E2-How to Replace the Nozzle

Tools:

①2mm hex wrench

②8mm socket wrench

③Long nose pliers

④Heat resistant gloves

⑤0.3 mm Stainless Steel Feeler Gauge

⑥Torque wrench (8mm socket)

1. Select “Utilities” > “Filament Loader". Then select “Unload” to unload the filament in the extruder (If there is no filament in the extruder, you can just skip this step).

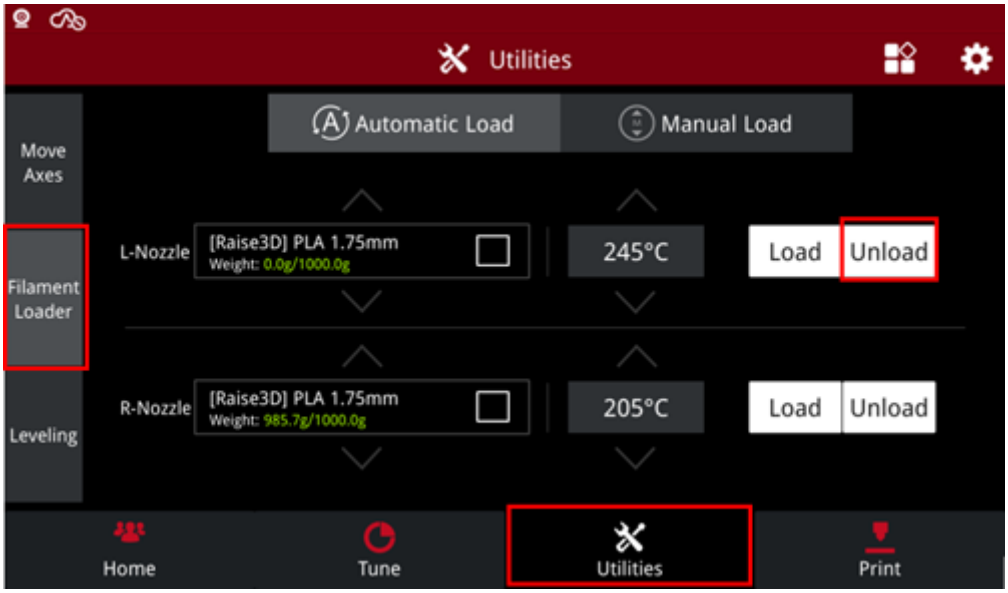
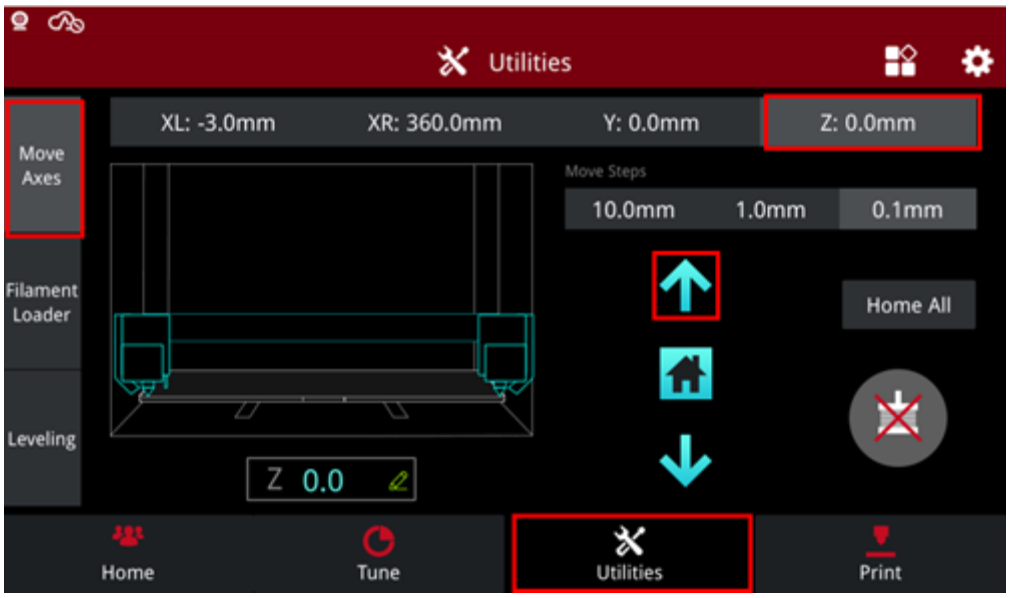


Figure 1 Unload the filament.

2.Select "Utilities" > "Move Axes", select the upper arrow and lift the X axis to a proper height for the following operation.



