ALLIANCE RV

Obsessed with providing the best RV ownership experience!

DELTA

OWNER'S GUIDE

Version: 11.05.23

WELCOME TO THE ALLIANCE RV FAMILY!

Congratulations on the purchase of your new Alliance RV. We are honored that you have placed your trust in the Alliance RV Team, and it is our privilege to help you enjoy a great RV ownership experience!

One of the best ways to begin enjoying your Alliance RV experience is by taking time to read and familiarize yourself with the contents of this owner's guide along with the individual component manuals included with your new Alliance RV. Knowing how to properly operate the various systems, appliances, and components will make your first trips even more enjoyable. We would also encourage you to review the general maintenance recommendations, as these will help keep your RV in great working condition for years to come.

Your new Alliance is backed by a Limited Base Warranty and Limited Structural Warranty as outlined on the following pages. While we work to build Alliance RVs to a higher quality standard, if a warranty or service concern arises, our priority is to get you back to camping as promptly as possible. Your Alliance RV Dealer is authorized and trained in servicing the many systems unique to your Alliance RV and is a great "Ally" to assist you in finding a resolution. If for any reason it is not feasible to work with your local Alliance RV dealer, please don't hesitate to reach out to the Alliance Customer Service Team directly. Our ability and willingness to keep open lines of communication and find creative service solutions will help us navigate thru finding the best way to assist your specific circumstance. The Alliance RV Customer Service Team can be reached at:

- Phone: (574) 226-0140
- Email: service@alliancerv.com
- Address: Attn: Customer Service - 301 Benchmark Drive, Elkhart, IN 46516

Thank you again for being a valued member of the Alliance family. The entire Alliance team wishes you safe travels and looks forward to enhancing your RV ownership experience!

Happy camping,

Bill Martin
Vice President of Customer Experience

MY INFO:

Alliance RV Model (e.g., Delta): _____

Floorplan or Model # (e.g., 262RB): _____

VIN (17 Digits):

Dealership Name: _____

Dealership Address: _____

_____

Dealer Phone: _____

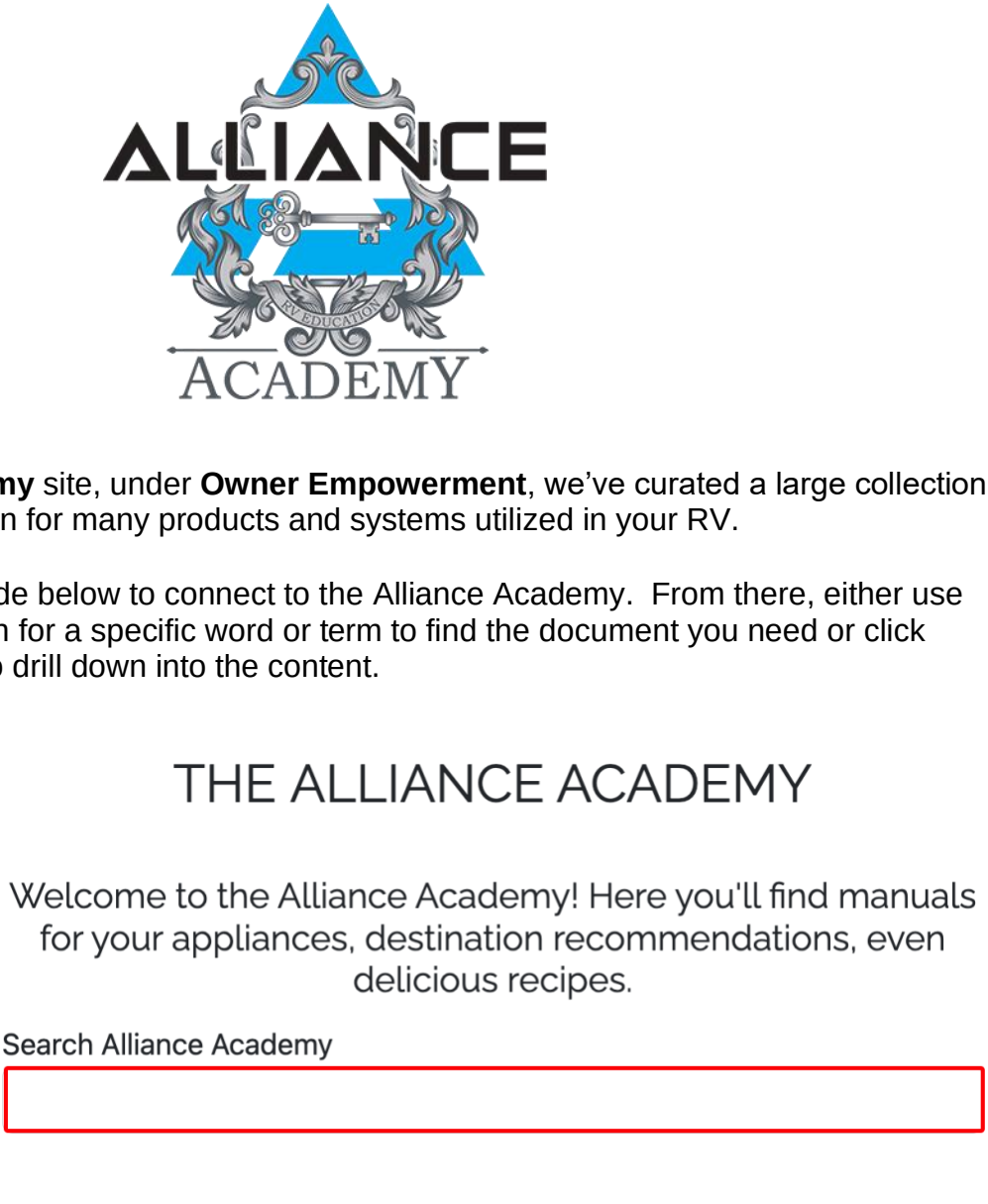
SUPPORT DOCUMENTATION

On the **Alliance Academy** site, under **Owner Empowerment**, we've curated a large collection of support documentation for many products and systems utilized in your RV.

Scan or click the QR code below to connect to the Alliance Academy. From there, either use the search box to search for a specific word or term to find the document you need or click Owner Empowerment to drill down into the content.

SCAN OR CLICK

TO LEARN MORE



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OWNER'S INFORMATION BAG

You will find the manuals and registration cards for individual components in your Alliance RV Fifth Wheel Owner's Information Bag.

It is important that you take time to register and activate each component warranty according to the information and timelines provided. Doing so will help any potential delays in the event your RV requires warranty service. Failure to register these warranties will not dismiss warranty coverage, although it could cause delays. Please contact Alliance Customer Service with any questions.

Alliance RV Customer Service Contact Information:

Phone: (574) 226-0140

Email: service@alliancerv.com

VEHICLE IDENTIFICATION NUMBER (VIN)

Alliance RV vehicles all have a unique 17-digit VIN.

You will find your VIN listed on the Federal Certification label located toward the front of the RV on the off-door side.

The following VIN decoder identifies each digit location and its function.

DIGIT LOCATION	FUNCTION	KEY
1st, 2nd, and 3rd	WMI (SAE Assigned)	**7M5**
4th	Trailer Type	F = Fifth Wheel / Gooseneck T = Travel Trailer / Bumper Pull
5th	Model Designator	P = Paradigm (Active 2021 Model Year) V = Valor (Active 2021 Model Year) A = Avenue (Active 2022 Model Year) D = Delta (Active 2024 Model Year)
6th and 7th	Length of RV	Length of RV (2 digits regardless of length)
8th	Number of Axles	1 = 1 Axle 2 = 2 Axles 3 = 3 Axles
9th	Check Digit	Calculated
10th	Model Year	M = 2021 T = 2026 1 = 2031 6 = 2036 N = 2022 V = 2027 2 = 2032 7 = 2037 P = 2023 W = 2028 3 = 2033 8 = 2038 R = 2024 X = 2029 4 = 2034 9 = 2039 S = 2025 Y = 2030 5 = 2035
11th	Plant Location	A = Plant 1 – Location: Elkhart, IN B = Plant 2 – Location: Elkhart, IN C = Plant 3 – Location: Elkhart, IN D = Plant 4 – Location: Elkhart, IN
12th thru 17th	Serial Number	Sequential Six Digit Number (001000)

REPORTING SAFETY DEFECTS

In the United States:

If you believe that your recreational vehicle has a defect which could cause a crash or cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA), and Alliance RV.

If the National Highway Traffic Safety Administration (NHTSA) receives similar complaints, they may open an investigation. If they determine that a safety defect exists in other vehicles, a recall and remedy campaign may be ordered. NHTSA does not become involved in individual cases between you, your dealer or Alliance RV.

To Contact NHTSA:

Website: www.safecar.gov

Address: NHTSA Headquarters
Attn: Administrator
1200 New Jersey Avenue, SE
Washington DC 20590
Toll Free Vehicle Safety Hotline: 888.327.4236
TTY: 800.424.9153

For additional information, please refer to the NHTSA website at www.safecar.gov.

In Canada:

If you believe that your recreational vehicle has a defect which could cause a crash or cause injury or death, you should immediately inform Transportation Canada's Defect Investigations and Recalls Division, and Alliance RV.

To Contact Transportation Canada:

Website: www.tc.gc.ca

Transport Canada

Address: Defect Investigations & Recalls Division
330 Sparks Street
Ottawa ON K1A 0N5
Canada
Toll Free in Canada: 800.333.0510

If calling internationally or from the Gatineau-Ottawa area: 819.994.3328

SERVICE & WARRANTY

Alliance RV Limited Warranties

Alliance RV, LLC (Alliance RV) provides the following Limited Base and Limited Structural Warranties with this recreational vehicle which sets forth what Alliance RV will cover and what Alliance RV will do if a defect is found to exist. Please read the following warranty details closely before your purchase of the recreational vehicle.

ACCEPTANCE OF WARRANTY: When you request or accept the performance of warranty repairs under the terms of either limited warranty, you are accepting all terms of both limited warranties.

ONE (1) YEAR LIMITED BASE WARRANTY

Alliance RV provides this Limited Base Warranty for the period of One (1) Year. Warranty period starts from the earlier of (a) the date of purchase by the original retail purchaser, or (b) if the dealer places the vehicle in service prior to retail sale, on the date the recreational vehicle is first placed in such service.

For the warranty period set forth above, this one (1) year Limited Base Warranty covers certain defects in materials and/or workmanship for the recreational vehicle manufactured by Alliance RV, and workmanship provided directly by Alliance RV, arising under normal use and service for the Limited Base Warranty period of the recreational vehicle. Alliance RV reserves the right to use new or remanufactured parts of similar quality to complete any work, and to make parts and design changes without notice to anyone. Alliance RV reserves the right to make changes in the design or material of its products without obligation to incorporate such changes in any product previously manufactured.

This Limited Base Warranty only covers a recreational vehicle sold by an authorized Alliance RV dealer and to the original retail purchaser. Note that recreational vehicles purchased in the US with the specific intent to import to Canada will NOT be covered under this Limited Base Warranty.

Alliance RV makes no warranty whatsoever with respect to the recreational vehicle beyond that contained in this Limited Base Warranty. No other person(s) are authorized by Alliance RV to establish any other obligation or liability for it regarding this recreational vehicle. Alliance RV is not responsible for any promise, representation or warranty made by any dealer or person beyond what is expressly stated in this Limited Base Warranty. No one has authority to amend or modify this Limited Base Warranty.

NOTE: This Limited One (1) Year Base Warranty is separate from the Limited Three (3) Year Structural Warranty on the following page and will expire exactly one year from the warranty period start date as identified above.

LIMITATIONS, EXCLUSIONS AND DISCLAIMER OF IMPLIED WARRANTIES:

THE LIMITED BASE WARRANTY IS PROVIDED EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WHETHER EXPRESS OR IMPLIED BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR OTHERWISE, AND IN LIEU OF ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF ALLIANCE RV. IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, IN ANY, GIVEN BY LAW, WILL BE LIMITED TO AND NOT EXTEND BEYOND THE SCOPE OF COVERAGE AND BEYOND THE DURATION OF THE ABOVE ONE-YEAR LIMITED BASE WARRANTY.

IN NO EVENT SHALL ALLIANCE RV BE RESPONSIBLE OR LIABLE FOR ANY LOSS OF USE, REVENUE, PROFIT, OR FOR ANY INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, EXEMPLARY, OR PUNITIVE DAMAGES OF ANY KIND OR NATURE THAT RESULT FROM ANY DEFECT IN THE RECREATIONAL VEHICLE REGARDLESS OF WHETHER SUCH DAMAGES WERE FORESEEABLE. THE DISCLAIMER OF CONSEQUENTIAL DAMAGES IS NOT DEPENDENT UPON THE LIMITED BASE WARRANTY FULFILLING ITS ESSENTIAL PURPOSE.

NOTE: SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

THREE (3) YEAR LIMITED STRUCTURAL WARRANTY

Alliance RV provides this Limited Structural Warranty for the period of Three (3) Years. Warranty period starts from the earlier of (a) the date of purchase by the original retail purchaser, or (b) if the dealer places the vehicle in service prior to retail sale, on the date the recreational vehicle is first placed in such service.

For the warranty period set forth above, this three (3) year Limited Structural Warranty covers certain defects in materials and/or workmanship of the **"structural components"** (as defined below) portions of the recreational vehicle manufactured by Alliance RV, and workmanship provided directly by Alliance RV, arising under normal use and service for the Limited Structural Warranty period of the recreational vehicle. Alliance RV reserves the right to use new or remanufactured parts of similar quality to complete any work, and to make parts and design changes without notice to anyone. Alliance RV reserves the right to make changes in the design or material of its products without obligation to incorporate such changes in any product previously manufactured.

"Structural components" is defined as (i) main steel frame including outriggers and cross members; (ii) laminated side walls and rear wall assembly; (iii) slide room box assembly including sidewall, end walls, roof and floor; (iv) roof assembly; (v) floor assembly; and (vi) fiberglass cap including paint application (this structural warranty item does not cover damages to the cap such as rock chips, dents, scratches or failure to meet the maintenance requirements as outlined in the Owner's manual).

This Limited Structural Warranty only covers a recreational vehicle sold by an authorized Alliance RV dealer and to the original retail purchaser. Note that recreational vehicles purchased in the US with the specific intent to import to Canada will NOT be covered under this Limited Structural Warranty.

Alliance RV makes no warranty whatsoever with respect to the recreational vehicle beyond that contained in this Limited Structural Warranty. No other person(s) are authorized by Alliance RV to establish any other obligation or liability for it regarding this recreational vehicle. Alliance RV is not responsible for any promise, representation or warranty made by any dealer or person beyond what is expressly stated in this Limited Structural Warranty. No one has authority to amend or modify this Limited Structural Warranty.

NOTE: This Limited Three (3) Year Structural Warranty is separate from the Limited One (1) Year Base Warranty on the previous page and will expire exactly three years from the warranty period start date as identified above.

LIMITATIONS, EXCLUSIONS AND DISCLAIMER OF IMPLIED WARRANTIES:

THE LIMITED STRUCTURAL WARRANTY IS PROVIDED EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WHETHER EXPRESS OR IMPLIED BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR OTHERWISE, AND IN LIEU OF ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF ALLIANCE RV. IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, IN ANY, GIVEN BY LAW, WILL BE LIMITED TO AND NOT EXTEND BEYOND THE SCOPE OF COVERAGE AND BEYOND THE DURATION OF THE ABOVE ONE-YEAR LIMITED BASE WARRANTY.

IN NO EVENT SHALL ALLIANCE RV BE RESPONSIBLE OR LIABLE FOR ANY LOSS OF USE, REVENUE, PROFIT, OR FOR ANY INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, EXEMPLARY, OR PUNITIVE DAMAGES OF ANY KIND OR NATURE THAT RESULT FROM ANY DEFECT IN THE RECREATIONAL VEHICLE REGARDLESS OF WHETHER SUCH DAMAGES WERE FORESEEABLE. THE DISCLAIMER OF CONSEQUENTIAL DAMAGES IS NOT DEPENDENT UPON THE LIMITED BASE WARRANTY FULFILLING ITS ESSENTIAL PURPOSE.

NOTE: SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

OBTAINING SERVICE

For a defect to be covered under either limited warranty, the repair or replacement must occur at an independent authorized Alliance RV dealer, or Alliance RV designated repair shop or Alliance RV facilities. Alliance RV will remedy defects in materials and workmanship covered under the Limited Base Warranty or Limited Structural Warranty, under normal use and service, caused by Alliance RV in the recreational vehicle itself only.

To obtain warranty service the original retail purchaser must do the following:

1. Within twenty (20) days of discovery of any defect to be covered by this warranty, notify an independent, authorized Alliance RV dealer or Alliance RV. Warranty services can only be obtained through Alliance RV authorized dealers and service representatives.
2. Following notification, the recreational vehicle must be taken to an independent, authorized Alliance RV dealer, or if authorized by Alliance RV, a designated repair shop. Either that dealer or repair shop, or Alliance RV will undertake appropriate corrective repair actions in instances where the defect is covered by this warranty. All costs incurred in transporting this recreational vehicle for warranty service shall be borne by purchaser unless otherwise approved in advance by Alliance RV.

If assistance is needed, you may contact Alliance RV at:

- Email: service@alliancerv.com
- Phone: (574) 226-0140
- Mail: 301 Benchmark Drive, Elkhart, IN 46516 (Attn: Customer Service)

REPAIR REMEDY; EXCLUSIVE REMEDY

Alliance RV's obligation is to address, within industry standards, any covered substantial defect discovered and reported within the warranty period provided: (a) you notify an authorized dealer within 20 days of your discovery of the substantial defect: AND (b) you deliver the recreational vehicle to an authorized dealership or Alliance RV at your cost and expense. If this primary remedy fails to successfully cure any substantial defect after a reasonable number of repair attempts, your sole and exclusive remedy shall be to have Alliance RV pay an independent service shop to perform repairs to the defect. If the defect is still incapable of being repaired, Alliance RV may, at its option, provide you the diminished value damages (the difference in purchase price and actual value of your recreational vehicle on the date of purchase). You must exhaust the primary repair remedy and this back-up remedy, and both these remedies must fail of their essential purpose before initiating any action against Alliance RV.

WARRANTY EXCLUSIONS

The Limited Base and Limited Structural Warranties noted above will not cover and will not apply to:

- Routine maintenance and adjustments;
- Any deterioration due to normal wear and tear;
- Defects in labor, materials, components, or parts not manufactured or performed by Alliance RV;
- Modifications or alterations to the original design after the recreational vehicle leaves possession of Alliance RV;
- Damage caused by unauthorized attachments, modifications, or alterations; Equipment or accessories installed by any party other than Alliance RV;
- Materials, components, appliances, electronics, or parts which are warranted separately by the respective component manufacturer;
- Recreational vehicles used for purposes other than recreational travel and camping (By way of example only business, rental commercial or disaster relief purposes);
- Any recreational vehicle purchased in the United States with specific intent to import vehicle to Canada;
- Any recreational vehicle registered or primarily used outside the United States or Canada; Any water leaks or related significant damages that are a result of your failure to properly maintain the exterior seals as required in the Owner's Guide;
- Repairs or replacements made necessary as a result of your failure to follow ordinary maintenance procedures as recommended by Alliance or the manufacturer or dealer of the recreational vehicle;
- Rust or corrosion due to the environment;
- Damage caused by misuse, abuse, neglect, theft, or vandalism;
- Damage caused by improper stowing of equipment, overloading or improper load balancing;
- Damage caused by unprotected electrical hookups or power surges;
- Damage caused by extreme weather conditions such as extreme cold or heat, winds, rain, lightning, hail, ice and flooding;
- Damage caused by unauthorized repair or failure to follow instructions supplied with the recreational vehicle;
- Damage caused by the tow vehicle by the owner, owner's operation or use of the tow vehicle, improper selection, or installation of towing hitch on tow vehicle, or damage to the owner's tow vehicle;
- Damage caused by road conditions, applications of salt or de-icing chemicals, gravel, sand, potholes, etc.;

WARRANTY EXCLUSIONS (CONTINUED)

- Fading, yellowing, or aging of exterior materials and components due to exposure of UV or sunlight, or weather.
- Damage caused in-transit to or from a dealer, or to or from the consumer, or by the consumer or another.
- Recreational vehicles not originally purchased through an authorized Alliance RV dealer.

EVENTS DISCHARGING ALLIANCE RV FROM OBLIGATION UNDER WARRANTY

Certain things completely discharge Alliance RV from any obligation under these warranties. By way of example, the following shall discharge Alliance RV from any express or implied warranty obligation to repair or replace any defect that results from: misuse or negligent use, abuse, or accident, neglect, unauthorized alteration, failure to provide reasonable and necessary maintenance including reasonable periodic inspections of the recreational vehicle, use of the recreational vehicle for rental, business or commercial use or any other use other than to use the recreational vehicle only for recreational and personal use.

WARRANTY REGISTRATIONS

The selling dealer will assist you in completing and submitting the Alliance RV product warranty registration form. That form must be returned to Alliance RV within ten (10) days of your taking delivery of the recreational vehicle. Failure to file this warranty registration with Alliance RV will not affect your rights under the Limited Base or Limited Structural warranties as long as you can present proof of purchase, but it can cause delays in obtaining the benefits of these Limited Warranties and may inhibit any servicing facility's ability to provide proper repairs and/or part replacement.

As stated above, some components, accessories or equipment are not covered by these Limited Warranties. By way of example, the following have coverage that may be provided by the component manufacturer: tires, batteries, generators, and some appliances & electronics and entertainment equipment. These component manufacturer warranties are separate from this Limited Base Warranty, and in some cases may be longer and/or have specific coverage provisions and requirements. In order to activate these warranties, you may have to complete registration forms, post cards or some other form of notification to the component manufacturer within a specific time period. These forms and documents will be located with the Owner's Materials packet provided with your new vehicle. You must complete and submit them to the respective manufacturer as quickly as possible, and within the time periods required by those warranties.

CARE AND MAINTENANCE

The owner of the recreational vehicle is responsible to perform proper care and maintenance of the recreational vehicle as outlined in the Alliance RV Owner's Guide and the owner's manuals of the chassis and other component part manufacturers. Failure to maintain the RV as noted in those manuals voids these warranties, and any damage to the RV as a result of your failure to perform such care, is not covered by the warranties set forth above.

LEGAL REMEDIES

ANY ACTION TO ENFORCE ANY PORTION OF THIS LIMITED BASE OR STRUCTURAL WARRANTIES, OR ANY IMPLIED WARRANTY, MUST BE COMMENCED WITHIN NINETY (90) DAYS AFTER THE EXPIRATION OF THE APPLICABLE WARRANTY COVERAGE PERIOD. ANY PERFORMANCE OF REPAIRS WILL NOT SUSPEND THIS LIMITATION PERIOD FROM EXPIRING, UNLESS STATE LAW PROVIDES OTHERWISE. ANY PERFORMANCE OF REPAIRS AFTER THE APPLICABLE WARRANTY COVERAGE PERIOD HAS EXPIRED, OR PERFORMANCE OF REPAIRS REGARDING ANYTHING EXCLUDED FROM COVERAGE UNDER THIS LIMITED WARRANTY SHALL BE CONSIDERED "GOOD WILL" REPAIRS, AND THEY WILL NOT CHANGE THE EXPRESS TERMS OF THIS LIMITED WARRANTY OR EXTEND THE WARRANTY COVERAGE PERIOD.

EXCLUSIVE JURISDICTION FOR DECIDING LEGAL DISPUTES RELATING TO ALLEGED BREACH OF WARRANTY OR REPRESENTATIONS OF ANY NATURE MUST BE FILED IN THE COURTS WITHIN THE STATE OF MANUFACTURE. THE ABOVE LIMITED WARRANTIES WILL BE INTERPRETED AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF INDIANA, WITHOUT GIVING EFFECT TO ANY CHOICE OR CONFLICT OF LAW PROVISION OR RULE (WHETHER OF THE STATE OF INDIANA OR ANY OTHER JURISDICTION) THAT WOULD CAUSE THE APPLICATION OF THE LAWS OF ANY JURISDICTION OTHER THAN THOSE OF THE STATE OF INDIANA. ANY AND ALL CLAIMS, CONTROVERSIES, AND CAUSES OF ACTION ARISING OUT OF OR RELATING TO THE ABOVE LIMITED WARRANTIES, WHETHER SOUNDING IN CONTRACT, TORT OR STATUTE, WILL BE GOVERNED BY THE LAWS OF THE STATE OF INDIANA, INCLUDING ITS STATUTE OF LIMITATIONS, WITHOUT GIVING EFFECT TO ANY CHOICE OR CONFLICT OF LAW PROVISION OR RULE (WHETHER OF THE STATE OF INDIANA OR ANY OTHER JURISDICTION) THAT WOULD CAUSE THE APPLICATION OF THE LAWS OF ANY JURISDICTION OTHER THAN THOSE OF THE STATE OF INDIANA.

THE LIMITED BASE WARRANTY AND LIMITED STRUCTURAL WARRANTY GIVE YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

SAFETY PRECAUTIONS

Throughout this guide, you will find the symbols shown below. This information is provided to help you avoid personal injury or death as well as damage to your RV and other property. Take the time to review all these warnings.

⚠CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

⚠WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WEIGHT RATINGS, ASSOCIATED LABELS, LOADING AND WEIGHING

Weight Terms

⚠WARNING

PLEASE READ AND UNDERSTAND THE MANY SAFETY LABELS THROUGHOUT YOUR RV, FAILURE TO DO SO COULD RESULT PROPERTY DAMAGE, DEATH, OR SERIOUS INJURY

Knowing and understand the following weight terms are a crucial step to overall safety of your RV. By becoming familiar with this information, you will be better equipped in making decisions when using your Alliance RV product.

GAWR = Gross Axle Weight Rating and is the maximum weight the recreational vehicles axle(s) are rated for.

GVWR = Gross Vehicle Weight Rating and is the maximum operating weight the vehicle is rated for when fully loaded.

UVW = Unloaded Vehicle Weight and is the weight of the manufactured completed RV.

CCC = Cargo Carrying Capacity and is the difference between what the RV weighs when there is nothing in it and what it weights when you have loaded it with your personal belongings, also including but not limited to food, water, propane, and any upgrades added (i.e., solar power, washer/dryer, additional batteries etc.)

HITCH WEIGHT (or Tongue Weight) = The weight of the trailer that is on the hitch of the tow vehicle when attached.

⚠WARNING

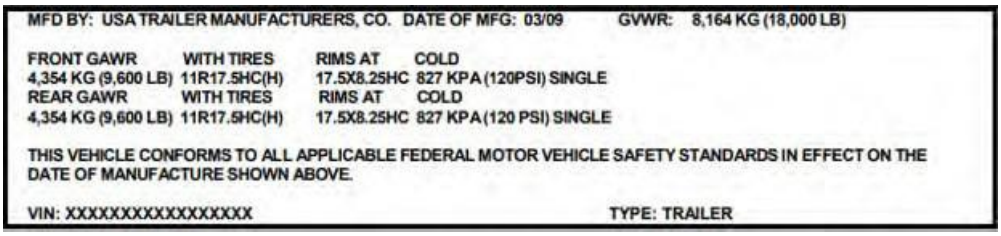
NEVER EXCEED ANY OF THE DESIGNATED WEIGHT RATINGS, DOING SO COULD RESULT IN DEATH OR SERIOUS INJURY

⚠WARNING

FACTORY INSTALLED WEIGHT LABELS ARE SPECIFIC TO YOUR RV, NEVER REMOVE OR MODIFY THESE LABELS. IF YOU HAVE A MISSING LABEL, CONTACT YOUR DEALER OR ALLIANCE RV FOR ASSISTANCE

Federal Certification

This label verifies that your RV is compliant with all Vehicle Safety Standards. You'll find this label near the front of your RV on the off-door side near the cabover.


MFD BY: USA TRAILER MANUFACTURERS, CO. DATE OF MFG: 03/09 GVWR: 8,164 KG (18,000 LB)

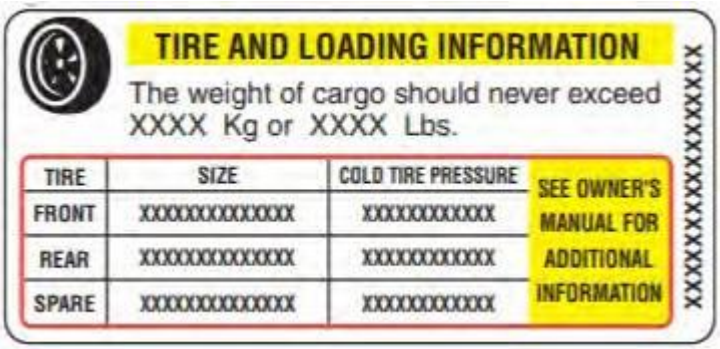
FRONT GAWR	WITH TIRES	RIMS AT	COLD
4,354 KG (9,600 LB)	11R17.5HC(H)	17.5X8.25HC	827 KPA (120PSI) SINGLE
REAR GAWR	WITH TIRES	RIMS AT	COLD
4,354 KG (9,600 LB)	11R17.5HC(H)	17.5X8.25HC	827 KPA (120 PSI) SINGLE

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

VIN: XXXXXXXXXXXXXXXXX TYPE: TRAILER

Tire and Loading Information Label

This label houses information regarding the correct tire pressure for the vehicle and will also tell you the size of the tires and the CCC of the RV. This label is also located near the front of the RV on the off-door side near the cabover.



Cargo Capacities & Weighing Your RV

Weight and balance of your RV is crucial to your safety. To ensure that you are within all the established weight limits and ratings, you should have your RV weighed.
Always make sure that your RV is loaded evenly from side to side, never exceeding the specified weight ratings established for your RV. Always secure loose items and ensure that all factory provided securements are in place before you travel.

⚠WARNING

A LOAD THAT IS NOT PROPERLY DISTRIBUTED, REGARDLESS OF WEIGHT RATINGS, CAN HAVE AN ADVERSE EFFECT ON THE WAY THE RV PULLS

Cargo Capacities & Weighing your RV (CONTINUED)

⚠WARNING

THE TOTAL WEIGHT OF THE RV AND THE TOW VEHICLE TOGETHER SHOULD NEVER EXCEED THE GCWR OF THE TOW VEHICLE.

⚠WARNING

YOU MAY NOT ALWAYS BE ABLE TO USE ALL AVAILABLE STORAGE SPACE WHEN LOADING YOUR RV. JUST BECAUSE IT CAN FIT DOESN'T MEAN THAT YOUR RV IS WITHIN THE ESTABLISHED WEIGHT RATINGS.

NOTE: Full LP gas and Fresh water are considered cargo weight.

TIRE INFORMATION & SAFETY

Tire Introduction

Your tires are the only part of the RV that has direct contact with the road. Tires directly affect the handling, braking and safety of your RV. Tires must have correct air pressure, tread depth and balance.

Check your tires regularly, this is crucial to your safety. Ideally, tires should be inspected monthly. If you drive over potholes, debris or live in a cold climate or even regularly pull your RV, a more frequent inspection is suggested. The more often you inspect, the easier it is to catch small problems and get them fixed before it becomes a more expensive and potentially time-consuming problem.

Look for this during inspection:

- **Over Inflation –** Too much air causing the tires middle section to contact the road. This will create wear in the center of the tire.
- **Under Inflation –** Too little air pressure causes the outer edges to contact the road. This will create wear on the outside edges of the tire tread.
- **Tread Wear on one Edge of the Tire –** This typically indicates that something is out of alignment.
- **Erratic Tread Wear –** Often called cupping and can mean the wheel is out of balance or an issue with suspension components.

⚠WARNING

ALWAYS KEEP TIRES PROPERLY INFLATED. NOT DOING SO CAN RESULT IN TIRE FAILURE THAT COULD RESULT IN AN ACCIDENT.

Federal law requires tire manufacturers to place standardized information on the sidewall of all tires. This information identifies characteristics of the tire and provides a tire ID number for safety standard certification and in case of a recall.

DOT Tire Identification Number

- This begins with the letters “DOT” and indicate the tire meets all federal standards. The following two digits are the plant code where the tire was manufactured. The last four numbers represent the week and year the tire was built. The other numbers have interchangeable meanings that are used at the tire manufacturers discretion. This # is also important in the event of a tire recall and used for that purpose.

Tire Pressure

- Follow the tire manufacturer's inflation guidelines for maximum load capacity; under-inflation is just as dangerous as over-inflation. Proper inflation should be monitored closely. Failure to do so can result in the overheating of a tire causing a blowout.
- Inflation pressure should be as recommended by the tire manufacturer or as the federal label for the recreational vehicle indicates.
- When you are using your RV, check inflation pressure weekly. Pressure should be checked when the tires are cold. Tires are considered cold when the vehicle has not been moved for a period of 3 hours or more. During travel, tires heat up and pressure increases. Do NOT adjust tires when they are hot.
- Check your tire pressures at least once a month. Tires can lose air suddenly from road hazards. Tires also naturally lose air, and it is not always possible to determine under-inflation by visual inspection. Locate the recommended tire pressure, locate the Tire and Loading Information label for accurate settings. If the tire pressure is too high in any of the tires, slowly release air by gently pressing on the tire valve stem with the edge of your tire gauge until you get the correct pressure. If the pressure is too low, note the different between the measured tire pressure and the correct tire pressure. These "missing" pounds of pressure are what you will need to add. At a service station, add the missing pounds of air pressure to each tire that is underinflated. Check all the tires to make sure they have the same air pressure.
- If you have been driving your vehicle and think a tire is underinflated, fill it to the recommended cold inflation pressure indicated on your vehicle's tire information placard or certification label. While your tire may still be slightly underinflated due to the extra pounds of pressure in the warm tire, it is safer to drive with air pressure that's slightly lower than the vehicle manufacturers recommended cold inflation pressure than to drive with a significantly underinflated tire. Since this is a temporary fix, don't forget to recheck and adjust the tire's pressure when you can obtain a cold reading.

