

caribou3d

02_Setting Z offset

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Offset

INTRODUCTION

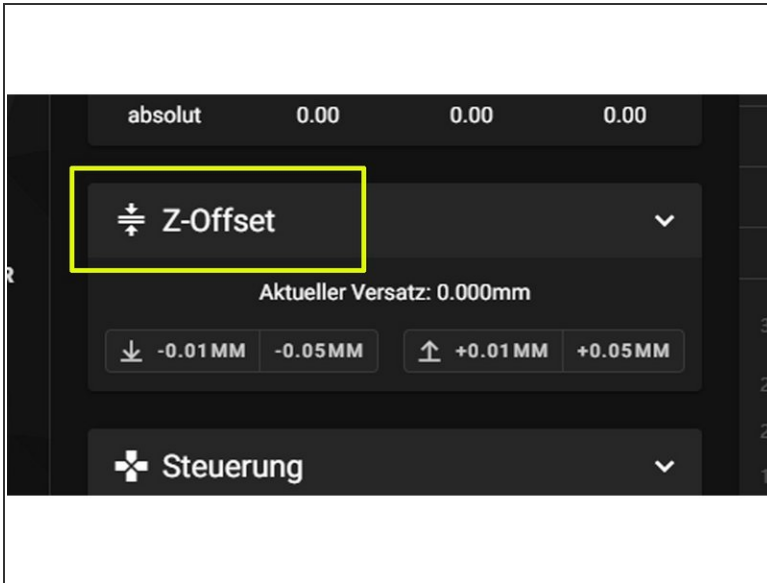
A correctly set Z offset is the basis of every, orderly print. We know this procedure from the old firmware as “ live-Z adjust ”, which is carried out via the LCD menu. We do something different under Klipper / Mainsail. The prerequisite is that the PINDA sensor is already running. Caribou manual has been set to the correct height.

Step 1 — Reset offset

```
26
27 [probe]
28 pin: PB4
29 x_offset: 24
30 y_offset: 5
31 z_offset: 0.4 #0.102
32 speed: 10.0
33 samples: 2
34 sample_retract_dist: 1.0
35
```

- We open the file printer.cfg and change the default for in line 31 z_offset: from 0.4 on 0.0. This value is saved and it is restarted.
- ① If PINDA2 / Superpinda are installed correctly, this value is from 0 relatively safe, i.e. the nozzle should not touch the pressure bed at first.
- We check whether the nozzle is free of filament residues and remove them if necessary.. Since the programmers from Klipper recommend a Z offset setting with cold nozzle and cold heatbed, this step is particularly important!

Step 2 — Determine new Z offset



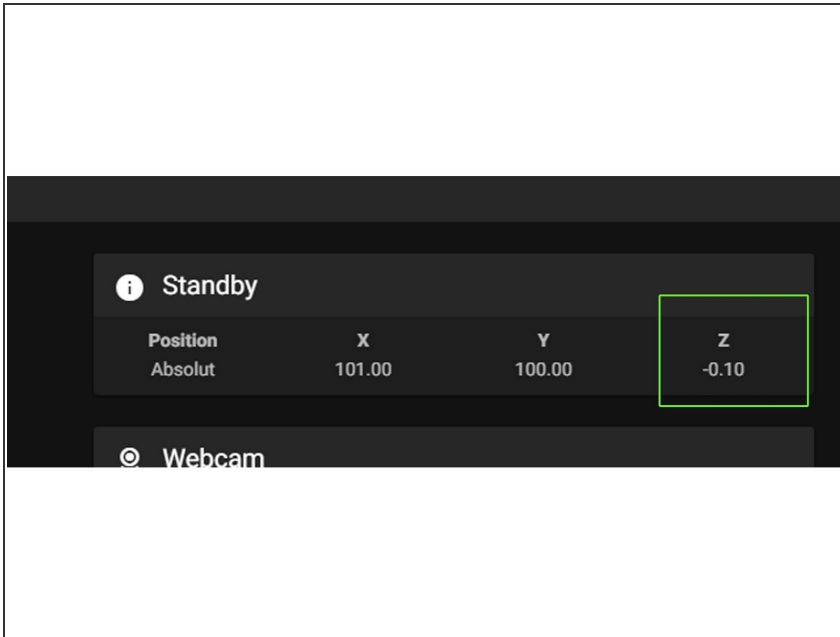
```

70 [stepper_z]
71 step_pin: PC2
72 dir_pin: !PL2
73 enable_pin: !PA5
74 # step_distance: .0025
75 microsteps: 16
76 rotation_distance: 8
77 endstop_pin: probe:z_virtual_endstop
78 position_max: 325
79 position_min: -2
80 homing_speed: 13.333

