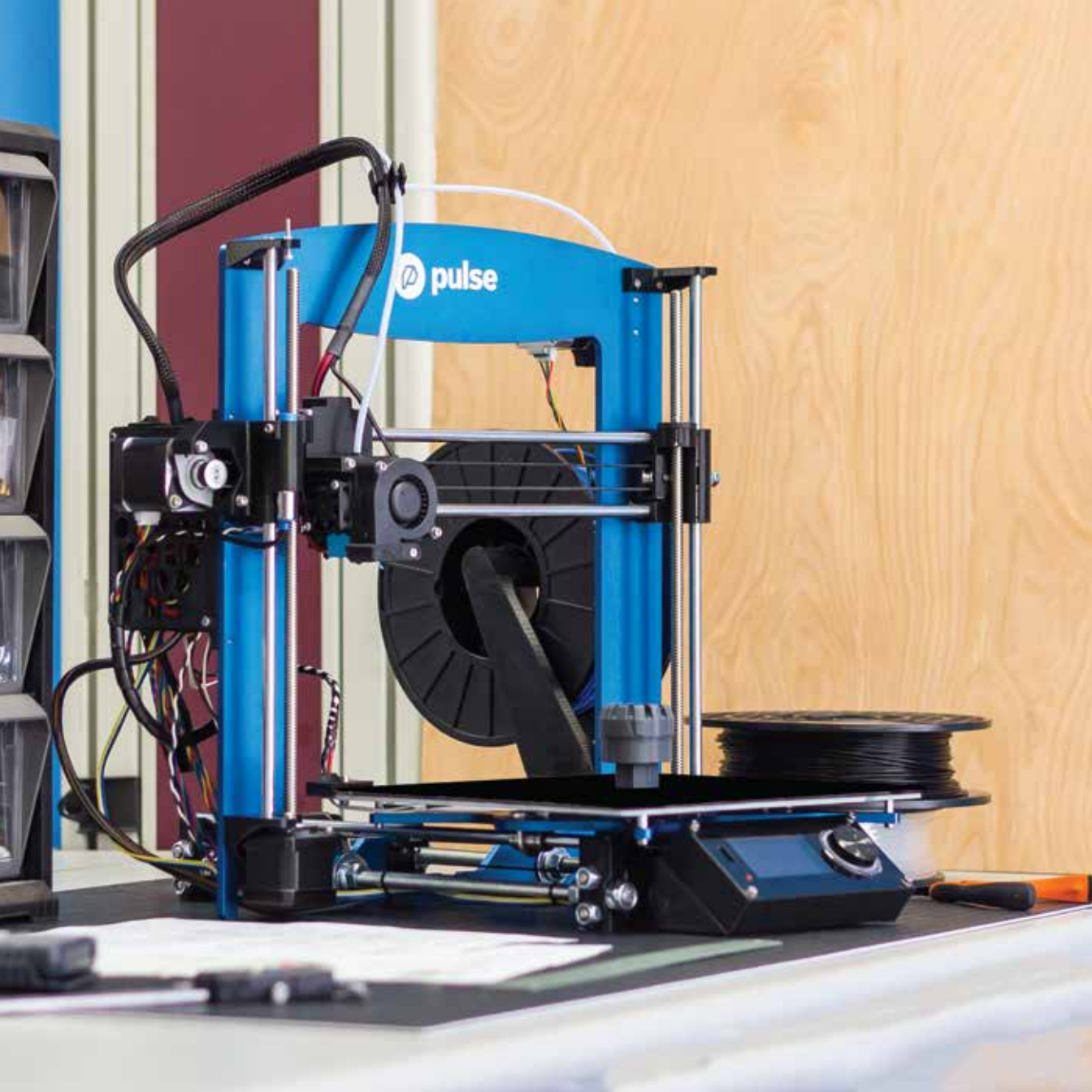
GETTING STARTED GUIDE


pulse

WELCOME TO THE

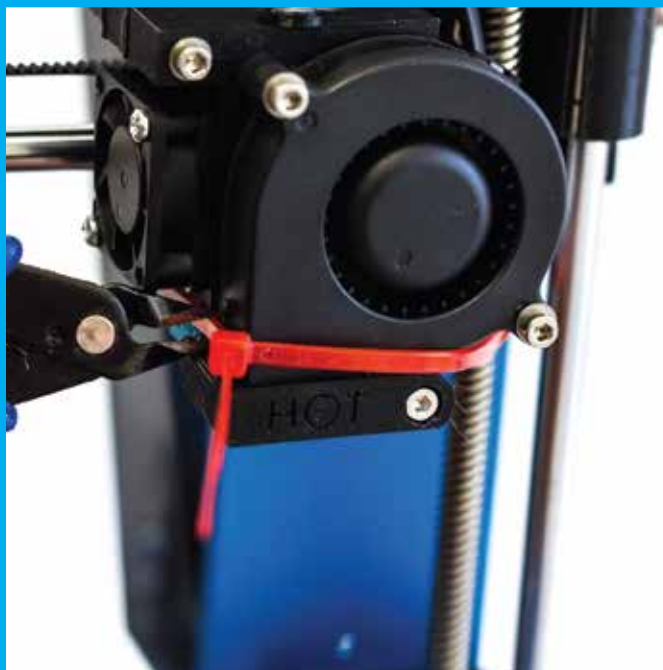
FAMILY

matterhackers.com/pulse

Getting Started Guide V#122


pulse XE


XE


HOT

STEP 1

UNBOXING

Remove printer and accessories from the packaging.

STEP 2

REMOVE RED ZIP TIES

Cut and remove RED zip ties.

DO NOT cut or remove any **BLACK** zip ties. They are used for wire management, and are meant to remain in place.

