IMPORTANT SAFETY RECALL

** RECALL NOTICE **

NHTSA Safety Recall 24V-541

Transport Canada Recall 2024-419

TO: **Winnebago Motorhome Dealers**

SUBJECT: **Campaign # 186 – Ekko Solar Charging System**

The National Traffic and Motor Vehicle Safety Act, as amended, provides that each vehicle which is subject to a recall campaign of this type must be adequately repaired within a reasonable time after the owner has tendered it for repair. A failure to adequately repair within 60 days after tender of a vehicle is prima facie evidence of failure to repair within a reasonable time.

If the condition is not adequately repaired within a reasonable time, the owners may be entitled to an identical or reasonably equivalent vehicle at no charge or to a refund of the purchase price less a reasonable allowance for depreciation.

To avoid having to provide these burdensome solutions, every effort must be made to promptly schedule an appointment with each owner and to repair their vehicle as soon as possible. As you will see in reading the enclosed copy of the letter, which is being sent to owners, the owners are being instructed to contact Winnebago Motorhomes, if you do not remedy the condition within five days of the mutually agreed upon service date. If the condition is not remedied within a reasonable time, they are instructed on how to contact the National Highway Traffic Safety Administration.

Reason For This Recall

Winnebago Motorhomes has decided that a defect related to motor vehicle safety exists on certain:

2021 - 2025 Ekko

These motor homes were manufactured January 14, 2021 through July 19, 2024. Our records indicate that you have purchased a vehicle with the serial number which appears above.

The Ekko solar charging system may not have sufficient overcurrent protection. Insufficient overcurrent protection can lead to overheating of the circuit, increasing the risk of fire or injury.

Owner Notification

Owners will be notified of this campaign on their vehicles by Winnebago Motorhomes. For all units in your inventory, the notification will be mailed to you. **DO NOT DELIVER TO A CUSTOMER ANY SUBJECT UNIT UNTIL CORRECTIVE ACTION HAS BEEN TAKEN**.
Enclosed is a list of vehicles shipped to you.

IMPORTANT SAFETY RECALL

Dealer Campaign Responsibility
Dealers are to service all vehicles subject to this campaign at no charge to owners regardless of mileage, age of vehicle, or ownership from this time forward.

Whenever a vehicle subject to this campaign is taken into new or used vehicle inventory or it is in your dealership for service in the future, you should take the steps necessary to be sure the campaign correction has been made before reselling or releasing the vehicle. Owners of vehicles recently sold from your new vehicle inventory are to be contacted by the dealer and arrangements made to make the required correction according to instructions contained in this campaign.

Repair Procedure:
Refer to instructions.

Parts Information:
Order the corresponding Part Kit from Winnebago Motorhomes using the WinPortal system to identify the labor operation number and create the order. You will be placing the order as a Recall type. You will need the Recall dealer number and the Winnebago Industries serial number of the affected vehicle to place the order.

Reimbursement:
When the service has been completed, submit the labor amount and labor operation number listed below. Your repair order must be properly signed by both the dealer and the owner.

Labor operation numbers can be found in the Warranty section of WinPortal under Vehicle Info.

Ekko 622A			
Operation Number	Dealer Number	Parts Kit	Time Allowance
24860101	7936	RC7936-25-786	3.7 Hour
Ekko 623B			
Operation Number	Dealer Number	Parts Kit	Time Allowance
24860201	7937	RC7937-25-786	2.2 Hour

Thank you for your cooperation.

Winnebago Motorhomes
Forest City, Iowa 50436
Enclosures

Ekko 622A –
Solar Charging System Rework :

Parts Required -

1. Breaker, 50A - 183624-01-000
2. Cartridge Fuse Holder - 359222-01-000
3. Cartridge Fuse, 50A - 359255-01-000
4. 10 AWG to 8 AWG Splices - 360171-01-000 (2)
5. New Harnesses (4 total) –
    1. Breaker Jumper - 000298731 / 360236-01-000
    2. Coach Harness - 000298728 / 360233-01-000
    3. Chassis Harness - 000298729 / 360234-01-000
    4. Power Jumper - 000298730 / 360235-01-000
6. Grommet – 023942-01-000(2)
7. Small P-clamp - 010497-10-000 (5) and 010497-02-000 (1)
8. Screw 000G39-08-12T (4) and 000g11-06-10B (2)
9. Zip ties - 008343-04-000 (6).

Tools and Supplies required-

1. Screw Gun with #2 Philips Bit
2. Ratchet Wrench with Extension and ½", 10mm, and 17mm sockets
3. Heat Gun
4. Wire Stripper/Crimpers
5. Torque Screwdriver with #2 Philips bit
6. Torque Wrench
7. Fish Tape
8. Electrical Tape
9. Drill with 2" Hole Saw and 12-18" drill bit extension
10. Scraper/Putty Knife
11. Cartridge Gun
12. Manus Sealant(185987-03-02A or equivalent)
13. Torque Paint

Read the entire instructions carefully before starting the procedure. If you have any questions, please contact Winnebago Industries Technical Service Department by calling 1-866-653-4329 or by email: techservice@wgo.net. This document is confidential and is intended for dealer use only.

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Step 1 – Rework Prep

1. Ensure coach is not connected to shore power or portable solar panels(If equipped with portable solar port). See Image 1.
2. Turn off the 12v house battery/batteries by holding down the power button on the top of the battery for 3 seconds. Make sure the blue LED light is off on each battery . See Image 2.
3. Disconnect solar panels from roof port or completely cover the solar panels. Verify the panels are not producing power by confirming that the screen on the charge controller is not powered on. See Image 3.
    a. Solar panel/solar panel port locations and quantities will vary by floorplan/build.
    b. Always follow appropriate safety guidelines when climbing ladders or otherwise getting onto the roof.
4. Allow for chassis engine exhaust to cool.
5. **Note:** Failure to follow these steps could result in a risk of electrical shock or burns.

Image 1

Image 2

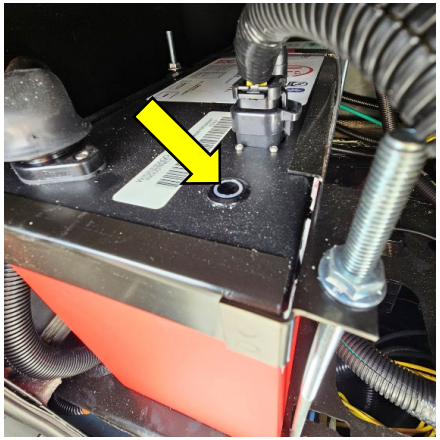
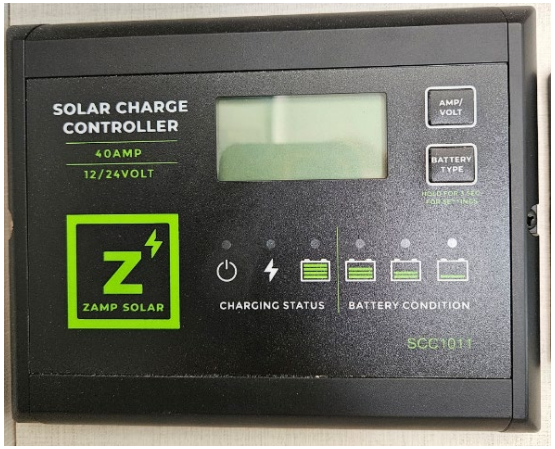


