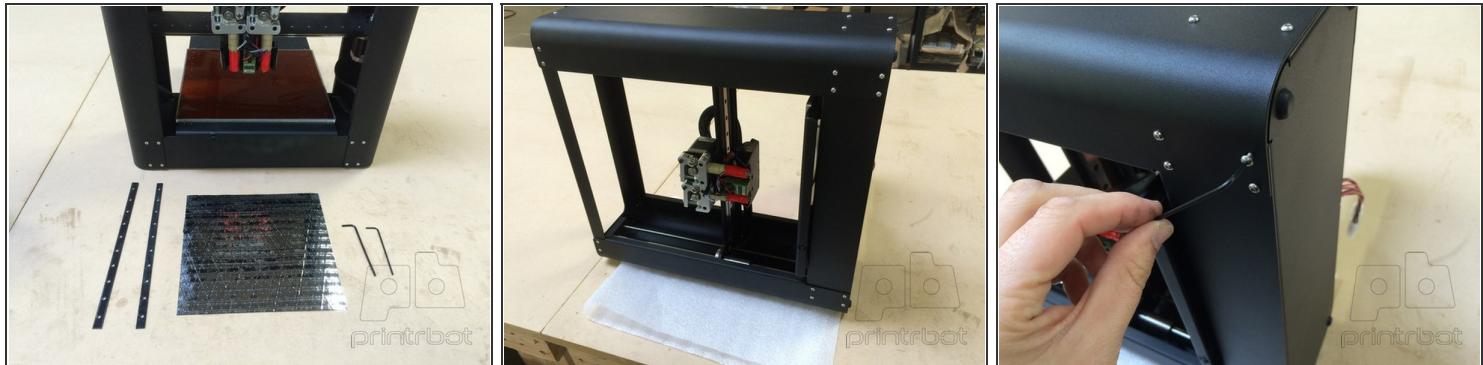




Installing the Heated Bed Insulator for Printrbot Plus

Written By: Printrbot Support

Step 1 — Installing the Heated Bed Insulator for Printrbot Plus



● Provided contents

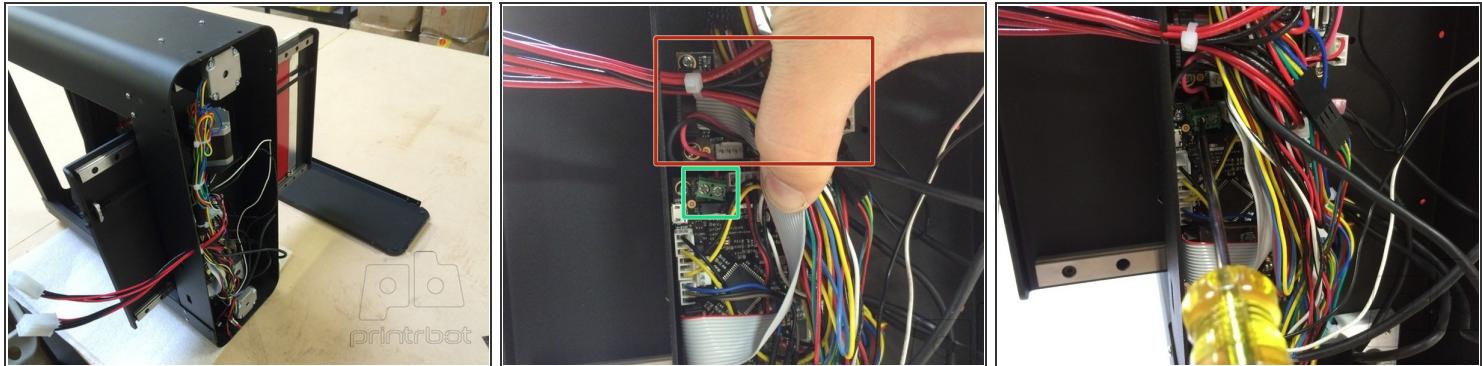
- 2 - Delrin Spacers
- 1 - Radiant Sheet
- 3 - Zip Ties
- 1 - 2mm Allen Wrench
- 1 - 2.5mm Allen Wrench
- To begin, place the Metal Plus on its side (be sure to protect the side when working on it).
- Remove the bottom row of M3 10mm button head screws (12 total) with your 2mm allen wrench.

