

**Fusion3**

# **EDGE 3D Printer**

**REPAIR:**

**REPLACING THE BED TOOLPLATE**

**Revision 9/30/2022**

# HOW TO REPLACE THE BED TOOLPLATE ON EDGE

## WHEN TO FOLLOW THIS PROCEDURE

- If you are upgrading from the standard toolplate to a magnetic bed toolplate
- If your toolplate is damaged and must be replaced
- If you are removing the toolplate from the printer for service (should be rare)

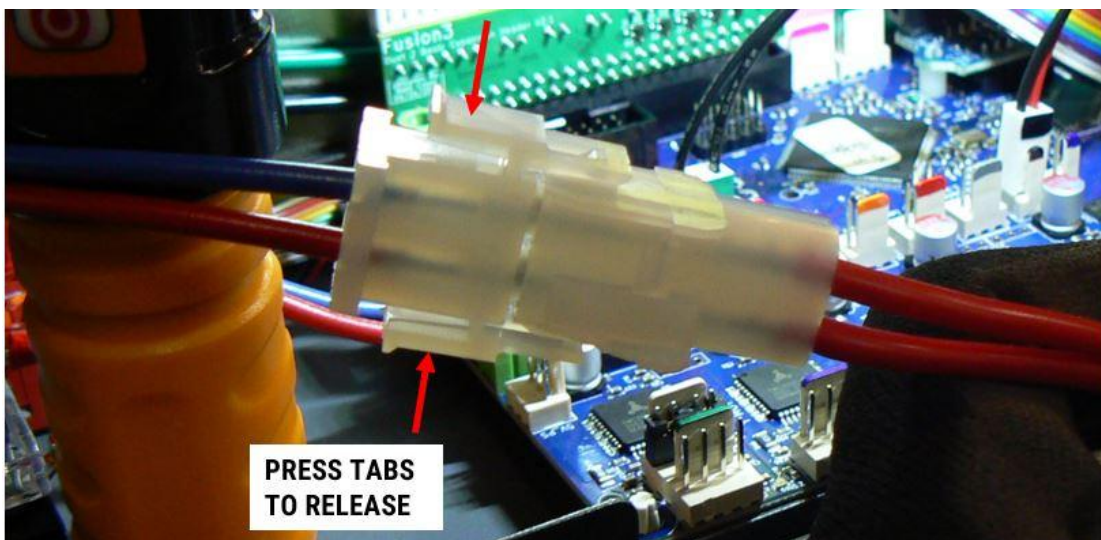
## GETTING STARTED

1. EDGE should be powered off and cold.
2. Unplug EDGE from the wall.
3. Remove any print surfaces you have on top of the tool plate (glass, flex surfaces).
4. Remove the electronics bay service panel and the rear service panel (optional) (see "Gaining access for maintenance & repair").

