Pump Rotation and Coolant Air Purge

Service Bulletin

- **Bulletin Published:** 18 February 2020
- **Affected Models:** Express 250
- **Range of Affected Units:** Power Modules with serial numbers whose first 4 digits are between 1993 and 2003
- **Required Action:** Repair Upon Failure
- **Required Technician Level:** ChargePoint-Certified Technician
- **Failure:** Air in the coolant lines prevents correct coolant pump function, which causes the station to stop charging vehicles. The station displays a fault on the touchscreen. The fault can occur either at new station installation or when Power Modules are replaced.
- **Repair Summary:** Rotate the coolant pump if not already done. Use the provided tubing and hand pump to purge air from the coolant lines. Refill coolant reservoir.

Before You Begin

DANGER: RISK OF SHOCK. Before performing this procedure, disconnect the power to the Express 250 at the service panel. Follow standard practice and local codes to de-energise 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 have been correctly reinstalled and the work scope has been completed. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR LOSS OF LIFE.

Important: You must be a licensed electrician and have completed an online training class 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 servicing. Over-torquing can damage the equipment.

CAUTION: If you must perform service in rain or wind, you must use a weatherproof 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 part's packaging whenever possible, and return all removed parts to ChargePoint.

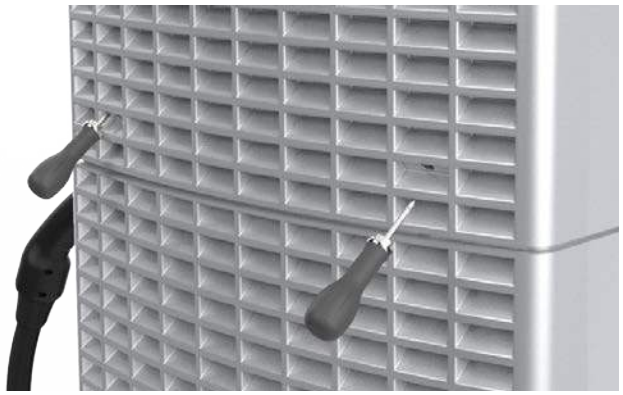
For assistance, go to chargepoint.com/support and find your region's technical support number.

Tools and Materials:

- Coolant line pump kit (provided by ChargePoint), that contains:
  - One pre-assembled bulb pump attached to 12-mm clear tubing with 12-mm spring hose clamps and quick disconnect valves
  - One jug of glycol coolant
- Headlamp
- Step ladder
- No. 2 Phillips screwdriver
- T20 Torx driver
- T25 Torx security driver
- Right-angle socket with No. 1 Phillips screwdriver bit, such as a MulWark Mini Ratchet Wrench or similar
- 5 – 6 lint-free absorbent cloths
- Cable ties

Remove Top and Middle Rear Cover Panels

1. Using a T25 Torx (or a Phillips No. 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.

   Note: When replacing the panel, squeeze the sides of the panel inwards to fit the tabs into place in the C-channel, inside the watertight gasket.

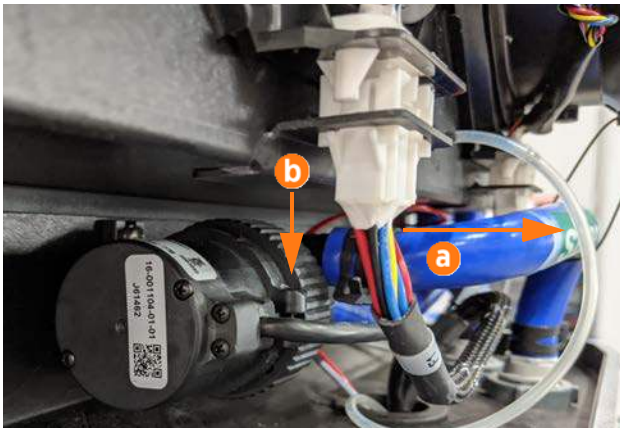
4. Using two hands, lift the middle rear panel straight up and out to disengage the guide tabs.

   Note: When replacing the panel, squeeze the sides of the panel inwards to fit the tabs into place in the C-channel, inside the watertight gasket. If the lower panel has a sign, ensure that it is correctly captured under the middle panel's edge as you carefully push the panel down.

