CR-10S BL Touch Install
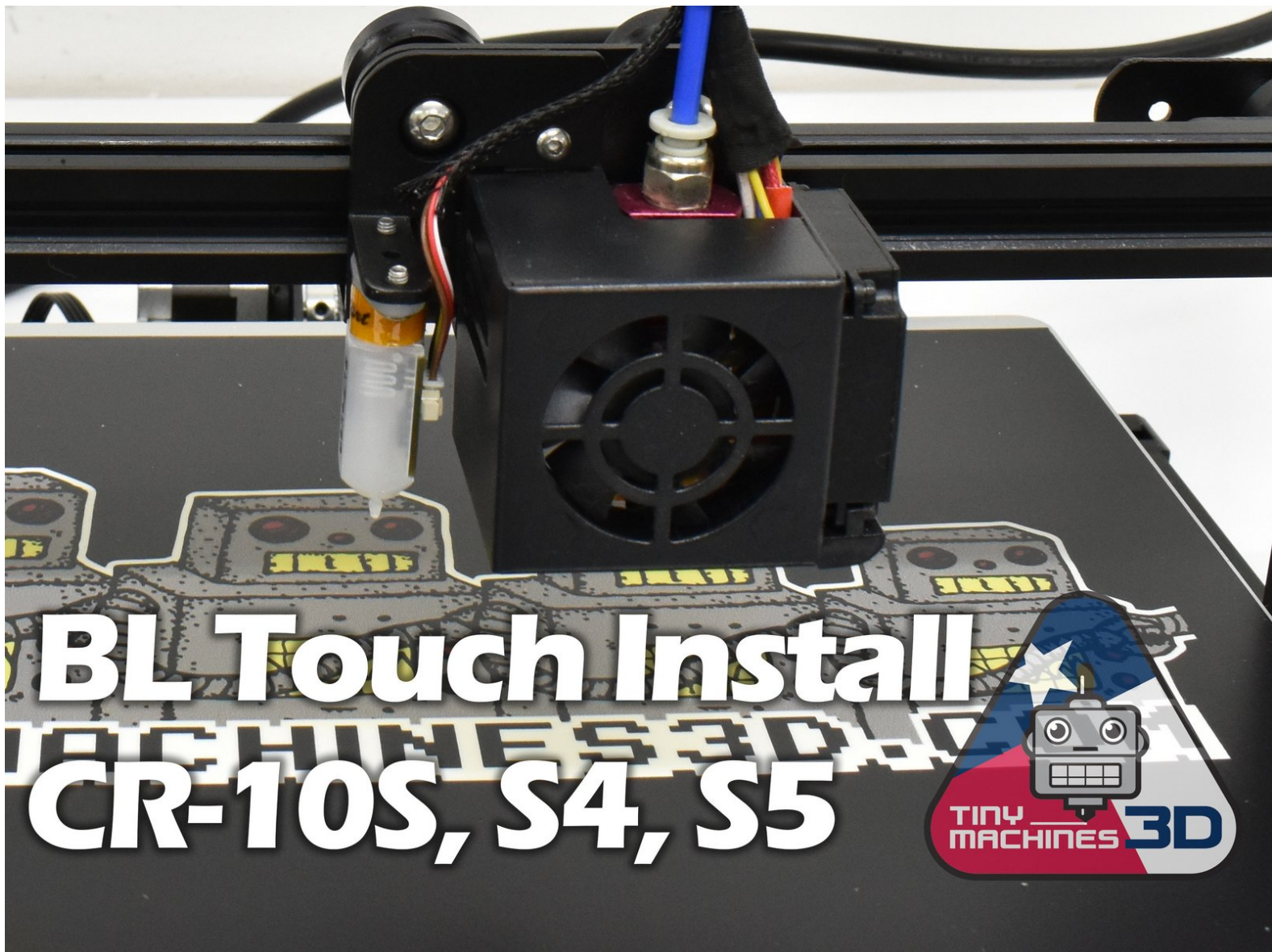
Install a BL Touch on your Creality CR-10S Pro with a kit from Tiny Machines 3D.

Written By: Tiny Machines 3D

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INTRODUCTION

For this guide, we are using an older CR-10 Mini that has been updated with the same motherboard as a CR-10S. Start by removing the control box and placing it in a well lit place where you can sit comfortably.