Step 2



- Once all 12 M3 10mm button head screws are removed, take 2mm allen wrench and insert in spacing between bottom plate of Metal Plus and siding (photo #2).
- Separate the two parts and remove the bottom plate.

Step 3



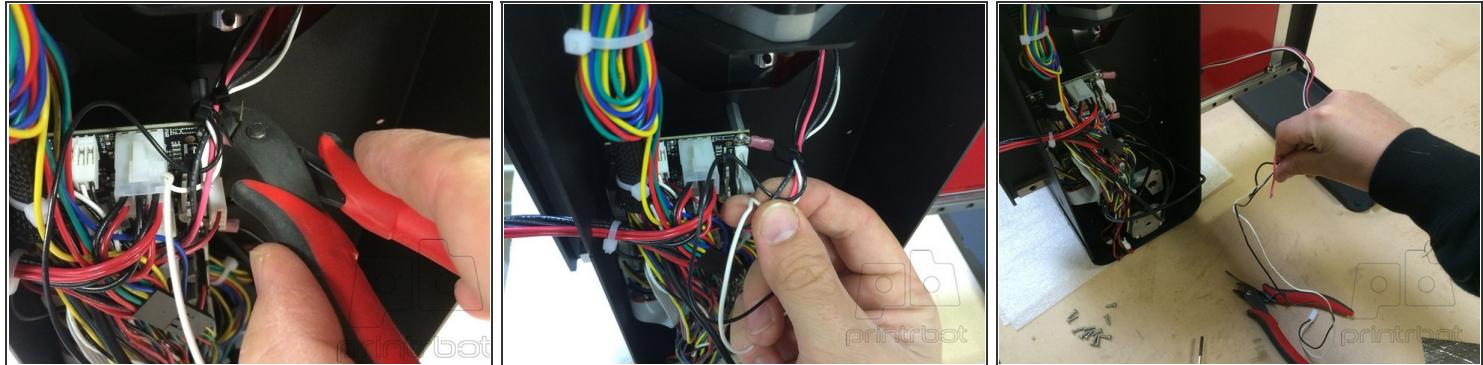
- We are showing these instructions on a Metal Plus Dual Extruder. Users with a single extruder will not have the Extruderboard (red box).
- Take a terminal block screwdriver (or small head phillips screwdriver) and loosen the red and black heat bed wires from the Printheadboard (green box).

Step 4



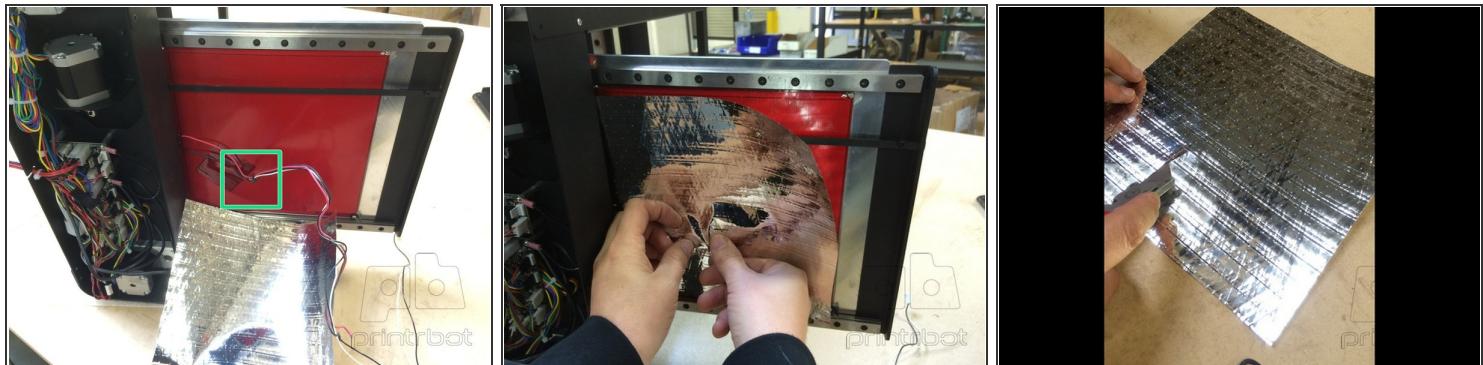
- Once loose, remove the red and black wiring from the terminal block.
- Disconnect the heat bed thermistor from the Printheadboard (photo #2/#3).
 - Note. You may need to move the cables and/or unplug other cables to get to the thermistor plug. Make sure you replace any cables/plugs you remove.