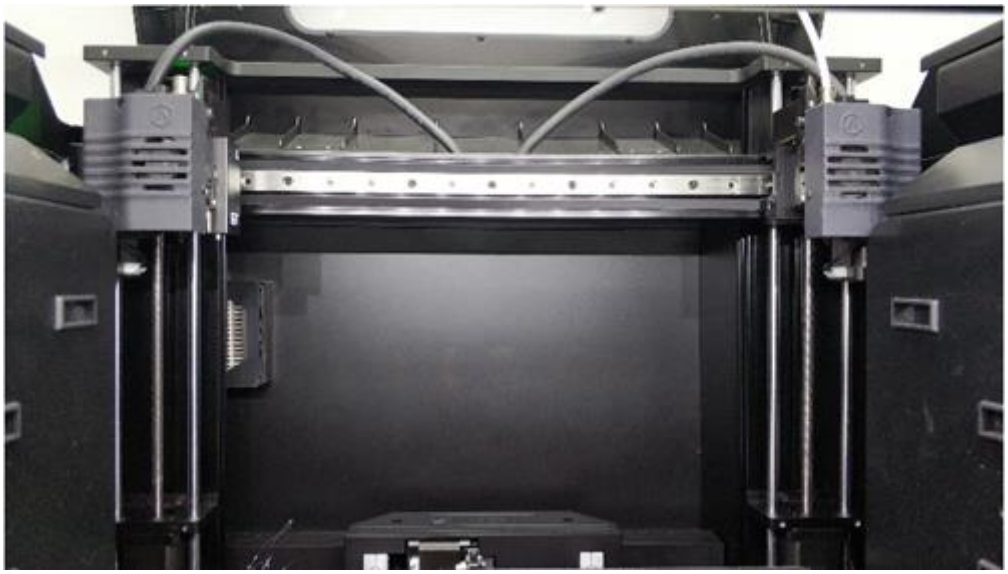


Figure 2 Lift the X axis to a proper height.

3. Select the “Motor Disable” button, then move the extruder of which the nozzle should be replaced to the center position (this tutorial takes the left nozzle as an example).

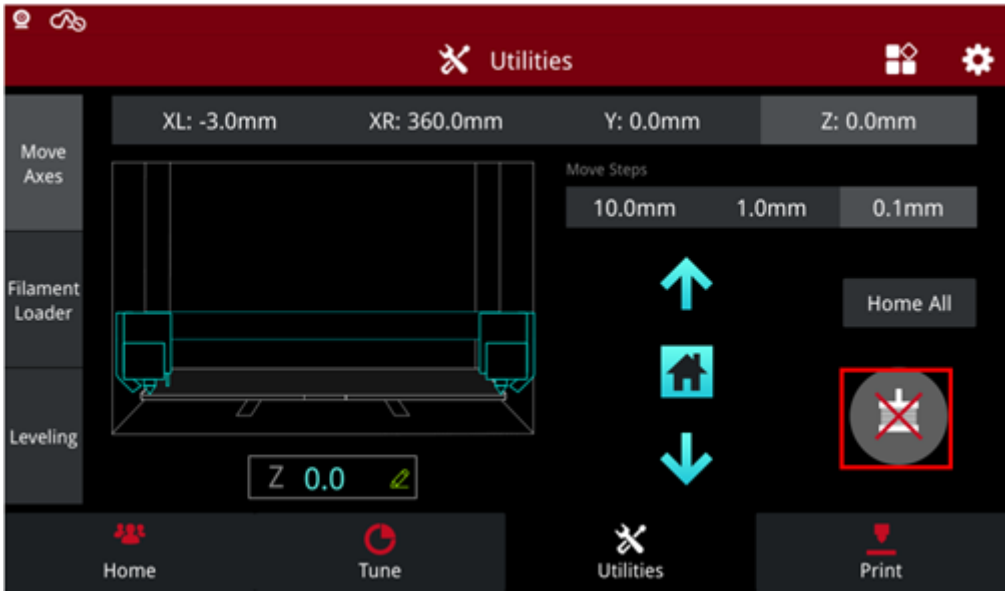
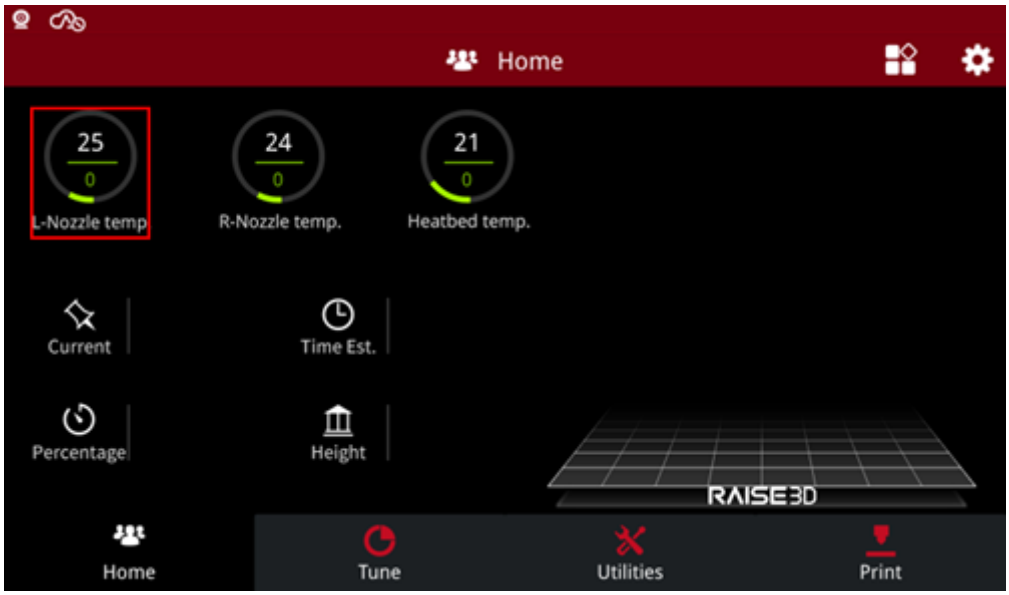


