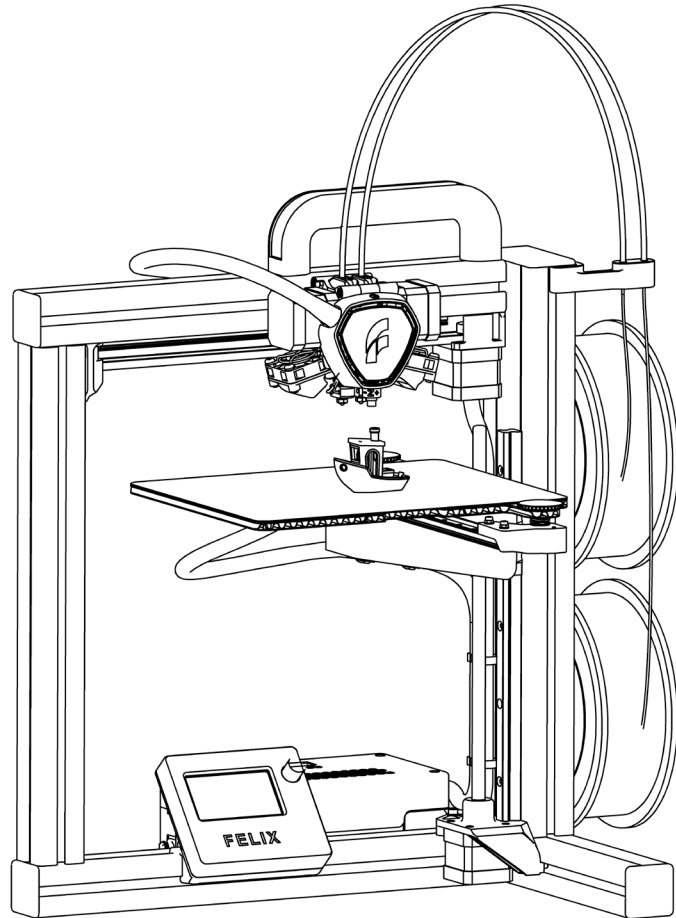




Quick Start Guide

Tec 4



www.felixprinters.com/support
support@felixprinters.com

Zeemanlaan 15
3401 MV IJsselstein
The Netherlands

Safety



General safety

Keep children under the age of 14 out of reach of the printer. FELIXprinters are only suitable for professional use.

Considerations when in operation

Do not lean on the printer.

Be careful with long hair and loose clothes.

Do not transport the printer while working.

Make sure all moving parts can move without any obstructions.

Do not remove any objects from the hot plate while printing.

Caution with any moving parts that move in the X, Y and Z direction. At the end of each moving part there is a pinching hazard.



Electronic safety

Only use the power supplies and cables supplied by FELIXprinters. Always turn off and unplug the printer before doing maintenance or modifications.

The power supply meets all CE mark regulations and is protected against short-circuit, overload, over voltage and over temperature.

Printer placement

Place the FELIXprinter on a stable table/desk.

This will keep it safe from small children.

Use the FELIXprinter in a dry environment.



Ventilate

Good ventilation while printing is advised though printing pure PLA is considered safe. When printing ABS, small concentrations of Styrene vapour can be released. This can (in some cases) cause headaches, fatigue, dizziness, confusion, drowsiness, malaise, difficulty in concentrating, and a feeling of intoxication.

We recommend using filament types shown on the FELIXprinters website. Examples PLA, PETG, ABS, PVA etc. Other types may be toxic. Please follow instructions from the filament supplier.



Caution with heater elements

There is a potential risk of injury, as the print head can reach temperatures of up to 275°C and the heated bed of up to 100°C. Don't place objects on the heated bed that are not being printed, not even when the printer is turned off.



We do not recommend to leave the printer unattended for a very long period of time. If you do, it is recommended to leave it in a properly conditioned room with distance from highly flammable objects.

INTRODUCTION & CONTENT

Thank you for choosing FELIX Tec 4.

This quick start guide contains the following information for you to familiarize yourself with your 3D printer, to use it to its best advantages and to benefit fully from all the functions and the technical developments it incorporates.

It is well worth taking a few minutes to read this guide to familiarize yourself with the information and guidelines it contains about the machine and its functions.

More manuals and tutorials can be found on www.felixprinters.com/support

Chapter 1 - Unboxing

- 1.1 What's in the Box?
- 1.2 Unboxing
- 1.3 Installing the Handle
- 1.4 Installing Accessoires and Cables

Chapter 2 - Prepare

- 2.1 Level Build Platform
- 2.2 Calibrate Z-Probe
- 2.3 Change filament

Chapter 3 - Print

- 3.1 Ensure a Succesfull Print
- 3.2 Printing via SD Card
- 3.3 Remove a 3D Printed Object
- 3.4 Remove Support Material

Chapter 4 - Software and maintenance

- 4.1 Print your own 3D Models
- 4.2 Calibrate XY Offset
- 4.3 Calibrate Z Offset

Require additional support?

Have a look at www.felixprinters.com/support or at our user forum.



Specs

FELIX Tec 4

System Specifications

- Printer dimensions (L, W, H) 410 x 450 x 520 mm
- Weight 9 kg
- Power requirements: 220 V

Capabilities

- Build volume Single mode (L, W, H) 205 x 255 x 225 mm
- Build volume Dual mode (L, W, H) 205 x 240 x 225 mm
- Layer height range 0.05 - 0.25 mm
- Bed temperature: max. 90 °C

Extruders

- Diameter nozzle: 0.35 mm (optional 0.5mm)
- Max temperature: 275 °C

Print materials

- Open source 1.75 mm filaments
- Tolerance: ± 0.15 mm
- PLA, PVA, ABS-X, PETG, PolyFlex, Wood, Glass

Connectivity

- Stand-alone micro-SD card printing
- USB cable connection
- Optional WiFi - The Element by Printr (external)

