



2nd Gen Revel 3rd Battery Install

2nd Gen Revel 3rd Battery Install How-To

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INTRODUCTION

In this guide we will be installing a 3rd battery in a 2nd Generation Revel.



TOOLS:

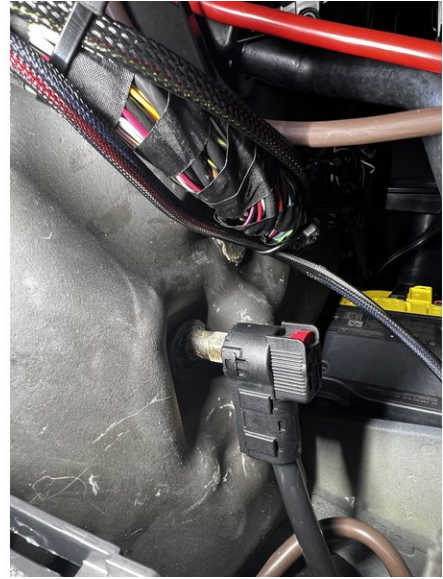
- [Wire Cutters](#) (1)
- [Pick Tool](#) (1)
- [13mm Shallow or Deep Socket](#) (1)
- [15mm Shallow or Deep Socket](#) (1)
- [17mm Deep Socket](#) (1)
- [Socket Wrench 3/8" Drive](#) (1)
- [1.5" Hole Saw](#) (1)
- [Drill/Impact Driver](#) (1)
- [Stubby #2 Phillips Screw Driver](#) (1)
- [#2 Phillips Bit for Drill or Impact Driver](#) (1)
- [Deburring Tool](#) (1)



PARTS:

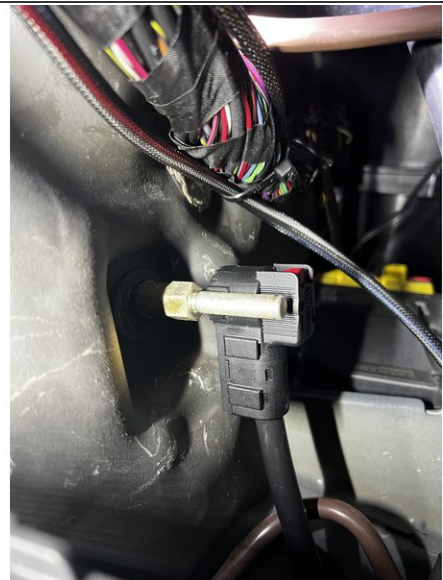
- [3rd Battery Kit](#) (1)

Step 1 — VS30 Battery Disconnect



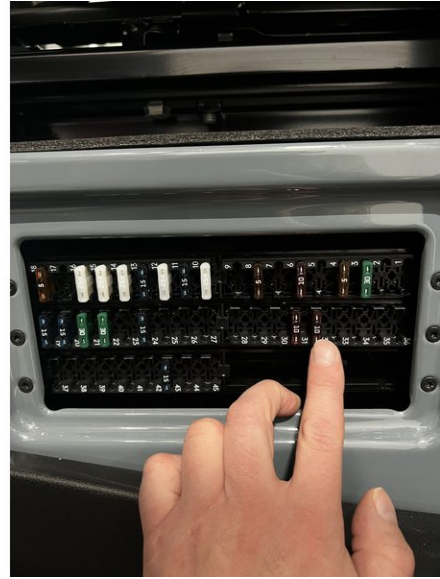
- Remove battery ground disconnect access cover to expose battery ground disconnect

Step 2



- Depress the red tab on the battery ground disconnect, and pull to remove from ground stud

Step 3



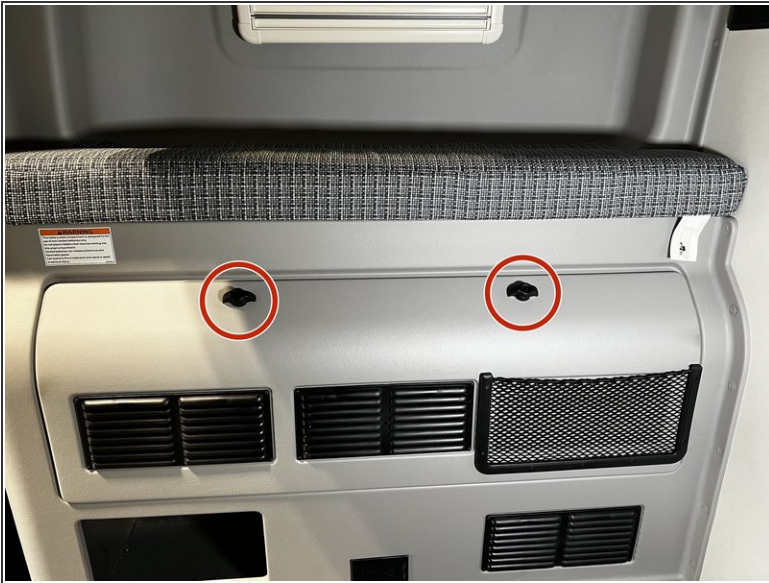
- Remove the fuse panel cover from the driver side seat base to expose fuse panel
- Locate and remove fuse #32

Step 4 — Solar Disconnection



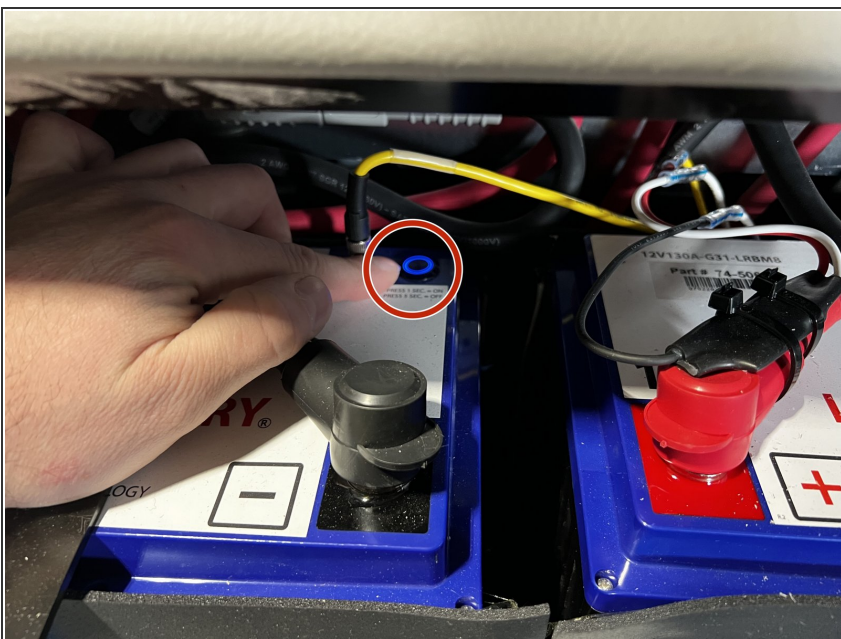
- Turn the solar disconnect knob located on the control panel to the "OFF" position.

Step 5 — Battery Cover Removal



- Locate the battery compartment in the driver's side rear of the van.
- Turn the locking knobs to release the battery compartment cover.
- Lift and remove cover.

