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How to replace the Buddy3D camera cable (CORE One L)

help.prusa3d.com/g944806

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STEP 1 Introduction

- This guide will walk you through the steps to **replace the Buddy3D camera USB-C cable** on your **Prusa CORE One L**.

  ⓘ To replace the Buddy3D camera USB-C cable, we will need to disassemble the side and rear panels of the printer.

⚠ **Be cautious when handling the parts to prevent damage to the door, metal side panels, or printer components.**

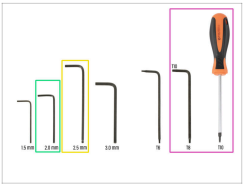
Keep all the fasteners and parts that you remove from the printer during the process at hand; they will be reused.

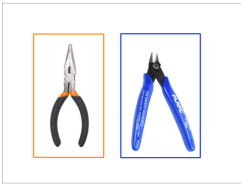
- All necessary parts are available in our eshop **prusa3d.com**.

  ⓘ Note that you have to be logged in to have access to the spare parts section.

- **To complete this guide, you will need spare nylon rivets.** These might get damaged during removal from the printer. We recommend purchasing them in **our shop**.

STEP 2 Tools necessary for this guide



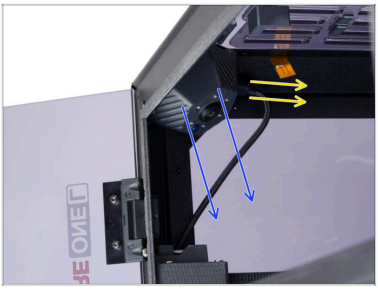


- 2.0mm Allen key
- 2.5mm Allen key
- T10 torx key / T10 torx screwdriver
- Needle-nose pliers
- Flush cutters
- Phillips screwdriver

STEP 3 Preparing the printer

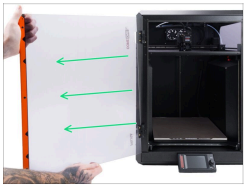
- Open the menu ***Control -> Move Axis -> Move Z*** and move the heatbed all the way down.
- Wait until the heatbed moves down.
- From the rear side of the printer, unplug the PSU cable.
- Flip the power switch OFF (symbol "O").

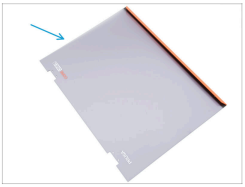
STEP 4 Disconnecting the camera



- The Buddy3D camera is held in place by magnets.
- Unplug the UBS-C cable from the camera.
- Pull the camera off the printer frame and set it aside.

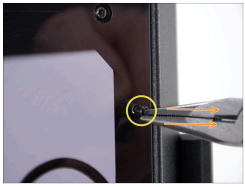
STEP 5 Removing the door panel





- Open the door all the way.
- ⚠ **Hold the door panel in place while loosening the screws in the next step to prevent the door panel from falling down.**
- Use the T10 Torx key to remove the two M3x4rT screws securing the door panel in both hinges.
- Carefully slide the door panel out of the hinges.
- Place the door panel on a clean and secure surface to avoid any damage.

STEP 6 Removing the plexiglass cover

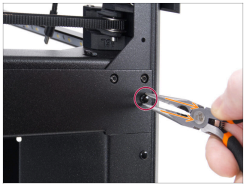
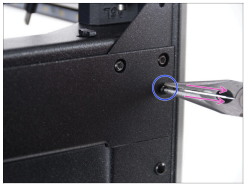




- Turn the printer so you are facing the side without the spoolholder. Choose one of the nylon rivets holding the plexiglass cover.
- **Gently** squeeze the top part of the rivet with the needle-nose pliers.
- Pull the top part of the nylon rivet out.

⚠ **When using the needle-nose pliers to remove the nylon rivets, be very careful not to damage the plexiglass.**

- Carefully insert the needle nose piers into the middle opening in the rivet and squeeze **gently**.
- Pull the bottom part of the nylon rivet out.
- Use this process to remove all seven nylon rivets holding the plexiglass side cover.
- Remove the plexiglass side cover and place it on a secure place where it will not get damaged.

STEP 7 Removing the metal side cover


Use the same process to remove the nylon rivets that hold the metal side cover in place.

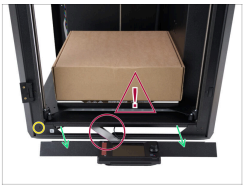
When using the needle-nose pliers to remove the nylon rivets, be very careful not to damage the metal side cover.

- Gently squeeze the top part of the rivet with the needle-nose pliers.
- Remove the top part of the nylon rivet.
- Carefully insert the needle nose piers into the middle opening in the rivet and squeeze.
- Remove the bottom part of the nylon rivet.
- Use this process to remove all eleven nylon rivets holding the metal side cover.
- Remove the metal side cover and place it in a secure place where it will not get damaged.