Software

- Optimized for Simplify3D and Repetier-Host

Contact

info@FELIXprinters.com

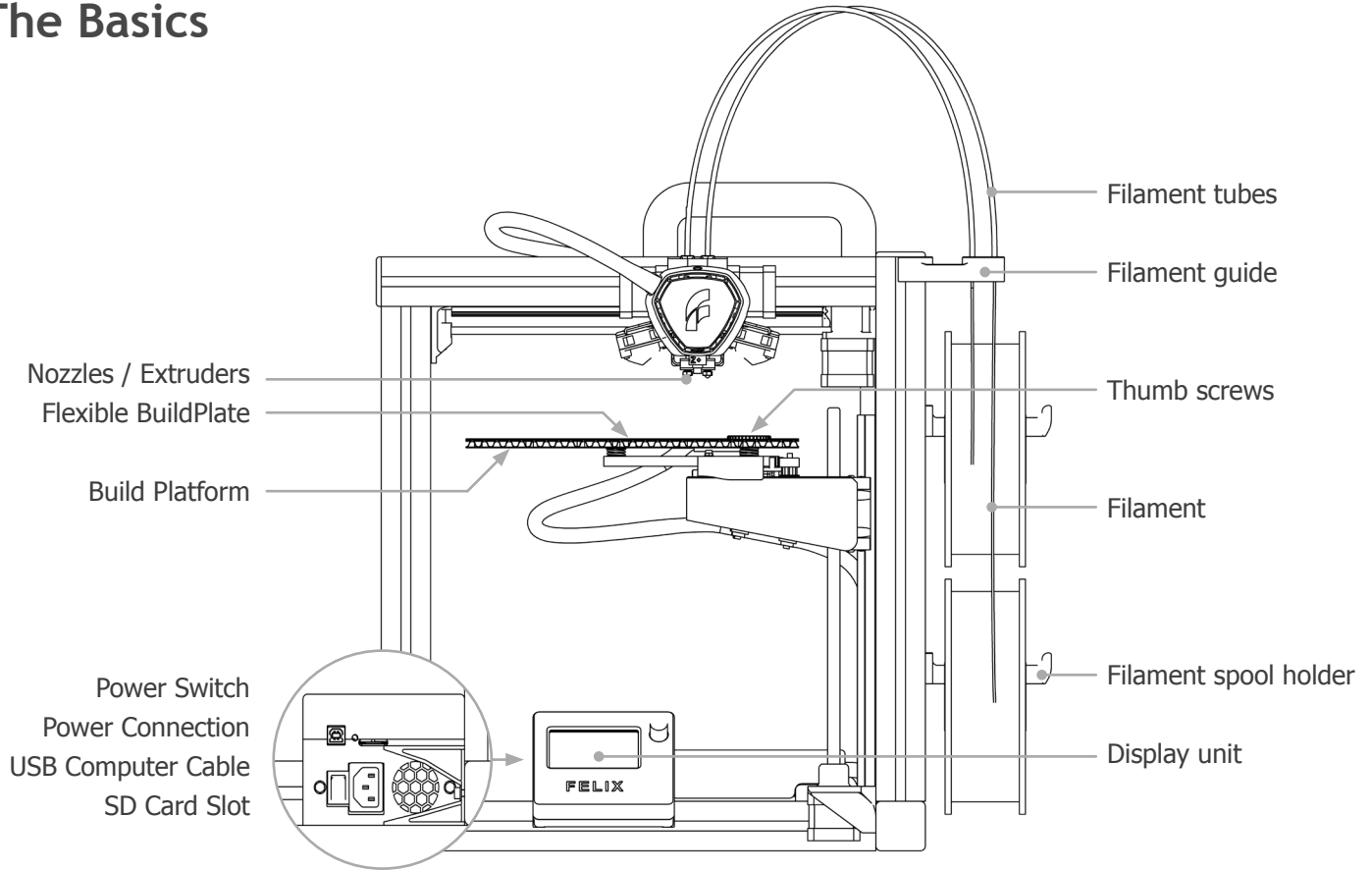
Zeemanlaan 15, 3401 MV IJsselstein, The Netherlands

Website

www.FELIXprinters.com



The Basics



Chapter 1: Unboxing

1.1 What's in the Box?

A 1 x Allen Key



B 1 x Tweezers



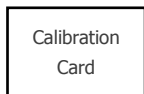
C 1 x Micro SD Card



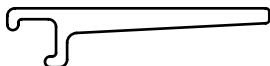
D 1 x USB-SD Adapter



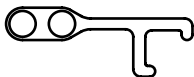
E 1 x Calibration Card



F 2 x Spool Holder



G 1 x Filament Guide



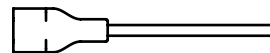
H 2 x Filament Tubes



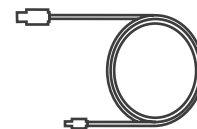
I 2 x M8x16 Screw



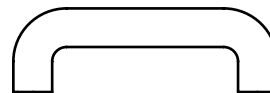
J 1 x Power Cable



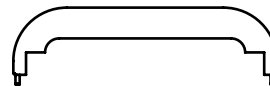
K 1 x USB Cable



L 1 x Handle



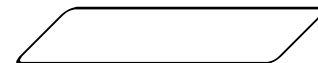
M 1 x Handle Cover



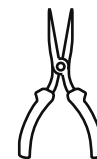
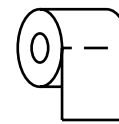
N 2 x T-nut M8



N 1 x Flexible BuildPlate

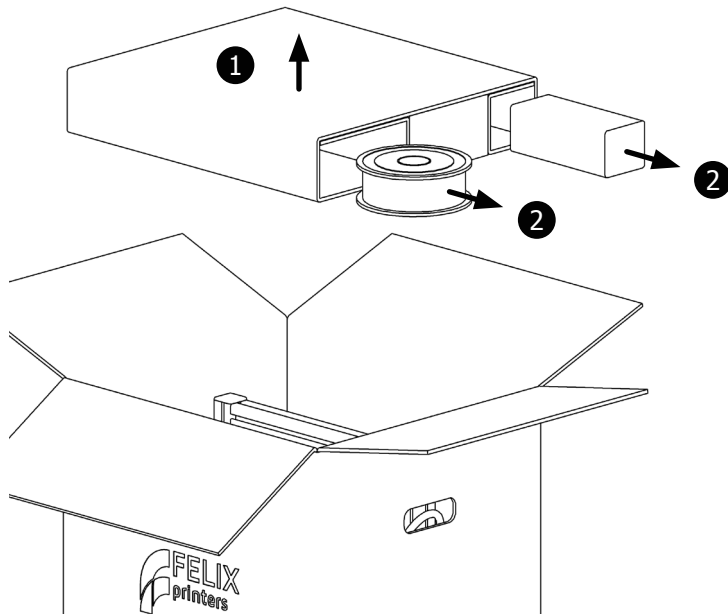


Recommended tools:

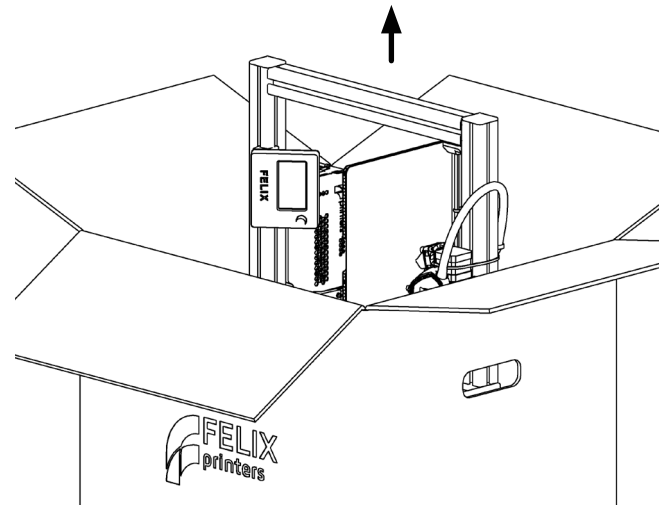


*We recommend to use the following tools: Spray Container with Alcohol, Paper Cloth, Scissors and Long Nose Pliers

1.2 Unboxing

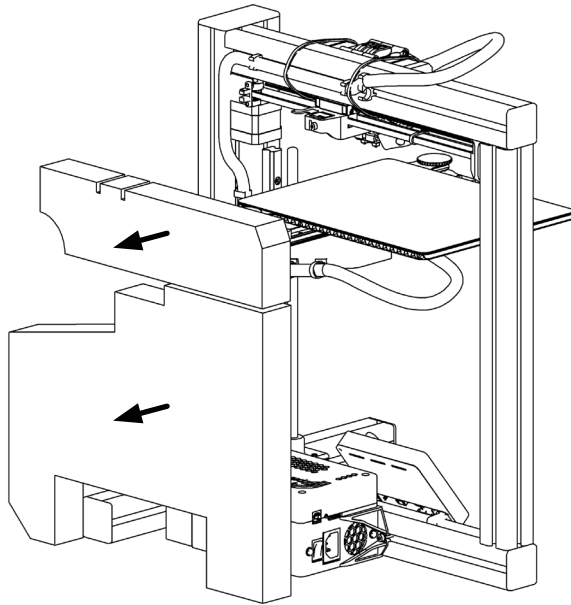


Open the box, remove the bumper and take out the miscellaneous parts from the bumper.

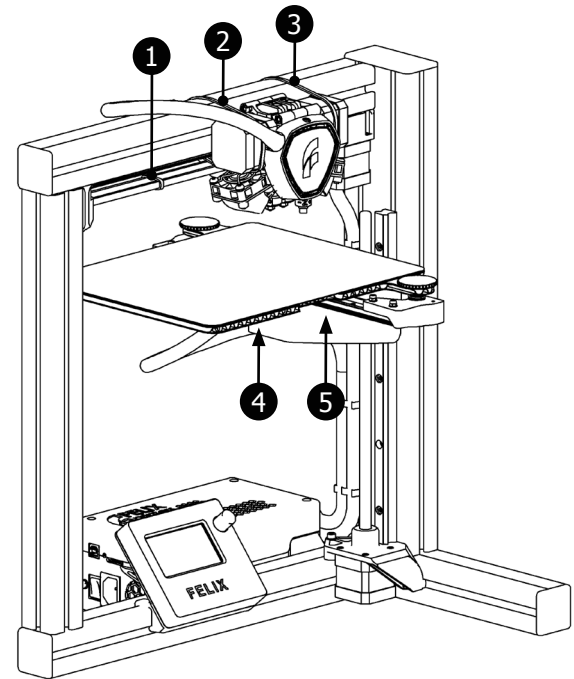


Carefully remove the FELIX Tec 4 from the box.

Chapter 1: Unboxing

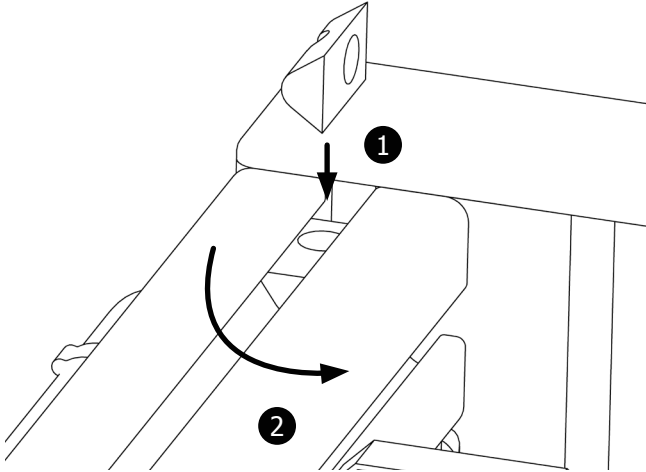


Remove the foam protection from the printer frame.

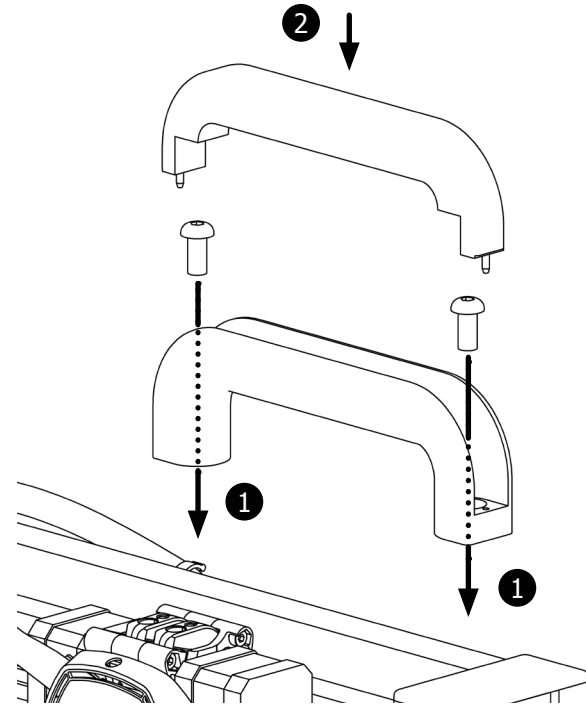


Remove the five **red** protective cable ties using cutting pliers or a scissor.