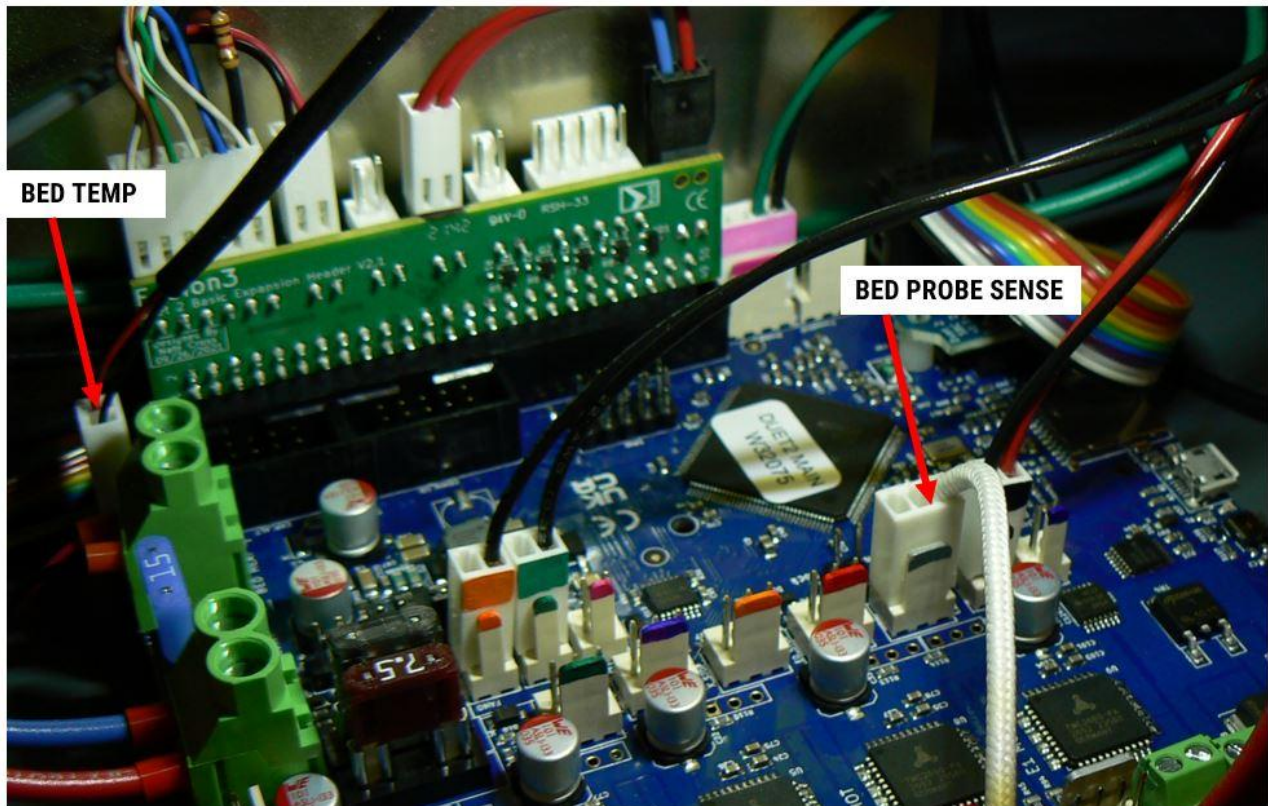
## BREAK ELECTRICAL CONNECTIONS

In the electronics bay, you will need to break 3 connections.

