

Fusion3

EDGE 3D Printer

TROUBLESHOOTING: LCD / MAINBOARD CONNECTION ISSUES

Revision 9/26/2022

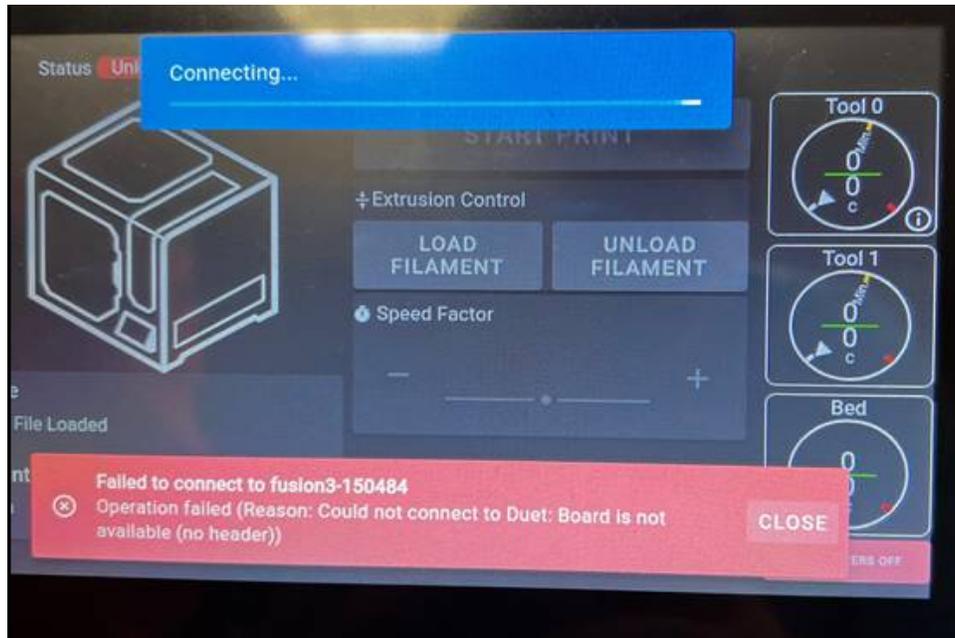
DIAGNOSING & FIXING LCD/MAINBOARD CONNECTION ISSUES

How to diagnose and fix "Failed to connect, Duet board is not available" error messages.

WHEN TO FOLLOW THIS PROCEDURE

If you see an error message on the screen that reads "Failed to connect to fusion3-xxxx Operation failed (Reason: Could not connect to Duet board: Board is not available (no header))"

This error message will be accompanied by a blue box that reads "connecting..." and a cycling progress bar.



STEP 1: CHECK STOP/RESET BUTTON

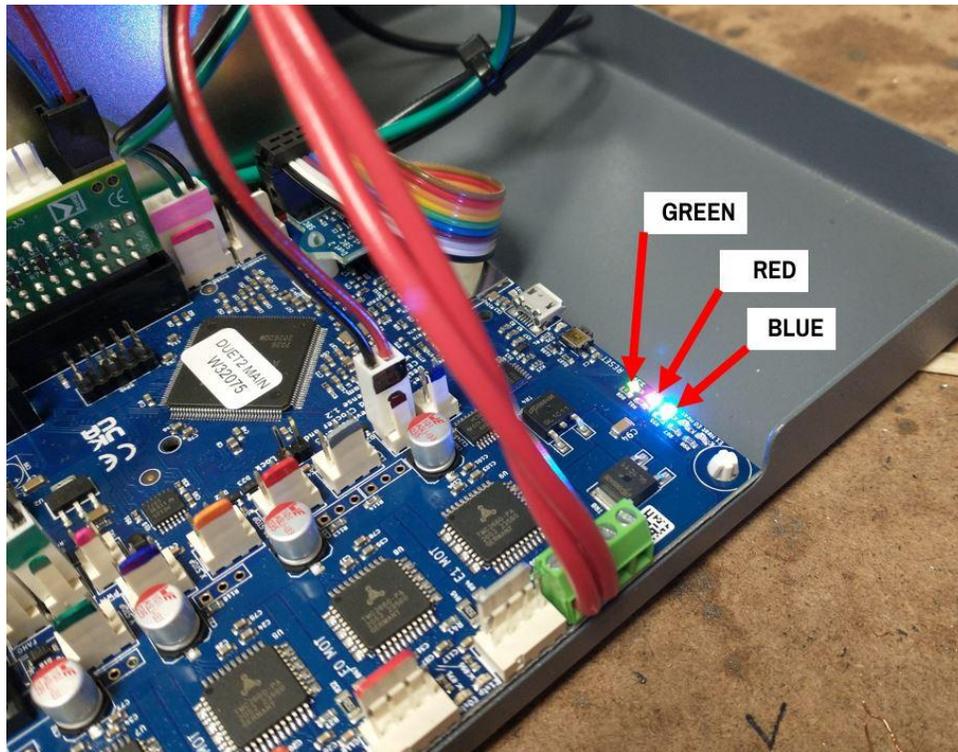
Make sure the Stop/Reset button next to the LCD is not stuck down. If it's stuck down, this will prevent the control board from fully booting.

