



WORK INSTRUCTIONS

MODEL Z FIFTH WHEEL

OVERCURRENT PROTECTION

AND WIRE SIZE

| | | | |
|-----------------|---|--------------------|-----------|
| RECALL # | 900003 Z 2900/3100/3110/3400 Overcurrent Protection and Wire Size REV-A | | |
| PRODUCT: | Model Z 2900/3100/ 3110/3400 VIN 0001 - 1440 | | |
| DATE: | June 21 2024 | LABOR RATE: | 3.0 hours |

Current Wiring Protection

Brinkley RV has determined that within the 12 volt DC system, there may be a lack of over current protection and undersized wire size. The following instructions provide wiring locations, connections and components to reconfigure the mini breakers. The model and VIN of the unit will dictate the appropriate kit for this service.

The VIN is required to order parts.

SAFETY:

Service, repair and installation instructions are written specifically for the use of professionally trained technicians, using proper tools in a shop environment. For safety, and to ensure the best results, **only professionally trained technicians** should perform the work described in this document.

Safety is, and should always be observed when performing any type of repair. ANSI (American National Standards Institute) has created a standardized labeling system for different levels of safety and danger. The labels below provide information regarding those levels of danger, and should be observed and adhered to at all times.

⚠ DANGER

The “DANGER” symbol above indicates an imminent hazard that, if not avoided or handled correctly, will result in death or serious injury.

⚠ WARNING

The “WARNING” symbol above is a sign that a procedure has a safety risk involved and may cause death, serious personal injury, severe product and/or property damage if not performed safely and within the parameters set forth in this document.

⚠ CAUTION

The “CAUTION” symbol above is a sign that a procedure has a safety risk involved and may cause personal injury, product and/or property damage if not performed safely and within the parameters set forth in this document.

+ NOTICE

The “NOTICE” banner above is used to address best practices that should be utilized and do not commonly result in injury but may lead to property damage if not careful.

Model Z Circuit Protection Parts Kit # 110812 (VINs 0001 - 1440)

| Part Number | Description | Qty |
|-------------|---|----------|
| 101605 | BREAKER 12V 50A RED AUTO RESET TYPE 1 W/BRACKET E518-50A | 2 |
| 100468 | BREAKER 12V 30A GREEN AUTO RESET TYPE 1 W/BACKET E518-30A | 1 |
| 106328 | BREAKER 12V 30A GREEN MANUAL RESET W/BRACKET E538-30A | 1 |
| 101093 | BREAKER 12V 15A BLUE AUTO RESET TYPE W/BRACKET E518-15A | 1 |
| 100948 | FASTENER NUT 10-32 ZINC HEX KEPS NUT | 8 |
| 102274 | TERMINAL BUS BAR 6 POSITION COPPER | 1 |
| 100033 | WIRE TEW 8 GREEN UL/CSA 105C 1000' REEL | 0.667 LF |
| 101656 | TERMINAL RING 8GA #10 NYLON INSULATED STUD 50610N | 3 |
| 100981 | TERMINAL RIN 8GA 1/4" NYLON INSULATED STUD EL 50611N | 1 |
| 100029 | WIRE TEW 6 RED UL/CSA 105C 500' REEL | 1 |
| 100979 | TERMINAL RING 6GA #10 NYLON SULATED STUD EL 50615N | 1 |
| 100975 | TERMINAL RING 6GA 3/8" NYLON INSULATED STUD EL 50618 | 1 |
| 100067 | WIRE RIP 14/2YELLOW/WHITE UL/CSA | 45 LF |
| 106327 | WIRE RIP 8/2 GREEN/BLACK UL/CSA 500' REEL | 45 LF |
| 101645 | TERMINAL RING 16-14GA #10 NYLON INSULATED STUD 50100N | 2 |
| 100254 | LIGHT BULLET 3/4" 12V AMBER LENS SINGLE DIODE PC NO ORIENTATION | 1 |
| 106821 | CONNECTOR BUTT VYNIL INS 12-10GA HILTERM 20318 STEP DOWN | 3 |
| 101917 | CONNECTOR TRANSPARENT WAGO 2 LEVER 24-12 CONDUCTOR | 2 |
| 100597 | SLIDEOUT SINGLE FLEXGUARD KIT W/10" POST | 1 |
| 101328 | FASTENER SCREW 10 X 1-1/4 2000 BLACK PAN QUAD TYPE A | 4 |
| 105866 | FASTENER RIVET ALUMINUM 3/16" X .917 BLACK HIGH GLOSS .039-.354 16MM HEAD LARGE FLANGE (5M/BX) | 7 |
| 103515 | GROMMET SNAP BUSHING 1" BLACK RUBPRD 2140 | 1 |
| 109559 | COVER CIRCUIT BREAKER BLACK SHORT STOP COVER | 1 |
| 109801 | INSTRUCTION FOR BRV KIT | 1 |

NO ADVANCED CONTACT OR PRIOR AUTHORIZATION REQUIRED

CLAIM REIMBURSEMENT PROCESSING:

All reimbursement requests with completed work orders, including any freight expenses, should be submitted via a claim in the Brinkley RV Dealer Portal. If you do not have access to our Portal, a claim can be emailed to Warranty@BrinkleyRV.com.

REQUIRED INFORMATION FOR IMMEDIATE REIMBURSEMENT PROCESSING INCLUDES:

1. The full 17 digit VIN;
2. The Retail Name if retail sold;
3. Dealer Name;
4. Dealer Address;
5. Dealer Phone Number;
6. Dealer Hourly Labor Rate;
7. Work Order detailing the work performed and labor time.
8. Photo of completed repair required.

Reimbursement checks for claims submitted with all requested information are issued weekly.

Required Tools

1. Screw gun with #2 square drive bit
2. Flat head screw driver
3. Phillips head screw driver
4. Wire cutters
5. Wire strippers
6. 3/8" socket with extension
7. Mechanics creeper (optional)
8. Torque wrench (that measures in inch-lb)
9. 1" Step drill bit
10. #11 Drill bit (not shown)
11. 3/4" Butterfly drill bit
12. 11/64" Drill bit (not shown)
13. Rivet gun



⚠ WARNING

Make sure the battery disconnect switches are turned off and the unit is unplugged from shore power before beginning! Failure to do so may cause equipment damage and serious injury or death!

⚠ CAUTION

Always wear Personal Protection Equipment (PPE), such as eye protection, ear protection, gloves and possibly a full face shield depending on the nature of the task to be performed.

+ NOTICE

Retain all fasteners for reuse unless specifically stated in these instructions.

WORK INSTRUCTIONS:

1. READ AND UNDERSTAND ALL INSTRUCTIONS PRIOR TO BEGINNING WORK.
2. Make sure Battery Disconnect (Figure 1) is turned off and the RV is unplugged from shore power .

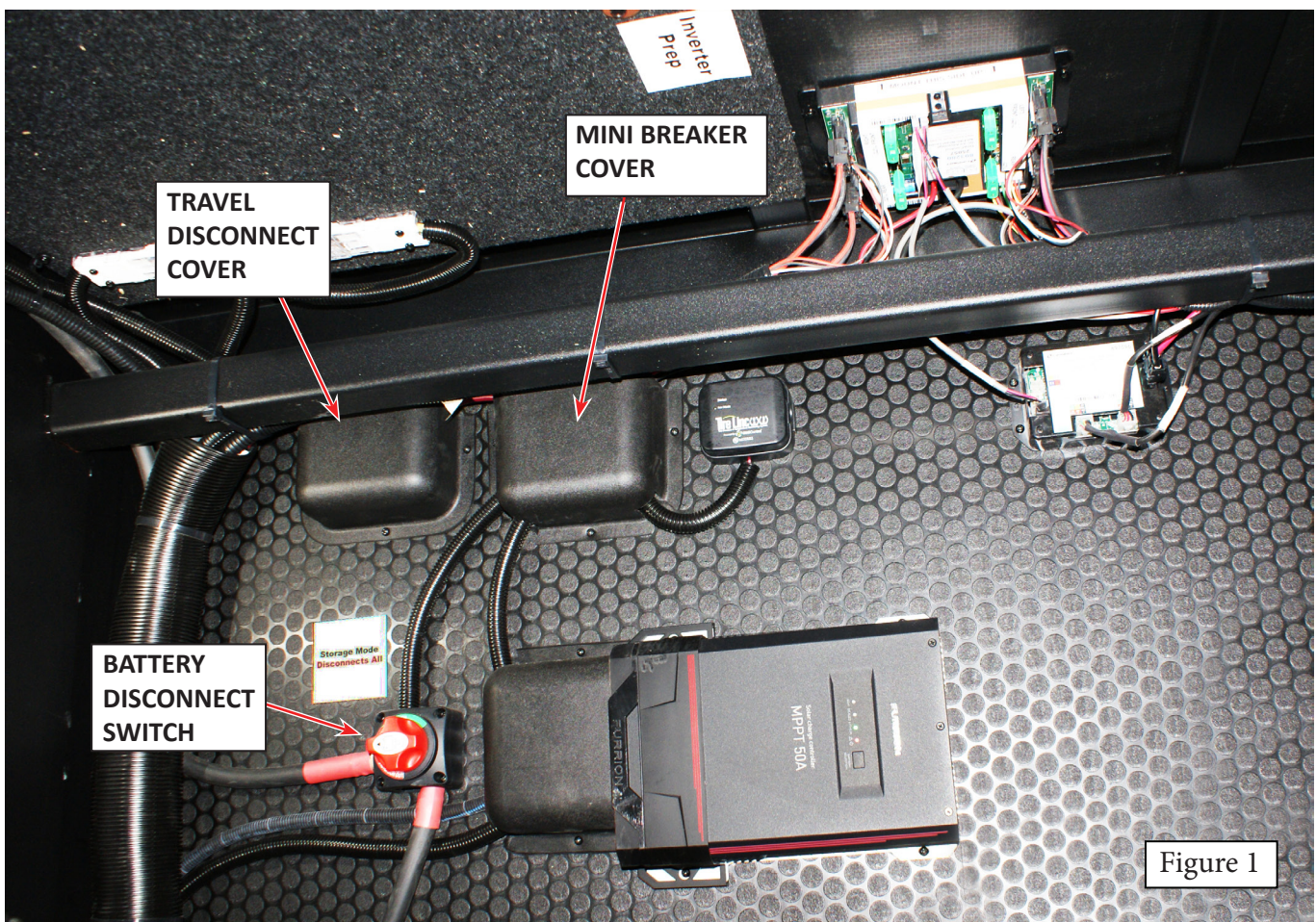


Figure 1

- Remove the wiring covers for the "Travel Disconnect" switch and the "Mini Breakers" (Figure 2a).
- Label all wires per Figure 2b prior to disconnecting from the mini breakers (Figure 2b - see print provided).