1.3 Installing the Handle

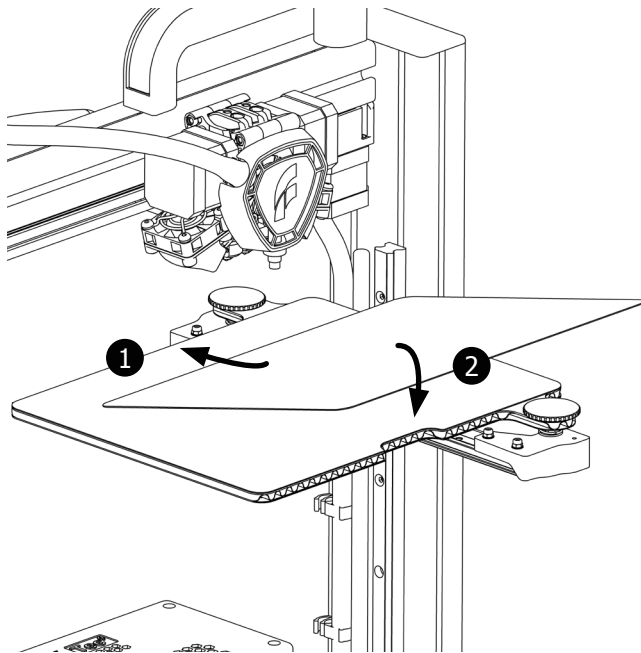


1. Put the T-nut upright into the T-slot of the profile.
2. Twist the T-nut 90 degrees in place.
3. Repeat this for both T-nuts.

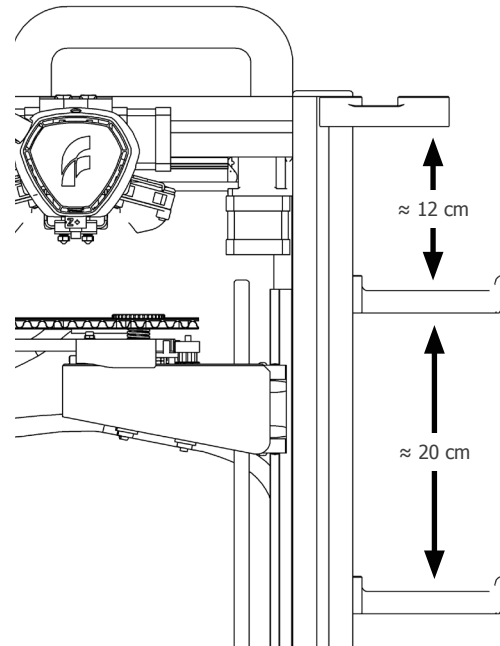


1. Fix the handle against the vertical profile with the two hexagon screws. Use a hex key size 5.
2. Press the handle cover on the handle

1.4 Installing Accessoires and Cables

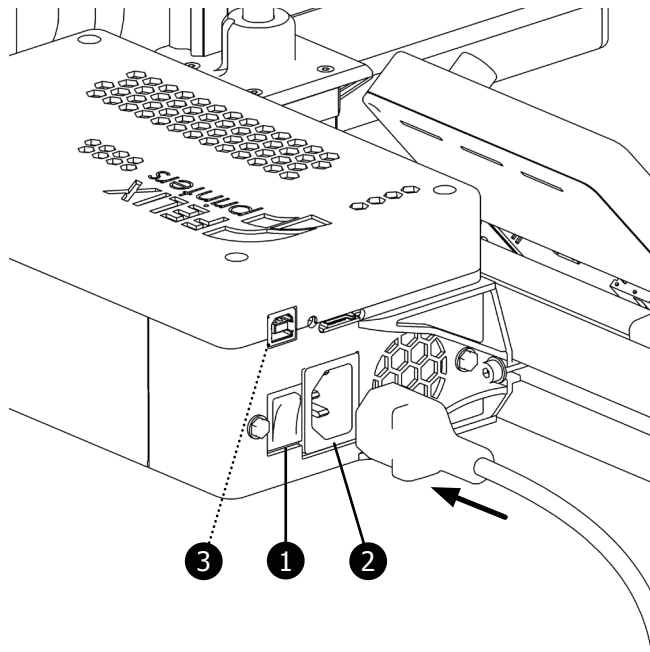


1. Place the rear of the Flexible BuildPlate on the edge.
2. Lower the front of the Flexible BuildPlate and make sure all edges are inside the build platform.

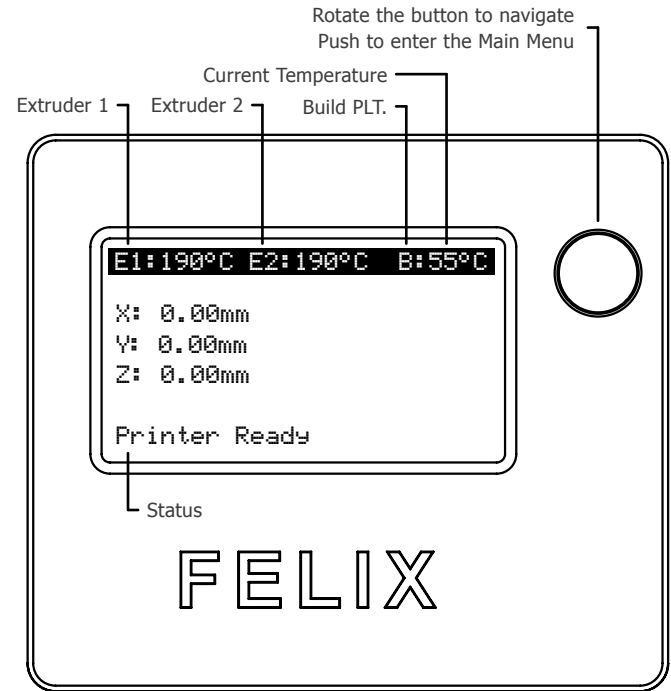


Install the filament guide and spool holder(s) by placing one edge in the T-slot and twisting it in place.

Chapter 1: Unboxing



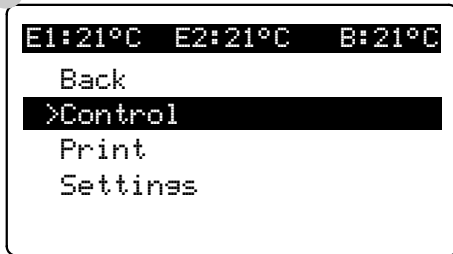
1. Make sure the power switch is turned off.
2. Insert the power cable.
3. Insert the USB cable when printing via computer.



The unboxing is done, you can now switch on the printer!