⚠WARNING

TIRE PRESSURE SHOULD BE CHECKED AT THE BEGINNING OF A TRIP. ALWAYS FOLLOW ALL INSTRUCTIONS ON THE FEDERAL CERTIFICATION LABEL FOR ESTABLISHED REQUIREMENTS.

⚠WARNING

NEVER ADJUST TIRE PRESSURE TO A "HOT" OR "WARM" TIRE. ADJUSTMENTS ARE ONLY TO BE MADE AFTER THE TIRE HAS BEEN AT REST FOR 3 OR MORE HOURS.

TIRE INFORMATION & SAFETY (CONTINUED)

Tire Size

- Only purchase new tires that are the same size as the original tires. Look at the tire and loading information label or the sidewall of the tire you are replacing to find the information. If you have any questions, please contact Alliance RV.

Changing a Tire

- Keep the recreational vehicle attached to the tow vehicle. Block the tire on the opposite side of the recreational vehicle from the tire you are changing.
- Loosen the wheel lug on the tire you are changing before jacking up the vehicle. **(Note: DO NOT remove the lug nuts)**
- Locate the mainframe rail of the trailer (it spans from front-to-back just inside the tires).
- To raise the recreational vehicle, place the jack (hydraulic or screw) under the main frame rail. It must be just ahead of the front tire or just behind the rear tire.

⚠WARNING

NEVER USE THE LEVELING SYSTEM TO CHANGE A TIRE.

NEVER RAISE THE RV BY PLACING A JACK UNDER THE AXLE, AXLE SPRINGS, OR ANY ATTACHED PARTS.

⚠WARNING

BE SURE TO REPLACE TIRES WITH A TIRE OF THE SAME SIZE AND SPECIFICATION.

Properly maintained tires improve the stopping, traction and load-carrying capability of the RV. Underinflated tires and overloaded vehicles are a major cause of tire failure. Always maintain your tires as outlined and make sure to NEVER exceed a vehicle's load limits.

Spare Tire Carrier

A cable hoist is used for storing your spare tire under the RV. You'll find the spare tire up against the underbelly of the coach towards the front of the RV, just behind the drop-frame. An access hole in the skirt metal is provided for the spare tire crank handle to be inserted in order to lower or raise the spare tire hoist.

Tire Pressure and Temperature Monitoring System

Your RV has been prepped for the Tire Linc Tire Pressure and Temperature monitoring system. The prep includes the Tire Linc “Repeater Dock” (image below)

The Repeater Dock is located on a panel inside the off-door side pass-through storage bay and has been wired to your RV’s 12V DC power system.

To complete the TPMS system on your RV with the Tire Linc system, consult with your dealer about purchasing the Lippert Tire Linc RV Tire Pressure and Temperature Monitoring System (TPMS).

Tire Linc TPMS Prep

Off-Door Side Pass-Through Storage Bay

Wheel Nut Torque

Always use a calibrated torque wrench to confirm proper torque. Check the lug nut torque on each wheel before departure. Do NOT under torque or over torque under any circumstance. Tighten all lug nuts in the correct order according to your RVs lug pattern.

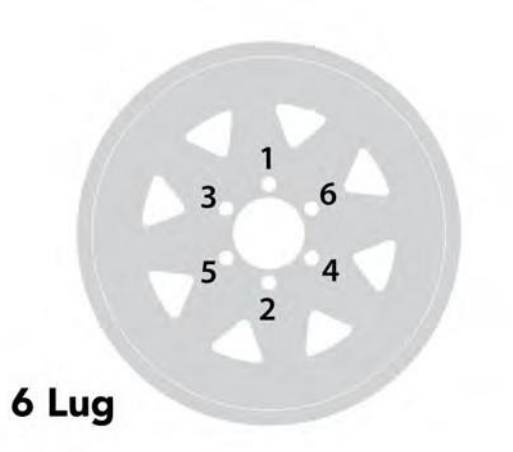
⚠WARNING

ALWAYS TORQUE THE WHEEL LUG NUTS TO THE REQUIRED SPECIFICATIONS.

Wheel Lug Nut Torque Chart

Stud	Ft./Lbs. Torque
1/2''	100-120

Lug nuts should be torqued in the pattern shown below:



TOWING & LEVELING

When pulling an RV, the most obvious thing is shear mass. You'll be taller, wider, and much heavier. Allow yourself plenty of room and time to maneuver out of potentially difficult situations.

Being taller, RVs are more susceptible to sway caused by cross winds and turbulence created by other large passing vehicles. Having the correct hitch equipment that is adjusted properly can significantly reduce these effects.

Know the height of your RV. This will help in avoiding overhead obstructions such as tree branches, low building overhangs and low clearance bridges or overpasses.

Know the width of your RV. This is important when negotiating, turns and other obstructions. Extendable side mirrors and/or add on tow mirrors can help.

Know how much your RV weighs and be aware of the weight ratings of the RV. This information is available for your safety. It is critical to never overload your RV. Overloading adversely affect the towing and handling of your RV. Stay within the weight ratings and limits of your RV.

A tow vehicle and RV weigh a lot and can take longer to stop. Increase your following distance and give yourself plenty of room and time to stop.

Practice makes perfect. to RVs. Get a feel for how the RV tows and handles. Especially if you are new to RVs.

BRAKE SYSTEMS

Brake Controller

The brake controller should be installed in the tow vehicle to work in conjunction with the RV brakes. Consult with your dealer or brake controller manufacturer to decide what is the right towing combination.

Inspecting Your Brakes

⚠WARNING

FAILURE TO KEEP YOUR BRAKES IN PROPER WORKING CONDITION AS OUTLINED CAN CAUSE PROPERTY DAMAGE, SERIOUS INJURY OR DEATH.

Inspect for smooth operation and clean with brake cleaner.

Replacement is necessary if the lining is worn to within 1/16” or less, or if found to be contaminated with grease, oil, or scored or gouged. Hairline heat cracks are normal in bonded linings and should not be cause for concern. When replacement is necessary, it is important to replace both shoes on each brake and both brakes on the same axle. This will help retain the balance of your brakes.

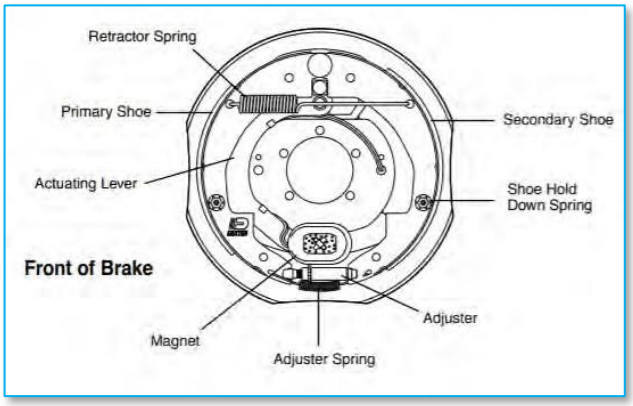
Check all hardware. Check shoe return spring, hold down springs, and adjust springs for stretch or wear and have replaced as required.

After replacement of brakes shoes and linings, the brakes must be re-burnished to seat in the new components. This should be done by applying the brakes 20 to 30 times from an initial speed of 40mph. Slowing the vehicle to 20mph. Allow time for brakes to cool between applications. This procedure allows the brake shoes to seat into the drum surface.

BRAKE SYSTEMS (CONTINUED)

Electric Drum Brakes

The electric drum brakes on your RV are similar to the drum brakes on an automobile. The basic difference is that your automotive brakes are actuated by hydraulic pressure while your electric trailer brakes are actuated by an electromagnet.



Electrical current is fed into the system by the controller, it flows through the electromagnets in the brakes. The electromagnets are energized and become magnetically attracted to the rotating armature surface of the drums which moves the actuating levers in the direction that the drums are turning.

This force causes the actuating cam block at the shoe end of the lever to push the primary shoe out against the inside surface of the brake drum. The force generated by the primary shoe acting through the adjuster, moves the secondary shoe out into contact with the brake drum.

Increasing the current flow to the electromagnet causes the magnet to grip the armature surface of the brake more firmly. This results in increasing the pressure against the shoes and brake drums until the desired stop is accomplished.

BREAKAWAY SWITCH

The breakaway switch is a critical safety component of the RV brake system. You'll find this located on the A-frame. If the travel trailer and the tow vehicle become separated during towing, the line will pull the plunger out and immediately activate the trailers brakes. Always make sure your breakaway switch is in working order. To test your breakaway switch, while the RV is still hitched to the tow vehicle, disconnect the tow plug from the vehicle and then pull the breakaway pin out, only to the first stage, and you should hear the brakes engage.

⚠CAUTION

NEITHER THE BREAKAWAY SWITCH NOR THE TRAILER BRAKES SHOULD EVER BE USED AS A PARKING BRAKE.

⚠CAUTION

ENSURE THAT THERE IS ENOUGH SLACK IN THE BREAKAWAY SWITCH CABLE TO ALLOW FOR TIGHT TURNING RADIUSES.

SAFETY CHAINS

Requirements for safety chains vary by state. Your travel trailer RV comes equipped with chains to meet Society of Automobile Engineers (SAE) standards for the maximum gross trailer weight.

Using safety chains when towing is always recommended.

The recommended method is to attach them to the safety chain loops on the tow vehicle's hitch and cross them under the trailer tongue.

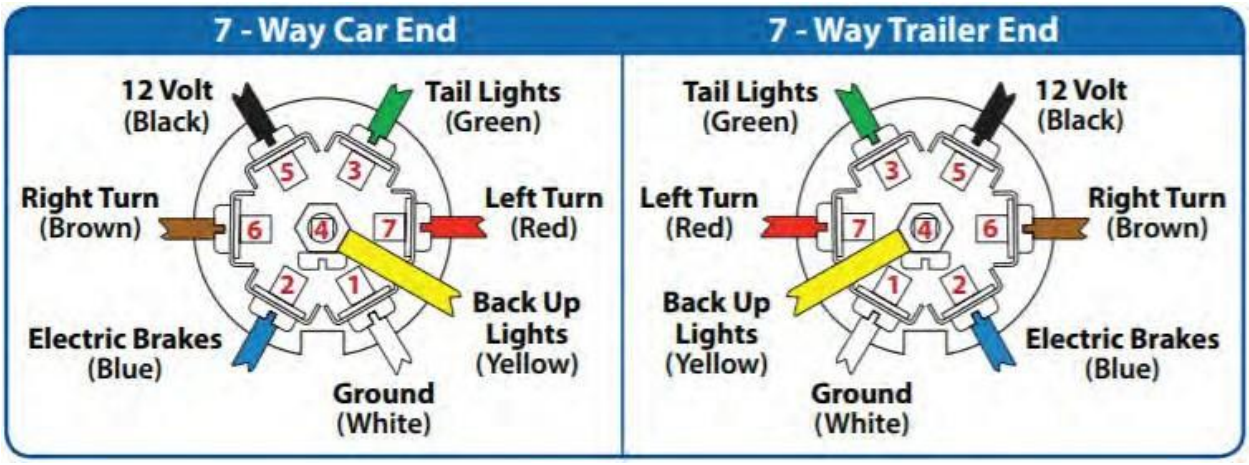
When hitching always inspect the length of the chains once they are attached to the tow vehicle frame as they should be of sufficient length to allow sharp turns, but short enough as to not contact the ground. Each chain should have an equal amount of slack but only enough length to allow the tow vehicle to turn at its minimum radius.

⚠WARNING

ALWAYS USE SAFETY CHAINS WHEN TOWING YOUR TRAVEL TRAILER. SAFETY CHAINS MAINTAIN THE CONNECTION BETWEEN THE TRAVEL TRAILER AND TOW VEHICLE IN THE EVENT THE TRAVEL TRAILER WERE TO BECOME DETACHED DURING TRAVEL.

TOW PLUG

The tow plug (7-way wire harness) is wired to your RV to connect electrical power from the tow vehicle for the RV brakes, taillights, clearance lights, turn signals and brake lights. Wiring to operate your brakes must be the same size in both the tow vehicle and RV. Regularly inspect your tow plug for corrosion and build up, clean as needed. If damage is noticed, have the tow plug repaired by an authorized RV technician.



TOW VEHICLE HITCH

There are many different hitch options. The type of hitch you select will impact the towing and handling characteristics your travel trailer. Selecting and installing an appropriate hitch to your tow vehicle is vital to towing your travel trailer safely.

- You need to be familiar with your travel trailers GVWR and HITCH WEIGHT BEFORE selecting a hitch for your tow vehicle.
- Your tow vehicle hitch has a Hitch Class Rating based on its maximum towing capacity and the size of the receiver opening.
    - **The hitch you select for your tow vehicle must have a Maximum Towing Capacity that is GREATER THAN your GVWR.**
- The hitch class rating specifications also lists a maximum hitch weight.
    - **The Maximum Hitch Weight for your selected tow vehicle hitch must be GREATER THAN your hitch weight.**

There are numerous types of tow vehicle suspension systems on the market that will affect ball height, stability, and towing level of your connected travel trailer.

- When a tow vehicle suspension is too stiff, it can potentially cause an increase in bounce and vibration that can lead to speeding up wear on your tow vehicle and RV combination.
- When using a system that provides your tow vehicle with a softer ride, this can lead to increased potential for sway when towing your travel trailer.

Discuss these options with your dealer service center when choosing a towing system for your travel trailer.

⚠CAUTION

DO NOT OVERLOAD YOUR TOW VEHICLE.

THE USE OF A TOW VEHICLE HITCH THAT IS NOT PROPERLY SIZED CAN CAUSE DAMAGE TO THE TRAVEL TRAILER FRAME. ALLIANCE RV CANNOT BE RESPONSIBLE FOR THE TOW VEHICLE SUSPENSION SYSTEM. FINAL BALL HEIGHT AFTER THE TOW VEHICLE AND TRAVEL TRAILER IS HOOKED UP IS A FACTOR THAT MUST BE CONSIDERED. WHEN YOUR TOW VEHICLE IS CONNECTED THE TRAVEL TRAILER SHOULD BE LEVEL TO AVOID OVERLOADING YOUR TRAVEL TRAILERS AXLES AND TO MINIMIZE POTENTIAL HANDLING PROBLEMS.

Hitch Weight

Maintaining the hitch weight of your trailer when reloading cargo is vital to stability of your tow vehicle. Adjust your cargo to an approximate range of 10–15% of your overall gross weight plus your cargo.

- If your hitch weight is MORE THAN the upper weight limit, adjust some cargo to the rear of your travel trailer.
- If your hitch weight is LESS THAN the lower weight limit, adjust some cargo to the front of your travel trailer.
- Cargo Weight that is secure and BALANCED side-to-side is vital to proper vehicle handling.

⚠WARNING

HITCH WEIGHT IT IS CRITICAL TO YOUR TOW VEHICLES STABILITY AND MANEUVERABILITY. IF THE HITCH WEIGHT IS TOO HEAVY IT CAN RAISE THE TOW VEHICLES FONT WHEELS TO WHERE IT LOSES STEERING RESPONSIVENESS, TRACTION, AND BRAKING CAN BE NEGATIVELY AFFECTED. AS A RESULT, SUSPENSION AND/OR DRIVETRAIN DAMAGE CAN OCCUR. IF HITCH WEIGHT IS TO LIGHT IT CAN NEGATIVELY AFFECT YOUR TOW VEHICLES REAR-WHEEL TRACTION AND STABILITY CAUSING TRAILER SWAY OR A JACKKNIFE SITUATION.

Hitch Height and Hitch Ball

Your travel trailers hitch height is determined when it is level. Once the travel trailer is connected to your tow vehicle, verify the hitch ball height by taking a measurement from the center of the hitch ball to the ground. This is your hitch height reference measurement.

- When loading cargo and you experience an increase in hitch height from your reference measurement, this means that there is weight behind the axles and has the potential to cause your travel trailer to sway or fishtail.
- When loading cargo and you experience a decrease in hitch height from your reference measurement, this means that weight has been transferred to the hitch and has the potential to raise the tow vehicle’s front wheels causing adverse steering response, traction, and braking.
- It is critical that your travel trailer be as level as possible when loading cargo, and using a reference hitch height to maintain level of your travel trailer is a useful method.

Your travel trailer requires a hitch ball diameter of either 2 5/16” and is stamped on the hitch coupler.

Sway Control (Customer Supplied)

There are numerous aftermarket sway control devices available to help reduce trailer sway produced by crosswinds, air buffeting caused by passing vehicles, improper weight distribution, and excessive speed etc. Utilizing a sway control device will assist to control side-to-side movement and minimize sway in.

Weight Distributing System (Customer Supplied)

Using an aftermarket weight distributing hitch system will increase tow vehicle/travel trailer stability. This system spreads the weight evenly to distribute it to the front and rear tow vehicle axles and the trailer axle.

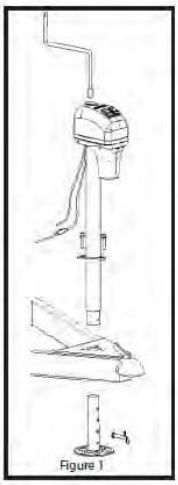


Figure 1

TRAVEL TRAILER HITCHING PROCEDURE

This procedure will assist you in securely connecting your travel trailer to your tow vehicle:

1. Ensure your travel trailer wheels are chocked to prevent forward and aft movement.
   - Tip: For nighttime hookups, flip the light switch ON to illuminate your work area.
   - Before operating the jack, attach the foot with the safety lock pin provided (see pin in bottom of Fig 1)

⚠WARNING

DO NOT STACK BLOCKS UNDER THE JACK'S FOOT TO INCREASE THE HEIGHT. STACKED BLOCKS MAY BECOME UNSTABLE AND FALL.

2. Verify that the *Power Tongue Jack* has 12-volt power available, then extend the jack by pushing the operating switch UP to raise the travel trailer tongue above the hitch ball.
   - Note: Under heavy use or exceed the STOP limiting mark when retract, the fuse may blow, causing the motor to switch of. In this case, release the operation switch, and replace the fuse.
3. OPEN the coupler latch on your travel trailer hitch.
4. BACK up your tow vehicle into the proper position.
5. PUSH the tongue jack DOWN button to lower the tongue jack coupler onto the tow vehicle hitch ball.
   - **Note:** The jack will slow down and stop as it approaches the fully retracted position. Release the switch at first sign of slowing.

TRAVEL TRAILER HITCHING PROCEDURE (CONTINUED)

⚠WARNING

DO NOT RETRACT THE JACK EXCEEDING THE STOP LIMITING MARK, OTHERWISE MAY RESULT IN DAMAGE OF JACK.

6. CLOSE the coupler latch after it is completely seated and install the safety pin.
7. INSTALL the (customer supplied) Weight Distributing Bars (or Equalizers) as directed by the OEM.
8. Before driving, remove the foot or position it in the highest position and completely retract the jack.
9. CHECK that the stabilizer jacks are fully retracted.
10. ATTACH the breakaway switch cable to the tow vehicle.
11. ATTACH the safety chains.
12. CONNECT the 7-way wire harness from the travel trailer to your tow vehicle and secure in the travel position. VERIFY the exterior lights are working correctly around your travel trailer.
13. REMOVE the wheel chocks from the travel trailer wheels.

LEVELING THE TRAVEL TRAILER

1. Verify that your travel trailer is parked on a mainly level location.
2. Disconnect your travel trailer from the tow vehicle.
3. Ensure any people, pets and belonging including obstacles are clear from the travel trailer while leveling.
4. Using an independent level on the counter top or floor helps confirm that the travel trailer is level.

Stabilizer Jacks

The stabilizer jacks are located under the RV at each corner and attached to the frame. Stabilizer jacks are designed to stabilize the RV and help minimize movement as you move around inside.
Note: The jacks are NOT designed to bear the complete weight of the RV.

- To extend the stabilizer jacks, use the supplied crank handle. Turning the drive nut clockwise will lower the legs until the foot pad contacts the ground.
- Using the jacks to lift the travel trailer off the ground is NOT recommended and may cause damage to the jacks or RV itself.
- Placing blocks under the foot pads of the jack feet can prevent them from sinking into the ground.

TRAVEL TRAILER HITCHING PROCEDURE (CONTINUED)

⚠WARNING

DO NOT TRY TO LIFT THE TRAVEL TRAILER WITH THE STABILIZER JACKS OR THE POWER TONGUE JACK. THESE JACKS ARE DESIGNED TO STEADY THE TRAILER FROM MOVEMENT, NOT TO BEAR THE COMPLETE WEIGHT OF THE TRAVEL TRAILER.

OCCUPANT SAFETY

Alliance RV travel trailers are equipped with safety systems that work together to help protect the occupants in the event of an emergency. Please read and fully understand all safety functions before using your new RV.

Emergency Exit Windows

While all RV brands are different, the operation of the emergency windows are generally consistent across brands. The design, application, and location of these windows are governed by the RV Industries governing bodies. You will find some helpful safety information below regarding these exit windows. Please take time to familiarize yourself and anyone that will be in the RV with the location and operation of all exit windows in the RV.

THE FOLLOWING LABEL IS ON OR NEAR ALL EMERGENCY EXITS IN THE RV

⚠CAUTION

ENSURE THAT ALL EXIT WINDOWS ARE CLOSED AND LOCKED DURING TRAVEL.

Identify and locate all emergency exit windows in the RV, they are easily identifiable by both the “EXIT” sticker and the red hardware used to open them.

Know what to expect in the event of an emergency. Activate the release mechanisms on the exit windows and apply pressure to push or slide them open.

Once you’re familiar with the location and operation, make yourself familiar with the drop between the window and the ground. Depending on the RV, it could be a significant distance.

⚠WARNING

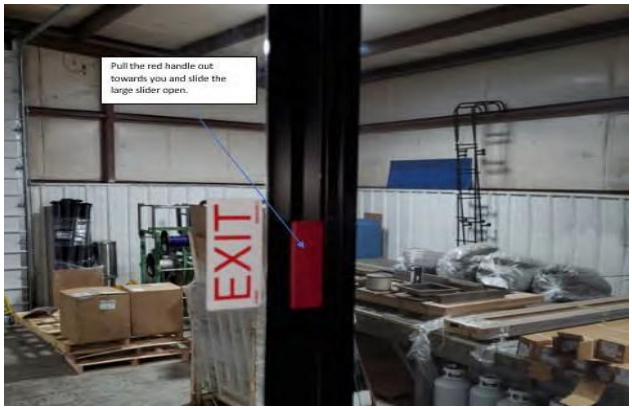
ALWAYS PUT YOUR LEGS OUT FIRST AND ATTEMPT TO LAND ON YOUR FEET IF YOU MUST USE AN EMERGENCY EXIT WINDOW.

OCCUPANT SAFETY (CONTINUED)

Emergency Exit Windows (CONTINUED)

There are two styles of exit windows, both open differently.

1. **Pull Style Latch:** This style is generally used on larger slider style exit windows. Pull the handle out to slide the window open for escape.



2. **Flip Style Latch:** This style flips up and disengages which allows the window to be pushed out for escape.

Fire Safety

Safety is always important, whether you're at home or on the road. As far as your RV, make sure to keep fire safety a top priority.

In a fire, evacuating all occupants from the RV safely MUST be your top priority!

Fire Extinguishers

Classified and rated by fire type, A, B and C. These classifications identify the kinds of fires or burning materials they are designed to fight.

A. Trash-Wood-Paper – Effective against fires involving paper, wood, textiles, and plastics. The primary chemical used to fight these fires is monoammonium phosphate due to the chemicals ability to smother fires in in these types of materials.

B. Liquids – Effective against flammable liquid fires. These can be fires where cooking liquids, oil, gasoline, kerosene, or paint have become ignited. The chemicals used in this type of extinguisher are monoammonium phosphate and sodium bicarbonate which induces a chemical reaction which extinguishes the fire.

C. Electrical Equipment: - Suitable for fires in “live” electrical equipment. Both monoammonium phosphate and sodium bicarbonate are used in this type of extinguisher due to their nonconductive properties.

⚠WARNING

NEVER TEST OR PRACTICE USING A FIRE EXTINGUISHER BY SQUEEZING THE TRIGGER. THESE ARE NON-RECHARGEABLE AND ONCE USED, PRESSURE WILL DECREASE OVER TIME AND WILL NOT BE FULLY FUNCTIONAL IN AN EMERGENCY.

⚠WARNING

WHILE USING A FIRE EXTINGUISHER, ALWAYS KEEP YOUR BACK TOWARD A CLEAR PATH FOR EXIT.

⚠WARNING

DO NOT TURN ELECTRICAL POWER BACK ON AFTER THE USE OF AN EXTINGUISHER.

⚠WARNING

INSPECT EXTINGUISHERS WEEKLY. IF YOUR RV HAS BEEN IN STORAGE, INSPECT BEFORE THE RV IS USED. ALWAYS INSPECT BEFORE A VACATION OR TRIP WITH YOUR RV.

Fire Extinguishers (CONTINUED)

A common acronym for proper fire extinguisher operation is P.A.S.S.

P – Pull the pin

A – Aim the nozzle (always aim at the base of the fire, not the flames)

S – Squeeze the trigger

S – Sweep from side to side

For additional information on fire extinguisher operation, please refer to the fire extinguishers user's manual.

Smoke & CO/Carbon Monoxide Alarms

Your RV is equipped with a smoke & CO/Carbon Monoxide combination alarm. Understanding the information in this section will prepare you to reach in the event of an emergency.

Follow safety rules and prevent hazardous situations:

1. NEVER smoke in bed.
2. Keep matches or lighters away from children.
3. Store flammable materials in proper containers.
4. Keep electrical appliances in good condition and NEVER overload electrical circuits.
5. Keep stove debris free.
6. Never leave anything cooking on the stove unattended.
7. Keep portable heaters and open flames, such as candles, away from flammable materials.
8. Don't let rubbish accumulate.

Refer to the smoke and carbon monoxide alarm owner's manuals for a more in depth understanding of the features, functions, and precautions of this safety device.

Keep alarms clean and test them weekly. Immediately replace any alarm that is not functioning properly.

⚠WARNING

- **THIS ALARM WILL NOT OPERATE WITHOUT BATTERIES.**
- **NEVER IGNORE ANY ALARM, FAILURE TO RESPOND COULD RESULT IN SERIOUS INJURY OR DEATH.**
- **TEST ALARMS WEEKLY. IF THE ALARM FAILS TO TEST CORRECTLY, REPLACE THE ALARM IMMEDIATELY.**

OCCUPANT SAFETY (CONTINUED)

Smoke & CO/Carbon Monoxide Alarm Maintenance

- Test at least once a week. Always test after the RV has been in storage and before a vacation or long trip.
- Clean the alarm at least once a month.

⚠WARNING

- **ALWAYS USE THE EXACT BATTERIES SPECIFIED BY THE ALARM MANUFACTURER.**
- **NEVER USE AN OPEN FLAME OF ANY KIND TO TEST AN ALARM.**
- **DO NOT STAND CLOSE TO THE ALARM WHEN THE HORN IS SOUNDING. EXPOSURE AT CLOSE RANGE CAN BE HARMFUL TO YOUR HEARING. WHEN TESTING, STEP AWAY WHEN THE HORN STARTS TO SOUND.**

If an alarm sounds, identify which alarm is sounding.

CO Alarm: The CO LED will flash red, and an audible horn will beep 4 times and then pause, this will happen repeatedly. The smoke LED will remain off. If this alarm sounds, immediately move everyone to a source of fresh air and call your emergency services. Do not go into the RV until the problem is identified and corrected.

Smoke Alarm: The Smoke LED will flash red, and an audible horn will beep 3 times and then pause, this will happen repeatedly. The CO LED will remain off. If this alarm sounds, get out of the RV as quickly as possible and call your emergency services. Do not go into the RV until the problem is identified and corrected.

Propane (LP) Alarm

For your safety, your RV is equipped with a combination CO and LP Alarm. This alarm will detect both carbon monoxide and propane gas. Please read and become familiar with the individual user's manual for this alarm. This will help prepare you if there is an emergency.

⚠WARNING

- **THIS UNIT MUST BE REPLACED WITHIN 5 YEARS OF ITS PRODUCTION DATE.**
- **THIS ALARM WILL NOT WORK WITHOUT POWER.**
- **THIS ALARM WILL ONLY INDICATE THE PRESENCE OF GAS AT THE SENSOR. THERE COULD BE GAS ELSEWHERE THAT HAS NOT REACHED THE SENSOR.**
- **THIS ALARM IS DESIGNED TO DETECT CARBON MONOXIDE AND PROPANE GAS. THE ALARM IS NOT DESIGNED TO DETECT SMOKE OR FIRE.**

Propane Alarm (CONTINUED)

If CO is detected, the red CO LED will flash, and the alarm will sound with 4 beeps and then a 5 second silence. This indicates that the CO level is over 35pp. If this alarm is activated, immediate action is required.

If the CO alarm sounds:

- Press the TEST/MUTE button to temporarily silence the alarm.
- MOVE to fresh air immediately.
- Make sure that everyone is accounted for.
- Call 911 or the local emergency
- services available in your area.
- Do not re-enter the RV until the problem has been corrected.

If propane is detected:

- The RED led will flash and the alarm will sound with a steady tone and remain on until the area is clear from propane gas.
- If you hear this alarm, immediate action is required.
- Exit the RV immediately and do not return into the RV until the problem has been corrected.

If the propane gas alarm sounds:

- Extinguish all flames and smoking material and turn off all gas appliances.
- Press the TEST/MUTE button to temporarily silence the alarm (DO NOT DISCONNECT POWER).
- Evacuate the RV. Make sure to account for everyone.
- Open doors and windows of the RV.
- Turn off the propane tank valve.
- Determine & repair the source of the leak.
- Do not re-enter the RV until the issue has been corrected.

Under normal circumstances, this alarm should remain silent and have a steady green LED. If the alarm is defective, you'll hear a beep every 30 seconds and an alternating red and green light. Anything outside of a quiet alarm with the green LED requires action.

OCCUPANT SAFETY (CONTINUED)

Propane (LP) Alarm Maintenance

Test all alarms weekly. Vacuum the dust off the alarm cover. If cleaning is needed, clean with a water damp cloth. Do NOT spray cleaning agents or waxes directly onto the front panel. This can cause damage to the alarm.

⚠WARNING

THE CO ALARM WILL NOT OPERATE WITHOUT BATTERIES.

⚠WARNING

NEVER ATTEMPT TO REPAIR AN ALARM, IMMEDIATELY HAVE THE ALARM REPLACED.

EXTENDED RECREATIONAL USE OF THE RV

In some cases, you may find yourself in the RV for extended periods of time. Whether that be full time living, a long weekend or an extended stay, you may run into some challenges. We have put together some helpful tips for battling some of these challenges.

Condensation & Mold

The normal living activities of even a few people in an RV can lead to rapid moisture saturation of the air inside the RV as well as accelerated wear and tear. This condensation, if left unaddressed, can lead to mold. A more aggressive maintenance schedule may need to be adopted. Below are some pointers to assist with some of the problems you may face while using the RV for extended periods of time.

- Use a dehumidifier.
- Use exhaust fans when showering and cooking.
- In warmer temperatures, use your air conditioner.
- Crack windows.
- Don't air dry clothes in the RV.
- Implement proper preventative maintenance and overall RV cleanliness.

⚠WARNING

CONDENSATION MAY CAUSE DAMPNESS, MILDEW AND MOLD. IF NOT ADDRESSED IMMEDIATELY, CAN RESULT IN DAMAGE AND POSSIBLY LEAD TO ADDITIONAL MOLD OR MILDEW ISSUES WHICH CAN BE HAZARDOUS TO YOUR HEALTH

Exterior Plumbing

Delta Travel Trailers are equipped with heating pads for the holding tanks and a dedicated heat vent to drop air down into the underbelly. Depending on your needs, it may be necessary for you to take additional protection steps. Keeping your water running and the additional use of heat tape on pipes, hoses, fresh water, and sewer lines will all assist in keeping your RV safe from damage during use in freezing temperatures. If your RV will not be used in cold weather, ALWAYS have your RV winterized (covered in the plumbing section of this guide).

Formaldehyde

Formaldehyde is used in many products such as glues, fabrics, paint coatings, and even paper products. Formaldehyde is also released from many smoking, cooking, soaps, and many other household products. While most of the formaldehyde used in products in construction is consumed during the manufacturing process, a very small amount remains. This leftover formaldehyde dissipates over time as it works its way out of the product. Proper ventilation by way of the available vents, fans and air conditioning units in your RV is key.

If you have any additional questions, please do not hesitate to contact Alliance RV.

PROPANE SAFETY

About the Propane System

The propane system provides heat, hot water, fuel for cooking, refrigeration and can be used for other small appliances.

The propane supply for an RV is stored in a DOT cylinder that is positioned vertically upright and mounted outside the living space of an RV. Repair and/or replacement should always be done by certified service technicians.

