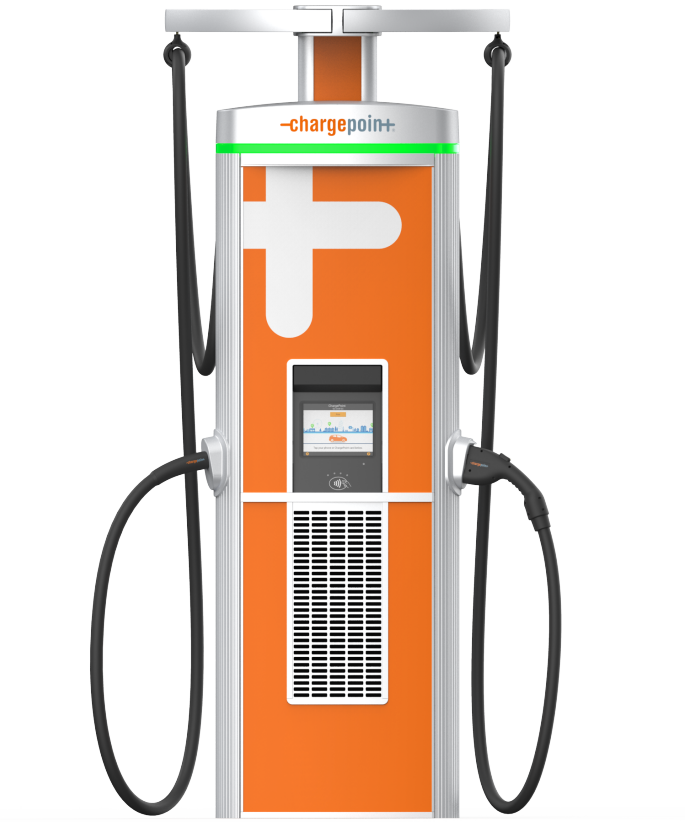
Express 280

DC Fast Charging Station

Installation Guide for Standalone and Paired Stations



IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

This manual contains important instructions for ChargePoint® products that shall be followed during installation, operation and maintenance of each product.

WARNING:

1. **Read and follow all warnings and instructions before servicing, installing, or operating the ChargePoint® product.** Install and operate only as instructed. Failure to do so may lead to death, injury, or property damage, and will void the Limited Warranty.
2. **Only use licensed professionals to install your ChargePoint product and adhere to all national and local building codes and standards.** Before installing the ChargePoint product, consult with a licensed contractor, such as a licensed electrician, and use a trained installation expert to ensure compliance with local building and electrical codes and standards, climate conditions, safety standards, and all applicable codes and ordinances. Inspect the product for proper installation before use.
3. **Always ground the ChargePoint product.** A touch current of >3.5 mA AC RMS is possible in case of a fault condition of loss of electrical continuity of the earthing conductor. Failure to ground the product can lead to risk of electric shock. The product must be connected to a grounded, metal, permanent wiring system, or an equipment grounding conductor shall be run with circuit conductors and connected to the equipment grounding terminal or lead on the Electric Vehicle Supply Equipment (EVSE). Connections to the EVSE shall comply with all applicable codes and ordinances.
4. **Install the ChargePoint product using a ChargePoint-approved method.** Failure to install on a surface that can support the full weight of the product can result in death, personal injury, or property damage. Inspect the product for proper installation before use.
5. **The product is not suitable for use in Class 1 hazardous locations, such as near flammable, explosive, or combustible vapors or gases.**
6. **Supervise children near this device.**
7. **Do not put fingers into the electric vehicle connector or connector adapter. Do not touch fingers to charging rails.**
8. **Do not use this product if any cable is frayed, has broken insulation, or shows any other signs of damage.**
9. **Do not use this product if the enclosure, the flexible output cable, the vehicle inlet, the electric vehicle connector, or the electric vehicle connector adapter is broken, cracked, open, or shows any other signs of damage. Do not use this product if internal parts are accessible, including wiring.**
10. **Wire and wire terminal information are provided in the ChargePoint product Site Design Guide and Installation Guide.**

11. **Torques for installation of wire terminals are provided in the ChargePoint product Installation Guide.**
12. **The ChargePoint product maximum operating temperature is 50 °C (122 °F).**
13. **Do not use an electric vehicle connector adapter with any charger or EV that is capable of exceeding the adapter's rated voltage of current capacity. Some EVs and EVSE combinations are capable of multiple voltages or limited durations of current overloading designed for normal EVSE-to-EV connections. Use of an electric vehicle connector adapter in these situations could result in unsafe conditions such as fire, burns, or exposure of high voltage.**

IMPORTANT: Under no circumstances will compliance with the information in a ChargePoint guide such as this one relieve the user of the responsibility to comply with all applicable codes and safety standards. This document describes approved procedures. If it is not possible to perform the procedures as indicated, contact ChargePoint. ChargePoint is not responsible for any damages that may result from custom installations or procedures not described in this document or that fail to adhere to ChargePoint recommendations.

Product Disposal

Applicable to NA - Do not dispose of as part of unsorted domestic waste. Inquire with local authorities regarding proper disposal. Product materials are recyclable as marked.

Applicable to EU - To comply with Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE), devices marked with this symbol may not be disposed of as part of unsorted domestic waste inside the European Union. Enquire with local authorities regarding proper disposal. Product materials are recyclable as marked.

Document Accuracy

The specifications and other information in this document were verified to be accurate and complete at the time of its publication. However, due to ongoing product improvement, this information is subject to change at any time without prior notice. For the latest information, see our documentation online at ChargePoint Product Reference Documentation.

Copyright and Trademarks

Symbols

This guide and product use the following symbols:

DANGER: Risk of electric shock

WARNING: Risk of personal harm or death

CAUTION: Risk of equipment or property damage

IMPORTANT: Crucial step for installation success

NOTE: Helpful information to facilitate installation success

Read the manual for instructions

Ground/protective earth

Illustrations Used in This Document

The illustrations used in this document are for demonstration purposes only and may not be an exact representation of the product. However, unless otherwise specified, the underlying instructions are accurate for the product.

Contents

Revision History

This page provides a summary of revisions made, listing the month and year of each update along with a brief description of the changes made.

Month & Year	Version Number	Description
July, 2025	v3	• Added a note indicating that CHAdeMO must always be assigned to port 3. • Added an illustration showing the positions of the CHAdeMO and CCS1 connectors along with their respective ports.
June, 2025	v2	• Updated the rating label name to AC Disconnect Label. • Updated the AC conduit size from 76.2 mm (3 in trade size) to 50.8 mm (2 in trade size).
June, 2025	v1	Removed the section related to Holster replacement.

Prepare for Installation 1

This topic describes how to install a ChargePoint® Express 280 DC fast charging station. An Express 280 can be installed to operate by itself (called **Standalone**) or to share power with one other Express 280 for higher throughput (called **Paired**).

IMPORTANT: You must be a licensed electrician and complete online training to become a ChargePoint certified installer. If you do not complete training, you cannot access the ChargePoint network to complete installation. Find online training at: chargepoint.com/installers. If the charging station is not installed by a ChargePoint certified installer, using a ChargePoint approved method, it is not covered under warranty and ChargePoint is not responsible for any malfunctions.

ChargePoint Documentation

Access documents at ChargePoint Product Reference Documentation.

Document	Content	Primary Audiences
Datasheet	Full station specifications	Site designer, installer, and station owner
Site Design Guide	Civil, mechanical, and electrical guidelines to scope and construct the site	Site designer or engineer of record
Construction Signoff Form	Checklists used by contractors to ensure the site is correctly completed and ready for product installation	Site construction contractor
Installation Guide	Anchoring, wiring, and powering on	Installer
Operation and Maintenance Guide	Operation and preventive maintenance information	Station owner, facility manager, and technician
Service Guide	Component replacement procedures, including optional components	Service technician
Declaration of Conformity	Statement of conformity with directives	Purchasers and public

CAUTION: Use low torque settings when working with power tools during installation or servicing. Over-torquing can damage the equipment.

WARNING:
Do not install or service the charging station in inclement weather. If you work in snow, rain, or wind, you must use a weather-proof shelter that covers all boxes and components.

NOTE: For all charging station specifications other than dimensions and weights, refer to the product's Datasheet, which can be found online at ChargePoint Product Reference Documentation. For assistance, go to chargepoint.com/support and contact technical support using the appropriate region-specific number.

Installing the Express 280 requires two people and takes approximately 3-4 hours. This time estimate does not include the time needed to pull DC and Ethernet cable for a Paired installation if it is not already done. Paired installation also requires contacting a ChargePoint support technician to perform any required software updates and configuration.

IMPORTANT: Ensure that the installation complies with all applicable codes and ordinances.

Check Site Readiness

The Express 280 is installed on a concrete pad. For details on how to prepare this pad, see Site Design Guidelines.

WARNING: If not installed correctly, the ChargePoint charging station may pose a fall hazard, leading to death, personal injury, or property damage. Always use the provided Concrete Mounting Template shown preinstalled here, or a ChargePoint approved surface mounting solution, to install the ChargePoint charging station. Always install in accordance with applicable codes and standards using licensed professionals. Non approved installation methods are performed at the risk of the contractor and void the Limited One-Year Parts Exchange Warranty.

Before beginning work, check that the site meets the following civil and mechanical requirements:

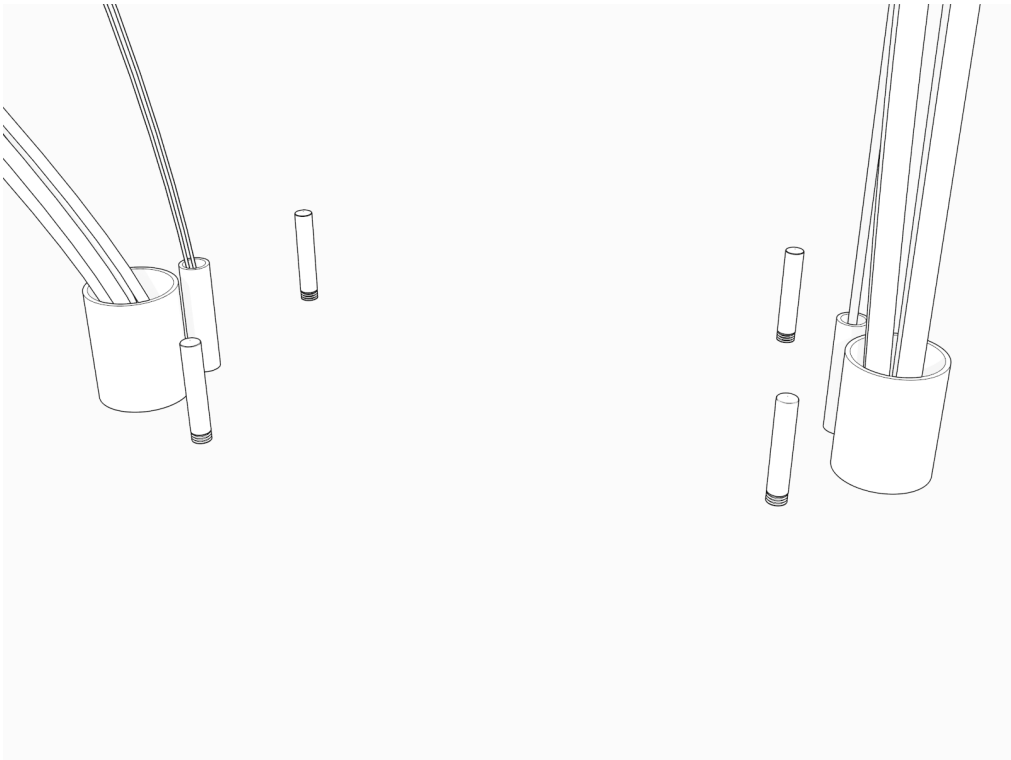
- The concrete pad is ready and the concrete is fully cured and level.
- The concrete pad either has a site drawing approved by a structural engineer for this specific site, OR conforms to these specifications:
  - At least 305 mm (12 in) deep (or deep enough to be 305 mm (12 in) below the frost line)
  - At least 1296 mm (51 in) on each side
- Walls, fences, or slopes do not prevent water from draining from the pad.
- Charging station sites are positioned so that each station is centered on a parking space (unless curbside), with the front of the station facing the vehicle.
- Enough space is available around the installation pad to use a forklift and other lifting equipment, unpack crates, remove packing materials, and allow two people to freely move throughout the area.

If the site does not meet these basic requirements, contact ChargePoint before continuing.

Confirm Anchor Bolt and Conduit Placement

Ensure the following:

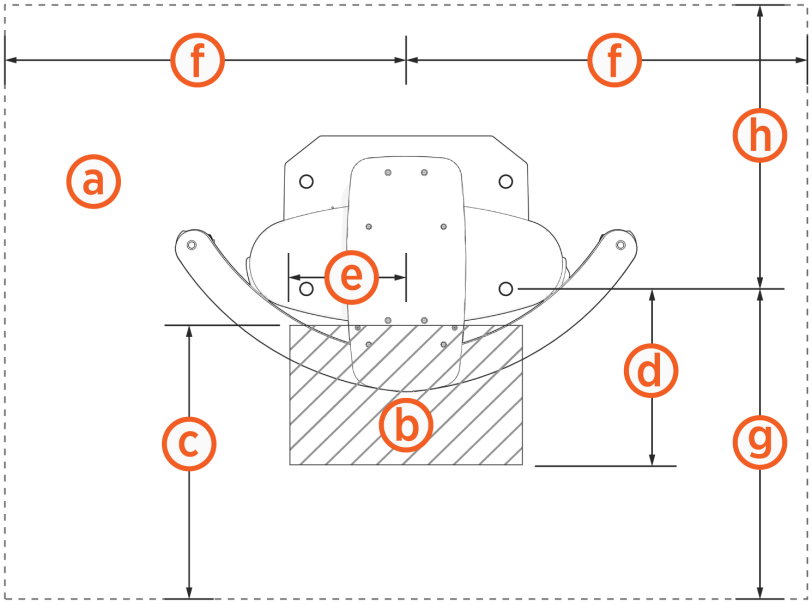
- Standalone installations require two conduit stub-ups on the left side for AC wiring and shunt trip wiring.
- Paired installations also require conduit stub-ups on the right side for DC wiring and Ethernet connection.



For information about the Concrete Mounting Template, refer to the Express 280 Site Design Guide available on ChargePoint Product Reference Documentation.

Check Clearances

The Express 280 requires the following minimum functional and service clearances:



(a) Service clearance of open space (not necessarily at system grade)

(b) Power Module service clearance (at grade, measured from station front): 330.2 mm (1 ft 1 in)

(c) Front service clearance (measured from station front): 609.6 mm (2 ft)

(d) Power Module service clearance (measured from front anchor bolt): 383 mm (1 ft 3.1 in)

(e) Power Module service clearance (measured from station center): 290 mm (11.4 in)

(f) Side service clearance (measured from station center): 1072 mm (3 ft 6 in)

(g) Front service clearance (measured from front anchor bolt): 510 mm (1 ft 8.1 in)

(h) Rear service clearance (measured from front anchor bolt): 663 mm (2 ft 2.1 in)

Allow 26 mm (1 in) clearance above the station if installing a Cable Management Kit (CMK).

NOTE: Listed side clearances are the minimum required for operation and service. For paired charging stations, the bend radius of the DC cable and conduit might require spacing them further apart.

Rear clearance must be at grade level +/- 25 mm (1 in).

IMPORTANT:
Remove any concrete that is not level with the rest of the surface so you can level the components. Use a grinder or a hammer and chisel to remove any bumps in the concrete.

Confirm Electrical Requirements

Ensure these electrical requirements are in place at the installation site:

- Appropriate circuit protection and metering.
- A grounding conductor that complies with local codes is properly grounded to earth at the service equipment or, when supplied by a separate system, at the supply transformer.
- A correctly rated, dedicated breaker is installed for each station, per this table:

Nominal Voltage	Max AC Current	Circuit Breaker Size
480 VAC	100 A	125 A (125% continuous load required by National Electrical Code NEC guidelines)

- Breakers have shunt trip capability if the site drawing calls for shunt trip wiring.
- All necessary electrical infrastructure has been completed per local codes and ChargePoint specifications for 3-phase WYE power plus ground with properly sized wire at the station. Neutral is not required for system operation; however, neutral-to-ground bonding is required at the Main Distribution Panel (MDP) supplying the charging station.

IMPORTANT:
This requirement applies to Canadian installations. Whether using a step-up or step-down autotransformer, refer to the "*Hydro-Québec bulletin - Choosing the right one 600/480 V transformer*" for specific guidance.

	Voltage Rating	Temperature Rating	Maximum Conductor Size for Terminals
Phase conductors	600 V	90 °C	1/0 AWG
AC ground conductor	600 V	90 °C	6 AWG

- Cellular signal strength is consistently strong to allow installation and station operation. Use a cellular signal detection device (such as a Snyper, Octopus, or similar) to ensure the signal is -85 dBm or better. (Note that these numbers are negative, so -70 dBm is stronger than -85 dBm, and -90 dBm is weaker.) If the signal is below -85 dBm, install multi-carrier, multi-band repeaters to boost signal strength. Repeaters are often required for installations in underground garages or enclosed parking structures.
- Paired only: All four DC copper conductors are installed between stations as follows:

	Voltage Rating	Temperature Rating	Maximum Conductor Size for Terminals	Insulation Type
DC power conductors	1000 V	90 °C	300 Kcmil, 1x per pole	XHHW-2

- Paired only:Outdoor rated Ethernet Cat5e or Cat6 cable, without terminations, is pulled between the two stations with 3 m (10 ft) of service loop at each end.

Refer to the Express 280 Datasheet and Express 280 Site Design for more information about site specifications.

IMPORTANT:
The Express 280 charging station is tested to IEC 61000-4-5, Level 5 (6 kV @ 3000 A) standards. In geographic areas that experience frequent thunderstorms, supplemental surge protection must be installed at the service panel.

Check Express 280 Shipping Crates

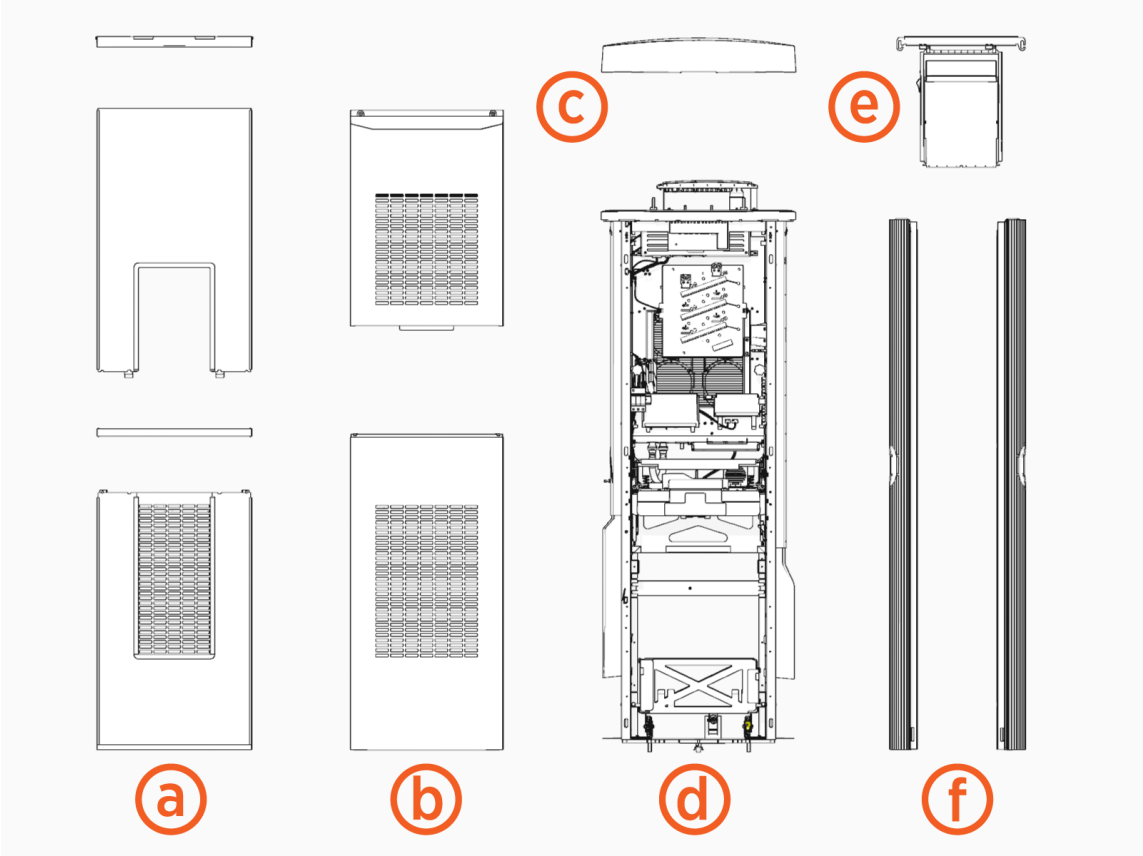
Each Express 280 ships in between five and seven crates. Ensure you have all crates at the installation site.

Contents	Max. Shipped Dimensions	Max. Shipped Weight*
Express 280 charging station	2387.6 x 1054.1 x 806.45 mm (94 x 41-1/2 x 31-3/4 in)	310 kg (685 lbs)
Power module crate with 1 power module	901.7 x 571.5 x 368.3 mm (35-1/2 x 22-1/2 x 14-1/2 in)	50 kg (110 lbs)
Power module crate with 2 power modules	901.7 x 571.5 x 676.40 mm (35-1/2 x 22-1/2 x 26-1/2 in)	98 kg (215 lbs)
Cable Management Kit (standard)	1121 x 654 x 241-1/3.3 mm (44 x 25-3/4 x 9-1/2 in)	25 kg (55 lbs)
Cable Management Kit (tall, optional)	1372 x 381 x 407 mm (54 x 15 x 16 in)	45 kg (100 lbs)
Holster and cable 6 m	600 x 600 x 150 mm (23-1/2 x 23-1/2 x 6 in)	24 kg (53 lbs)
Holster and cable 9 m	600 x 600 x 150 mm (23-1/2 x 23-1/2 x 6 in)	33 kg (73 lbs)
Concrete Mounting Template	1117.6 x 838.2 x 914.4 mm (44 x 33 x 36 in)	9.5 kg (21 lbs)
**Includes the weight of the crate; see the Express 280 Datasheet for the weight of the component.*		

IMPORTANT:
Always transport and store the Express 280 in its original packaging. Use appropriate lifting equipment (forklift, crane and lifting straps, etc). Ensure the load rating of all lifting equipment is adequate for the weight of the crated Express 280 as shown above.

Express 280 Charging Station Box Contents

IMPORTANT:
Leave components in the shipping crate until needed. When removing, protect them from damage (such as scratches) by placing them flat on a blanket or tarp, face up. Do not stand up cover panels, as they may be knocked or blown over. Cover charging connectors to prevent damage or ingress.



(a) Front panels and light bar

(b) Rear panels

(c) Top cap

(d) Main body

(e) Touchscreen

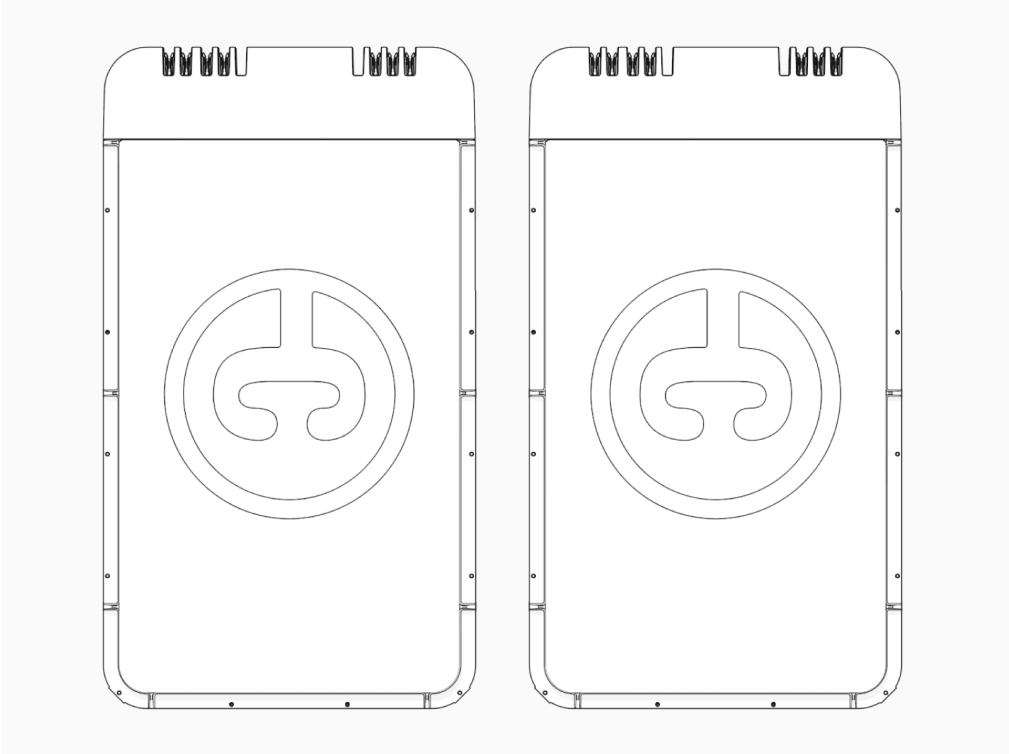
(f) Side panels

ChargePoint also provides the following (not shown):

- Coolant funnel
- 2.5 cm x 183 cm (1 in x 6 ft) lifting straps

Power Module Box Contents

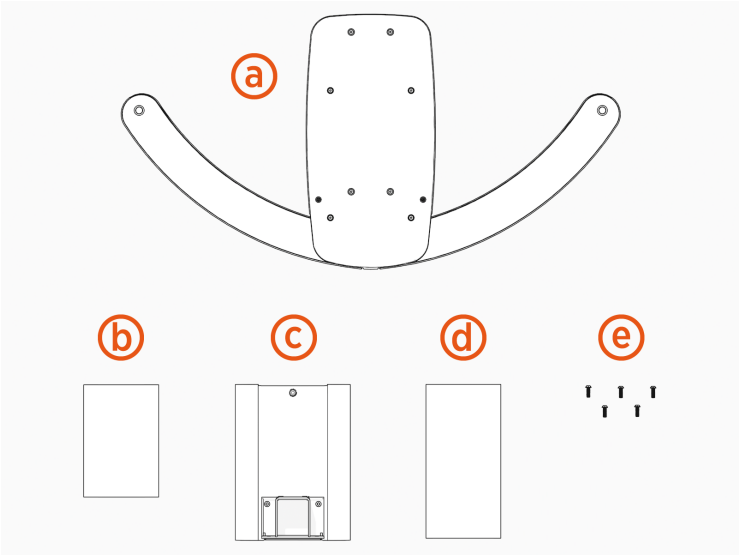
Power Module crates can hold one or two Power Modules.



CAUTION:
Always rest a Power Module flat on the ground until it is being installed. Power Modules are not stable in any other position. Images of Power Modules standing with the handles on top only illustrate the proper installation position.

Standard Cable Management Kit (CMK) Box Contents

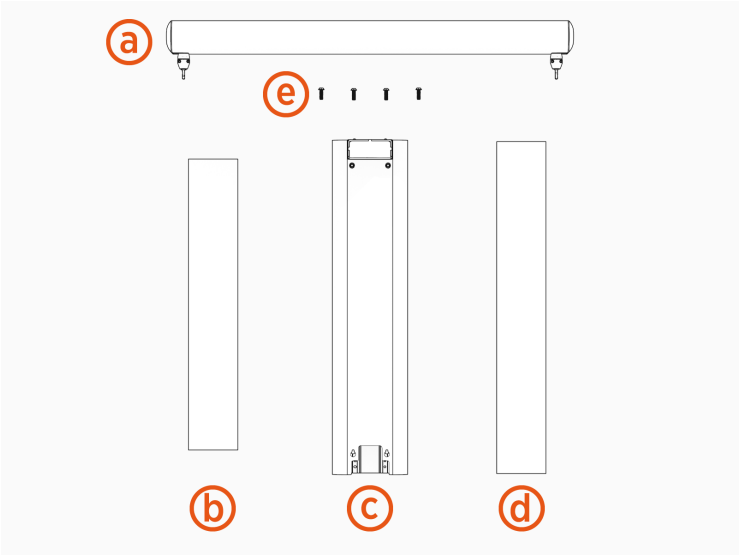
Check the standard CMK package for the following components:



- **(a)** Swingarm assembly
- **(b)** CMK front cover
- **(c)** Mast
- **(d)** CMK rear cover
- **(e)** M6 hex screws (5)

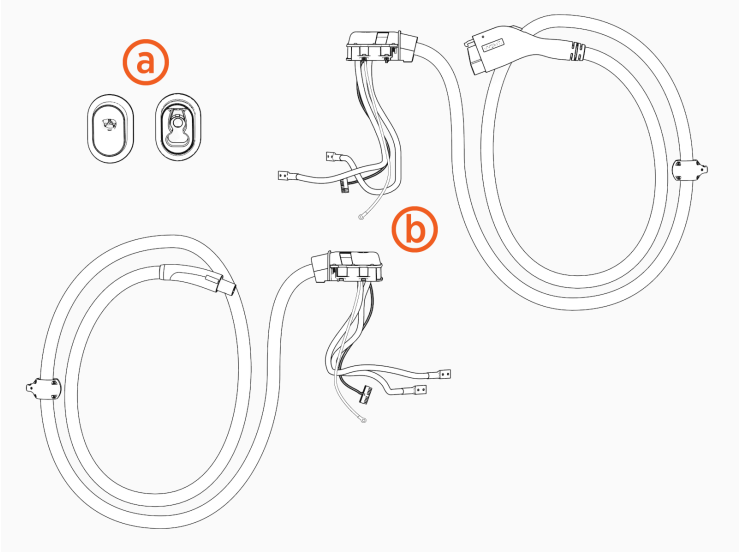
Tall Cable Management Kit (CMK) Box Contents (Optional)

Check the tall CMK package for the following components:



- **(a)** Tool balancer assembly
- **(b)** Front cover
- **(c)** Mast
- **(d)** Rear cover
- **(e)** M10 hex screws (x4)

Holster and Cable Box Contents



(a) Holsters
(b) Smart cables

Bring These Tools and Materials

Installing the Express 280 requires at least two people . Additionally, the approved installer must bring the following tools and materials. These are not provided by ChargePoint.

CAUTION:
Comply with these guidelines to prevent component damage.

- Use tools suitable to torque metric fasteners. All fasteners used are in metric sizes.
- Use the given torque values to tighten the fasteners.
- Ensure that the tools such as torque tool, multimeter, and Ethernet tester are calibrated.

Forklift

- Rated for ≥ 680 kg (1500 lb)
- Maximum size of forklift tines:
  - Width = 102–127 mm (4–5 in)
  - Maximum thickness ≤ 57 mm (2.25 in)
- If your site has height constraints, use alternative equipment

Stepladder

Lock out/tag out equipment

Hard hat

Safety glasses

Measuring tape or other tool to measure height, length, and distance

Torx wrench set

- T20
- T25
- T27

Torque wrenches for 4 to 95 Nm (3 to 70 ft-lb)

Socket wrench set including deep sockets, up to 25 mm

Socket extension, 4 in

Multimeter with Cat III 1000 V ratings, such as Fluke 87V or similar

Wire strippers, including Ethernet (Cat6 STP) cable

Cut-resistant gloves

Head lamp

Level

Torx security wrench

- T25

Adjustable wrench

Cable puller or fish tape

Screwdriver, flat blade SL4

Paired stations only - Ethernet tester such as a Klein Tools VDV526-052 VDV LAN Scout Jr. Tester or similar

Paired stations only - Ethernet (RJ45) connector crimping tool

Wire cutters, including Ethernet (Cat6 STP) cable

Lug crimping tool

Isopropyl wipes and towel roll

Duct seal compound

Wire brush (to remove concrete from bolts)

Broom and vacuum

Conduit cutters (to cut up to 4 inch conduits)

Cable ties

Smartphone with Internet connectivity

ChargePoint installer login credentials

QR code scanner (usually built into the camera app)

Exact location of stations or units, including parking space

- AC lugs (x3):
  - All lugs must be nickel, tin, or silver plated copper compression (not mechanical) lugs
  - Holes for an M6 (1/4 in) stud at 19 mm (3/4 in) stud hole spacing
  - Maximum width 30 mm (1.18 in)
- AC grounding lug, crimp or mechanical
- If not already installed for this site, and if applicable for local code requirements, shunt trip wiring:

size 0.08 to 2.5 mm² (28 to 14 AWG), fine stranded or solid

- If not already installed for this site, AC and ground conductors with these specifications:

Voltage Rating	Temperature Rating	Maximum Conductor Size for Terminals
Phase conductors - 600 V	90° C	1/0 AWG
Ground conductor- 600 V	90° C	6 AWG

If this is a Paired installation, the certified installer also needs these tools and materials:

- Cable puller or fish tape
- DC conductors (x4):
  - 2 positive and 2 negative conductors; 1 positive and 1 negative in each direction
  - Copper only, minimum current carrying capacity 200 A and 1000 V rated
  - DC cable run must be continuous. Do not splice DC cables
  - Consult site drawings for site-specific conductor size and length
  - Leave 61 cm (2 ft) of each conductor above grade at each end

Voltage Rating	Temperature Rating	Maximum Conductor Size for Terminals	Insulation Type
Phase conductors - 1000 V	90° C	300 kcmil, 1x per pole	XHHW-2

- DC lugs (x4):
  - All lugs must be nickel, tin, or silver plated copper compression (not mechanical) lugs
  - 2-hole lugs, 1 in spacing, 3/8 in hole size, and 1.23 in max tongue width
- DC cable lug crimper and die that is compatible with lug size and brand

> **NOTE:** The lug die and crimp tool must match the lug manufacturer. Always review the lug manufacturer's instructions for compatibility.

- Multimeter with toner attachment, such as Fluke 117 or similar
- Permanent marker
- Torque paint pen
- Ethernet wiring for DC (paired stations only):
  - Minimum of CAT5e or better
  - Outdoor or plenum rated wiring
  - Maximum run length of 100 m (328 ft)
  - Leave 3.2 m (10.5 ft) of wire above grade at each end
  - Field crimp using straight-through pattern T-568B
- Ethernet crimp tester capable of testing for correct T-568B (split pair) pattern, such as a Klein Tools VDV526-052 VDV LAN Scout Jr. Tester or similar

Torque Values

Component	Fastener	Qty	Tool	Torque
Enclosure Body Anchor top nuts	Nut, M16x2.0, 13 mmTHK, Hex, Grade DH, HDG	12	24 mm (15/16 in) socket wrench	94.9 Nm (70 ft-lb)
Rodent Guard Bracket	Screw, M5x0.8, 8 mm length, But Hd, Torx, T-25, SS, Patch	4 (2 per side)	T25 Torx screwdriver	4.5 Nm (40 in-lb)
AC Conductors (L1, L2, L3) Lugs	Nut, KEPS, M6x1.0, 7.5mm thick, Conical Washer, Steel, Zinc	6	10 mm (3/8 in) socket wrench	5.6 Nm (50 in-lb)
DC Conductors	NUT, M8x1.25, 8.8mm thick, KEPS, CONICAL WASHER, Steel, Zinc	8	13 mm (1/2 in) socket wrench	6.8 Nm (60 in-lb)
Holsters	Screw, M6x1.0, 8 mm length, PanHd, Torx, T-25,EXT SEMS 2, SS, Patch	2	T25 Torx screwdriver	2.8 Nm (25 in-lb)
Side Panels	[Use captive screws in Frame]	6	T25 Torx screwdriver	2.8 Nm (25 in-lb)
CMK Mast (top 2)	Screw, M6x1.0, 10 mm length, ButWasHd, Torx, T-25, STL, Zinc	2	T25 Torx screwdriver	5.6 Nm (50 in-lb)
CMK Mast (bottom 4)	Screw, M6x1.0, 22 mm length, ButHd, Torx, T-30, SS, Patch	4	T30 Torx screwdriver	5.6 Nm (50 in-lb)
CMK Swingarm	Screw, M6x1.0, 10 mm length, ButWasHd, Torx, T-25, STL, Zinc	5	T25 Torx screwdriver	5.6 Nm (50 in-lb)
Charge Cable Housing	Screw, M6x1.0, 20 mm length, LowCap, Torx, T-25, SS	4 per charge cable	T25 Torx screwdriver	4.5 Nm (40 in-lb)
Charge Cable Nuts	Nut, KEPS, M6x1.0, 7.5mm thick, Conical Washer, Steel, Zinc	4 per charge cable	10 mm (3/8 in) socket wrench	5.6 Nm (50 in-lb)
Charging Cable	[Use captive screw in tetherball]	1	T25 Torx screwdriver	2.8 Nm (25 in-lb)
Top Cap	M5x0.8, 16mm length, PanHd, Torx, T-25, SS, Patch	4	T25 Torx screwdriver	2.8 Nm (25 in-lb)
Front Lower Panel Screw	M5x0.8, 10 mm length, PanHd, Torx, T-25, SS, Patch	2	T25 Torx screwdriver	2.8 Nm (25 in-lb)
Rear Lower Panel Screw	M5x.08, 14 mm length, PanHd, Torx, T-25, SS, Patch	2	T25 Torx screwdriver	2.8 Nm (25 in-lb)
Front & Rear Upper Panels	Captive screw in sheet metal panel	2	T25 Security Torx Screwdriver	2.8 Nm (25 in-lb)
Area Light Bar	2 Screws, captured (Screw, M4x0.7, 12 length, Captive, TR-Torx, T-25,SS, Patch)	2	T25 Security screwdriver	2.8 Nm (25 in-lb)

Secure Charging Station 2

Follow these instructions to anchor each Express 280 charging station.

CAUTION:
To protect the charging cables from damage, keep them wrapped throughout the installation process.

IMPORTANT:
If the site has height constraints for installation, contact ChargePoint to get instructions and clearances that you will need for the modified process.

Alternatively, you may use a forklift bracket kit, or a crane with lifting shackles and a spreader bar (constraints may differ among sites).

Disconnect Power

To disconnect power, complete the following steps:

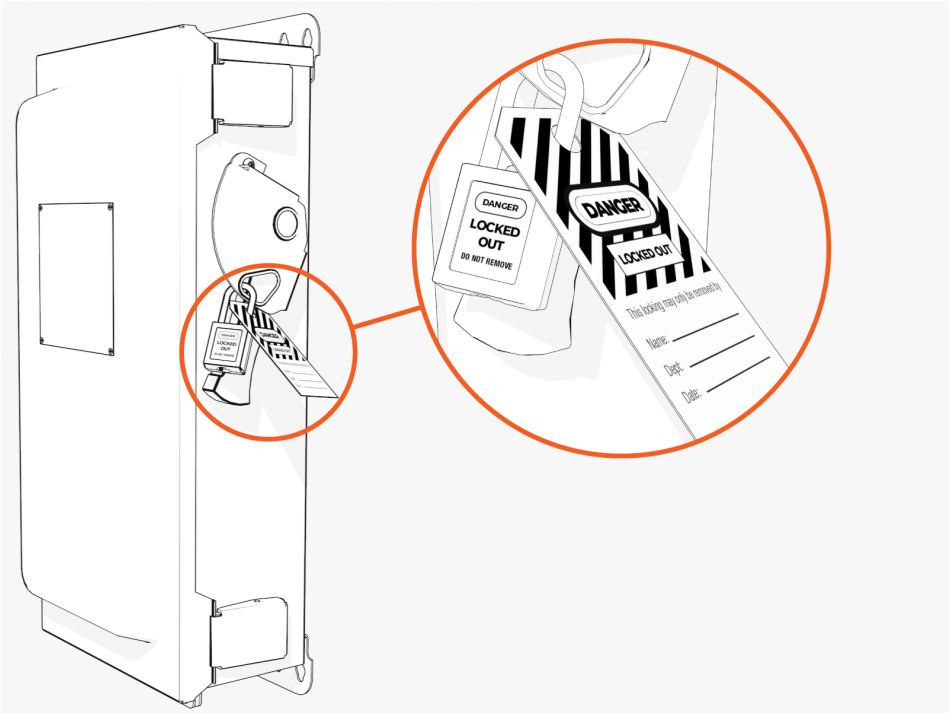
DANGER:
RISK OF SHOCK

- Before any procedure, disconnect the power.
- Follow local code and site lockout/tagout procedure to de-energize the station.
- Wait for energy to dissipate (approximately five minutes).
- Keep power off until all covers and panels are reinstalled and the work is complete.

FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY, LOSS OF LIFE, OR PROPERTY DAMAGE.

1. Disconnect power at the site electrical panel.

> **NOTE:** Follow standard practice and local code to de-energize the applicable circuit and lock out/tag out the disconnect before proceeding.

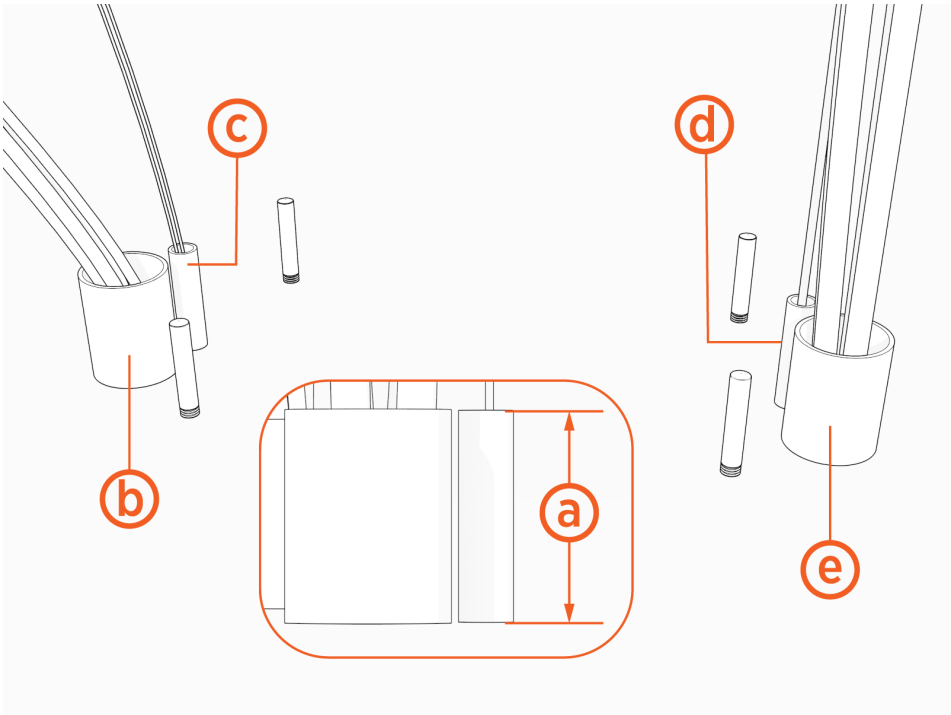


2. Use a multimeter to test that the unit is de-energized.

Prepare Mounting Pad

To prepare the mounting pad, configure the following steps:

1. Ensure AC and DC conduit stub-ups (if applicable) are 76.2 mm (3 in) **(a)** above grade.



(a) All conduit must be cut to 76.2 mm (3 in) above grade

(b) AC wiring conduit (max 50.8 mm / 2 in trade size)

(c) Shunt trip wiring (max 19.1 mm / 3/4 in size)

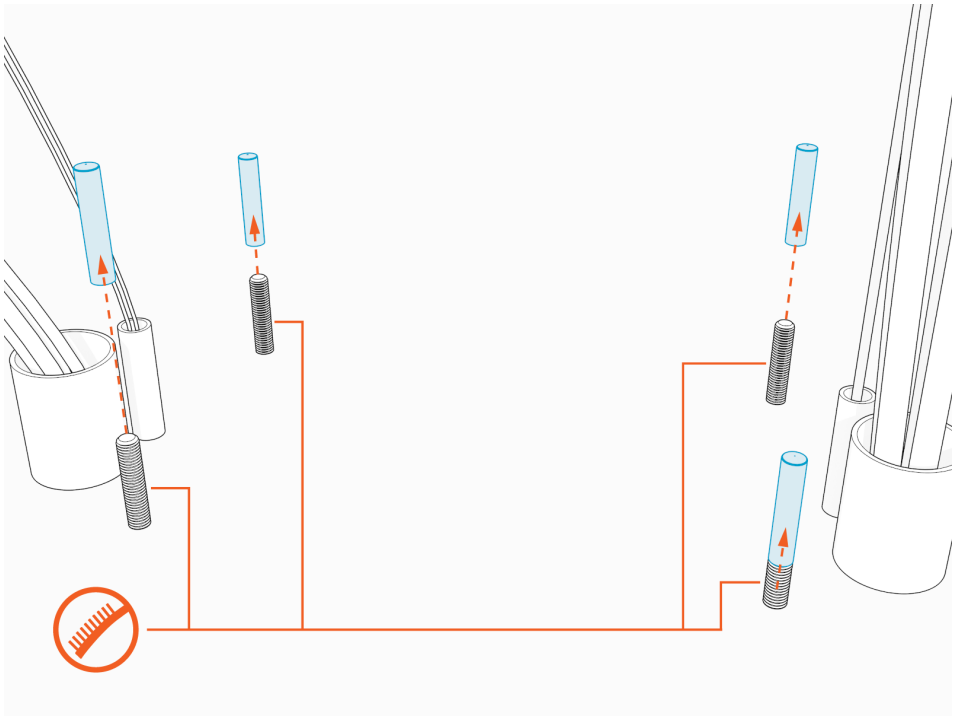
(d) Ethernet conduit (max 19.1 mm / 3/4 in size)

(e) DC wiring conduit (max 76.2 mm / 3 in trade size)

2. If not already done, pull service wiring through the conduit in the installation pad as described in the *Express 280 Site Design Guide*.

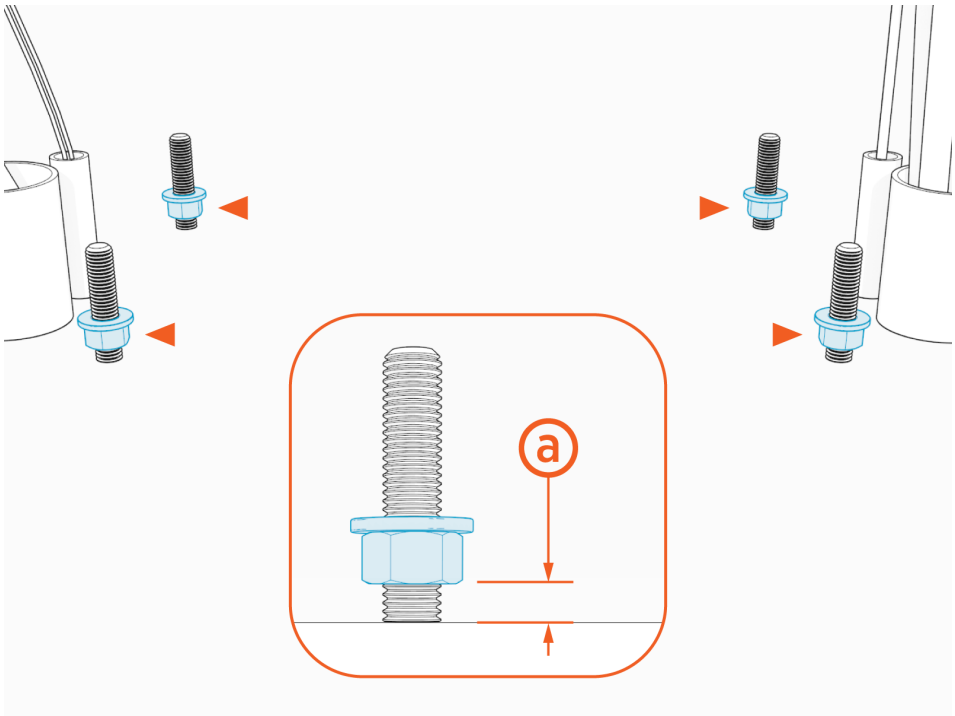
3. Remove the plastic caps.

   Use a wire brush to clean bolt threads.

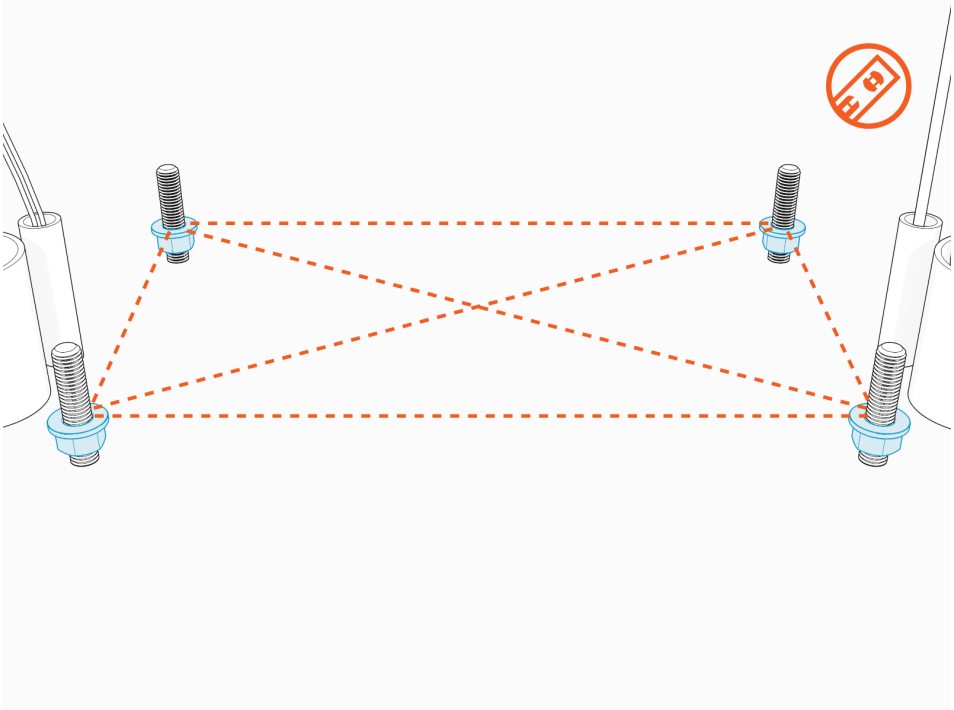


4. Install leveling nuts and washers onto the bolts.

   Maintain a space of ~6.4 mm (1/4 in) **(a)** between the bottom of each leveling nut and the concrete.



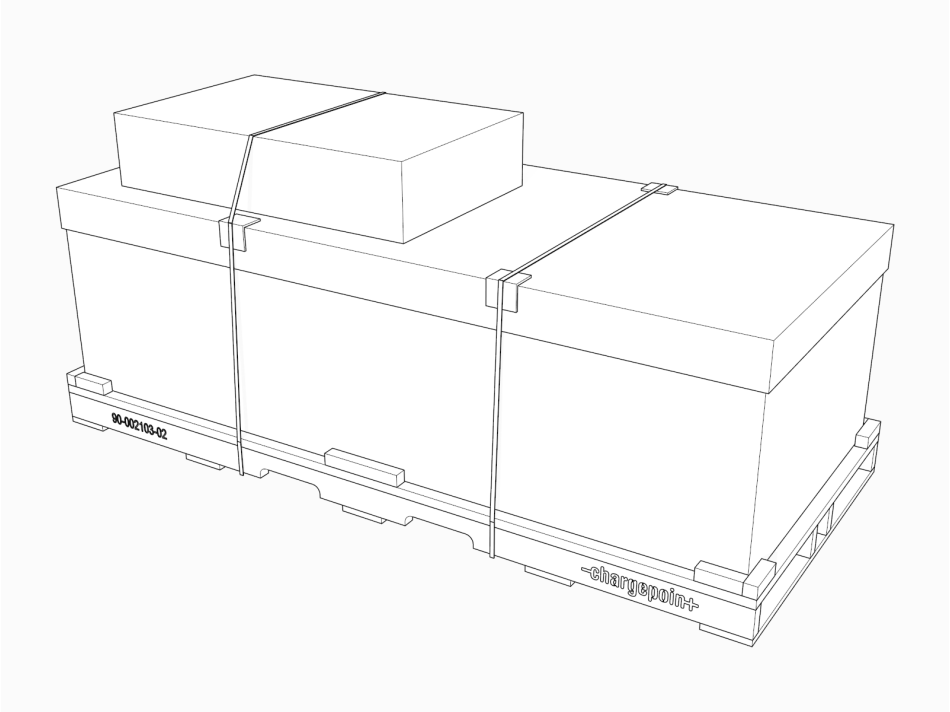
5. Check that the nuts are level with each other.



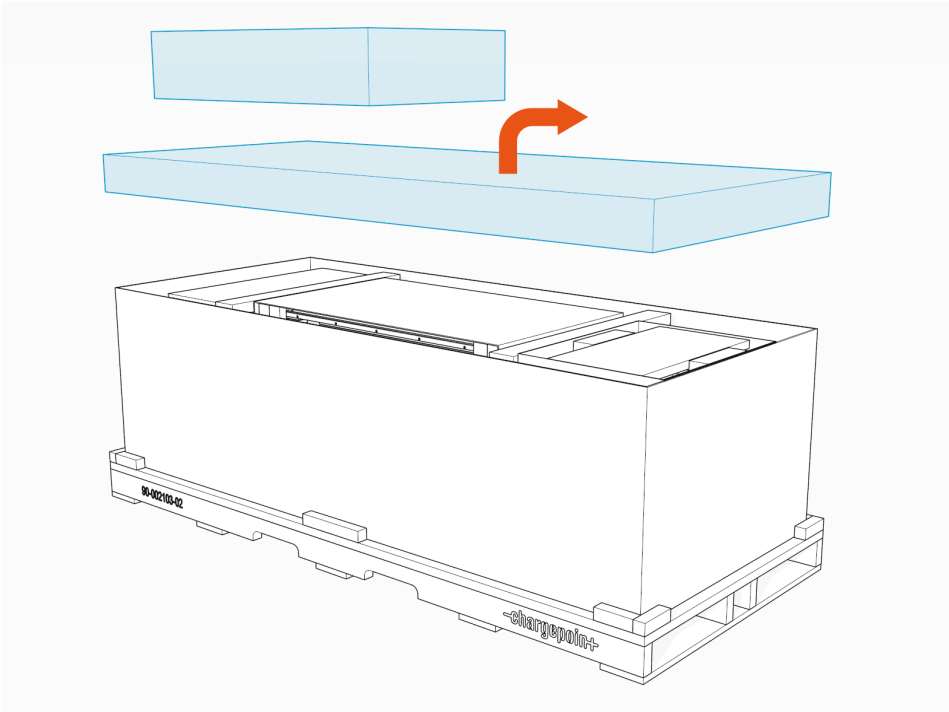
Unpack the Station

To unpack the station, configure the following steps:

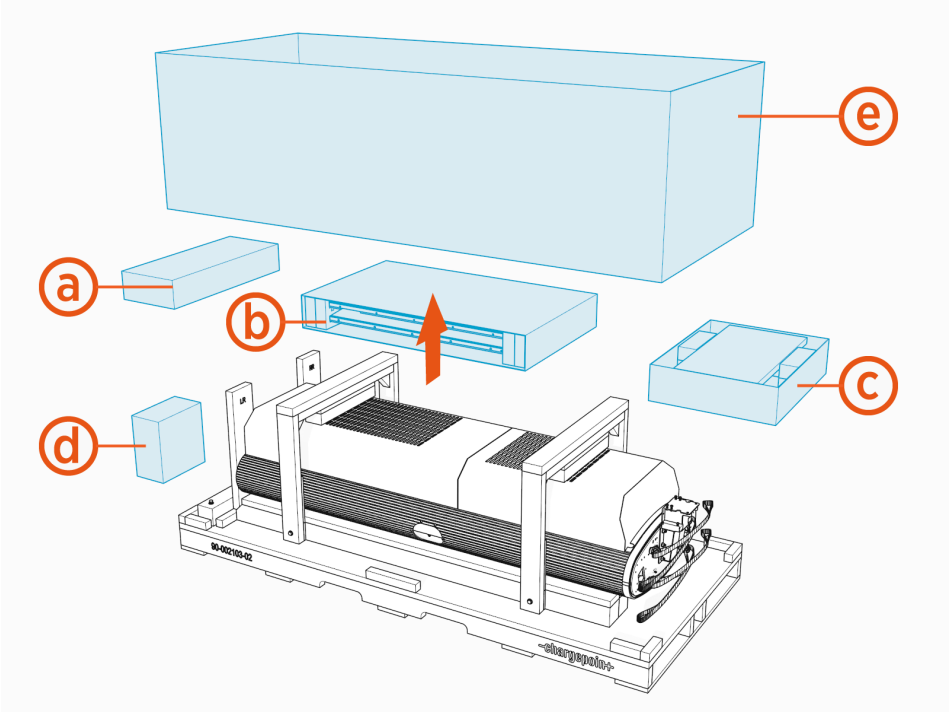
1. Transport the box horizontally to the installation site.