STEP 8 Protecting the heatbed

- Place a cardboard box/cardboard sheet/bubble wrap on the heatbed to prevent any damage.

STEP 9 Accessing the corner profile screw

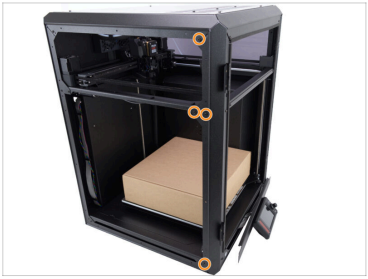


In this step, we will be removing the front LCD panel, which is attached to the printer with magnets.

Be very careful when moving the front panel assembly! Make sure that you do not disconnect or damage the LCD cables.

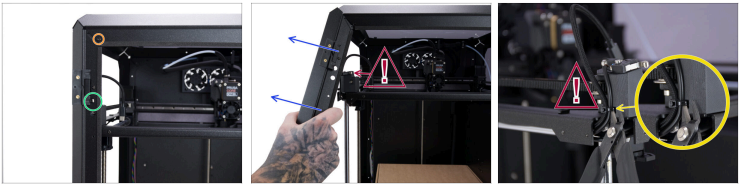
- Gently, but firmly, pull the bottom of the front metal panel with the LCD towards you to release it from the printer frame.
- Lift one side of the front panel and pull it towards you slightly. Then lift the other side.
- Gently pull the front panel assembly towards you and place it in front of the printer.
- We now have access to the screw that is holding the corner profile, which will be removed in the next step.

STEP 10 Removing the corner profile (Part 1)



- On the side of the printer, use the T10 torx key / T10 torx screwdriver to remove the four M3x4rT screws that hold the corner profile in place.
- From the front of the printer, **remove only the two marked screws** that hold the corner profile in place.
- Do not remove the top screw yet. We will remove it in the next step.

STEP 11 Removing the corner profile (Part 2)

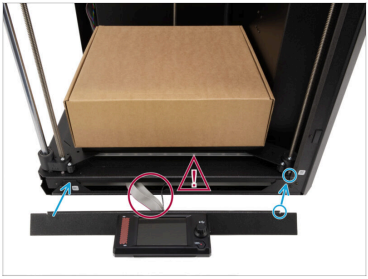


- Notice the door sensor lever protruding from the corner profile.
- Remove the top screw while holding the corner profile in place.

  ⚠ **Do not damage the door sensor lever when removing the corner profile.**
- Remove the corner profile.
- Use the side cutters to cut the zip tie that secures the Buddy3D camera cable and the door sensor cable.

  ⚠ **Be very careful not to cut or damage any cables when cutting the zip tie.**

STEP 12 Reattaching the LCD panel

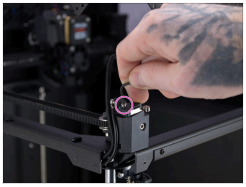
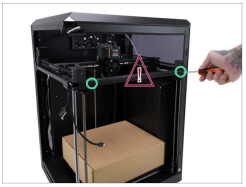


- With the corner profile removed, reattach the LCD panel. Ensure that the groove on the right side aligns with the right corner profile.

⚠ **Be careful not to pinch or disconnect the LCD cables.**

- Attach the LCD panel to the printer at a slight angle. Then let the LCD panel snap into position with magnets.

STEP 13 Removing the LED panel

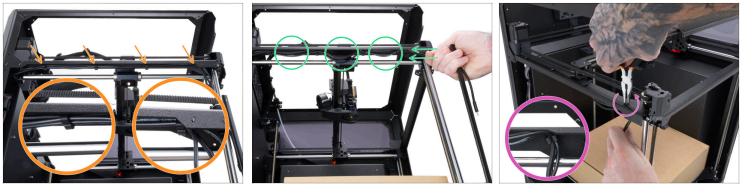

To replace the Buddy3D camera USB-C cable, we also need to remove the door sensor and LED panel.

- Use the 2mm Allen key to remove the M2.5x10 screw that holds the door sensor in place.
- Use the T10 torx key / T10 torx screwdriver to remove the two M3x4rT screws that hold the LED panel in place.

  Be careful when manipulating the LED panel. Support it with your hand until both screws are removed.

- Slowly lower the LED panel and let it hang on the side.
- Well done! We can now access all three cables that are led along the side profile.