Image 3



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Step 2 – Replace Solar Fuse

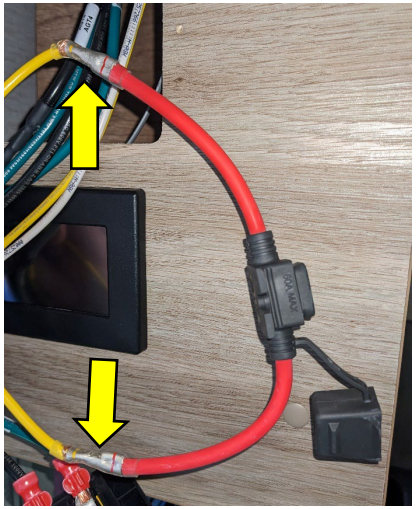
1. Locate the solar controller mounted to an overhead panel by the entrance door. Remove the two mounting screws and pull the controller out to gain access to the closeout and wiring behind it. Image 1
2. Remove the closeout panel on the left side of the forward most overhead cabinet on the passenger side of the vehicle. See Image 2.
3. In the closeout area, locate the blade fuse holder, depending on coach build it will either be in line on the circuit AGT or AGY. This is the only blade fuse in this area, see Image 3.
4. Cut out the fuse holder and discard. Leave enough on the harness side to splice to.
5. Splice the 50A cartridge fuse holder in place of the original fuse using supplied butt splices. See Image 4.
    a. **Note:** Splice requires ½" of stripped wire on both sides for a proper connection. Fuse holder will come pre-stripped but will need additional stripping to meet the ½" requirement. When stripping wire, confirm no strands of the conductor itself are damaged. Tug on splice to confirm an appropriate crimp.
    b. Use a heat gun to shrink the splice housing around the wires.

Image 1

Image 2

Image 3

Image 4



Step 3 – Access Passenger Side Cabinetry

1. Remove the microwave from the galley overhead panel.
    1. Unplug the microwave plug from the 110 outlet. The plug is in the cabinet to the left of the microwave. See Image 1.
    2. Remove the 4 screws from the microwave trim. See Image 2.
    3. Remove the microwave and trim assembly from the cabinet and set aside.
2. Remove the fridge from the fridge cabinet.
    1. Open the fridge and remove the 6 mounting screws, 3 on either side of the fridge. See Image 3.
    2. Pull out the fridge partially and remove the screw from the retention cable on top of the fridge. See Image 4.
    3. Disconnect the circuit ET and EU from the top of the fridge. See Image 5.
    4. Pull out the fridge fully and set aside, take care to not scratch it or the coach floor.

Image 1

Image 2

Image 3

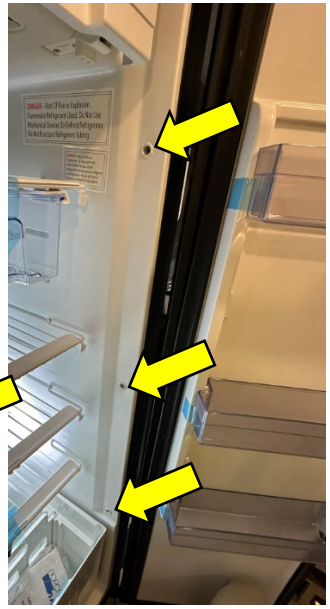


Image 4

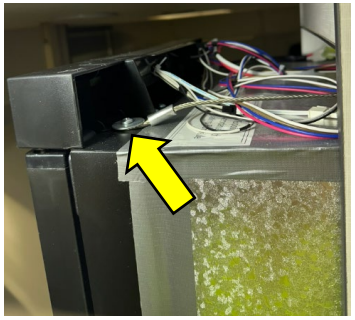
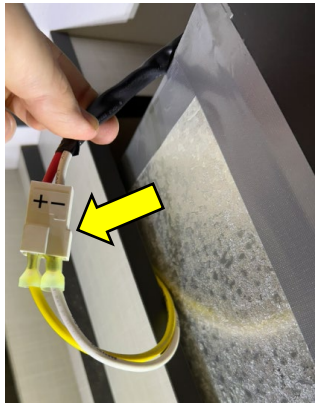


Image 5



Step 4 – Cut Hole in Fridge Compartment

1. See Image 1, colored arrows. Using the 2" hole saw, drill a hole(Red) 3" from center-to-center rearward from the existing LP line(Blue) hole in the floor beneath the fridge.
    1. Ensure the LP line and any harnesses are out of the way both above and below the floor before cutting.
2. Insert one of the supplied grommets into floor to protect new harness which will be routed in a later step. See Image 2.

Image 1

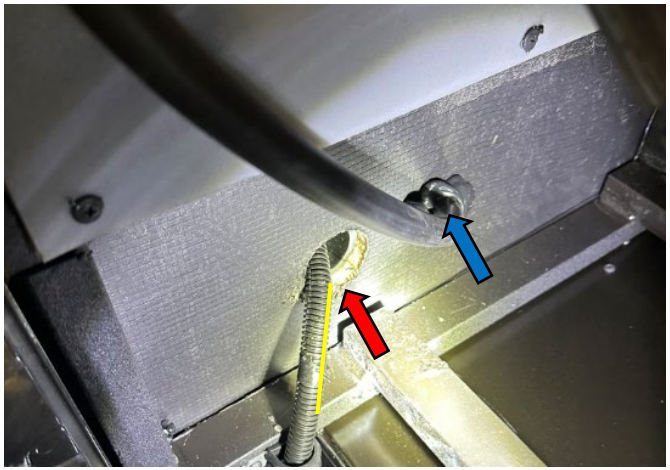
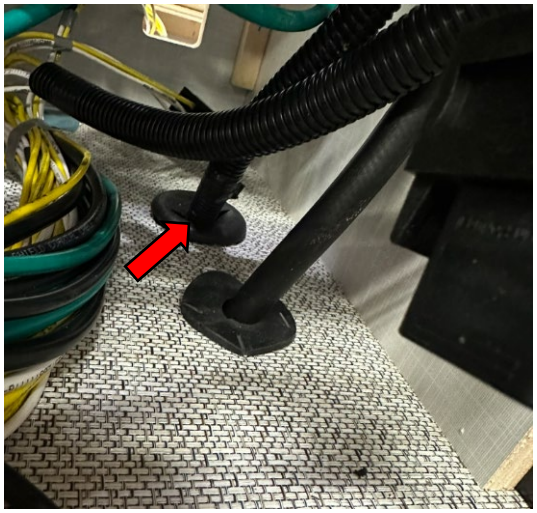


Image 2



Step 5 – Access Bench Seat Area

1. **Note:** Before completing this step, check the battery compartment to see if the Power and Ground buss bars along with the existing 40 amp breaker are present. These can be identified by confirming that there are existing HS or HT circuits going to the component. If all these components are in the battery compartment, then skip to the next step.
2. Remove the bench seat bottom cushions. Start by grabbing onto the front of one of the bottom seat cushions, carefully pull up ensuring you do not damage the retaining clips. The seat will pop out of the retaining clips and then lift out. See Image 1. Repeat process for both bottom seat cushions on the bench seat.
3. To avoid damage to the HVAC duct under the bench seat, disconnect the duct from the threaded vent cover mounted to the front panel of the bench seat cabinet. Their may be mounting screws and tape that will need to be removed.
    1. Pull the vent cover out of the hole to gain access to the attachment between it and the HVAC duct. See Image 2.
4. Remove the 4 screws retaining the front panel of the of the bench cabinet. Carefully set the panel down to gain access to the cabinet interior. See Image 3.
5. Push the side of the new Chassis Harness with the ring terminal and blue connector up from the battery compartment through the floor and into the bench seat area. See Image 4.