Important: Small gauge wiring routed on the sides of the frame could be sheared if they are caught by panel tabs. Ensure wiring is cleared from guide holes when installing bottom and middle rear panels.

Rotate the Coolant Pump

1. Visually check the coolant pump orientation, below the fan trays. If the blue pump supply line points straight out from the system (a), perform the steps in this procedure. If the pump supply line is angled down at a 45-degree angle, skip this procedure and begin with "Purge Air from Coolant Lines".

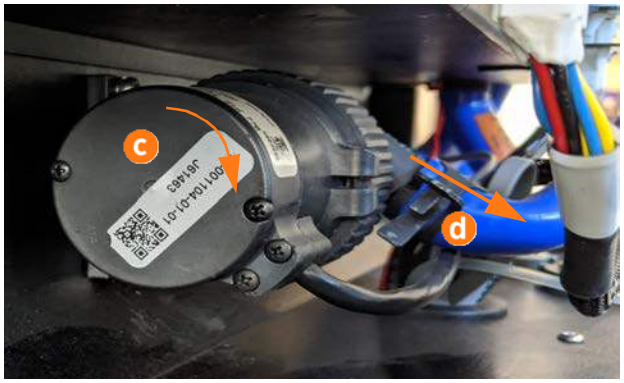


2. Use a right-angle No. 1 Phillips screwdriver to gently loosen the screw on the clamp bracket (b) until the pump is free to rotate.

CAUTION: Do not over-torque the screw when loosening or tightening. The bracket can crack.

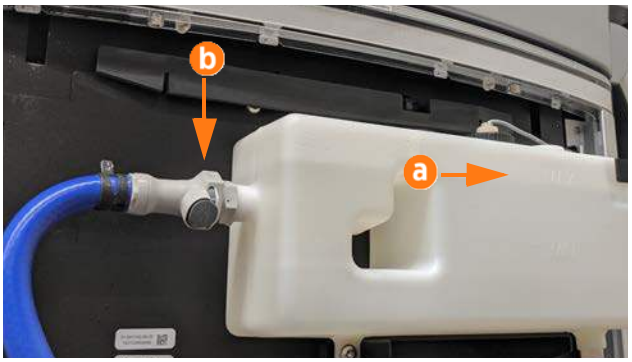
3. Rotate the pump forwards (c) until the supply line (d) is pointing down at a 45-degree angle.

4. Re-tighten the clamp screw. Gently torque to 0.45 Nm (4 in-lb).

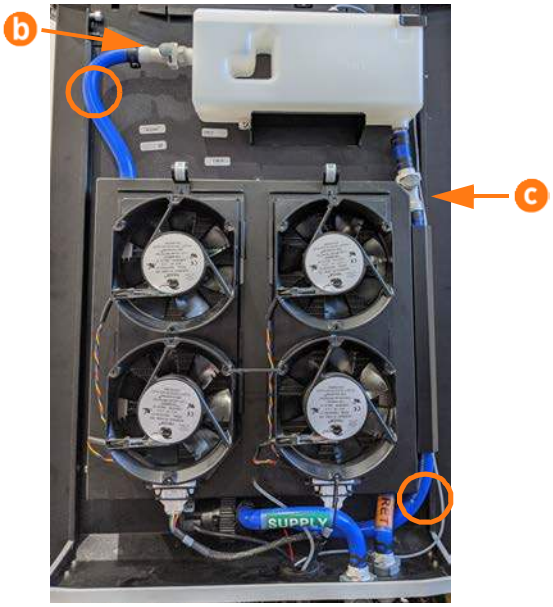


Purge Air from Coolant Lines

1. Using a step ladder, unscrew the coolant fill cap and fill the coolant reservoir to the max. line (a) with the provided glycol coolant. Ensure the coolant level is above the quick disconnect on the left (b). Replace the cap.