STEP 3 (OPTIONAL UPGRADE - SKIP TO STEP 4)

VIKI2 LCD SCREEN INSTALLATION

Make sure the Pulse is powered off before proceeding.

PLUG IN 12-PIN CONNECTOR

The black wire goes to the pin marked "GND". (A)

The red wire goes to the pin marked "+Vin". (A)

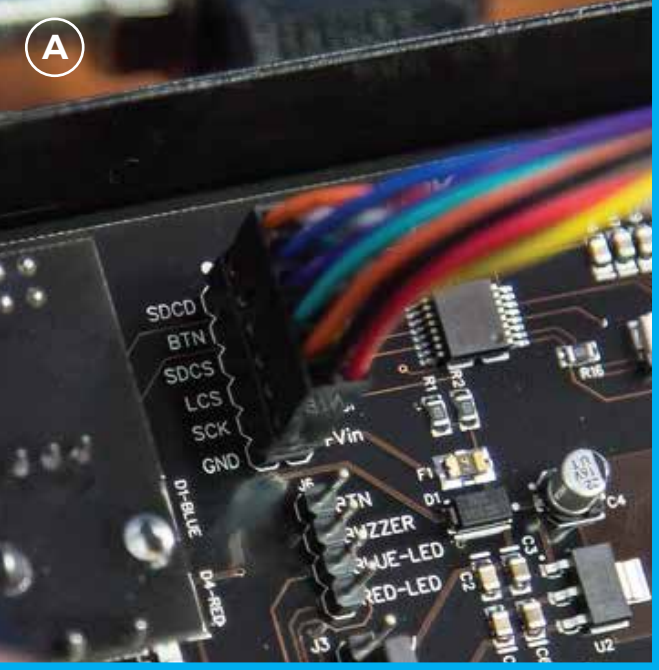
PLUG IN 4-PIN CONNECTOR

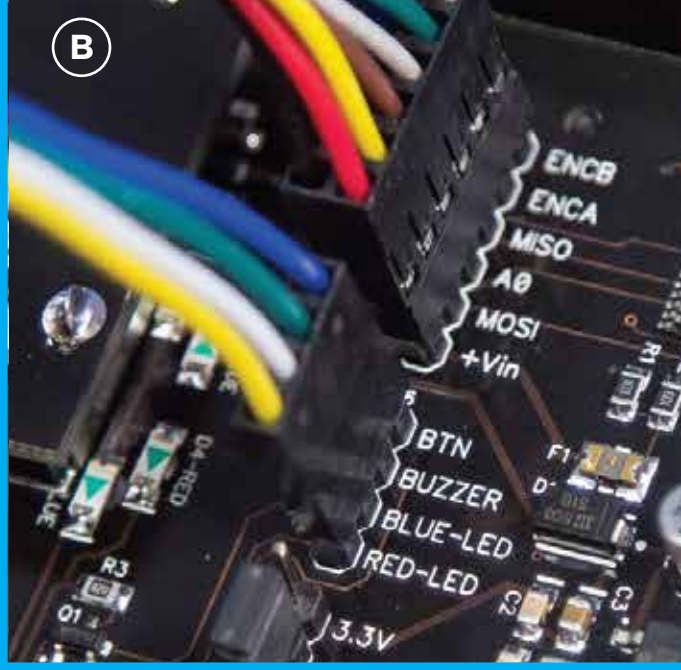
Blue wire goes to pin marked "BTN". (B)