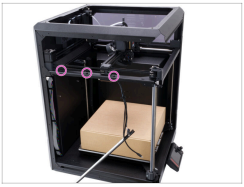
STEP 14 Accessing the cables (part 1)



- Locate the four printed Cable-clamp-narrow that hold the cables in place.
- Grab all three cables and gently push them towards the back of the printer to make the cables slack.
- Use the needle-nose pliers to grip and turn the Cable-clamp-narrow. Twist counter-clockwise while making sure that no cables are pinched.

⚠ **Be careful not to scratch the profiles when removing the cable clamps with needle-nose pliers.**

STEP 15 Accessing the cables (part 2)



- Remove the other three remaining Cable-clamp-narrow from the printer using the same process.

  The Cable-clamp-narrow is pretty snug around the cables. However, the clamps can be bent to some extent, making it easier to insert the cable.

- Gently place the LED profile, the door sensor, and the camera USB-C cable onto the heatbed protection.
- Carefully pull the Buddy3D camera USB-C cable out of all four Cable-clamp-narrow.

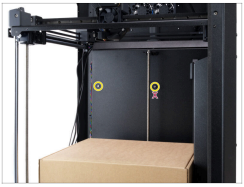
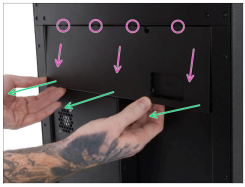
STEP 16 Removing the Wi-Fi module



- Locate the Wi-Fi module at the rear of the printer.
- Use the 2.5 mm Allen key to remove the M3x14 screw.
- Note that the Wi-Fi module is connected to the electronics by the pin header with eight pins.

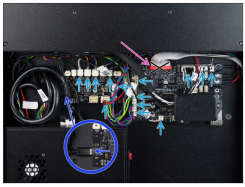
  Make sure not to bend the pins on the pin header when removing the module.
- Gently pull the Wi-Fi module **straight downward** to remove it from the printer.

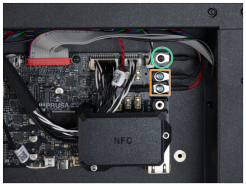
STEP 17 Removing the electronics covers


- On the inside of the printer, use the T10 screwdriver to remove the two M3x4rT screws that hold the electronics cover in place.
  - Only remove the highlighted top screw in the middle. Do not touch the lower screw.
- Pull slightly downward to release the four tabs on top of the cover from the docks in the printer.
- Carefully, yet firmly, pull the bottom of the cover towards you to remove it.

STEP 18 Disconnecting the cables





- Using the needle-nose pliers, remove the fifteen plastic rivets from the back plate. **Be careful not to scratch the back plate.**

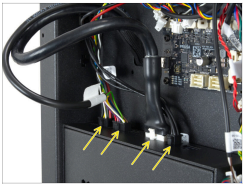
  Remove the rivets in the same way as you did when removing the side panel in **this step**.

- Unplug all the highlighted cables from the xBuddy board and the extension board. **All of these connectors have a safety latch.**

It is necessary to press the latch before disconnecting the cables from the board.

- Unplug the Buddy3D camera USB-C cable from the extension board. Note that in the photo, it is behind the thick Heatbed heater cable.
- **Do not unplug the LCD ribbon cable.** It will stay plugged in.
- Use the T10 torx key / T10 torx screwdriver to remove the top M3x4rT screw.
- Use the Phillips screwdriver to remove the two 6/32' screws.

STEP 19 Disconnecting the PSU cables

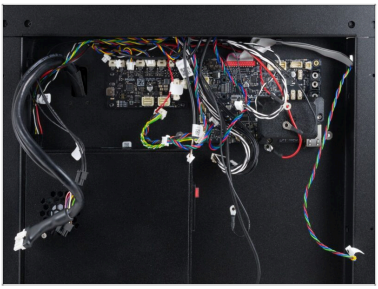

- Use the T10 torx key / T10 torx screwdriver to remove two M3x8rT screws under the heatbed cable sleeve.
- Unplug all four cables that are connected to the PSU.

The cable connectors have safety latches. It is necessary to press the latch before disconnecting the cables from the PSU.

Proceed with caution to avoid damaging any cables.

- Use the T10 torx key / T10 torx screwdriver to remove the grounding screw in the bottom left corner.

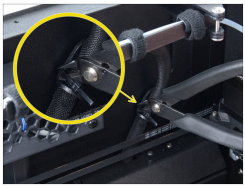
STEP 20 Checking the cables

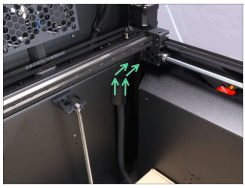


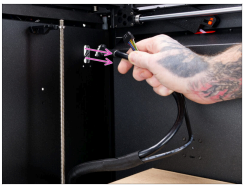
ⓘ Doublecheck that all the cables are unplugged (except for the LCD ribbon cable). The back of your printer will look as shown in the picture.

