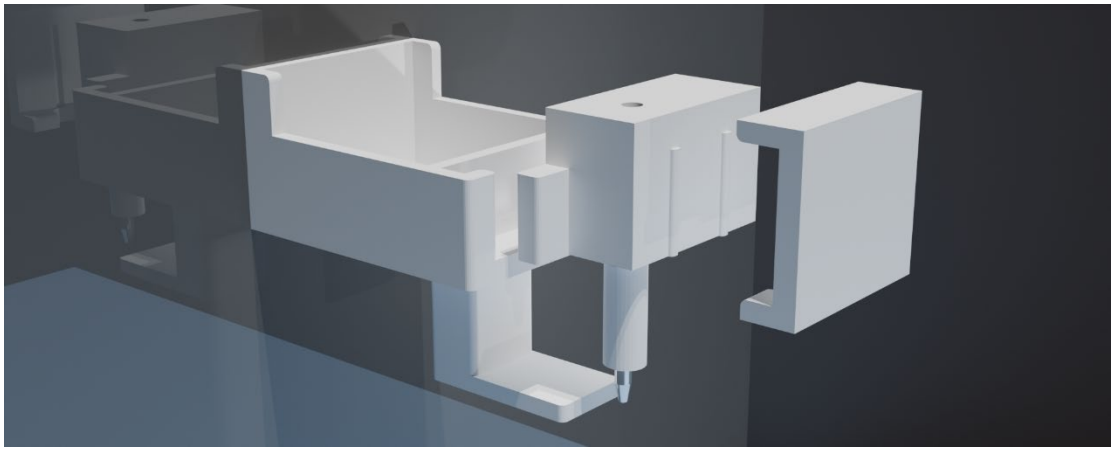
- Set supports to "Normal (Manual)" and fill green areas as shown:

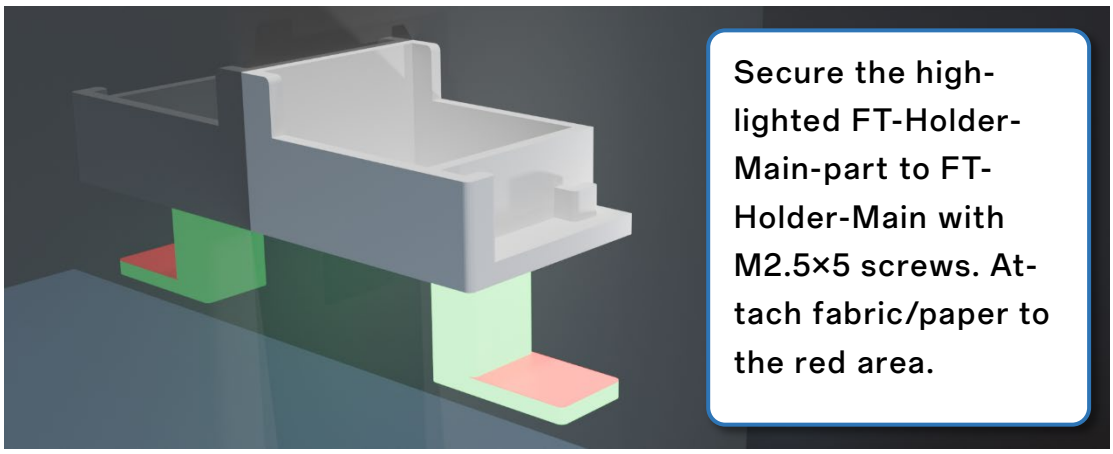


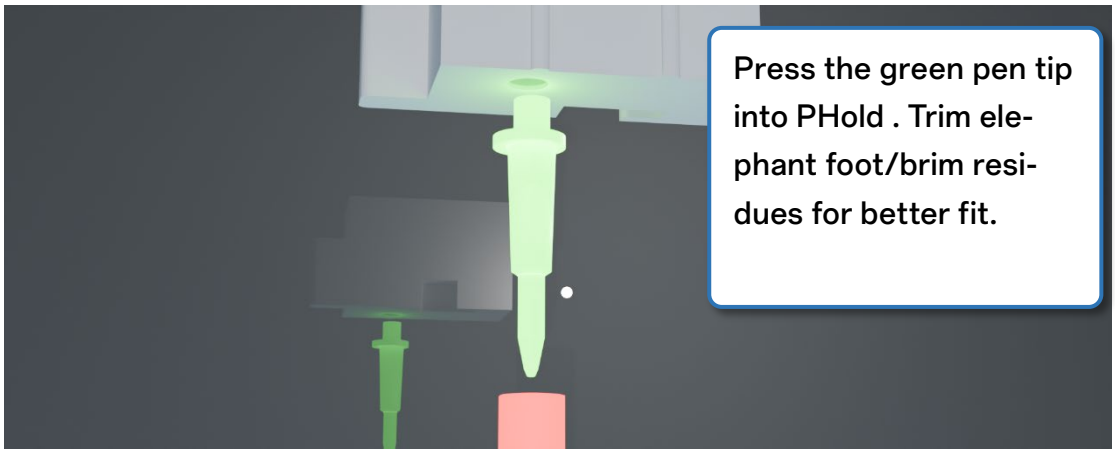
Tip: Add a sacrifice cube (11mm height) as the first object to absorb oozing materials during the pause.

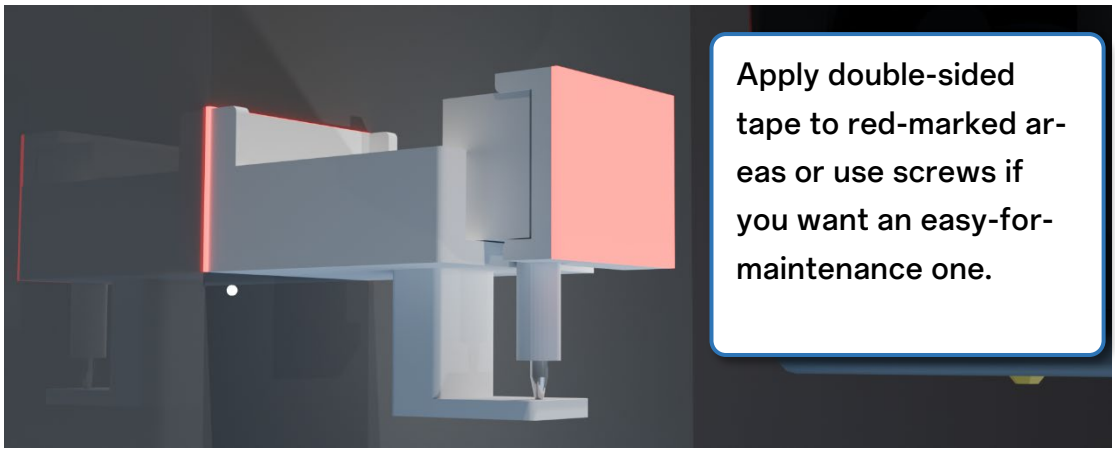
Now everything is ready. Please send the file to your printer, insert the magnets into the cavities when paused, and then resume printing. It is recommended to mark one side of the magnets with a permanent marker to ensure correct orientation.

2) Assembly Diagrams



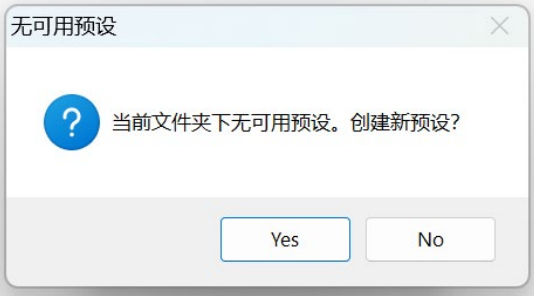



Press the green pen tip into PHold . Trim elephant foot/brim residues for better fit.


Apply double-sided tape to red-marked areas or use screws if you want an easy-for-maintenance one.