Make sure your propane system is inspected at least annually by a certified service technician. They are trained to detect incorrect tank pressure, leaks, or other potential hazards and address them properly. Do not connect your propane system to another gas source or attempt

⚠WARNING

IF YOU SMELL PROPANE:

- **EXTINGUISH ANY OPEN FLAMES INCLUDING PILOT LIGHTS AND ALL SMOKING MATERIALS.**
- **SHUT OFF THE PROPANE SUPPLY AT THE LP CONTAINERS.**
- **DO NOT TOUCH ELECTRICAL SWITCHES.**
- **OPEN DOORS AND OTHER VENTS.**
- **LEAVE THE AREA UNTIL THE ODOR CLEARS.**
- **THE PROPANE SYSTEM SHOULD BE CHECKED FOR LEAKS AND THE SOURCE DETECTED AND REPAIRED BEFORE USING THE RV AGAIN.**
- **FAILURE TO COMPLY COULD RESULT IN EXPLOSION RESULTING IN DEATH OR SERIOUS INJURY.**

⚠WARNING

NEVER USE AN OPEN FLAME TO TEST FOR A PROPANE LEAK. DO NOT CHECK FOR LEAKS USING PRODUCTS THAT CONTAIN AMMONIA OR CHLORINE, THESE PRODUCTS CAN CAUSE CRACKS TO FORM ON METAL COMPONENTS IN THE PROPANE SYSTEM. A SOLUTION OF WATER AN MILD SOAP SHOULD BE USED BY SPRAYING THE FITTINGS AND CONNECTION POINTS DOWN AND WATCHING FOR BUBBLES.

PROPANE SAFETY (CONTINUED)

⚠WARNING

- **DOT PROPANE TANKS MUST BE TRANSPORTED AND STORED IN AN UPRIGHT POSITION SO THE PRESSURE RELIEF VALVE CAN FUNCTION PROPERLY. LAYING A TANK ON ITS SIDE MAY CREATE A VERY DANGEROUS SITUATION.**
- **THE LP PIGTAIL HOSE MUST BE INSTALLED IN A MANNER TO AVOID TENSION OR STRESS AT EITHER END OF THE HOSE. KEEP THE PIGTAIL AWAY FROM SHARP EDGES, RIGID CORNERS, WALLS, AND DOORS.**
- **BEFORE ENTERING A PROPANE FUEL SERVICE STATION MAKE SURE ALL PILOT LIGHTS ARE EXTINGUISHED. SHUT THE GAS TO ALL APPLIANCES OFF BY TURNING OFF THE PROPANE AT THE GAS SHUT OFF VALVE(S). ALWAYS SHUT OFF ANY ENGINE BEFORE REFUELING. DO NOT SMOKE AND NEVER OPERATE IGNITION SOURCES WHILE REFUELING.**

Traveling with Propane

Turning the propane off when traveling is always safer, it reduces the risk of a gas leak from a line or connection working loose. Some states have laws against traveling with the propane on. Make sure you are familiar with those laws and regulations in the area you are traveling.

⚠WARNING

MAKE SURE ALL PROPANE TANK FASTENERS ARE SECURED BEFORE TRAVELING

LP Automatic Changeover Regulator

To regulate the propane pressure, an RV is equipped with a two-stage regulator with automatic changeover. With the first stage of the regulator, the fuel coming from the tank is reduced by venting from the high pressure the LP is compressed under for storage and takes it down to 10 to 15 psi. In the second stage, the pressure is reduced again by further venting down to 11" water column which is the pressure safe for the appliances that the propane system powers. Always make sure that the vents are clean and unobstructed.

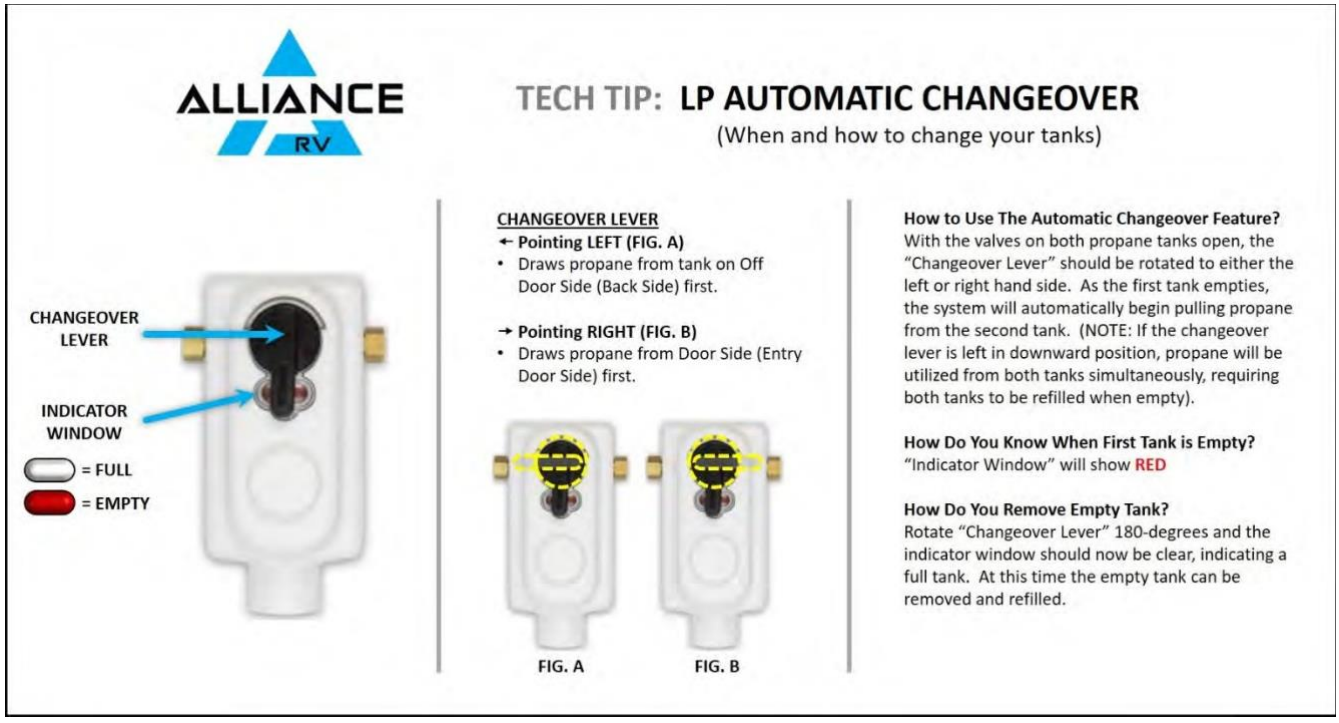
PROPANE SAFETY (CONTINUED)

LP Automatic Changeover Regulator (Continued)

This regulator allows for removal of empty cylinders for refill without interrupting propane supply and will automatically switch from the supplying tank to the reserve tank when empty.

⚠WARNING

PROPANE CONNECTIONS SHOULD BE CHECKED PERIODICALLY AS VIBRATIONS FROM TRAVEL MAY CAUSE THEM TO LOOSEN. FAILURE TO CHECK THESE CONNECTIONS COULD LEAD TO A PROPANE LEAK. A LEAK CAN CAUSE A FIRE OR EXPLOSION.



PROPANE SAFETY (CONTINUED)

Propane System Maintenance

Routinely visually inspect your propane cylinders, mounting hardware, supply lines and connection points for wear, rust, kinks, or damage. The propane system should be serviced by a qualified technician immediately upon an issue being identified. Never paint propane cylinders, valves, or mounting hardware.

Your RVs propane system should be inspected by a certified professional at least once a year. Never attempt to repair any propane related component yourself. Always make sure your RVs fire extinguisher, CO, gas, and smoke detectors are in working order. Do this by regularly testing your alarms and safety items. An alarm or extinguisher that is not working should be replaced immediately.

⚠WARNING

- **NEVER ATTEMPT TO REPAIR ANY PROPANE RELATED COMPONENT.**
- **ENSURE THAT ALL ALARMS, DETECTORS AND EXTINGUISHERS ARE IN GOOD WORKING ORDER.**

Filling Your Propane Tanks

Your Alliance RV uses DOT cylinders. These cylinders can be removed and taken to a propane dealer for refilling. A propane tank can only be filled to 80% of their total capacity. The remaining 20% is for expansion that takes place when subjected to heat. If a tank is filled to 80% when it is cold outside, that same tank may be at 90% on a much warmer day. Always ensure that the tank is filled to the required limit only.

⚠WARNING

NEVER FILL A PROPANE TANK OVER 80% OF ITS CAPACITY. AN OVERFILLED TANK COULD ALLOW LIQUID PROPANE TO ENTER THE SYSTEM WHICH IS DESIGNED FOR VAPOR AND CREATE A VERY HAZARDOUS CONDITION.

Installing Propane Cylinders

Anytime a propane tank is removed for servicing or filling and re-installed on the RV, ensure that the fittings are all tight and the main shutoffs on the LP tanks are in the off position and that the strap that secures the tank is in place. A quick visual inspection of the LP system should be performed any time tanks are removed.

PROPANE SAFETY (CONTINUED)

Cooking with Propane Gas

In an RV most stovetops and ovens run on propane. A properly ventilated RV is very important when cooking. Turn your range hood fan on. Never use your stove or oven for space heat and never use outdoor fuel-burning equipment inside the RV.

⚠WARNING

- **DO NOT ATTEMPT TO USE WATER TO PUT OUR A GREASE FIRE. WATER CAN SPREAD SOME TYPES OF FIRE AN ELECTROCUTION IS POSSIBLE WITH AN ELECTRICAL FIRE.**
- **NEVER ALLOW GREASE TO COLLECT ON OR AROUND THE STOVE. CLEAN SPILLS UP IMMEDIATELY.**
- **IN AN RV, THE AMOUNT OF OXYGEN SUPPLY IS LIMITED DUE TO ITS SIZE. PROPER VENTILATION DURING COOKING WILL HELP AVOID DANGEROUS SITUATIONS.**

SLIDE-OUTS

Slide-out Safety Information

⚠WARNING

FAILURE TO ADHERE WITH THE FOLLOWING INFORMATION MAY RESULT IN DEATH, SERIOUS INJURY, RV OR OTHER PROPERTY DAMAGE.

All slide-out systems are intended solely for opening and closing the slide-out room and should never be used for any other purpose. Before operating your slide-out, please keep these things in mind:

- Your location should be clear of obstructions that may cause damage when the slide-out room is operated.
- Be sure that everyone is clear of the RV prior to the slide-out room actuation.
- Keep parts away from slide-out mechanisms during use. Severe injury or death may result.
- Park your RV on solid and level ground.

⚠CAUTION

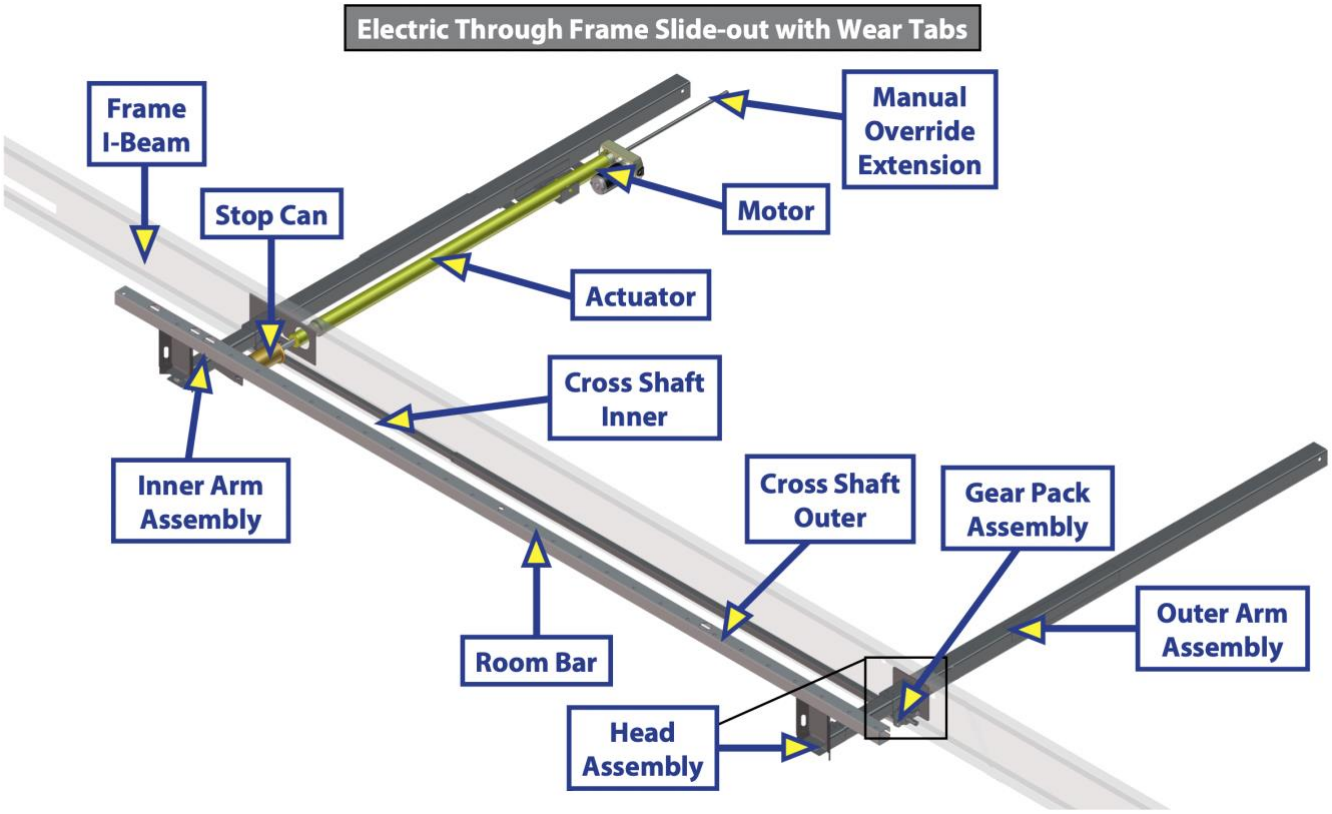
ALWAYS ENSURE THE SLIDE-OUT PATH IS CLEAR DURING OPERATION. KEEP CLEAR OF SLIDE RAILS WHEN THE ROOM IS IN MOTION. THE GEAR ASSEMBLY MAY PINCH OR CATCH ON LOOSE CLOTHING AND CAUSE PERSONAL INJURY.

Lippert 2X2 Electric Through Frame Slide-out System

For the larger flush floor slides, Alliance RV utilizes the Through Frame, Electric (with actuator) system by Lippert for the slide-outs. This is a rack and pinion guide system, utilizing a 12V DC electric ball screw actuator to move the room assembly.

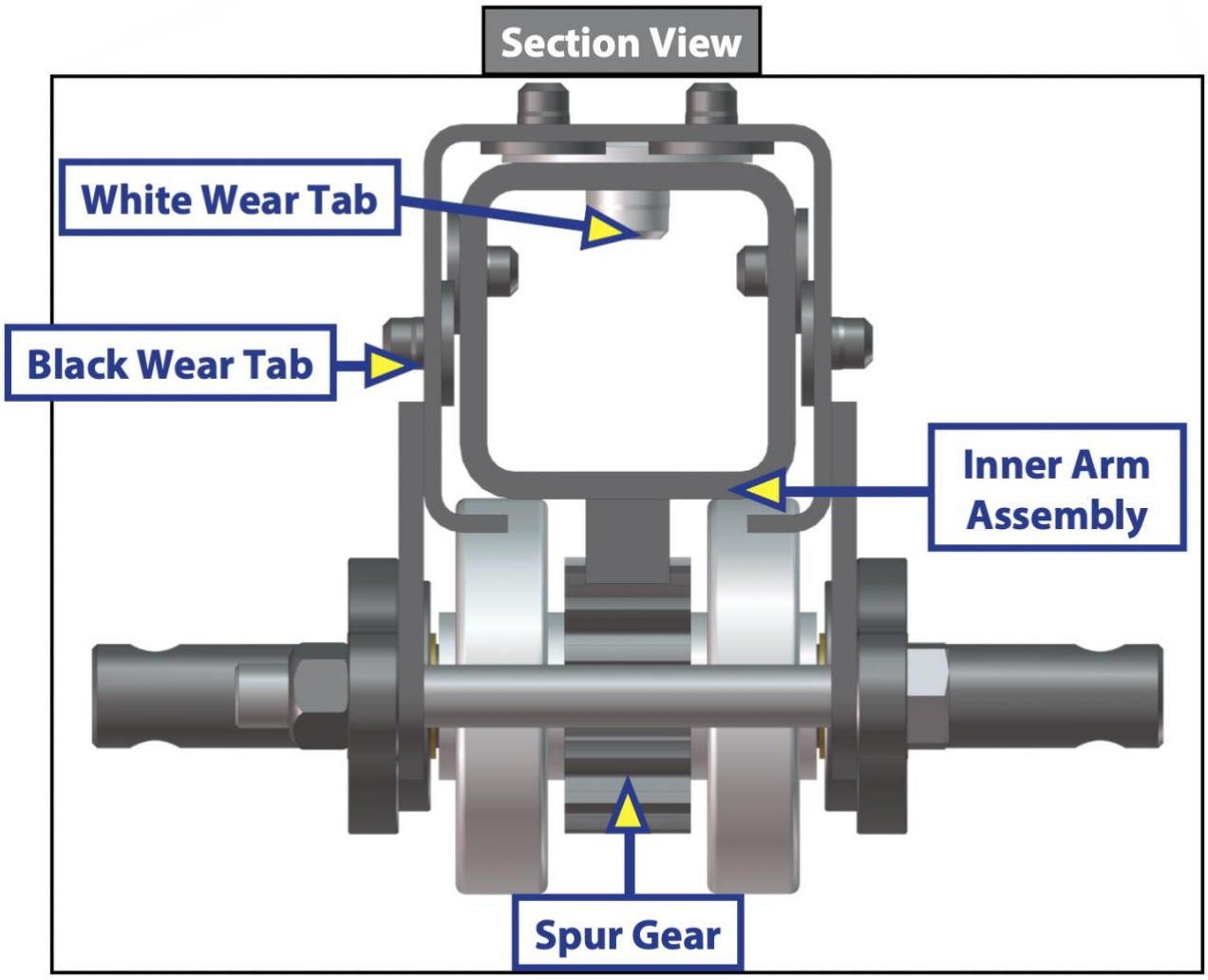
Through Frame Slide-out Overview

The image below shows the components that make up the Electric Through Frame Slide-out with Wear Tabs.



SLIDE-OUTS (CONTINUED)

Gear Pack Assembly Detail



Slide Operation

Extending Through Frame Slide-out

1. Level the RV.
2. Verify the battery is fully charged.
3. Inspect the area outside and inside to ensure there are no obstructions within the path that the slide room will be traveling.
4. Press and hold the room's switch in the "OUT" position (image below – position B) until room is fully extended and stops moving. Holding the switch down until the control automatically turns the motor off will result in the best sealing position.

Retracting Your Through Frame Slide-out

1. Verify the battery is fully charged.
2. Inspect the area outside and inside to ensure there are no obstructions within the path that the slide room will be traveling.
3. Press and hold the rooms switch in the “IN” position (image below – position A) until the room is fully retracted and stops moving. Holding the switch down until the control automatically turns the motor off will result in the best sealing position.

NOTE: The Delta has a slide switch on the inside control panel and another slide switch in a panel in the pass-through storage bay on each side that you have a slide-out on.

Maintaining Your Through Frame Slide-out

Inspection

1. After servicing the slide-out system in any way, be sure to check the following:
2. Slide-out stops are installed and adjusted properly.
3. Head assemblies are installed and adjusted properly.
4. System is mounted properly.
5. Cross shafts are mounted properly and clear all other components.
6. Gear packs function properly.
7. Manual override is accessible.
8. Outside seals compress when slide-out is retracted.
9. Inside seals compress when slide-out is extended.
10. Slide-out extends and retracts smoothly.
11. Both sides of slide-out are synchronized.
12. Any dirt or debris is cleaned from the interior or exterior of the coach.

The Electric Through Frame Slide-out System has been static tested to over 4,000 continuous cycles without any noticeable wear to rotating or sliding parts. It is recommended that when operating in harsh environments (road salt, ice buildup, etc.) the moving parts be kept clean. They can be washed with mild soap and water. No grease or lubrication is necessary and, in some situations, may be detrimental to the environment and long-term dependability of the system.

Electrical System Maintenance

For optimum performance, the slide-out system requires full battery current and voltage. The battery must be maintained at full capacity. Other than good battery maintenance, check the terminals and other connections at the battery, the control switch, and the system for corrosion, and loose or damaged terminals. Check motor leads under the trailer chassis. Since these connections are subject to damage from road debris, be sure they are in good condition.

NOTE: The Electric Through Frame Slide-out System is designed to operate as a negative ground system. A negative ground system utilizes the chassis frame as a ground and an independent ground wire back to battery is necessary. It is important that the electrical components have good wire to chassis contact.

Mechanical Maintenance

Although the system is designed to be almost maintenance free, actuate the room once or twice a month to keep the seals and internal moving parts lubricated. Check for any visible signs of external damage after and before movement of the travel trailer.

1. We recommend that the moving parts be kept clean. They can be washed with mild soap and water.
2. No grease or lubrication is necessary.
3. The slide-outs need a full battery for operation. The battery should be maintained in accordance with the battery manufacturers recommendations. Check the terminals and other connections at the battery for corrosion, and loose or damaged terminals.
4. Check any external control switches, and the system for corrosion, and loose or damaged terminals.
5. Check the motor leads if visible under the trailer chassis as these connections are subject to damage from road debris.

NOTE: For long-term storage: It is recommended that the room be closed (retracted).

Manual Override

In the event of power loss, the Through Frame Electric Slide-out System comes with a Manual Override system for manually extending and retracting the slide-out room. The supplied crank handle extension can be used outside the chassis main rail at the ‘crank extension with pin’ (image below).

NOTE: Always disconnect battery from system prior to manually operating system. Failure to disconnect battery can cause electricity to back feed through the motor and cause serious damage to the system as well as void the warranty.

Locate the ‘crank extension with pin’ outside of the chassis main rail (image below). This is where the crank handle (image below) or 3/4” socket and ratchet fits on to allow the manual extension / retraction of the room. Rotate the crank handle clockwise to retract and counterclockwise to extend slide-out. It is important to note that you DO NOT need to attempt to disengage the motor as the actuator is “manual ready.” Just hook up and crank.

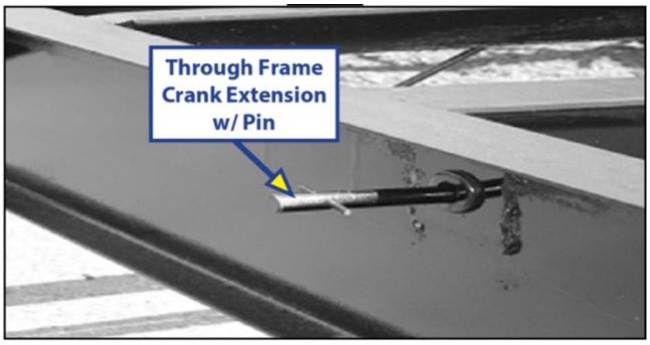
SLIDE-OUTS (CONTINUED)

NOTE: Use EXTREME CAUTION when extending and/or retracting room using the manual override feature. It is possible to operate the slide-out beyond the maximum extension and/or retraction and damage the slide components, slide room structure or trim components.

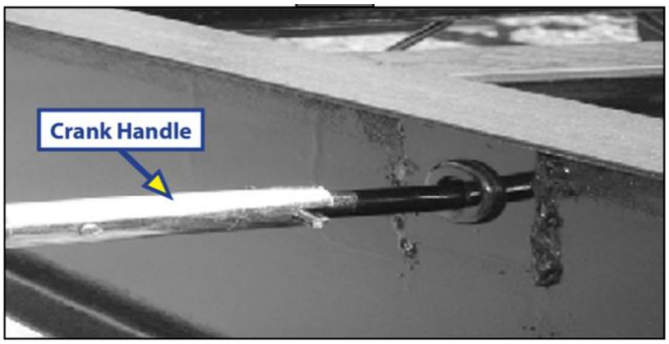
NOTE: The gears can be stripped out if the room is manually retracted/extended to its fullest extent and the operator continues to rotate the manual override. Any damage due to misuse of the Manual Override feature will disqualify any and all claims to the Limited Warranty.

Crank Handle

Crank Extension w/ Pin on Outside of Frame



With Crank Handle in Place



SLIDE-OUTS (CONTINUED)

Troubleshooting

The troubleshooting chart below, outlines some common problems, their causes and possible corrective actions. If any part or serial number information is available, provide it to the service technician when asking for assistance.

The Through Frame Electric Slide-out System is only one of four interrelated slide-out room system components. These four components are: chassis, room, coach, and Through Frame Electric Slide-out System. Each one needs to function correctly with the others or misalignment problems will occur.

Every travel trailer has its own personality and what may work to fix one trailer may not work on another even if the symptoms appear to be the same.

When something restricts room travel, system performance will be unpredictable. It is very important that slide tubes be free of contamination and allowed to travel full distance (Stroke). Ice or mud buildup during travel is an example of a type of contamination that can occur.

When you begin to troubleshoot the system, make sure the battery is fully charged, there are no visible signs of external damage to the system and that all connections are secure.

During troubleshooting, remember that if you change something, that change may affect something else. Be sure any changes you make will not create a new problem.

You can obtain additional information on the Through Frame Electric Slide-out System by visiting customerservice@lci1.com or by calling Ph: 432-LIPPERT (432-547-7378).

Troubleshooting Chart

What Is Happening?	Why?	What Should Be Done?
Room doesn't move when switch is pressed.	Restriction or obstruction inside or outside of unit.	Check for and clear obstruction.
	Low battery voltage, blown fuse, defective wiring.	Check battery voltage and charge if needed. Find and check fuse, replace if blown. Check battery terminals and wiring. Look for loose, disconnected or corroded connectors.
Actuator motor runs but room does not move.	Actuator not attached to front mounting drive bracket.	Check jam nuts/nylock nuts. Be sure that they are properly tightened and adjusted.
	Bad motor or gear housing.	Replace motor.
Motor runs but room moves slowly.	Low battery voltage, poor ground, extremely low outdoor temperature.	Charge battery and check ground wire.
	Room is in a bind.	Check to see that room is properly adjusted.
Room stalls in mid-travel.	Actuator in a bind.	Crank manual override and move room short distance then retry electric switch to move room.
	Bad actuator.	Replace actuator if above instructions do not work.

BAL Exact-Slide G5.5 Electric Cable Slide-out System

On the shorter Delta slide-outs (e.g., entertainment slide), Alliance RV utilizes the Electric Exact-Slide G5.5 by BAL.

Electric Cable Slide-out System Overview

The slide is driven by two 12V DC electric motors located within the side jambs of the slide wall opening. The motors drive a gear which creates a pulling force on a chain that is connected to a cable system that moves the room in and out. Both motors are controlled by a single slide room controller. And is operated by the user using a switch on the Monitor Panel or a secondary switch located in the pass-through storage bay.

Slide Operation

1. Ensure slide-out system has adequate power to operate the slide room, a fully charged battery, and/or shore power hookup.
2. Inspect the area outside and inside to ensure there are no obstructions within the path that the slide room will be traveling.
3. Activate the slide room by depressing the desired direction of the switch until the slide room has achieved its desired position. Holding the switch down until the control turns each motor off will result in the best sealing position.
4. Ensure that the rooms are fully retracted before moving, leveling, or stabilizing the unit.

Care and Maintenance

- Periodically inspect your cables for sagging or fraying. The system is designed to function properly with minimal pretension on the cables.
- If cable adjustment or replacement is necessary, it should be performed by an authorized dealer.

Troubleshooting

PROBLEM: The slide out does not respond to switch input.

SOLUTION: Locate the green and red LED lights between ‘SW IN’ and ‘SW OUT’ on the slide out control. The control may be in a cabinet, storage compartment, etc. (see image on next page).

- The green light indicates that the control has power.
- The red light indicates low voltage.

  NOTE: The control will enter sleep mode and the light will turn off after 5 minutes of switch inactivity.

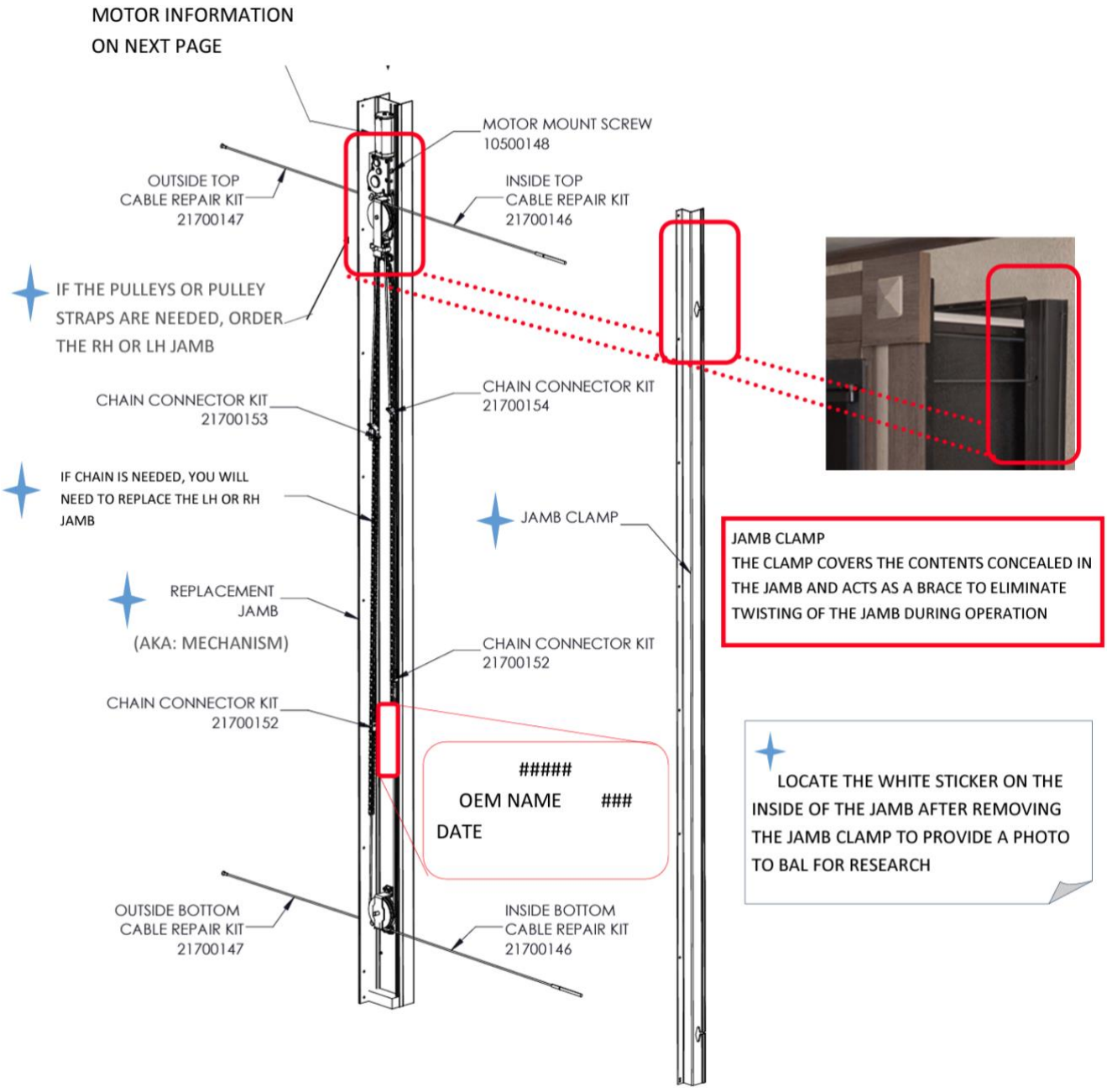
If proper voltage has been verified and the slide out is still not responding, use the manual override procedure to operate the slide out and contact an authorized dealer for repair.

BAL Exact-Slide G5.5 Electric Cable Slide-out System (CONTINUED)

Parts Identification

The below illustration identifies the terminology of the items used to assemble the EXACT-SLIDE.

Items denoted with a ✦ are unique to the RV Specifications of the Slide-out Opening, Room Depth, Room Length and Room Height. Identifying the correct part number for these, requires the mechanism part number by locating the label on the inside of the jamb.



NOTE: RIVETED PARTS ARE NOT CONSIDERED SERVICABLE. THE COMPLETE RIGHT HAND OR LEFT HAND JAMB WOULD BE REPLACED.

BAL Exact-Slide G5.5 Electric Cable Slide-out System (CONTINUED)

Below is an example of the BAL slide-out room controller. This controller is in the pass-through storage bay.

Manual Override

Use the flex shaft and #3 square bit provided. Locate each motor at the top of the mechanism. Insert the drive bit into the end of the motor and activate with a cordless drill (**DO NOT USE AN IMPACT DRIVER**). Alternate between motors so that the room does not become wedged in the opening or encounter cabinets or other fixtures in the RV.

BAL Exact-Slide G5.5 Electric Cable Slide-out System (CONTINUED)

Troubleshooting Guide

1. To ensure a proper seal, run the slide room until it is within 6” of being fully out. Make sure all the standoff brackets and cables are lined up with the pre-punched holes in the jamb. If not, adjust standoff brackets accordingly.
2. Run the slide room in until it is within 6” of being fully in. Make sure all the standoff brackets and cables are lined up with the pre-punched holes in the jamb. If not, adjust standoff brackets accordingly.
3. Run the slide room all the way in. First loosen the top cable until the cable is visually sagging in position.
    a. The only points of adjustment are at the black standoff brackets located directly behind the fascia backer boards.
4. Tension the interior bottom cables until you reach ¼” deflection.
    a. Deflection: you should be able easily with your thumb and pointer finger be able to lift the cable ¼” and push it down ¼” from center.
5. Tension the top cable until you reach ½” deflection.
    1. Deflection: you should be able easily with your thumb and pointer finger be able to lift the cable ½” and push it down ½” from center.
6. If a proper seal is not accomplished, contact technical support at 877-557-7788.