Figure 3 Disable the motor and move the extruder to the center.

4. Select "Home" -> "L-Nozzle temp" and set the left nozzle temperature to 200℃, wait until the left nozzle reaches 200℃, then power off the printer. Use the nipper pliers to clean the extruder and the hotend slightly.

Note: The hotend is extremely hot, remember to put on the heat resistant gloves.



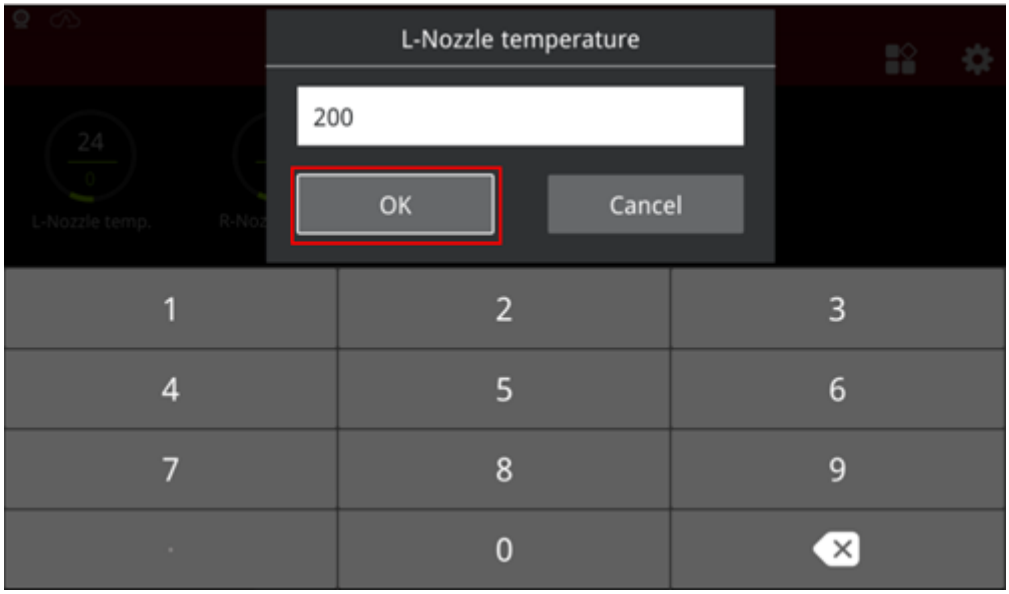


Figure 4 Set the left nozzle temperature to 200℃, then power off the printer.

5. Power off the printer. Remove the retaining screw on the extruder cover with the 2mm hex wrench. Then take out the cover.

