Jayco®

Generations of family fun.

2019

JAY SPORT

Owner's Manual

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Tools & Supplies Needed

Water Heater Drain - 24mm
Stabilizers - 19 mm
Roof Crank -

12v Fuses - 15a & 30A

THE JAYCO ECOADVANTAGE IS OUR COMPANY'S COMMITMENT TO PROTECTING THE ENVIRONMENT. Through Jayco's company-wide sustainability program, we're creating better ways to build better RV's using fewer natural resources. Already, our initiative has created significant impact. As of 2014 our company has:

Recycled

- 7,192 tons of wood
- 2,354 tons of scrap metal
- 1,428 tons of cardboard and paper

Conserved

- 9,997,400 gallons fo fresh water, enough to meet the daily needs of 133,293 Americans.
- 34,277 gallons of gas, enough for Americans to drive more than 957,600 miles.
- Enough electricity to power 1,745 homes for tha year.

Saved

- 60,900 mature trees.
- Enough landfill airspace to meet the annual disposal needs of a community of 44,683 people.

We're proud of our results, and we know those numbers show that a little initiative can go a long way. The Jayco EcoAdvantage is our way of making sure endless generations can enjoy the Great Outdoors.

2019 Jayco Camping Trailers Rev.A Page 9: Added Factory Tour section, Page 10: Emergency Warranty Repair – revised phone number, Page 44: Wire Harness/Connector Plug – revised, Page 53: Wheel Lugs - revised, Page 86: Auxiliary Battery – revised replacement types, Page 144: Added Ownership Notification to TOC, 08/2018

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WARNING: Read all instructions in this manual and component manufacturer supplied information before using your RV.

This manual has been provided by your recreational vehicle manufacturer for the sole purpose of providing instructions concerning the operation and maintenance of this recreational vehicle. Nothing in this manual creates any warranty, either expressed or implied.

The owner's failure to provide required service and/or maintenance could result in the loss of warranty. Please review the limited warranty and the limited warranties that apply to specific components offered with this vehicle.

Instructions are included in the manual for operating various components which are optional on some RV's or may not be available on your particular model. **"If so equipped" does not indicate or imply that the component(s) or option(s) were at any time available, or can be retrofitted to your model.** In addition, the owner should refer to individual manufacturer's operating instructions contained in the owner's packet.

SECTION 1: WARRANTY & SERVICE

Congratulations! Thank you for selecting a Jayco recreation vehicle. We are excited to welcome you to our growing RV family. We are committed to being the most respected name in RVs. We invite you to drop by our Visitors Center located in Middlebury, Indiana.

Jayco recreation vehicles are manufactured for use as temporary living quarters for recreation, camping and travel uses, all as defined by the bylaws of the Recreation Vehicle Industry Association (RVIA).

This recreation vehicle is not intended for use as a full-time residence or for commercial use. Commercial use means using the recreation vehicle as a business asset such as a mobile office or using the recreation vehicle for lease or rental purposes.

Jayco reserves the right to discontinue or change specifications or design at any time without notice and without incurring any obligation whatsoever. Recreation vehicles built for sale in Canada may differ to conform to Canadian Codes.

Factory Tours

To book a factory tour or check on available tour times (free admission, closed holidays) please log on to https://www.jayco.com and hold the mouse pointer on the **ABOUT JAYCO** heading. Select **"FACTORY TOURS"** from the drop down menu that opens.

Options and Equipment

Jayco recreation vehicles are available in several sizes and models, so accessories and components may differ slightly between models. Some equipment described in this manual may not apply to your recreation vehicle.

Jayco reserves the right to discontinue or change specifications or design at any time without notice, and to make additions or improvements without incurring any obligations upon itself to install these changes on its products previously manufactured. Recreation vehicles built for sale in Canada may differ to conform to Canadian Codes.

Dealer Responsibility

At the time of sale of the new recreation vehicle, your Jayco dealer is expected to:

- Deliver your recreation vehicle in the best condition possible. Your recreation vehicle must pass the dealer's pre-delivery inspection (PDI), including all systems tests.
- Provide orientation of the recreation vehicle, its systems, components and operation.
- Request that you read all warranty information and explain any provision not clearly understood.
- Ensure you receive the Warranty Packet. Your dealer can assist you in completing the OEM warranty cards or registrations, and locate any required component model or serial numbers.
- Complete and return the "Warranty Registration and Customer Delivery Form" to Jayco within 10 days of delivery to activate the applicable warranty coverage.

The **Limited Warranty** is activated only after Jayco receives a signed and dated "Warranty Registration and Customer Delivery Form" from your dealer.

Customer Relations

Jayco has empowered its dealers to make warranty and repair decisions.

If a special circumstance occurs that requires information from Jayco, we have asked your dealer's service management to make the contact on your behalf. **This is why you should always talk to your dealer's service management first.**

NOTE: Please provide the following information when contacting us for assistance:

- Customer name and current location.
- Phone number where you can be reached.
- 17-digit chassis Vehicle Identification Number (VIN) or 9-digit Serial
- The current vehicle mileage (motor homes)
- Your date of purchase.
- If applicable, the component description, serial number and model number.
- A detailed description of the concern.
- The name of your selling dealer.

If different from above, the contact information for the RV repair facility you are contacting Jayco to discuss.

An important note about alterations and warranties

Installations or alterations to the original equipment vehicle as distributed by Jayco are not covered by the Jayco Limited Warranty. The special body company, assembler, equipment installer or up fitter is solely responsible for warranties on the body or equipment and any alterations (or any effect of the alterations) to any of the parts, components, systems or assemblies installed by Jayco. Jayco is not responsible for the safety or quality of design features, materials or workmanship of any alterations by such suppliers.

Obtaining Emergency Warranty Repair

Call 1-(800)-283-8267 or use our website dealer locator to find an authorized Jayco dealer in your area. Contact them for an appointment; they will handle all warranty repair billing and returned parts for you.

If you cannot locate an authorized Jayco dealer near you, ask the campground staff for referrals or check the local telephone yellow pages. Or contact Jayco Customer Service or your selling dealer for assistance in locating a repair facility.

- Contact the RV repair facility to discuss your situation and make an appointment. Ask how their billing will be handled. They may choose to bill Jayco directly; otherwise, you are expected to pay them.
- Have the RV repair facility inspect your RV. Either they or you must call Jayco Customer Service to discuss applicable warranty coverage prior to any repair work being performed.
- Jayco Customer Service will issue an authorization number upon warranty repair approval and advise if any original parts need to be returned.
- Once Jayco Customer Service has issued an authorization number, the RV repair facility may begin actual repair to your RV.
- Inspect the completed repair work thoroughly. If you are not satisfied, communicate that immediately to the RV repair facility management. Make sure you are satisfied with the repair before you pay or leave the premises.
- For reimbursement, either you or the RV repair facility must send a copy of your itemized repair bill and all requested return parts by UPS (regular ground, freight pre-paid) within 60 days of the completed repair date.

To expedite processing your warranty claim, include your name, address, phone number, RV 17-digit VIN and authorization number. If returning parts, include a copy of your return freight bill.

Obtaining weekend or after business hours repair assistance

If an authorized Jayco dealer is not located nearby, contact your selling dealer for assistance. If your dealer is closed, check with the campground staff or telephone yellow pages for an RV repair facility. Have the item repaired and contact Jayco Customer Service immediately the following business day.

Failure to contact Jayco Customer Service, unauthorized or improper warranty repairs, or failure to return requested original parts may result in loss of reimbursements and/or loss of warranty.

To Contact Us

Mailing address	**Shipping address**
Jayco, Inc.	Jayco, Inc.
Customer Service	Customer Service
P.O. Box 460	100 Bontrager Drive
903 S. Main Street	Bldg 42 Door 4220
Middlebury IN 46540	Middlebury IN 46540
Phone (toll-free)	(800) 283-8267
Phone (local)	(574) 825-0608
Fax (toll-free)	(866) 709-9139
Brochure request	info@Jayco.com
Parts email	parts@Jayco.com
Service email	service@Jayco.com
Website	www.Jayco.com

Jayco Travel Club

All owners of Jayco recreation vehicles are eligible for membership in the Jayco Travel Club.

The club promotes family camping and the active use of your RV with others who have similar interests in the RV lifestyle.

One “International Rally” is held each year in various locations around the United States and Canada. In addition, the club offers a variety of local and regional activities throughout the year.

By belonging to the Jayco Travel Club, you will find new ways to enjoy your RV and make friends all across the country.

For more information, please visit www.Jaycorvclub.com or call 1-800-262-5178.

ABOUT THIS MANUAL

This manual is a guide to operation of the features, equipment and controls in your recreation vehicle. If you find components vary significantly from what is described, please contact your dealer to ensure you have the correct information. Nothing in this manual creates any warranty, either expressed or implied.

This Owner’s Manual and Warranty Packet are to be considered permanent components of the vehicle. Keep them in your recreation vehicle at all times for personal reference. If the recreation vehicle is sold, they should remain with the vehicle for the next owner. Nothing in this manual creates any warranty, either expressed or implied, nor does it cover every possible detail of equipment, standard or option, installed on or in your recreation vehicle.

Information, illustrations and specifications in this manual reflect the most current available at the time of publication approval, are subject to change and not intended to indicate actual size.

WARRANTY PACKET

There are components that are excluded from the vehicle warranty, or are warranted separately by their own individual manufacturer's limited warranty. The Warranty Packet contains these component manufacturer supplied manuals or information sheets, warranty cards and/or registrations. Consult this information for questions regarding operating, maintenance, servicing instructions and warranty coverage. It is important you complete and mail warranty cards and registrations within the prescribed time limits to avoid loss of warranty coverage.

SAFETY ALERTS

Throughout this manual, certain items are labeled **NOTE, CAUTION, WARNING**, and **DANGER**. These terms will alert you to precautions that can involve risk to your vehicle or to your personal safety.

Read and follow them carefully. National Safety Associations and organizations require many of the instructions listed. Always use the appropriate safety gear when servicing or maintaining your recreation vehicle. Please call your dealer or our customer service representatives if you are unsure how to proceed.

These signal words indicate precautions and potential situations, which if not avoided, may result in personal injury, property damage, or damage to your recreation vehicle. These precautions are listed in the appropriate areas in this Owner's Manual, and in the information contained in the Warranty Packet, and on safety labels affixed to your recreation vehicle. Read and follow them carefully.

NOTE: Gives helpful information.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

NOTE

Indicates a potential situation that,if not avoided, may result in property damage or damage to your RV.

⚠ CAUTION

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

⚠ DANGER

Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This alert information is limited to the most extreme situations.

⚠ WARNING

Indicates a potentially hazardous situation that, if not avoided, may result in death or serious injury.

REPORTING SAFETY DEFECTS

In the United States: If you believe that your recreation vehicle has an alleged defect which could cause a crash or cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA), in addition to notifying our Customer Service Department.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign.

However, NHTSA cannot become involved in individual problems between you, your dealer or your vehicle manufacturer. For additional information, please refer to the NHTSA website at www.safercar.gov.

To contact NHTSA by phone:
Call the Department of Transportation (DOT) Vehicle Safety Hotline at 1-888-327-4236, and a NHTSA representative will record your complaint information (TTY: 1-800-424-9153 or 1-202-484-5238).

To Contact NHTSA by mail:
Office of Defects Investigations/CRD
NVS-216
1200 New Jersey Ave SE
Washington, DC 20590

In Canada: If you believe your vehicle has an alleged safety defect, you should contact Transport Canada and our Customer Service Department immediately. Transport Canada prefers to be called instead of posted mail or email as it enables their investigators to confirm that your information is correct, and to answer your questions accurately. For additional information, please refer to the Transport Canada website at www.tc.gc.ca .

To contact Transport Canada by phone:
Call 1-800-333-0510 (or 1-613-993-9851 if you are calling from the Ottawa region) and ask to speak to a defect investigator.

To contact Transport Canada by mail:
Road Safety and Motor Vehicle
Regulation Directorate
Transport Canada
Tower C, Place de Ville
330 Sparks Street
Ottawa, Ontario K1A 0N5

CUSTOMER RESPONSIBILITY

It is important you read and understand all instructions and precautions before operating the recreation vehicle. Even if you are an experienced RV'er we encourage you to thoroughly read this Owner's Manual, as well as the information contained in your Warranty Packet and Chassis Guide (motorized only).

As technology advances, new improvements enter the RV industry every day, and each RV manufacturer has its own unique manufacturing process.

Familiarize yourself with the Limited Warranty applicable to your recreation vehicle. There are components that are excluded or warranted separately by their individual manufacturer's limited warranty (refer to the Warranty Packet or Chassis Guide if applicable).

As the new owner of the recreation vehicle, you are responsible for regular and proper maintenance performed in accordance with this manual and the OEM manuals. Regular and proper maintenance will help prevent conditions arising from neglect that are not covered by the limited warranty. It is your responsibility and obligation to return your vehicle to your dealer for repairs and service.

CHANGE OF ADDRESS/OWNERSHIP

Please notify our Customer Service Department as soon as possible of a change of address by writing or calling us. For notification of a change of ownership, please fill out the appropriate form located in this manual and mail it to Customer Service along with documentation showing proof of ownership. Please include your current vehicle mileage (motorized only).

SUGGESTIONS FOR OBTAINING SERVICE

To help ensure your dealer provides the level of service you expect, here are some suggestions we would like to make:

Contact your dealer at once… Do not wait until you are ready to use your RV. Your dealer may not be able to service it immediately and/or the repair may require parts be ordered. The dealer's service department is busiest on Mondays, Fridays and before the holidays.

Prepare for the appointment… If you are having warranty work performed, be sure to have the right papers with you. Take your warranty folder and have your vehicle information available. All work to be performed may not be covered by the warranty. Discuss additional charges with the service personnel.

Prepare a list… Provide your dealer with a written list of specific repairs needed. It is important that you provide any vehicle repair history to the dealer's service personnel.

Keep a maintenance log of your vehicle's service history. This can often provide a clue to the current issue.

Be reasonable with your requests… If you leave a list with several items and you need your vehicle returned back by a specific time, discuss the situation with the dealer's service personnel and list your items in order of priority. This may include making a second appointment for work not completed or parts that the dealer may need to order.

Don't expect to look over the technician's shoulder… Please don't be offended if you are told you cannot watch the work being done. Some insurance requirements forbid admission of customers to the service area.

Inspect the work performed… Finally, check out the service or repair job when you pick up your vehicle. Notify the dealer's service personnel immediately of any dissatisfaction.

If you cannot return the vehicle immediately for repair, make an appointment as soon as possible.

Please be aware that all service shops require notification of any issues with their repairs within a specified time limit. Make sure you are familiar with their repair policies.

OBTAINING SERVICE FOR SEPARATELY WARRANTED ITEMS

Your selling dealer is responsible for servicing your recreational vehicle before delivery, and has an interest in your continued satisfaction. We recommend your dealer perform all inspection, warranty and maintenance services. Some dealers may be authorized service centers for those OEMs whose products are warranted separately and excluded from the **Limited Warranty.**

OBTAINING SERVICE AT OUR CUSTOMER SERVICE FACILITY

Should your recreation vehicle be in need of service, and your dealer recommends that the repairs be made at our Customer Service facility, your recreation vehicle may be returned to us with the following guidelines*:

- You or your dealer must make a confirmed appointment 60 days prior to dropping off the recreation vehicle at our Customer Service facility.
- The holding tanks must be emptied and rinsed. We have a dumping station available for customer use.
- The propane system (if so equipped) and all electrical systems must be shut down and turned off. We are not responsible for discharged batteries or propane tanks.
- During the appropriate season, please ensure the RV has been winterized.
- Unless prior approval has been obtained from our Customer Service facility, all personal items must be removed from the area where you are requesting service repair and the refrigerator emptied. We are not responsible for loss of food items.
- All transportation costs are the responsibility of the owner. You may need to arrange for alternative accommodations for some types of repairs. Please be prepared accordingly.

**Our Customer Service facility occasionally utilizes local independent repair facilities. Your vehicle may be referred to or repaired by one of these local repair facilities.*

PARTS AND ACCESSORIES

Contact your authorized dealer for assistance in obtaining replacement parts or accessories. We do not sell direct to retail or non-authorized dealers. If the original part is no longer available, we will make every effort to provide an appropriate substitute.

JAYCO TOWABLE LIMITED WARRANTY

WHAT AND WHO IS COVERED

This Limited Warranty covers only recreational vehicles sold in, and that remain in, the United States, U.S. Territories and Canada and used for the intended purpose of recreational travel and camping. If a substantial defect in material or workmanship, attributable to Jayco, is found to exist and is reported to Jayco or an authorized servicing dealer during the applicable warranty period, it will be repaired or replaced, at Jayco's option, without charge to the RV owner, in accordance with the terms, conditions and limitations of this limited warranty.

This limited warranty applies to the first consumer purchaser of a new RV only. All rights and limitations within this warranty are applicable to the original owner of the RV only. You may contact an independent, authorized dealer for details.

Jayco's obligation to repair or replace defective materials or workmanship is the sole obligation of Jayco under this limited warranty. Jayco reserves the right to use new or remanufactured parts of similar quality to complete any work, and to make parts and design changes from time to time without notice to anyone. Jayco reserves the right to make changes in the design or material of its products without incurring any obligation to incorporate such changes in any product previously manufactured. Jayco makes no warranty as to the future performance of this RV, and this limited warranty is not intended to extend to the future performance of this RV, or any of its materials, components or parts. In addition, the RV owner's obligation to notify Jayco, or one of its independent, authorized dealers, of a claimed defect does not modify any obligation placed on the RV owner to contact Jayco directly when attempting to pursue remedies under state or federal law.

LIMITATIONS, EXCLUSIONS AND DISCLAIMER OF IMPLIED WARRANTIES:

ANY IMPLIED WARRANTY THAT IS FOUND TO ARISE BY WAY OF STATE OR FEDERAL LAW, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR ANY IMPLIED WARRANTY OF FITNESS, IS LIMITED IN DURATION TO THE DURATION SET FORTH IN THIS LIMITED WARRANTY AND IS LIMITED IN SCOPE OF COVERAGE TO THE SCOPE OF COVERAGE OF THIS LIMITED WARRANTY. ALL IMPLIED WARRANTIES AND CONDITIONS, STATUTORY OR OTHERWISE, ARE DISCLAIMED IN THEIR ENTIRETY AS TO RVs OR COMPONENTS OF RVs EXCLUDED OR NOT COVERED UNDER THIS WARRANTY.

Jayco makes no warranty of any nature beyond that contained in this limited warranty. Jayco does not authorize any person to create any other obligation or liability for it regarding this RV, and Jayco is not responsible for any representation, promise or warranty made by any dealer or other person beyond what is expressly stated in this limited warranty, and no one has the authority to enlarge, amend or modify this limited warranty. Any selling or servicing dealer is not Jayco's agent, but an independent entity.

JAYCO SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES THAT MAY RESULT FROM BREACH OF THIS LIMITED WARRANTY OR ANY IMPLIED WARRANTY. BY WAY OF EXAMPLE, CONSEQUENTIAL DAMAGES INCLUDE FUEL AND TRANSPORTATION EXPENSES TO DELIVER THE RV TO A SERVICING DEALER, HOTEL ROOMS, LOST WAGES AS WELL AS CONSEQUENCES OF MOISTURE DAMAGE SUCH AS MOLD AND MILDEW AS WELL AS RUST AND CORROSION. THIS EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES SHALL BE INDEPENDENT OF ANY FAILURE OF THE ESSENTIAL PURPOSE OF ANY WARRANTY, AND THIS EXCLUSION SHALL SURVIVE ANY DETERMINATION THAT THIS LIMITED

WARRANTY OR ANY IMPLIED WARRANTY HAS FAILED OF ITS ESSENTIAL PURPOSE.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

THE PERIOD OF COVERAGE

The duration of this Limited Warranty is 2 years. The warranty period begins on the date that the RV is delivered to the first retail purchaser by an independent, authorized dealer of Jayco, or, if the dealer places the vehicle in service before retail sale, on the date the RV is first placed in such service.

HOW TO GET SERVICE

It is normal to expect some warranty service during the term of this Limited Warranty. To obtain warranty service the owner must do all of the following:

1. Notify an independent, authorized dealer of Jayco, or Jayco, of the substantial defect in material or workmanship attributable to Jayco, within the warranty coverage period designated above;
2. Provide the notification mentioned in (1), above, within ten (10) days of when the owner discovered, or should have discovered, the substantial defect in material or workmanship attributable to Jayco;
3. Promptly schedule an appointment with and take the RV to an independent, authorized dealer of Jayco, or Jayco, for repairs; and
4. Pay any freight or transportation costs, import duties, fees and all incidental expenses associated with obtaining warranty service.

If you need assistance, you may contact Jayco, at 903 S. Main Street, P.O. Box 460, Middlebury, Indiana 46540, Attn: Customer Service, (574) 825-5861, (800) 283-8267 or www.jayco.com.

NOTE: Jayco does not control the scheduling of service work at the independent, authorized dealerships. You may encounter some delay in scheduling or completion of work. Also, you must notify the selling dealer at time of delivery to have work performed on any defect that occurred at the factory during manufacture at no cost to you as provided by this limited warranty. (See below under WHAT IS NOT COVERED).

If two (2) or more service attempts have been made to correct any covered defect that you believe impairs the value, use or safety of the RV, or if it has taken longer than thirty (30) days for those types of repairs to be completed, you must, to the extent permitted by law, notify Jayco directly, in writing, at the above address, of the unsuccessful repair(s) of the alleged defect(s) so that Jayco can become directly involved in making sure that you are provided service pursuant to the terms of this limited warranty.

Jayco's obligation is to address, within industry standards, any covered substantial defect discovered and reported within the warranty coverage period provided: (1) you notify Jayco or an authorized dealer within 10 days of your discovery of the substantial defect; AND (2) you deliver the RV to Jayco or an authorized dealership 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 Jayco pay an independent service shop of your choice to perform repairs to the substantial defect. If the substantial defect is incapable of being repaired, your exclusive remedy will be to receive diminished value damages (i.e. the difference in your purchase price and the actual value of the RV on

the date of purchase due to the substantial defect that is incapable of repair). 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 Jayco.

WHAT IS NOT COVERED

By way of example only, this limited warranty does not cover any of the following:

- defects in materials, components or parts of the structure of the RV not attributable to Jayco;
- items that are added or changed after the RV leaves the possession of Jayco;
- additional equipment or accessories installed at any dealership, or other place of business, or by any other party, other than Jayco;
- any RV used for rental or other business or commercial purposes (Note: It shall be concluded that the RV has been used for commercial and/or business purposes if the RV owner or user files a tax form claiming any business or commercial tax benefit related to the RV, or if the RV is purchased, registered or titled in a business name or any business association such as a corporation or limited liability company);
- any RV sold or used outside the United States, U.S. Territories or Canada;
- any RV not used solely for recreational travel and camping;
- any RV purchased through auction or wholesale;
- any RV purchased from a dealer that is not an authorized dealer of Jayco;
- any defect arising from excess weight placed on the Structural Components;
- normal wear, tear or usage, such as tears, punctures, soiling, mildew, fading, or discoloration of exterior plastic or fiberglass, or soft goods, such as upholstery, drapes, carpet, vinyl, screens, cushions, mattresses and fabrics;
- the effects of condensation or moisture from condensation inside or outside the RV;
- mold or any damage caused by mold to the inside or outside of the RV;
- imperfections that do not affect the suitability of the RV for its intended purpose of recreational use or items that are working as designed but that you are unhappy with;
- exterior paint or finish;
- problems, including water leaks, related to misuse, mishandling, neglect or abuse, including failure to maintain the RV in accordance with the owner's manual, or other routine maintenance such as inspections, lubricating, adjustments, tightening of screws and fittings, tightening of lug nuts, sealing, rotating tires;
- damage due to accident, whether or not foreseeable, including any acts of weather;
- damage, rust, or corrosion due to the environment, theft, vandalism, fire, or other intervening acts not attributable to Jayco;
- damage caused by unregulated water pressure, tank over fill, or plumbing system modifications resulting in flooding of the vehicle;
- failure of the original retail purchaser or others to follow ordinary maintenance procedures as recommended by Jayco;
- damage caused by unprotected electrical hook-ups (home or campground), power surges, lightning, circuit overload, or electrical system modifications;

- damage resulting from tire wear or tire failure;
- hydraulic leveling jacks or leveling system;
- defacing, scratches, dents, chips on any surface or fabric of the RV; damage caused by infestation by insects or animals;
- damage caused by off road use, overloading the RV or alteration of the RV, or any of its components or parts;
- wheel alignment or adjustments to axles when caused by improper maintenance, loading or damage from road hazards, including off road travel, wheel damage or balancing or damage from tire failures;
- any costs associated with obtaining service, including by way of example, travel costs, are specifically excluded from the coverage of this warranty;
- any RV used as a residence; and
- any component, system, or part of the RV that is warranted by another entity, including, by way of example, handling, braking, wheel balance, tires, tubes, batteries, gauges, generator, awning, hydraulic jacks, inverter, converter, microwave, television, DVD/CD player, radio, speakers, television, refrigerator, range, hot water heater, water pump, stove, carbon monoxide detector, smoke detector, propane detector, furnace or any air conditioner. The written warranty provided by any manufacturer of the component part is the direct responsibility of that manufacturer. Defects and/or damage to interior and exterior surfaces, trim, upholstery and other appearance items may occur at the factory. These items are usually detected and corrected at the factory or by the selling dealer prior to delivery to the retail customer. You must inspect your RV for this type of damage when you take delivery. If you find any such defect or damage you must notify the selling dealer at time of delivery to have these items covered by this limited warranty and to have work performed on the items at no cost to you as provided by this limited warranty.