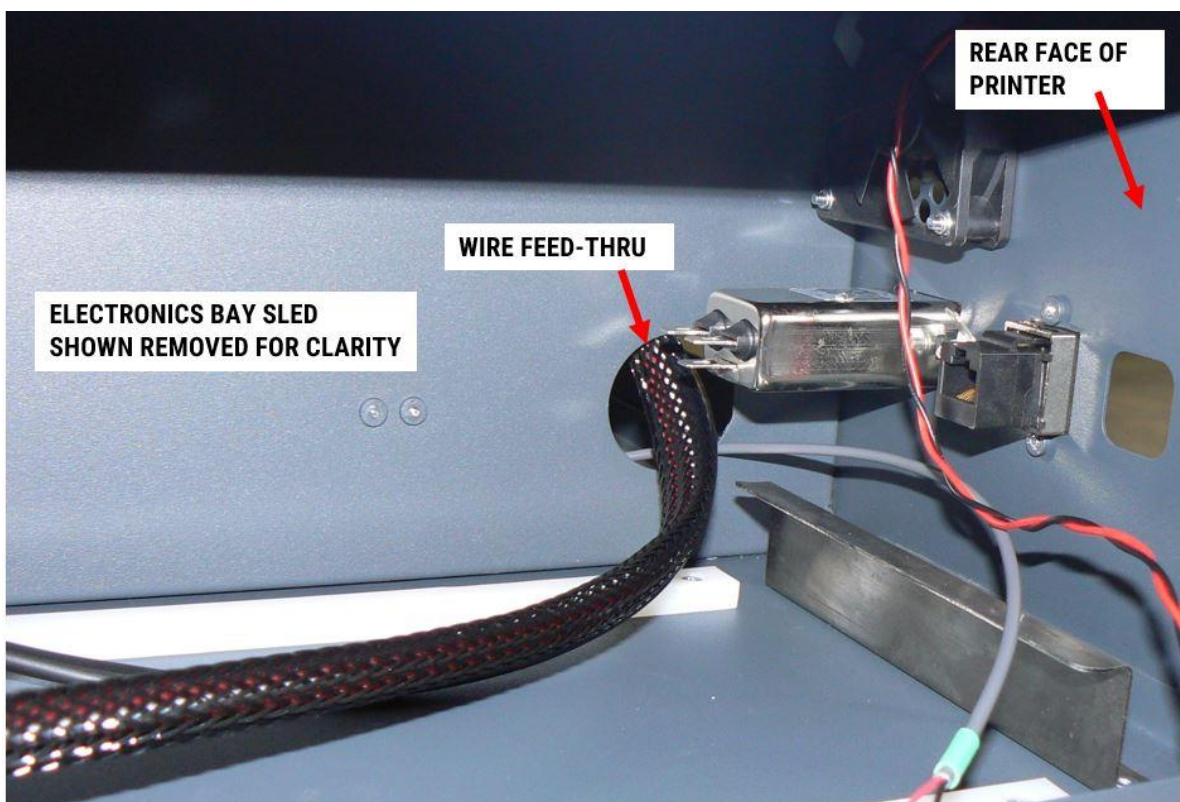
1. Separate the in-line connector for the bed heater power.



