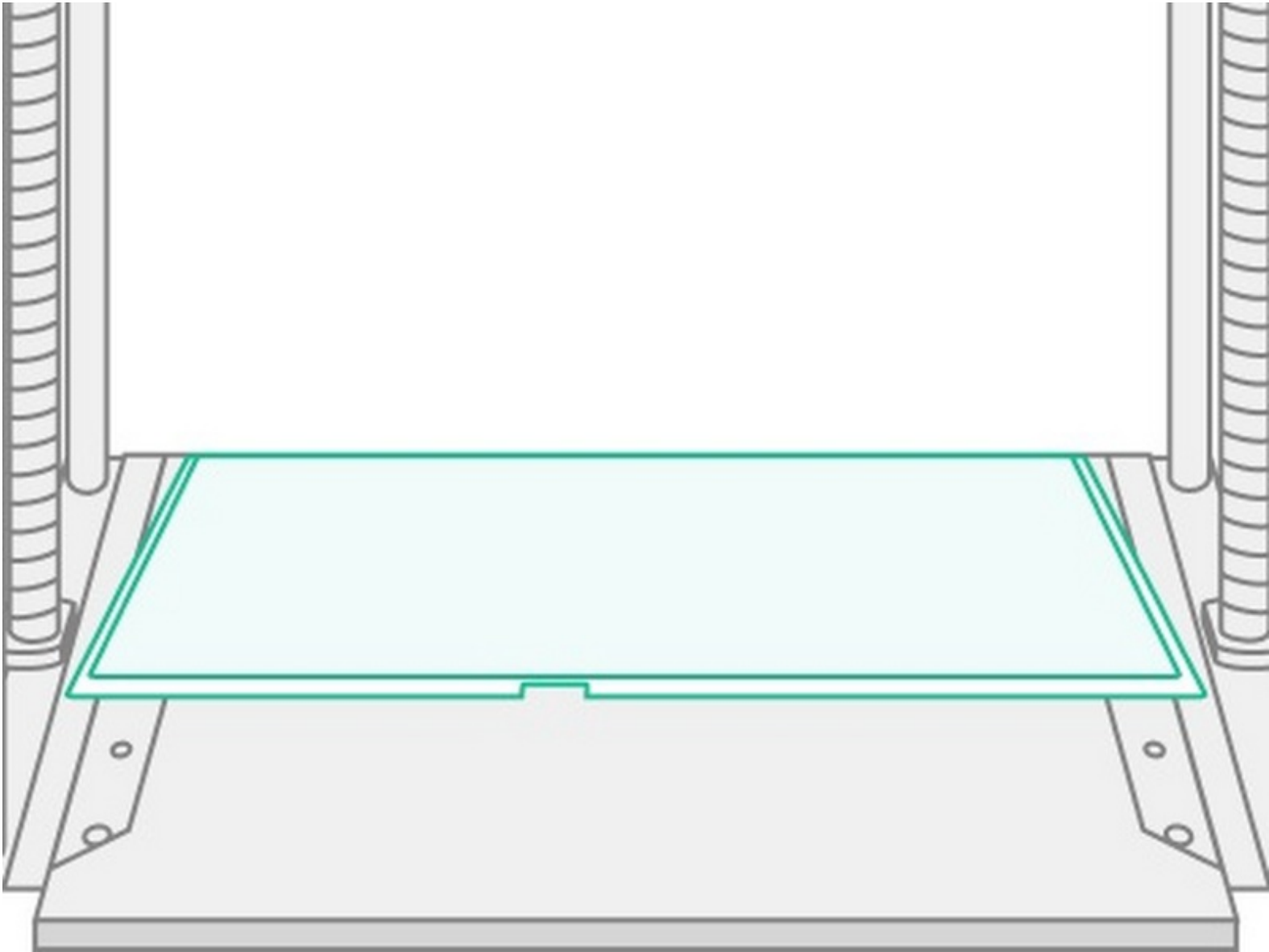




Bed Leveling Troubleshooting

Troubleshooting steps for a failure to level bed.

Written By: Guy Elston

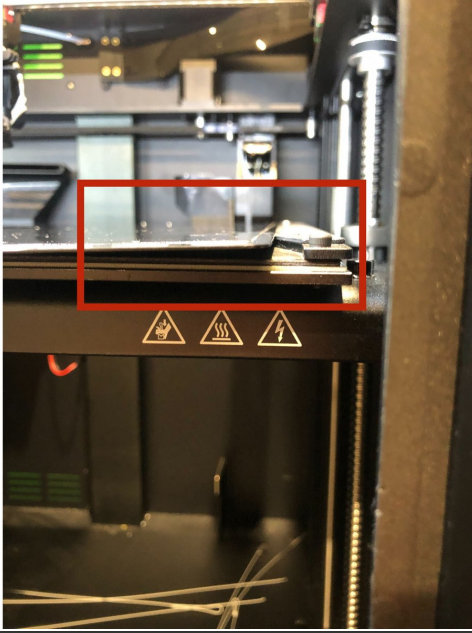


INTRODUCTION

Before starting a print, Element performs a bed levelling check, to ensure that the bed is ready for printing.