EVENTS DISCHARGING JAYCO FROM OBLIGATION UNDER WARRANTY

Certain things completely discharge Jayco from any obligation under this warranty and void it. By way of example, the following shall discharge Jayco from any express or implied warranty obligation to repair or replace any defect that results from: any rental or other business or commercial use or purchase of the RV (as defined in this warranty), any RV titled or registered in the name of any business or business association (such as a corporation or limited liability company), any RV sold outside of, or used outside of, the United States, U.S. Territories or Canada, through an auction or wholesale or by a non-authorized dealer, any defect in a separately manufactured component part, owner neglect or failure to provide routine maintenance (See Owner's Manual), unauthorized alteration, off road use, collision or accident, whether or not foreseeable, including any acts of weather or damage or corrosion due to the environment, theft, vandalism, fire, explosions, overloading in excess of weight ratings, and tampering with any portion of the RV, or any use of the RV as a semi-permanent or permanent home.

LEGAL REMEDIES

ANY ACTION TO ENFORCE ANY PORTION OF THIS LIMITED WARRANTY, OR ANY IMPLIED WARRANTY, MUST BE COMMENCED WITHIN NINETY (90) DAYS AFTER THE EXPIRATION OF THE WARRANTY COVERAGE PERIOD DESIGNATED ABOVE. Any performance of repairs shall not suspend this limitation period from expiring, unless state law provides otherwise. Any performance of repairs after the 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 alter the express terms of this limited warranty, or extend the warranty coverage period or this limitation period. In addition, this warranty is not intended to extend to future performance, and nothing in this warranty, or any action of Jayco, or any agent of Jayco, shall be interpreted as an extension of the warranty period or this limitation period. Some states do not allow a reduction in the statute of limitations, so this reduction may not apply to you. Jayco is not required to notify you if authorized repairs are considered "good will" by Jayco.

WARRANTY REGISTRATIONS

Your warranty registration records should be completed and delivered to the manufacturers of component parts. The selling dealership will assist you in completing and submitting the Jayco product warranty registration form. That form must be returned to Jayco within ten (10) days of your taking delivery of the RV. Your Jayco warranty will not be registered unless this warranty registration is completed and received by Jayco. Failure to file this warranty registration with Jayco will not affect your rights under this limited warranty as long as you can present proof of purchase, but it can cause delays in obtaining the benefits of this limited warranty, and it may inhibit any servicing facility's ability to provide proper repairs and/or part replacement. Note, tender and acceptance of a warranty registration does not alter the express terms of this limited warranty or any of its exclusions.

CARE AND MAINTENANCE

It is the owner's responsibility to perform proper care and maintenance of the RV, and to assure correct load distribution. For details regarding this, please see your Jayco owner's manual and the owner's manuals of the chassis manufacturer and other component part manufacturers. These outline various care and maintenance that is required to maintain your RV. Please review all manuals supplied with your RV, and contact your selling dealership or supplier of the component part if you have questions. Note: Failure to maintain the RV as noted in those manuals voids this limited warranty, and any damage to the RV as a result of your failure to perform such care, is not covered by this limited warranty.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE.

ACCEPTANCE OF WARRANTY

When you request or accept the performance of repairs under the terms of this Limited Warranty, you are confirming the acceptance of all terms of this Limited Warranty, including, by way of example, warranty limitations and disclaimers, the forum selection clause and the clause reducing the time period within which suit must be filed for breach.

LEGAL REMEDIES

EXCLUSIVE JURISDICTION FOR DECIDING LEGAL DISPUTES RELATING TO AN ALLEGED BREACH OF WARRANTY OR OTHERWISE RELATING TO YOUR PURCHASE OR OWNERSHIP OF THE RV MUST BE FILED IN THE COURTS WITHIN THE STATE OF INDIANA. THIS LIMITED WARRANTY SHALL BE INTERPRETED AND CONSTRUED IN ACCORDNACE WITH THE LAWS OF THE STATE OF INDIANA. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE OR PROVINCE TO PROVINCE. ALL ACTIONS OF ANY KIND RELATING TO THE RV SHALL BE DECIDED BY A JUDGE RATHER THAN A JURY.

JAYCO, INC.
903 S. Main Street * P.O. Box 460 * Middlebury, IN 46540
Telephone: 574-825-5861 or 800-283-8267

JAYCO TOWABLE LIMITED WARRANTY
(Camping Trailers)

WHAT AND WHO IS COVERED

This Limited Warranty covers only recreational vehicles sold in, and that remain in, the United States, U.S. Territories and Canada and used for the intended purpose of recreational travel and camping. If a substantial defect in material or workmanship, attributable to Jayco, is found to exist and is reported to Jayco or an authorized servicing dealer during the applicable warranty period, it will be repaired or replaced, at Jayco's option, without charge to the RV owner, in accordance with the terms, conditions and limitations of this limited warranty.

This limited warranty applies to the first consumer purchaser of a new RV only. All rights and limitations within this warranty are applicable to the original owner of the RV only. You may contact an independent, authorized dealer for details.

Jayco's obligation to repair or replace defective materials or workmanship is the sole obligation of Jayco under this limited warranty. Jayco reserves the right to use new or remanufactured parts of similar quality to complete any work, and to make parts and design changes from time to time without notice to anyone. Jayco reserves the right to make changes in the design or material of its products without incurring any obligation to incorporate such changes in any product previously manufactured. Jayco makes no warranty as to the future performance of this RV, and this limited warranty is not intended to extend to the future performance of this RV, or any of its materials, components or parts. In addition, the RV owner's obligation to notify Jayco, or one of its independent, authorized dealers, of a claimed defect does not modify any obligation placed on the RV owner to contact Jayco directly when attempting to pursue remedies under state or federal law.

LIMITATIONS, EXCLUSIONS AND DISCLAIMER OF IMPLIED WARRANTIES

ANY IMPLIED WARRANTY THAT IS FOUND TO ARISE BY WAY OF STATE OR FEDERAL LAW, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR ANY IMPLIED WARRANTY OF FITNESS, IS LIMITED IN DURATION TO THE DURATION SET FORTH IN THIS LIMITED WARRANTY AND IS LIMITED IN SCOPE OF COVERAGE TO THE SCOPE OF COVERAGE OF THIS LIMITED WARRANTY. ALL IMPLIED WARRANTIES AND CONDITIONS, STATUTORY OR OTHERWISE, ARE DISCLAIMED IN THEIR ENTIRETY AS TO RVs OR COMPONENTS OF RVs EXCLUDED OR NOT COVERED UNDER THIS WARRANTY.

Jayco makes no warranty of any nature beyond that contained in this limited warranty. Jayco does not authorize any person to create any other obligation or liability for it regarding this RV, and Jayco is not responsible for any representation, promise or warranty made by any dealer or other person beyond what is expressly stated in this limited warranty, and no one has the authority to enlarge, amend or modify this limited warranty. Any selling or servicing dealer is not Jayco's agent, but an independent entity.

JAYCO SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES THAT MAY RESULT FROM BREACH OF THIS LIMITED WARRANTY OR ANY IMPLIED WARRANTY. BY WAY OF EXAMPLE, CONSEQUENTIAL DAMAGES INCLUDE INCONVENIENCE, FUEL AND TRANSPORTATION EXPENSES TO DELIVER THE RV TO A SERVICING DEALER, HOTEL ROOMS, LOST WAGES AS WELL AS CONSEQUENCES OF MOISTURE DAMAGE SUCH AS MOLD AND MILDEW AS WELL AS RUST AND CORROSION.

THIS EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES SHALL BE INDEPENDENT OF ANY FAILURE OF THE ESSENTIAL PURPOSE OF ANY WARRANTY, AND THIS EXCLUSION SHALL SURVIVE ANY DETERMINATION THAT THIS LIMITED WARRANTY OR ANY IMPLIED WARRANTY HAS FAILED OF ITS ESSENTIAL PURPOSE.

Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

THE PERIOD OF COVERAGE

The duration of this Limited Warranty is 2 years. Provided, however, the duration is 5 years for the 5 specific components set forth below:

1. **Lifter System**. Provided, however, that this limited warranty includes any routine adjustments to the lifter system (such as periodic roof height adjustment to compensate for stretch in cables), and any substantial defects in the optional power motor and winch assembly during the first year only. The installation of a roof air conditioner or any other cargo exceeding 350 pounds voids this warranty as it applies to the lifter system. Do not lift roof with any load in place and always unlock all roof latches before raising.
2. **Steel Frame**. Provided, however, that the frame surface, axle beam, springs and running gear components are excluded from the limited warranty.
3. **Floor/Bed Platforms**. Provided, however, that the vinyl floor covering is covered during the first two years of ownership only. The vinyl floor covering is NOT warranted against gouges, cuts or tears.
4. **Roof.** Provided, however, that this limited warranty does not include maintenance, surface finish, cosmetic issues, resealing, or damage to the roof. Snow loads must be removed from the roof to avoid damage to the roof.
5. **Tent Material**. Provided, however, during years 3, 4, and 5, you must send Jayco the defective tent sections. Jayco will repair the tent sections and then return the repaired tent sections to you. Dealer costs and labor costs are not covered in years 3, 4 or 5

The applicable warranty period begins on the date that the RV is delivered to the first retail purchaser by an independent, authorized dealer of Jayco, or, if the dealer places the vehicle in service before retail sale, on the date the RV is first placed in such service.

HOW TO GET SERVICE

It is normal to expect some warranty service during the term of this Limited Warranty. To obtain warranty service the owner must do all of the following:

1. Notify an independent, authorized dealer of Jayco, or Jayco, of the substantial defect in material or workmanship attributable to Jayco, within the warranty coverage period designated above;
2. Provide the notification mentioned in (1), above, within ten (10) days of when the owner discovered, or should have discovered, the substantial defect in material or workmanship attributable to Jayco;
3. Promptly schedule an appointment with and take the RV to an independent, authorized dealer of Jayco, or Jayco, for repairs; and
4. Pay any freight or transportation costs, import duties, fees and all incidental expenses associated with obtaining warranty service.

If you need assistance, you may contact Jayco, at 903 S. Main Street, P.O. Box 460, Middlebury, Indiana 46540, Attn: Customer Service, (574) 825-5861, (800) 283-8267 or www.jayco.com.

NOTE: Jayco does not control the scheduling of service work at the independent, authorized dealerships. You may encounter some delay in scheduling or completion of work. Also, you must notify the selling dealer at time of delivery to have work performed on any defect that occurred at the factory during manufacture at no cost to you as provided by this limited warranty. (See below under WHAT IS NOT COVERED).

If two (2) or more service attempts have been made to correct any covered defect that you believe impairs the value, use or safety of the RV, or if it has taken longer than thirty (30) days for those types of repairs to be completed, you must, to the extent permitted by law, notify Jayco directly, in writing, at the above address, of the unsuccessful repair(s) of the alleged defect(s) so that Jayco can become directly involved in making sure that you are provided service pursuant to the terms of this limited warranty.

Jayco's obligation is to address, within industry standards, any covered substantial defect discovered and reported within the warranty coverage period provided: (1) you notify Jayco or an authorized dealer within 10 days of your discovery of the substantial defect; AND (2) you deliver the RV to Jayco or an authorized dealership 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 Jayco pay an independent service shop of your choice to perform repairs to the substantial defect. If the substantial defect is incapable of being repaired, your exclusive remedy will be to receive diminished value damages (i.e. the difference in your purchase price and the actual value of the RV on the date of purchase due to the substantial defect that is incapable of repair). 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 Jayco.

WHAT IS NOT COVERED

By way of example only, this limited warranty does not cover any of the following:

- defects in materials, components or parts of the structure of the RV not attributable to Jayco;
- items that are added or changed after the RV leaves the possession of Jayco;
- additional equipment or accessories installed at any dealership, or other place of business, or by any other party, other than Jayco;
- any RV used for rental or other business or commercial purposes (Note: It shall be concluded that the RV has been used for commercial and/or business purposes if the RV owner or user files a tax form claiming any business or commercial tax benefit related to the RV, or if the RV is purchased, registered or titled in a business name or any business association such as a corporation or limited liability company);
- any RV sold or used outside the United States, U.S. Territories or Canada;
- any RV not used solely for recreational travel and camping;
- any RV purchased through auction or wholesale;
- any RV purchased from a dealer that is not an authorized dealer of Jayco;
- any defect arising from excess weight placed on the Structural Components;
- normal wear, tear or usage, such as tears, punctures, soiling, mildew, fading, or discoloration of exterior plastic or fiberglass, or soft goods, such as upholstery, drapes, carpet, vinyl, screens, cushions, mattresses and fabrics;
- the effects of condensation or moisture from condensation inside or outside the RV;
- mold or any damage caused by mold to the inside or outside of the RV;

- imperfections that do not affect the suitability of the RV for its intended purpose of recreational use or items that are working as designed but that you are unhappy with;
- exterior paint or finish;
- problems, including water leaks, related to misuse, mishandling, neglect or abuse, including failure to maintain the RV in accordance with the owner's manual, or other routine maintenance such as inspections, lubricating, adjustments, tightening of screws and fittings, tightening of lug nuts, sealing, rotating tires;
- damage due to accident, whether or not foreseeable, including any acts of weather;
- damage, rust, or corrosion due to the environment, theft, vandalism, fire, or other intervening acts not attributable to Jayco;
- damage caused by unregulated water pressure, tank over fill, or plumbing system modifications resulting in flooding of the vehicle;
- failure of the original retail purchaser or others to follow ordinary maintenance procedures as recommended by Jayco;
- damage caused by unprotected electrical hook-ups (home or campground), power surges, lightning, circuit overload, or electrical system modifications;
- damage resulting from tire wear or tire failure;
- hydraulic leveling jacks or leveling system;
- defacing, scratches, dents, chips on any surface or fabric of the RV; damage caused by infestation by insects or animals;
- damage caused by off road use, overloading the RV or alteration of the RV, or any of its components or parts;
- wheel alignment or adjustments to axles when caused by improper maintenance, loading or damage from road hazards, including off road travel, wheel damage or balancing or damage from tire failures;
- any costs associated with obtaining service, including by way of example, travel costs, are specifically excluded from the coverage of this warranty;
- any RV used as a residence; and
- any component, system, or part of the RV that is warranted by another entity, including, by way of example, handling, braking, wheel balance, tires, tubes, batteries, gauges, generator, awning, hydraulic jacks, inverter, converter, microwave, television, DVD/CD player, radio, speakers, television, refrigerator, range, hot water heater, water pump, stove, carbon monoxide detector, smoke detector, propane detector, furnace or any air conditioner. The written warranty provided by any manufacturer of the component part is the direct responsibility of that manufacturer. Defects and/or damage to interior and exterior surfaces, trim, upholstery and other appearance items may occur at the factory. These items are usually detected and corrected at the factory or by the selling dealer prior to delivery to the retail customer. You must inspect your RV for this type of damage when you take delivery. If you find any such defect or damage you must notify the selling dealer at time of delivery to have these items covered by this limited warranty and to have work performed on the items at no cost to you as provided by this limited warranty.

EVENTS DISCHARGING JAYCO FROM OBLIGATION UNDER WARRANTY

Certain things completely discharge Jayco from any obligation under this warranty and void it. By way of example, the following shall discharge Jayco from any express or implied warranty obligation to repair or replace any defect that results from: any rental or other business or commercial use or purchase of the RV (as defined in this warranty), any RV titled or registered in the name of any business or business association (such as a corporation or limited liability company), any RV sold outside of, or used outside of, the United States, U.S. Territories or Canada, through an auction or wholesale or by a non-authorized dealer, any defect in a separately manufactured component part, owner neglect or failure to provide routine maintenance (See Owner's Manual), unauthorized alteration, off road use, collision or accident, whether or not foreseeable, including any acts of weather or damage or corrosion due to the environment, theft, vandalism, fire, explosions, overloading in excess of weight ratings, and tampering with any portion of the RV, or any use of the RV as a semi-permanent or permanent home.

LEGAL REMEDIES

ANY ACTION TO ENFORCE ANY PORTION OF THIS LIMITED WARRANTY, OR ANY IMPLIED WARRANTY, MUST BE COMMENCED WITHIN NINETY (90) DAYS AFTER THE EXPIRATION OF THE WARRANTY COVERAGE PERIOD DESIGNATED ABOVE (i.e. an action must be brought within 2 years and 90 days of purchase except for claims related solely to components with a 5 year coverage period which must be filed within 5 years and 90 days of purchase). Any performance of repairs shall not suspend this limitation period from expiring, unless state law provides otherwise. Any performance of repairs after the 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 alter the express terms of this limited warranty, or extend the warranty coverage period or this limitation period. In addition, this warranty is not intended to extend to future performance, and nothing in this warranty, or any action of Jayco, or any agent of Jayco, shall be interpreted as an extension of the warranty period or this limitation period. Some states do not allow a reduction in the statute of limitations, so this reduction may not apply to you. Jayco is not required to notify you if authorized repairs are considered "good will" by Jayco.

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CARE AND MAINTENANCE

It is the owner's responsibility to perform proper care and maintenance of the RV, and to assure correct load distribution. For details regarding this, please see your Jayco owner's manual and the owner's manuals of the chassis manufacturer and other component part manufacturers. These outline various care and maintenance that is required to maintain your RV. Please review all manuals supplied with your RV, and contact your selling dealership or supplier of the component part if you have questions. Note: Failure to maintain the RV as

noted in those manuals voids this limited warranty, and any damage to the RV as a result of your failure to perform such care, is not covered by this limited warranty.

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JAYCO, INC.
903 S. Main Street * P.O. Box 460 * Middlebury, IN 46540
Telephone: 574-825-5861 or 800-283-8267

Notes:

SECONDARY MEANS OF ESCAPE (EXIT WINDOW)

The emergency egress window allows a quick exit from the recreation vehicle during an emergency if access to the main entrance door is not available.

- Make sure all occupants know how to open and operate the egress window before an emergency occurs.
- When pulling into your campsite, make sure the egress is not blocked by trees or other obstacles. Make sure the ground below the window is solid and can be used as an escape path.

Tent Exits

The emergency exit is typically located in the rear wall of your camping trailer. It will be marked with a red EXIT label. To exit, unzip the lifter post cover until the Velcro separates creating an opening in the tent. Exit through this opening. **Do not remove the label from your recreation vehicle.**

Emergency exit window

Exit Window Label

NOTE: The privacy curtain strings are not designed to provide support when exiting the RV.

FIRE SAFETY

If a fire does start, follow these basic safety rules:

1. Call 911 and evacuate the vehicle immediately.
2. After everyone is accounted for, check the fire to see if you can attempt to put it out.
3. If it is large, or the fire is fuel-fed, get clear of the vehicle and have the Fire Department handle the emergency.
4. Do not attempt to use water to put out the fire. Water can spread some types of fire, and electrocution is possible with an electrical fire.

Refer to the following sections for additional fire safety information.

- **Electrical Systems,** In case of an electrical fire.
- **Appliances,** In case of a grease fire.

FIRE EXTINGUISHER

Fire extinguishers are 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.

Class A - Solid materials such as wood, paper, cloth, rubber and some plastics.

Class B - Liquids such as grease, cooking oils, gasoline, kerosene or other flammable liquids.

Class C - Electrical such as electrical wires or other live electrical equipment.

A dry chemical fire extinguisher has been installed by the entrance door. It is suitable for extinguishing small fires of the Class B or C type only.

We suggest you become thoroughly familiar with the operating instructions displayed on the side of the fire extinguisher.

NOTE: For information on how to use your fire extinguisher, refer to the fire extinguisher user's manual

Inspection and maintenance

Read and follow all instructions on the label and user's manual provided by the fire extinguisher manufacturer.

- Inspect the extinguisher at least once a week (more frequently if it is exposed to weather or possible tampering). This should also be done before beginning a vacation or during an extended trip.

⚠ WARNING

Do not check the pressure, test or practice using the fire extinguisher by squeezing the trigger, even briefly. The fire extinguisher is not rechargeable or refillable. Once used, it will gradually lose pressure and will not be fully charged for use in an emergency.

⚠ DANGER

Do not turn the electrical power back on or plug in any appliances after the use of a fire extinguisher. Please refer to the fire extinguisher's user manual for further instructions on maintenance and clean up.

SMOKE ALARM

The smoke alarm will only work properly if it is operational and maintained. They have a limited life and will wear out over time. Immediately replace the detector if it is not working properly, if it displays any type of problem, or within five years of use. **Be sure to read, understand and follow the information provided by the smoke alarm manufacturer, including information on the limited life of smoke alarms.**

Be aware the smoke alarm is not fool proof and cannot detect fires if smoke does not reach it. Anything preventing smoke from reaching the alarm may delay or prevent an alarm.

Though the alarm horn in this detector meets or exceeds current UL standards, it may not be heard for reasons that include (but not limited to): a closed or partially closed door, other noise from electronics, appliances or traffic.

⚠ WARNING

- This smoke alarm will not alert hearing impaired residents. Special alarms with flashing strobe lights are recommended for the hearing impaired
- Only use the replacement battery recommended by the smoke detector manufacturer. The smoke detector alarm may not operate properly with other batteries. Never use a rechargeable battery as it may not provide a constant charge. Never disconnect the battery to silence the alarm.
- Test the smoke alarm operation after the vehicle has been in storage, before each trip and at least once per week during use. Do not disconnect the battery or the alarm.

The smoke alarm is operational once the battery is correctly installed. It will not function if the battery is missing, disconnected, dead, the wrong type or not installed correctly. **It requires one standard 9V battery.** Refer to the user's guide, for correct battery and installation information,

The LED light will indicate the battery is functioning properly. When the production of combustion is sensed, the smoke detector sounds a loud alarm that continues until the air is cleared. The LED light will also give a visual indication of a sounding alarm.

When the battery becomes weak, the alarm will "beep" about once a minute indicating a low battery. This warning should last for 30 days. You **MUST** replace the battery once the alarms low battery warning (beep) starts to assure continued protection.

When the battery is removed from the alarm, the battery flag will pop up; the alarm cannot be installed to the mounting bracket without a battery.

To test, stand at arm's length from the smoke alarm as the alarm horn is loud and may be harmful to your hearing. The test button will accurately test all functions. Never use an open flame to test the smoke alarm.

Do not remove the warning label located near the smoke alarm from your recreation vehicle:

Maintenance

Vacuum off any dust on the cover of the smoke alarm using a soft brush attachment. Test the smoke alarm once you have vacuumed. Never use water, cleaners or solvents to clean the smoke alarm as they may damage the alarm. Do not paint the smoke alarm. Refer to the manufacturer's use guide for detailed maintenance information.

Combination Carbon Monoxide /Propane Alarm

Your recreation vehicle is equipped with a combination carbon monoxide (CO) / propane alarm that is listed for use in recreation vehicles. The combination carbon monoxide/propane alarm will only work if it is operational and maintained.