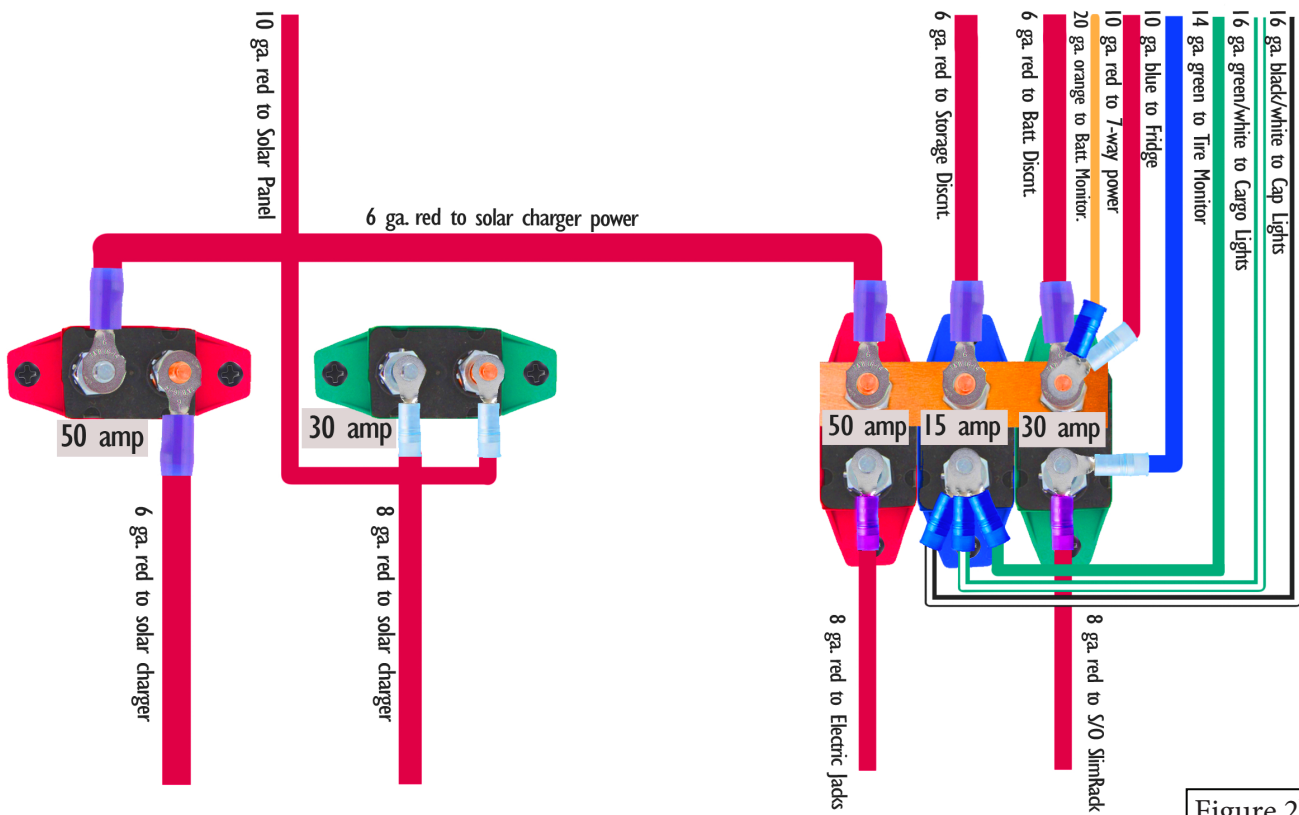
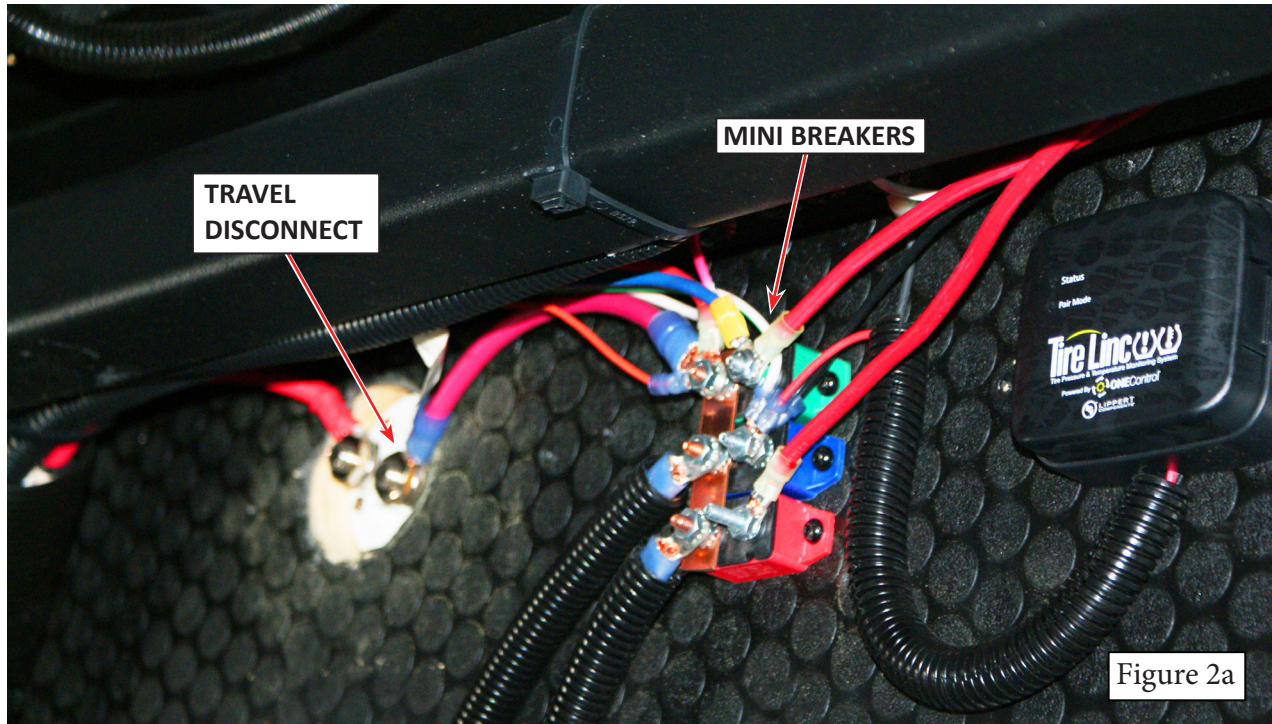
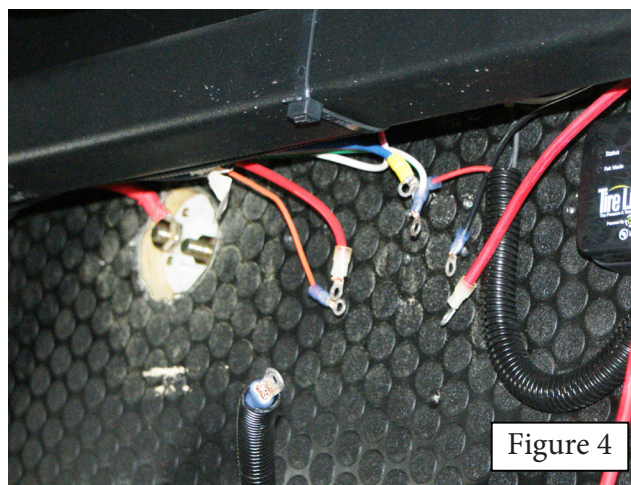
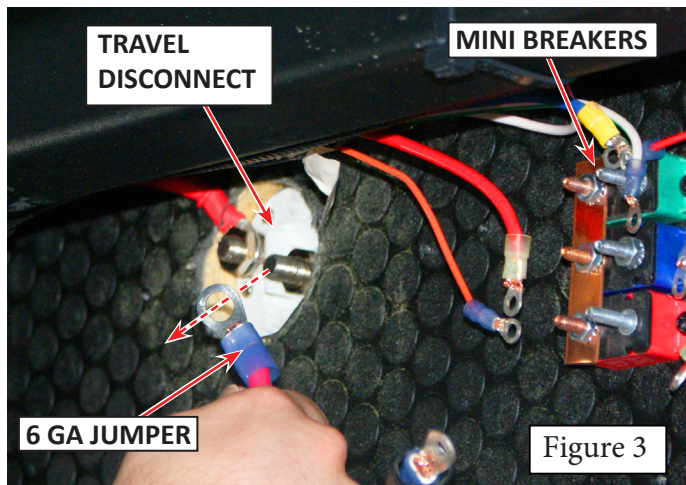
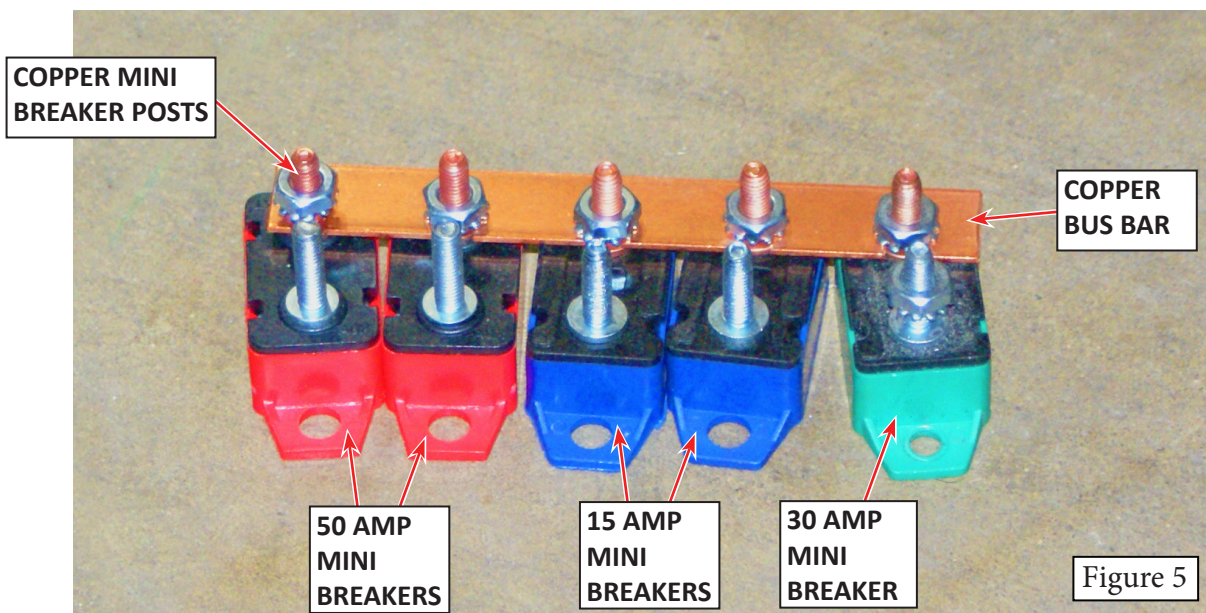