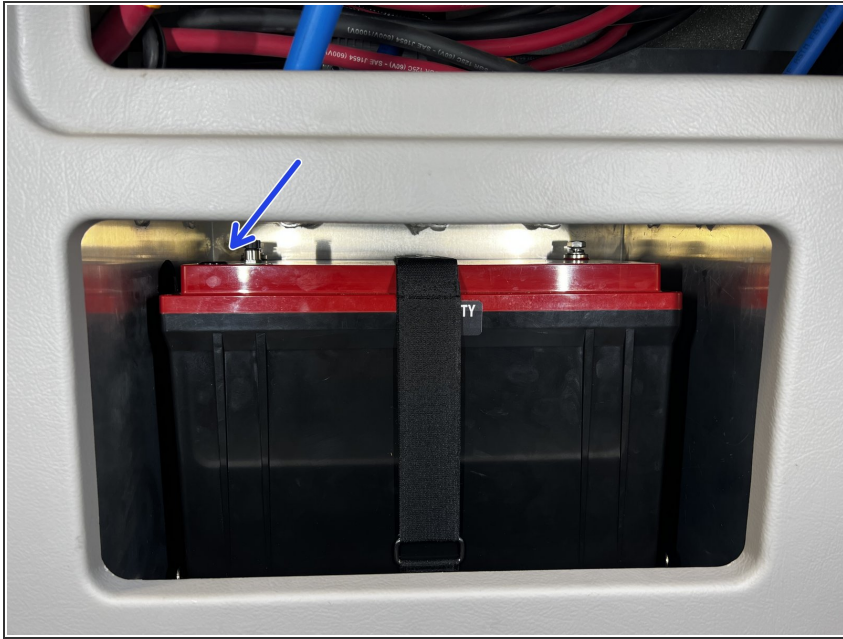
Step 6 — Shutting Off The Batteries



- Locate the "ON/OFF" switch on the batteries.
- Depress and hold the button for 5 seconds until the blue LED on the battery ON/OFF switch goes off. Do this for each battery.
- If the LED light does not go off, depress and hold the ON/OFF button again for 5 seconds.

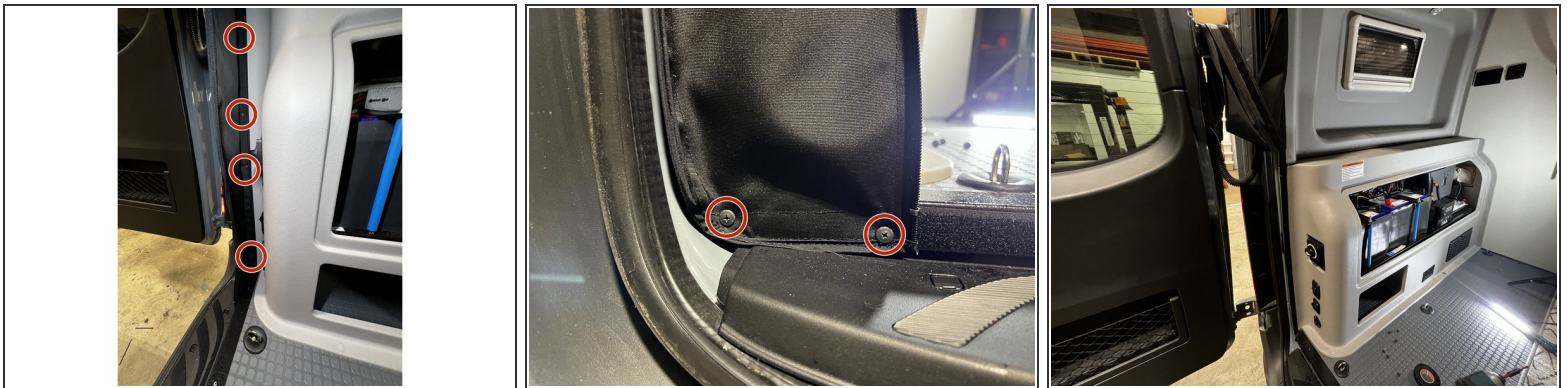
⚠ Ensure ALL batteries are off.

Step 7 — 3rd Battery Shutdown



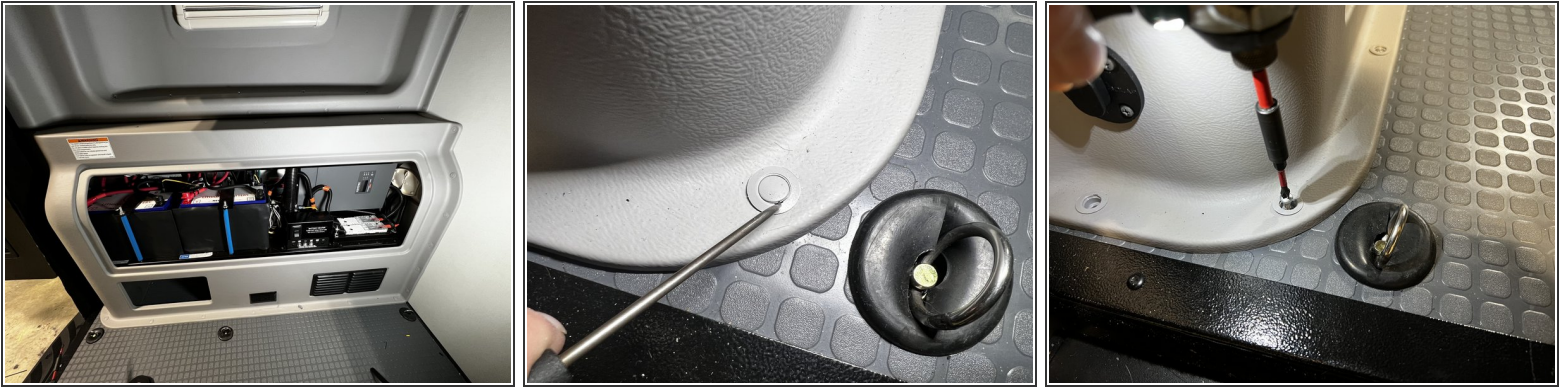
- If equipped with a 3rd battery, the ON/OFF switch will be located on the front left corner of the battery. Depress for 5 seconds to turn the battery off.

Step 8 — Battery Compartment Cover Removal



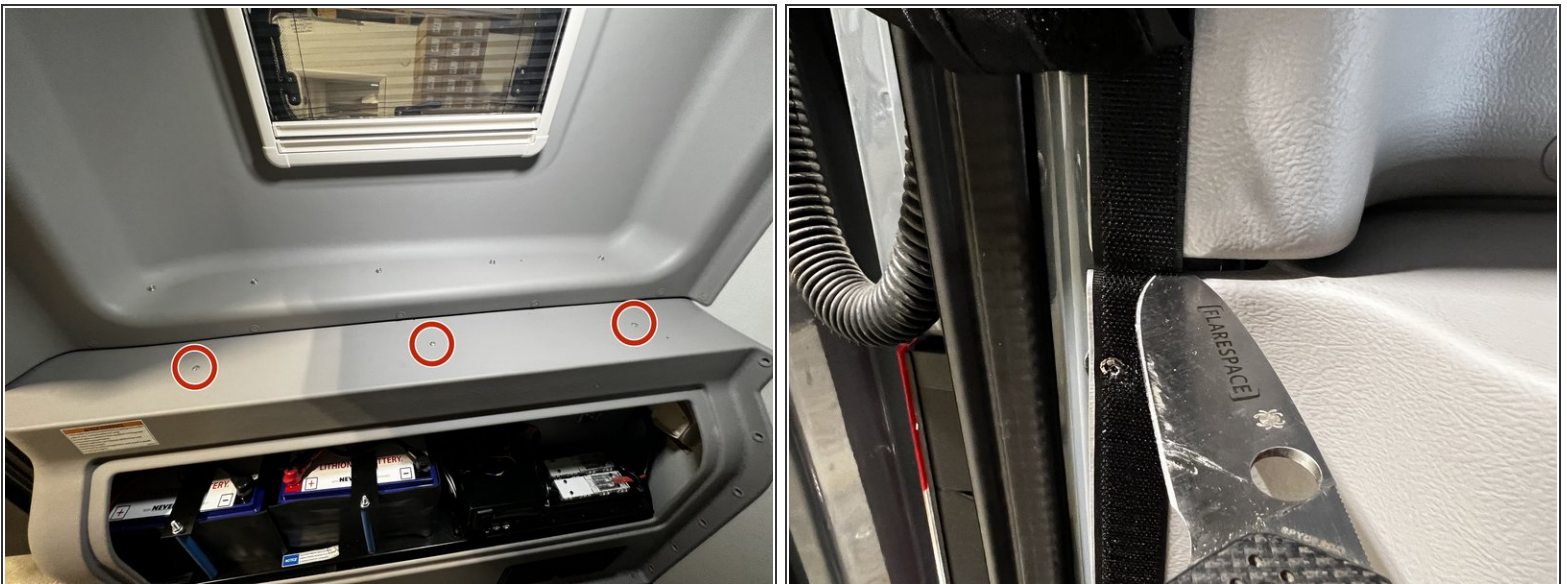
- Remove the screws securing the screen to the battery compartment using a #2 Phillips bit.
- Once all the screws are removed, set the screen over the door hinge to keep it out of the way

