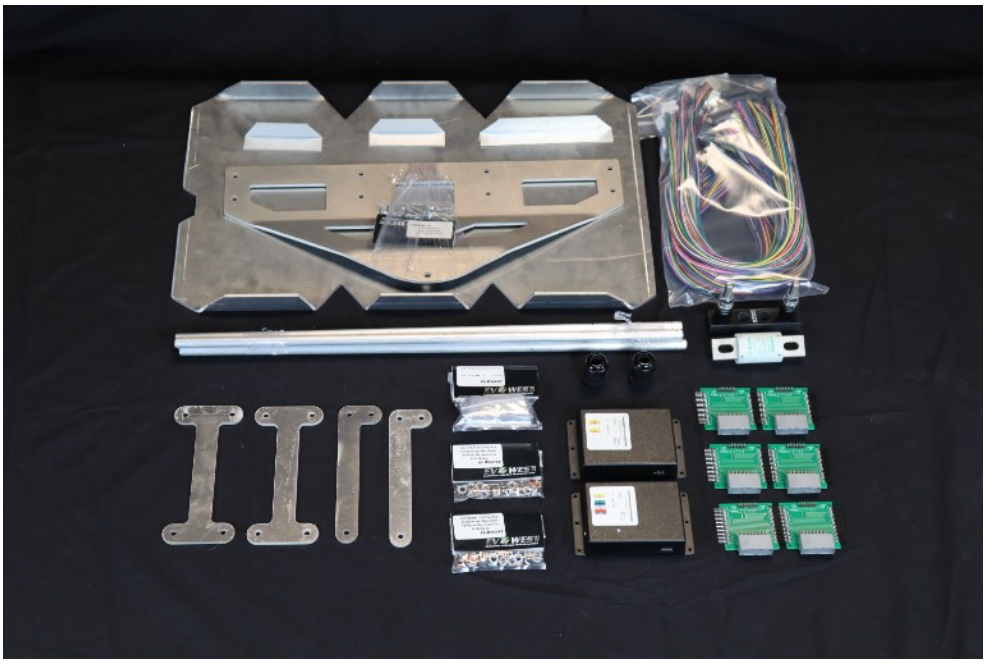
Porsche 911/912 Front Battery Box Installation Manual

product page

Thank you for purchasing the Porsche 911/912 Tesla Large Drive Unit EV Conversion Kit! We appreciate your trust in our products and are excited to be part of your electric conversion journey. Attached, you'll find the installation instructions for assembling your front battery box. These instructions will help guide you through the process, ensuring a smooth and efficient installation. If you have any questions or concerns, please feel free to email us at **support@evwest.com** or call us at **888-591-5830**.

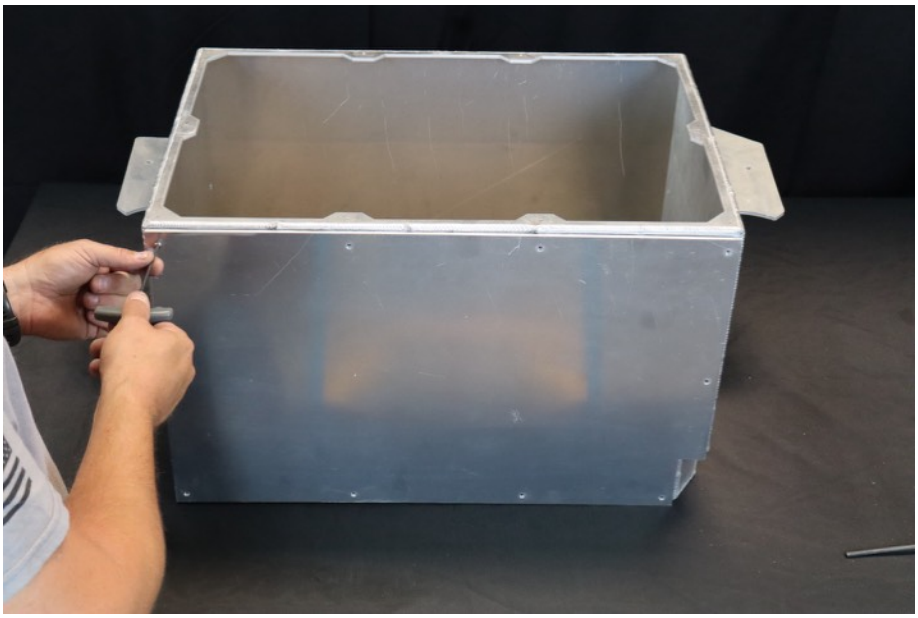


Parts needed to assemble front battery box

- Battery top plate w/ mounts
- 4 - Bus bars
- Bus bar hardware
- Battery mounting bars
- Battery mounting bar hardware
- Bottom Box Bracket
- 2 - Dilithium BMSS
- 6 - LG Parallel Boards
- 12 - Battery to BMS Wire Harnesses
- Fuse Hold 5 Holder
- EV50A500 Fuse
- 2 - 3/4” Gland Nuts
- Mica spacer boards

Select 6 of the LG Chem battery modules from your crate to install into your front battery box.

- Make sure to check the voltage of all 12 battery modules before installation. All modules should be within 0.100v of each other.
- If you have a difference greater than 0.100v you will need to parallel all 12 modules together to balance them out. Doing this prior to installation will be much easier.



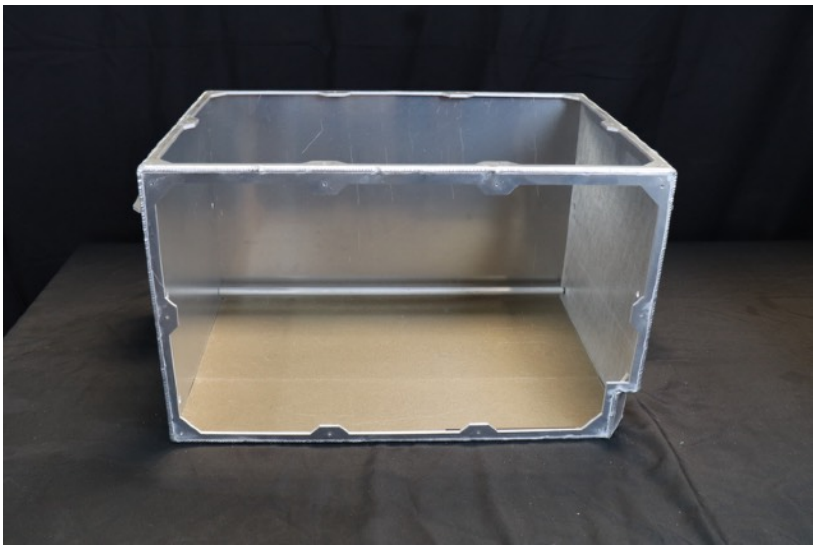
Start by removing both battery box covers. Using a 2.5mm allen key remove the 4mm allen head bolts.

Mount bottom front plate

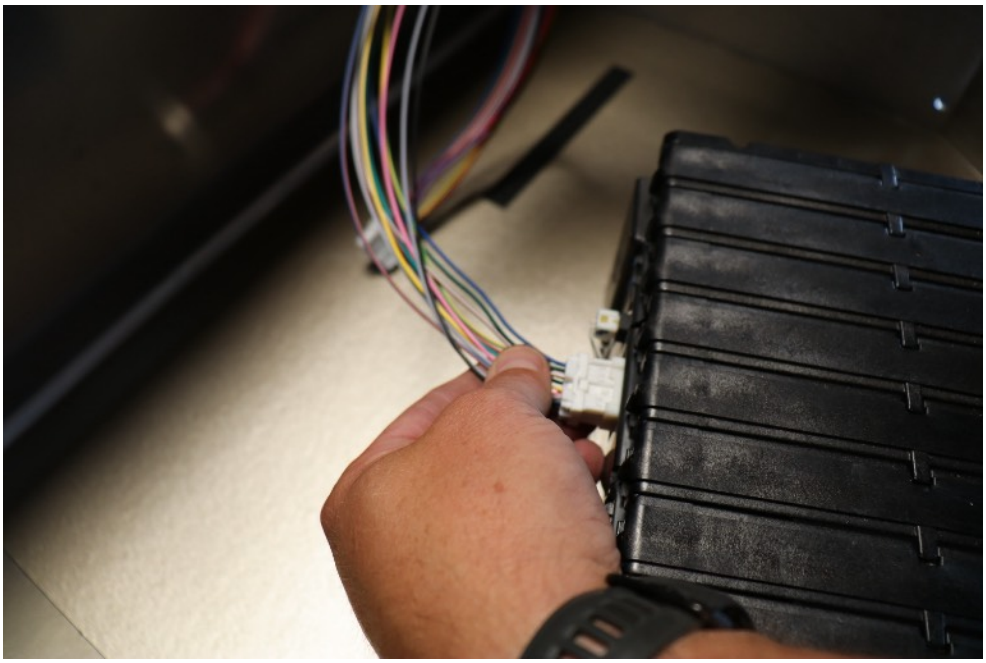
Completed box with front plate mounted

Place the mica insulation boards on the bottom of the box.

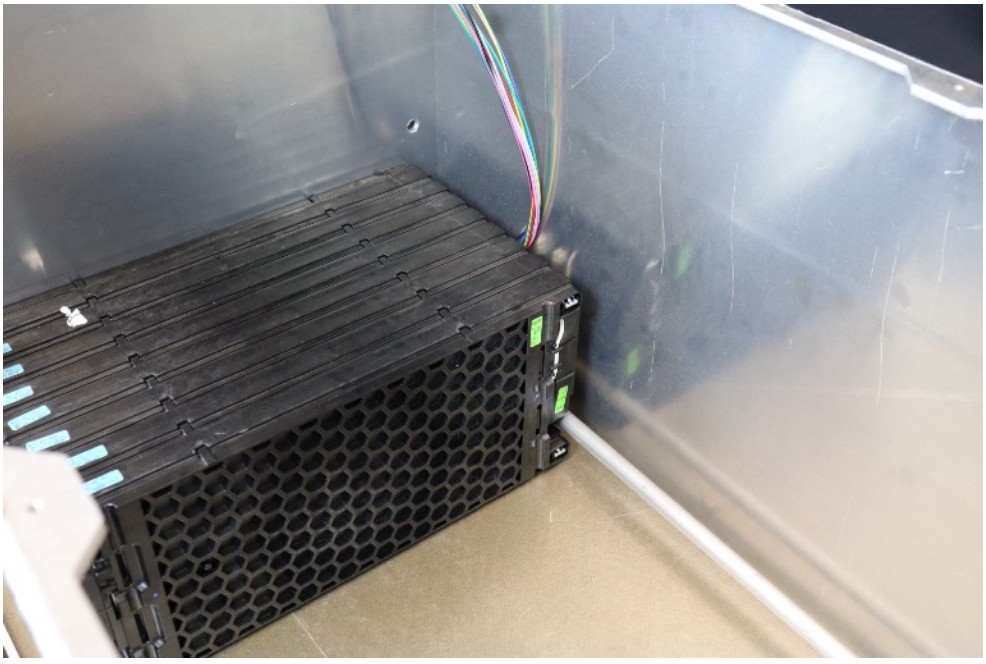
Note: Installing mica sheets is a simple and effective way to improve battery safety by adding an extra layer of electrical insulation. In our experience, we have seen a few instances where the LG battery modules' aluminum heat distribution plates were in direct contact with the aluminum battery box, creating a potential isolation concern. By placing mica sheets between these components, we eliminate the risk of shorts, leakage paths, or arcing. Mica is heat-resistant, durable, and non-conductive, making it an ideal solution to prevent such issues while also providing added thermal stability and long-term reliability.