2. Lift the top of the box off.
   Save the top of the box for later use.

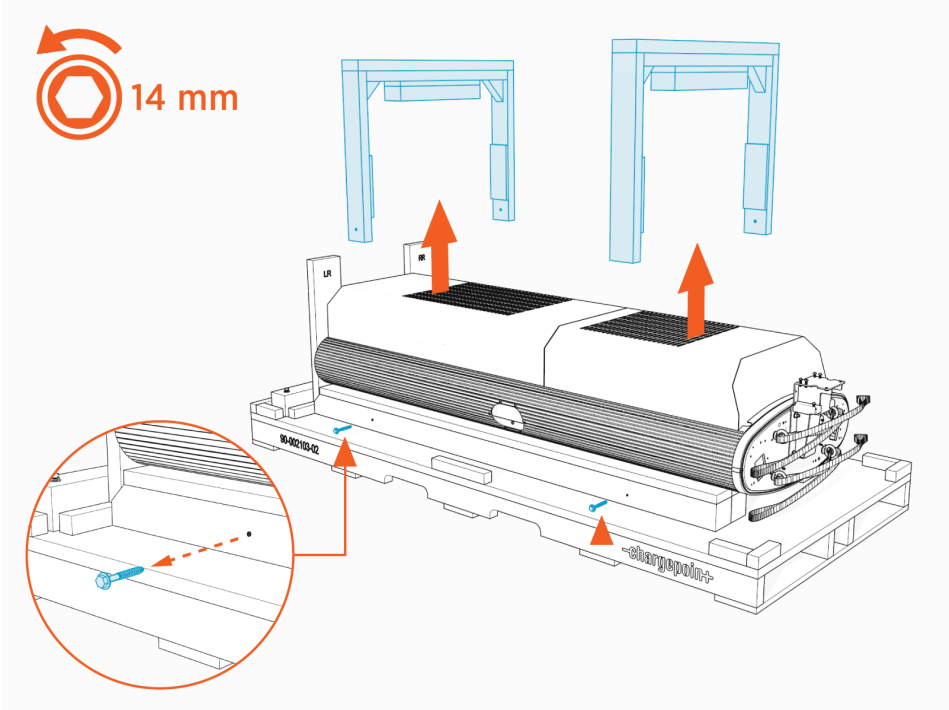


3. Remove the smaller boxes and the outer box.

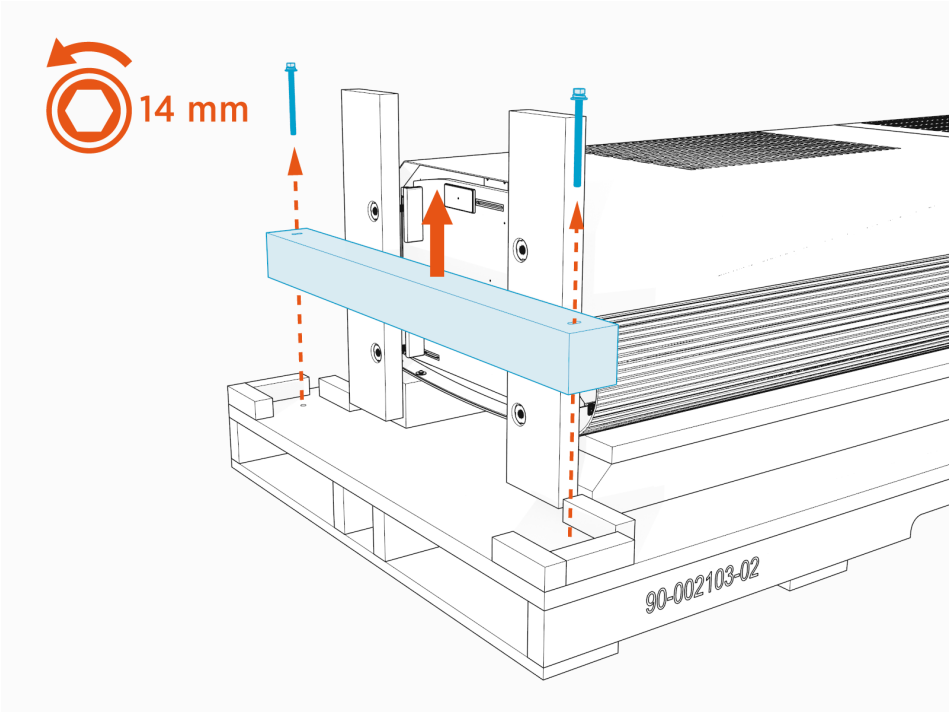


(a) Top cap
(b) Front covers
(c) Touchscreen
(d) Installation kit
(e) Outer box

4. Remove the bolts securing the packing braces.
   Remove the braces.



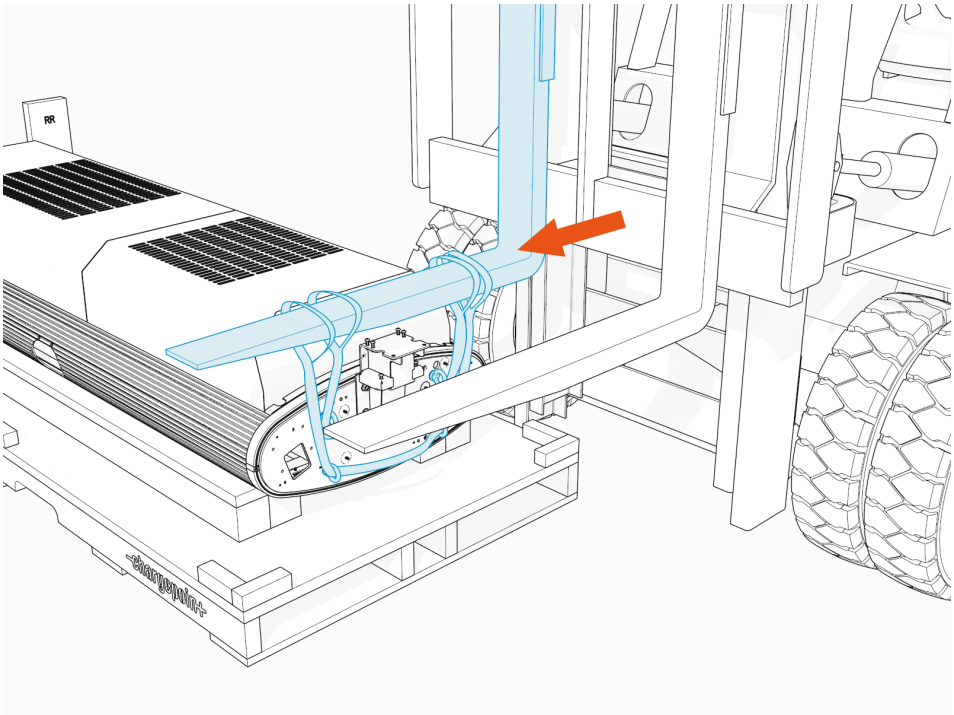
5. Remove the bolts securing the brace underneath the station.
   Remove the brace.



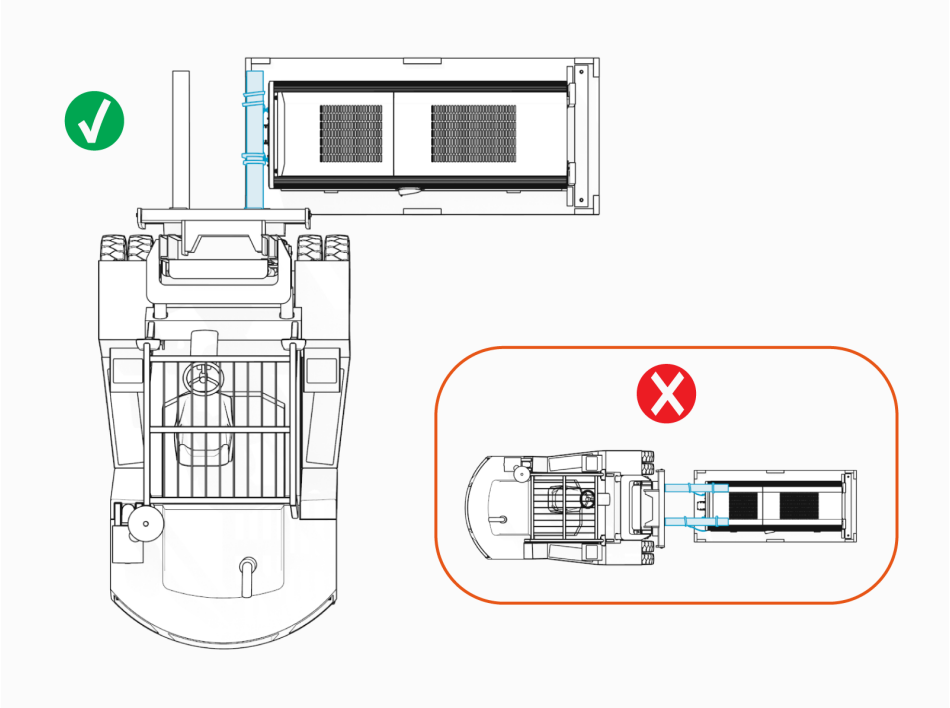
Prepare the Station

To prepare the station, configure the following steps:

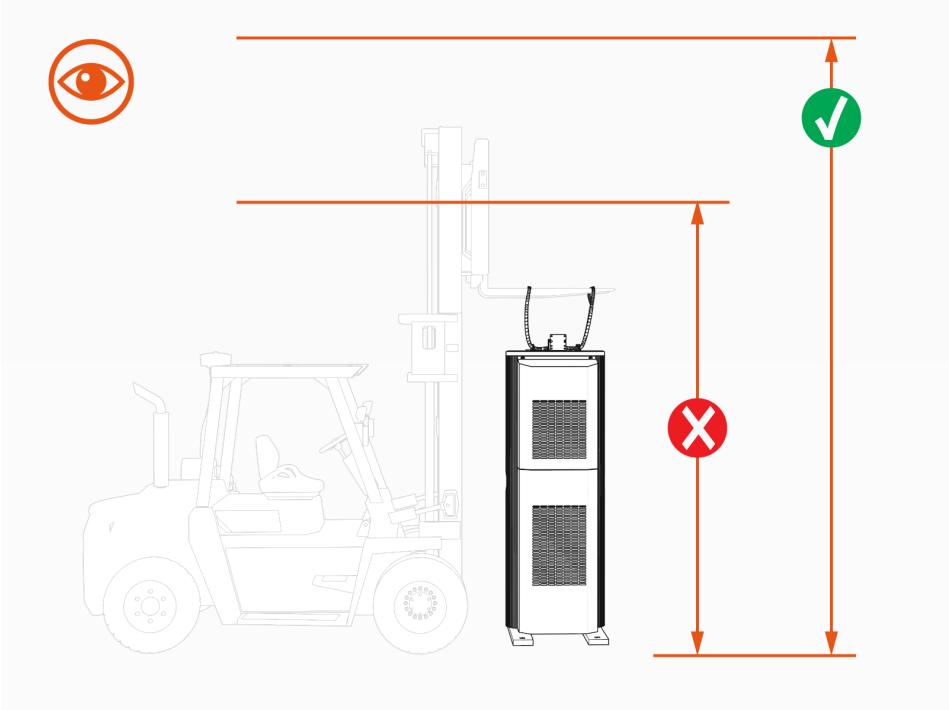
1. Locate the eye bolts and lifting straps at the top of the Express 280.



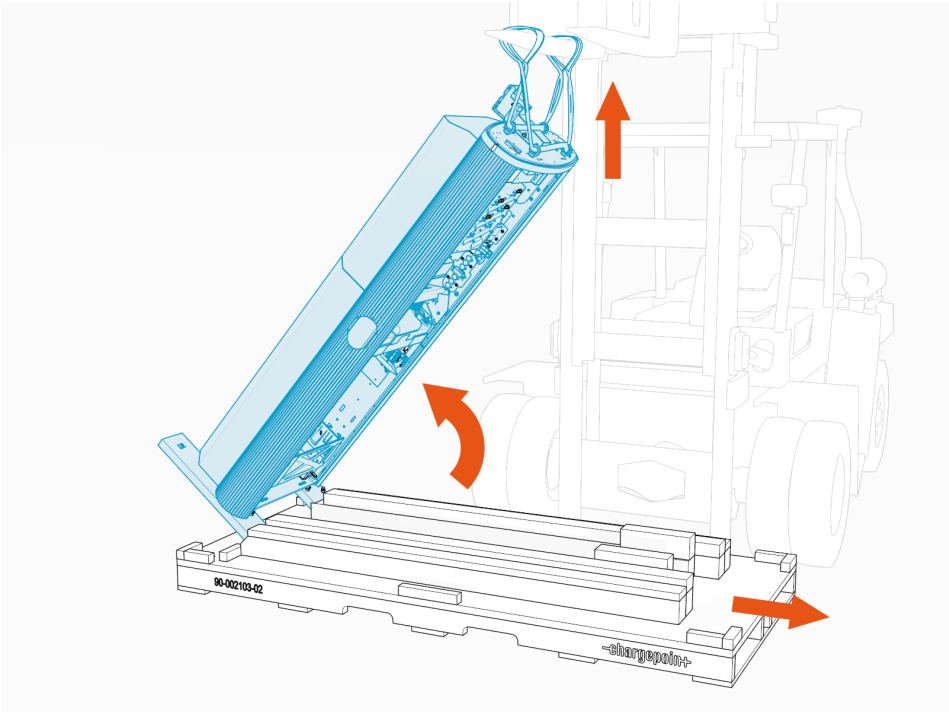
2. Position the forklift so the lift is perpendicular to and near the top of the station. Place both lifting straps on one blade of the forklift.



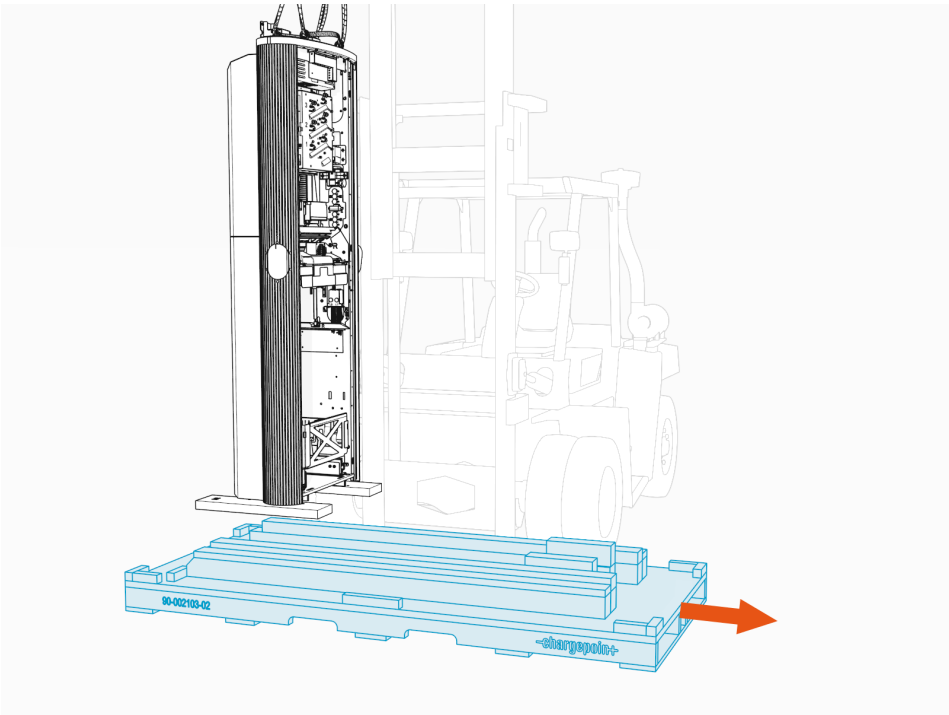
3. Ensure there is sufficient height clearance.



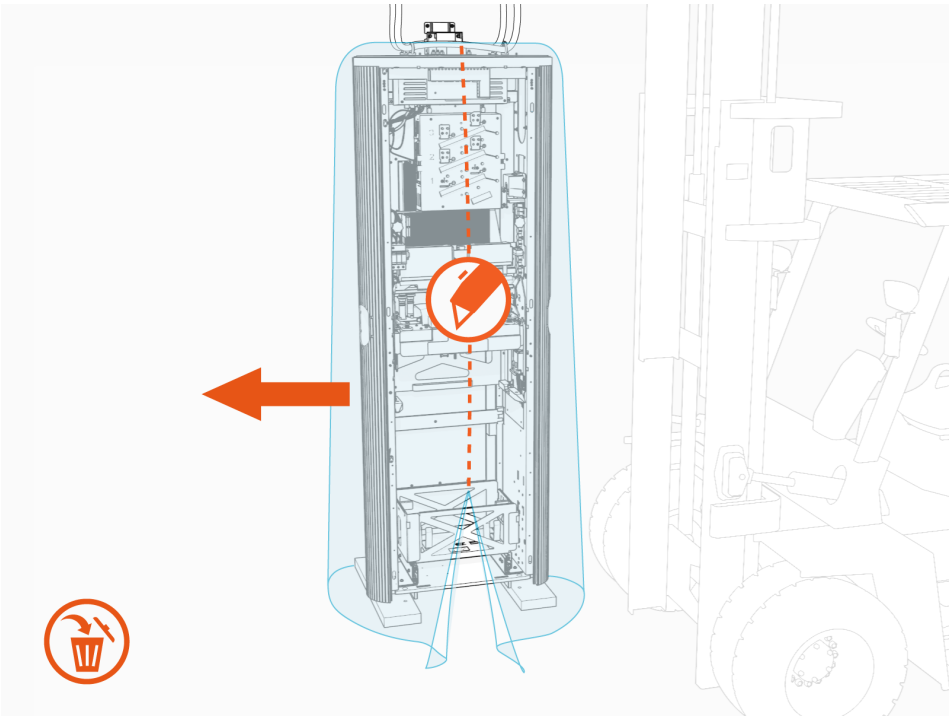
4. Carefully tilt the Express 280 up until vertical. Lift the station.

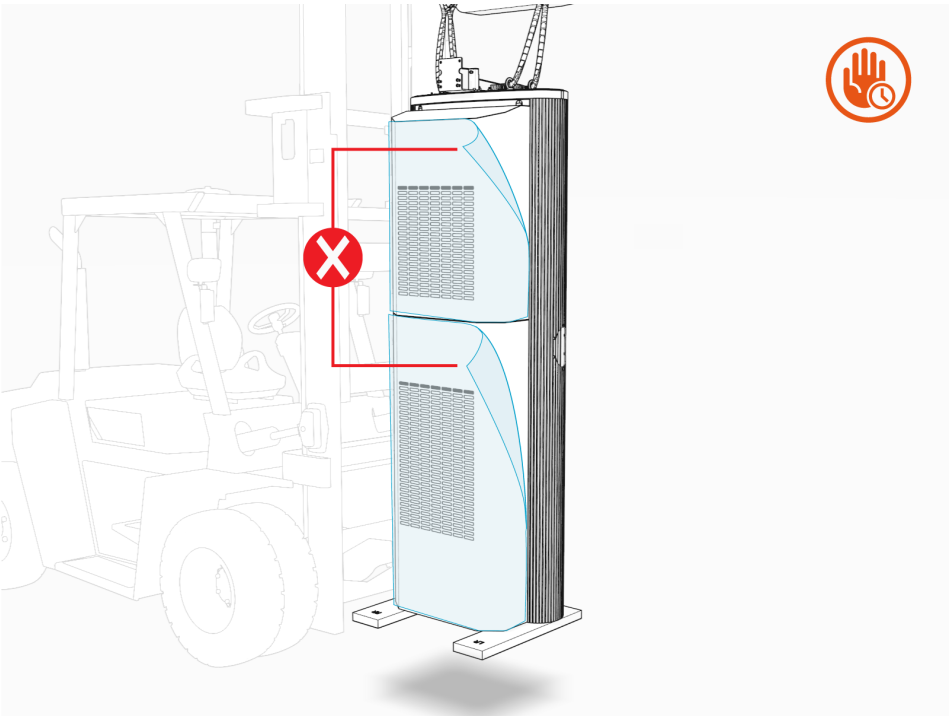


5. Slide the bottom of the shipping crate aside.

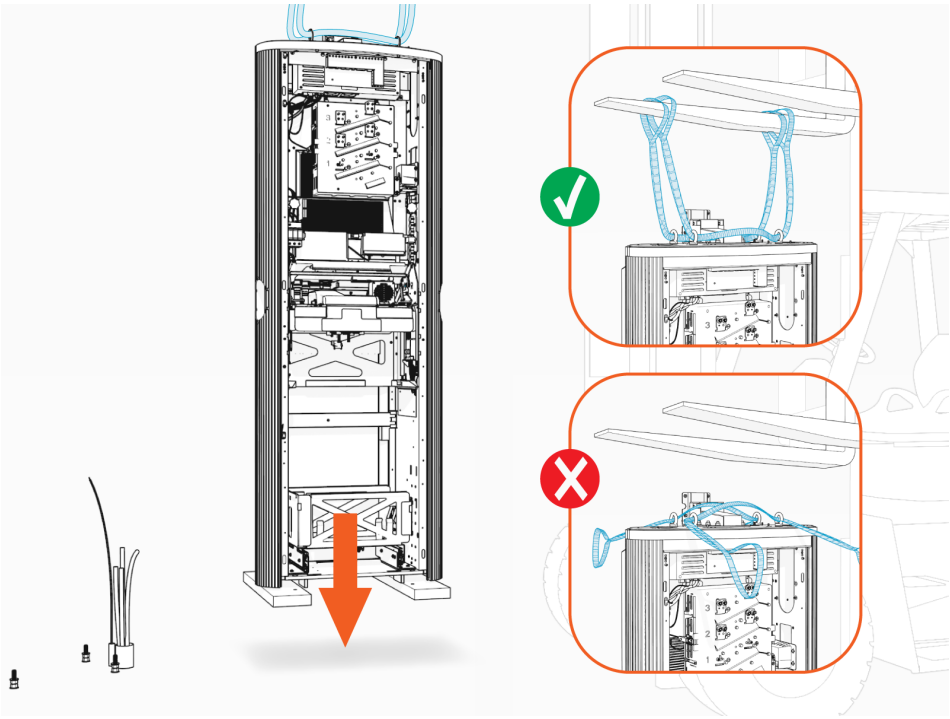


6. Remove the plastic shipping bag.





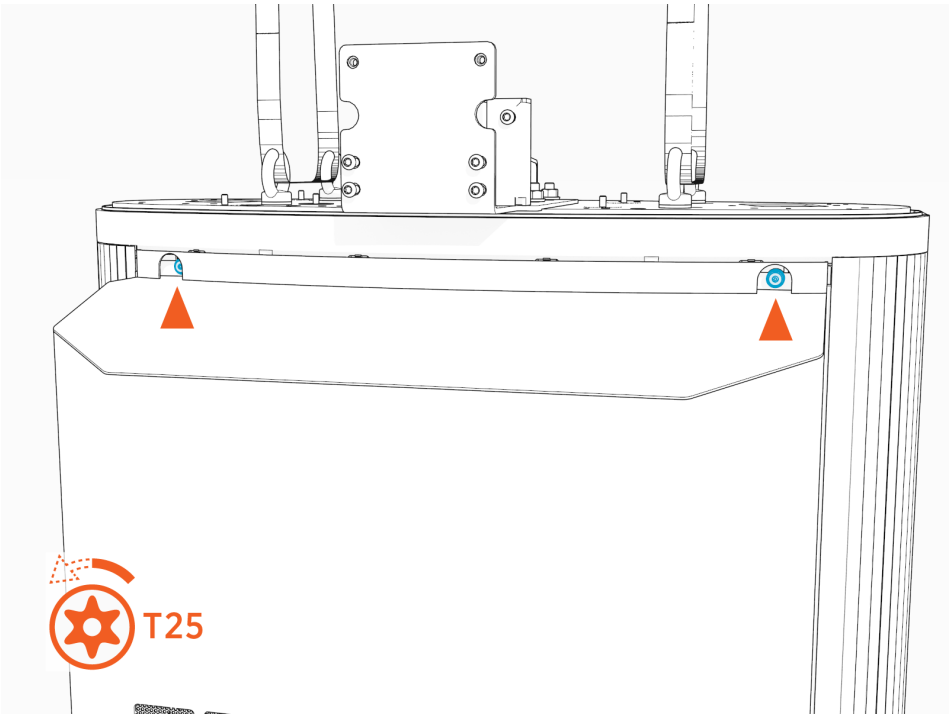
7. Set the station down gently on the concrete near, but not on, the anchor bolts. Keep the lifting straps taut. Do not remove them.



Remove the Back Panels

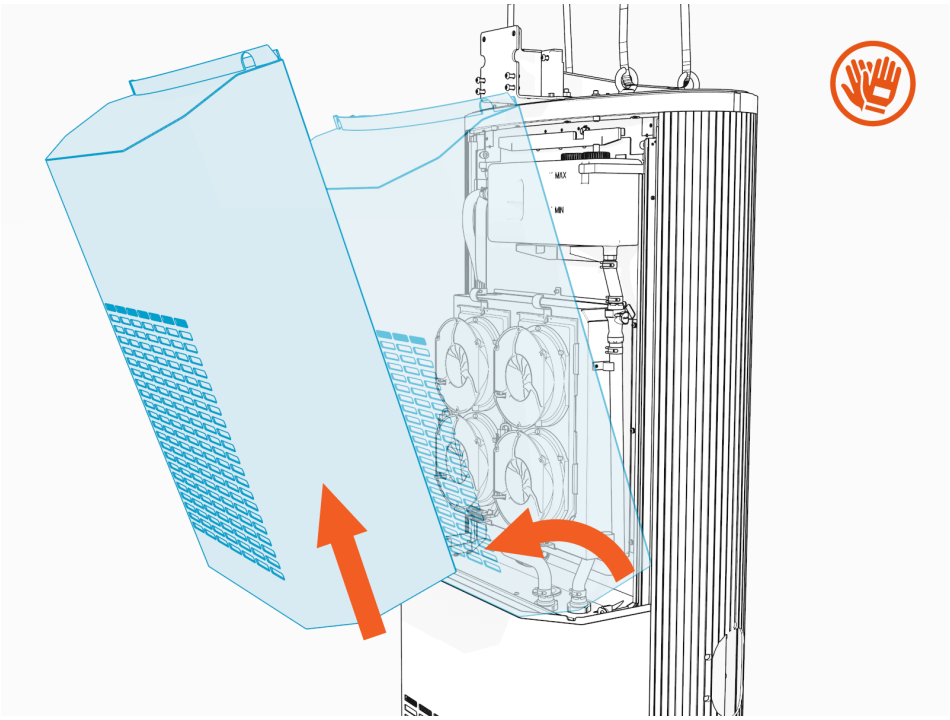
To remove the back panels, configure the following steps:

1. Using a T25 Security screwdriver, loosen the two screws on the upper back panel.

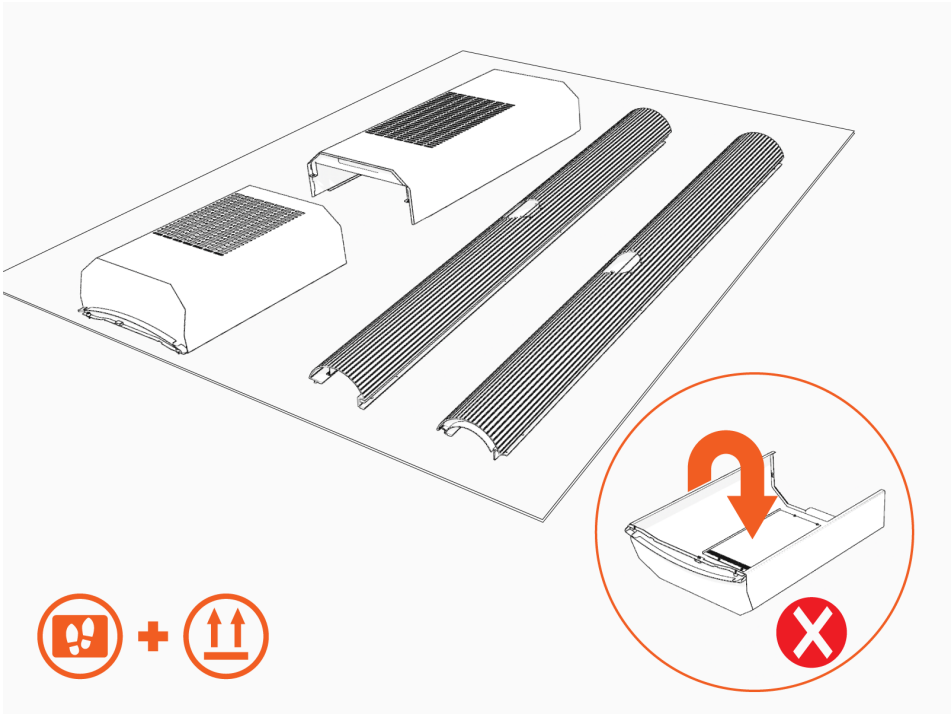


2. Tilt the panel away and lift up to remove it.

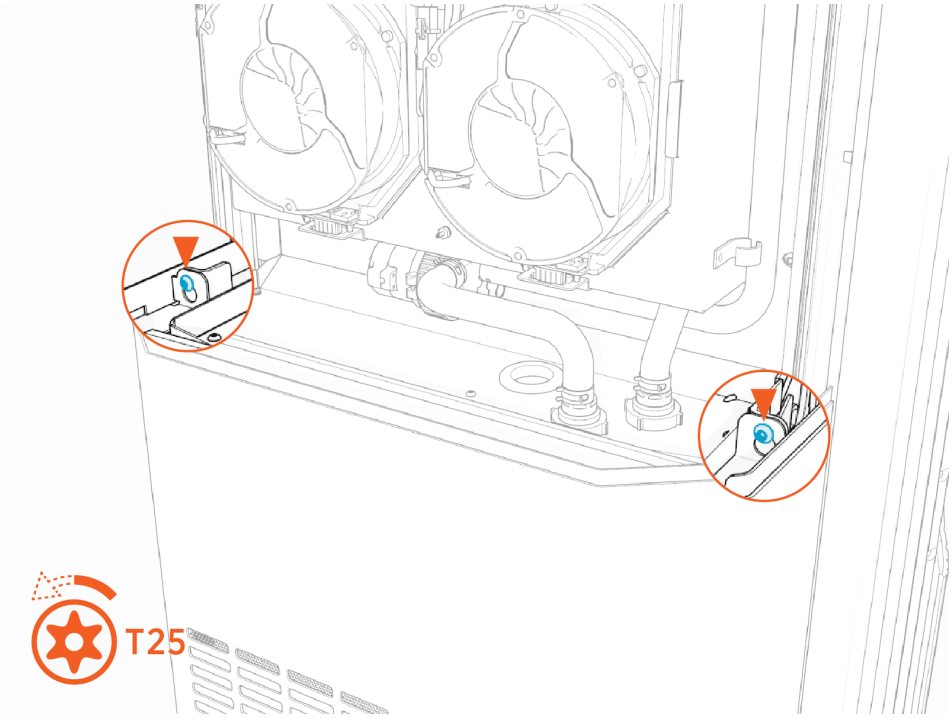
IMPORTANT:
Wear cut-resistant gloves and hold the sides of the panel gently when removing it.



3. Set the panels gently on the shipping box lid. Position panels with the outside surfaces facing up to avoid scratches.

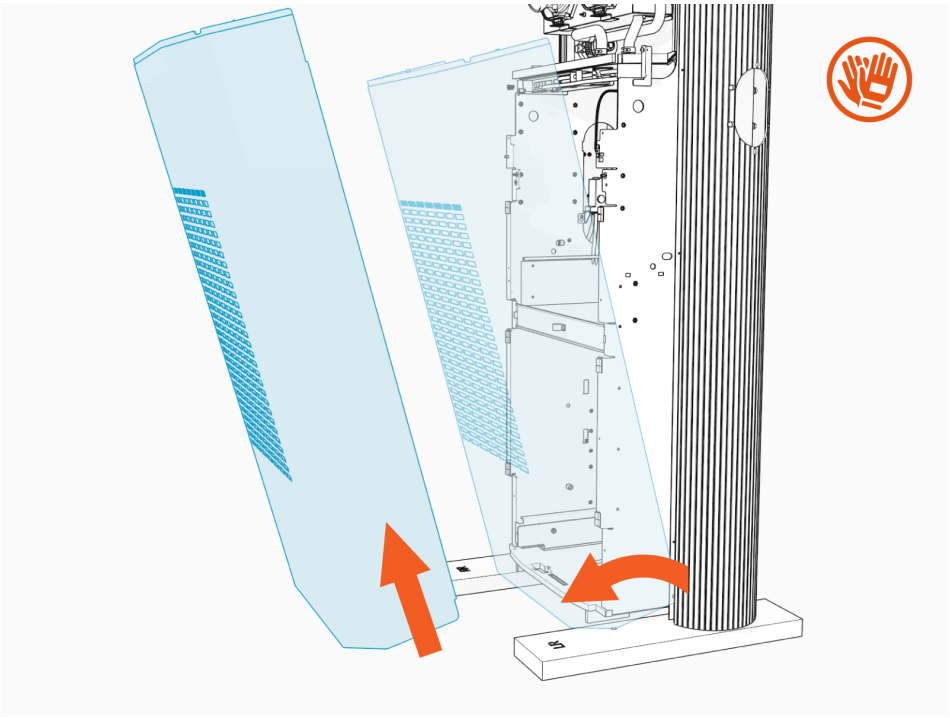


4. Using a T25 Torx screwdriver loosen, but do not remove, the two screws on the lower back panel.



5. Lift the panel up and pull it away to remove it.

IMPORTANT:
Wear cut-resistant gloves and hold the sides of the panel gently when removing it.

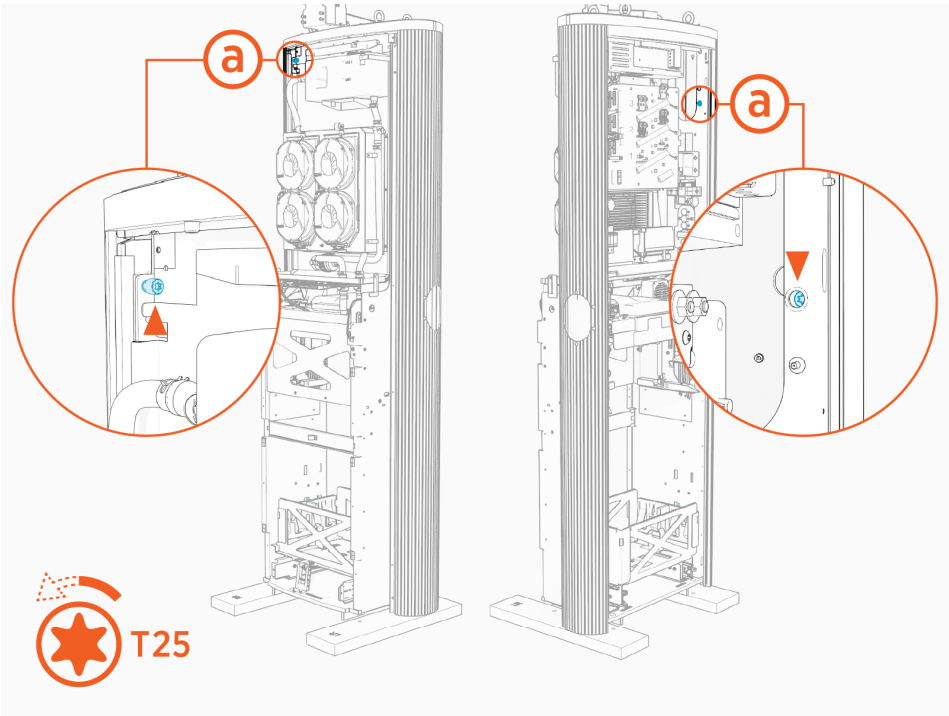


Remove the Side Panels

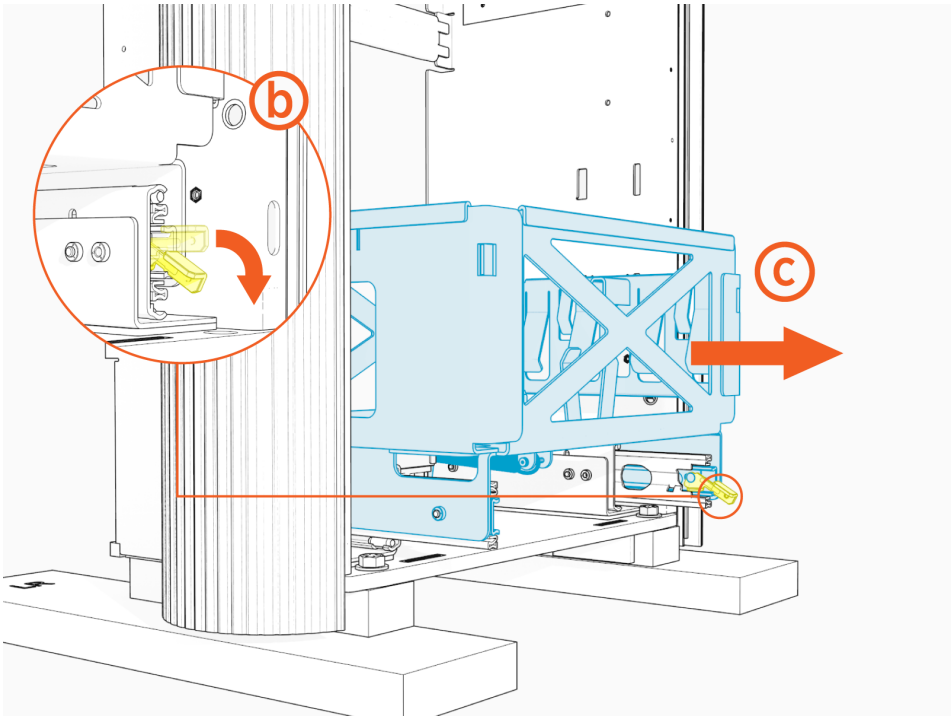
To remove the side panels, configure the following steps:

1. Using a T25 Torx screwdriver, loosen the top four screws **(a)**, two on each side.

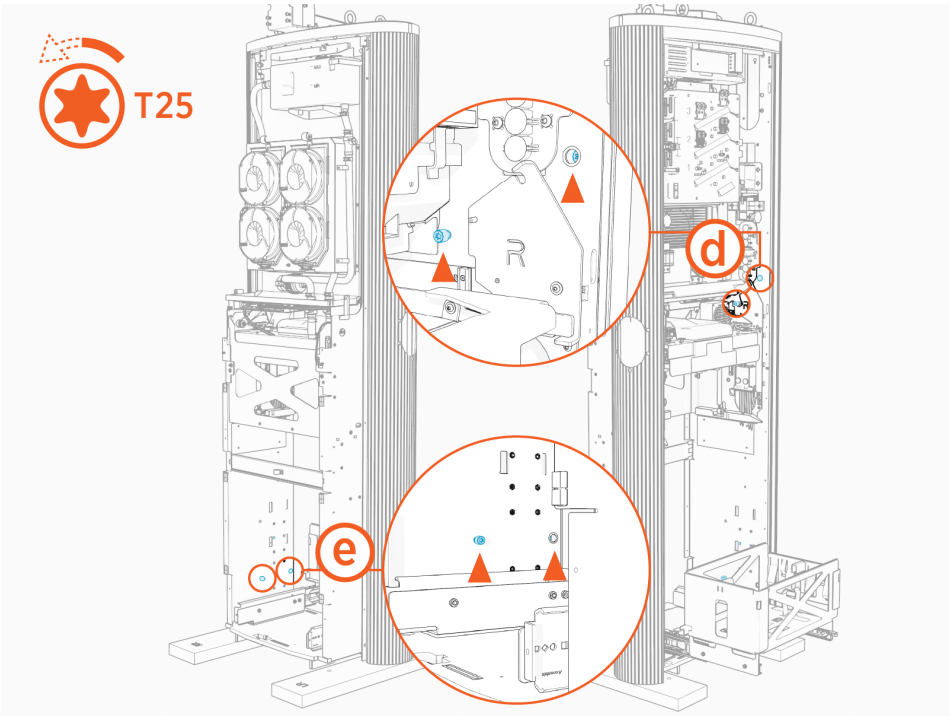
> **NOTE:** You might need a step ladder to reach the top screws.



2. Press down on the Power Module yellow release latch **(b)** and slide the tray out **(c)**.

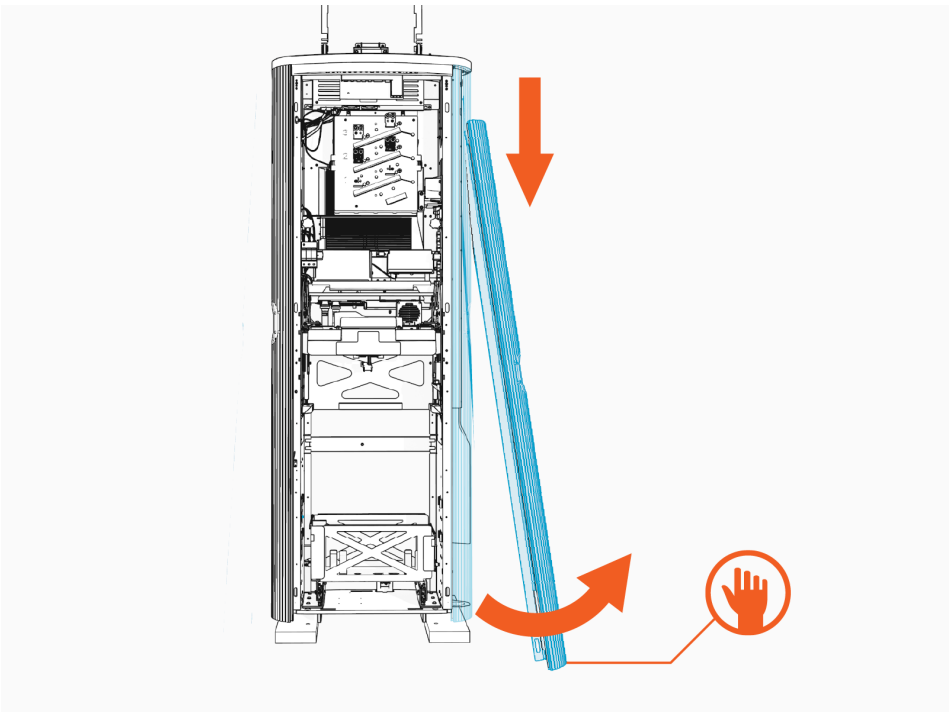


3. Loosen the two middle **(d)** and two lower captive screws **(e)**.

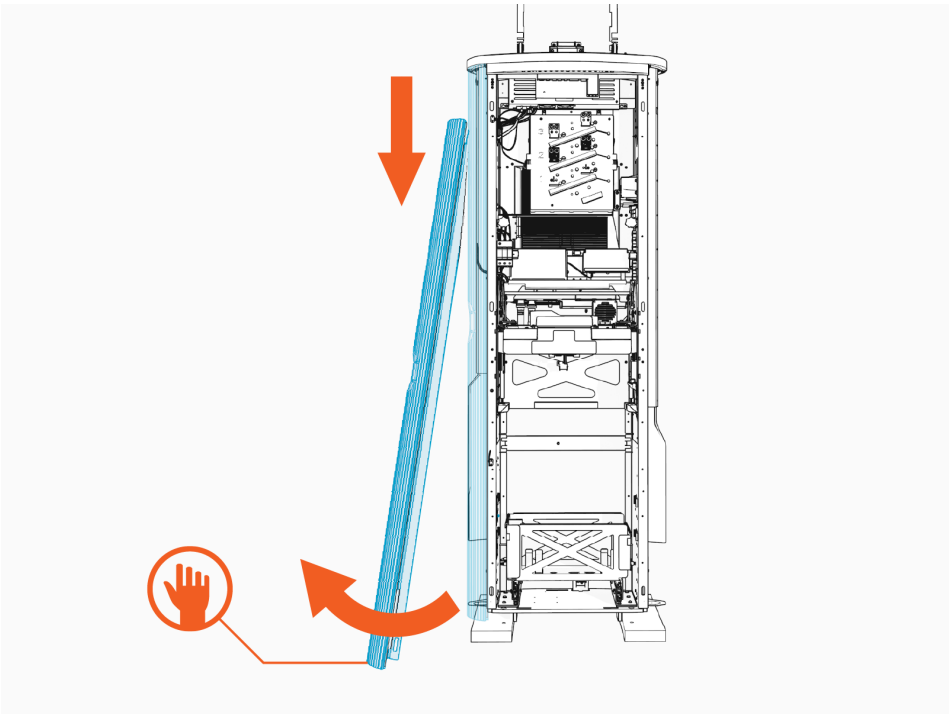


4. Tilt the bottom of the right side panel out slightly to extract its top edge from under the bottom edge of the area light bar. Lift the side panel off the guide pins on each side of the frame and remove it.

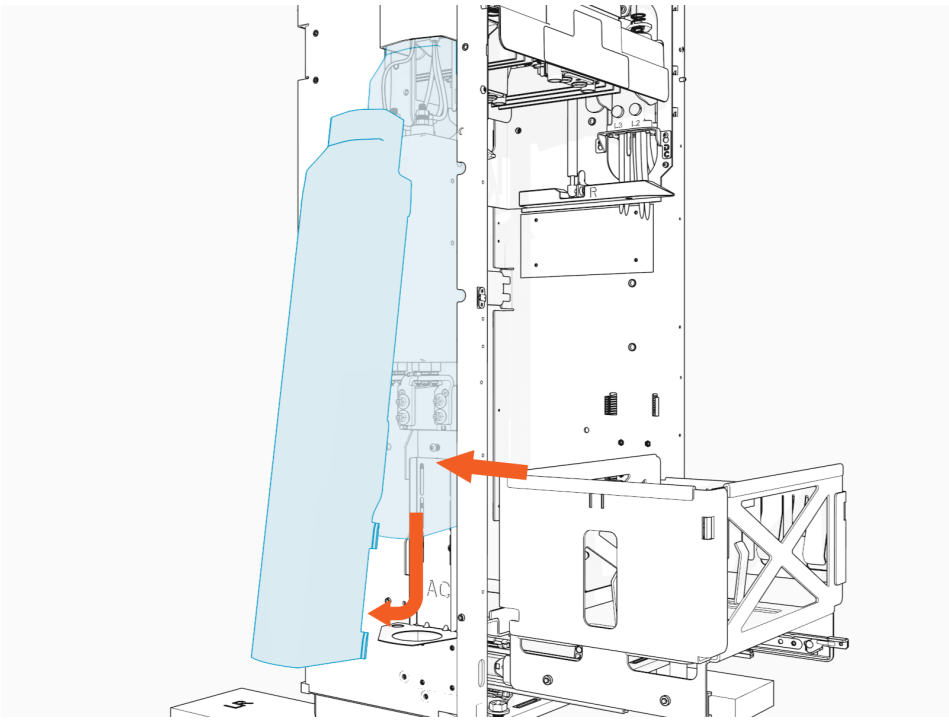
   Set the panel aside gently.



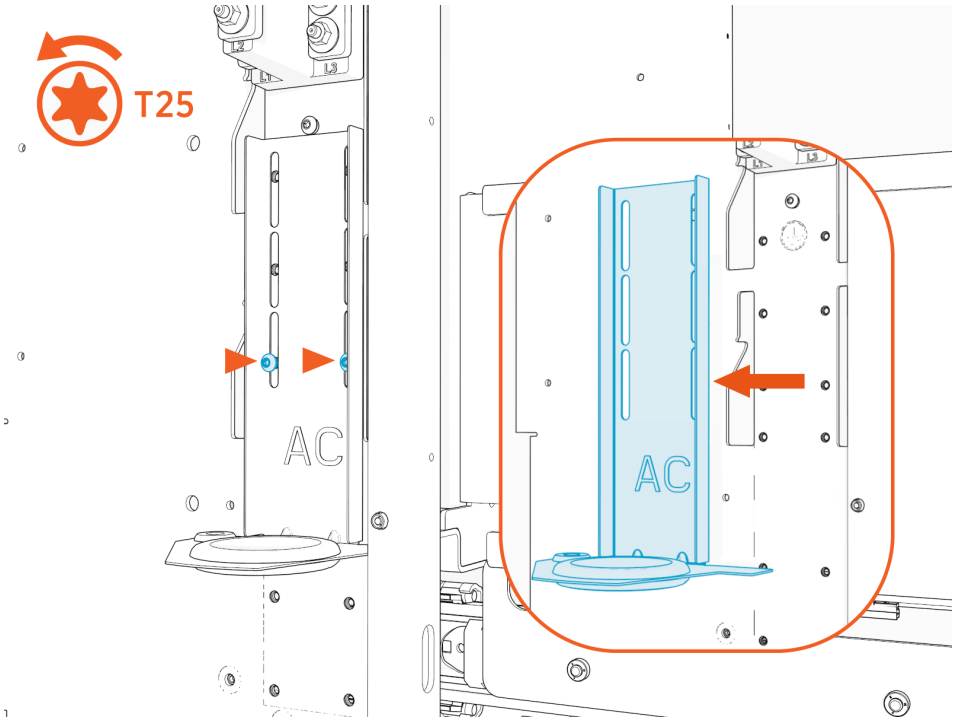
5. Remove the left side panel.



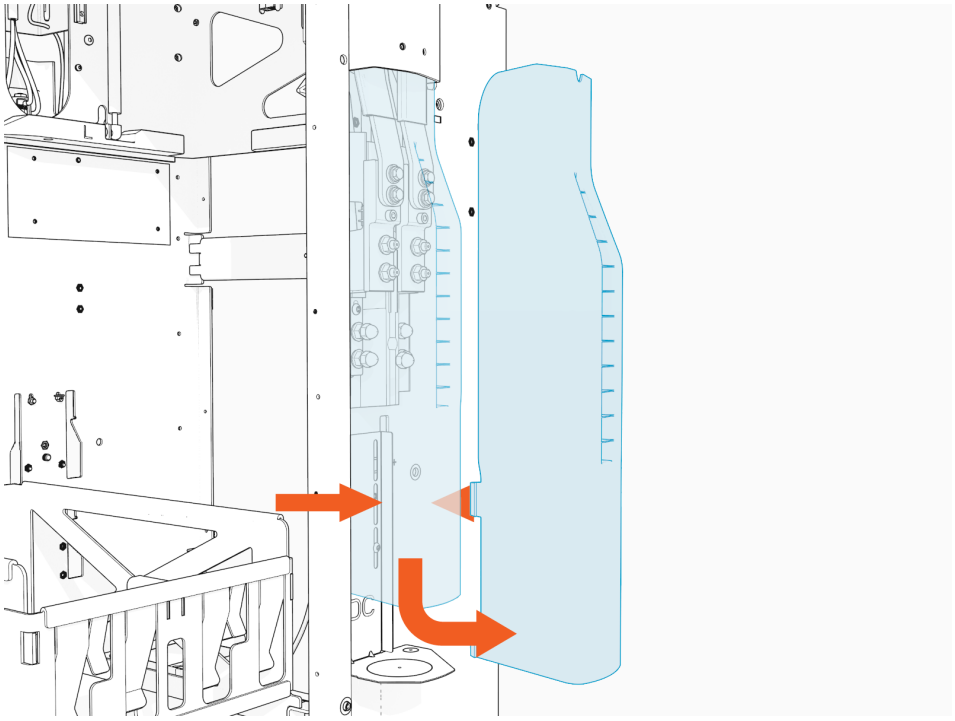
6. Remove the AC wire cover on the left side of the Express 280 by pressing on its sides and sliding it downward and away from the station.



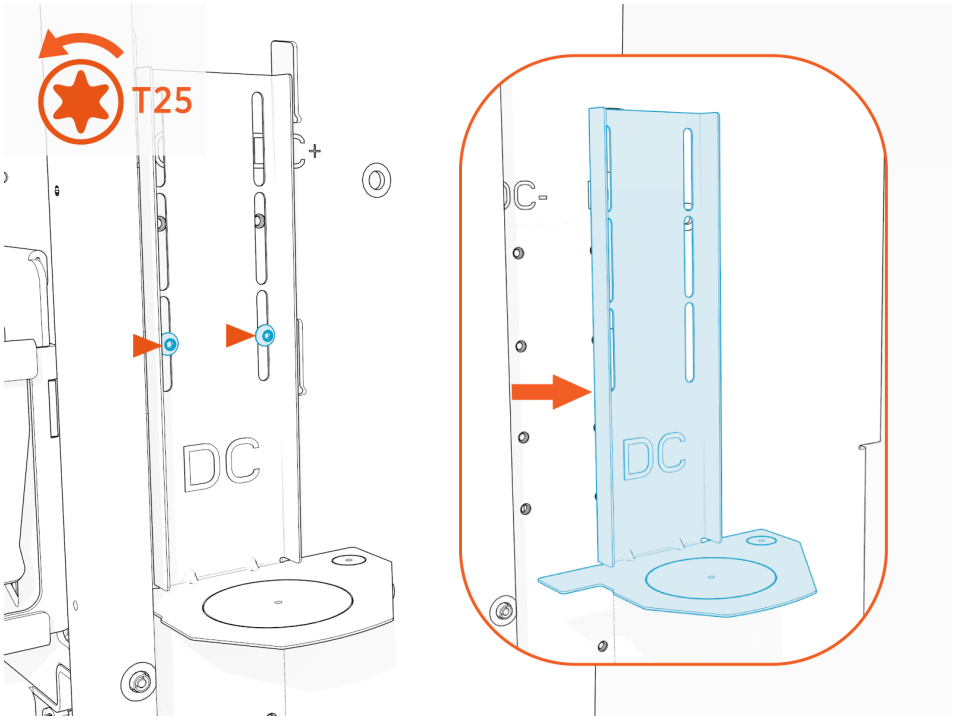
7. Use a T25 Torx screwdriver to remove the two screws and the AC rodent guard bracket.



8. Paired stations only - Remove the plastic DC wiring cover on the right side of the Express 280 by pressing on its sides and pulling it away.



