



ADVENTURE WAGON

ADVENTURE WAGON BATTERY TRAY INSTALLATION

Compatibility

2007-2018 NVC3 Sprinter Platforms, 170 and 144 WB models. The Adventure Wagon Tray serves as an auxiliary battery upgrade to vans that do not already have a factory auxiliary battery. This system can also be added to vans that already have the factory auxiliary battery as an additional 220 amp-hour battery capacity. Our Tray is designed to fit two Full River 6V DC224-6 batteries.

Necessary tools:

- Screwdriver
- Metric sockets
- Zip ties

PACKAGE OPTIONS AND CONTENTS

Auxiliary Tray Only



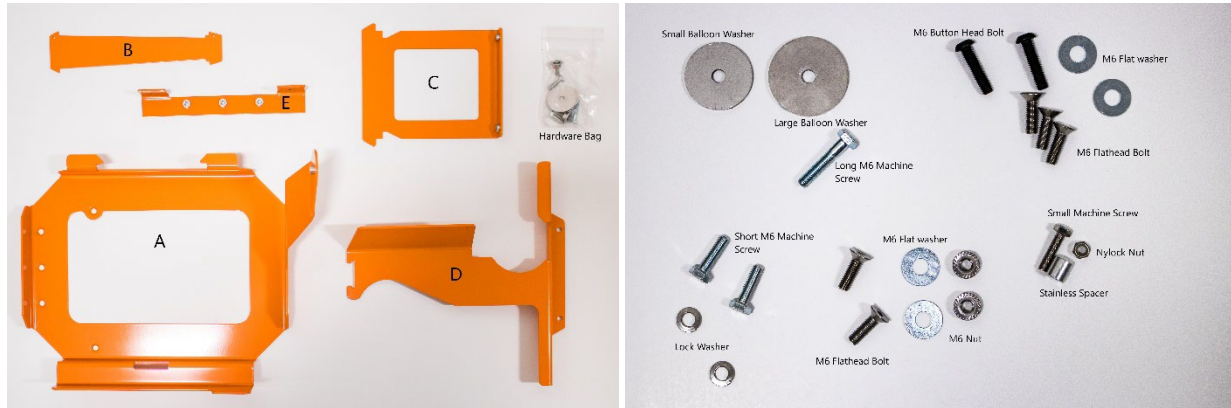
Contents:

- Steel Tray
 - Tray Base (A)
 - Drivers side support (B)
 - Passenger side support (C)
 - Tray Top (D)
- Hardware Bag
 - 2x flathead M6 Bolts
 - 2x M6 Flat washer
 - 2x short M6 machine Screws
 - 2x lock washer
 - 2x M6 nuts
 - 1x long M6 machine screw
 - 1x small balloon washer
 - 1x large balloon washer
 - 1x Small machine screw with stainless spacer and nut



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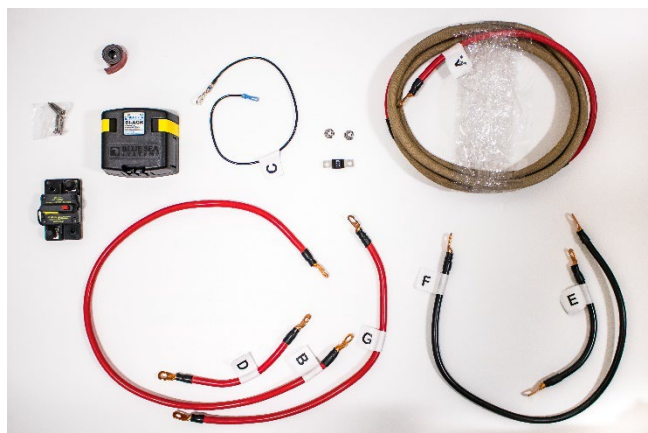
Auxiliary tray with ECU Bracket



Contents:

- Steel Tray
 - Tray Base (A)
 - Drivers side support (B)
 - Passenger side support (C)
 - Tray Top (D)
 - ECU Bracket (E)
- Hardware Bag
 - 5x flathead M6 Bolts
 - 2x M6 button head bolts
 - 4x M6 Flat washer
 - 2x short M6 machine Screws
 - 2x lock washer
 - 2x M6 nuts
 - 1x long M6 machine screw
 - 1x small balloon washer
 - 1x large balloon washer
 - 1x Small machine screw with stainless spacer and nut