MKP Parameter Configuration

1) Initial Setup



Launch MKP3.0.exe. Select Yes to enter the setup wizard.

Parameter Description:

1. Custom Retract G-code(自定义收起 G 代码): The code to return the Gluetank to its position after application. For Klipper: You can assign CUSTOM_RETRACT macros in printer.cfg.
2. Custom Deploy G-code(自定义放下 G 代码): The code to remove the Gluetank from the dock. It is recommended to include a few back-and-forth movements to ensure the glue flows out adequately. For Klipper: You can assign CUSTOM_LOCK macros in printer.cfg.
3. Nozzle-Tip Height Offset(喷嘴笔尖高度差): When mounting the Gluetank, the tip should be closer to the print than the nozzle. Otherwise, the nozzle may scrape the print.
4. Maximum Movement Speed(最高移动速度): The speed limit for applying the glue.
5. Nozzle Cleaning G-code(擦嘴代码): Clears any material leakage from the nozzle while waiting for the tip to apply glue, preventing under-extrusion.
6. X, Y Compensation Values(X,Y 坐标补偿值): Since the nozzle and tip cannot be perfectly aligned, measure the X and Y offsets between them.
7. Ironing Contact Surface(熨烫接触面): The contact surface for ironing supports. Enable by entering "Y."
8. Ironing Speed(熨烫速度): It is recommended to set this slightly faster than the usual ironing speed.

9. Ironing Extrusion Multiplier(熨烫挤出乘数): Ironing does not require the same extrusion flow rate as normal printing, but it also differs from regular ironing flow rates (typically around 0.3-0.6).

Appendix: Example Macros for CUSTOM_LOCK and CUSTOM_RELEASE in printer.cfg. The reference file has only been tested on KLP1. Please exercise caution when using it on other printers. We cannot be held responsible for any damages caused by your improper use.

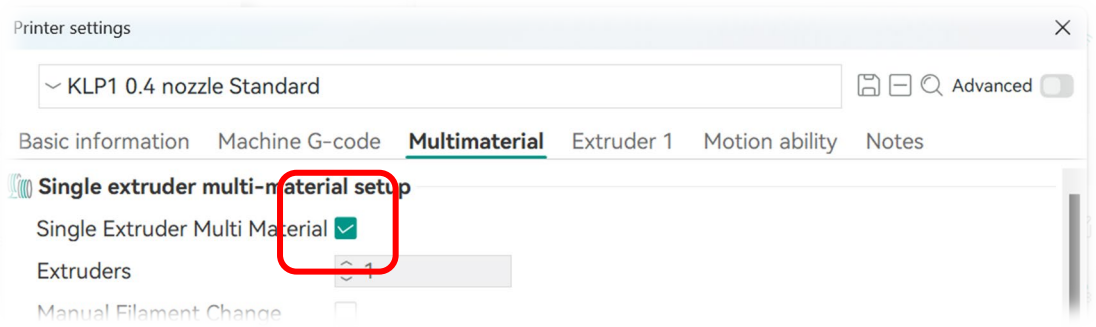
```
[gcode_macro CUSTOM_LOCK]
gcode:
    ;CustomLock
    G1 E-7
    G92 E0
    G1 F18000
    G1 X10
    G1 Y204.2
    G1 X0.1
    G1 F3000
    G1 Y208
    G1 Y204.2
    G1 Y208
    G1 Y204.2
    G1 Y208
    G1 Y204.2
    G1 Y208
    G1 Y204.2
    G1 Y208
    G1 X10
    G1 Y160

[gcode_macro CUSTOM_RETRACT]
gcode:
    ;CustomRetract
    G1 E7
    G92 E0
    G1 F18000
    G1 X10
    G1 Y208
    G1 F3000
    G1 X0.1
    G1 Y204.2
    G1 X10
    G1 F18000
    G1 Y160
    G1 F3600
```

OrcaSlicer Parameter Configuration

1) Printer Settings

Use OrcaSlicer 2.3.0-dev (mandatory for new features). MUST Verify start/end G-code to prevent toolhead collisions.