- With everything prepared, we will proceed to remove the heatbed cables and the back panel.

STEP 21 Removing the heatbed cables





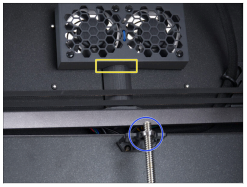
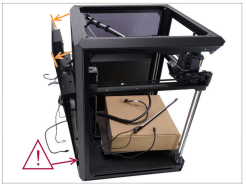


- On the inside of the printer, use the flush cutters to remove the zip tie that secures the extruder cables in place.

  ⚠ **Be careful when removing the zip tie. Do not damage the cables or the printer.**

- Remove the Heatbed-cable-clamp plastic cover.
- Carefully pull the cables out from the back panel and rest them on the protective cardboard on the heatbed.

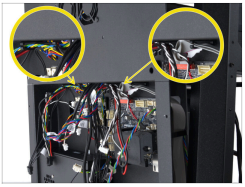
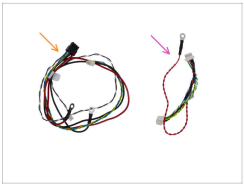
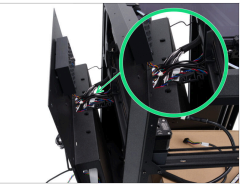
STEP 22 Detaching the back panel

- Use the T10 torx key / T10 torx screwdriver to remove the M3x4rT screw on the top right corner of the back panel.
  - All fasteners holding the back panel in place are removed. However, the panel is still supported from the inside by a plastic part under the chamber fans.
- The Z-axis bearing is inserted into the Bed-stop-rear plastic part. Carefully pull the bearing out from the Bed-stop-rear.
- Gently pull the top of the back panel slightly away from the printer as shown in the photo. **Be very careful not to pull or pinch any cables**.

⚠ **Do not pull off the bottom of the back plate just yet!**

STEP 23 Removing the back panel (part 1)

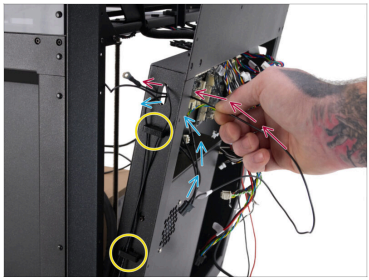
⚠ **Support the back panel with your hand at all times during this step.**

- Note the four plastic clips with cables leading through them. Carefully remove all the cables, leaving only the LCD ribbon cable threaded through the rightmost clip.
- These two cable bundles are already completely disconnected and might fall on their own once you remove them from the top cable clips:
  - PSU controller cable
  - xBuddy extension cable

ⓘ Set the PSU controller cable and the xBuddy extension cable aside; we will need them later.

- Once you pull the top of the back panel from the printer, **ensure that no cables are pulled too hard or pinched.**

STEP 24 Removing the back panel (part 2)



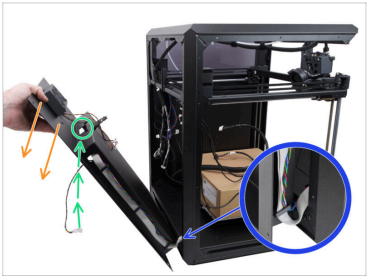
Support the back panel with your hand at all times during this step.

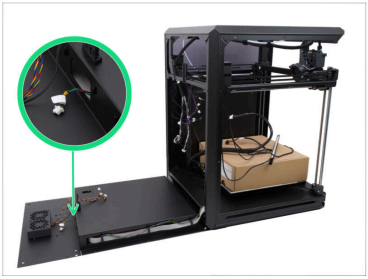
- Push the PE grounding cable through the opening on the side of the back panel.
- Push the remaining part of the PSU cables through the opening on the side.
- Remove the cables from the cable clamps on the side of the back panel.

Proceed carefully to prevent damaging the cables!

- Push the remaining cables through the opening in the back panel. Only leave the stepper splitter cable on the right side (along with the connected LCD ribbon cable).

STEP 25 Removing the back panel (part 3)





- Guide the stepper splitter cable through the hole in the back panel to prevent damage to it when it is under the back panel.
- Make sure that the LCD ribbon cable is not pulled or pinched.
- Gently lower the back panel onto the surface.

Well done! With the back panel removed, we can now remove the Buddy3D camera USB-C cable and replace it.

STEP 26 Removing the cable clamps

- Locate both of the Cable-clamp-narrow mounted on the rear profile of the printer.
- Before you start removing the first Cable-clamp-narrow, **make sure that the cables between the clips are slack!**
- Turn the Cable-clamp-narrow from the top to unlock it and remove it from the printer.