Read through these steps before starting:

- Review the entire process before removing one component from your machine. You want to make sure you are comfortable and capable performing the tasks
- Confirm that you have USB connectivity with your machine. You can try to flash the mainboard firmware first. Then, if there is an issue, you still have a working machine and can resolve the USB issue before upgrading.
- Make sure you have the time and tools needed for the upgrade. It's no fun to get halfway through a task and have to stop because you're missing something.
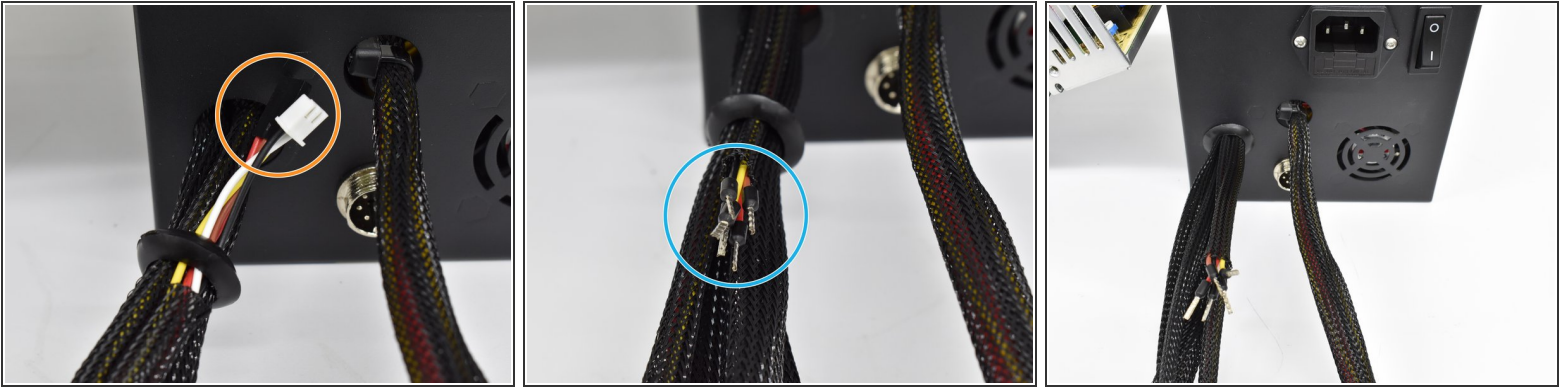
Step 1 — Disassembly
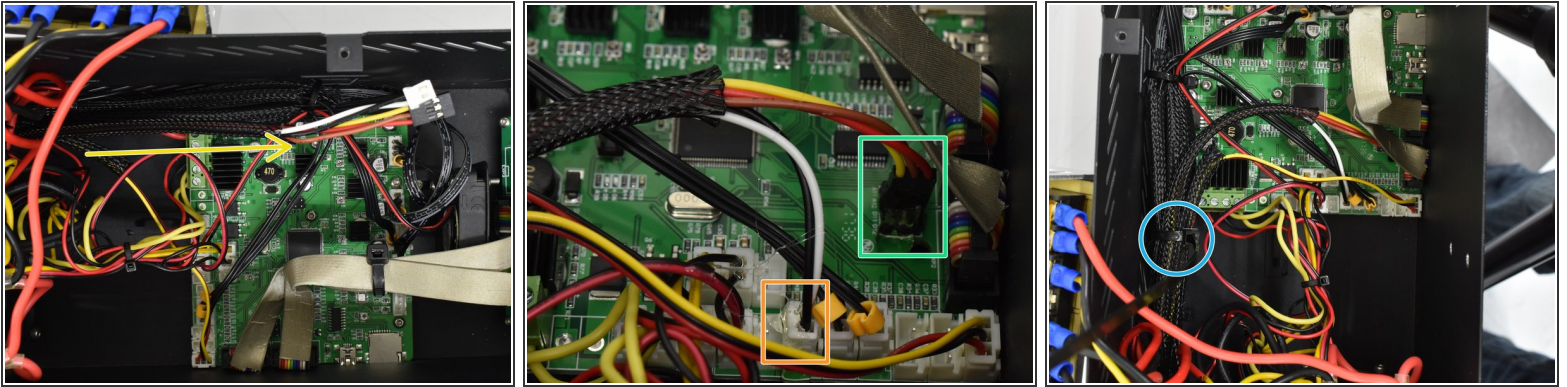

⚠ Before you begin...