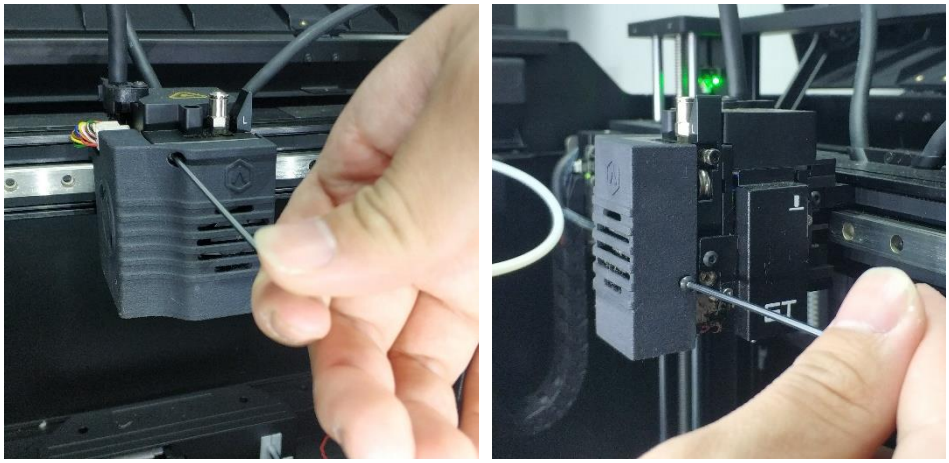


Figure 5 Remove the retaining screw.

6. Clamp the hotend with the nipper plier, then remove the nozzle with an 8mm socket wrench.

Note: The hotend is extremely hot, remember to put on the heat resistant gloves. The hotend is made of aluminum. Do not clamp it with excessive force, or you may distort it, and be careful not to break the cable.

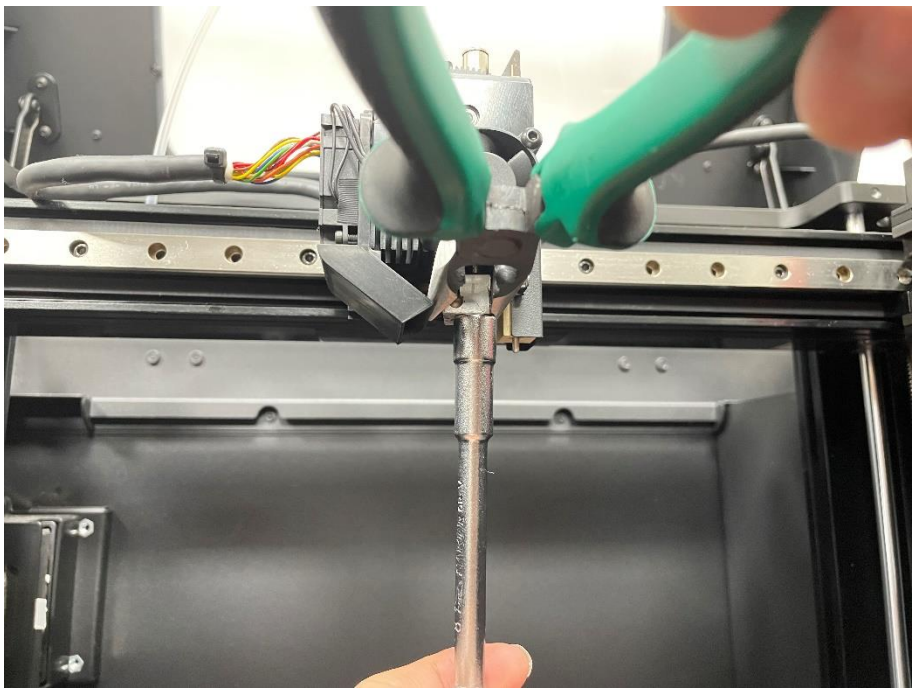
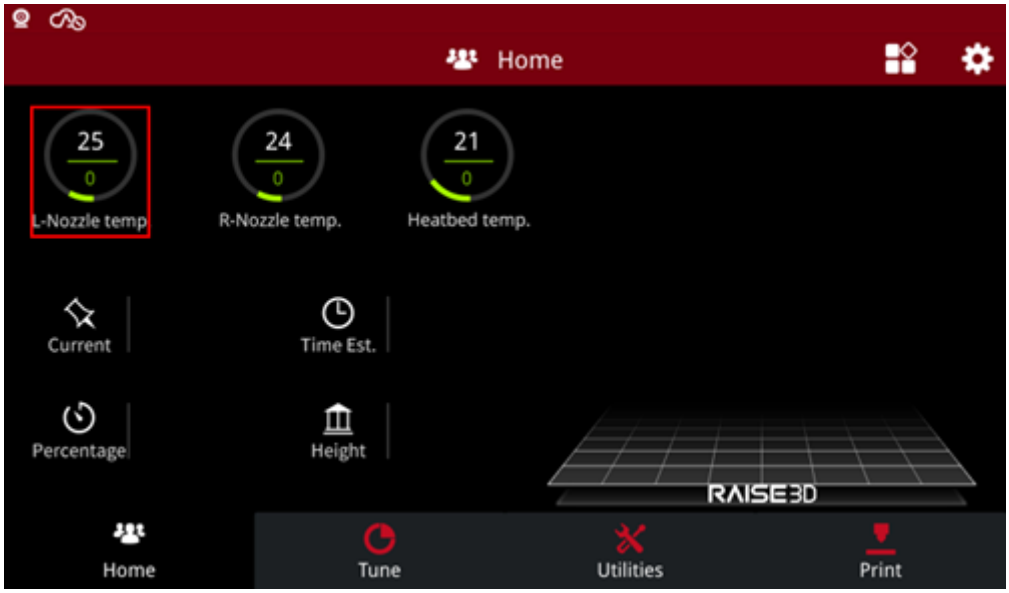


Figure 6 Remove the nozzle.

