How do you remove filament stuck in the heatbreak?

Asked 3D Content Team
Published October 15, 2026 · Last verified October 15, 2026

Abstract. Heat the hotend to 260 °C after PLA or 280 °C after PETG, push a 1.5 mm rigid wire down from the top, or pull the stub up hot with pliers.

Keywords: pla, petg

1 How do you remove filament stuck in the heatbreak?

Heat the hotend to 260 °C after PLA or 280 °C after PETG or ABS and wait 2 minutes. Then push a 1.5 mm rigid wire down from the top to drive the plug out through the nozzle, Prusa Research's method. If it will not move, pull the stub up hot with pliers, or take the hotend apart.

1.1 The number

Work down the table and stop at the first step that gets fresh filament flowing. PLA is polylactic acid, PETG is glycol-modified PET and ABS is acrylonitrile butadiene styrene. PTFE (polytetrafluoroethylene) is the white tube that guides filament into the hotend.

Figures come from Prusa Research's clogged-hotend articles (MK3S, MINI, CORE One), Bambu Lab's A1 and P2S unclogging guides and E3D's V6 support pages. Where makers differ, each is shown.

1.2 Why the heatbreak jams

The heatbreak is the neck between the heater block and the heatsink. Bambu Lab wants a sharp temperature drop across it so filament stays solid until the melt zone. If the heatsink runs too hot, the filament softens "too high up in the heat break area, inside the heat sink." It swells and the extruder can no longer push it through.

That is why a nozzle-only fix often fails. Prusa warns that "a clogged hotend is not the same as a clogged nozzle" because material can jam above it. On a PTFE-lined hotend such as the MINI's, a new nozzle will not cure a clog caused by a damaged PTFE tube.

1.3 How do you tell the printer is clogged above the nozzle?

- **The wire stops short.** Prusa uses the 1.5 mm wire as a probe as well as a pusher: how deep it goes shows where the clog starts.

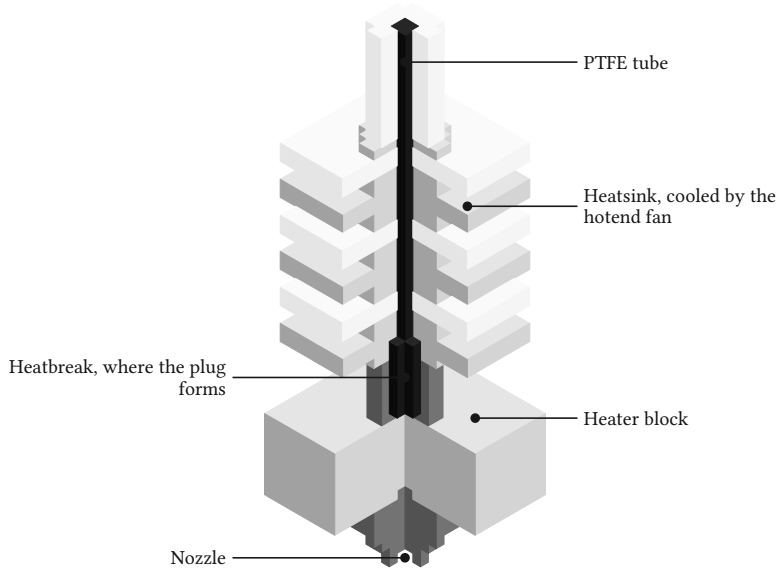


Figure 1. The heatbreak is the thin neck between the hot heater block and the cooled heatsink. Filament that softens there swells and jams against the walls.

Table 1. The number

Step	Temperature	Tool	When to use it
1. Melt it and push it through from the top	Prusa MK3S: 260 °C after PLA, 280 °C after PETG or ABS, then wait 2 minutes. Prusa MINI: about 40 to 50 °C above print temperature, then wait 2 to 3 minutes	A straight, rigid metal wire 1.5 mm thick and 100 mm long, or the smallest bundled Allen key; then load fresh PLA to drive out the rest	Filament will not load and the 0.3 mm needle from below did not help
2. Pull the stub out from above	Prusa CORE One, MK4 and XL: 280 °C. Prusa MK3S: 260 or 280 °C with the hotend lifted out of the extruder. Bambu Lab A1: 100 °C	Needle-nose pliers, drawing the filament up bit by bit; on the A1, take the hotend out hot with an oven glove and pull at its entrance	A piece of filament shows at the top of the nozzle tube or PTFE tube
3. Take the nozzle off hot and push the plug out	Bambu Lab P2S: 220 °C for PLA	The cleaning needle pushes the leftover filament out, then pliers pull it free	Hot extrusion and the needle from below did not clear it
4. Pull the PTFE liner (PTFE-lined hotends)	Prusa MINI: with the nozzle hot, the filament pulls out together with the Bowden tube	10 mm wrench for the brass fitting, pliers or tweezers for the liner	Neither filament nor the wire passes; the liner may be scarred or distorted
5. Disassemble and reassemble	E3D V6 brass nozzle: hot-tighten at 285 °C, after about a minute at temperature	7 mm spanner and an adjustable wrench, 2 N m; thermal paste on the long section of the heatbreak only	Nothing above worked, or the hotend was taken apart to clean it

- **Hot pushing does not restore flow.** Prusa's needle reaches only 1 to 2 cm up from below. If fresh filament still will not feed at 260 or 280 °C, Prusa places the blockage further up from the nozzle tip.
- **The extruder clicks.** To Prusa, a loud click means the drive gears are skipping against a blockage. Heat creep stops extrusion mid-print with no error while the printer keeps moving.
- **Filament is too thick.** Bambu Lab lists filament wider than 1.75 mm as a cause of jams in the hotend. Other signs are on the clogged nozzle symptoms page.