Step 5



- Cut the zip tie that is holding the two pair of wires.
- Pull the two pair of wires out of the base of the Metal Plus (photo #3).

Step 6



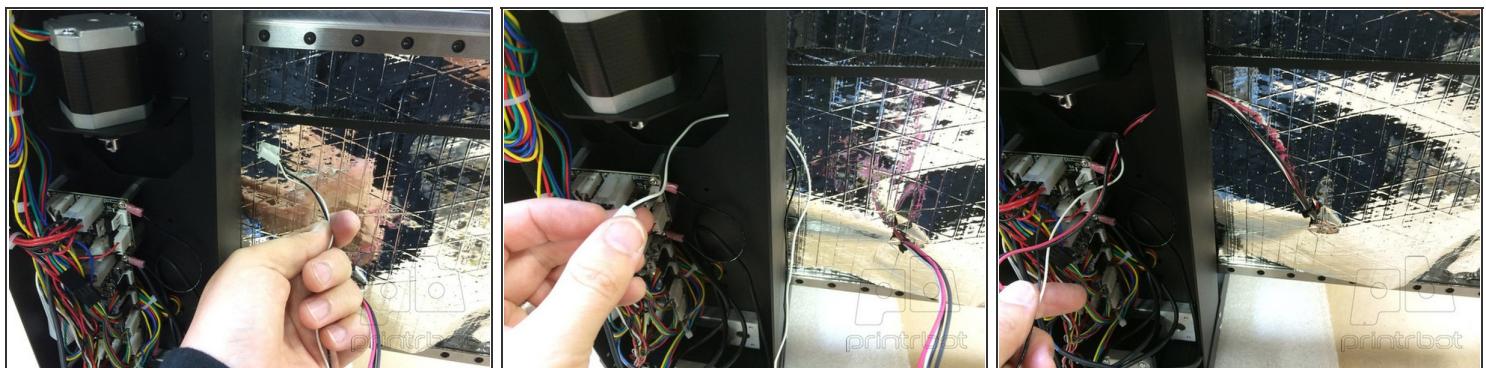
- The radiant sheet will help keep your heat bed at temperature by reflecting all heat back to the print surface, by minimizing heat escaping from out of the bottom of the Printrbot.
- Take the radiant sheet and hold up to the heat plate locating where the thermistor with cable (black and white wires) exit from the small square of kapton tape (green box).
- Mark that location (photo #2).
- Cut a 1" slit in the radiant sheet with a utility knife.

Step 7



- Feed the two pair of wires through the slit in the radiant sheet.
 - Unscrew each M3 4mm button head screw with the 2mm allen wrench.
 - Place the radiant sheet flat onto the surface of the heat plate and secure with the M3 4mm button head screws.
- Be sure to stretch the radiant sheet as you're securing each corner so it is nice and tight (not sagging).

Step 8



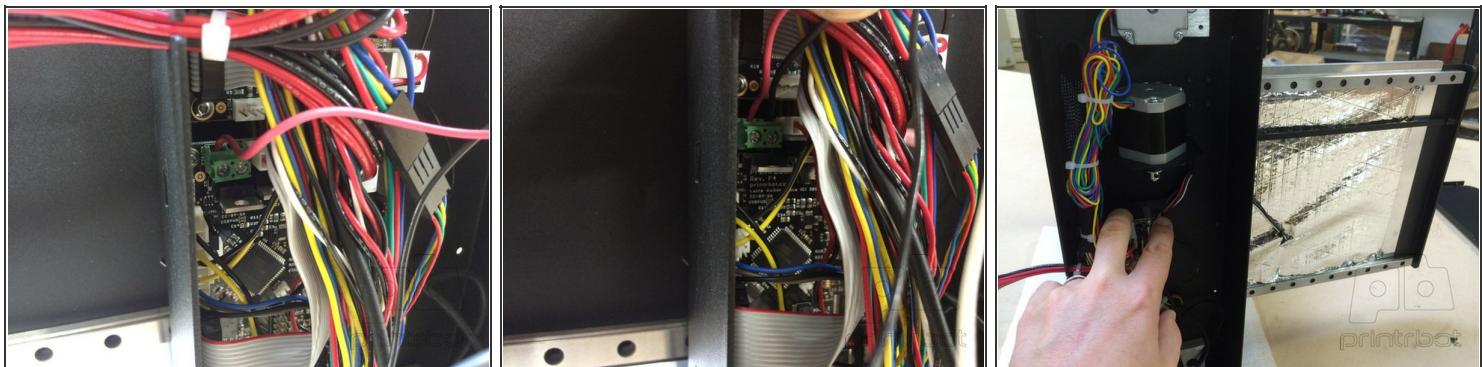
- Feed the two pair of wires back through the hole in the top of the base for the Y axis belt.