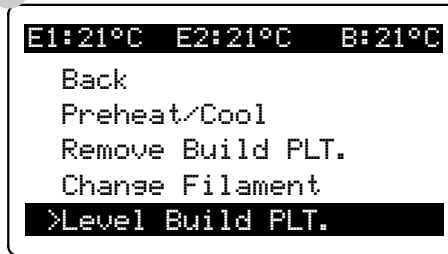
2.1 Level Build Platform

1



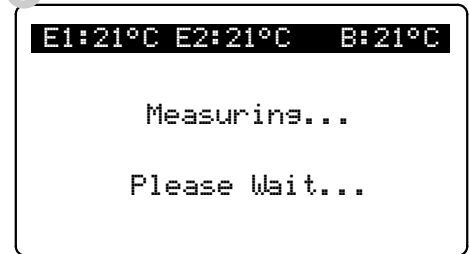
Enter the main menu by pressing the button, select Control.

2



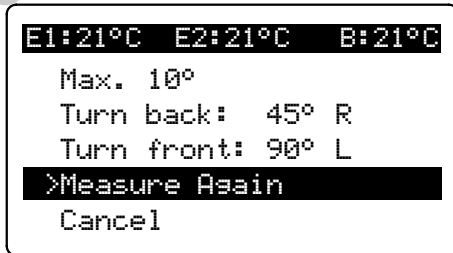
Scroll down and select Level Build Platform.

3



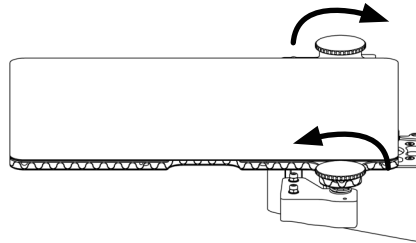
Next the printer will start measuring the angle of the build platform, this may take a few seconds.

4



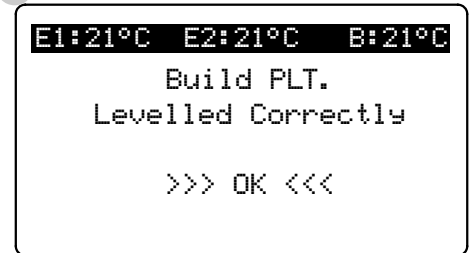
Shown are the correction values. These values will be used to level the build platform by turning the two thumbscrews.

5



Turn the front thumbscrew 90° to the left (counterclockwise), and turn the back thumbscrew 45° to the right (clockwise). Now select Measure Again.

6



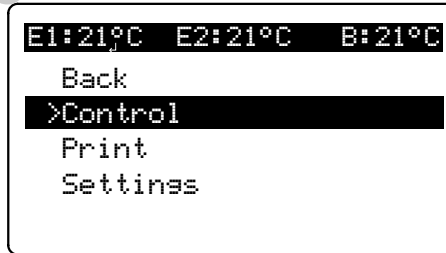
If the thumbscrews are adjusted correctly, the process will finish automatically. If not repeat steps 3 and 4 until levelled correctly

2.2 Calibrate Z-Probe

!

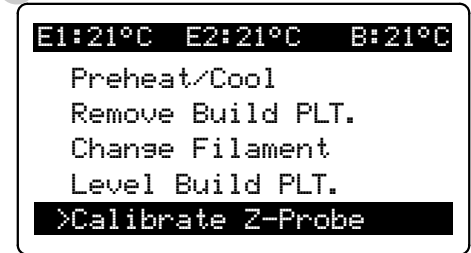
Always make sure the exterior of the nozzles are clean before calibrating the Z-Probe

1



Enter the main menu by pressing the button, select Control.

2



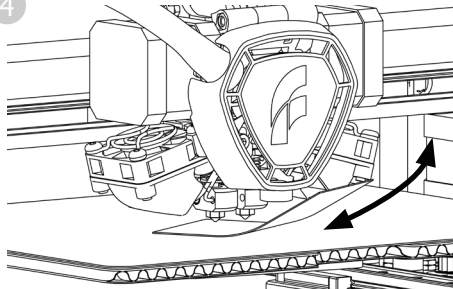
Next, scroll down and select Calibrate Z-Probe.

3



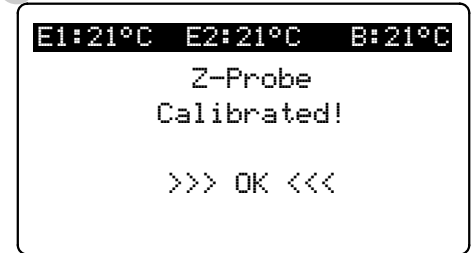
Place the Calibration Card between the left nozzle and the Flexible BuildPlate. Press the rotary button to continue.

4



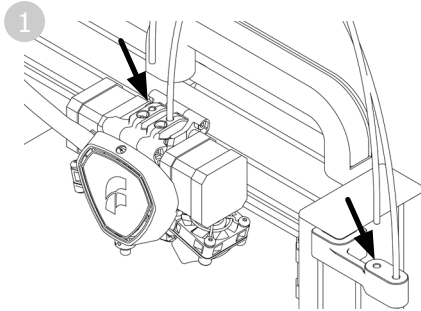
Scroll left to increase the friction, and scroll right to decrease the friction on the Calibration Card. When satisfied, press the button to continue.

5

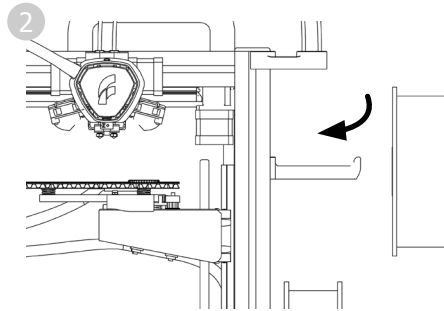


You've now calibrated the Z-Probe. This will influence the distance between the Flexible BuildPlate and the nozzle. This is important for the first layer to stick during printing.

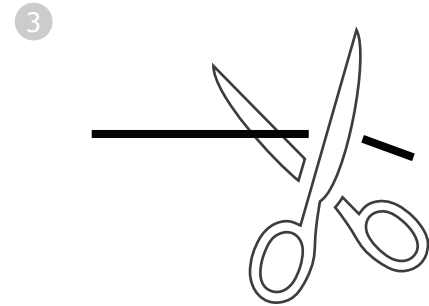
2.3 Change Filament



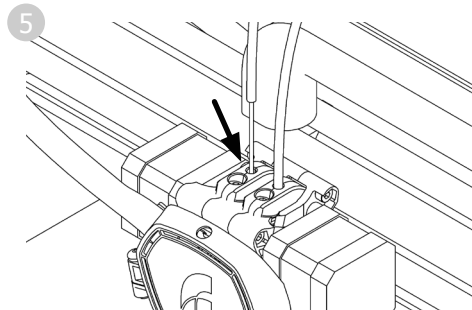
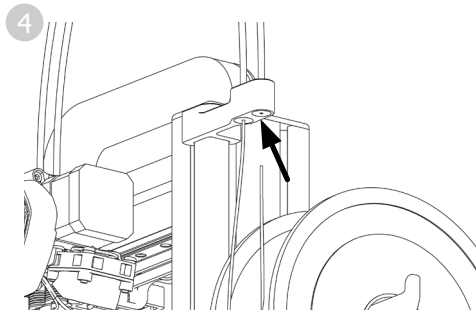
1 Take the filament tubes and push the ends in the filament guide and print-head. These will be used to feed the filament to the print-head