Step 9 — Battery Compartment Cover Removal



- Using a pick tool, remove all the screw cover caps on the bottom and sides of the battery compartment cover.
- Once all the caps are removed, use a #2 Phillips bit to remove all the screws. Set the screws aside.

Step 10 — Battery Compartment Cover Removal



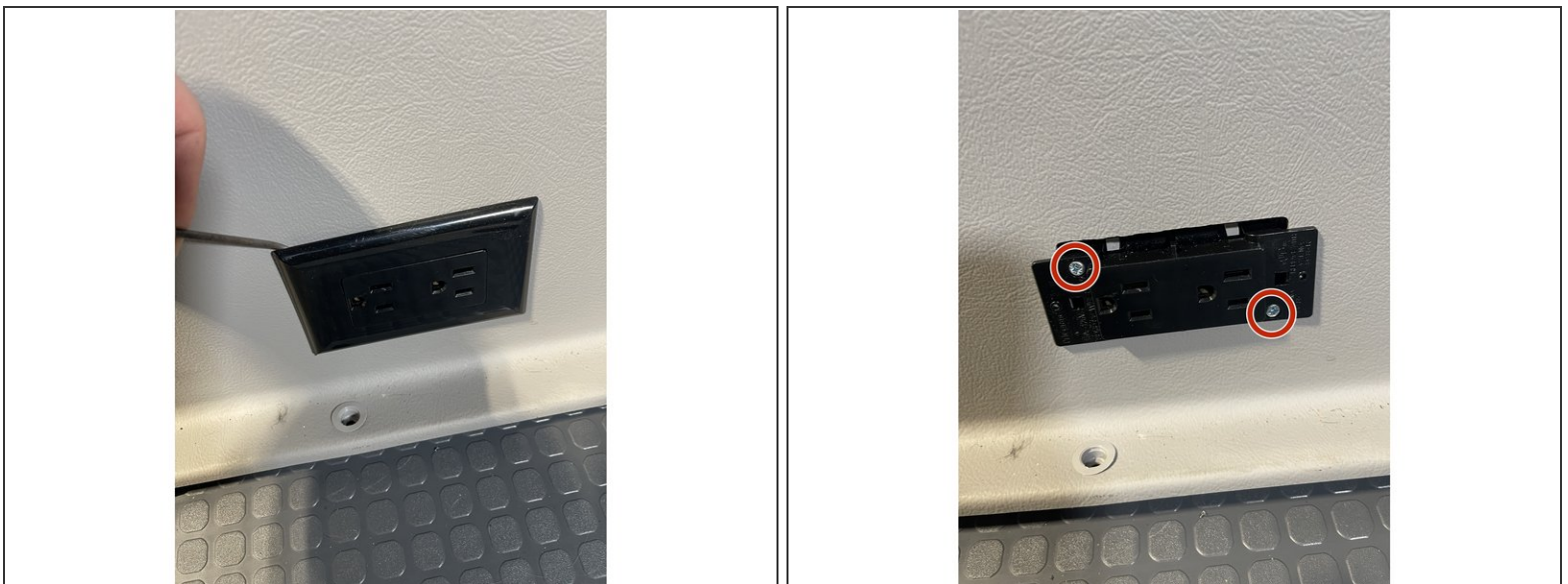
- Locate the 3 screws on the top of the battery compartment cover.
- Use a #2 Phillips bit to remove the 3 screws. Set the screws aside.
- Cut the velcro for the rear screen where the battery compartment cover meets the upper wall panel.

Step 11 — Inverter Disconnect Switch Removal



- Remove the 4 screws securing the inverter disconnect switch to the battery compartment cover using a #2 Phillips bit.
- Use a 15mm socket and wrench to remove the cables on the back of the inverter disconnect switch. Mark the wires if needed.
- Set the battery disconnect switch and associated hardware aside.

Step 12 — Battery Compartment 120v Outlet Removal



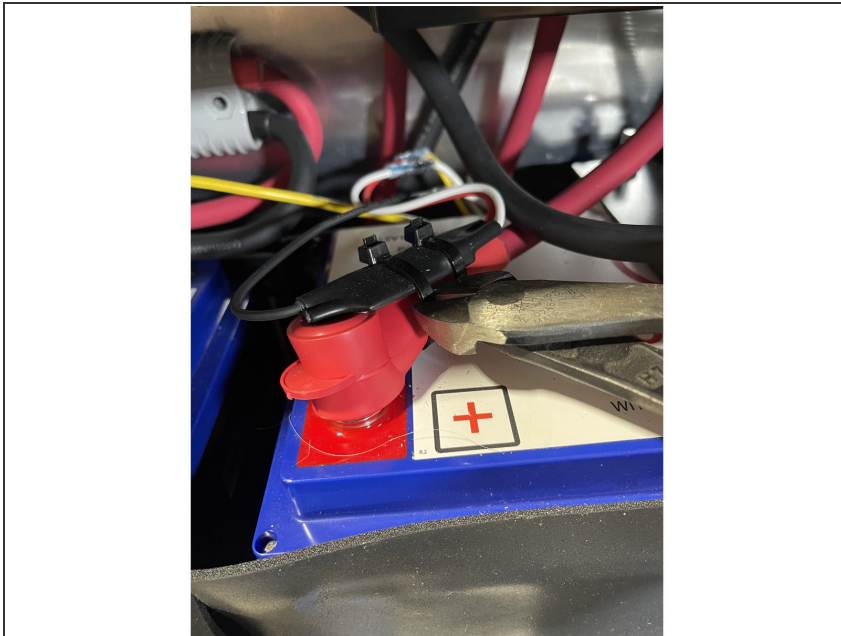
- Remove the 120v outlet cover using a pick tool.
- Using a #2 Phillips bit, loosen the two screws securing the 120v outlet to the battery compartment panel.

Step 13 — Battery Compartment 120v Outlet Removal



- Fold the white tabs of the outlet flat.
- With the white tabs flat, slide the outlet back into the opening as shown. This will allow the battery compartment cover to be moved further out of the way.