Step 9



- Push the bed the other direction to reach the two remaining M3 4mm button head screws and secure the rest of the radiant sheet.
- Reconnect the heat bed thermistor wiring to the Printrboard.

Step 10



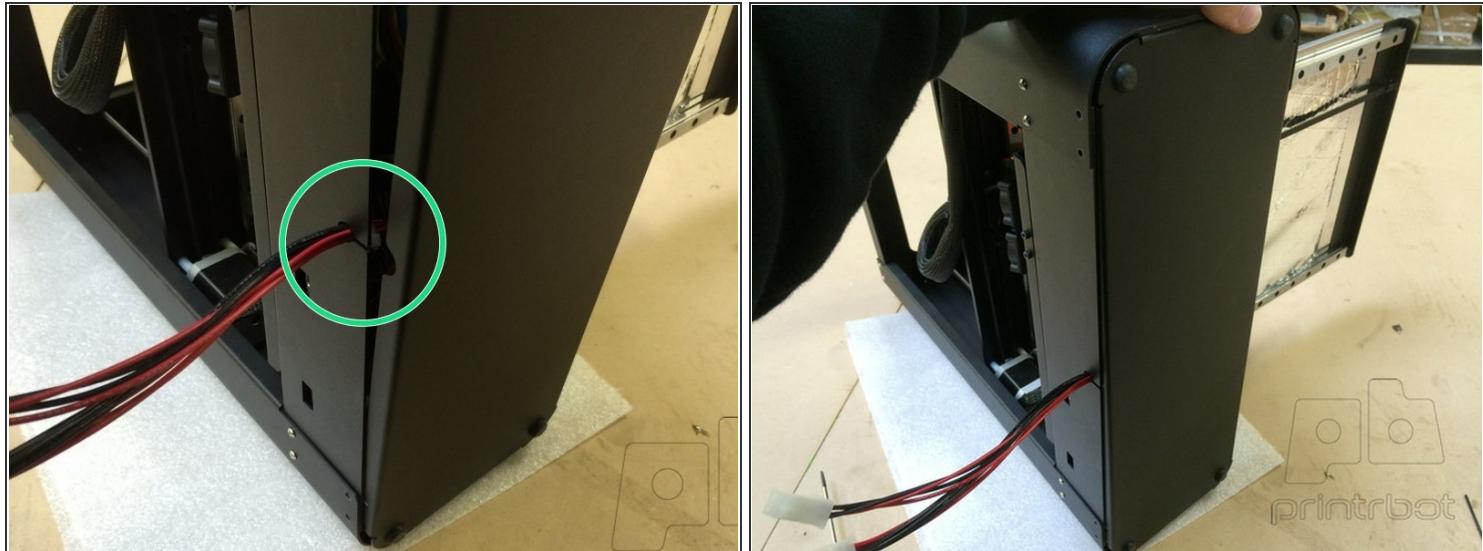
- Reconnect the heat bed wiring to the terminal block on the Printrboard.
- Push the bed all the way forward (photo #3) in order to see the longest travel the wiring will need to go.
- Then secure the two pair of wires with a zip tie to the corner of the Extruderboard (if you have a Metal Plus Dual) or onto the corner of the Printrboard (if you have a single head Metal Plus). Photos continued on next step.

Step 11



- Use another zip tie to manage the extra length in the heat bed thermistor with cable (black and white wiring), photo #3.