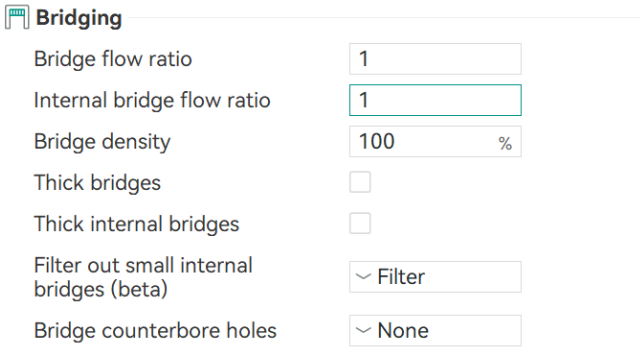
Enable "Single Extruder Multi-Material" (no physical hardware required).

2) Filament Settings

Add any filament as a support material; this is used for generating certain g-codes and will not actually be used.

3) Process Settings

Quality

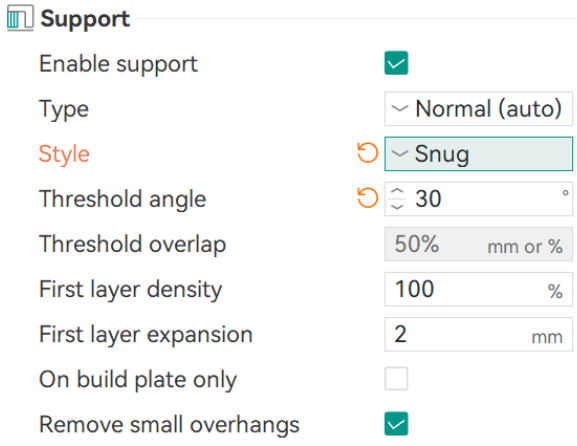


Quality: Disable Thick Bridges; keep bridge flow/density at 100%.

Speed

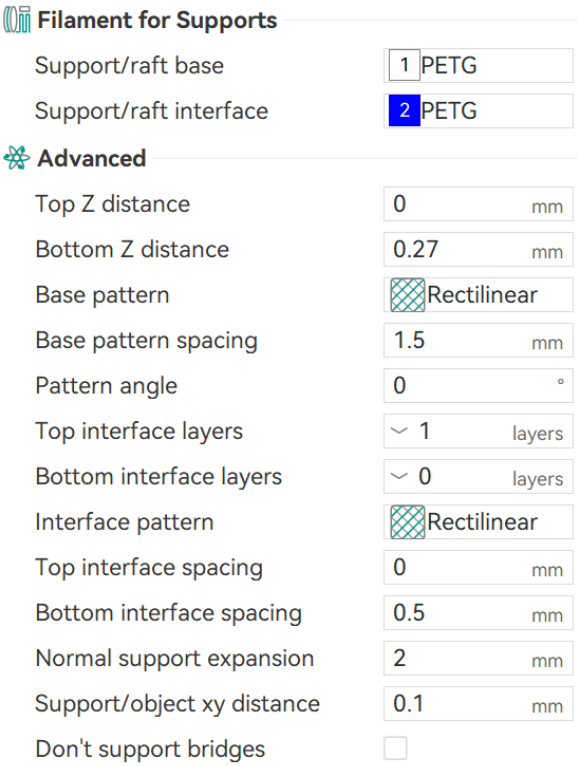
Reduce bridge speed for glue-coated layers.

Supports



Type: Normal (Snug).
Top Z Distance: 0.
Interface Material: Use the "Support" filament.