⚠ WARNING

- The carbon monoxide detector installed is intended for use in ordinary indoor locations of recreation vehicles. It is not designed to comply with Occupational Safety and Health Administration (OSHA) commercial or industrial standards.
- Do not disconnect the battery or the alarm.
- Individuals with medical problems may consider using warning devices that provide audible and visual signals for carbon monoxide concentrations under 30 PPM.
- This alarm will only indicate the presence of carbon monoxide gas at the sensor. Carbon monoxide gas may be present in other areas.
- The ultimate responsibility for protection against toxic carbon monoxide fumes rests solely on you. Installing a carbon monoxide/propane alarm is just the first step in protecting your family from toxic carbon monoxide poisoning. The following symptoms are related to carbon monoxide poisoning and should be discussed with all members of the household:
- Mild exposure: Slight headache, nausea, vomiting, fatigue (often described as "flu-like" symptoms).
- Medium exposure: Severe throbbing headaches, drowsiness, confusion, fast heart rate.
- Extreme exposure: Unconsciousness, convulsions, cardio-respiratory failure, death.

The alarm is directly wired to the 12-volt electrical system, with continuous power being supplied by the recreational vehicle batteries. There is no 9-volt battery power supply. As a result, the alarm is always drawing a small amount of current from the recreation vehicle batteries. Although the current draw is slight, it could drain the batteries during extended storage periods. This condition is not likely to occur except during storage situations when the inverter cannot restore the battery charge. **If the battery cable is disconnected at the battery terminals, the combination alarm will not work.**

Be sure to read, understand and follow the owner's information from the manufacturer of the combination CO/propane alarm. This includes information regarding the limited life of the alarm.

Carbon monoxide/propane alarm (alarm may vary from model(s) shown)

Carbon monoxide (CO) is an insidious poison. It is a colorless, odorless and tasteless gas. Many cases of reported carbon monoxide poisoning indicate while victims are aware they are not well, they become so disoriented they are unable to save themselves by either exiting the recreational vehicle or calling for assistance. Young children and household pets may be the first affected.

Your combination carbon monoxide/propane alarm is designed to detect the toxic carbon monoxide fumes that result from incomplete combustion, such as those emitted from appliances, furnaces, fireplaces and auto exhaust.

A carbon monoxide/propane alarm is **NOT A SUBSTITUTE** for other combustible gas, fire or smoke alarms. This carbon monoxide alarm is designed to detect carbon monoxide gas from ANY source of combustion. It is not designed to detect smoke, fire or any other gas. Please note that there are hazards against which carbon monoxide detection may not be effective, such as natural gas leaks or explosions.

This alarm is designed to sense the presence of carbon monoxide/propane gas, however there are other combustible fumes or vapors that may be detected by the sensor including (but not limited to): acetone, alcohol, butane and gasoline.

These chemicals can be found in commonly used items such as deodorants, colognes, perfumes, adhesives, lacquer, kerosene, glues, wine, liquor, most cleaning agents and the propellants of aerosol cans.

High temperatures can activate glue and adhesive vapors. If you close up a recreational vehicle on a hot day, the chemicals used in its construction may be detected for months after the vehicle was constructed (for more information, refer to Sec. 2, Formaldehyde).

What you should do if the alarm sounds

1. Operate the RESET/SILENCE button.
2. Call your emergency services (fire department or 911).
3. Immediately move to fresh air (outdoors or by an open door or window).
4. Do not re-enter the premises or move away from the open door or window until the emergency service responders have arrived, the premises have been aired out, and your alarm remains in its normal condition.

⚠ WARNING

- Actuation of this detector indicates the presence of carbon monoxide which can kill you.
- Never turn the 12-volt battery disconnect control to the off position and disconnect the battery cable to silence an alarm. The alarm will automatically sense when the level of carbon monoxide in the air reaches below dangerous levels. You should stay outside the vehicle in fresh air until the alarm is silenced. When the alarm sounds, do not stand too close to the alarm. The sound produced by the alarm is loud because it is designed to wake a person in an emergency. Prolonged exposure to the alarm at a close distance may be harmful to your hearing.

If your alarm reactivates within a 24 hour period, repeat steps 1-4 and call a qualified appliance technician to investigate for sources of carbon monoxide from fuel burning equipment and appliances, and inspect for proper operation of this equipment. Make sure that motor vehicle(s) are not, and have not been, operating in an attached garage or adjacent to the recreation vehicle.

If problems are identified during this inspection, have the alarm serviced immediately. Note any combustion equipment not inspected by the technician and consult the manufacturer's instructions or contact the manufacturer directly for more information about carbon monoxide safety and this alarm.

Alarm signals

- **Normal operation:** The LED will maintain a steady green light, indicating that the alarm is powered.
- **CO alarm condition:** The red LED light will remain steady and the alarm will sound 4 "BEEPS" then silent for 5 seconds. These signals indicate immediate action is required.
- **Propane gas alarm:** The red LED flash and the alarm will sound a steady tone. These signals indicate immediate action is required.
- **Alarm malfunction/low battery:** The gas LED will remain off and the Operational/CO LED will alternate red/green and the alarm will sound once every 15 seconds.
- **End of life alarm:** The LED will flash red/red, green/green and the alarm will "BEEP" every 25-30 seconds. The alarm should be immediately replaced.

Maintenance

Vacuum the alarm cover at least once a year. Clean the cover by hand using a cloth dampened in clean water. Dry with a soft cloth. Do not spray the front panel of the alarm with cleaning agents or waxes. This action may damage the sensor causing an alarm or cause the alarm to malfunction. Do not paint the face of the alarm.

Testing the combination carbon monoxide/propane alarm

⚠ WARNING

Test the alarm operation after the RV has been in storage, before each trip and at least once per week during use.

The TEST/RESET button tests all ELECTRICAL functions of the alarm. The TEST/Mute switch is located on the front of the alarm. Press and hold the test button for 1 second. The alarm is working properly if the GREEN indicator light changes color to RED and the horn beeps 4 times. The Gas LED should also blink red.

NOTE: Pressing the test button does not check the sensor operation. Refer to the carbon monoxide/propane alarm manufacturers user's manual provided with your recreation vehicle for additional information on testing the sensors.

Repair or replace the combination carbon monoxide/propane alarm when the alarm no longer functions. As with any electronic product, it has a limited life. Alarms that do not work cannot protect you.

NOTE: The carbon monoxide/propane alarm manufacturer strongly recommends replacement of the detector five years after the date of purchase.

FORMALDEHYDE

Some components in the recreation vehicle contain formaldehyde-based adhesives that may release formaldehyde fumes into the air for an unknown period of time. Individuals who are allergic to formaldehyde gas fumes may experience irritation to eyes, ears, nose and throat. Indoor air quality may also be affected by leaving your vehicle closed for a period of time.

To aid in dissipation, ventilate the recreation vehicle by opening all windows and circulate the air with a fan.

This label is located inside the vehicle near the entry door. **The label should be left permanently affixed to the recreation vehicle.**

EXTENDED OR FULL TIME USAGE

Your new recreation vehicle has been built for enjoyment in a recreational manner. It is not intended for use as full-time quarters or a permanent residence. Continuous living in your vehicle could cause accelerated wear and damage to the various components.

⚠ CAUTION

Continuous or permanent living in your recreation vehicle may affect your warranty coverage and may void the “Limited Warranty” applicable to your vehicle.

COLD WEATHER USAGE

When used in freezing or below freezing temperatures, the precautions should be taken:

- Fresh water and drainage systems - preparations to avoid freeze-ups.
- Propane gas (if so equipped) and sufficient power is needed for protection from possible freeze-ups on the propane gas regulator. Keep in mind that more frequent furnace operation will substantially increase battery draw and propane gas use.
- During cool weather usage, ventilation or addition of a dehumidifier may be required to reduce condensation.
- Check outside extrusions on compartment doors, locks, slide outs, windows, vents, etc., for frozen moisture before operating to avoid damage to parts.

CONDENSATION

⚠ WARNING

Condensation may cause dampness, mildew, mold, staining and, if allowed to continue, it may result in damage to the recreation vehicle (damage caused by condensation is not warrantable). It can also lead to mold or mildew issues, which could be a health hazard.

Condensation is a natural phenomenon. The amount of condensation will vary with climate conditions, particularly the relative humidity. Condensation occurs because there is water vapor present in the air. When the temperature reaches the "dew point" the water vapor in the air condenses and changes to a liquid form.

Proper ventilation or the use of a dehumidifier (customer supplied) will assist in controlling the condensation. Suggestions to eliminate warm moist air:

- Crack open windows and roof vents to allow warm moist air to escape.
- Open the bath roof vent (if so equipped) approximately ½" when showering.
- Use the range hood fan (if so equipped) when cooking or washing dishes.
- Avoid hanging wet towels (or clothes) inside the recreation vehicle to dry.
- If found in cabinets or closets, open the doors slightly to provide ventilation.

CONDENSATION - TENT MODELS ONLY

When camping leave a small opening using each bunk zipper to permit air flow and allow the tent to "breathe". This will help minimize moisture gathering above the bunk area on the vinyl.

Bunk zipper shown open to allow airflow

TOW VEHICLE

If you plan to tow your recreation vehicle with a tow vehicle you already own, or if you plan to purchase a new one, make sure the Gross Vehicle Weight Rating (GVWR) or your recreation vehicle does not exceed your tow vehicles towing rating.

Ask your automotive dealer how to obtain a copy of information that deals with towing considerations, with or without an optional vehicle tow package.

VEHICLE LABELS

Decals and data plates used throughout the recreation vehicle aid in its safe and efficient operation; others give service instructions. Read all decals, data and instruction plates before operating your recreation vehicle. Any decal, data or instruction plate painted over, damaged or removed should be replaced.

Keep a record of the 17-digit chassis vehicle identification number (VIN), the 8-digit serial number, and your license number in the event theft or vandalism requires you to supply this information to the authorities.

⚠ WARNING

- The factory-installed weight labels are specific to the recreation vehicle for which they are supplied and are not interchangeable. Do not remove these labels from your vehicle. If labels are missing contact your dealer or Customer Service for replacements.
- **Do not exceed any applicable weight ratings. Doing so could damage your RV or tow vehicle and adversely affect handling and braking characteristics.**

Weight Terms

GAWR - Gross Axle Weight Rating: The value specified by the vehicle manufacturer as the load-carrying capacity of a single axle system, as measured at the tire-to-ground interfaces. This is the total weight a given axle is capable of carrying.

GCWR - Gross Combined Weight Rating: The value specified by the trailer manufacturer as the maximum allowable loaded weight of the trailer including full propane cylinders, a full load of water, and full generator fuel if applicable.

GVWR - Gross Vehicle Weight Rating: The value specified by the manufacturer as the maximum permissible weight of the fully loaded trailer.

OCCC - Occupant And Cargo Carrying Capacity: Is equal to the GVWR of the trailer, minus the weight of the trailer (as completed at the factory) minus the weight of all personal cargo, and, if applicable, minus the weight of a full tank (or tanks) of propane and the full weight of potable water, including the water heater (if so equipped). Additions to or other changes made to the trailer after it left the factory will affect (reduce) the OCCC.

UVW - Unloaded Vehicle Weight: The weight of the trailer as manufactured at the factory with the weight of a full tank (or tanks) of propane.

Weight and Capacity Labels

The following labels are typically located on the roadside front corner of the RV. An additional Occupant & Cargo Carrying Capacity label is also located on the inward surface of the entry door.

OCCC Label (Occupant & Cargo Carrying Capacity:

The upper portion of this yellow label is federally required and includes the maximum Occupant & Cargo Carrying Capacity that may be placed in or on the trailer as it was manufactured and weighed before leaving the factory. This maximum capacity would not include the weight of a full fresh water tank. The full load of water weight would need to be subtracted from the maximum cargo weight. Additions or other changes made to the trailer after it leaves the factory will affect (reduce) the OCCC.

OCCC Label (yellow)

The lower portion of this label is provided voluntarily and indicates the weight value of the trailer as it was manufactured and weighed at the factory. It includes full propane tanks and full generator fuel (if so equipped).

NOTE: The total weight capacity of the tires on your RV can be less than the GVWR. The calculation for the actual weight on the RV tires does not include the tongue weight. The tongue weight is actually being carried by your tow vehicle, not the RV tires.

For example: If the tires are rated at 2,000 lbs. each x 4 tires = 8,000 lbs. and the RV has a GVWR of 9,000 lbs. with a tongue weight of 1,200 lbs. The actual weight on the RV tires isw (9,000 – 1,200) which equals 7,800 lbs. which is within the weight rating of the tires.

The Federal Certification Label is required by the government to verify the trailer complies with all motor vehicle standards for Canada and the United States. It includes the following information: Manufacturer name, VIN, GVWR, GAWR (front/rear), tire & rim sizes and cold tire inflation pressures.

Federal Certification Label

Tire and Loading Label provides information on the tire sizes, cold tire inflation pressures, the VIN and maximum cargo capacity. The maximum cargo capacity listed on the label does not include the weight of a full load of water.

If you have further questions, please contact your dealer or our Customer Service department.

Tire and Loading Information

LOADING YOUR RECREATION VEHICLE

⚠ WARNING

- **Never load the RV in excess of the GAWR for either axle. Overloading your RV may result in adverse handling characteristics and damage to the RV.**
- **DO NOT EXCEED YOUR GVWR!** This means you should weigh your RV as loaded for your normal travel to determine the actual weight. If you exceed the GVWR, you **MUST** remove items from the RV, or drain liquids, then re-weigh the vehicle to ensure you have achieved a safe weight. **Do not travel with full grey/black holding tanks.** This not only wastes gas but, depending upon the location of the grey or black holding tanks, can affect handling characteristics.

Store and secure all loose items inside the RV before traveling. Overlooked items can become dangerous projectiles during a sudden stop.

Distribute cargo side-to-side so the weight on each tire does not exceed one-half of the GAWR for either axle. Make sure any tie down straps (if so equipped) on appliances or furniture are secure. Load heavy objects on the floor, or as low as possible.

⚠ WARNING

- Your recreation vehicle's load capacity is designated by weight, not by volume, so you cannot necessarily use all available space when loading the vehicle. Do not exceed your GVWR and ensure you are loading the vehicle as evenly as you can for the best possible handling. Ensure heavy items are secured so they do not shift during travel.
- Store items in areas designated for storage. **Do not store anything in the areas reserved for the converter, electrical panels or the furnace or water heater, etc.**

EXTERIOR ACCESSORIES (CUSTOMER SUPPLIED)

⚠ WARNING

It is critical that you properly secure the racks and accessories to your camping trailer. Improper attachment could result in an accident, and could cause serious bodily injury or death. You are responsible for securing the racks and accessories to your camping trailer, checking the attachments prior to use, and periodically inspecting the products for adjustment, wear, and damage. You must read and understand all of the instructions and cautions supplied with your product prior to installation or use. **Failure to follow instructions may result in roof or other property damage that will void the roof warranty.**

REAR BUMPER

The rear bumper of your RV is not designed to carry cargo. Items that extend beyond the bumper OR weigh over 100 lbs. (45kg) will place undo strain on the bumper. The 100 lb. bumper capacity includes the weight of the spare tire (if so equipped).

⚠ CAUTION

Do not add items to the recreation vehicle rear bumper. Add-on items will eventually damage your bumper. Damage caused by such aftermarket equipment installation or improper loading voids the Towable Limited Warranty.

NOTE: Some items may fall within the given weight range, (IE: bike racks) however, they can still cause damage. In addition, extra weight behind the axle may reduce the hitch weigh which can adversely affect handling.

CAMPING TRAILER ROOF

⚠ CAUTION

- Do not attempt to raise the roof with cargo secured to it.
- Do not add or install any aftermarket equipment to the roof or store any items on the roof. Adding equipment or storing items on the roof may result in damage to the roof and/or roof components.

The maximum weight of equipment secured to the roof (in the travel mode) must not exceed 350 lbs. The load capacity of the roof must not be exceeded. It is your responsibility to know the weight of any installed or loaded aftermarket equipment (added equipment will reduce the available cargo capacity). Additional items secured to the roof of your camping trailer must be added into the overall RV weight.

The maximum weight that the roof can lift is 175 lbs. for power lift systems and 250 lbs. for manual lift systems (this includes aftermarket equipment such as a bike rack, canopy, air conditioner, boat rack, etc.)

Never mount a storage pod directly to the roof. It is necessary to provide a rack system that secures to the outer edges of the roof to support and evenly distribute the weight of the storage pod. Consult your dealer for proper installation.

Never walk on the roof. The roof is not designed to accommodate the weight, or damage that can occur from walking on the roof..

NOTE: Camping trailers have a ceiling light circuit fed through a master shut-off switch that prevents 12-volt current from flowing to the ceiling lights with the roof lowered. Periodically test the light and switch to be sure the switch adjustment is correct adjustment is correct.

TRAVEL TRAILER HITCH (CUSTOMER SUPPLIED)

Hitch selection affects the towing and handling characteristics of your recreation vehicle. There are many kinds of hitches available and assuring that you have the correct hitch installed is critical to a safe towing.

Ask your dealer about the proper class and type of hitch you need for your individual tow vehicle/RV combination. A travel trailer requires a frame mounted hitch.

The hitch class rating based on the capacity that hitch has for towing and a weight classification. The weight classification is determined from the hitch's weight carrying capacity (the tongue weight on a travel trailer). Before selecting a hitch, you must know your GVWR and tongue weight. **The rating of the hitch package purchased should be equal to or greater than the RV's GVWR and the hitch weight.**

⚠ CAUTION

Using an oversized or undersized hitch can cause damage to the RV frame. Jayco cannot be responsible for the tow vehicle suspension system. The final ball height after the tow vehicle/travel trailer combination is completely hooked up is a factor that must be considered. To avoid overloading your trailer axles and minimize possible handling difficulties, your trailer should be level when hooked to your tow vehicle. Do not overload your tow vehicle.

Equipment that sometimes gives autos, trucks and sport utility vehicles a softer ride can accentuate swaying when pulling a RV. Suspension that is too stiff will increase vibration, bounce and accelerate wear of your tow vehicle and RV combination.

Your recreation vehicle manufacturer cannot be responsible for the suspension system of any tow vehicle. There are a variety of tow vehicle suspension systems available that will affect the ball height, stability and levelness of a hooked up RV. Make sure your dealer is aware of the tow vehicle you are using so a compatible hookup is achieved.

Travel Trailer Hitch Weight

Maintain the proper tongue weight of the trailer. Stay within the target range of 10%-15% of the overall gross weight (travel trailer weight plus contents).

Travel Trailer Hitch Height and Hitch Ball

To determine the hitch height for your model, make sure that the trailer is level. When the loaded RV is hitched to the tow vehicle, check the hitch ball height. This can be determined by measuring the distance from the center of the hitch ball to the ground. Record this number in the box for future reference.

This unit hitch height is:

Adjust the equalizing bars of the hitch assembly so that the tow vehicle and the trailer are essentially level. A high hitch will transfer weight behind the axles and cause the vehicle to fishtail. A low hitch will transfer additional weight to the hitch. Refer to the hitch manufacturer instructions to adjust the weight-distributing hitch to the proper height.

If you have additional questions, consult with your dealer. Make certain your Dealer is aware of the tow vehicle you are using so a compatible hookup is achieved. Depending on the model, your required travel trailer hitch ball diameter is either 2" or 2-5/16" (consult your dealer for assistance).

Travel Trailer Hitching Procedure

The following procedure will help to assist you in securely hooking up your recreation vehicle to your tow vehicle.

1. Make sure the trailer wheels are blocked.
2. Turn the tongue jack crank to raise the travel trailer tongue above the hitch ball.
3. Open the coupler latch on the travel trailer hitch.
4. Back the tow vehicle into the proper position.
5. Turn the tongue jack crank to lower the coupler onto the hitch ball.
6. Close the coupler latch after it is completely seated.
7. Install the (customer supplied) weight distributing bars (equalizers) as directed by the OEM.
8. Remove the dolly wheel or platform and retract the tongue jack to its maximum height.
9. Attach the breakaway switch cable to the tow vehicle.
10. Attach the safety chains.
11. Plug in your wire harness/connector plug from the tow vehicle to the travel trailer.
12. Walk around the RV to verify exterior lights are working correctly.
13. Remove the trailer wheel blocks.

NOTE: If an Atwood brake actuator is used with an equalizing hitch, be sure the hanger chains hang between straight down and forward up to 34°. Do not use less than 6-1/2" hanger chain length. For optimum brake performance, hang chains forward 34°. Refer to the manufacturer's owner's manual for more information.

Travel Trailer Weight Distributing System (customer supplied):

This system provides a more stable tow vehicle/RV combination as it will spreads the weight evenly to distribute it to the tow vehicle front and rear axles and the trailer axle. Consult with your dealer for information on requirements and operation of this system. Be certain your tow vehicle can carry the hitch weight.

Travel Trailer Sway Control (customer supplied):

Sway control devices are available to reduce the sway produced by crosswinds, air displacement caused by other vehicles passing you in transit, incorrect weight distribution, excessive speed, the RV tires dropping onto the shoulder of the road, etc. The use of sway control will help to control the side-to-side movement and keep sway in check. Consult your dealer for additional information.

Suggestions for sway situations:

- Slowly ease your foot off the accelerator.
- Turn the steering wheel as little as possible. Natural lag time reaction when counter-steering to correct sway could possibly make it worse.
- If the trailer is equipped with electric brakes, using the hand control will help to keep the vehicles aligned.
- As soon as possible, stop to determine the cause of the sway. Check all equipment and load distribution. If the problem cannot be solved immediately, contact your dealer for a service appointment. Reduce your speed until the issue is resolved.

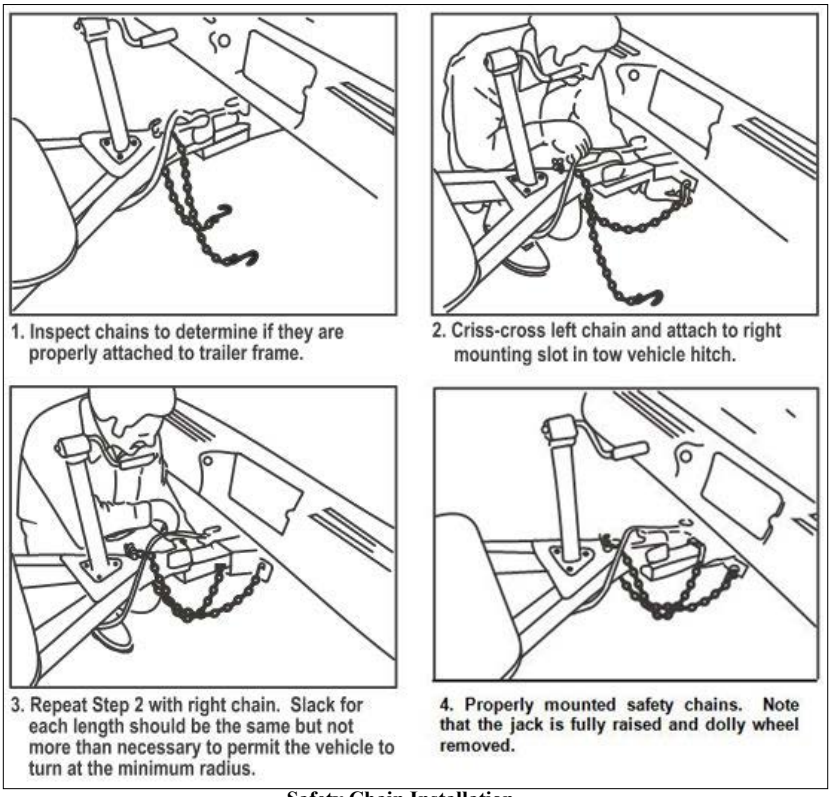
⚠ WARNING

A sway control device (customer supplied) should be used with your tow vehicle/travel trailer combination. Consult with your Dealer to obtain the proper equipment for your needs.

Travel Trailer Safety Chains:

Your RV is equipped with chains to meet SAE standard requirements for maximum gross trailer weight. Always have the safety chains attached when towing. Install them as shown below so they do not restrict sharp turns, but tight enough so they do not drag on the ground.