2. Unplug the bed heater temperature sensor from the main control board.
3. Unplug the bed probe signal wire from the main control board. These connectors are friction fit, they do not have a latch tab you need to release.

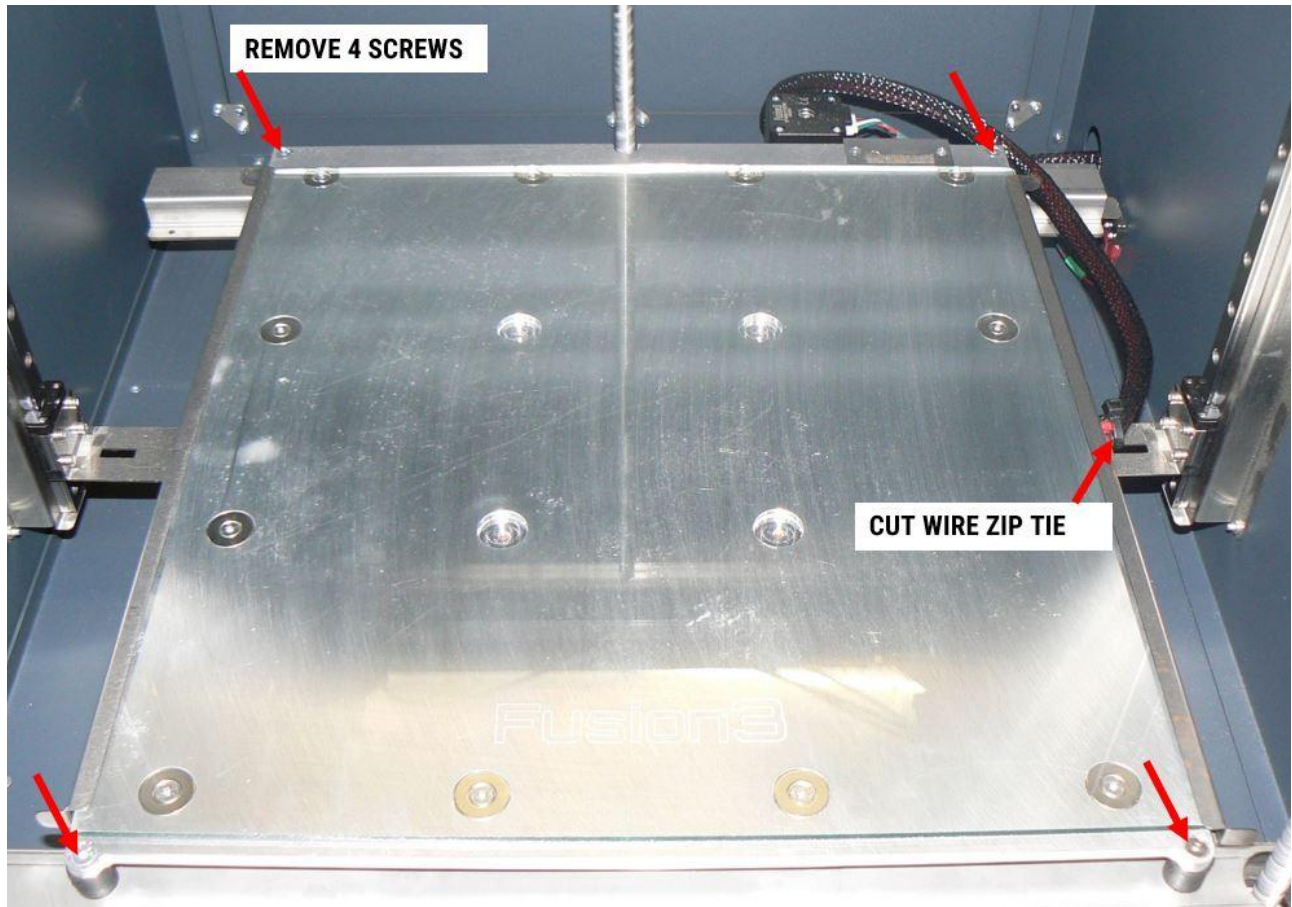


4. Pull the wires back through the feed-thru hole in the electronics bay so they are inside the print chamber.



## REMOVE BED FROM PRINTER

1. Use a 2.5mm hex drive to remove the 4 corner screws at the corners of the tool plate.
2. Cut the zip tie holding the bed wires to the Z axis arm.