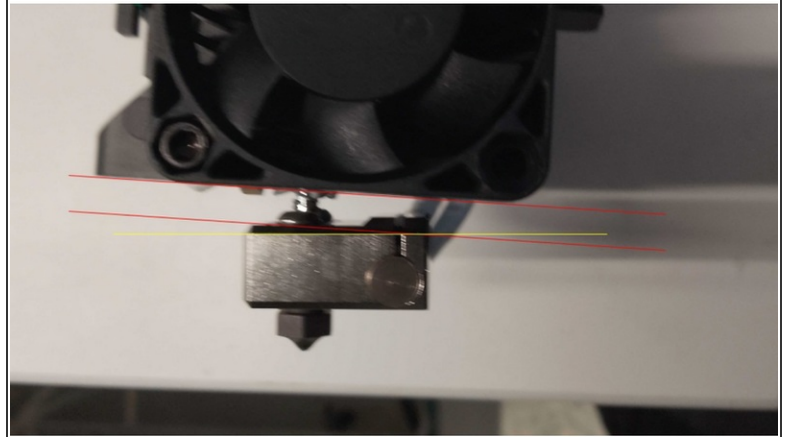
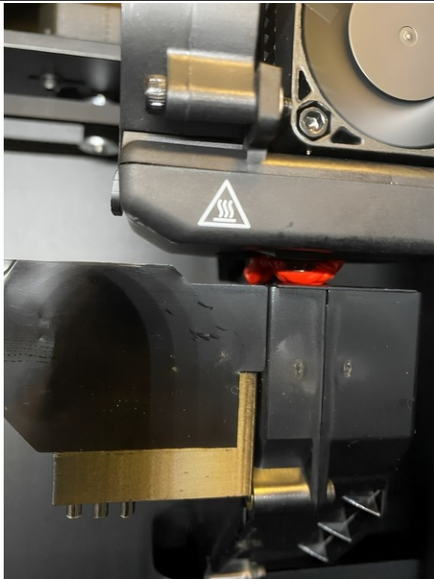
A failure in this process could have several causes. These include: an incorrectly positioned Print Bed, a blob on the nozzle, a homing error, or a build plate that is not flat.

Step 1 — Print Bed



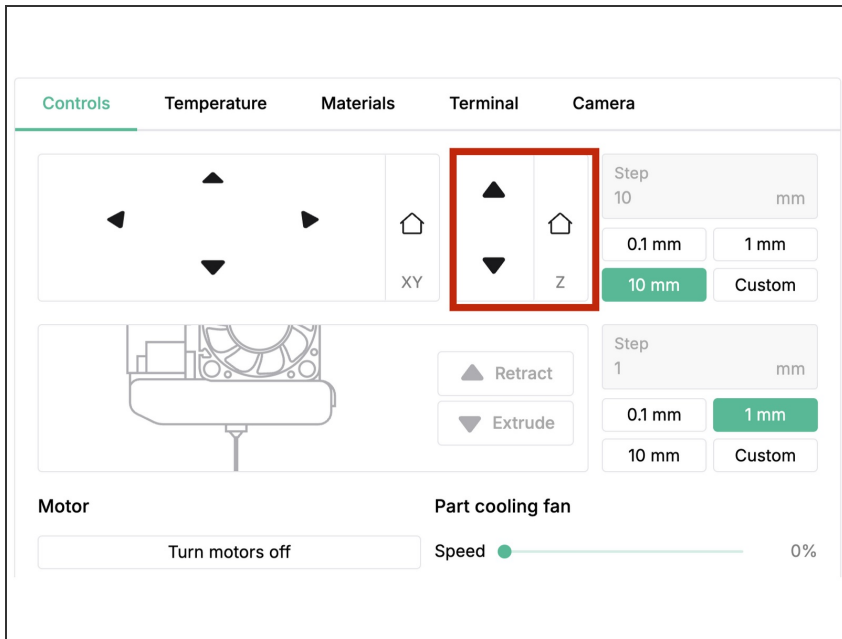
- Element users should check that the Print Bed is positioned completely flat on the build plate, and that the edge is not caught on either side, as in the picture.
- Array users can skip this step.