Crisscross the left safety chain under the coupler and attach to the right mounting slot in the trailer hitch; repeat with the right safety chain. Slack for each length should be the same but not more than necessary to permit the vehicle to turn at its minimum radius, but tight enough not to drag on the ground.



Safety Chain Installation

WIRE HARNESS/CONNECTOR PLUG

A 7-way wire harness/connector plug is wired into your trailer to connect electrical power from the tow vehicle for travel. This supplies power to the RV brakes, taillights, clearance lights, turn signals, brake lights, etc. Wiring to operate your brakes must be the same size in both the tow vehicle and RV (the RV brake wiring is 12-gauge wire).

When attaching wires to your tow vehicle, tape all the connections for moisture protection.

White	1	Ground
Blue	2	Electric Brakes
Green	3	Running Lights
Black	4	Auxiliary +12V battery charge line
Red	5	Stop & left turn
Brown	6	Stop & right turn
Yellow	7	Back up Lights

7-way trailer plug car end, rear view

12V Circuit Tester

The connector plug may build up corrosion with extended use. It should be cleaned periodically to insure good electrical contact. Make sure the connector plug is kept clean and protected from road elements as you travel.

NOTE: A 12V circuit tester is recommended to verify the trailer connections.

WEIGHING YOUR TOW VEHICLE AND RV

When the RV is fully loaded it should be weighed. The actual weight of the vehicle, all options, liquids, the hitch weight, and your personal cargo is important for you to know so you do not exceed the GVWR. Two important factors when loading your RV are total weight and balance.

It is imperative that you verify compliance within all applicable weight ratings. Overloading your RV will void the **Towable Limited Warranty** and the warranties of many component part manufacturers.

Periodically weigh your RV at a public scale to determine proper load distribution. To obtain the side-to-side weights, there needs to be enough space on either side of the scale to accommodate the RV being partially off the scale. **Keep in mind that individual scales will operate differently.**

To weigh your tow vehicle and RV

⚠ WARNING

- **Total weight of your tow vehicle and RV must not exceed the GCWR.** Do not assume that you can tow a RV that happens to be within the capacity of the tow vehicle hitch. By doing so, you may exceed the total GCWR of your tow vehicle and RV towing combination.
- It is important to redistribute the load to avoid component failure as well as to improve the handling characteristics of the vehicle and not void the **Towable Limited Warranty.**

Your RV must be weighed fully loaded (with food, clothing, fuel, water, propane, supplies, etc).

1. Weigh the RV including the tongue weight, while detached from the tow vehicle. This actual overall weight must be less than or equal to the GVWR for safe operation. If the overall weight is greater than the GVWR, some contents must be removed until the actual overall weight is less than or equal to GVWR.
2. Hitch the RV to your tow vehicle. Weigh the RV and the tow vehicle to determine the GCW. Make sure that this rating is less than or equal to the GCWR as specified by the manufacturer of your tow vehicle. If this overall weight is greater than the GCWR, some contents must be removed to bring the combination into compliance with the listed ratings.
3. Weigh the RV while attached to but excluding the tow vehicle. This will result in the actual weight that is exerted on all of the RV tires. This weight may be subtracted from the overall RV GVWR to determine the actual “tongue” weight.
4. With the RV still attached to the tow vehicle, weigh each wheel position separately to ensure each tire is not overloaded.

To determine the wheel position weight:

5. Pull the RV onto the scale so only one tire is on the scale. Record the weight. Your RV must remain as level as possible on the scale (even though an axle or side is not physically on the scale).
6. To calculate the opposite side of the RV wheel position weight, subtract the first side’s weight from the weight determined in step #3.

If there is a difference in the weights on one side of the vehicle as compared to weights on the other side, components (tires, wheels, brakes, springs, etc.) on the heavier side could be overloaded, even though the total axle load is within the GAWR.

Once actual weights are obtained, compare them to the **Weight Information Label** weight ratings to ensure you are below the posted minimum ratings.

See the *Weight Terms and Loading Your RV* sections for important weight information.

TOWING

⚠ WARNING

- **Your RV braking system is rated for operation at GVWR not GCWR.**
- Whenever possible, do not travel with waste in the holding tanks. Liquid or debris in the holding tank(s) may affect the towing characteristics and may result in property damage or personal injury.
- The propane cylinder(s) should be turned off when traveling. Most refrigerators will keep food cold or frozen for eight hours without running while you travel.

Your RV will travel safely and comfortably at highway speed limits. It will take longer than a passenger automobile to reach that speed. Allow more time to go around vehicles you are passing. Avoid situations that might require sudden momentum changes as the length of the tow vehicle/RV combination affects your ability to quickly cut back into traffic. Swerves and sharp turns, especially at high speeds, could result in loss of control of the tow vehicle/RV. Slow down in advance of dips, bumps and railroad tracks to reduce the jolting to your tow vehicle/RV combination. Proceed slowly and let the trailer tires pass over them before accelerating.

Adverse weather conditions and extremes in terrain may affect the performance and handling of your tow vehicle. Do not operate the tow vehicle cruise control on icy or extremely wet roads, winding roads, in heavy traffic or in any other traffic situation where a constant speed cannot be maintained.

When descending a long hill, drop down into a lower gear or range. Avoid conditions that require excessive and prolonged use of your brakes. Apply and release brakes at short intervals to allow them to cool. The tow vehicle transmission and engine will help in controlling downhill speed and can lengthen brake life. Use care when accelerating or decelerating on a slippery surface. Abrupt speed changes can cause skidding and loss of control.

Know the weight and size of your towing combination and observe any posted weight and clearance limits. The added height of roof air conditioners, TV antennas or floodlights may cause clearance problems around some tunnels, canopies and hanging signs.

When turning, the tires do not follow the path of your tow vehicle tires. The RV will make a tighter turn than the tow vehicle. Compensate for this action by carefully pulling the tow vehicle out into the intersection further than you would normally so that the RV clears the curb. When making a turn, check the road clearance and be aware of others. Swerves and sharp turns, especially at high speeds, could result in loss of control of the RV.

If your camping destination does not have pull through sites, pick a level site and back in carefully. Check to ensure there are no obstacles in your path and that you have plenty of vehicle clearance.

After the RV is in the desired location, set the tow vehicle parking brake. Block all RV wheels securely with wheel chocks to prevent it from rolling.

RV Brake System

Even though your RV is equipped with brakes designed for GVWR, proceed with caution until you become accustomed to your RV's stopping distance.

Driving through water deep enough to wet the brakes may affect stopping distance or cause the vehicle to pull to one side. Check the RV's brake operation in a safe area to be sure they have not been affected. **Never operate any vehicle if a difference in braking efficiency is noticeable.**

Electric Brakes

⚠ WARNING

Failure to maintain the brakes in proper working condition as specified in the operator's manual supplied by the axle OEM will cause property damage, personal injury and possibly death. Consult with your dealer for assistance.

The electric brakes are designed to work with the tow vehicle brakes. To maintain proper braking performance, both the RV and tow vehicle brakes must be used together. Separate use of the braking systems will cause accelerated wear and damage.

When your RV is new, it is impossible to adjust the brake shoes precisely. It takes approximately 1,000 miles and/or 50 medium to heavy stops to "burnish" fit or "seat" the shoes to the brake drum. After the initial break-in period your brake shoes must be adjusted accurately for best performance and increased durability.

Braking system components include:

- Tow vehicle battery
- Brake controller
- Wire harness/connector plug
- Trailer battery
- Breakaway switch

The tow vehicle battery is the primary source of power for your RV's electric brake operation. To ensure available power when needed, keep your tow vehicle battery and charging system working properly.

Brake Controller (customer supplied)

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

Travel Trailer Breakaway Switch

⚠ CAUTION

NEVER use the breakaway switch and trailer brake system as a parking brake. Doing so would create a high amp draw on the battery and converter. This can cause damage to wiring, connectors and the breakaway switch.

The breakaway switch is a crucial part of the RV braking system. Located on the travel trailer A-frame (or beside the fifth wheel pinbox), this switch will apply the trailer brakes if the trailer becomes detached from the tow vehicle. Attach the breakaway switch lanyard to a permanent part of the tow vehicle (on a travel trailer do not attach it to the hitch ball or similar removable parts) when hitching the trailer. If the RV becomes detached from the tow vehicle, the pull pin will be pulled from the switch. This automatically causes the switch to "close" and activates the RV brakes. **A battery (customer supplied) must be installed to activate the breakaway switch.**

Hydraulic Brakes (if so equipped)

Your RV may be equipped with hydraulic surge brakes that operate automatically as the tow vehicle's brakes are applied. When speed is decreased and brakes are applied, the weight of the trailer moving forward creates a reaction, which causes the brake fluid inside the wheel cylinder to activate the brake shoes against the drum.

As a result of this design, backing the RV uphill may activate the surge brake system making it difficult to continue in reverse. To aid in backing up the RV:

1. Prior to backing up a slope or through soft ground, pull the recreation vehicle forward slightly to assure that the actuator socket is in the forward position.
2. Move the lever on the side of the actuator downward from the "towing position" along the curved slot in the actuator frame to the "backup position." The slot has a notch at the bottom of its travel. Push the lever down to engage the locking notch.
3. The RV will now back up. This lever will slide into the correct position when pulling forward.

It is extremely important to keep the master cylinder full at all times. An empty cylinder invites moisture.

Disc Brakes (if so equipped)

If your RV is equipped with disc brakes, see the manufacturer's owner's manual for detailed safety and maintenance information.

TOWING BEHIND YOUR RV

⚠ WARNING

If you do not have a **Jayco factory installed hitch receiver**, towing items behind your Jayco RV, or overloading the rear, will void the warranty and may result in: damage to the RV or add-on items, towing difficulties, property damage and/or personal injury.

NOTE: IF YOU DO NOT HAVE A JAYCO FACTORY INSTALLED HITCH RECEIVER, DO NOT TOW ANYTHING BEHIND YOUR RV. THE RV FRAME AND BUMPER ARE NOT DESIGNED FOR TOWING.

NOTE: A hitch equipped for trailer towing will have tabs to hang the safety chains and there will be a bracket for the trailer wiring plug. There should also be a label on the hitch stating maximum towing capacity.

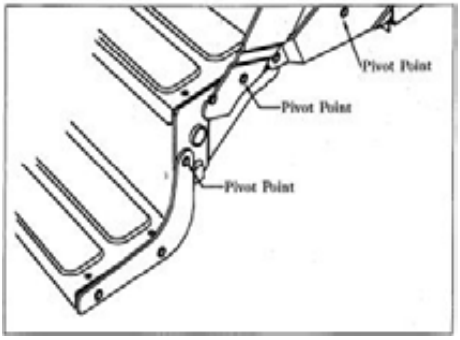
ENTRANCE DOOR STEP(S)

Make sure your entrance step is fully extended before exiting the vehicle, and retracted prior to towing.

Lubricating the step mechanism

Carefully clean the area around the pivot points (the rivets involved in the motion of the mechanism). Lubricate these pivot points with an automotive grade, non-staining lubricant every 30 to 60 days.

Wipe any excess lubricant off of the step and then clean the entire step after lubricating.



Step Light

Your RV may be equipped with a switch located on the skirt (in front of the steps) which operates a light located under the step assembly.

ENTRANCE DOOR

Always hold onto the entrance door when opening or closing it. Damage caused because you failed to do so is not covered by the **Limited Warranty.**

⚠ CAUTION

Make sure the entrance door is completely closed and locked when traveling. Locking the door helps prevent it from opening unintentionally and keeps intruders from your recreation vehicle.

The entrance screen door may be equipped with a slide panel that allows access to the entrance door handle and locks. The entrance door may also be equipped with both a regular door lock and a dead bolt lock.

Keys

Several keys are provided when you purchase your vehicle. Most keys have an individual key number stamped on the plate. Record these key numbers and keep the information in a safe place. You can order a key blank from your dealer to have duplicate keys made. If you lose the keys, contact your dealer or a locksmith for assistance.

NOTE: Locks on entrance and baggage doors need biannual lubrication using a light coat of silicone spray. Conditions such as rain, salt, dust and pollution may increase the maintenance needs.

CAMPSITE HOOK-UP

- Refer to *Electrical Systems* section before connecting the shore line power cord (when using full hook-up) OR before starting the generator (if so equipped) or operating the vehicle on 12-volt power when dry camping.
- Refer to *Fuel & LP System section before using the LP system*. Open the LP gas tank valve (if so equipped) slowly. There may be air in the lines and five to thirty

seconds of time is needed to bleed air before LP vapor fills the lines.

- Refer to *Plumbing Systems* section before connecting the fresh water supply or turning ON the water pump or water heater.
- When using full hook-up, connect the sewer hose to the campsite sewer hook-up.
- If applicable, start the refrigerator and the cooling or heating system.

NOTE: For extended dry camping, management of all your resources is essential. Check your battery levels and conserve battery power, use it sparingly

STABILIZER JACKS

⚠ WARNING

DO NOT USE THE STABILIZER JACKS TO LEVEL THE RV.

It is important to remember that the stabilizer jacks are to be used only for support while occupying and moving around the RV. They are not designed to support the weight of the RV.

The stabilizer jacks must be fully retracted before moving or towing the RV to prevent stabilizer jack damage.

Each stabilizer jack can be individually adjusted to stabilize the RV for use.

When setting up on soft ground, you may wish to place a wood pad or the equivalent under each stabilizer jack foot to help keep the jack from sinking into the ground.

Manual Stabilizer Jacks (if so equipped)

1. To lower each jack, insert the jack crank onto the applicable stabilizer jackshaft.
2. Turn the crank clockwise to lower each leg until it contacts the ground and stabilizes the RV.

To raise each jack, insert the jack crank onto the applicable stabilizer jack shaft and turn the crank counter-clockwise.

Electric Stabilizer Jacks (if so equipped)

Control switches for the stabilizer jacks are typically located on the (door) side of the unit above the stabilizer jack(s).

To lower each jack, press the control switch until each leg contacts the ground and stabilizes the unit.

To raise the jack, press the control switch until the jack is returned to the retracted position.

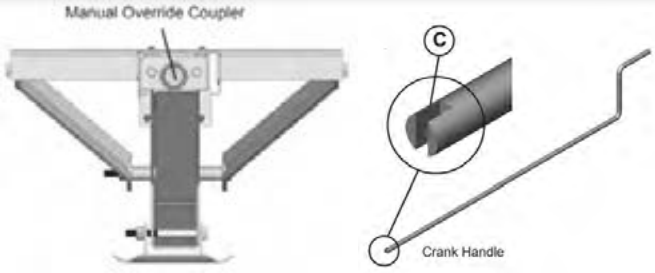
Manual Override:

The electric stabilizer jacks may have a built in manual override system. The override coupler is located on the end of the stabilizer jack opposite the electric motor. One of the wire motor leads must be disconnected to prevent back loading the motor and causing more damage.

Disconnect the battery from the system prior to manual operation.

Operation: Insert the 1/2" diameter crank handle inside the coupler. The slot in the end of the crank handle accommodates the pin inside the coupler to allow manual extension/retraction of the stabilizer jack. Rotate the handle clockwise to retract and counter clockwise to extend the jack.

NOTE: The gears can be stripped out if the stab jack is manually retracted/extended to its fullest extent and the operator continues to rotate the manual override.



EMERGENCY STOPPING

Always carry road flares or reflective warning signs. Pull off the roadway as far as possible for emergency stopping. Turn ON your vehicle hazard warning flashers. If traveling at night, use three red warning indicators such as flares, reflectors or lanterns as required by the Uniform Vehicle Code and Model Traffic Ordinance as follows:

1. Place the first warning indicator on the traffic side of the recreation vehicle, directed at the nearest approaching traffic.
2. Place the second warning indicator 100 feet behind the recreation vehicle in the center of the lane and toward approaching traffic.

Place the third warning indicator 100 feet in front of the recreation vehicle in the center of the lane and away from the traffic approaching from behind.

NOTE: Curves and/or hills may affect the safe placement of warning indicators.

⚠ WARNING

For personal safety, always stand off the road and out of the way of traffic.

EMERGENCY TOWING

⚠ WARNING

Never allow anyone to go under the recreation vehicle while it is being lifted and/or being towed.

If your recreational vehicle needs to be towed, please contact an emergency road service provider or a qualified service facility for assistance.

WHEEL LUGS

After your first trip, check the wheel lug torque periodically for safety. Check the wheel lugs after winter storage, after a wheel removal, before starting a trip or following extensive braking**:**

1. Use the correct star pattern sequence to attach the recreation vehicle wheels
2. Start all nuts by hand to prevent cross threading.
3. Tighten the nuts in the sequence shown.
4. Lug nuts should be tightened in two stages. Lugs should be started by hand, then torqued to intermediate values (Stage 1) on the chart then torqued according to the final torque values on the chart.Refer to the Wheel Lug Nut Diagram below.

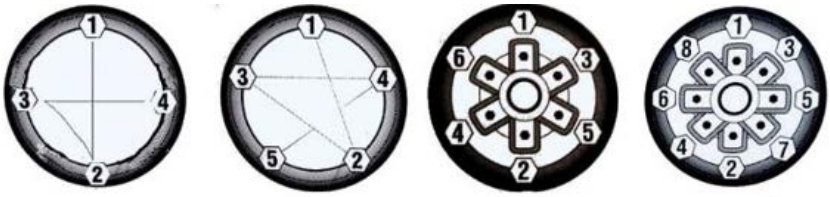
NOTE: The proper method of tightening wheel lug nuts is with a properly calibrated torque wrench and socket, not with an impact wrench or by hand. Do not use a 4-way lug wrench or any other type of wrench that does not measure the actual pressure applied to the lug nut. Lug nuts should be tightened according to the proper lug pattern on your wheels. Refer to the Wheel Lug Nut Diagram below.

⚠ WARNING

- Check and tighten wheel lug nuts regularly to make sure they did not loosen during travel. Wheel lug nuts must be applied and maintained at the proper torque levels to prevent loose wheels, broken studs and possible separation of the wheel(s) from your recreation vehicle. The lug nuts on the wheels of your recreation vehicle must be maintained according to listed torque values (see **Wheel Lug Nut Torque Chart**.) Over-torqued and/or under-torqued wheels may result in component failure.
- Wheels should *ALWAYS* be mounted and properly torqued by a qualified service technician using the proper tools.
- **Failure to maintain proper torque of the wheel lug nuts could lead to separation of the tire and wheel while driving, possibly resulting in property damage or personal injury.**

Wheel Lug Nut Diagrams

Because of the importance of having proper torque on the wheel lug nuts, you should always have the wheels mounted and properly torqued by a qualified technician using the proper tools.



Criss cross "star" patterns, as shown, must be followed during tightening sequence
A Digital or Dial Torque Wrench is recommended.
Also applies to any service involving wheel or lug removal, during the life of the recreational vehicle.

Wheel Lug Nut Torque Values

Lug Nuts	Stud Size GR 8	Rim Size	Rim Type	Stage 1 Torque Values **Start lug nuts with fingers**	Final Torque Values
4-Lugs	1/2"- 20	12"	Steel/Alum	45 ft lbs	70 ft lbs
5-Lugs	1/2"- 20	13"	Steel/Alum	45 ft lbs	70 ft lbs
5-Lugs	1/2"- 20	14"	Steel/Alum	65 ft lbs	120 ft lbs
5-Lugs	1/2"- 20	15"	Steel/Alum	65 ft lbs	120 ft lbs
6-Lugs	1/2"- 20	15"	Steel/Alum	65 ft lbs	120 ft lbs
6-Lugs	1/2"- 20	16"	Steel/Alum	65 ft lbs	120 ft lbs
8-Lugs	1/2"- 20	16"	Steel/Alum	65 ft lbs	120 ft lbs
8-Lugs	9/16" - 18	16"	Steel/Alum	65 ft lbs	120 ft lbs

1. Prior to travel and after excessive braking, wheel lug nuts should be checked for torque. Torque readings must fall within the Final Torque Values in chart above.
2. Torque specifications should be checked using a proper torque wrench.
3. If the torque falls below the Final Torque Values, additional torque is required.
4. Check and re-torque lug nuts at 10 miles (16 Km), 25 miles (40 Km) and 50 miles (80 Km) and again periodically during travel. Refer to diagrams above for proper lug pattern and Final Torque Values. Thereafter check and maintain torque according to the Final Torque Values in the chart above.

Failure to follow these instructions may result in wheel loss, an accident, or loss of control, resulting in death or serious injury.

Lug Nut Pattern and Warning Label

The following labels showing the proper lug nut tightening pattern and a warning label are located on the driver side of the A frame hitch on travel trailers, and on the driver side of the pinbox on fifth wheel units. Lug pattern label will vary according to number of wheel lugs.

Lug nut torque pattern and warning label

Torque Wrench Usage:

1. Tools should be maintained, in good condition, and stored appropriately.
   - Avoid dropping or sliding a torque wrench. Dropping it can cause the instrument to lose reliable calibration.
   - *Damaged tools must not be used and must be removed from service for evaluation and either reported and re-calibrated or replaced.*
2. Do not use accessories or handle extensions unless specifically allowed by the torque wrench manufacturer.
3. Do not use the torque wrench as the primary means of tightening or loosening fasteners.
4. Torque wrenches are length specific:
   - Grasp the torque wrench in the *center* of the handle when applying torque pressure.
   - Place one hand on top of the other when using two hands.
5. Apply torque in a slow, steady manner *in a downward direction* and avoid sudden "jerking" movements.
6. When the wrench signals (by clicking, beeping or lights) that a specific torque has been reached, stop immediately.

TIRES

Read and understand the following before taking your first trip in your RV.

Routine maintenance on your RV is important. **To insure your tires are operating safely, regular inspection of the tires and checking tire pressures is absolutely mandatory.**

Alignment, balance and bearing wear will affect tire wear. Make sure to look for cracking, bulging, uneven tread wear, etc.

Tire Wear Diagnostic Chart

Wear Pattern		Cause	Action
	Center Wear	Over Inflation	Adjust pressure to particular load per tire catalog.
	Edge Wear	Under Inflation	Adjust pressure to particular load per tire catalog.
	Side Wear	Loss of camber or overloading	Make sure load doesn't exceed axle rating. Align at alignment shop.
	Toe Wear	Incorrect toe-in	Align at alignment shop.
	Cupping	Out-of balance	Check bearing adjustment and balance tires.
	Flat Spots	Wheel lockup & tire skidding	Avoid sudden stops when possible and adjust brakes.

⚠ CAUTION

Tire wear should be checked frequently. Once a wear pattern becomes firmly established in a tire it is difficult to stop, even if the underlying cause is corrected.

Tire Pressure

You must follow the manufacturer's inflation guidelines for maximum load capacity; under-inflation is just as dangerous as over-inflation.

⚠ DANGER

Failure to follow proper inflation guidelines may result in tire failure, which, under certain circumstances can cause loss of vehicle control or accidents that may result in property damage, bodily injury and/or death.

Proper inflation should be monitored closely. Failure to do so could 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 recreation vehicle indicates.

When you are using your Recreational Vehicle, check inflation pressure weekly. Pressure should be checked when the tires are cold. During travel, tires heat up and pressure increases. **Do not bleed air from hot tires or your tires may then be under-inflated.**

NOTE: Cold tire inflation pressure is defined as a tire that has not been used for three or more hours, or has been driven less than one mile. Tire inflation pressure of a hot tire may show an increase of as much as 6 psi over a cold tire.

⚠ WARNING

- It is recommended that the tire pressure be checked at the beginning of each trip to obtain the maximum life of the tire. Follow the instructions listed on the Federal Certification label, to determine the correct tire pressure. Under-inflation may cause tire failures and swaying resulting in loss of control, injury, death or property damage.

TOWABLE PRODUCTS ONLY

- Towable recreation vehicles are equipped with special trailer (ST) tires that have a maximum speed rating of 65 MPH (104 km/h). **You should not exceed this speed rating.** Exceeding the tire speed rating may result in tire failure, which could lead to an accident causing serious injury or death.