- Turn the power switch to OFF

- Unplug the power cable

- Using an M2 hex, remove the 5 button head screws holding the control box bottom cover on.

- using an M2.5 hex, remove the 4 button head screws holding the power supply to the control box.

- Lay the power supply to the side as shown.

- Remove the grommet from the rear of the control box and pull back a few inches as shown.
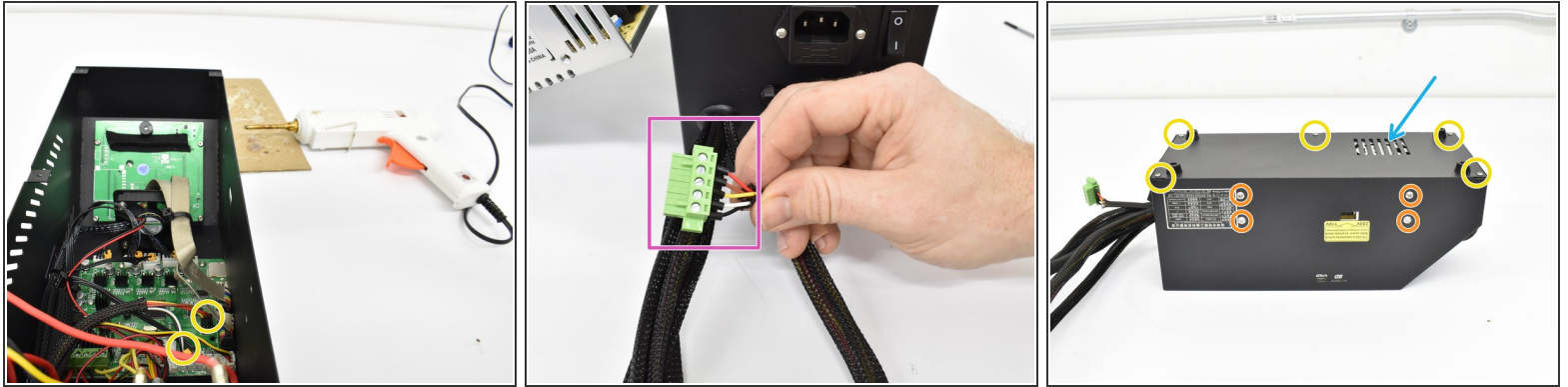
Step 2 — Install 1a.

- With the grommet loose, you can feed harness A through the grommet with the 2 and 3 pin connector going first.
  - *i* Feed it through the hole in the rear of the control box.

- Leave 4-5 inches of the loose pins and reinstall the grommet.

i Make sure the grommet is fully seated into the hold.

Step 3 — Install 1b.

- After feeding harness A into the control box, note where everything is connected in case you have remove things like the LCD connections to access the new connection points.

- Plug in the 3 pin connector to D11 row with the red wire on the V pin. For CR-10S machines, it is the pin closest to the LCD connections.

- ⓘ Unplug the Z end stop wires from the motherboard (not shown)

- Plug in the 2 pin connector where the original Z end stop was plugged in. This is Z- for CR-10S machines.

- ⓘ Hot glue is optional.

- Zip tie harness A to the original harness group for strain relief.
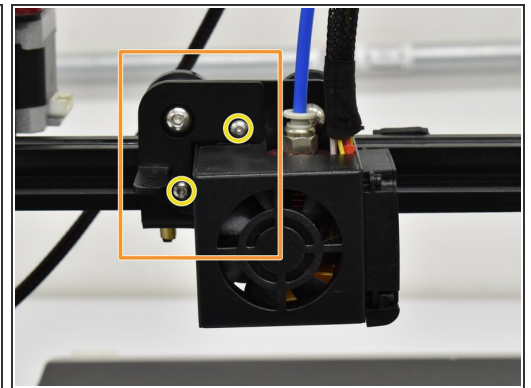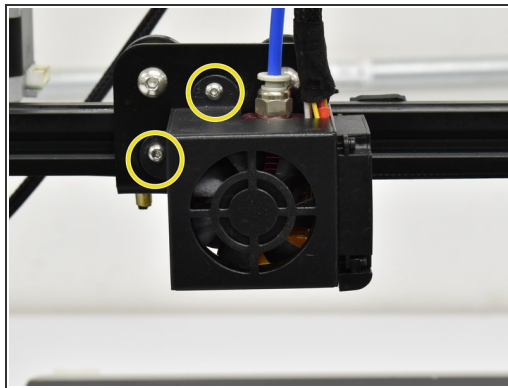
Step 4 — Install 1c. Reassembly

- If you're going to glue the new connections in, do it now.

