

DREMEL DIGILAB

3D45 Nozzle Gap Calibration

Having the correct nozzle gap is vital to achieving successful prints. The nozzle gap, also referred to as Z-Gap, is the distance of the nozzle to the build platform when the first layer is being printed. It is important to ensure that the first layer sticks well to the build platform, therefore, the nozzle gap needs to be ideal. Too large of a nozzle gap may lead to a not well adhered first layer, leading to object shifting, and a too small nozzle gap may lead to a non-visible first layer, possibly leading to clogging issues.

SERVICE INSTRUCTIONS

[Please click here for Video Tutorial](#)

Step 1: Go to Calibrate screen

From printer home screen, navigate to tools, calibrate, and then assisted nozzle calibration. Advanced users can use the nozzle gap calibration directly (non-assisted mode).



Advanced users can move to Step 4.

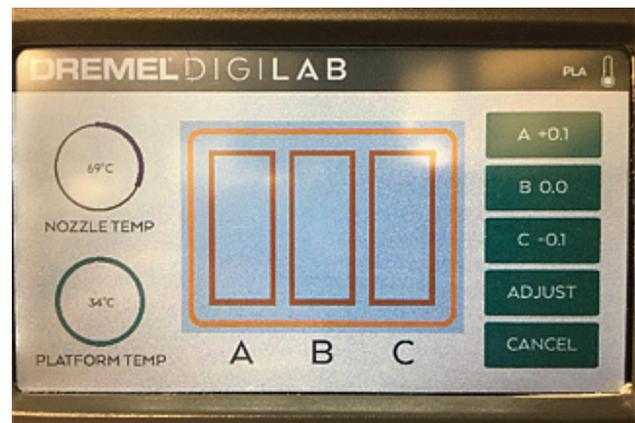
Step 2: Open Assisted Nozzle Calibration screen

- Apply glue on the build platform. See glue application bulletin.
- Ensure leveling switch is free of glue residue and that the filament has been loaded.
- Level the build platform if needed.

Step 3: Assisted Nozzle Calibration

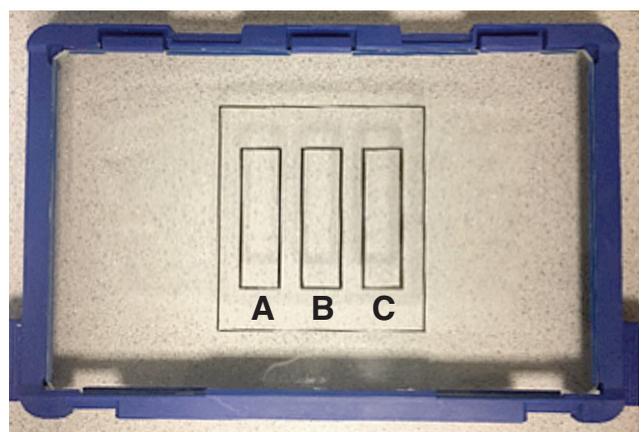
- Nozzle will start heating up in order to perform the calibration.
- In this process, three small rectangles will be printed side by side. Rectangle A will be printed with an offset of +0.1mm from the current setting, Rectangle B will be printed with no offset, and Rectangle C will be printed with a -0.1mm offset. An additional rectangle will be printed enclosing Rectangles **A**, **B**,

and **C** in order to prime the nozzle and make sure filament is flowing correctly before starting the print.



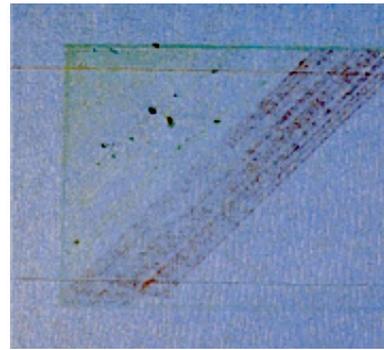
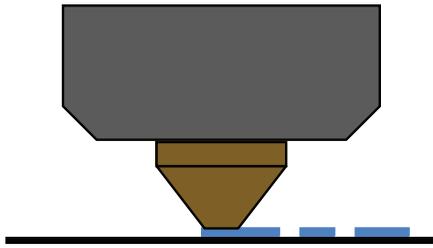
Step 4: Nozzle Gap Calibration Analysis

- Once the print has been completed, there will be three different rectangles representing three different Nozzle Gap offsets.

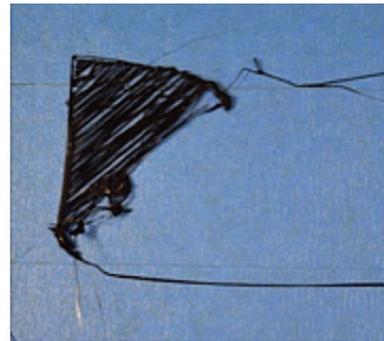
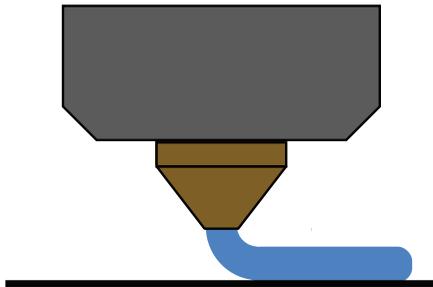


b. Look at rectangles **A**, **B**, and **C** to determine which offset has the best layer adhesion. Follow the instructions below for each scenario.

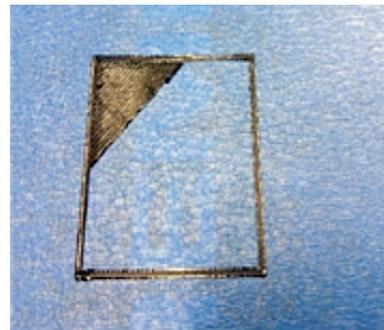
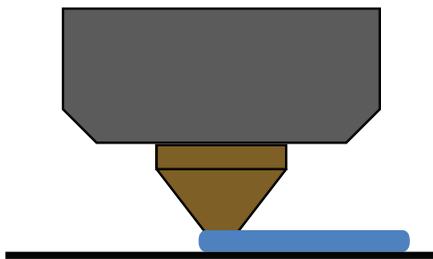
- **If you see little or no filament:** If the nozzle is too close to the build platform, the first layer will print too tight to the build plate. Increase the Nozzle Gap +0.1mm. Repeat the Assisted Nozzle Calibration Process until an optimum nozzle gap has been achieved.



- **If the first layer is not adhering or gaps between the lines:** If the nozzle is too far from the build plate, the first layer will not adhere well. Decrease the Nozzle Gap -0.1mm. Repeat the Assisted Nozzle Calibration Process until an optimum nozzle gap has been achieved.



- **Ideal nozzle gap distance:** First layer will be adhering and be visible. Lines should not look like they were pressed against the build platform.



Congratulations!
You are now ready to build. **Build On.**