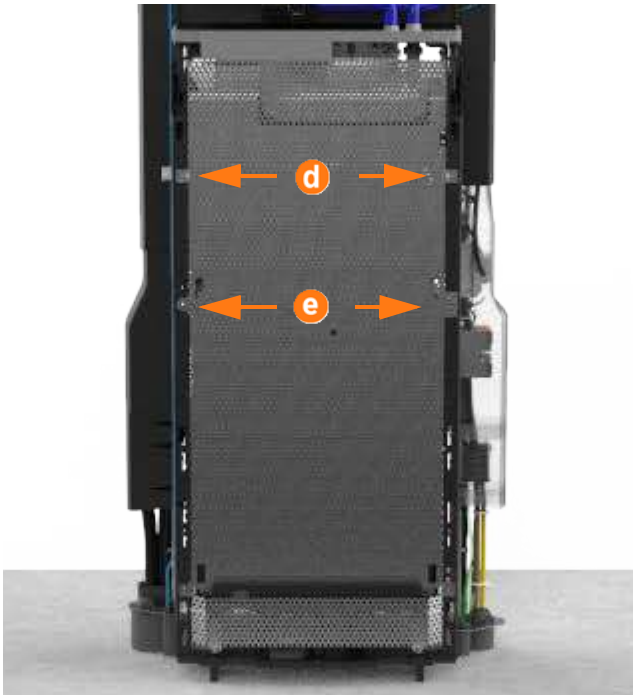
2. Check the two quick disconnect valves found on either side of the coolant reservoir (b and c). Hold a cloth around the valve and perform a push-pull test at the circled locations to ensure that both of them are firmly seated.



3. If present, use a T20 Torx to remove the top screws and washers (d) from the rear EMI shield, and a T25 Torx to remove the middle screws and washers (e). Keep all screws and washers for later reuse.

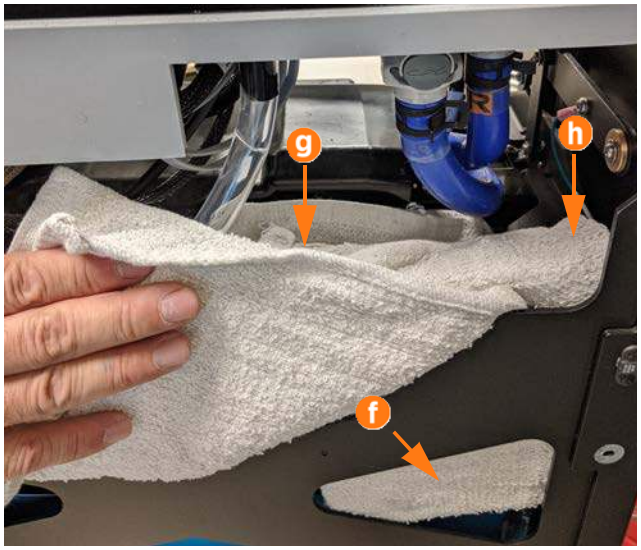
   Note: If the station has Power Module ground straps instead of an EMI shield, no action is needed for this step.

4. Carefully lean the top of the rear shield away from the station, without bending it, to provide access to the quick disconnects below the coolant controller shelf.



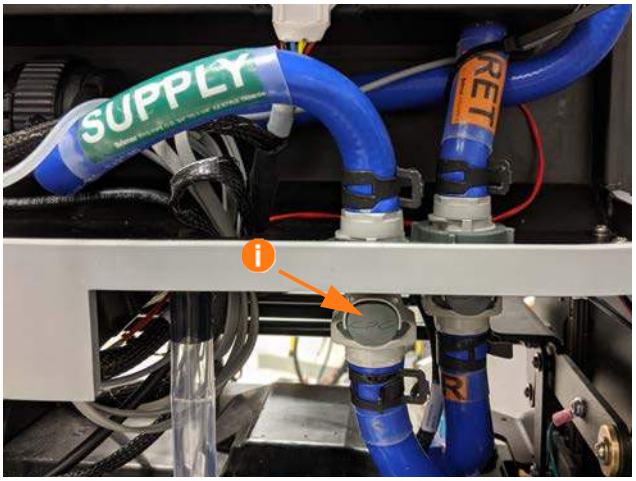
CAUTION: The metal EMI shield edges can be sharp. Take care when moving and installing the shields.

