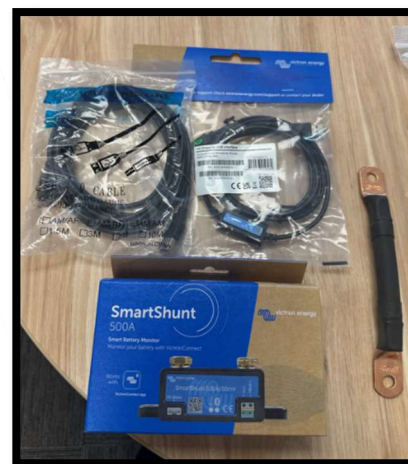


Document Title:	Max Solar Battery Monitor Replacement		
Document Type:	Technical Document	Make and Model:	Ember Overland and Touring Edition
Document #:	TD-26-04	Model Year:	2026 and 2027
VINs Affected:	Overland: 7RVTV2264TA003908 to 7RVTV2260VA004346 (non-sequential) Touring Edition: 7RVTT2277VA003920 to 7RVTT2296VA004321 (non-sequential)		
Revision Date:	08.18.2026	Flat Rate Code:	50000718 @ 2.75hrs

Resources Needed:

- #2 Square or Phillips Screwdriver
- Torque Wrench
- Electrical Tape
- Item# 35000252 Smartshunt
- Item# 35000484 VE Bus Direct to USB Cable
- Item# 35000376 7" Negative cable
- Item# 35000493 USB cable extension (*OV190MSL and Touring Edition models excluded*)



1) Purpose

This document outlines the steps to remove the Battle Born Hub and install a Smart Shunt when the firmware updates outlined in TD-26-03 do not rectify the error codes on Ember Overland Series models and Touring Editions models with an optional Max Solar Package.

2) Definitions

None of note.

3) Responsibilities

The repair technician is to complete the procedure.

4) Safety Terms

	DANGER indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.
	WARNING indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.
	CAUTION indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury.
	NOTICE is used to address practices not related to personal injury. This applies to hazardous situations involving property damage only.

5) Procedure

1. Remove the electrical maintenance access panel under the sofa or front bed.
IMPORTANT: Only remove the jackknife portion of the sofa on the OV190MSL model.
2. Turn off power to the coach by unplugging the unit from shore power, disengaging the battery disconnect in the pass-through, and disengaging the cold weather disconnect under the sofa or front bed.



FAILURE TO DE-ENERGIZE THE UNIT PRIOR TO ANY INTERACTION WITH THE ELECTRICAL SYSTEM CREATES AN EXTREMELY HAZARDOUS SITUATION THAT MAY RESULT IN SERIOUS INJURY OR DEATH FROM ELECTROCUTION.

3. Loosen the underbelly along the doorside in front of the tires.
IMPORTANT: This step is not applicable if the model is an OV190MSL or Touring Edition; please skip to step 9.
Note: The removal or full drop of the underbelly is not necessary.
Note: Some models may require LP line securement clamps to be removed.

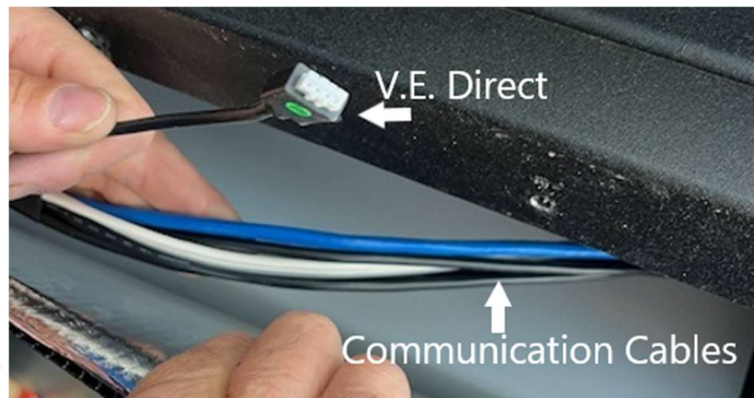


4. Connect the USB cable extension to the V.E. Direct cable. Wrap electrical tape around the connection to prevent it from coming apart in the coach's chassis area.