7. Prepare a new nozzle.

Figure 7 Prepare a nozzle.

8. Power on the printer. Set the left nozzle temperature back to 200℃.



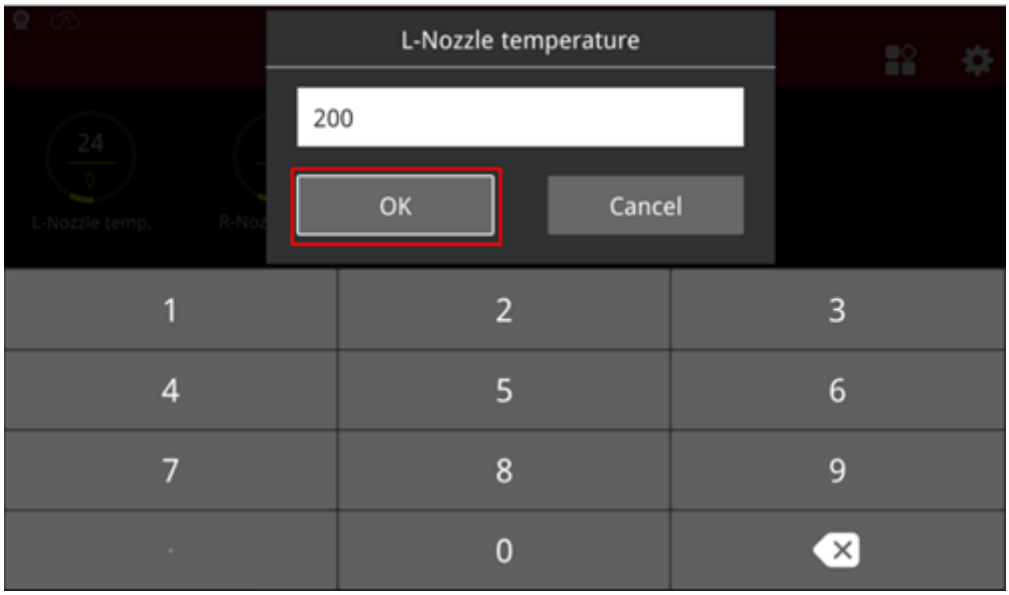


Figure 8 Power on the printer and set the left nozzle temperature to 200℃.

9.Clamp the hotend with a nipper plier. Use a **torque wrench (8mm socket)**, set it to **39±1kgf/cm** (**about 3.9N.m**). Turn the torque wrench counterclockwise evenly at until the nozzle is tightened.

⚠Warning

1. When using needle-nose pliers to hold the heating block, be careful not to damage the heating block with the needle-nose pliers.
2. Be sure to use a **torque wrench**, set it to **39±1kgf/cm (about 3.9N.m).** Evenly and slowly turn the nozzle counterclockwise, until you hear a "click" (the predetermined torque value has been reached), stop turning the nozzle.