1.4 How do you clear a heat creep clog in the heatbreak?

The same way. Prusa's heat creep article says "we are dealing with a clogged hotend," so start at step 1 in the table. Once filament flows, do a cold pull to clean the bore. On the MINI, Prusa loads PLA at 270 °C and pulls at 90 to 95 °C. Bambu Lab's X1 and P1 method loads at 220 °C and pulls at 100 °C. The full method is on the cold pull page.

Then remove the cause, or it will jam again. Prusa lists a room above 35 °C (30 °C for some filaments), PLA in a closed enclosure, a dusty heatsink, a weak hotend fan and missing thermal paste on the heatbreak. Bambu Lab keeps the enclosure at least 10 degrees below the filament's glass transition temperature and prints PLA with the door open on its PEI plates. The cause is on the heat creep page, and prevention on the heat creep fix page.

1.5 How to check it on your own print

- **Heat with the printer, not a torch.** Prusa says to heat the nozzle only from the printer's menu, because an external heat source can cause damage. A nozzle already off the printer can go under a heat gun.
- **Wear heat-resistant gloves and keep your face back.** Bambu Lab warns that pressure behind a clog can spray molten filament without warning. Hold a removed hotend in an oven glove, over a surface heat will not damage.
- **Push the wire gently.** Prusa warns that it can damage the extruder's hobbed gears or scratch the PTFE tube. Bambu Lab adds that a pin pushed too far from below drives molten plastic higher, into a harder clog.
- **Reseat the PTFE tube.** Prusa wants the tube flush with the top of the heatbreak, with no up-and-down play. E3D cuts it square and pushes it in until it bottoms out. A loose tube "can cause clogging," Prusa says.
- **Do not over-tighten.** E3D sets the heatbreak flush with the top of the heater block and hot-tightens to 2 N m. More risks shearing the nozzle or the heatbreak.
- **Unload hot after each print.** Prusa's habit against heat creep is to unload the filament while the hotend is still hot.
- **Confirm the flow.** Extrude by hand and watch for a straight strand that does not curl, as Bambu Lab specifies. If it still fails, work through why a nozzle keeps clogging.

References

[1] Clogged nozzle/hotend (MK3.5/S, MK3S+, MK2.5S), Prusa Knowledge Base. https://help.prusa3d.com/article/clogged-nozzle-hotend-mk3-5-s-mk3s-mk2-5s_2008. Accessed October 15, 2026.

[2] Clogged nozzle (CORE One, CORE One L, XL, MK4/S, MK3.9/S), Prusa Knowledge Base. https://help.prusa3d.com/article/clogged-nozzle-core-one-core-one-l-xl-mk4-s-mk3-9-s_411823. Accessed October 15, 2026.

[3] Clogged nozzle/hotend (MINI/MINI+), Prusa Knowledge Base. https://help.prusa3d.com/article/clogged-nozzle-hotend-mini-mini_112011. Accessed October 15, 2026.

[4] Cold pull (MINI), Prusa Knowledge Base. https://help.prusa3d.com/en/article/cold-pull-mini_126399. Accessed October 15, 2026.

[5] Extrusion stopped mid-print (Heat creep), Prusa Knowledge Base. https://help.prusa3d.com/article/extrusion-stopped-mid-print-heat-creep_1948. Accessed October 15, 2026.

[6] A1/A1 mini Nozzle/Hotend Unclogging Procedure, Bambu Lab Wiki. https://wiki.bambulab.com/en/a1-mini/troubleshooting/nozzle-clog. Accessed October 15, 2026.

[7] P2S Nozzle Unclogging Procedure, Bambu Lab Wiki. https://wiki.bambulab.com/en/p2s/maintenance/cold-pull-maintenance-hotend. Accessed October 15, 2026.
[8] Nozzle/Hotend Unclogging Procedure for X1/P1, Bambu Lab Wiki. https://wiki.bambulab.com/en/x1/troubleshooting/nozzle-clog. Accessed October 15, 2026.
[9] What is heat creep?, Bambu Lab Wiki. https://wiki.bambulab.com/en/filament-acc/filament/heat-creep. Accessed October 15, 2026.
[10] E3D Classics Support: V6 HotEnd, E3D. https://e3d-online.com/pages/e3d-classics-support-v6-hotend. Accessed October 15, 2026.
[11] E3D Classics Support: V6 Nozzle, E3D. https://e3d-online.com/pages/e3d-classics-support-v6-nozzle. Accessed October 15, 2026.

Cite as: Asked 3D. "How do you remove filament stuck in the heatbreak?." October 15, 2026. https://asked3d.com/answers/filament-stuck-in-heatbreak. Last verified October 15, 2026.