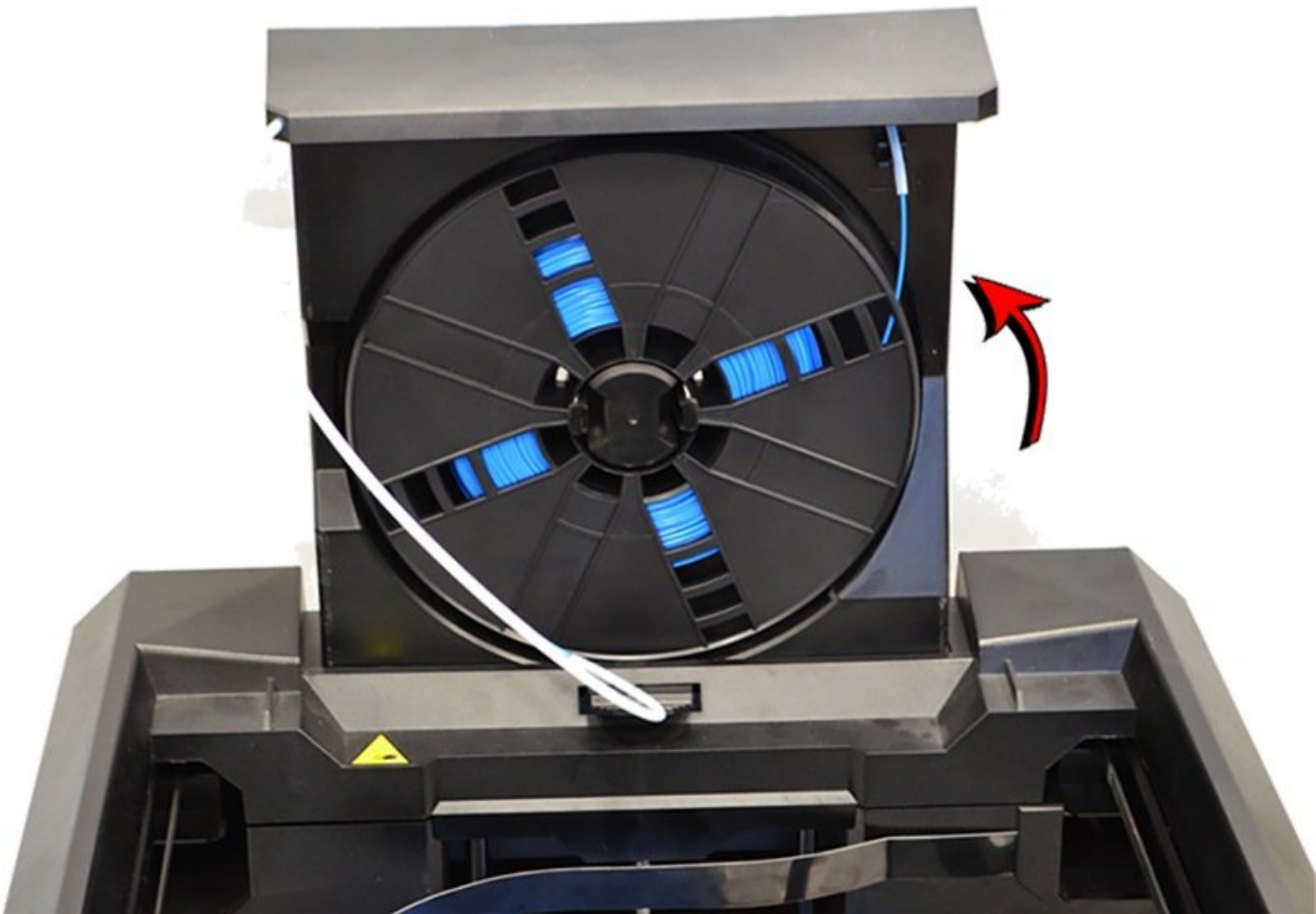




# MakerBot Smart Extruder Troubleshooting

Steps to quickly identify and fix common problems with the MakerBot Smart Extruder (all plus variants).

Written By: Andrew James Gregory



## Introduction

The MakerBot Smart Extruder+ is an innovative part from MakerBot that can be detached from the 3D printer assembly. The Smart Extruder+ allows users to quickly swap in another extruder to ensure maximum uptime while 3D printing. Future variants may also include the ability to print in other materials, enabling end users to purchase a minor upgrade instead of an entirely new 3D printer.

In this guide, we'll go over some basic troubleshooting steps you can take on an existing Smart Extruder that is clogged, slipping filament, or generally not performing as it should. We do not recommend you attempt to take the Smart Extruder apart and this guide will only cover troubleshooting steps that leave the extruder intact.

## Note on attribution of content

Content in this guide has been transposed from Andy Gregory's MakerBot Smart Extruder Repair Guide, available in print edition in the MakerBot Innovation Center.



### TOOLS:

- [Micro Cutter](#) (1)



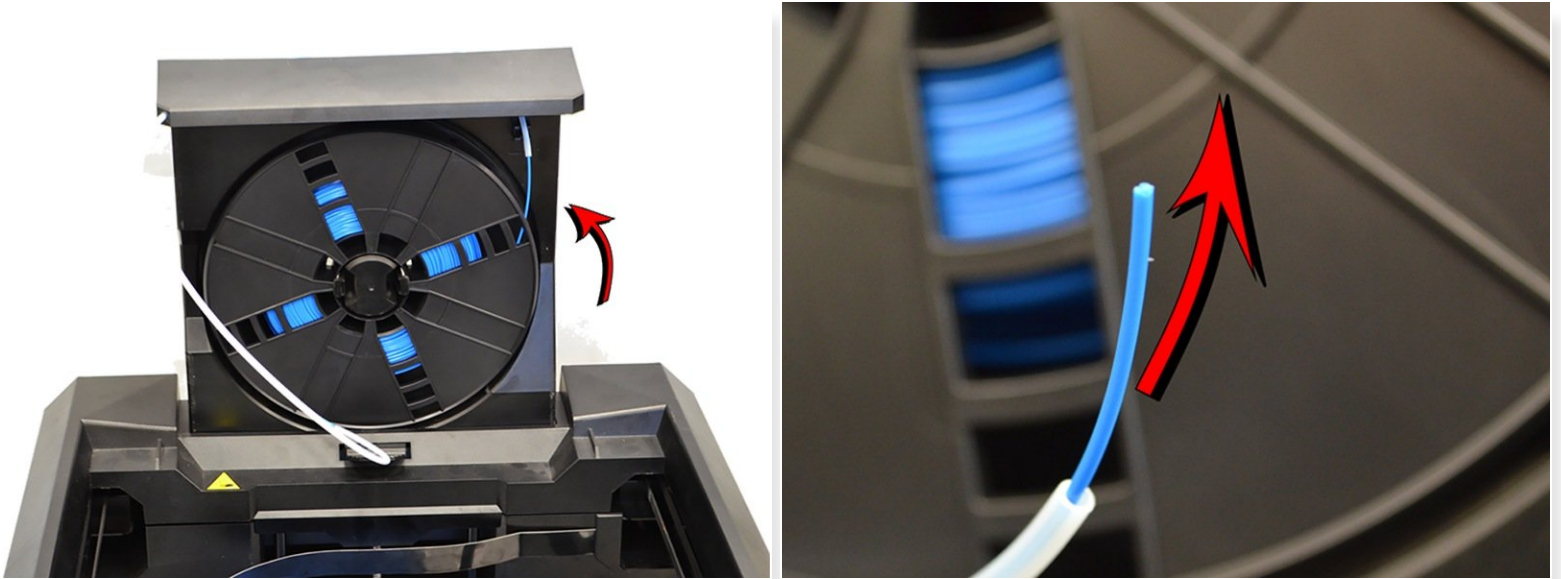
### PARTS:

- [MakerBot Smart Extruder+](#) (1)

*Applicable to both + and Tough PLA variants.  
Not applicable to original SE.*

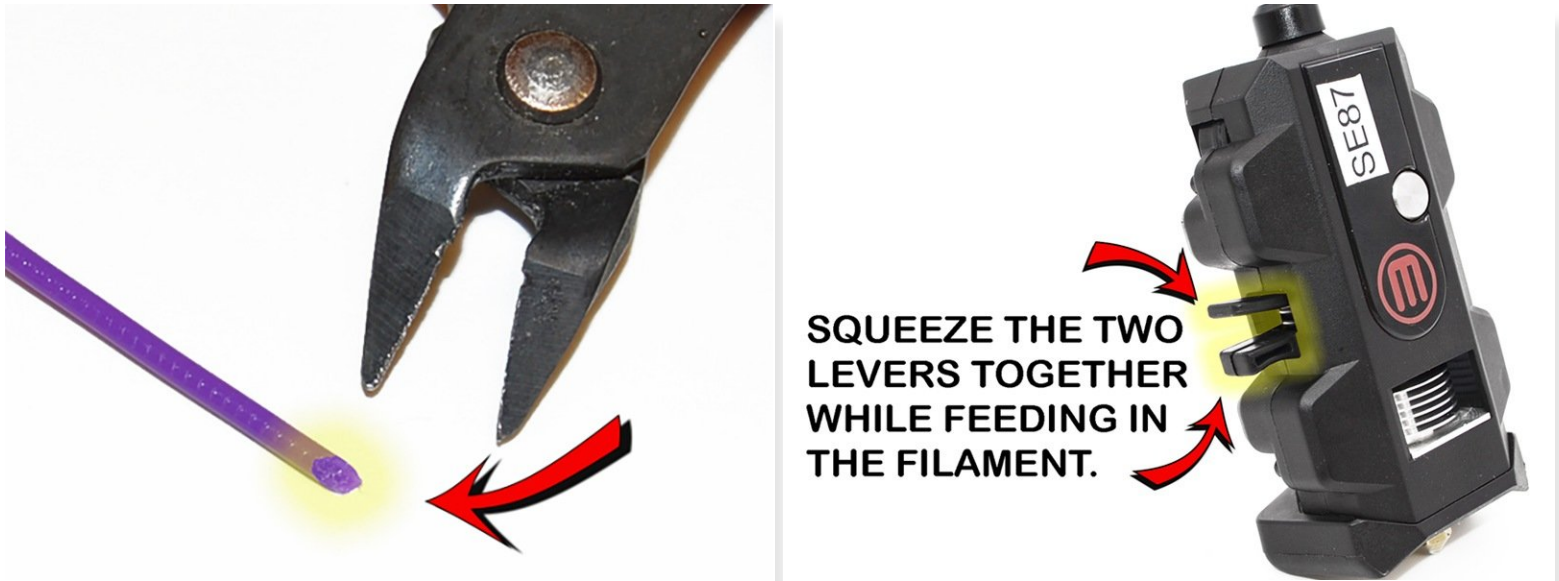
## Step 1 — Check the filament spool & tube

---



- Check that the filament spool is installed correctly and spins freely in the spool holder. It should spin with little to no resistance.
- Filament should be easy to pull out from end of delivery tube.

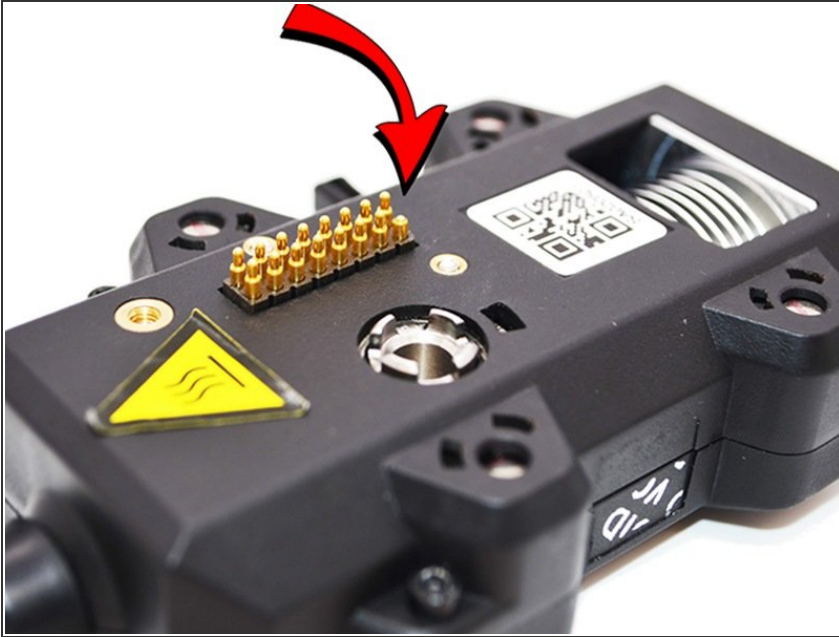
## Step 2 — Reload the filament & realign in the extruder



- The filament will often become caught on the internal parts of the extruder.
- Cut the filament at an angle to form a wedge-like point near the end.
- While the filament is loading, try squeezing the small levers on the side of the extruder.
- This will sometimes allow the filament to align itself in the PTFE tubing within the extruder.

### Step 3 — Check the extruder's contact pins

---



- The contact pins on the MakerBot Smart Extruder can occasionally become bent or stuck in a depressed position.
- In this situation, they will not make contact with the associated contact points on the gantry.
- Push the pins in and out with your fingers to attempt and unstick them.
- ❗ If a pin is damaged and cannot be repaired by minor troubleshooting, retire the MakerBot Smart Extruder and log it in the appropriate system (Terrapin Works staff only).

You've successfully completed basic troubleshooting steps for the MakerBot Smart Extruder (all plus variants).