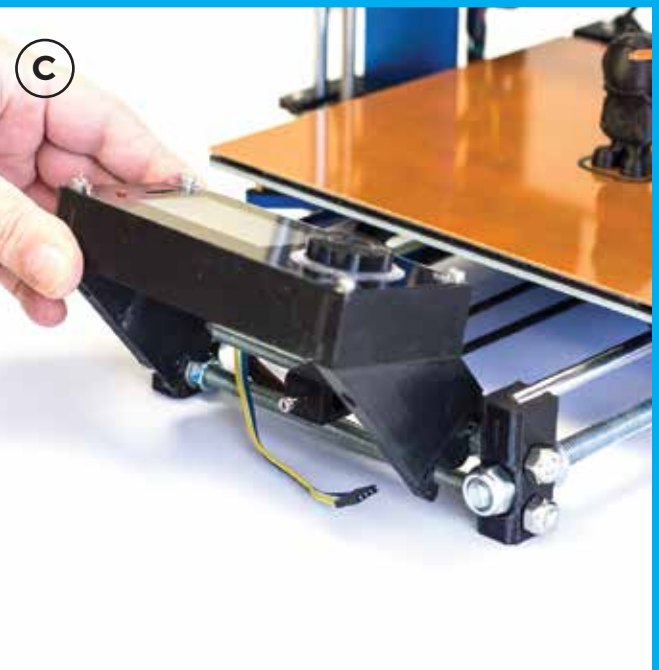
SNAP VIKI INTO PLACE

Snap into place as shown. (C)

Turn the Pulse on and check that the screen powers on and displays the printer status.


A
SDCD
BTN
SDCS
LCS
SCK
GND
D1-BLUE
D4-RED
J3
U2


B
ENCB
ENCA
MISO
A0
MOSI
+Vin
BTN
BUZZER
BLUE-LED
RED-LED
3.3V
R3
Q1


C

STEP 4

CONNECT POWER SUPPLY

Connect the power supply to the Pulse. (A)

Turn the power switch on.

STEP 5

PLUG USB CABLE INTO PULSE

Locate the USB input on the back of your Pulse 3D printer and plug USB cable in. (B)

Don't plug the USB cable into your computer yet. Doing so may cause difficulties with the initial connection setup.

STEP 6

CLEAR THE BED

Every Pulse printer is tested before it is shipped out. Remove the test print from the bed. (C)


A


B
ON
OFF


C

STEP 7

INSTALL MATTERCONTROL

Download the latest version of MatterControl from matterhackers.com/pulse

STEP 8

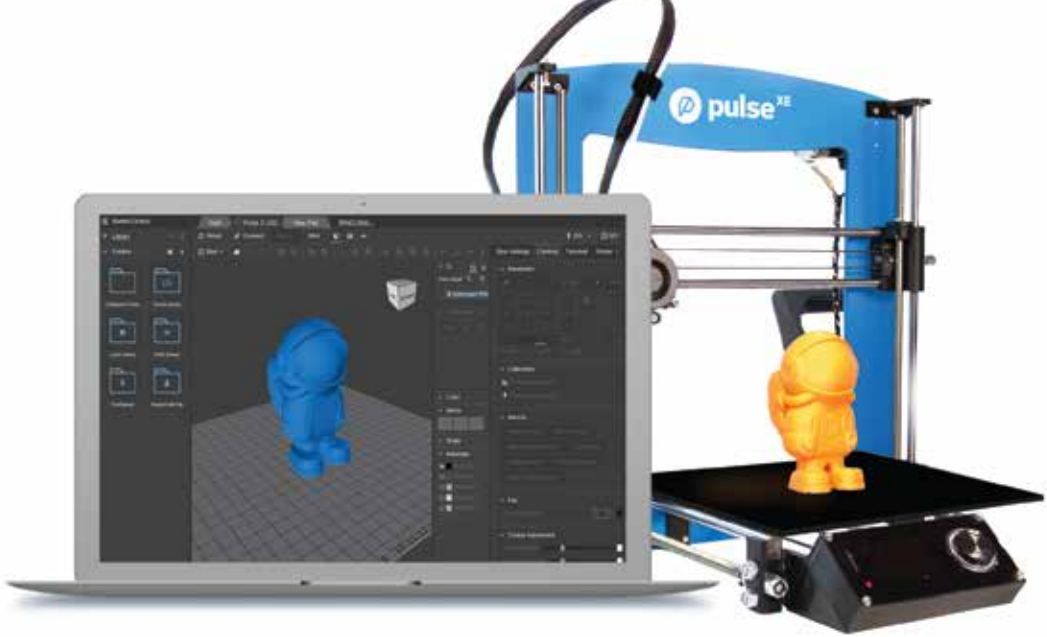
SETUP WIZARD

Open MatterControl. You should see the Setup Wizard window.