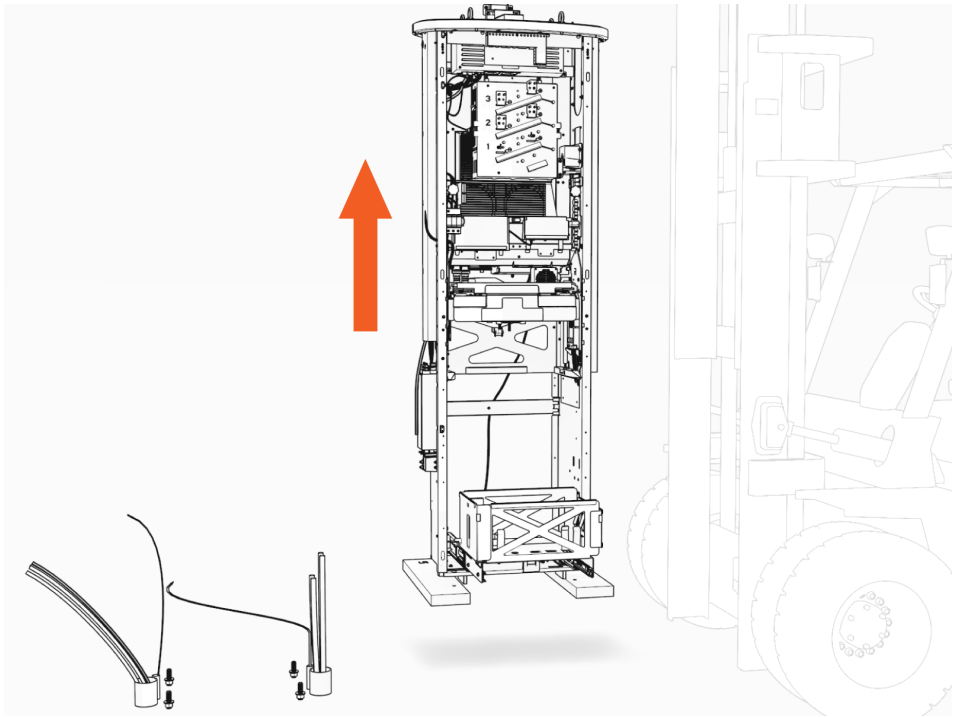
9. Paired stations only - Use a T25 Torx screwdriver to remove two screws and the DC rodent guard bracket.



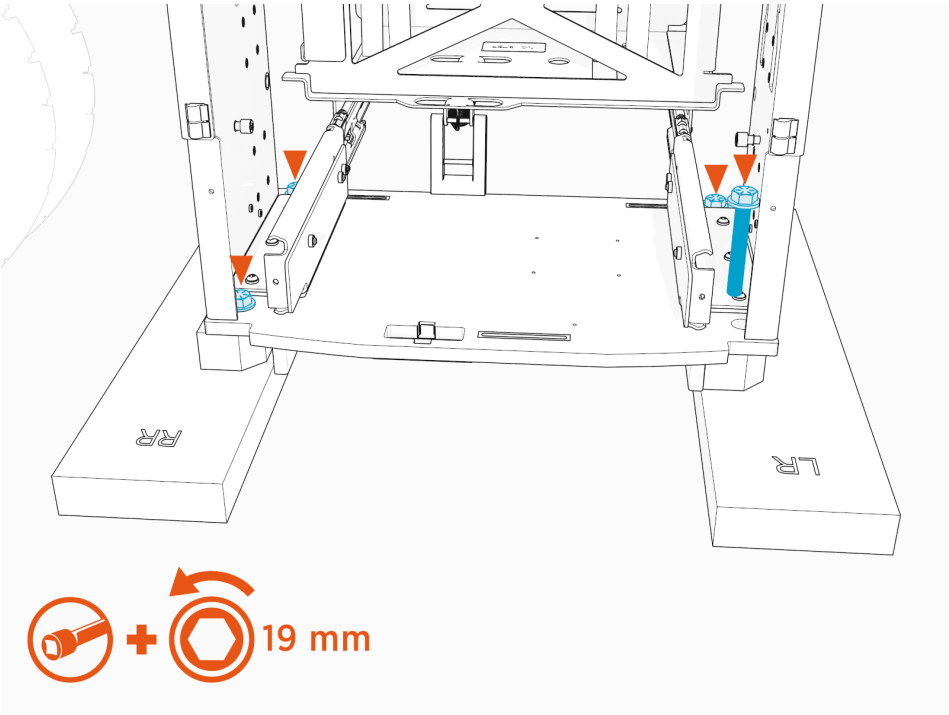
Position the Station

To position the station, configure the following steps:

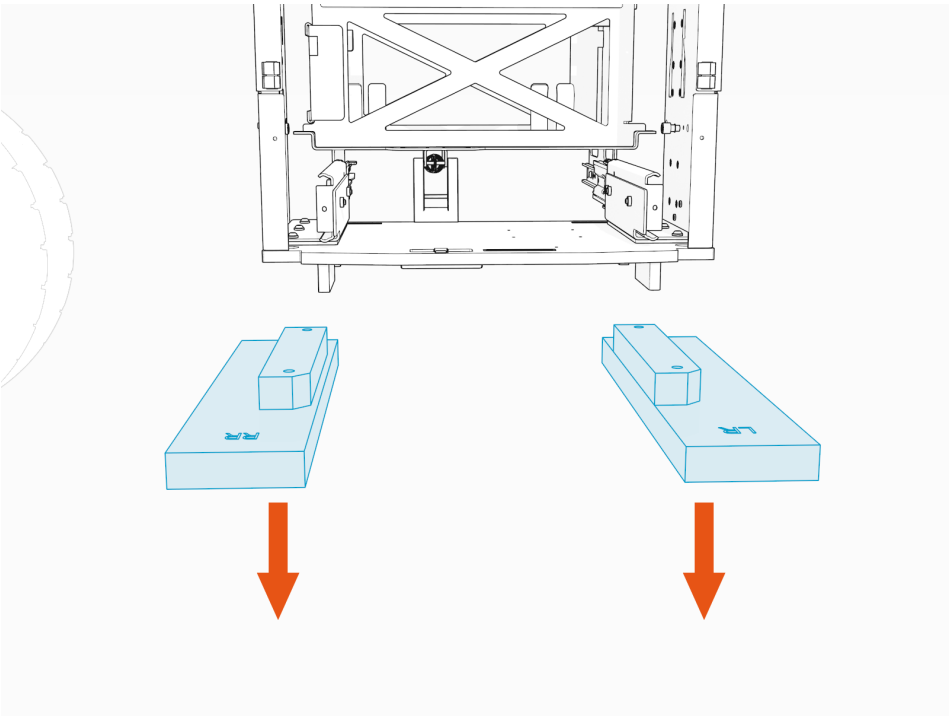
1. Use the forklift to lift the station off the ground.



2. Using a 19 mm (3/4 in) socket wrench, remove the bolts from the base of the station.

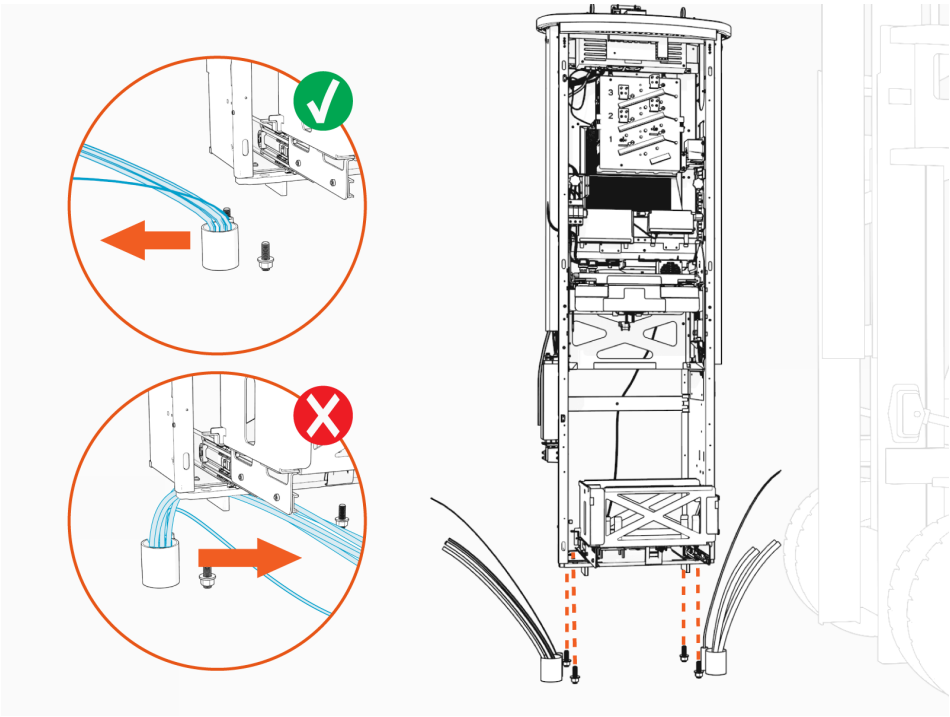


3. Remove the wooden stands.



4. Position the Express 280 over the mounting bolts, ensuring the bolts align with the corresponding holes in the bottom of the Express 280.

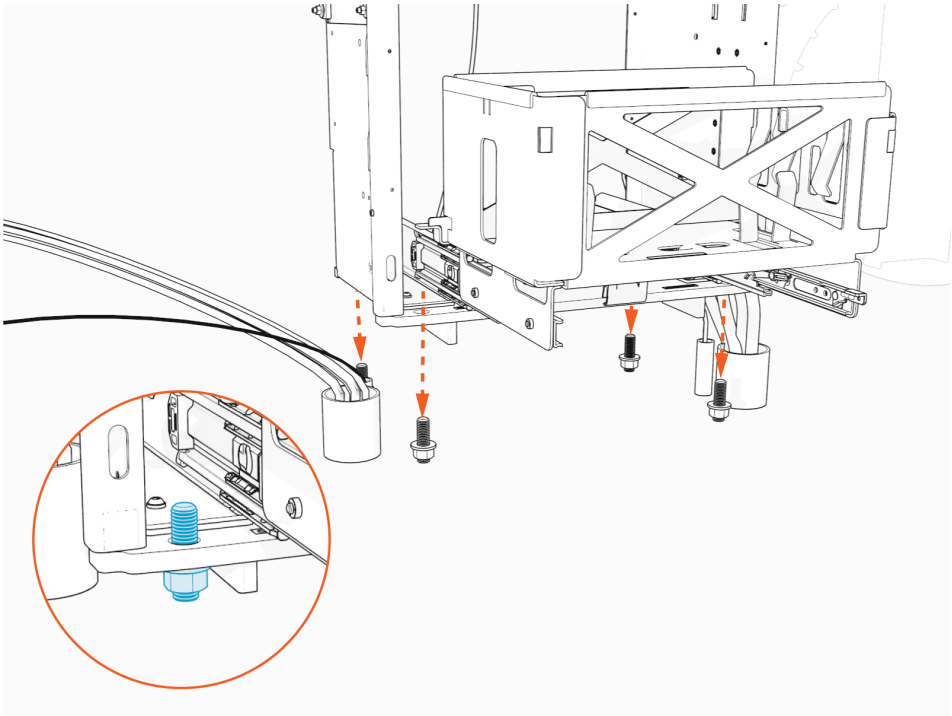
   Move the service wiring out of the way to ensure it is not pinched or trapped.



IMPORTANT:
Ensure the station position is consistent with the site design plans. Refer to the Express 280 Site Design Guidelines for more information.

5. Lower the Express 280 onto the anchor bolts. Do not remove the forklift.

> **NOTE:** The Express 280 should rest on the leveling nuts and washers, not on the rails.

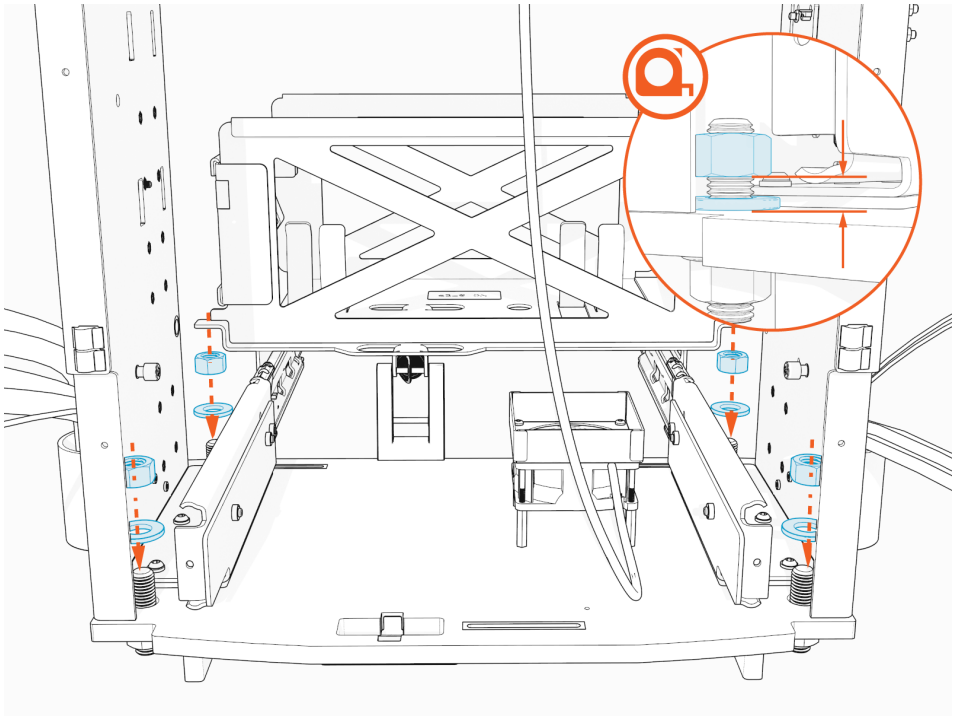


Level and Secure the Station

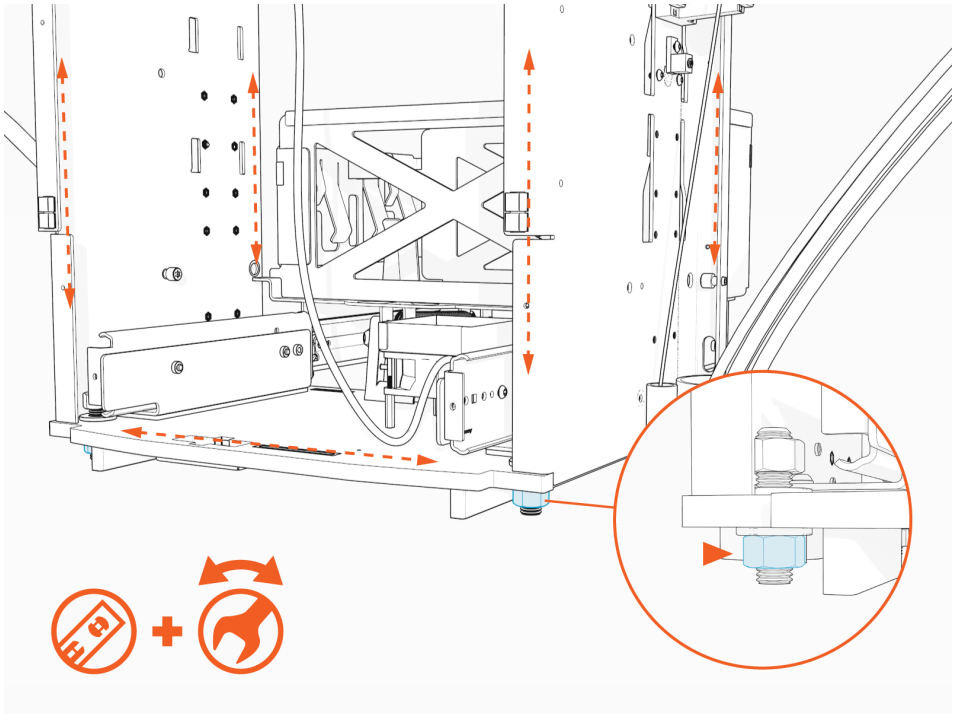
To level and secure the station, configure the following steps:

1. Install a washer and nut onto each of the four mounting bolts.

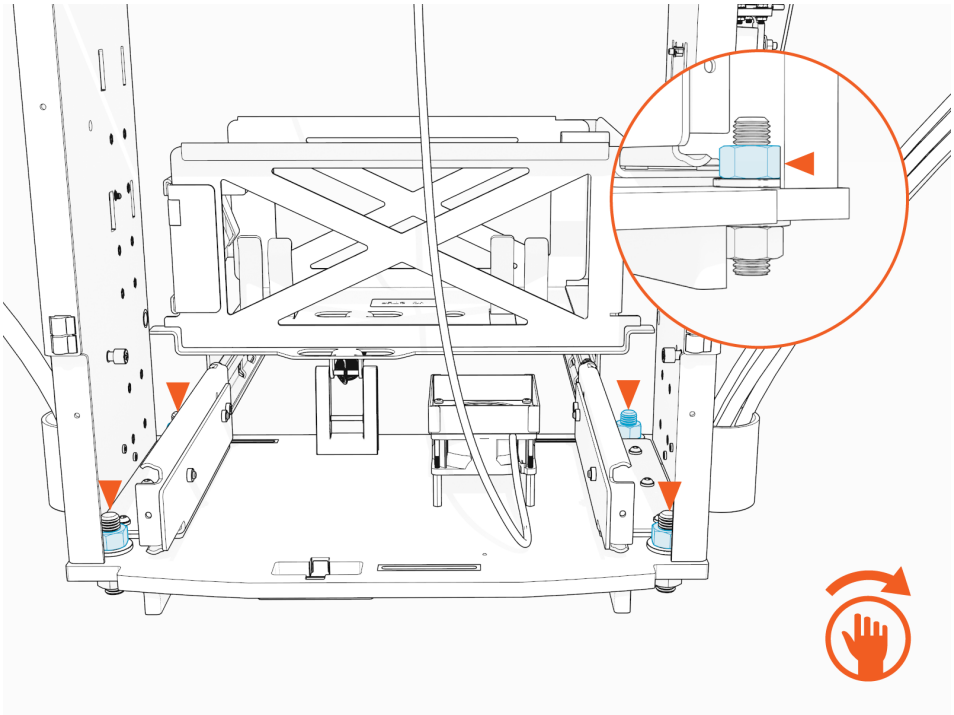
   For easier leveling, leave a 6.4 mm (1/4 in) gap between the bottom of these top nuts and the base plate of the frame.



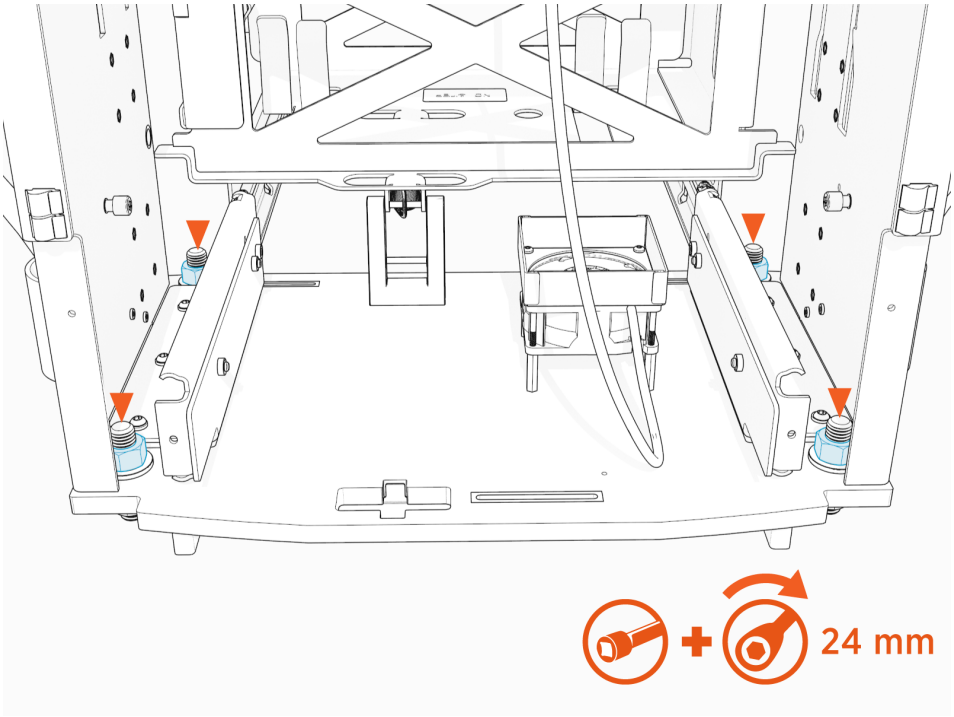
2. Using a level on all four sides, adjust the bottom corner leveling nuts to ensure that the Express 280 is level both horizontally and vertically.



3. When level, tighten top nuts by hand.

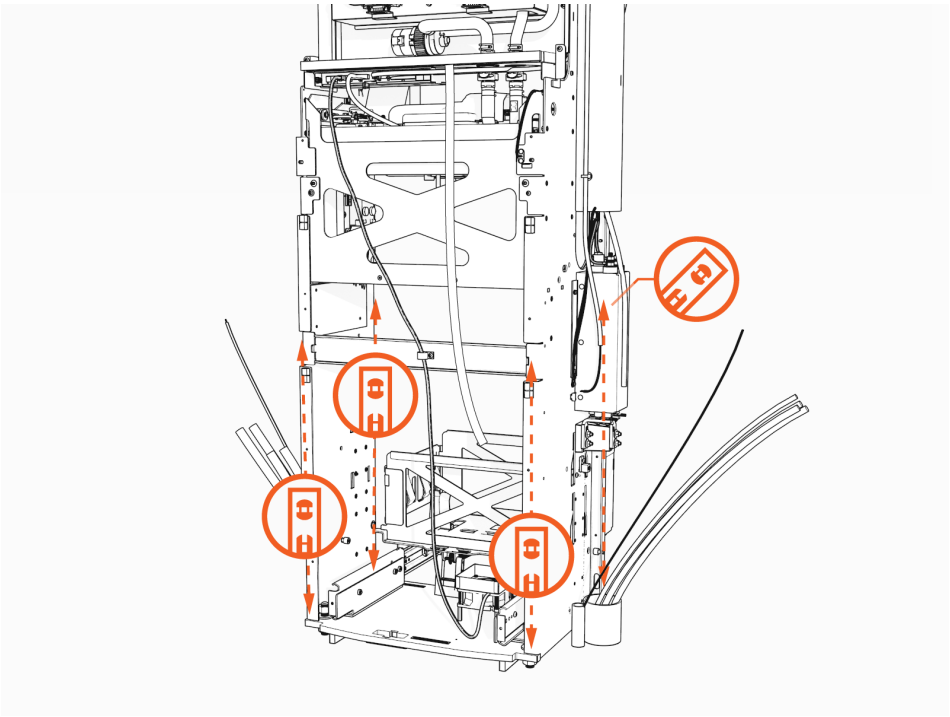


4. Use a 24 mm (15/16 in) socket wrench to **torque all top nuts to 94.9 Nm (70 ft-lb).**

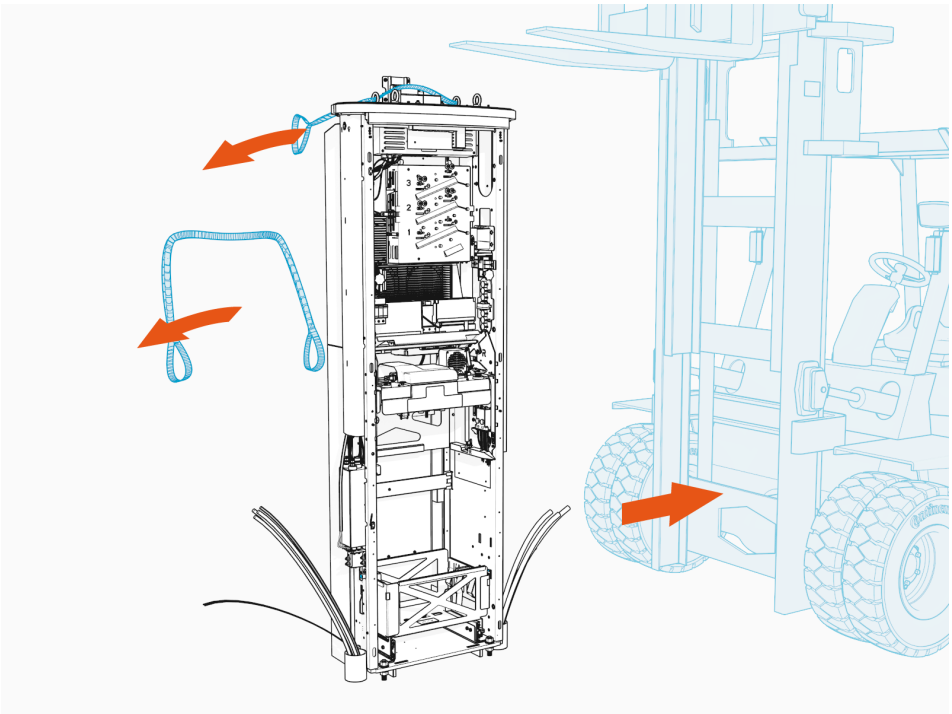


5. Using a level, re-check the vertical and horizontal alignment to ensure the tightening of the nuts did not cause the Express 280 to shift.

   Make any adjustments to ensure the Express 280 is level and all nuts are tightly secured.



6. Remove the lifting straps.



Connect AC Wiring 3

NOTE: If the station is being connected to wiring and a breaker of 100 A, a separate 62.5 kW ratings label must be applied over the existing ratings on the station (below the cable swingarms in the back), to indicate the charging station capacity. Wipe down the surface area with a lint-free cloth and isopropyl alcohol wipes prior to application.

DANGER: RISK OF SHOCK. Before performing any procedure, the technician must disconnect the power to the charging station at the service panel. Follow local code to de-energize the applicable circuit and lock out/tag out the disconnect before proceeding. Use a multimeter and check that the power is off. Keep power off for the circuit until all cover panels are correctly reinstalled and the work is complete. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY, LOSS OF LIFE, OR PROPERTY DAMAGE.

CAUTION:
Ensure a grounding conductor that complies with local codes is properly grounded to earth at service equipment or, when supplied by a separate system, at the supply transformer. Ensure neutral ground bond.

Ensure no bell ends are left on any conduit after all wires are pulled. Bell ends can interfere with station placement.

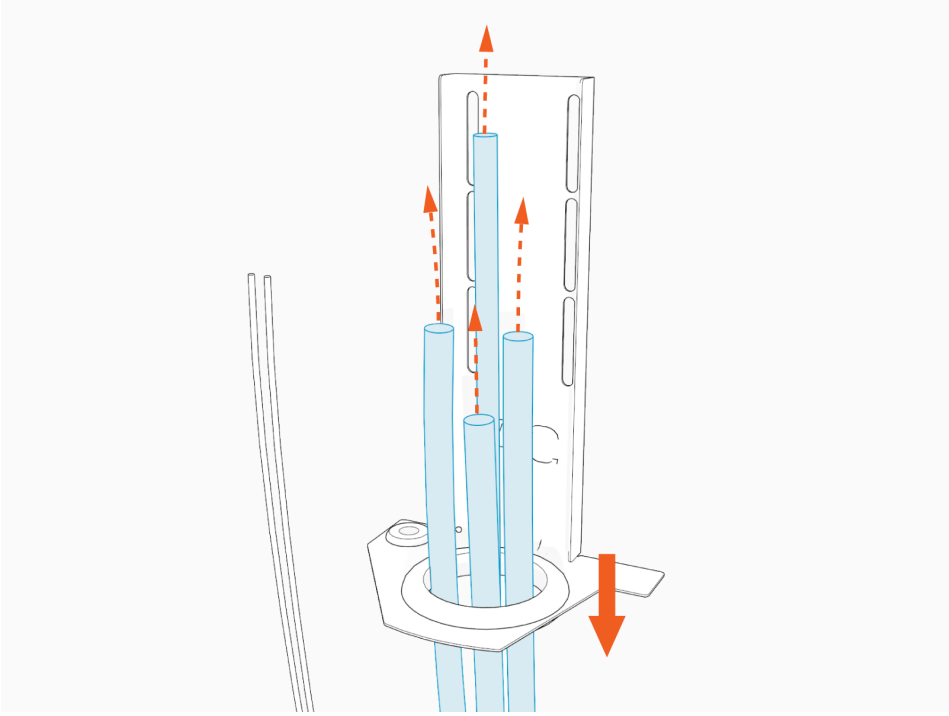
IMPORTANT:
The AC terminal block on the Express 280 accepts a maximum wire size of 55 mm^2 (1/0 AWG) stranded wires. If using a larger gauge wire to accommodate a long run, reduce the wire size at the local external disconnect.

Route Ground Wire and AC Conductors

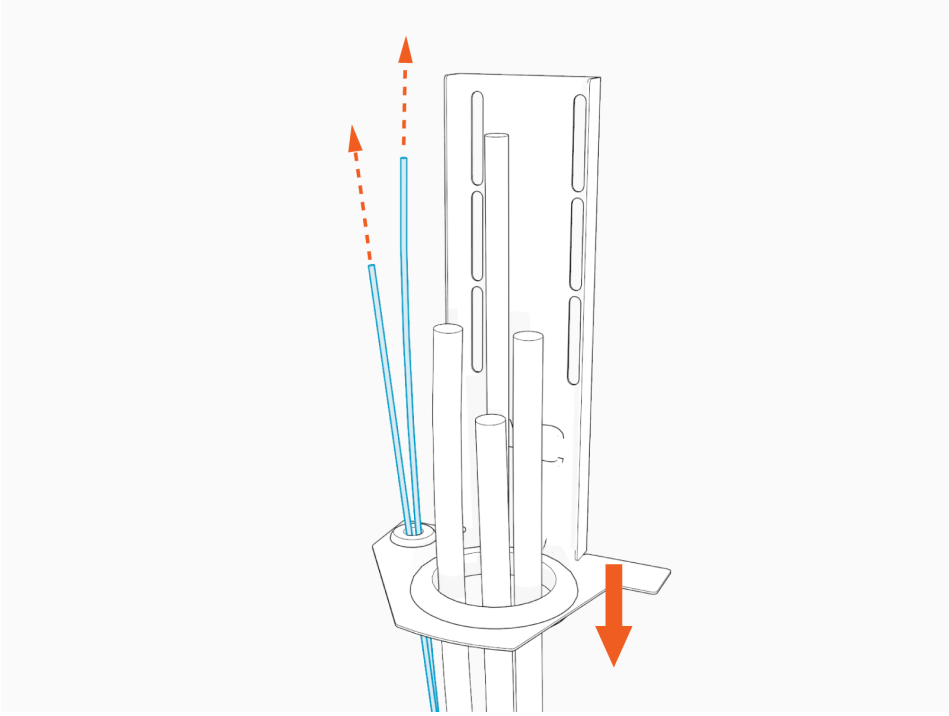
To route ground wire and AC conductors, configure the following:

1. If the installation requires above-ground conduit, visit Surface Conduit Entry Box for steps to install a Surface Conduit Entry (SCE) kit.

2. Route the AC wiring bundle through the larger rodent bracket grommet.

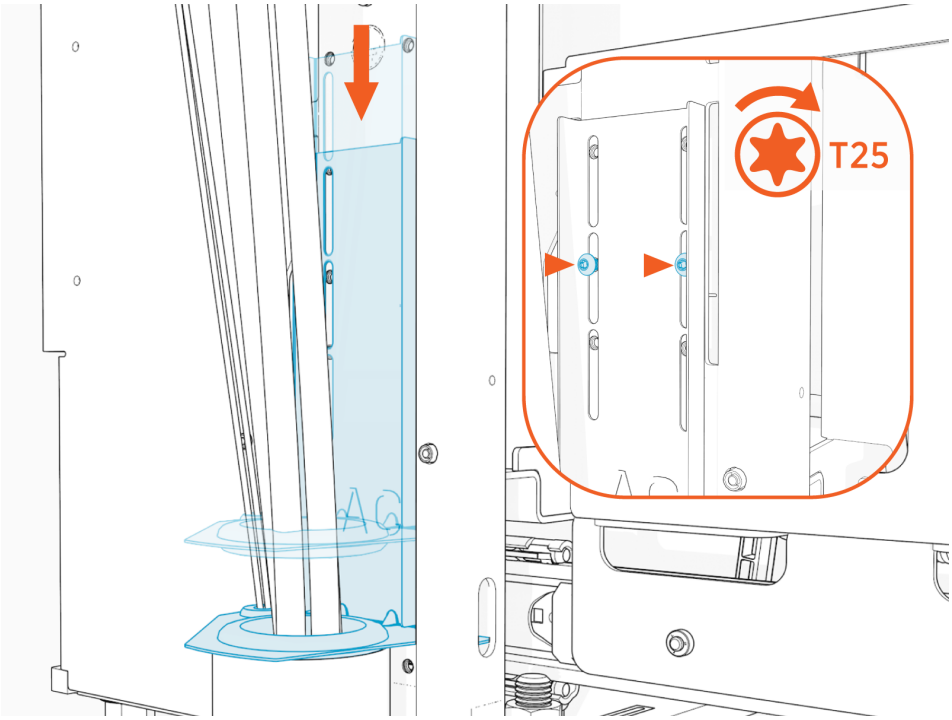


3. Route the shunt trip wiring through the smaller rodent bracket grommet.



4. Align the rodent guard bracket to ensure it rests on the conduit opening.

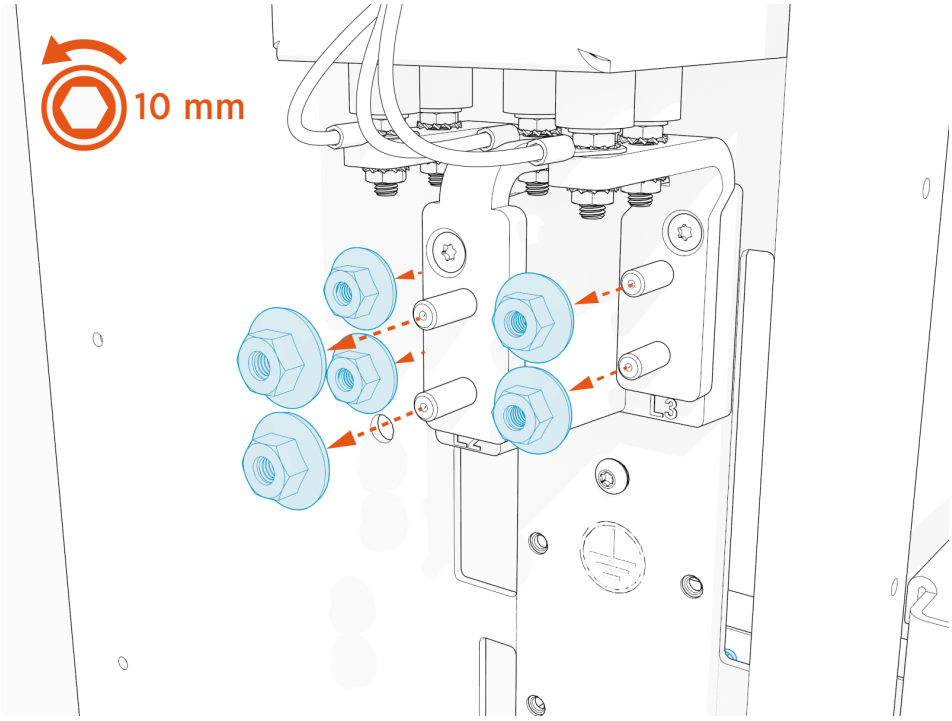
   Use a T25 Torx screwdriver and two screws to secure the rodent guard bracket. **Torque screws to 4.5 Nm (40 in-lb).**



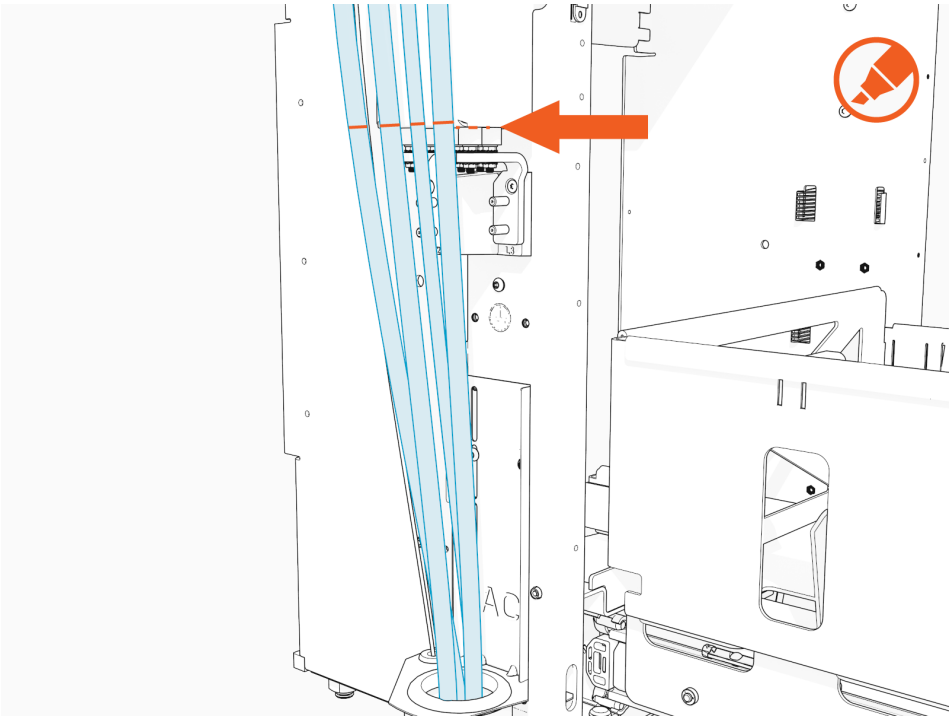
Trim Wires and Connect Ground Wire

To trim wires and connect ground wires, configure the following steps:

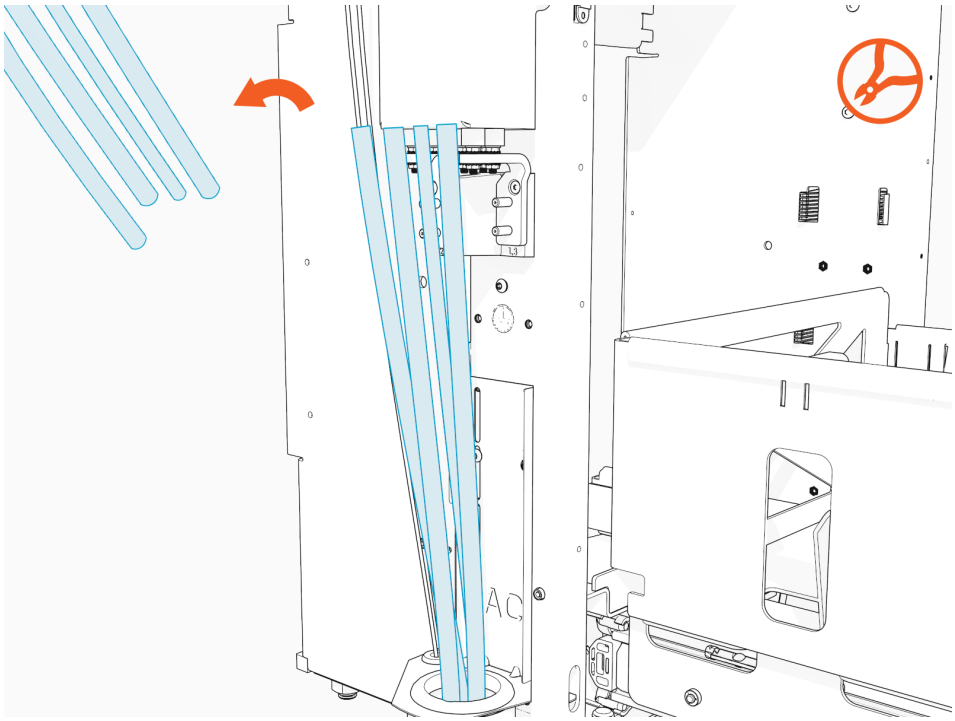
1. Remove the installed nuts from the AC terminal blocks.



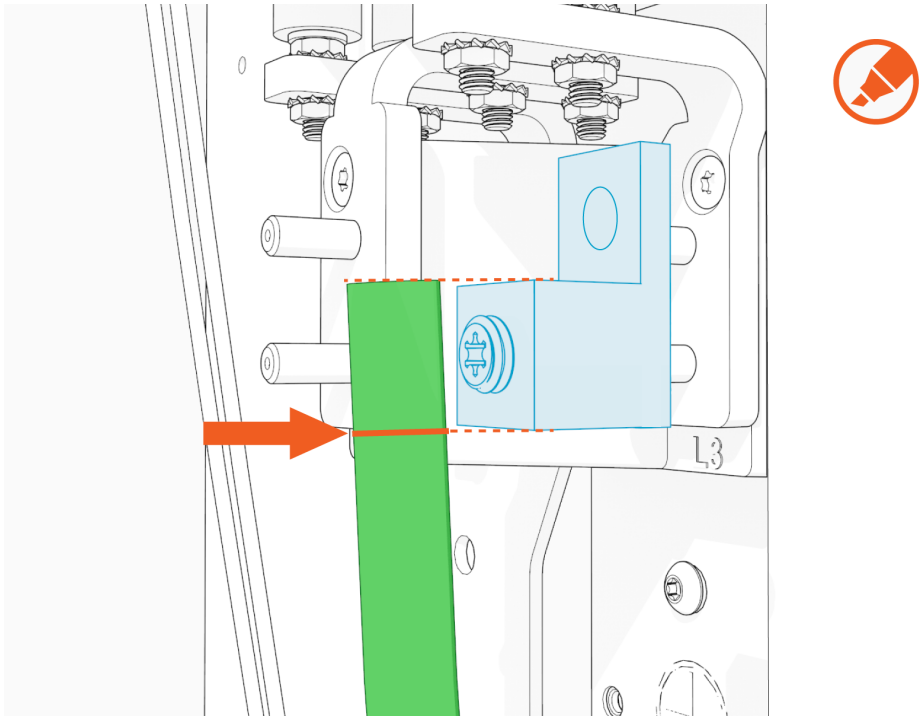
2. Measure and mark the length needed to extend the ground and AC conductors from the conduit opening to the Express 280 terminal blocks.



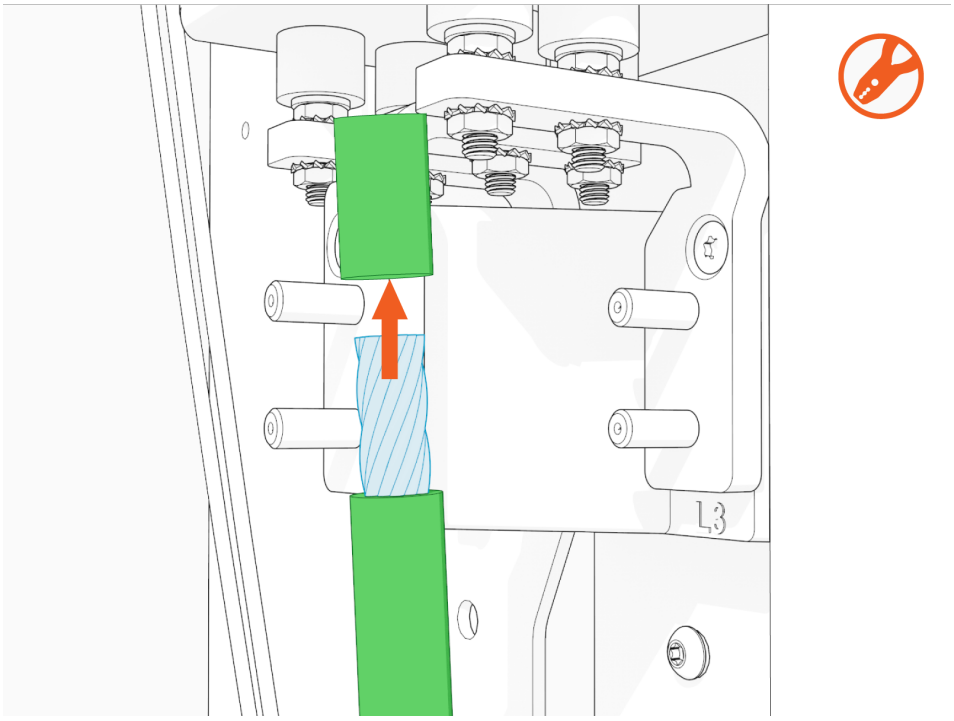
3. Trim the excess wire.



4. Mark the height of the lug on the end of the ground wire.

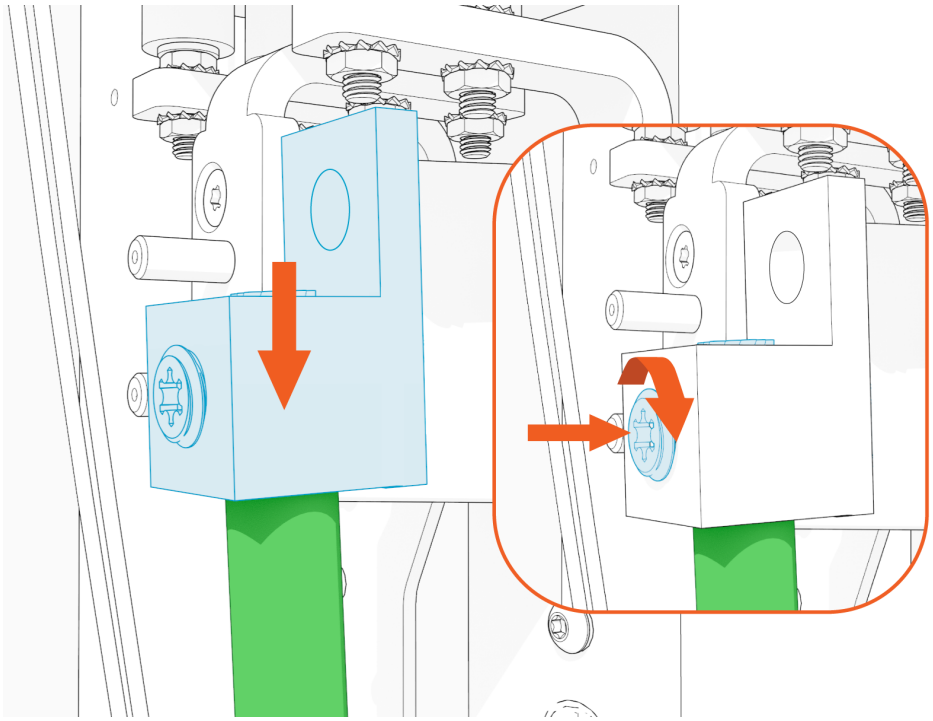


5. Use a wire stripper to remove the outer jacket of the wire to the marked length.

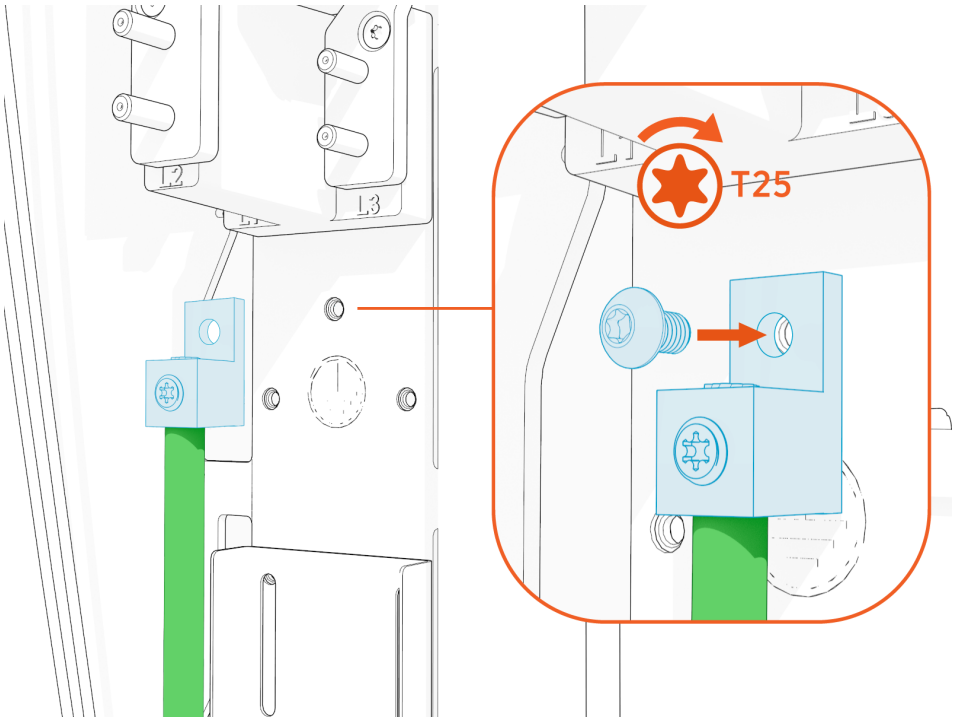


6. Insert the stripped end of the ground wire into the lug.

NOTE: Ground wires do not need to be crimped.



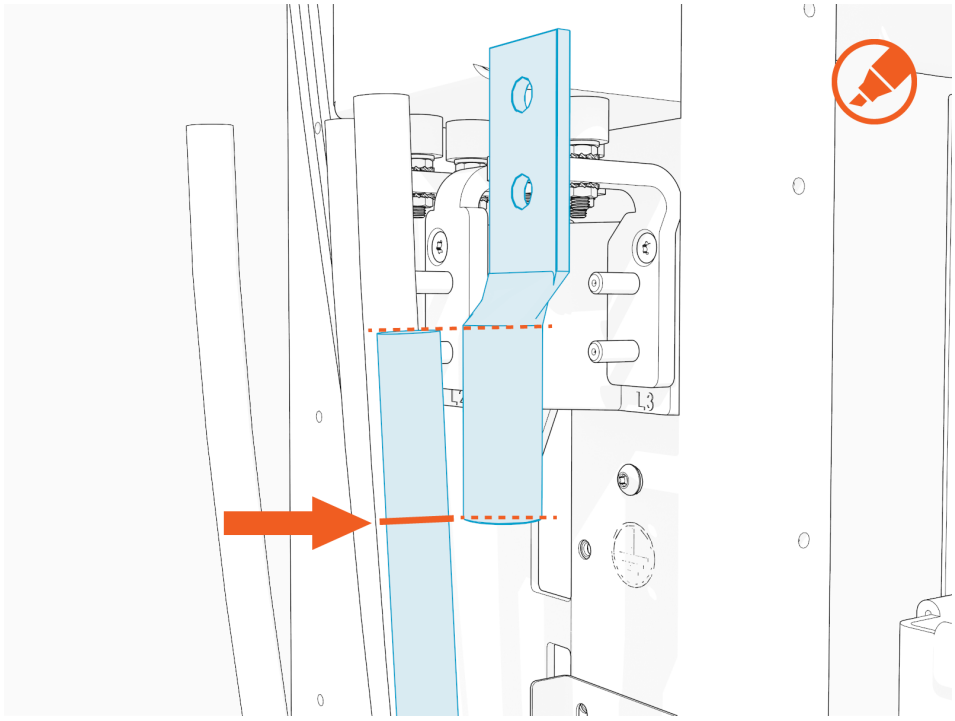
7. Use a T25 Torx screwdriver to mount and secure ground lug to the terminal block.



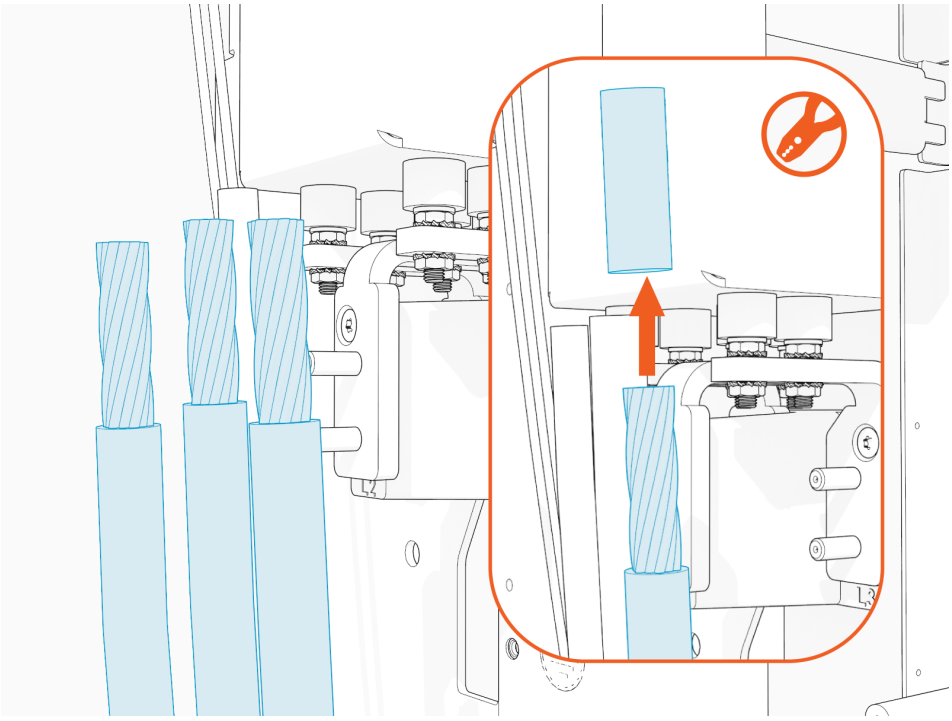
Connect AC Conductors

To connect AC conductors, configure the following steps:

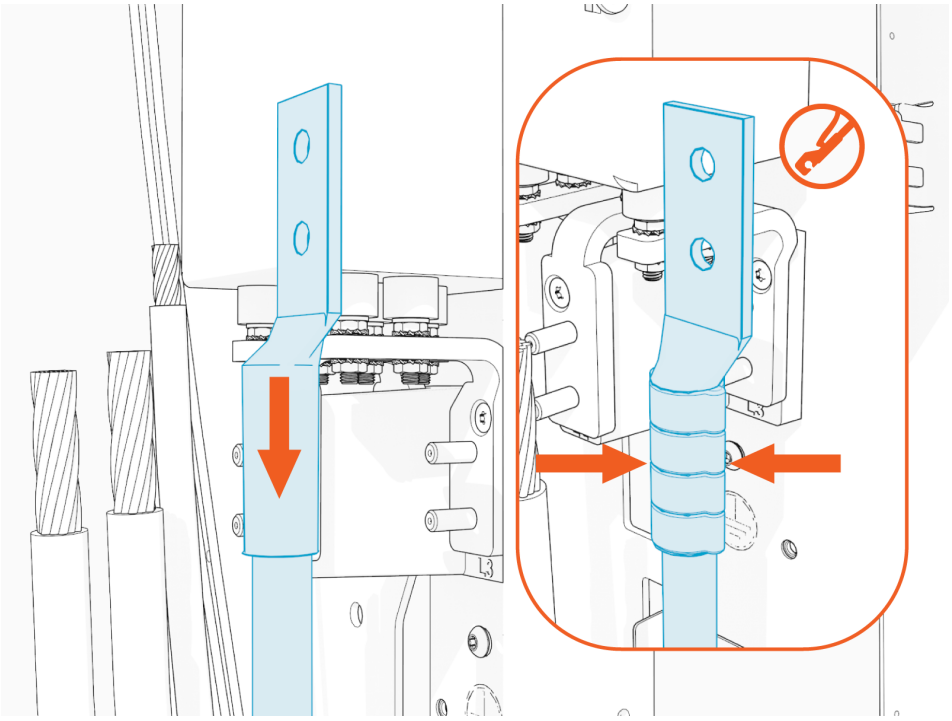
1. Mark the barrel height of the lug on the end of each service wire.