Image 1

Image 2

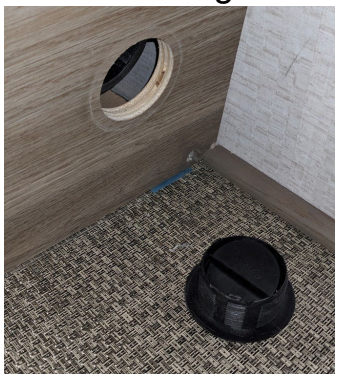


Image 3

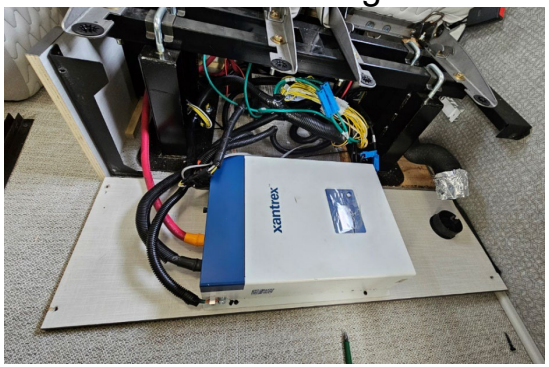


Image 4

Step 6 – Install Solar Harnesses, Circuit Breaker

1. Locate the Solar auto resetting breaker and remove.
    1. **Note:** Depending on coach build, the Breaker may be located above the floor under the bench seat (shown in Image 1) or down in the battery compartment. Ensure the correct breaker is being replaced by confirming HS circuits from the original harness are connected to either side of the breaker.
    2. Cut ring terminals off the original HS wires and wrap wire ends in electrical tape.
    3. Remove original breaker along with the terminals of the original harness and discard, but retain the hardware to install the new breaker.
2. Install the supplied 50 Amp breaker, See Image 2.
    1. Mount in place of the original 40 Amp breaker using the original mounting hardware.
    2. Attach the Breaker Jumper ring terminal (smaller ring terminal with blue plastic housing) to copper “battery” post, torque to 24 In Lbs.
    3. Attach Power Jumper ring terminal to silver “aux” post, torque to 24 In Lbs.
    4. Mark torqued connections with torque paint.

Image 1

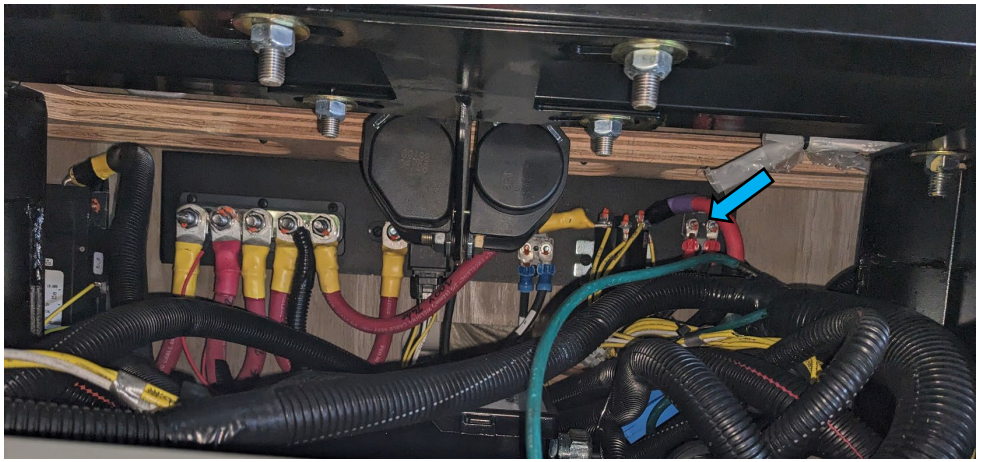
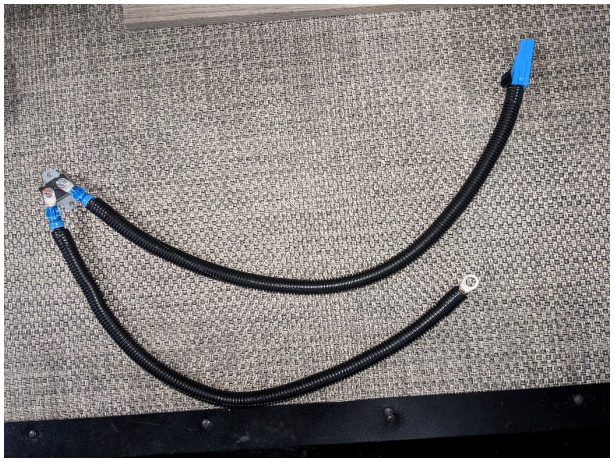


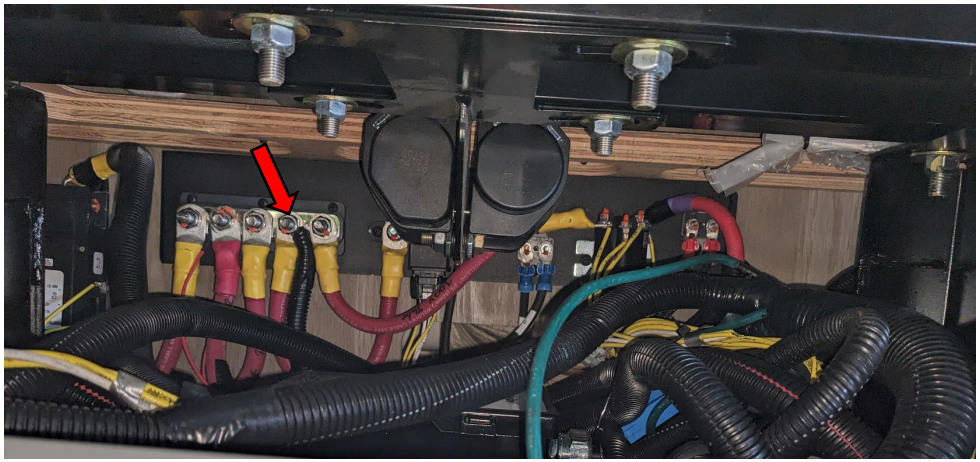
Image 2



Step 7 – Install Solar Harnesses, Positive Bar

1. On the positive bus bar, Replace the HS circuit.
    1. **Note:** Depending on coach build, the positive bus bar may be located above the floor under the bench seat (shown in Image 1) or down in the battery compartment. Confirm the correct bus bar is identified by confirming HS circuits from the original harness is connected to the one of the posts on the bar. This bar will either be a 3 or 5 post bus bar depending on coach build.
    2. Using a 17mm Socket and extension, remove the nut from the post that the existing HS circuit is connected to. Cut the ring terminal from the existing HS and discard. Wrap the resulting blunt cut with electrical tape, this circuit will not be used.
    3. Install the remaining ring terminal from the Breaker Jumper coming from the new breaker onto this positive stud. Make sure to stack all terminals so they have full surface engagement and are stacked from largest to smallest. Install the original hardware and torque to 190 In Lbs.
    4. Mark torqued connection with torque paint and reinstall clear cover over terminals.

Image 1



Step 8 – Install Chassis Harness, Negative Bar

1. Locate Ground Bus Bar in the battery compartment. See Image 1 for example location.
    1. Remove the plastic cover and find the existing HT circuit going to the bus bar. Cut the ring terminal from this circuit and discard. Wrap the resulting blunt cut with electrical tape, this circuit will not be used.
    2. Install the ring terminal from the new Chassis Harness onto this stud, ensuring to stack terminals so they have full surface engagement and are stacked from largest to smallest. Install the original hardware, and torque to 190 In Lbs. See Image 2.
    3. Mark torqued connection with torque paint and reinstall clear cover over terminals.
2. Connect the blue terminals between the HT circuits on the Chassis and Coach Harnesses.