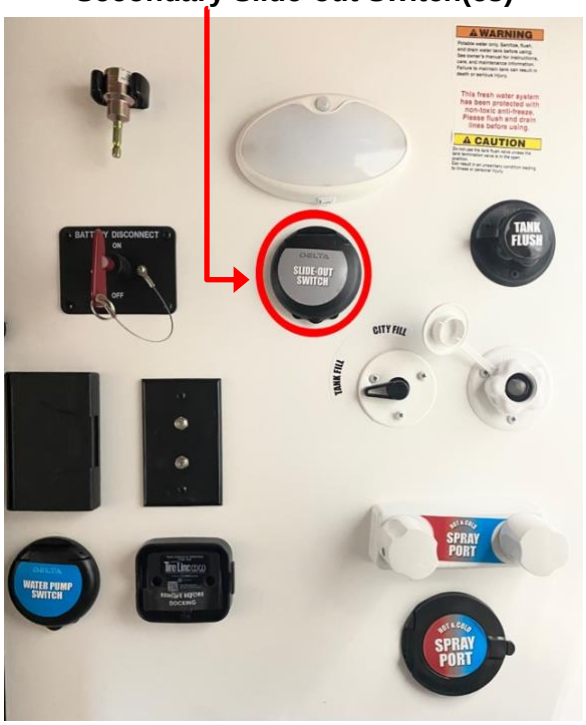
SLIDE-OUTS (CONTINUED)

Slide-out Room Control Switches

All slide-outs are independently switched and operated at the central monitor panel or at the secondary switch located inside the door-side pass-through storage bay. The monitor panel will be found relatively close to the primary entry door of the RV, on a wall or in a cabinet designed to house this panel. Location will vary based on floor plan.

Central Monitor Panel

Secondary Slide-out Switch(es)



ELECTRICAL

Electrical Overview

Your RV has a 12-volt electrical system and a 120-volt system. The 12-volt system is powered by battery and powers many items such the water heater, furnace, and refrigerator, as well as most of the lights. Water pumps, carbon monoxide detectors and a number of other items will also be powered by the 12-volt system. You'll also find that Alliance RV has conveniently color coded and numbered the 12-volt wiring system.

The 120-volt system is powered by an electrical source via your power cord, a generator (if equipped).

Alliance RV is compliant with industry standards applicable at the time the RV is manufactured. Do not make unauthorized changes.

⚠WARNING

CHANGES OR ADDITIONS MADE AFTER DELIVERY MAY RESULT IN HAZARDOUS CONDITIONS. ALWAYS HAVE A PROFESSIONAL WORK ON YOUR RV.

Modifications to the RVs electrical system should only be performed by qualified technicians and should never be made without approval from Alliance RV. Should a modification be made, those changes MUST comply with current safety and code requirements.

⚠WARNING

USE CATION WHEN USING METAL TOOLS. IF A TOOL CONTACTS A BATTERY TERMINAL OR METAL CONNECTED TO IT, A SHORT CIRCUIT COULD OCCUR AND CAUSE INJURY.

Before working on the electrical system:

- Make sure the inverter (if equipped), is turned off before disconnecting batteries. Disconnect the power cord.
- Turn off the generator (if equipped) and disable the auto start function (if equipped). Turn off the battery disconnect switch.
- Turn off the 120-volt AC main circuit breaker.
- Disconnect the negative 12-volt DC battery terminal from the battery.

ELECTRICAL (CONTINUED)

Converter-Charger

The WFCO WF-9855-AD converter will supply "clean" DC power from input voltages that range from 105 - 130VAC. At normal input voltages (105 – 130VAC) the full load rated capacity is available. At input voltages less than 105 VAC the converter may not supply full rated output capacity. The WF-9855-AD uses microprocessor driven Auto-Detect technology to recognize lithium ion and lead acid battery chemistries and automatically adjust the charging profile to match the battery type.

This Deck-Mounted converter-charger is typically installed next to or behind the AC Distribution Center and attached to the floor.

ELECTRICAL (CONTINUED)

Converter-Charger (CONTINUED)

⚠WARNING

RISK OF ELECTRICAL SHOCK

Disconnect or isolate all power supplies before making electrical connections. More than one disconnection or isolation may be required to completely de-energize equipment. Contact with components carrying hazardous voltage can cause electric shock and may result in severe personal injury or death.

NOTICE

All wiring must conform to local, national, and regional regulations. Use copper conductors only for all wire connections. Do not exceed the electrical ratings for the WF-9800-AD Series Converter-Charger as this could cause equipment failure and/or electrical shock which may result in severe personal injury or death.

⚠CAUTION

EQUIPMENT SERVICING

This product should be installed by an experienced certified technician. CAUTION and care must be taken when servicing this equipment. To prevent severe shock or electrocution, consult your servicing dealer.

⚠WARNING

SPARK HAZZARD

This unit employs components that can produce arcs or sparks. To prevent fire or explosion, do not install in compartments containing batteries or flammable materials (LP gas). This product is NOT ignition protected.

⚠CAUTION

DO NOT OBSTRUCT VENTILLATION

To prevent fire, DO NOT cover or obstruct enclosure ventilation openings. DO NOT mount unit in a zero-clearance compartment as overheating may result. For continued protection against risk of fire or electric shock, replace faulty DC fuses and AC breakers with ones of the same type and ratings as are installed.

⚠WARNING

BATTERY SYSTEM

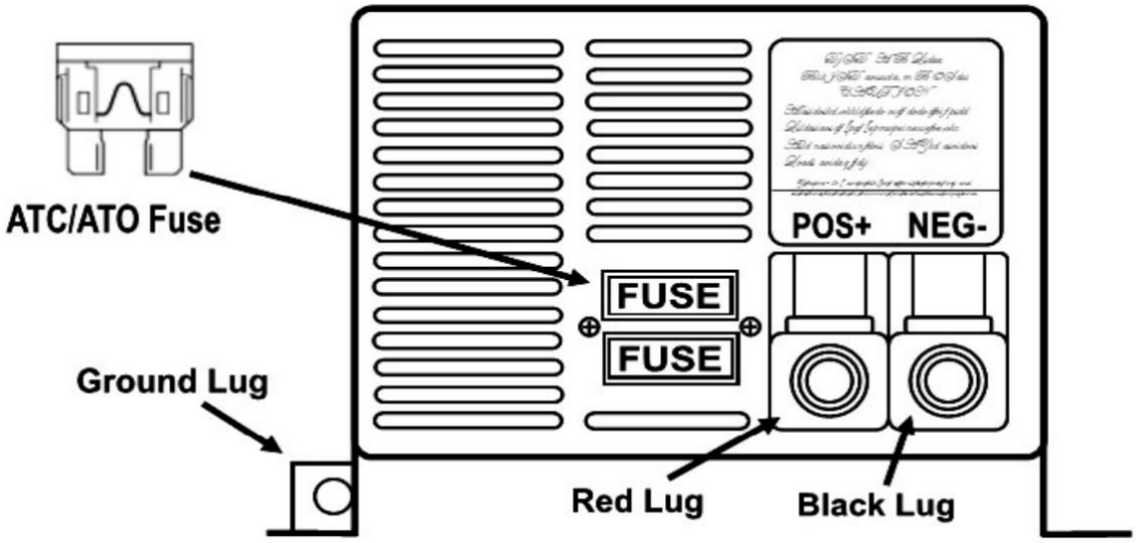
Use converter only on appropriate battery systems. Other usage may cause personal injury and damage. Consult all battery manufacturer's recommendations for additional safety information before use.

Converter-Charger (CONTINUED)

Safety and Protection Features

REVERSE BATTERY HOOKUP PROTECTION

The WF-9800-AD Series Converter-Charger's will charge the 12-volt house battery if installed. A battery does not have to be installed for WF-9800-AD Series Converter-Chargers operation. When a battery is installed, two reverse polarity fuses are installed to protect the converter circuitry. The fuses are located on the rear panel of the enclosure near the AC power cord (image below). This feature prevents permanent damage to the converter from a battery connected into the circuit backwards. In addition to protecting the converter-charger, the reverse polarity fuses are the main connection between the converter-charger and the DC fuse board of a distribution center.



Automatic Cooling Fan

The cooling fan in the WF-9800-AD Series Converter-Chargers is controlled by the current (Amperage) load attached to the converter, NOT by temperature. The on-board microprocessor increases fan speed as the total load increases and decreases fan speed as the load decreases.

Unlike traditional temperature-controlled fans, the load-controlled fan provides better component cooling by avoiding temperature spikes which can lead to premature component failure.

OVER-TEMPERATURE PROTECTION

If the internal temperature of the converter exceeds a critical point, it will shut down. This protects the unit from excessive heat that may damage sensitive components. The unit will restart once the temperature inside has dropped.

Converter-Charger (CONTINUED)

Safety and Protection Features (CONTINUED)

ELECTRONIC CURRENT LIMITING
If the output current exceeds the maximum rating for the WF-9800-AD Series Converter-Charger, the output current will remain constant, but the output voltage will begin to drop. If this occurs, the unit will recover once loads are reduced.

SHORT-CIRCUIT PROTECTION
Should a short circuit occur in the RV, the WF-9800-AD Series Converter-Charger will drop the voltage output to zero volts. If the short-circuit condition is removed and no other fault conditions are detected, the converter will resume normal operation. However, short- circuit conditions are dangerous, and an RV will require inspection by a qualified service technician.

DC FUSES (12 VOLTS)
The DC fuse receptacle on the rear panel of the WF-9800-AD Series Converter-Charger has space for 1 (one) or 2 (two) Reverse Battery Protection fuses (see Figure 1 above). These fuses should be replaced with ATC or ATO automotive type fuses, such as Littelfuse type 257 or Bussmann type ATC. The WF-9855-AD uses (2) 35A fuses

Operational Features

AUTO-DETECT
This product includes the exclusive “Auto-detect” feature for the charging of batteries. With this new technology, the power converter will evaluate the charging cycle of a battery, determine the type of battery being used, and then choose the appropriate charging program (profile) to provide for the best performance and maintenance of that battery.
Because of the differences of Lead Acid, AGM and Lithium type batteries, a system that provides a charge to the battery or batteries must be able to accommodate the different charging requirements. With the use of the “Auto-detect” product, the charging requirement is able to be “detected” and is then automatically set for the type of battery being used. For standard Lead Acid and AGM batteries, WFCO power converters still use the Three-Stage Smart Charging to effectively maximize battery life by monitoring through the different phases of the charge cycle. On the other hand, Lithium batteries will prefer the use of only two stages when charging, and therefore the power converter will charge using the WFCO Two-Stage Smart Charging system.

LEAD ACID & AGM BATTERY THREE-STAGE SMART CHARGING
In order to maximize battery life for lead acid and AGM batteries, it is best to charge batteries slowly, keep them topped off with a trickle-charge when the RV is not being used. The 3-Stage “smart” charger continuously measures the battery voltage output and regulates the amount of charge using three modes of operation: Absorption, Bulk and Float modes.
All WFCO power converters have automatic three-stage switching power supplies. The converter senses which mode it needs to be in by checking the RV system voltage.

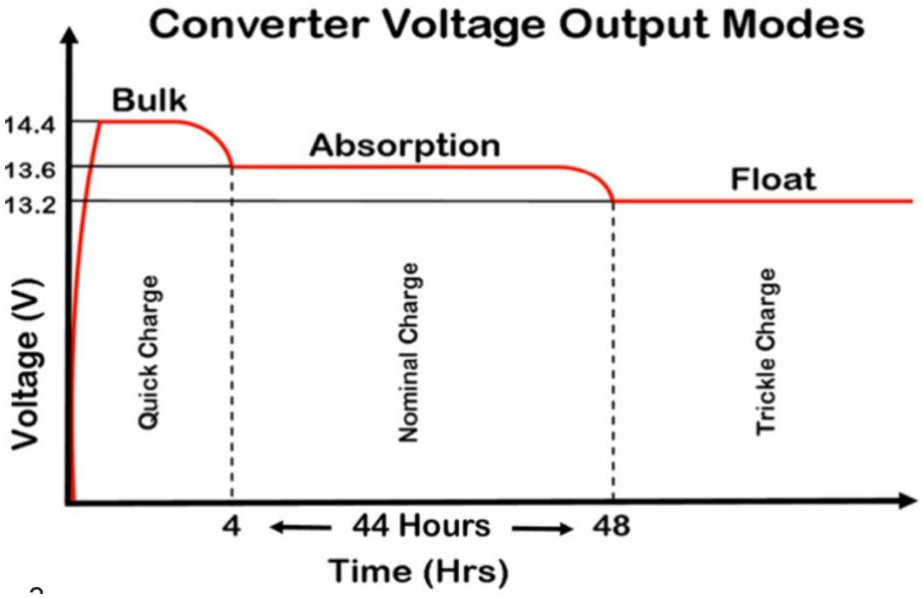
Operational Features (CONTINUED)

Converter-Charger (CONTINUED)

ABSORPTION MODE
The converter normally provides a constant target output voltage of 13.6 VDC (nominal) to power all the branch circuits. However, it is current limited, and if the output (load) current reaches its maximum, the output voltage will drop as necessary to hold the converter's maximum output current level (the
Amperage rating) without exceeding it.

BULK MODE
If the output current reaches its maximum (normally caused by a discharged battery), this will cause the converter to go into Bulk Mode, which means the target output voltage will change to 14.4 VDC and
a timer will start. Although the converter is outputting 14.4 VDC, you will not be able to read that on a voltmeter due to the voltage-current relationship. From the paragraph above, as load current increases, output voltage decreases. The actual output voltage will not rise until the load current is reduced, which happens naturally as the battery charges or if 12 VDC appliances are turned off. Bulk Mode will be maintained until the current draw drops to approximately five Amps, or until the timer reaches four hours (whichever happens first). Then the target output voltage is changed back to 13.6 VDC for Absorption Mode. Lights that are powered from the output may change brightness slightly at that time.

FLOAT MODE
The third mode of charging is what is called the "float" charge. This mode is designed to provide a "trickle charge" to the battery after the system observes no significant variations in current draw over a long period of time. When in "float" mode, the voltage will reduce from13.6Vto 13.2V and supply the "trickle charge" which helps to preserve the life of the battery while keeping it charged and ready for use. A change in DC current will cause the converter to exit the mode and return to the Absorption mode and then to Bulk mode if required.



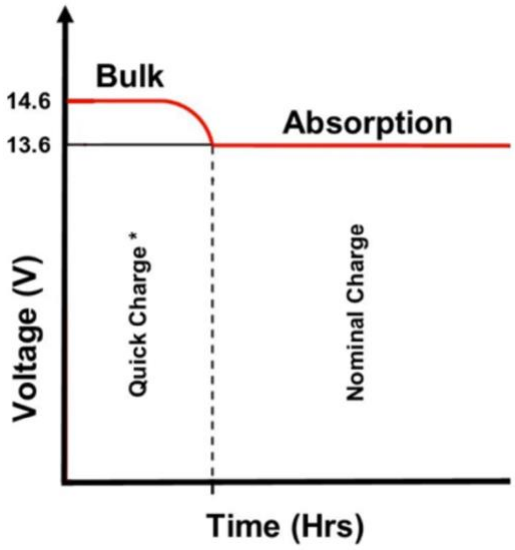
Operational Features (CONTINUED)

LITHIUM BATTERY TWO-STAGE SMART CHARGING

The two-stage “smart” charger continuously measures the battery voltage output and regulates the amount of charge using two modes of operation: Bulk and Absorption mode.

CONVERTER MODES OF OPERATION

Understanding output voltages of a two-stage converter.



BULK MODE

This mode is designed with 2 purposes in mind. First, to quickly restore the energy back into the battery. Second, to ensure the lithium cells inside the battery remain balanced. This is accomplished by boosting the output voltage to 14.6 VDC and allowing the maximum current to flow as required by the loads.

The bulk mode stage could last anywhere from 1 to 4 hours based on the battery and load current which is being used. For a full battery, the bulk stage has a minimum time requirement of 1 hour, which allows the lithium cells inside the battery the time required to “balance”. For an empty battery, the bulk stage has a maximum time requirement of 4 hours. If your application requires longer than 4 hours (such as a larger battery bank > 200 Amp Hour), a simple cycling of power will reset the timers.

As the energy is restored into the battery, the DC system voltage will climb and the current from the converter will decrease. If the total amperage draw from the converter reaches a preset point (within the 1 to 4-hour timer), the converter is designed to drop out of bulk mode.

⚠WARNING

DISCONNECT ALL POWER TO THE CONVERTER PRIOR TO CHECKING OR CHANGING FUSES.

⚠WARNING

FOR CONTINUED PROTECTION AGAINST RISK OF FIRE OR ELECTRICAL SHOCK, REPLACE ONLY WITH SAME TYPE AND RATING OF FUSE. CONSULT A LICENSED ELECTRICAL OR RV TECHNICIAN FOR ANY NEEDED ASSISTANCE.

ABSORPTION MODE

This mode is designed with 1 purpose in mind. This purpose is to provide a safe operating voltage for all loads in the RV. This is accomplished by reducing (from bulk mode) the output voltage to 13.6 VDC and remaining at this voltage until the power is cycled to the converter. The absorption mode stage is the default or normal mode of operation, which has no timer associated with it. In this mode an output of 13.6 VDC is provided to the DC circuits in the RV. This voltage has a long-term history as the acceptable voltage for all loads in the RV, and

should not place undue stress (nor reduce the longevity) of the lights and appliances in the RV. This is not to say that all loads will have an issue with a constant higher voltage; however, some loads may have an issue. Please refer to the individual manufacturer's specifications for acceptable operating voltage range of the connected load.

TROUBLESHOOTING INSTRUCTIONS

Before checking the WF-9800-AD Series Converter-Charger output voltage, disconnect the battery cables at the battery. Make sure the converter is plugged into a live AC source (105-130 Volts). Check the converter output voltage at the battery with a voltmeter. Place the meter probes on the disconnected battery cables; place the Positive (red) meter probe on the + Positive battery wire and place the Negative (black) meter probe on the -Negative wire on the battery cable (Figure 4). Be sure you have good connections at the cables. If the voltage reads 13.6 - 14.6 V, the converter is functioning properly.

If the converter output voltage at the battery reads 0.0 VDC, or if the battery is not charging, check for an open inline fuse in the battery wire circuit. One may have been installed by the RV manufacturer. Also check for loose wiring connections.

CHECKING FOR REVERSE BATTERY HOOKUP (REVERSE POLARITY FUSES)

If there is no DC output coming from the WF-9800-AD Series Converter-Charger output lugs, first check the reverse polarity fuses on the rear panel. Then, visually inspect the fuses for any breaks in the fuse element. If no breaks are found, use a continuity tester to check for continuity. If the reverse polarity fuses are blown, it means the RV battery was accidentally connected in reverse, either at the battery or at the converter. Investigate the connections and reconnect the cables properly. Replace the fuse with the same type and amperage rating as the original.

IMPORTANT: These fuses protect the converter from damage if the RV battery is accidentally connected in reverse. A reversed battery connection, even if for only a second, will cause these fuses to blow. If the above checks have been made but the converter output still reads 0.0 VDC, the converter is not functioning properly.

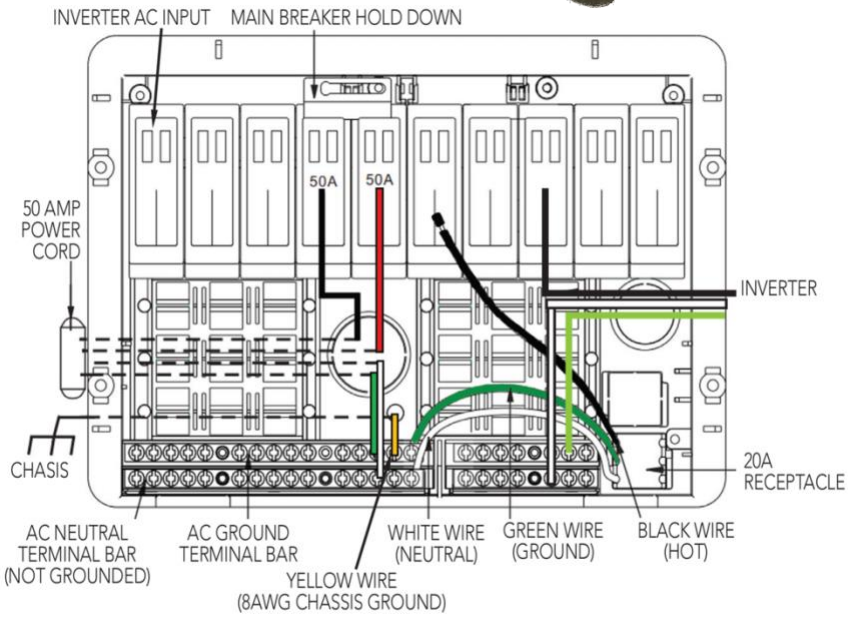
ELECTRICAL (CONTINUED)

AC Power Distribution Center

The WFCO WF-7925-S Series AC Power Distribution Center serves as the AC power breaker panel for your RV. We configure the WF-7925-S with a 50 Amp Double-Pole main breaker as your RV is setup for a 50 Amp power service. This main breaker will disconnect power to all AC branch circuits. The WF-7925-S also has a separate 30 Amp Main Breaker that is used for the prepped inverter circuit. If the owner has an inverter installed and the installer uses the 'inverter prep', the following AC branch circuits will be inverted: most of the most AC outlets, GFCI outlets and the microwave oven.

WF-7925-S AC Distribution Center →

Internal Schematic with Shore and Inverter Inputs →



7925-S

ELECTRICAL (CONTINUED)

AC Power Distribution Center (CONTINUED)

⚠WARNING

IT IS IMPORTANT THAT THE FLUID LEVELS OF ANY CONNECTED BATTERY(S) BE CHECKED ON A REGULAR BASIS. ALL BATTERIES WILL "GAS" AND LOSE SOME FLUID WHEN CONTINUOUSLY CONNECTED TO ANY CHARGING SOURCE.

Typical Appliance Loads

	AVERAGE POWER REQUIRED	
APPLIANCE	WATTS	AMPS
Air Compressor (1hp)	900 – 1,800	7.5 – 15
Air Conditioner	1,200 – 2,400	10 – 20
Battery Charger	Up to 3,000	6 – 28
Blender	450 – 700	3.3 – 5.8
Broiler	1,400 – 1,700	11.6 – 14
Vacuum	1,000 – 1,440	8.3 – 12
Stereo	85	.7
Coffee Pot	900 – 1,200	7.5 – 10
Computer	60 – 270	.5 – 2.25
Laptop	20 – 50	.16 – .41
Converter	500 – 1,000	4 – 8
Curling Iron	20 – 50	.16 – .41
Dishwasher	1,200 – 2,400	10 – 20
Drill	250 – 1,000	2 – 8
Electric Blanket	60 – 100	10 – 20
Fan	10 – 175	.5 – .8
Flat Iron	40 – 80	.5 – 1.45
Electric Skillet	1,000 – 1,350	.3 – .6
Game Console	19 - 200	8 – 11.25
Hair Dryer	1,200 – 1875	.16 – 1.6
Iron	1,000 – 1,800	10 – 15.6
Light Bulbs	13 - 100	.1 – .8
Microwave	750 – 1,000	6.25 – 9.2

At the beginning of camping season, inspect the circuit breakers and replace as needed. Test by turning each circuit breaker off and back on, circuit breakers are wearable parts and must be replaced as needed as part of your RV maintenance.

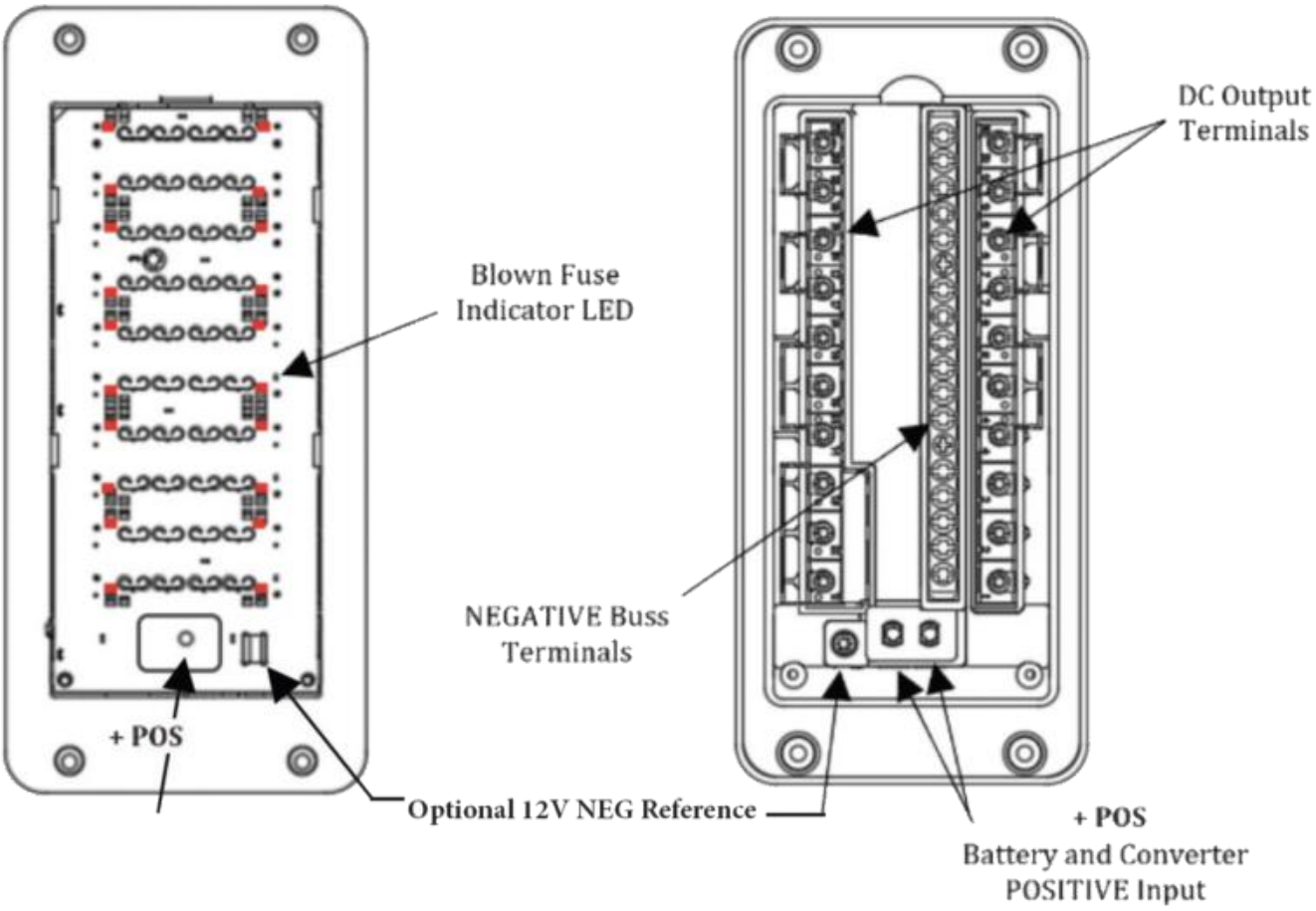
12-volt DC Distribution (fuse) Panel

The WF-7910-WAGO Distribution Panel Series, 12-volt Power Converter Accessory is a fuse-panel only. Power is supplied to the panel from an external WFCO WF-9855-AD converter.

ELECTRICAL (CONTINUED)

12-volt DC Distribution (fuse) Panel

The DC fuse board has individual blown fuse indicators as standard equipment. The WF-7910-WAGO 12-volt Distribution Panel Series has 17 DC circuits. Each of the circuits contains a Red LED to indicate a blown fuse. If one of the circuits draws more current than the rating of the fuse, the fuse will blow. When this occurs, the Red LED for that circuit will illuminate.



12-volt DC Distribution (fuse) Panel

Troubleshooting

Because the WF-7910 Series 12V Power Converter Accessory does not contain a converter/ charger, troubleshooting will be limited to checking DC power coming into the unit and proper fuse board operation.

CHECK FOR CONVERTER OR BATTERY INPUT VOLTAGE

NOTE: Depending on how the RV manufacturer connected the DC power to the WF-7910 Series 12V Power Converter Accessory, it could have been routed in one of 2 ways.

1. Power could be coming directly into the WF-7910 Series 12V Power Converter Accessory fuse board from the converter/charger. The battery (if supplied) would also connect to the fuse board.
2. Power from the converter charger would be connected directly to the battery. And cables from the battery would be connected to the fuse board input lugs.

Make sure the WF-7910 Series 12V Power Converter Accessory is receiving DC power from the converter/charger or battery. First, check that the converter/charger is plugged into an AC source (105-130 VAC) and is operating. Check the converter input voltage with a voltmeter. Be sure you have good cable connections at the lugs. Place the meter probes on the lugs as follows; place the Positive (red) meter probe on the larger battery/converter + POS lug and place the Negative (black) meter probe on the NEG- lug buss bar.

If the voltage from the converter charger reads approximately 13.6 VDC (+/- 0.2) at the lugs, the fuse board is getting DC power.

If no converter/charger/battery input voltage is read at these lugs, check for an open inline fuse, or disconnect switch in circuit coming to the fuse board. One may have been installed by the RV manufacturer. Also check for any other loose wiring connections.

BLOWN FUSE INDICATORS ON DC FUSE BOARD

If one of the Red LEDs is illuminated, check for a blown fuse. If blown, replace the fuse with a known good fuse of the same rating. NOTE: If the replacement fuse blows again, check that circuit for a short or overload condition.

If, for some reason, one of the fuse board output circuits is connected to a load that has a switch that is turned OFF or an appliance that is turned OFF, the indicator LED will not illuminate even if the fuse is blown or removed from the fuse board. Turn the switch or appliance ON and re-check the fuse circuit with the fuse removed. If the LED remains OFF, check for a broken wire to the switch or appliance.

If an indicator LED remains illuminated with the known good fuse in place, check for possible damage to the fuse board at that location. If damage is found, the fuse board will need to be replaced.

ELECTRICAL (CONTINUED)

Power Cord

A heavy-duty power cord with a 4-prong grounding plug is used to plug the RV into an external 120-volt power source.

50A Cord-set

50A Power Inlet

Never connect the power cord to a power source:

- That is not wired to the National Electric Code standard for 50-amp 120V/240V.
- With non-functioning ground circuits.
- That has reverse polarity.
- That shows outward signs of heat damage.

Do not:

- Use a 'Cheater' plug, adapter or extension cord.
- Adapt the power cord to plug into a connector which it was not designed to.

⚠WARNING

DOING SO MAY RESULT IN PROPERTY DAMAGE OR SERIOUS INJURY. YOU CAN POTENTIALLY DAMAGE YOUR RVs ELECTRICAL SYSTEM WHICH COULD RESULT IN SEVERE OR EVEN FATAL INJURY.

To connect your power cord:

- Turn the main 120-volt power source circuit breaker off.
- Extend the power cord it's entire length. Uncoiling helps to dissipate heat in the cord when in use.
- Plug the cord in. Be sure that all the power cord progs are properly plugged in.
- You are now safe to turn on the 120-volt circuit breaker back on.

Power Cord (CONTINUED)

DO NOT plug your RV 50-amp shore cord into any receptacle that is not wired to National Electric Code for 50-amp 120/240V configuration. Doing so will supply the RV with the incorrect electrical power causing extensive damage to the electrical system and 120-volt components which would not be warrantable.

DO NOT disconnect the 50-amp male plug connection by pulling up on the cord. This will cause a loss of neutral, and 240 volts AC will be supplied to the electrical system and 120- volt components causing extensive damage which would not be warrantable. Always pull straight out on the head of the cord so all 4 prongs disengage the receptacle simultaneously.

DO NOT plug in or unplug the shore cord while under load. Make sure all 120-volt components are turned off prior to connecting or disconnecting the shore cord or damage to the 120-volt systems may result. Turn off the breakers at the power center first before connecting or disconnecting the shore cord to prevent damage.

⚠WARNING

FAILURE TO PLUG YOUR 50-AMP POWER CORD INTO A RECEPTACLE THAT IS NOT WIRED TO THE NATIONAL ELECTRIC CODE FOR 50 AMP 120/140V CONFIGURATION COULD LEAD TO AN INCREASED RISK OF PROPERY DAMAGE, SERIOUS INJURY OR DEATH.

IT IS IMPORTANT TO INSPECT THE POWER CORD FREQUENTLY FOR DAMAGE. IF DAMAGE IS FOUND, HAVE THE CORD REPLACED IMMEDIATELY

⚠WARNING

EXPOSURE TO VOLTAGES HIGHER OR LOWER THAN A NOMINAL 120-VOLTS, WILL DAMAGE OR SHORTEN THE SERVICE LIFE OF THE ELECTRICAL SYSTEM AND APPLIANCES. THE 50-AMP 120-VOLT 60HZ AC ELECTRICAL SYSTEM CAN BE POWERED BY AN OUTSIDE 120/240-VOLT 60HZ UTILITY SERVICE LIKE THOSE COMMONLY FOUND IN CAMPGROUNDS OR BY 120/240-VOLT 60HZ GENERATOR POWER

⚠WARNING

MAKE CERTAIN THE EXTERNAL POWER SOURCE YOU CONNECT THE POWER CORD TO IS A PROPERLY WIRED 50-AMP NEMA 14-50R RV RECEPTACALE AND NOT 240 VOLT AC. PLUG INTO 50-AMP SERVICE ONLY

CIRCUIT BREAKERS AND FUSES WILL NOT OFFER COMPLETE PROTECTION OF THE ELECTRICAL SYSTEM IN THE EVENT OF POWER SURGE OR VOLTAGE SPIKE

120-Volt Circuit Breakers

Your 120V circuit breakers are in the main power control center. These circuit breakers act just like those in a household in that they protect all the 120V wiring and components. You'll find the individual circuits labeled to identify which each breaker is for.

