# Express 250
## ChargePoint® Networked Charging Station
### Advanced FRU Guide:
### Replacing the Power Module Communication Cables

**DANGER:** RISK OF SHOCK. Some Express 250 stations share DC power ("paired" configuration). Pairing should be marked on the AC disconnect or breaker panel. Before performing this procedure, check for pairing and, if present, disconnect the power to BOTH Express 250 stations at the service panel. Whether Standalone or Paired, follow standard practice and local code to de-energize the applicable circuit and lock out/tag out the disconnect before proceeding. Use a multimeter to test that power is off. Keep power off for this circuit until all cover panels are correctly reinstalled and the work scope is completed. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR LOSS OF LIFE.

**Important:** You must be a licensed electrician and complete online training to become a ChargePoint approved installer, and to get a login for ChargePoint. If you do not complete this training, you will be unable to complete the installation process.
Go to: chargepoint.com/installers or chargepoint.com/eu/installers

**CAUTION:** Do not use power tools during installation or servicing. Over-torquing can damage the equipment.

**CAUTION:** Do not install the charging station in inclement weather. If you must complete the installation in rain or wind, you must use a weather-proof shelter that covers all boxes and components.

**Note:** When replacing a part, ChargePoint recommends taking a photo before removing each part so you can refer to the photo when reassembling.

Do not discard the part you are replacing. Use the new FRU packaging to return all removed parts to ChargePoint.

For assistance, go to chargepoint.com/support and find your region's technical support number.

# You Will Need:

- Headlamp
- Step ladder
- T10 Torx driver
- T20 Torx driver
- T25 Torx security driver
- 45 degree angle driver with 50 mm (2 in) long T20 Torx bit (optional)
- Power Module Communication Cable FRU Kit from ChargePoint:
  - Communication Cable Assembly
  - Sheetmetal Connector Plate (x2)
  - Lock Washer, #10, Internal Tooth (x1)
  - 20 mm hex shoulder screws, M4 (x3)
  - T10 Torx screws, M3 Flat Head (x6)
  - T20 Torx screws, M4 Button Head (x4)
  - T25 Torx screws, M5 Button Head (x1)
  - M5 flat washers (x6)
  - Springs (x3)
  - Short handle Torx T20 driver

This repair takes one technician about 1-2 hours to complete.

# About Panels

All Express 250 panels have guide tabs that align with corresponding slots on the Express 250's frame. When removing a panel, lift the panel upward to release these tabs from their slots. When installing a panel, align these tabs above their corresponding slots and press the panel downward.

Panels overlap from the bottom to the top. To remove any panel, all panels above it on that side must be removed first.

# Remove the Area Light Bar and LED Display

1. Power off any existing station at the breaker panel and lock out/tag out before continuing work.

**DANGER:** RISK OF SHOCK. Before performing this procedure, disconnect the power to the Express 250 at the service panel. Keep power off for this circuit until all cover panels are correctly reinstalled and the work scope is completed. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR LOSS OF LIFE.

2. Using a T25 Torx driver, loosen the two captive screws on the area light bar.

3. Disconnect the power cable that connects the area light bar to the LED display assembly. Remove the area light bar.

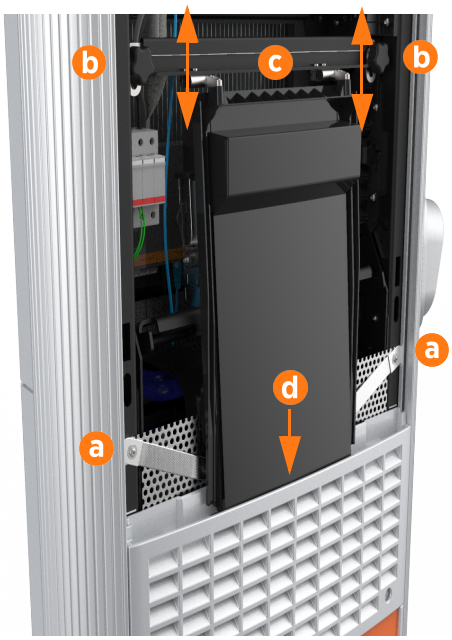
4. Push the LED display upward to release its guide tabs from their corresponding slots on the Express 250's frame.
5. When the LED display assembly is released, disconnect the five cables from the back.

**Important:** Do not allow the LED display to hang from its cables.

# Remove the Front Panels

1. Using two hands, pull the top panel upward to release its guide tabs from their corresponding slots on the Express 250's frame.
2. Place a protective cover, such as a lint-free cloth, over the touchscreen to prevent damage during installation.