Wiring Kit



Contents:

- Blue Seas SI-ACR Relay
- 150 amp midi breaker
- Blues Seas 100 amp breaker
- (A) 120" red 4 AWG cable
- (B) 32" red 4AWG cable
- (C) 18" Black 14 AWG Cable
- (D) 7.5" red 4 AWG Cable
- (E) 7.5" red 4 AWG Cable
- (F) 24" black 4 AWG Cable
- (G) 18" red 4 AWG Cable



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SECTION 1: TRAY INSTALLATION

1. Remove the ground connection above the gas pedal in the drivers side footwell. This will cut power from the system and ensure you are safe to manipulate the wiring.
2. Open the hood and locate where the Tray will mount above the Driver side wheel well as well as the mounting points A, B, C, D.
3. If not pre-attached insert the small machine screw, spacer and nut into mounting point B as shown below.



4. Remove the lower rubber grommet located on the van firewall against the driver footwell.



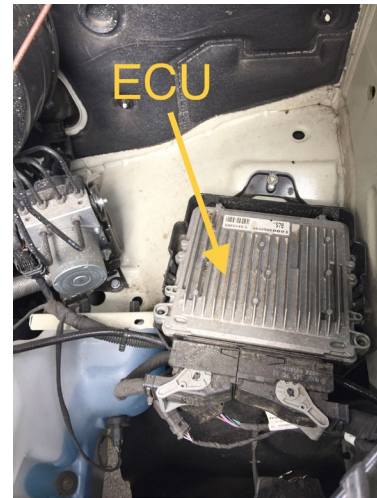
5. Place part B through the tray base (part A). Place unit into engine compartment lining up mounting points as shown. Mounting point B should sit inside a factory hole in the engine bay wall. Mounting point A should line up with the hole in the firewall where you previously removed the rubber grommet. Mounting points C and D should line up with factory holes in the chassis.



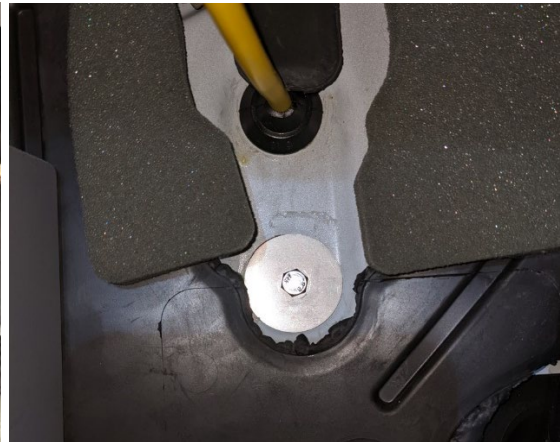


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6. If your ECU is located on the wheel well double check that you purchased and received the ECU bracket from Adventure Wagon before starting your install. Skip to section 2 “ECU Relocation”



7. Locate the hole in the fire wall at the Drivers side foot well. Thread balloon washers onto the long M6 Machine Screw – large washer first then small washer. Place bolt through firewall and into threaded insert at mounting point A.



8. Secure Tray at mounting point B. The stainless post you attached in step 3 on the tray should be placed into the opening on the side wall of the van. No additional fastening is needed.





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- Secure Tray at mounting points C and D. Insert an M6 flat head bolt at both mounting points through the tray and van frame holes shown in step 2. Capture both bolts on the bottom side with a washer and nut. Use Loctite or lock washer to ensure nut stays in place.