Step 12



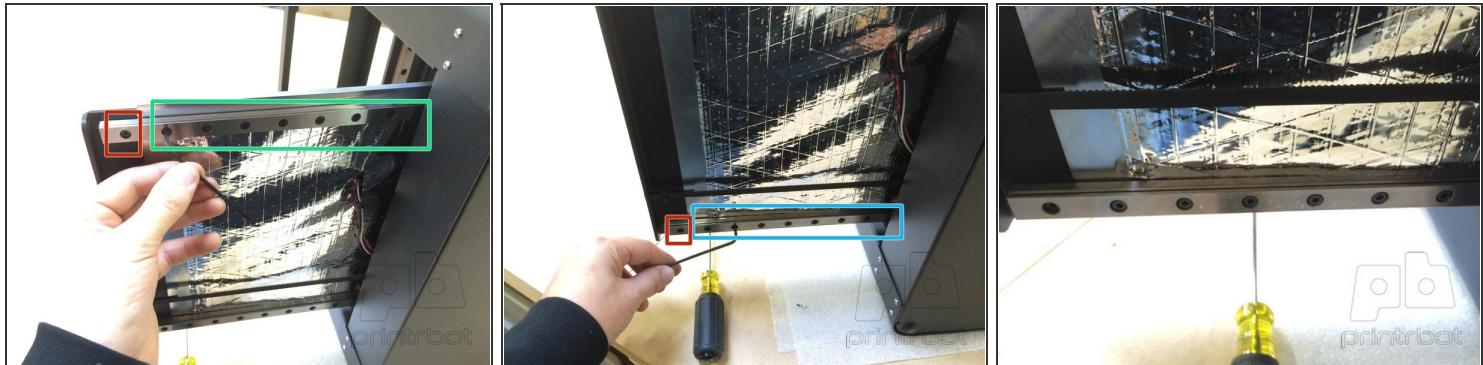
- Insert the bottom plate back into the base making sure that the cutout in the bottom plate is on the side with the power adapter (green circle).
- ★ It is easiest to insert one end of the bottom plate and then slide the other side into place.

Step 13



- Take the 12 M3 10mm button head screws and screw them into bottom plate (leaving them loose at first).
- If holes are not appearing to line up, make sure the other side of the bottom plate is flush with the bottom of the base.
- Once all 12 screws are threaded and in place, tighten fully.

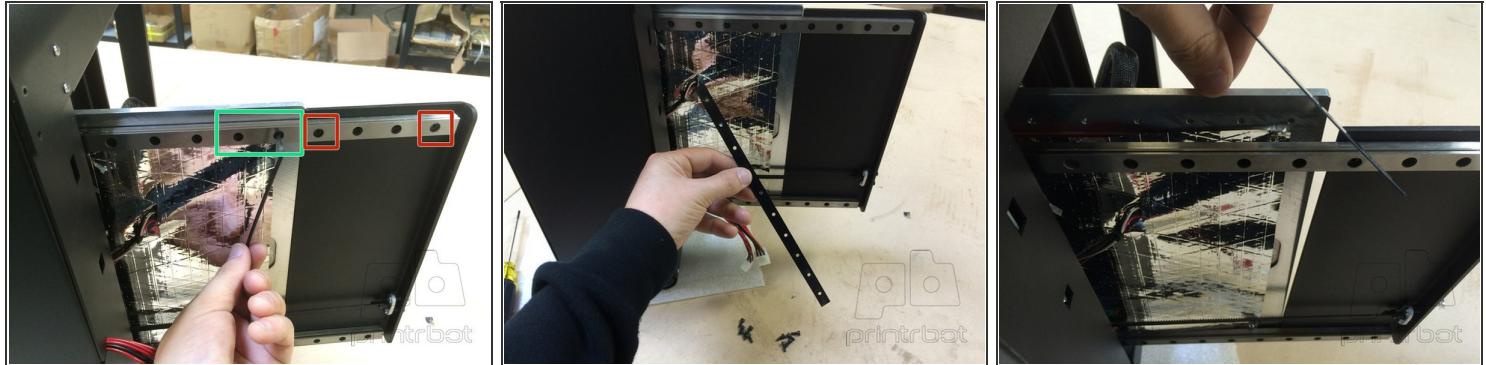
Step 14



● Install the Delrin Spacers

- The delrin spacers will help insulate your print surface from the linear rails and the powder coated front and back bed (which previously acted as a heat sink).
- In the next few steps you will install the delrin spacers. You will want to remove only the 10 M3 8mm screws holding the mic 6 print surface to the linear railing (green box).
- Do not remove or even loosen the M3 8mm screws connecting the linear railing to the bed front or back (black powder coated parts), red box.
- Loosen the 10 M3 8mm screws on the opposite linear railing (blue box). Do not remove them at this point, just loosen them (photo #2/#3). Do not loosen the red box screw.