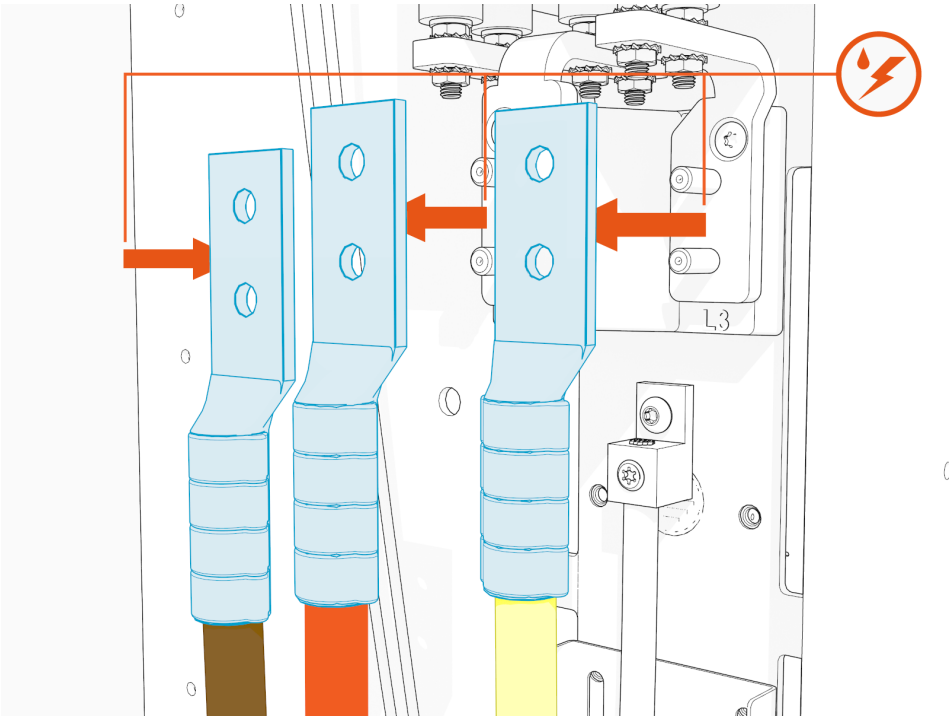
2. Use a wire stripper to strip the jacket on the marked wire.



3. Insert the stripped end of the wire into the lug barrel and crimp the barrel.

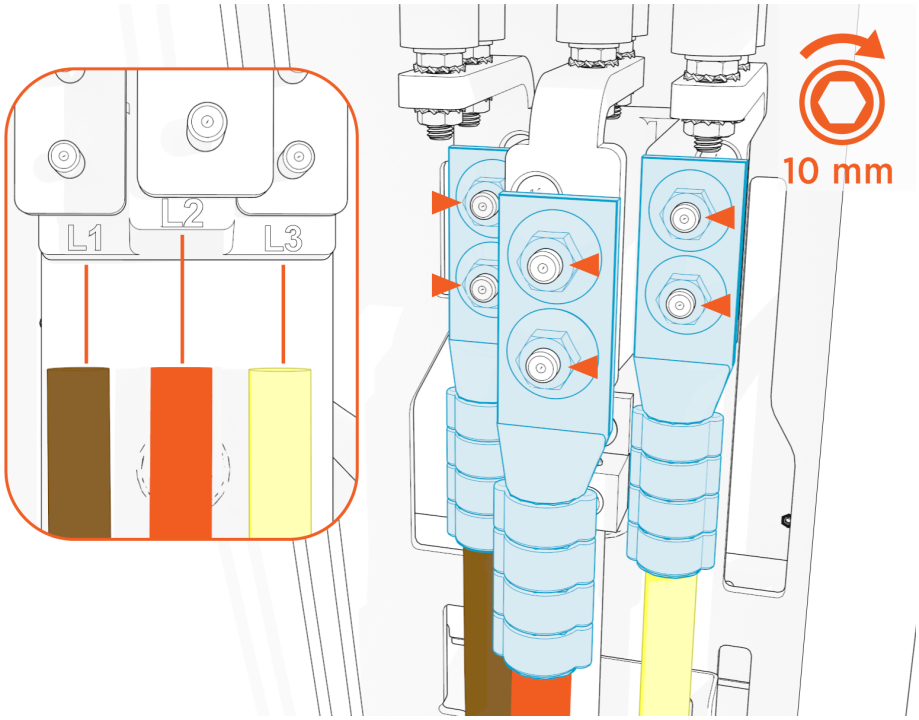


4. Apply dielectric grease to the lug mating surface.



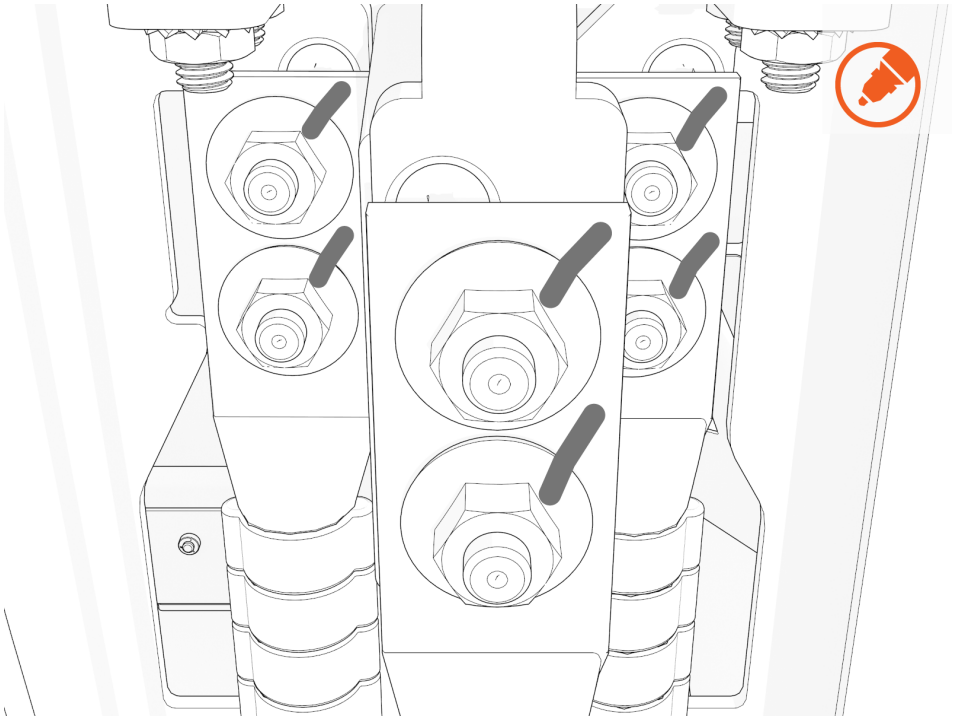
5. Use a 10 mm (3/8 in) socket wrench to mount and secure L1 , L2 , and L3 lugs to the terminal block. **Torque conductor nuts to 5.6 Nm (50 in-lb).**

> **IMPORTANT:**
> Do not use impact torque drivers.

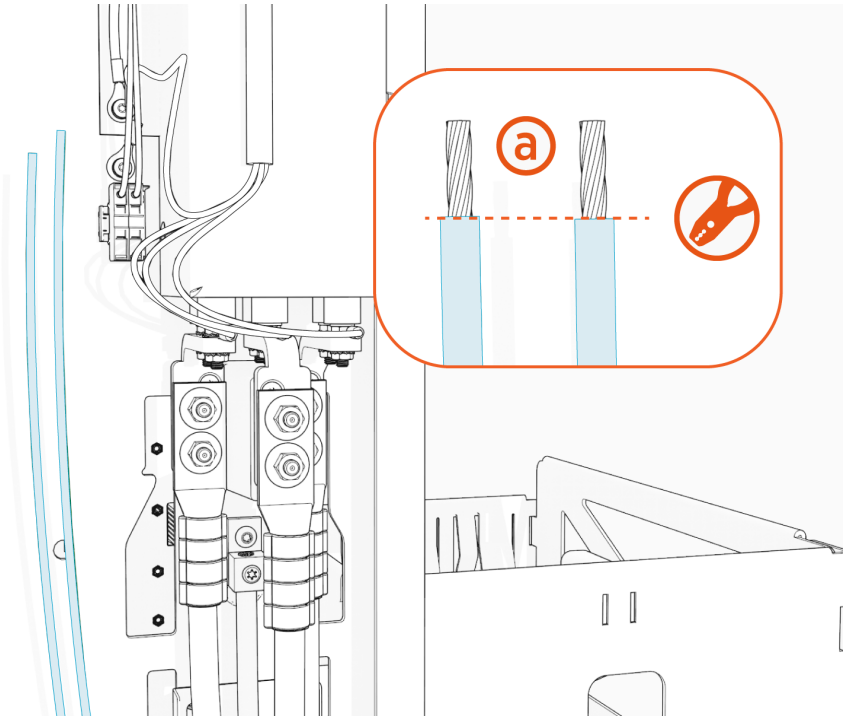


6. Ensure that terminal fasteners are torqued correctly.

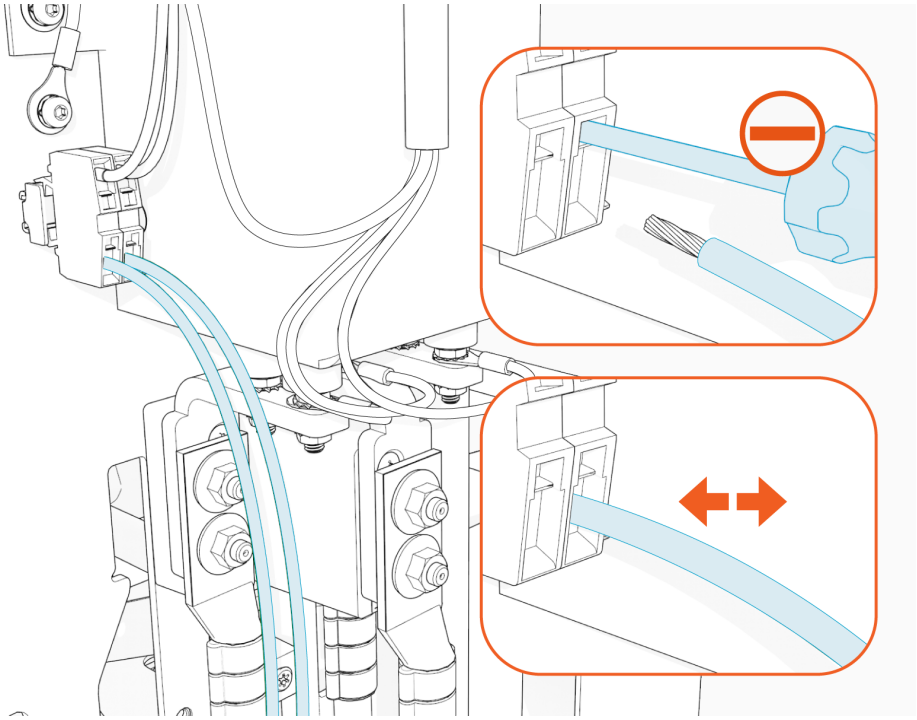
7. Mark all torqued terminal fasteners.



8. Use a wire stripper to remove 8 mm (5/16 in) the outer jacket **(a)** of the shunt trip wire.



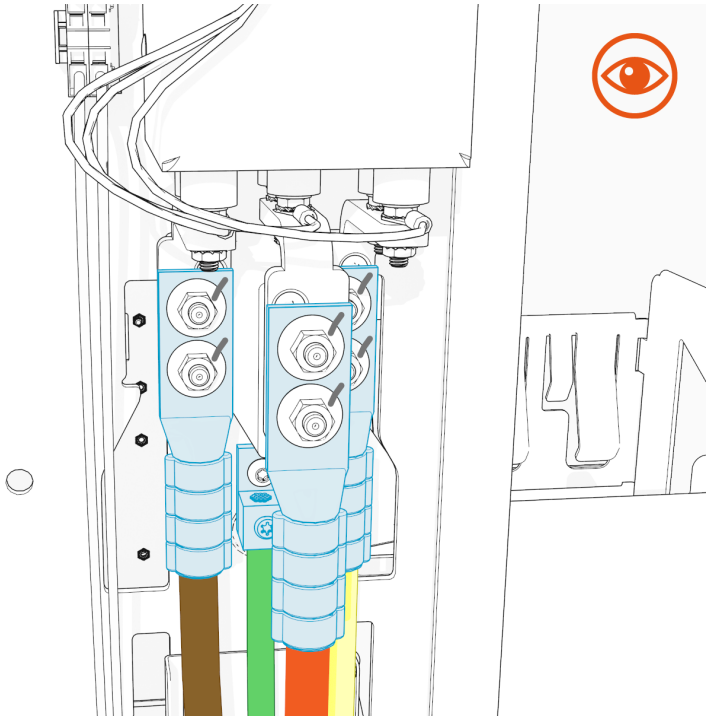
9. Insert the shunt trip wires.
    a. Insert a small (SL4) flat-blade screwdriver into the upper slot on each of the two shunt trip terminals above the AC terminal block.
    b. Insert the shunt trip wire from the smaller conduit into the lower slot. Shunt wires are interchangeable.
    c. Remove the screwdriver.
    d. Insert the second shunt trip wire.
    e. Perform a pull-push test to confirm the wires are secure.



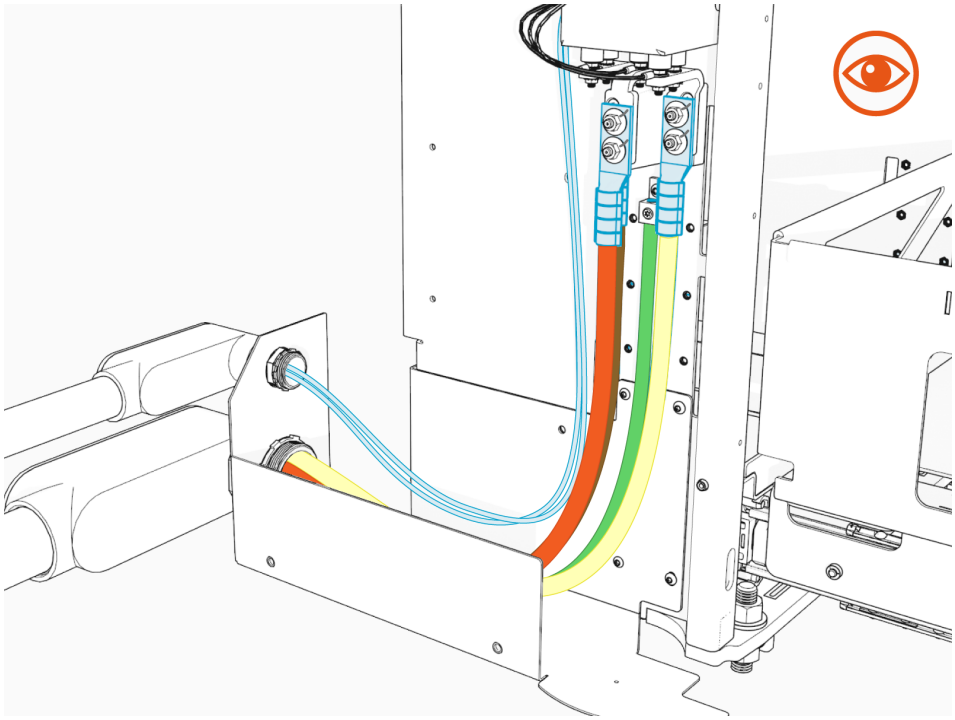
10. Use cable ties to bundle shunt trip and Ethernet wires together.

11. Use a multimeter and ensure no continuity exists between terminals.

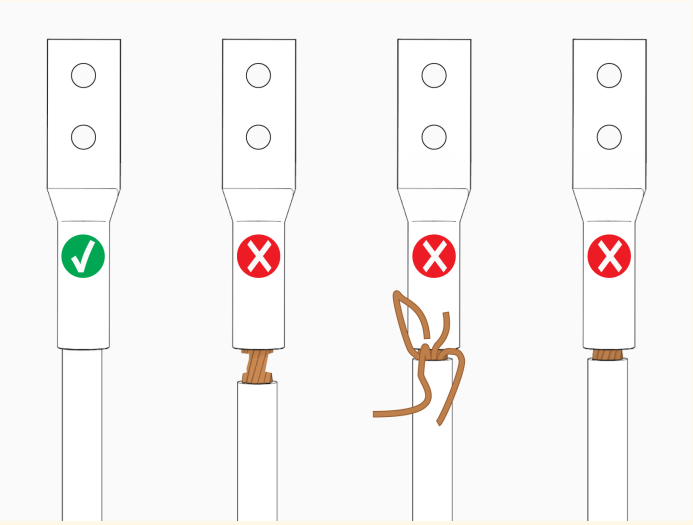
Ground Conduit Entry



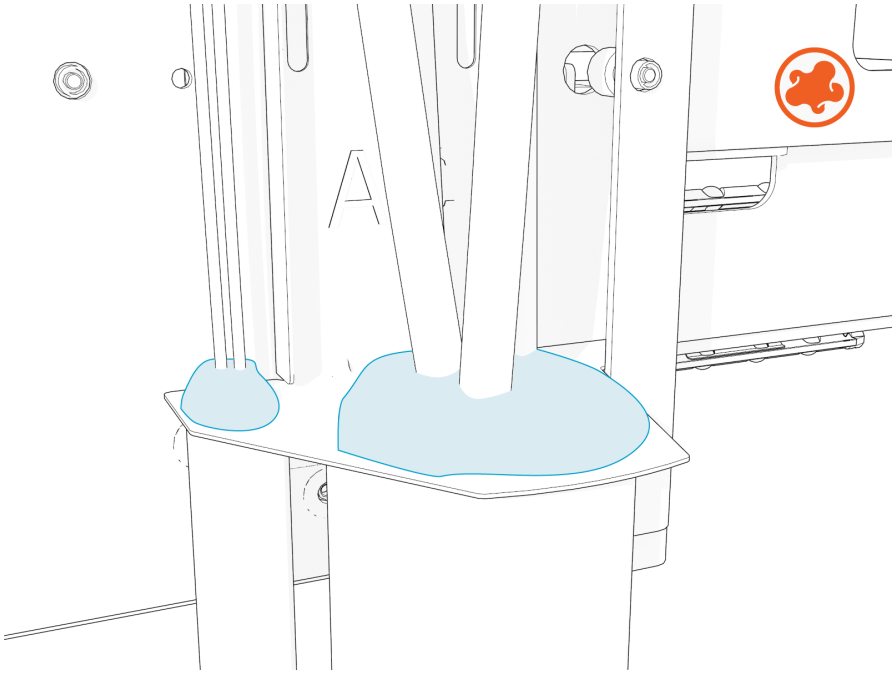
Surface Conduit Entry



IMPORTANT: You should not see any copper wire outside the terminal block.



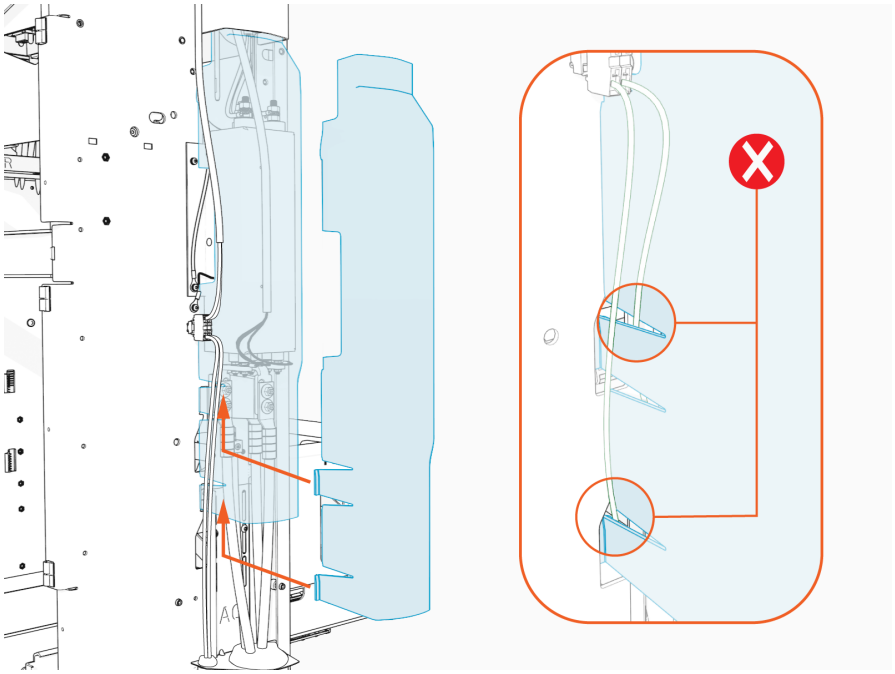
12. Use the supplied duct seal compound to completely seal the following AC openings against pest ingress:
    - The inside of the conduit opening
    - Within the rodent guard bracket openings for wiring
    - Around the edges of the rodent guard bracket where it will meet the side panel



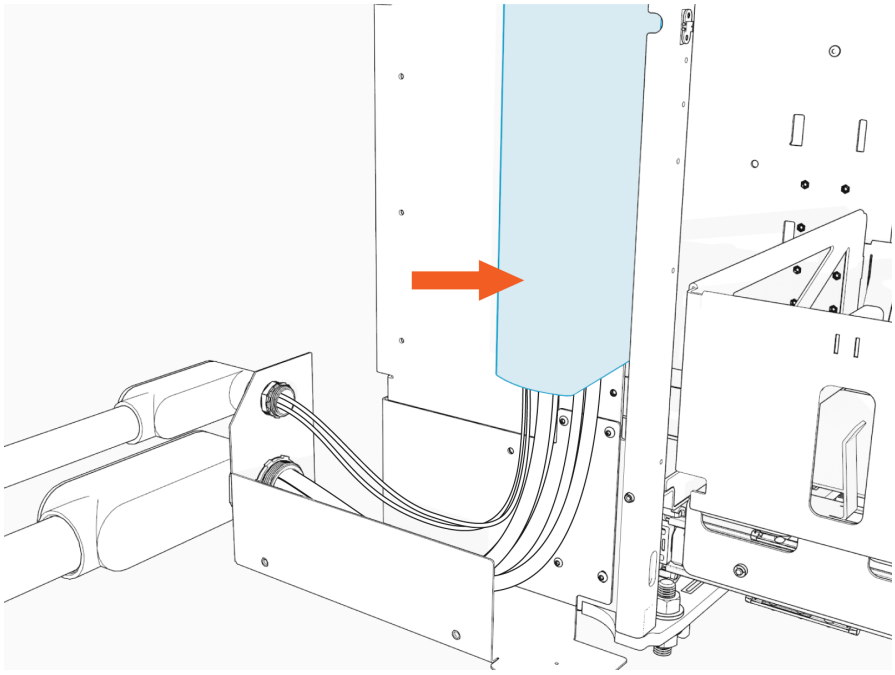
IMPORTANT:
The conduit opening must be sealed to protect the wiring from the environment.

13. Install the AC wire cover.
    a. Squeeze the sides of the wiring cover and guide the tabs into the slots on the station.
    b. Slide the wiring cover up until it snaps into place. Ensure no wires get pinched.

Ground Conduit Entry



Surface Conduit Entry



Pair Express 280 Charging Stations 4

This section describes the steps needed to connect the DC conductors, connect Ethernet communication, and install labels.

IMPORTANT:
If the Express 280 is being installed as a Standalone station, skip this section and continue to Install Side Panels, Power Modules, and the Touchscreen.

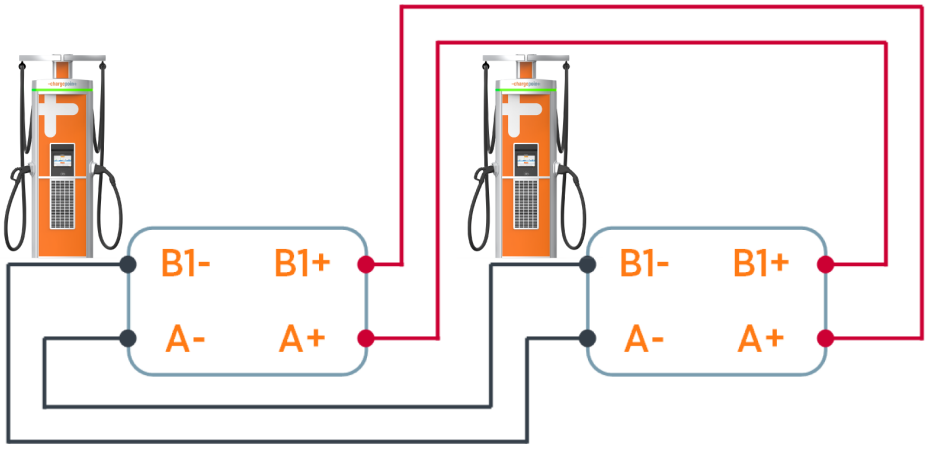
Route DC Conductors

The wiring on the DC side (the right side of the charging station) is only connected for Paired installations. Do not connect this wiring for Standalone installations. To route DC conductors, configure the following steps:

DANGER:
RISK OF SHOCK. Leave the power disconnected at the service panel to BOTH Express 280 charging stations to be paired. Keep power off for both circuits until all cover panels are correctly installed and the work scope is completed. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR LOSS OF LIFE.

IMPORTANT:
DC terminal blocks on the Express 280 can accept a maximum wire size of 300 kcmil. Check site plans and local code for site-specific requirements.

1. Label each end of each DC conductor to aid installation as follows:
    - Station 1 A+ (output) on one end and Station 2 B1+ (input) on the other end
    - Station 1 A- (output) on one end and Station 2 B1- (input) on the other end
    - Station 1 B1+ (input) on one end and Station 2 A+ (output) on the other end
    - Station 1 B1- (input) on one end and Station 2 A- (output) on the other end

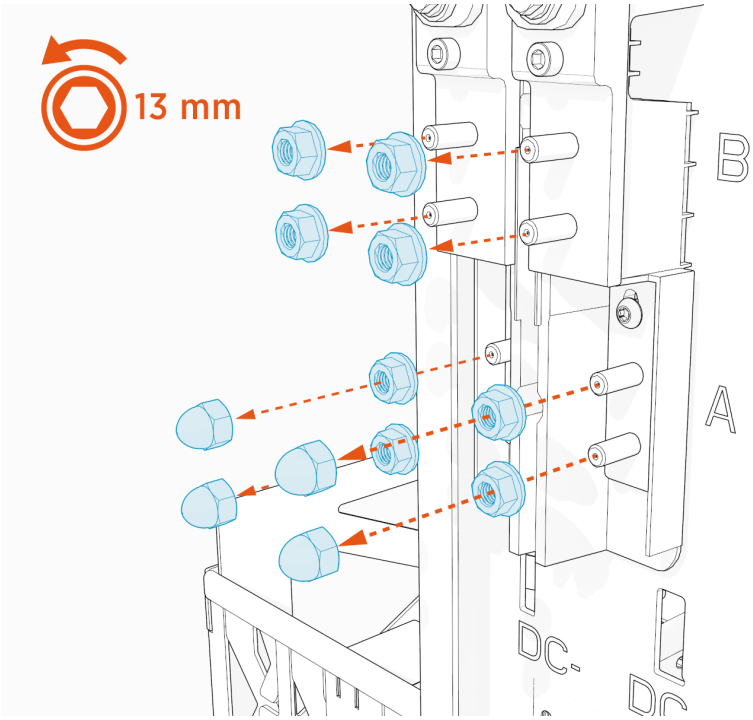


IMPORTANT:
Be sure to connect positive to positive, and negative to negative, on the same wire. Do not reverse the polarity.

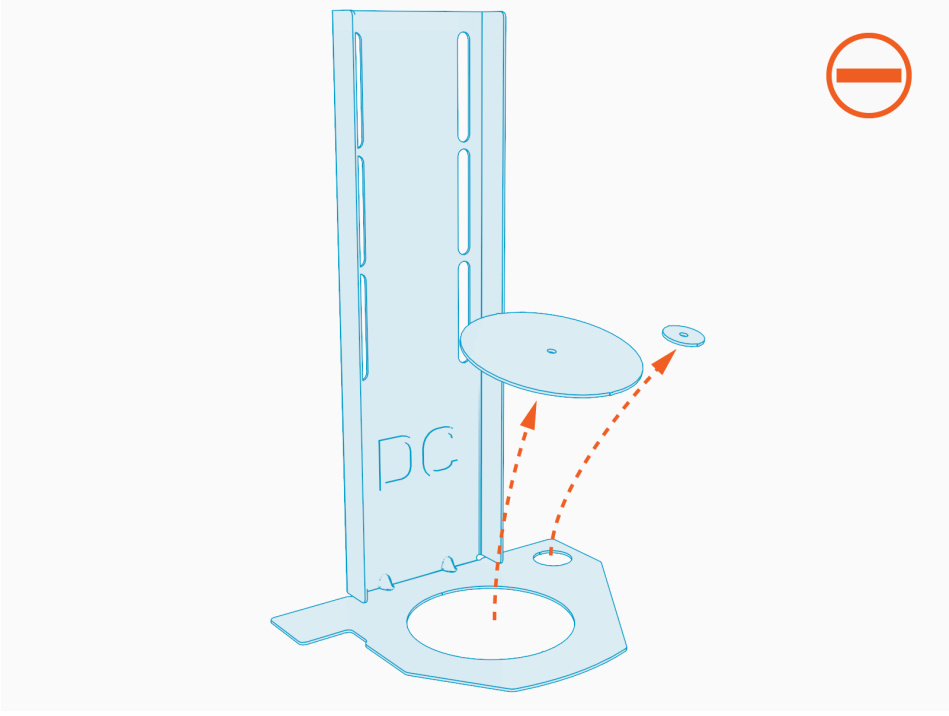
2. Use the multimeter and toner attachment to test each DC conductor for continuity. If any errors are found, adjust the conductor labels.

IMPORTANT:
If the installation requires above-ground conduit, visit Surface Conduit Entry Box for steps to install a Surface Conduit Entry (SCE) kit.

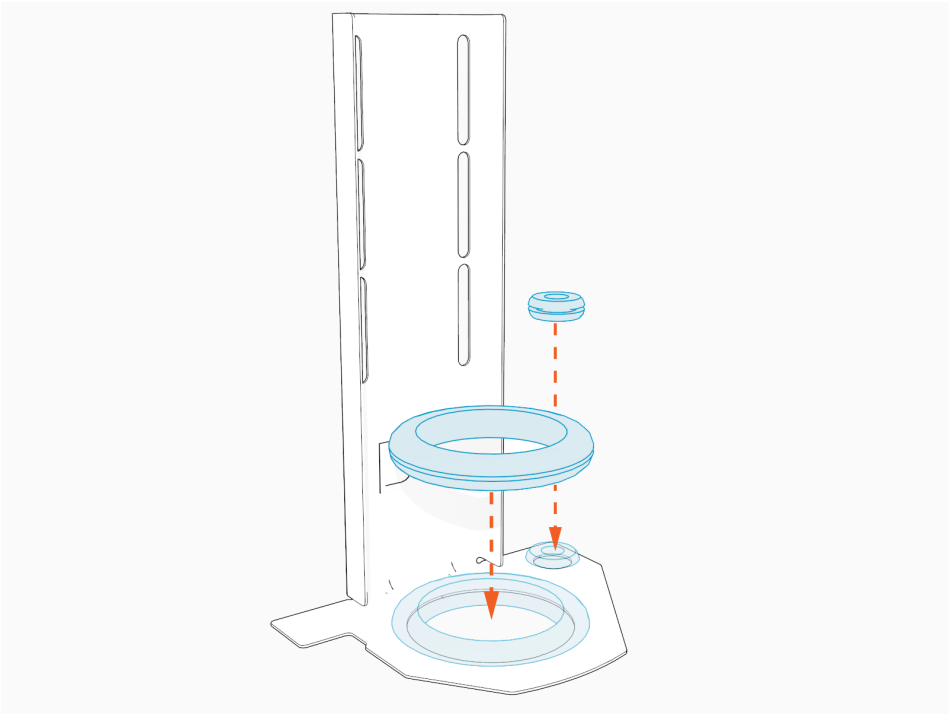
3. Remove the installed nuts from the DC A and B terminal blocks.



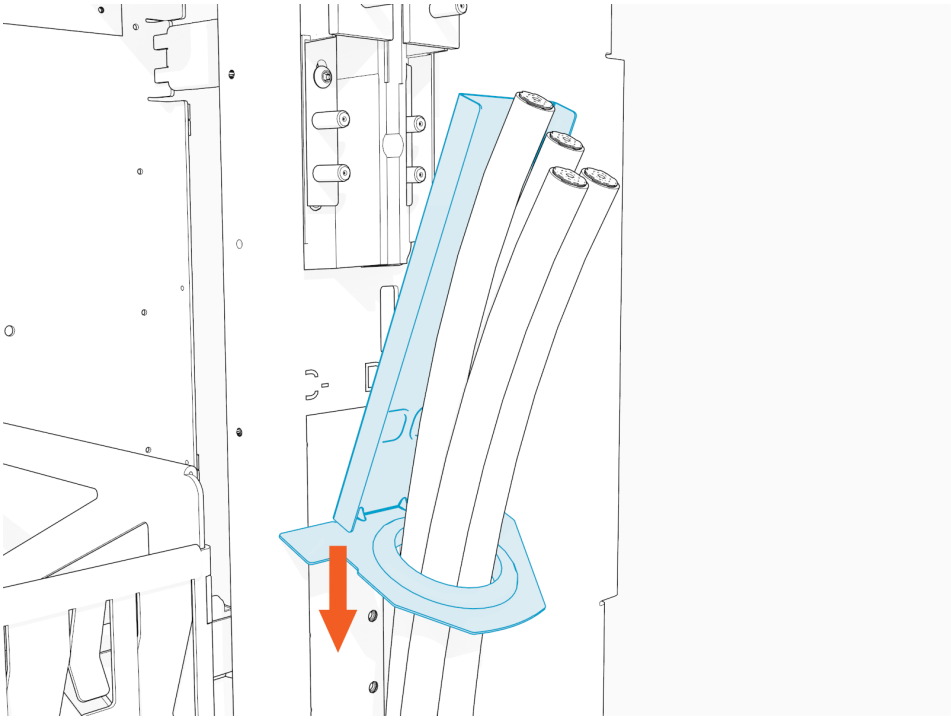
4. Use a flat head screwdriver to push out both punch-out discs in each DC rodent guard bracket.



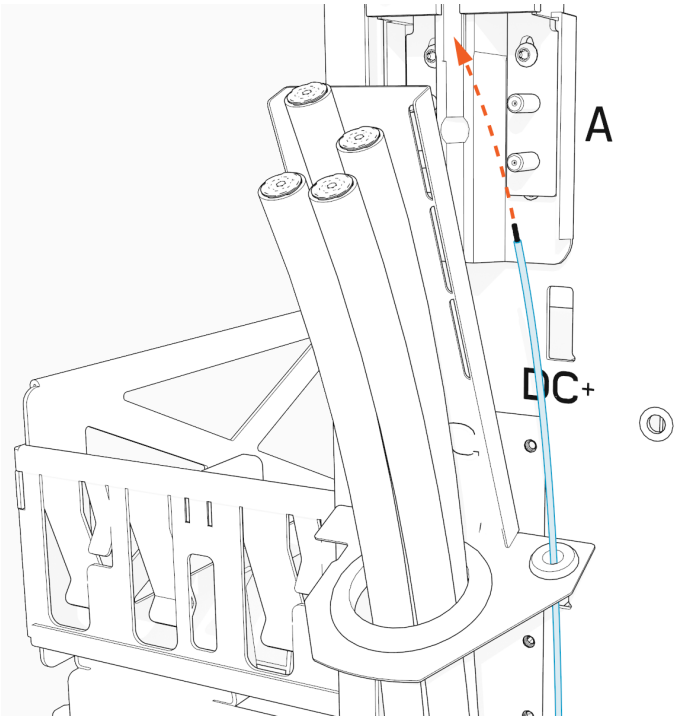
5. Install the grommets (included) into both bracket holes. Grommets protect wiring from the edges of the metal bracket.



6. Route the DC wiring bundle through the larger rodent bracket grommet.



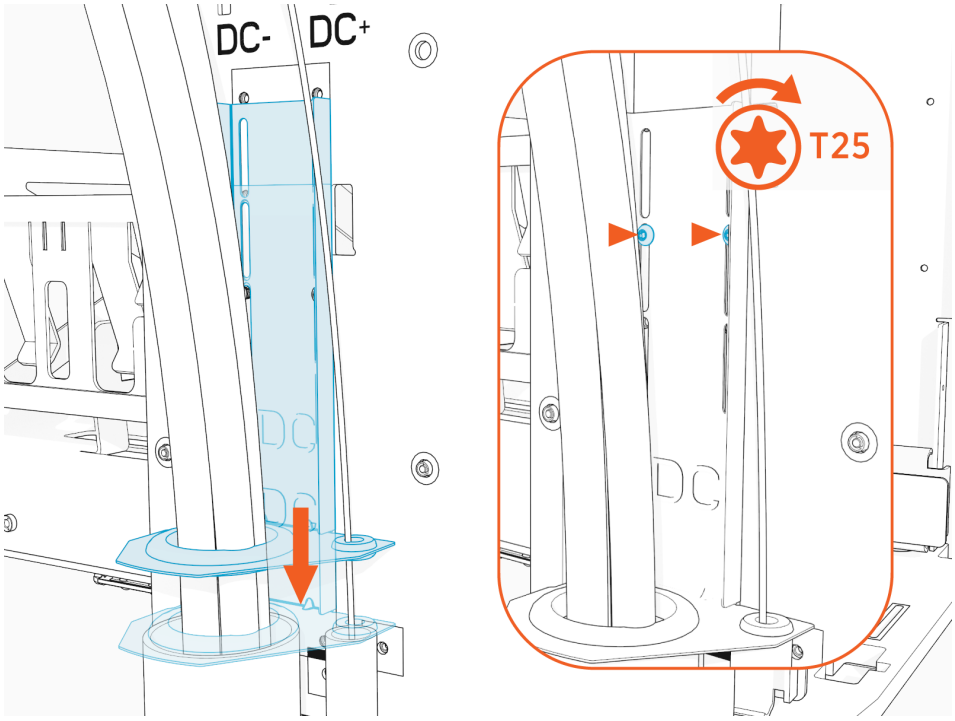
7. Route the Ethernet wire through the smaller rodent bracket grommet.



IMPORTANT:
Begin cutting, crimping lugs, and landing the DC conductors on one station only as described below, then cut and crimp lugs for the other station. Trimming and crimping for lugs on both sides at once can create misalignment from wire movement within the conduit.

8. Align the rodent guard bracket to ensure it rests on the conduit opening.

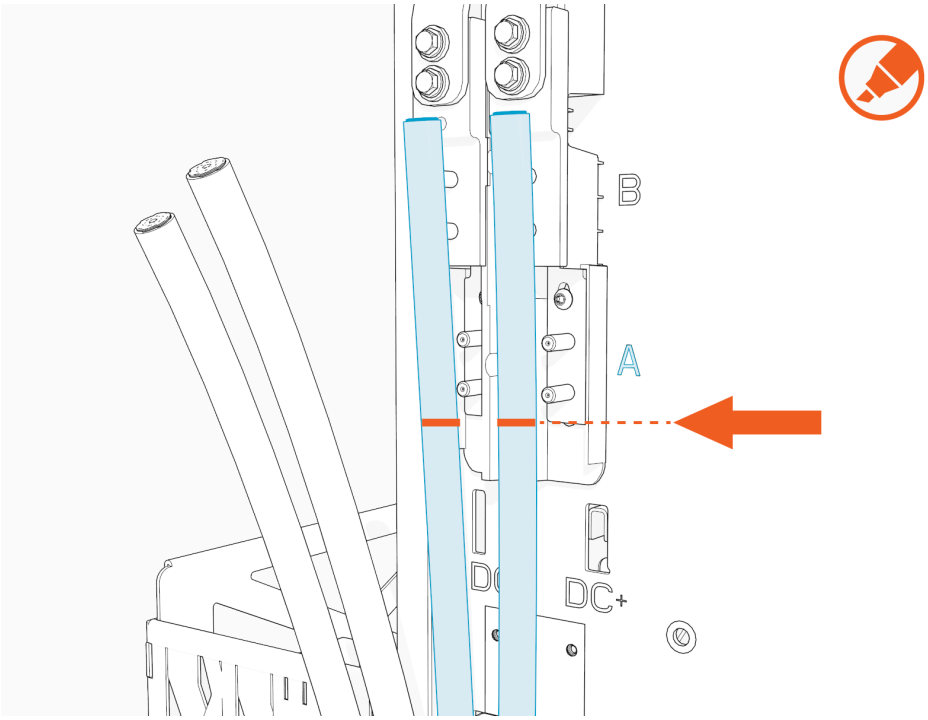
   Use a T25 Torx screwdriver and two screws to secure the rodent guard bracket. **Torque screws to 4.5 Nm (40 in lbs).**



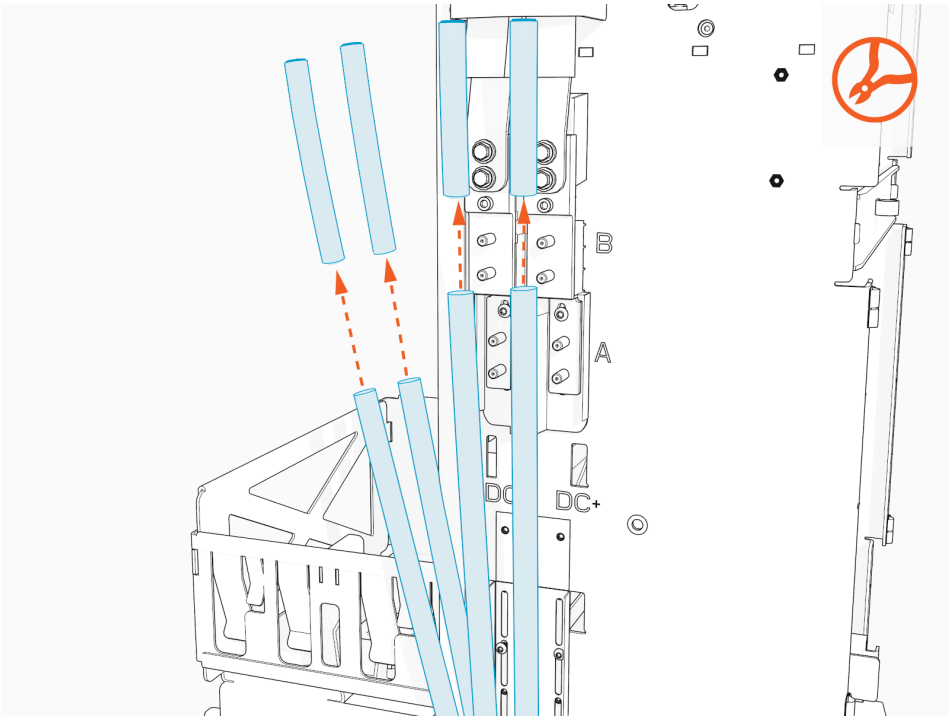
Connect the DC Conductors

To connect the DC conductors, configure the following steps:

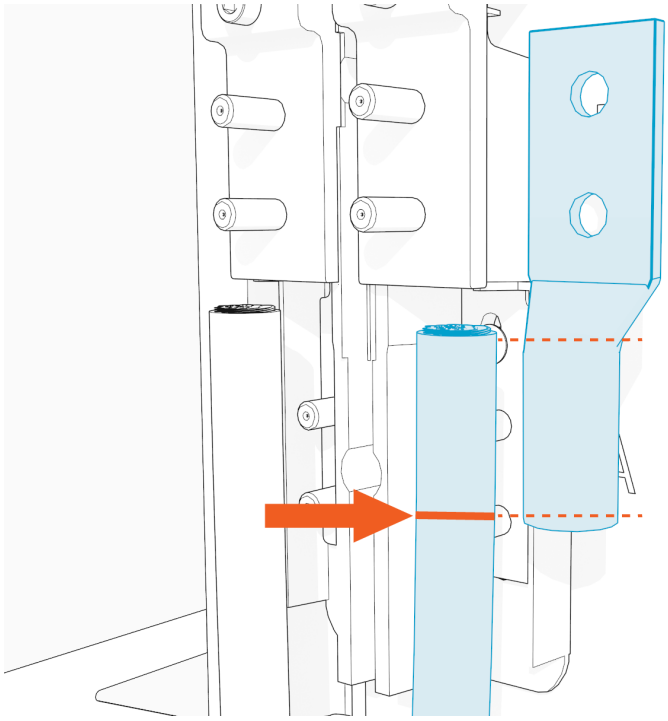
1. Measure the height of the A (output) and B1 (input) terminals.



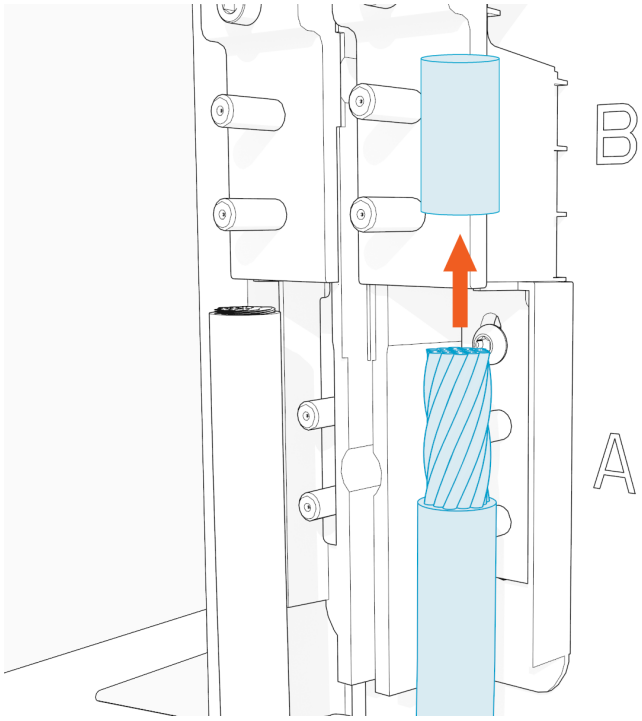
2. Trim the corresponding conductors to length.



3. Mark the barrel height of the lug on the end of the each conductor.

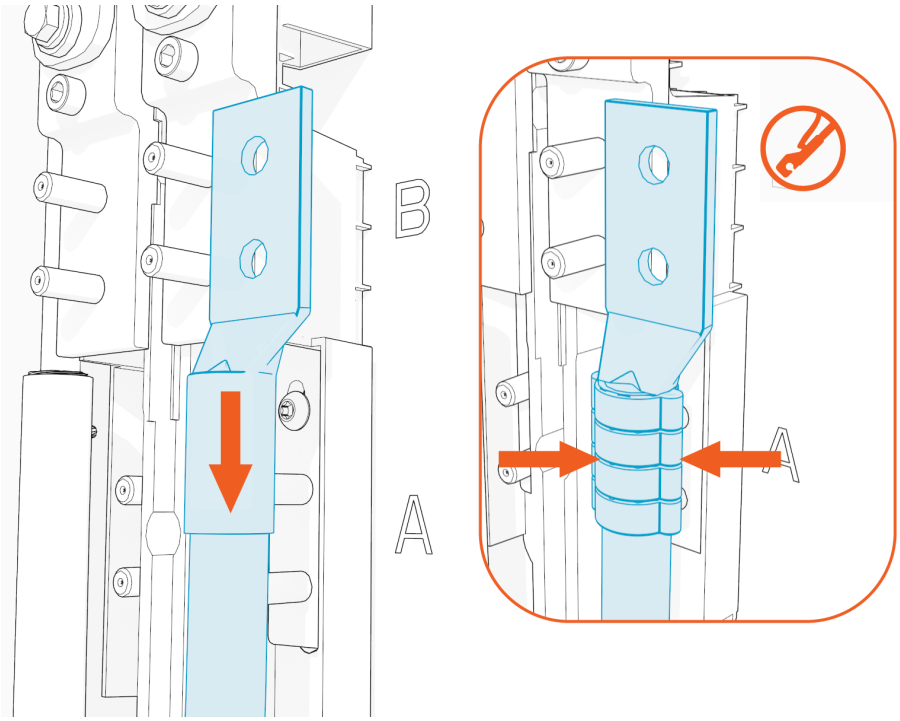


4. Use appropriate tools to remove insulation from each marked large conductor.



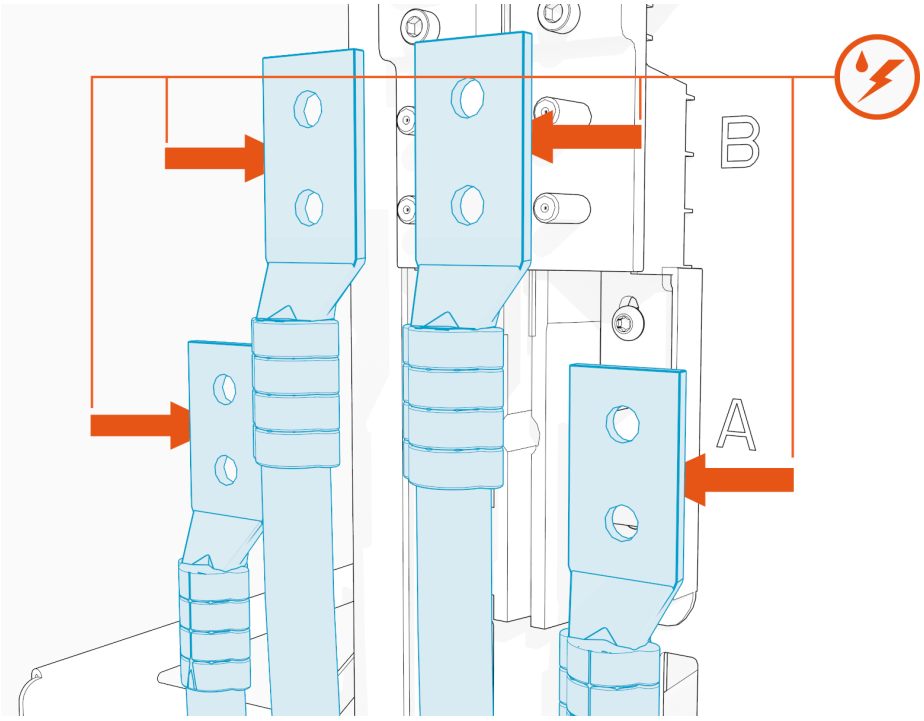
5. Insert the stripped end of the DC conductor into the compression lug barrel and crimp it.

   Ensure the lug specifications meet the requirements noted in Bring Tools and Materials. Use the directions found with the crimp tool.

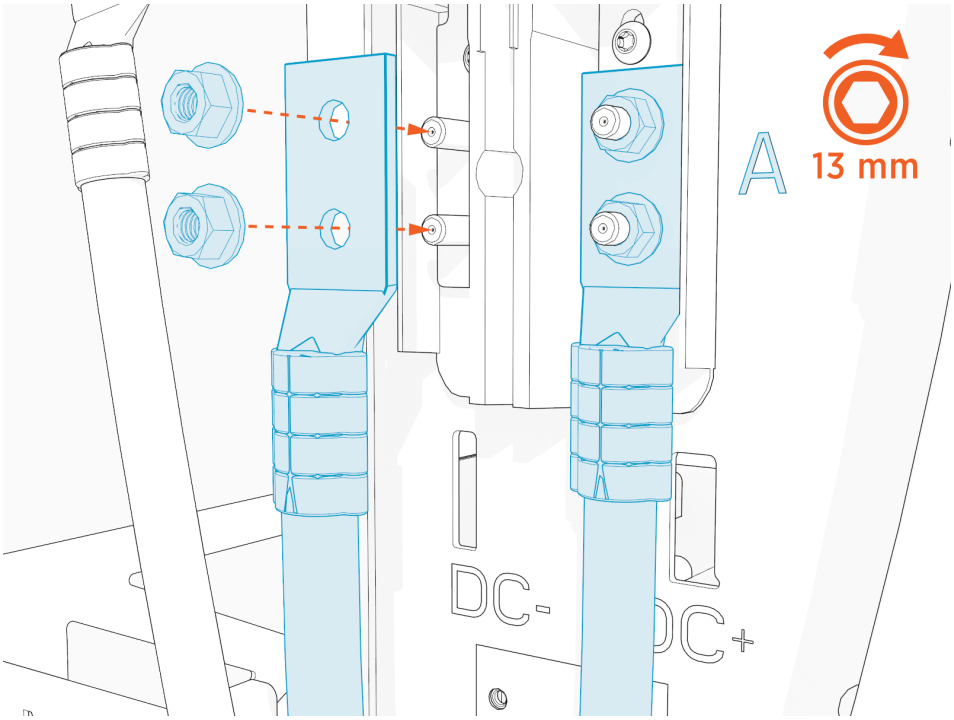


6. If recommended by the wire manufacturer or local code, apply an anti-oxidant joint compound to the stripped wire material to make a gas-tight joint with the lug.

7. Apply a thin coating of the specified dielectric grease on each lug.

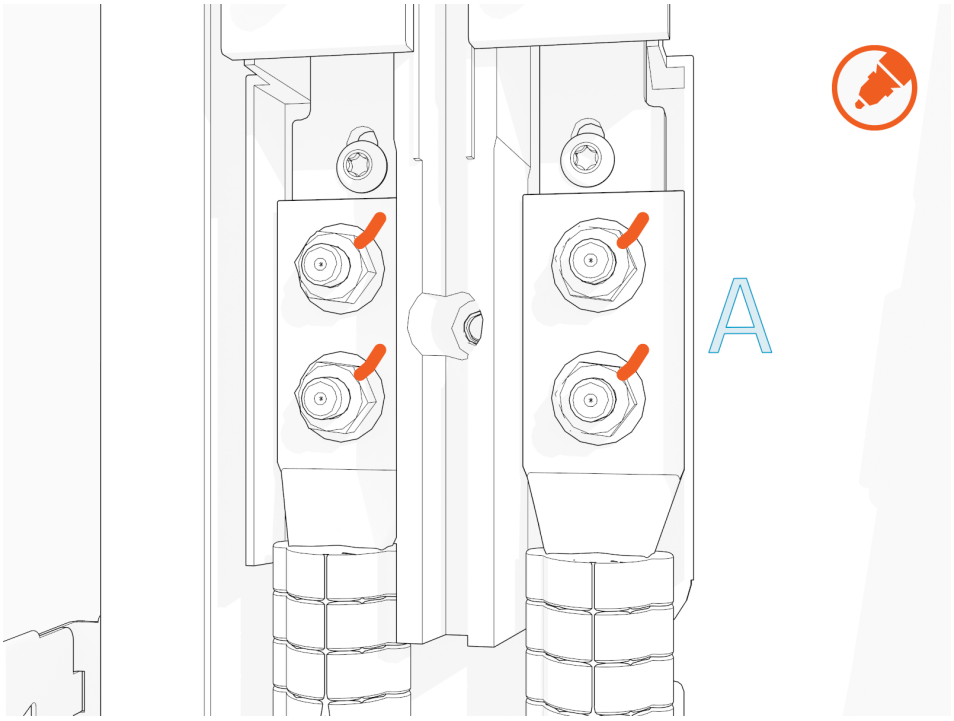


8. Use a 13 mm (3/8 in) socket wrench to mount and secure the A lugs on the lower terminal blocks. **Torque to 6.8 Nm (60 in-lb)**.

