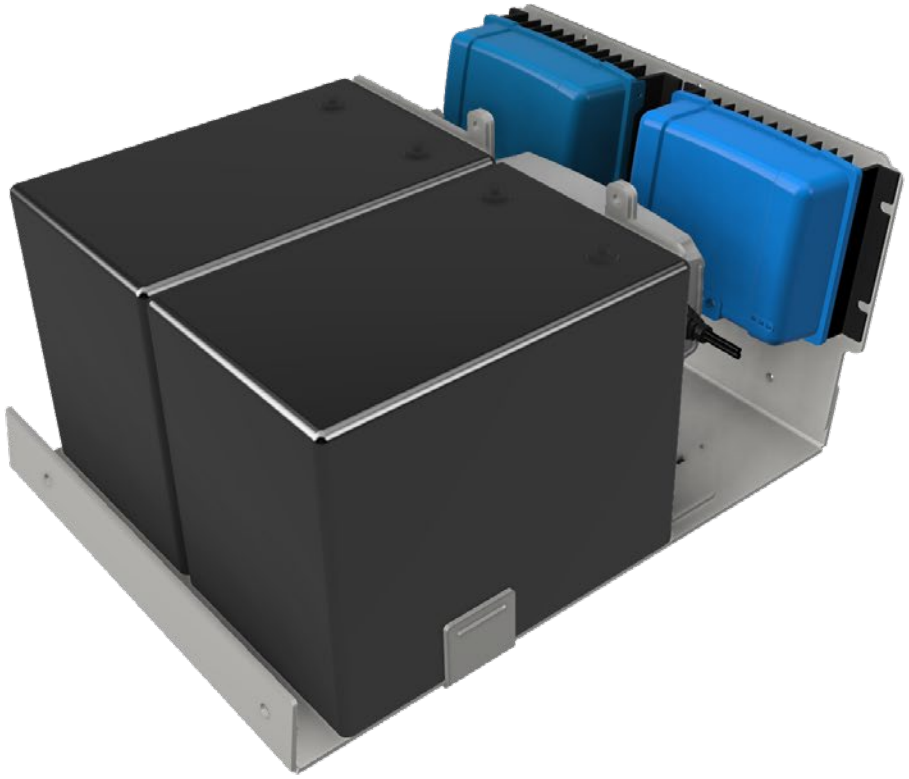
INSTALLATION GUIDE



Underseat Electrical System (UES)

Some Outer Space Van Supply products involve high amperage electricity, posing inherent risks. Installation must only be performed by qualified individuals with expertise in electrical systems, such as certified electricians, to mitigate potential dangers. Outer Space Van Supply disclaims responsibility for damages, injuries, or consequences resulting from improper installation by unqualified persons.

✦ ✦ ✦

Customers are responsible for inspecting products upon receipt, reporting defects promptly. Liability is limited for any direct or indirect damages, and users must ensure compliance with local regulations. Modification or alteration of products without explicit approval voids warranties. By proceeding with the purchase and installation, users acknowledge and agree to these terms. If in disagreement, refrain from using Outer Space Van Supply products.

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BEFORE YOU BEGIN

Congratulations! You've purchased an electrical system that is reliable, powerful, and safe. Here's to many offgrid explorations.

Before you start, please confirm the following:

- All components are present and accounted for
- No damage is present (if there is, please contact us immediately)
- Collect tools required for installation (see below)

RECOMMENDED TOOLS:

- 13mm socket & driver
- 7/16" box end wrench
- 17mm box end wrench
- Flat screwdriver
- Phillips Screwdriver
- E-Torx socket
- T-20 Torx Screwdriver

(Additional tools may be needed)

Typical install time: 2-3 hours

STEP 0

Ensure all 12v wires are run into the seat base. Be sure to label each wire if needed. This includes:

• 2 AWG wires for inverter (if equipped)

• Wires for 12v loads (fridge, fan, lights, USB sockets, etc)