Step 15



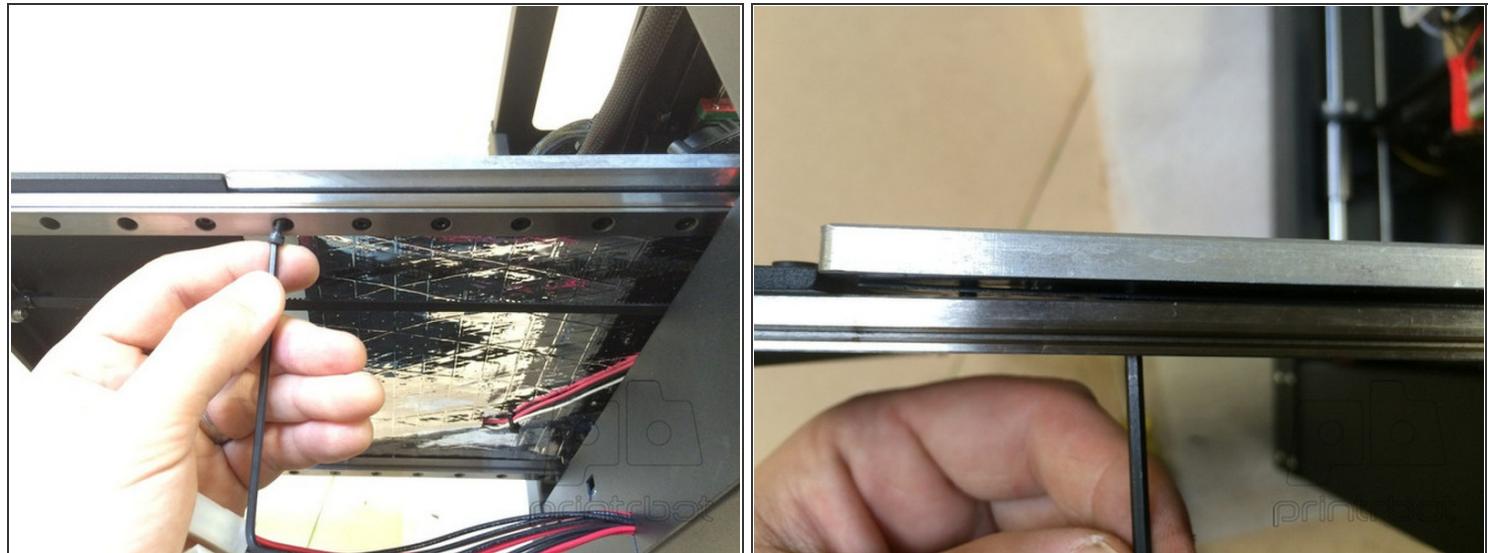
- Push the bed to the opposite side of the Plus so you can access the remaining screws and remove them (green box), photo #1.
- Again do not loosen or remove any screws securing the linear railing to the bed back or front (red boxes).
- Take one of the delrin spacers and place between the linear railing and the mic 6 print bed.

Step 16



- Make sure the holes line up with each hold in the linear railing.
- Begin to secure the mic 6 print bed with two M3 8mm screws.
- Leave the screws loose at this point. Do not tighten them.

Step 17



- Push the bed to the opposite side of the Plus and access the far side of the print bed.
- Screw on the remaining M3 8mm screws but again, leave them loose.

Step 18



- Flip the Plus over and take off the other side of the mic 6 print bed.
- Insert other delrin spacer and thread two M3 8mm screws.

Step 19



- Push bed to other side of Plus and thread the remaining M3 8mm screws. Keep them loose.
- Now plug Metal Plus into ATX power supply and turn on. Connect to your computer with micro USB cable. Open up Controlling software (Cura, Repetier, Pronterface) and set heat bed to 80c temp. Keep Metal Plus on its side while heating up.
- Once the heat bed has reached max heat and has had time to heat entire surface (roughly 10-15 minutes), fully tighten all 20 M3 8mm screws (10 on each linear rail).
- Congratulations, you've successfully installed the insulator pack for the Metal Plus. You are now ready to start printing and your heat bed should easily reach temps for printing ABS and other materials.

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