Figure 2b

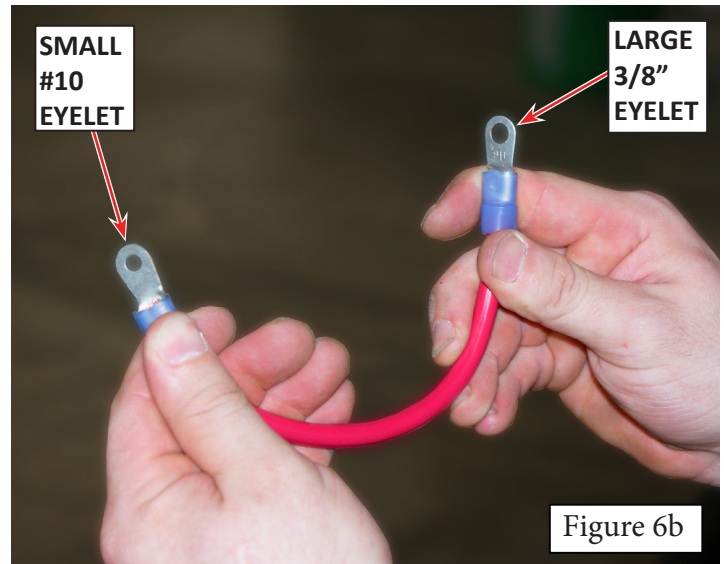
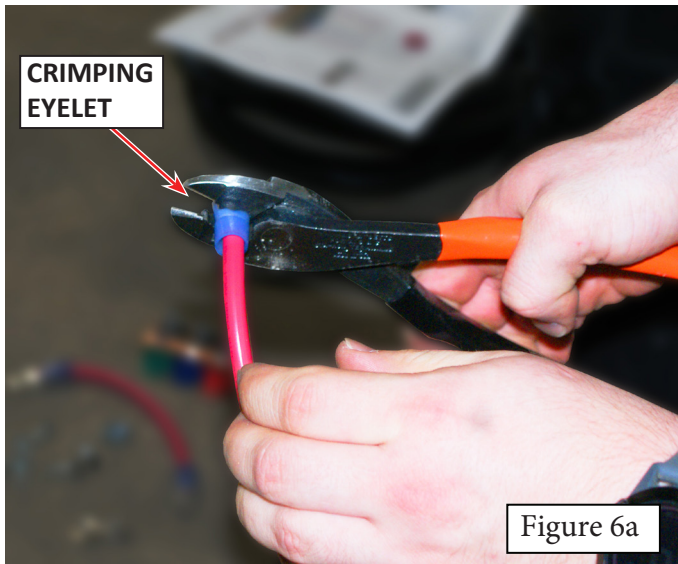
5. Remove red 6 GA Jumper from travel disconnect to mini breaker (Figure 3). Discard the jumper, but retain the lock washer and nut from Travel Disconnect.
6. Remove all wires from mini breakers after labeling and remove mini breaker stack (Figure 4). Retain all fasteners.



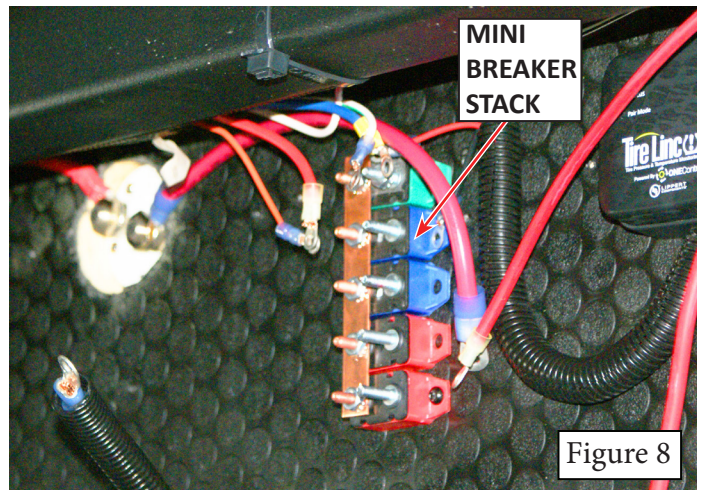
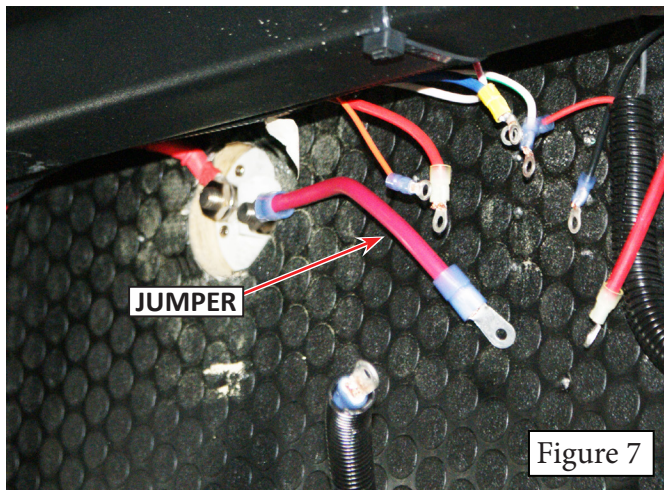
7. Combine the new mini breakers by attaching them to the provided **copper bus bar**; assemble them per diagram (Figure 5). Ensure the copper side of the mini breakers are attached to the copper bus bar (P/N 102274):
 - One (1) 30 AMP mini breaker (green) (P/N 100462)
 - Two (2) 15 AMP mini breakers (blue) (P/N 101093)
 - Two (2) 50 AMP mini breakers (red) (P/N101605)



8. Make a new jumper for the travel disconnect to mini breaker connection using the provided length of 6 GA wire (P/N 100029). Install a small (#10) eyelet ring terminal (P/N100979) on one end, and a large (3/8") eyelet ring terminal (P/N 100975) at the other end (Figure 6a and Figure 6b).



9. Attach the jumper end with the large eyelet terminal to the travel disconnect using the original fasteners (Figure 7).
10. Install the mini breaker stack on the back wall in the same location as the original, using the original fasteners (Figure 8). Torque the travel disconnect lug to 66 in-lbs.