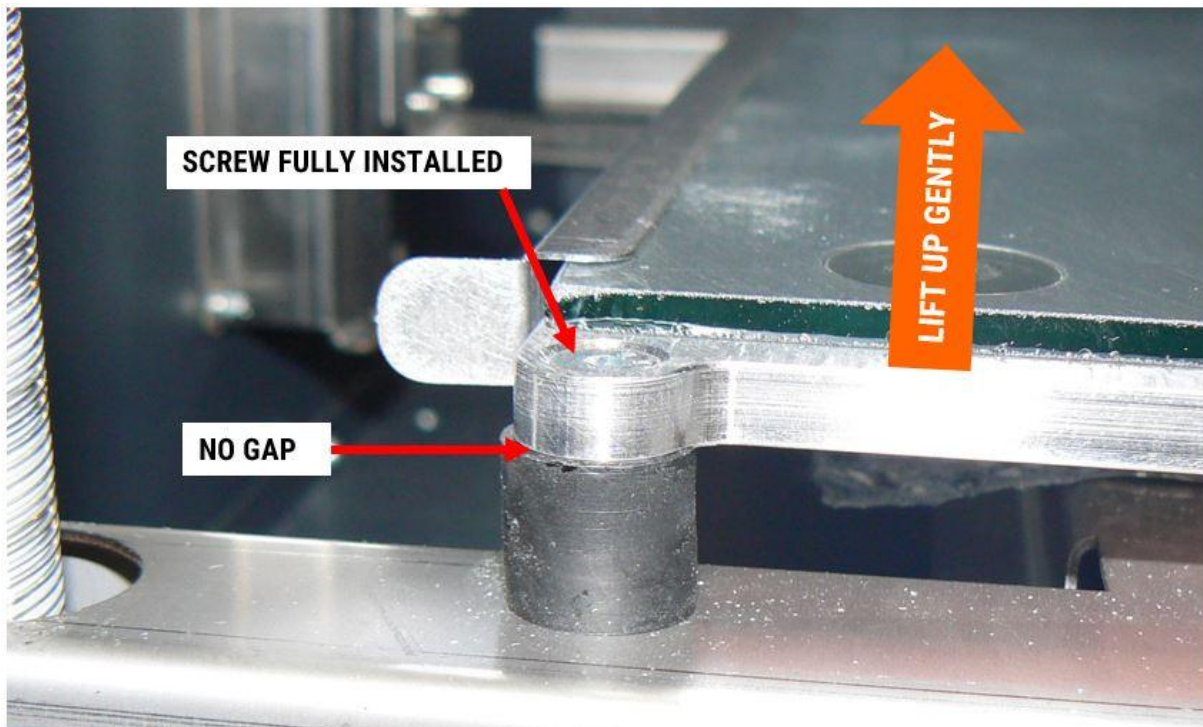


3. Carefully lift the bed off of its standoffs. Tilt it to fit it through the front door of the printer. It can help to tape the wires to the top of the bed to stop them from trying to grab onto things.
4. Make sure the insulation stays behind.

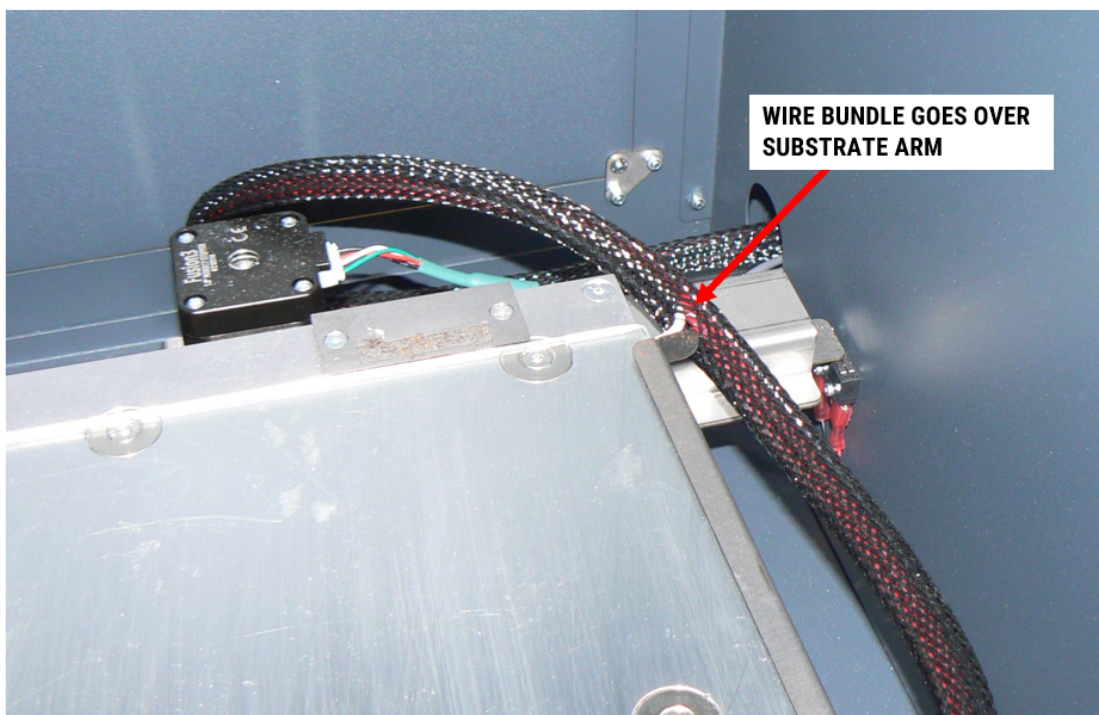
## INSTALL NEW BED

1. Use the same procedure but reversed to place the new bed on top of its standoffs on the bed substrate.
2. Install the corner screws. These get slightly more than finger tight. DO NOT overtorque them or you can damage the rubber bushings.