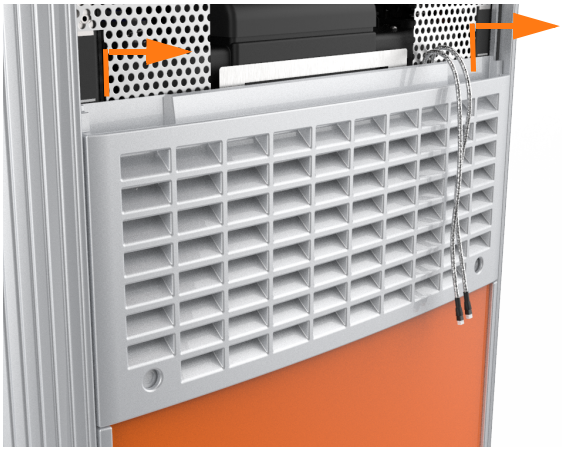
3. Use a T25 Torx driver to remove the M5 screw and washer (a) attaching each touchscreen ground strap to the frame. Keep the screws and washers for reuse.
4. Loosen both retention knobs (b), allowing the touchscreen beam (c) to slide up vertically and the touchscreen's bottom edge to clear the middle vent panel's slot (d).
5. With hand pressure, tilt the touchscreen upward at a 45 degree angle.
6. Allow the touchscreen to return to its lowest position vertically. Rotate the retention knobs clockwise to re-tighten.




**Important:** The bottom edge and corners of the touchscreen are sharp. Take care when moving underneath the raised screen.

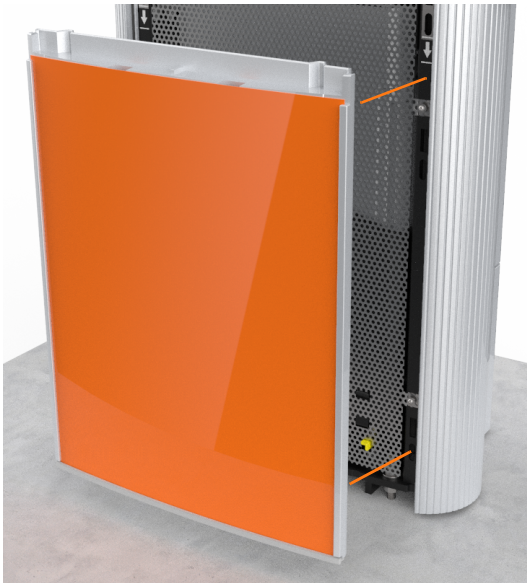
7. Disconnect the two proximity sensor wires from the connectors on the bottom of the touchscreen and the wire management ring. Move the proximity wires to hang in front of the middle vent panel. Leave the touchscreen tilted up for visibility to the repair area

8. Using two hands, one on each side of the middle vent panel, remove the panel by firmly pulling it upward to release the guide tabs from the corresponding slots on the Express 250's frame.



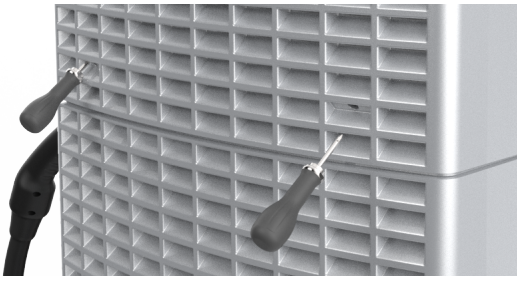
**CAUTION:** The fins on the back surface of the middle vent panel are sharp. Take care when handling the panel.

9. Remove the bottom front panel by lifting upward from the bottom of the panel to release the guide tabs from their corresponding slots on the Express 250's frame.