If you purchased your Pulse using a MatterHackers account, sign into MatterControl using this account - your Pulse will already be loaded into your MatterControl profile.

If not automatically promoted to add a printer, you can manually select ‘Create a printer’ and choose the Pulse model you have.

Locate the model number on the sticker on the back of the blue aluminum frame.



Setup Wizard

Sign in to access your cloud printer profiles.

Once signed in you will be able to access:

- Cloud Library

  Save your designs to the cloud and access them from anywhere in the world. You can also share them any time with with anyone you want.

- Cloud Printer Profiles

  Create your machine settings once, and have them available anywhere you want to print. All your changes appear on all your devices.

- Remote Monitoring

  Check on your prints from anywhere. With cloud monitoring, you have access to your printer no matter where you go.

☐ Don't remind me again

Create Account | Sign In | Skip

STEP 9

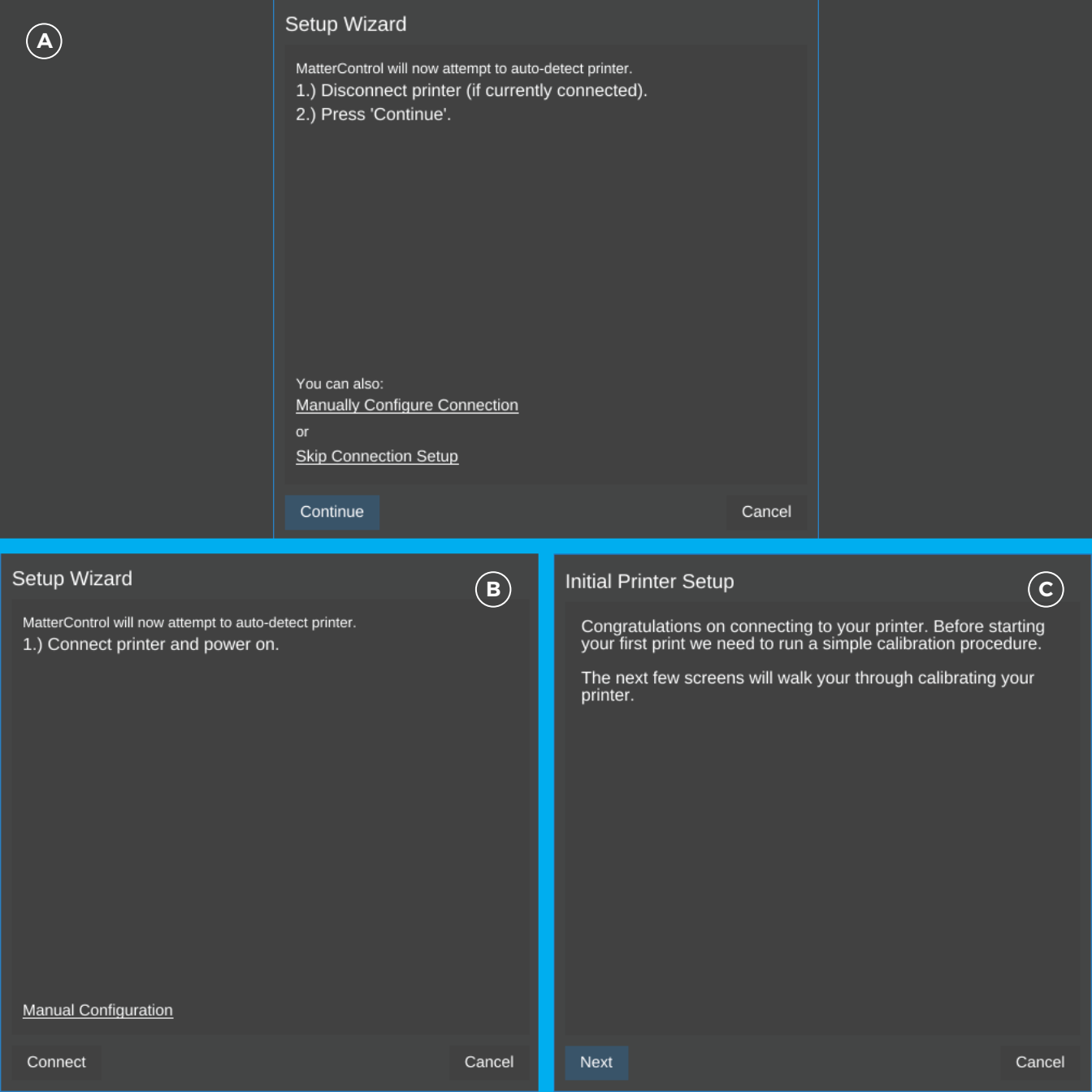
DETECT PRINTER

- Once the correct model has been selected, the Setup Wizard Detect Screen should be visible. (A)
- Ensure that your Pulse is powered on and the USB cable is NOT connected to your computer. Select "Continue".
- f you have your USB cable connected during this step, MatterControl will not be able to auto-detect the printer and you will need to go through the process again.

STEP 10

CONNECT PRINTER

- Connect the USB cable to computer and click "Connect". (B)
- You should get confirmation of connection, and MatterControl will prompt you to begin the initial calibration. Click "Next" to go through the Probe Calibration wizard. (C)