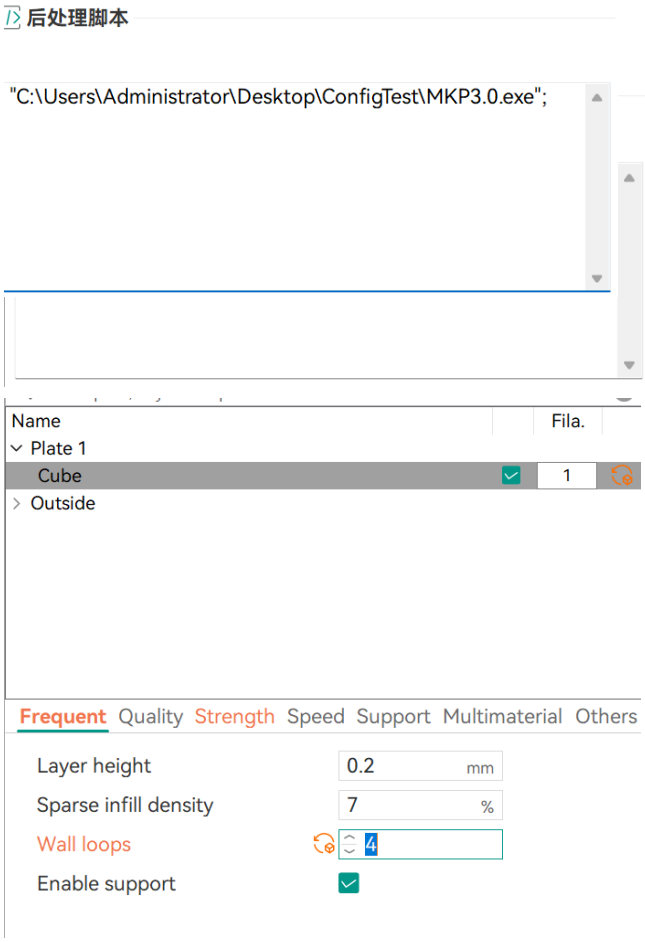
For the support and raft settings, select your commonly used filament as the main material, and choose the newly created "Support" as the interface material.



Set the Top Z Distance to 0, and leave the Bottom Z Distance unchanged. The Base Pattern Spacing can be set slightly lower.

For the Top Interface Layers, enter 1 layer (though it will actually generate 2 layers). Set the Bottom Interface Layers to 0. A straight-line pattern for the support surface is likely the best option. Set the Top Interface Spacing to 0, as this will create a solid layer. It's essential to enable Support Expansion, and set it to at least 1.6. The Support/object XY Distance can be reduced.

Others



In the Post-Processing Scripts section, enter the path to your MKP3.0.exe. If you are unsure how to find this path, right-click on the .exe file, select More Options -> Properties, and locate the path there.

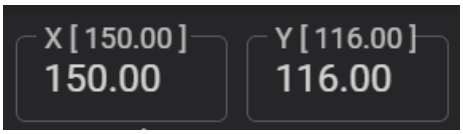
For the cube, it is recommended to increase the number of wall layers for added reliability. However, 4 layers should be sufficient. The cube should be at least 10mm in length and 10mm in width.

Parameter Fine-Tuning

Adjusting X, Y Compensation Values and Nozzle-Tip Height Offset

It is recommended to attach a small piece of paper to the heated bed and mark a dot on it. Move the toolhead so that the nozzle aligns with the dot. Then, mount the Gluetank and move the toolhead to align the tip and the dot. The difference between these two sets of coordinates will yield the X and Y

offset values. Then you can lower the maximum movement speed and observe whether the glue is applied accurately. If not, proceed with fine-tuning.



When fine-tuning the height difference of the nozzle tip, please first return to the zero position, then set the Z value to 30, mount the Gluetank, and gradually lower the Z height until the tip almost touches the heated bed. Next, input the data, run a cycle, and check if the adhesive is applied. If it is applied, raise the height by 0.1 mm and see if it still applies. If not, lower it by 0.1 mm. just until the adhesive is applied precisely.

Acknowledgments

Special thanks to:

1. OrcaSlicer Team for their powerful and user-friendly software.
2. OPPO Sans for its clean, tech-inspired font.
3. Iconian Fonts for artistic typefaces enhancing this manual.