To reset a breaker, simply flip the switch to the off position then immediately back to the on position. If the breaker immediately trips again, contact your dealer or Alliance RV for assistance.

Circuit breakers can wear out so an annual check to ensure operation is good may be needed. Only replace circuit breakers with those of the same specified type, voltage, and current rating. **NEVER** replace a circuit breaker with one listed at a higher amperage rating.

⚠WARNING

CIRCUIT BREAKERS AND FUSES WILL NOT OFFER COMPLETE PROTECTION OF THE ELECTRICAL SYSTEM IN THE EVENT OF POWER SURGE OR VOLTAGE SPIKE

REPLACEMENT CIRCUIT BREAKERS MUST BE OF THE SAME VOLTAGE, AMPERAGE RATING AND TYPE. NEVER USE A HIGHER RATED REPLACEMENT CIRCUIT BREAKER, DOING SO MAY CAUSE A FIRE BY OVERHEATING THE RV WIRING

At the beginning of camping season, inspect the circuit breakers and replace as needed. Test by turning each circuit breaker off and back on, circuit breakers are wearable parts and must be replaced as needed as part of your RV maintenance.

GFCI (Ground Fault Circuit Interrupter)

A ground fault circuit interrupter is a type of circuit breaker that shuts off electric power when it senses an imbalance between the outgoing and incoming current. A GFCI is specifically designed to protect a person from electrical shock by reacting to an imbalance that can be as small as 4 or 5 milliamps, when detected, in less than one tenth of a second the circuit is tripped and shuts off.

The GFCI circuit should be tested at least monthly.

- Push the TEST button. This action should force the RESET button on the receptacle (engaging the interruption of power).
- To reset the GFCI to working order, push the RESET button.
- If the RESET button cannot be depressed, your 120-volt electrical will require service – contact your servicing dealer immediately.

Battery (Dealer/Owner Supplied)

The RV battery is installed at the dealership. The 12-volt DC electrical system is designed for use with a Group 24 or Group 27 deep cycle battery. However, a lithium battery can be used as well. See manufactures instructions for battery instructions.

For the most accurate reading, test the battery voltage using a multimeter. A fully charged battery will read 12.7 volts DC with a 1.265 specific gravity at 80°F (32°C). The battery is considered discharged at 11.8 volts, and dead at 11.65 volts. When voltage drops below those levels, permanent damage may occur.

⚠WARNING

- **DO NOT PLACE TOOLS ON TOP OF THE BATTERY.**
- **PLEASE KEEP THE BATTERY OUT OF THE REACH OF YOUNG CHILDREN.**
- **PLEASE WEAR PROPER PROTECTIVE EQUIPMENT WHEN WORKING ON THE BATTERY.**
- **PLEASE USE INSULATED TOOLS WHEN WORKING ON BATTERY.**
- **DO NOT WEAR JEWELRY OR OTHER METAL OBJECTS WHEN WORKING ON OR AROUND THE BATTERY.**
- **PLEASE ENSURE ADEQUATE AND SECURE MOUNTING OF THE BATTERY AND ALWAYS USE SUITABLE HANDLING EQUIPMENT FOR TRANSPORTATION.**
- **DO NOT DISPOSE OF THE BATTERY AS HOUSEHOLD WASTE. PLEASE USE RECYCLING CHANNELS IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.**

Battery (CONTINUED)

Battery Safety Information

- Please keep the battery away from water, heat sources, sparks, and hazardous chemicals.
- DO NOT puncture, drop, crush, burn, penetrate, shake, or strike the battery. DO NOT open, dismantle, or modify the battery.
- DO NOT touch any terminals or connectors.
- Any uncovered battery material, such as electrolyte or powder, that has contacted skin, or the eyes must be flushed out with plenty of clean water immediately. Seek medical attention afterwards. Spillages on clothing should be rinsed out with water. DO NOT touch the exposed electrolyte or powder if the battery casing is damaged. Please make sure any battery charger(s) or charge controller(s) are disconnected when working on the battery.
- DO NOT connect or disconnect terminals from the battery without first disconnecting loads.

Battery Maintenance

Inspection: Please perform regular visual inspection by following these steps:

- Examine the external appearance of the battery. The top of the battery and terminal connections should be clean, dry, and free of corrosion.
- Check battery cables and connections. Replace any damaged cables and tighten any loose connections.

Battery Troubleshooting

If any problems occur during battery operation, please refer to the instructions or contact the battery manufacturer for assistance.

Battery (CONTINUED)

Battery Disconnect Switch

Used to shut off 12-volt power that supplies the RV. When the switch is activated (ON), the batteries are connected and will supply 12-volt power to the RV. With the switch rotated to the (OFF) position this will disconnect 12-volt power to most items in the coach. There are select 12-volt items that remain powered even with the battery disconnect switch in the (OFF) position that will create a minimal draw on the battery. If storing your RV for longer durations without supplemental power (e.g., shore power or solar), it is recommended to completely disconnect the battery cables from the terminals on your battery.

You will find the battery disconnect switch located in the front storage compartment.

To operate the switch, simply turn the key to the ON or OFF position.

Solar Panel

Delta Travel Trailer is equipped with a roof mounted Solar Panel.

Cleaning and Maintenance
Solar panels generally require very little maintenance in order to function. The only thing they need is a periodic light cleaning to make sure dirt, leaves, and other debris aren't obstructing the sun's rays. To clean the panels, use a soapy sponge and wipe dry with a squeegee.

Example Solar Panel

DC power generated by the solar panel enters the RV through a Solar Cable Entry Port using industry standard MC4 Solar Connectors.

Example Solar Cable Entry Port

Solar Charge Controller

Delta Travel Trailer is equipped with a Solar Charge Controller. The power output of the solar panel is fed to the Solar Charge Controller via a 10 AWG wire pair.

General Information

The Rover Series charge controllers are intelligent controllers suitable for various off-grid solar applications. It protects the battery from being over-charged by the solar modules and over-discharged by the loads. The controller features a smart tracking algorithm that maximizes the energy from the solar PV module(s) and charge the battery. At the same time, the low voltage disconnect function (LVD) will prevent the battery from over discharging.

The Rover's charging process has been optimized for long battery life and improved system performance. The comprehensive self-diagnostics and electronic protection functions can prevent damage from installation mistakes or system faults.

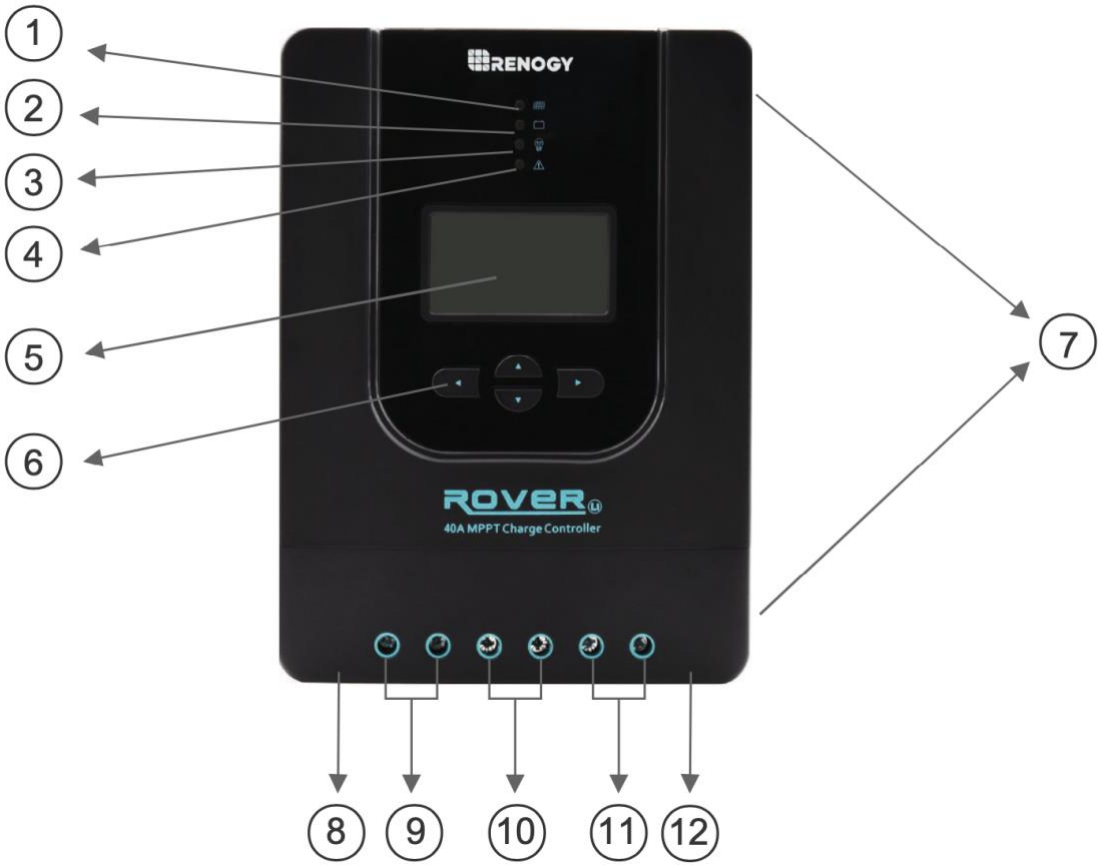
Key Features

- Automatically detect 12V or 24V DC system voltages.
- Innovative MPPT technology with high tracking efficiency up to 99% and peak conversion efficiency of 98%.
- Deep cycle Sealed, Gel, Flooded and Lithium (12.8 FLP) battery option ready.
- Electronic protection: Overcharging, over-discharging, overload, and short circuit.
- Reverse protection: Any combination of solar module and battery, without causing damage to any component.
- Customizable charging voltages.
- Charges over-discharged lithium batteries.
- RS232 port to communicate with BT-1 Bluetooth Module.

ELECTRICAL (CONTINUED)

Solar Charge Controller (CONTINUED)

Identification of Parts



Key Parts

1. PV LED Indicator
2. Battery LED Indicator
3. Load LED Indicator
4. System Error LED Indicator
5. LCD Screen
6. Operating Keys
7. Mounting Holes
8. Remote Temperature Sensor Port (optional accessory)
9. PV Terminals
10. Battery Terminals
11. Load Terminals
12. RS-232 Port (optional accessory)

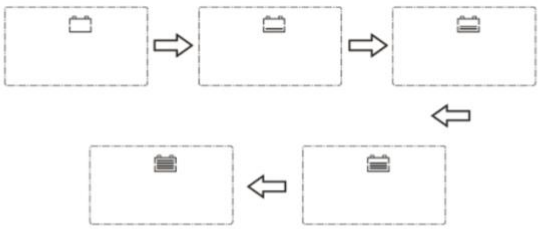
Solar Charge Controller (CONTINUED)

Product Operation

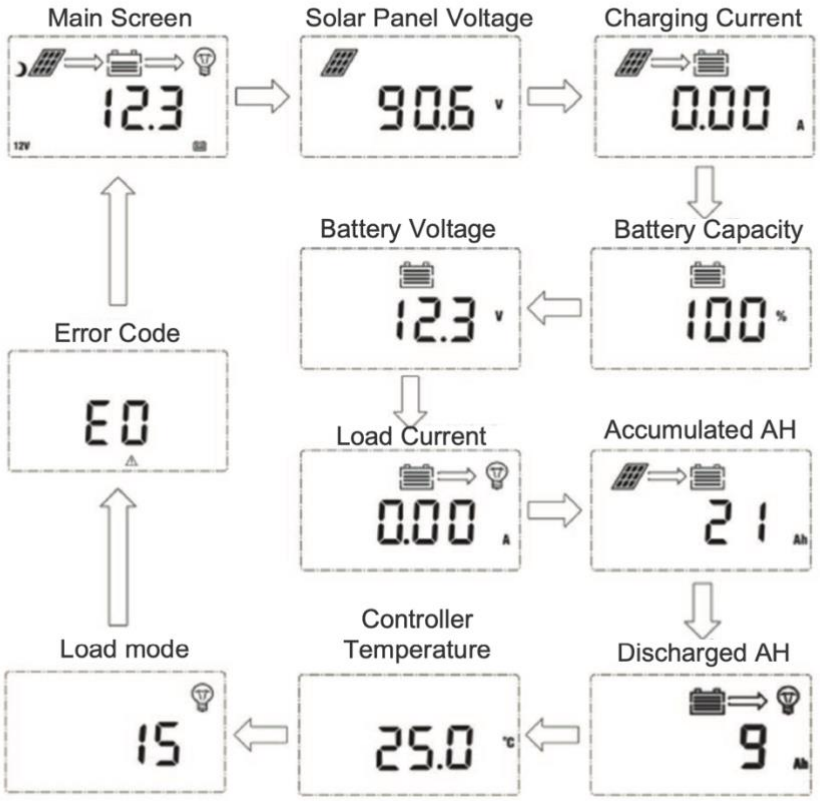
Rover is very simple to use. Simply connect the batteries, and the controller will automatically determine the battery voltage. The controller comes equipped with an LCD screen and 4 buttons to maneuver though the menus.

NOTE: Please set the correct battery type the first time you use.

Startup Interface



Main Display

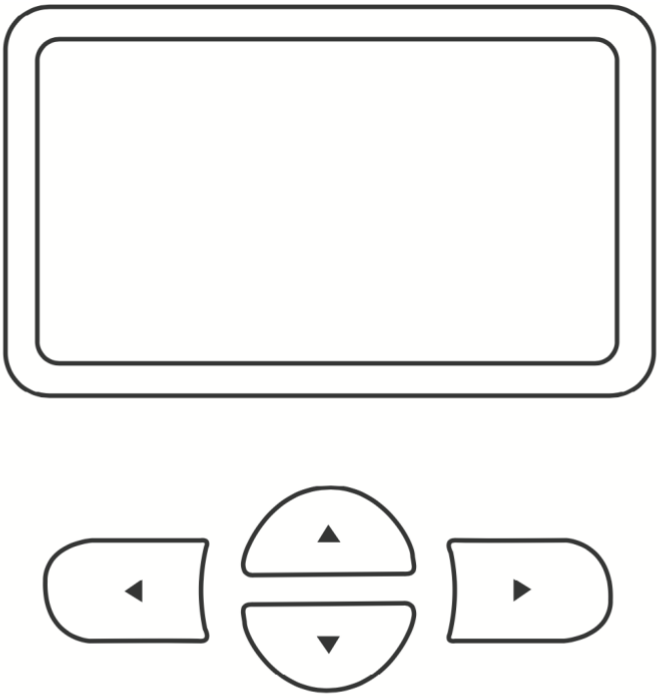


NOTE The Battery Capacity (SOC%) is estimated based on the charging voltage.

Solar Charge Controller (CONTINUED)

Product Operation (CONTINUED)

Display Navigation Buttons



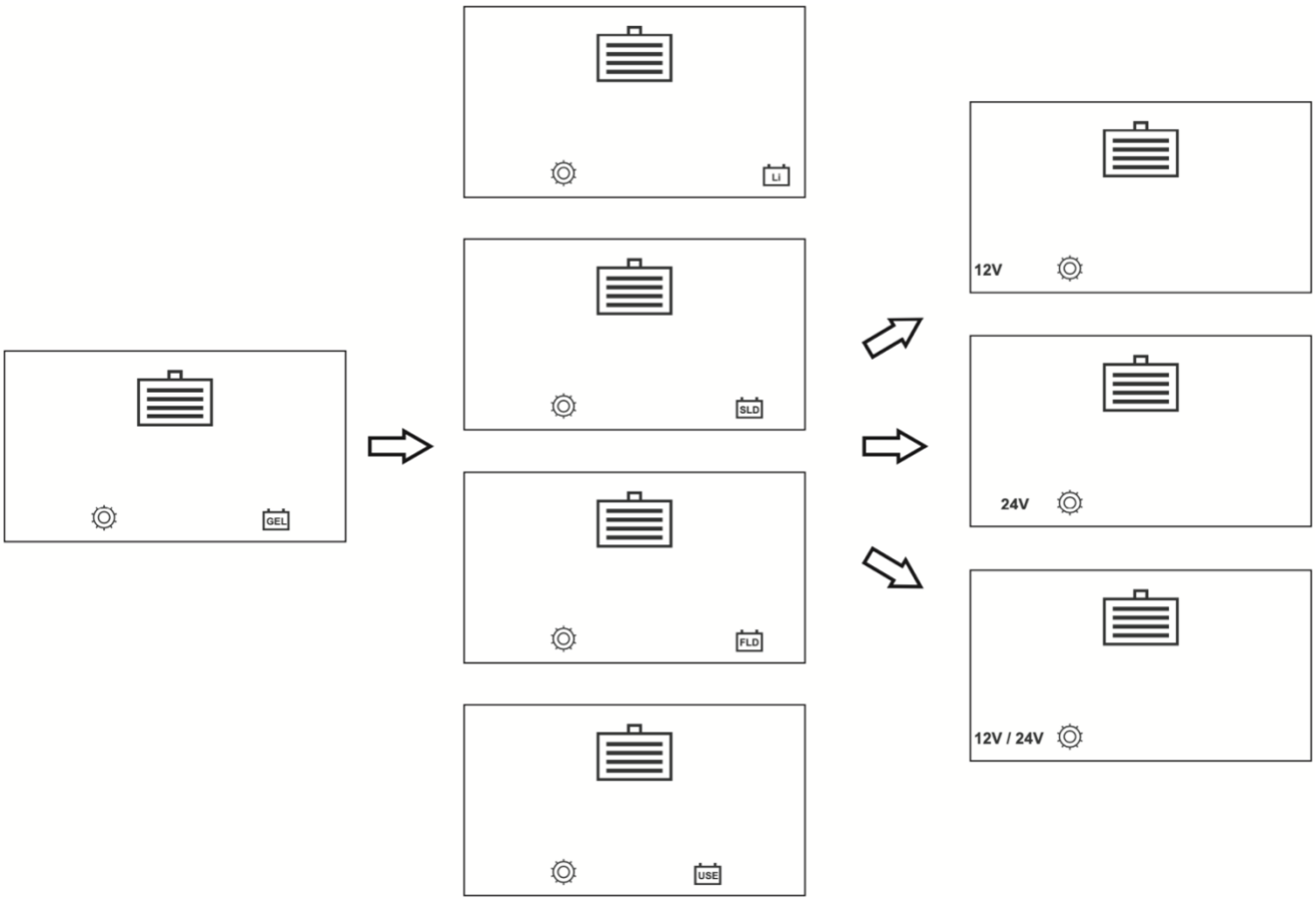
↑ / +	Page Up/ Increase parameter value
↓ / -	Page Down/ Decrease parameter value
←	Return to the previous menu
ENTER/ →	Enter sub menu/ save parameter value/ turn load on or off in manual mode

Solar Charge Controller (CONTINUED)

Product Operation (CONTINUED)

Programming Battery Type

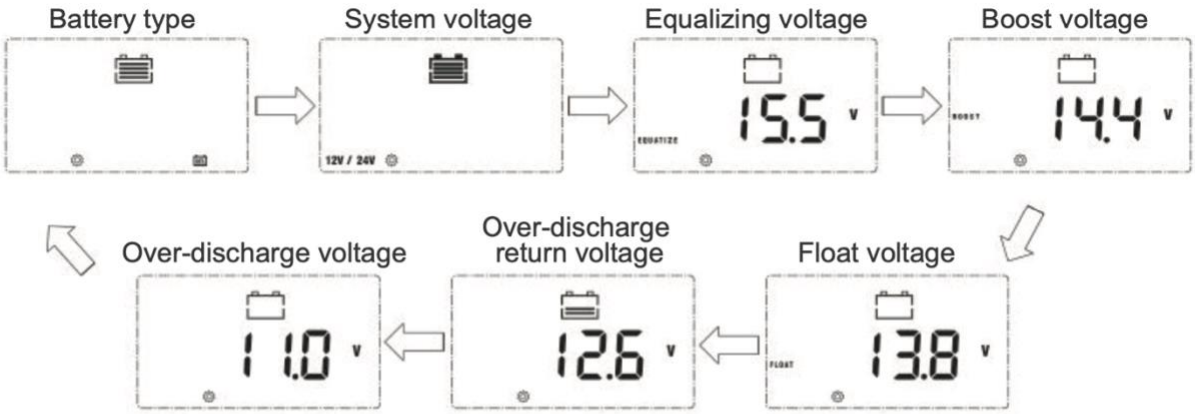
To enter the battery programming settings hover over the Battery Voltage screen and press down the Enter button. When the battery type starts to flash, press the Select button to cycle through the battery types and press Enter to finalize selection. When selecting the Lithium setting, the user can change battery voltage from 12V to 24V and select the charging voltage.



Solar Charge Controller (CONTINUED)

Product Operation (CONTINUED)

Programming Parameters



To enter the programming interface simply press and hold the right arrow button. After entering this feature press the Enter/Right button to switch between parameters. To change the parameters, press the Up or Down button. To save the parameter press and hold the Enter/Right button.

The charging parameter setting (Equalizing voltage, Boost voltage, Floating charging voltage, over-discharge return voltage, Over-discharge voltage) are only available under the battery "USER" mode. Press and hold the right arrow to enter the programming settings and continue pressing the right arrow button until you see the desired voltage screen.

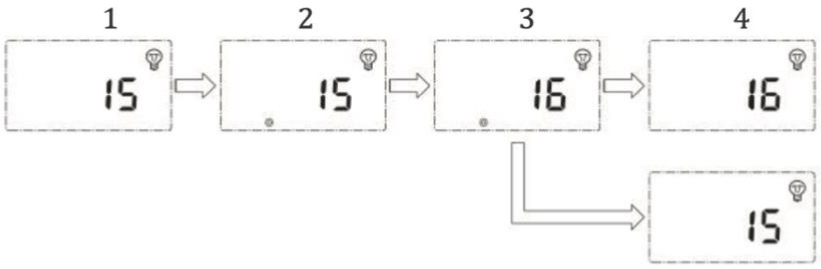
NOTE

Battery charging parameters can also be programmed using the Renogy BT APP. Read the corresponding user manuals for more information.

Solar Charge Controller (CONTINUED)

Product Operation (CONTINUED)

Programming Load Terminal



1. This screen is displaying the current Load Mode.
2. To enter screen 2 press and hold the Enter button. This screen will allow you to change the load mode.
3. To change the load mode press the up or down button.
4. Once you have selected the desired load mode press the Enter button to save the setting.
5. To exit the programming setting press the left button.

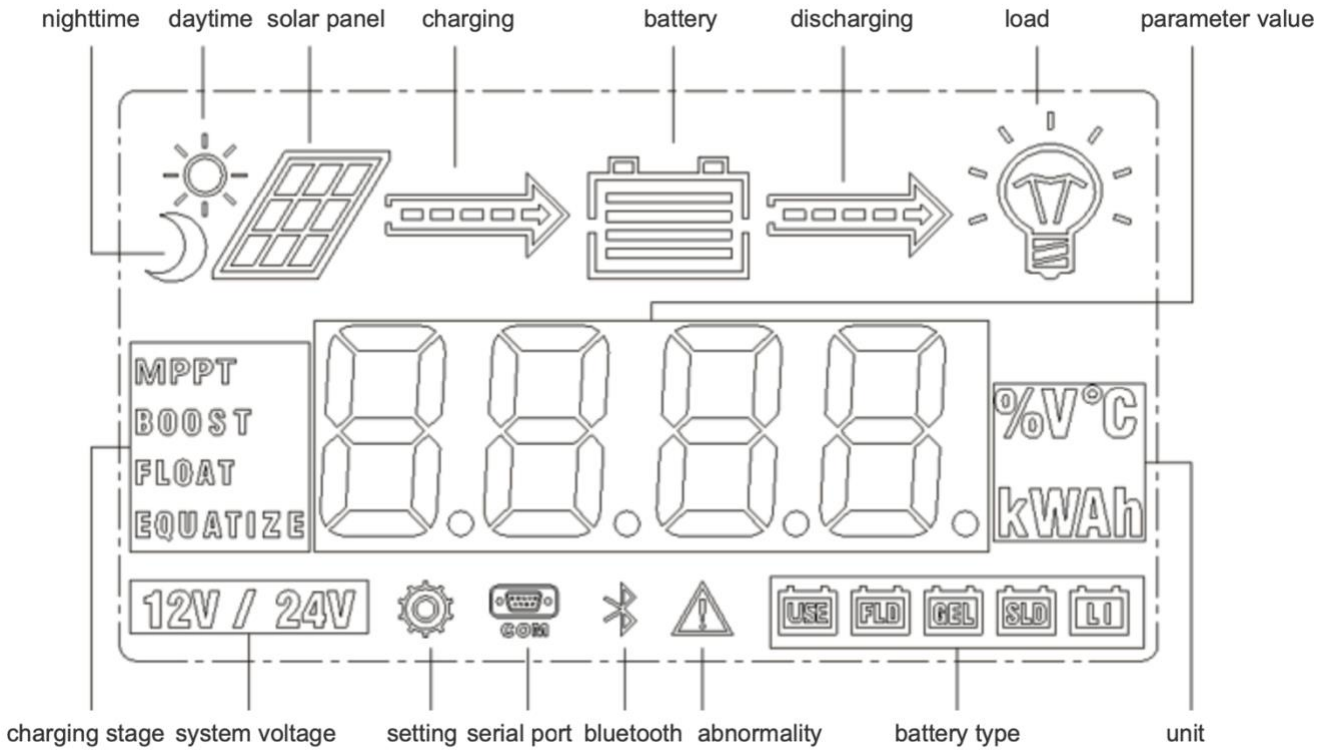
Load Mode Options

Setting	Mode	Description
0	Automatic(On/Off)	The load will turn on at night when the solar panel is no longer producing any power after a short time delay. The load will turn off when the panel starts producing power.
1-14	Time control	When the panel is no longer producing power the load will be ON for 1-14 hours or until the panel starts producing power.
15	Manual	In this mode, the user can turn the Load On/Off by pressing the Enter button at any time.
16	Test	Used to troubleshoot load terminal (No Time Delay). When voltage is detected load will be off and when no voltage is detected load will be on.
17	24Hr	The load will be on for 24 hours a day.

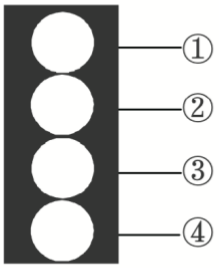
Solar Charge Controller (CONTINUED)

Product Operation (CONTINUED)

LCD Indicators



LED Indicators



①---PV array indicator	Indicating the controller's current charging mode.
②---BAT indicator	Indicating the battery's current state.
③---LOAD indicator	Indicating the loads' On/ Off state.
④---ERROR indicator	Indicating whether the controller is functioning normally.

ELECTRICAL (CONTINUED)

Solar Charge Controller (CONTINUED)

LED Indicators (CONTINUED)

PV Indicator (1)		Status
○	White Solid	The PV system is charging the battery bank
○	White Slow Flashing	The Controller is undergoing boost stage
○	White Single Flashing	The Controller is undergoing float stage
○	White Fast Flashing	The Controller is undergoing equalization stage
○	White Double Flashing	The oversized PV system is charging the battery bank at the rated current.
●	Off	The PV system is not charging the battery bank. PV not detected.
BATT Indicator (2)		**Status**
○	White Solid	Battery is normal
○	White Slow Flashing	Battery over-discharged
○	White Fast Flashing	Battery over-voltage
LOAD Indicator (3)		**Status**
○	White Solid	Load is on
○	White Fast Flashing	Load is over-loaded or short-circuited
●	Off	Load is off
ERROR Indicator (4)		**Status**
○	White Solid	System Error. Please check LCD for Error code
●	Off	System is operating normally

ELECTRICAL (CONTINUED)

Solar Charge Controller (CONTINUED)

Rover Protections

Protection	Behavior
PV Array Short Circuit	When PV shot circuit occurs, the controller will stop charging. Clear it to resume normal operation.
PV Overvoltage	if the PV voltage is larger than maximum input open voltage 100VDC. PV will remain disconnected until the voltage drops below 100VDC.
PV Overcurrent	The controller will limit the battery charging current to the maximum battery current rating. Therefore, an over-sized solar array will not operate at peak power.
Load Overload	If the current exceeds the maximum load current rating 1.05 times, the controller will disconnect the load. Overloading must be cleared up by reducing the load and restarting the controller.
Load Short Circuit	Fully protected against the load wiring short-circuit. Once the load short (more than quadruple rate current), the load short protection will start automatically. After 5 automatic load reconnect attempts, the faults must be cleared by restarting the controller.
PV Reverse Polarity	The controller will not operate if the PV wires are switched. Wire them correctly to resume normal controller operation.
Battery Reverse Polarity	The controller will not operate if the battery wires are switched. Wire them correctly to resume normal controller operation.
Over-Temperature	If the temperature of the controller heat sink exceeds 65℃, the controller will automatically start reducing the charging current. The controller will shut down when the temperature exceeds 85℃.

Solar Charge Controller (CONTINUED)

System Status Troubleshooting

PV indicator	Troubleshoot
Off during daylight	Ensure that the PV wires are correctly and tightly secured inside the charge controller PV terminals. Use a multi-meter to make sure the poles are correctly connected to the charge controller.
BATT Indicator	**Troubleshoot**
White Slow Flashing	Disconnect loads, if any, and let the PV modules charge the battery bank. Use a multi-meter to frequently check on any change in battery voltage to see if condition improves. This should ensure a fast charge. Otherwise, monitor the system and check to see if system improves.
White Fast Flashing	Using a multimeter check the battery voltage and verify it is not exceeding 32 volts.
Load Indicator	**Troubleshoot**
White Fast Flashing	The Load circuit on the controller is being shorted or overloaded. Please ensure the device is properly connected to the controller and make sure it does not exceed 20A (DC).
Error Indicator	**Troubleshoot**
WhiteSolid	System Error. Please check LCD for Error code

Error Codes

Error Number	Description
E0	No error detected
E1	Battery over-discharged
E2	Battery over-voltage
E3	Battery under-voltage
E4	Load short circuit
E5	Load overloaded
E6	Controller over-temperature
E8	PV input over-current
E10	PV over-voltage

ELECTRICAL (CONTINUED)

Solar Charge Controller (CONTINUED)

Maintenance

WARNING **Risk of Electric Shock! Make sure that all power is turned off before touching the terminals on the charge controller.**

For best controller performance, it is recommended that these tasks be performed from time to time.

1. Check that controller is mounted in a clean, dry, and ventilated area.
2. Check wiring going into the charge controller and make sure there is no wire damage or wear.
3. Tighten all terminals and inspect any loose, broken, or burnt up connections.
4. Make sure LED readings are consistent. Take necessary corrective action.
5. Check to make sure none of the terminals have any corrosion, insulation damage, high temperature, or any burnt/discoloration marks.

Battery Charging Parameters

Battery	GEL	SEALED	FLOODED	LI (LFP)	USER
Over-voltage Warning	16 V	16 V	16 V	16 V	9-17 V
Equalization Voltage	-----	14.6 V	14.8V	-----	9-17 V
Boost Voltage	14.2 V	14.4 V	14.6 V	14.4 V	9-17 V
Float Voltage	13.8 V	13.8 V	13.8 V	-----	9-17 V
Boost Return Voltage	13.2 V	13.2 V	13.2 V	13.2 V	9-17 V
Under Voltage Warning	12V	12V	12V	12V	9-17 V
Under Voltage Recover	12.2 V	12.2 V	12.2 V	12.2 V	9-17 V
Low Voltage Disconnect	11.0V	11.0V	11.0V	11.0V	9-17 V
Low Voltage Reconnect	12.6 V	12.6 V	12.6 V	12.6 V	9-17 V
Equalization Duration	-----	2 hours	2 hours	-----	0-10 Hrs.
Boost Duration	2 hours	2 hours	2 hours	-----	1-10 Hrs.

⚠WARNING

RISK OF ELECTRIC SHOCK! MAKE SURE THAT ALL POWER IS TURNED OFF BEFORE TOUCHING THE TERMINALS ON THE CHARGE CONTROLLER.

TV

TV Antenna

Your RV is equipped with a Winegard Air 360+ (AR2-360). The unit is internet ready and can be upgraded easily. with the Winegard Gateway for 4G LTE & Wi-Fi capabilities. A low-profile dome that requires no aiming or pointing to pick signals up. Be sure to read the full manual for your antenna for all features and functionality.

An initial channel scan must be run. Ensure that the antenna power supply is in the on position and the green light is illuminated. A scan will find any new channels that have been added in your area. A scan should be run when you travel and land in a new location. Follow the channel scan instructions for your TV when running a new scan.