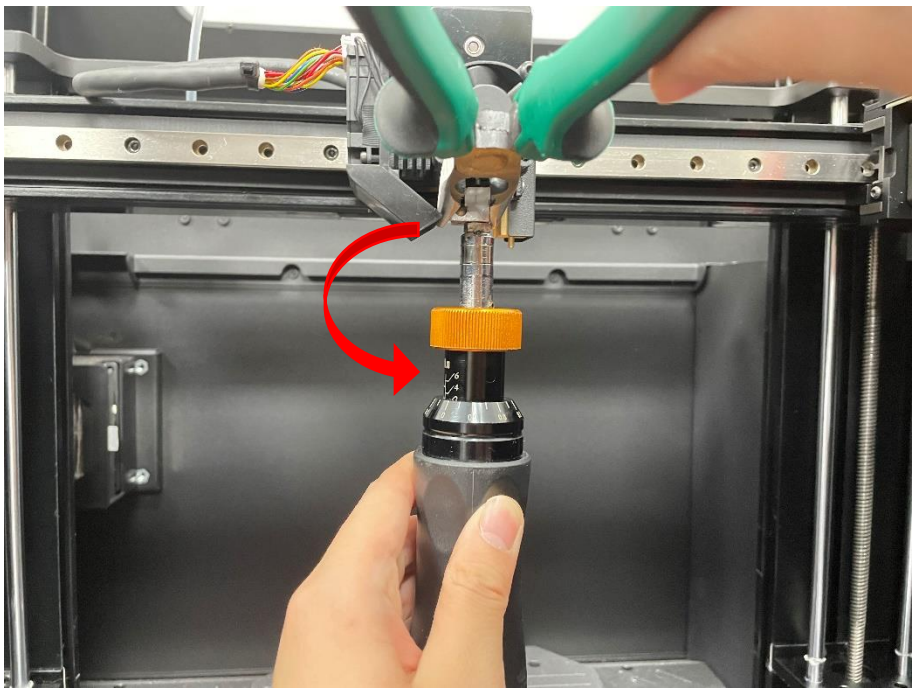


Figure 9 Reinstall the new nozzle.

10. Ensure that there is a spacing of ***0.1mm-0.6mm*** between the nozzle and the heating block after turning the nozzle.

> ⚠**Warning**
> A distance of **0.1mm MUST** be reserved between the nozzle and the heating block. If it is not suitable, it may cause material leakage during the printing process.

1) A distance of 0.1mm ***must*** be reserved between the nozzle and the heating block.
Plug a 0.1mm feeler gauge between the nozzle and the heating block first, to test that the 0.1mm feeler gauge can be inserted into the gap. If the 0.1mm