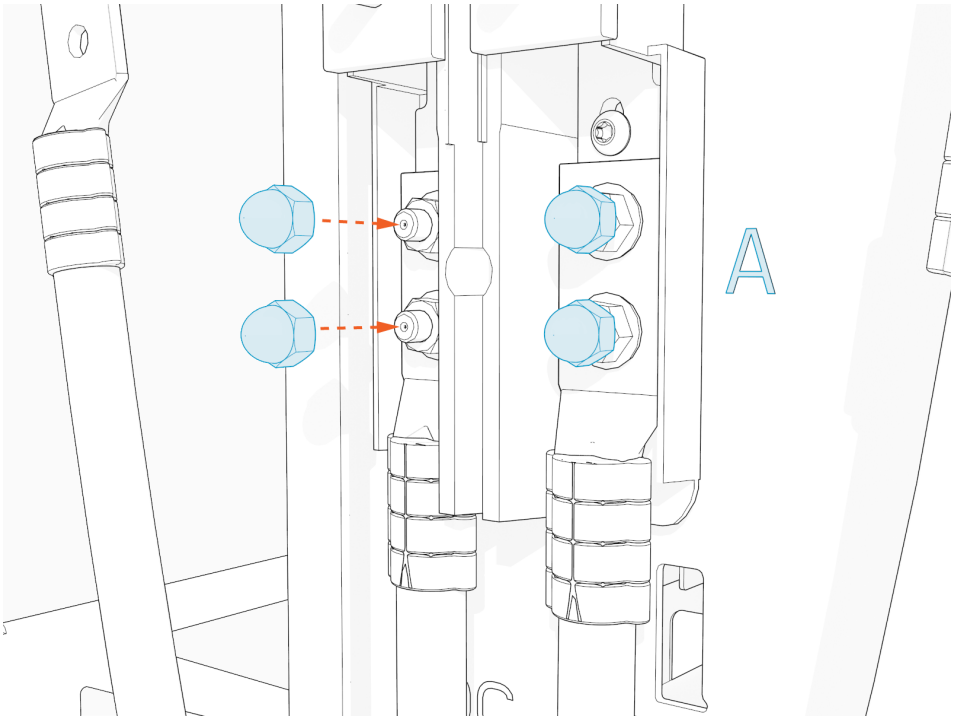


IMPORTANT:
Do not under- OR over-torque the DC fasteners. Excess torque, even with hand tools, can damage the terminal blocks.

9. Mark all torqued conductor connections.

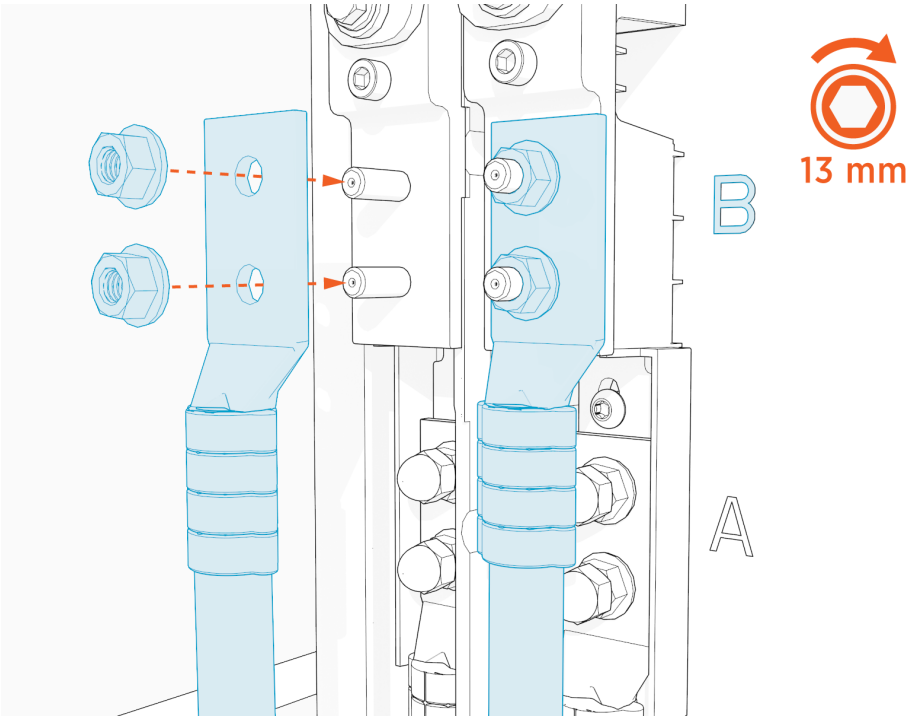


10. Screw an acorn (cap) nut onto each A terminal block. Hand tighten.

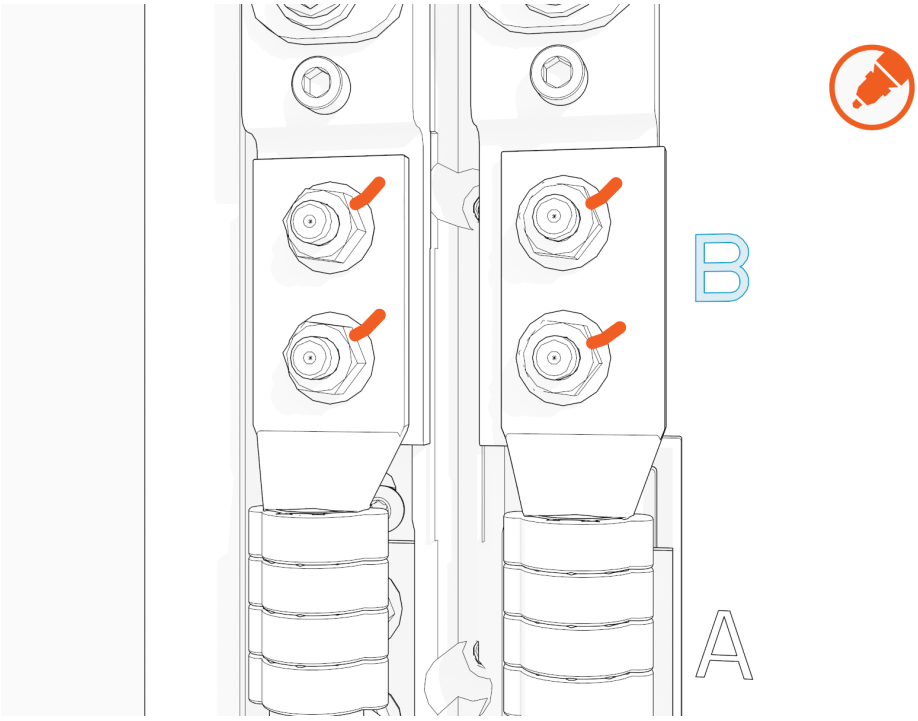


11. Remove the installed nuts from the DC B terminal blocks.

12. Use a 13 mm (3/8 in) socket wrench to mount and secure the B lugs on the upper terminal blocks. **Torque to 6.8 Nm (60 in-lb).**



13. Mark all torqued conductor connections.



14. Complete the above steps for Station 2.

CAUTION:
Do not under- OR over-torque the DC fasteners. Excess torque, even with hand tools, can damage the terminal blocks.

IMPORTANT:
Double check that all conductor nuts are torqued correctly.

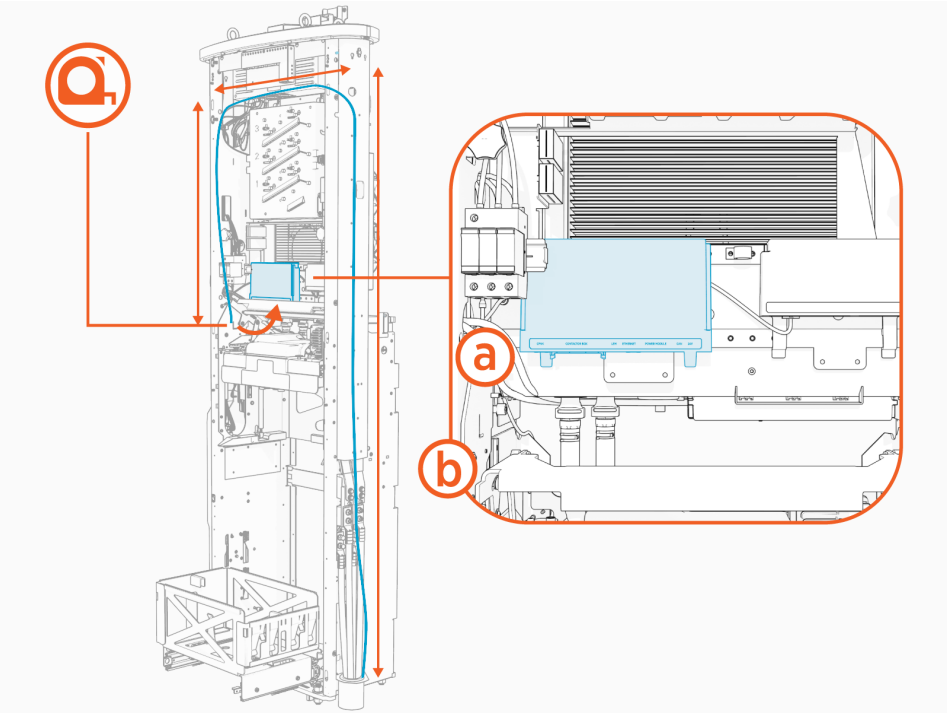
Connect Ethernet Wiring

Ethernet wiring is only connected for Paired installations. Do not connect Ethernet wiring for Standalone installations.

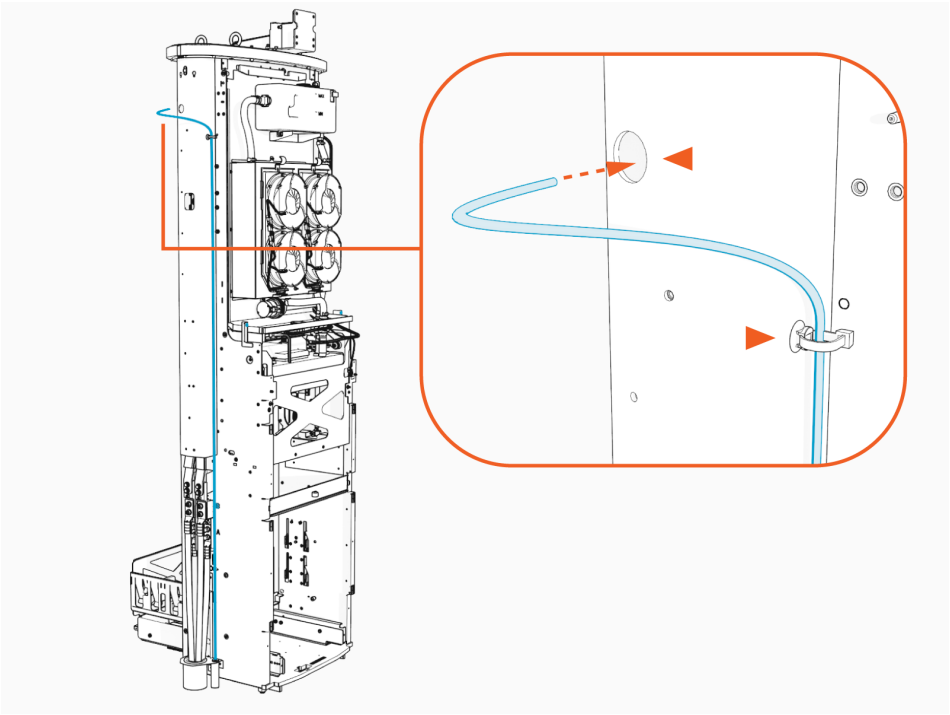
To connect Ethernet wiring, configure the following steps:

1. Measure the length needed to extend the Ethernet wiring from the conduit opening, up the side of the frame, and into the Express 280's Station Management Unit **(a)**, located above the Power Module mechanism **(b)**.

   Trim the excess wire.

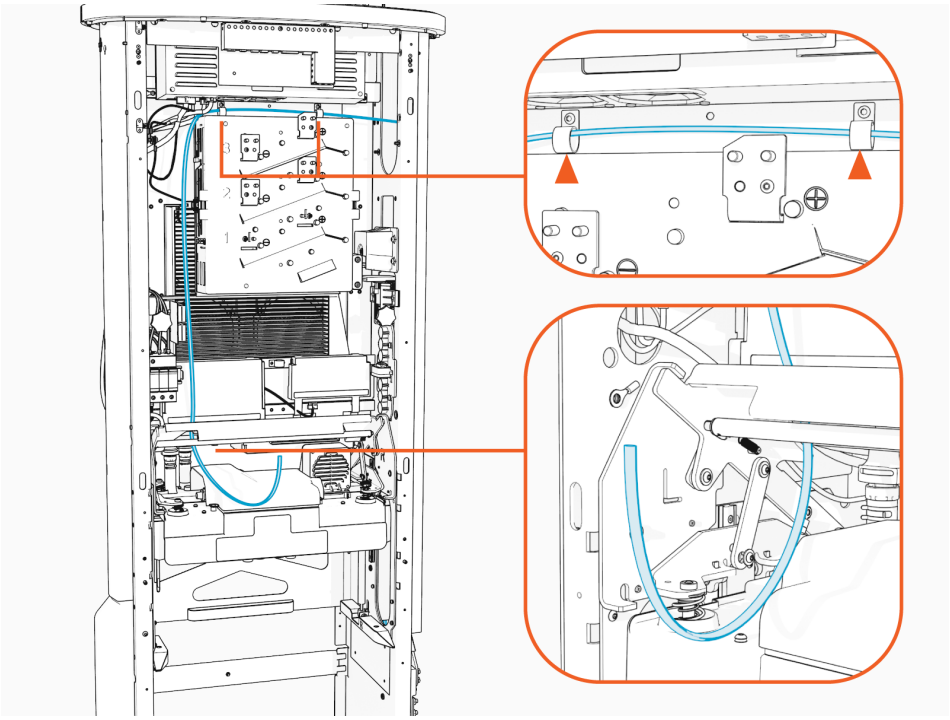


2. Route the Ethernet wire up the rear side of the frame, through the plastic P-clip and into the top wiring hole.

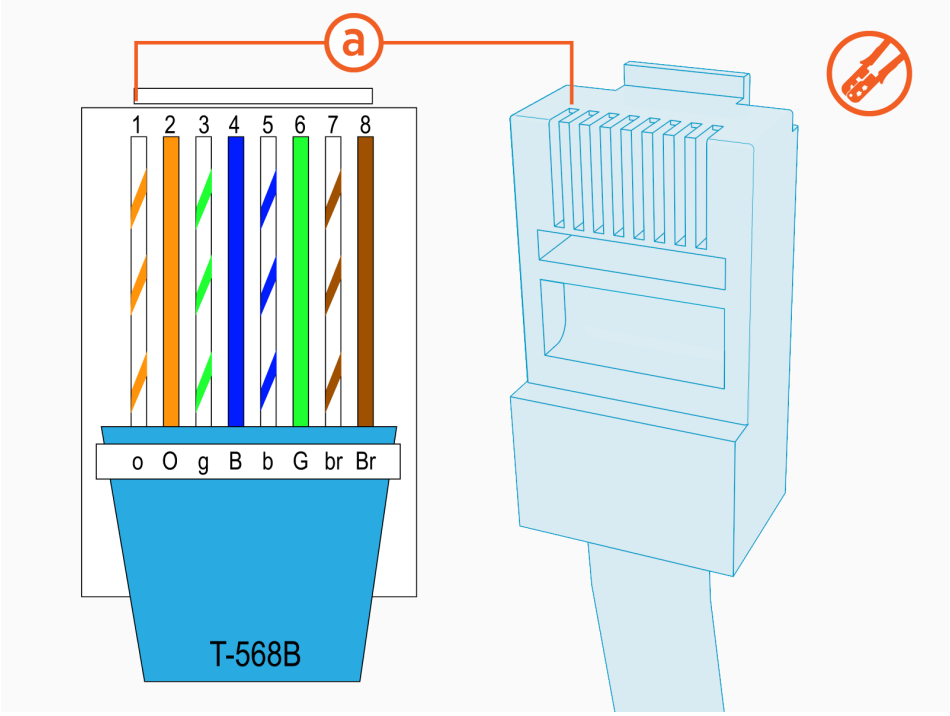


3. Route the Ethernet wire across the charging station from right to left between the auxiliary power supply and the contactor assembly.

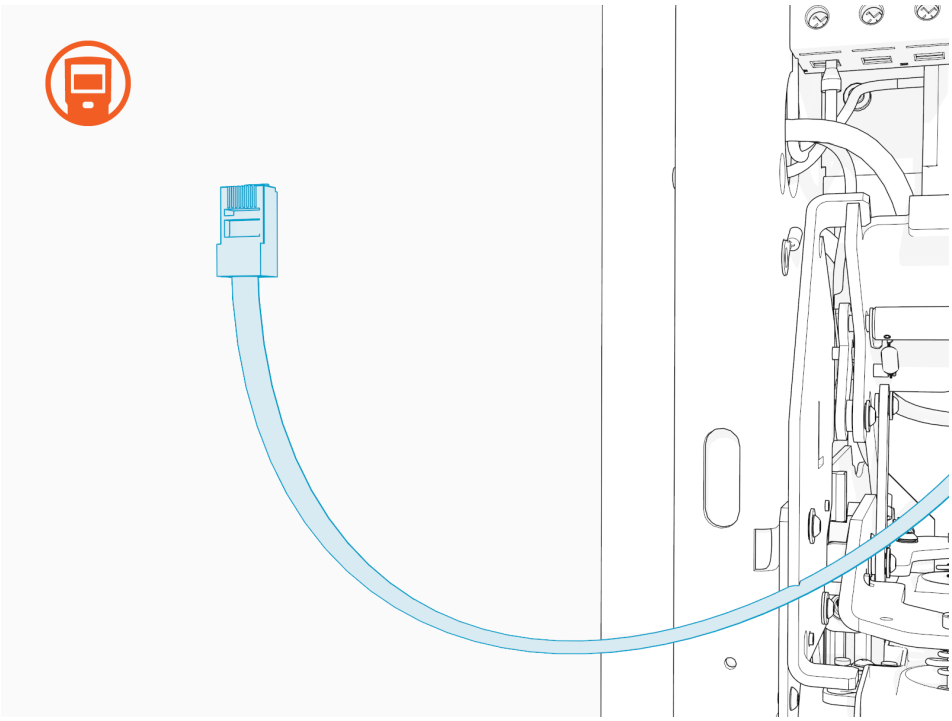
   Secure the Ethernet wire to the existing cable bundle at each corner.



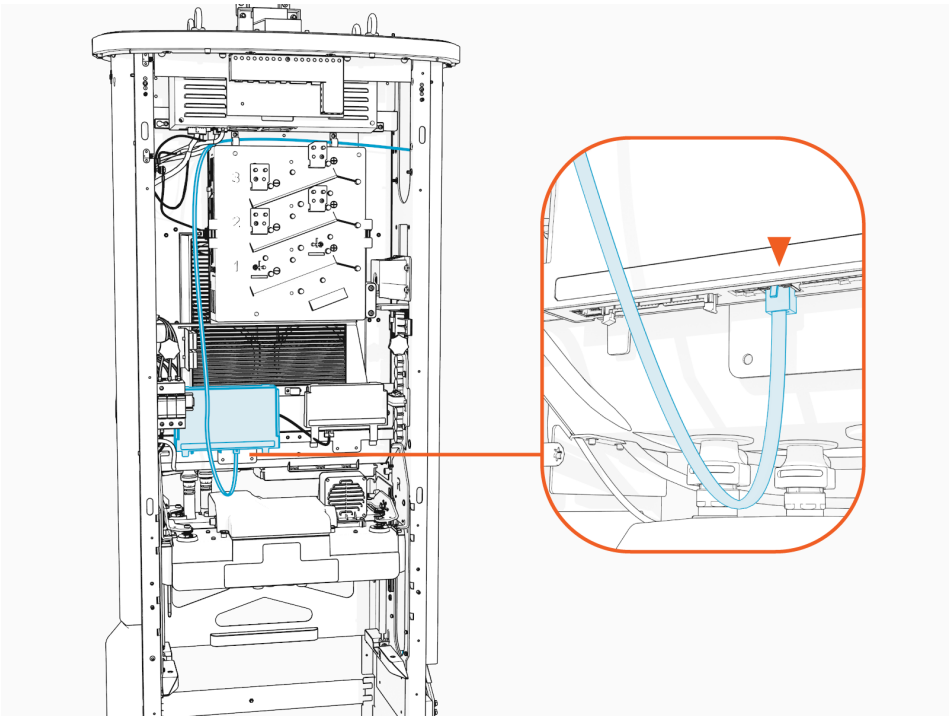
4. Crimp the Ethernet wire in a straight-through T-568B style into RJ45 connectors at both ends. Note the location of Pin 1 relative to the clip in the image and the order of the orange, blue, green, and brown wires in the pattern.



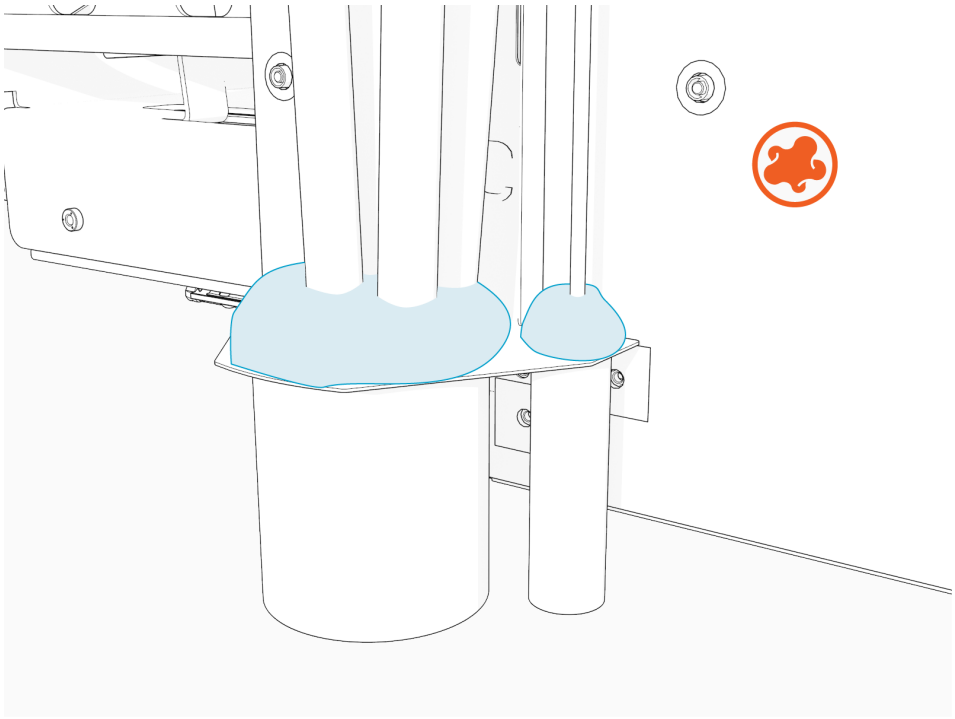
5. Test the Ethernet wire for functionality.



6. Plug the Ethernet wire into the **Ethernet** port of the Station Management Unit.

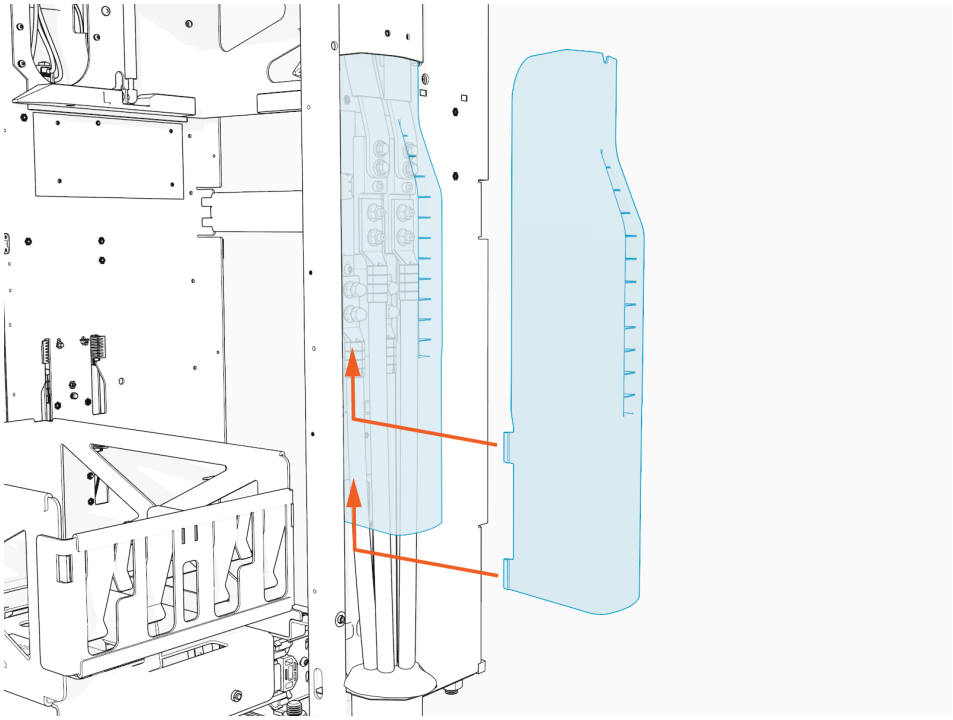


7. Use the duct seal compound included in the crate to completely seal all DC openings against pest ingress:
    a. The inside of the conduit opening
    b. Within the rodent guard bracket openings for wiring, to pad any sharp edges and block ingress
    c. Around the edges of the rodent guard bracket where it will meet the side panel



IMPORTANT:
The conduit opening must be sealed to protect the wiring from the environment.

8. Install the DC wiring cover on the right side of the Express 280 by pressing on its sides and pushing it inward and upward.

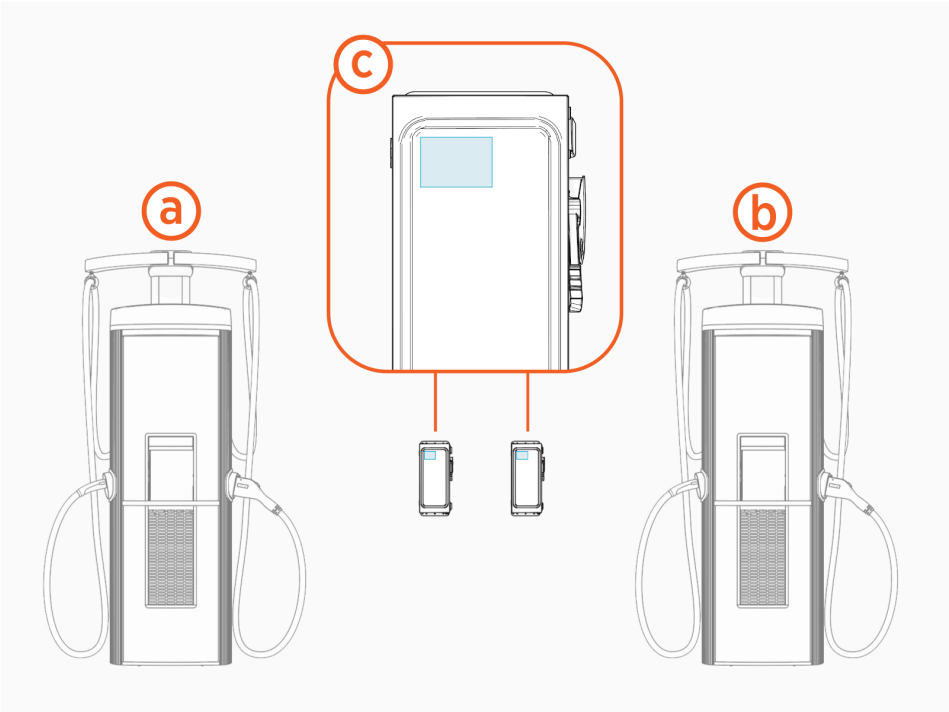


Install AC Disconnect Labels

To install AC disconnect labels, configure the following steps:

1. Identify the two charging stations to be paired. For each pair, check site plans to see which charging station is designated station 1 **(a)** and which is station 2 **(b)**. If the plans do not define it, designate them now.

2. Affix the AC disconnect labels to the disconnect **(c)** responsible for AC power to this charging station and to the disconnect for its Paired partner.



3. Using permanent marker, write the last three numbers of both Paired stations' serial number (found on the Express 280 nameplate label) on each disconnect label, so that future technicians know which disconnect to power off for service.

   This is especially important for sites with multiple pairs of charging stations.

IMPORTANT:
Disconnect numbers must be written in permanent marker. Normal ballpoint pen ink does not stay legible on the label.

5 Install Side Panels, Power Modules, and the Touchscreen

If the installation requires above-ground conduit, visit Install the SCE Box Cover for steps to install a Surface Conduit Entry (SCE) box cover before installing the side panels.

Install the Side Panels

Side panels prevent electrical shock hazard before powering on the charging station. These steps are the same for both Standalone and Paired installations. To install the side panels, configure the following steps:

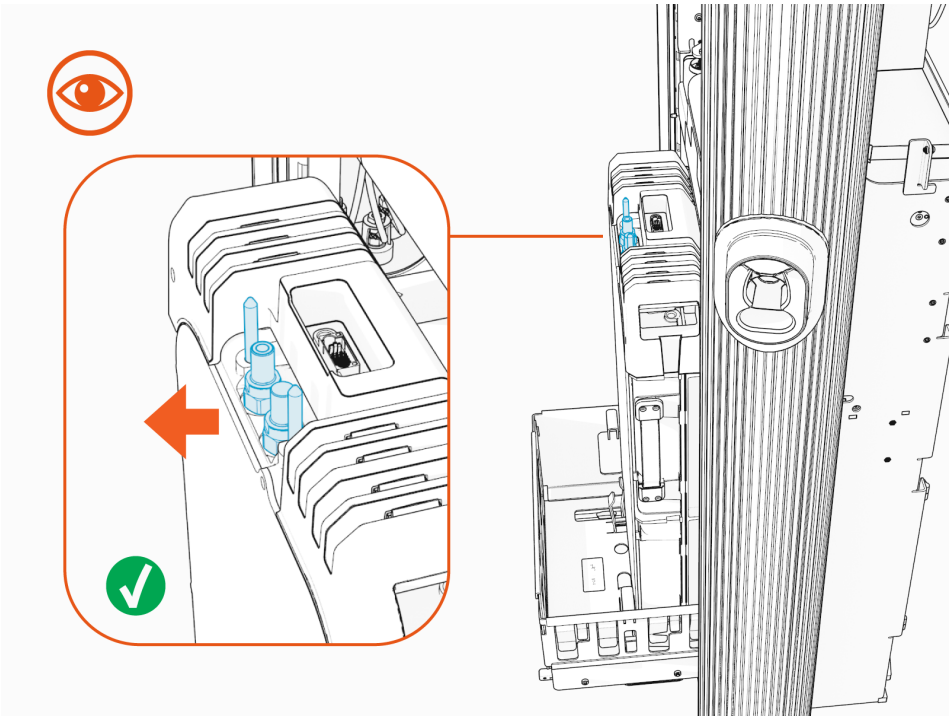
Install the Power Module

To install the Power Module, configure the following steps:

IMPORTANT:
Power Modules are 45 kg (98.5 lbs) each. Installing or replacing Power Modules requires two people.

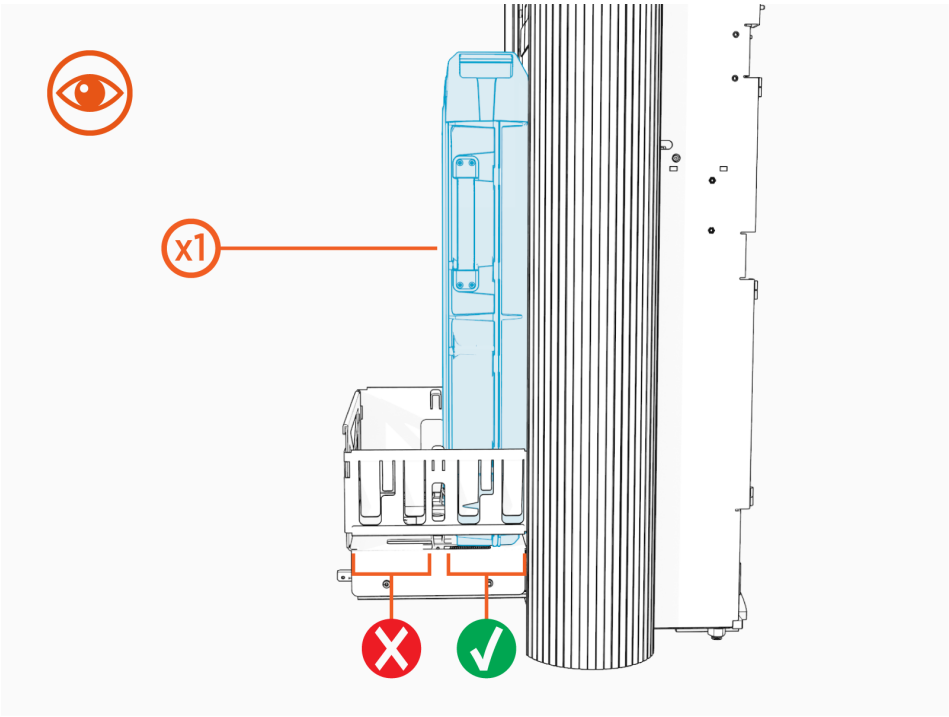
IMPORTANT:
Always rest a Power Module flat on the ground until it is being installed. Power Modules are not stable in any other position. Images of Power Modules standing up with the handles on top are only to illustrate the proper installation position.

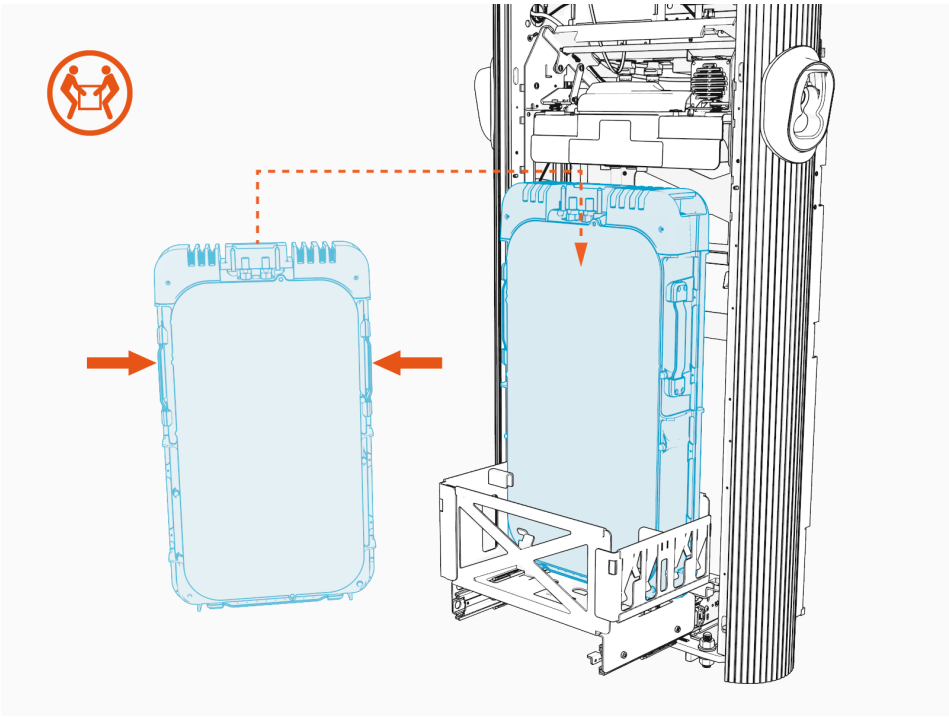
1. Install the rear Power Module first. Ensure the communication pins are closest to the back of the station.



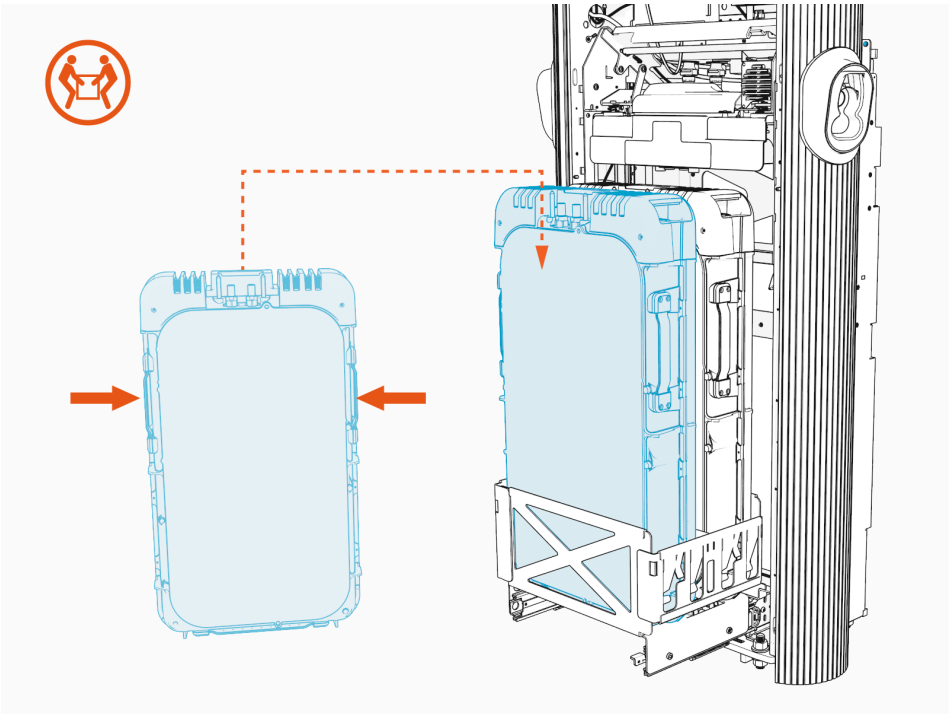
Using two people, lift the Power Module by its side handles and gently place it into its holder.

NOTE: If only one Power Module is being installed, it must be installed in the rear holder.

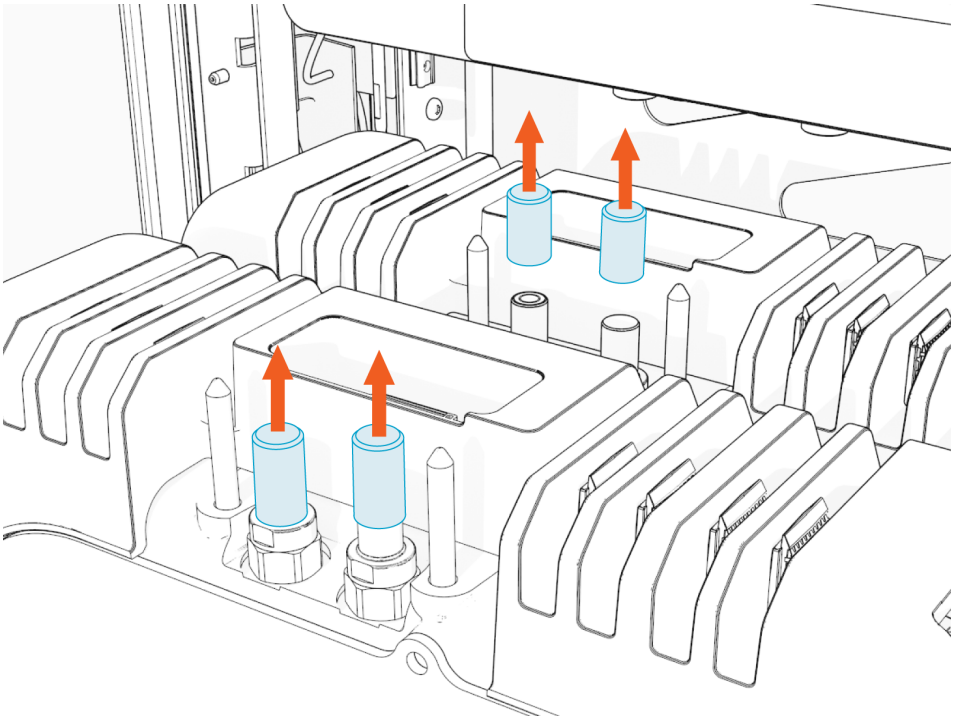

x1



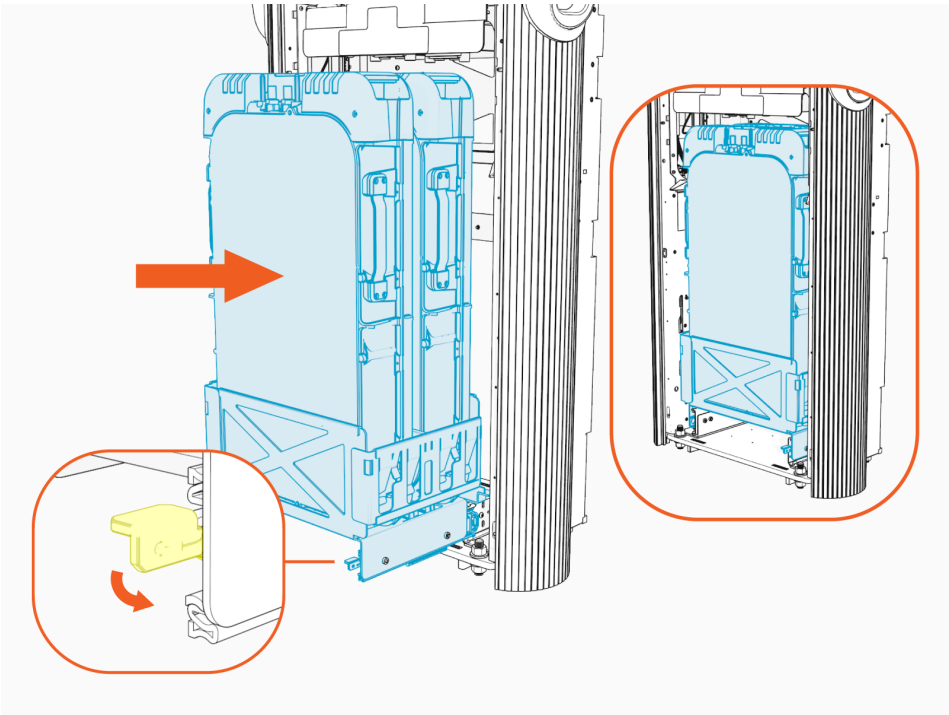
2. Repeat the step for the second Power Module, if applicable.



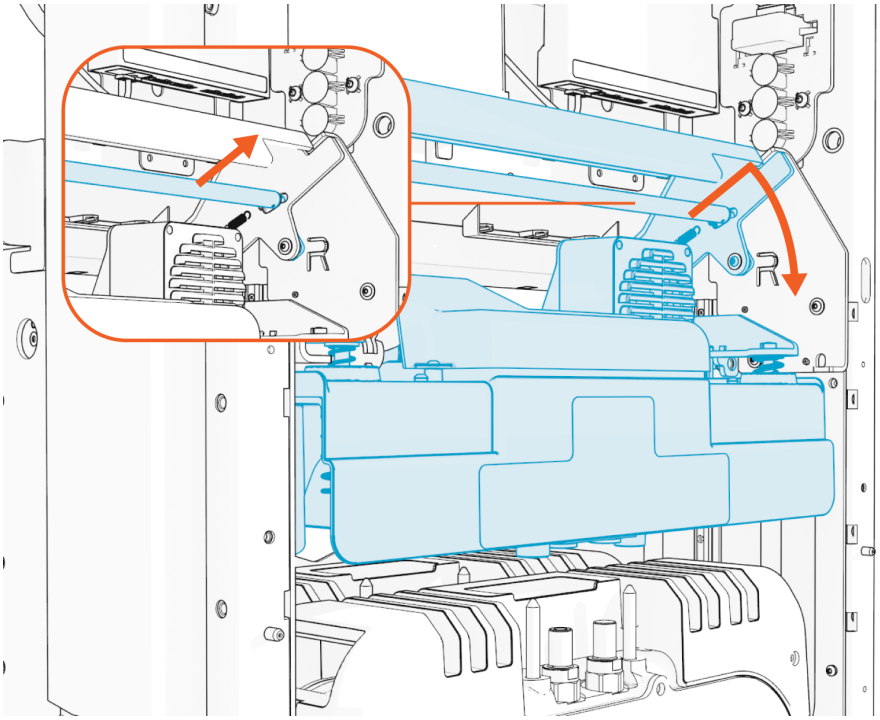
3. If not already done, remove the safety caps from the coolant ports.



4. At the bottom right of the Express 280, press and hold the yellow release latch while pushing the Power Module tray into the station until it locks into place.

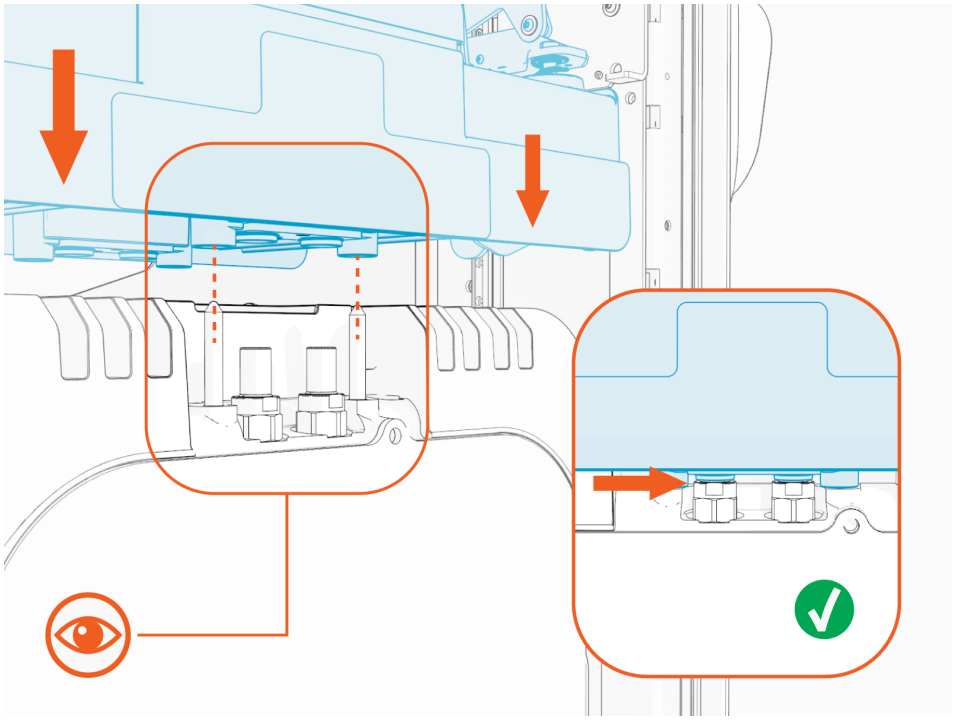


5. Using two hands, squeeze the Power Module mechanism's release bar and lower it part of the way down while checking alignment with the ports and guide posts.



6. Lower the Power Module mechanism until you hear a click as the mechanism locks into place.

   Ensure the mechanism is fully engaged with all Power Module connectors. The Power Module mechanism should fully cover the ridges on the Power Module's top edge.

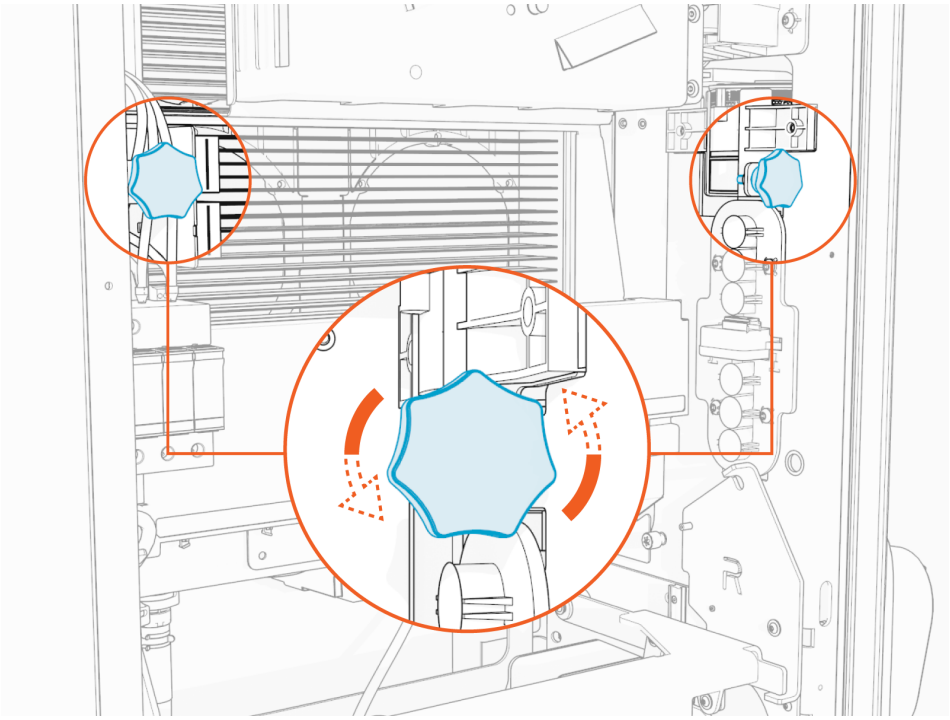


NOTE: If the mechanism does not engage, raise it again and push the Power Modules to the back of the station to realign, then try again. Do not apply excessive force.

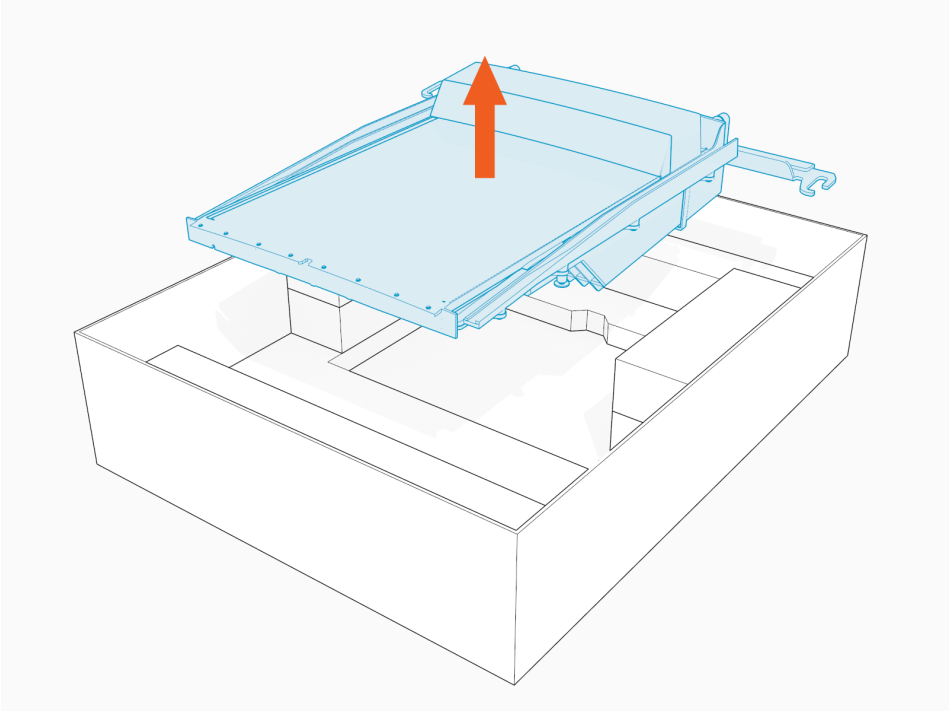
Install the Touchscreen

To install the touchscreen, configure the following steps:

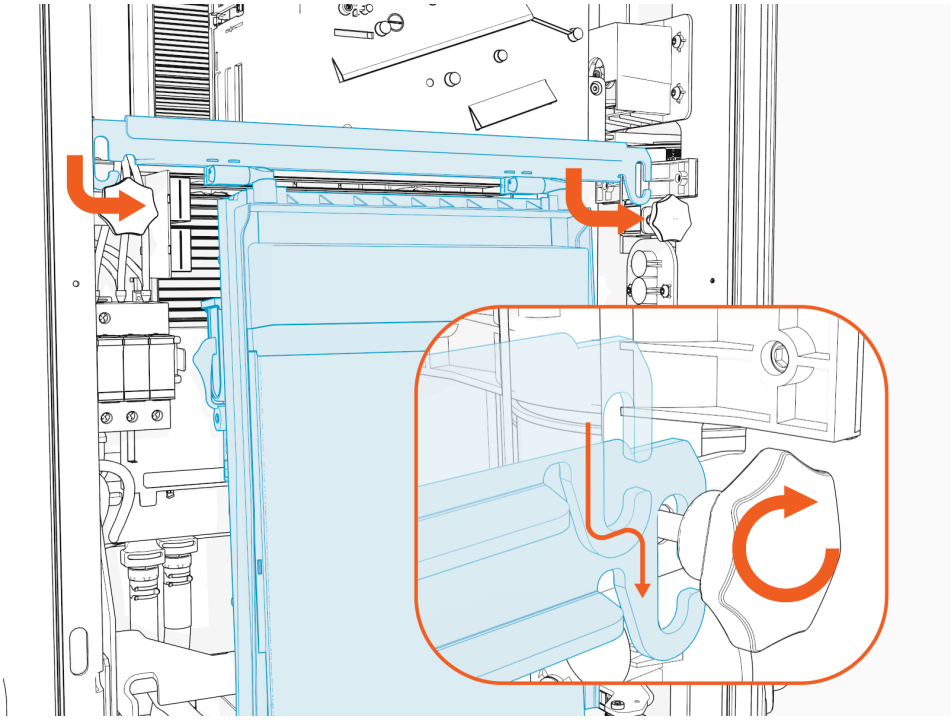
1. Loosen but do not remove the retention knobs.



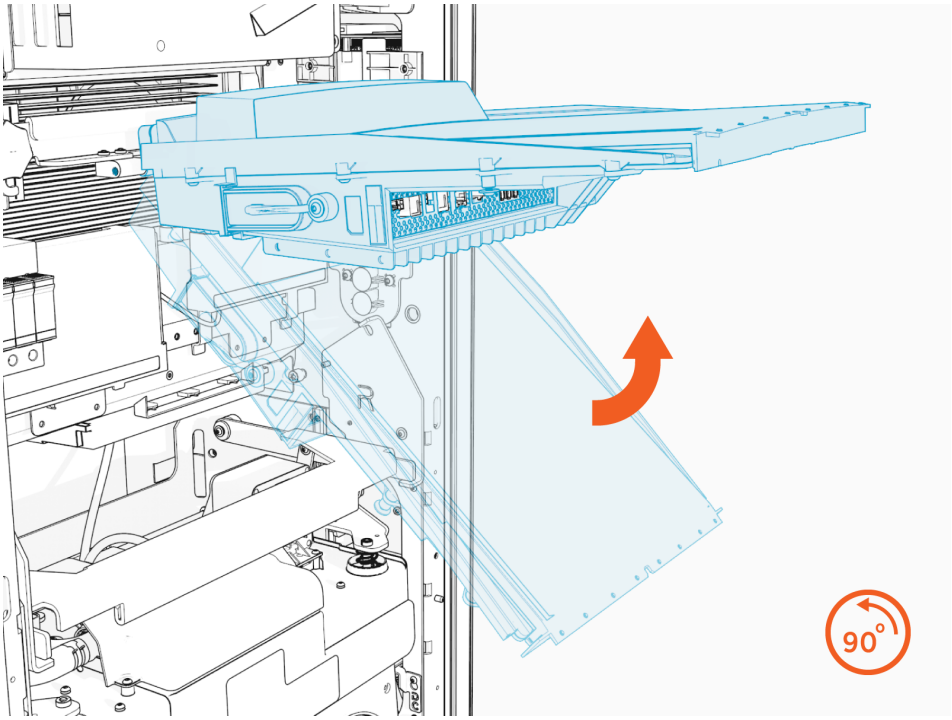
2. Remove the touchscreen from the packaging.