Image 1

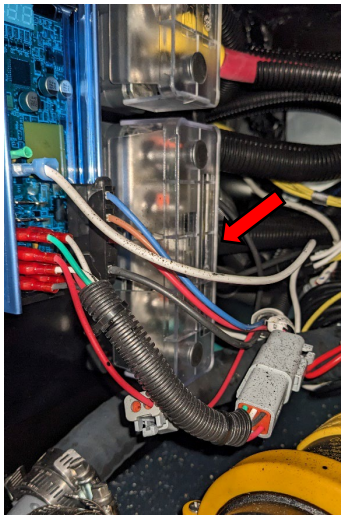
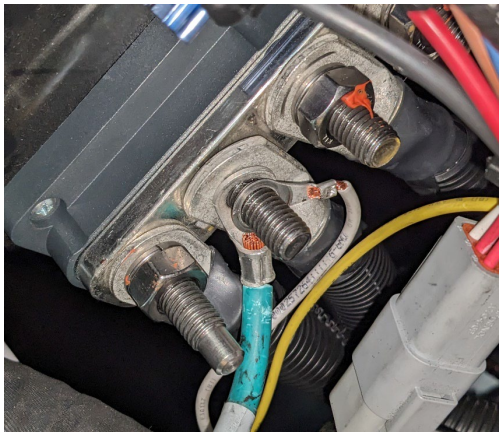


Image 2



Step 9 – Install Chassis Harness, Under Coach

1. Push the new Chassis Harness out of the existing 2” grommet on the right wall of the electrical compartment. Removal and replacement with a new supplied 2” grommet may be necessary due to sealant.
2. Route the new Chassis Harness through the frame assembly and chassis. When routing across the coach follow the existing electric step harness. Yellow denotes the new harness routing under the floor.
    1. Tape the two blue terminals together to avoid damage while routing.
    2. See Image 1 and 2. The harness should pass over the driver side frame rail(Blue), gas tank(Red), exhaust heat shield(Green), and passenger side frame rail(Purple).
    3. Fish tape will be useful in routing the harness through the chassis.
    4. Secure with ties and clamps to fully immobilize the harness away from sharp edges and moving or hot components. See Image 3, The one larger P-Clamp can be used to secure both the new Chassis Harness and the electric step harness up and away from the driveshaft.

Image 1

Image 2

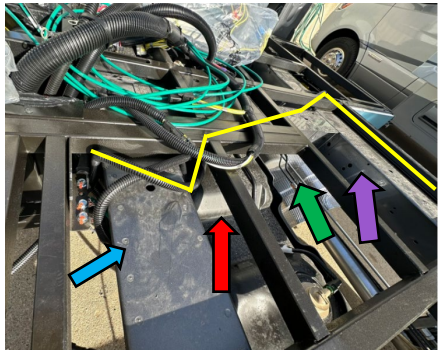
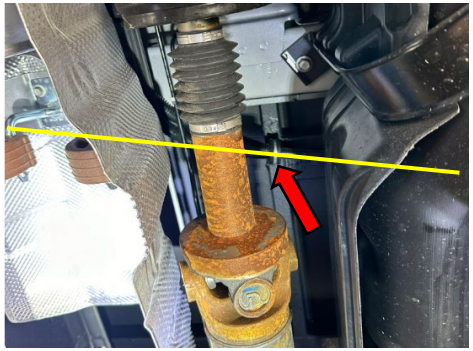


Image 3



Step 9 – Install Chassis Harness, Under Coach (Cont.)

1. Route the Chassis Harness behind the passenger side compartment between the compartment and frame rail. See Image 1.
    1. For units without the tailgate option, secure the harness to the floor frame with smaller P-clamps and self tapping screws on either side of the compartment . See Image 2.
    2. For units with the tailgate option, fish tape will be needed to route the wire between the compartment and frame rail. There is a small triangular opening at the top edge of the compartment that runs its full length. See Image 3
2. For all units mount the harness with smaller P-clamp and self tapping screw to the floor frame tube, see Image 3 Red Arrow.

Image 1

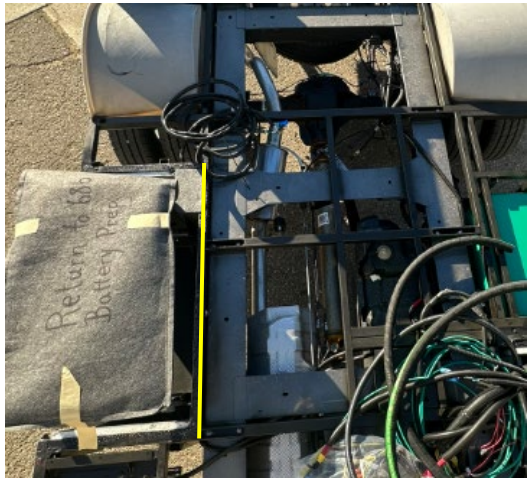


Image 2

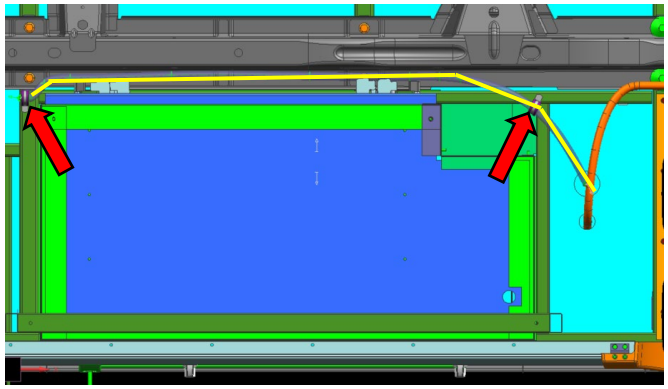
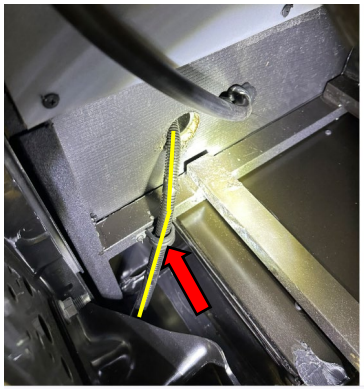


Image 3



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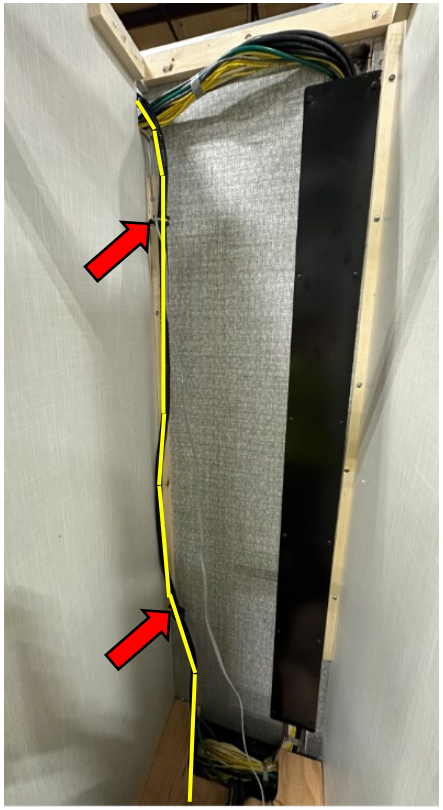
Step 10 – Install Chassis Harness in Fridge Cabinet

1. Push the remainder of the new Chassis Harness up through the new grommet under the refrigerator compartment. See Image 1
    1. Blue connectors need to be above the floor and inside the cabinet.
2. Connect the HT and HS circuits respectively between the Chassis Harness and Coach Harness.

Image 1

Step 11 – Install Coach Harness

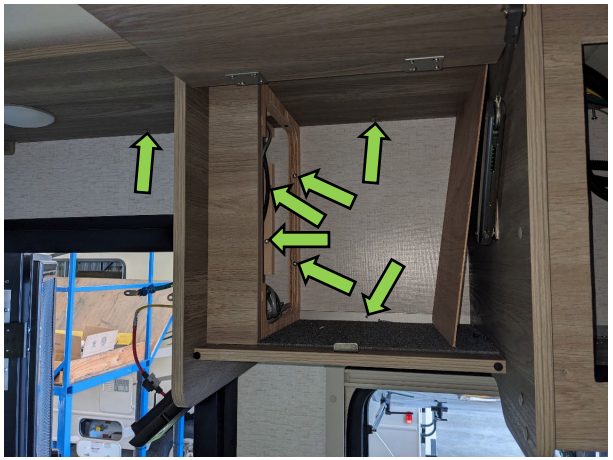
Image 1



1. Run the ring terminal end of the Coach Harness up from the floor and along the back of the fridge cabinet following the existing wires. See Image 1 yellow line.
    a. Use 2 small P clamps and wood screws to secure the harness and ensure the harness will not be pinched when the fridge is reinstalled. See Image 1 red arrows.
2. Run the harness through the microwave cabinet. See Image 2 yellow arrow.
3. Run the harness above the forward overhead storage cabinet and into the closeout behind the solar controller.
    a. Partially back out the screws indicated by the green arrows in Image 2 and Image 3 as necessary to aid in clearance to fish wires over to the closeout.
    b. Fish wires through the space above the front overhead, Image 2 blue arrow, and out and down to the removed solar controller.
4. Retighten cabinet screws if loosened.