A
Setup Wizard
MatterControl will now attempt to auto-detect printer.
1.) Disconnect printer (if currently connected).
2.) Press 'Continue'.
You can also:
Manually Configure Connection
or
Skip Connection Setup
Continue
Cancel
Setup Wizard
B
MatterControl will now attempt to auto-detect printer.
1.) Connect printer and power on.
Manual Configuration
Connect
Cancel
Initial Printer Setup
C
Congratulations on connecting to your printer. Before starting your first print we need to run a simple calibration procedure.
The next few screens will walk your through calibrating your printer.
Next
Cancel

Probe Calibration Overview

Welcome to the probe calibration wizard. Here is a quick overview on what we are going to do.

- Home the printer
- Probe the bed at the center
- Manually measure the extruder at the center

We should be done in less than five minutes.

Click 'Next' to continue.

Next Cancel

Step 3 of 3: Position 1 - High Precision

We will now finalize our measurement of the extruder height at this position.

Z+

Z-

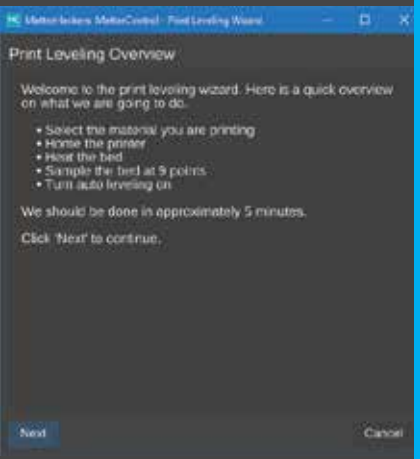
Z: -1.02

- Press [Z-] until there is resistance to moving the paper
- Press [Z+] once to release the paper

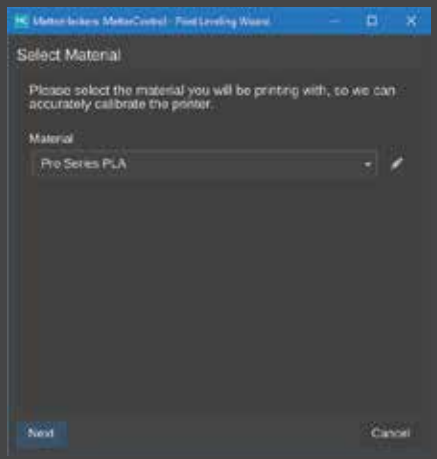
Finally click 'Next' to continue.

Next Cancel

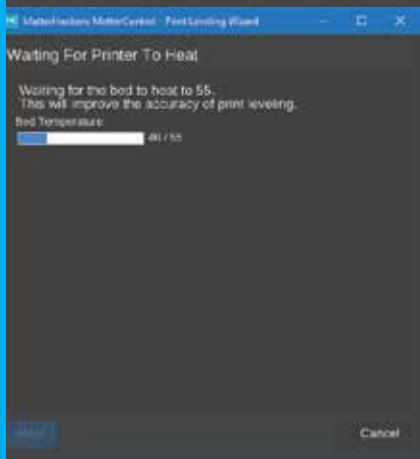
A



B



C



STEP 11

PROBE CALIBRATION

Follow the steps to calibrate your bed leveling probe - MatterControl will guide you through the process.

This step sets the distance of the probe from the bed and is only performed once.