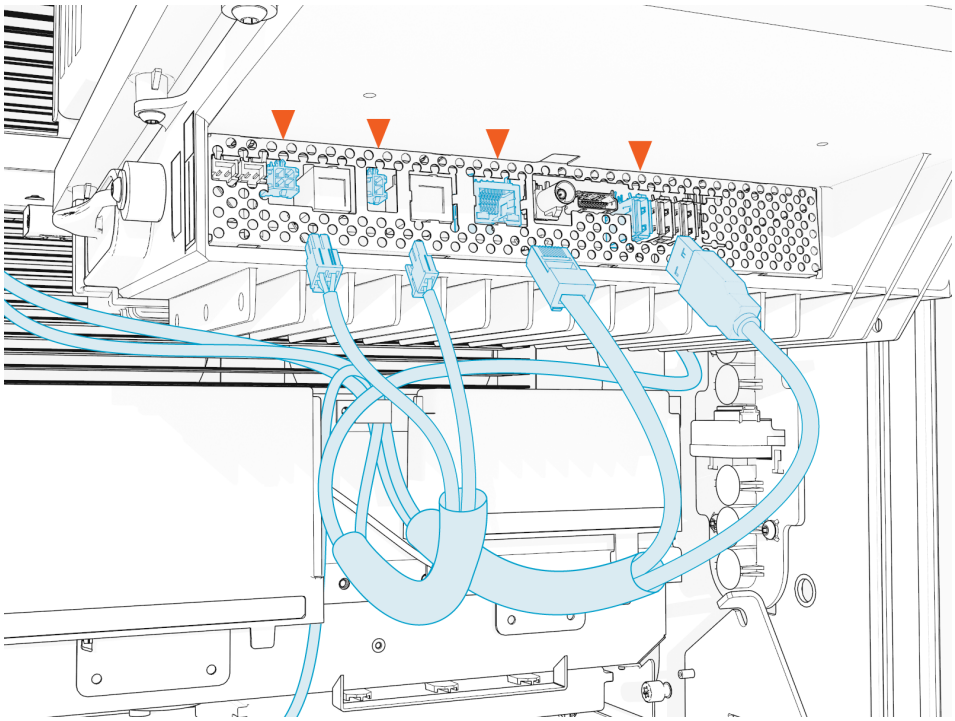
3. Align the hooks of the touchscreen's mounting bracket over the retention knob supports. Tighten the knobs enough to secure the touchscreen.



4. Swing the bottom of the touchscreen out to a 90-degree angle.



5. Connect all cables to the underside of the touch screen:



(a) Speaker

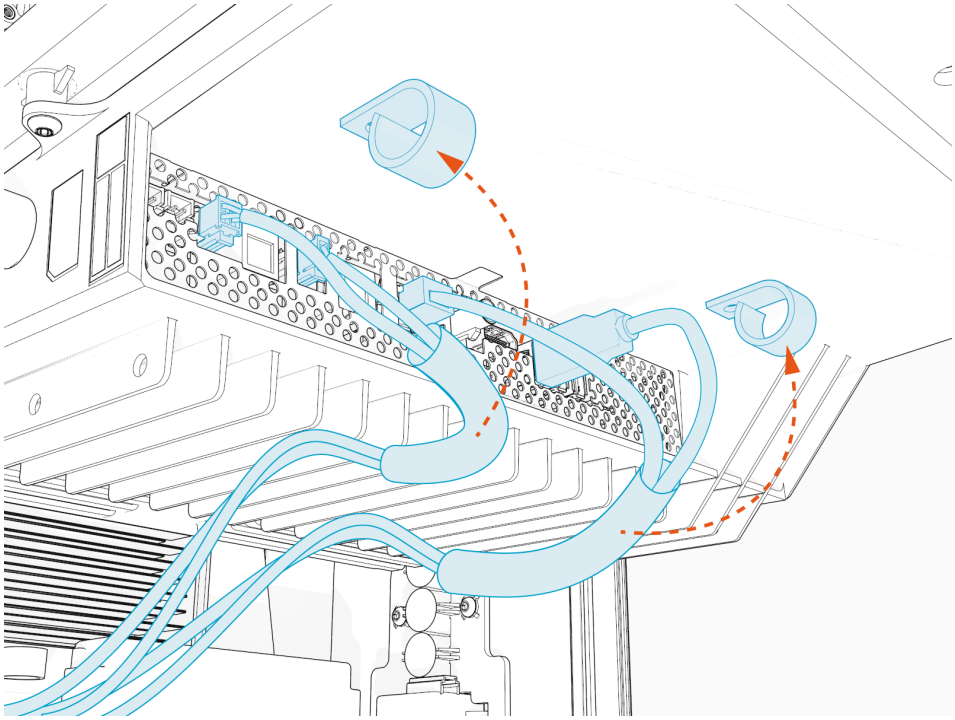
(b) Power 24 VDC power

(c) RJ45 to dispenser cable control

(d) USB to LED display

IMPORTANT:
Perform a pull-push test to ensure that each cable is correctly seated. Failure to connect these correctly could prevent the system from powering on.

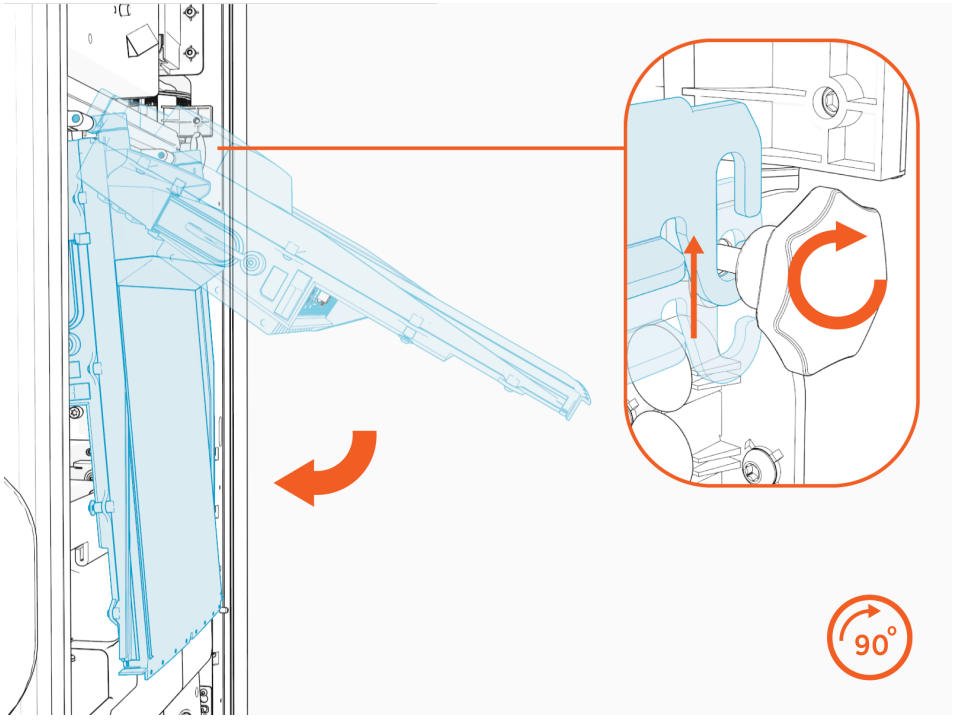
6. Route excess wiring through the wire management rings under the touchscreen to prevent it being pinched in the panels.



7. Swing the touchscreen down.

   Loosen both retention knobs and slide the touchscreen beam up.

   Re-tighten the knobs in the highest position.

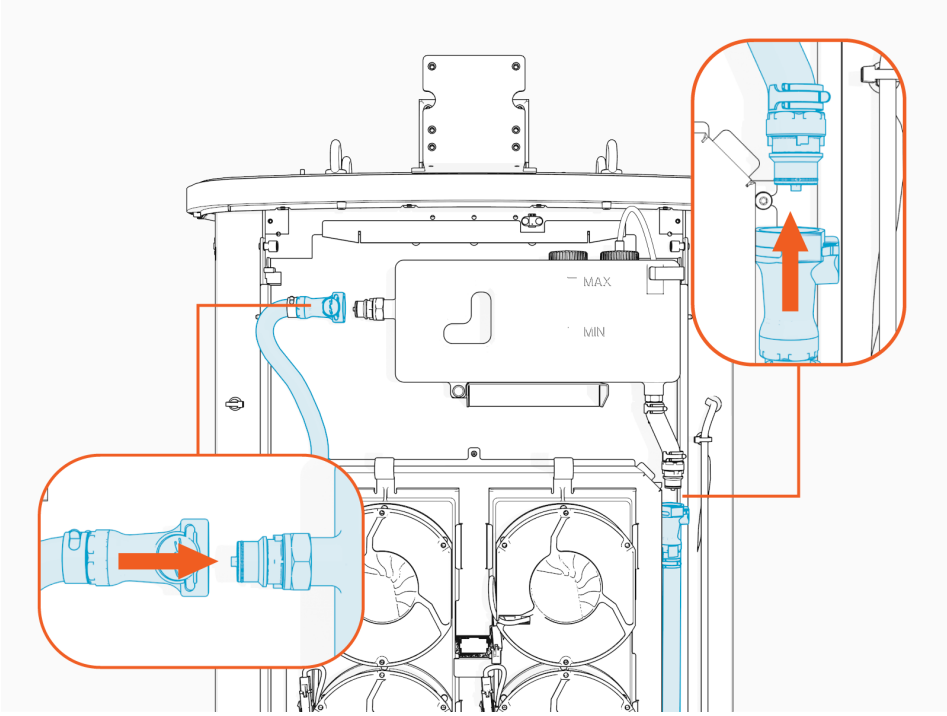


Fill the Coolant Reservoir

The Express 280 is shipped with an empty coolant reservoir. Coolant and a funnel are included with the product. Most coolant lines are already connected to the reservoir with quick connect fittings, except the ones shown below. To fill the coolant reservoir, configure the following steps:

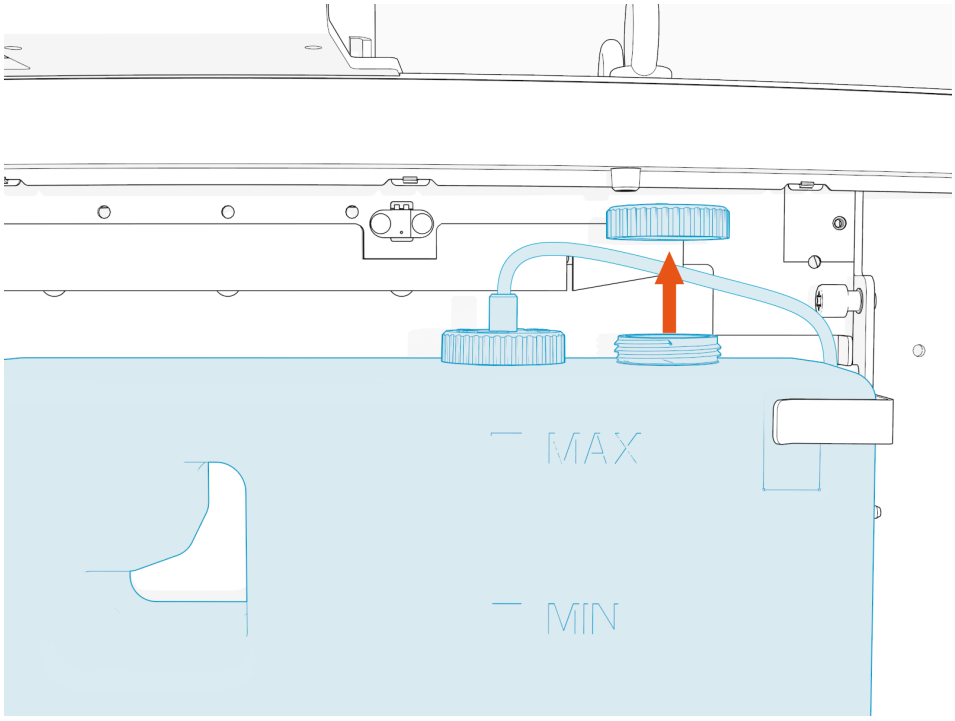
IMPORTANT:
Always fill the coolant reservoir after installing the Power Modules in the station mechanism, since Power Modules are part of the coolant path. Filling the reservoir first does not allow full station coolant levels.

1. Remove the plastic shipping wrap.
2. Attach the quick connect line on the right side of the coolant reservoir. The line audibly clicks when connected.
3. Attach the quick connect line on the left side of the coolant reservoir.



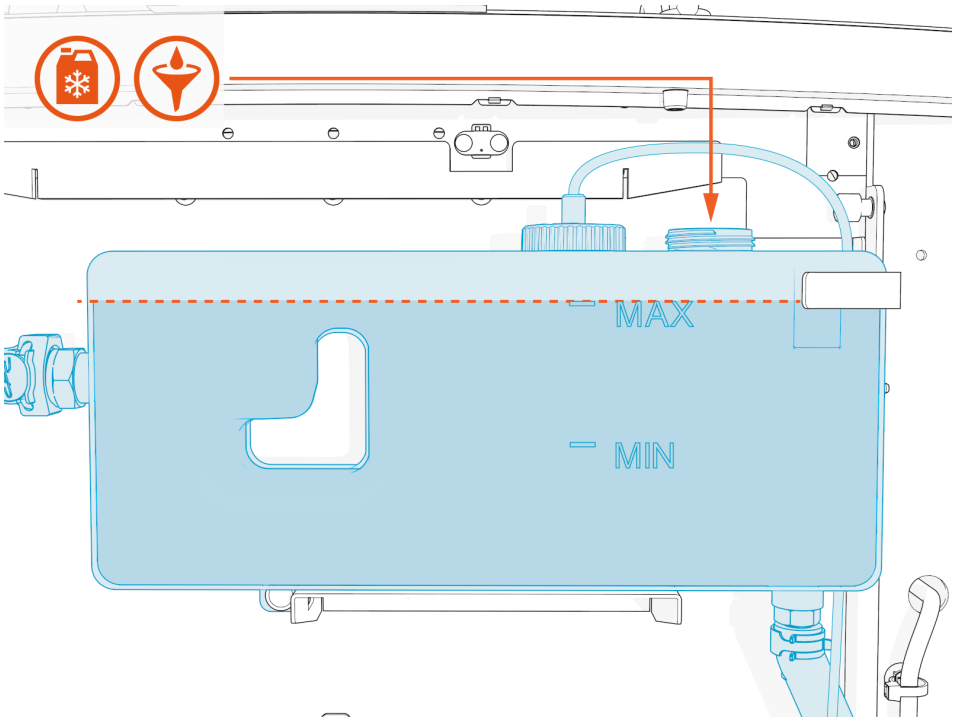
NOTE: Perform a push-pull test to ensure the quick connect lines are secure.

4. Using a step ladder if needed, unscrew the reservoir fill cap.

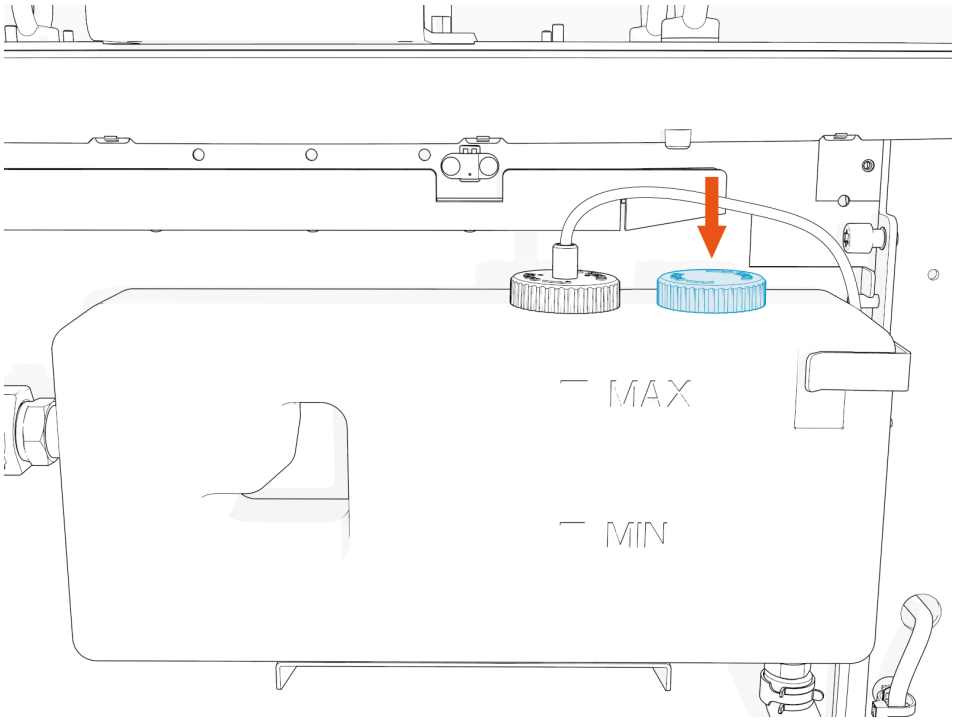


NOTE: Do not unscrew the level sensor wiring cap when adding coolant.

5. Use a funnel to fill the reservoir to the marked MAX line with coolant.



6. Replace the reservoir cap.



7. Use the cloth to wipe up any coolant spills.

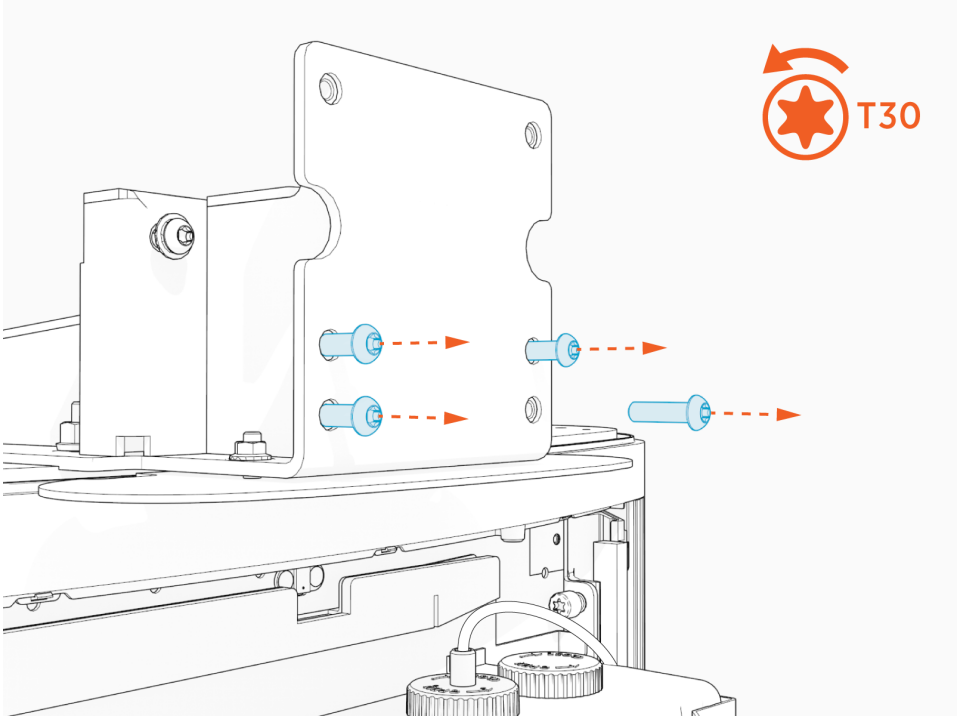
Install Cable Management Kits (CMK) 6

Cable Management Kits (CMK) are available in two heights: standard 2.4 m (8 ft) and tall 3 m (10 ft). If you are installing a tall CMK, refer to Install Tall Cable Management Kits for instructions.

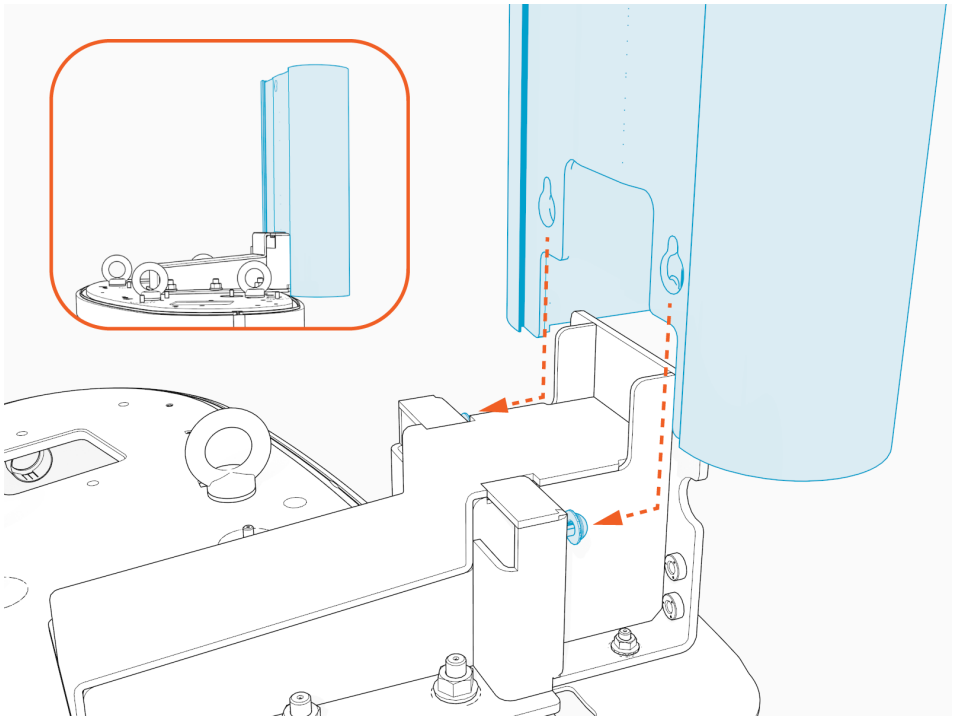
Install the Mast - Standard and Tall CMK

To install the Mast-Standard and Tall Cable Management Kits, complete the following steps:

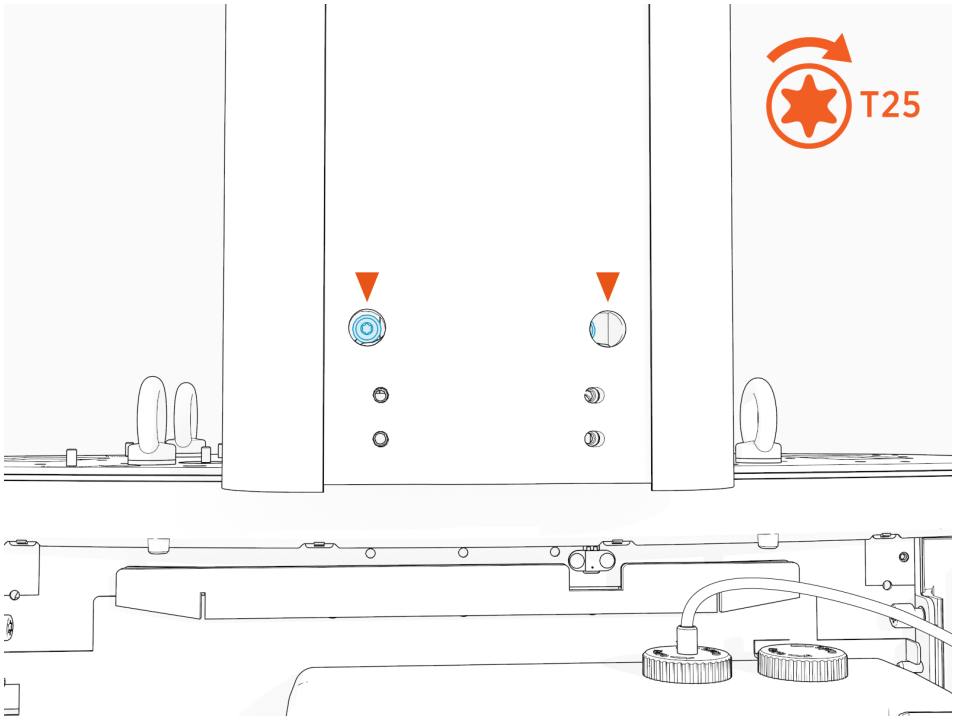
1. Using a T30 Torx screwdriver, remove four pre-populated screws.



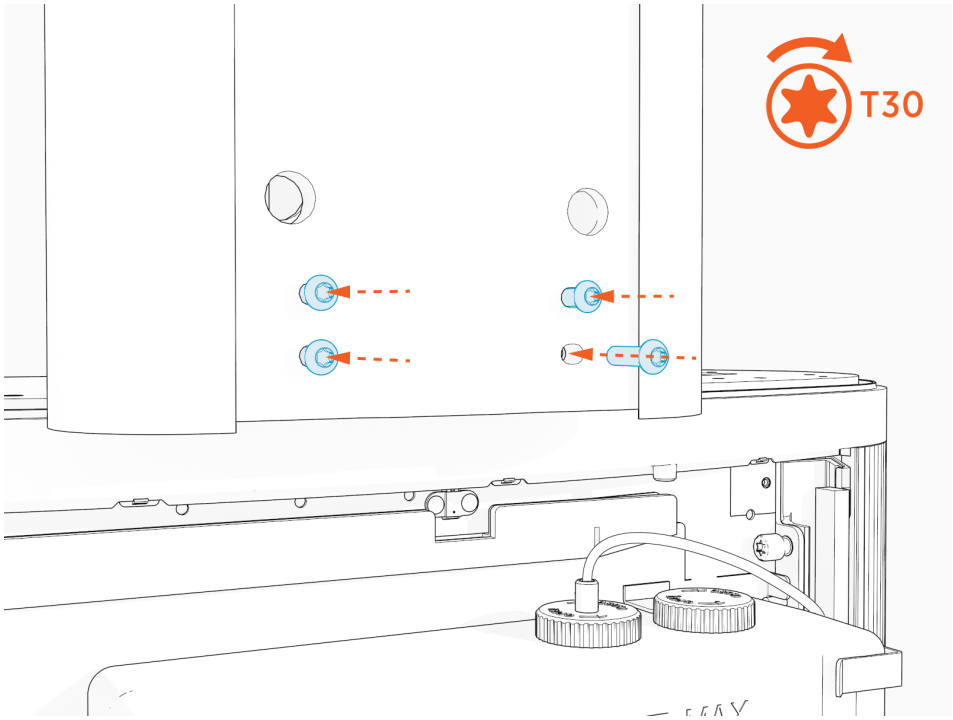
2. Hook mast on to the two existing screws.



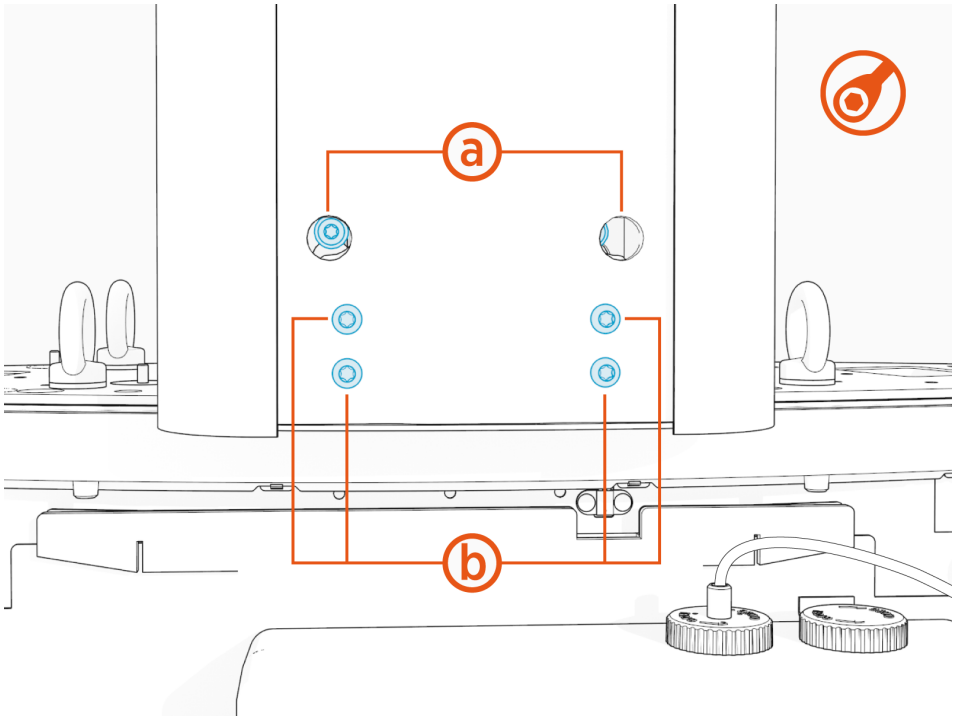
3. Use T25 Torx screwdriver to tighten two screws.



4. Insert the four screws removed earlier and use a T30 Torx screwdriver to secure the mast.



5. Using a T25 Torx screwdriver, **torque the two upper screws (a) to 5.6 Nm (50 in-lbs)**.
   Using a T30 Torx screwdriver, **torque the four lower screws (b) to 5.6 Nm (50 in-lbs)**.

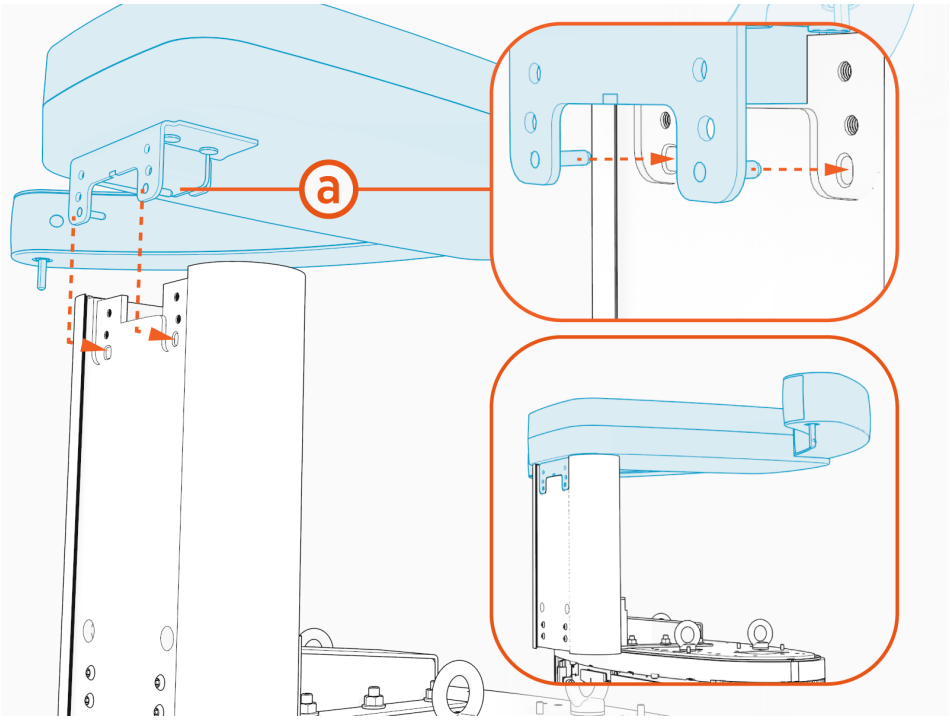


Install the Swingarm Assembly - Standard CMK

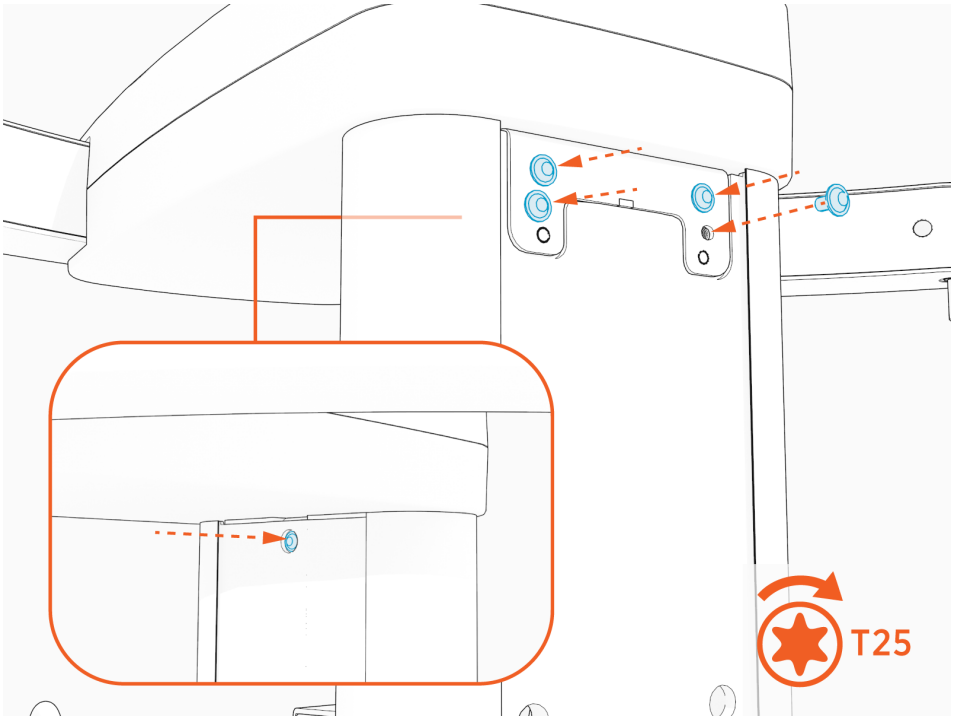
If you are installing a tall CMK, jump to Install the Tool Balancer Assembly - Tall CMK for instructions.

To install the swingarm assembly-standard CMK, complete the following steps:

1. Align the placement pins **(a)** and hook the swingarm assembly onto the studs (x2) on the mount bracket.



2. Use a T25 Security screwdriver and five screws (four at rear and one at front side) to secure the swingarm to the mounting bracket. **Torque to 5.6 Nm (50 in-lb).**

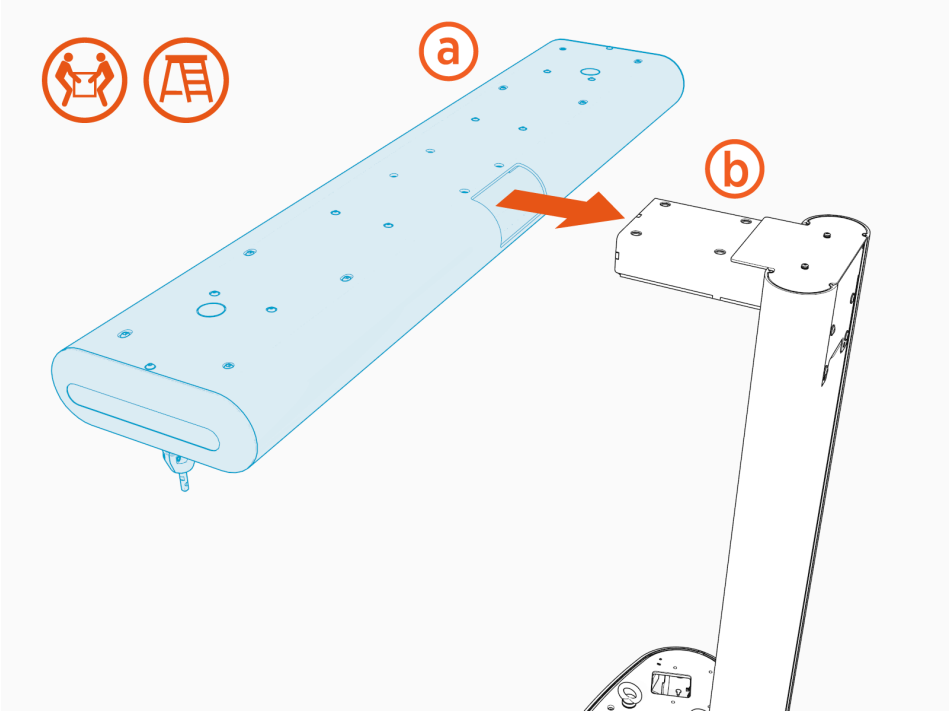


3. Jump to Install CMK Covers and continue.

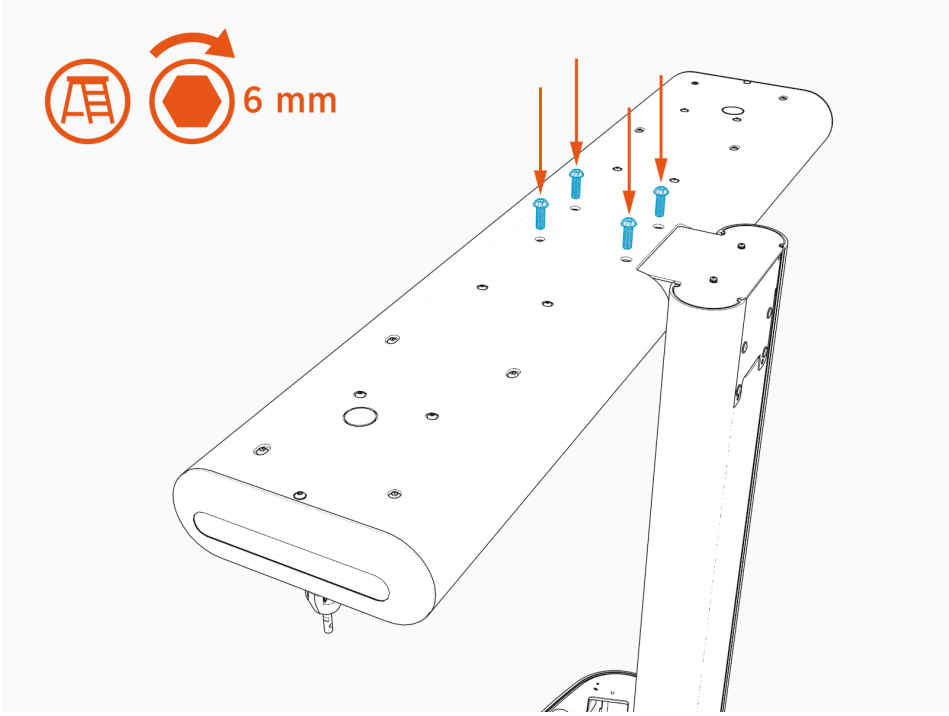
Install the Tool Balancer Assembly - Tall CMK

To install the Tool Balancer Assembly - Tall CMK, complete the following steps:

1. Find the M10 hex screws (x4) included in the tall CMK package.
2. Slide the tool balancer assembly **(a)** onto the mast **(b)**.



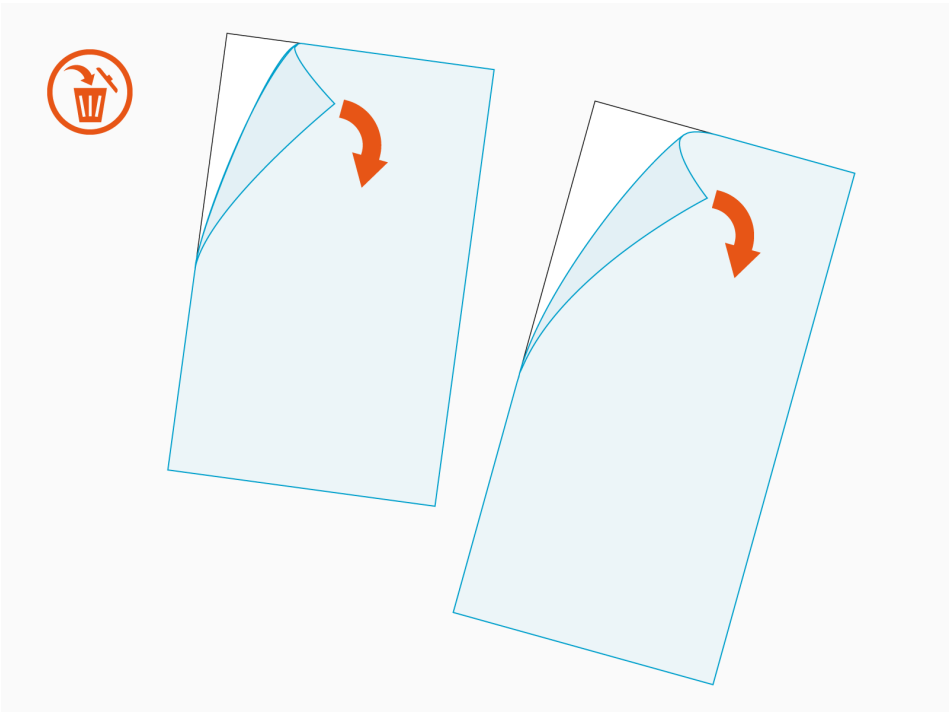
3. Use a 6 mm hex driver and four screws to secure the swingarm to the mounting bracket. **Torque to 5.6 Nm (50 in-lb).**



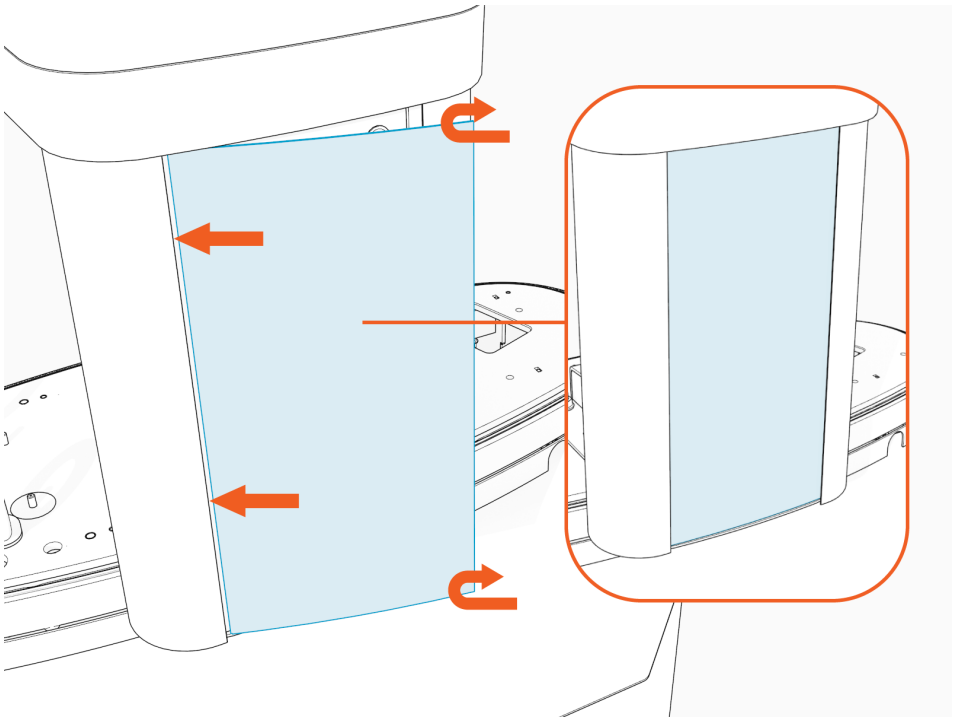
Install the CMK Covers - Standard and Tall CMK

To install the CMK Covers - Standard and Tall CMK, complete the following steps:

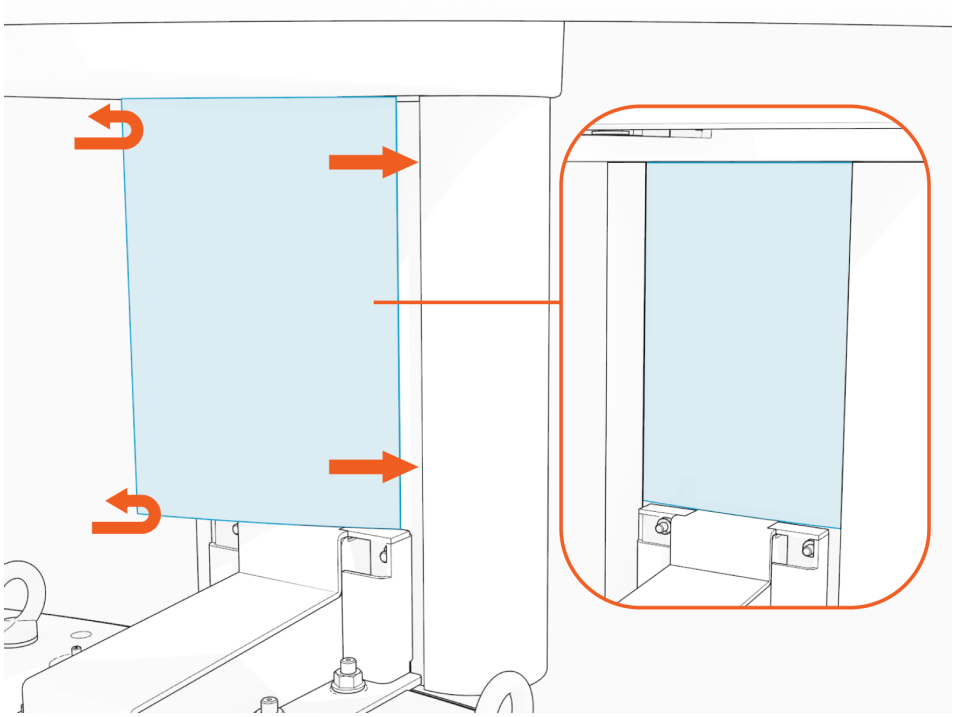
1. Remove the protective film.



2. Insert one side of the rear cover into the groove on the rear side of mast.
   Bend the other side of the cover into the groove on the other rear side of mast.



3. Repeat for the front cover.

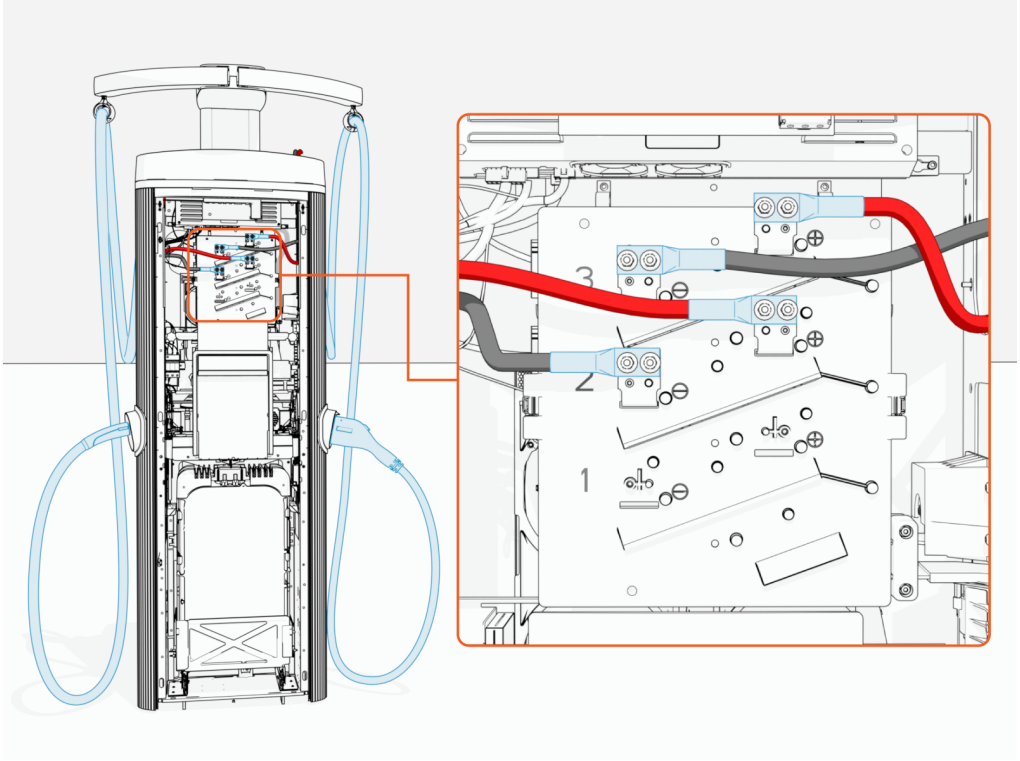


Install Cables, Top Cap, and Front and Rear Panels 7

IMPORTANT:
Install the CHAdeMO cable on the right side of the charger at contactor position 3. Ensure the high-voltage CHAdeMO cable always lands on Port 3 of the MDS to ensure proper operation and prevent misconfiguration.

Follow the table and figure below to determine the correct cable position based on the contactor configuration:

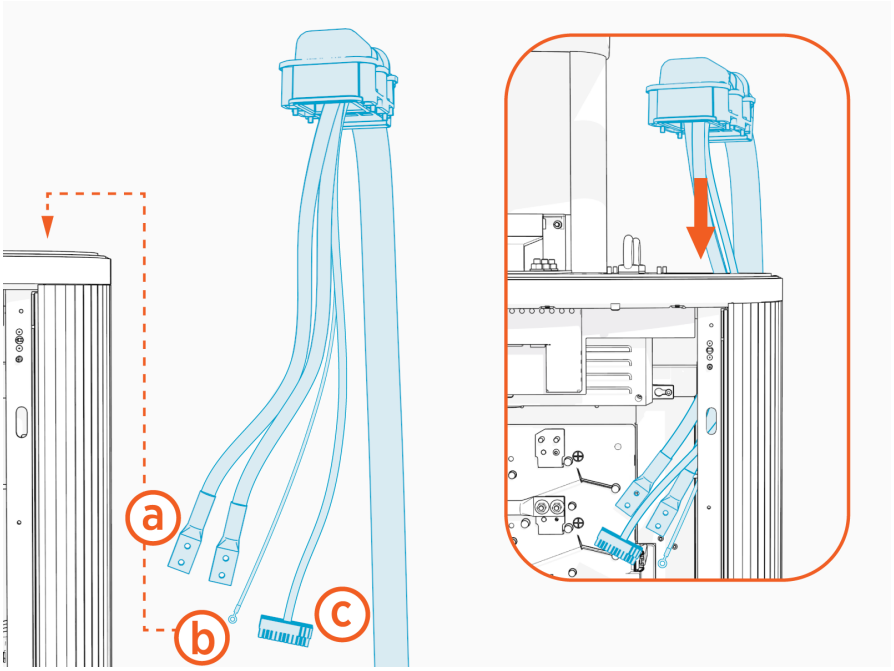
Contactor Position	Cable Type	Cable Location on Charger
3	CCS / CHAdeMO	Right side
2	CCS / NACS	Left side



These steps are the same for both Standalone and Paired installations.

Install the Cables

a. Guide the DC, ground, and data cables gently through the top of the station.

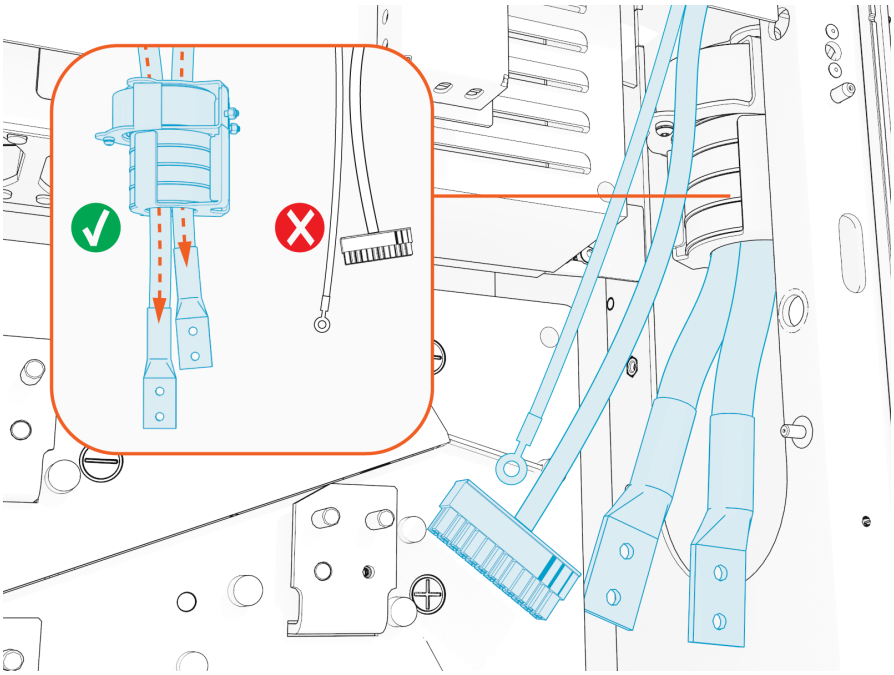


(a) DC

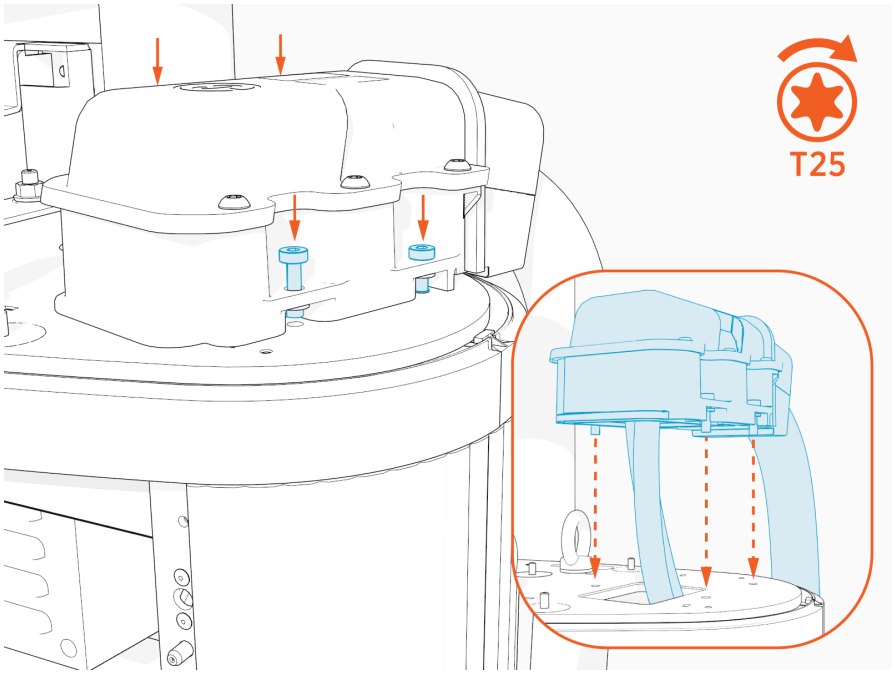
(b) Ground

(c) Data

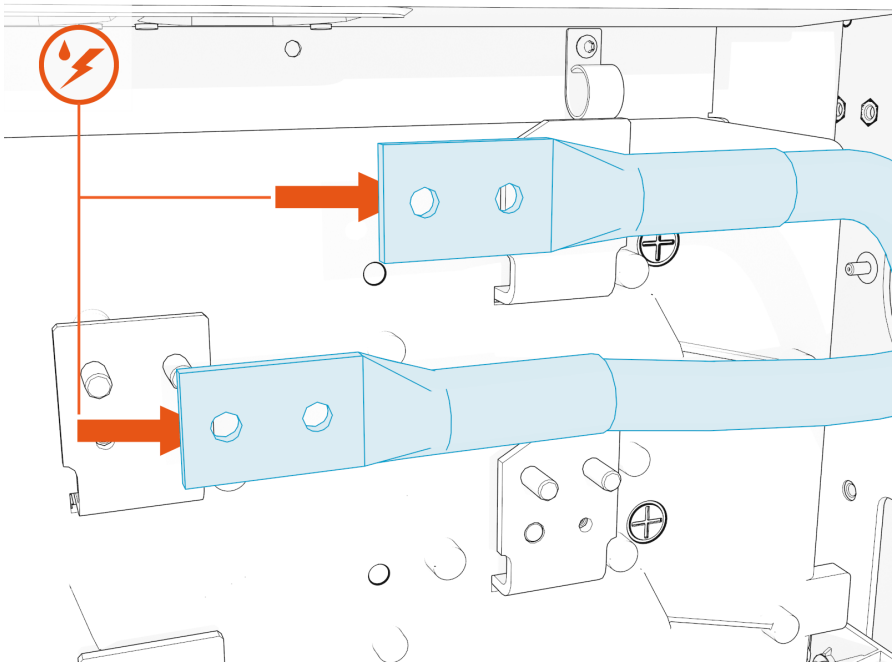
b. Route the cables through the ferrite stack.