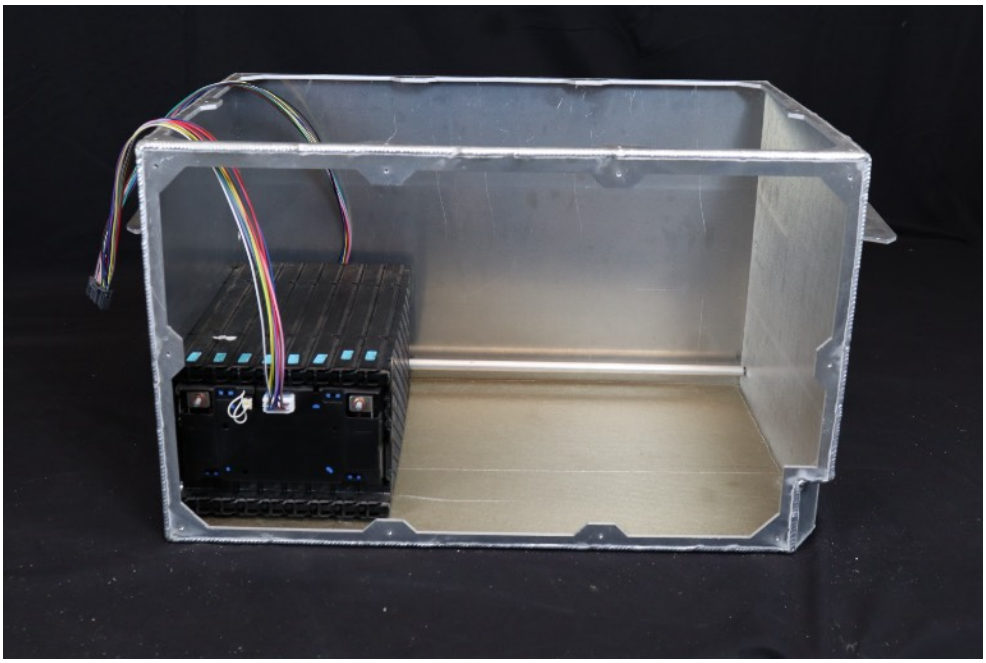
Install the rear lower battery mounting bar using two 8mm button head bolts with washers. 5mm allen key required. Torque to 20-30nm.



Make sure the battery terminals are insulated with either a rubber cap, tape, or something to keep them protected during installation. Plug in the twelve pin harness plug into the back of the module before installing into box.

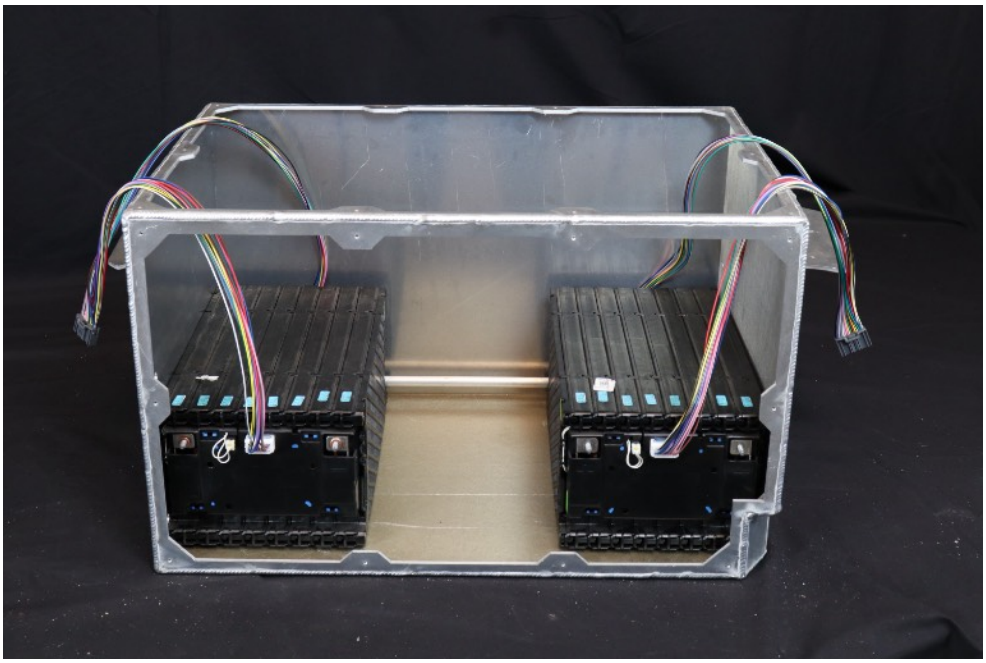


All modules will be installed though the front of the box. Make sure the notch on the rear of **ALL** battery modules slides over the mounting bar.

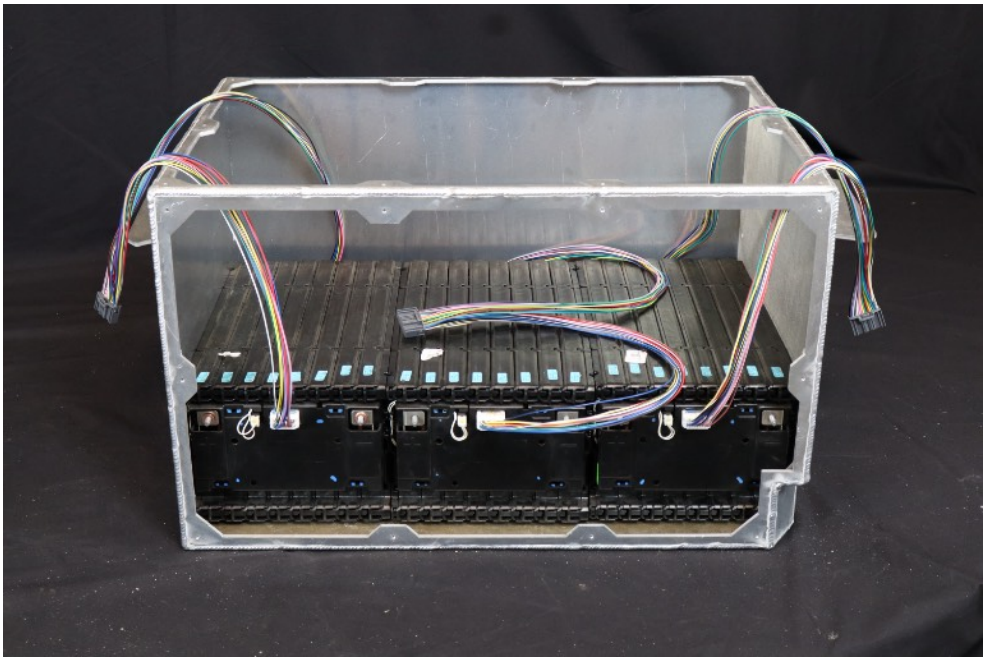


Install the first module on the bottom left of the box with the terminals facing outward. One the battery is installed you can plug in the front 16 pin connector.

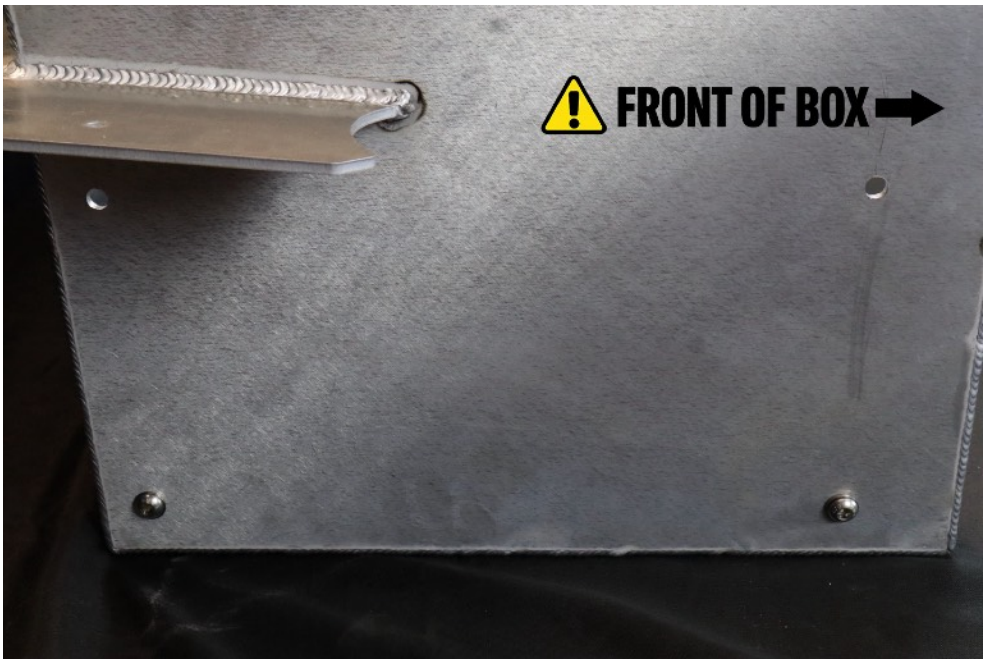
You will route the wire harness to the top of the box. Leave excess harness wire outside of the box for now.