You will need a piece of paper to complete this step. Place the paper between the nozzle and the bed. Use the controls to move the nozzle up and down until it grabs the paper.

STEP 12

BED LEVELING

MatterControl will guide you through the process of Automatically leveling the bed. (A)

Select the material you will be printing with first. We recommend using the PRO Series Filament that came with your Pulse (you do not need material loaded yet). (B)

The bed will begin heating. For best calibration results, wait until the bed has reached the target temperature before proceeding. (C)

You do not need to probe the bed before every print. MatterControl stores the probing data and applies it to every print until you change it. Because the bed expands with heat, we recommend probing the bed any time you change the bed temperature by more than 10C.

STEP 14

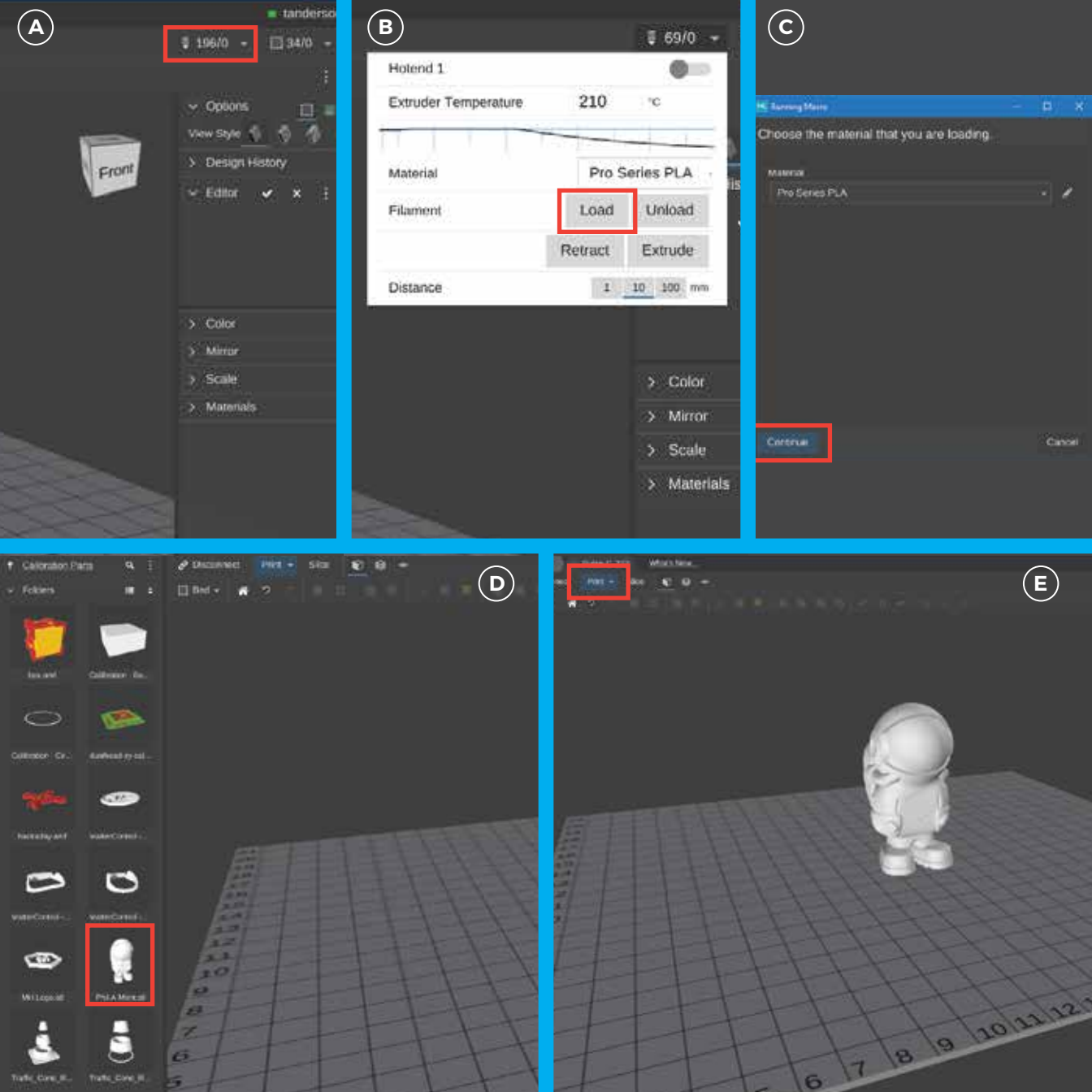
LOADING FILAMENT

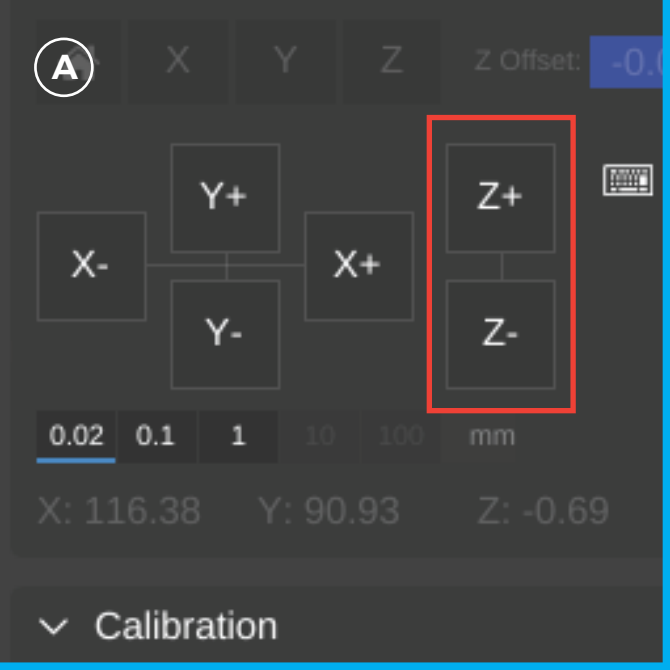
- At the top right of the screen you will see the Current Extruder Temperature status - select that menue.(A)
- Under ‘Filament’ select ‘Load’. (B)
- Hang the spool of filament from the Spool Holder on the back right side of the machine. Be sure to have the spool oriented so that the filament flows into the extruder.
- MatterControl will guide you through the loading process. Follow the steps on the screen. (C)
- For more information on Materials and Bed Surface compatibility please visit the Guides section on www.matterhackers.com/pulse