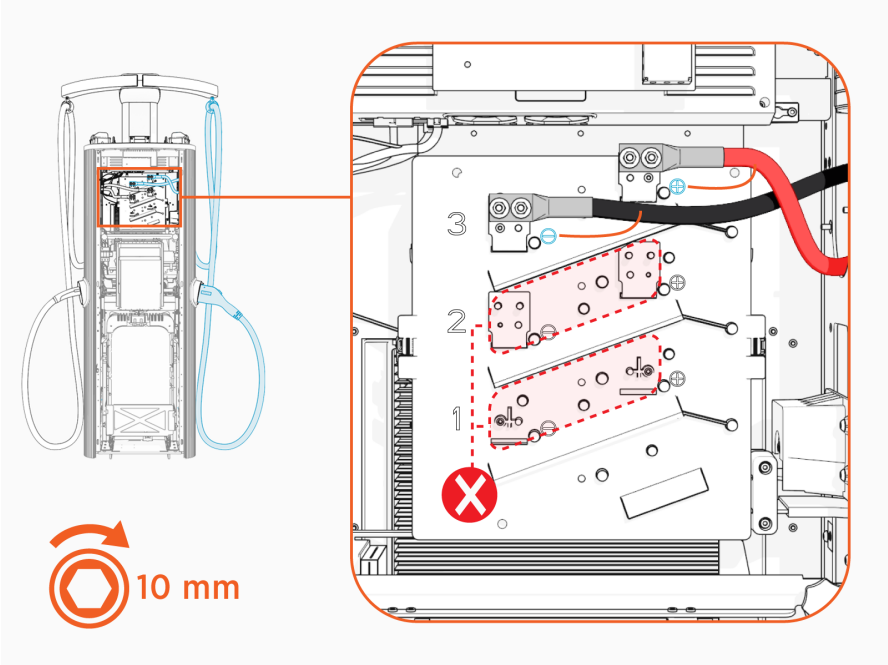
c. Use a T25 Torx screwdriver to tighten the four screws securing the charging cable housing. Torque to **4.5 Nm (40 in-lb)**.



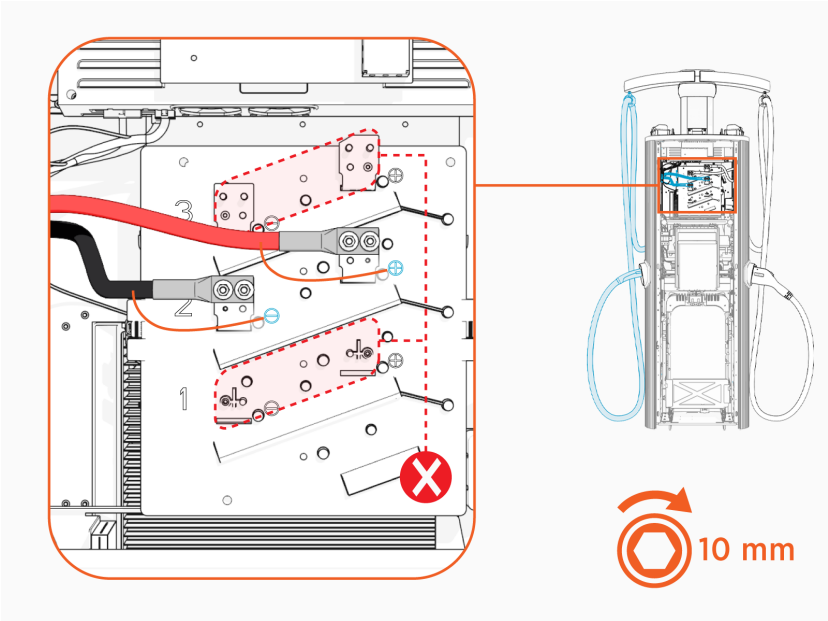
d. Apply a thin coat of dielectic grease on each lug.



e. When you are connecting a charging cable on the right side of the station, use a 10 mm socket hex driver to connect the positive and negative DC conductors from the front tabs of the connector box to the upper set of connectors.



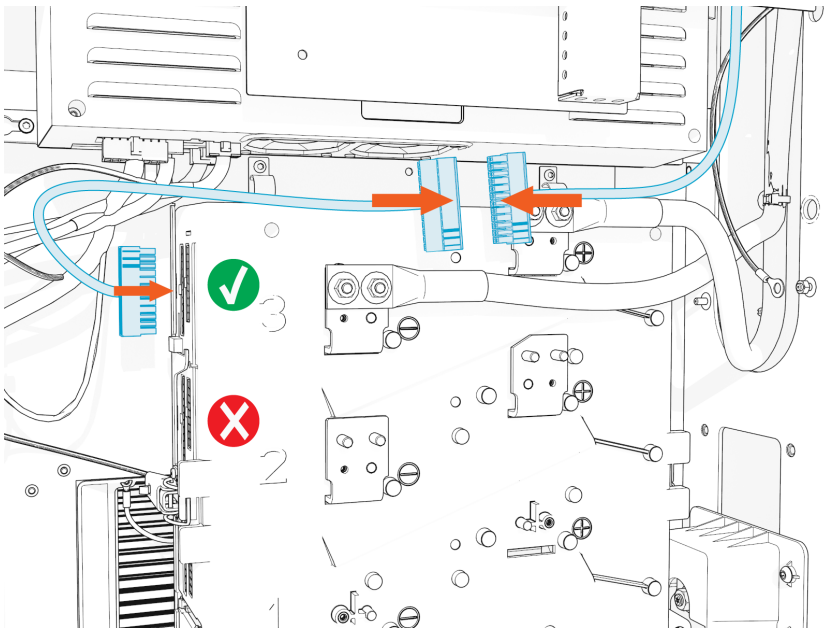
Use the middle set of DC connectors for charging cables on the left side of the station.



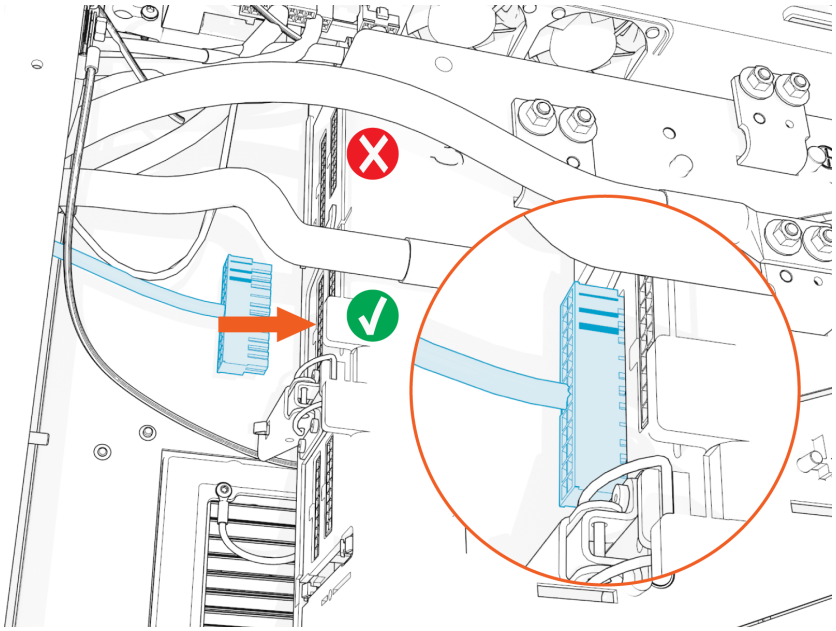
IMPORTANT:
Ensure that the cables have the proper polarity and they are connected to the correct set of terminals in the correct row.

f. If the station is being configured with two CCS charging cables, or if a single CCS cable is installed, connect a data cable extension to the main data cable.

Guide the data cable extension behind the contactor box to connect to the CCS cable and the upper data connector.

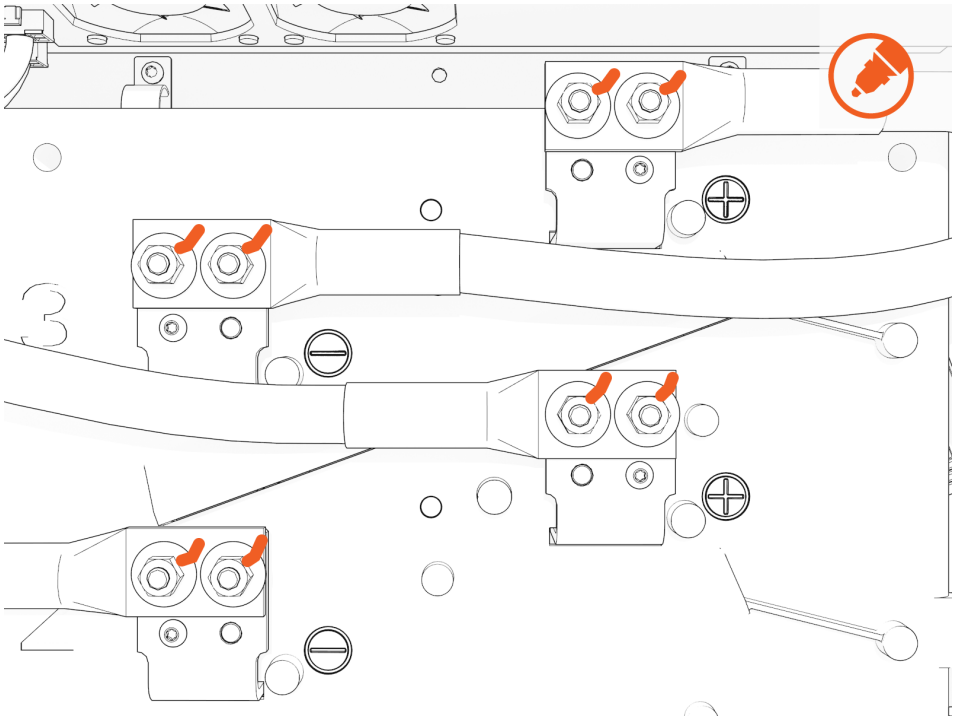


If the single CCS is being installed on the left side when you are standing in front of the station, you do not need the data cable extension. Connect the data cable to the lower data connector.



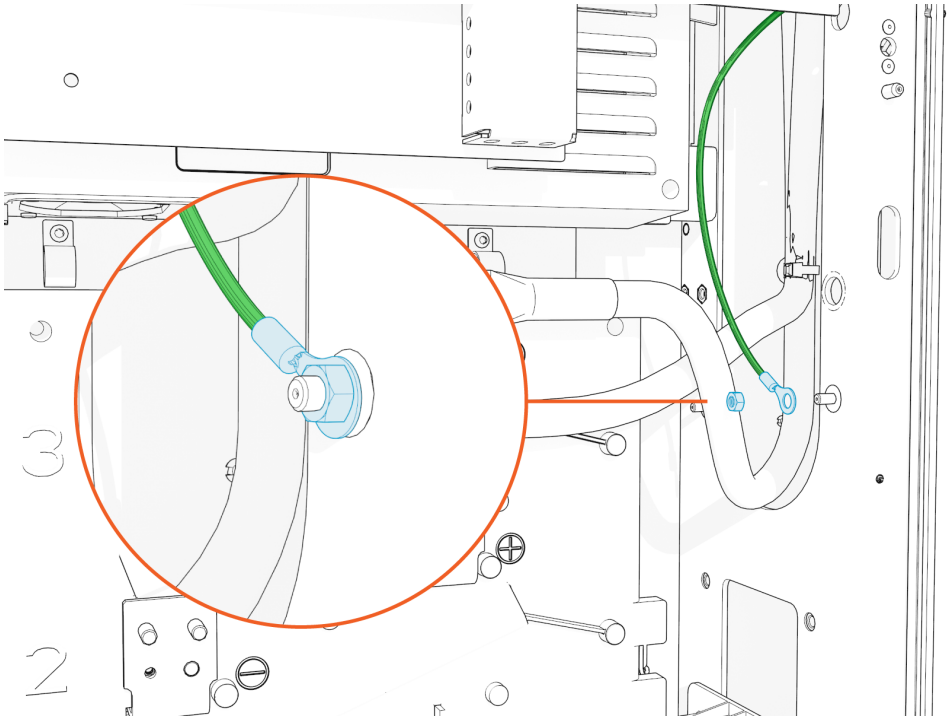
7. Torque each charge cable nut to 5.6 Nm (50 in-lb).

8. Mark all torqued power connections.

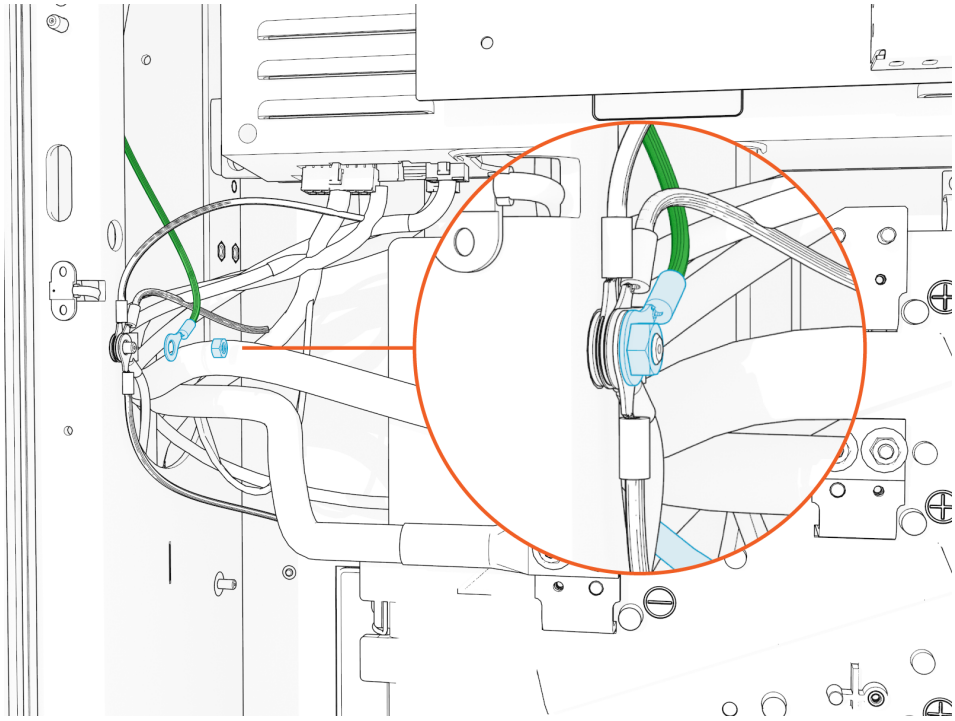


9. Connect ground cable.

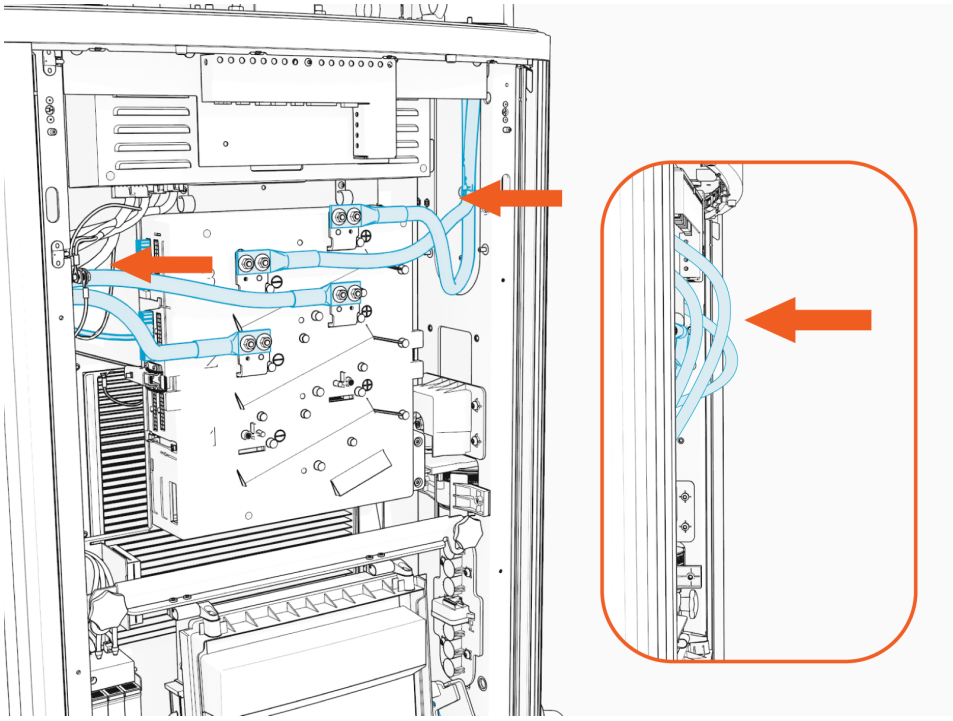
Ground cable right side



Ground cable left side



10. Tuck the cables into the station body so they don't get caught or pinched.



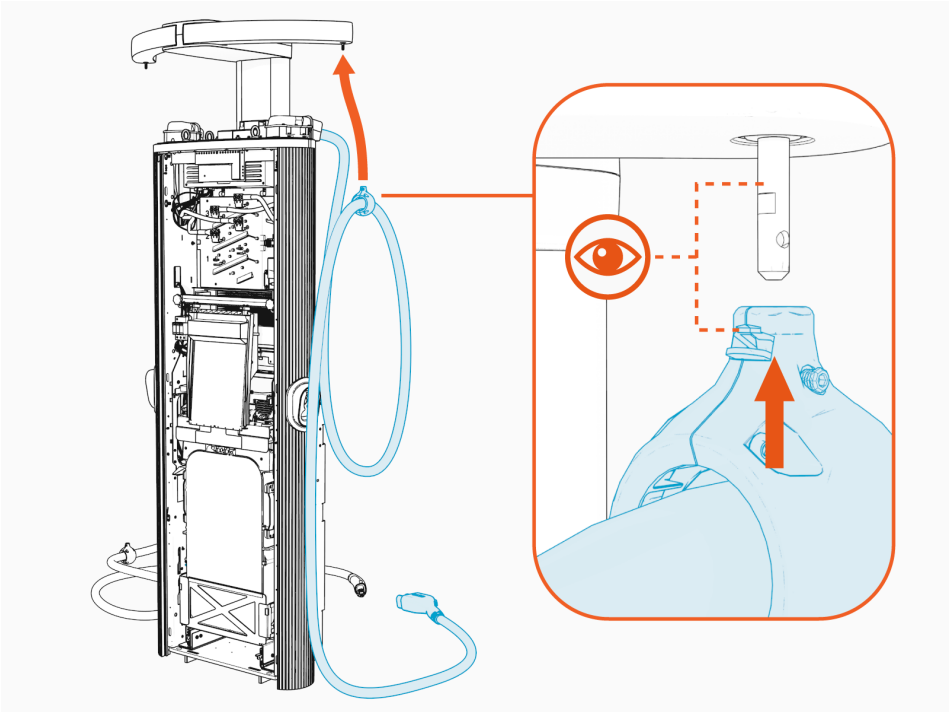
Suspend the Charging Cable

To suspend the charging cable, complete the following steps:

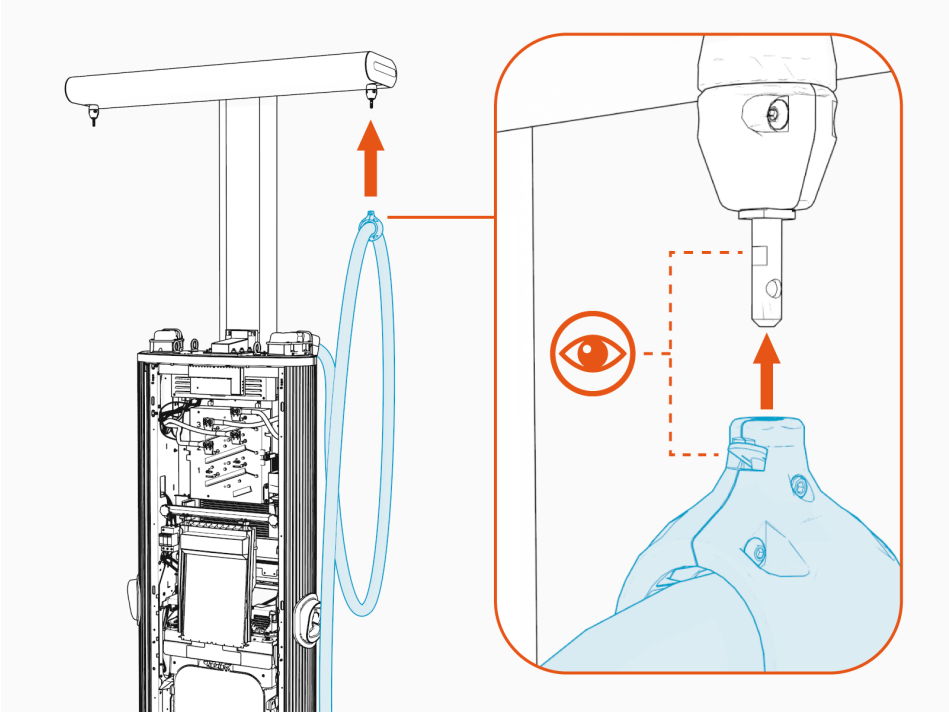
1. Loosen the screw in the tetherball if it is not already loose.

2. Align the spring in the ball clamp with the flat notch on the anchor pin. While aligned, gently push the ball clamp onto the anchor pin.

Standard CMK

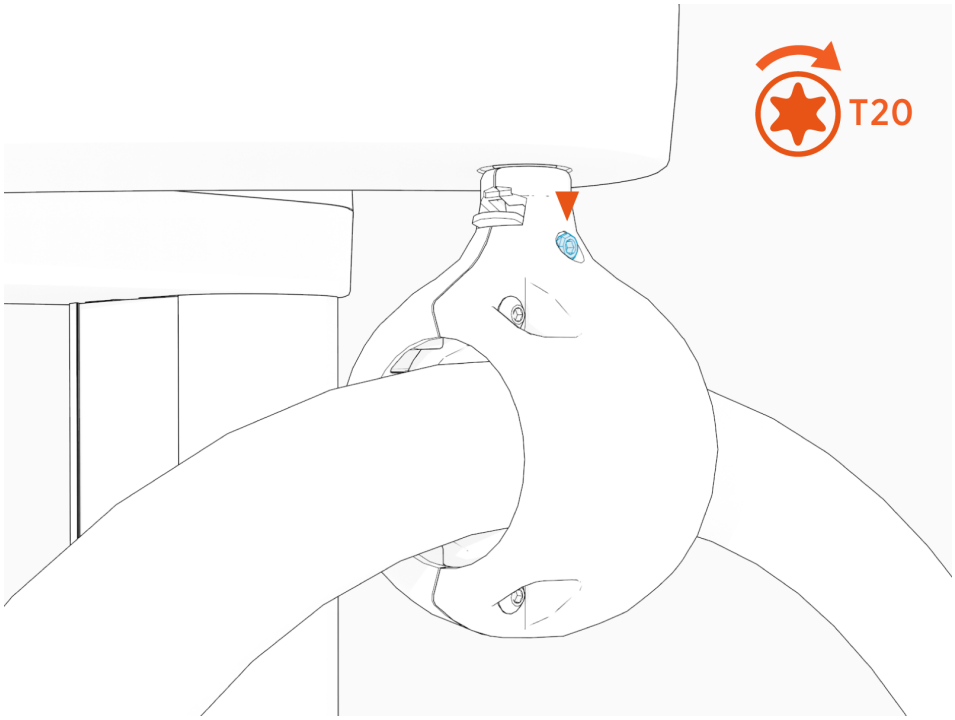


Tall CMK

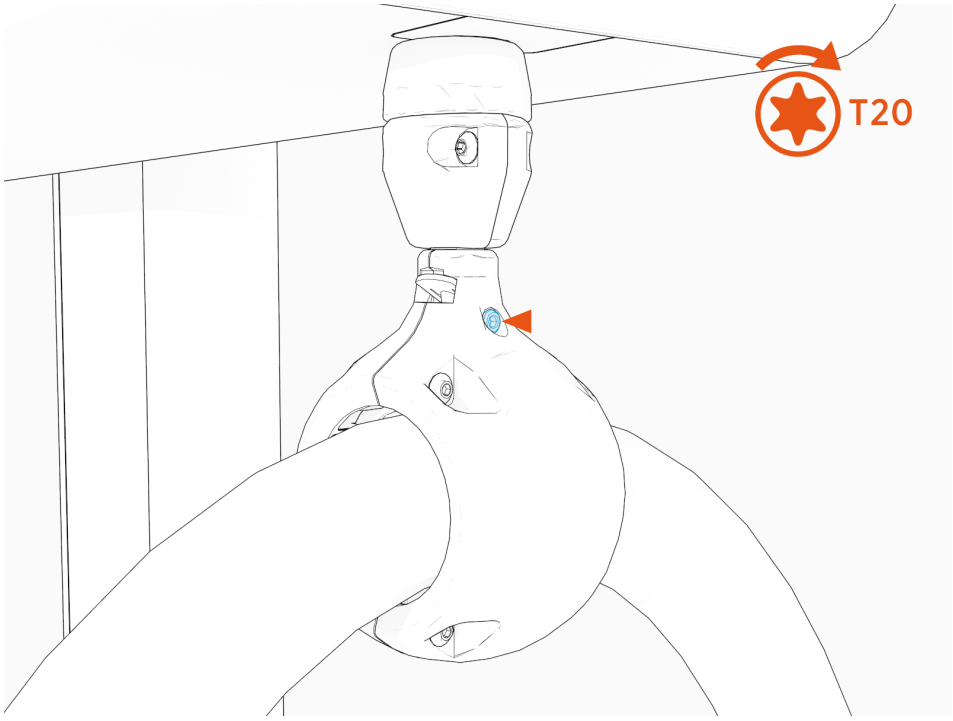


3. Use a T20 Torx screwdriver to **torque the set screw (a) to 2.8 Nm (25 in-lbs)**.

Standard CMK

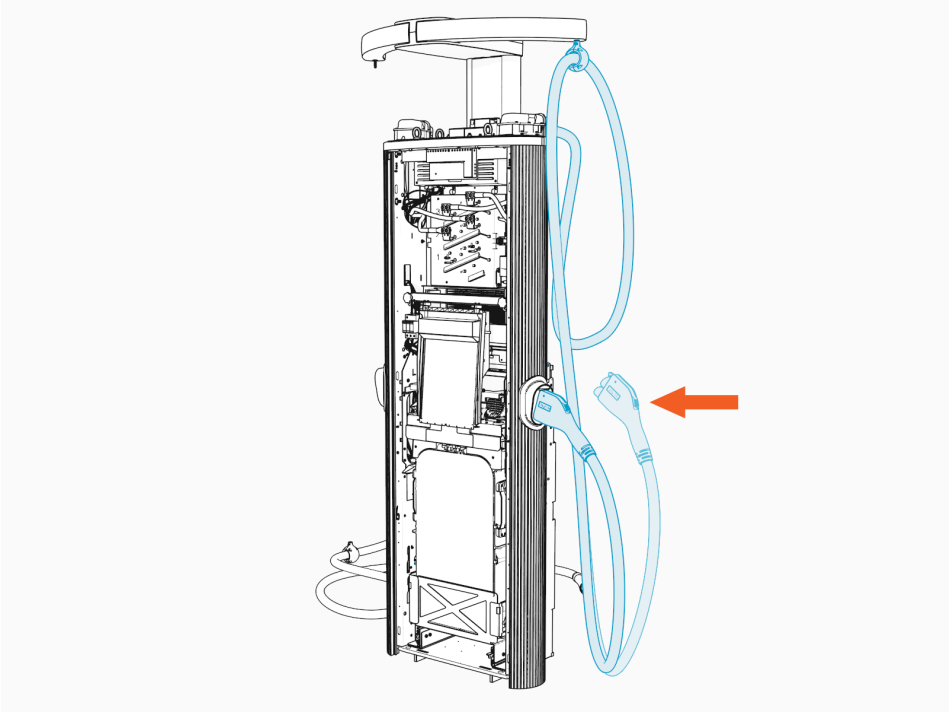


Tall CMK

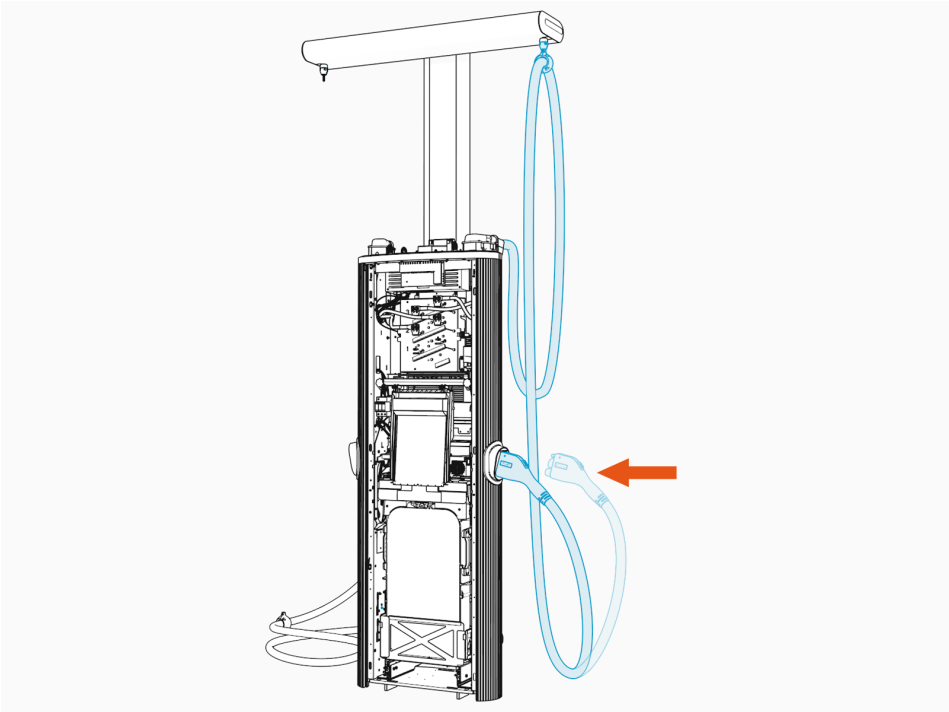


4. Unwrap the charging cable connectors and insert each connector into its corresponding holster.

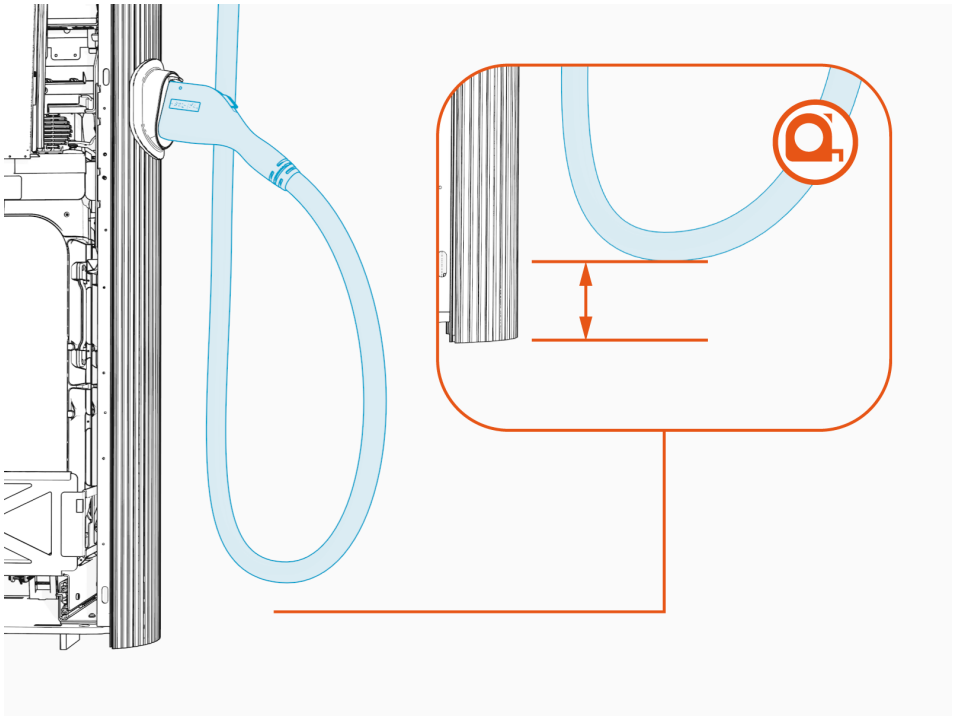
Standard CMK



Tall CMK

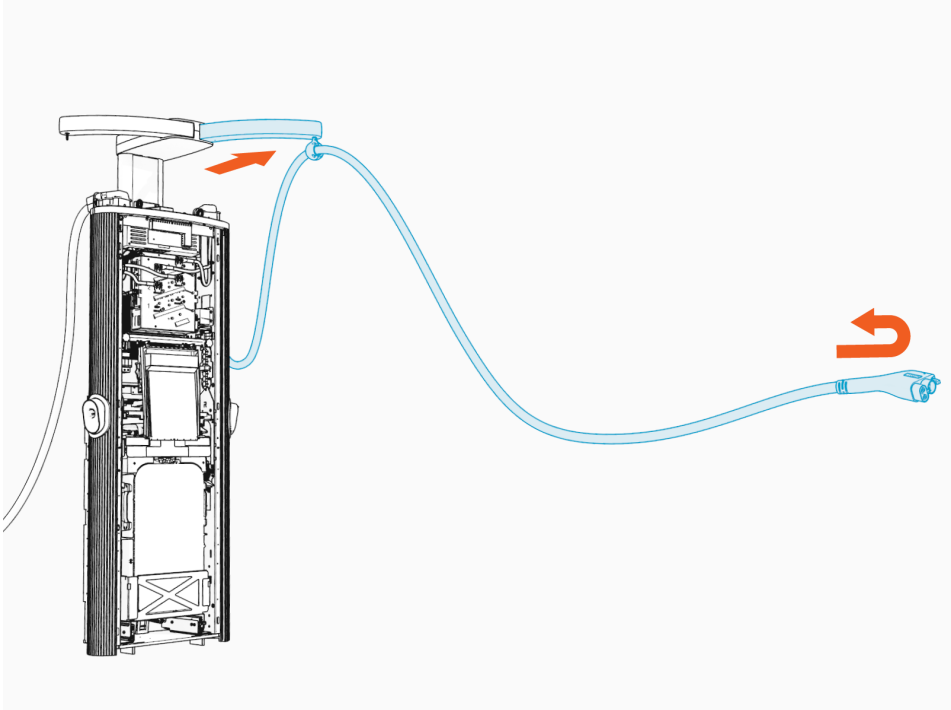


5. Check the lowest point of the cable. It should be a few inches above the ground. Adjust the position of tetherball on the charging cable if necessary.

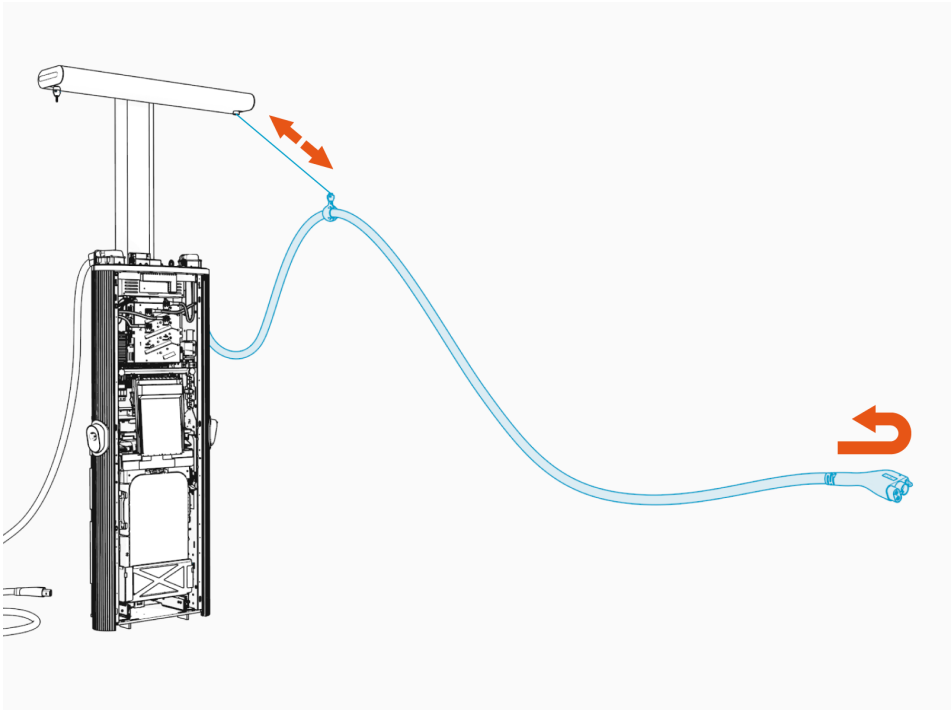


6. Tug on cable to confirm that it is securely attached and check that the CMK is functioning. If you find limited motion or retraction, contact ChargePoint at chargepoint.com/support.

Standard CMK



Tall CMK

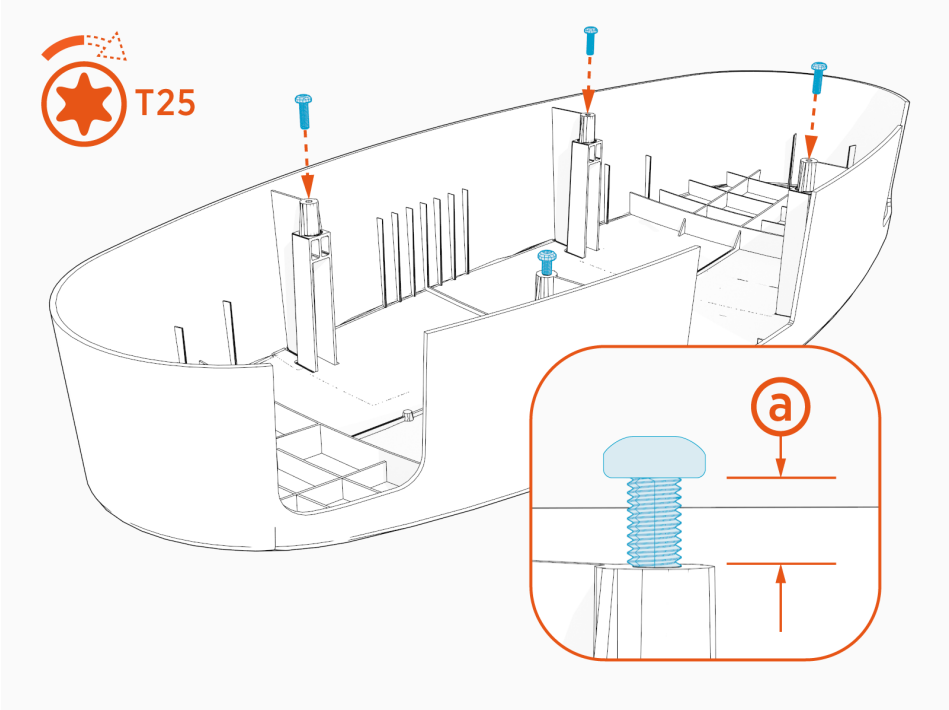


7. If two charging cables are to be installed, repeat for the other side.

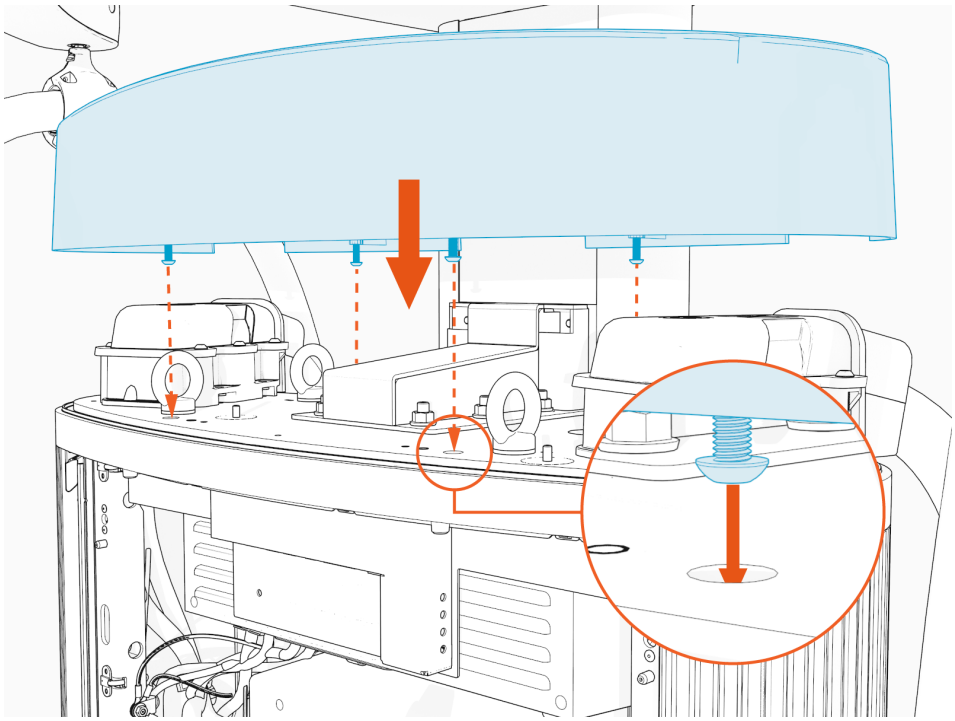
Install the Top Cap

To install the top cap, complete the following steps:

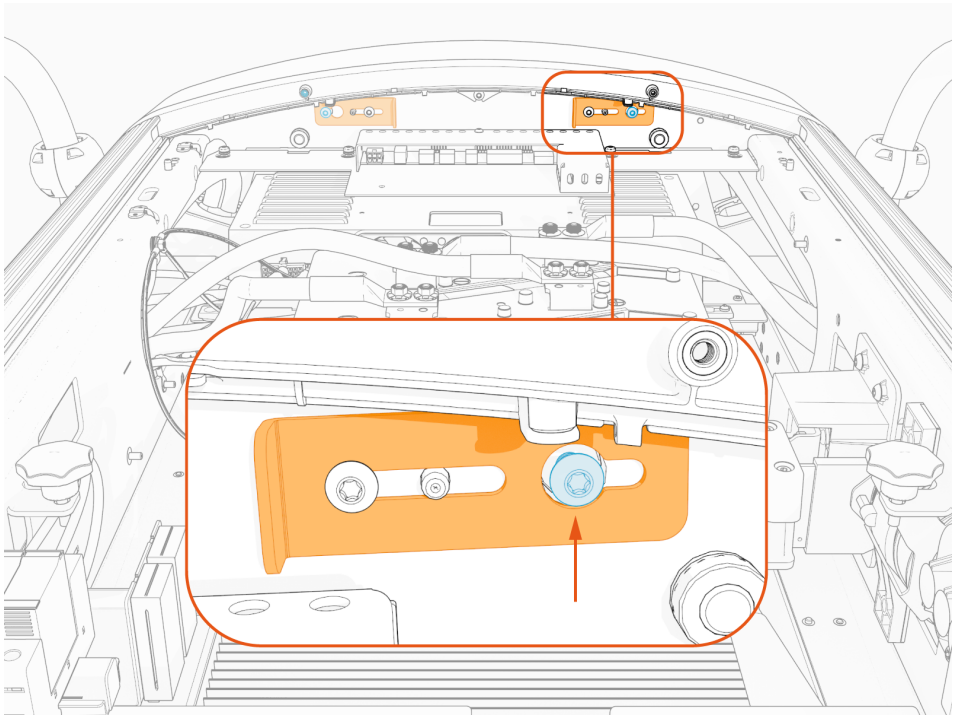
1. Remove the top cap from the packaging.
2. Install the four screws that shipped with the top cap. Allow 10 mm clearance **(a)**. Ensure the screws are secure.



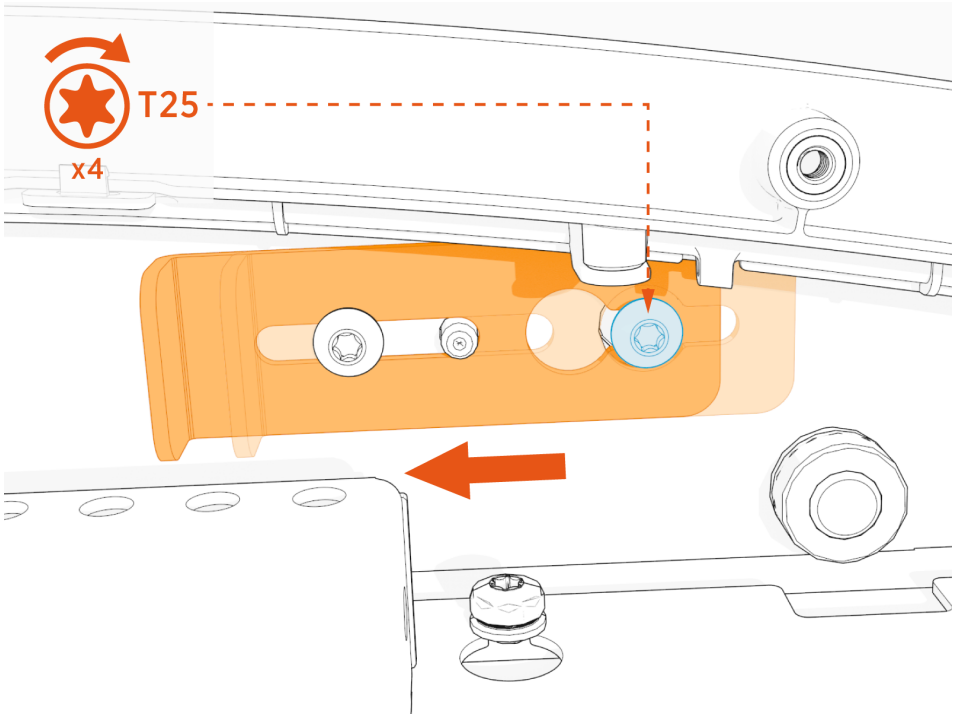
3. Align the top cap screws with the corresponding holes on the station.
   Place the top cap onto the Express 280.



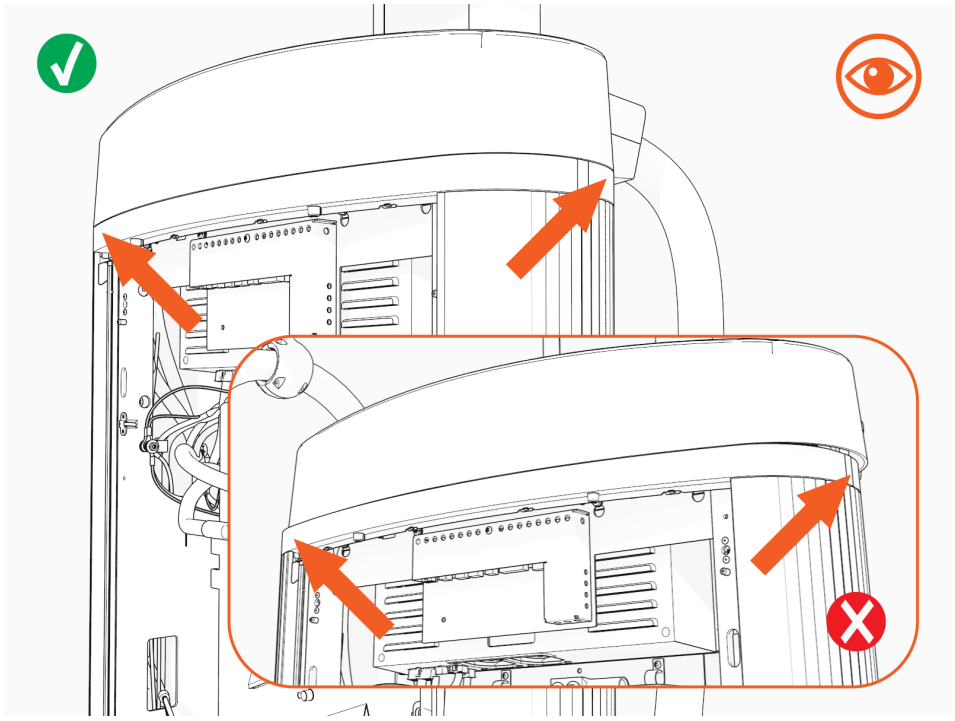
4. Ensure the screws go through the keyhole openings on the orange latches inside the station.



5. Slide each latch toward the center of the station.



6. Ensure the top cap is centered on the Express 280.



7. **Use a T25 Torx screwdriver to torque the four top cap screws to 25 in-lbs.**

Install the Rear Cover Panels

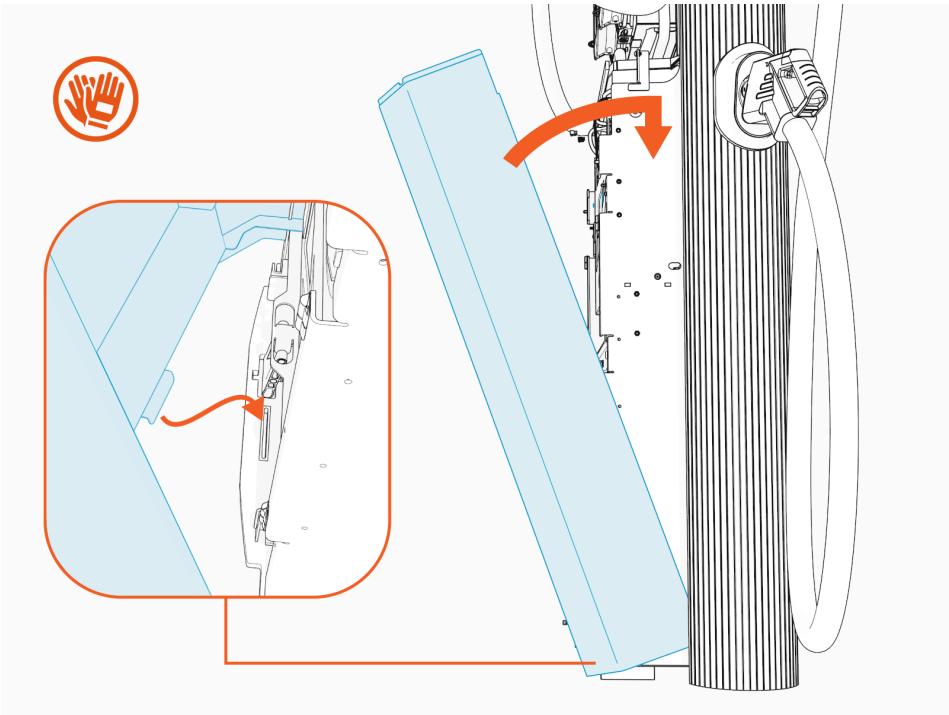
To install the rear cover panels, complete the following steps:

IMPORTANT:
When installing the rear panels, take special care to ensure that each panel is correctly positioned. Failure to do so can prevent station operation.

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

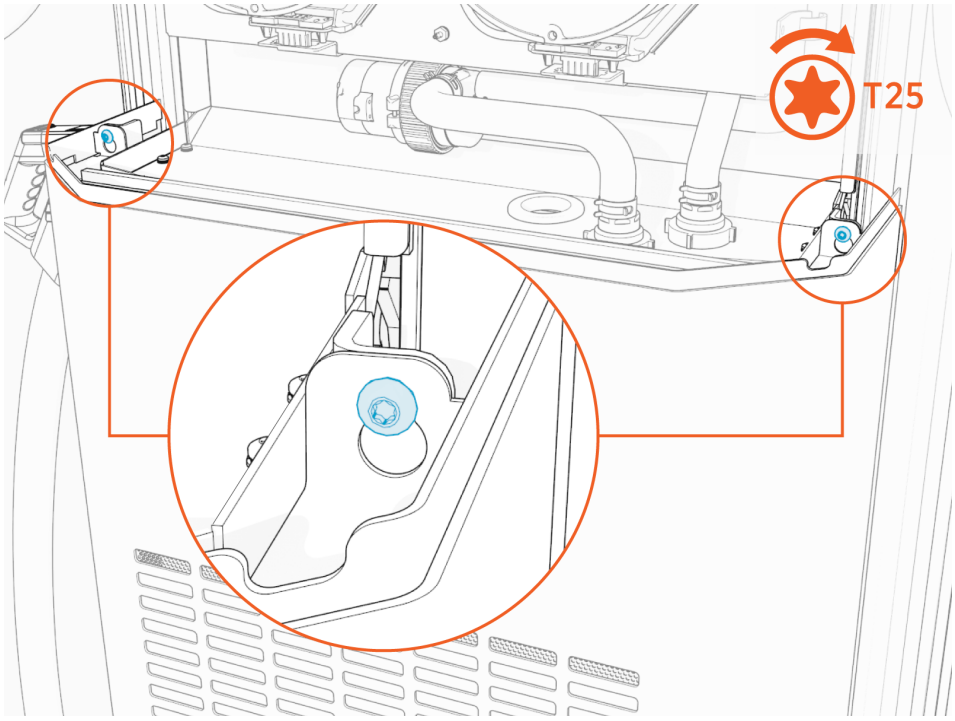
Wear cut-resistant gloves when installing bottom and middle rear panels.

1. Align the guide tab along the bottom edge of the lower rear panel to the matching slot on the Express 280.



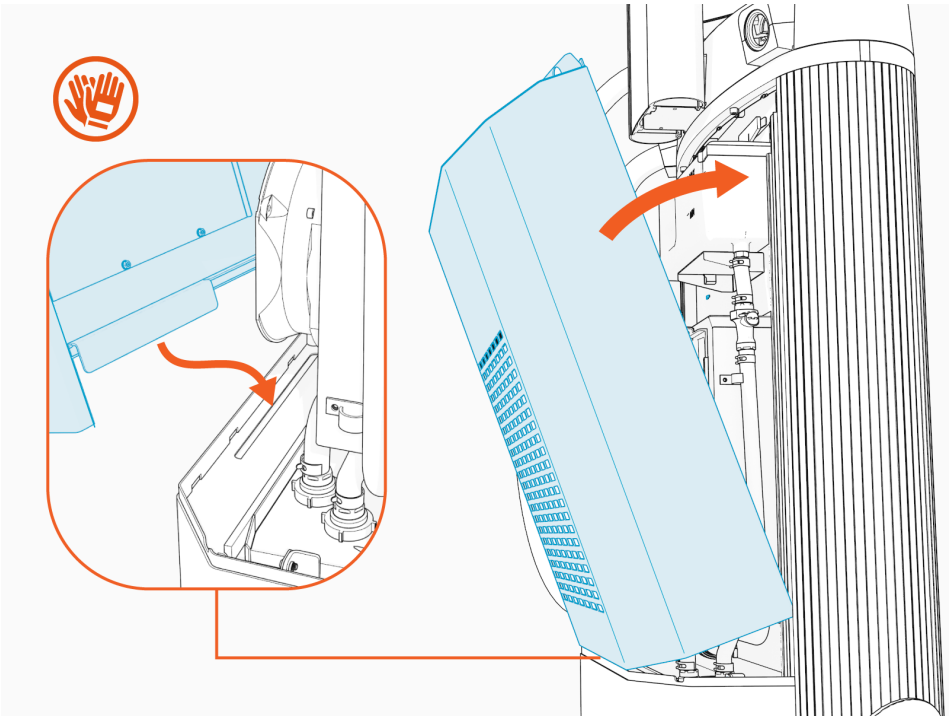
2. Carefully push the panel forward and down until the key holes align with the screws on the station.