Step 2 — Check Nozzle



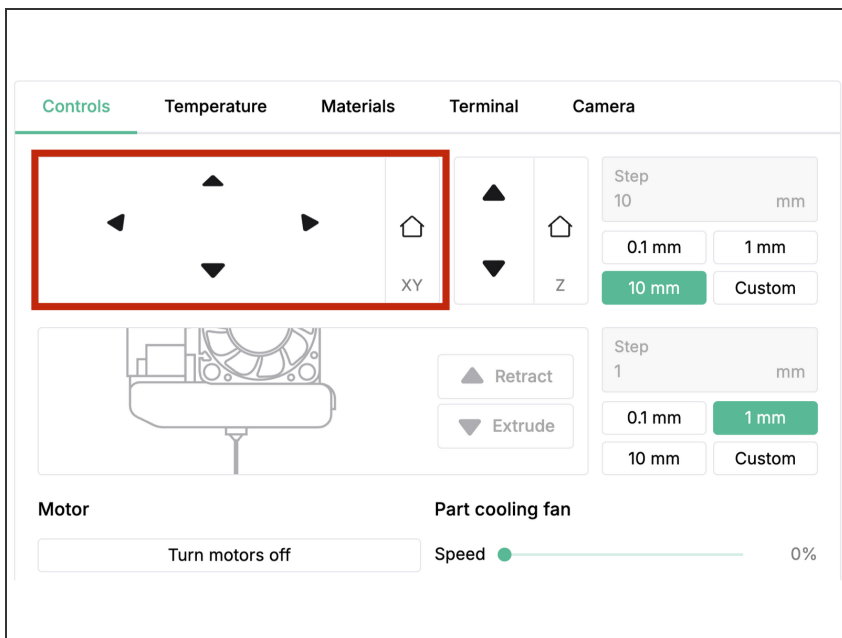
- A common cause of bed levelling failures is a blob on the nozzle. This prevents the nozzle from contacting the bed properly during bed levelling.
- Check the nozzle for any filament build up. Heat the nozzle and clean using a wire brush.
 - If you are consistently seeing blob forms on the nozzle, run through our [Densifier Alignment and Troubleshooting guide](#)
- Check if the nozzle is visibly bent or damaged. If so, you may need to [replace the Hot End](#).

Step 3 — Z Homing



- Follow our [Z Homing Error article](#) to check that the bed moves all the way to the top and contacts the nozzle during Z homing.
- If the bed contacts either the Transition Container or Densifier, follow the steps in the above article to rectify this. Contact Mosaic Support for further help if needed.

Step 4 — XY Homing



- Following our [XY Homing Error article](#) to check that the Print Head homes correctly.
- If you see homing errors, inspect gantry alignment and check belt tension, as shown in the above article. Contact Mosaic Support for further help if needed.

Step 5 — Mesh Level

ControlsTemperatureMaterialsTerminalCamera

G28

SendClear terminal

Auto-scroll☐ Temperature updates☐ Position updates☒ OK responses☒ Other responses

Element 3 controls

ControlsTemperatureMaterialsTerminalCamera

```
[2024-11-25T20:35:28.010Z] rcv: echo:busy: processing
[2024-11-25T20:35:28.010Z] rcv: echo:busy: processing
[2024-11-25T20:35:30.010Z] rcv: echo:busy: processing
[2024-11-25T20:35:32.010Z] rcv: echo:busy: processing
[2024-11-25T20:35:34.010Z] rcv: echo:busy: processing
[2024-11-25T20:35:34.287Z] rcv: Bilinear Leveling Grid:
[2024-11-25T20:35:34.288Z] rcv: 0 1 2 3 4 5 6
[2024-11-25T20:35:34.288Z] rcv: 0 -0.251 -0.072 +0.010 +0.010 -0.069 -0.211 -0.397
[2024-11-25T20:35:34.289Z] rcv: 1 -0.265 -0.102 -0.001 +0.012 -0.010 -0.114 -0.212
[2024-11-25T20:35:34.289Z] rcv: 2 -0.265 -0.098 +0.006 +0.060 +0.061 +0.010 -0.079
[2024-11-25T20:35:34.289Z] rcv: 3 -0.419 -0.197 -0.069 +0.000 +0.018 -0.001 -0.057
[2024-11-25T20:35:34.290Z] rcv: 4 -0.520 -0.301 -0.135 -0.082 -0.078 -0.108 -0.161
[2024-11-25T20:35:34.290Z] rcv: 5 -0.679 -0.415 -0.305 -0.241 -0.260 -0.328 -0.427
[2024-11-25T20:35:34.291Z] rcv: 6 -0.886 -0.666 -0.565 -0.525 -0.590 -0.673 -0.847
[2024-11-25T20:35:34.299Z] rcv: ok
```

Enter commandSendClear terminal

Auto-scroll☐ Temperature updates☐ Position updates☒ OK responses☒ Other responses

Close

- If bed levelling failures persist after following steps 1-4, navigate to the Terminal tab in Canvas device view.
- In the Terminal, input `G28` and press send, followed by `G29 V4`. This will generate a 49 point levelling grid, representing the measured height of the bed at each point. The first row 0 represents the front of the bed.
- The 4 highlighted points should be within +/-0.2mm of each other. If not, please share this data with support@mosaicmfg.com for guidance on next steps.