Step 14 — Battery Heater Temp. Sensor Removal



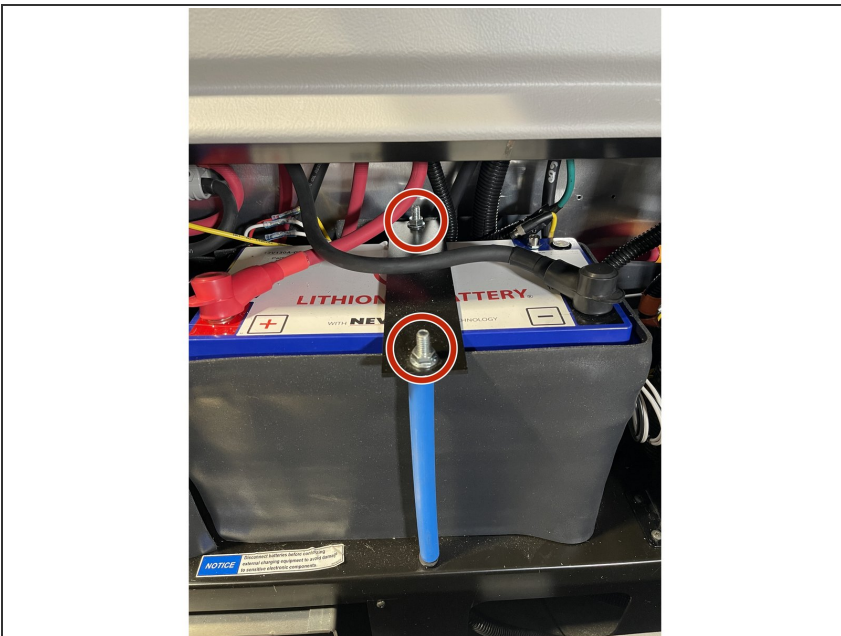
- Locate the battery heater temp sensor. If it is secured to the battery cables, but the zip ties securing it to the battery cables.

Step 15 — Battery Removal - CAN Connector Removal



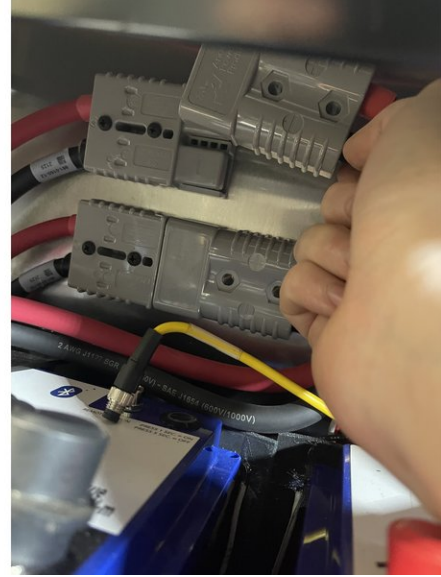
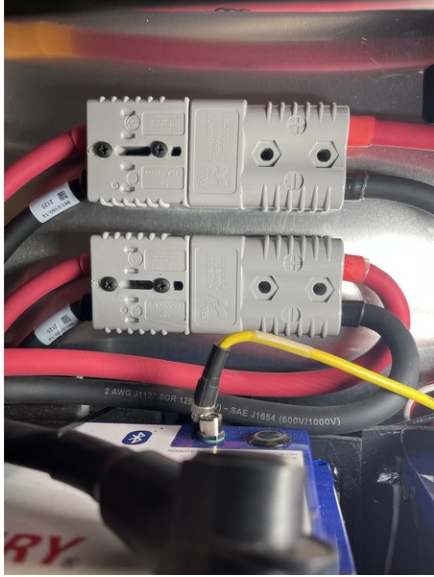
- Remove the CAN connector on each battery.
- There is a lock on CAN connector. Unscrew the collar, then lift up on the connector to unseat it. Then continue unscrewing the collar until the CAN connector is free.

Step 16 — Battery Hold Down Removal



- Remove the nuts on the battery hold down using a 13mm socket and wrench. Set the hardware and hold down aside.
- Do this for both batteries.

Step 17 — Battery Cable Disconnection



- Locate the 2 Anderson connectors for the battery cables on the back wall of the battery compartment.
- Pull the connector apart to separate them.

Step 18 — Battery Heater Disconnection



- Locate the harness and connectors for the battery heaters.
- Lift up on the locking tab on the connector, and pull to separate the connector.

Step 19 — Battery Removal



- Lift and remove the batteries (with the cables attached) out from the compartment. Set the batteries aside.

Step 20 — Inspecting Battery Shelf



- Now is a good time to inspect the shelf the batteries rest on. We have found a lot of them to be loose. Shake the shelf to see if it is loose.
- If the shelf is loose, proceed to the next step on how to re-secure the shelf.

Step 21 — Securing Battery Shelf



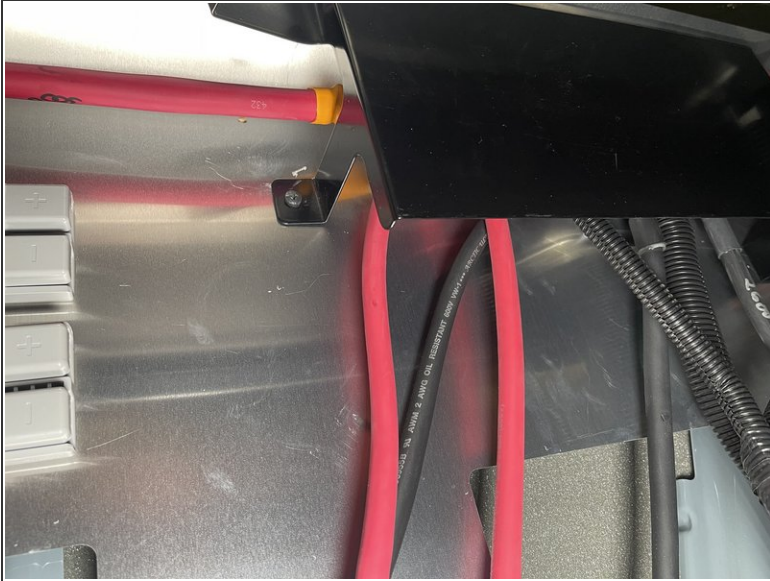
- In most cases the screws securing the shelf are stripped. Mark new screw positions next to the holes already in the shelf. Do this for all the mounting points on the shelf.

Step 22 — Securing Battery Shelf



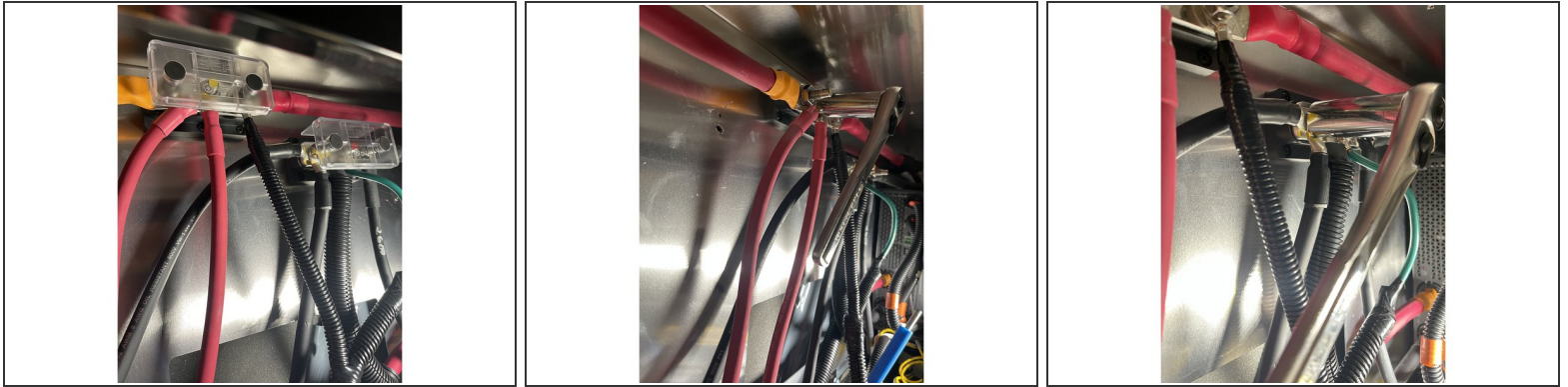
- Install the provided self drilling screws to secure the battery shelf to the van.

Step 23 — Battery Cable Connection Shield Removal



- Locate the black metal shield covering the buss bars for the battery cables.
- Remove the 2 screws securing the shield to the battery compartment using a stubby #2 Phillips screwdriver. There is 1 screw on each side.
- Remove the shield, and set aside.

Step 24 — Battery Cable Removal



- Remove the covers for both the positive and negative buss bars to expose the cables.
- Remove the nut securing the positive (red) battery cables from the buss bar using a 17mm socket and wrench. Remove the 2 cables from the buss bar.
- Remove the nut securing the negative (black) battery cables from the buss bar using a 17mm socket and wrench. Remove the 2 cables from the buss bar.
- ⓘ The battery cables that are referenced above are the 2 gauge wires that run to the Anderson connectors to which the batteries themselves connect to.

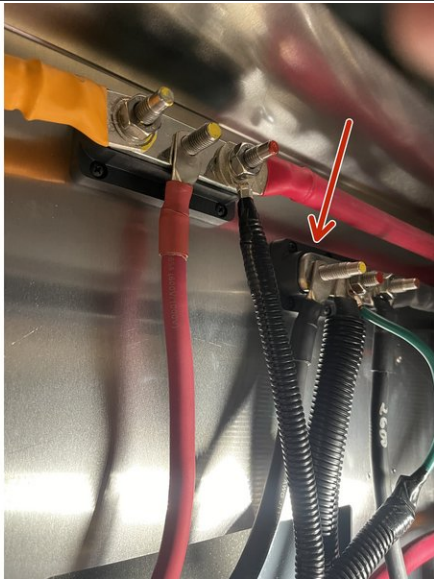
Step 25 — 3rd Battery Cable



- Locate the provided 3rd battery cables w/Anderson connectors. Note the difference in lengths. the shorter side connects to the buss bar. The longer end connects to the battery.

Step 26 — 3rd Battery Cable Buss Bar Install - Positive Cable

- Connect the shorter end of the provided battery cable positive (red) wire to the positive bus bar.
- Note the orientation of the cable lug end in the image. The offset side of the lug will face the rear of the compartment. This will ensure the cables seat properly on the buss bar.
- Install the two positive (red) wires removed previously, and tighten the nut using a 17mm socket and wrench.

Step 27 — 3rd Battery Cable Buss Bar Install - Negative Cable

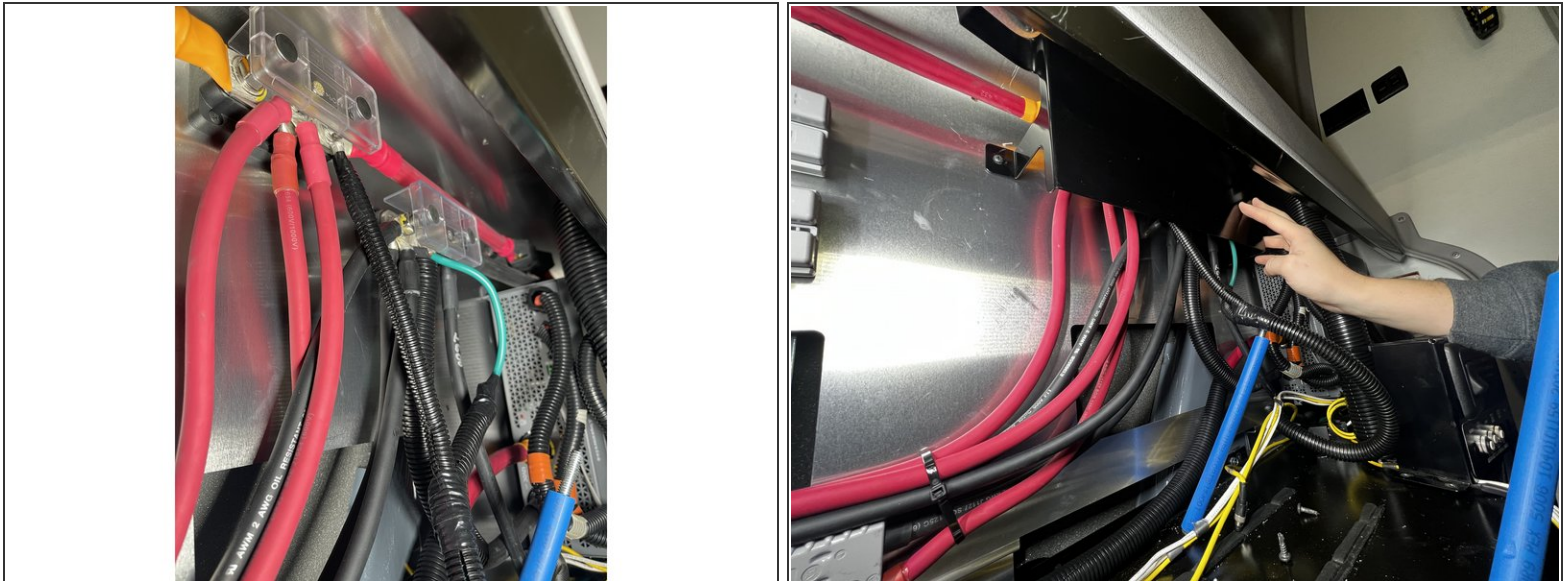
- Connect the shorter end of the provided battery cable negative (black) wire to the negative bus bar.
- Note the orientation of the cable lug end in the image. The offset side of the lug will face the rear of the compartment. This will ensure the cables seat properly on the buss bar.
- Install the two negative (black) wires removed previously, and tighten the nut using a 17mm socket and wrench.

Step 28 — Anderson Connector Mounting



- Mount the Anderson connector as shown in the image using the 2 longer screws provided. The "flat" side of the Anderson connector will be facing out, with the positive cable on the bottom.
- ⓘ Screws provided may differ slightly than the screws shown in the image.

Step 29 — Buss Bar Cover Reinstallation



- Reinstall the plastic buss bar covers removed in the previous step.
- Reinstall the metal buss bar cover using the hardware previously removed.

Step 30 — Drilling Hole in Storage Compartment Box



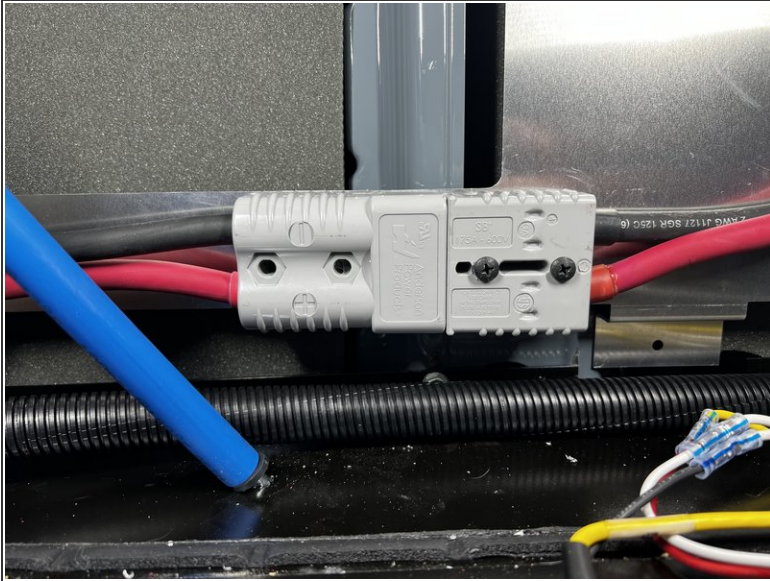
- Mark the side of the storage compartment metal box for the hole location. This is the left hand side of the box, if you are facing the box.
- The measurements for the hole are 4.5" from the rear of the box, and 1-3/8" down from the top of the box.
- Drill the hole using a 1.5" hole saw.