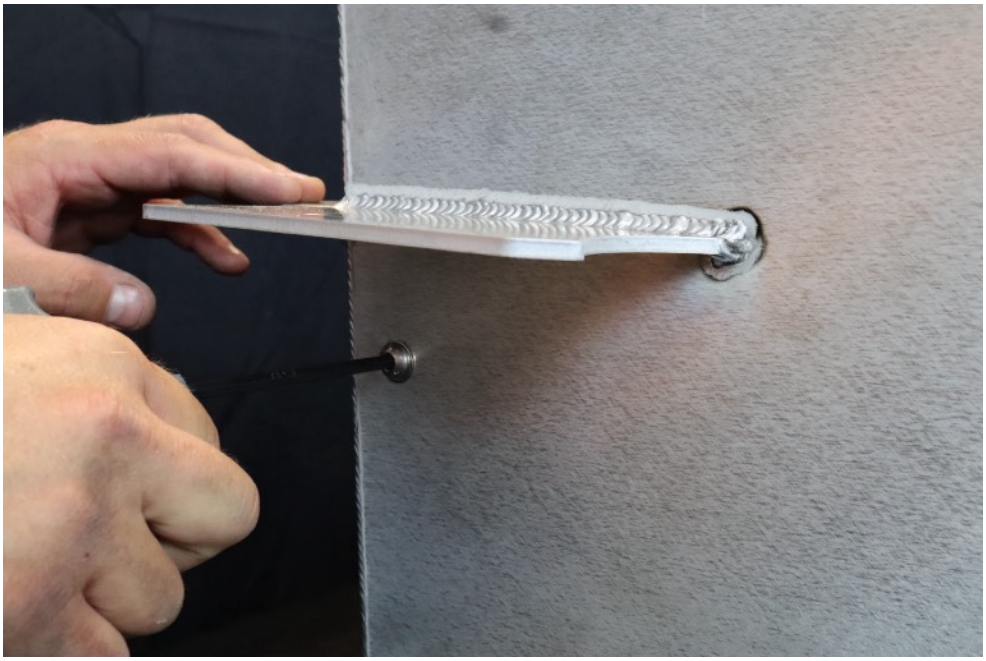
Install the second module on the bottom right of the box with the terminals facing outward. Repeat steps for the module harness on each battery



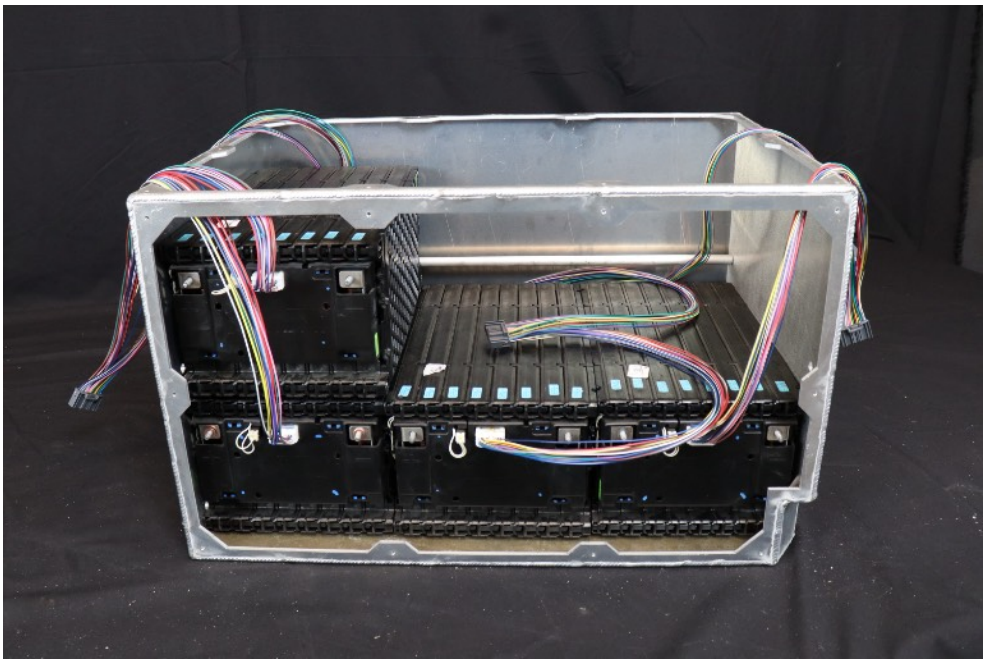
Install the third module in the bottom center location of the box with the terminals facing outward.



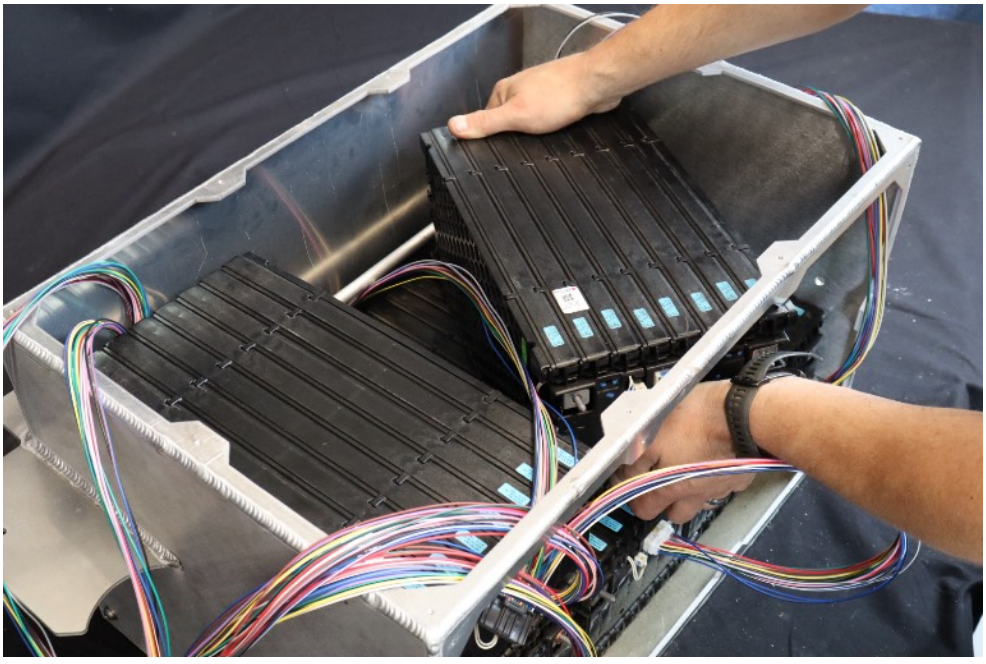
Install the front lower battery mounting bar using two 8mm button head bolts with washers. 5mm allen key required.



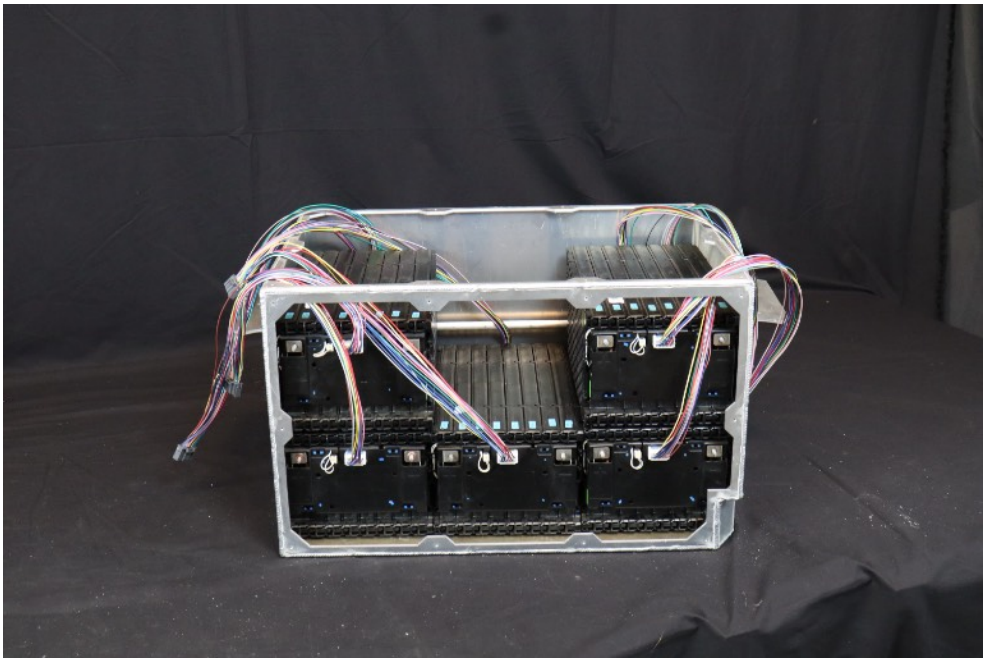
Install the upper rear battery mounting bar using two 8mm button head bolts with washers. 5mm allen key required.

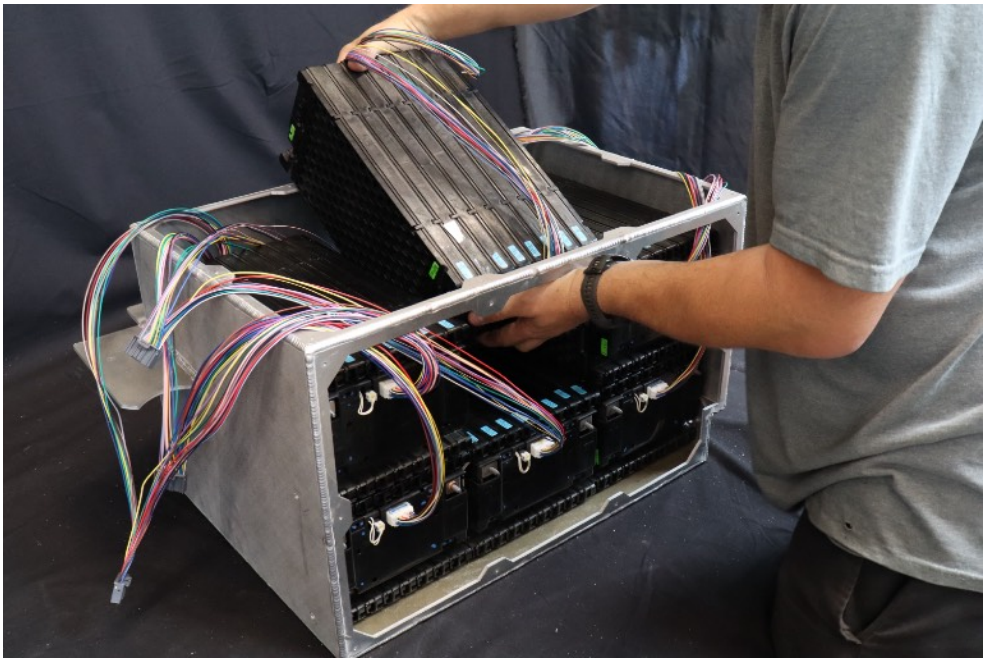


Install the fourth module on the top left of the box with the terminals facing outward. We have found that loading the modules through the front is easiest.

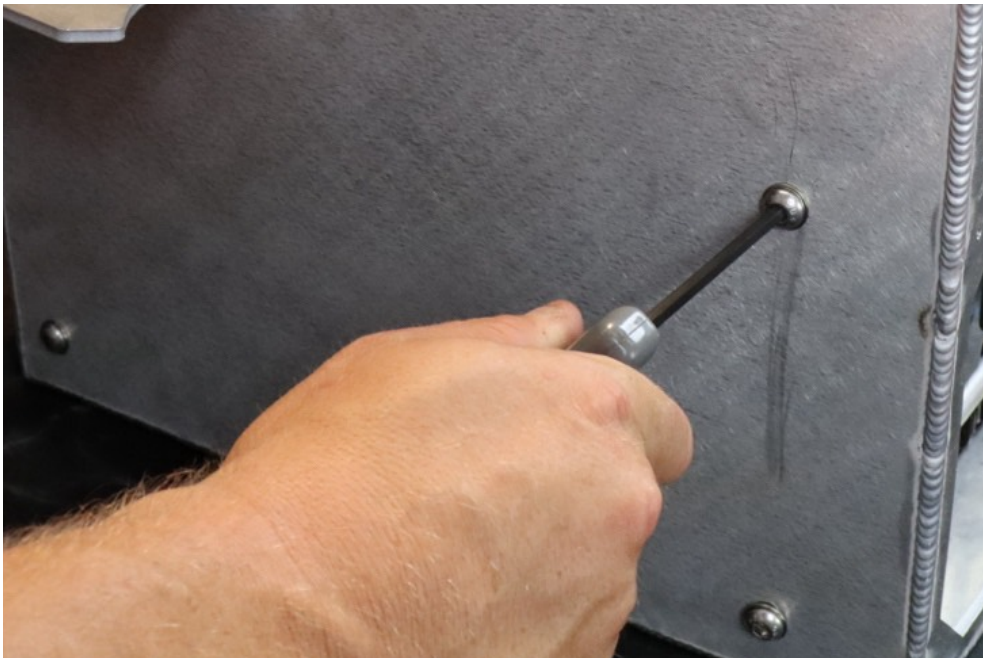


Install the fifth module on the top right of the box with the terminals facing outward.