STEP 1: REMOVAL

Remove existing components:

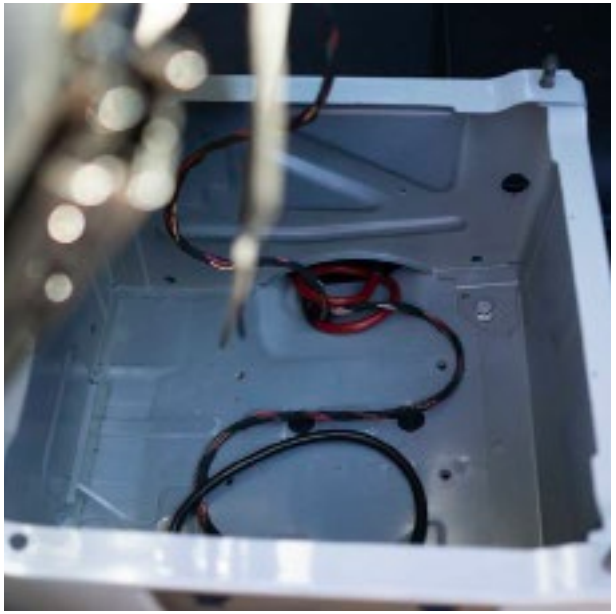
• Passenger seat (4 T-25 E-Torx bolts) *(Note that if you remove the airbag wiring connector, a Check Engine or other service indicator light may appear on your dash. We recommend leaving the airbag wiring connector connected.)*

• Auxillary lead acid battery (if equipped)

• Aux battery holder (4 bolts, if equipped)

STEP 2: PREPERATION & REROUTE EXISTING WIRES

• Insert sticky wire holders on at the following locations, marked in red. Re-route Mercedes wire harness to wire holders and attach with zip ties



Before: Wires everywhere

After: Wires held in place with sticky wire holders (Shown in red)

(CONT'D) STEP 2: PREPERATION & REROUTE EXISTING WIRES

• Run 6 AWG wire from Starter Battery for DC to DC charger

STEP 3: PUT ELECTRICAL SYSTEM IN PLACE

• Without lithium battery inserted, place electrical system bracket in seat base.

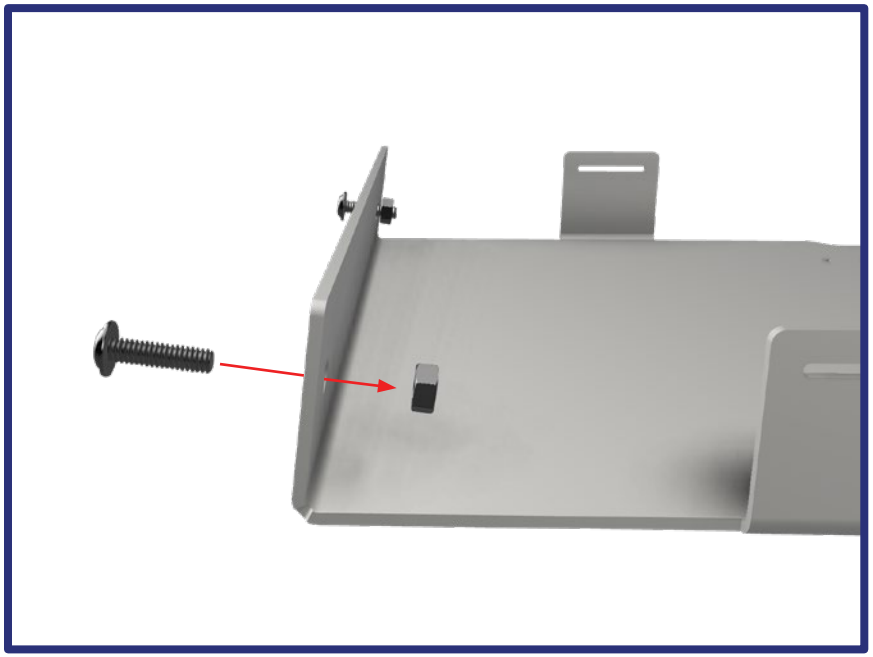
Ensure vertical bracket is at front of vehicle