- Install the male green phoenix connector onto harness A.
  - Using a flat head screwdriver, loosen the terminals 3-4 turns then insert the wires into the
  - ⓘ Color order does not matter but the other side of the harness HAS to match. When tightening the screw terminals, feel for when the wire end is contacted and do not overtighten. Give each wire a very gentle pull to test that they are all firmly connected.

- Reinstall the power supply and tighten the screws.

- Reinstall the bottom cover and tigthen the screws.
  - ⓘ The vent holes should be positioned over the power supply.

Step 5 — Reassembly

- Reinstall the power supply and tighten the screws.

- Reinstall the bottom cover and tigthen the screws.

- The vent holes should be positioned over the power supply.
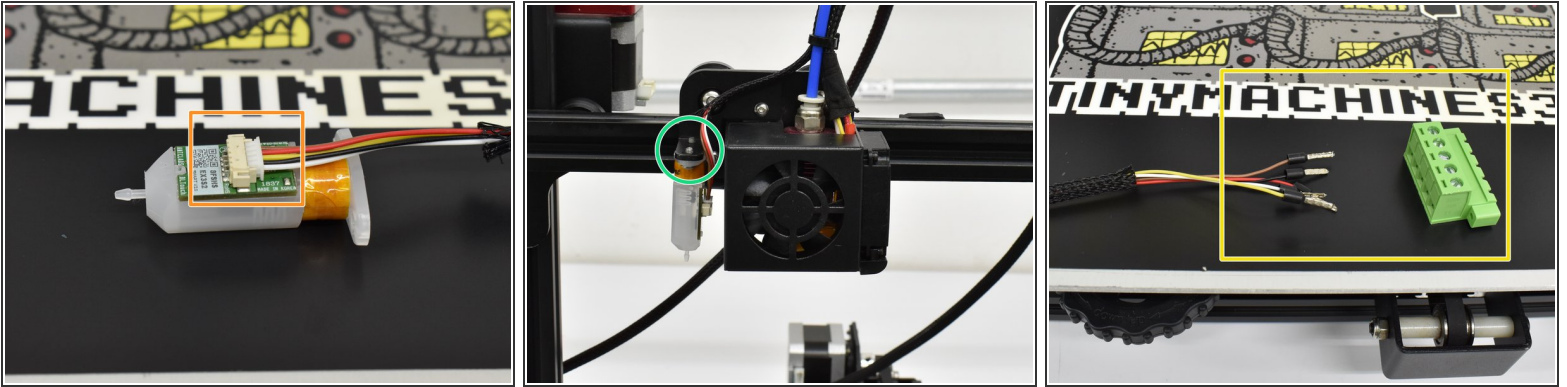
Step 6 — Install 1d.