Step 31 — Deburring Hole and Grommet Installation



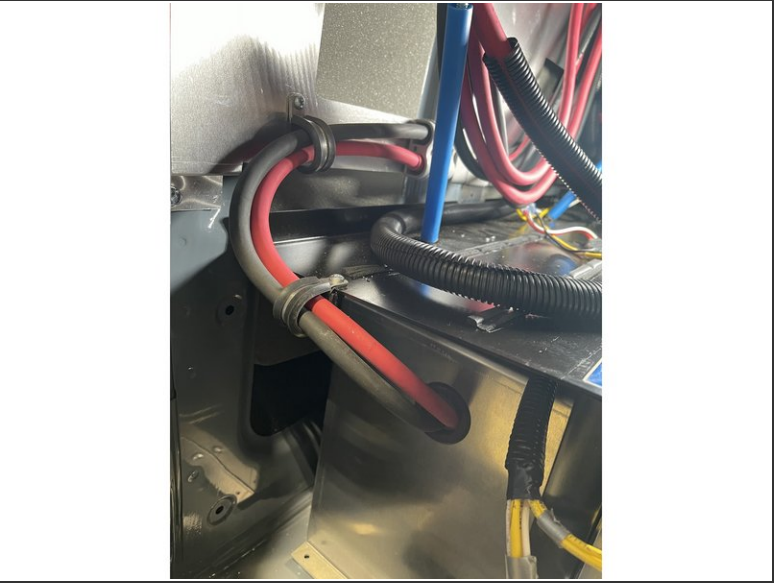
- Using a deburring tool, deburr the hole to remove any sharp edges.
- Install the provided grommet into the hole.
- Clean up any metal shavings in the van using a vacuum cleaner.

Step 32 — Connecting the Battery Cables



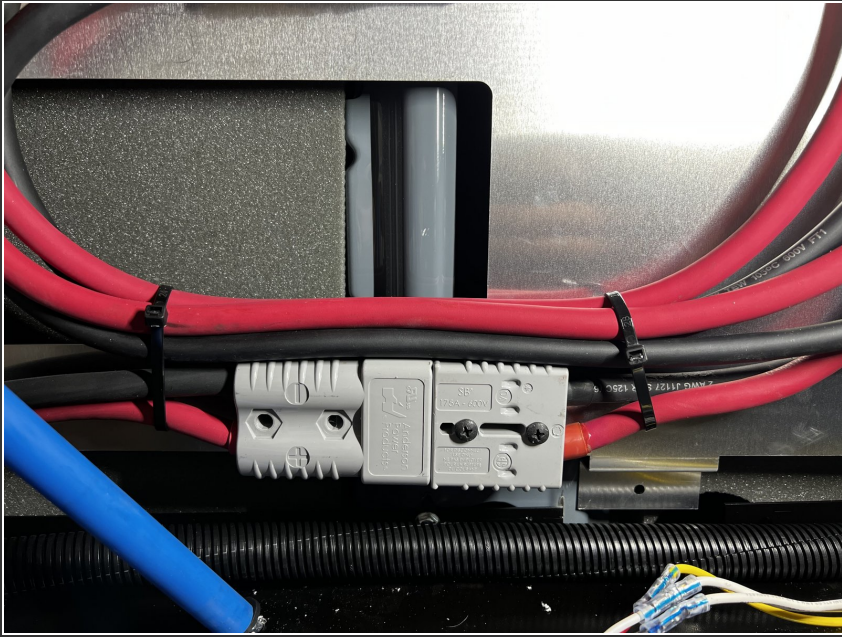
- Connect the battery cables for the 3rd battery to the Anderson connector that was previously mounted to the rear wall of the compartment.
- Feed the cables through the grommet and into the storage compartment.

Step 33 — Securing the Battery Cables



- Using the provided insulated clamps and screws, secure the battery cables to the rear compartment wall and shelf as shown. Ensure the cables are neatly routed and secured.
- ⓘ Notice the orientation of the insulated clamps, especially the lower insulated clamp.
- ⚠ This is a vital step. The battery cables need to be secured to avoid any potential chaffing, which will result in a short circuit.

Step 34 — Securing the Battery Cables



- With the insulated clamps installed, used the provided zip ties to secure the other battery cables for the 2 upper batteries as shown.

Step 35 — 3rd Battery Tray Installation



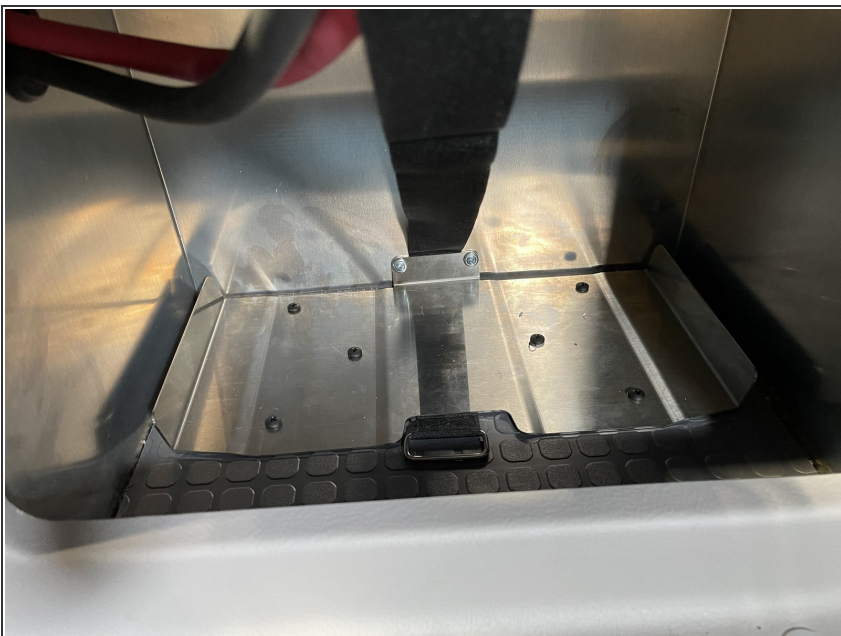
- Locate the provided 3rd battery tray, strap, battery lug boots (red and black), and hardware in the kit.

Step 36 — 3rd Battery Tray Installation



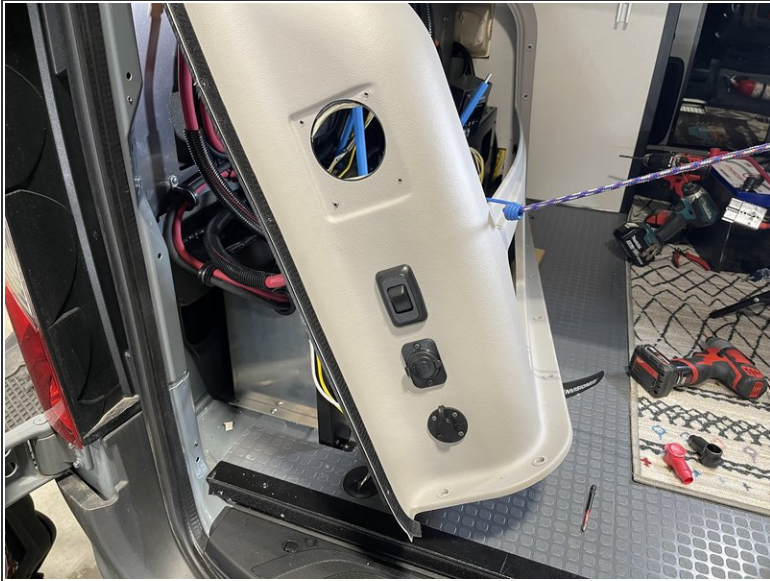
- Position the battery tie down strap as shown. The buckle end should be approx. 3" from the cut out on the tray.
- With the tray placed in the compartment and centered, secure the rear tab of the battery tray to the back wall wall of the compartment using the 2 small self drilling screws provided using a #2 Phillips bit. Ensure the strap is not pierced by the screws.
- After the rear two screws are secured, ensure the buckle is 3" out form the cut out. This will ensure the battery strap secures the battery properly.