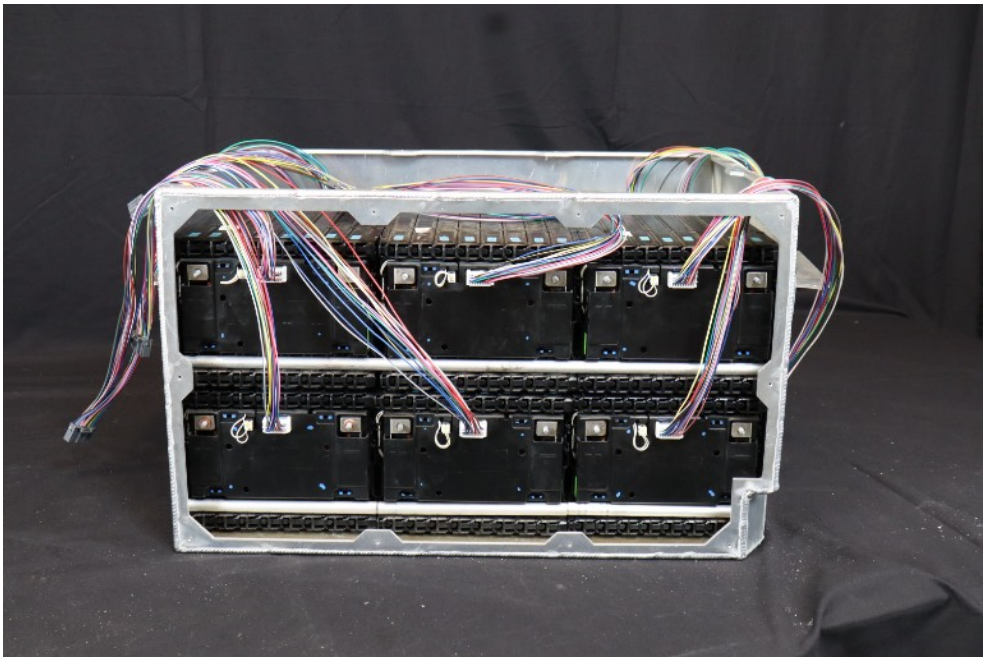


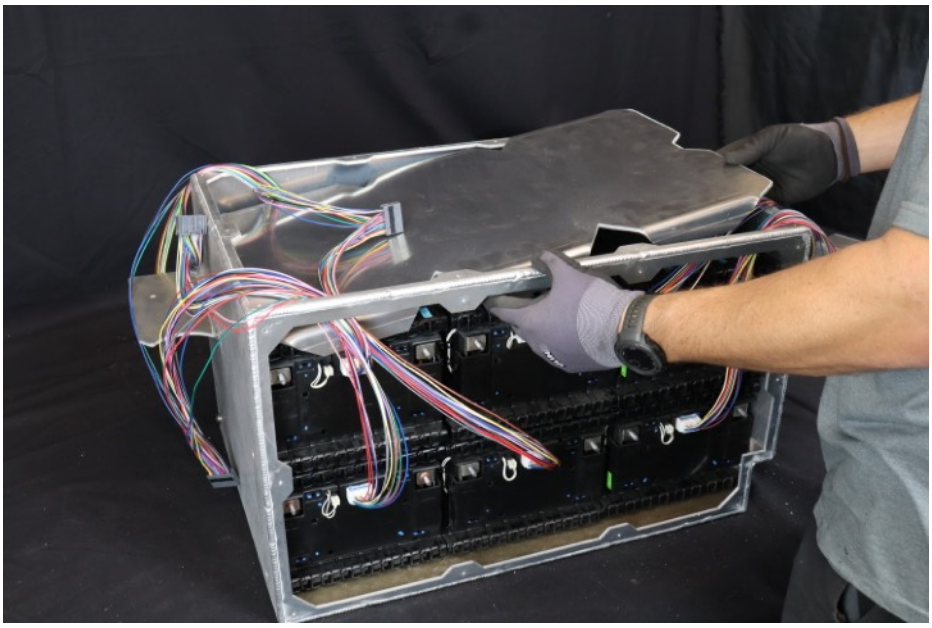


Install the sixth and final module in the top center location with the terminals facing outward.

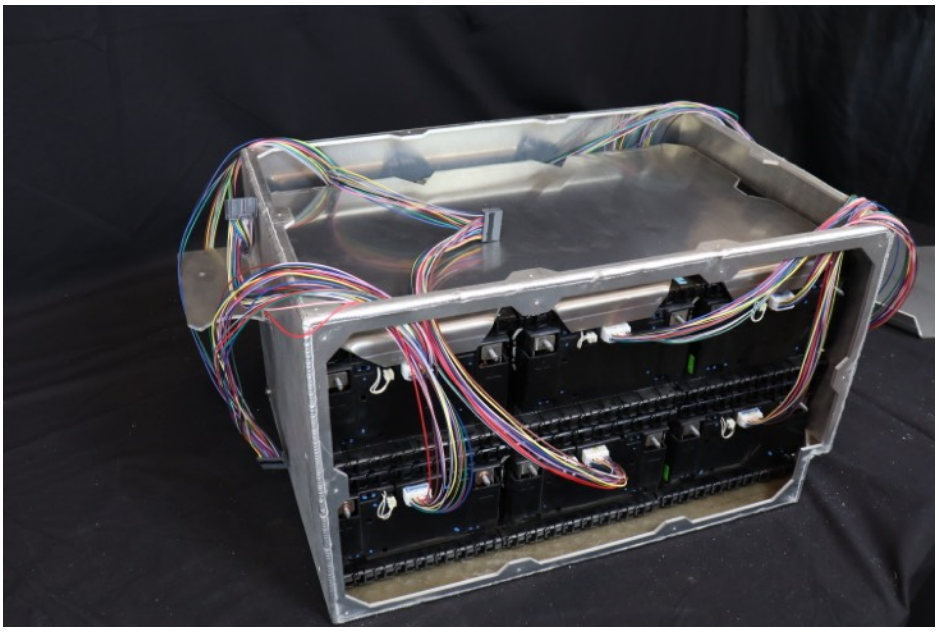


Install the upper front battery mounting bar using two 8mm button head bolts with washers. 5mm allen key required.



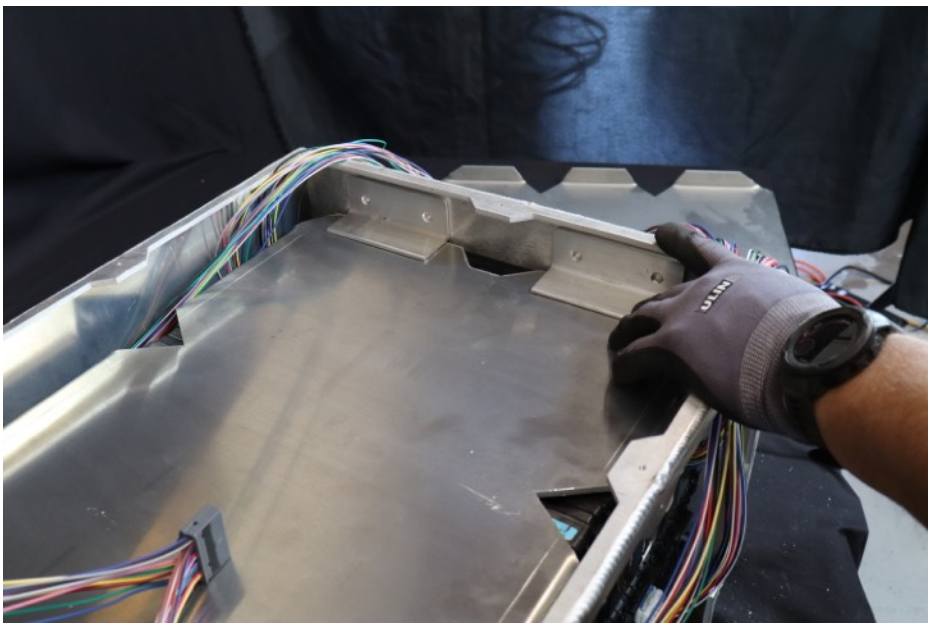


Locate the battery top plate and slide the end without the notch into the box first. Make sure the 6 tabs are facing downward for installation. Be cautious of shorting battery terminals when installing the top plate.

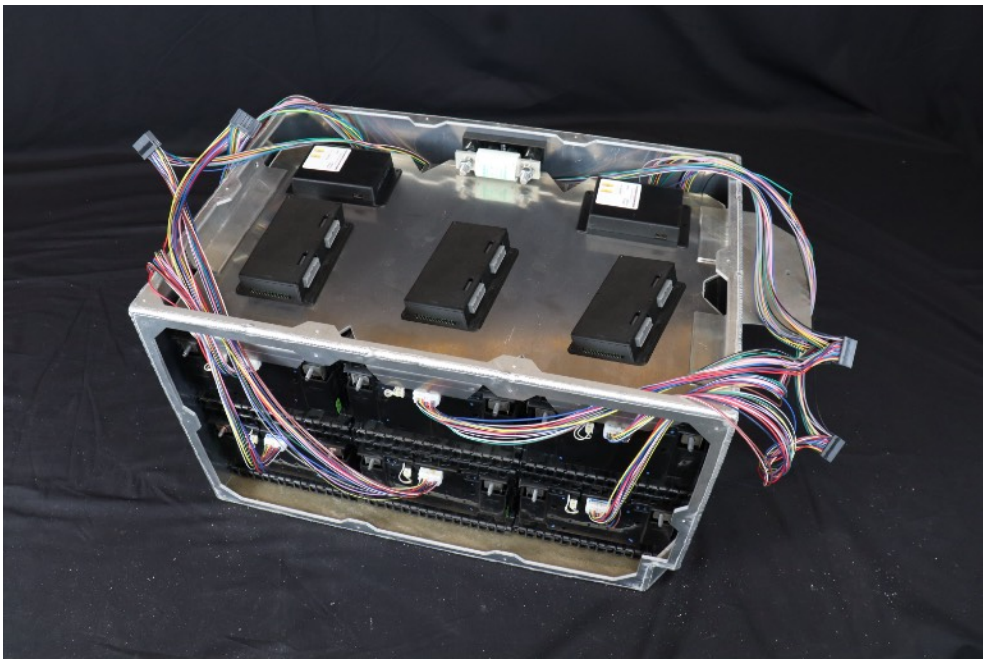


Depending on which side you want your HV cables to exit the box you will have to drill two 1.00" holes for the 3/4" gland nuts to be installed. This will create a water tight grip on the cable keeping moisture and other debris out of the box.