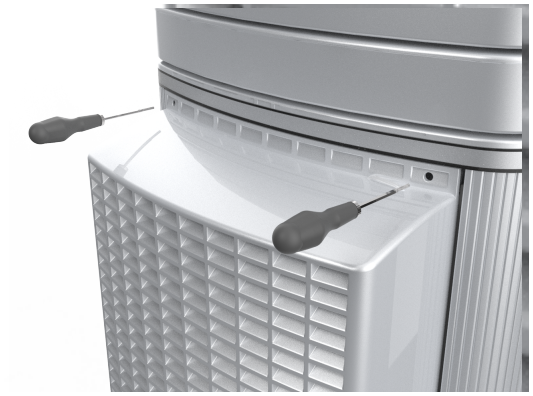


## Remove the Rear Panels

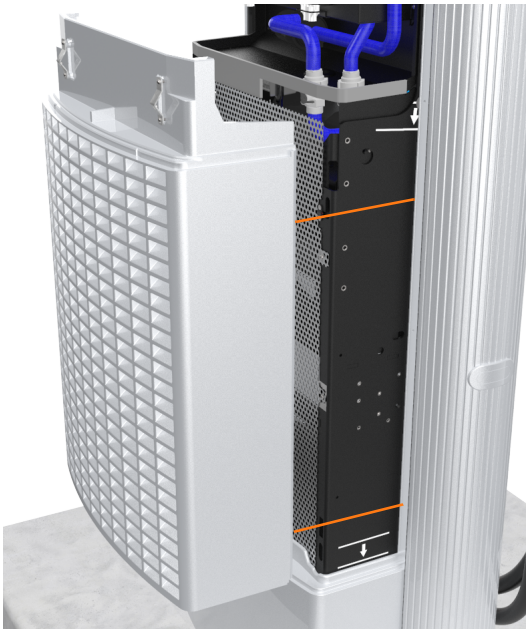
1. Using a T25 Torx (or a Phillips #2 screwdriver for early charging stations), loosen the two hidden captive screws located in the top rear panel's vents, inset from each bottom corner.



2. Using a T25 Torx driver, loosen the two captive screws located at the top of the top rear panel.
3. Using two hands, hold the top rear cover at an angle to remove, leading with the bottom edge.



4. Using two hands, lift the middle rear panel straight up and out to disengage the guide tabs.



5. Using two hands, one on each side of the lower rear panel, carefully pull the panel upward to release the panel's guide tabs from their corresponding slots on the Express 250's frame.

# Open the Power Module Holders

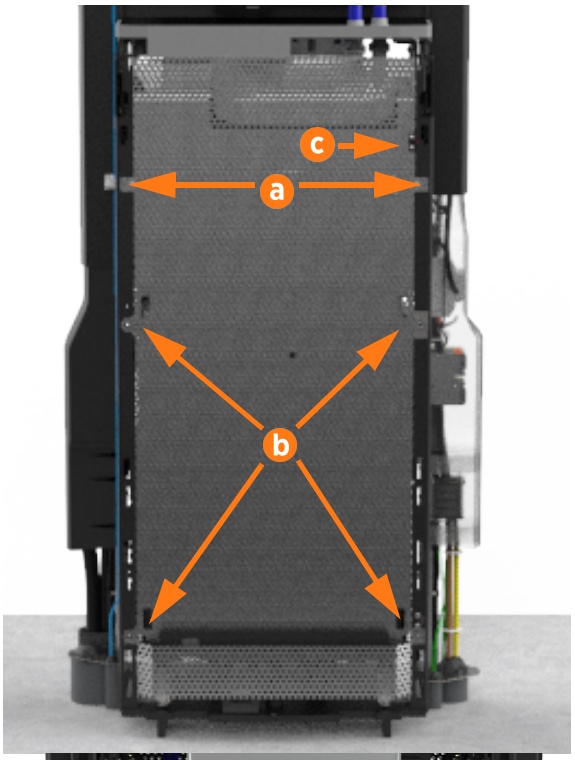
Depending on the station version, Power Modules are protected by either EMI shields or by ground straps on the Power Module holders. An Express 250 only needs one of these protections. Directions for both are included below.

1. If EMI shields are present:

   **a.** Use a T20 Torx to remove the top two screws and washers from the rear EMI shield (a).

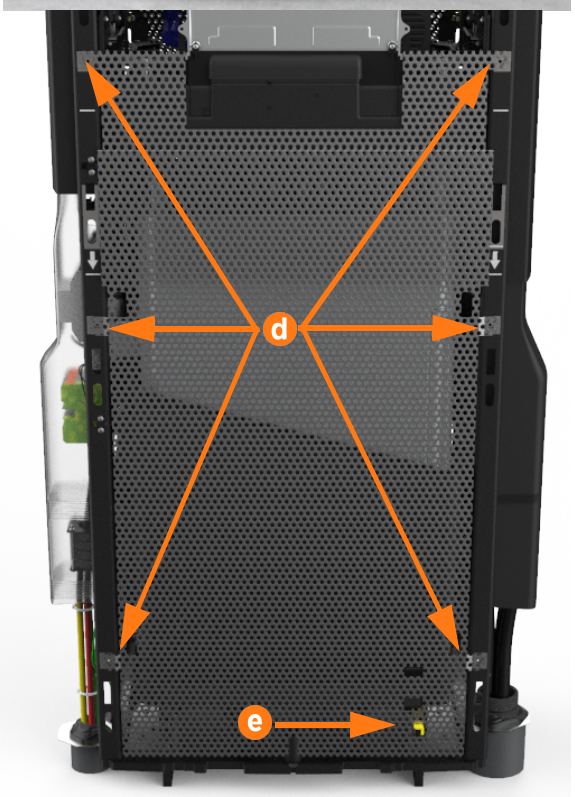
   **b.** Use a T25 Torx to remove the four middle and lower screws and washers from the rear EMI shield (b). The rear shield might be in one or two sections. Save all screws and washers for later reuse.