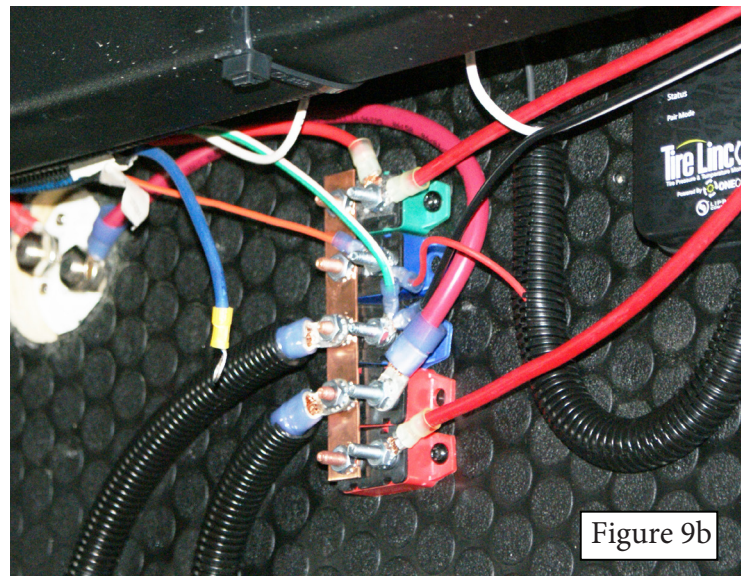
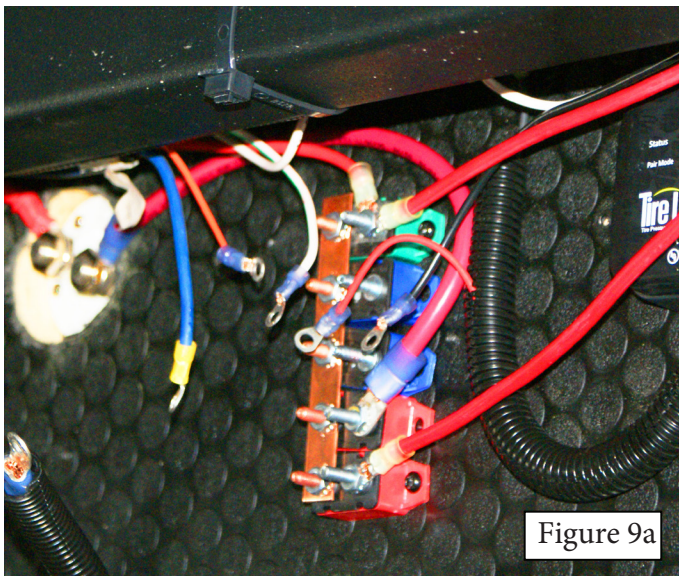
11. Attach the wire terminals to the mini breakers per Figure 9a, Figure 9b and Figure 10:
12. Run 6 GA red jumper assembly from step 8 from travel disconnect to the protected (silver) side of the 2nd from the bottom 50 amp mini breaker (Figure 5).

+ NOTICE

For VIN's prior to 001582, and between 1586 - 1916, two (2) 50 amp mini breakers may need installed, in this case, 6 GA will go on 2nd from bottom 50 amp mini breaker. 8 GA red for electric jacks to bottom 50 amp protected (silver) side.

13. Run 10 GA red from Slim Rack and 10 GA red from 7-way to protected(silver) side of the top 30 amp mini breaker.
 14. Run 6 GA red Solar Charger to the power (copper) side of the upper 50 amp breaker.
 15. Run 6 GA red Battery Disconnect to the power (copper) side of the lower 15 amp breaker.
- *NOTE:** Depending on placement, may need to replace 6 GA wire from Battery Disconnect to mini breaker.
16. Run 16 GA black/white cap lights and green/white cargo lights to bottom 15 amp protected(silver) side of the mini breaker.
 17. Run 16 GA red tire monitor and 20 GA orange battery shunt to top 15 amp protected (silver) side of the mini breaker. If included with the original install, additionally reattach the blue 14ga wire (relay power) to the silver protected side of the bottom 15 amp mini breaker.

NOTE: The color of the tire monitor wire may vary. For units with hydraulic leveling, connect the 16 ga wire (Trombetta) to the silver side of the top 15 amp mini breaker.



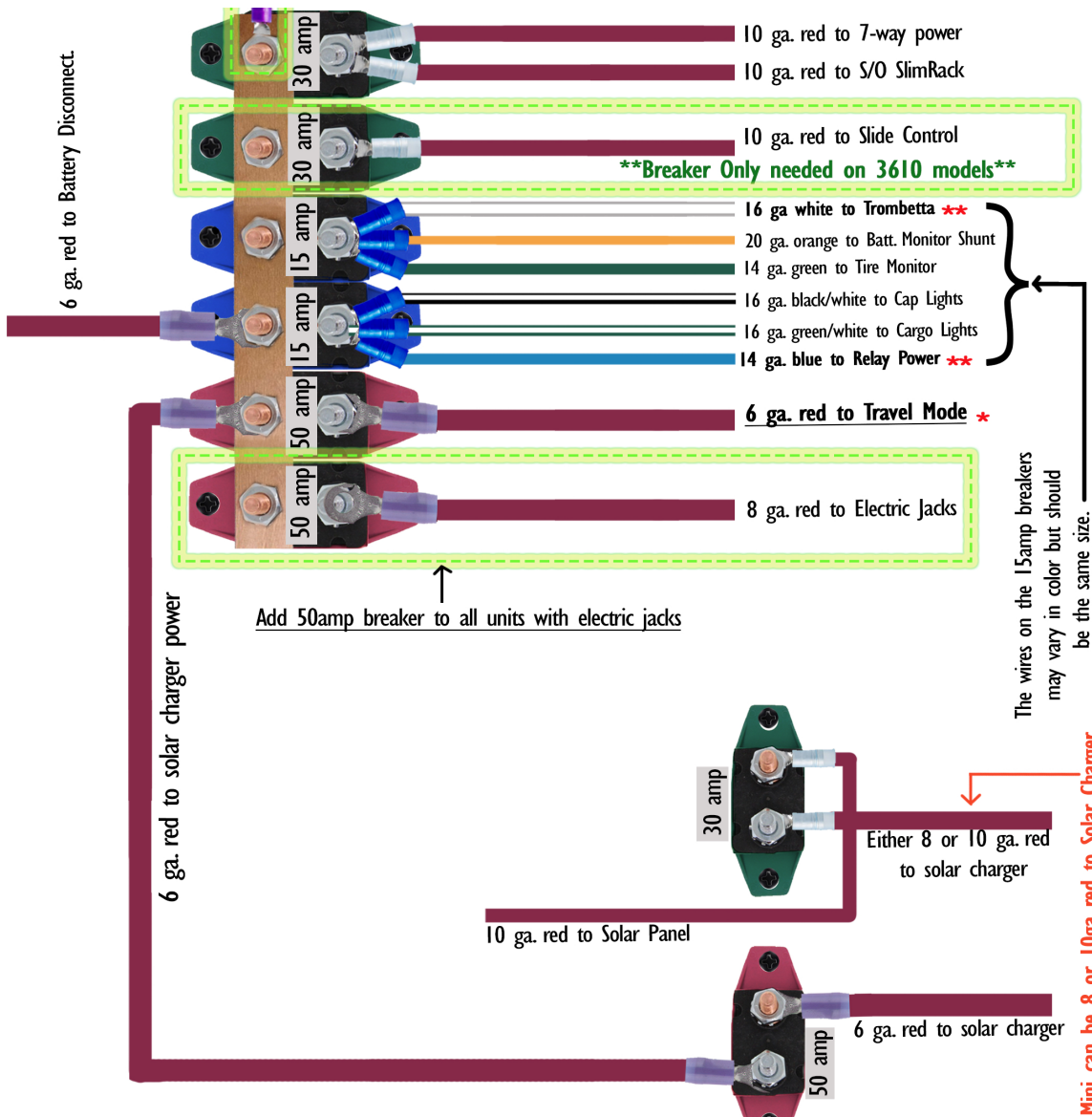


Figure 10



Before proceeding with the final circuit protection wiring, new larger guage 8ga wires (part# 100067) and 14ga wires (part# 106527) must be installed for the refrigerator power. The following procedure provides direction for that process.

INSTALLING NEW REFRIGERATOR WIRING

18. Open the underbelly at the front seam (Figure 10) and rear off-door side along the frame rail just ahead of the axles (Figure 11) by removing self tapping screws. **DO NOT** remove the underbelly completely.