CHANGING A TIRE

⚠ WARNING

- Do not use the stabilizer jacks to support the recreational vehicle while under the vehicle or changing tires. The stabilizer jacks are designed as a stabilizing system only. Do not use the stabilizer jacks as a jack or in conjunction with a jack.
- Never raise the recreational vehicle by placing the jack under the axle, springs or any attachment parts.

Failure to comply with these guidelines could result in damage to the vehicle and risk causing serious injury or death.

When replacing tires:

- Be sure to use only tires that are rated for recreation vehicle use. The use of passenger tires should be avoided. The load rating/range embossed on the sidewall of passenger tires must be de-rated accordingly; they do not have the same load capability as tires that are specifically identified for recreational vehicle use. Failure to use tires that are properly matched to your recreational vehicle could lead to premature tire wear or less than optimum trailer handling.
- Be sure to replace it with a tire of the same size and specifications (refer to the Federal Certification label.)

If you experience a flat tire on your recreational vehicle while driving, gradually decrease your speed and move the recreational vehicle to a safe place on the side of the road.

1. 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.

2. Loosen the wheel lug on the tire you are changing before jacking up the vehicle. DO NOT remove the lug nuts; only loosen them for ease of removal when the tire is off the ground.
3. Locate the mainframe rail of the trailer (it spans from front-to-back just inside the tires).
4. 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.

Tire Replacement

Any service or warranty coverage on tires is to be handled by the tire manufacturer or the store representing the brand installed on your recreation vehicle. They are not to be returned to your dealer or recreation vehicle manufacturer.

If you have questions regarding your tires, contact the tire manufacturer.

SPARE TIRE CARRIER (IF SO EQUIPPED)

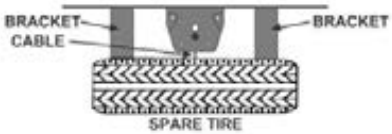
If your recreational vehicle is equipped with a spare tire, it will either be mounted under the unit (hoist) or on the rear bumper.

Hoist Mount:

⚠ WARNING

DO NOT exceed the maximum load capacities of 100 lbs. for the hoist. DO NOT use air driven guns or impact wrenches to lift the spare tire to the travel position.

Depending on your model, the spare tire may have (side or bottom) brackets or it will be mounted against the underside of the recreation vehicle (flush mount) to give it stability in travel.



Bracket Mount Travel Position

Hoist Mount Travel Position

NOTE: If your spare tire is a flush mount application, it must make contact with the underside of the recreational vehicle to insure maximum road clearance and stability in travel. Raising and lowering the hoist

Raising and lowering the hoist

The crank handle to raise and lower the tire will be located (fastened to the sidewall) in a basement compartment of the recreational vehicle. Insert the crank handle into the crank access port located either in the center of the rear bumper, or on the sidewall of the RV. Turn the crank handle to raise/lower the tire. Two “crisp breaks” must be heard and felt to insure the proper seating of the tire for travel.

NOTE: If the manual crank access port is located in a slideout, the slideout room must be in the travel position to allow the crank to reach the mechanism used to raise or lower the tire.

Crank Access Port

Securing the spare tire

To secure the spare tire in the travel position, put the steel hoist lift support located on the end of the cable through the rim of the tire. The hoist lift support clips need to seat inside the center hole of the tire rim. The valve stem of the tire MUST be pointed up (toward the bottom of the RV).

Bumper Mount:

The spare tire bracket can be released and extended down to access a storage compartment at the rear of the trailer without removing the tire.

To extend the tire down

1. Remove the cotter key from the pin holding the tire carrier in place.
2. Remove the pin and extend the carrier away from the trailer.

Always return the tire carrier to the upright position and lock it in place while traveling.

To remove the tire from the tire carrier

1. Remove the lug nuts holding the tire in place.
2. Remove the support bracket from the bottom lug.
3. Pull the tire from the tire carrier.

Bumper Mount

To install the tire on the tire carrier

1. Place the tire on the carrier with the top lug bolt inserted into one of the holes in the tire rim and the bottom lug bolt in the center of the rim.
2. Install the top lug nut.
3. Place the support bracket over the bottom lug bolt across the center of the rim.
4. Install the bottom lug nut over the support bracket.
5. Tighten the lug nuts securely before returning to travel.

Vinyl Tire Cover (if so equipped)

Your tires are manufactured with components that cause “bleeding” onto the tire cover. To prevent this, it is recommended to use a separator (garbage bag, paper, cloth, etc.) between the tire and the cover.

SETTING UP YOUR RECREATION VEHICLE

- Position the RV as desired.
- Level the RV (side-to-side). Leveling your recreation vehicle is important as the water drainage systems are designed with proper slope and must be level for proper operation, and the appliances perform best when level.
- Block the wheels securely to prevent the RV from moving.

Travel Trailer Set Up

1. Unhook the wire harness/connector plug, safety chains and breakaway switch lanyard.
2. Install the dolly wheel or platform.
3. Release the weight distributing bars (customer supplied).
4. Open the tongue jack coupler latch.
5. Turn the tongue jack crank to raise the coupler above the hitch ball.
6. Level the RV (front-to-back) with the tongue jack crank.
7. lower stabilizer jacks (If applicable).
8. Pull the tow vehicle away, as desired.

Fifth Wheel Set Up

1. Drop the landing gear (important!) See the operator's manual for proper operation.
2. Disconnect the wire harness/connector plug and breakaway switch lanyard.
3. Drop the truck tailgate (if applicable).
4. Gently put your truck into reverse (don't give it any fuel/acceleration). This effectively moves the kingpin off the locking bar that will allow you to disengage it.
5. Step on brake and apply parking brake.
6. Disengage the locking bar and unhitch.
7. Drive away.
8. Adjust the fifth-wheel height for proper front to back leveling of the RV.

CARING FOR THE TENT

Seasoning The New Tent

⚠ CAUTION

It is very important to "season" your new tent. If you do not follow this procedure, you may experience some water seepage during the first few exposures to rain.

Use a garden hose and thoroughly soak the tent with a light spray of water (do not spray directly on the tent with a high pressure hose). After the tent dries, repeat the soaking process three additional times.

If you note any water seepage or leaks after seasoning your tent let the tent dry, then spray water repellant using the instructions provided on the product container. One or more applications of seam sealer may be necessary to stop water seepage in seams where thread enters the fabric. Water repellant products and tent seam sealers are usually available where tent or camping supplies are sold. Once performed, the new tent seasoning process does not need to be repeated unless a section of your tent is replaced.

Tent Set Up

⚠ CAUTION

The tent canvas is a mildew resistant fabric; however, this does not mean that it is mildew proof. Taking proper care of your tent canvas will help to prolong its life. For warranty coverage, it is imperative that you read, understand and follow the listed recommendations in this owner's manual and all related literature.

If the tent must be stored wet, open the trailer and allow the tent to dry thoroughly as soon as possible. Be aware that the canvas portion of the tent will take longer to dry than the vinyl. Make sure the entire tent is completely dry before refolding it and storing the trailer. The most common cause of a damaged canvas is mildew, which is the result of storing your RV for any period of time with a damp or wet canvas, even for short periods. Touching the tent canvas when it is wet can cause leakage. During periods of rain, avoid contact with the tent. The natural body oils in skin will neutralize the tent waterproofing and cause the rain to soak through. If leakage persists, please contact your dealer for assistance.

Assure that your canvas and trailer have good ventilation, especially after a rainy period. The most common cause of a damaged canvas is mildew, which is the result of storing your RV for any period of time with a damp or wet canvas, even for short periods. This is even more important in humid climates.

Tent Maintenance

⚠ CAUTION

Do not use any cleaner which contains abrasives, solvents, citrus or chlorine bleach. Damage to the fabric will result.

Exterior or vinyl side:

For minor stains, dirt, etc., the vinyl or outside of the material can be cleaned with mild liquid detergent and water, using a sponge or soft cloth. **Do not use a brush on the vinyl side of material!** Rinse well and air or wipe dry.

For more stubborn stains, dirt, etc., the tent fabric manufacturer recommends:

- OxiClean®
- Fantastick® (must state it can be used on vinyl)
- Star Brite® Vinyl Cleaner / Shampoo, #80216
- Meguiar's® 57 Vinyl & Rubber Cleaner / Conditioner, #5716
- Marine Specialties Group® Vinyl Finish Vinyl Cleaner #990917
- West Marine® Vinyl Cleaner, #2669323

Interior or Fabric Side:

For minor stains, dirt, etc., dry brush with a soft bristle brush or use clean tap water with a sponge or soft bristle brush.

For more stubborn stains, the tent fabric manufacturer recommends using a sponge, soft cloth or soft bristle brush and:

- OxiClean®
- Mild liquid detergent
- Resolve® Carpet Cleaner

When using any of the above products, please follow the cleaning product manufacturer's directions!

If practical, use a wet/dry vacuum to remove all moisture or excess cleaning product.

Do not fold up tent while fabric is still wet or damp!

Most of the above items can be purchased at local hardware stores, and RV or Marine dealers or supply stores.

TENT SET UP AND TEAR DOWN

⚠ WARNING

- Do not use the bed braces if they are bent or damaged. Contact your dealer to replace any damaged brace(s).
- Ensure all tent Velcro fasteners are securely fastened. Loose areas could result in openings large enough for an infant, child or adult to fall through. **Never leave small children in the camper unattended.**

⚠ CAUTION

If the roof limit cable is extended too high, the entrance door will not fit properly and the lifter system and/or tent damage could occur.

Bed Slide Maintenance

Lubricate the bed slides two times each year. Use only a silicone spray to avoid attracting dirt and soiling the bed mats. Do not permit the spray to me into contact with the tent.

Tent Set Up

If you have questions concerning tent set up, contact your dealer or Customer Service. It is possible to setup the tent alone, however it is faster and easier with two people.

NOTE: DO NOT use Stabilizer jacks to level the unit.

Step 1 - Make sure the unit is level. Level front to back using the tongue jack. Leveling side to side may require additional blocking under the tires. Lower the stabilizer jacks.

Step 2 - Unhook all roof latches.

Step 3 - The manual roof system is located on the tongue of the trailer. Attach the handle to the lift shaft and crank it until the roof is raised.

Power Lift System (if so equipped)

The power cord should be plugged into provide power to operate the lift system.

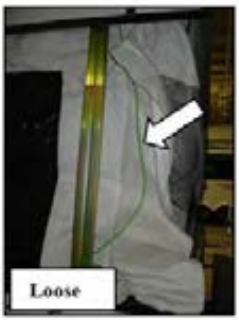
If your RV is equipped with a power (roof) lift system, you will have two controls available. One is a switch located on the motor (arrow), and the other is a key fob remote. The remote allows you to walk around the RV to spot potential problems while raising the roof. Press and hold the up or down arrows on the remote to raise or lower the roof.

Manual Override for the Power Lift system

The power lift system has a manual crank shaft on the motor (**A**). If the power lift fails to work, an electric drill with a 7/16" (18mm) deep well socket can be used to operate the manual crank shaft.

Raising the Roof

Locate the (green) cable next to the door side lifter post (some models may have a second cable on the opposite corner). As you raise the roof, be sure the cable(s) do not catch on something or become restricted. The cable will tighten as the roof is raised. **Do <u>NOT</u> exceed the limits of these cables.**



Step 4 - If your model is equipped with a slideout, it must be pulled out (including tent) before extending the beds. This prevents the beds from catching on the slideout.

Step 5 - Bed Brace Installation Depending on your model, bed brace installation will either be a hinged brace system or a fixed brace the mounts to the rear bumper and front tongue.

In either system, bed brace supports are located in a bag under the front bed mat. The **lon**ger braces are used on the front bed. **Front and rear braces are <u>not</u> interchangable.**

5a - Hinged Brace Setup

Install the hook end of the hinged brace(s) in the upper brackets on the front and rear of the RV (**A**). The straight tab end of the brace(s) fits into the slots in the front frame or the rear bumper (**B**).

Hinged braces installed on the front of the RV (Front).

Pull out the front bed until it is fully extended.

Install the (hinged) brace ends into the brackets (**C**) located under both beds (**D**). A second person lifting the bed will make it easier to insert brace into the bracket.

Repeat the process on the rear bed using the **shorter** braces. Make sure the bed is fully extended.

5b - Fixed Brace Set Up

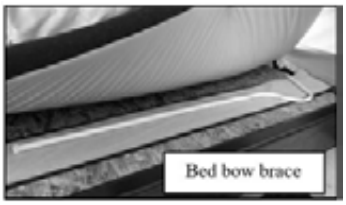
Pull out the front bed making sure it is fully extended. Install the **longer** bed braces for the front bed.

The bent end of the bed brace(s) fit into the brackets under the bed (**A**) The straight tab portion of the brace fits into the brackets welded on the tongue (**B**) Lift the bed slightly to allow the braces to be inserted into the brackets.

Repeat the process on the rear bed using the **shorter** braces. Make sure the bed is fully extended.

Step 6 - If your model is equipped with a slideout, make sure the seal on the interior makes contact with the bracket on the slideout (arrow). The slideout should already be pulled out in order to slide the beds out (see Step 4).

Step 7 - Locate the bed bow braces under the front and rear bed mats. These braces have a large loop at one end and a small claw clamp on the straight end.



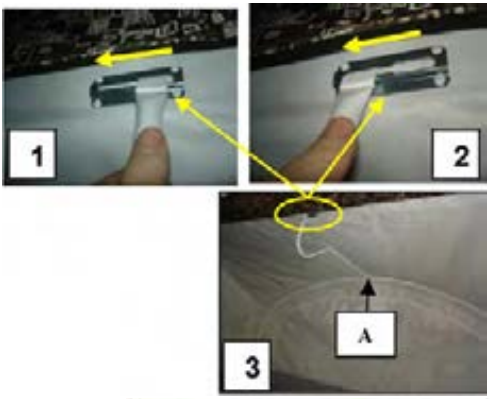
⚠ CAUTION

Your model may be equipped with a table next to the bed ends when in the stowed or stored position. Remove the table prior to installing the bed brace. Do not step on, or put your weight on the table while it is in the stowed position. Doing so may result in damage to the table and/or personal injury.

Step 8 - Attach the "claw" (A) to the curved bed bow that is laying on the front bed. It will clamp to the bed bow between the two screws. Push the curved window bow up into position at the window end of the bed. Repeat for rear bed.

Step 9 - Install the bed bow brace loop end (with the silver buttons) in the bracket on the ceiling. Repeat this for the other bed.

Step 10b - (Slide out-if so equipped) The window bow brace for the slide-out is typically stored under the dinette table. Attach the "claw" to the curved window bow (**3-A**) between the screws. Attach the loop end to the bracket near the ceiling. Put the tab end of the brace in the wide hole of the bracket (**1**) and slide toward the narrow end (**2**).



Step 11 - Flip the bed flap over the edge of both beds (arrow). Bed flap is underneath the mattress on both beds.

Step 12 - Front bed – pull the outside tent flap underneath the bed and attach to the Velcro under the bed. Repeat for the rear bed.

Step 13 - If equipped with a slideout, Velcro the tent sides to the slideout. Adjust for water run-off.

Step 14 – Lifter post safety support installation

Install the metal safety supports over the (2) lifter posts at **opposite corners** of the camping trailer (Hitch end door side, rear end off door side). Wrap and Velcro the lifter post covers in place. Angled end of the support channel goes to the top of the lifter post. The notched sides go at the bottom and snap on to the lifter posts. No tools are necessary to install these supports.

Step 14a –Lifter post covers

Velcro all fabric lifter post covers. Bottom edges are straight and top edges are tucked under the roof.

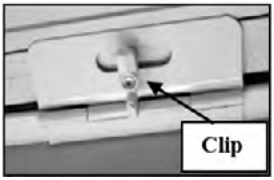
Step 15 - Tent set up is complete.

Make any adjustments to the tent to assure optimum water run-off. Check to make sure there are no areas of the tent pulled too tight or in a bind.

SCREEN DOOR INSTALLATION

Step 1 - Unsnap the top of the door from the fabric latches. The top of the door will hang from the cables. These cables remain attached to the door even after installation is complete.

Step 2 - Turn the clip in the screen door bracket to release the bottom of the door. The clip will fit through the hole in the bracket. Lift the bottom of the door off of the rail and lower to the floor.



Step 3 - Set the door down into the door frame. Turn it at a 45° angle through the door opening. The bottom of the door sits in the threshold channel on the outside of the RV. Plastic clips are toward the inside of the trailer.

Step 4 - Bottom of the door is in the channel, and the door frame is against the aluminum pieces on each side of the doorway. Clips turn to hold the door in place. It helps to have a second person outside to help guide the door into the channel so it is square in the frame.

Step 5 - The top of the door goes under the bracket that held the screen door to the ceiling. Secure the top of the door with the two dead bolts that slide over the aluminum plate (arrows).

Step 6 - On the outside of the door; secure the Velcro of the tent to the Velcro on the door. Make sure the tent portion does NOT overlap the hinges or the gap in the door frame. This can damage the door when opened. The latch side of the door should be done in a similar manner. Do NOT overlap the tent beyond the door frame edge.

Step 7 - Door installation is now complete. The door shades are built into the door. Press the gray tabs (arrows) at the top to slide the upper shade down. Press the gray tabs at the door latch and raise the bottom shade up.

STANDARD DOOR REMOVAL

Step 1 - Remove the standard entry door, by lifting the door off the hinges. The standard door must be removed if you are installing the full screen door.

Step2 - The standard door is stored underneath the rear sliding bed. The hinges slide onto pins under the bed (A). The door pivots under the bed (B) and is held in place with a fabric strap.

Set up is complete.

Auxiliary bunk lights and fans (if so equipped)

Clip auxiliary bunk light or bunk light fan assemblies to the appropriate bed bow braces. To operate, insert the bunk light or bunk light fan assembly connector into the 12-volt power receptacle attached to the ceiling. An individual manual switch to control each interior light and ceiling fan is provided.

Tent Tear Down

⚠ CAUTION

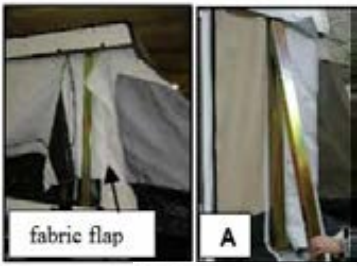
- DO NOT push the beds or slideout in until all the Velcro has been detached.
- Push the bed (and slideout, if so equipped) in completely before beginning to lower the roof. Failure to do so before lowering the roof can damage the tent components. Your Extended Limited Warranty does not cover this damage.

Step 1

1. Zip all the windows closed, close the roof vent and turn off any lights.
2. Roll the privacy drapes upwards by pressing both buttons on either side of the black locks and drawing the locks upwards.
3. Make sure all equipment is properly stored and will not obstruct the roof when lowered.
4. If the bed does not close easily, inspect the bed cushions and tent canvas from the sides looking for obstructions. Once the obstruction is located, correct it and try again.

5. To avoid damaging the valance, when securing the bottom of the entrance door, insure the door valance is placed between the door and the ceiling.
6. **If your unit is equipped with a kitchen flip-top, put it into the travel position before lowering the roof. Failure to do so can result in roof damage and prevent the roof from lowering properly.**
7. Make sure bed slides are not obstructed. Return all fixtures and loose items to their stowed position.

Step 2 - Pull the fabric flaps loose covering the 4 lifter posts and tuck them behind the metal posts. Unsnap the two metal safety covers (on opposite corners) from the lifter posts (A), and place them together; store them under the front bed mat.

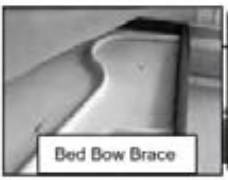


Step 3 - Remove the screen door.

1. Release all Velcro from around the door.
2. Release the dead bolts at the top of the door.
3. Release the 4 plastic clips on the door at the bottom.
4. Lift the door out of the threshold, turn it at 45° angle and lift the door out of the opening.
5. Slide the door on the cables up in position at the ceiling resting the bottom of door on the bracket above the door opening.
6. Secure the door bottom to the small bracket by turning the clip
7. Secure the top of the door to the ceiling with 2 fabric straps.

Step 4 - Flip the bed flaps back underneath the mattress on each bed (arrow).

Step 5 - Remove the bed bow braces from the bed bows on each bed and the ceiling brackets. Place the braces under the bed mattress. Place the sharp ends of the brace against the edge of the bed. If equipped with a slideout, remove the slideout bow brace and store it under the dinette table.



Step 6 - Fold down the curved bed bows on each bed. If equipped with a slideout; fold down the slideout window bow.

Step 7 - Unhook tent Velcro from under the beds and on the slideout (if so equipped). Fold the tent ends and sides into the center of the beds.

Step 8 - Remove the standard entry door from under the rear bed and place it back into traveling position on the side of the unit. Slide the door onto the hinges on the side of the trailer

Step 9 - Push the slideout (if so equipped) into the unit, taking care to keep all Velcro flaps clear.

Step 10 - Make sure the slideout tent (if so equipped) is pulled out and away from the unit. This will allow the front and rear beds to slide in without snagging the slideout tent.

Step 11 - Remove the bed braces from under both beds. Lift the beds slightly to take pressure off the braces and remove them. Stow the braces in the supplied bag, and store the bag under the front bed mat.

Step 12 - Turn out all lights in the camper.

⚠ WARNING

Turn off all interior lights before closing the camping trailer for transit. Hot lights may overheat, creating a fire hazard in the stored position and may damage the tent.

Camping trailers have an automatic ceiling light shut-off switch that prevents ceiling light and/or ceiling fan operation with the roof in the lowered position. Periodically test the automatic ceiling light shut-off switch to make sure all interior light(s) and fan(s) turn off. The automatic switch is located at the off door side rear corner of the roof along the bottom edge.

Step 13 - Push the beds in carefully checking to make sure they don't catch and tear any tent material or the slide-out tent (if so equipped). As beds are pushed in, fold tent in from each side on top of the bed. After beds have been pushed in, tuck the slide-out tent in over the beds.

Step 14 - Slowly begin to lower the roof. Stop periodically to insure the tent material is tucked inside the unit. Make sure the green cables are not tangled up on the lifter posts. Continue cranking the roof down untilit is completely closed.

⚠ CAUTION

POWER LIFT SYSTEMS (if so equipped). When retracting the roof (manually or using the key FOB), use caution and stop immediately the moment the roof has stopped moving. Excessive travel when retracting may result in permanent damage to the lift mechanism.

Step 15 - Fasten all roof latches. You may have to push down on the corners of the roof to get the latches to latch.

Step 16 - Once the roof is secure the lifter system cables will need to be tightened so they will remain secure and in place during transit.

- **Manual Lift Systems (if so equipped)**
- Turn the crank handle counter clockwise until you feel tension then stop.
- **Power Lift Systems (if so equipped)**
- Using the key FOB, press the "raise" button until the motor stops. The motor will automatically stop when the cable reaches the appropriate tension. If Power Lift fails, refer to *Tent Setup* section, for manual lift operation.

CANOPY (IF SO EQUIPPED)

Read these instructions fully before beginning the setup. One person can do the setup, but two people will make it easier.

Maintenance

It is important to keep the canopy clean. Wash down the canopy brushing lightly with a cloth or soft brush. Keep the underside of the canopy clean by brushing it with a clean household broom. Wash the underside in the same manner as the top. Hose your canopy down occasionally (monthly) with a garden hose. It is best to do this on a hot, sunny day.

ALWAYS roll up your canopy dry. If you need to roll up the canopy when it is wet, unroll it within 24 hours and allow it to dry. Mildew will develop on damp and wet canopies. When caring for your canopy:

DO NOT:

- Fold or roll in extreme cold temperatures.
- Drag your canopy across any abrasive surfaces, such as a cement drive.
- Get insect spray on the fabric, as some solutions may impair the water repellency of the fabric and cause staining.
- Force or yank your canopy when raising or lowering it. Do it gradually.
- Allow water to stand on the canopy, causing “pocketing” or possible stretching.
- Wash your canopy with a harsh strong solution, or scrub too vigorously with an abrasive cleaner.
- Grill underneath the canopy.
- Store the canopy when it is damp or wet. Mildew is a fabric’s greatest enemy and is caused by dampness. Mildew may grow on the surface of a damp canopy and permanently stain the fabric.
- Permit leaves, twigs, etc. to remain on your canopy as they might cause a staining of the fabric.
- Wrap steel or aluminum hardware with the canopy.