IMPORTANT: This step is not necessary if the model is an OV190MSL or Touring Edition models.



5. Feed the V.E. Direct cable along the other communication cables to the battery inverter area.



6. Feed the USB cable end along the other communication cables to the kitchen base area. Then pass the cable through the hole up into the kitchen base.



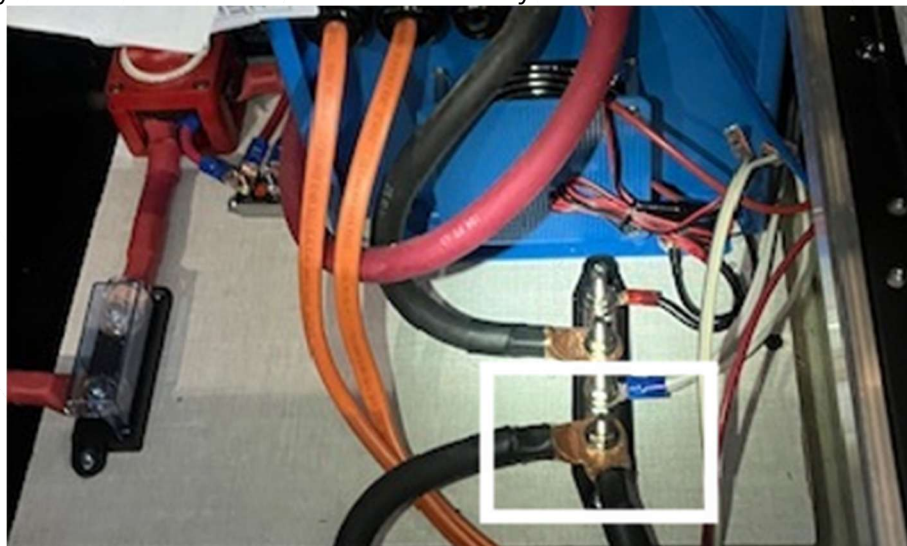
7. In the kitchen, remove the kitchen drawers to access the hole from the underbelly and continue to run the wire following the other communication cables to the Cerbo.
8. **OV201FBQ ONLY:** In the exterior storage compartment, remove the recept panel and remove the shelf. Feed the USB cable end through the hole in the floor, then through the hole in the cabinets, to under the kitchen sink where the Cerbo is located.



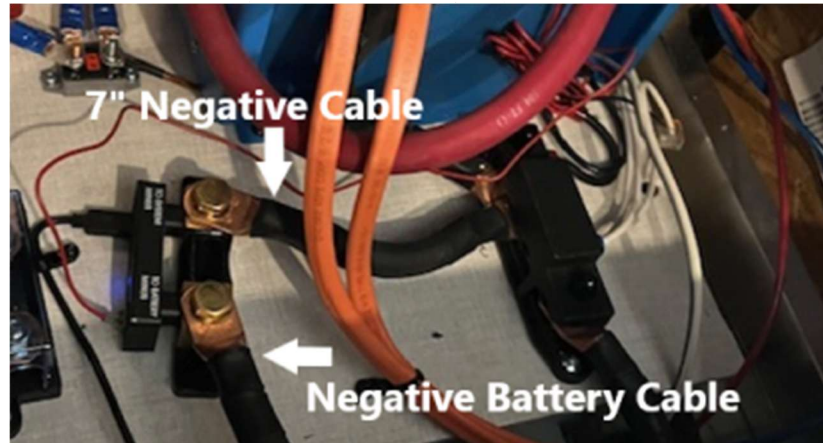
9. **OV190MSL and Touring Edition ONLY:** The Cerbo is located under the doorside or off doorside nightstand. Feed the VE. Direct to USB cable from Cerbo to the inverter battery area.
10. Connect the USB cable to the Cerbo.
11. Remove HUB, the communication cable from the HUB to Cerbo, the BUS terminator, and HUB power device.