Using the long 90° mounting bracket, center it on the top plate and mark holes on box to drill. Once holes are drilled, mark two holes on the bottom of the bracket remove and drill. Mark holes from bottom of bracket to the top plate. Remove top plate to finish drilling holes. We do this during the installation process due to the slight variation in the battery size as well as the slight tolerance differences during the welding process.



Repeat previous steps from the first bracket for this side.



The physical mounting location of the following components is left to the customer's discretion, as long as all parts are installed securely and wired correctly according to the provided wiring diagram.

- Qty: 2 DIlithium BMS Satellites
- Qty: 6 LG Parallel board (housings can be printed from the STL file via QR code)
- Qty: 1 Fuse Hold 5
- Qty: 1 Fuse EV50A500
- Qty: 2 ¾" Gland nuts
- Qty: 1 MX150 plug

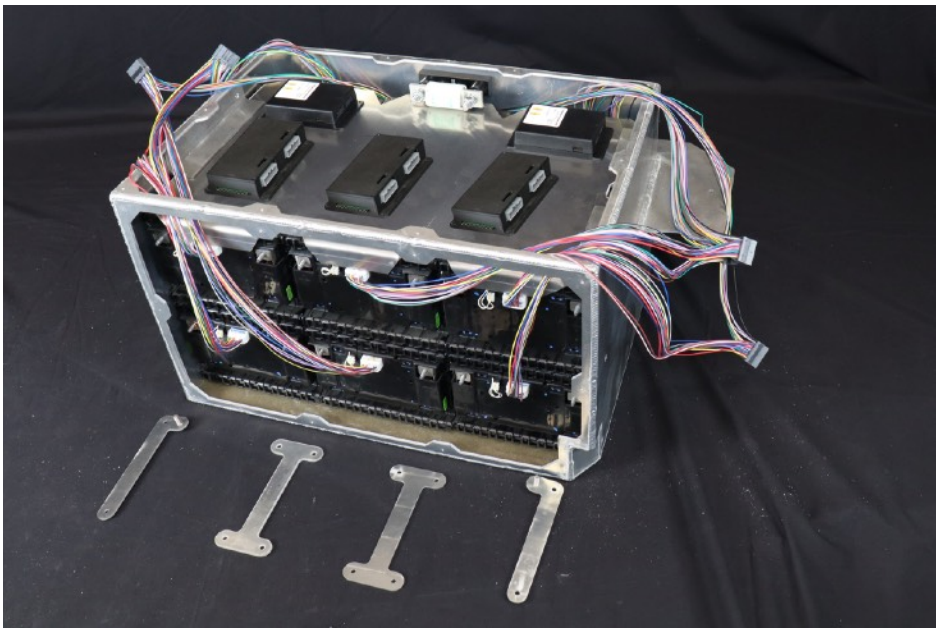
You will also have to locate where you would like the MX150 bulkhead for the BMS communication wiring to pass through the box. Scan the QR code for the drill template.

Depending on which side you want your HV cables to exit the box you will have to drill two 1.00" holes for the 3/4" gland nuts to be installed. This will create a water tight grip on the cable keeping moisture and other debris out of the box.

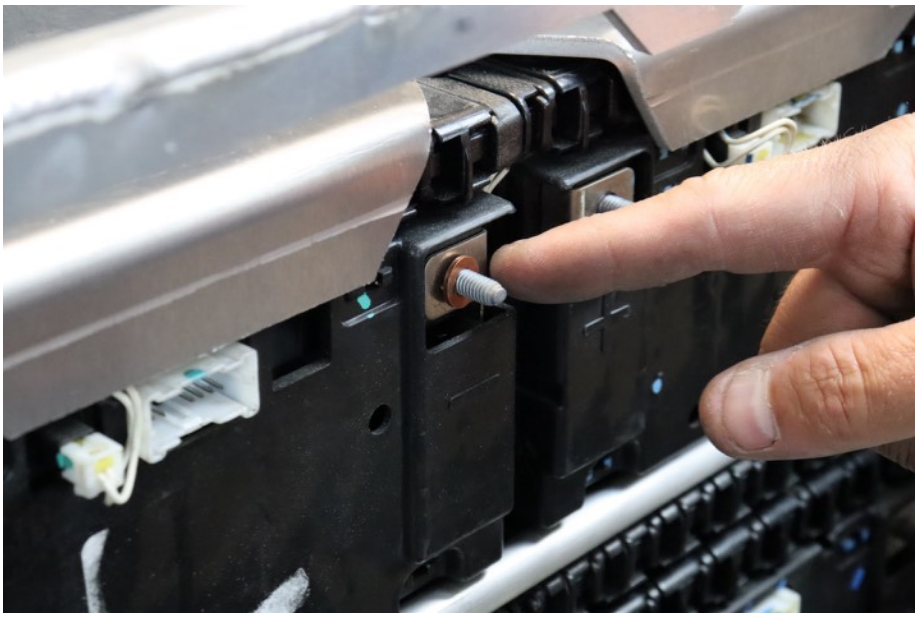
Parallel Board Enclosure

MX150 Drill Template

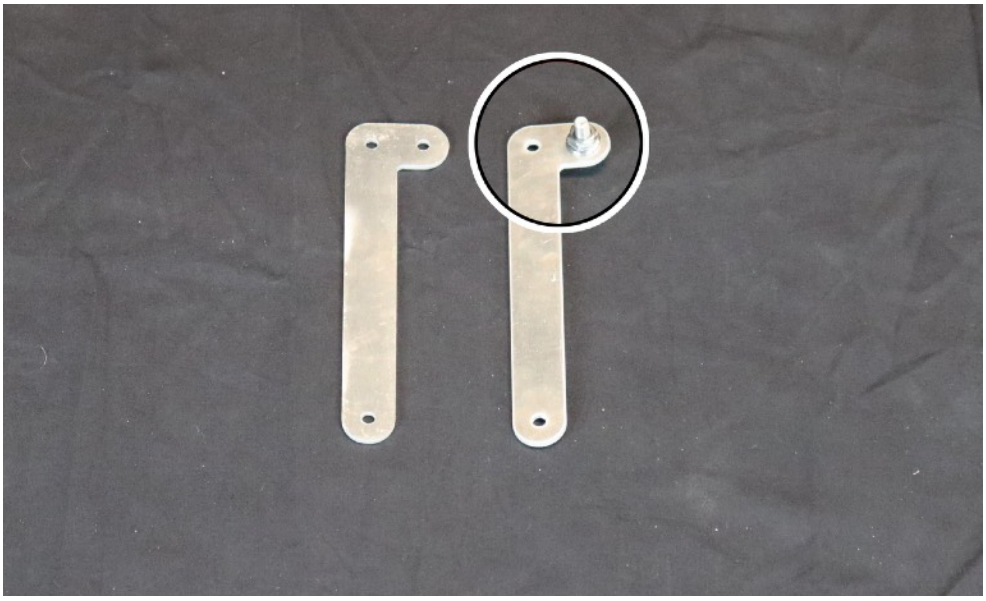
STOP - Use caution. Put on gloves and eye protection when working with live batteries. If you have any questions or concerns please do not hesitate to call us.



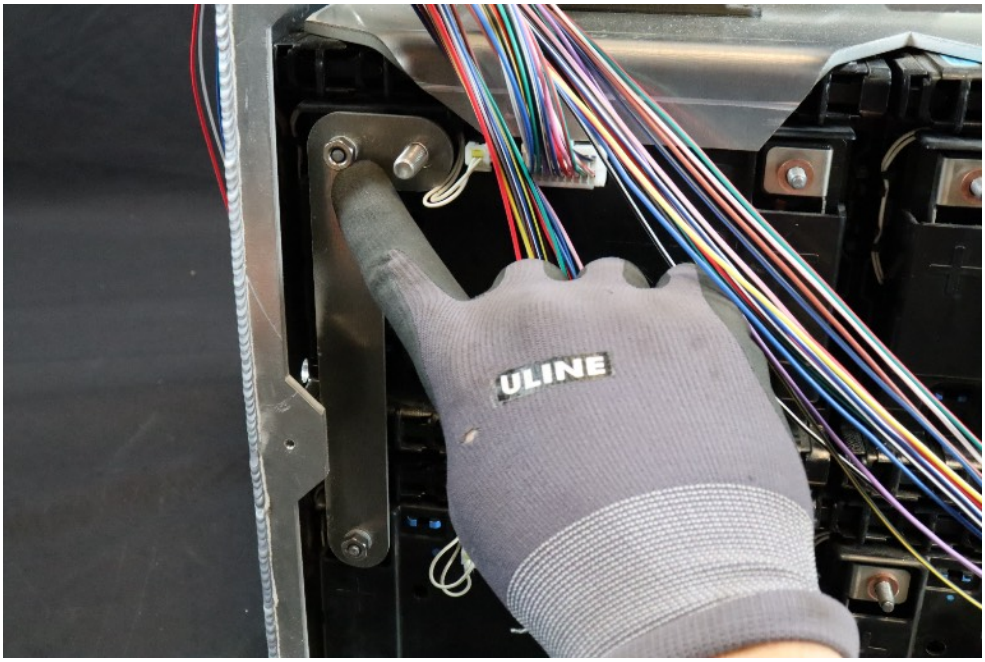
Once the components are installed in the location of your choice you are now ready to install the bus bars for the modules.



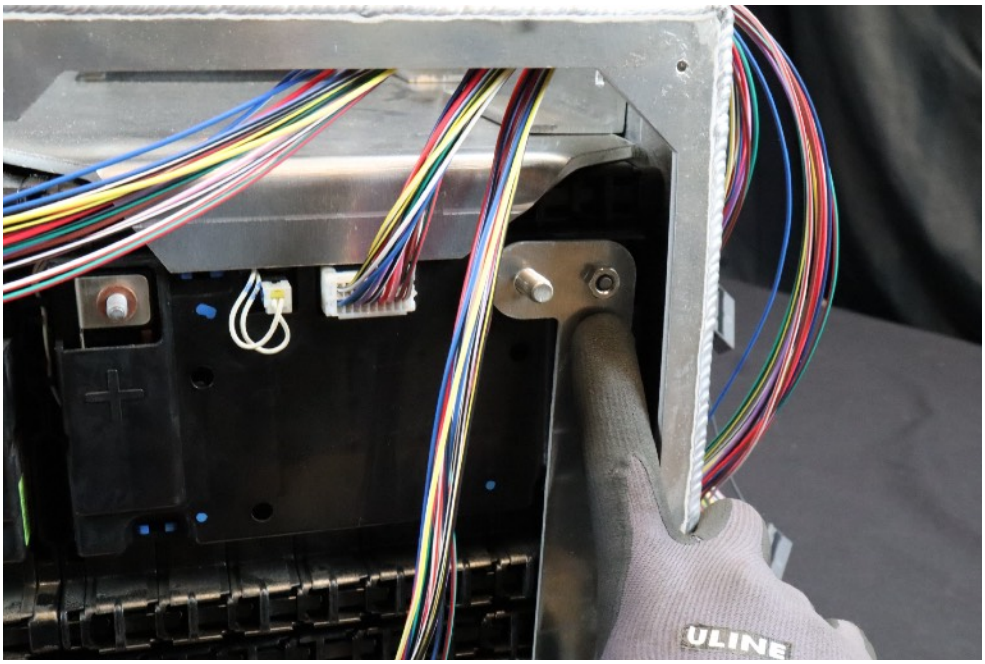
Place one 6mm copper washer on each terminal post against the current collector.