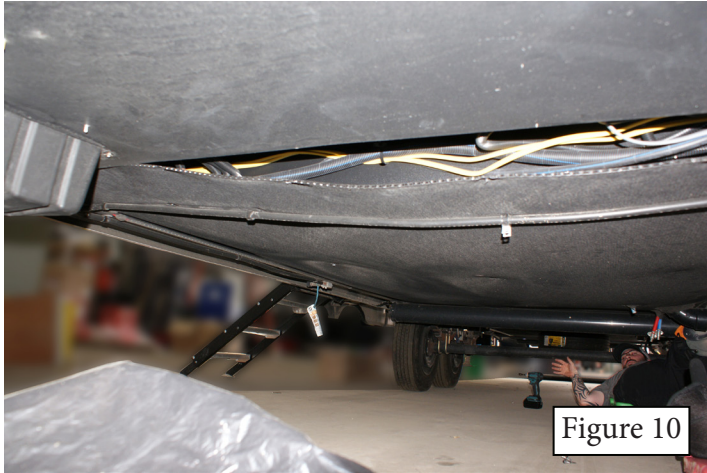


Figure 10

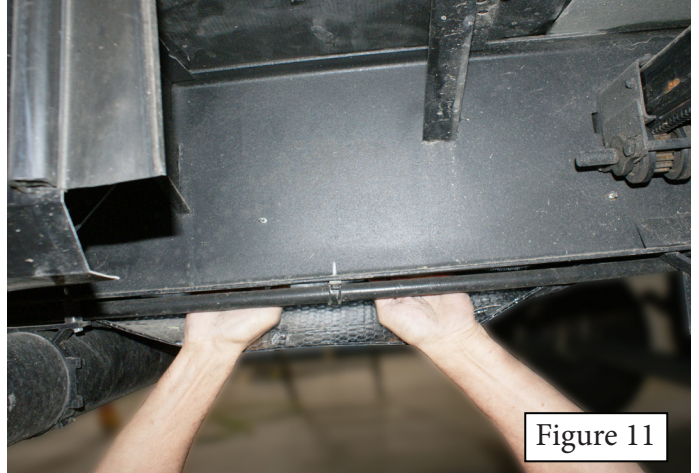


Figure 11

19. Using a power drill and 1" step bit, drill a hole in the frame rail near the front of the kitchen slide out opening, approximately 3" down from the top of the frame rail and 8" forward of the outrigger (Figure 12a and Figure 12b). Insert 1" grommet (P/N 103515) into the hole.



Figure 12a

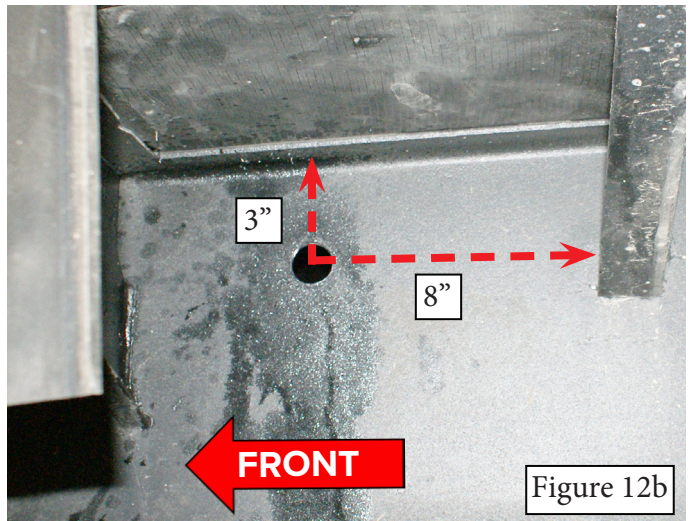
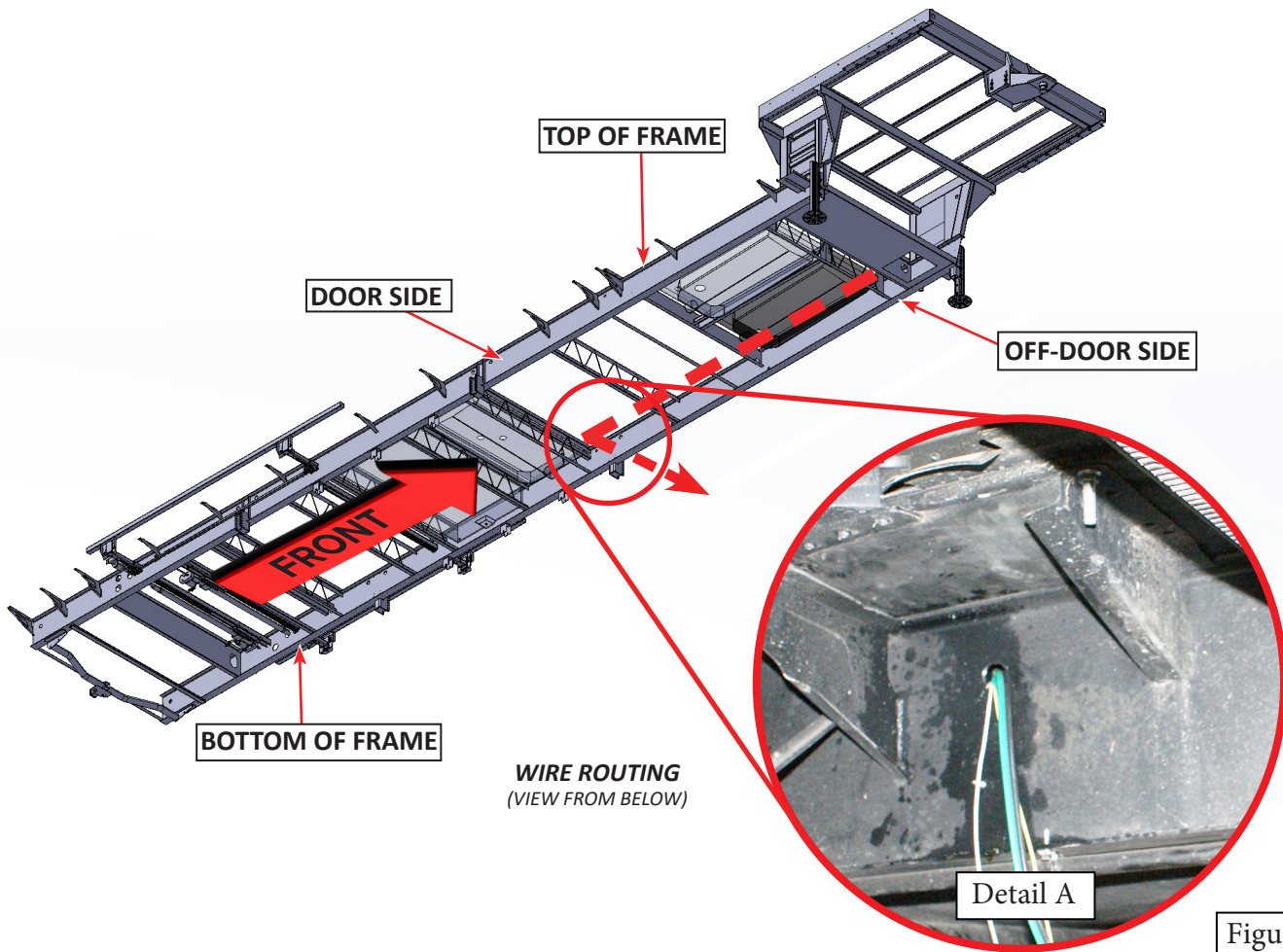
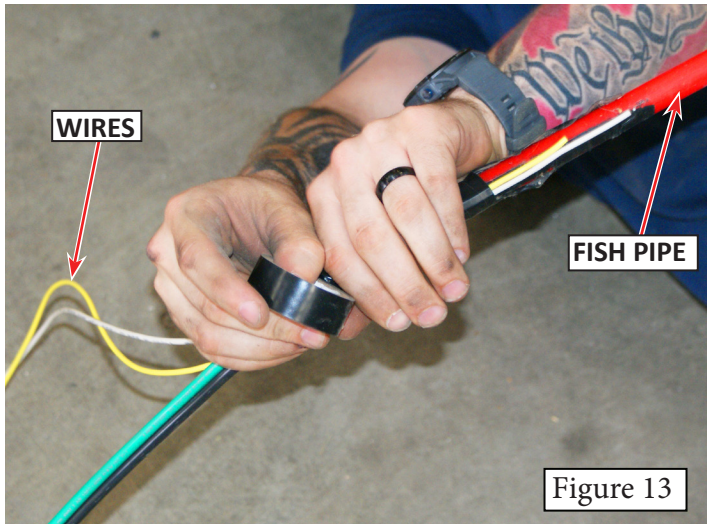


Figure 12b

20. Using a sufficient length of plumbing pipe (PEX or other type of semi-rigid pipe or wire puller), tape the wires to the pipe and fish them through underbelly on the off-door side to the opening you've made just ahead of the axles.(Figure 13 and Figure 14).
21. Once the wire has been fished to the off-door side opening in the underbelly, pull the run of wire through Figure .(Figure 15 and Detail A).



⚠ CAUTION

CAUTION: The following steps require the slide out room to be fully extended and retracted. Observe caution while the slide out room is in motion to be certain no one below the slide out room is struck, becomes confined, pinched or crushed during this procedure. Failure to do so could result in serious injury and/or damage. Ensure power supply is managed per Step 2 (page 3).

22. With the kitchen slide out at full extension, install the Flex Guard post just slightly forward and outboard of the wiring hole and secure with four (4) fasteners (P/N101328) (Figure 16). Be certain the Flex-Guard arm folds to the rear when room is closing.
23. Extend the Flex-Guard arm out to the wheel well support bracket and cut excess off (approximately 16") (Figure 17).