⚠ **Before you remove the second cable clip, make sure that the motor cable is slack on both sides!**

- Once the motor cable is loose, remove the second Cable-clamp-narrow.

STEP 27 Removing the USB-C cable

- The Buddy3D camera USB-C cable needs to be removed from each Cable-clamp-narrow.

The Cable-clamp-narrow is pretty snug around the cables. However, the clamps can be bent to some extent, making the USB-C cable removal easier.

- Remove the USB-C cable from both clamps.

STEP 28 Parts preparation: Buddy3D camera USB-C cable

- For the next step, prepare:
  - Buddy3D camera USB-C cable

STEP 29 Attaching the new USB-C cable

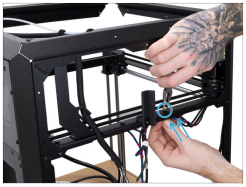
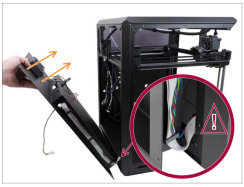
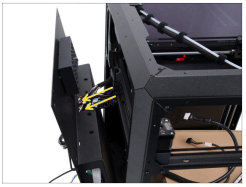


- Add the new Buddy3D camera USB-C cable to a Cable-clamp-narrow with the other cables.

  ⚠ Be careful not to pinch or pull any cables.

- Attach the second Cable-clamp-narrow, so both clamps are engaged with all four cables.
- Attach the Cable-clamp-narrow to the printer profile.
- Once the clamp is inserted into the profile, turn it to lock it in position.
- Once the first clamp is in place, pull the stepper splitter cable gently so it does not hang in the corner.

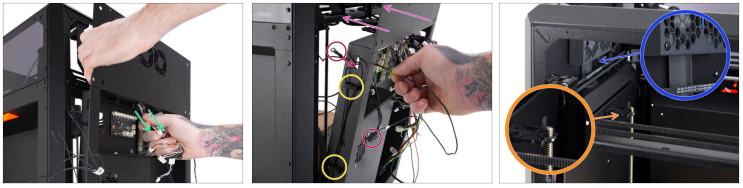
STEP 30 Reattaching the back panel (part 1)

- Attach the second Cable-clamp-narrow and lock it in the position.
- Lift the back panel back up. Just enough so that you can thread the cables through the insert in the back.

  ⚠ **Be careful not to pinch or pull the LCD ribbon and the stepper splitter cables.**
- Thread all cables through the insert in the back panel.

STEP 31 Reattaching the back panel (part 2)



- Gently pull the cables to ensure they are properly extended and will not get pinched by the back panel.
- Add the main FE cable to both clips on the side of the back panel.
- Thread both connectors of the main FE cable through the hole on the side of the back panel.
- Mount the back panel onto the printer.

  ⚠ **Ensure that no cables are pinched once the back panel is in place.**
- When mounting the back panel, ensure that the chamber fans casing is in the correct position.
- Push the Z-axis bearing into the Bed-stop-rear plastic part. Ensure that the bearing clicked back into position.

STEP 32 Reattaching the back panel (part 3)



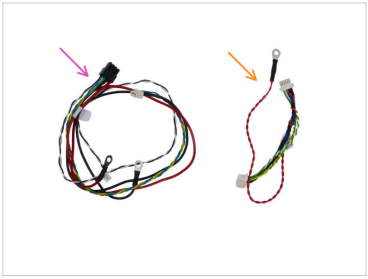
- Fix the panel in place by using the T10 torx key / T10 torx screwdriver to screw in the M3x4rT screw in the top right corner.

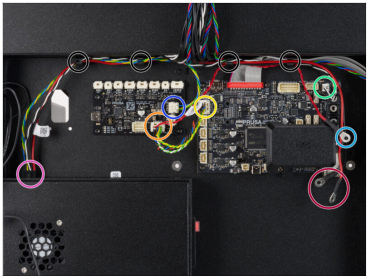
  Support the back panel in place with your hand until it is completely attached with screws and nylon rivets.

- Use the T10 torx key / T10 torx screwdriver to screw in the grounding screw in the bottom left corner.
- Once the back panel is mounted on the printer, keep it in place by installing fifteen nylon rivets.

  If the original nylon rivets are unusable, you can purchase nylon rivets in **our shop**.