Image 2

Image 3



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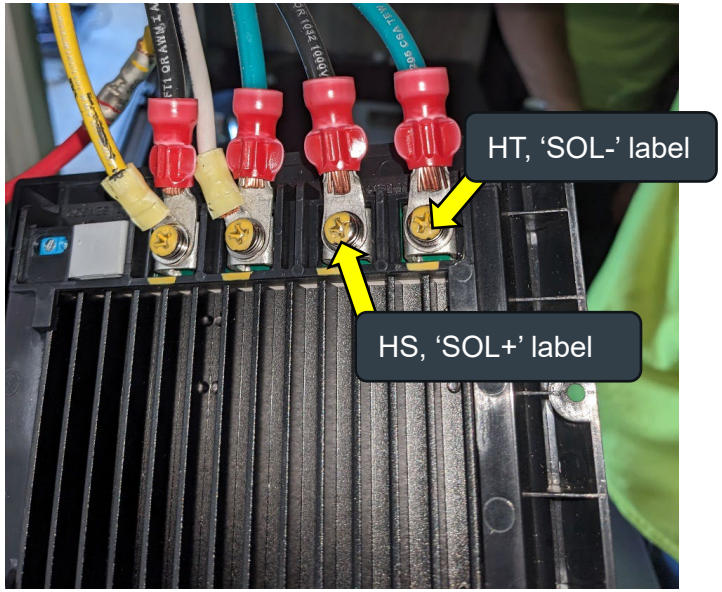
Step 11 – Install Coach Harness (Cont.)

1. Replace the existing HT and HS circuits on the solar controller with the new HT and HS Circuits from the Coach Harness. See Image 1, confirm the listed connections match the ones in the coach. Torque terminal machine screws to 17 In Lbs.
   a. Note: The labels ‘SOL+’ and ‘SOL-’ will match up with the ‘Battery+’ and ‘Battery-’ markings on the solar controller.
   b. Be sure to reinstall machine screw, washer, and lock washer in the same order when mounting the wires to the controller.
   c. Mark torqued connections with torque paint and reinstall clear cover over terminals.
2. Cut the ring terminals from the existing HT and HS circuits and discard. Wrap the resulting blunt cut with electrical tape, these circuits will not be used.
3. Once all wire connections are connected, place 50amp fuse in the fuse holder connected to the solar charger.

Image 1



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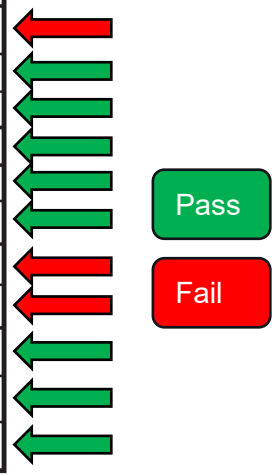
Step 12 – Test and Update Owners Manual

1. Uncover and/or reconnect the solar panels.
2. Turn on the 12V house battery(s).
3. Pull unit into sunlight and confirm that the controller shows the panels and battery(s) are connected. See Image 1.
4. If one of the green arrow states below are present, continue onto the next step. If one of the red arrow stats is present, review electrical connections and confirm adequate sunlight is present.

Image 1

The 6 LED's indicate the charging status and the battery condition	⏻	⚡	▬	▬	▭	▭
	Red	Blue	Green	Green	Yellow	Red
Solar Power Present-No battery connected	**ON**	OFF	OFF	OFF	OFF	**Flash**
Soft charging	**ON**	**Flash**	OFF	OFF	OFF	**ON**
Bulk charging	**ON**	**ON**	OFF	Subject to battery voltage		
Absorption charging	**ON**	**ON**	OFF	**ON**	OFF	OFF
Equalization charging	**ON**	**ON**	OFF	**ON**	OFF	OFF
Float charging	**ON**	OFF	**ON**	**ON**	OFF	OFF
Solar panel weak	**Flash**	OFF	OFF	Subject to battery voltage		
At night, no charge	OFF	OFF	OFF	Subject to battery voltage		
Battery Voltage below 11.5V (+/-0.2V)	**ON**	**ON**	OFF	OFF	OFF	**ON**
Battery Voltage between 11.5V - 12.5V(+/-0.2V)	**ON**	**ON**	OFF	OFF	**ON**	OFF
Battery Voltage above 12.5V (+/-0.2V)	**ON**	**ON**	OFF	**ON**	OFF	OFF



Step 13 – Reinstall Appliances

1. Reinstall the microwave into the galley OVHD.
    1. Place the microwave back into the OVHD cabinet, ensure to route the plug through the wire cutout and reconnected to the 110 outlet.
    2. Reinstall the 4 screws into the microwave trim to secure.
1. Reinstall the fridge into the cabinet.
    1. Take the circuits removed from the fridge along with the end of the fridge retention cable and tape them to the edge of the cabinet. This will aid in reinstallation. See Image 1.
    2. Tape up the bottom edge of the cabinet to avoid damage during reinstallation. See Image 2.
    3. Partially insert the fridge back into the cabinet, ensure that you can access the retention cable and the fridge harness connections
    4. Reconnect the retention cable to the fridge
    5. Reconnect the circuits to the terminal on the top of the fridge. See Image 3.
    6. Fully insert the fridge into the cabinet, ensure the mounting holes in the fridge align with the existing mounting holes in the cabinet panels.
    7. Reinstall the six screws and screw covers inside the fridge.

Image 1

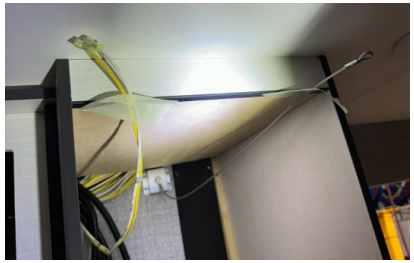


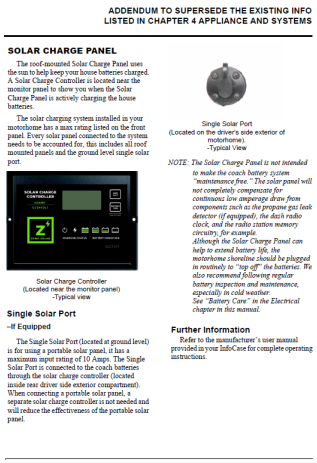
Image 2

Image 3

Step 14 – Complete Rework

1. Reinstall the front lower panel of the rear bench seat to the cabinet, if removed.
    1. Verify no wires are being pinched during this installation
    2. Ensure the HVAC duct is reconnected and installed into the panel.
2. Reinstall the seat cushions to the bench seat, if removed.
    1. Verify they are snapped into the seat base.
3. Reinstall the solar controller into the cabinet.
4. Reinstall the closet panel in the front overhead cabinet.
    1. Verify the wires are routed correctly and not pinched when the panel is screwed back into place.
5. Under the coach, seal the grommet through the floor in the fridge cabinet and the grommet into the battery compartment. Tool appropriately to prevent water intrusion.
6. Reconfirm that the new harness running under the coach is fully immobilized and avoids any sharp edges and any moving or hot components.
7. Provide included addendum page to the coach owners for inclusion into the Owner's Manual. See Image 1.
8. The rework is complete.