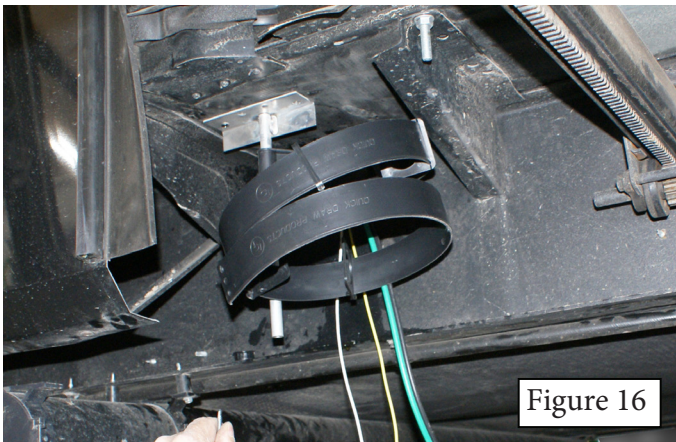


Figure 16

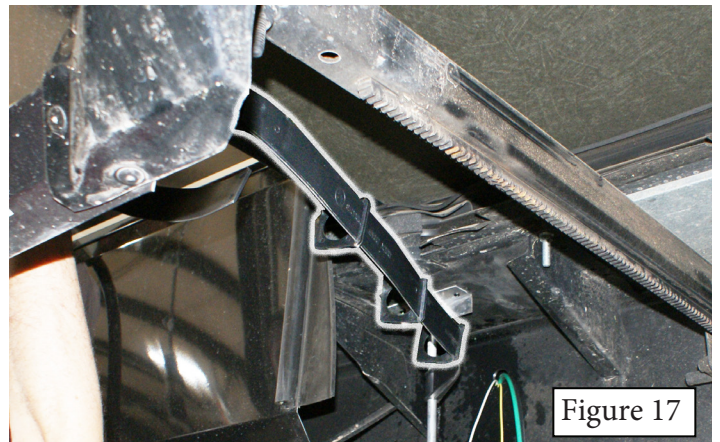


Figure 17

24. Position the end of the Flex-Guard arm against the fender support approximately 4" down from the top. Position a wooden backer behind the bracket where the holes are to be drilled. With a power drill and a #11 bit, drill the two (2) fastener holes in the support bracket (Figure 18).
25. Attach the Flex-Guard arm to the support bracket using two (2) 3/16" rivets (P/N 105866)(Figure 19).

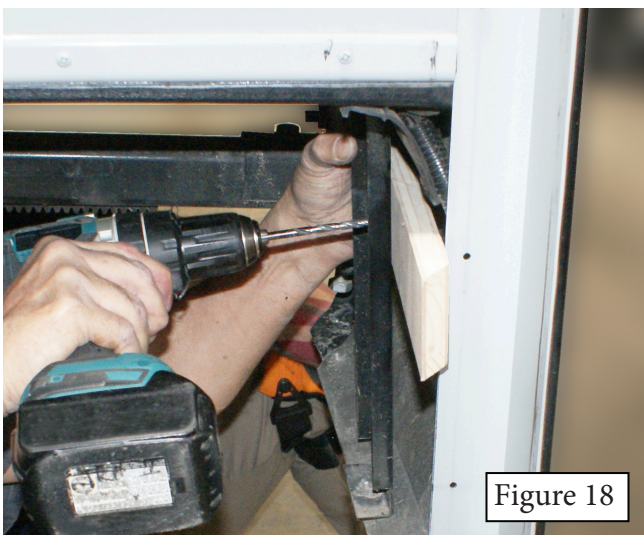
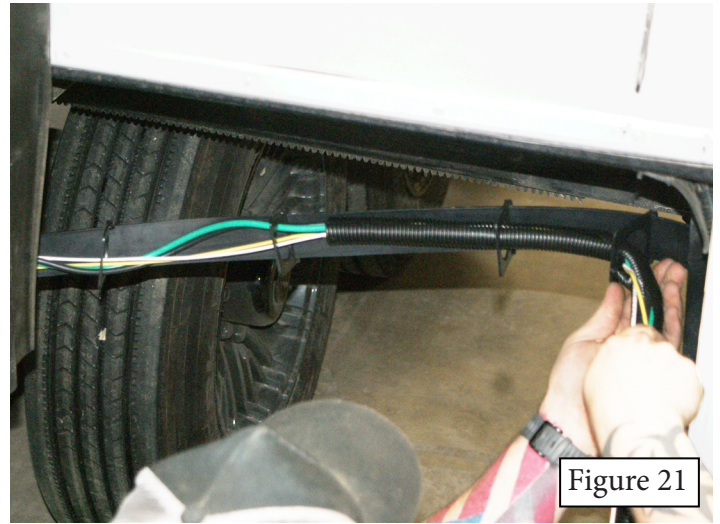
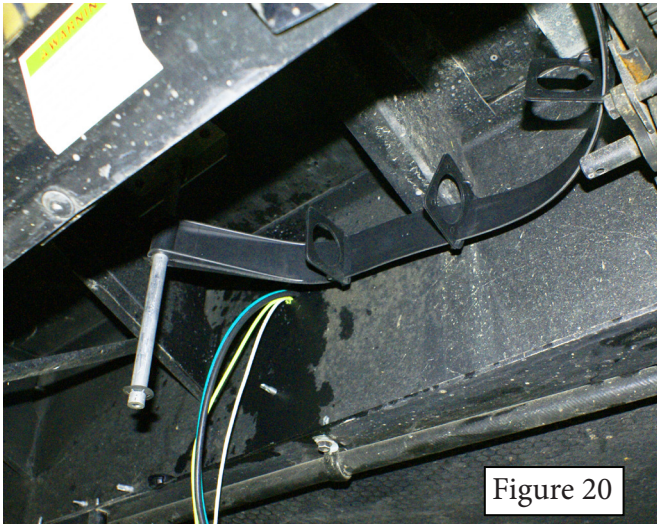


Figure 18

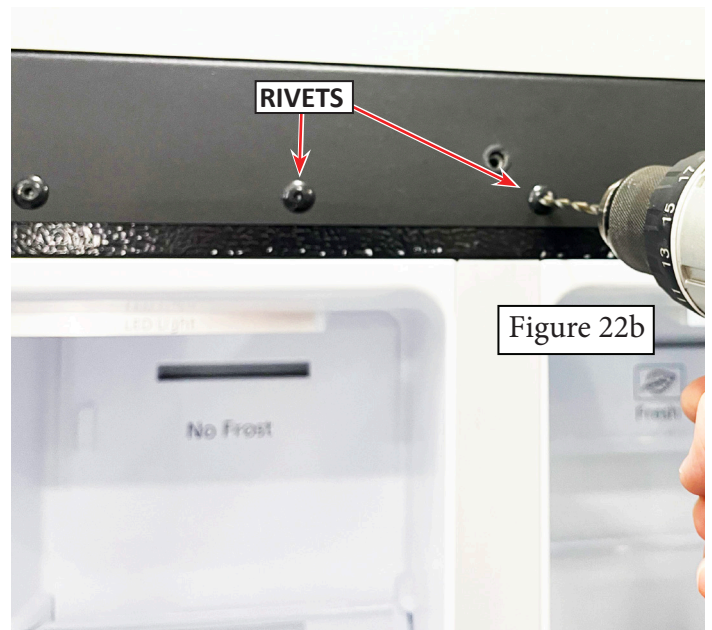
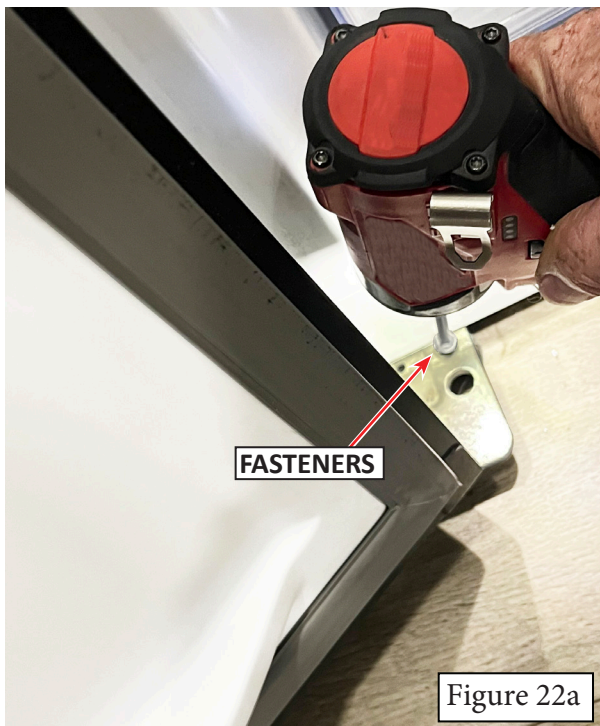


Figure 19

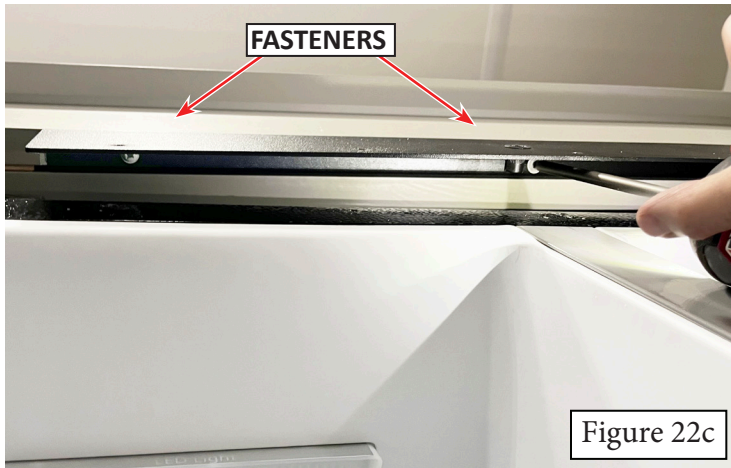
26. Fully retract the room; make sure the Flex-Guard arm moves freely and clears all components below the slide out room (Figure 20).
27. Once positioned, route the wires (8ga P/N 100067 and 14ga P/N 106327) wires through supports on the arm. Once routed, install the appropriate loom (not supplied) to cover the wires (Figure 21).