2 Place the filament spools on the spool holders.



3 Take the end of the filament, and create a clean end, by cutting the filament with a scissor.



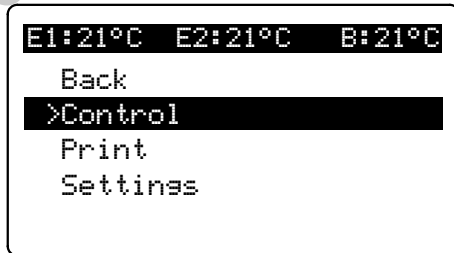
4 Place the filament into the print-head. We will feed the filament completely through the extruders on the next page.



Clean and replace the dust filter periodically to improve the lifetime of the extruders and nozzles.

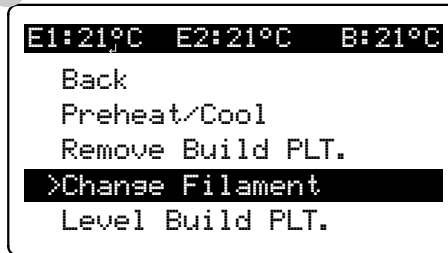
Chapter 2: Preparation

6



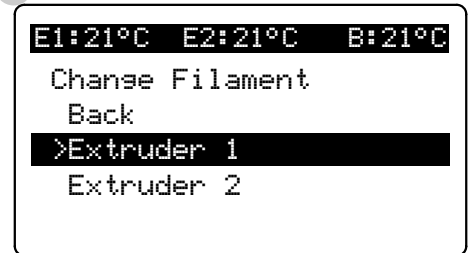
Enter the main menu by pressing the button, select Control.

7



Scroll down and select Change Filament.

8



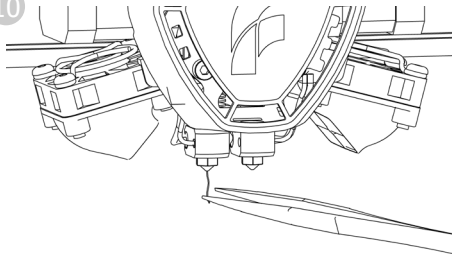
Select the extruder which you want to load. For single head printers only extruder 1 can be used.

9



Select the material you want to load. If you're not sure, check the side of the filament spool for more information. Press to continue.

10

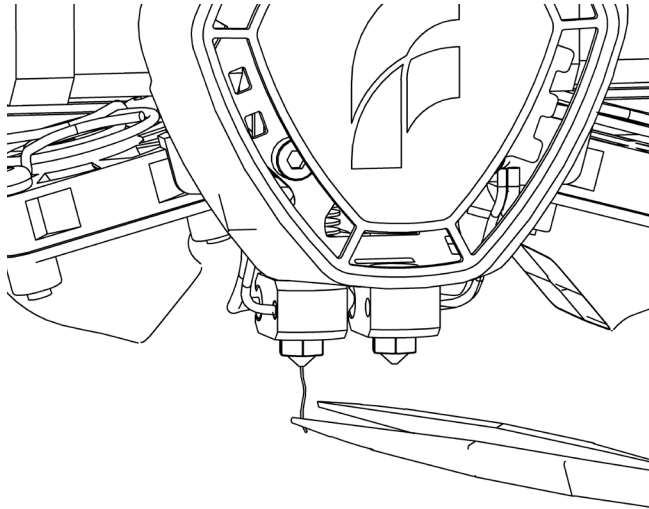


Feed the filament through the extruder by rotating the button clockwise until a small thread comes out of the nozzle. Use the tweezers to remove the thread of filament.



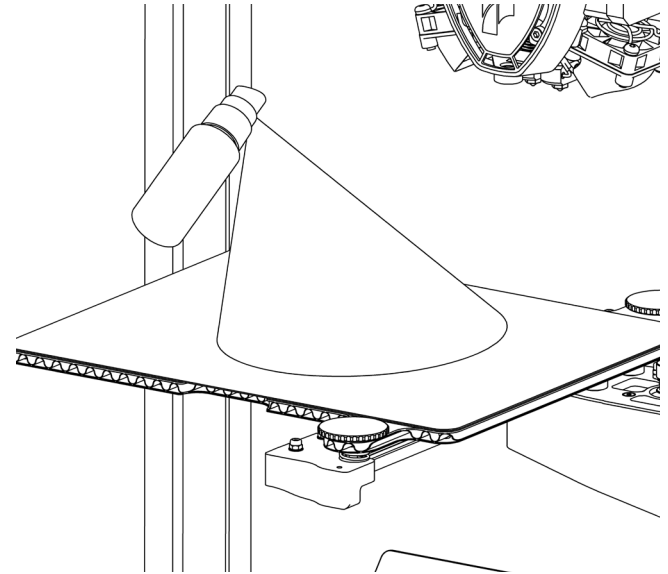
When changing to a new material with a lower temperature, purge the extruder with the previous temperature to prevent clogging.

3.1 Ensure a Successful Print



Clean Nozzles

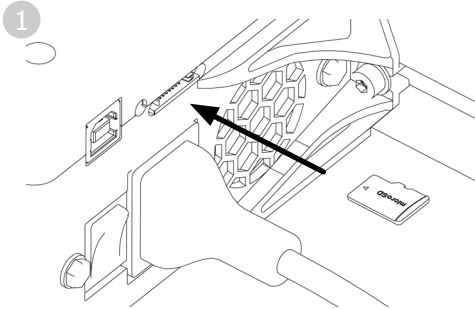
Remove plastic residue from the nozzle using the tweezers. Select Preheat/Cool in the Control Menu to make the residue soft and easy to remove.



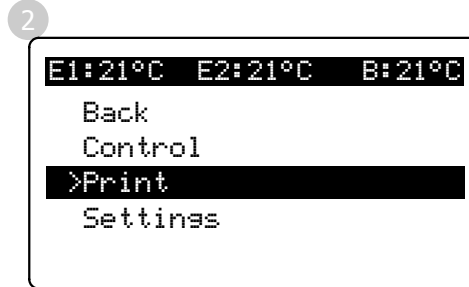
Clean Build Platform

Degrease the Flexible BuildPlate using alcohol, methylated spirit or acetone and wipe it clean with a paper towel.