STEP 33 Reconnecting the xBuddy power cables

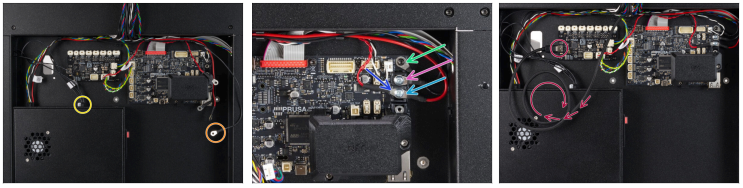




All the plastic connectors have a safety latch. Make sure that the latch clicks in place when connecting the cables to the board.

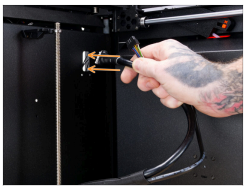
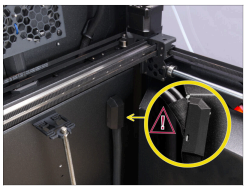
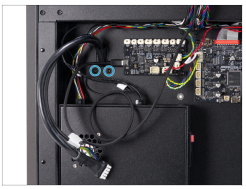
- Plug the PSU controller cable into the PSU, lead all the cables through the top cable clips, and connect these cables:
  - Power panic cable
  - AC controller cable
  - Lead the two PSU power supply cables through the top cable clips all the way to the right. Do not connect these yet.
- Plug the xBuddy extension cable into the extension board. Note that this connector has a red cable (extension power supply cable).
  - Plug in the xBuddy extension board connector (without the red cable).
  - Lead the xBuddy extension board power supply cable (red) through the top cable clips all the way to the right. Do not connect the cable yet.

STEP 34 Reconnecting the main FE cable



- Plug in the main FE cable to the PSU. Then, lead the cable to the right side along all four top cable clips.
- Lead the FE cable to the right side through all four top cable clips.
- Use the T10 torx key / T10 torx screwdriver to attach the FE cable to the xBuddy board with the M3x4rT screw.
- Connect the PSU controller cable (black) with the 6/32' screw using the Phillips screwdriver.
- Prepare the extension board power cable and place it onto the connector. It will be connected along with the PSU power supply cable (red).
- Add the PSU power supply cable (red) to the xBuddy extension cable and fix both in place with the 6/32' screw using the Phillips screwdriver.
- Plug the new Buddy3D camera USB-C cable into the USB port. Ensure that the cable is looped at least once.

STEP 35 Reattaching the heatbed cables

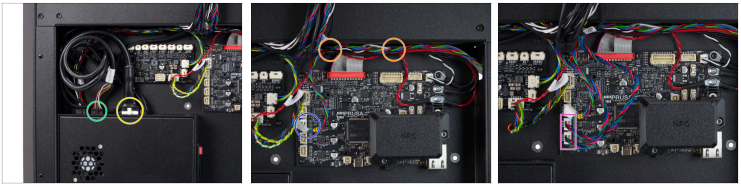




- From the inside of the printer, push the heatbed cables through the opening in the back panel.
- Insert both heatbed cables into the Heatbed-cable-clamp. Ensure the cables are oriented so that the thinner one is on top. It will slide into the ridge in the Heatbed-cable-clamp.

⚠ **The sleeve must be tightly wrapped around the cables and must protrude slightly from the back.**

- Fix the Heatbed-cable-clamp in place with two M3x8rT screws from the rear side of the printer.

STEP 36 Reconnecting the cables (part 1)



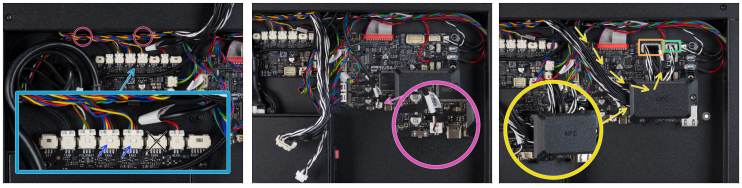
Note the cable management of the heatbed cables. The replaced xBuddy camera USB-C cable is located behind the looped heatbed cables.

- Once the cables are looped as shown in the photo, plug both cables into the PSU:
  - Heatbed data cable
  - Heatbed heater cable

All plastic connectors have a safety latch. Ensure that the latch clicks into place when connecting the cables to the board.

- Lead the stepper splitter cable (marked with Z) through the two top cable clips on the right side.
- Plug the stepper splitter cable into the xBuddy board.
- Plug the two motor cables into the slots under the stepper splitter cable. Each of these two cables can be connected to any of the two slots.