Initial Installation

An authorized service technician should perform the initial installation of the canopy.

Canopy Set-Up

⚠ CAUTION

The canopy should be set-up using two people. Failure to do so can result in damage to the canopy or injury. Make sure to hold rolled canopy when bag is unzipped to keep it from falling.

NOTE: It will be easier to set up the canopy if you do not raise the roof of the unit until canopy set up is complete.

1. Unzip the canopy bag.
2. Hold on to the canopy and undo the Velcro retaining straps.
3. Unroll the canopy until the main rail is exposed.
4. Release the canopy legs from the main rail. Move the foot at the end of the canopy leg so it will be flat when placed on the ground **(Fig 4a).** Place your foot on the foot of the canopy leg and pull up until the leg locks into place. Set the canopy legs on the ground in the upright position.

Fig. 4a

NOTE: If your canopy has a center post, insert the post into the hole in the center of the main rail.

5. Pull out the telescoping side arms. Pull the canopy flaps over the front and side rails and at the corners. **NOTE:** Tilting the vertical legs in slightly will make it easier to pull the flaps down at the corners. Secure the end of the side arm into the top holder on the side of the unit. **(Fig. 5a)**, making sure the side arm snap buttons lock into place **(Fig 5b)**. The side arm(s) should be extended so the canopy fabric is tight, but not tight enough to pull or stretch the fabric. If the side arms start to bow as you raise the unit, **STOP IMMEDIATELY** and adjust the canopy.

Fig. 5a

Fig. 5b

⚠ CAUTION

Over tightening the canopy may result in excessive wear or tearing of the fabric at seams, at corners or where the canopy is attached to the unit.

6. Pull down the side flaps at the unit and place the end of the awning cover over the end **(Fig. 6a)**. Zip the canopy cover until you reach the end of the side flap **(Fig. 6b)**. This will help direct the water run-off from the canopy.

Fig. 6a

Fig. 6b

7. Secure all canopy legs by installing tent stakes next to each leg so that the “hook” on the stake is inserted into the hole on the foot as shown.

NOTE: If also installing a screen room, wait until that set up is complete to do Steps 7 & 8.

⚠ CAUTION

Always install tent stakes to avoid wind damage to the poles and fabric. Wind and rain damage are not covered by warranty.

8. The roof of the unit can now be raised and tent installation completed.

Alternate Set-up

The canopy can be set up so that the canopy legs are angled and attached to the side of the unit. This eliminates the need to stake down the canopy legs.

NOTE: This method cannot be used if you are using a screen room.

Follow the previous Steps 1-6.

7a Raise the roof of the unit to full height.

8a Tilt the canopy legs towards the unit. Insert the foot into the bracket on the side of the unit (**Fig 8a-1**). Pull the bracket bar down to lock the canopy foot securely in place (**Fig. 8a-2**).

Fig. 8a-1

The alternate canopy set-up is complete.

⚠ CAUTION

Do not use canopy structure to hang or hold ANYTHING. Doing so may result in injury or damage to the canopy or vehicle.

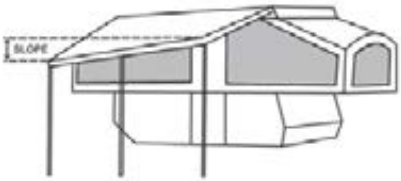
Fig. 8a 2

Caring For Your Canopy

⚠ CAUTION

Wind and rain can cause damage to the canopy, resulting in injury or damage to the vehicle. If wind or heavy rain is expected fold up and stow the awning. If leaving the vehicle for an extended period of time, stow the canopy to avoid potential damage from weather changes.

Rain can damage both the canopy fabric and the poles if it is allowed to “pocket” in the fabric. It is very important to have the correct slope in the canopy. If rain is anticipated or forecast, lower one side to allow adequate run off.



TENT, CANOPY AND SCREEN ROOM

⚠ CAUTION

The tent canvas is a mildew resistant fabric; however, this does not mean that it is mildew proof. Taking proper care of your tent canvas will help to prolong its life. For warranty coverage, it is imperative that you read, understand and follow the listed recommendations in this owner's manual and all related literature.

Proper care and maintenance are important for the life of your tent canvas. If the tent must be stored wet, open the camping trailer and allow the tent to dry thoroughly as soon as possible. Be aware that the canvas portion of the tent will take longer to dry than the vinyl. Make sure the entire tent is completely dry before refolding it and storing the camping trailer.

Assure that your canvas and trailer have good ventilation, especially after a rainy period. The most common cause of a damaged canvas is mildew, which is the result of storing your RV for any period of time with a damp or wet canvas, even for short periods. This is even more important in humid climates.

Touching the tent canvas when it is wet can cause leakage. During periods of rain, avoid contact with the tent. The natural body oils in skin will neutralize the tent waterproofing and cause the rain to soak through. If leakage persists, please contact your dealer for assistance.

LIFTER SYSTEM

The telescoping lifter posts should be lubricated semi-annually. Use a light coat of silicone spray to insure smooth, trouble-free operation. Do not permit the spray to come into contact with the tent.

Do not use grease or oil on the posts. Grease and oil will attract dirt, causing the tent to become dirty.

SLIDEOUT SYSTEM NOT APPLICABLE FOR THIS PRODUCT

Notes:

THE ELECTRICAL SYSTEM

The RV electrical system is comprised of two independent electrical systems. One operates off of 12-volt DC power and the other off of 120-volt 60hz AC power. All installations have been made in compliance with industry standards applicable on the date of manufacture. Because the electrical equipment and associated circuitry are engineered into a dedicated system specific to your RV, do not make unauthorized changes or add fixed appliances to it. **Changes or additions made after delivery may result in a hazardous condition.**

Service and/or modification of the electrical system should only be performed by qualified electrical technicians using approved materials, components, and methods meeting current safety and code requirements. Consult your dealer's service department for assistance.

To read more about the various components incorporated into the RV electrical system, please refer to the information contained in your Warranty Packet.

For motorized vehicles, consult the Chassis Guide for information pertaining to the chassis drivetrain electrical system.

Electrical System Maintenance

Before working on the electrical system:

- Make sure the inverter/charger (if so equipped) is turned "off" before disconnecting batteries.Disconnect the shore power cord.
- If equipped with a generator, turn off the generator and disable the automatic generator start functionality (if so equipped).
- Turn off the battery disconnect switch (if so equipped)
- Turn off the 120V main circuit breaker.
- Disconnect the negative 12VDC battery terminal from the battery.

⚠ WARNING

Use caution when using metal tools. If a tool contacts a battery terminal or metal connected to it, a short circuit could occur which could cause personal injury, explosion or fire.

IN CASE OF AN ELECTRICAL FIRE

⚠ WARNING

Do not attempt to use water to put out an electrical fire. Water can spread some types of fire, and electrocution is possible with an electrical fire.

EVERYONE SHOULD EVACUATE THE RV IMMEDIATELY:

- Switch the 120-volt main circuit breaker to the "off" position. It is important that everyone knows where to find the main circuit breaker and how it operates.
- Disconnect the negative battery cable(s) at the battery.
- Disconnect the power cord from the shore power receptacle.
- Turn "off" the generator (if so equipped).

Always have faulty or damaged wiring and electrical components repaired immediately.

COMMAND CENTER

The command center is typically located inside the entrance door or in the living area of the RV, and contains switches and controls for various electrical functions. Command center applications, configurations and components will vary by model.

Command Center Panel

Command Center Panel or Command Center Panel with Switch Modules

Items found on these panels may include:

- Fuel gauge and hour meter with switches for fuel pump and fuel levels; fuel station (if so equipped) on/off switch
- Lighted red pump and water heater switches (electric & LP gas)
- Generator start / stop switch; may include hour meter
- Tank heater switchesLight switches for porch lights, exterior security lights, interior lights, awning LED lights, front cap LED accent lights, power entry step
- Cargo bed red lighted control switch
- Slideout control switches (press and hold to extend / retract)
- Awning control switches (press and hold to extend / retract)
- Systems monitor with LED indicators for tank levels and battery charge status
- Auto leveling control panel (for leveling the RV)
- Inverter panel (power switch with display)
- Power bunk bed lift control switch
- Speaker selector switch

Command Center Panel W/Switch Modules

Command Center Modules Mounted to the Wall

Some models may have the modules mounted directly to the interior wall of the vehicle. They are typically located near the entrance door.

Touch Dimmer Switch:

Certain models may include a touch dimmer switch next to the Command Center panel. (There are no interior light switches on the Command Center panel).

- Turn ON ceiling lights: Tap the LED light on the dimmer
- Turn OFF ceiling lights: Tap the LED light on the dimmer
- Dimmer: If lights are off, hold finger on the LED light and lights will begin turning on gradually until fully lit. If lights are on, hold finger on the LED light and lights begin to gradually turn off.

The dimmer has a memory so it remembers what the light setting was when the lights were turned OFF. When turned ON again, the lights return to that same setting.

NOTE: If your RV model includes the 5 way/8 way remote control: the LIGHT button on the remote only controls the awning LED lights.

GFCI RECEPTACLE

There is a ground fault current interrupter (GFCI) engineered into the electrical system. It is designed to reduce the possible injury caused by electric shock. The GFCI will not protect against short circuits or circuit overloads.

Test all GFCI receptacles monthly:

- Push in the GFCI "TEST" button. The GFCI "RESET" button should pop out indicating the GFCI receptacle has been "tripped" and interrupted 120-volt power.
- Push in the GFCI "RESET" button to restore 120-volt power.

Contact your independent dealer for assistance if the GFCI "RESET" button does not restore 120-volt power and pops back out.

A "tripped" GFCI breaker indicates that abnormally high 120-volt current flow (a ground fault) was detected. All ground faults must be repaired before use of the recreation vehicle. If the GFCI "RESET" button does not restore 120-volt power and pops back out. Contact your dealer for assistance.

TESTING THE CAMPSITE POWER CONNECTION

The campsite 120-volt power receptacle(s) should always be tested for proper functionality prior to plugging the recreation vehicle shore power cord into it.

Campsite 120-volt power receptacles can be tested using a digital multimeter or a dedicated circuit analyzer. Dedicated circuit analyzers plug directly into the campsite power receptacle and minimally test for open neutral, open ground, and correct polarity. **Polarity indicators can be purchased in most electrical and hardware stores.**

⚠ WARNING

Do not hook up the power cord to any receptacle until you have verified proper polarity and grounding.

DO NOT plug the shore power cord into a campsite receptacle(s):

- That has reverse polarity
- With non-functioning ground circuits
- That shows outward signs of heat damage.
- **Doing so may result in property damage or serious injury**. Plugging the shoreline power cord into an incorrectly wired power source could damage the recreation vehicle electrical system and result in severe or fatal injury. Damage or injury resulting from connection to malfunctioning or improperly wired power sources is not covered by your recreation vehicle warranty.

DO NOT

- Do not use any cheater plug, adapter or extension cord to reconfigure incoming AC power or break the continuity of the circuit connected to the grounding pin.
- Do not connect the power cord into an outlet that is not grounded, or adapt the power cord plug to connect it to a receptacle for which it is not designed.
- Do not remove the grounding pin to connect to a non-grounded receptacle. Removal of the ground pin disables an important safety feature designed to prevent shock and electrocution hazards.
- Do not connect the power cord to an extension cord. Use of an improper extension cord will cause overheating of the cord as well as potentially causing premature failure of the AC equipment.
- The power cord must be fully extended when in use and not left coiled in the electrical compartment or on the ground. If the power cord is left coiled, it may potentially create enough heat to melt its protective casing.

It is the responsibility of the owner of the electrical receptacle to ensure that the receptacle is properly wired and grounded. **Reverse polarity and/or improper grounding of your RV can cause property damage or serious personal injury.**

Connecting The Power Cord

Always test the external power source (i.e., the campsite power receptacle or electrical box) with a ground monitor before connecting your power cord to it. If the ground monitor indicates 'reverse polarity' or an 'open ground' DO NOT connect the power cord.

To help prevent power surges from damaging the connected loads, please follow these instructions when hooking up to the external power source:

1. Turn "off" the load center main 120-volt circuit breaker.
2. Carefully extend the entire length of the power cord (approximately 25'-35') from the electric cable hatch to the external power source.
3. Plug the power cord into the receptacle. Be sure all the power cord prongs are properly plugged into the receptacle.
4. Return to your RV and turn "on" the load center main circuit breaker.

The shore line power cord should be unplugged when the recreation vehicle is left unattended. If something would happen to the electrical system, this may help limit potential damage.

When you are ready to leave, reverse the power cord connection process. Use care to prevent damaging the power cord electrical connection pins when connecting or disconnecting the shore line power cord. Grasp the plug to remove the power cord from the outlet; do not unplug it by pulling on the cord.

Maintenance

Inspect the power cord for cuts, cracks and worn insulation. Have the power cord replaced immediately if these symptoms are noticed.

POWER CONVERTER

The power converter converts 120-volt AC power to useable 12-volt DC power when the shore power cord is connected to an external power source.

The converter has a built-in protective thermal breaker that will shut it down should overheating occur. Overheating can be caused by operating the converter above its maximum power output for an extended period of time, or by an obstruction to its ventilation air flow. To reduce converter heat build keep unnecessary 12-volt lights and motors turned “off”. Keep the converters cooling fins and fan clear of obstructions.

- **USE ONLY A DEEP CYCLE BATTERY FOR RV USE**. Car batteries (CCA rating) are not designed for RV applications. If doing a lot of dry camping use a deep cycle battery rated in amp hours only (NO CCA rating).
- If using multiple batteries they must be the same brand and type. Adding more batteries will provide longer use of DC appliances when not on shore power but may reduce charging efficiency.
- The battery works in conjunction with the converter to supply DC power to the RV. A battery is typically only necessary if you do a lot of dry camping or have slideouts and/or a leveling system.
- Reverse polarity fuse provides protection for the converter when a battery is used. If the battery is connected backwards to the fuse board this fuse would blow preventing damage to the converter.
- If your lights are dimming or flickering that usually indicates an overloaded converter. Remove some of the load by turning off DC lights or appliances.
- Fan is controlled by load. It will begin running at 3 to 6 amp DC draw. It increases in speed with a higher load until 14 to 15 amps. Fan is at maximum speed and stays there even with more load. If load drops below 6 amps DC, the fan shuts off.

⚠ CAUTION

It is important that the fluid level of any connected batteries be checked on a regular basis. All batteries will “gas” and lose some fluid when continuously connected to any charging source (does not apply to “gel-cell” batteries).

Before checking for converter output voltage, the battery cables must be disconnected at the battery. Make sure the converter is plugged into an AC source (105-132 AC volts). Check the converter output voltage at the battery with a voltmeter. Place the voltmeter probes on the disconnected battery cables. If the voltage reads 13.6VDC with no load, the converter is functioning properly.

If the converter output voltage at the battery reads in the 0.0VDC range, or the battery is not charging, check for:

- An open inline fuse in the battery wire
- An open wire between the converter and the RV battery
- Loose ground connection
- Improper torques

If the converter fuses and AC voltage are good, but the converter output still reads zero volts, the converter is not functioning proper**ly.**

Modes of Operation:

Absorption (Normal) Mode: 13.6VDC range. Batteries are being charged, just at a slower rate. Converter will not work without AC input.

Float Trickle Mode: To get your converter into this mode reduce the load on the system to almost nothing but the battery. Let the system sit for approximately 44 hours.

Converter voltage will drop to 13.2VDC. If the converter sees any load during this period or after it is in Float Mode it will revert back to Absorption (Normal) Mode. 13.6VDC.

Bulk Mode: Converter will not jump into the "Bulk Mode" unless the battery is below 50% of charge, or approximately below 13.2VDC output voltage. There is no way to force it to go into Bulk Mode.

Red LED indicates blown fuse.

Inspection and maintenance

If the 12-volt power converter is not working (auxiliary battery not being charged) check the reverse polarity fuse(s) located on the end of the converter.

There are no customer serviceable parts inside the converter case and the manufacturer's warranty will be void if the case has been removed. If you have further concerns contact your dealer.

For detailed information on operation and safety, refer to the manufacturer's owner's manual.

Converter With Charge Wizard (if so equipped)

Some converters may be equipped with a charge wizard There are (3) possible charging modes; NORMAL, BOOST and STORAGE. The charge wizard will automatically select the best mode to charge your battery. A green LED next to the wizard mode button will indicate by flashes, which mode is currently being used.

NORMAL MODE: Green LED flashes once per second; battery is between 50% and 90% charged. Green LED will flash 2-3 times per second; battery is 90% charged. Output voltage is 13.6VDC and the converter is safely completing the charge of the battery.

BOOST MODE: Green LED is on solid. Output voltage is 14.4VDC to rapidly charge the battery up to 90% of full charge.

STORAGE MODE: Green LED flashes every 6-8 seconds. Output voltage has been reduced to 13.2VDC; the RV battery is fully charged and converter is maintaining the charge.

MANUAL MODE (Not recommended): The wizard mode button is used to override the charge wizard. Refer to the converter owner's manual for additional information.

REVERSE BATTERY PROTECTION: Reverse polarity fuse(s) provide protection for the converter when a battery is used. If the battery is connected backwards to the fuse board a fuse will blow preventing damage to the converter. Four easily accessible fuses are located next to the wizard button. Replace with fuses of the same type and rating.

Wizard Button & Reverse Protection Fuses

12-VOLT DC SYSTEM

The majority of your recreation vehicle lighting is powered by 12-volt electricity. The 12-volt DC system is composed of components that will operate when the following conditions are met:

- Power is supplied by the tow vehicle alternator when the engine is running and the 7-way trailer plug is connected. This powers the RV's running lights, brake lights, turn signals and brakes. In addition, the 7-way trailer plug provides a common ground and a 12-volt charge line to charge the auxiliary battery.
- The converter will supply interior 12-volt DC power when the power cord is plugged into campground power. The converter will also charge the RV battery in most situations. (Refer to *Battery Disconnec*t)
- The auxiliary battery powers many interior 12-volt components including the lighting fixtures, water pump, 12-volt motors, 12-volt appliances, etc. It also powers the breakaway switch.

12-Volt Fuse Panel

⚠ WARNING

Replacement fuses must be of the same voltage, amperage rating and type. **Never use a higher rated replacement fuse;** doing so may cause a fire by overheating the RV wiring.

The 12-volt fuse panel is labeled to indicate fuse sizes, positions and the components powered. **Fuses are located in the load center.**

Replacing A Fuse

Before replacing a fuse, always turn off the electrical components protected by it.

1. Disconnect the shore power cord.
2. Turn "off" the inverter (if so equipped).
3. Disconnect the house or auxiliary batteries main negative battery cable.
4. Remove the fuse panel cover to check fuses.
5. Pull the fuse straight out of the fuse block.
6. Insert a new fuse of the same specified voltage, amperage rating and type in the original location.

The fuse panel label should be kept permanently affixed to your recreation vehicle. Fuses will not offer complete protection of the electrical system in the event of a power surge or spike.

12-Volt DC Outlet

There may be one or more 12-volt DC power outlets in your recreation vehicle. When the 12-volt DC outlet is used as a power source for an electric appliance, make sure the appliance operates on 12-volt DC power and that it consumes less than 60 watts (5 amps) of power.

⚠ WARNING

Keep the protective dust cap on the 12-volt DC outlet when not in use to prevent ingestion of foreign material and potential short circuit conditions.

AUXILIARY BATTERY (CUSTOMER SUPPLIED)

⚠ WARNING

- **Do not store anything inside the battery compartment(s)** or near the batteries that could touch the battery or battery cable terminals. Contact with the battery or battery cable terminals could cause an electrical short circuit, discharge the batteries, or start an electrical fire.
- **Keep sparks, cigarettes and flames away from the batteries as the hydrogen gas they create may explode.** Do not connect a booster battery or other power source that outputs more than 14.2-volts DC to the RV batteries. Use adequate ventilation when charging or using batteries in an enclosed space. Remove metal jewelry and always wear eye protection when working around batteries.
- **Do not allow battery electrolyte (acid) to come into contact with skin, eyes, fabric or painted surfaces**. Electrolyte is a sulfuric acid solution that could cause serious personal injury or property damage. If your hands, eyes, clothes or the painted surface of your RV are exposed to electrolyte, flush the exposed area thoroughly with water. If electrolyte gets in your eyes, immediately flush them thoroughly with water and get prompt medical attention.

The combined 12-volt DC loads in your recreation vehicle become more than the converter can produce. This demand can be met by using an auxiliary battery for a limited period of time. The 12-volt system is designed for usage with a Group 27, deep cycle battery.

Dry Camping

The auxiliary battery should be fully charged prior to dry camping. If the auxiliary battery is not being recharged and power is being drawn from it, it will eventually discharge. A battery will discharge at a faster rate as its energy level becomes depleted. Plan your electrical usage accordingly. You can test the auxiliary battery voltage using a volt-ohm meter (customer supplied).

A fully charged auxiliary battery will read 12.7 volts DC and 1.265 specific gravity at 80°F (32°C). The auxiliary battery is considered discharged at 11.89 volts, and dead at 11.65 volts. If the voltage drops below those levels, irreversible damage can occur. Typically, a deep cycle battery has an amp-hour rating of 75-100 amps.

If you run the furnace and refrigerator simultaneously, you will be using approximately (12.0 + 3.0) 15.0 amps per hour. This does not include any 12-volt lights, or any other 12-

volt component. If the furnace and refrigerator in this example operated constantly, a 75 amp-hour battery would become fully discharged in 5 hours.

The auxiliary battery should be installed in parallel with the battery in your tow vehicle. When the 7-way trailer plug is connected, both batteries power the RV. Do not allow it to discharge your tow vehicle battery below the level required to start the engine. To prevent this from occurring, disconnect the 7-way trailer plug or install a battery isolator. When the tow vehicle engine is operating with the RV connected, the tow vehicle charging system will charge both batteries.

Replacement and Maintenance

Some equipment in your RV will draw small amounts of current even when turned OFF. To prevent the auxiliary battery from being discharged when your RV is not connected to shore line power, disconnect the auxiliary battery negative cable at the battery. During storage, it is important to check the voltage monthly and recharge the auxiliary battery as needed. If you remove the auxiliary battery from your RV, store it in a dry, cool area per the manufacturer's instructions.

When it is time to replace the auxiliary battery, Group 27 or Group 31 true deep cycle batteries are recommended to increase run time of electrical components while dry camping (operating solely on battery power).

Do not reverse the positive and negative battery cables (doing so will blow the reverse polarity fuse(s) that protect the converter).

For more information

Please contact the battery manufacturer for additional information on the auxiliary batteries.

Battery Isolator For Your Tow Vehicle (customer supplied)

You may want to consider the installation of a battery isolator on your tow vehicle as a convenience feature:

- It receives current from the tow vehicle alternator and controls distribution of energy to both the RV auxiliary battery and the tow vehicle battery.
- It serves as a check valve to prevent energy from being drawn from your tow vehicle chassis battery (so you can start your tow vehicle engine).

Your dealer can assist you with the selection, purchase and installation.

Battery Disconnect Switch (if so equipped)

The Battery Disconnect switch is typically located in an enclosed exterior compartment. The style of the disconnect switch may vary per model. This switch does not shut off all power, but only shuts off the 12VDC power to the main 12V fuse panel, and the interior of the vehicle. Batteries can still be trickle charged by the converter, and there will still be power to some devices.

Rotating Dial Disconnect Switch

When this switch is ON, there will be a green area showing a "1" along the top of the switch. To turn the switch OFF, turn it counter-clockwise until you see the red area along the left side of the switch showing a "0" (zero).

Lever Type Disconnect Switch

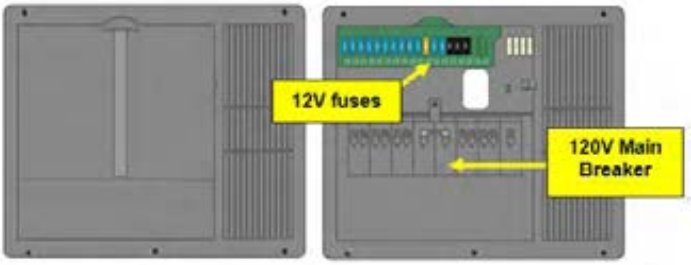
To operate this switch, turn the lever counter-clockwise to turn off all 12VDC power to the fuse panel in the RV. The lever can be removed and is equipped with a lanyard to keep the key from getting lost.