Image 1



ADDENDUM TO SUPERSEDE THE EXISTING INFO LISTED IN CHAPTER 4 APPLIANCE AND SYSTEMS

SOLAR CHARGE PANEL

The roof-mounted Solar Charge Panel uses the sun to help keep your house batteries charged. A Solar Charge Controller is located near the monitor panel to show you when the Solar Charge Panel is actively charging the house batteries.

The solar charging system installed in your motorhome has a max rating listed on the front panel. Every solar panel connected to the system needs to be accounted for, this includes all roof mounted panels and the ground level single solar port.

Solar Charge Controller
(Located near the monitor panel)
-Typical view

Single Solar Port

–If Equipped

The Single Solar Port (located at ground level) is for using a portable solar panel, it has a maximum input rating of 10 Amps. The Single Solar Port is connected to the coach batteries through the solar charge controller (located inside rear driver side exterior compartment). When connecting a portable solar panel, a separate solar charge controller is not needed and will reduce the effectiveness of the portable solar panel.

Single Solar Port
(Located on the driver's side exterior of motorhome).
-Typical View

NOTE: The Solar Charge Panel is not intended to make the coach battery system "maintenance free." The solar panel will not completely compensate for continuous low amperage draw from components such as the propane gas leak detector (if equipped), the dash radio clock, and the radio station memory circuitry, for example. Although the Solar Charge Panel can help to extend battery life, the motorhome shoreline should be plugged in routinely to "top off" the batteries. We also recommend following regular battery inspection and maintenance, especially in cold weather. See "Battery Care" in the Electrical chapter in this manual.

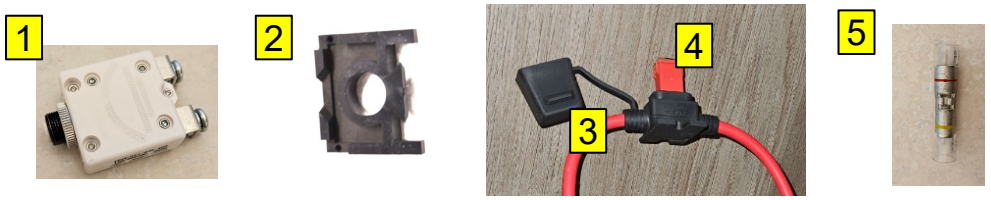
Further Information

Refer to the manufacturer's user manual provided in your InfoCase for complete operating instructions.

Ekko 623B –
Solar Charging System Rework :

Parts Required -

1. Breaker, 50A - 350562-01-000
2. Breaker Spacer – 359937-01-000
3. Cartridge Fuse Holder - 359222-01-000
4. Cartridge Fuse, 50A - 359255-01-000
5. 10 AWG to 8 AWG Splices - 360171-01-000 (2)
6. New Harnesses –
    1. Chassis - 000298434 / 360144-01-000
    2. Coach - 000298433 / 360143-01-000
    3. Jumper - 000297921 / 360085-01-000



Tools and Supplies required-

1. Screw Gun with #2 Philips Bit
2. Ratchet Wrench with Extension and ½” and 17mm deep well Sockets
3. Heat Gun
4. Wire Stripper/Crimpers
5. Torque Screwdriver with #2 Philips bit
6. Torque Wrench
7. Fish Tape
8. Electrical Tape
9. Torque Paint

Read the entire instructions carefully before starting the procedure. If you have any questions, please contact Winnebago Industries Technical Service Department by calling 1-866-653-4329 or by email: techservice@wgo.net. This document is confidential and is intended for dealer use only.

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Step 1 – Rework Prep

1. Ensure coach is not connected to shore power or portable solar panels. See Image 1.
2. Turn off the 12v house battery/batteries by holding down the power button on the top of the battery for 3 seconds. Make sure the blue LED light is off . See Image 2.
3. Disconnect solar panels from roof port or completely cover the solar panels. Verify the panels are not producing power by confirming that the screen on the charge controller is not powered on. See Image 3.
    a. Solar panel/solar panel port locations and quantities will vary by floorplan.
    b. Always follow appropriate safety guidelines when climbing ladders or otherwise getting onto the roof.
4. **Note:** Failure to follow these steps could result in a risk of electrical shock.

Image 1

Image 2

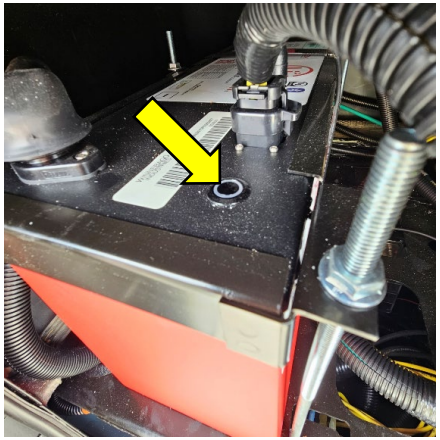
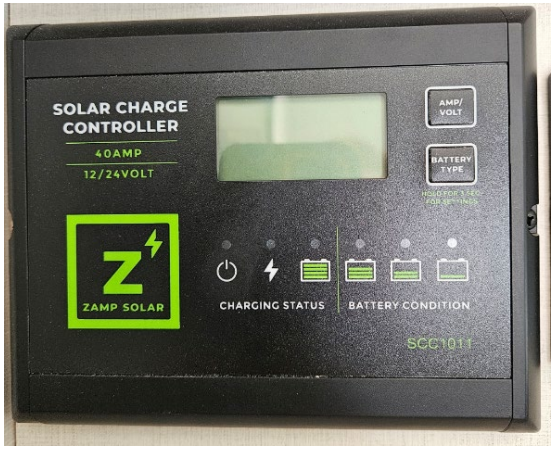


Image 3



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Step 2 – Replace Solar Fuse

1. Locate the cabinet above the fridge. Remove the ply felt bottom panel and the fridge cabinet access panel. See Image 1.
2. Locate the 30A fuse in line on the AGR circuit, this is the only blade fuse in this area. See Image 2.
3. Cut out the fuse holder from AGR and discard. Leave enough on the harness side to splice to.
4. Splice the 50A cartridge fuse holder in place of the old fuse using supplied butt splices. See Image 3.
    a. **Note:** Splice requires ½" of stripped wire on both sides for a proper connection. Fuse holder will come pre-stripped but will need additional stripping to meet the ½" requirement. When stripping wire, confirm no strands of the conductor itself are damaged. Tug on splice to confirm an appropriate crimp.
    b. Use a heat gun to shrink the splice housing around the wires.

Image 1

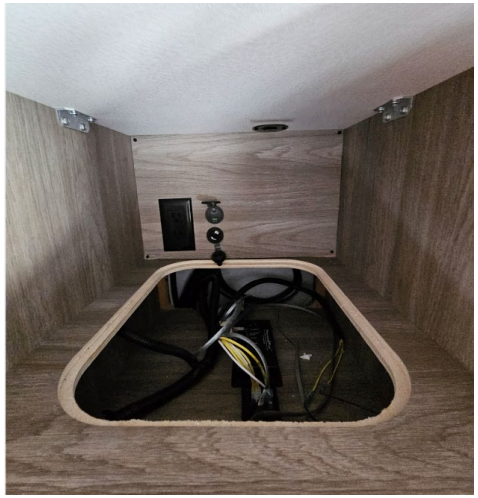
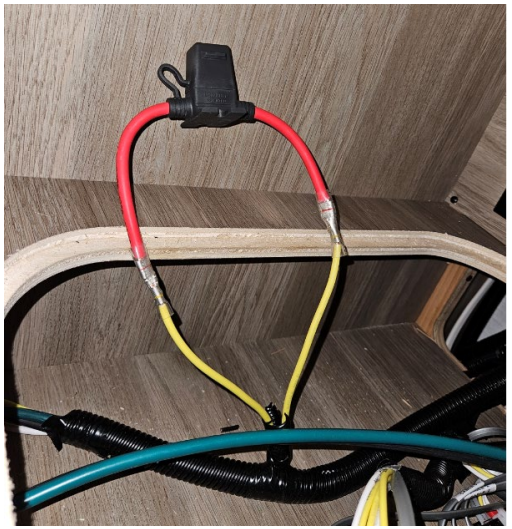