- Rated up to 55 miles (compared to 35 miles for most competition) Filters out weak/unfunctional tv signals.
- Computer printed not hand pressed antenna (this ensures consistency)
- Large antennas (Two 4G LTE antennas, Wi-Fi antenna with the longest reach in the industry)
- Swappable SIM card, certified with AT&T, T-Mobile, and Verizon. Flexibility of use
- Ethernet port availability
- Functional up to 100 feet around your RV
- Unlimited users (tested over 250 users on one single device)

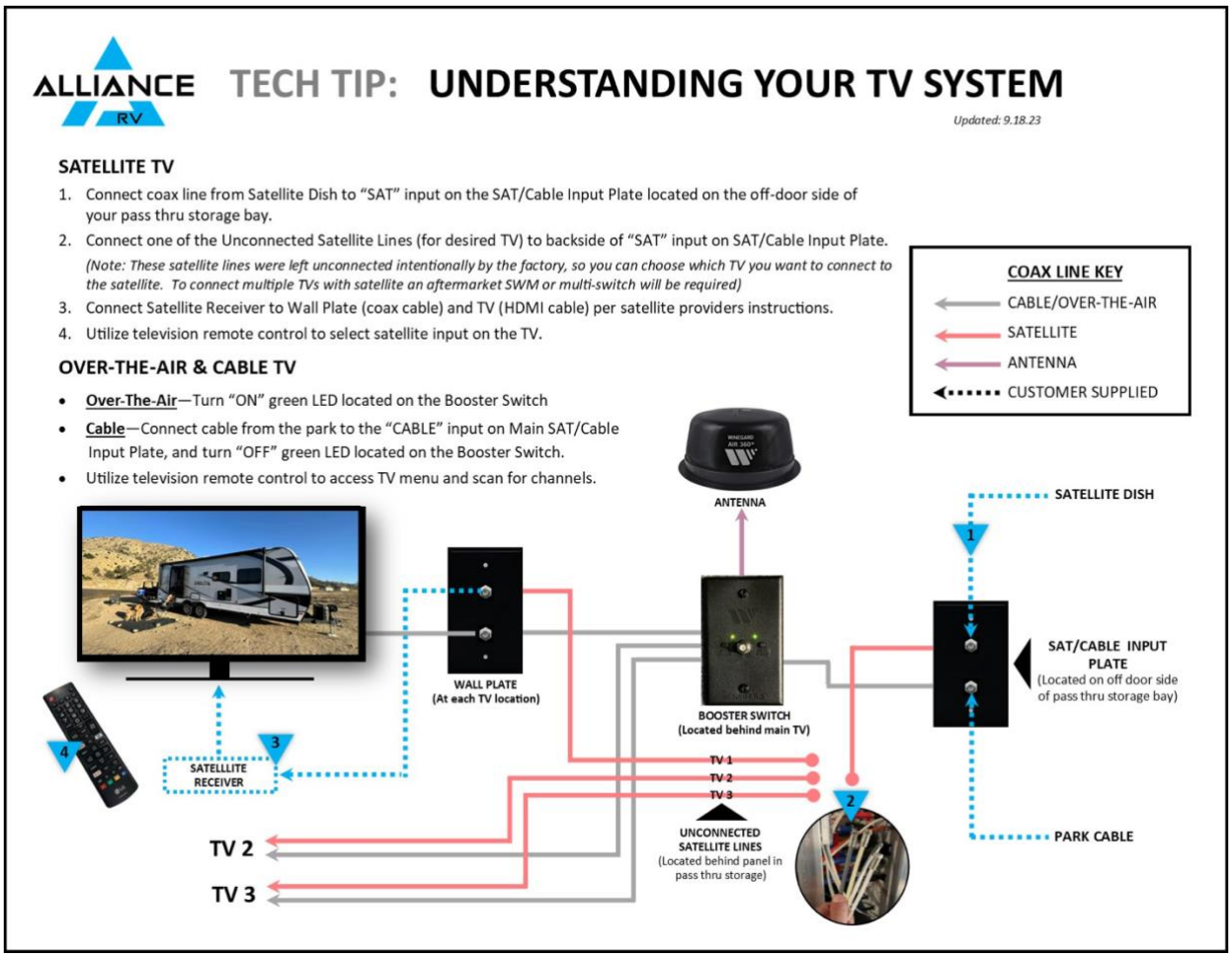
Booster Switch

A booster switch is located behind the living room TV or in the bedroom depending on floor plan selected.

This plate is utilized to toggle between cable and over-the-air channels. The small push button on the left side of the plate is used to turn On / Off the TV booster. The small push button on the right side activates power for an aftermarket Wi-Fi booster if you have added the Winegard Gateway to your coach.

TV (CONTINUED)

TV Wiring Diagram



Accessing TV Channels

- **OVER-THE-AIR**
  - Green LED light on "Booster Switch" must be ON.
  - Use the Scan feature on TV to find channels.
- **CABLE**
  - Green LED light on "Booster Switch" must be OFF.
  - Connect "Park" cable to CABLE input in the off-door side convenience center.
  - Use the scan feature on TV to find channels.
- **SATELLITEs**
  - Connect open connectors near the water pump in the storage bay as required for your specific satellite setup.
  - Connect incoming satellite cable to SAT input in the off-door side convenience center.
  - Connect wall plates to interior satellite box and TV as per instructions of your specific satellite system.

TV (CONTINUED)

Televisions

The Delta Travel Trailer is equipped with a 120-volt TV in the main living area and has TV connections in the bedroom and pass-through storage bay on the door (curb) side of the coach.

Please refer to the specific TV provided manuals in the Alliance Owners Bag for operating instructions for these televisions.

Bluetooth Ceiling Speaker

The Delta Travel Trailer is equipped with a ceiling mounted Bluetooth Speaker. The speaker is generally located in the Living room area (image below).

- You may connect your own devices that have Bluetooth output capability to connect to the speaker via Bluetooth for streaming music etc.
- If your TV has Bluetooth output capability, you can use the speaker's IRV app to scan for the TV and pair it with the speaker to hear TV sound from the speaker.

Connecting to Ceiling Speaker via Bluetooth

1. Download the IRV Audio app for your device from the app store. The app is by Patrick Ind. and the icon looks like this: →
2. From your device's Bluetooth menu, search for **iRV** and select it for pairing.
3. When prompted for it, enter pin code **8888**.

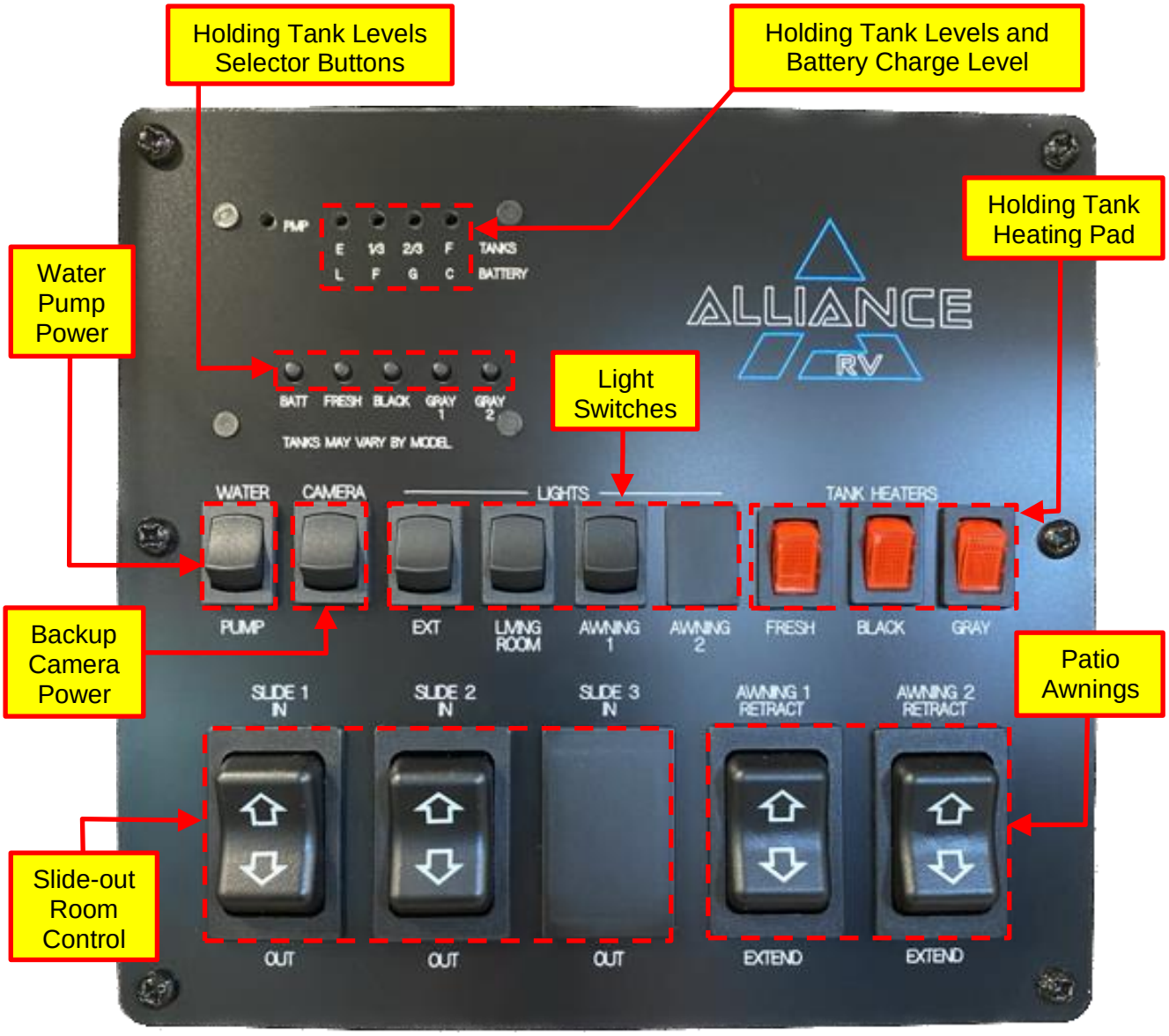
IRV Speaker by QAV

NOTE: The IRV Bluetooth Speaker can only be paired to one device at a time. If you've paired it with your TV, you will need to go into the TV menu and unpair the TV from the speaker, then you may connect another device to the speaker such as a phone, tablet of computer using the previous instructions 1 – 3 above.

MONITOR PANEL

This system allows monitoring of fresh water, gray water, black water, and battery levels. All functions are controlled from tact-type (click feel when operated) switches for easy operation. Power control of the water heater, water pump, tank heaters, some of the RV's lights, awnings and slide-outs are also done from the central monitor panel shown below.

See the callouts below, denoting the function of the various power/control switches.



Note: The same control panel is used on all Delta floor plans. Control panels in some floor plans will have blank covers in some switch positions and may be fully populated with switches in other floor plans. This is a function of the number of awnings, and slide-rooms a particular floor plan has.

AWNINGS

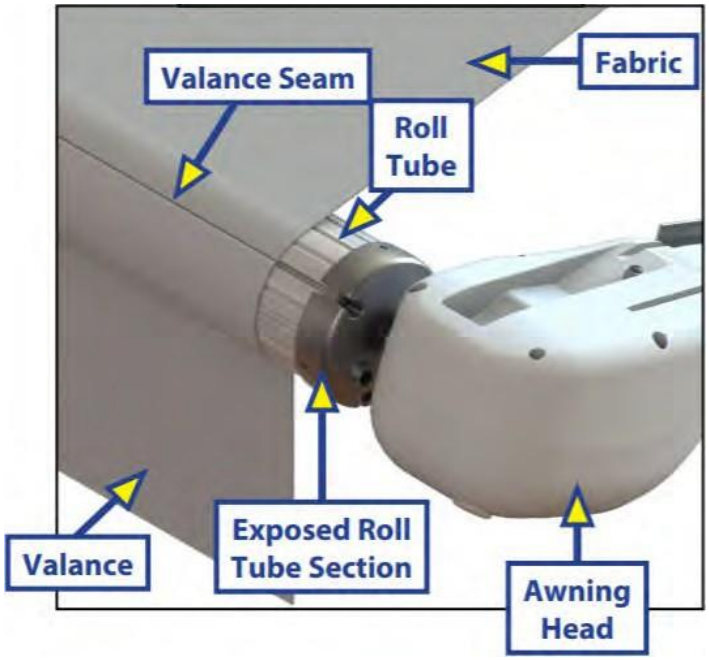
Your Alliance RV comes standard with a power awning and in some cases, depending on the floor plan, may have two power awnings installed from the factory. **NOTE:** The awnings are designed as a sunshade and should not be extended during incidents of high wind, rain, or extended time away from the RV.

Awning Operation

Extending the Awning

1. First verify that the battery is fully charge and connected to the electrical system.
2. Press and hold the awning extend button in the monitor panel.

    - **NOTE:** Extension is considered complete when the fabric is completely unrolled, the valance seam is visible, and a section of the awning tube is exposed.



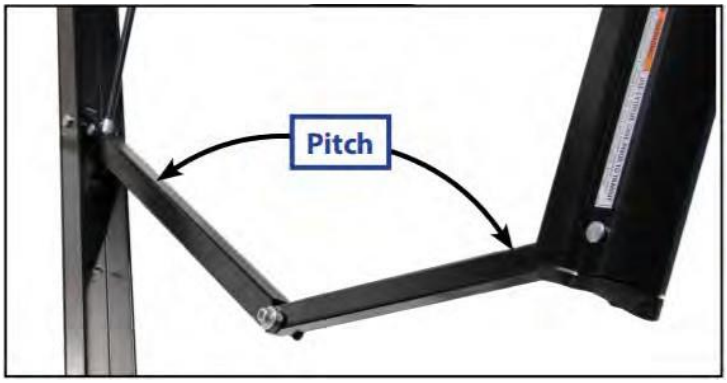
- **NOTE:** The fabric should always be above the tube. However, if the extend switch is engaged too long or it is accidentally hit, the awning will roll up backwards. To correct the orientation of the fabric, press the retract button to extend it to its correct position and normal operation can resume.
- **NOTE:** Tying down the roller tube once the awing is extended will not allow the free-floating support arms to work as designed and can cause damage to the awning or RV

Retracting the Awning

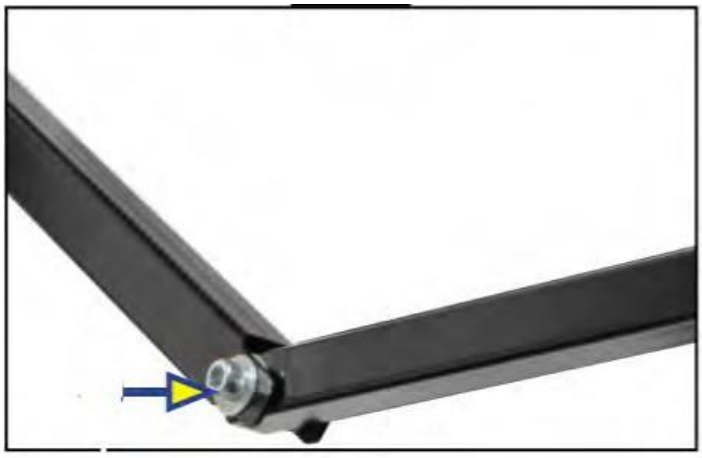
1. Always check the battery first to ensure its charged and tied into the electrical system.
    - **NOTE:** The awning can be retracted without resetting the pitch.
2. Press and hold the retract button until the awning is retracted completely, then release.
    - **NOTE:** Holding the awning retract button after awning is fully retracted may cause the 15-amp blade fuse to blow.

Adjusting the Awning Pitch

- With the awning extended, the pitch can be set by adjusting the articulating arm to tip one side of the awning to assist water runoff.
    - **NOTE:** It is recommended to retract the awning when raining as the awning will NOT pitch by itself to purge / discard the pooling of any water.
    - Choose the side of the awning for optimum shade or water runoff. Pull down on the joint of the articulating arm until desired pitch is set. Never push the joints of the articulating arms up. This will put tension on the gas strut, which can cause the strut to break.



- NOTE: If the articulating arm does not hold position, it can be tightened by adjusting the bolt in the center of the articulating arm.



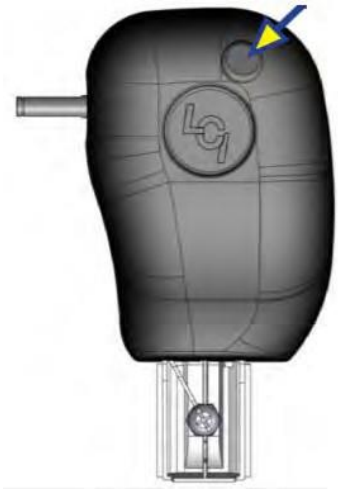
⚠WARNING

During incidents of high wind, heavy rain, or extended time away from the RV, be sure to retract the awning completely to prevent damage to the awning and the RV.

Manual Override

If you lose power or experience motor failure, the awning can be extended and retracted manually. This override can also be used if you're dry camping or camping without a battery.

1. Remove the rubber grommet form the drive head assembly, this will expose the override nut on the motor.

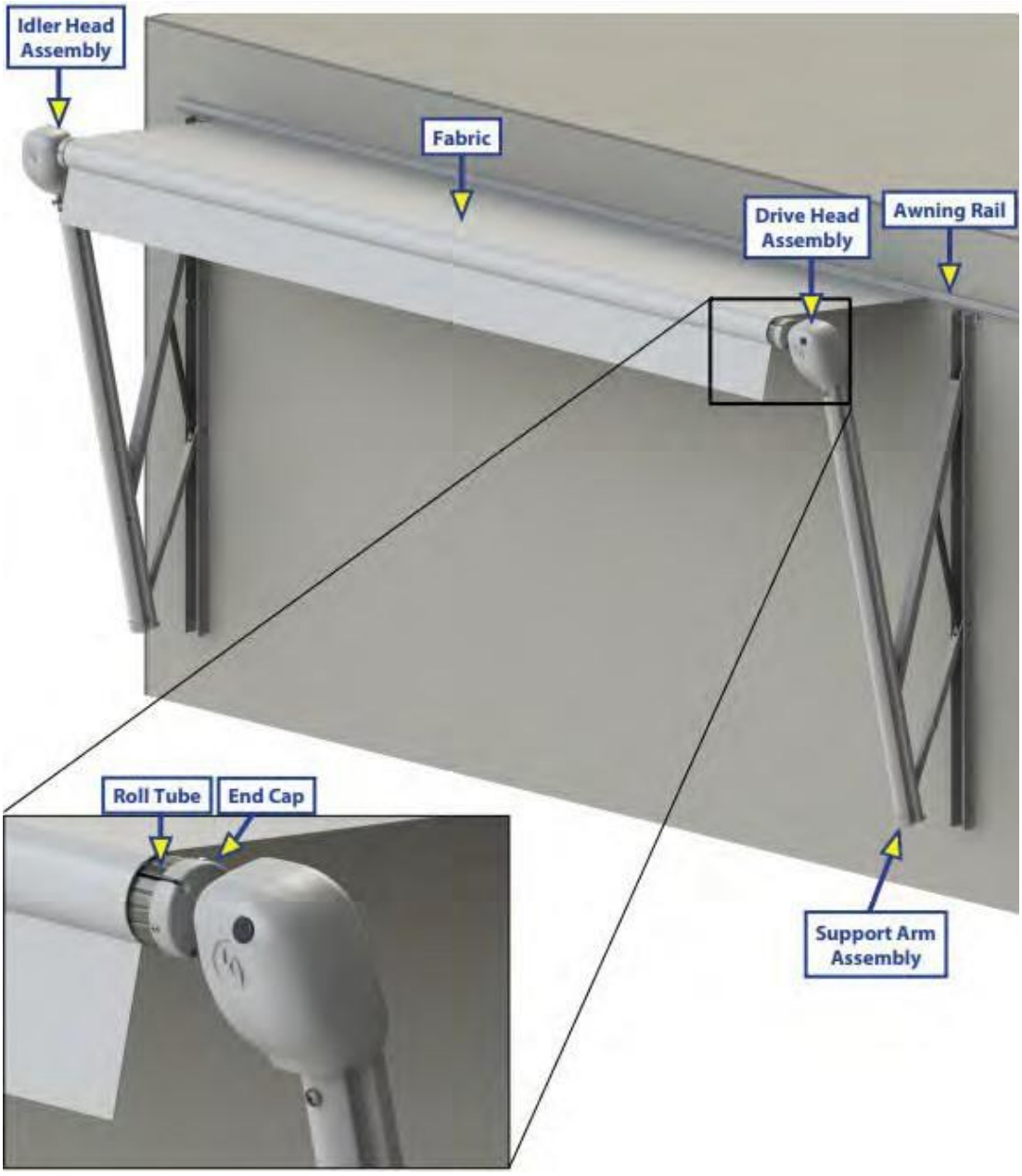


2. Using a 7/16" socket and a drill, turn the override nut counterclockwise to retract the awning.

3. When the awning is completely retracted, remove the drill, and replace the rubber grommet.

AWNINGS (CONTINUED)

Awning Component Breakdown



HEATING, COOLING & VENTILATION

Thermostat

The display indicates room temperature, set point, mode, and status. When the knob is pressed once, the thermostat will wake. When the mode button is pressed again, the mode will change. Press the up or down button to wake the thermostat, the set temperature will display, and the mode will flash. Press the up or down button again to change the set temperature. The thermostat will go back to sleep after 5 seconds of no activity.

Temperature Unit Change

The thermostat can display temperature in either Fahrenheit or Celsius. To change the temperature units, press and hold the knob until the display changes (4 seconds). The display will show the current temperature, the set point temperature (if it was previously displayed), and the temperature units options with the currently selected units blinking. Rotate the knob to change the selection. Upon selecting units, the temperature(s) displayed will update values accordingly. Once the desired units are blinking, press the knob to accept the changes.

Retained Settings

Some settings will be retained when power is lost, or the thermostat is rebooted. The retained settings include: • set points - Three set points are retained: one for cool, one for heat, elec (electric) heat and gas heat and one for cool+heat. • temperature units. Settings are stored automatically upon any changes made to any set point or temperature unit change.

Thermostat (CONTINUED)

HVAC Mode Descriptions

The table below describes which outputs are live by the thermostat in the specified HVAC mode.

HVAC Mode	Live Outputs
Off	HVAC outputs are disabled, fan is based on selection
Cool	Compressor and selected fan speed
Elec Heat	Electric heat and gas heat
Gas Heat	Gas Heat
Heat	
Cool+Heat	Cooling Cycle: Compressor and selected fan speed
	Heating Cycle: Electric heat (when Dip switch 2 is on), gas heat and Fan

While in cool+heat mode, a 15-minute timer (auto change-over timer) will prevent the opposite HVAC mode from operating if the set temperature and room temperature remain within 2° F. This timer is automatically disabled upon changing the HVAC mode, fan mode, or set point temperature.

Compressor/Elec Heat Short Cycle Protection (DOB)

To protect the compressor/heat pump from short cycling, a 3-minute delay will be initiated for both the compressor and elec heat outputs after either output's demand is satisfied. During this 3-minute delay, if there is a demand for the compressor or elec heat, the HVAC state segment will blink according to the selected mode. Once the delay has expired, the thermostat will resume normal operation.

Thermostat (CONTINUED)

HVAC Mode Descriptions (CONTINUED)

Sleep Mode

Sleep mode is activated automatically 10 seconds after the last user interaction. In sleep mode the LCD will dim, and power usage will drop. The first user interaction (rotation, knob press, or knob hold for 4 seconds) will wake up the device and brighten the display.

Auto Accept

If the user was changing any setting (HVAC mode, fan mode, set point, or temperature units) and the knob was not pressed to accept the current selection, the thermostat will auto accept the current selection after 7 seconds and apply any changes.

Manual Reboot

The thermostat can be manually rebooted by pressing and holding the knob for 12 seconds. When the knob is held for 4 seconds, the thermostat will go to the units selection screen, after another 4 seconds, the thermostat will begin a count down. Once the countdown reaches 0 and the display turns off, the device will wait for the knob to be released. Upon the release of the knob, the device reboots

Set Temperature Range

Temperature		
Mode	Range	
	°F	°C
Cooling (set)	33° F to 99°	1° C to 37°
Heating (set)	33° F to 99°	1° C to 37°

If the current temperature is below 33° F (0° C), the display will show “LO” and if the temperature is above 99° F (37° C), the display will show “HI”.

Air Conditioning

Your Delta Travel Trailer uses Coleman air conditioners in both a ducted and non-ducted version. These units are mounted on the exterior roof of the RV with a combination shroud mounted on the inside ceiling of the RV.

- Each air conditioner will be operated by its own individual thermostat.
- An internal temperature sensor on each thermostat acts as the room sensor.

NOTE: Operating your cooling system when the outdoor temp is below 50 deg Fahrenheit can cause damage to your cooling equipment.

Operating the Air Conditioning

General Information

NOTE: Operating your cooling system when the outdoor temp is below 50 deg Fahrenheit can cause damage to your cooling equipment.

These air conditioners were designed to operate from a 115 VAC, 60 HZ, 1 Phase power supply. Anytime an air conditioner is not operating properly, the power supply should be examined by a qualified technician to verify that the air conditioner is receiving the proper power supply.

Air Conditioning (CONTINUED)

General Information (CONTINUED)

The ability of the air conditioner to maintain the desired inside temperature depends on the heat gain of the recreational vehicle.

The size of the vehicle, amount of window area, amount of insulation, direct exposure to the sun, outside temperature, and the number of people in the recreational vehicle may increase the heat gain to such an extent that the capacity of the air conditioner is exceeded.

As a general rule, air entering the air conditioner will be cooled about 15 to 20 degrees, depending on the outside temperature and humidity conditions.

For example, if the air entering the return air grilles in the air conditioner is 80 degrees F., the air leaving the discharge grilles in the air conditioner will be 60 to 65 degrees F.

As long as this temperature difference is being maintained between the return air and discharge air, the air conditioner is operating at its capacity. If the desired inside temperature (normally 80 degrees F) cannot be maintained, then the heat gain of the RV is too great for the capacity of the air conditioner.

Parking the vehicle in a shaded area, keeping windows and doors shut and avoiding the use of heat producing appliances in the vehicle will help to reduce the heat gain. When possible, the addition of insulation and tinted glass (especially in uninsulated vans) should be considered.

Cooling

A. On the wall-mounted thermostat, select “LOW COOL” or “HIGH COOL” position.
B. Rotate the thermostat (temperature control) to the position that is the most comfortable to you. The thermostat will turn the compressor on when the temperature of the air entering the air conditioner rises a few degrees above the setting you have selected. Then the temperature of the air entering continues to cycle the compressor on and off in the above-mentioned fashion until the selector switch is turned to another mode of operation.
C. Position the louvers to the desired direction the discharge air is to flow. Note: The fan operation is constant, only the compressor cycles on the thermostat.

Operation During Cooler Nights (Cooling Operation)

It is important, when the outdoor temperature drops in the evening or during the night to below 75 degrees F., that the thermostat (temperature control) be set at a midpoint between “Warmer” and “Cooler”. If the setting is at “Cooler”, the evaporator coil may become iced-up and stop cooling. During the day when the temperatures have risen above 75 degrees F., reset the thermostat switch to the desired setting.

Air Conditioning (CONTINUED)

Cooling (CONTINUED)

NOTE: Should icing up occur, it is necessary to let the cooling (evaporator) coil defrost before normal cooling operation is resumed. During this time, operate the unit in the "HIGH FAN" position with the system at maximum air flow. When increased or full air flow is observed, the cooling coil should be clear of ice.

Short Cycling

When an air conditioner is in operation, its compressor circulates refrigerant under high pressure. Once off, it will take two to three minutes for this high pressure to equalize.

The air conditioning compressor is unable to start against high pressure. Therefore, once the air conditioner is turned off, it is important to leave it off for two to three minutes before restarting.

Short cycling the compressor (or starting it before pressures have equalized), will in some instances, kick the circuit breaker or overload.

Air Circulation Only

A. On the wall-mounted thermostat, select "LOW FAN" or for maximum air flow, select "HIGH FAN".
B. Position the louvers to the desired direction the discharge air is to flow.

NOTE: When the selector switch is in the "LOW FAN" or "HIGH FAN" position, the blower motor will operate continuously.

Maintenance

One of the biggest advantages to your new Coleman-Mach air conditioner is that the maintenance needed to keep the unit in good care is minimal. In fact, about the only thing you, the owner, must take care of is the cleaning and replacement of the filters.

Filters are made from long life non-allergenic natural fibers which can be cleaned and reused, and which completely filter the circulated air when the air conditioner is in operation. If the filters are not cleaned at regular intervals, they may become partially clogged with lint, dirt, grease, etc. A clogged filter will produce a loss of air volume and may eventually cause an icing-up of the cooling (evaporator) coil.

Air Conditioning (CONTINUED)

Maintenance (CONTINUED)

IMPORTANT

Do not operate your air conditioner for extended periods of time without the filter installed.

An even more serious condition occurs when the air conditioner is operated without a filter. When this happens the lint, grease, etc. that are normally stopped by the filter are now accumulating in the cooling coil. This not only leads to a loss of air volume and a possible icing up of the cooling coil but could also result in serious damage to the operating components of the air conditioner.

We recommend that the filters be cleaned and changed at least every two weeks when the air conditioner is in operation.

Cleaning and/or changing the filters:

1. Disengage the two ¼-turn fasteners that secure the ceiling assembly grille to the ceiling assembly.
2. Lower the grille and filters from the ceiling assembly.
3. Take filters out and either clean or exchange with other filters.
4. If the RV is equipped with a flush mount ceiling assembly, remove the four return air grille screws. Remove filter from grille and either clean or exchange with new filters.

NOTE: If replacement filters are necessary, the filters can be purchased from most Airxcel, Inc. Authorized Service Centers. It is recommended that spare filters be carried with the RV at all times to replace worn, torn or deteriorated filters.

Furnace

The Delta Travel Trailer is heated with an SF-Q series Suburban furnace. An exterior access panel allows for ease of service.

The furnace is operated with the Airxcel thermostat that is tied to the main air conditioner unit.

Operating the Furnace

⚠WARNING

DO NOT OPERATE THE FURNACE WHILE VEHICLE IS IN MOTION OR BEING TOWED

NOTE: During initial firing of this furnace, a burn-off of excess paint and oils remaining from manufacturing process may cause “smoking” for 5 – 10 minutes

Operating the Furnace (CONTINUED)

To Turn Furnace **ON**:

1. For the furnace to properly turn on, the propane gas valve must be fully open. Never attempt to operate the furnace with any of the gas valves partially open. Locate the manual shut off valve - this can be found on the furnace either inside or outside of the coach depending on if it is a front or rear gas hook-up (if equipped), or at the main vehicle propane tanks. See the images on the following page for reference.

   NOTE: This furnace is equipped with a valve shut-off switch. With the switch in the "OFF" position, the gas will not flow to burner, nor will the furnace operate.

   NOTE: The shut off valve will resist turning when it is in the full ON or OFF position. Do not force the valve past this point or force it open or closed.

2. Locate the interior thermostat on the interior of the RV (see image below). Set this to the desired interior temperature.

   NOTE: The furnace motor will not start instantly. Allow approximately 30 seconds for motor operation.

3. You will hear the furnace blower turn on. After about 30 seconds, the main burner will automatically ignite. **DO NOT** attempt to light the burner by hand.

4. If the burner does not light or no heat is coming from the heater vent(s), repeat Steps 1 -3.

5. If after three (3) attempts with no ignition, turn off the furnace as described in the following section. Contact your dealer or local recreational vehicle service agency for service. Do not continue to cycle furnace through the thermostat in an attempt to start the furnace.

   NOTE: If the furnace should lock out (fail to ignite after multiple attempts), the blower will continue to run for 5 minutes and then shut off. The system must be reset by resetting the interior thermostat.

To Turn Furnace **OFF**:

1. Set the thermostat to lowest setting, then move lever to "OFF" position.

2. Turn manual valve located either on the inside of the coach or outside of the coach (if equipped) or the valve at the exterior propane tank to the "OFF" position. DO NOT FORCE.

   NOTE: The shut off valve will resist turning when it is in the full OFF position. Do not force the valve past this point or force it open or closed.

3. Turn off all electric power to the appliance if service is to be performed. This can be done by turning the interior thermostat to OFF, and disconnecting from shore power if hooked up.

⚠ WARNING

Be sure the furnace and all ignition systems are "OFF" during *any* type of refueling (propane tanks or RV fuel tank if equipped), and while the vehicle is in motion or being towed.