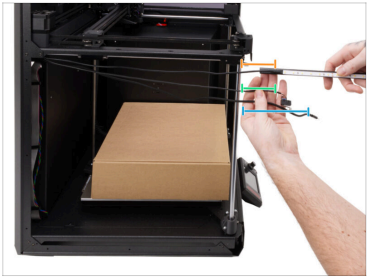
STEP 37 Reconnecting the cables (part 2)

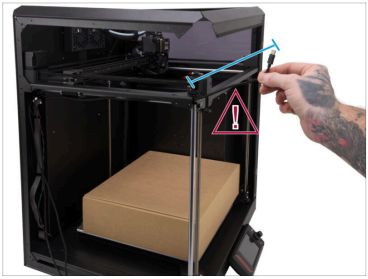


All the plastic connectors have a safety latch. Ensure that the latch clicks into place when connecting the cables to the board.

- Plug in the cables to the top row of the xBuddy extension board as shown in the picture.
  - Each of the two FAN cables can be plugged into any of the two slots: FAN1 or FAN2.
    Do not connect any cable to the FAN 3 slot.
- Use the top cable clips to keep the cable management tidy and to store any excess cables.
- Plug the door sensor cable into the A_TEMP connector.
- Lead the main cable and the accelerometer cable through the NFC cover.
- Plug the main cable into the xBuddy board.
- Plug the accelerometer cable into the xBuddy board.

STEP 38 Checking the cable length



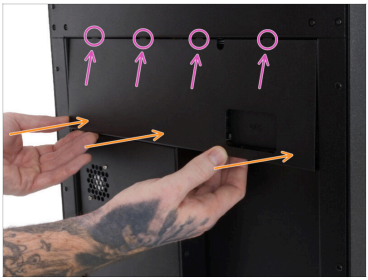


While you have access to the electronics, ensure that all three components can reach their original position.

- Gently lead the three cables along the side profile to check that all three cables will be of sufficient length to be installed back. Cables must protrude the following length:
  - LED cable:
    5 cm/ 1.9 inches
  - Door sensor cable:
    5 cm/ 1.9 inches
  - Buddy camera USB-C cable:
    20 cm/7.9 inches

The Buddy3D camera USB-C cable must reach the camera. However, ensure that it is not too long to get tangled in the printer's moving parts.

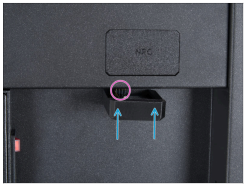
STEP 39 Covering the electronics



While reattaching the electronics cover, ensure that all cables are covered and that no cables are pinched!

- Ensure that the four tabs on top of the electronics cover slide into the four docks in the rear printer cover.
- Carefully, yet firmly, push the bottom of the cover towards the printer to re-attach it to the printer.
- Secure the electronics cover in place with two M3x4rT screws from inside of the printer.

STEP 40 Reattaching the Wi-Fi module



Note that the Wi-Fi module will be connected to the electronics by the pin header with eight pins.

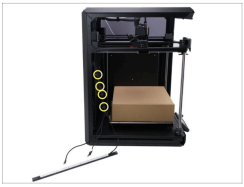
Ensure that the Wi-Fi module is positioned correctly when plugging it into the connector.

Ensure that you do not bend any pins on the pin header when reattaching the module.

Push the Wi-Fi module **straight upward** to connect it to the printer.

Use the 2.5 mm Allen key to tighten the M3x14 screw.

STEP 41 Reattaching the cable clamps (part 1)


- Carefully place the Buddy3D camera USB-C cable into the Cable-clamp-narrow.

  The Cable-clamp-narrow is pretty snug around the cables. However, the clamps can be bent to some extent, making it easier to insert the cable.

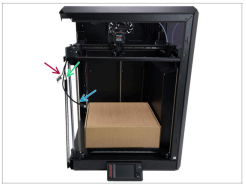
- Add the cable to the other remaining clamps using the same process.

- Starting from the back, attach three cable clamps to the side profile. Lock them in place using needle-nose pliers.

  Be careful not to scratch the profiles when attaching the cable clamps with needle-nose pliers.

STEP 42 Reattaching the cable clamps (part 2)



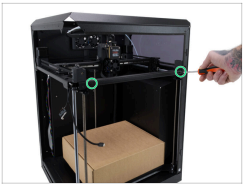
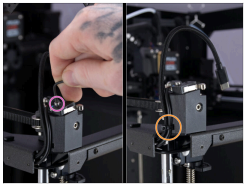


- Proceed extra carefully when reattaching the front Cable-clamp-narrow. Make sure not to pinch or damage the cables.
- Insert the Cable-clamp-narrow and use the needle-nose pliers to lock it in place.
- Once all the cables are held in place, check that there is no damage to the cables or the printer profiles.