feeler gauge cannot be inserted into the gap, the nozzle is over-tightened. Please consult Raise3D after-sales support for assistance.

Figure 10 Check the spacing between the nozzle and the heater block with a feeler gauge.

2）A reasonable spacing between the nozzle and the heating block is 0.1mm-0.6mm. After you have confirmed that there is a 0.1mm space between the nozzle and the heating block, continue checking the spacing with a feeler gauge ≤0.6mm.

11.Use a 2mm hex wrench to reinstall the cover.

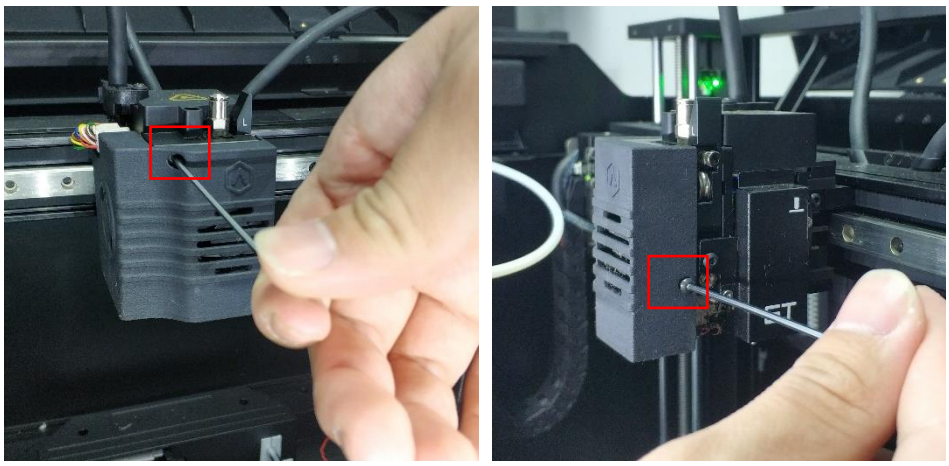
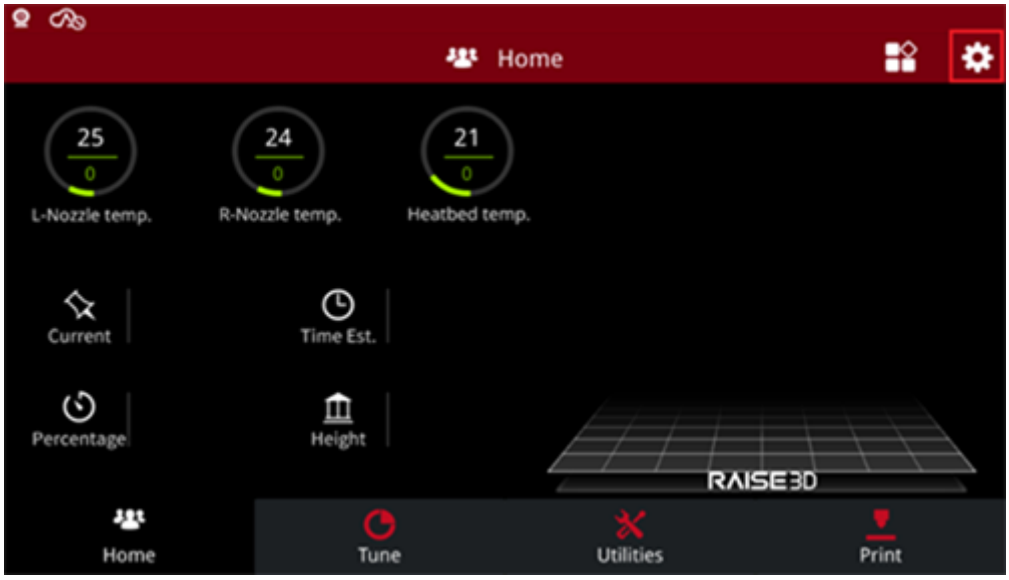
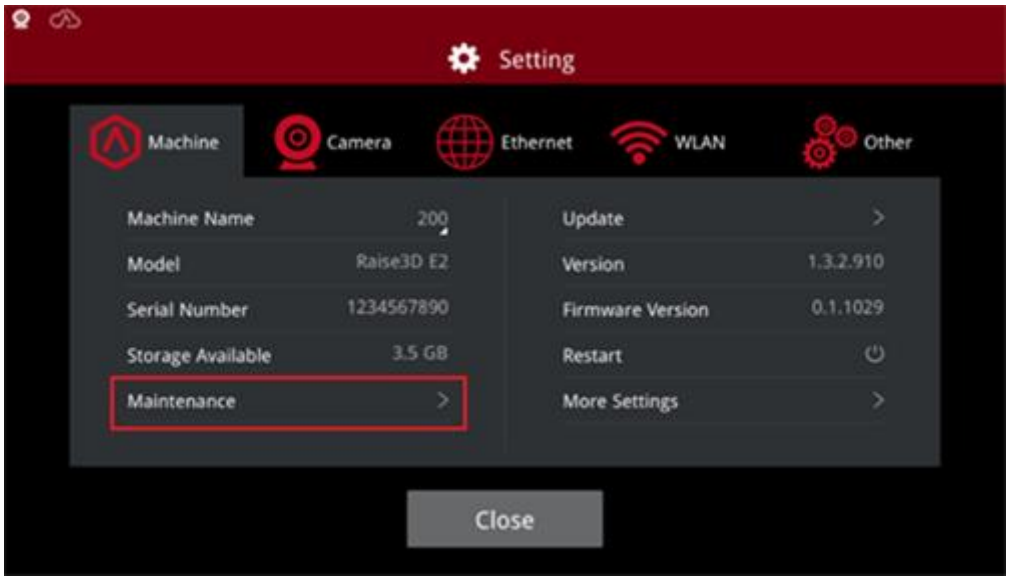