To fix, simply give it a gentle tap to unstick it. You should hear a "click" as the switch under the button disengages.

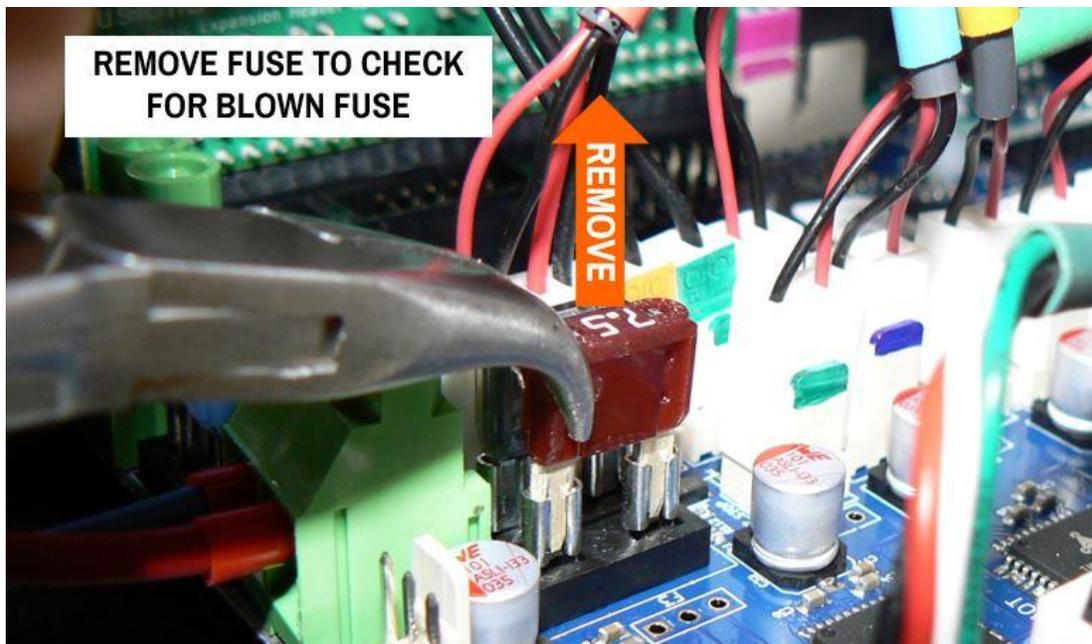
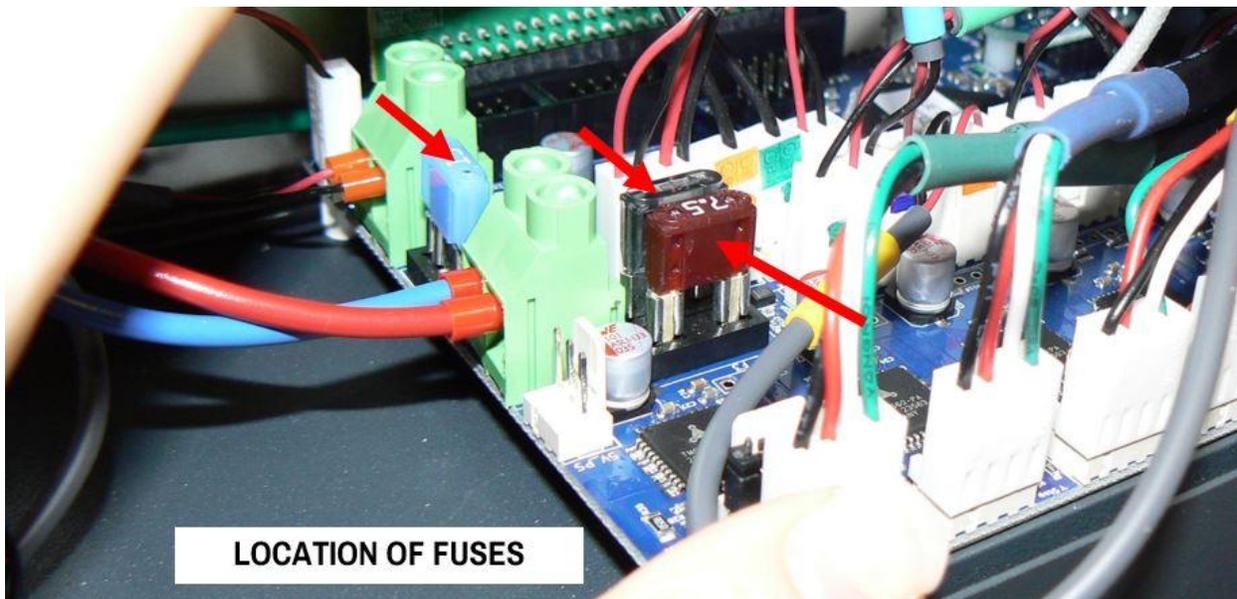
STEP 2: CHECK MAINBOARD FUSES