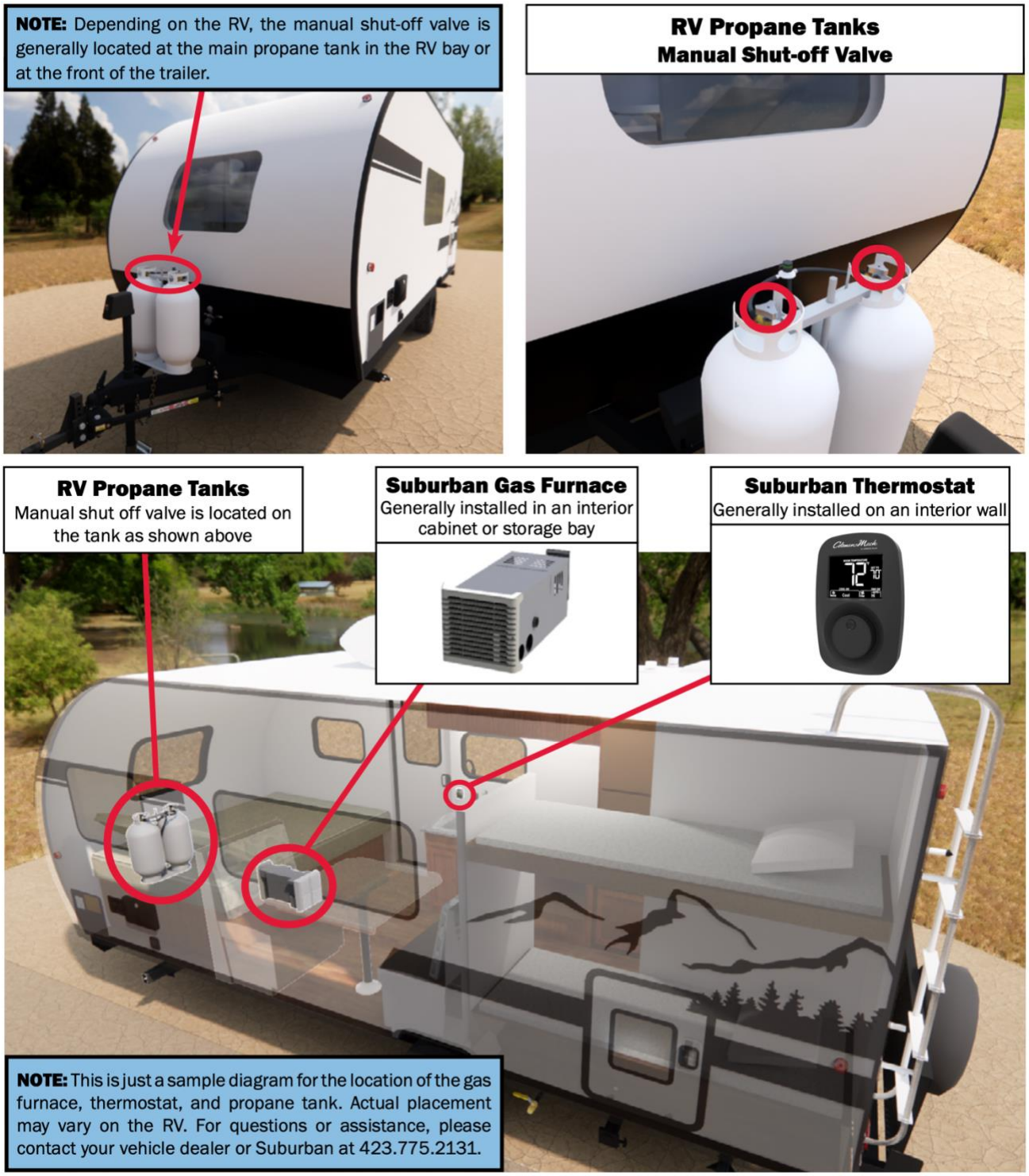
Thermostat

Suburban Thermostat

Generally installed on an interior wall

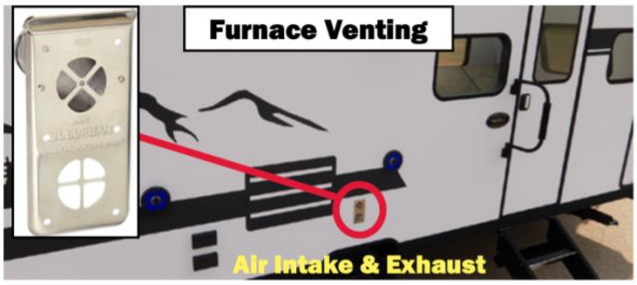
NOTE: The thermostat may appear different, as different types are available. This is just a sample image for the location of the thermostat and thermostat lever. Actual placement may vary.

Operating the Furnace (CONTINUED)



Maintenance and Cleaning

1. For the furnace to work efficiently and safely, the furnace venting for air flow must be free of any obstructions. Inspect furnace venting (see image below for location). Venting must be free of obstructions, void of soot, and properly routed to the exterior of the RV.



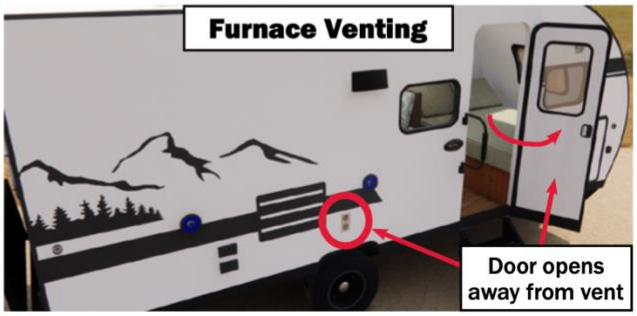
2. Periodically inspect the vent for obstructions or presence of soot. Soot is formed whenever combustion is incomplete. This is your visual warning that the furnace is operating in an unsafe manner. If soot is present, immediately shut the furnace down and contact your dealer or a qualified service person.
3. Inspect return air inlet openings to the furnace. Remove any restrictions to assure adequate air flow.
4. Keep furnace and surrounding areas clean. More frequent cleaning may be required due to excessive lint from carpeting, bedding material, etc. It is imperative that control compartments, burners, and circulating air passageways of the appliance be kept clean.
5. The motor is permanently lubricated and requires no oiling.
6. Keep the furnace area clear of any combustible materials, gasoline, or other flammable vapor and liquids. The furnace produces very hot temperatures that can ignite surrounding flammable materials. The furnace should be turned off when loading or unloading flammable materials.

⚠ WARNING

In any installation in which the vent of this appliance can be covered due to the construction of the RV or some special feature of the RV such as slide-out, pop-up, etc., always ensure that the appliance cannot be operated by setting the thermostat to the positive "OFF" position and shutting off all electrical and gas supply to the appliance.

NEVER OPERATE FURNACE WITH VENT COVERED.

7. Before operating the furnace, check the location of the furnace vent to make sure it will not be blocked by the opening of any door on the RV. If it can be blocked, do not operate the furnace with the door open.



8. Do not restrict the flow of combustion air or the warm air circulation to the furnace by covering the exterior vent.
9. Immediately shut furnace down and call a dealer or qualified service technician if furnace cycles erratically or delays on ignition.

⚠ WARNING

NEVER OPERATE FURNACE IF YOU SMELL PROPANE GAS.

If you smell propane gas, do not proceed with turning the furnace on. IMMEDIATELY turn off the gas supply at the source (propane tanks), extinguish any flames, and contact a dealer or qualified service person.

Safety

⚠WARNING

IF YOU DO NOT FOLLOW THESE INSTRUCTIONS EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.

A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not light the burner by hand.

B. BEFORE OPERATING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS

- Extinguish any open flame.
- Evacuate all persons from the vehicle.
- Shut off the gas supply at the gas container or source.
- Do not touch any electric switch or use any phone or radio in the vehicle.
- Do not start the vehicle's engine or electric generator.
- Contact the nearest gas supplier or qualified service technician for repairs.
- If you cannot reach a gas supplier or qualified service technician, contact the nearest fire department.
- Do not turn on the gas supply until the gas leak(s) has been repaired.

C. Do not use this furnace if any part has been underwater. A flood damaged furnace is extremely dangerous. Attempts to use the furnace can result in fire or explosion. A qualified service agency should be contacted to inspect the furnace and to replace all gas controls, control system parts, electrical parts that have been wet or the furnace if deemed necessary.

Ventilation

In addition to your RV's windows, your RV is equipped with a ceiling vent fan, located in the bathroom. This fan is crucial in your RV's ventilation and assisting with minimizing condensation, especially when showering, in extended use and extreme temperature situations.

Operating the Bathroom Vent Fan

1. Rotate the vent cover knob to open the vent cover.
2. Press the pushbutton switch located on the fan as shown below. Press the button to toggle between On and Off states.
3. You may also open the vent cover without turning the fan.
4. Note: When storing your RV in a covered space, some owners prefer to partially open a vent fan lid (with fan Off) to keep the RV interior passively ventilated.

On / Off Pushbutton Switch

APPLIANCES

BEFORE using your Travel Trailer's appliances:

- **Please read and understand the original manufacturers owner manual for each component.**
- **Please follow all included instructions, notes, warnings, & safety precautions located within the manufacturer owner manuals when using the appliances in your RV.**
- **If you have any questions, contact your dealer or Alliance RV Customer Service.**

These manuals can be found in your Owner Information Bag and on the Alliance RV website.

Refrigerator

This unit is equipped with a refrigerator that is operated by 12-volt power supplied by your RV's batteries.

Please refer to owners manual for operating instuctions.

Microwave

This unit is equipped with a microwave that requires 120-volt power. Sufficient power needs to be available before operation.

- For your safety, the warnings and cautions outlined in this section must be followed to minimize the risk of fire or explosion or to prevent property damage, death or personal injury.
- Secure the microwave turntable BEFORE travel to prevent damage.

Please refer to owners manual for operating instructions.

Range Hood

This rangehood's powerful 12V fan and removable air-filter work in tandem to provide efficient ventilation without excessive noise. It filters out smoke and other odors from cooking. Use your range hood anytime you cook, this will help maintain the air quality in your RV.

Please refer to owners manual for operating instructions.

APPLIANCES (CONTINUED)

Propane Gas Warnings

For all Propane using items in your RV, such as but not limited to:

- Furnace
- Water Heater
- Stove / Oven
- Grill / Griddle
- Refrigerator (Gas Absorption style)

⚠WARNING

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE

⚠WARNING

IF YOU SMELL GAS:

1. **EXTINGUISH ANY OPEN FLAME**
2. **DO NOT TRY TO LIGHT ANY APPLIANCE**
3. **DO NOT TOUCH ANY ELECTRICAL SWITCH**
4. **IMMEDIATELY CALL YOUR LOCAL EMERGENCY SERVICES**

⚠WARNING

READ ALL INSTRUCTIONS IN THE RANGE OWNERS MANUAL BEFORE USING THIS APPLIANCE

⚠WARNING

NEVER USE THE RANGE AS A SOURCE OF HEAT

APPLIANCES (CONTINUED)

Gas Range with Oven

Your gas range is designed for reliable and trouble-free performance.

To prevent damage, be sure to use the manufacturer recommended size flat bottom pan(s). Ensuring proper pan size to burner size will increase efficiency. The pan should be of sufficient size to cover the burner, but not more than an inch larger than the burner grate in use.

DO NOT: Use cookware that covers more than one range top burner at a time. This can lead to the creation of excessive heat and can cause melting, sooting, or discoloration.

Please refer to the owner's manual for the appliance for operating instructions.

Grill / Griddle

Your Delta RV is equipped with an outdoor-operated Propane combination Grill / Griddle.

NOTE: FOR RV USE OUTDOORS ONLY

Example of Grill / Griddle

Grill / Griddle (CONTINUED)

Please refer to the owner's manual for the appliance for operating instructions.

General Instructions for Operation

LIGHTING GRIDDLE

Read all steps carefully.

1. Push the control knob in and turn counterclockwise to the
2. "Light" position.
3. If fire does not appear in 5 seconds, shut the burner control off, wait for 5 minutes, and repeat the lighting procedure.

USING A MATCH FOR LIGHTING

1. Don't lean over the Griddle while lighting.
2. Ensure no Gas leaks occur.
3. Control knob must be in the "OFF" position. Get the griddle top off.
4. Light a long match, then put the match on the right or left side of the burner. Press the control knob in and turn counterclockwise to the HIGH position. Be sure the burner lights and keep it lit.

CHECK BURNER FIRE

1. Remove the griddle plate or the grease cup before lighting as to visually check the fire.
2. Light burner and turn knob from high to low you will see a smaller fire in the low position and bigger in the high position.
3. Check the fire before each use. If you only see low flame, refer to "Burner has only low flame" regardless of knob position in the Troubleshooting section.
4. Empty / change the griddle plate or grease cup before cooking.

TURNING GRIDDLE OFF

Turn the CONTROL KNOB to the OFF position.

SEASONING

Seasoning is baking oil into metal to make a sticky resistant surface and protect against oxidation.

There is a layer of soy oil on the appliance to protect against rust during transporting. It can be cleaned off with warm soapy water when you begin your initial seasoning.

THE CHOICE OF OIL

The choice of oils is important for seasoning. Use Flax seed oil for your initial seasoning as it creates a very durable bond. Any of the following oil can be used:

- Flax Seed Oil
- Extra Virgin Olive Oil
- Vegetable Oil
- Soy Oil

The purpose behind your initial seasoning is to create a bond with the griddle top by coating your griddle with oil and heat the oil above its smoke point to polymerize the oil. You will make a black, stick resistant surface easy to clean.

SEASONING THE GRIDDLE

1. Put small amount of chosen oil to the surface of the griddle top and spread it around with a cloth or paper towel (use tongs or metal spatula to hold the cloth or paper towel).
2. Set to medium-high heat.
3. It is good to heat the oil until it reaches its "smoke-point" and let it continue to discolor.
4. To make a good black surface, make sure to repeat steps 1 through 3 a few times after it cool down.

Grill / Griddle (CONTINUED)

SAFETY OF FOOD

The safety of food is a key part for enjoying the outdoor cooking. For keeping food safe from harmful bacteria, read these four basic steps:

1. Clean: Use HOT SOAPY water to wash hands, utensils, and surfaces before and after contacting raw meat and poultry.
2. Separate: To avoid cross contamination, separate raw meats, and poultry from ready-to-eat foods. Use a clean platter and utensils when removing cooked foods.
3. Cook: Make sure meat and poultry are cooked thoroughly to kill bacteria. You can use a thermometer to test for safe internal food temperatures.

⚠ DANGER

Never put griddle in storage or travel mode immediately after use or when it is too hot to touch. Make sure it is cooled down. Not following this direction could result in fire resulting in property damage, personal injury, or death.

STORAGE OF GRIDDLE

For portable/tabletop griddles, follow applicable safety steps:

- Turn unit off.
- Allow unit to come to room temperature.
- Disconnect unit from the recreational vehicles LP gas supply system via quick-disconnect fitting.

CLEAN THE BURNER

Follow these instructions to clean the burner:

1. Shut gas OFF at the control knob.
2. Ensure the entire griddle is cooled down.
3. Remove griddle plate from assembly.
4. Use wire brush to clean the entire outer surface of the burner to remove food residue and dirt.
5. Clean any blocked ports with a stiff wire such as an open paper clip.
6. Wear eye protection and use an air hose to force air into the burner tube and out the burner ports. Ensure each port to make sure air is flowing out each respective nozzle.

APPLIANCES (CONTINUED)

Grill / Griddle (CONTINUED)

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
Burner Can't be light using the piezoelectric ignition system	No Propane Supply or empty supply	Check shutoff valves Fill propane supply
	Defective regulator	Check regulator Call Customer Service
	Electrode not in correct position or is Damaged/Faulty	Ensure electrode is positioned as shown in "Ignition Electrode Position". Call Customer Service
	Obstructions in gas injection or gas hose	Have injection and gas hose cleaned
	Obstructions in the burner	Clean the burner following steps outlined in "Clean The Burner "
Burner can't be lighted with a match	No Propane Supply/empty supply	Have shutoff valves checked Fill Propane supply
	Defective regulator	Check regulator . Call Customer Service
	Obstructions in gas injection or gas hose	Clean injection and gas hose
	Obstructions in the burner	Refer to "Cleaning The Burner " to clean the burner
Burner has small fire regardless of knob position	Low inlet gas supply pressure	Verify gas pressure on both inlet side and outlet side of appliance regulator. Call Customer Service
	Low gas supply	Replenish Propane Supply
	Defective control valve	Call Customer Service
Burner has a hissing or roaring noise	Obstructions in the burner	Refer to "Cleaning The Burner " to clean the burner
	Obstructions in gas injection or gas hose	Have injection and gas hose cleaned
	Burner could be damaged	Call Customer Service

PLUMBING AND UTILITIES

Convenience Centers

The Delta Travel Trailer features dual Convenience Centers. They are located inside the pass-through storage bay on the aft wall, just inside both storage bay doors (see pictures of the convenience centers on the next page).

Each convenience center consists of a panel with various items on them. The convenience centers are your hub for various systems and controls as outlined below.

Door Side (DS)	Off Door-Side (ODS)
• 120 V AC Receptacle • Cable / OTA Output Jack • Satellite TV Output Jack • Floor Wire/Hose Entry Cover • Water Spray-port • USB-A / USB-C Power Ports • Secondary Patio Awning Switch	• 120 V AC Receptacle • Cable TV Input Jack • Satellite TV Input Jack • Floor Wire/Hose Entry Cover • Water Spray-port • Hot / Cold Faucets for all Spray-ports • Fresh Water Inlet • Black Tank Flush Port • City Fill / Tank Fill Selector Valve • Light (on / off / motion settings) • Battery Disconnect Switch • Secondary ODS Slide-out Switch • Secondary Water Pump Switch • Tire Linc Prep (repeater dock) • Scissor Jack Drill Adapter Socket

With these systems and controls, you'll have the ability to perform necessarily functions from a centralized and easy to access location. These include some of the following:

- Power-fill your fresh water tank for dry camping.
- Turn your water pump on /off.
- Use your pump to supply water to fixtures from the fresh water tank.
- Connect to city water at the camping site to supply water to fixtures.
- Winterize your plumbing lines and fixtures.
- Rinse black tank to help control odors and prevent sewage buildup.
- Rinse off items outside unit with a hot/cold faucet.
- Connect cable TV and Satellite coax lines.
- Operate your slide-out rooms.
- Turn battery power on / off.

Convenience Centers (CONTINUED)

Panel Layouts

Door Side (DS) Convenience Panel

Spray Port

Cable and Satellite Outputs

Patio Awning Switch

120V AC Receptacle

USB Ports

Off-Door Side Convenience Panel

Water Pump Switch

Slide-Out Switch

120V AC Receptacle

City / Tank Valve

Faucet for Spray Ports

Spray Port

Fresh Water Inlet

Battery Switch

Black Tank Flush Port

Convenience Centers (CONTINUED)

Cable and Satellite Connection

Cable and Satellite TV sources connect to the TV wall-plate on the off-door side convenience center panel.

1. For Cable TV connection, connect the threaded coax from the source to the “CABLE” connection.
2. For Satellite TV connection, connect the threaded coax from the satellite dish to the “SAT” connection.

TV Wall-Plate in Convenience Center Panel

Convenience Centers (CONTINUED)

Filling the Fresh Water Tank – Power Fill

Using the convenient City Fill / Tank Fill valve, it's easy to power fill your fresh water tank to prepare for dry camping.

1. Connect your fresh water hose to the Fresh Water Inlet on the off-door side convenience center panel.
2. Turn the City Fill / Tank Fill valve handle to the TANK FILL position.
3. Connect the other end of the fresh water hose to the water supply.
4. Turn the water supply on at the source. The fresh water tank should begin to fill.

   NOTE: DO NOT OVERFILL TANK!

5. When desired level in fresh water tank is reached, turn water off at the source and disconnect the fresh water hose from the source.
6. Disconnect the fresh water hose from the fresh water inlet on the convenience center panel, drain the hose and store it for future use.

Fresh Water Inlet

City Fill / Tank Fill Valve

Convenience Centers (CONTINUED)

Fill and/or Sanitize the Fresh Water Tank with the Pump

Using the convenient Sanitizing Valve, Hose and Water Pump, it's easy to sanitize your plumbing system, water taps and other water using items.

1. Remove felted panel from center of aft wall of the pass-through storage bay to expose the water pump and Sanitizing Valve and Suction Hose.
2. Prepare water or sanitizing solution in a bucket, then place bucket on floor of pass-through storage bay.
3. Rotate the sanitizing valve so the valve handle is in line with the sanitizing hose.
4. Remove the cap from the end of the sanitizing hose, place it in the bucket and secure it from falling out.
5. Turn the Water Pump ON and allow the system to water system pressurize.
6. Once pressurized, open all water using taps and other water using items., one-at-a-time, hot and cold.
7. When system is sanitized, turn water pump OFF, rotate sanitize valve in line with the water pump, remove sanitizing hose from bucket and replace cap on end of hose.

Sanitize Valve and Hose

Remove cap from this hose and place hose end into a bucket holding water or sanitizing solution.

Rotate this valve to enable sanitization pickup hose for suctioning.

NOTE: For sanitizing, a solution of 1 gallon of water and one quarter cup of household bleach should be prepared for every fifteen gallons of holding tank capacity.

Convenience Centers (CONTINUED)

Using the Fresh Water Tank for Dry Camping

When dry camping, you may use fresh water you Power-Filled into your Fresh Water Tank. Do so as follows:

1. Rotate the Tank Fill / City Fill valve (see image below) to the **Tank Fill** position.
2. Turn on the Water Pump and allow the plumbing system to pressurize.
3. Use your faucets and other water using system as normal.

NOTE: It's normal to hear the water pump running when you are using water and for up to a minute after all water taps are off. This is the water pump repressurizing your plumbing system. If the water pump continues to run when not using water, it could mean any of the following:

a. You may be out of water in your fresh water tank.
b. You may have a loose plumbing connection between the tank and the pump input where air is being admitted to the plumbing system and not allowing the pump to prime.
c. You may have a plumbing leak somewhere that is causing your plumbing system to lose pressure, thereby making the pump run to repressurize the system.

Tank Fill / City Fill Valve

Convenience Centers (CONTINUED)

Connecting to City Water

When camping with access to a pressurized water source (e.g., campground etc.), you'll typically want to connect your RV to that water source. Do so as follows:

1. Connect your drinking water hose to the water source, turn the water on and allow the water to run for a few seconds to flush the water source hydrant and rinse out the hose, then turn the water off.
2. Connect the other end of the hose to the white City Water Inlet (see image below) on the panel in the off-door side convenience center.
3. Turn the Tank Fill / City Fill valve (see image below) to **City Fill**.
4. Turn the source water supply on.
5. Use your faucets and other water using system as normal.

City Water Inlet

Tank Fill / City Fill Valve

Convenience Centers (CONTINUED)

Winterizing

1. Open low-point drains and fresh water tank drain (see images on next page).
2. Open all water fixtures, both hot & cold inside and outside the trailer to admit air to as an aid in draining. Allow water to drain completely.

   **Optional: At this point, if you want to use the 'compressed air' method, blow out the lines with low pressure compressed air (NOT to exceed 30psi).
3. Close low-point drains and fresh water tank drain valve. Close all water fixture valves.
4. Make sure water control valve in convenience center is turned to City Fill (12 o'clock) position.

Rotate Valve to City Fill for Winterizing.

5. Open the felted access panel near the center of the pass-through storage bay directly inboard of ODS convenience center. This is where the pump resides.

6. Turn valve near pump to draw from the short, attached, suction hose. Place this hose in a container of RV/Marine antifreeze (hereafter referred to as 'AF').

Remove cap from this hose and place hose end into a container holding RV/Marine antifreeze solution.

Rotate this valve to enable pickup hose for suctioning RV/Marine antifreeze solution.

Convenience Centers (CONTINUED)

Winterizing (CONTINUED)

7. Turn on water pump from convenience center switch or inside switch.
8. Water pump will draw AF from container and pump it through coach's fresh water system. NOTE: During the rest of this process, it's important to make sure the suction hose remains submerged in AF.
9. Go to each water fixture and open one cold valve allowing it to flow until air is discharged and undiluted AF flows. Then do this to the hot valve of same fixture.
10. Repeat for every fixture of the RV including the toilet(s), all three outside shower ports (be sure to run both hot and cold at convenience center shower valve), and both the hot & cold low-point drains.
11. Turn off water pump. Return winterization valve near pump back to normal state (not drawing from container). Re- install access panel.

The **Low-Point Drains**, **Fresh Water Tank Drain** and **Fresh Water Tank Vent / Overflow** are all located on the off-door side of the RV, all protruding through the underbelly.

Low-Point Drains

Fresh Water Tank Drain

Fresh Water Tank Vent / Overflow

Fresh Water System

Your RVs fresh water system is made up of two inputs, a potable fresh water holding tank with a pressure demand 12-volt water pump and a city water connection that provides water to the system and bypasses the fresh water holding tank and the water pump to supply your fresh water from an already pressurized source. All holding tanks are equipped with electric heating pads that are controlled in the central monitor panel.

- The potable water system consists of a fresh water holding tank which is filled at the docking station (covered above). The tank is emptied/drained at a “low point” drain on the exterior beneath the fresh water holding tank. Always be sure to drain your fresh water tank between uses, and during storage in the winter, this will prevent any stagnation that can cause water to smell and/or taste bad.
- The water pump: When not hooked up to an external water supply, the RVs fresh water tank is utilized. The water is pumped from the fresh water tank by the water pump. When the power is switched on, the pump works automatically whenever a faucet is on. The water pump is self-priming and when the system pressure drops below 55psi, the water pump will energize and re-pressurize the system to that 55psi.
- This tank is equipped with a safety overflow drain. This drain will come straight out of the underbelly of the RV beneath the fresh water tank. This drain should never be plugged or obstructed. Keeping this line open for safety overflow will prevent damage that can occur from overfilling your fresh water tank.
- The city water system is powered by a water hose connected to the docking station (covered above). When connected and turned on, the system will automatically pressurize. It is always a good idea to bleed the system by turning on a hot water faucet until the water runs smoothly and there is no air present.

NOTE: High water pressure can damage your water system. Due to pressure inconsistencies in potential water sources, an RV water pressure regulator can be used between the hose and the connection point to ensure an always consistent water pressure coming into the RV. A safe setting is 45psi.

Draining your fresh water system (required for winterization, covered in the centralized docking station portion of this manual, when the RV is not being used and/or is being stored in the cold or winter months), all tanks should be emptied. This will prevent damage from freezing. Every RV has low point drains in which the fresh water system can be evacuated. These low point drains will be located on the off-door side of the RV near the water heater directly beneath the RV and coming out of the underbelly. These are shut off valves that can be opened and closed with a thumb turn.

Not regulating water pressure and allowing water pressure that is too high to be connected to the RV can cause irreversible damage to your RVs fresh water system.

Waste Water System

The waste system contains holding tanks. The quantity of tanks along with location is dictated by the floor plan of the RV. All tanks are equipped with electric heating pads that can be controlled in the monitor panel.

- Black tanks hold toilet waste. There are some things to note with black tanks. Black tanks typically will need a digester/deodorant (talk with your RV dealer for recommendations). Black tanks require RV toilet paper. RV toilet paper breaks down quicker and is specifically designed for this type of waste water system. You'll find that this toilet paper breaks down more quickly and allows the waste water to flow more easily during the dumping process. A black tanks monitoring electronics can be adversely affected by debris handing up on the reading probes. For this case, we have installed a tank flush for your black tank(s) to assist in keeping the probe indicators clean so that you have accurate readings on the tank's levels.
- Gray tanks, an integral part of the waste water system. Gray tanks hold your sink and shower waste water. Gray tanks require less maintenance due to the difference in waste produce making its way into the tank. It may be ideal to dump black tanks first and then your gray tanks, the gray tank running thru the main dump will help in keep the pipeline cleaner.

Toilet

Alliance RV uses a foot flush RV toilet. After installation by Alliance RV, the entire waste system is flood tested for leaks by filling the system with water to the rim of the bowl.

To use the toilet, first add water to the toilet by pressing the flush pedal only partially down. Water will flow into the bowl while the flush ball remains closed. If the flush ball moves, let up slightly on the pedal until the ball closes. Adding water to the empty bowl acts as a trap and helps prevent holding tank odors from entering the RV. Adding water is always recommended prior to flushing solids and/or toilet paper.

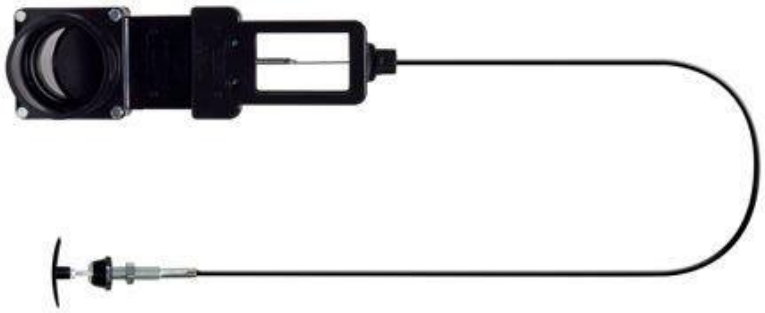
To flush the toilet, press the pedal down until it contacts the floor. Release the pedal after the flush is complete. When flushing liquids, quick press of the pedal for 1 to 2 seconds will do. When flushing solids, the pedal should be pressed until the contents are rinsed from the bowl. Never flush longer than needed as this will cause holding tank capacity to be used up and require more frequent black tank dumps. A small amount of water should collect in the bowl after a flush, this will create an airtight seal. Further instructions and information can be found in the toilet owners/users manuals.

Dumping Your Waste Tanks

Your RV is equipped with cable termination valves for each of your waste holding tanks. In most cases, these valves are routed to the off-door side of the RV and mounted below the frame-rail (see examples image below).

Waste Tank Valve Cable Pull Handle

Waste Tank Valve Cable Pull Assembly



Many RVers use a process like the one below for dumping their waste tanks:

1. Remove the cap from the dump outlet on the off-door side of RV.
2. Connect a flexible sewer hose to the dump outlet.
3. Connect the other end of the sewer hose to an approved sewer dump inlet at your campsite or other approved sewer dump station.
4. Pull the handle marked as your Black tank to drain into the approved dump inlet / station.
5. When the black tank effluent stops flowing, it's time to rinse the black tank. **Follow steps 4 through 10 of the next section if you're rinsing your black tank(s) before moving on to emptying your gray tank(s)**.
6. After the black tank is rinsed, its dump valve closed and while the sewer hose is still connected to the RV dump outlet and the approved dump inlet / station, pull the handle(s) marked as your gray tank(s) to drain into the approved dump inlet / station.
7. When the gray tank effluent stops flowing, close all gray tank valves, unhook the flexible sewer hose from the dump outlet of the RV, replace the dump outlet cap, elevate that end of the sewer hose slightly and walk that end over towards the approved dump inlet / station and lift it up higher to drain it into the dump.
8. Disconnect the sewer hose from the sewer dump and store it away.

Rinsing Black Tank using Tank Flush

Your black waste water tank(s) is/are fitted with a tank spray nozzle on the side wall of the tank.

When rinsing your black tank(s) during the process of emptying your gray and black tanks, use only steps 4 through 10 below in conjunction with the Dumping your Waste Tanks process on the previous page.

When rinsing your black tank(s) as a standalone process, follow all 11 steps below.

1. Remove the cap from the dump outlet on the off-door side of RV.
2. Connect a flexible sewer hose to the dump outlet of the RV.
3. Connect the other end of the sewer hose to an approved sewer dump inlet at your campsite or other approved sewer dump station.
4. Connect a garden hose to the TANK FLUSH inlet on the off-door side convenience center panel. Connect the other end of the garden hose to a pressurized water source.
5. Remove the cap from the dump outlet on the off-door side of RV.
6. Connect a flexible sewer hose to the dump outlet.
7. Connect the other end of the sewer hose to an approved sewer dump inlet at your campsite or other approved sewer dump station. Pull the handle marked as your Black tank and allow the rinse water and remaining effluent to drain into the approved dump inlet / station.
8. Fully open the faucet at the water source (40 PSI minimum) and flush the tank until the water coming out is clear.
9. When the water coming out is clear, fully shut off the faucet at the water source, then close the black tank valve.
10. Disconnect the garden hose from the TANK FLUSH inlet and the water source and store it.
11. Disconnect the sewer hose from the dump outlet of the RV, replace the dump outlet cap, disconnect the sewer hose from the sewer dump and store it.

PLUMBING AND UTILITIES (CONTINUED)

Monitoring Your Water Systems

This panel monitors the fill levels of the fresh water, grey water, and black water tanks. You will also operate the heaters on the holding tanks here and as well as the power to the fresh water pump. These switches will illuminate while in the on position. You'll also find a water pump switch on a panel inside the off-door side pass-through bay.

When an individual button is pressed, the lights above the switch illuminate to reveal the level of the selection pushed. For the battery level indicator, the individual letters mean the following:

- L = Low at 6.0 volts
- F = Fair at 11.6 volts
- G = Good at 12.1 volts
- C = Charge at 12.7 volts

The water pump is operated with the water pump switch located on the Control Panel (image above).

Note: The holding tank heaters will also be operated from the monitor panel (image above.

Water Heater

Overview

Your Delta RV includes a Furrion Tankless Water Heater.

Stay comfortable with consistent hot water straight from your RV shower and faucets. The output capacity of 2.4 gallons per minute and heating capacity of 60,000 BTUs translates to an RV water heater that is made to keep up with your hot water demands.

The tankless water heater operates on LP gas only (with DC power controls). The water heater is managed by a controller located on the wall in the bathroom (image below).

Water Heater – Exterior View

Wall Controller

WARNING: If the information in these instructions is not followed exactly, a fire or explosion may result causing property damage, personal injury or death.

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS

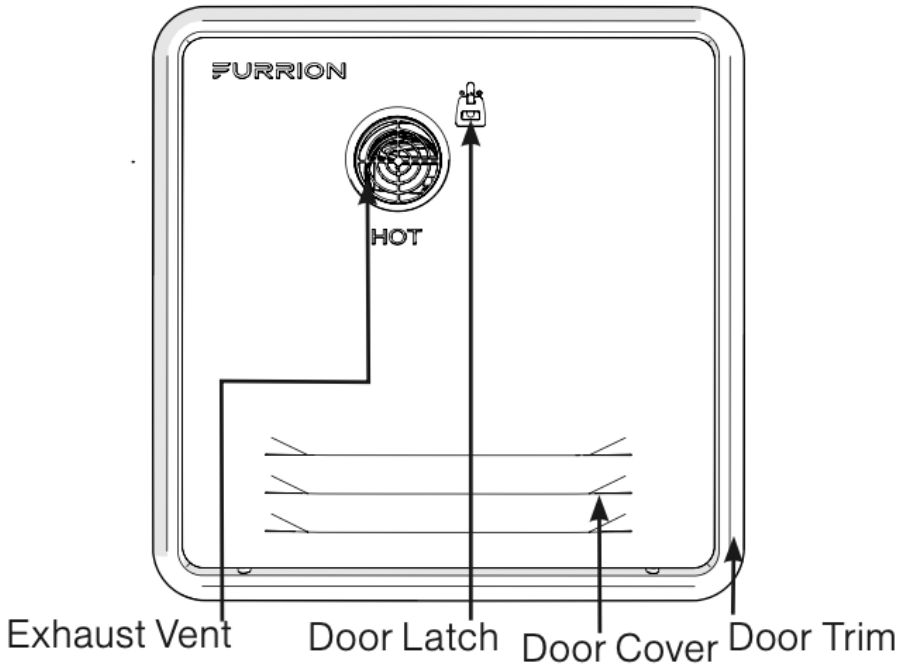
- Evacuate all persons from vehicle.
- Shut off gas supply at gas container or source.
- DO NOT touch any electrical switch or use any phone or radio in vehicle.
- DO NOT start vehicle's engine or electric generator.
- Contact nearest gas supplier or qualified service technician for repairs.
- If you cannot reach a gas supplier or qualified service technician, contact the nearest fire department.
- DO NOT turn on gas supply until gas leak(s) has been repaired.