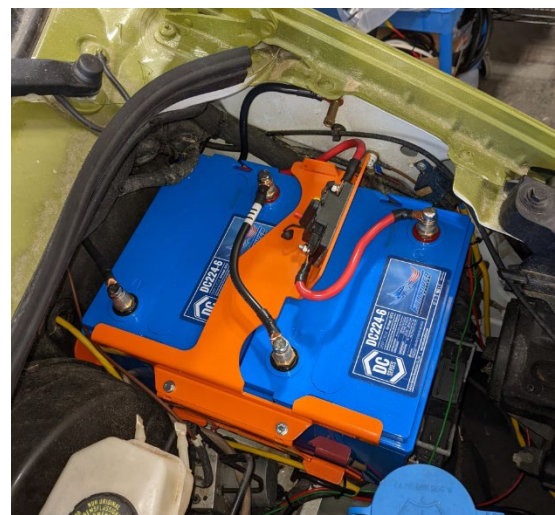
- If you have an ECU bracket return to step 5 in section 2.



- Insert two 6V Full River DC224 Batteries into Tray. We recommend you do all prewiring before installing batteries to limit any potential interaction between the wiring and the battery posts while maneuvering components. See Section 3 if you purchased the Adventure Wagon Battery tray wiring kit.

- Using parts C (side Bracket) and D (top plate) assemble the rest of the tray enclosing the battery. These two parts need to be installed in tandem as they will bolt together completing the tray.

- Insert part C under the tabs of the base of the tray, the flange of part C should be facing out away from the tray.
- Part D will hook into part B on the drivers side capturing the top of the batteries. It should line up with the pemnuts on the top flange of pard C. Using your short M6 machine screws and lock washers attach part D to C completing the tray.



- Complete wiring to utilize batteries. See Section 3 if you received the Adventure Wagon wiring.



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SECTION 2: ECU RELOCATION

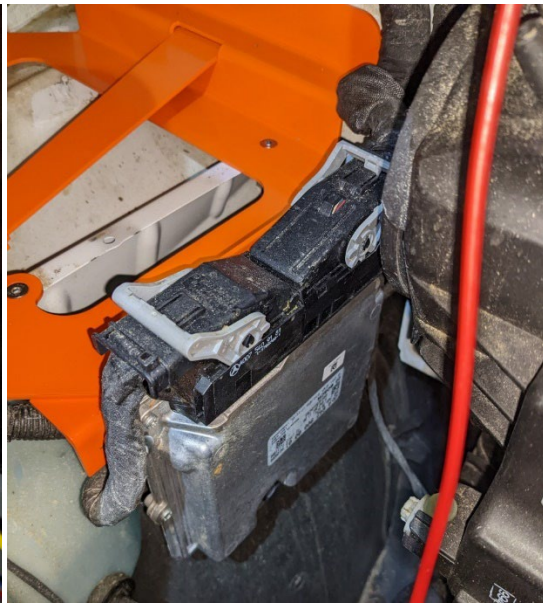
1. Remove the ECU by unbolting the factory chassis bolts (10mm). Once the bolts are removed you will also need to clip or pry up the plastic ECU cable fasteners on each side of the ECU. Cutting the factory zip ties can help manipulate the ECU bracket. You will no longer need the plastic housing under the ECU.
2. Once the ECU is no longer attached to the chassis shift it away from the body, you may need to clip some factory zip ties to allow the unit to move more freely.



3. Mount the ECU unit to the ECU bracket using the two button head bolts and washers, ensure that the ECU heat sink is facing forward and flanges on the bracket are facing down. Shift bracket and ECU to the side, out of the way.