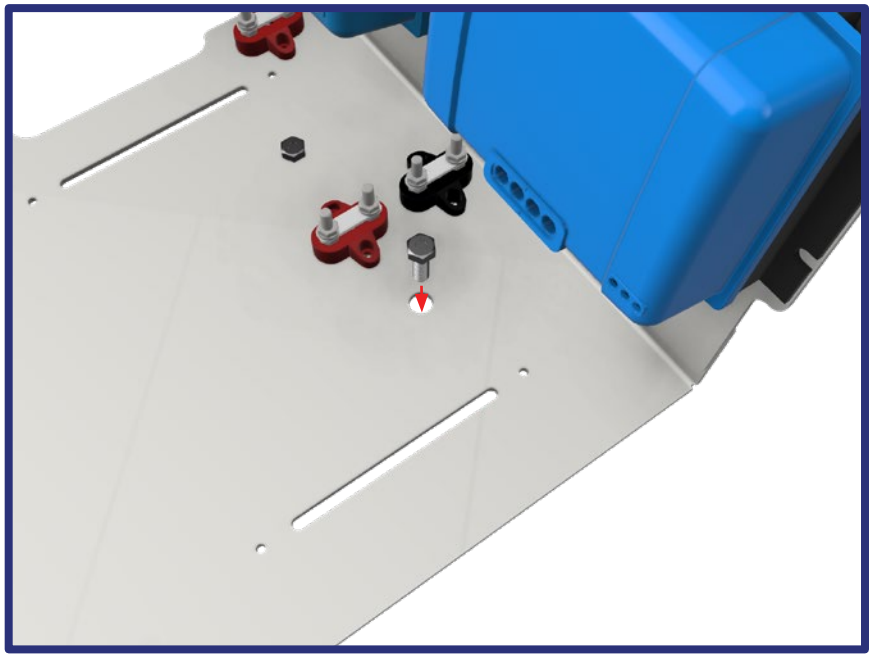
STEP 4: SECURE BRACKETS

Hand thread bolts into place. Do not torque to spec:

• 2x 1/4-20 x 1” bolts into rear of bracket (toward rear of vehicle)

• 2x 8-1.25 x 25mm bolts in front of bracket (toward front of vehicle)