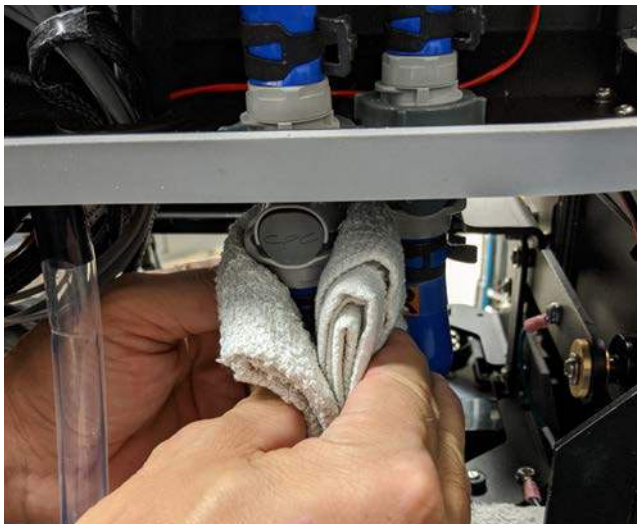
5. Carefully cover the area under the coolant controller shelf with lint-free absorbent cloths before disconnecting any coolant lines. Ensure that cloths are inserted inside the Power Module enclosure (f), over the outside of the enclosure (g), and fully blocking the hole in the outside corner of the frame (h).



CAUTION: Do not allow coolant to drip into the Power Module mechanism or onto the Power Modules. Severe equipment damage can occur.

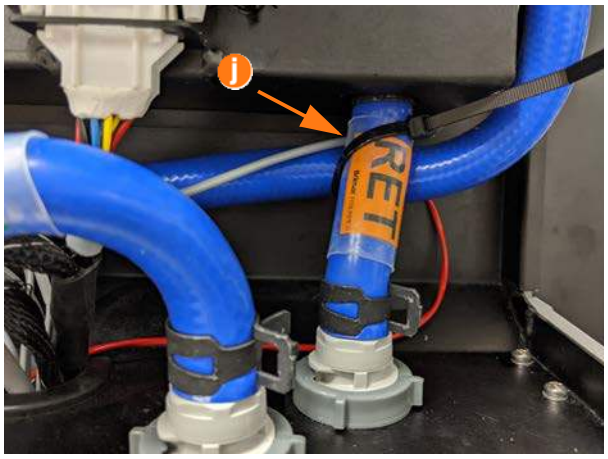
6. Holding the valve with an absorbent cloth, disconnect the supply line below the coolant controller shelf (i).





7. Connect one end of the purge line to the quick disconnect under the shelf, and the other to the line that was just disconnected. The purge line has one male and one female connector, and therefore only connects in one direction.
8. Pump the line by hand several times until the purge line stops emitting bubbles and runs clear with coolant.
9. Disconnect both ends of the purge line from the station.
10. Reconnect the station coolant line under the coolant shelf.
11. Refill the coolant level in the reservoir to the Max fill line.

12. Cable-tie the rearmost coolant line to the Return coolant line (j) to raise its angle and help prevent air from pooling in the line.
13. Use a lint-free, absorbent cloth to wipe up any coolant spills on the station.

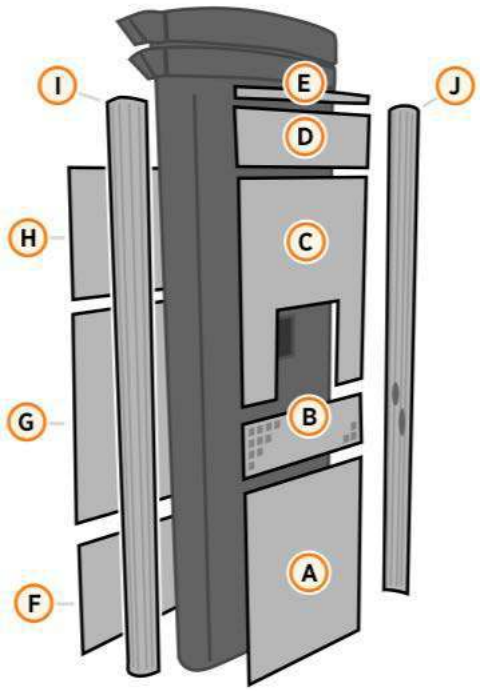


REVERSE THE STEPS ON THE PREVIOUS PAGES TO REINSTALL THE REAR EMI SHIELD, REAR MIDDLE PANEL AND REAR TOP PANEL.

Power the System

Once all cover panels have been installed, power on the Express 250. The on-screen Installation Wizard walks 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 have been 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 reinstallation, review the procedures above to double-check that all panels have been 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*.

Report Completion to ChargePoint

Work with your ChargePoint Support representative to prove completion.