4. Return to step 7 in section 1

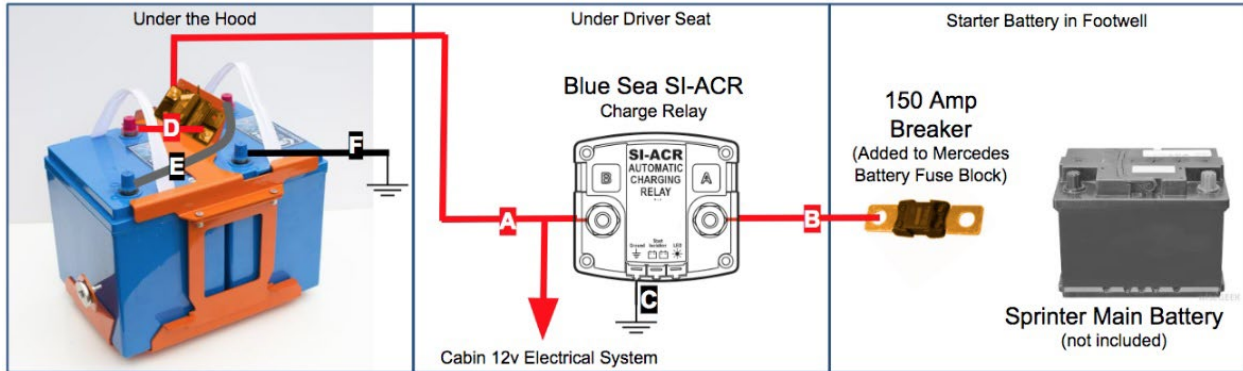
5. Install ECU/ ECU Bracket to tray – the three pemnuts in the ECU bracket should line up with the three pre-drilled holes in the base of the battery tray. Insert an M6 bolt through each hole capturing the ECU bracket on the underside of the tray. The flanges on the ECU bracket should be facing down with the ECU out the outside.



6. Return to Step 11 in Section 1



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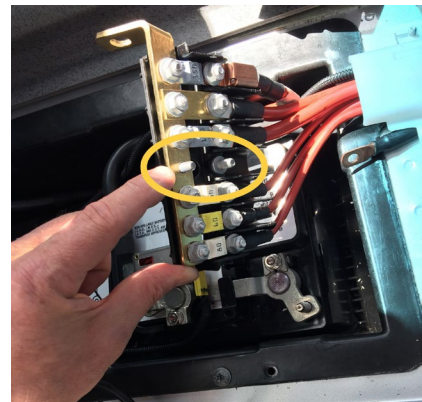


Cables and functions

- Cable A- Red Heat protected cable that goes from blue seas breaker on AdWag battery tray to the charge relay “Post B” in the seat base
- Cable B- Red Cable that goes from the Sprinter starting battery to the Blue Sea Si-ACR charge relay “Post A”
- Cable C- Black ground cable (smaller gauge)
- Cable D- Red cable goes from breaker to positive post on battery
- Cable E- Series cable for battery
- Cable F- Black Chassis ground cable
- Cable G- Optional cable from post B on SI-ACR Relay to cabin fuse block in Adventure Wagon interior system.