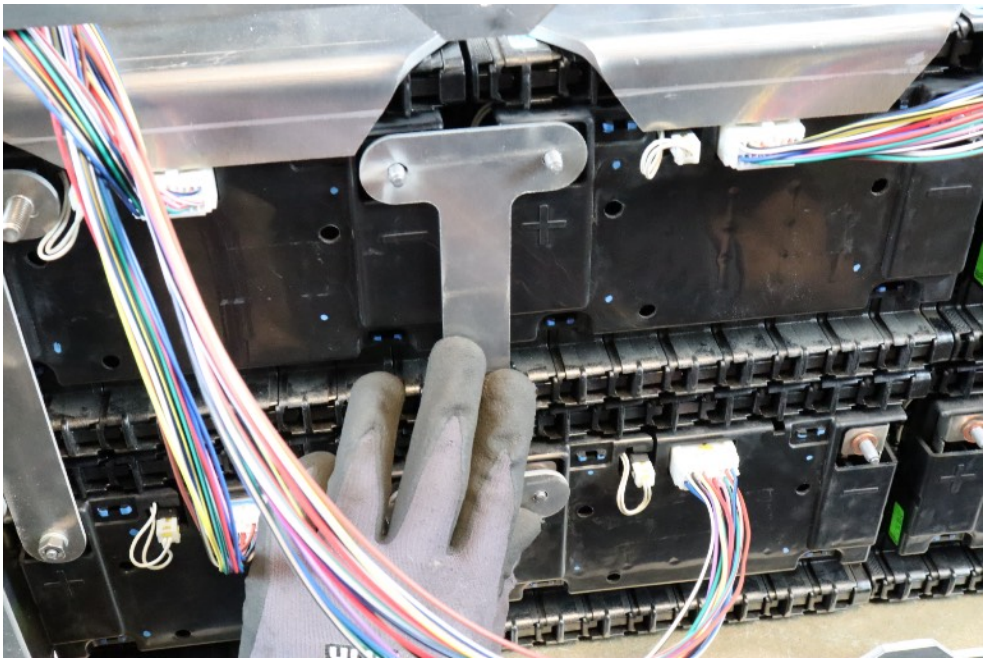


Install a 6mm bolt in the “L” shaped bus bar to act as a terminal stud for your cabling.

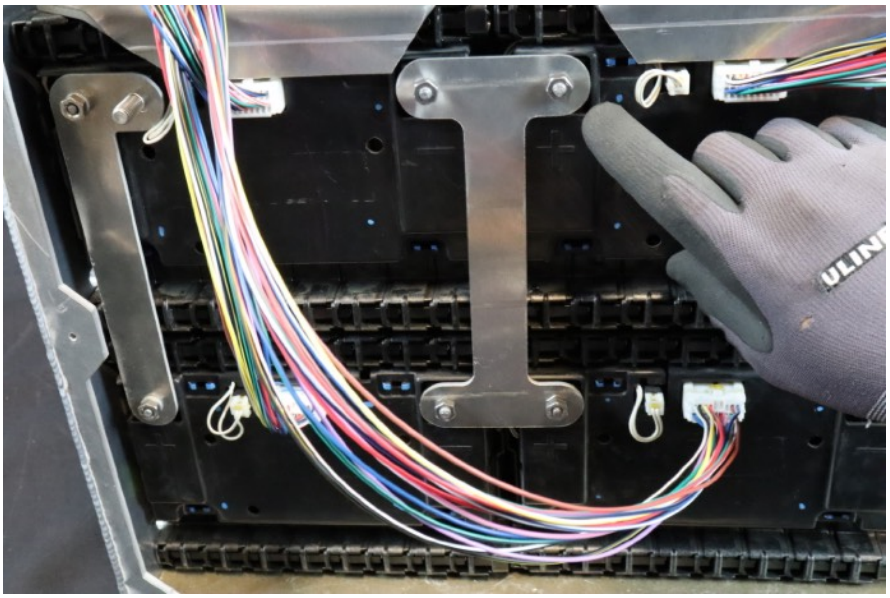


Install parallel series bus bar as shown. We recommend using heat shrink or another form of protection to wrap around the bus bars prior to installation. The two outer “L” shaped bus bars. The connections should be +/+ and -/-. Make sure to install a Nordlock washer under the terminal nut. Torque the 6mm terminal nuts to 8Nm - 10Nm.



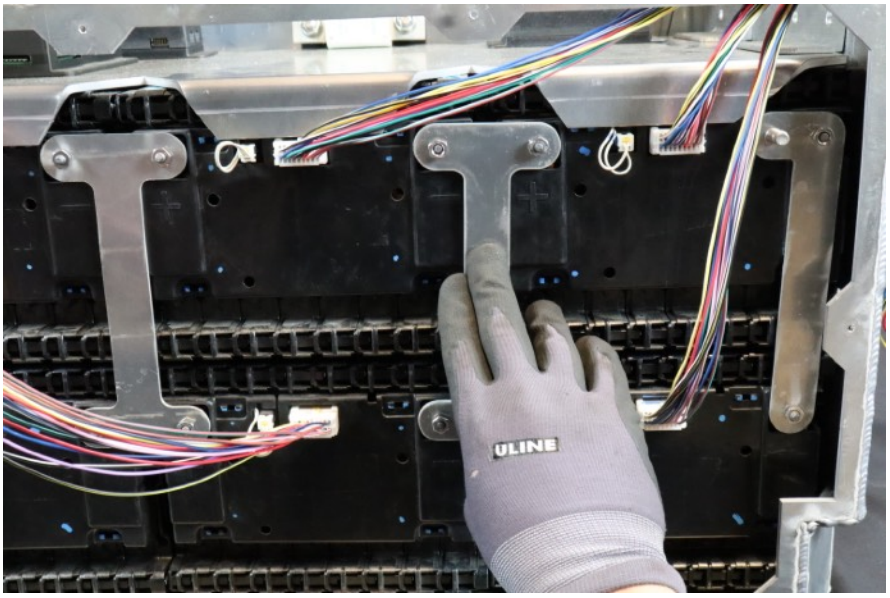


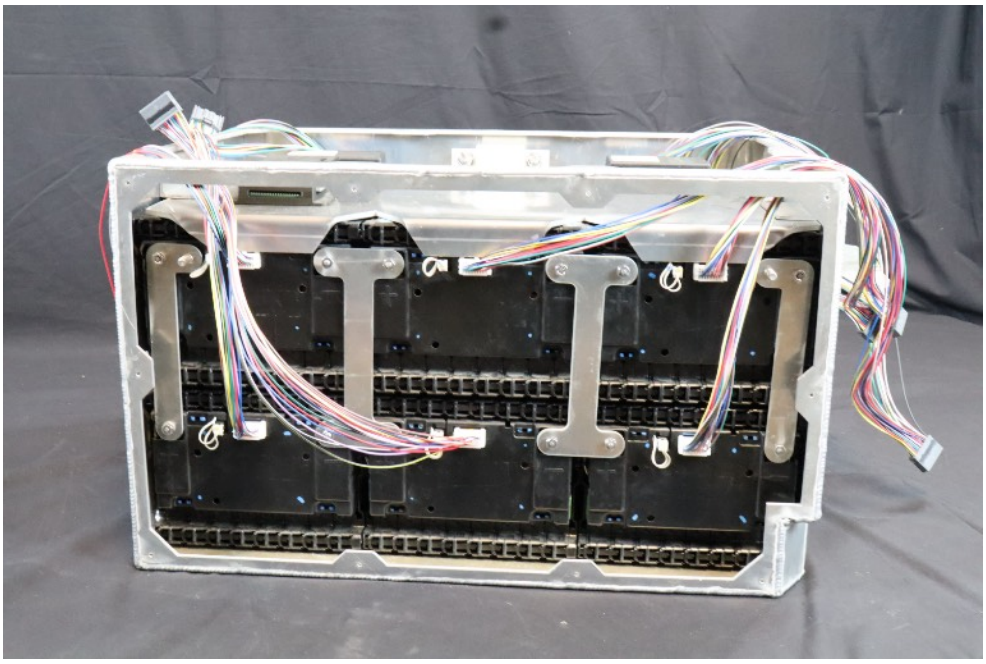
Next you will install one of the "I" shaped series parallel bus bar onto the pack.



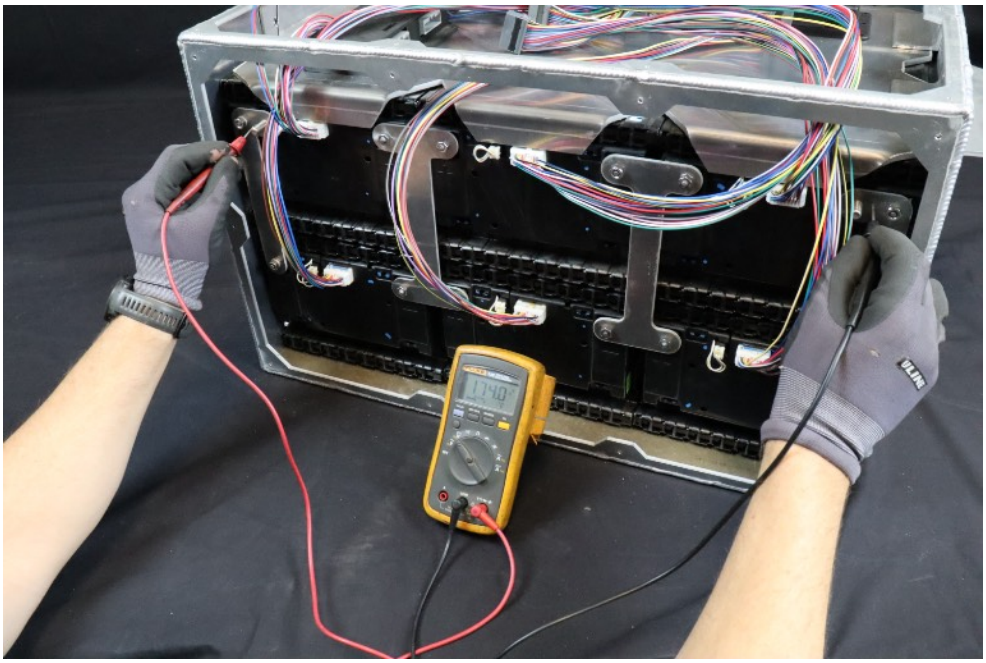
Once all components have been properly wired per the provided wiring diagram and you are ready to make the final bus bar connections, it is critical to follow proper safety procedures. In our 12 years of experience, one rule stands: eye protection is a must when working on high-voltage systems.