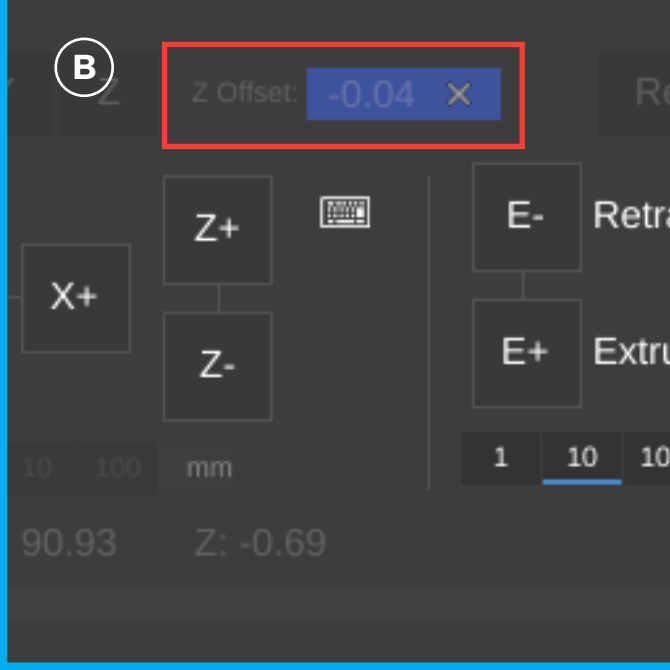
STEP 15

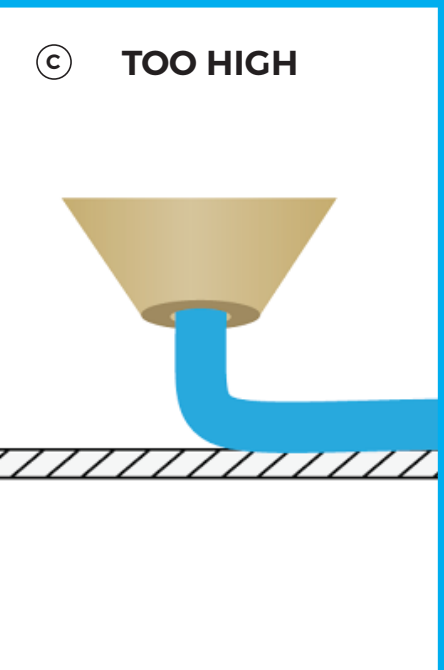
START YOUR FIRST PRINT

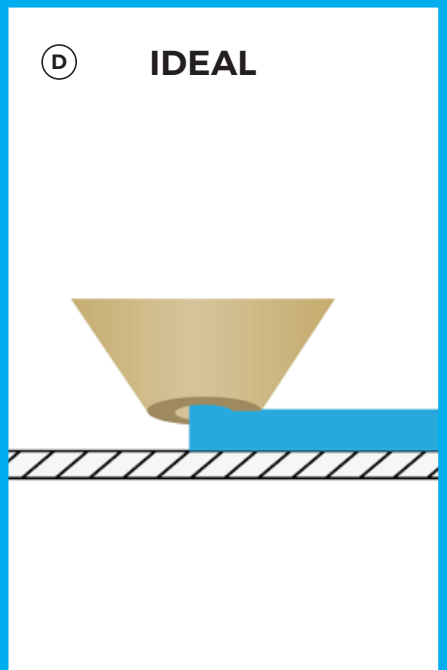
- Locate the ‘3D Phil’ design under the folders - Library - Calibration Parts. Select the Design and drag it onto the bed (D)
- Select ‘Print’ then ‘Start Print.’ (E)

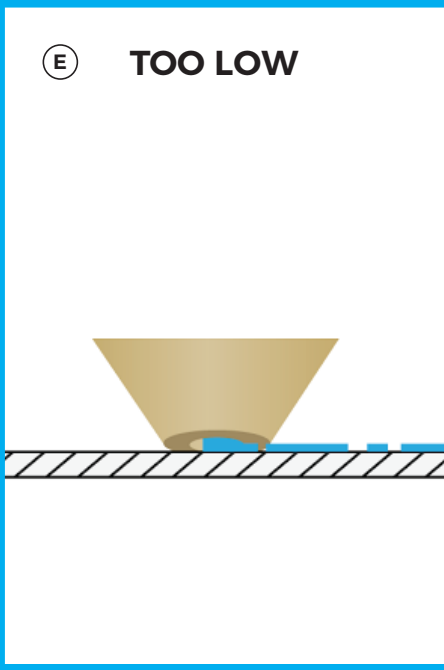

A
196/0
34/0
Options
View Style
Design History
Editor
Front
Color
Mirror
Scale
Materials
B
69/0
Hotend 1
Extruder Temperature
210
°C
Material
Pro Series PLA
Filament
Load
Unload
Retract
Extrude
Distance
1
10
100
mm
Color
Mirror
Scale
Materials
C
Choose the material that you are loading
Material
Pro Series PLA
Continue
Cancel
D
Calibration Parts
Folders
Disconnect
Print
Slice
Bed
E
Print


A
X
Y
Z
Z Offset:
Y+
X-
X+
Y-
Z+
Z-
0.02
0.1
1
10
100
mm
X: 116.38
Y: 90.93
Z: -0.69
Calibration


B
Z Offset:
-0.04
Z+
X+
Z-
E-
E+
Retra
Extru
1
10
mm
90.93
Z: -0.69


C
TOO HIGH


D
IDEAL


E
TOO LOW

STEP 16

TUNING YOUR FIRST LAYER

You can access baby stepping in the 'Movement Controls' under the Controls Tab.

Once the print has started, simply click Z+ to move the nozzle higher off the bed, or Z- to move it closer to the bed. (A)

Notice the ‘Offset’ next to the Home buttons. This indicates how much you’ve moved each axis since the print started (X, Y, Z). (B)

Way too far. The filament is just laying on top of the bed & with no real compression. This leaves a very small contact point with the bed and will likely result in the part not sticking to the bed. (c)

Ideal first layer for most materials. (D)

Way too close. You will likely have extrusion issues because there’s nowhere for your filament to go. Pressure will build up in the nozzle and could cause filament grinding, heat creep, or other extrusion related issues.(E)

BECOME AN EXPERT

To learn more about your Pulse 3D printer visit

www.matterhackers.com/pulse

RELOAD FILAMENT

www.matterhackers.com/store

|MH| BUILD

MH Build Series 3D Printing Filament is designed and priced for every maker. This affordable series comes in PLA, ABS, and PETG filament.

PRO | Series

MatterHackers PRO Series Filaments are engineered to highlight the strengths of each type of 3D printer filament. Manufactured to the tightest tolerances on the market and made in the USA, PRO Series Filaments include PLA, ABS, PETG, Nylon, Flex, and Ryno.

NYLON^{X}

NylonX is an engineering grade nylon filament which is blended with chopped carbon fibers (approximately 20% by weight), creating a high-strength filament capable of printing tough, functional parts.

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