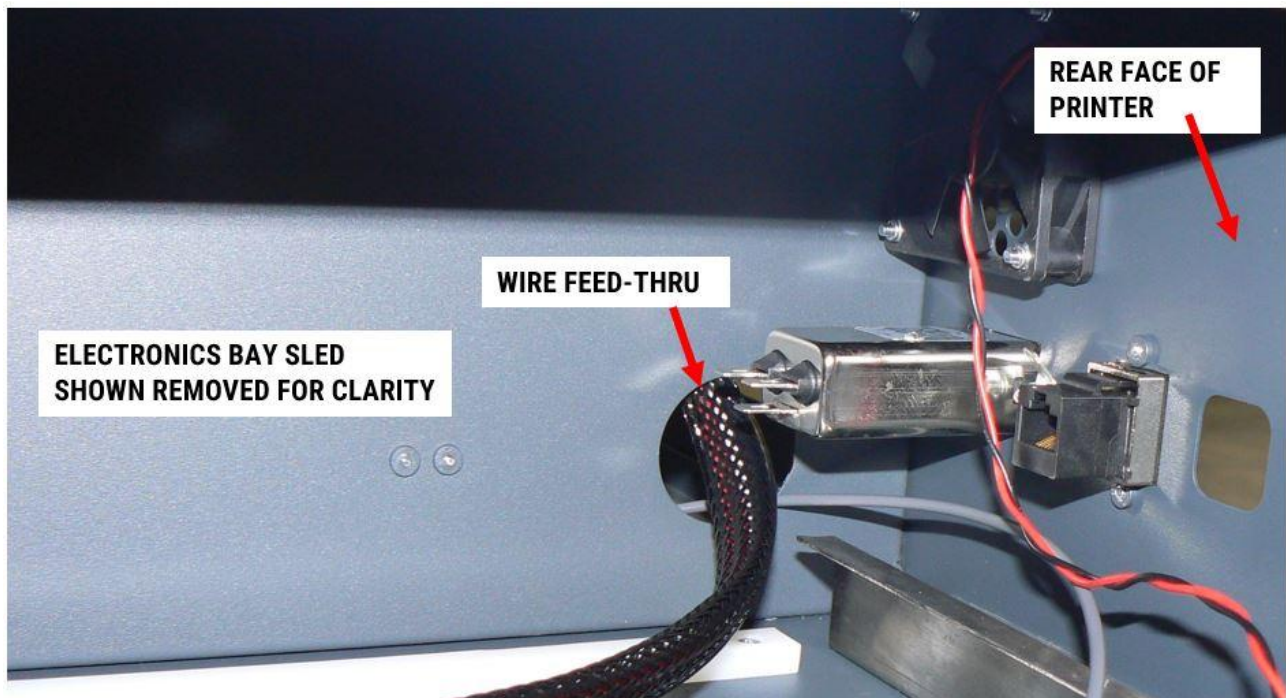
- a. Due to manufacturing variation in the bushings, we provide 2 different lengths of screws. Use whichever ones allow you to fully tighten the plate onto the bushing.
3. To check that the bed is fully tightened down, gently lift up on each corner next to the bushing. You should see the bushing stretch a little, but you should not see a gap appear between the plate and bushing. And you should feel even resistance without a "clunk" or click.



4. Route the wires over the rear arm of the bed substrate as shown. You want the wires to be free to move around as the bed moves up and down.



5. Route the wires through the feed-thru hole into the electronics bay.



## WIRE NEW BED

Connect the 3 connections you broke earlier. Refer to the pictures in section 1.

1. Connect the bed heater power inline connector.
2. Connect the bed temperature sensor.
3. Connect the bed probe signal wire.

## FUNCTION TEST

1. Power the printer on and wait for it to boot.
2. Make sure the bed temperature reads about room temperature. Normally this is ~20C. The reading should be about the same as the print head, assuming it hasn't been hot recently.
3. Set the bed to 45C and make sure:
  - a. You do not get a heater fault or other sensor issue
  - b. It is able to successfully reach the temperature you told it to without errors.

4. Now go to *Utilities > Bed Leveling > Run Nozzle Offset*. Make sure that, during this process, the printer stops when the nozzle contacts the scrub plate. And this process should complete without errors.