In 99% of cases, a blown fuse is the culprit for this error message. This is an easy fix.

1. Power the printer off.
2. Remove the electronics bay service door (see "*Gaining access for maintenance & repair*")
3. Power the printer on, taking care to keep all fingers and tools out of the electronics bay.
4. The mainboard is located towards the rear of the electronics bay. On its rear edge should be 3 status LEDs: a blue, a green, and a red. If any of these LEDs are not lit, proceed with the steps below.



5. Power the printer off.
6. The mainboard contains 3 blade-type fuses. Remove them one at a time and see if they are blown. You can **carefully** use needle nose pliers to remove these fuses if you need more grip; they can be a tight fit.

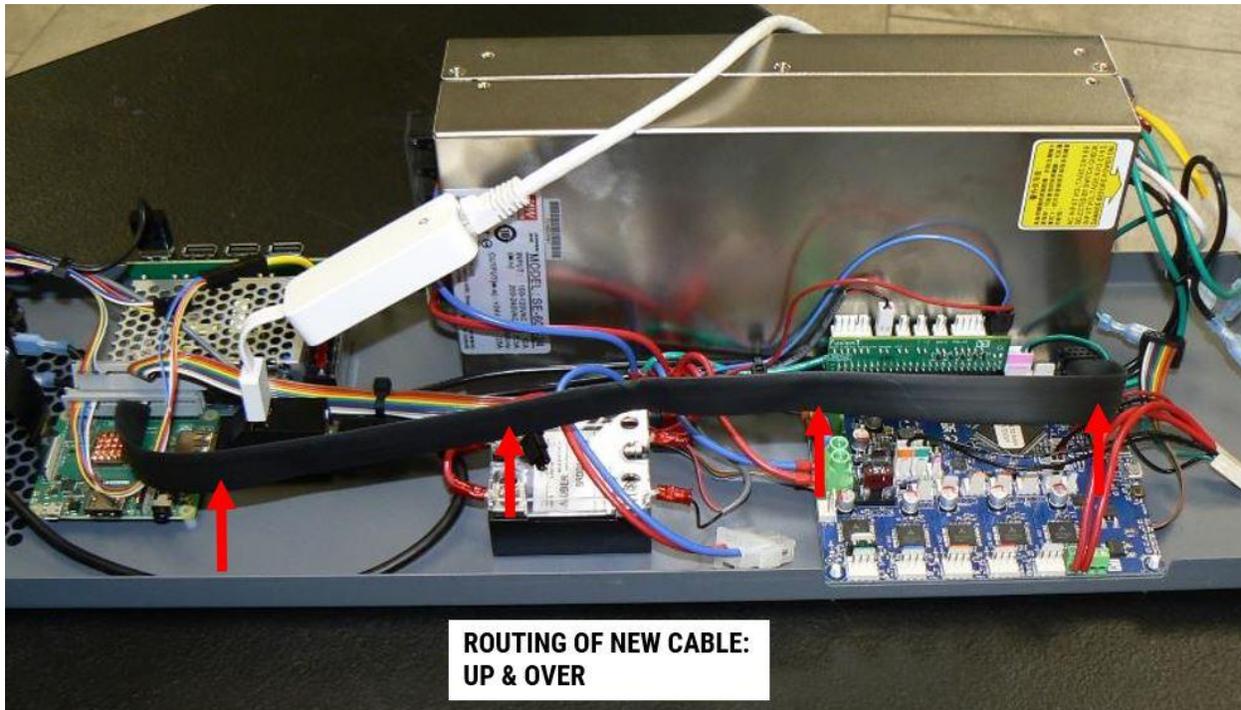


7. If you find a blown fuse, replace it with a fuse of the same rating. Fusion3 can supply the fuses, but it's often faster to get replacements at your local auto parts or hardware store.
 - a. Usually you can tell if a fuse is blown by visually inspecting it against a light. However if you're not sure or can't tell, use a multimeter to check for continuity.
8. Once the blown fuse has been replaced, power the printer on and check for the 3 status LEDs again.
9. If all LEDs are present, make sure the printer boots up fully and the LCD connects to the mainboard.