   **Note:** When reinstalling, ensure the cutout on the long edge is on the right side (c), leaving the sensor wire clear.

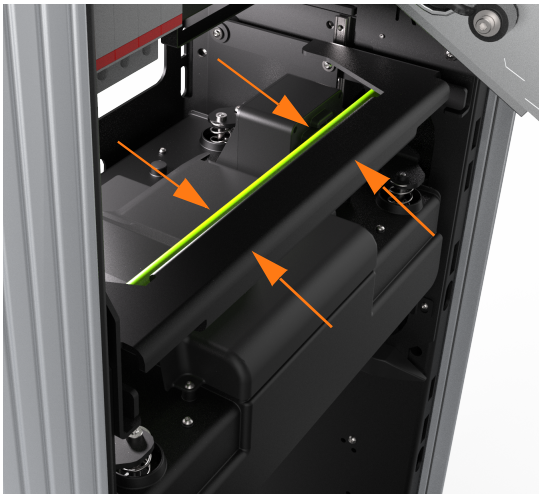



   **c.** Use a T25 Torx to remove the six T25 screws and washers from the front EMI shield (d).

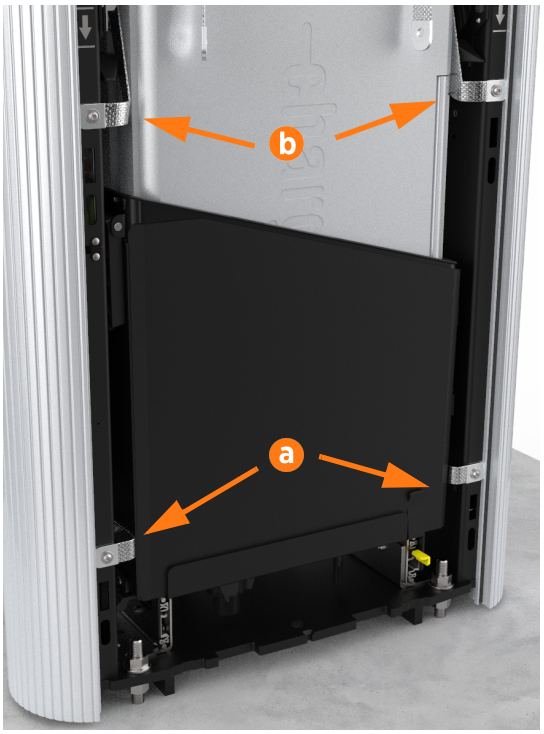
   **Note:** When reinstalling, position the bottom cut-out over the yellow release latch (e).



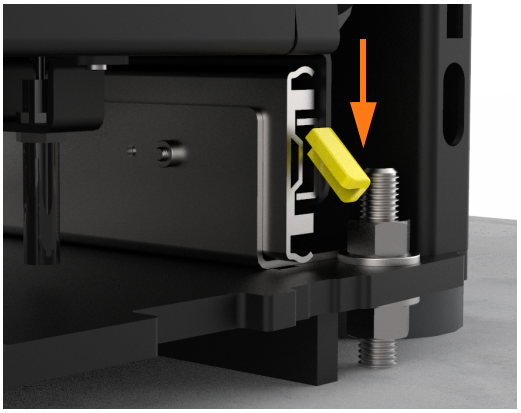
2. Using two hands, squeeze the Power Module mechanism's release bar against the flange. Raise the bar to fully rotate the Power Module mechanism upward to the lock position. Ensure the mechanism has fully cleared the ports and guide posts on the Power Module(s).



3. If present, use a T25 Torx to remove the front and rear M5 screws and washers attaching the Power Module holder (a) and Power Module (b) ground straps to the Express 250 frame (eight screws total). Keep the screws and washers for use in a later step.

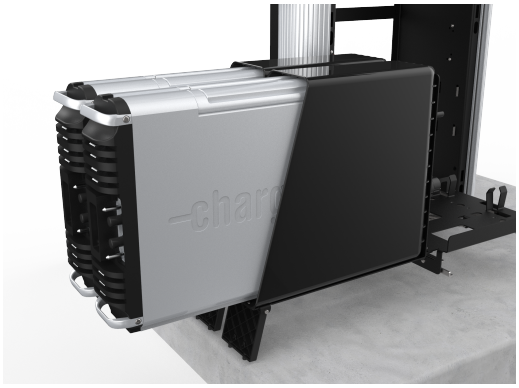


4. At the bottom right of the Express 250, press and hold the yellow release latch while pulling the Power Module tray out of the station



5. Pull the Power Module tray out completely.

6. Rotate both Power Module holders onto their kickstands to provide access to the communication cables.



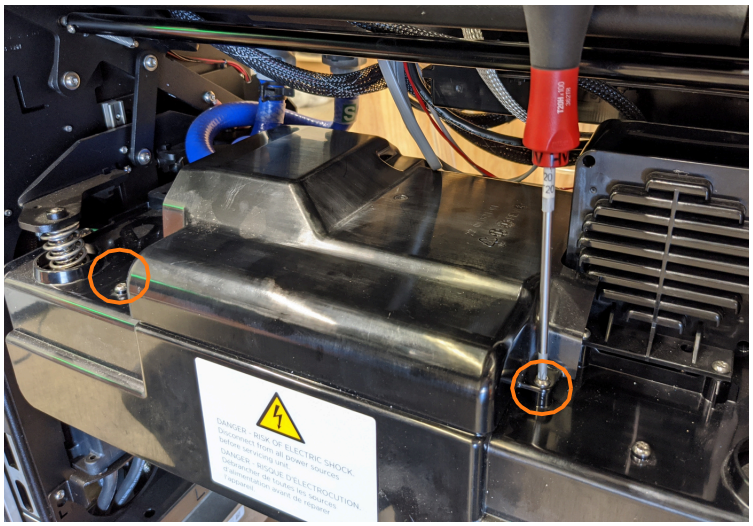
**WARNING:** Ensure Power Module holders can rest level with the base of the station. Provide a stable flat surface for the kickstands if the holders would rest below station grade. Power Modules are heavy and could tip out of their holders, which can harm the technician or the equipment.

# Remove the Power Module Communication Cables

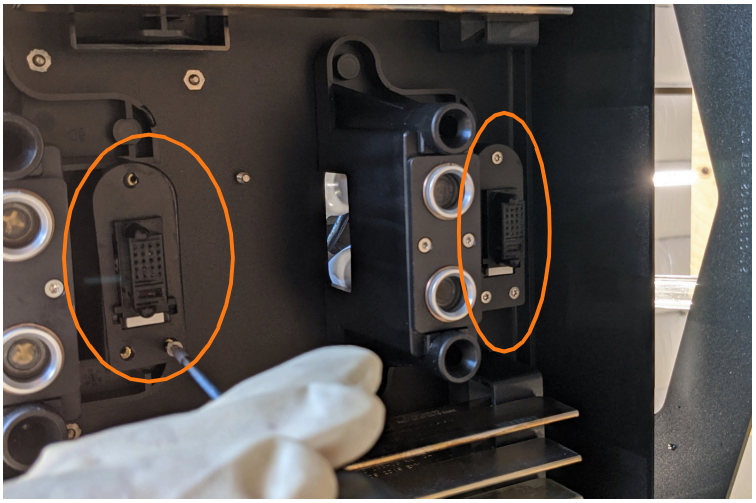
**Note:** This repair always replaces both pre-joined communication cables.

**Note:** Once the Power Modules are outside the station frame, the module mechanism handle can be moved up and down without harm for repair access.

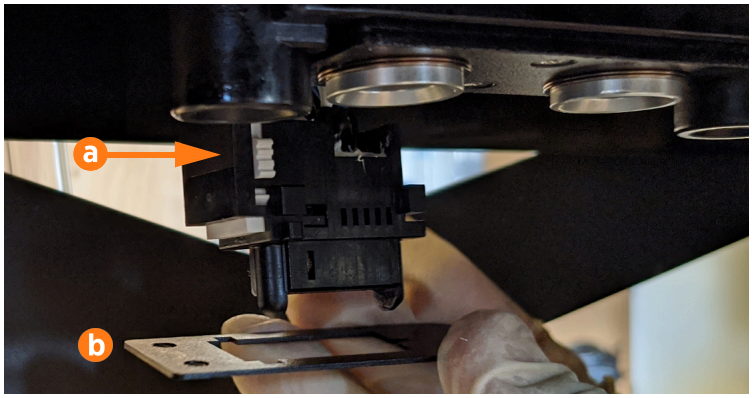
1. Use a T20 Torx (with angle driver if needed) to remove all four M4 screws from the umbrella cover that protects the tubes and the top of the module mechanism. Use the provided short handle Torx to access the rear screws. Keep the screws and umbrella for later reuse.



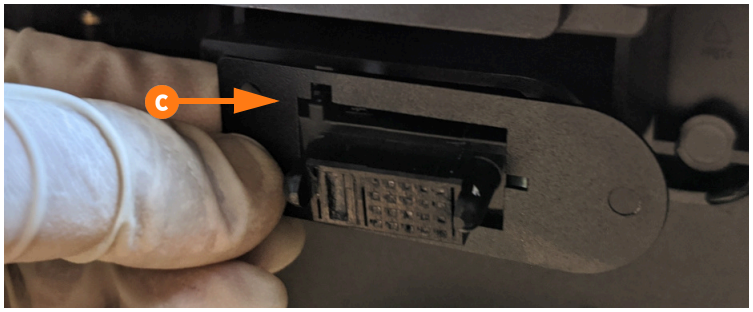
2. Locate the front and rear communication cable plates under the module mechanism, looking up.
3. Use a T10 Torx to remove all six M3 screws. Save the screws for later reuse.



4. Pull each cable connector down and away from its housing. Push upward on the white plastic latch (a) to unlock the connector from its sheet metal plate (b).

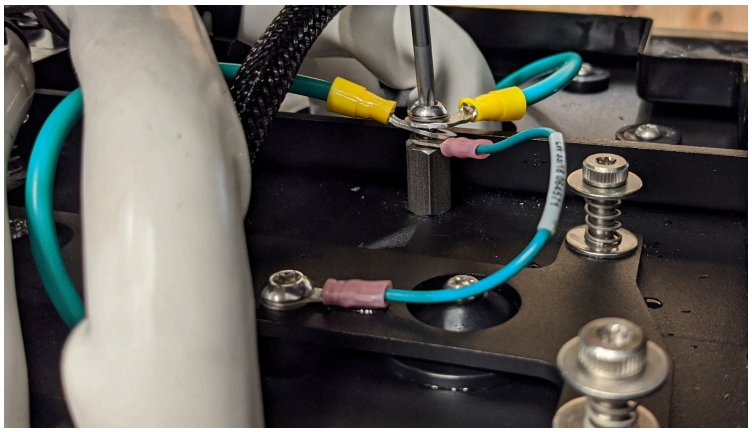


5. Slide each connector's sheet metal plate to the right to free it from the connector's tabs (c) and remove the plate. If the metal plate is damaged, replace it with a spare in the repair kit.



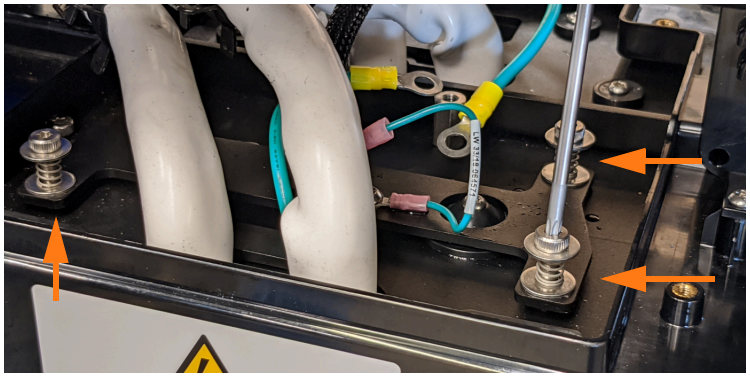

6. On the top surface of the module mechanism, uncoil the wire length from around the coolant tubes.

7. Use a T25 Torx to remove the screw and star washer from the three ground wires. Save the screws and washer for later reuse.