Image 2

Image 3



Step 3 – Run Wires, Controller to Bench Seat

1. Gain access to the interior of the driver side bench seat cabinet. This can be done by removing the cushions and the top panel from the cabinet. See Image 1.
2. Run fish tape from behind the solar controller in the fridge cabinet down to bench seat area. See Image 2. There is a small opening at the bottom of the panel near the seatbelt retractor for wires to pass through.
3. Pull the supplied Coach Harness 000298433 through from the bench seat area and up to the solar controller. You will want the ring terminal end of the harness to be up near the controller.
4. Replace the existing HT and HS circuits on the solar controller with the new HT and HS Circuits from the Coach Harness. See Image 3, confirm the listed connections match the ones in the coach. Torque terminal machine screws to 17 In Lbs.
    a. Note: The labels 'SOL+' and 'SOL-' will match up with the 'Battery+' and 'Battery-' markings on the solar controller.
    b. Be sure to reinstall machine screw, washer, lock washer in the same order when mounting the wires to the controller.
    c. Mark torqued connections with torque paint.
5. Cut the ring terminals from the existing HT and HS circuits and discard. Wrap the resulting blunt cut with electrical tape, these circuits will not be used.

Image 1

Image 2

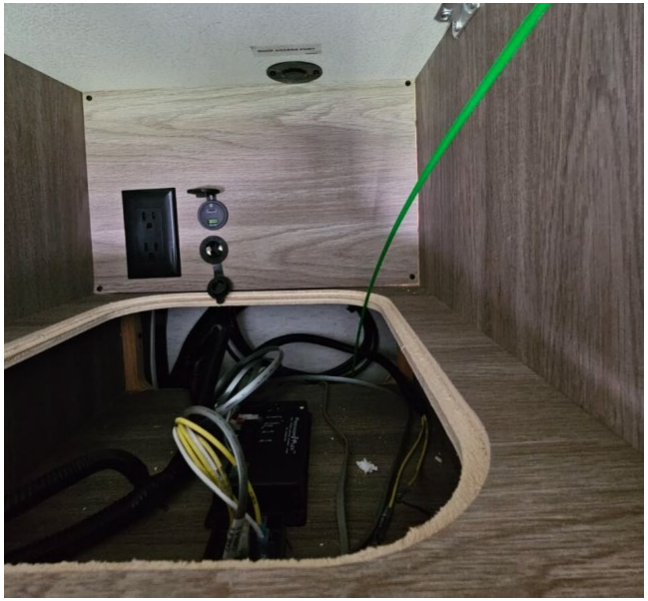
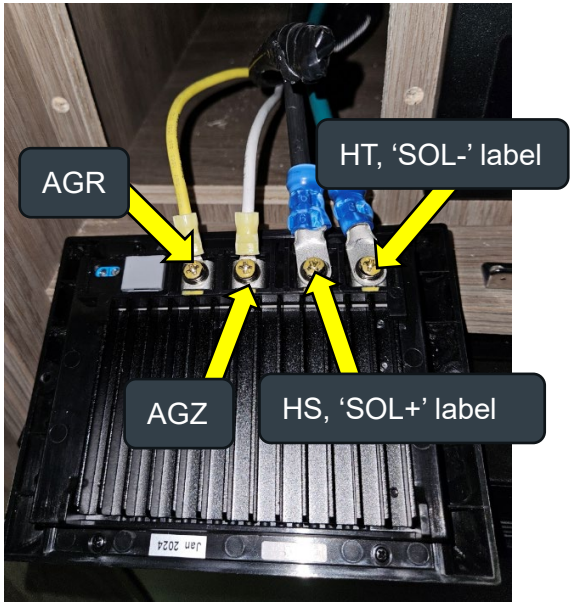


Image 3



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Step 4 – Run Wires, Bench Seat to compartment

1. In the bench seat area, cut out the existing blue terminal connection between HT/HT and HS/HS from the original harnesses and discard, see Image 1. Wrap the resulting blunt cut with electrical tape, these circuits will not be used.
2. In the exterior battery compartment, use fish tape to pull the new wires HT and HS from the Chassis Harness up through the opening in the plastic closeout tub following the existing wiring. See Image 2.
3. Connect the new blue terminals from HT and HS on the Coach Harness to the respective HT and HS on the Chassis Harness 000298434. Ensure the 'SOL+' and 'SOL-' labels align between the two harnesses.
4. Route the rest of the Chassis Harness through the battery tray following the existing wire path. See Image 3.

Image 1

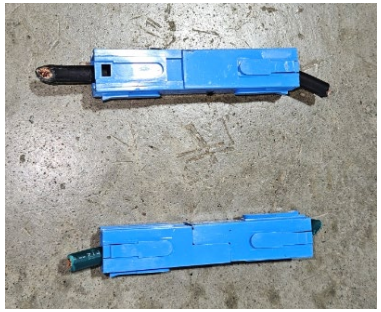


Image 2

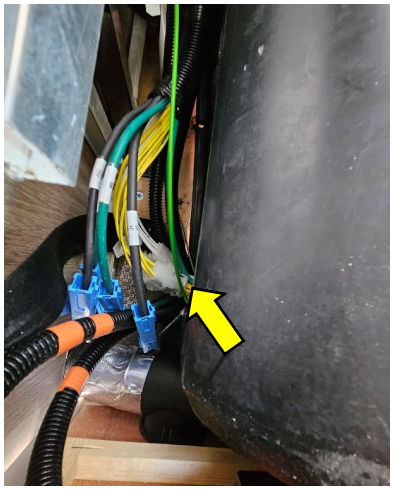
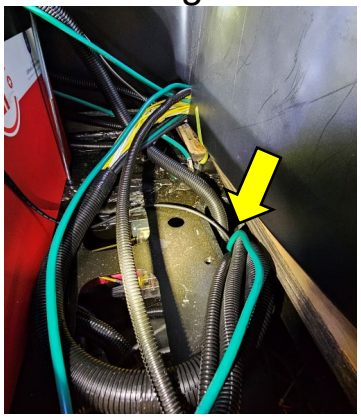


Image 3



Step 5 – Replace Solar Breaker

1. In the battery compartment, remove the five mounting screws from the breaker panel and flip down. See Image 1.
2. On the breaker panel, remove the existing 30A solar breaker and attached breaker bar. See Image 2.
3. Cut and discard the ring terminals from the existing HS and GJ circuits that were attached to the previous solar breaker. Wrap the resulting blunt cut with electrical tape, these circuits will not be used.
4. Install the new 50A solar breaker into the breaker panel using the provided spacer. See Image 3.
    a. Note: Increasing the size of the hole in the spacer may be necessary for the breaker to fit properly.
5. Connect the circuits from the new Chassis Harness 000298434 and Jumper Harnesses 000297921 to the 50 Amp solar breaker and the adjacent 15 Amp battery disconnect breaker. See Image 4.
6. Torque the ring terminal screws on the 15 Amp breaker and 50 Amp breaker to 8 In Lbs.
    a. Mark torqued connection with torque paint.