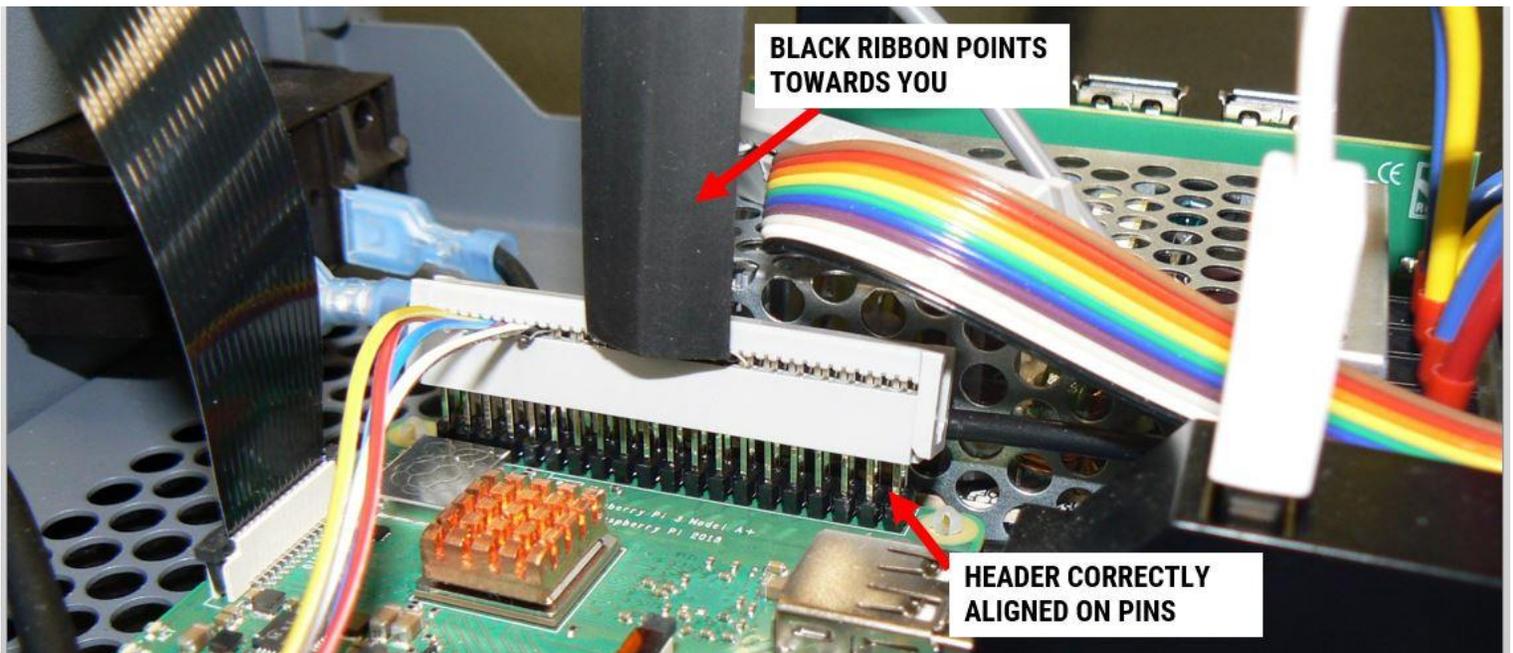
STEP 3: CHECK SPI CABLE

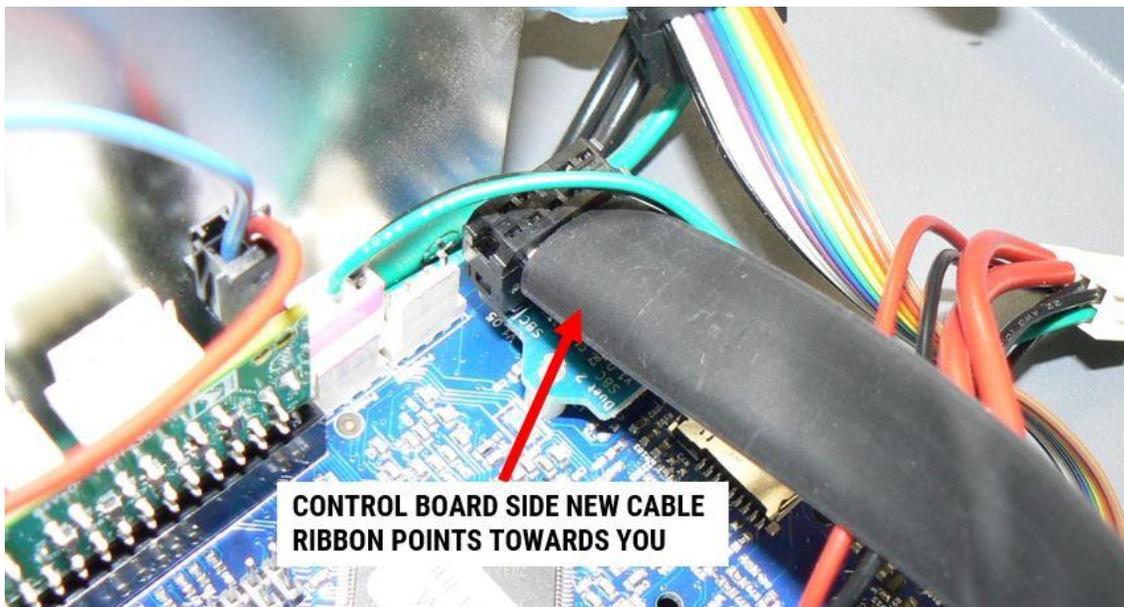
If the procedure in step 1 doesn't fix your issue, or if you do not find a blown fuse, follow this procedure.

1. The electronics bay should be open and the printer powered off.
2. The SPI cable is a 10-conductor ribbon cable that connects the single board computer at the front of the electronics bay to the mainboard at the rear. The cable is covered in black insulation and is relatively stiff. It's usually routed "up and