```

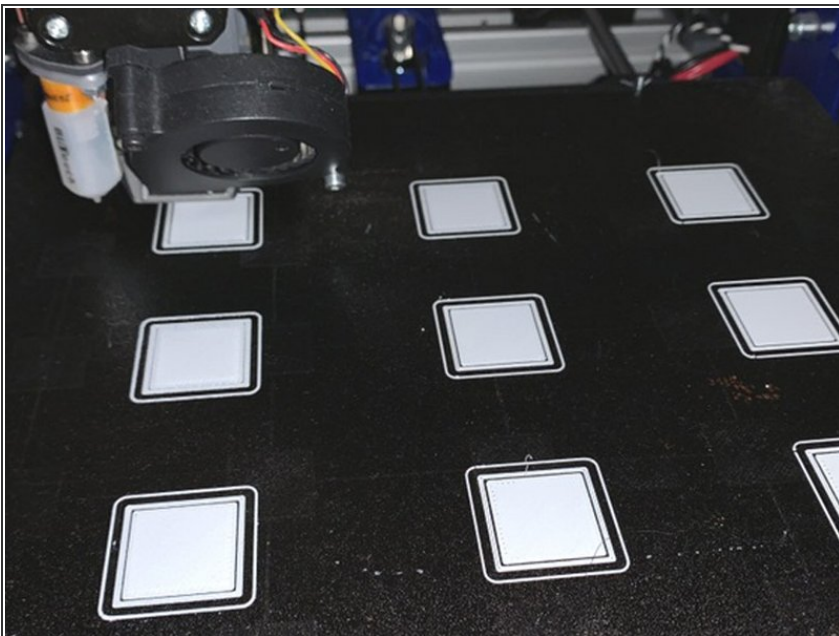
- We open the dashboard in the mainsail interface and first reference all axes. Then we drive the extruder in the middle over the pressure bed.
- ① The sheet is already on!
- Next we send the command via the console G1 Z0. The nozzle should then have a sufficient distance (approx. 1-2 mm) from the pressure bed.
- We now take a sheet of paper (normal copy paper), put it under the nozzle and shut it down over the control buttons in the dashboard until the paper is held.
- About Z offset we then adjust the height a little more precisely. The paper should be able to move under the nozzle with some resistance, but it must not tear down.
- If we cannot shut down far enough, the printer.cfg file must be under [stepper_z] the value for position_min be further reduced, e.g. to -2.5.
- ① These steps should be played through several times in succession until a reproducible result is available.

Step 3 — Save new Z offset



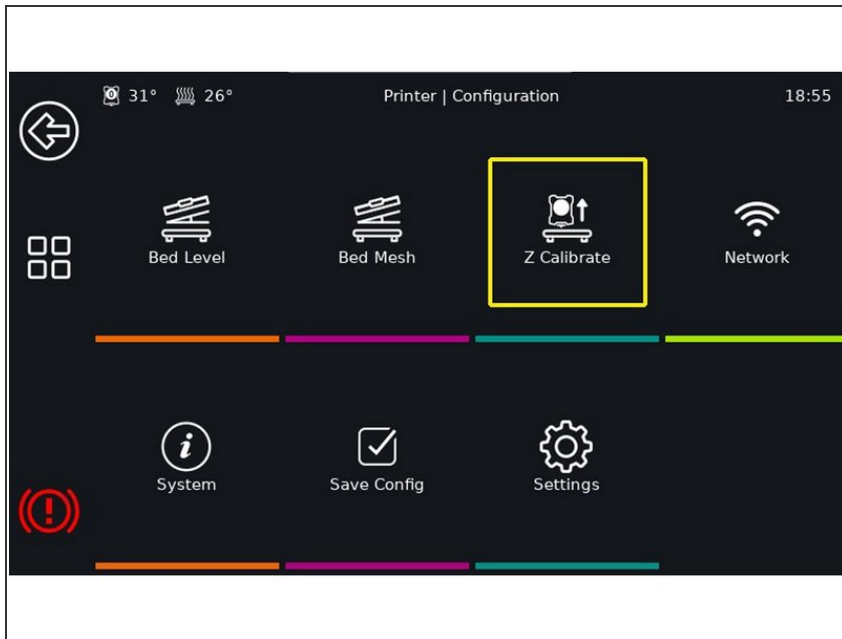
- We can now read the new Z-offset in the dashboard at the top under standby / position.
- The (actually negative) value is now, without minus sign (!!), in line 34 of the file printer.cfg registered. We then go to Save and Restart.
- ❗ The value of -0.10 in the screenshot is only exemplary and in most cases should be approx. Between -0.5 and -1.5 mm.

Step 4 — Calibration



- We can now start a calibration print. There are numerous templates on Thingiverse (e.g. B. [this](#))
- New line If we are a little too deep, we can go a little higher via baby steps and vice versa. The higher our value, the lower the nozzle goes down!!

Step 5 — Set offset via clipper screen



- Alternatively - if a touchscreen is available - Clipper screen to set "Z" be used.