12. In the inverter and battery area, locate the bus bar and remove the negative battery cable that is attached to the battery from the bus bar.



13. Install the Smartshunt next to the bus bar. Connect the provided 7" negative cable from the Smartshunt 'TO SYSTEM MINUS' to the buss bar. Connect the negative battery cable that is attached to the battery to the Smartshunt 'TO BATTERY MINUS'. Then connect the V.E. Direct cable to the Smartshunt.

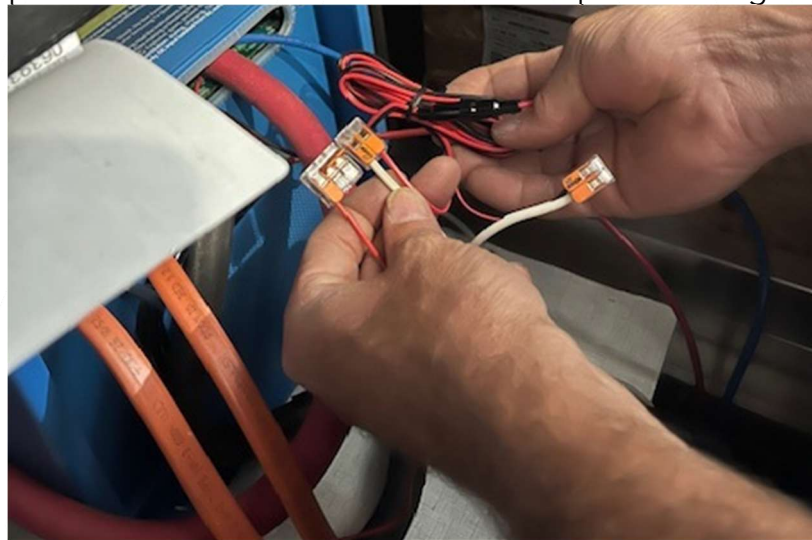


14. Tighten all bolts to 9-11 ft-lbs.

NOTICE

FAILURE TO ADEQUATELY SECURE
CONNECTIONS MAY RESULT IN SEVERE
DAMAGE.

15. Attach red power wire from the Smartshunt to the power wire going to Cerbo.



16. Turn on the power to the coach by engaging the cold-weather disconnect under the sofa or front bed, engaging the battery disconnect in the pass-through, and then connecting the unit to shore power.

17. Program the Smartshunt.
a. Connect to the Smartshunt via Bluetooth.

- i. Use PIN '000000'
 - b. Once connected, access settings and set them to the following:
 - i. BATTERY CAPACITY: Total AH of your battery bank
 - ii. CHARGED VOLTAGE: 14.2V
 - iii. DISCHARGE FLOOR: 0%
 - iv. TAIL CURRENT: 4%
 - v. CHARGED DETECTION TIME: 3m
 - vi. PEUKERT EXPONENT: 1.05
 - vii. CHARGE EFFICIENCY FACTOR: 99%
 - viii. TIME TO GO AVERAGING PERIOD: 3m
 - ix. BATTERY STARTS SYNCHRONIZED: On (appears blue)
- IMPORTANT!*** Ensure batteries are 100% prior to programming.
18. Change the settings of Cerbo.
- a. Using the Cerbo touchscreen, navigate to Settings > System Setup > Charge Control > **Turn OFF DVCC**
19. Clear system codes.
- a. Using the Cerbo touchscreen, navigate to Settings > Devices > Smart Solar Charger MPPT 100/30 > Networked Operation > **RESET**
 - b. This will remove the #67 error code from the solar controllers.
IMPORTANT! Repeat the process for each solar controller.
20. Redetect VE.Bus System
- a. Navigate to Settings > Devices > Multiplus > Advanced > **Redetect VE.Bus system.**
21. Resecure underbelly and reinstall exterior storage compartment panels (if applicable).

Maintenance Recommendations/Other

Safety, education, and customer satisfaction are our primary concerns. Should you have any questions, please contact us at 844-732-4204 or by email at warranty@emberrv.com.