Installation and service must be performed by a qualified installer, service agency or the gas supplier.

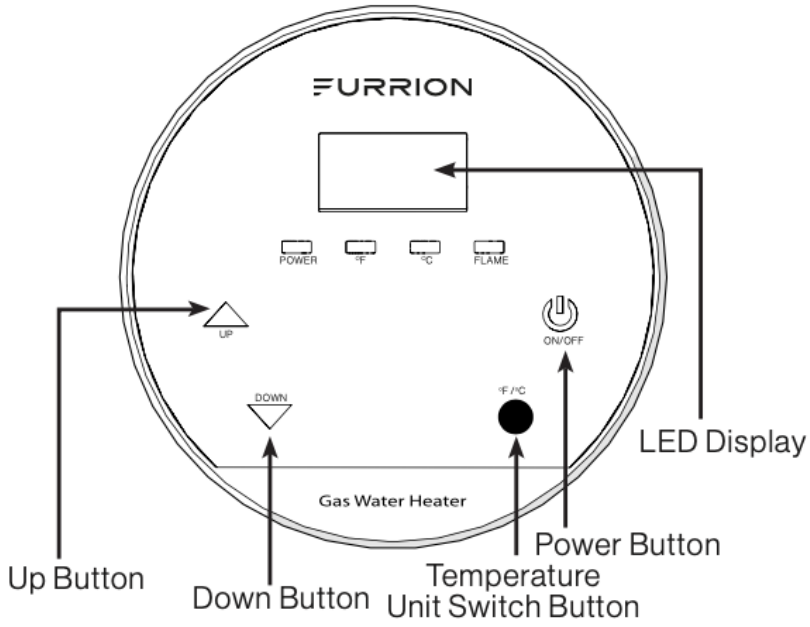
Water Heater (CONTINUED)

Identification of Parts

Access Door



Wall Controller



Water Heater (CONTINUED)

Operation

Controller Operation

Before normal operation of the appliance, perform a basic functional test check out each time the RV and water system is setup for use. Refer to "Functional Test" of this manual for instruction. After the Functional test is completed, the appliance can be operated from the wall controller which includes the Power switch. The control switch can be used for in living "ON/OFF" function.

1. Touch the On / Off button to turn the power On or Off. The Furrion logo on the panel will be illuminated and display the current temperature setting.
   NOTE: The microprocessor is always on. It draws approximately 0.25 AMPs but is advisable to turn off when not in use.
2. Touch button marked "°F/°C" to transform the temperature display in °F or °C, the related LED would be lighted on the controller.
3. Touch ^ or v button to adjust the temperature to your desired settings. The wall controller settings are from 95°F (35°C) to 124°F (51°C).
   The temperature can be selected to operate in two different methods:
   - Method1: Point of use mixing: Set the controller temperature to a desired output temperature, typically elevated above comfortable bathing temperatures. I.E., 115°F(46°C). Turn the hot water on, once hot, add cold water to achieve desired temperature.
   - Method2: Single point use: Set the controller temperature to a desired output temperature for the faucet you want to use, typically set to the desired bathing temperature. I.E., 100°F. The unit will maintain the set temperature by use of the hot water faucet only, no need to mix cold water.
4. Turn on the water faucet(s) and use as desired. The water temperature exiting the appliance (not faucet) will display.

Safe Operation

⚠ WARNING

Scald Hazard

- Never let infants, children, elderly adjust the water temperature or be left unsupervised when using hot water.

Failure to follow instruction may lead to serious injury.

Water Heater (CONTINUED)

Operation (CONTINUED)

Safe Operation (CONTINUED)

Consider the following points for safe use of the appliance:

- Install an RV water regulator to the inlet of the coach and operate between (35-70 PSI).
- The factory default water temperature setting is 115°F (46°C).
- There may be a variation between the temperature delivered from the appliance and the temperature at the faucet due to water conditions between seasons like hot summer or the length of pipe from the appliance.
- Always check the water temperature, in reference to the chart below, by the display (step 3/4) and hand touch before bathing or with other hot water uses.

Temperature °F (°C)	Time before skin becomes scalded
155 (68)	1 Second
148 (64)	2 Seconds
140 (60)	5 Seconds
133 (56)	15 Seconds
127 (52)	1 Minute
124 (51)	3 Minutes
120 (48)	5 Minutes
100 (37)	Safe Bathing Temperature
Source: Moritz, A.R. / Herriques, F.C.: Studies of thermal injuries: the relative importance of time and surface temperature in causation of cutaneous burns A. J. Pathol 1947; 23: 695 - 720.	

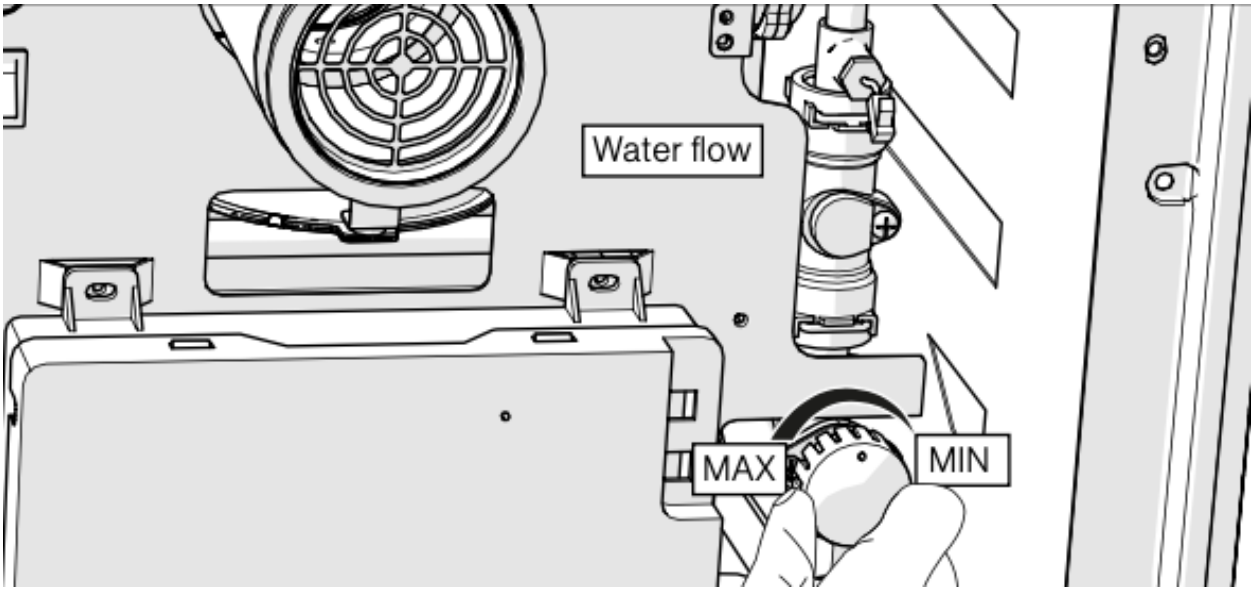
Water Heater (CONTINUED)

Operation (CONTINUED)

Water Control Valve

The water heater is equipped with a water flow control valve, set from the factory at MAX flow. The valve will reduce the water flow and capacity through the water heater to improve water heating performance.
Under extreme conditions, it may be necessary to adjust the valve accordingly:

- Cold water inlet conditions approximately less than 45°F (7°C).
- Higher water inlet pressures >65 PSI.
- Reduce water flow: Rotate knob clockwise until a solid stop.
- Increase water flow: Rotate knob counter clockwise until a solid stop.



High Altitude Use

This appliance can be used at high altitude and has been tested up to 4500ft. For prolonged use at higher altitudes please contact support@furrion.com.

Water Heater (CONTINUED)

Operation (CONTINUED)

Antifreeze Function

(for FWH09AFA model that Alliance uses)

- The appliance can be used in freezing conditions, by operating a burner sequence program to keep the water liquid. The function operates automatically when the appliance water falls below 43°F (6°C), and it will automatically shut off when it is warmed.
- It will likely be necessary to manually adjust the water control valve to the min setting when using the water heater in freezing conditions.
- If the RV is to be stored, with no use, the water heater should be winterized appropriately per the instructions on page 14 "Winterizing Water Heater".
- The freeze protection system only protects the water heater appliance from freezing and will not prevent freezing of the water system in the coach. Ensure the coach is properly insulated and protected from freezing conditions.
- It is normal for the water heater to operate the burner system at different frequencies and duration for this mode.

NOTE: The antifreeze function is in-operable if any of the following are turned off:

- Water heater appliance
- 12V+ house electric
- Gas supply

Cleaning and Maintenance

⚠ WARNING

Burn or Scald Hazard

- NEVER perform work while the water heater is operating.
- NEVER perform work without turning the Electrical and LP gas supply off.
- NEVER perform work when the appliance is hot.
- NEVER actuate the pressure relief valve as long as the appliance is still hot.
- Never actuate the Drain Plug as long as the appliance is under water pressure and/or is still hot.

Water Heater (CONTINUED)

Cleaning and Maintenance (CONTINUED)

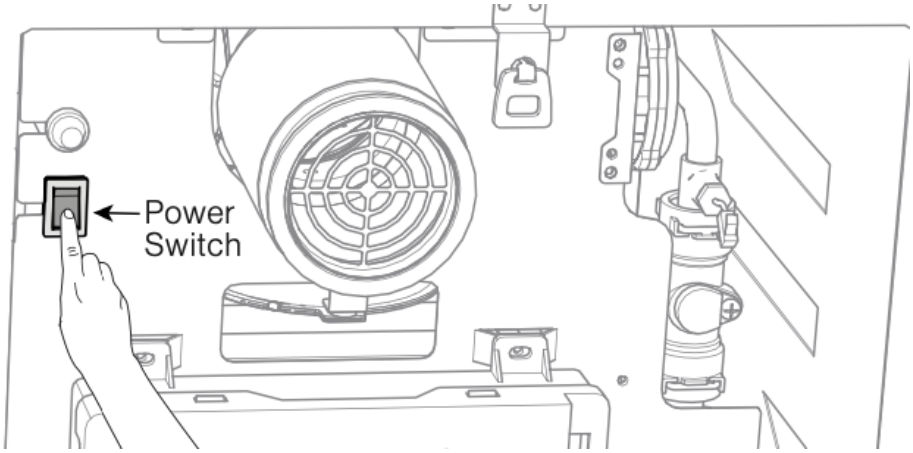
⚠ CAUTION

Always wear protective gear such as gloves, eyewear and clothing to avoid injuries during installation and servicing of the product.

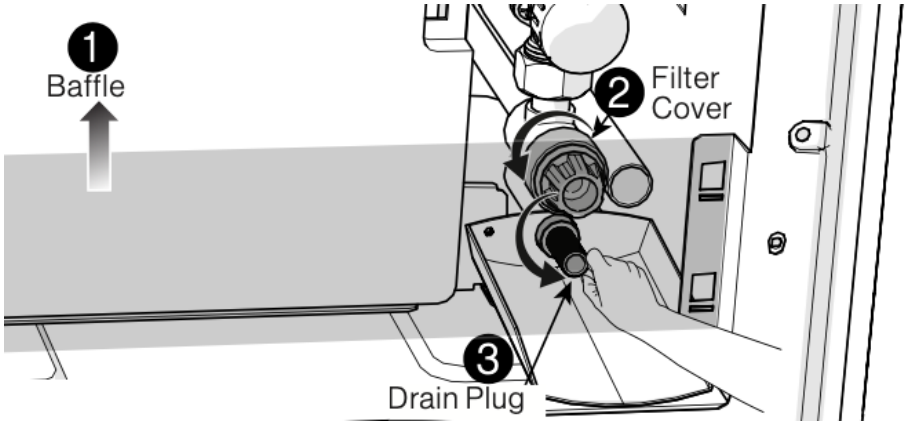
Storage and Transit

Anytime the RV is not intended to be used, it is considered to be in storage or transit. To prepare the water heater, follow the below steps:

1. Turn off gas supply.
2. Turn off the main power switch located behind the access door of the water heater unit.



3. Drain water out of the system and water heater by removing the filter cover and drain plug.

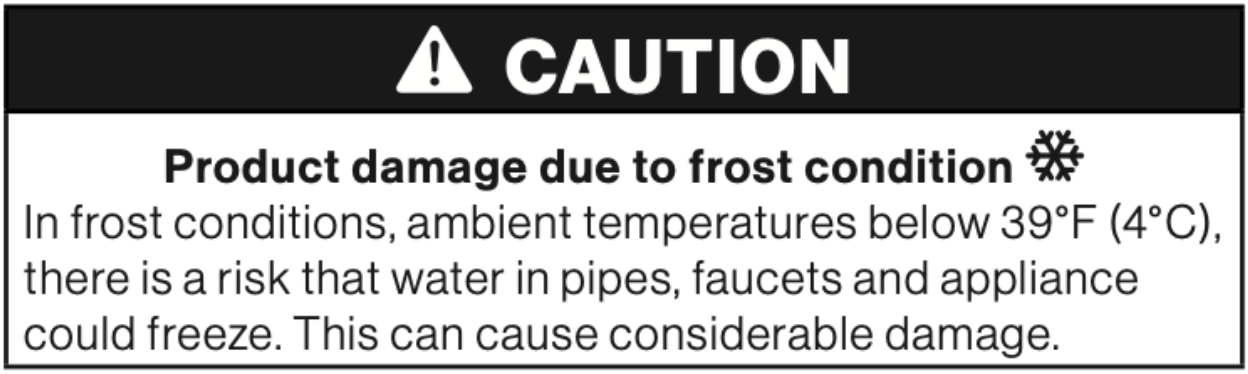


Water Heater (CONTINUED)

Storage and Transit (CONTINUED)

4. If freezing conditions could occur, then winterize according to "Winterizing Water Heater".

Winterizing Water Heater



Follow the instructions provided by the RV coach manufacturer for winterizing your water system.

Supplement the following important water heater instructions when completing any winterizing steps:

Compressed Air Method:

- DO NOT exceed 50PSI in the water heater when blowing out the system.
- While completing the blow out process for the entire water system, take time to isolate the water heater by closing all drain plugs and faucets and only open the water heater drain plug. This ensures maximum pressure and flow is isolated through the water heater for complete evacuation.

Anti-freeze Method:

- Use a non-toxic antifreeze recommended by the RV coach manufacturer.
- Anti-freeze can be used directly in the water heater, plan for an additional 1L to fill the system.
  Optional: A bypass valve can be installed/used to bypass filling the water heater with antifreeze. The water heater MUST be evacuated with compressed air (see steps above) before bypassing.

Next Season:

- Thoroughly flush the water heater and system with clean drinking water through the hot and cold side before using. Drain water several times out of the water heater drain plug. Sanitize the water system per the recommendations of your coach manufacturer.

Water Heater (CONTINUED)

Cleaning and Maintenance (CONTINUED)

Consult the Furrion Tankless Water Heater manual for more information on:

- Routine Inspection
- Filter Cleaning
- Pressure Safety Valve Maintenance
- Hard Water Decalcification

Error Codes

If the appliance malfunctions, a beep alarm will sound, and an error code will display on the wall controller. Write down the error code, then try resolving by stopping and restarting the water flow, or resetting the appliance as follows:

- Switch the power switch (see image on Storage and Transit page) in front of the water heater to the “OFF” position.
- Wait 5 seconds.
- Switch the appliance on again.

Continue to use the appliance normally. If error fault codes continue to display, review the following table for potential causes.

Error Code	Possible Cause	Solution
E0: Water outlet temperature	System Fault.	Contact Furrion.
E1: Flame sense during igntion	Insufficient Fuel Supply to start operation.	Confirm all gas valves are open,
		Confirm adequate fuel in tanks.
	Low gas inlet pressure.	Check regulator for operation, replace if needed.
	System Fault.	Contact Furrion.
E2: Detected fake flame signal	System Fault.	Contact Furrion.
E3: Over temperature mechanical sensor faulty	System Fault.	When E3 error displays, let cold water flow 10-20S then restart the appliance. If E3 still displays, contact Furrion.
E4: Water inlet temperature	System Fault.	Contact Furrion.
E5: Air pressure	Exhaust Blockage.	Remove obstruction, then restart the appliance.
	High winds blowing on exhaust.	Move or re-orient coach so exhaust is not facing high winds, then restart the appliance.
	System Fault.	Contact Furrion.
E6: Temperature Surge	Cold water surge in system.	Reduce toilet flushes and amount of cold water faucets opened during operation.
	Cold water mix ratio.	Reduce temperature setting to reduce cold water mix ratio.
		Check for shower head and outdoor faucet valves leaking cold water to hot side.
	Insufficient water supply.	Confirm water tank is full or city water valve fully open.
		Air in water lines - continue to run all faucets, Hot and Cold, open until air purged.
	Insufficient Water flow.	Filter plugged - review "Cleaning and Maintenance" section of this manual.
		Low flow faucets - check that the minium flow is .32gpm.
	System Fault.	Contact Furrion.
E7: Solenoid valve fault	System Fault.	Contact Furrion.

Water Heater (CONTINUED

Troubleshooting

- If you encounter a problem with the appliance as the below table states, first try the suggested solutions. If problems persist, please call the service or the dealer.
- Don't repair the appliance by yourself, Repairs must be performed by a certified service technician.

Problem	Potential cause	Solution
Hot water takes longer to reach temperature	1. Cold water mixing into hot water side 2. Higher Elevation 3. Incoming water temperature is abnormally low incoming water	1. Check all valves, inside and outside, to ensure they are closed, check shower head valve to make sure it is not partially closed. 2. This is normal due to lesser oxygen levels - Contact Furrion. 3. See "Water Control Valve" for adjustment.
Low hot water flow at the faucet	Lime scale occurs due to precipitation of "hard " water.	Decalcify your water heater. See "Cleaning and Maintenance" section.
No hot water at the tap	Gas supply is turned off or interrupted.	Check and/or turn on gas supply.
	Gas tank is empty.	Refill/replace the gas tank.
	The appliance is switched off.	Switch on the appliance according to instructions ("Operating procedures" on page 11).
	Fresh water supply is turned off.	Open the fresh water supply.
	Power supply to the appliance is switched off.	Switch on power supply to the appliance.
	Defect in the appliance.	Refer to error codes list on page 15.
Hot water temperature too low.	Gas flow to the appliance is too low (gas inlet pressure 11in. wc.)	• Consult vehicle documentation to determine if gas supply is capable of providing the necessary volume of gas for the appliance. • Contact a service technician to verify a suitable gas installation.
	Volume flow of hot water is too high and/ or the temperature of cold water reaching the appliance is too low.	• Turn down hot water at the tap or in the shower in order to reduce volume flow. Or mix more cold water in faucet. • Potentially retrofit a volume flow throttle into the water system. This must be performed only by a certified service technician.
	Too much lime scale in the appliance.	Decalcify your water heater. See "Cleaning and Maintenance" section.
	Cold water mixing into Hot water side	Check all valves, inside and outside, to ensure they are closed. Check shower head valve to make sure it is not partially closed.
Water escaping at pressure safety valve.	Water pressure in water system too high.	• Adjust the water pump pressure to a maximum of 65PSI. • If the water system is connected to a central water supply higher than 65PSI (rural or urban connection), a water pressure reducer must be used. • Install a water pressure regulator at the fresh water supply.
	Lime or dirt under the pressure relief valve seat.	• Allow the appliance to cool then slowly operate the relief valve by rotating its valve handle(knob), Fig.36) to flush the water system and attempt to force dirt or foreign matter out of the pressure relief valve seat. • Replace pressure relief valve. This must be performed only by a certified service technician.
Water leaking at the water inlet filter.	Lime or dirt under the O-ring seats.	Clean the O-rings and their corresponding sealing surfaces with clean water.
Power status LED is off although an operating mode was selected.	Power supply to the appliance is switched off.	Switch on power supply to the appliance.
	Blown fuse.	Switch the standard 125V/10A fuse. Contact Furrion for service.
Water heater stops working often and water is found on the drainage tray.	Unit is overheating, and pressure relief valve discharged periodically.	Contact Furrion.

FURNITURE

You may find a range of styles and sizes of furniture in your RV, below is some information on the different types of furniture you may see in your RV.

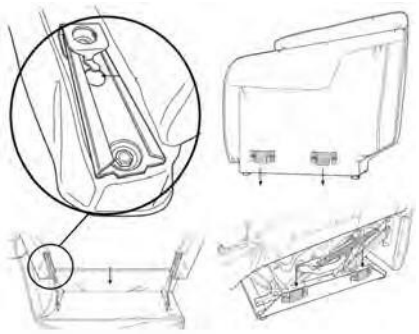
⚠WARNING

MOVING PARTS CAN PINCH, CRUSH OR CUT. KEEP CLEAR AND USE CAUTION

Theatre Seating

A modular seating system that features electric controls and smoothly operating recliners which is assembled and installed by the factory for ease of use.

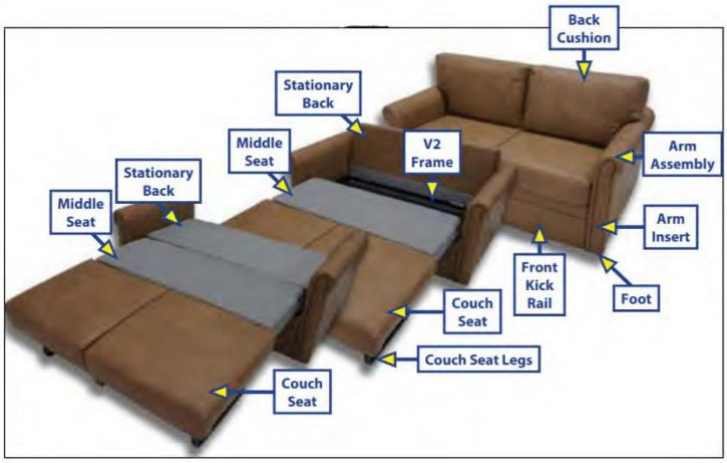
Every furniture component locks into place with each adjacent piece.



Sofa Seating

Two and three cushion sofas that fold out for additional sleeping. To operate:

1. Remove the back cushions.
2. Fold out the couch seat to expose the middle seat Fold
3. out the couch seat legs and set upright.
4. Fold down the stationary back.
5. User back cushions as headrest or pillows.



CARE & MAINTENANCE

Exterior

An RV comes with a variety of surfaces that need to be cleaned and maintained, from the roof membrane to awning fabrics and beyond. Regular cleaning and maintenance of these different components is needed and will help keep the RV in the best possible condition both cosmetically and functionally.

Keep your roof clean. Use Dicor roof cleaners (RP-RC320S spray or RP-RC160Cj concentrate) or standard products such as 409, Fantastik or mild detergents are sufficient. Do NOT use harsh abrasives or products containing solvents. For stubborn spots, a rag dampened with mineral spirits is recommended. DO NOT SOAK (never apply mineral spirits directly to the roof)

When washing, start from the top and work your way down, try to stay out of direct sunlight. Start by rinsing the roof membrane with clean water to remove any loose dirt or debris. Then, using a medium bristle brush along with a mild detergent / soap and a few gallons of water, scrub the entire roof and then rinse thoroughly, a rubber squeegee may be used to direct water off the roof. A semi-annual inspection of the roof is suggested. Check the membrane for damage and check the lap sealant used at all termination areas (front, rear and side seams as well as roof attachments). The lap sealant has a limited life span, depending on the geographic region and conditions, and should be repair or replaced as needed.

NOTE: Do NOT use cleaning solutions that contain solvents or abrasive pads.
Sidewalls and the front and rear skin or cap should be washed and waxed to protect and restore. Never take your RV through an automatic car wash and avoid using highly abrasive cleaning pads or high-pressure sprayers, the finish and decals/labels on your RV can be damaged by using such products. A soft bristled brush and a mild soap / detergent, if cleaned properly and frequently, will meet your needs. A normal automotive wax should be utilized when waxing your RV, we recommend a good wax two to three times a year, at minimum.

Exposure to salt can result in damage to exterior paints, finishes and other components, it is highly corrosive and should be cleaned off as frequently as possible. The more your RV is exposed to snow, rain, road salt, chemicals and saltwater, the more severe corrosion can be, therefore, a stricter cleaning and maintenance schedule may be needed.

Periodically inspect the chassis, landing gear, axles, wheels, and suspension components for spot rust. When/if you find spot rust, use a wire brush to clean the spot and touch the finish up as needed with a rustproof enamel paint. The more quickly you take care of this, the less damage it can cause and lead to bigger issues.

Exterior (CONTINUED)

Your RV is sealed all around to prevent water intrusion and damage to the RV. These seals and sealants (clear and colored) are crucial to your RV's protection from the outside environment. These seals and sealants should be inspected regularly and touched up and/or resealed as needed, we recommend a visual inspection every 3 months.

Make sure to check the roof, slide-outs, the corner, termination and beltline trims and moldings on the exterior of the RV. For questions on required seals and sealants, please contact your dealer and Alliance RV.

NOTE: Your slide-outs utilize wipe, cap, and bulb seals to protect the room from the outside elements. Due to the nature of a slide-out room, these seals are not 100% watertight and should be checked very regularly for any visual signs of damage and addressed immediately when found.

Spraying your slide-out seals with a silicone spray for lubrication and conditioning will help keep the slide-out seals and gaskets malleable, flexible, in good working condition. The rate of the breakdown and deterioration of the seals, sealants and gaskets on your RV is directly tied to the outside environment and the needed maintenance, cleaning and touch up of these crucial components.

Interior

Keep your RV clean and well-kept during regular usage and always be sure to thoroughly clean after extended uses, long trips and before you store your RV.

Sweep and mop floors as required, clean the kitchen and bathroom as you would in your own house.

For appliances, sinks, countertops, toilets, showers, and flooring, you'll want to use your regular household cleaners (always refer to the owner's manual of the individual component for additional information). Make sure that the RV is ventilated well when doing this, clean air is needed for your safety.

Strip your bedding down and clean as required, be sure to follow the care instructions on these soft goods. When wiping down cabinets, walls, ceilings, and other surfaces, use a mild soap / detergent and warm water to not cause damage to these surfaces.

CARE & MAINTENANCE (CONTINUED)

Maintenance Schedule

MAINTENANCE REQUIRED	FREQUENCY						
	BEFORE USE	AFTER USE	MONTHLY	3 MONTHS	6 MONTHS	YEARLY / BEFORE STORAGE	REFER TO COMPONENT OWNERS' MANUAL
Heating, Cooling & Ventilation (AC, Furnace, Vents)				Inspect & Clean			Yes
Axles	Inspect						Yes
Brakes	Test			Adjust			Yes
Entry Steps			Lubricate				
Landing Gear					Clean & Lubricate		Yes
Hitch Equipment	Inspect		Lubricate				
Safety Chains	Inspect						
Slide-outs		Clean Roof	Run "In / Out"				
Tires	Inspect						Yes
Battery	Inspect						Yes
Electrical Cords / Receptacles	Inspect						
Generator / Generator Exhaust	Inspect						Yes
Exterior Finish (Roofs, Walls, Slide-outs, Chassis)				Wash	Wax		
Exterior Moldings & Trims					Inspect		
Locks and Latches			Lubricate				
Roof Seams and Attachment Points					Inspect		
Seals					Inspect		
Fresh Water System		Drain				Sanitize / Winterize	
Waste System		Dump / Flush				Drain	
Water Heater		Drain				Flush / Winterize	Yes
Propane (LP) System						Test for Leaks	
Alarms / Detectors (Smoke, CO/LP)	Test						Yes

VENDOR WARRANTY AND CONTACT INFORMATION

Below you will find a listed supplier, related warranty information and warranty / tech support contact information should you need it. Some of this information may change without notice. Alliance RV will make all efforts to keep this guide as up to date as possible.

This is a summary of the component manufacturers warranty only. For details on individual component warranties, see their warranty information.

COMPONENT	BRAND	SUPPLIER WEBSITE	CONTACT #	EMAIL	MANUFACTURER WARRANTY
Air Compressor	MORryde	www.morryde.com	(574) 293-1582	warranty@morryde.com	1-Year Limited
Air Conditioner	Coleman	www.airxcel.com	(423) 775-2131	rvpsupport@airxcel.com	2-Year Limited
Automatic Transfer Switch	Progressive Dynamics	www.progressivedyn.com	(269) 781-4241	sales@progressivedyn.com	1-Year Limited
Awnings	Lippert Components	www.lci1.com	(574) 537-8900	customerservice@lci1.com	1-Year Limited
Axles	Dexter Axle	www.dexteraxle.com	(574) 295-7888	warranty@dexteraxle.com	1-Year Limited (Grease & Oil Seals) / 2-Year Limited (Electric/Hydraulic Brake Actuators) / 5-Year Warranty (Axles and Suspension System)
Baggage Doors	Lippert Components	www.lci1.com	(574) 537-8900	customerservice@lci1.com	1-Year Limited
Bed-Lift System	Happijac	www.lci1.com	(574) 537-8900	customerservice@lci1.com	1-Year Limited
Chassis / Frame	Lippert Components	www.lci1.com	(574) 537-8900	customerservice@lci1.com	1-Year Limited
Converter	WFCO	www.wfcotech.com	(877) 294-8997	warranty@wfcoelectronics.com	2-Year Limited
Entry Steps	Lippert Components	www.lci1.com	(574) 537-8900	customerservice@lci1.com	1-Year Limited
Fireplace	LaVanture	www.lavanture.com	(800) 348-7625	service@alliancerv.com	1-Year Limited
Fuel Pump & Tank	ECI Fuel Systems	www.collins-n-co.com	(574) 848-1118	warranty@ecifuelsystems.com	1-Year Limited
Furnace	Suburban	www.airxcel.com	(423) 775-2131	rvpsupport@airxcel.com	2-Year Limited
Furniture	Lippert Components	www.lci1.com	(574) 537-8900	customerservice@lci1.com	1-Year Limited / 5-Year Fabric
Generator	Onan	www.cumminspower.com	(800) 888-6626	ask.powergen@cummins.com	3-Year Limited
Inverter	Renogy	www.dehco.com	(574) 294-2684	warranty@dehco.com	1-Year Limited
Leveling System	Lippert Components	www.lci1.com	(574) 537-8900	customerservice@lci1.com	1-Year Limited
Lithium Battery	Renogy	www.dehco.com	(574) 294-2684	warranty@dehco.com	5-Year Prorated Warranty
Mattress	Lippert Components	www.lci1.com	(574) 537-8900	customerservice@lci1.com	1-Year Limited
Microwave	Highpointe	www.collinssupport.com	(574) 848-1118	warranty@collins-n-co.com	1-Year Limited
Oven / Cooktops	Greystone	www.wayinterglobal.com	(574) 971-4490	www.customerservice@wayinterglobal.com	1-Year Limited
Ramp Door	MORryde	www.morryde.com	(574) 293-1581	warranty@morryde.com	1-Year Limited / 3-Year Water Intrusion
Ramp Door Patio Rail Kit	MORryde	www.morryde.com	(574) 293-1582	warranty@morryde.com	1-Year Limited
Ramp Door Steps	MORryde	www.morryde.com	(574) 293-1583	warranty@morryde.com	1-Year Limited
Refrigerator	Everchill	www.wayinterglobal.com	(574) 971-4490	www.customerservice@wayinterglobal.com	1-Year Limited
PVC Roof Membrane	Dicor	www.dicor.com	(574) 264-2699	dmetzger@dicor.com	15-Year Limited
Roof Vents / Fans	MaxxAir	www.airxcel.com	(423) 775-2131	rvpsupport@airxcel.com	2-Year Limited
Slide-out Systems	Lippert Components BAL RV Products	www.lci1.com www.balrvproducts.com	(574) 537-8900 (877) 557-7788	customerservice@lci1.com baltechsupport@norcoind.com	1-Year Limited
Solar Panels	Renogy	www.dehco.com	(574) 294-2684	warranty@dehco.com	10-Year Limited
Stereo	JBL	www.riverparkinc.com	(574) 522-7781	technicalsupport@riverparkinc.com	1-Year Limited
Suspension System	MORryde	www.morryde.com	(574) 293-1581	warranty@morryde.com	1-Year Limited
Tires	Lionshead	www.lionsheadtireandwheel.com	(574) 533-6169	bscott@lionsheadtireandwheel.com	1-Year Guarantee / 5-Year Limited
Toilet	Dometic	www.dometic.com	(800) 366-3242	techservice@dometic.com	1-Year Limited
Television (110-Volt)	LG	www.lg.com	(800) 243-0000	www.lg.com/us/support/email-appointmen	1-Year Limited
Television (12-Volt)	Connex	www.riverparkinc.com	(574) 522-7781	technicalsupport@riverparkinc.com	1-Year Limited
TV Antenna	Winegard	www.winegard.com	(800) 288-8094	www.winegard.com/support/contact-us	2-Year Limited
Water Heater	Suburban	www.airxcel.com	(423) 775-2131	rvpsupport@airxcel.com	2-Year Limited

CONTACT ALLIANCE RV IF YOU HAVE TWO FAILED SERVICE ATTEMPTS (OR IF YOU'RE UNSATISFIED)

EMAIL: service@alliancerv.com

PHONE: (574) 226-0140