Battery Disconnect Switches
Switch appearance may vary by model

LOAD CENTER

The Load Center contains 12VDC fuses and 120VAC circuit breakers for almost all of the electrical appliances and circuits in the RV. The 120V main breaker may be located in this panel and will turn off all 120-volt power to the RV. Locations will vary by model. Refer to the diagram inside the load center for specific fuse assignments. Not all load centers will include a main breaker.

Motor homes may have separate small panels for breakers and fuses. They are normally located in close proximity to each other typically in the bed platform. The converter is also mounted separately (typically under the bed platform).



Typical Load Center Panel **Load Center Panel w/120 volt Main Breaker**

load center appearance and configuration may vary by model

120-VOLT CIRCUIT BREAKERS

The 120-volt AC circuit breakers located inside the load center protect all 120-volt wiring and components from circuit overloads and short circuits. Should a circuit overload or short circuit occur the circuit breaker protecting the affected circuit will "trip" preventing the flow of electricity through that circuit.

If a circuit breaker trips, shut "off" the appliance on that circuit (i.e., power converter etc.) and allow the circuit breaker to cool down for a brief period of time. After it cools down, reset the circuit breaker by moving its lever "off" and then back to the "on" position. If the circuit breaker re-trips or frequently trips, contact your dealer to have the electrical problem diagnosed and repaired.

A circuit breaker identification label is permanently attached to the inside surface of the 120-volt Load Center.

NOTE: Load Centers may not always include a main circuit breaker.

⚠ CAUTION

Circuit breakers and fuses will not offer complete protection of the electrical system in the event of power surge or voltage spike.

Replacement

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.** Please contact your dealer for repair assistance when replacing circuit breakers.

⚠ WARNING

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.

Maintenance

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. If you have any questions, consult your dealer.

A label is provided to explain the function of every 120-volt circuit breaker. This label is located on or near the appropriate load center or sub-panel and must remain permanently affixed to the recreation vehicle.

APPROXIMATE ELECTRICAL LOAD RATINGS

Exterior Entertainment Center	5-7 AMPS
Fan	1.5 AMPS
Furnace	12.0 AMPS
Generator Start	95.0 AMPS*
Illuminated Switch	.125 AMP
Inverter	variable
Leveling sSystem	95.0 AMPS*
LP Detector	.125 AMP
Light; Halogen	1.7 AMPS
Light; Vanity	4.2 AMPS
Lights; Aisle	1.0 AMP
Lights; Baggage Compartment / Shower	1.4 AMPS
Lights; Decorative Wall / Map / Porch	1.5 AMPS
Lights; Fluorescent Double -12”	2.0 AMPS
Lights; Fluorescent Double -18”	2.5 AMPS
Power Awning	10.0 AMPS
Power Vent	5.0 AMPS
Refrigerator	3.0 AMPS
Step Cover	10.0 AMPS
TV Plate/Antenna Booster	1.0 AMP
Water Heater	6.0 AMPS
Water Pump	7.0 AMPS

*Momentary Load

12 Volts: Labeled watts divided by 12 = Power consumed in AMPS

Air Conditioner	18 AMPS
Coffee Maker	6-12 AMPS
Converter (each)	8 AMPS
DVD System	3 AMPS
Fireplace	12 AMPS
Hair Dryer or Curling Iron	10-14 AMPS
Microwave	12 AMPS
Refrigerator	6 AMPS
Satellite Receiver	2 AMPS
TV	2-4 AMPS
Vacuum Cleaner	8 AMPS
Washer/Dryer	12 AMPS
Water Heater	12 AMPS

120 Volts: Labeled watts divided by 120 = Power consumed in AMPS

120-VOLT (30 AMP) AC SYSTEM (IF SO EQUIPPED)

The 30 amp 120-volt 60hz AC electrical system.is designed to operate on 1 leg of 120-volt power at a maximum current flow of 30 amperes.

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 30 amp 120-volt 60hz AC electrical system can be powered by the 120-volt 60hz utilities found in RV campgrounds or by 120-volt 60hz generator power.

The following electrical components will only operate when your recreation vehicle is connected to shore or generator power: 120 to 12-volt power converter, air conditioner, refrigerator, microwave oven, television(s), home theater system(s), electric water heater, washer, dryer, fireplace, and appliances plugged into convenience receptacles.

⚠ WARNING

- Make certain the external power source you connect the power cord to is a properly wired **30 amp NEMA TT-30** RV receptacle and not 240-volt AC. **PLUG INTO 30-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.

30-AMP Power Cord (if so equipped)

⚠ WARNING

- Do not hook up the power cord to any receptacle until you have verified proper polarity and grounding. Polarity indicators can be purchased in most electrical and hardware stores.
- Do not use any cheater plug, adapter or extension cord to reconfigure incoming AC power or break the continuity of the circuit connected to the grounding pin.
- Do not connect the power cord into an outlet that is not grounded, or adapt the power cord plug to connect it to a receptacle for which it is not designed.
- Do not remove the grounding pin to connect to a non-grounded receptacle. Removal of the ground pin disables an important safety feature designed to prevent shock and electrocution hazards.
- Do not connect the power cord to an extension cord. Use of an improper extension cord will cause overheating of the cord as well as potentially causing premature failure of the AC equipment.

It is the responsibility of the owner of the electrical receptacle to ensure that the receptacle is properly wired and grounded. Reverse polarity and/or improper grounding of your recreation vehicle can cause personal injury or death.

The 30-amp external utility power cord is commonly referred to as the “shore” power cord. It is designed to mate and properly function with 30-amp “shore” power receptacles available at most campgrounds.

The shore power cord is designed to continuously carry the 30-amp current flow required to power each leg of the electrical system. It also creates a critical ground connection between the vehicle electrical system and the campground shore power receptacle.

Always test the external power source (i.e., the campsite power receptacle or electrical box) with a ground monitor before connecting your power cord to it. If the ground monitor indicates 'reverse polarity' or an 'open ground' **DO NOT** connect the power cord.

Regularly inspect the shore power cord for cuts, cracks, worn insulation and other damage. Have the power cord replaced immediately if problems exist.

Calculating 30 AMP Electrical Load (if so equipped)

When connecting appliances to the electrical system, 120-volt power usage is limited to a total of 30 amps. Operating appliances collectively places an added load on your 120-volt electrical system.

An unintentional "trip" of a circuit breaker may occur if you overload the recreation vehicle and/or campground electrical system. The amperage rating of individual appliances can be calculated by dividing appliance wattage consumed (normally listed on the appliance) by nominal design voltage (120 for a 120-volt appliance). For example: 1200 watts divided by 120-volts equals 10 amps.

REPLACING LIGHT BULBS

Before replacing a bulb, be sure the light is off. Do not touch the glass part of the new bulb with your bare fingers. The skin oil left on the glass will evaporate when the bulb gets hot, the vapor will condense on the reflector and it will dim the surface.

Replacement light bulbs must be of the type, voltage and wattage listed on the lamp fixture. Use of incorrectly sized bulbs can overload lamp circuits and may create a fire hazard by overheating the fixture.

EXHAUST GAS FUMES

⚠ WARNING

- Avoid inhaling exhaust gases as they contain carbon monoxide, which is a potentially toxic gas that is colorless and odorless.
- If you are in a recreation vehicle with either a nearby tow vehicle engine running or the generator (if so equipped) running there is a potential for exhaust fumes to filter back into the recreation vehicle

To avoid breathing exhaust gases, follow these precautions:

- Always shut OFF the tow vehicle engine, generator engine (if applicable), etc., while refueling.
- Do not run the tow vehicle engine, generator engine (if applicable), etc., in confined areas, such as a closed garage, any longer than needed to move your RV in or out of the area.
- Windows should be closed while driving or running the generator (if so equipped) to avoid drawing dangerous exhaust gases into the RV.
- If you suspect that exhaust fumes are entering the RV have the cause determined and corrected as soon as possible.

The best protection against carbon monoxide entry into the RV is a properly maintained ventilation system and an active carbon monoxide detector. To allow for proper operation of the RV ventilation system, keep the ventilation inlet grill(s) clear of snow, leaves or other obstructions at all times.

See the *Occupant Safety* section of this manual for additional information on carbon monoxide safety.

PROPANE GAS SYSTEM

Propane or LP (liquefied petroleum) gas is an efficient form of energy when proper handling and safety precautions are observed. The propane system in yourfurnishes the fuel for cooking, heating, hot water and can be an alternative energy source for refrigeration

Propane is heavier than air; and tends to flow to lower areas and will sometimes pocket in these low areas, such as the floor. Your recreation vehicle is equipped with a propane alarm (refer to the *Safety Precaution* section, Combinatio (CO)/Propane Alarm.)

⚠ WARNING

Propane cylinders should not be placed or stored inside RV. LP-gas cylinders are equipped with safety devices that relieve pressure by discharging gas into the atmosphere.

The propane fuel system is comprised of numerous components such as the propane container, hoses, the propane gas regulator, piping and copper tubing to each appliance.

Although your recreation vehicle has been carefully tested at the factory, and by your selling dealer for leakage, travel vibrations can loosen fittings. Have the propane system checked at all connections soon after the purchase of your recreation vehicle, and after the initial filling of the propane tanks.

Continued periodic checks of the propane system at 5,000 miles of travel (or at least once a year), by a qualified propane service representative as part of your normal maintenance is

recommended. Hand tighten the LP gas system valves only, do not use a wrench or pliers as over tightening may damage the valve seals and cause them to leak.

NOTE: All propane lines have been checked with air pressure at the time of manufacture. Dealers are required to recheck and adjust pressure before retail delivery.

Propane Gas Container

⚠ WARNING

- **DOT propane cylinders must be transported and stored in an upright position so the pressure relief device will function properly.** Laying a DOT propane cylinder on its side may potentially create a very dangerous situation.
- **The pigtail hose must be installed to avoid tension or pulling stress at either end of the hose.** Keep the pigtail hose away from sharp edges of the cylinder collar, rigid corners, walls, doors or other compartment structures including the cover.
- **Before entering a propane or fuel service station make sure all pilot lights are extinguished.** Shut off gas to all appliances by closing the propane gas main shut off valve. Always shut OFF any engine before refueling. Do not smoke and do not operate other ignition sources while refueling.
- **If you suspect your propane container has been overfilled, contact your dealer or a qualified propane technician for assistance immediately.** Do not attempt to service a propane container overfill yourself.

Propane "container" is a general all-inclusive term used to describe a vessel that is used for storage and delivery of propane gas.

The most common of these are:

DOT (Department of Transportation) cylinders are transportable and are commonly used on recreation vehicles. The capacity of DOT propane cylinders is expressed in pounds. DOT propane cylinders are required to be removed from the RV for filling and must be filled by weight by a qualified propane facility. DOT Propane cylinders are equipped with an OPD (over fill protection device) designed to reduce the potential of overfilling. DOT propane cylinders are also equipped with an ACME service valve that is for connection of the TYPE 1 ACME pigtail hose assembly to the RV two-stage regulator.

The TYPE 1 ACME pigtail hose assembly is a wrenchless, right hand threaded connector that features a thermally sensitive sleeve and excess flow device. Max output is 200,000 BTU/hr. It is used to connect propane cylinders to regulators, hoses and other fittings. It is not for use on gas grills and other low pressure devices. DOT cylinders equipped with an OPD and ACME type 1 service valve are identified by the triangular service valve knob.

DOT cylinders are typically marked with "top" or an arrow to indicate the correct orientation of the cylinder(s). Do not mount, store or transport any cylinder other than the in proper position indicated.

Be sure to securely re-install DOT cylinder(s) after they have been removed for filling or replacement. Always close the service valve and install a dust cap or plug when transporting or storing disconnected containers whether full or empty.

ASME tanks are permanently mounted to the RV and are commonly used on RV motor homes. The capacity of ASME tanks is expressed in gallons. ASME tanks are filled while the tank is attached to the motor home by a qualified propane facility. ASME tanks are equipped with an automatic stop fill valve designed to reduce the potential of overfilling. ASME propane tanks are also equipped with a P.O.L. service valve that is for connection of the supply hose with a left hand threaded brass P.O.L. fitting from the tank service valve to the two-stage regulator. Not for use on gas grills and other low pressure devices.

NOTE: Tanks are to be installed, fueled and maintained in accordance to State and Local codes, rules, regulations or laws.

Propane is a true gas compressed into a liquid form. As the fuel is released from the container, it changes to vapor which is then used for the operation of the appliances. Propane will not run through the appliances in the liquid state.

Propane expands 1½ percent for every ten degrees of increase in temperature. It is imperative to leave sufficient space inside the container to allow for natural expansion of gas during warmer weather.

The main shut off valve must be kept closed at all times unless you are using the propane system or filling the propane cylinder. When the cylinder is disconnected from the hose, install the valve cover that is attached to the container.

Close the propane cylinder main shut off valve by hand tightening only. Use of tools createto over tighten the valve (damaging the interior seals on the cylinder valve seat). If this type of damage occurs, the cylinder will not close properly.

This propane label should be kept permanently affixed to your RV.

"Use propane only" Label (Canada only)
Label appearance may not be exact

Servicing or Filling

Have the recreation vehicle checked for leaks at the connections on the propane system soon after the purchase and the initial filling of each propane cylinder.

When you have a new cylinder filled for the first time, make sure your propane supplier purges your new cylinder of trapped air. Otherwise, an improper mixture of gas and air will make it impossible to light your propane appliances.

"Shut off for re-fueling" Label
Label appearance may not be exact

No one should be inside the RV and only the qualified propane service technician should be near the RV while the propane tank is being filled. The new propane container must be carefully purged for best performance and must **NEVER BE OVER-**

FILLED. This "shut off for re-fueling" label should be kept permanently affixed to your RV.

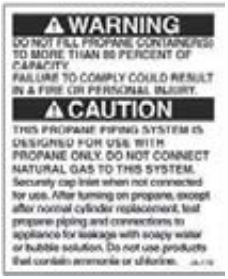
The position of the propane container(s) and the hoses are critical to proper operation and propane flow. Follow these instructions to make sure your propane container(s) are connected properly.

LP Gas Container Overfill

Never allow your propane tank to be filled above the maximum safe level as indicated by the fixed liquid level gauge. Do not allow the visible gauge to be used for filling. Overfilling the propane container above the liquid capacity indicated on the container, could allow liquid propane to enter the system that is designed for vapor only creating a hazardous condition.

This label should be kept permanently affixed to your RV.

Refer to your Warranty Packet for more information on the LP gas system components.



"Do not fill to more than 80%" Label
Label appearance may not be exact

Maintenance

Propane gas is normally non-corrosive - you need not worry about the inside of your container. However, the outside should be kept free from rust by a periodic coat of paint in a light reflective color. Rust, scratches and/or dents can affect the safety of the cylinder. Inspect the cylinder at regular intervals.

Ifs a problem, have it evaluated by a qualified technician and discard it. DOT requires that a visual inspection be made prior to each filling.

Any cylinder that has been exposed to fire, leaks or seems damaged should not be refilled.

Do not attempt to repair any containers, container valves, regulator or appliances by yourself. Use only trained certified propane gas service technicians to perform repairs.

Propane Cylinder Recertification

DOT cylinders may only be used for 12 years after their manufacture date (the number of years for certification may vary in your area). After that, the cylinders must be "recertified" which provides another five years of use.

The cylinders can be recertified every five years thereafter. Federal DOT (Department of Transportation) regulations require periodic inspections and re-qualifications of the propane cylinders. DO NOT USE damaged or rusted containers.

Verify with your local propane dealer that all required inspections and certifications have been completed on the propane cylinder within the correct time period before refilling the cylinder. Have the LP system checked for leakage each time a cylinder is refilled or after any part of the propane system has been disconnected.

Hoses, Pipes, Tubes & Fittings

The hoses, pipes, tubes and fittings used in your propane system are designed to withstand pressures exceeding those of the propane system. However, because environment and time can both contribute to the deterioration of these components, they must be inspected for wear at regular intervals.

Be sure to inspect the hose before each season and when having the tank refilled. Look for signs of deterioration such as cracks or loss of flexibility. When replacing the hose or other propane components, make sure to always replace them with components of the same type and rating (check with your dealer).

Fittings are used to connect the various system components to each other. The P.O.L. fitting at the end of the propane supply hose is made of brass so that pipe sealants are not necessary

to prevent leaking.

It also has a left-handed thread, which means that it is turned clockwise to remove, and counter-clockwise to tighten. The P.O.L. fitting has been designed to help restrict the flow of LP gas in the event of a regulator failure or hose malfunction.

Propane Regulator

⚠ WARNING

Propane regulators must always be installed with the regulator vent facing downward. Regulators that are not located in baggage compartments have been equipped with a protective cover. Make sure the regulator vent faces downward and (if applicable) the cover is in place to minimize vent blockage that could result in excessive gas pressure causing fire or explosion.

Single stage regulator

Some models are equipped with a single stage regulator.

Two stage regulator

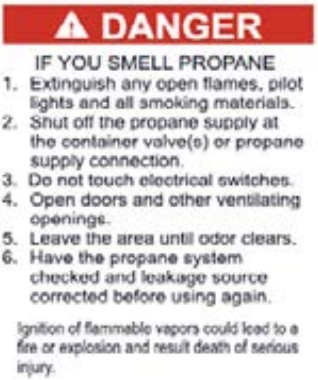
The two-stage regulator has the only moving components in the propane system. Its sole function is to reduce the pressure from the propane containers to a safe and consistent low operating pressure. The first stage reduces the container pressure to 10-13 lbs. The second stage reduces the 10-13 lbs. of pressure further to an operating pressure of 11" W.C. (water column) or 6.35 oz. of outlet pressure to your appliances.

The second stage is adjustable and will need to be adjusted by your dealer or qualified propane service technician for optimum performance (this adjustment should always be made with a properly calibrated manometer).

If the pressure is too high, it affects performance and safety; if the pressure is too low, your appliances will not operate correctly.r recreation vehicle is equipped with the "automatic" two-stage regulator, with both cylinders full of propane, turn the lever on the regulator towards the cylinder you wish to use first. This will now be the "supply" cylinder and the other the "reserve." Slowly open both cylinder valves. The indicator on top of the regulator will turn bright green. When the cylinder becomes empty, the indicator will change to bright orange. Now turn the regulator lever to the side of the "reserve" cylinder and the green signal should return. You may now remove the empty cylinder to have it refilled without interrupting the flow from the full bottle. After filling the cylinder, connect the pigtail hose and slowly open the bottle valve.

PROPANE USE AND SAFETY

Propane is a colorless and odorless gas that, in the liquefied state, resembles water. An odorant (usually a sulfur compound) is added as a warning agent. If you smell propane within the vehicle, quickly and carefully perform the procedure listed on the propane system label. This label has been placed in the vehicle near the range, for models equipped with a propane systemWhen propane container is low, occasionally there may be a concentration of an onion or garlic-like odor, which can be mistaken for a propane gas leak. After the propane container has been refueled, the odor will usually disappear. If not, turn off the valve(s) and have the propane system inspected by your dealer or qualified propane service representative



Propane System Label

Propane Leak Test

Leaks may be found easily with a soapy water solution. Do not use a solution containing ammonia or chlorine when locating leaks. These products are corrosive to copper gas lines and brass fittings, which could result in deterioration of the copper and brass components.

Apply the soapy solution to the outside of the gas piping fittings. If a leak is present, the soapy solution will "bubble" at the leak point. If a leak is indicated, shut off the propane system valve(s) and contact your dealer or qualified propane service representative immediately.

⚠ DANGER

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 the metal tubing and brass fittings

Using The Propane System

Use the following steps for propane operation:

1. Close ALL burner valves, controls and pilot light valves.
2. Open the main valve in the propane tank slowly to avoid a fast rush of propane vapor through the excess flow valve causing propane "freeze-up." Should you experience propane "freeze-up," close the main valve and wait 15 minutes before trying again.
3. Listen carefully as propane begins to flow. If a hissing noise is heard for more than one or two seconds, close the main valve and contact your recreation vehicle dealer to have the propane system tested.
4. **Light the appliances as needed and directed in the appropriate appliance manufacturer's owner manual located in the Warranty Packet.**

Keep the propane container valves closed at all times unless you are using the propane gas system or are having the propane container filled.

Make sure that you read and fully understand ALL safety requirements for handling and operation of the propane system.

The propane system must be handled with care. If you have any questions or concerns, consult with your dealer and/or the specific appliance manufacturer.

If you have double cylinders on your recreation vehicle, use only one at a time. Otherwise, the propane supply will be drawn equally from both cylinders until the supply has been totally exhausted. Using one cylinder until it is empty, then using the second cylinder will allow you to fill the empty cylinder at your convenience without running totally out of propane.

Cooking With Propane Gas

⚠ WARNING

- Do not turn gas range burner controls to ON and allow gas to escape before lighting.
- Do not use portable fuel burning equipment (i.e., wood and charcoal grills or stoves) inside the recreation vehicle.

Unlike homes, the amount of oxygen supply is limited due to the size of the recreation vehicle. Proper ventilation when using the cooking appliance(s) will help you avoid the danger of asphyxiation.

It is especially important that cooking appliances not be used for comfort heating, as the danger of asphyxiation is greater when the appliance is used for long periods of time. FAILURE TO COMPLY MAY RESULT IN DEATH OR SERIOUS INJURY.

These warning labels are located in the cooking area to remind the user to provide an adequate supply of fresh air for combustion.

Cooking / Comfort Heating Label

Ensure a supply of fresh air (Canada units only)

Calculating Propane Gas Usage

Most RV gas appliances are operated intermittently, and each has a different BTU rating. You will need to consider this when planning your propane supply and consumption. Unless there is heavy use of hot water, the water heater consumption of propane is minimal. During cool temperature or high wind conditions, furnace consumption can be extremely high.

To calculate your propane supply, take the BTU ratings for your propane appliances and divide that into the BTU availability. Each gallon of propane gas (3.785 liters) produces about 91,500 BTU's (96,528 kilojoules) of heat energy.

Propane consumption chart

The following chart provides average propane consumption information.

Appliance	Average BTU Consumption per Hour	Kilojoules/Hour
Water Heater	8,800	9,280
Refrigerator	1,200 – 1,500	1,270 – 1,580
Furnace	35,000 – 40,000	36,930 – 42,200
Range/oven	7,100	7,490
Range, rear burner	6,500	6,860
Range, front burner	9,000	9,490
Outside Grill	10,000	10,550

NOTE: Some states prohibit propane appliances to be operated during travel, especially in underground tunnels. Make sure you know the laws for the areas where you travel.

Traveling With Propane

Use care when fueling your motor fuel tanks and/or propane containers. Make certain your propane tank is properly fastened in place. This label should be kept permanently affixed to your recreation vehicle.

Refueling Warning Label

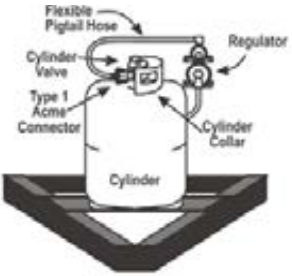
INSTALLING PROPANE CYLINDER(S)

⚠ WARNING

Make sure all fasteners are secured before traveling.

Single Cylinder Mounted On A-Frame (if so equipped)

1. Connect the 3/8” low pressure hose to the outlet of the two stage regulator.
2. Attach the regulator with the “Z” bracket on the center of the front wall with the vent pointing down.
3. Attach the protective plastic cover to the regulator.
4. The regulator has a 90° elbow that directs the inlet toward the trailer curbside.
5. Place the cylinder on the bracket provided on the A-frame and position it so the outlet of the cylinder valve is pointed directly outward to the curbside wall.
6. Attach the 1/4” inverted flare x 24” Type 1 pigtail hose to the regulator inlet and the right hand swivel nut to the cylinder valve.