28. Inside the RV, use a screwgun and #2 square bit to remove the two (2) fasteners at the bottom corners of the refrigerator (Figure 22a). Retain fasteners.
29. Using an 11/64" bit, drill out the five (5) rivets from the upper refrigerator bracket (Figure 22b).



30. Gently push the refrigerator back in the opening to access the three (3) vertically installed screws holding the bracket to the cabinet above (Figure 22c). Use a screwgun and #2 square bit to remove the three (3) fasteners securing the bracket.
31. Remove bracket (Figure 22d).



+ NOTICE

NOTICE: Use caution and protect floor to prevent damage to the flooring while moving the refrigerator!

32. Carefully pull the refrigerator out of the slide out to gain access to the wiring behind it (Figure 23).



+ NOTICE

NOTICE: All new or exposed wires MUST be covered in protective plastic loom!

33. Using a screw gun and 3 /4” butterfly bit, drill a hole in the floor of the slide out box in the back corner of the refrigerator area (Figure 24).

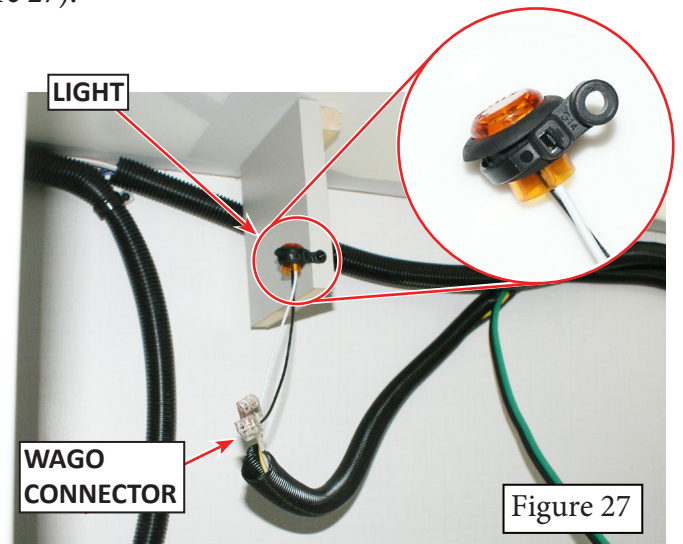
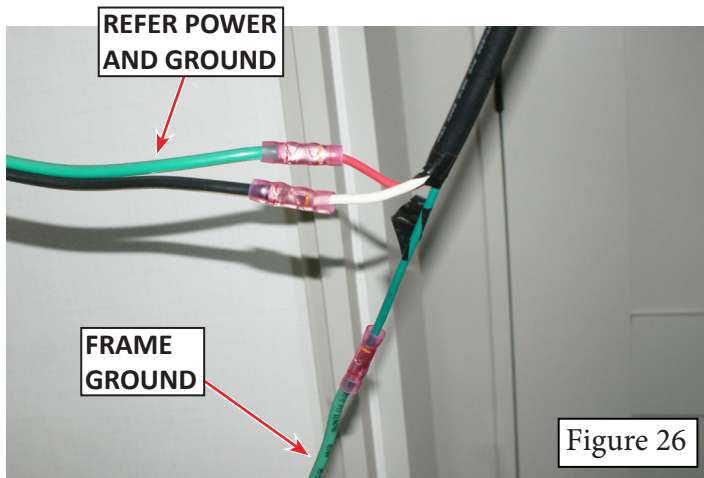
34. Fish the wires up through the hole (Figure 25).



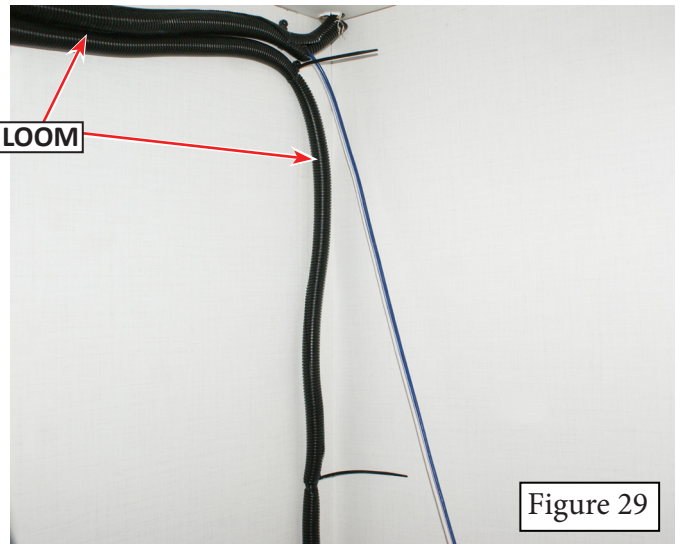
35. Install butt connectors (P/N 106821) on the new 8 ga refrigerator wires and connect the refrigerator (Figure 26).

36. Install another butt connector to replace the existing frame ground connection.

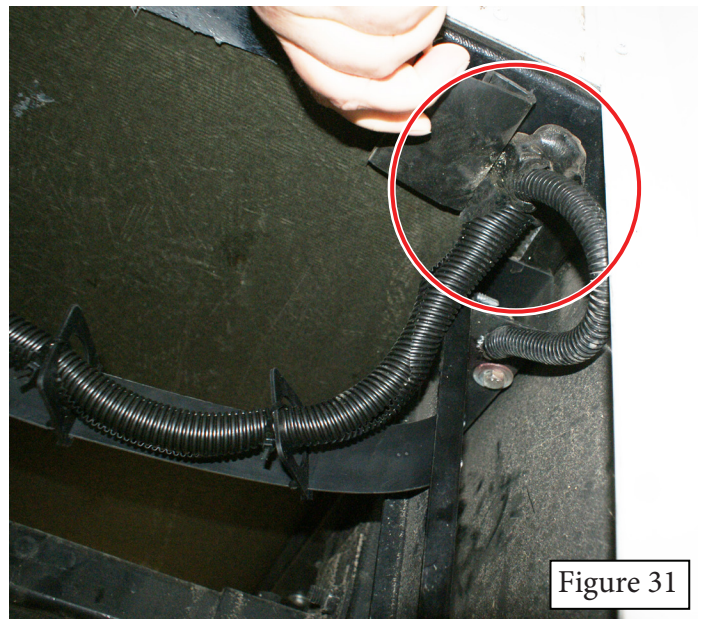
37. Position the amber light in the refrigerator cabinet so it can be seen when illuminated. Connect to 14ga light wires using Wago connectors (P/N 101917)(Figure 27).



38. Loom the refrigerator wiring and light wiring (Figure 28) (loom not provided).
39. Secure the wiring behind the refrigerator with zip ties and screws (not provided) (Figure 29).

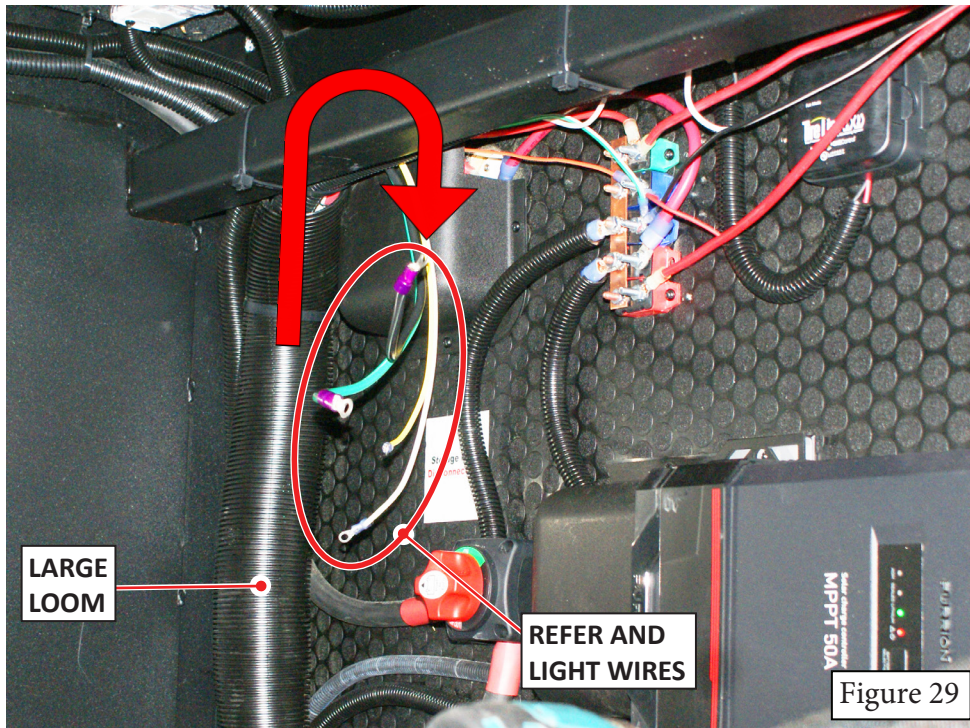


40. Carefully install refrigerator back into opening (Figure 30) and secure with original screws and five (5) new rivets (P/N 105866).
41. Seal the hole where the wiring passes through the underside of the slide out room using externally rated sealant (not provided) (Figure 31).