Before attaching the last bus bar to make the final connection, lightly tap the “H”-shaped busbar onto the terminals. This step confirms that the circuit has been wired correctly. Be aware that mis-wired or improperly bussed connections can cause a short circuit, electrical park or electrical flash. Anticipate this possibility, and approach the connection with caution. If all wiring is correct, none of the above should occur and the bus bar can be safely bolted into place without issues.

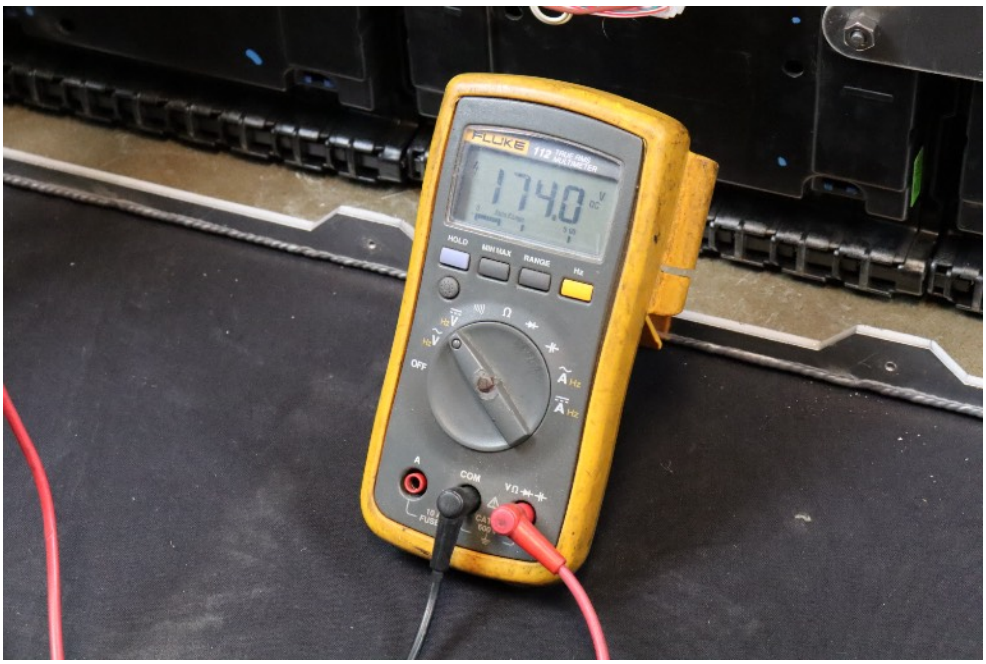


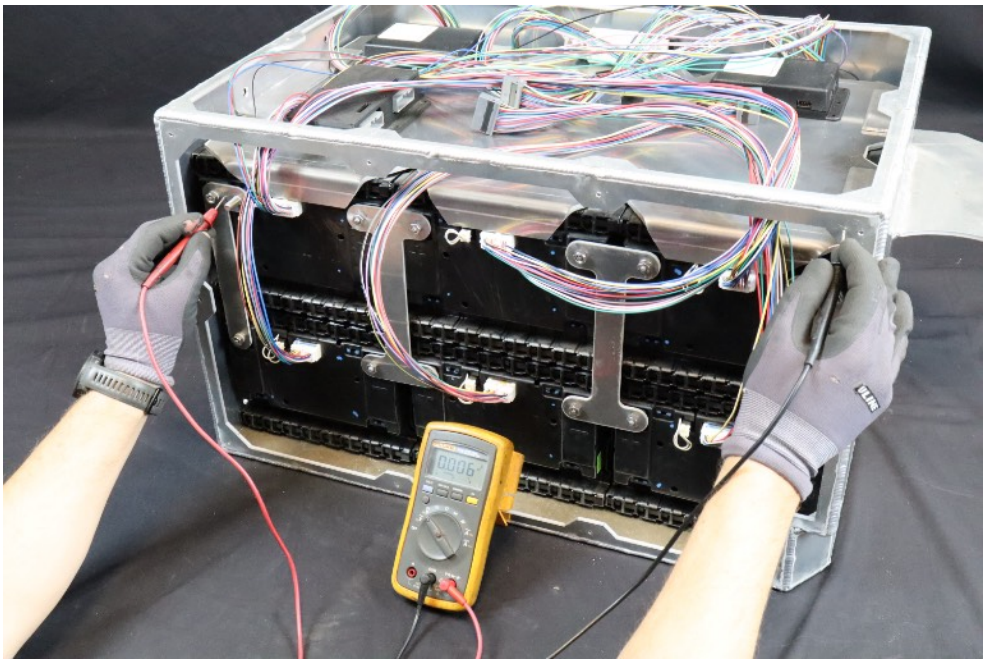


Completed box with bus bars mounted.

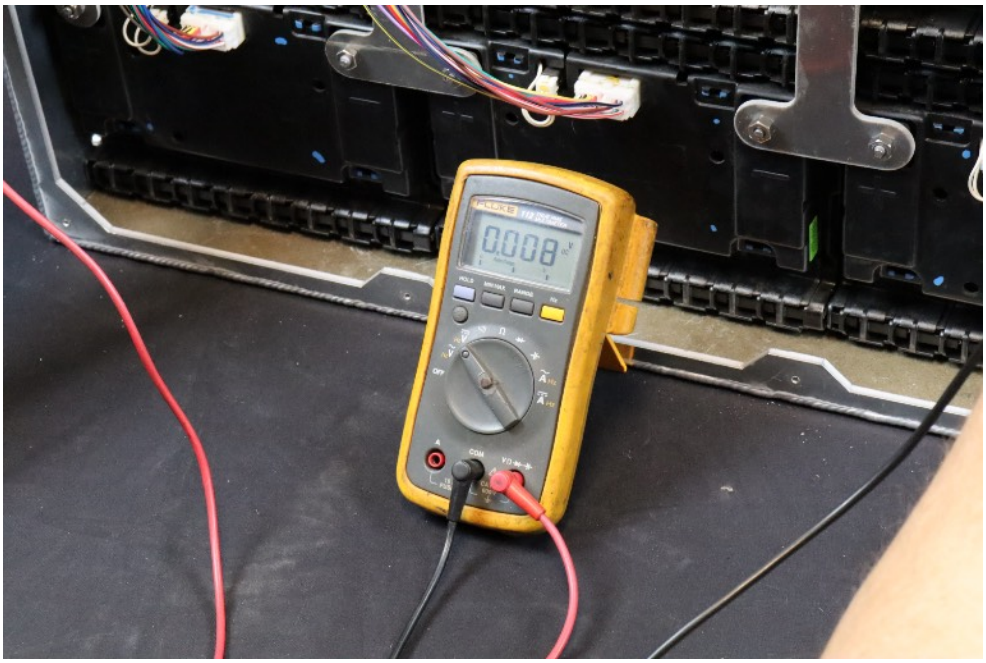


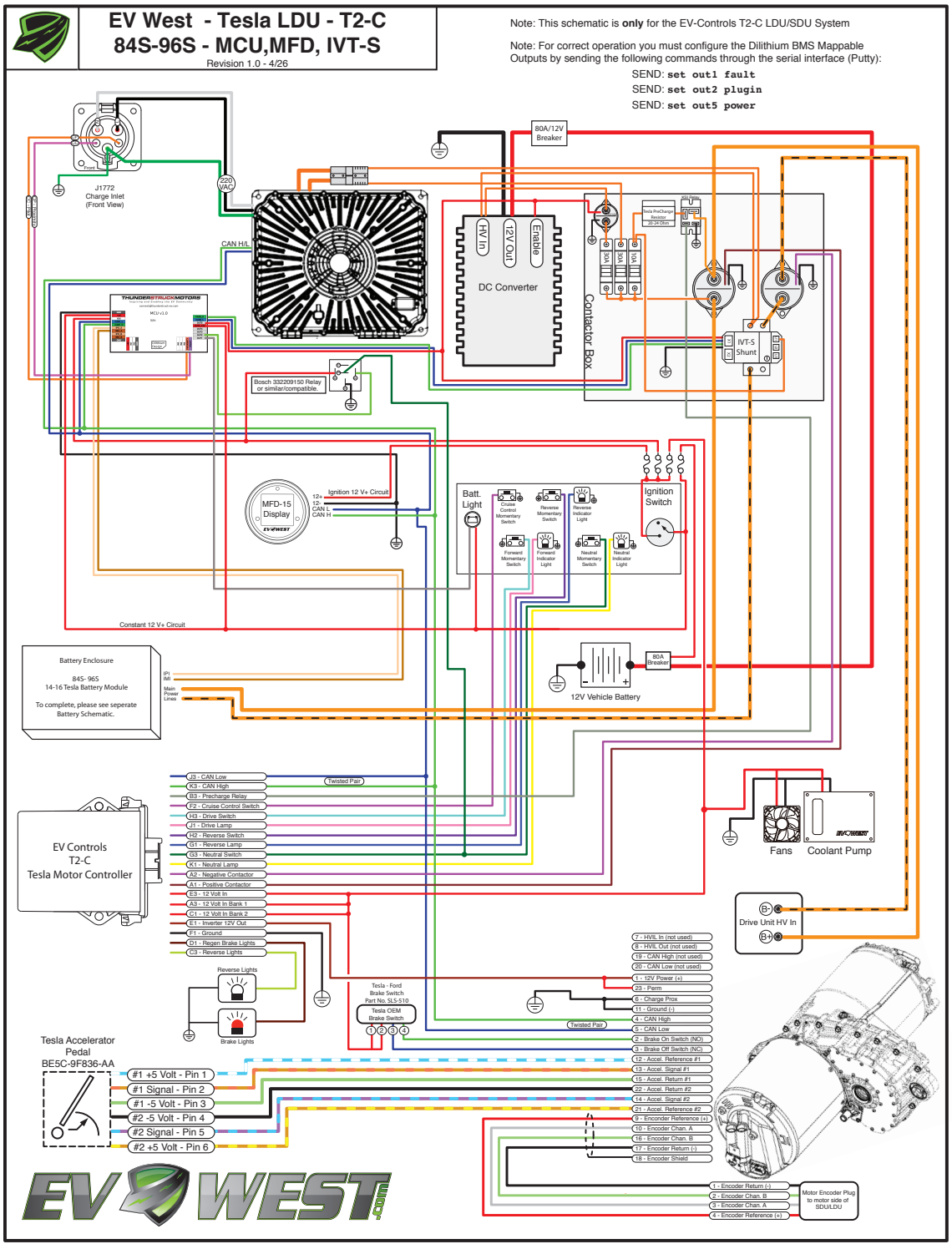
Upon completion, you should get full pack voltage across main battery terminals.