   Use a T25 Torx screwdriver and two screws to secure the top of the lower rear panel to the enclosure frame. **Torque to 2.8 Nm (25 in-lb).**

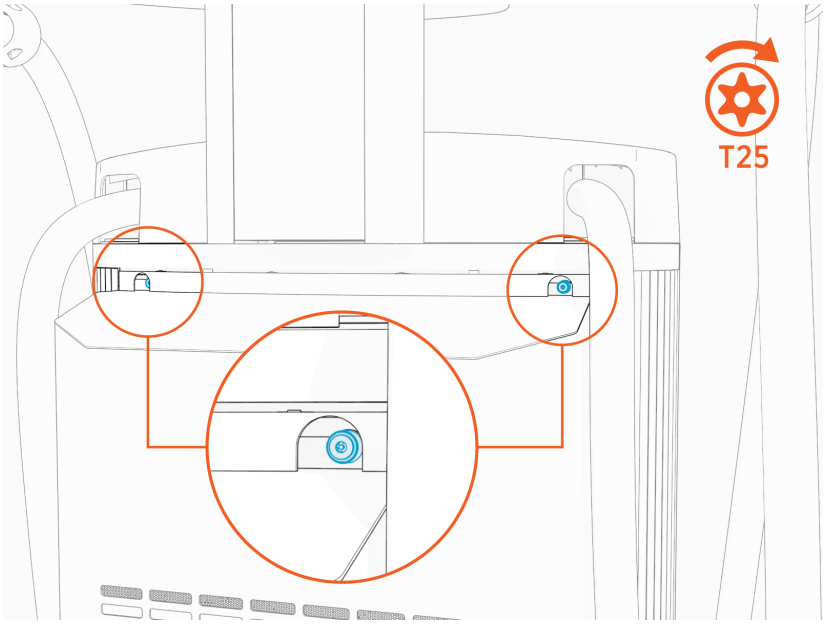


3. Using two hands, align the guide tab along the bottom edge of the upper rear panel to the matching slot on the lower rear panel. Carefully push the panel forward and down.

> **IMPORTANT:**
> Wear cut-resistant gloves and hold the sides of the panel gently when installing it.



4. Use a T25 Torx Security screwdriver and two screws to secure the top of the upper rear panel to the enclosure frame. **Torque to 2.8 Nm (25 in-lb).**



5. Remove the blue protective film from the two rear panels.

Install the Front Cover Panels

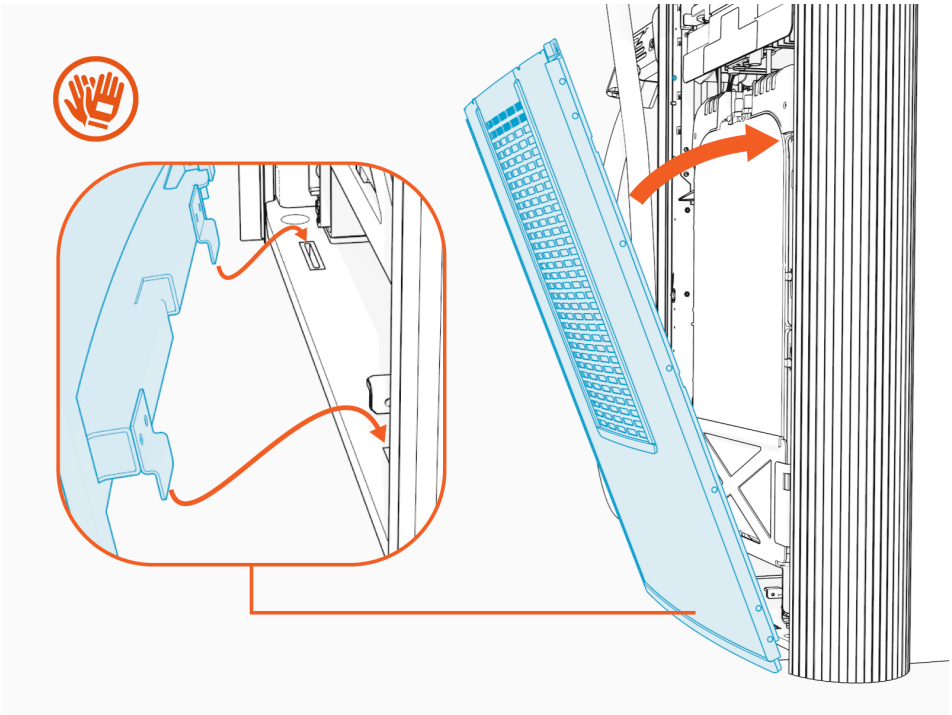
To install the front cover panels, complete the following steps:

1. Align the guide tabs on the front bottom panel to the matching slots on the Express 280's frame. Push the panel down carefully until the bottom edge aligns with the bottoms of the side panels.

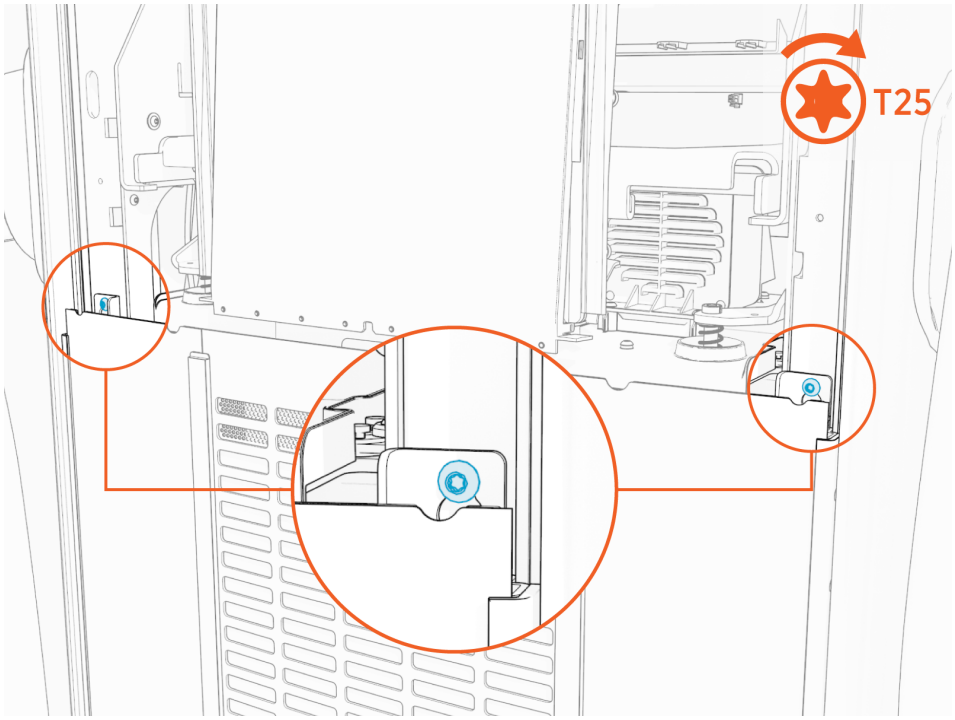
   Ensure the panel installation does not tear or break the gaskets on the inner edges of the side extrusions.

   IMPORTANT:
   Wear cut-resistant gloves and hold the sides of the panel gently when installing it.

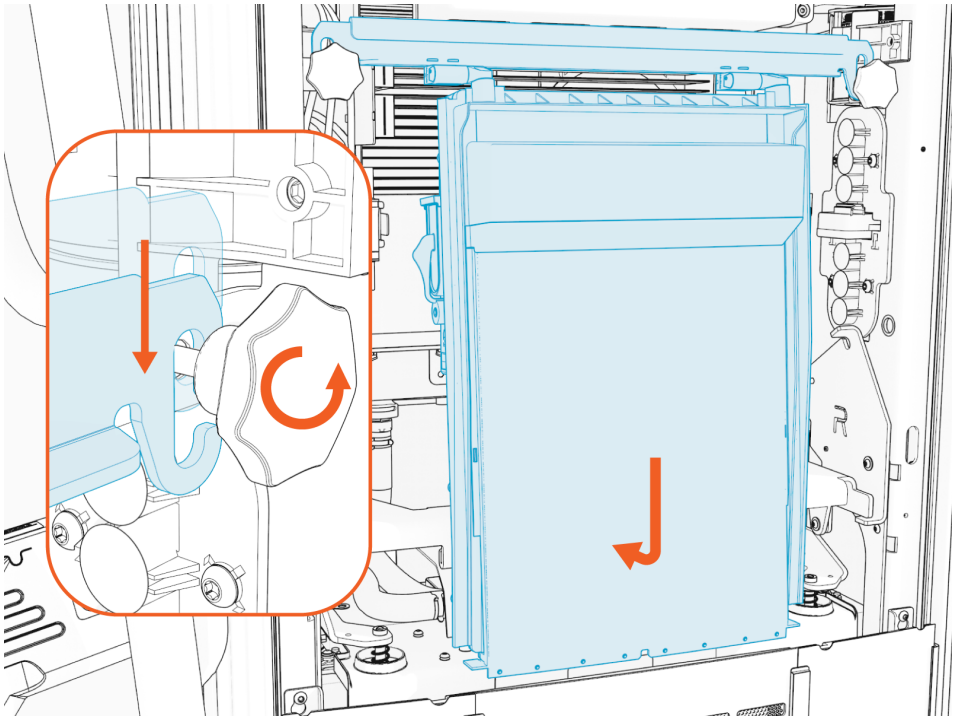
2. Tilt panel forward until it aligns with the slots on the side panels. Press panel downward into place.



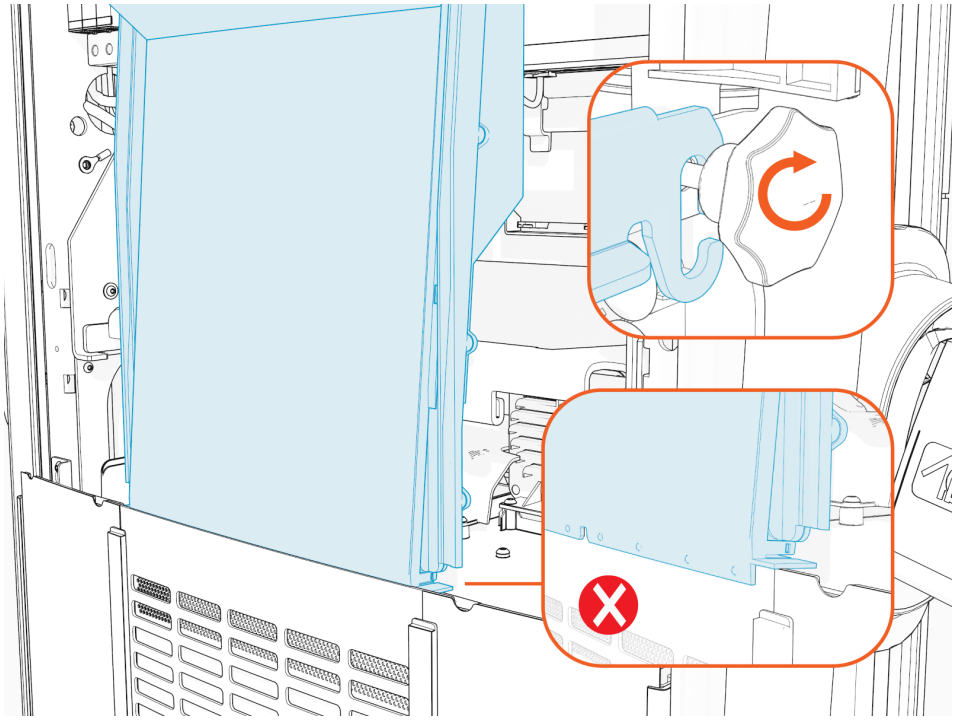
3. Using a T25 Torx screwdriver and two captured M5 screws, secure the lower front panel in place. **Torque to 2.8 Nm (25 in-lb).**



4. Press the bottom of the touchscreen down so the lower edge fits inside the bottom panel.



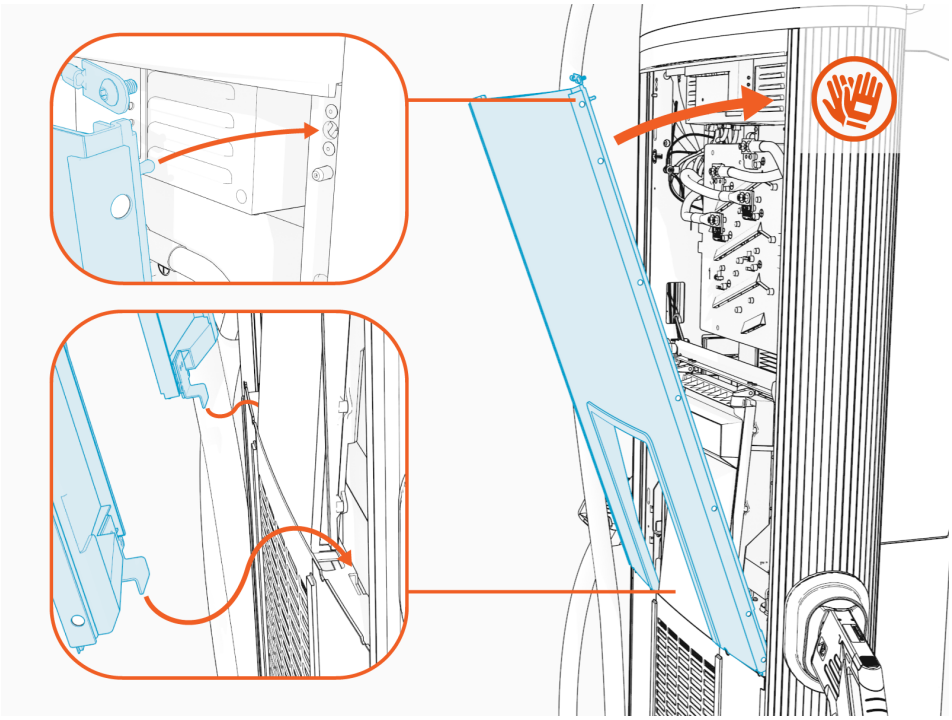
5. Keeping pressure on the edge of the touchscreen to properly seat it inside the panel, slide the touchscreen beam down. Re-tighten the knobs to secure it.



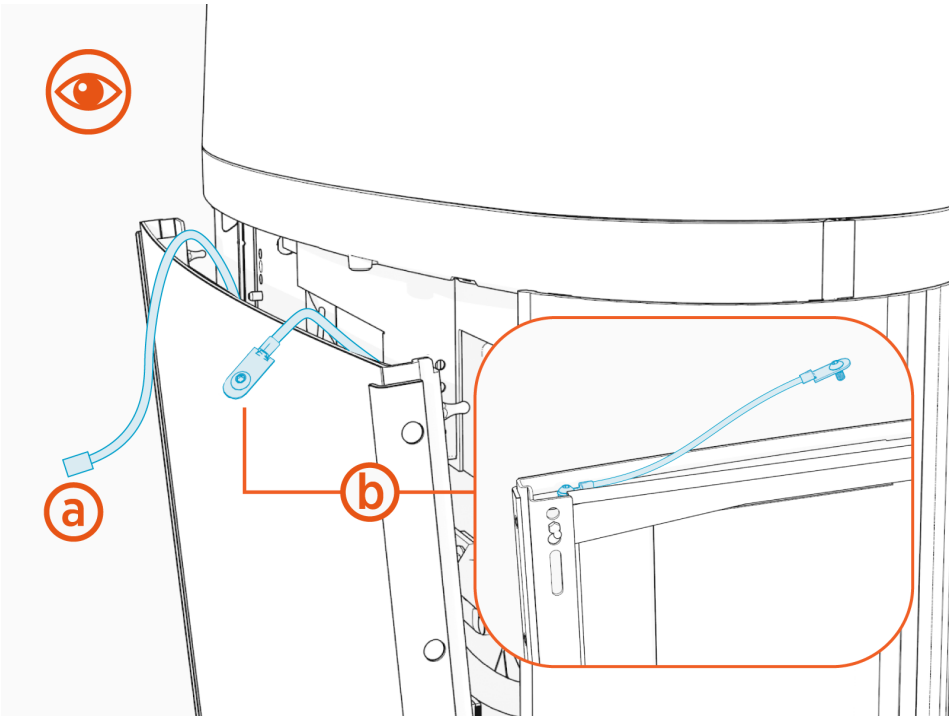
IMPORTANT:
Ensure the touchscreen is centered horizontally with the front panel.

6. Using two hands, align the guide tabs on the front upper panel with the corresponding slots.

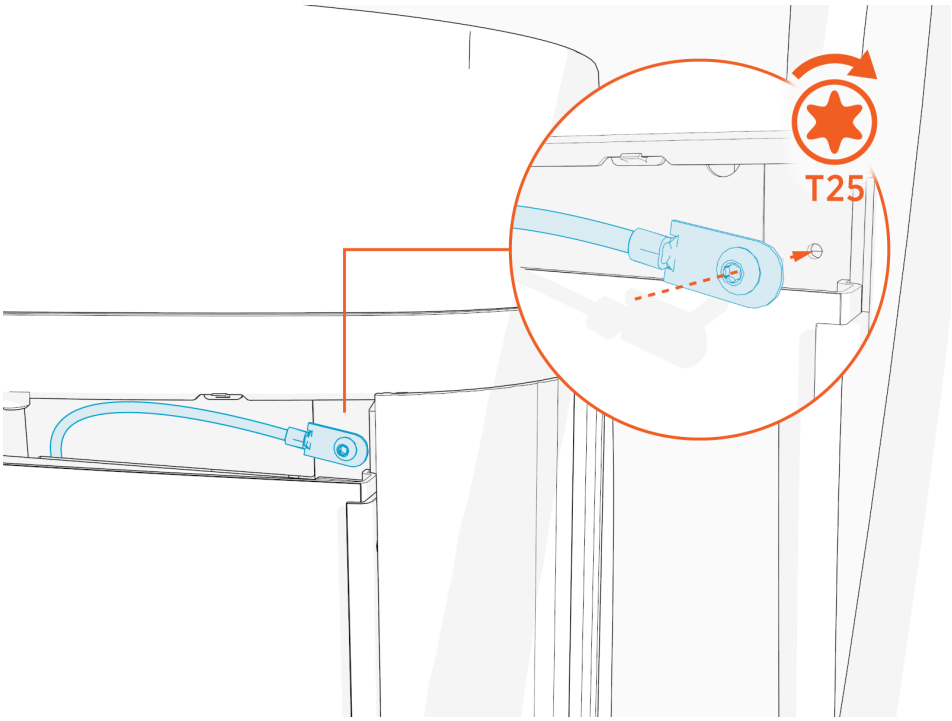
IMPORTANT:
Wear cut-resistant gloves and hold the sides of the panel gently when installing it.



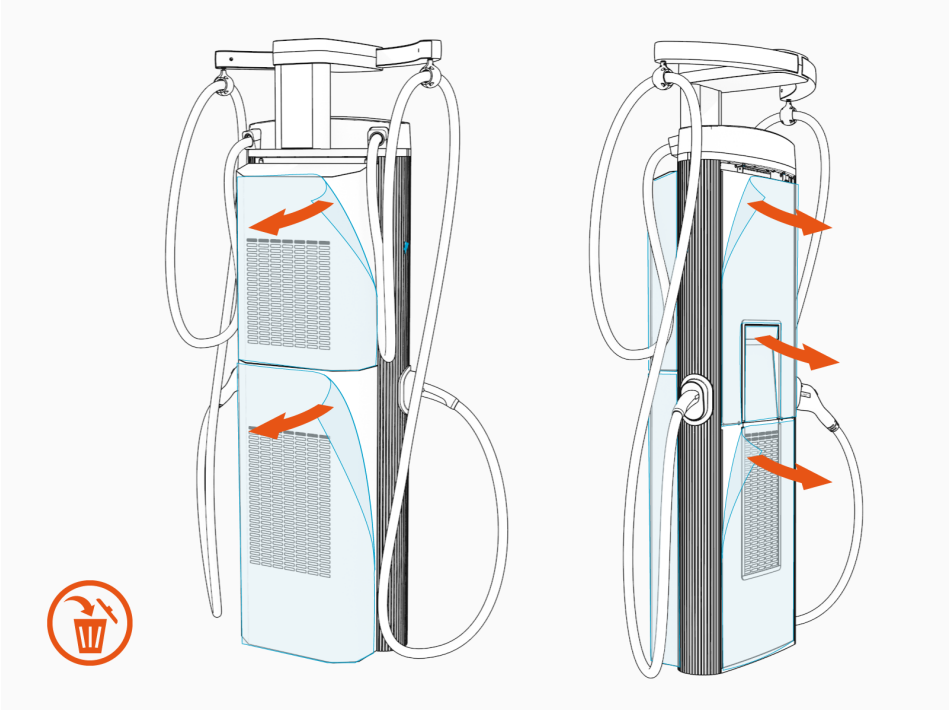
7. Ensure the power cable **(a)** and the ground cable **(b)** at the top of the Express 280 are not captured by this front upper panel and are easily accessible.



8. Carefully push the panel toward the station body until the alignment posts snap into place.
9. Use a T25 Torx screwdriver to secure the ground cable from the front panel to the station frame.



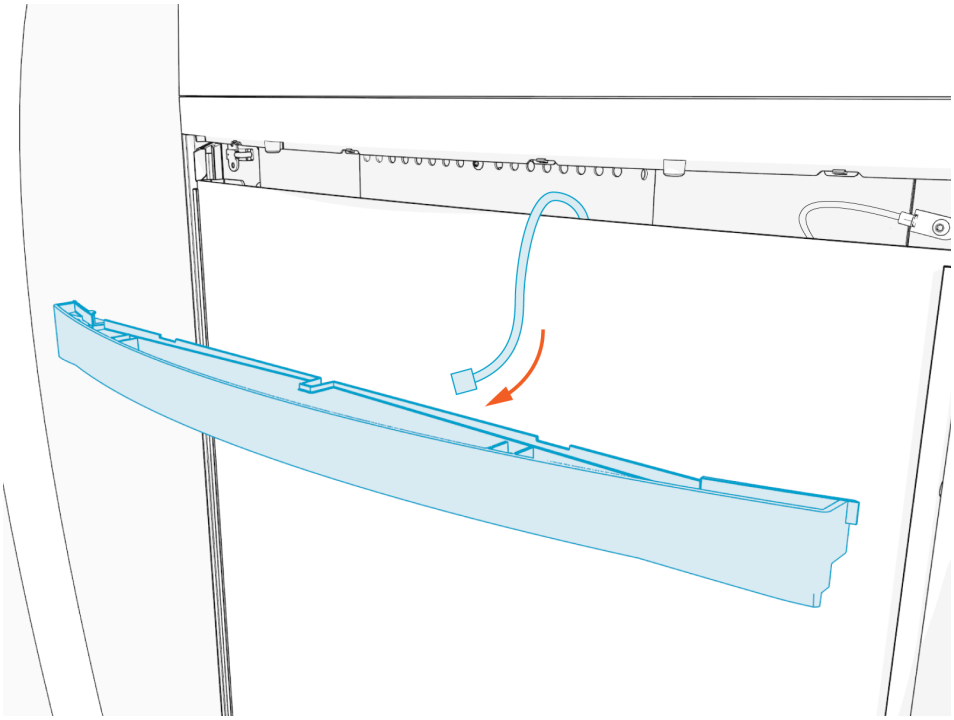
10. Remove the blue protective film from front and rear panels and screen.



Install the Area Light Bar

To install the area light bar, complete the following steps:

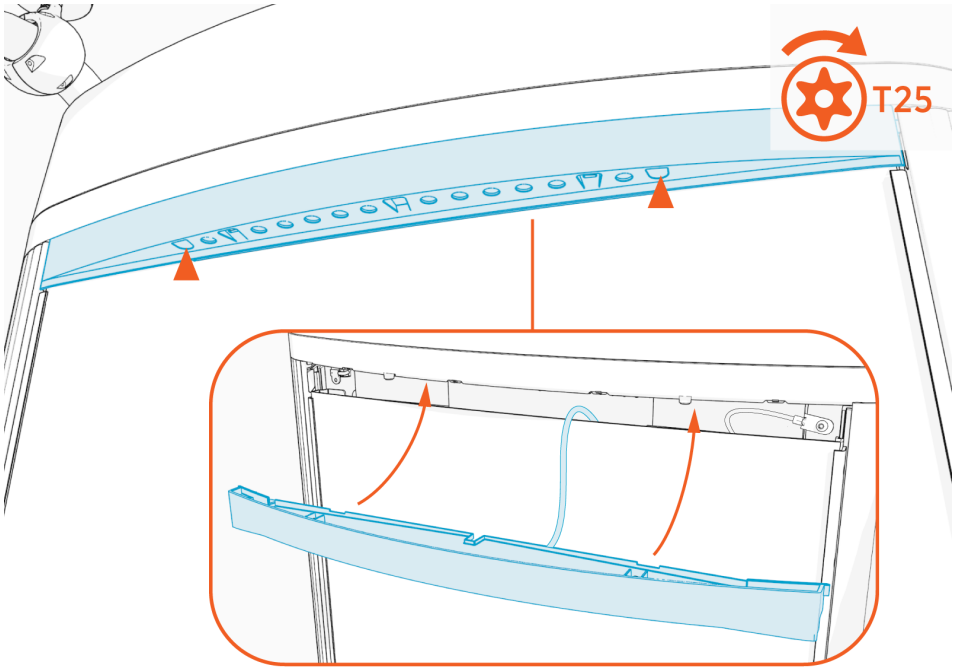
1. Position the area light bar above the upper front panel.
2. While holding the area light bar near the opening at the top of the Express 280, guide the power cable through the notch in the center of the area light bar.



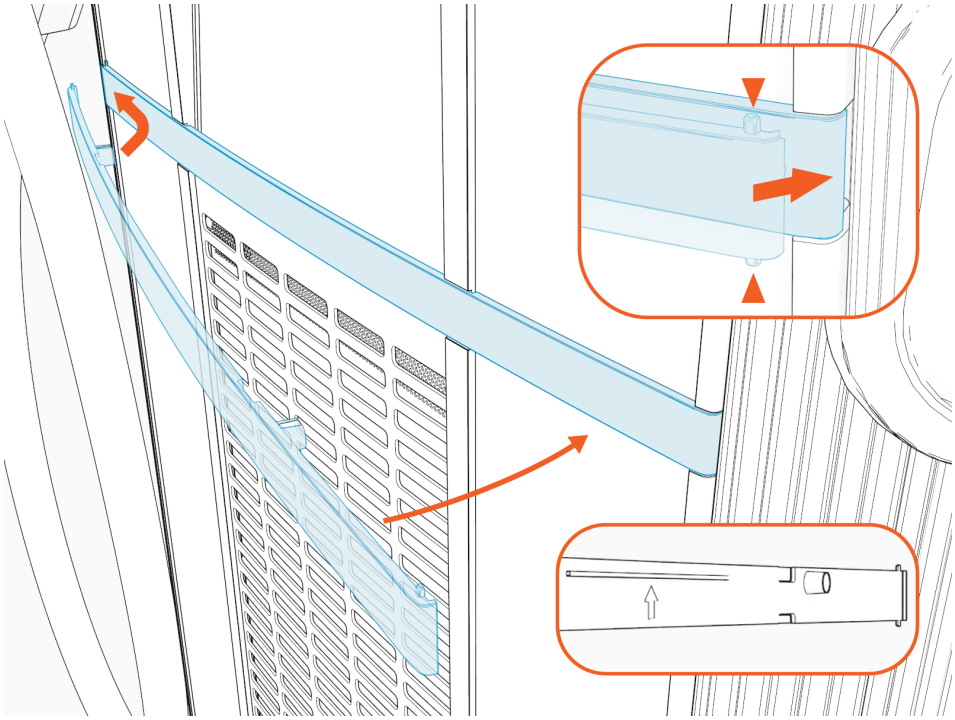
3. Connect the power cable from the Express 280 to the area light bar.

IMPORTANT:
Make sure to route the cable carefully so it does not get pinched.

4. Use a tamper resistant T25 Torx screwdriver to tighten the two captive screws on the bottom edge of the area light bar. **Torque to 2.8 Nm (25 in-lb).**



5. Attach the trim panel.



IMPORTANT:
You have now completed the physical installation of the Express 280. Follow the steps in the next section to complete the installation. Do not leave the installation site until you complete all steps in the next section and verify the Express 280 is operating correctly.

Set Up Express 280 8

To set up Express 280, complete the following steps:

IMPORTANT:
Do not power on Express 280 after completing the installation (after installing the covers). An authorized commissioning partner will commission, power on, pinpoint, and configure Express 280 after installation. If you are authorized to do so, complete the following procedures:

Power On

You must be a ChargePoint certified installer, technician, or commissioning partner to power on the charging station, or warranty limitations apply.

1. Ensure all panels, covers, vinyl signs, and all other parts have been correctly installed and the work is complete.
2. Turn on power at the same points that you turned it off.

   NOTE: If the site has a remote shunt trip switch, ensure that the switch is in the operating position.

3. Wait for self-diagnostics to run.
4. View diagnostics information.
5. If you have not yet configured the station (such as pricing, messaging, and additional options), do so after installation or service is complete. Refer to the Express Plus *Operation and Maintenance Guide*.

Self-Diagnostics

The station runs the following self-diagnostics after being energized. The system may take several minutes to initiate. You may see messages intermittently until the system fully boots up.

Self-Diagnostic	After Installation	After Service or Power Outage
Electrical safety checks	✓	✓
Lighting checks	✓	✓

Self-Diagnostic	After Installation	After Service or Power Outage
Display panel checks	✓	✓
Component operation checks	✓	✓
Network connectivity checks	✓	✓

View Diagnostics Information

1. Log in to the ChargePoint Platform at na.chargepoint.com or ca.chargepoint.com or eu.chargepoint.com.
2. Select Stations.
3. Apply filters to locate the desired station.
4. Select the station name to view the station-specific information.

IMPORTANT:
If a red status alert appears, contact ChargePoint immediately at chargepoint.com/support. A yellow status alert provides you with information that may require action (such as maintenance action) or no action.

Set Up Express 280

After you power on the charging station at the breaker panel, set up Express 280. To do so, you need:

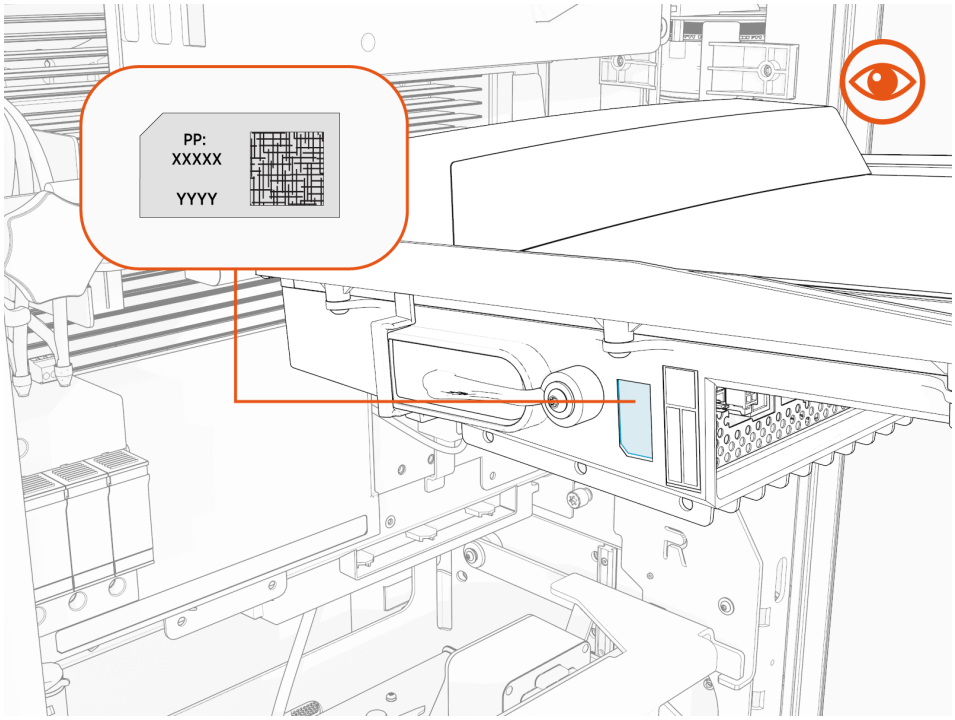
- ChargePoint installer login credentials.
- Activation label (QR code label including the MAC address and activation password).
- The exact location (to the parking space) where the Express 280 is installed.
- A smartphone with ChargePoint Installer app, Internet connectivity, and QR code scanner (usually built into the camera app).

  Scan the QR code to download the Installer app, and sign up if necessary.

Follow the steps below to set up Express 280:

1. Open the ChargePoint Installer app and log in.
2. Follow the onscreen prompts.

> **NOTE:** To connect to Express 280 and complete setup, you need to scan the QR code or manually enter the MAC address and password of Express 280. You can find them on the activation label affixed on top of the display or non-display unit.



Recommended Install Checklist 9

Before leaving the installation site, complete the post-installation checklist using the link below:

https://docs.chargepoint.com/ref-docs-sec/content/pdfs/3-dc/express280/exp280-install_checklist.pdf

Provide the checklist and any spare parts (activation labels, and so on.) to the person responsible for activating the stations. This completes the installation of the Express 280 charging station.

Install Surface Conduit Entry Box 10

Surface Conduit Entry (SCE) kits allow above-ground conduit in Express 280 charging station installations where new concrete pads or underground conductors are not possible. The SCE kit also supports adding above-ground conduit to pair an already-installed standalone Express 280 station with another Express 280 station for shared DC output.

Follow these instructions to install a SCE kit on each Express 280 charging station. These steps are the same for both standalone and paired installations.

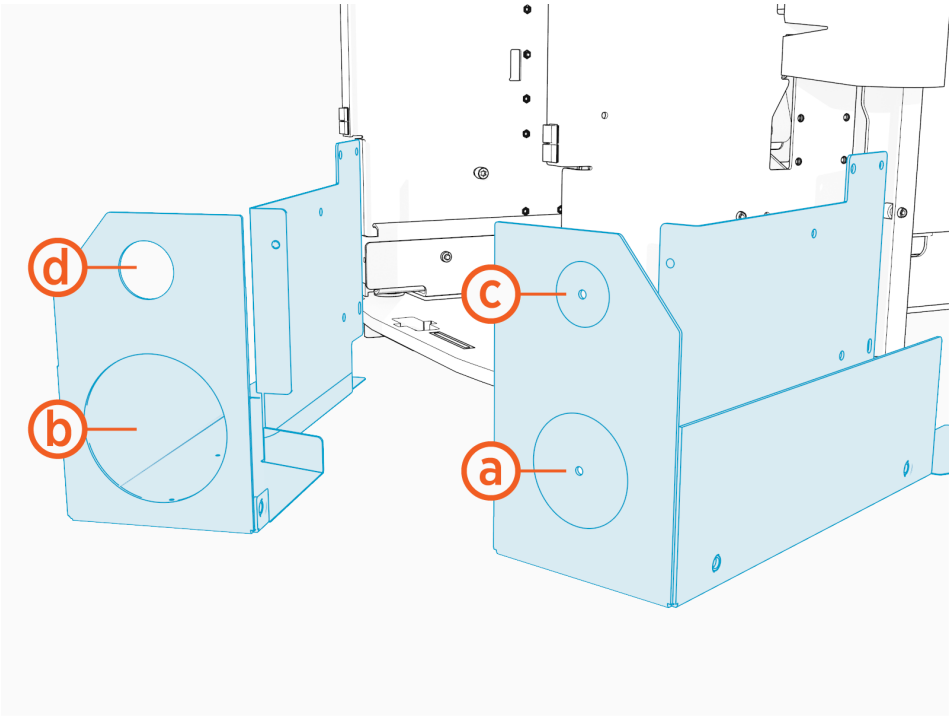
IMPORTANT:
If the site has height constraints for installation, contact ChargePoint to get instructions and clearances that you will need for the modified process.

Prepare the Surface Conduit Entry (SCE) Box Base

To prepare the surface conduit entry (SCE) box base, configure the following steps:

1. Measure the diameter of the conduit.
2. Using the pilot holes on the SCE box base as a guide, use a sheet metal drill bit to create a hole in the rear face of the box for AC wires **(a)**. Drill the circle for DC wires **(b)** only if the station will be paired.

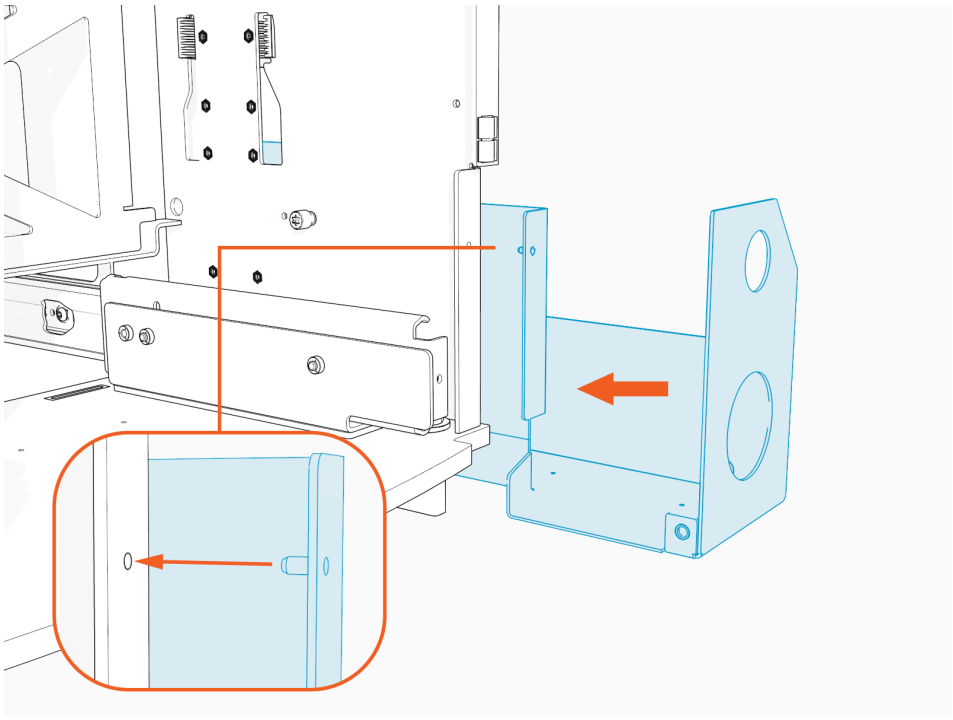
   If the station will have shunt trip wiring **(c)** or Ethernet **(d)**, use a 45 mm (1-3/4 in) core bit to drill holes based on the pilot hole markings.



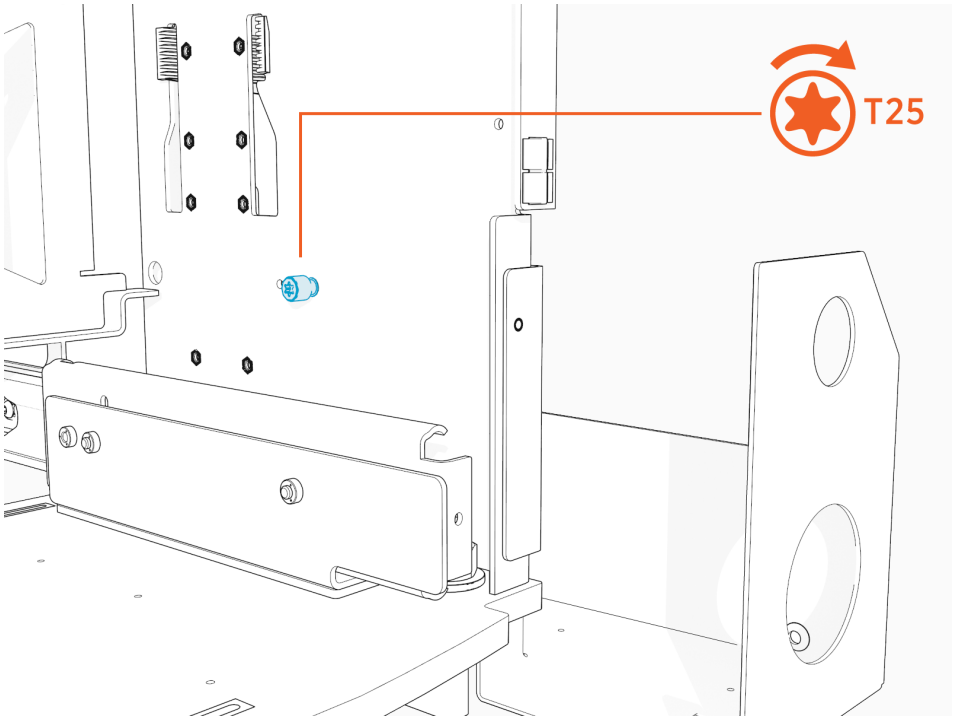
Attach SCE Box Base

To attach the SCE Box Base, configure the following steps:

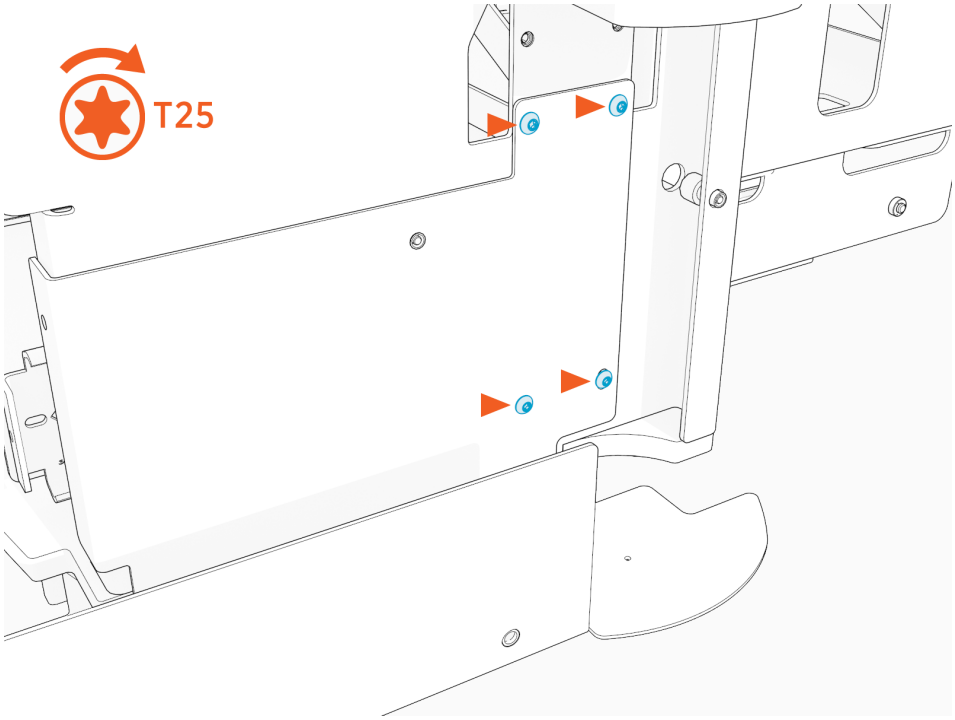
1. Align the pin on the SCE box base to hole on the station frame.



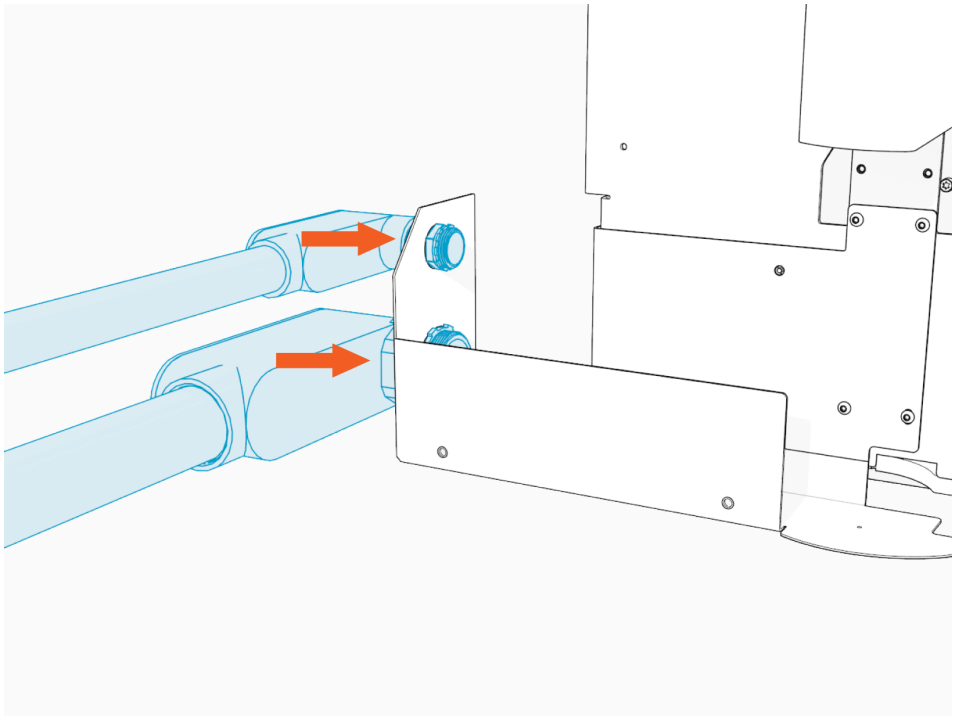
2. Use a T25 Torx screwdriver to tighten the thumb screw to secure the SCE box base to the station frame.



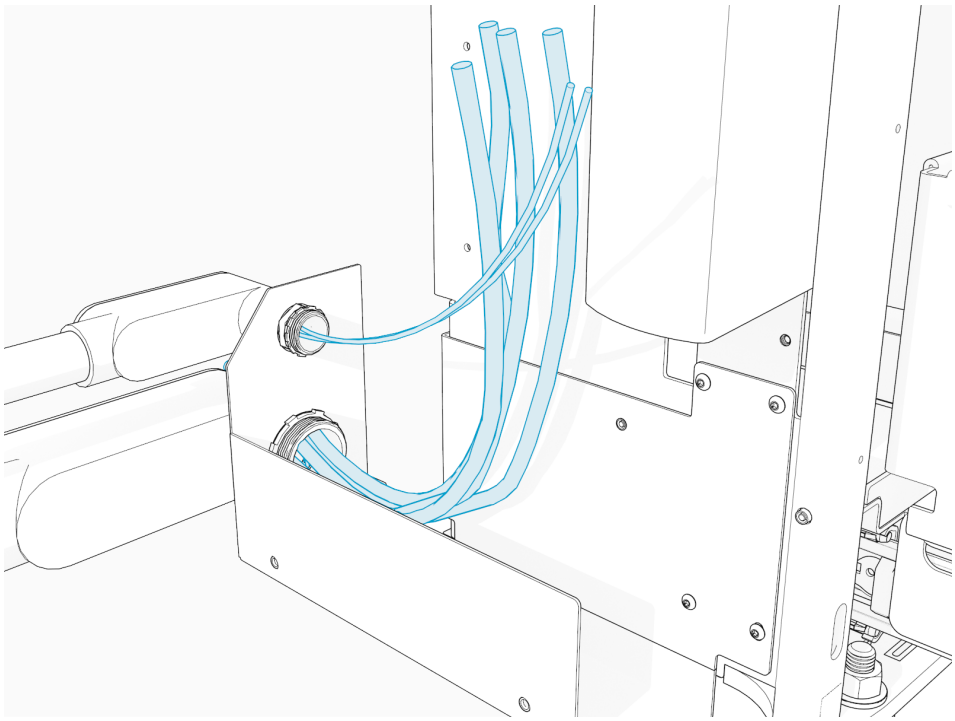
3. Use a T25 Torx screwdriver and four screws to secure the SCE box base to the frame. Torque to **4.5 Nm (40 in-lb)**.



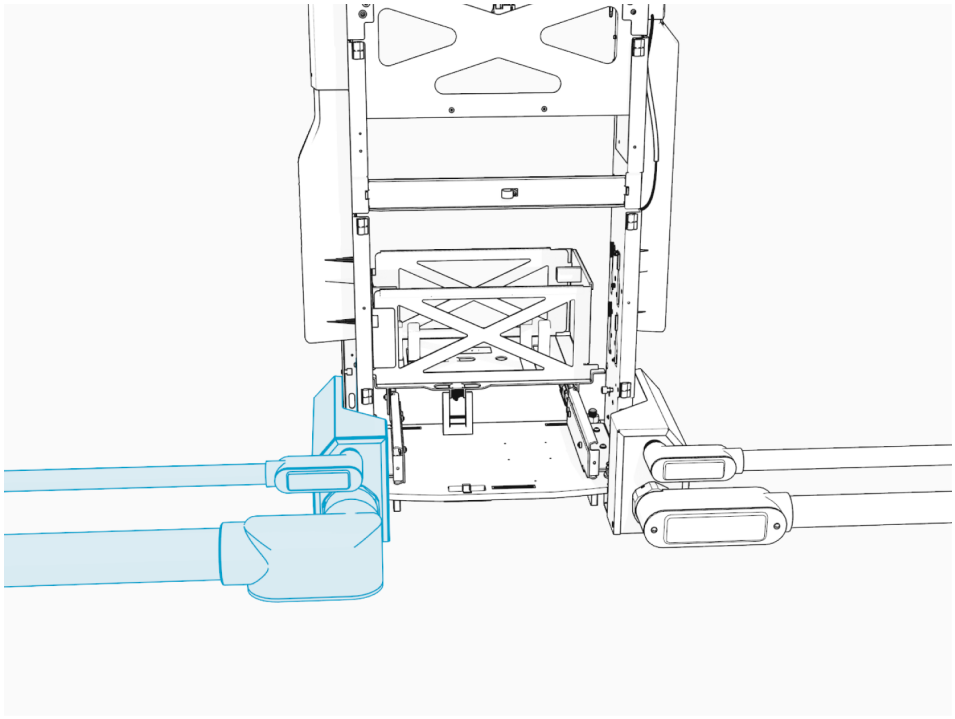
4. Secure the AC conduit to the SCE box base.



5. Feed AC conduit through the hole in the SCE box base.



6. Paired stations only - If you are pairing two Express 280 stations, complete the previous steps to secure the SCE box base for DC conduit.

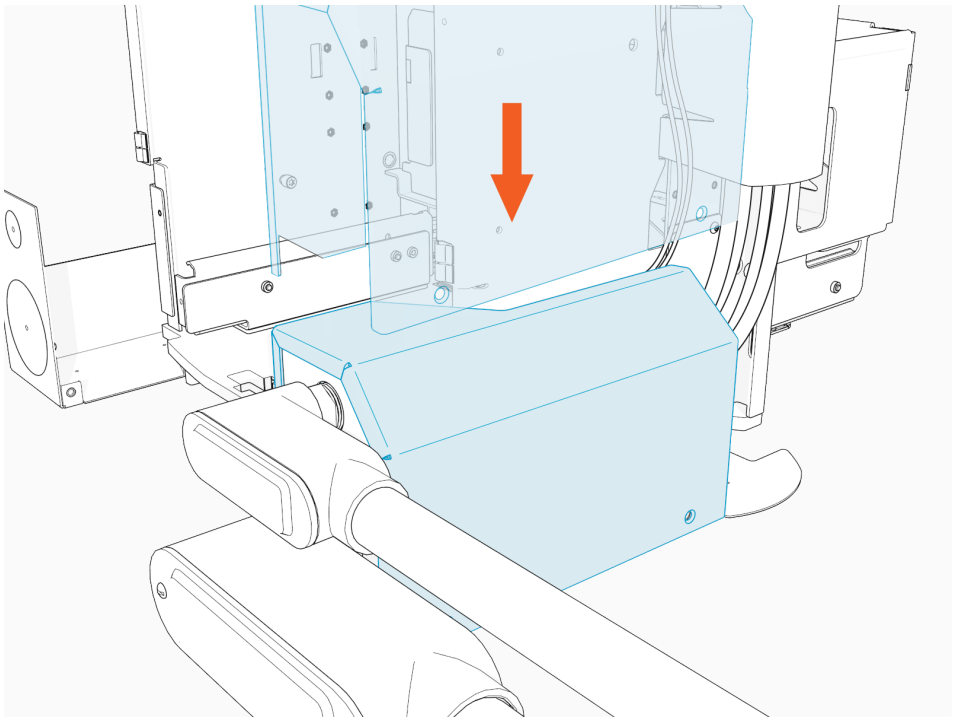


7. Paired stations only - Feed DC conduit through the hole in the SCE box base.
8. Go to Trim AC Wires and continue to connect AC wiring to the station.

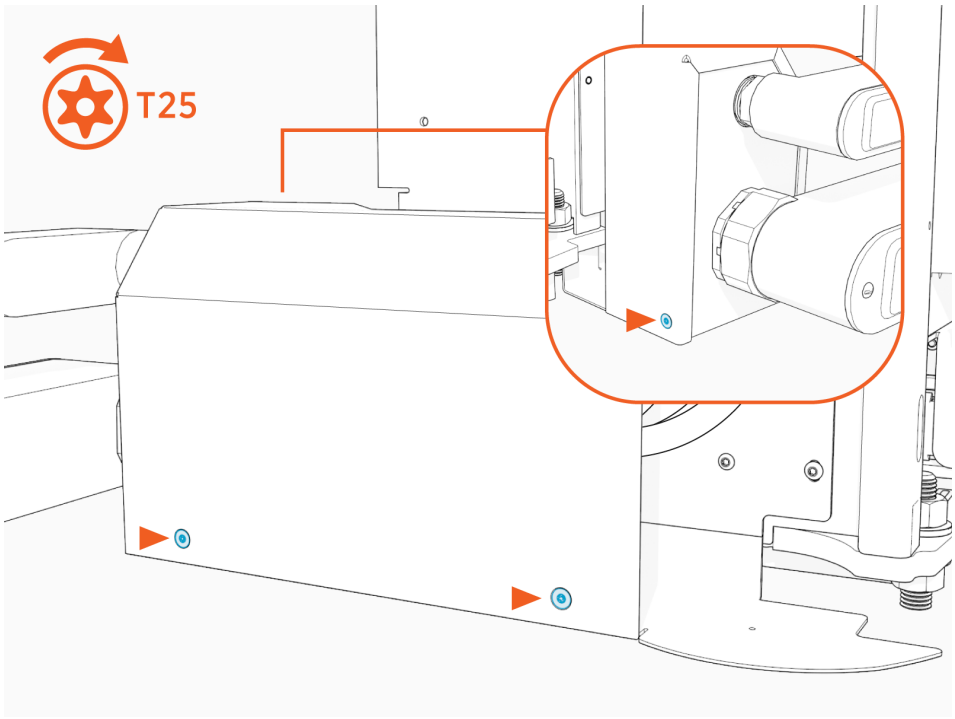
Install the SCE Box Cover

To install the SCE Box Base Cover, configure the following steps:

1. Slide the SCE box cover into place.



2. Use a T25 Security screwdriver and three screws to secure slide the SCE box cover.



3. Go to Install Side Panels.

Limited Warranty Information and Disclaimer

The Limited Warranty you received with your charging station is subject to certain exceptions and exclusions. For example, your use of, installation of, or modification to, the ChargePoint® charging station in a manner in which the ChargePoint® charging station is not intended to be used or modified will void the limited warranty. You should review your limited warranty and become familiar with the terms thereof. Other than any such limited warranty, the ChargePoint products are provided "AS IS," and ChargePoint, Inc. and its distributors expressly disclaim all implied warranties, including any warranty of design, merchantability, fitness for a particular purposes and non-infringement, to the maximum extent permitted by law.

Limitation of Liability

CHARGEPOINT IS NOT LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION LOST PROFITS, LOST BUSINESS, LOST DATA, LOSS OF USE, OR COST OF COVER INCURRED BY YOU ARISING OUT OF OR RELATED TO YOUR PURCHASE OR USE OF, OR INABILITY TO USE, THE CHARGING STATION, UNDER ANY THEORY OF LIABILITY, WHETHER IN AN ACTION IN CONTRACT, STRICT LIABILITY, TORT (INCLUDING NEGLIGENCE) OR OTHER LEGAL OR EQUITABLE THEORY, EVEN IF CHARGEPOINT KNEW OR SHOULD HAVE KNOWN OF THE POSSIBILITY OF SUCH DAMAGES. IN ANY EVENT, THE CUMULATIVE LIABILITY OF CHARGEPOINT FOR ALL CLAIMS WHATSOEVER RELATED TO THE CHARGING STATION WILL NOT EXCEED THE PRICE YOU PAID FOR THE CHARGING STATION. THE LIMITATIONS SET FORTH HEREIN ARE INTENDED TO LIMIT THE LIABILITY OF CHARGEPOINT AND SHALL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY.