

# First use cautions

## Introduction

This page purpose is to help you to check a few points before using your 3D printer in order to avoid any possible known issues.

**Check that the stepper motors are properly connected to the stepper drivers on the Electronic board..**

**Check that the stepper motors are properly connected on your electronic board before powering on.** The drivers don't support to be powered on without any motors attached.

In certain cases you can damage them and the stepper motors will react in a random manner.

**Precautions to take before powering your heatbed.**

Certain heatbeds can use up more than 200W.

Depending on how the heatbed is driven, you will need to check that the driving power transistor is properly cooled down, and that there is a proper airflow around it.

On **Scalar M**, the heatbed is connected directly on the power transistor.

**It's mandatory that the 80cm fan inside the electronic box is connected, powered and generates a good airflow.**

On **Scalar XL**, the 700W 220V heated bed is powered through a separate 25A solid state relay.

The 80 cm fan is then used to **cool down the stepper motors** drivers in order to keep optimal performances.

## **Keep the stepper drivers always close to ambient temperature.**

Stepper motors drivers are responsible to properly driver the stepper motors. When they get hot, the available power drops and you might get some missed steps after a few hours of printing.

## **PLA and FullMetal hot ends (E3D or AllInOne)**

With Full metal hot ends, if you are using PLA, it's **MANDATORY** to keep the hot end's heatsink cool.

These hot ends are provided with auxiliary fans with purpose is to keep them close to ambient temperature.

if the fan is not running, is stopped or that the airflow is not enough, PLA will expand inside the hot end.

Expanding PLA inside your hot end will, if you are lucky, only expand on a small portion of the hot end. You should still be able to push or pull it from the hotend manually using some pliers.

In other cases, it can expand out of the hot end's heatsink.

in this case you will need to disassemble the hotend, clean it and fix your fan cooling issue.

# Precautions to take before switching off your 3D printer

Some plastics will expand on full metal hot ends if you switch off your 3D printer while the hot end is still hot.

To avoid possible issues with plastic expansion, **make sure the hot end temperature goes below 75°C** before switching off your 3D printer