Figure 11 Reinstall the extruder cover.

12.After the nozzle is replaced, run the five-step Offset Calibration to calibrate the nozzle's Z probe Offset. It is recommended to adjust the height of the left and right nozzles as well. (For more information, please refer to the tutorial: Manual E2 - How to Adjust the Height of Left and Right Nozzle – V1.0).

Note: You can find the "Offset Calibration" at "Settings>Machine>Maintenance>Offset Calibration".

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WLAN
Other
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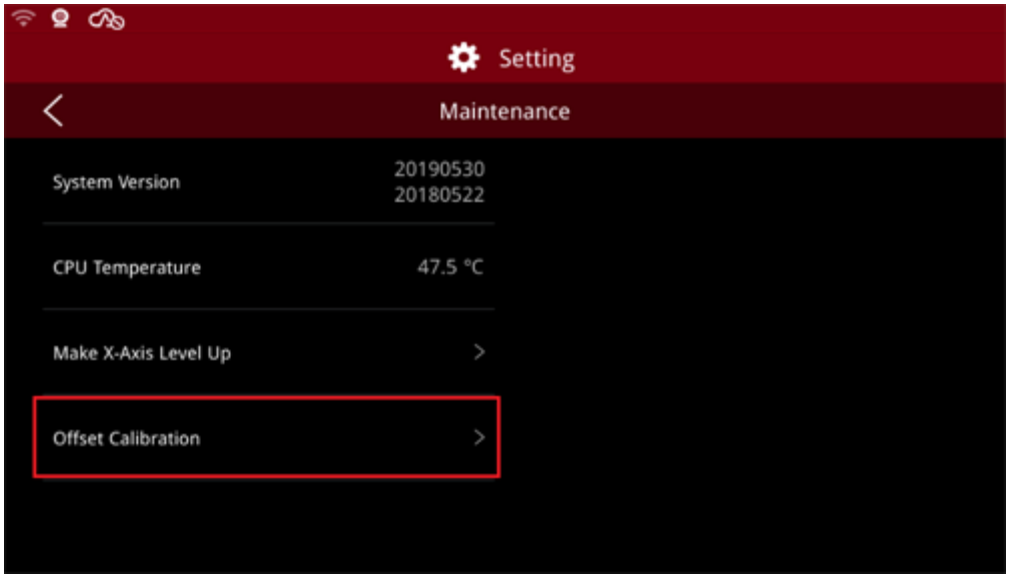
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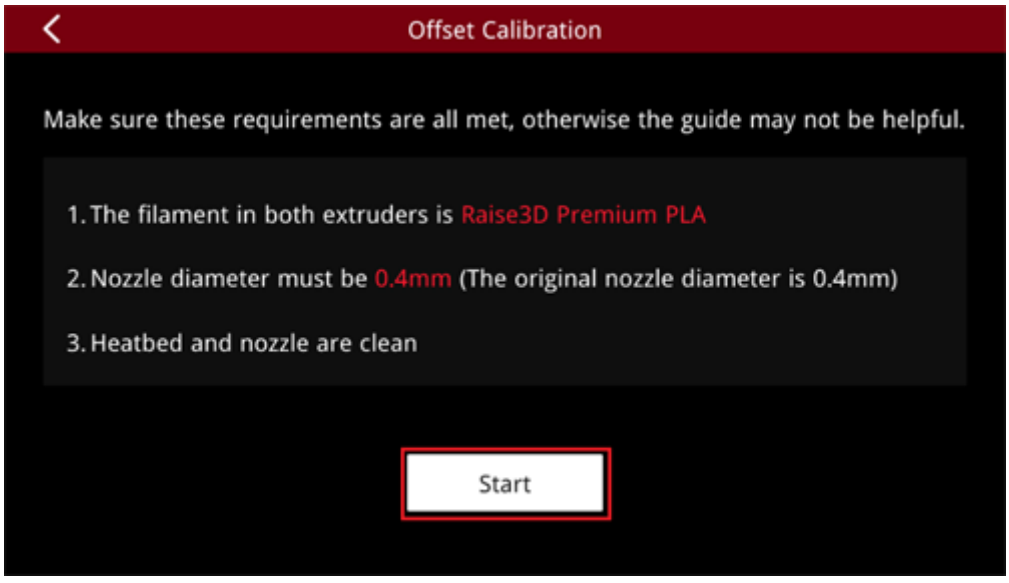
Offset Calibration


Offset Calibration
Make sure these requirements are all met, otherwise the guide may not be helpful.
1. The filament in both extruders is Raise3D Premium PLA
2. Nozzle diameter must be 0.4mm (The original nozzle diameter is 0.4mm)
3. Heatbed and nozzle are clean
Start

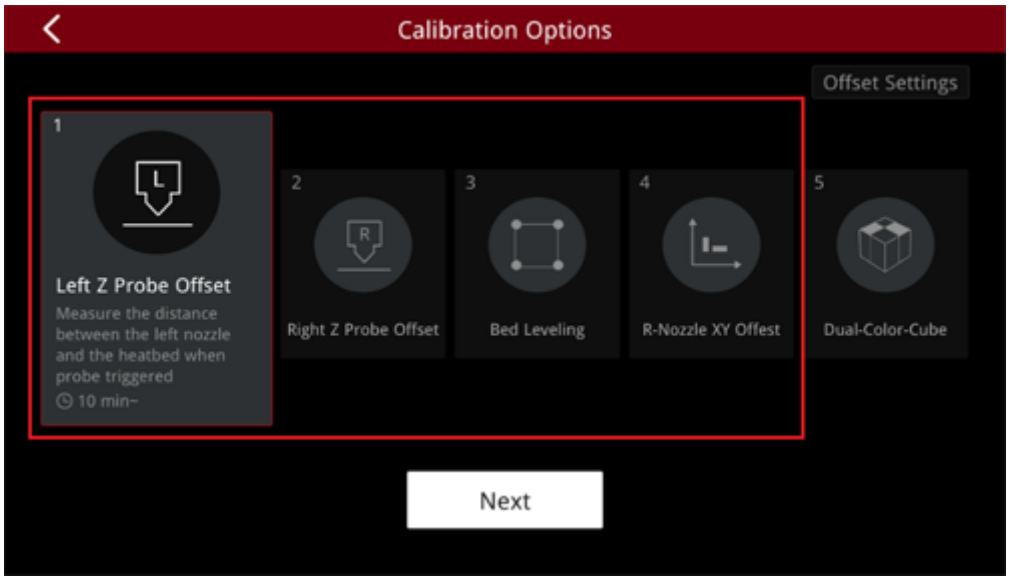


Figure 12 Run the five-step Offset Calibration.

[12.026.EN.2.0.20220629-E2-How to Replace the Nozzle]

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