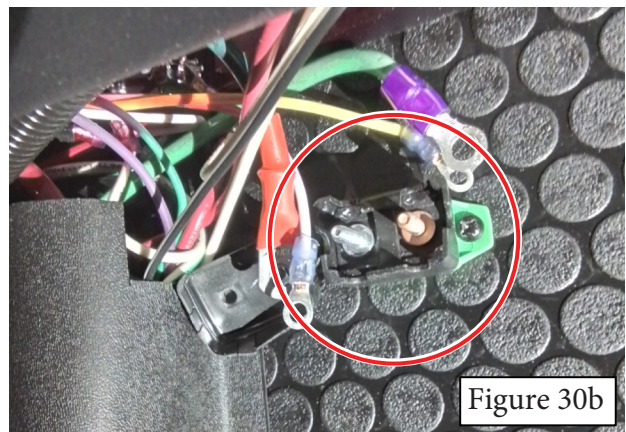
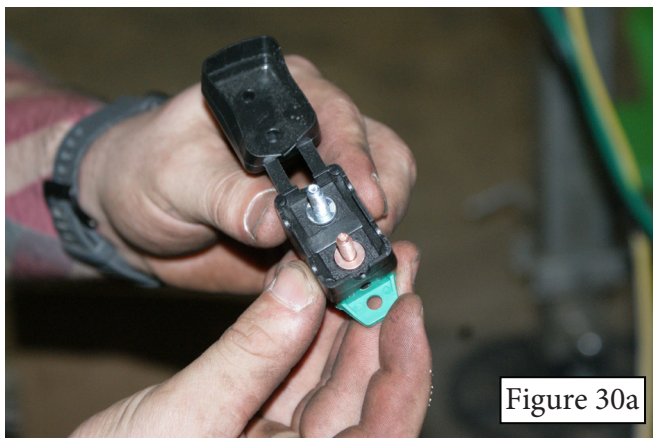
42. Run the refrigerator and light wires up into the front cargo compartment through the large loom with the rest of the wires (Figure 29). Install connector eyelets on the wires as follows:

- Both 14ga wires: Install #10 eyelet (P/N 101645)
- 8ga Green wire: Install #10 eyelet (P/N 101656)
- 8ga Black wire: Install 1/4" eyelet (P/N 100981)



43. Cut old fridge wires (blue/white) behind loom and tuck away (not shown).

44. Install 30 amp resettable mini breaker (P/N 106328) with attached cover (P/N 109559) on the wall (Figure 30a and Figure 30b). Ensure the screw head is below the reset button on the side of the breaker, and does NOT contact or interfere with the button's operation.



45. Connect wiring for the refrigerator resettable mini breaker (Figure 31):
- Install #10 terminal (P/N 101656) on 8ga green wire and connect it to the silver (protected) side of the manual reset breaker.
 - Install a 1/4" terminal (P/N 100981) on the 8ga black wire and ground it to the crossbar with the rest of the ground circuits.
 - Connect 14 GA yellow to power (copper) side and white to protected (silver) side on 30 amp manually resettable mini breaker.
 - Make an 8 GA green jumper with purple ring terminals (P/N 101656) from 30 amp resettable power (copper) side and run to 30 amp mini breaker power (copper) side.
 - Snap cover shut on refrigerator mini breaker.
46. Close and seal underbelly openings used to route wires (Figure 32).



Figure 32

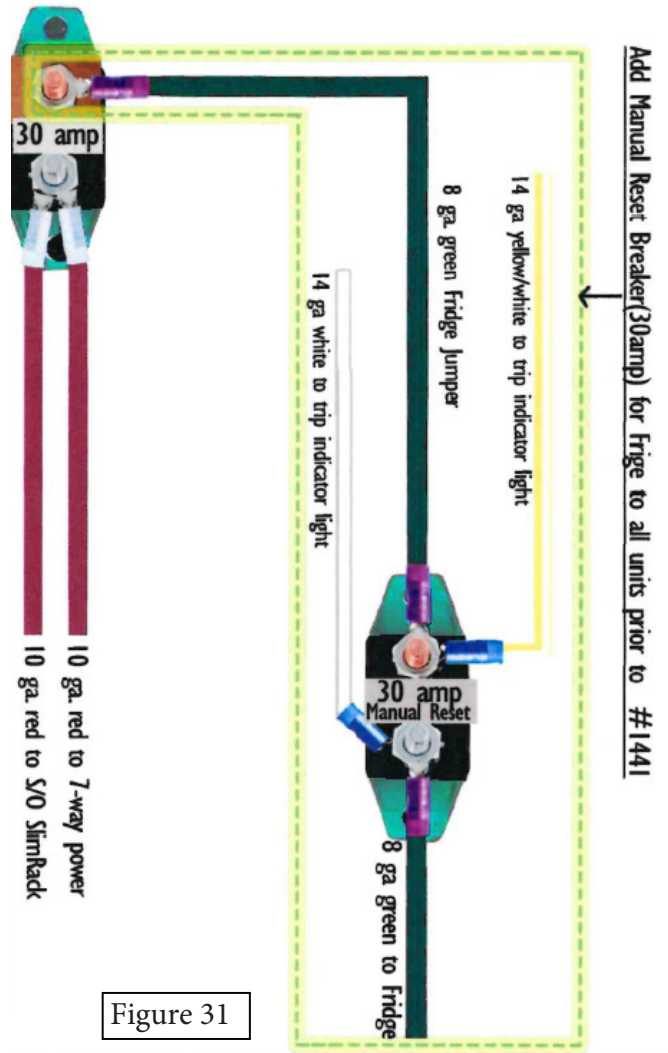


Figure 31

47. Turn on battery disconnects and plug RV in. Check for proper operation of the refrigerator and manual reset breaker.
48. Install plastic covers over Travel Disconnect and mini breaker wiring.
49. Repair complete (reference Figure 33 - final diagram on the final page).

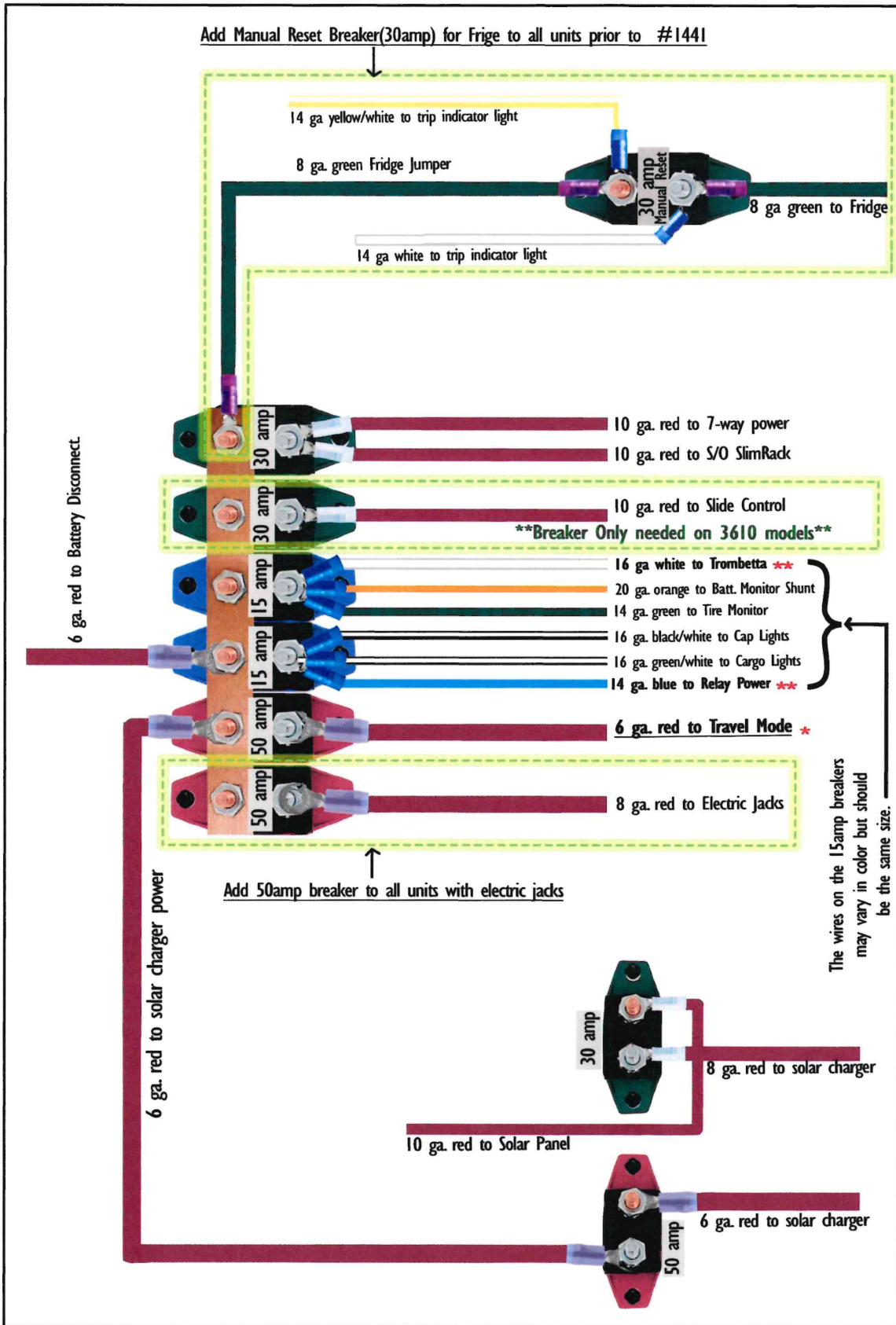


Figure 33