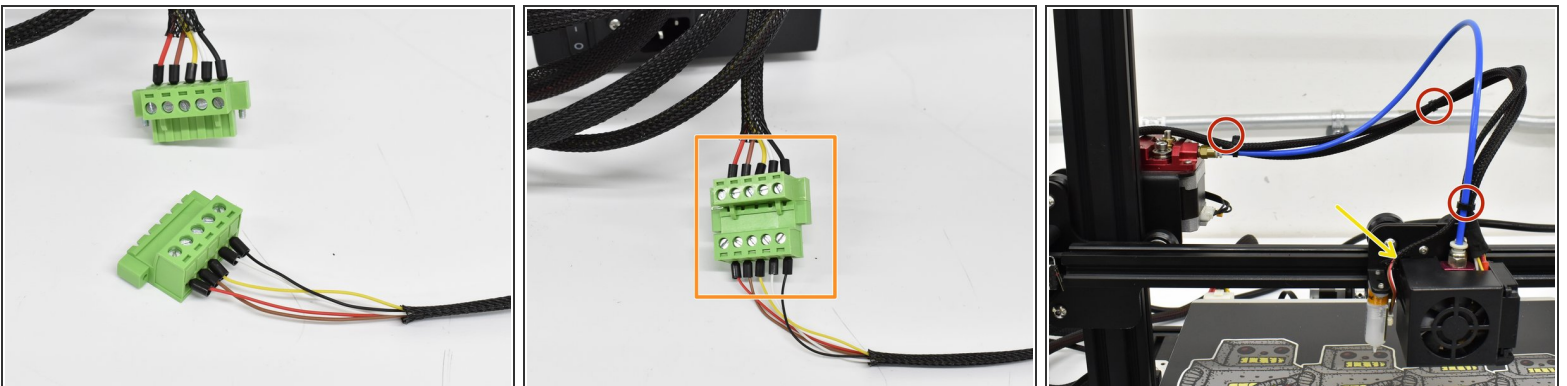- Your kit includes all necessary hardware for the install.

- Using an M2 hex, remove the 2 button head screws holding the hot end shroud on.

- Install the bracket using the provided M3x8 (or 3x10) screws.

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Step 7 — Install 1e.

- Plug the small end connector into the probe. It will only plug in one way so do not force it.

- Install the probe as shown with the connection facting the hot end. Use an M2 hex to install the provided M3x6 screws.

- You can now install the pre-crimped wires into the phoenix connector. Match the color order from the motherboard side.
  - (i) After tigtening all screws, give each wire a gentle tug to make sure they are tight.
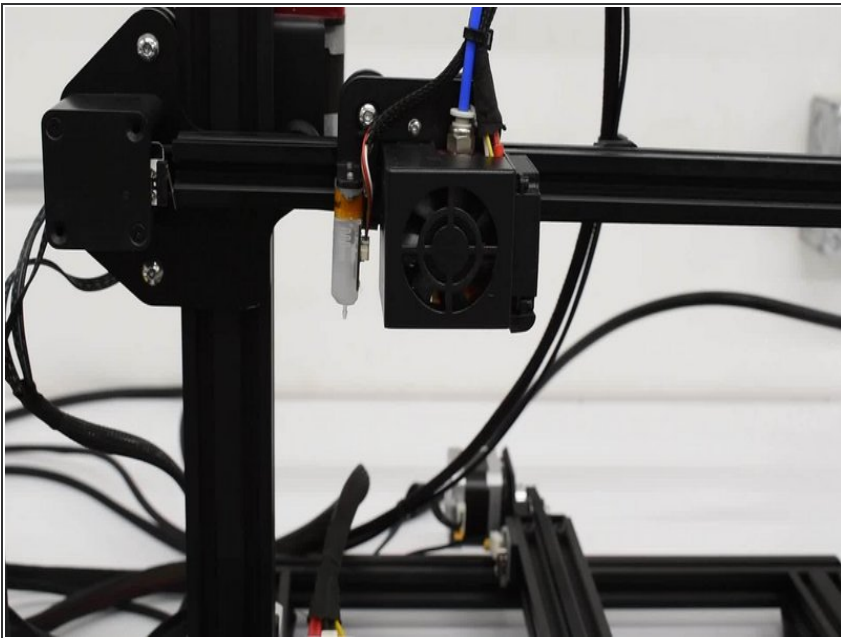
Step 8 — Install 1f.

- Double check that the colors match from the motherboard side to the probe side and plug the motherboard side into the probe side.

- Provided zip ties can be used to attach the new harness to the original in the locations shown.
  - Be sure to leave a little slack in the probe harness so it is not pulled on when the X axis moves back and forth.

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Step 9 — Flash Firmware

- Please contact us regarding firmware if you have purchased our BL Touch Kit for the CR-10S.

Step 10 — Startup Video

- When you first power your machine on after this install and firmware has been loaded, the probe will cycle through a self test.

- Command the machine to auto home and test the probe out with your finger to make sure it triggers the Z end stop and stops Z travel. If so, you have everything connected correctly and you're ready to go through Leveling Setup!

To reassemble your device, follow these instructions in reverse order.