Recheck the cable length as shown in **this step**. Ensure that the cables protruding from the front are the correct length:

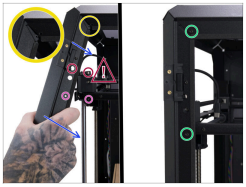
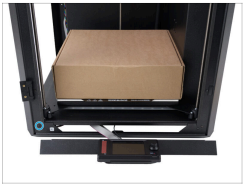
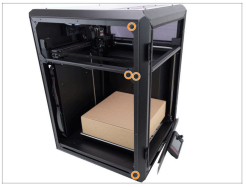
- LED cable: 5 cm/ 1.9 inches
- Door sensor cable: 5 cm/ 1.9 inches
- Buddy camera USB-C cable: 20 cm/7.9 inches

STEP 43 Reattaching the LED and the door sensor


- Use the T10 torx key / T10 torx screwdriver to fix the LED panel in place with two M3x4rT screws.
- Use the 2mm Allen key to tighten the M2.5x10 screw that holds the door sensor in place.
- Fix the Buddy3D camera USB-C cable and the door sensor cable in place with a zip tie.
- Detach the LCD panel carefully, so you do not damage or disconnect and cables. Place the LCD panel in front of the printer as shown.

STEP 44 Reattaching the corner profile

- Carefully mount the corner profile on the printer.
- First, align the hole at the top of the corner profile with the top profile. The corner profile must be positioned behind the top profile.
- Align the corner panel hole very carefully with the door sensor lever. Place the panel onto the printer so that the lever is protruding.

  ⚠ **Do not damage the door sensor lever when mounting the corner profile.**
- Align the hole in the corner panel with the hole in the front panel.
- Use the T10 torx key / T10 torx screwdriver to secure the panel in place by screwing in the two M3x4rT screws.
- Screw in the M3x4rT screw at the bottom of the corner profile.
- Fix the corner profile in place from the side by using the T10 torx key / T10 torx screwdriver to screw in the four M3x4rT screws.

STEP 45 Reattaching the LCD panel

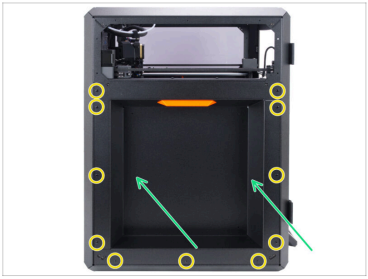


- Place the LCD panel onto the printer. Hook the left side of the LCD panel onto the left corner profile and lift the right side.

  ⚠ Be careful not to pinch or disconnect any LCD cables.

- Ensure that the groove on the left side aligns with the left corner profile.
- With the left side in position, push the right side of the LCD panel inside and lower it so that the groove in the panel aligns with the right profile.
- Attach the LCD panel to the printer at a slight angle to prevent pinching the LCD cables. Then let the LCD panel snap into position with magnets.

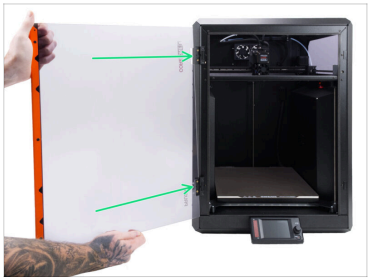
STEP 46 Attaching the side panel



- Mount the side panel onto the printer.
  - Fix the side panel in place with eleven nylon rivets.
- Mount the side cover onto the printer.
  - Fix the side cover in place with seven nylon rivets.

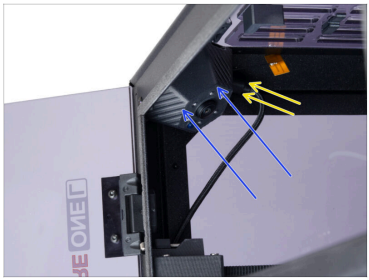
A spare bag of nylon rivets was included with the printer.

STEP 47 Attaching the door panel



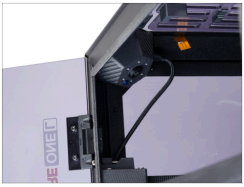
- Take the door panel and mount it onto the door hinges.
- ⚠ Hold the door panel in place with your hand until it is completely secured in place.
- Use the T10 torx key / T10 torx screwdriver to fix the door panel in place with four M3x4rT screws.

STEP 48 Reconnecting the camera



- Prepare the disconnected Buddy3D camera.
- Plug the USB-C cable into the Buddy3D camera.
- The Buddy3D camera is magnetic. Make sure that it is positioned as shown in the photos and place it in the top corner.

STEP 49 Testing the camera



- From the rear side of the printer, plug in the PSU cable.
- Flip the power switch ON (symbol "I").
- Navigate to the menu ***Settings -> Camera*** and turn the Camera option ON.

  To set up your Buddy3D Camera, check our article: **Buddy3D Camera**.

STEP 50 Well done

- Congratulations. Your Buddy3D camera USB-C cable has been successfully replaced.

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