Step 37 — 3rd Battery Tray Installation



- Use the 6 provided screws to secure the base of the battery tray to the floor using a #2 Phillips bit.
- If the battery strap buckle is too close to the tray, you can pull it out at this time. If the strap is tight, you may need to loosen the screws to allow the strap to be adjusted.

Step 38 — 3rd Battery Installation



- Gently pull the plastic battery compartment panel away and secure using a bungee cord or strap. This will help provided the necessary room to slide the 3rd battery in place.

⚠ Take great care moving the plastic panel. It is extremely fragile and easily damaged!

Step 39 — 3rd Battery Installation



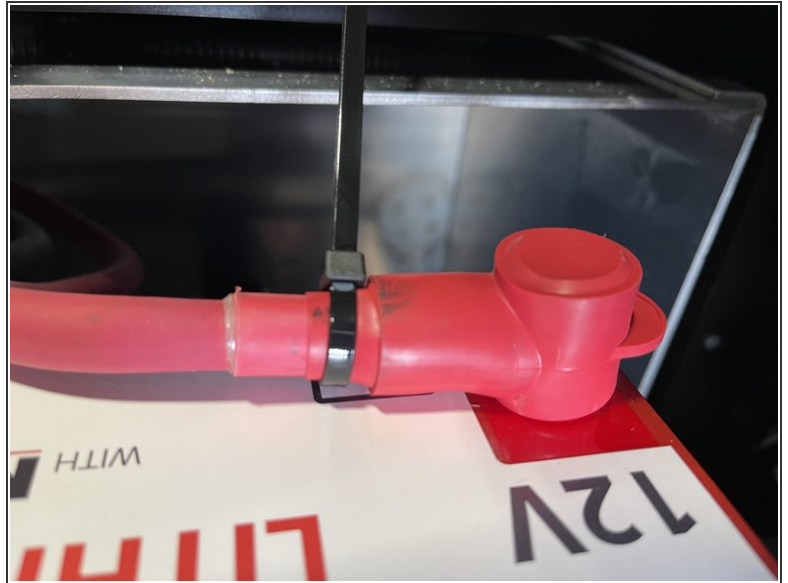
- Slide the battery between the battery compartment and the plastic panel, in the orientation shown. The ON/OFF switch should be in the front left corner of the battery, if you are facing the battery.
- Once the battery is slid in front of the battery compartment, install the provided battery terminal protector boots onto the wires.
- ⓘ Do not slide the battery into the compartment at this time. It is much easier to connect the battery cables with the battery outside of the compartment.
- ⚠ Ensure the battery is off, and was not accidentally powered on when sliding the battery into place. If the battery was accidentally turned on during handling, depress the ON/OFF button for 5 seconds until the blue LED light shuts off.

Step 40 — 3rd Battery Installation



- Before sliding the battery into the battery compartment, connect the battery cables to their respective terminals on the battery.
- Connect the red wire to the positive terminal on the battery. Tighten the bolt using a 13mm socket and wrench.
- Connect the black wire to the negative terminal on the battery. Tighten the bolt using a 13mm socket and wrench.
- Slide the protective boots onto the battery terminals.

Step 41 — 3rd Battery Installation



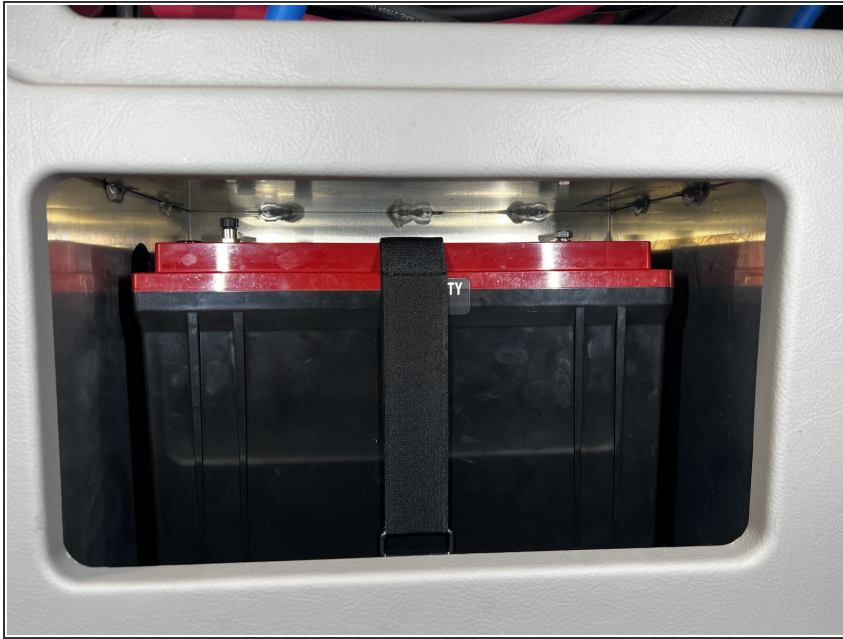
- With the cables secured to the battery terminals and the protective boots installed, install one of the provided zip ties on each protective boot. This will prevent the boot from sliding off, and exposing the battery terminal. Cut the tails off the zip ties once secured.

Step 42 — 3rd Battery Installation



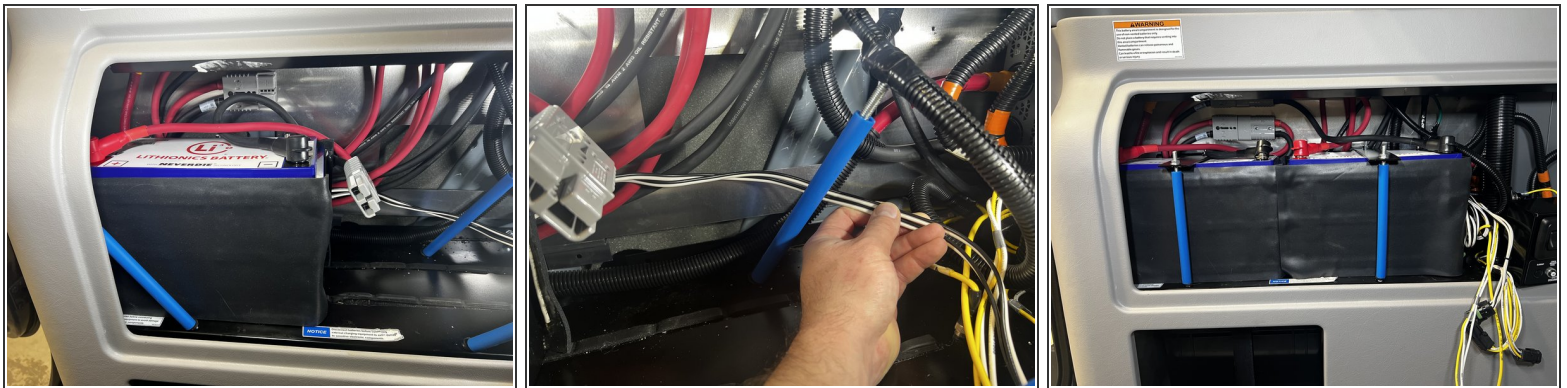
- Take the Velcro strap and route it over the top of the battery. Slide the battery into the compartment.

