How to clean the clogged mixing-color hotend

Step 1: Heat the hot end (nozzle) to 200 degrees and wait for the temperature to be reached

Step 2: Remove the fitting and pull out the filament ***(Figure 1)***

Tips 1*: If it is difficult to pull out the filaments, you can use the cutting pliers to clamp the filaments and pull out* ***(Figure 2)***

Tips 2*: If the filaments cannot be pulled out at all, you can use cutting pliers to cut the filaments*

Step 3: Remove the nozzle from the hot end

Note: Please pay attention to prevent burns, it is recommended to wear heat-resistant gloves for operation.

Step 4: Install the hotend-clean-tool on the hot-end ***(Figure 3)***, close the channels that are not blocked, and leave only the blocked channel.

Tips*: If the hot end is blocked by filaments and cannot be inserted into the hotend-clean-tool, you can use a lighter to heat the thin rod of the hotend-clean-tool, and then insert it to the hotend****(Figure 4)***.

Step 5: Manually feed in at least 50cm filaments slowly from the hotend ***(Figure 5)***.

Step 6: Clean the filaments in front of the hotend ***(Figure 6)*** . If necessary (there are other channels are blocked), you can close the cleaned channel with a “hotend cleaning tool” before cleaning the next channel.

Step 7: Install the nozzle back.

Figure 1

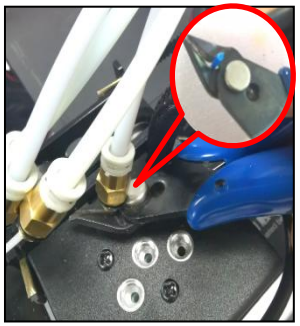

Figure 2

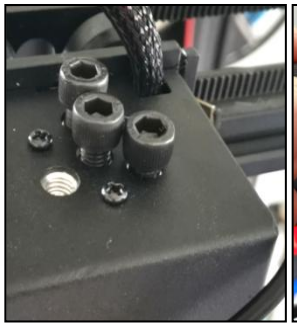

Figure 3

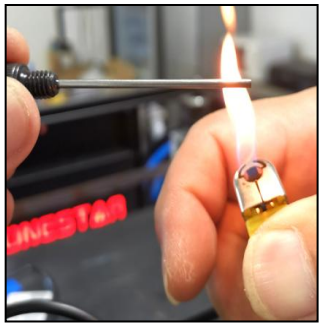

Figure 4

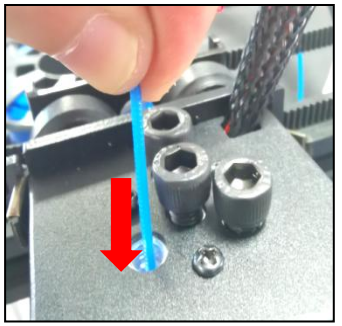

Figure 5

Figure 6

Why the hotend be clogged

There are many reasons that may cause the hoend to be blocked. Here are some common reasons:

- ***Incorrect slicing settings (Figure 7)***

Tips: Check the settings in slicing software, to disable “Extruder/Nozzle switching retraction”. For example, set “Nozzle Switch Retraction Distance” to 0 in Cura.

- ***Incorrect filament loading***

Tips 1: When loading the filament to the hotend, please make sure that the filament enter the heating block of the hot end, it is about 45mm deep into the hot end.

Tips 2: **I**t is recommended to use the “hotend cleaning tool” to close the unused channels of the hotend.

- ***Damaged nozzles***

Tips: In addition to complete clogging (consumables cannot flow out of the nozzle), the nozzle may also be partially clogged. If you find the filament flowed out from the nozzle is thinner than normal, the nozzle may be partially clogged. If this happens, you need to use a nozzle cleaning needle to clean the nozzle or replace a new nozzle directly.

- ***The nozzle are too close to the printing platform***

Question: If the nozzle is too close to the hot bed when printing the first layer, the filament may not be ejected. If this is maintained for a long time, it may cause the filament in the hot end to be over-compressed and cause blockage (often blocked at the entrance of hotend).

Solution: *Set first layer height = 0.3~0.4mm; heat bed temperature = 70 degrees(PLA); the printing speed 15mm/s (or 50%); Choose “Raft” on “Build Plate Adhesion” to help filament sticker on the hotbed.*

- ***Mix different types of filament***

Tips 1: Unexpected problems may occur when different types of materials are mixed. It is recommended to use a manual extrusion test before printing large objects to confirm that the filaments can be extruded normally after mixing.

Tips 2: *Before starting to print, extrude some filaments to confirm that the filament can flow out normally.*

- ***The hot end is overheated***

Tips : The overheated hot end may easily cause the hot end to be blocked. Be careful to keep the working temperature of the hot end radiator not exceeding 60 degrees, especially when printing PLA materials. If the hot end is overheated, check the cooling fan and the ambient temperature of the hot end.

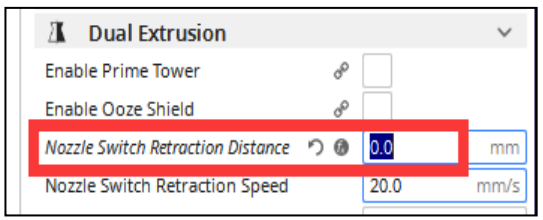

Figure 7