Image 1

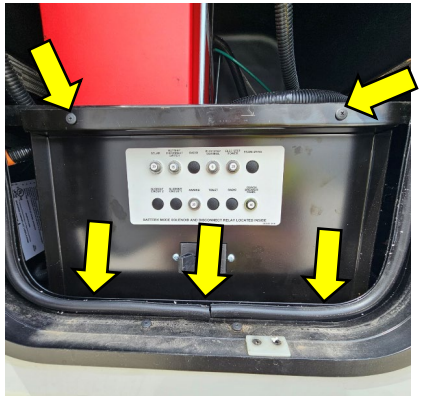


Image 2

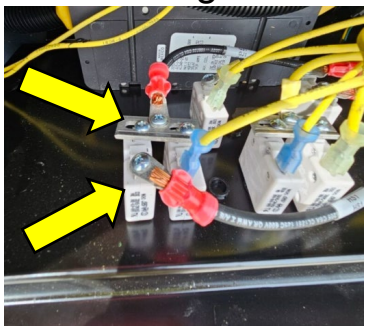


Image 3

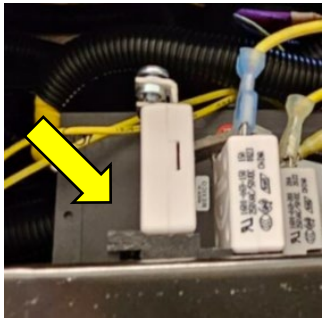
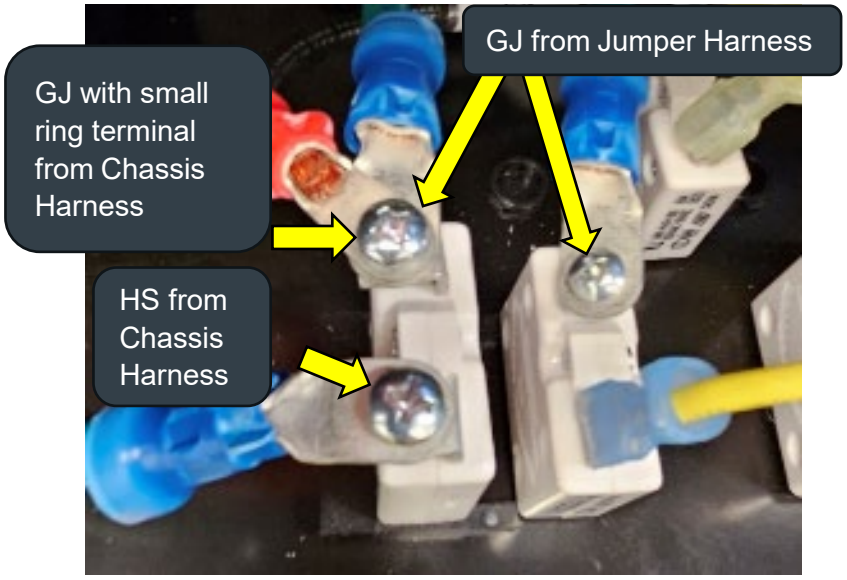


Image 4



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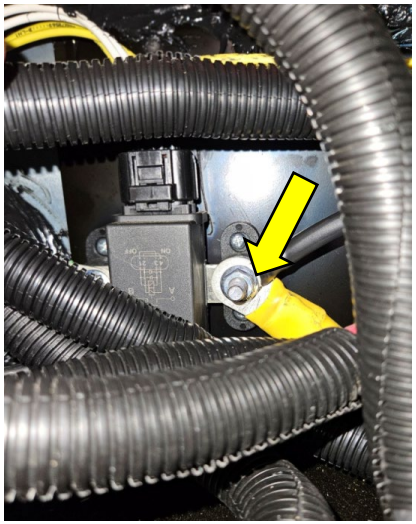
Step 6 – Connect Battery Relay

1. Locate the battery disconnect relay mounted to the backwall of the battery compartment.
2. Remove the nut from the right side of the disconnect relay with a ½” socket and extension. See Image 1.
3. Remove the existing GJ circuit from the right side of the disconnect relay.
4. Cut the ring terminals from the existing GJ circuit and discard. Wrap the resulting blunt cut with electrical tape, this circuit will not be used.
5. Connect the circuit GJ with the larger ring terminal from the new Chassis Harness to the right side of the disconnect relay.
    a. Retorque the nut on the disconnect relay to 115 In Lbs.
    b. Mark torqued connection with torque paint.

Image 1



Step 7 – Connect to Ground Bar

1. Locate the 5 position ground bus bar mounted to the bottom of the battery cabinet, just behind the breaker panel. See Image 1.
2. Remove the plastic cover from the bus bar and identify the post that has the most space available.
    a. Depending on build, this could be either the generator ground which is a smaller gauge (pictured in Image 1 through 3), or a free stud on the bus bar. In either case this is typically the stud on the far left.
3. Add HT from the Chassis Harness to this post and torque to 190 In Lbs.
    a. If stacking terminals, ensure that there is full engagement between the faces of the stacked terminals. With the generator cable, this can be done by orientating the cables so they resemble Image 3.
4. Mark torqued connection with torque paint and reinstall the plastic cover.

Image 1

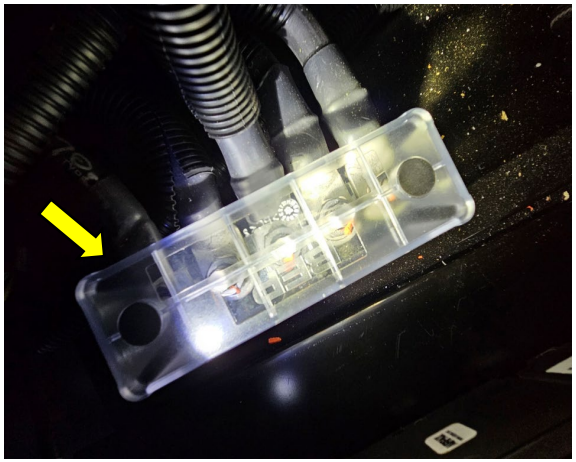
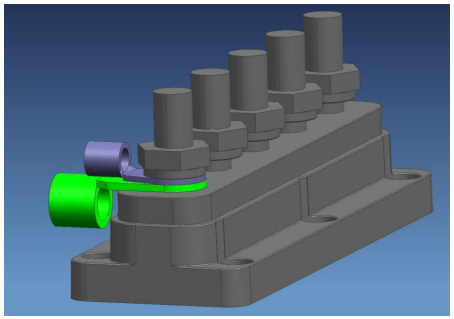


Image 2

Image 3



Step 8 – Test/Reassemble

1. Reconnect the solar panels and insert new 50 Amp Cartridge fuse.
2. Turn on battery.
3. Pull unit into sunlight and confirm that the controller shows the panels and battery are connected. See Image 1.
    1. If one of the red arrow states in Image 1 is present, confirm adequate sunlight is present and review connections.
4. In the battery compartment, reinstall the breaker panel.
5. In the coach, reinstall the solar charge controller, fridge cabinet access panel, and ply felt.
6. Reinstall the panel for the bench seat and relevant cushions.
7. Provide included addendum page to the coach owners for inclusion into the Owner's Manual.
8. If one of the green arrow states below are present, the rework is complete.

Image 1

The 6 LED's indicate the charging status and the battery condition	Red	Blue	Green	Green	Yellow	Red
Solar Power Present-No battery connected	ON	OFF	OFF	OFF	OFF	Flash
Soft charging	ON	Flash	OFF	OFF	OFF	ON
Bulk charging	ON	ON	OFF	Subject to battery voltage		
Absorption charging	ON	ON	OFF	ON	OFF	OFF
Equalization charging	ON	ON	OFF	ON	OFF	OFF
Float charging	ON	OFF	ON	ON	OFF	OFF
Solar panel weak	Flash	OFF	OFF	Subject to battery voltage		
At night, no charge	OFF	OFF	OFF	Subject to battery voltage		
Battery Voltage below 11.5V (+/-0.2V)	ON	ON	OFF	OFF	OFF	ON
Battery Voltage between 11.5V - 12.5V(+/-0.2V)	ON	ON	OFF	OFF	ON	OFF
Battery Voltage above 12.5V (+/-0.2V)	ON	ON	OFF	ON	OFF	OFF

Pass

Fail

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