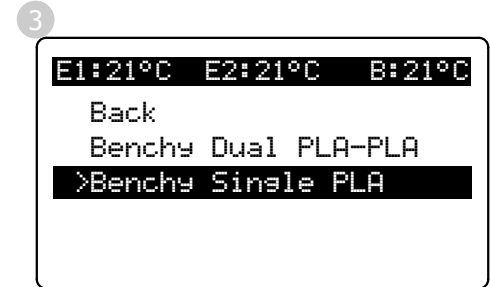
3.2 Printing via SD Card



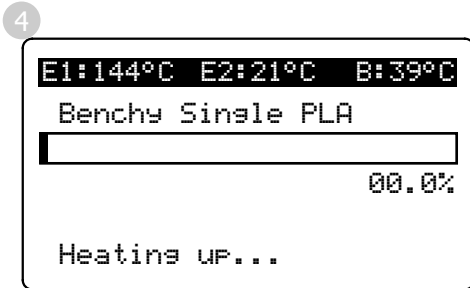
Insert the FELIX SD card into the slot located above the power plug. This SD card contains the Benchy Gcodes which is the first test print.



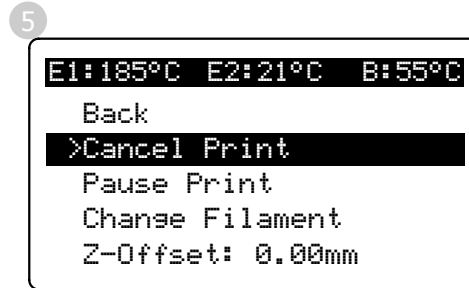
Enter the main menu and select Print.



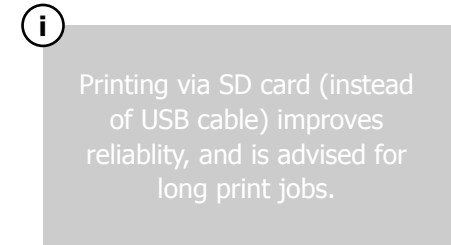
Select *Benchy Single PLA* for a single colour sample. If you prefer a dual colour sample select *Benchy Dual PLA-PLA*.



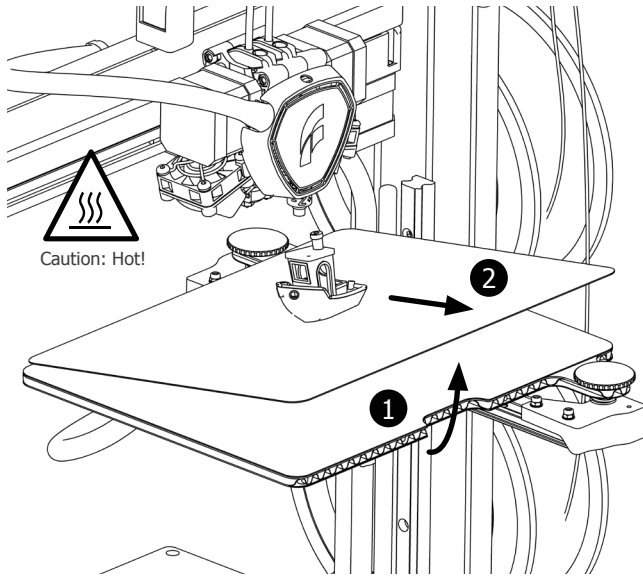
Make sure your first layer is finished properly before leaving your printer unattended. Make sure the material sticks properly to the Flexible BuildPlate.



If you want to Stop printing, press the rotary button and select Cancel Print.

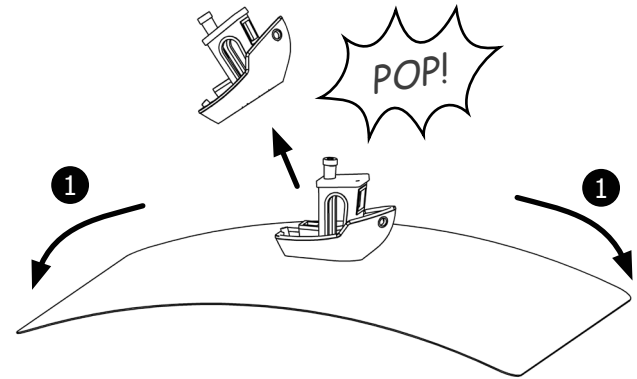


3.3 Remove a 3D Printed Object



Remove the Build Plate

To remove the Flexible BuildPlate lift up the front end using the notch in the build platform. Now you can easily remove the Flexible BuildPlate by pulling it forwards.



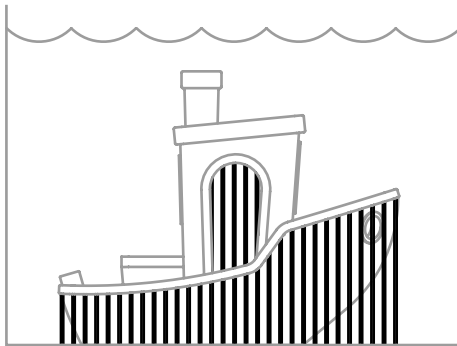
Remove Printed Objects

To remove printed objects simply bend the Flexible BuildPlate at both ends.

3.4 Remove Support Material

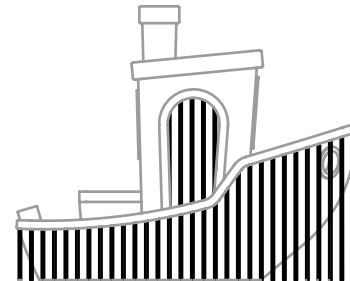
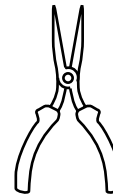


Support structures are used to support 3D geometries that angle up and outwards more than 45 degrees.