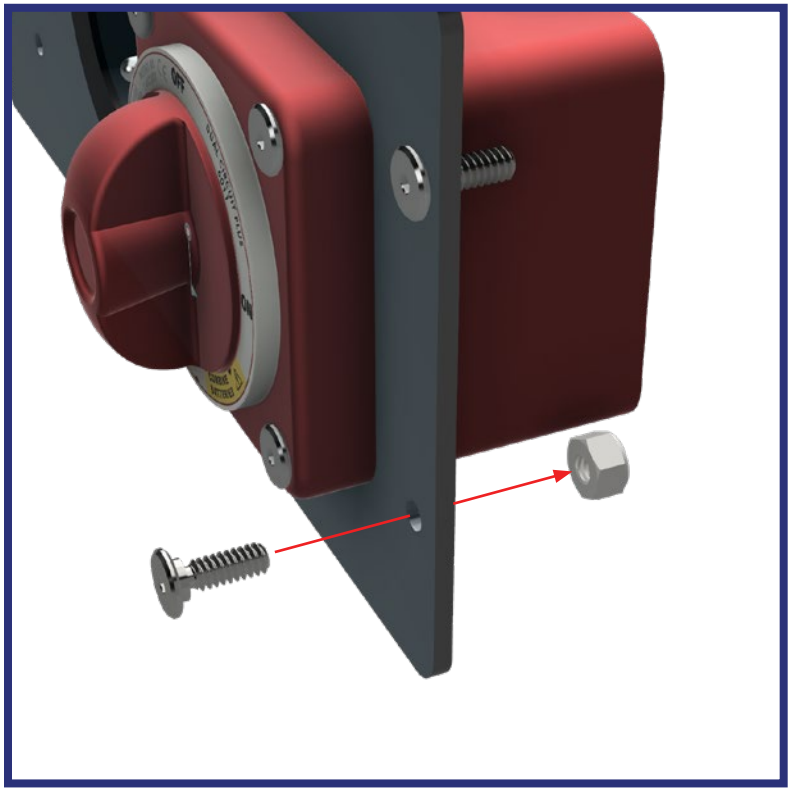


(CONT'D) STEP 4: SECURE BRACKETS

Hand thread bolts into place.

• 4x 10-24 bolts in corners of Connection Panel

• Torque the above only to 15 in-lbs



STEP 5: CONNECT WIRES #1

Ensure main disconnect switch is rotated to the "Off" position. Connect wires to main connection terminals:

- "DC-DC" wire to DC-DC terminal (Location #1)
- "Fuse Block" wire to 12v Fuse Block positive terminal
- "Chassis Ground" to chassis ground terminal

⚠ ***USE EXTRA CAUTION; THE SYSTEM IS NOW PARTIALLY ELECTRICALLY LIVE.***

STEP 6: TORQUE HOLD DOWN BOLTS

Fully torque hold down bolts to the following spec:

• 4 ft-lbs: 2x 1/4-20 x 1” bolts into rear of bracket (toward rear of vehicle)

• 10 ft-lbs: 2x 8-1.25 x 25mm bolts in front of bracket (toward front of vehicle)

STEP 7: INSERT LITHIUM BATTERY

Insert battery into bracket position:

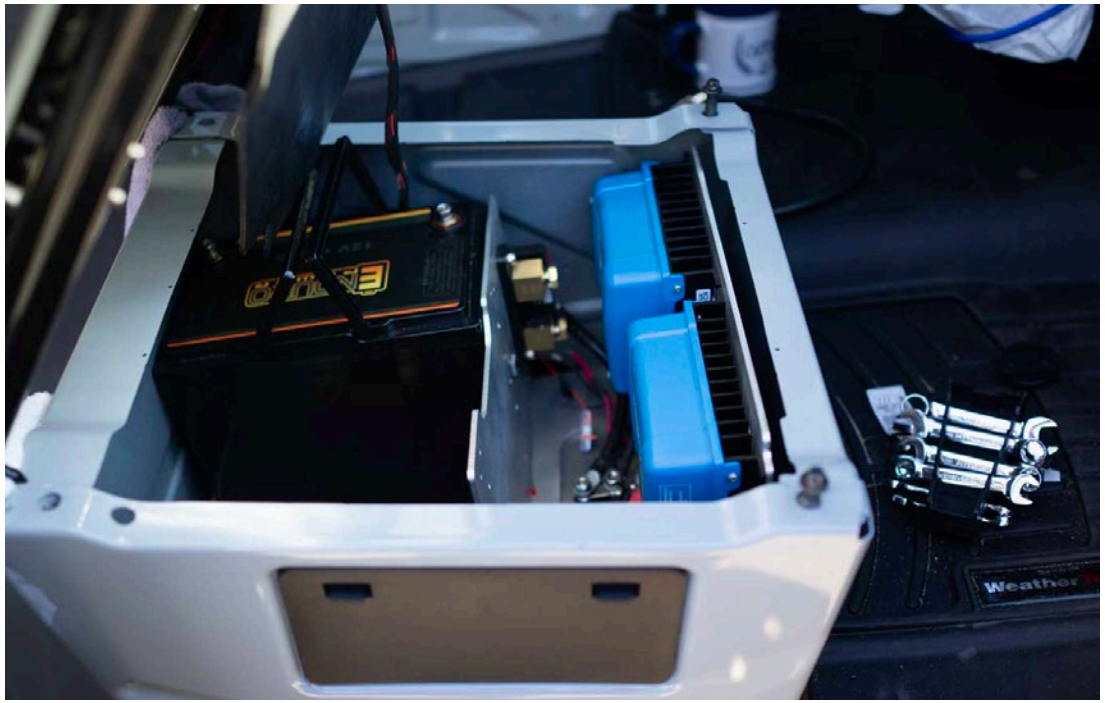
• Ensure battery strap is attached to mounting tabs