Step 43 — 3rd Battery Installation



- With the battery slid all the way into the back of the cabinet, take the Velcro strap and secure the battery to the battery tray. Ensure the Velcro strap is pulled tight, and the battery is secured.

Step 44 — Battery Reinstallation



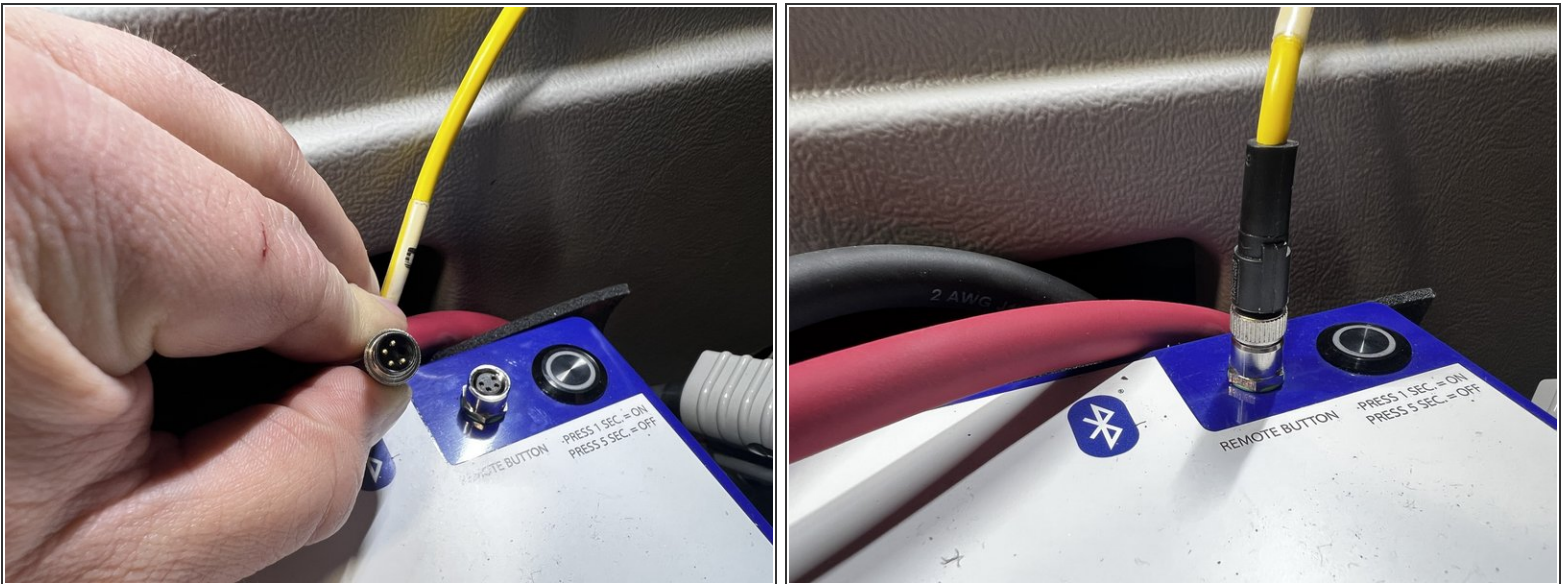
- Place the 2 original batteries back into their location on the battery compartment shelf, and reconnect the cables to the Anderson connectors mounted to the wall of the compartment.
- The positive terminal should be on the left if you are looking at the battery.
- For the rear most battery, ensure the battery heater wires run **behind** the battery hold down bolts.
- Reinstall the battery hold down bracket, and tighten the nuts using a 13mm socket and wrench.

Step 45 — Battery Heater Reconnection



- Reconnect the battery heater harness, and tuck the excess along the side of the front battery.
- Reinstall the battery heater temp. sensor onto the battery cable.

Step 46 — Battery CAN Reconnection



- Reconnect the CAN connector on the two original batteries. The CAN connector needs to be lined up and oriented correctly to seat properly into the battery. Once seated, tighten the collar on the CAN connector to secure to the battery.
- ⓘ Connection showed with the battery on a bench for clarity purposes.
- ⓘ There is not a CAN connection for the 3rd battery. Only the 2 original upper batteries.

Step 47 — Inverter Disconnect Switch Reinstallation



- Reinstall the inverter disconnect wires back onto the disconnect switch. Tighten using a 15mm socket and wrench.
- Reinstall the inverter disconnect switch back into the panel using the 4 screws previously removed.

Step 48 — 120v Outlet Reinstallation



- Slide the 120v out back through the opening in the plastic battery compartment cover.
- Tighten the screws to secure the outlet in the opening.
- Reinstall the outlet cover by snapping it into place.

Step 49 — Battery Compartment Panel Reinstallation



- Place the plastic battery compartment panel back into place.
- Secure the panel using the screws previously removed, and reinstall the plastic screw cap covers.
- Reinstall the 3 screws removed previously on the top of the panel.

Step 50 — Screen Reinstallation



- Reinstall the screen into place, and secure using the screws removed previously.

Step 51 — House Battery Power On



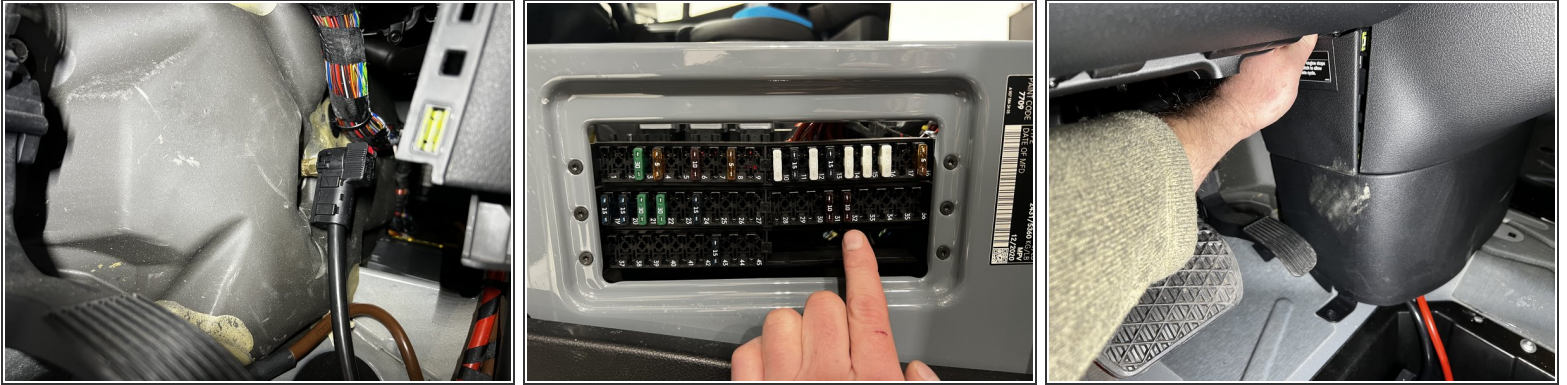
- Press the ON/OFF button on each battery to turn them on. The blue LED should illuminate when the battery is powered on.
- If equipped with a 3rd battery, ensure to power on that battery as well.
- Reinstall the battery compartment cover.

Step 52 — Solar Reconnection



- Turn the solar disconnect knob to the "ON" position on the control panel.

Step 53 — VS30 Battery Reconnection



- Place the battery disconnect terminal back onto the ground stud.
- Push the battery disconnect terminal onto the stud until it clicks. Give the terminal a tug to ensure it is fully seated.
- Reinstall fuse #32
- Reinstall the battery disconnect access cover.