PVA Water Soluble Support

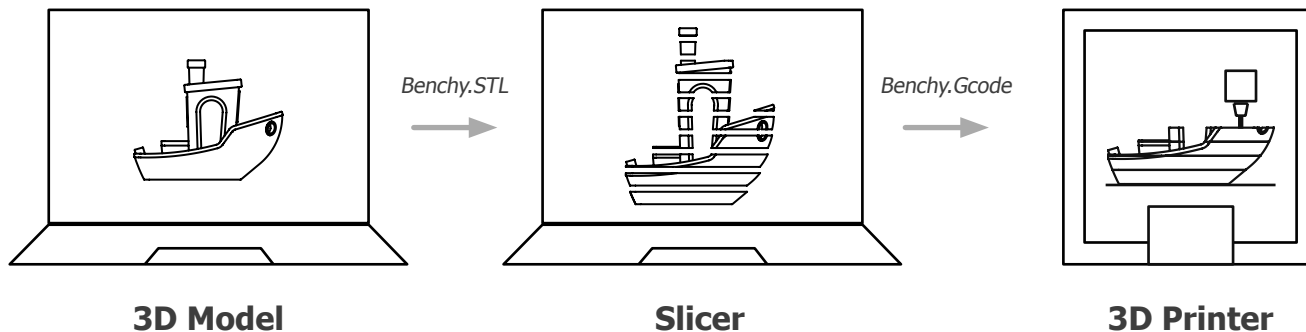
When using PVA Water Soluble Support simply dissolve the support structure in water overnight. Do not use warm water since this could warp the 3D model.



Same Material Support

Remove the same material support structures by pulling on the ends of the structure that are not connected to the 3D model using long nose pliers.

4.1 Print your own 3D Models



Simplify3D

Simplify3D is the recommended software to operate the FELIX Tec 4.

www.felixprinters.com/simplify3d



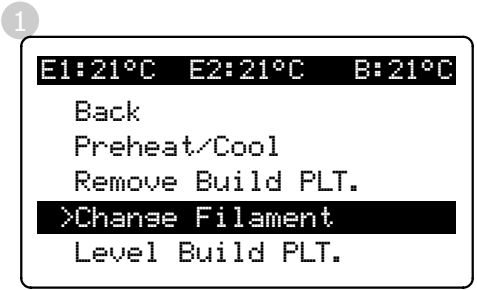
Repertier-Host

For experienced users who love to tweak we also support repertier-host open source 3D software.

www.felixprinters.com/repetier-host

4.2 Calibrate XY Offset (Dual only)

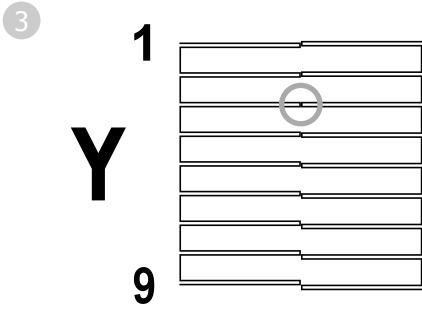
! Only perform this calibration after removal or replacement of the hot-ends and nozzles.



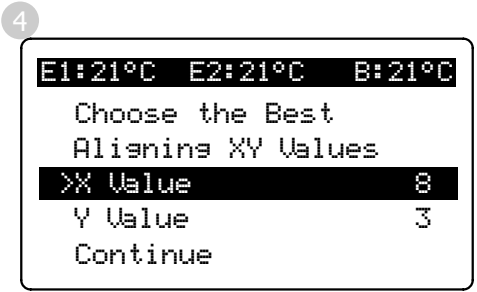
To start the XY-Calibration, first load PLA in both extruder 1 and 2. Also make sure the build platform is properly levelled.



Select: Control -> Calibrate Extruders -> Calibrate XY.



Choose the best aligning lines for both the X and Y value. In this example the best aligning Y value is 3.



Enter both the X and Y values and select continue.

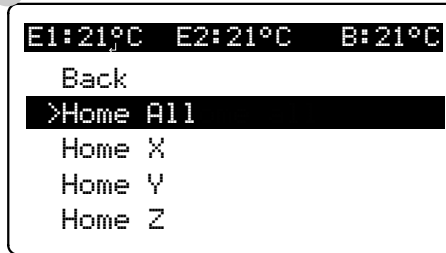
i In case the values go out of range simply select the best aligning value and repeat steps 1 to 4 until both values are 5.

4.3 Calibrate Z Offset (Dual only)

!

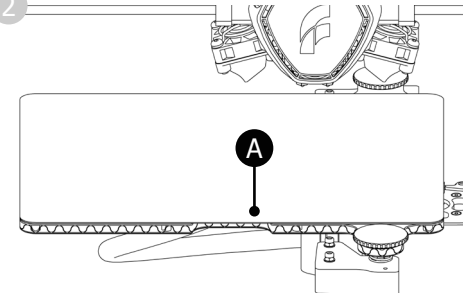
Only perform this calibration after removal or replacement of the hot-ends and nozzles.

1



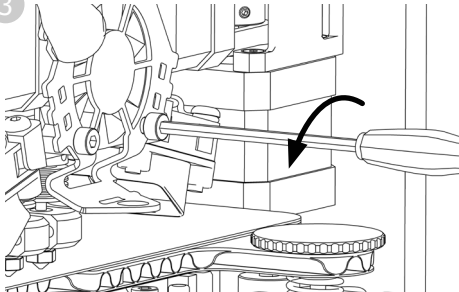
Select: Control -> Move -> Home All. **Make sure the build platform is properly levelled and the nozzles are clean.**

2



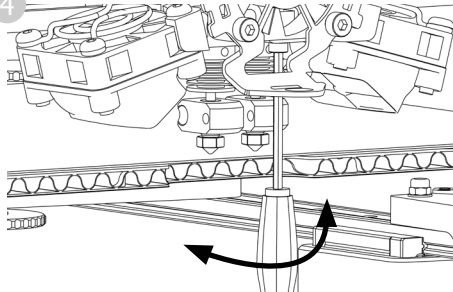
Turn the printer off and manually move the right extruder to position A. Now remove the fan cover by pulling it forward.

3



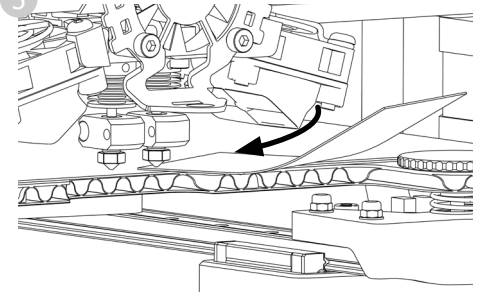
Loosen the right hex screw slightly by turning it counterclockwise with a hex key size 3.

4



Adjust the height of the right extruder by turning the hex screw with a hex key size 2.5. Turn clockwise to lower the right extruder.

5



Use the Calibration Card to adjust the right extruder to the same height as the left extruder. If satisfied tighten the hex screw size 3 and put the fan cover back in its original position.



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