• Insert battery with negative terminal toward rear of van

• Position battery strap across top of battery and tighten securely

• Remove bolt from battery positive terminal and insert MRBF terminal fuse onto battery positive.

• Reinstall bolt to positive terminal and torque to approximately 4 ft-lbs.



STEP 8: INSERT BATTERY HOLD DOWN BRACKET

Insert Battery Hold Down Bracket (BHDB) into position:

• Align captive 1/4-20 bolts with BHDB and thread 1/4-20 nuts onto captive bolts.

• Slide BHDB toward rear of vehicle to secure battery

• Torque 1/4-20 nuts to 4 ft-lbs

STEP 9: CONNECT WIRES #2

Ensure main disconnect switch is rotated to the "Off" position:

• "Main Positive" to battery positive terminal

• "Main Negative" to battery negative terminal

• "Shunt System Side" to lower terminal of shunt

• Use Wago lever connector to connect "Shunt Power" to "Shunt Power"

• Use Wago lever connector to connect solar positive and negative. Please ensure solar panels are not expeosed to sunlight while the connections are being made. *(if equipped)*

⚠ ***USE EXTRA CAUTION; THE SYSTEM IS NOW ELECTRICALLY LIVE.***

STEP 10: INSERT 120V CHARGER BRACKET

Locate bracket with Victron IP65 charger mounted.

• Align top holes of 120v Charger Bracket with holes on Battery Hold Down Bracket

• Insert and thread 1/4-20 bolts into holes; torque to 4 ft-lbs

• Connect 120v charger 2 pin connector labelled “120v Output”

• Connect 120v charger 3 pin connector labelled “120v Input”

STEP 11: BASIC ELECTRICAL TESTING

Before powering up the system for the first time, please verify:

• Lithium battery voltage is at or above 12.5v

• You have downloaded the Victron Connect App to your phone and can see the Orion DC-DC charger in the bluetooth menu

STEP 12: COMMISSIONING!

After these steps, you are ready to test and use the system!

• Proceed to rotate the main switch to the “On” position.

• Confirm the Victron SmartShunt is appearing in the bluetooth menu

• Confirm the Victron Orion DC-DC charger begins charging when the vehicle is turned on

• Confirm the Victron MPPT charger is charging when the solar panels are exposed to sunlight

• Confirm the shore power connection charges the battery

• Ensure the battery is charged to approximately 14.2v to calibrate the shunt to 100%. *The shunt does not need to be manually calibrated*. It will be calibrated automatically when the voltage reaches 14.2v.

• Enjoy using the system to bring power to offgrid locations!

USAGE & STORAGE

Your system requires little maintnence, however:

• Be sure to cycle (fully dead to fully charge) the system approximately once a month

• If the system will be unused for over a month, fully charge the batteries and rotate the main disconnect switch to “Off”

WE'D LOVE TO HEAR YOUR THOUGHTS.

You can connect with use anywhere:

• Instagram (we'll share/repost you!)

• Email us technical questions

• Post on TikTok or Instagram for technical video responses

APPENDIX

Default settings/products:

• Victron SmartShunt 500

• Victron 100/30 MPPT

• Victron IP65 12/15 amp Charger

• Victron Orion DC-DC Charger

• Enduro Power 100ah Battery

TROUBLESHOOTING