over" other wiring and components. The picture below shows the SPI cable on an electronics bay sled out of a machine, for clarity.

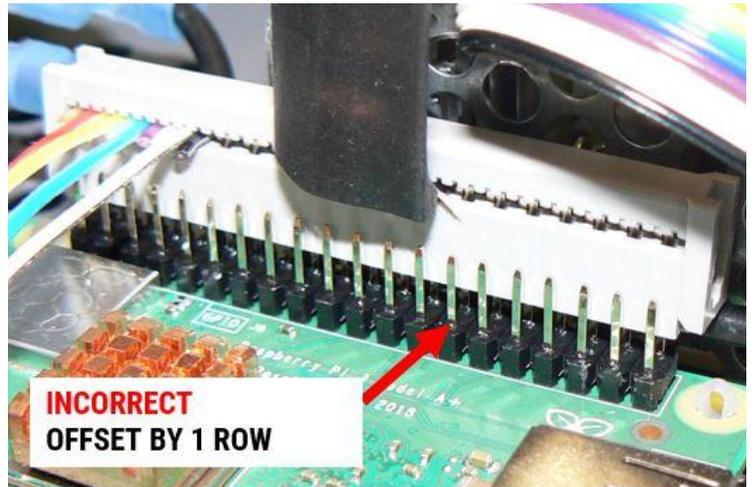
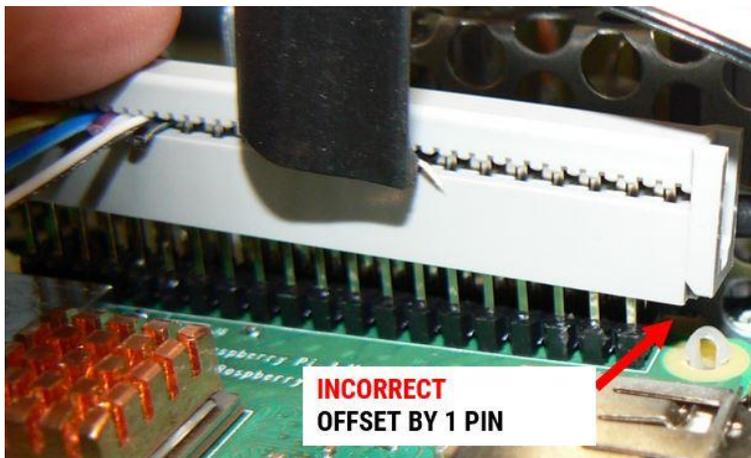


3. Make sure both ends of this cable are firmly plugged in.





4. If you reseat a connector, make sure you don't accidentally offset by a row or column of pins as this is easy to do in the confines of the electronics bay.



NEXT STEPS

If neither of the above steps fix your issue, please contact Fusion3 Customer Support.