Wiring bundle Installation

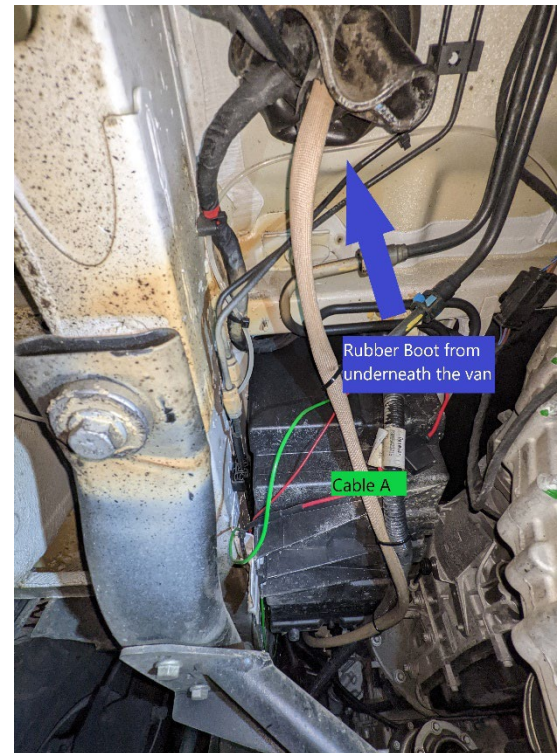
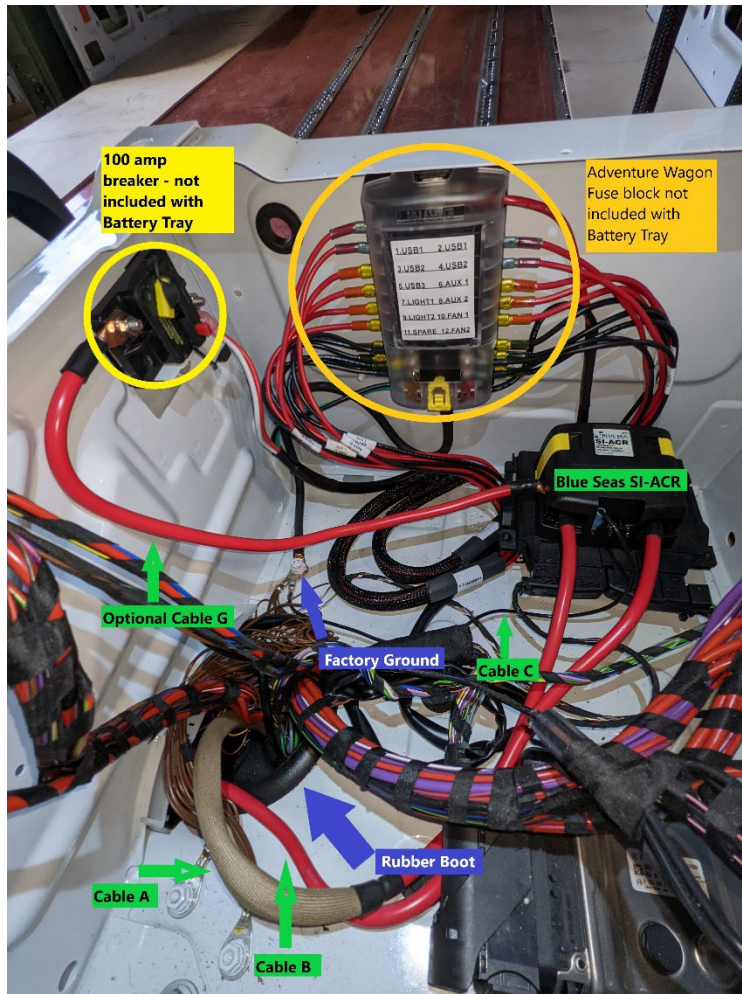
1. Install Cable B
 - a. Remove ground connection above gas pedal in driver side footwell
 - b. Remove drivers seat
 - c. Remove the main battery cover in drivers side footwell
 - d. Unscrew the MIDI circuit breaker harness located alongside the main battery in drivers side footwell
 - e. Attach the 150 amp midi connector in an empty slot
 - f. Connect the small terminal ring of cable B to the other side of the 150 amp midi breaker and feed this cable through the channel and along side the drivers seat base and into the driver seat base.
 - g. Connect the larger ring terminal to post A on the Blue Seas SI-ACR Relay.
 - h. Mount and secure your Blue Seas Si-ACR Relay under the driver seat base.





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2. Install Cable A
 - a. Locate the rubber boot under the drivers seat base
 - b. Unclip the zip tie to the boot and feed the end of Cable A with the larger ring terminal through the boot in the driver floor
 - c. Feed cable A through the rubber boot, under the van and up into the engine compartment next to the battery tray. Zip tie the cable to the existing factory plastic harness. Be careful to avoid placing cable A close to the engine block/heat source and away from any steering mechanisms.



3. Mount the Blue Seas SI-ACR Relay. Using the 3M tape provided mount the relay inside the driver seat base. Be sure to leave room to reinstall any wiring or additional components that may have been removed to make room for this installation.
4. Ground the SI-ACR. Plug in cable C to the ground connection at the base of the SI-ACR. Connect the other end to the factory ground under the seat. This will allow the AdWag system to operate as the Mercedes auxiliary battery system does.



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5. Install Battery connections in engine bay.
 - a. Mount 100 amp mechanical breaker to top of Tray using 3M tape
 - b. Connect Cable A to the 100 amp breaker
 - c. Ensure the breaker is in the off position and connect Cable D to the other side of the breaker.
 - d. Connect the other end of cable D to the positive post on the forward 6 V battery.
 - e. Using cable E connect the rearward battery positive post to the forward battery negative post. This will connect your batteries in series for a combined 12V.
 - f. Connect cable F to the negative post on the rear battery.
 - g. Connect the other end of cable F to the chassis ground on the side wall of the engine bay. Remember to always hook your ground up last.