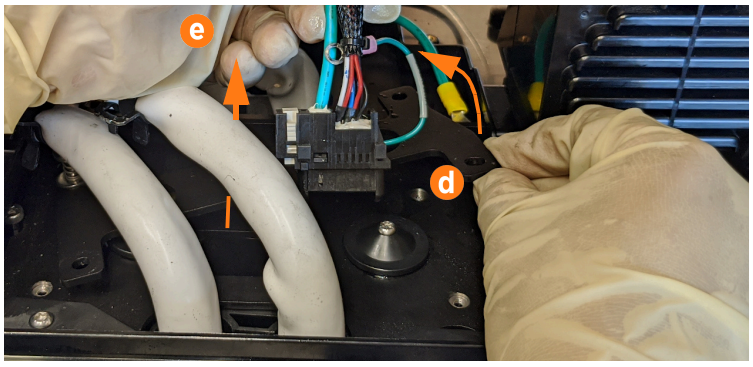


8. Identify the float retainer plate partially covering the front connector.

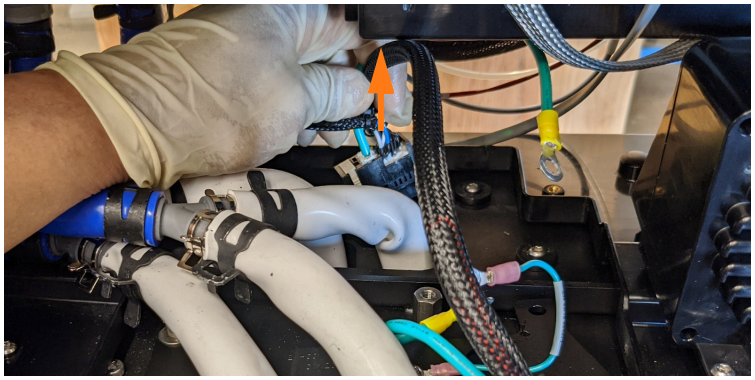
9. Use a T25 Torx to remove both front bolt/washer/spring stacks and the right rear stack. Leave the left rear stack in place as a pivot. Discard the removed fasteners and replace with new ones from the kit upon reinstallation.



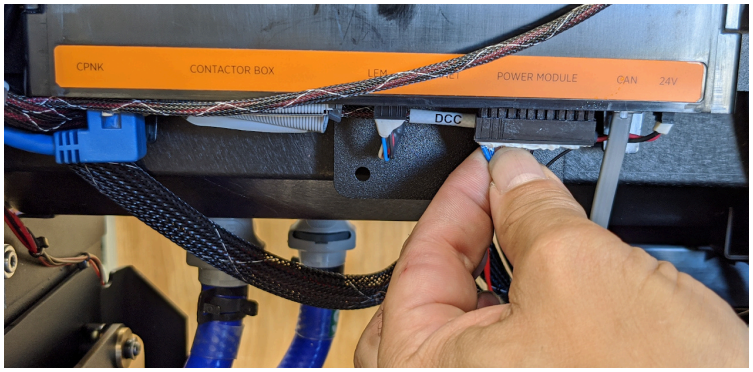
10. Rotate the float retainer (d) to release the front connector (e).



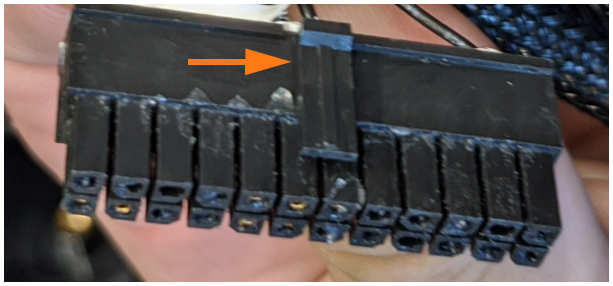
11. Lift the rear connector free of the module mechanism.