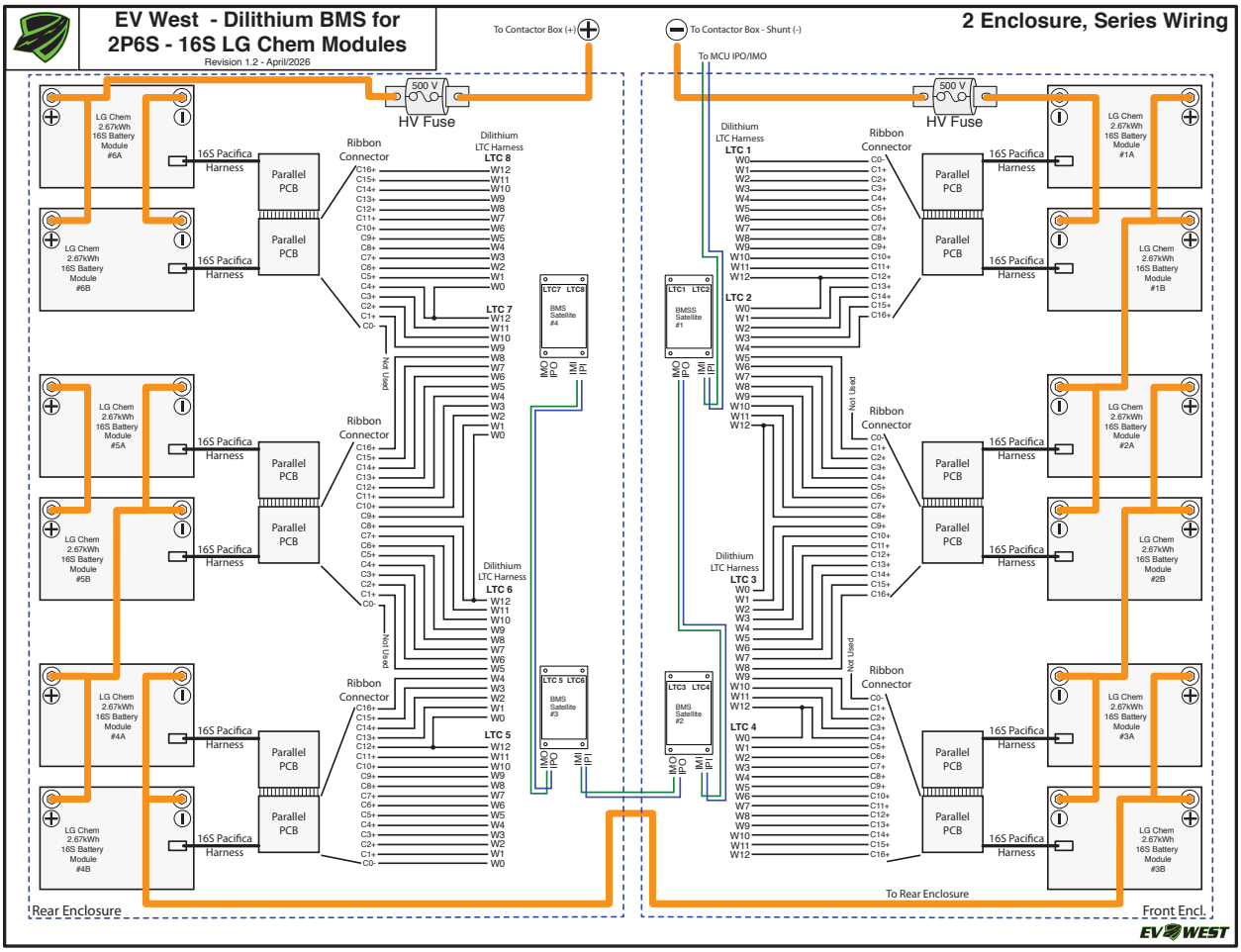


Using your meter, check for voltage between battery terminals and box. You should get zero volts.





https://evwest.com/support/Tesla_LDU_Core_Schematic_1.0.pdf



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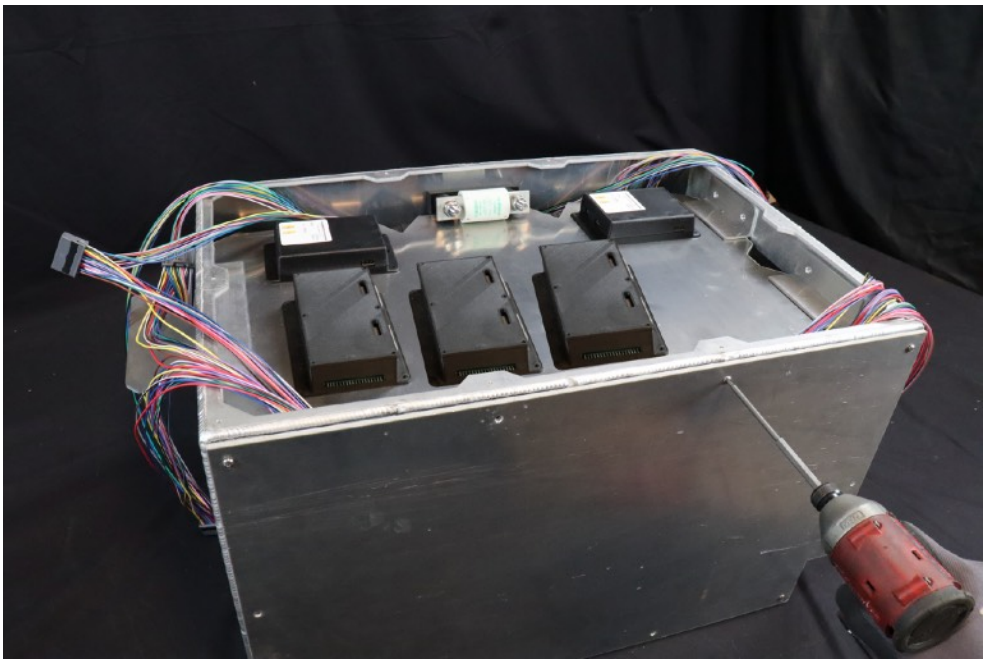
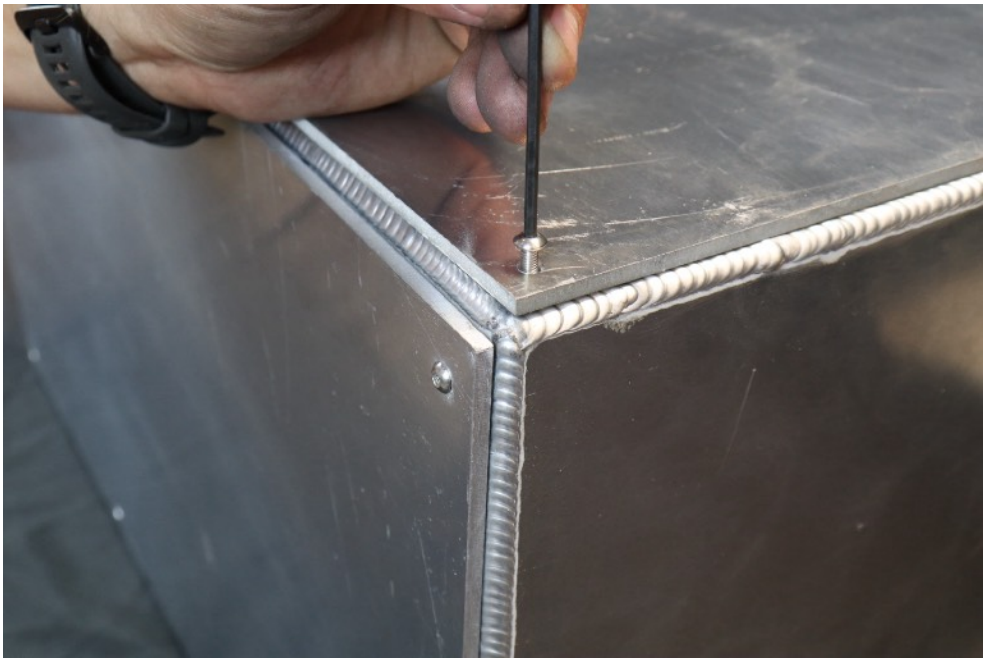
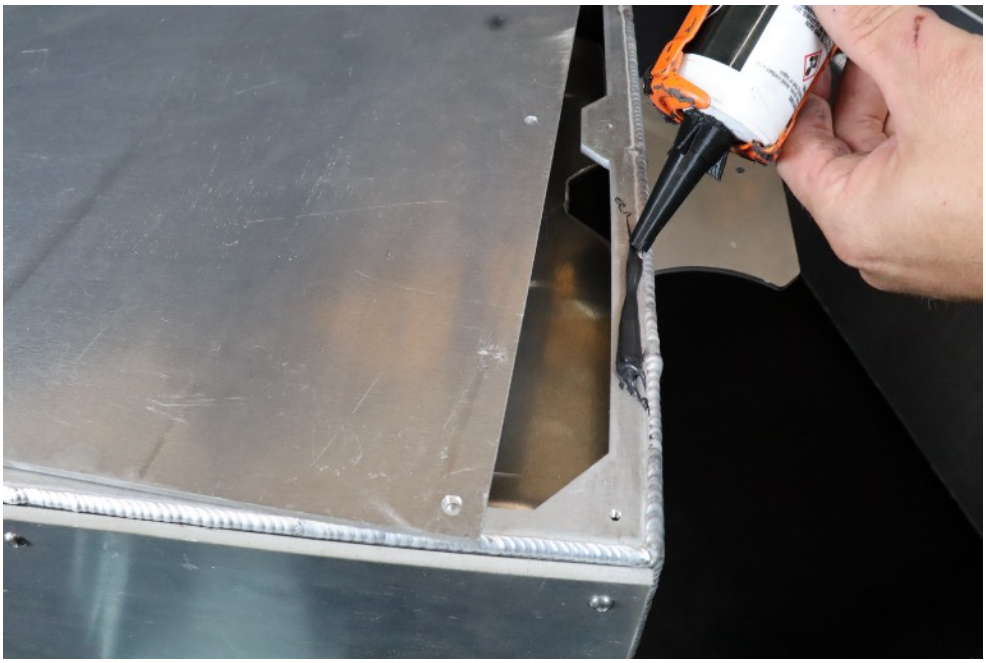


Once everything is installed you can then bolt down both of the battery box covers using the 4mm button head bolts with the 2.5mm allen key.





Make sure to run a small bead of silicone on the two flanges for the covers. This will help keep water intrusion out of the box.

Congratulations! You have just completed the assembly of your front battery box—great work! This is an important step in your Porsche 911/912 Tesla Large Drive Unit Conversion, and we're thrilled to be part of your build. Now, let's get started on the rear battery box assembly!

If you have any questions or concerns as you move forward with your project, please don't hesitate to email us at **support@evwest.com** or call us at **888-591-5830**. We're here to help make your conversion a success from start to finish.