12. Unplug the third connector from the **Power Module** port in the Station Management Unit above the module mechanism.

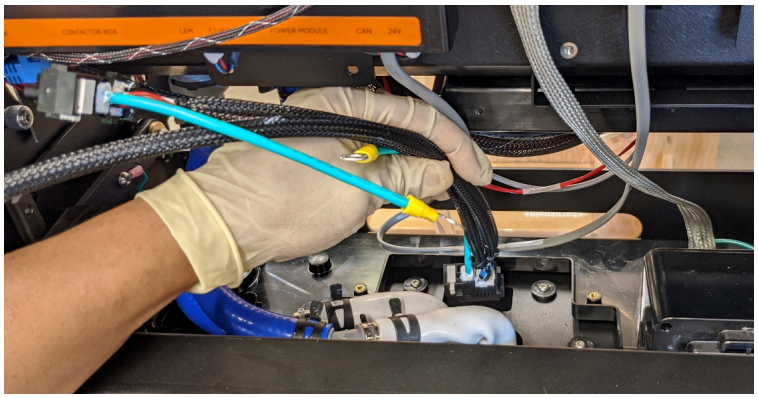



**Note:** Press in on the connector's rear tab to release it.



# Install the New Power Module Communication Cables

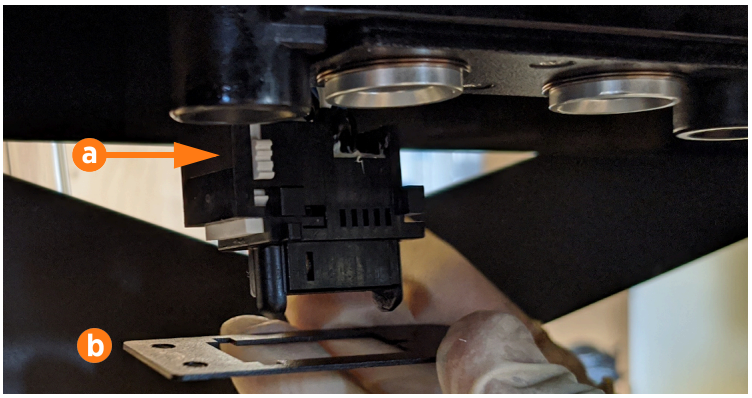
1. On the new cable assembly, insert the connector with two cables into the module mechanism's rear opening, with the white locking tab facing left.
2. Guide the other locking connector into the front opening, with the white locking tab facing left.
3. Plug the third connector on the cable assembly into the **Power Module** slot in the Station Management Unit.



4. Pivot the float retainer plate back into position. Use a T25 Torx to install three new screw/washer/spring assemblies. Torque to 1.1 Nm (10 in-lbs).
5. Use a T25 Torx to reinstall all three ground wires to the hex standoff on the float retainer (one ground wire from the float retainer, and one ground wire from each new cable). Place the star washer between the lugs and the screw head. Torque to 2.3 Nm (20 in-lbs).
6. Below the module mechanism, install the sheet metal plate onto each locking connector:

   **a.** Ensure the white latch is on the left side and in the up (open) position.

   **b.** Mount the sheet metal plate onto the connector and slide it to the right, securing it under the connector's tabs. If the connector does not slide correctly against the metal plate, check that the latch is fully open.



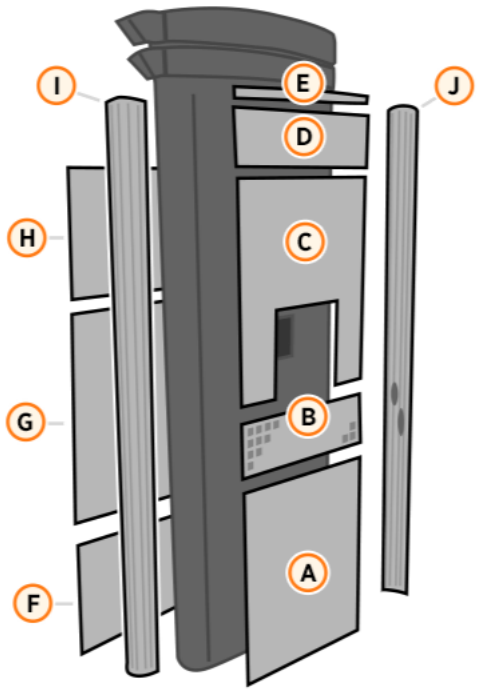

   **c.** Press the white latch down into the locked position. This secures the sheet metal plate to the connector.
7. Use a T10 Torx and three M3 screws each to secure the connector/plate assemblies to the housing. Torque to 0.6 Nm (5 in-lbs).
8. Use a T20 Torx and four M4 screws to reinstall the umbrella cover. Use the provided short handle Torx to access the rear screws. Torque to 1.1 Nm (10 in-lbs).
9. Tip both Power Module holders back upright and press the yellow latch to slide them into the station.
10. Engage the module mechanism handle completely. Open the mechanism again and inspect both communication cable connectors to ensure alignment is correct.

**REVERSE THE ABOVE STEPS TO REPLACE THE POWER MODULE HOLDERS, GROUND STRAPS OR EMI SHIELDS, REAR PANELS, FRONT PANELS, LED DISPLAY, AND AREA LIGHT BAR.**

# Power the System

Once all cover panels are installed, power on the Express 250. The on-screen Installation Wizard steps you through any required tasks to set up the Express 250 and verify that it can operate properly.

An Installation Wizard test checks that all cover panels are correctly installed and fully seated. Check the lower right corner of the screen for any error messages. If panel errors appear, match the panel letters to this illustration:




| | |
|---|---|
| A | Front bottom panel |
| B | Middle vent panel |
| C | Front top panel |
| D | Secondary display |
| E | Area light bar |
| F | Rear bottom panel |
| G | Rear middle panel |
| H | Rear top panel |
| I | Left extrusion |
| J | Right extrusion |

**DANGER:** RISK OF SHOCK. If a fault exists, turn the power off during work and keep it off until all panels are reinstalled. Internal components can present a shock hazard. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR LOSS OF LIFE.

If any panel needs re-installation, review the procedures above to double-check that all panels are fully seated and that the edges of all signs are captured fully by the panels around them. For further details, refer to the *Express 250 Installation Guide*.

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