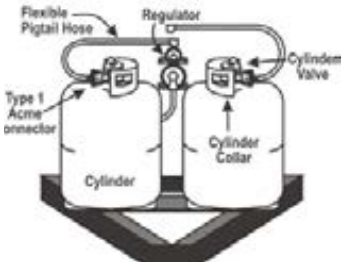


Single Cylinder

7. Secure the cylinder to the A-frame bracket using the bolts, nuts and washers provided.

Double Cylinder Mounted On A-Frame (if so equipped)

When a second cylinder is installed, a tee check valve is used to replace the 90° elbow at the top of the regulator and another 1/4" inverted flare x 24" Type 1 pigtail is added. The regulator stays in the original position.



Double Cylinder

Place the second cylinder on the A-frame bracket so the cylinder valve is pointed to the roadside of the recreation vehicle.

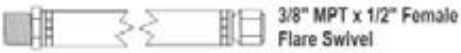
1. Secure the second cylinder to the A-frame using the bolts, nuts and washers provided.
2. Attach the second 24" hose to the tee check valve on the regulator and the right handed swivel nut to the cylinder valve.

Located in a recessed compartment or housing (if so equipped)

1. Connect the 3/8" low-pressure hose to the outlet of the two-stage regulator.
2. Place the cylinder on the bracket in the recess compartment or housing and secure them so the outlets of the cylinder valves are facing the "sidewalls" of the compartment or housing (opposite of each other).
3. Mount the regulator on the center back wall of the compartment or housing so the vent is pointed downward.
4. Attach the 1/4" inverted flare x 18" Type-1 pigtail hose to the regulator inlet and the right hand swivel nut to the cylinder valve.

Two Propane Cylinders

Main Supply Hose – Low Pressure



Main Supply Hose

Attach the main supply hose from the regulator to the brass manifold fitting in the frame of the trailer. The swivel brass nut on the main hose will be your final attachment.

Each time the propane container is removed:

1. Check that ALL fittings are tight.
2. Check that ALL connections are tested with a propane leak detector (or soapy water) solution.
3. Open the main valve slowly to avoid a fast rush of propane to the excess flow valve causing propane freeze up. If you experience a propane "freeze-up," close the main valve and wait at least fifteen (15) minutes before trying again. Refer to the regulator manufacturer's operator manual.
4. Listen carefully - a "hissing" sound longer than one second may indicate a propane leak. If you feel there may be a leak present, close the valve and contact your dealer or qualified propane technician for repair assistance.

Replace all protective covers and caps on the propane system after filling. Make sure the valve is closed and the compartment door is securely latched.

Notes:

PLUMBING SYSTEM

There are two different water systems in your recreation vehicle:

- The fresh water system consists of the fresh water holding tank, faucets and connections, water pump, outside shower assembly (if so equipped), water heater, tub/shower, and water purification system (if so equipped).
- The waste water system consists of the waste water and sewage holding tank(s), drains and toilet.

Plumbing System Maintenance

- Check all fittings, pressure and waste, for leaks before each trip or before vehicle storage as part of your normal maintenance:
- Inspect all faucets, the water purification system (optional) and sink connections (including drain baskets or filters).
- Inspect connections at the water pump and water heater.
- At the end of every trip, you should drain any unused water from the fresh water system.
- All water contains contaminant and mineral particles that can cause fresh water system odors. Untreated well water is a major source of water system odors.
- The fresh water (potable water) system needs periodic sanitization and winterization to take care of all the components within the plumbing system and help discourage the growth of bacteria and other organisms that can contaminate the water supply.

Typically, there are labels affixed to the exterior of the recreation vehicle sidewall that indicate the locations of the water system drains and fills. Be aware some drain valves may be located inside the vehicle (once the exterior label is found, go inside to find the drain corresponding location).

FRESH WATER SYSTEM

All water contains contaminant and mineral particles that can cause fresh water system odors. Untreated well water is a major source of water system odors. The fresh water (potable water) system needs periodic sanitization and winterization to take care of all the components in the plumbing system to discourage the growth of bacteria and other organisms that can contaminate the water supply.

⚠ WARNING

- DO NOT drink water deemed microbiologically unsafe or of unknown quality.
- Never travel with full fresh, black or grey water holding tanks

⚠ CAUTION

A water pressure regulator is recommended to prevent damage to the plumbing system or components. To prevent damage when using the city water connection, a 45 lb. (315 KPa) rated water pressure regulator is recommended.

Water Pressure Regulator (customer supplied):

Excessive pressure from the water supply source may be encountered in some parks, especially in mountain regions when using the fresh water inlet or black tank flush. Water pressure regulators are available to protect your recreational vehicles plumbing system against such high pressure.

Fresh Water Holding Tank:

⚠ CAUTION

- Do not cap, block or modify the fresh water tank overflow tubes in any way. Enough water pressure can build up during the filling process to damage the plumbing system if the overflow tubes are obstructed.
- Be careful not to overfill the fresh water holding tank. It can pressurize the tank, causing leakage and water damage and void the warranty. DO NOT leave the tank unattended while filling.

There may be several ways to fill the fresh water tank depending on the model. For details of each method, refer to the *Fresh Water Connections* or the *Utility Center (if so equipped)* sections. There are plastic overflow tubes in the fresh water holding tank which allow water to flow out of the water tank (see *City Water Fill*). Occasionally, you may see water coming from the overflow tubes when the fresh water holding tank is filled. This is normal and can be a result of the recreation vehicle being parked on an incline, or the motion caused by starting or stopping during travel.

12-Volt Water Pump & Switch

When you want to use water in your recreation vehicle and it is not hooked up to city water, you will need sufficient 12-volt DC power to run the water pump.

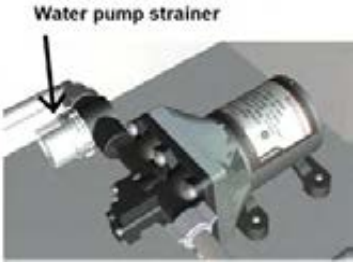
Once activated, the water pump (also known as the demand pump) will self-prime, and provide water. The pump is designed for **intermittent use only.** Using the pump continuously or with high pressure will shorten the life of the pump and is not covered in your warranty.

Periodically check the in-line water pump strainer for accumulated debris. To clean, shut off the water pump, unscrew the clear cap, remove the re-useable metal strainer and clear any debris, then reinstall.

For additional information on the care and operation of the pump, read the safety and operating information in the pump manufacturer's owner's manual.

Water Pump Switch (if so equipped):

Most water pump switches illuminate when the water pump is activated. In most models, the (red) pump switch is located on the monitor panel or the utility center. When the water pump switch is ON the pump runs until 45 lbs. of pressure has been achieved. The red light will stay on. The water pump automatically recycles when pressure drops. Some cycling may occur depending on the volume of water being released. Turn the water pump switch OFF when it is not in use.



NOTE: In some models the water pump switch will be a black rocker switch located near the sink cabinet

The water pump switch should be in the OFF position when the RV is left unattended for any amount of time. If something would happen to the water system, this may help limit water damage to a smaller area.

FRESH WATER CONNECTIONS

Your recreation vehicle may be equipped with one or both of the following fresh water connections: city water and gravity fill. The city water fill has a threaded connector with a city water connection label next to it. Do not remove this label.

NOTE: If needed, sanitize the water system prior to travel.

Using City Water Fill (If So Equipped):

Remove the connection cap and attach a non-toxic drinking water hose to the threaded inlet.

City Water Fill with City Water Connection label

1. The other end of this hose should be connected to a pressurized fresh water source (such as a faucet or spigot). You should use a non-toxic drinking water hose dedicated only to supplying fresh water to the vehicle.
2. Turn ON the water at the water source. Open the cold water supply faucets to bleed air from the water lines. When the water lines are nearly full, you may experience some "air pockets." Allow these to escape before closing the cold water supply faucets.

NOTE: The City Water Fill inlet when connected to a pressurized fresh water source sends water through the water lines and fixtures without the use of the pump. The fresh water tank cannot be filled using the city water fill (the gravity fill is used to fill the fresh water tank).

3. The water heater (if so equipped) will fill first, followed by the supply lines and faucets. Water heater bypass valves (if so equipped) A and B must be open to allow water into the water heater, valve C should be closed. Refer to the *Water Heater Bypass* section for an explanation on configuring the bypass valves. Bypass valves are normally located near the water heater.

The fresh water connection should be unscrewed (i.e., the non-toxic drinking water hose disconnected) when the recreation vehicle is left unattended for any amount of time. If something would happen to the water system, this may help limit water damage to a smaller area.

To Disconnect the City Water Fill:

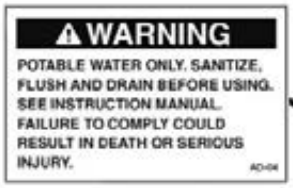
1. Shut OFF the water at the pressurized water source.
2. Disconnect the non-toxic drinking water hose and reinstall the connection cap. The connection cap should always be installed if the water fill is not in use.

Using the Gravity Fill (If So Equipped):

You can fill the fresh water tank from a container of fresh water and the gravity water fill inlet if you do not have access to City Water.

The gravity fill will have a potable water label next to it. Do not remove this label.

Potable Water Label



Gravity Water Fill

Low point and fresh water tank drains should be closed.

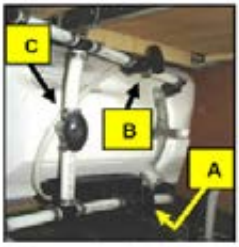
1. Remove the connection cap and insert a non-toxic drinking water hose (or a funnel) into the gravity fill inlet. The other end of the hose goes into a container of fresh potable water.
2. Pour the fresh water into the gravity fill until the tank is full.
3. Open both the hot and cold water faucets, along with outside shower faucets (if so equipped) when filling the fresh water tank to allow air pockets to be forced out of the system.
4. When the fresh water tank on the RV is full, remove the non-toxic drinking hose and container from the gravity water fill. Replace the connection cap. This cap should always be installed if the water fill is not in use.

SANITIZING/WINTERIZING THE PLUMBING SYSTEM

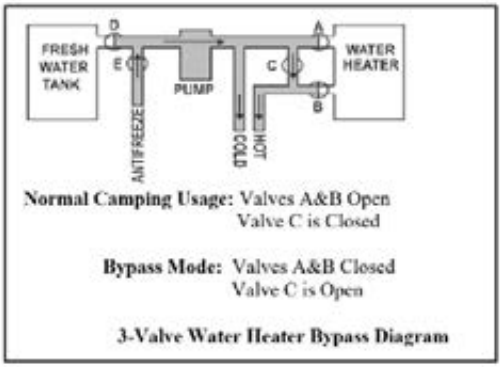
Water Heater Bypass – 3 Valves/No Utility Center (If So Equipped)

Most models have a factory installed water heater bypass that enables you to avoid filling the water heater with RV antifreeze. The 3-Valve Bypass typically located in close proximity to the water heater.

NOTE: In the 3-valve bypass diagram, valve D is the fresh water tank shutoff. Valve E is used to introduce RV antifreeze into the lines when winterizing the system and has a clear hose attached to it. See *Winterizing the Plumbing System*. Valves D & E are typically located near the water pump, which may be under a dinette bench, kitchen island, or bed.



Factory installed 3-valve water heater bypass



Water heater switches (if so equipped):

The water heater switches are typically located on the monitor panel. Refer to the Monitor Panel section for function details.

When to sanitize

- When your RV is new.
- At the beginning and end of each season.
- When the water system becomes contaminated or every three months of use.

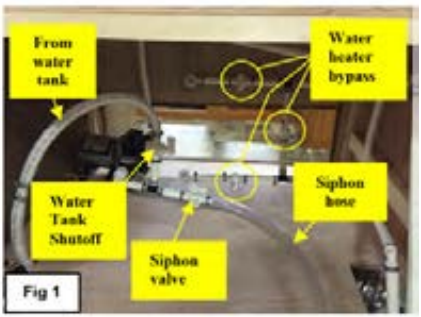
Sanitizing (without a Utility Center):

1. Level the recreation vehicle and drain the fresh water system (see Draining the Fresh Water System).
2. Water heater power switches should be turned OFF (12V gas and 120V electric at the command center). Gas valve at the water heater should be turned OFF.
3. Bypass the tank (storage) water heater (if so equipped). See photos above, or for a 3 valve bypass; set the water heater bypass valves to BYPASS (middle valve ON supply valves OFF). Water heater power should be OFF, gas valve to water heater should be OFF also.
4. Prepare a chlorine solution using 1/4 cup of household bleach (sodium hypochlorite solution) to one gallon (3.785 liters) of water in a container. Prepare one gallon of solution for every 15 gallons of tank capacity. This will result in a residual chlorine concentration of 50 ppm in the water system.

If a 100 ppm concentration is required, use ½ cup of household bleach with one gallon of water to prepare the chlorine solution. One gallon of the solution should be used for each 15 gallons of tank capacity.

NOTE: Fresh water tank sizes vary by model; contact your dealer or Customer Service for your specific tank size.

5. Put the sanitizer into the fresh water tank by pouring the solution into the gravity fill inlet on the outside of the RV.
6. Finish filling the fresh water tank by pouring fresh water into the gravity fill inlet. A pressurized water source can be used, but the hose will not screw on to the gravity fill inlet, use a funnel or hold the hose up to the inlet.
7. When the water tank is full (check monitor panel for tank levels). Remove the hose from the inlet and the water source. Turn the water pump ON.
8. Make sure the water tank shutoff valve (at the pump) is turned ON. Siphon valve (at the pump) should be turned OFF (Fig. 1).
9. Open the hot water line on all the faucets (kitchen, lavatory, shower and outside shower) until water begins to flow continuously and a chlorine smell is noticeable. Water will not flow until a fixture is opened inside the RV.



Water valves and water heater bypass

10. Close the hot water lines and repeat with the cold water lines on the faucets. Turn water pump OFF when finished.
11. Let the solution remain in the system for at least four hours when disinfecting with 50 PPM residual chlorine. If a shorter time period is desired, then a 100 PPM chlorine concentration should be permitted to sit in the system for at least one hour.

NOTE: For complete fresh water tank sanitization, driving your unit around for a short distance will allow the sanitizing solution to splash around all sides of the tank.

12. After the required period, drain the chlorine solution from the fresh water system.
13. Fill the fresh water system using clean (potable) water until completely full. Put water in the gravity fill inlet on the outside of the RV.
14. Then, drain and refill the fresh water system one more.

If a chlorine taste lingers in the water, flush the water system with a solution consisting of one-quart vinegar to five gallons of clean water. Re-flush as necessary. The tank (storage

type) water heater **must** be bypassed. The vinegar solution should be kept out of the water heater as it may damage it.

Winterizing (without a Utility Center):

Preparing your recreation vehicle for colder weather or storage is very important for most states and Canada. Failure to prepare your RV may cause water supply lines and the water heater to freeze. The RV should be winterized at the end of the camping season or when it will be exposed to temperatures that will fall at or below 32°F (0°C). Repairs due to freezing are not covered by warranty.

NOTE: The winterization process may vary slightly due to different plumbing configurations between models.

NOTE: Appliances (refrigerator, dishwasher or clothes washer) must be winterized. Refer to the appliance owner's manual for possible additional information or contact your Dealer or Customer Service for assistance.

If you chose to perform the winterization process yourself, read and understand the following information before starting.

Contact customer service or your dealer for questions about this process. It may be easier to winterize the RV with another person to assist you.

NOTE: The water heater must be drained to prevent damage from freezing. It is recommended the water heater be drained and bypassed during the winterization process particularly if introducing RV antifreeze into the plumbing system. Do not drain the water heater while it is hot onder pressure! Antifreeze should be kept out of the water heater.

The preferred method to winterize your recreation vehicle is by using RV antifreeze in the plumbing system.

NOTE: If the RV is going to be stored in a non-temperature controlled environment with a risk of temperatures reaching 32°F (0°C) or lower, RV antifreeze **must** be used in the RV plumbing system (which would also include appliances like the clothes washer, dishwasher and refrigerator).

⚠ WARNING

Never apply air pressure to the water system with any of the valves in the closed position. Air pressure applied to a closed valve, faucet or low point drain could potentially damage the seals and cause water leaks. If you have questions, consult with your RV dealer. Using RV antifreeze is the preferred method of winterization.

Winterizing with Antifreeze:
Use **ONLY RV ANTIFREEZE** in your fresh water system for freeze protection. No other product or commodity should be used.

⚠ WARNING

Automotive antifreeze (ethylene glycol) and windshield washer antifreeze (methanol) are poisonous. Never use these products in your fresh water system. These products are harmful and may be fatal if swallowed.

Antifreeze should never enter the water heater, RV water filter, refrigerator, refrigerator water filter, or fresh water tank.

1. Turn water heater power OFF (electric & LP gas switches). Turn water heater gas valve OFF (located outside the RV).
2. Bypass the water heater; supply valve OFF, bypass valve ON (*refer to Water Heater Bypass*).
3. Level the RV and drain the fresh water plumbing system (see *Draining the Fresh Water System)*.
4. Water heater should be empty after performing Step 2. Water heater bypass valves (if so equipped): supply valves OFF, bypass valve ON. Remove water heater drain plug (arrow in photo).
5. Make sure the “fresh water tank drain” and “low point drains” are closed.
6. Close the fresh water tank shutoff valve “D” (if so equipped). Valve should be located in the vicinity of the water pump.

Water heater drain plug location

7. Open the siphon valve at the water pump (**Fig 1**). Insert the clear tubing on the siphon valve into a container of antifreeze.
8. Winterizing will require approximately 2 gallons of RV antifreeze. To assist the siphoning process, put the container on a flat surface approximately two feet above ground level.
9. Make sure the water tank shutoff valve is turned OFF so antifreeze cannot travel into the fresh water tank (**Fig 1**).
10. Turn the water pump ON. Antifreeze will be drawn into the water lines.
11. Open the hot water line faucets; kitchen/bath sinks, shower **and outside shower** (if so equipped) until RV antifreeze begins to flow continuously.

12. Close the hot water line faucets and outside shower and repeat with the cold water line faucets.
13. Flush the toilet several times until you see antifreeze in the bowl.

When you are finished adding RV antifreeze:

14. Turn the water pump OFF. Turn siphon valve OFF. Remove the siphon hose from the container of RV antifreeze. Leave the water tank shutoff valve closed to keep antifreeze out of the fresh water tank.
15. Pour 1 cup of RV antifreeze into any/all drain P traps (sinks, & bathtub).
16. To prevent staining, wipe the RV antifreeze out of the sinks, shower (or tub), and toilet using a soft, dry cloth.

NOTE: In the spring when flushing antifreeze out of the water lines make sure to turn the fresh water tank shutoff valve back ON.

If needed, contact your RV dealer for assistance.

WATER HEATER

The water heater manufacturer has preset the sensing limit to maintain the water temperature when the water heater is activated.

⚠ WARNING

- Hydrogen gas may result if you have not used the water heater for two weeks or more. **HYDROGEN GAS IS EXTREMELY FLAMMABLE.** To reduce the risk of injury under these conditions, open the hot water faucet for several minutes at the kitchen sink before you use any electrical appliance connected to the hot water system. If hydrogen is present, you may hear what sounds like air escaping through the pipe as the water begins to flow. Hydrogen gas may be present even after water has been drained from the water heater tank. Open the faucet at the sink and allow the system to vent for five to ten minutes. Do not smoke or have any open flame near the open faucet while venting. On DSI water heater models, make sure the switch is OFF.
- Do not alter the operation or change the design/construction of your water heater. For your safety, only factory authorized parts should be used on your water heater. Accessories marketed for recreation vehicles, such as an “add-on” electric heating elements, are not recommended by the manufacturer. Such items are not approved to be installed and could create an unsafe condition and will void all warranties
- **If you smell propane gas** then **STOP!** and follow the procedures listed in the *Propane System* section before attempting to operate the water heater.

Operating Instructions:

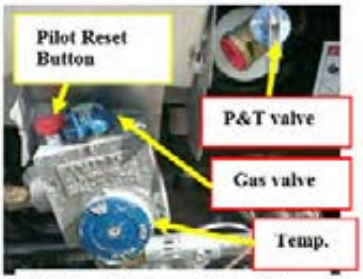
Read the safety and operating information provided in the manufacturer’s manual before attempting to activate the water heater.

Make sure the water heater is filled with water before use as even momentary operation of

the water heater without water in it may result in damage to the tank heating element and/or controls. **Double check the bypass valves**, make sure they are set properly.

Always open both the hot and cold water faucets when filling the fresh water tank to allow air pockets to be forced out of the water heater.

Water heater switch (if so equipped)
The "propane GAS" switch enables propane operation of the water heater, and the "ELECTRIC" switch enables electric operation. Switches are typically located on the monitor panel. For detailed information, refer to the *Monitor Panel* section.



Water Heater pilot ignition

Water heater-pilot light (if so equipped)
This water heater is gas only with a pilot ignition. The water heater controls are typically located in an outside compartment, and is ignited manually from the outside of the vehicle. Hot water will be available in approximately 30 minutes.

Refer to the water heater manufacturer's manual for detailed lighting instructions.

Odor from the hot water system
Many water supplies contain sufficient amounts of sulfur to produce an odor, often called "sulfur water". Sulfur water can be caused by a chemical action or by bacteria. Generally, sulfur water is not harmful, only unpleasant to smell. Refer to the water heater manufacturer's owner's manual for details on eliminating the odor from sulfur water. Odor from sulfur water is not a service problem.

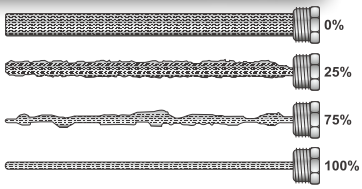
⚠ WARNING

Do not replace anode rod or any other component with an accessory part that is not authorized by the water heater manufacturer, such as an "add-on electric heating element. Such items are not approved to be installed and could create an unsafe condition and will void all warranties

Anode rod protection

NOTE: Depending on your water heater manufacturer, your water heater may or may not have a replaceable anode rod. Check your water heater manufacturer documentation or contact your RV customer service department.

The tank in the water heater is protected by a magnesium or aluminum anode to prolong the life of the tank by absorbing the corrosive action of hot water. Under normal use, the anode rod will deteriorate and because of this, the water heater manufacturer recommends the anode rod be replaced yearly. Water with high levels of iron and/or sulfate will increase the rate



Anode rod replacement chart

of deterioration; therefore, more frequent replacements may be required.

If an anode rod is mostly eaten away, replace it with a new one. The water heater manufacturer recommends replacement of the anode rod when consumption or weight loss is greater than 75 percent.

Operating the water heater without the proper anode rod protection will decrease tank life and will void the tank manufacturer's warranty on the tank. To extend the anode life, drain the water from the water heater tank whenever the RV is not being used. Avoid any extended time of non-use with water in the tank.

To prevent a water leak when replacing the anode rod, a pipe thread sealant approved for potable water (such as Teflon Tape) must be applied to the threads of the anode rod. Proper application of a thread sealant will not interfere with the anode.

High Altitude Deration

Operation of the water heater at high altitudes may require derating. If the water heater is not properly derated, lack of sufficient oxygen for combustion may produce improper burner operation. Pilot outage caused by burner lift-off or sooting from a yellow burner may occur, indicating the possibility of carbon monoxide. You may also notice a lack of efficiency in heating the water because of incomplete combustion of the burner at these higher altitudes. Consult with the local propane company, your dealer or the water heater manufacturer for proper derating of the water heater. Change out of the orifice (derating) should be done by the dealer or a qualified service agency.

NOTE: It is important that once the RV has returned to lower elevation (below 4500 feet) any high altitude deration or other adjustments be reversed for proper operation of the water heater.

Pressure and Temperature Relief Valve

The temperature and pressure relief valve is designed to open if the temperature of the water within the heater reaches 120° F, or if the water pressure in the heater reaches 150 pounds. When this pressure is reached, the pressure relief valve will open and water will drip from the valve.

This "weeping" or dripping will continue until the pressure is reduced to below 150 pounds, and the valve closes. This condition is normal and does not indicate a defective relief valve.

One way to reduce the frequency of this occurrence is to maintain an air pocket at the top of the water heater tank. This air pocket will form in the tank by design; however, it will be reduced over time by the everyday use of your water heater. To replenish this air pocket:

1. Turn off the water heater.
2. Turn off the cold water supply line.
3. Open a faucet in the recreation vehicle.
4. Pull out the handle of the pressure relief (P&T) valve and allow water to flow from the valve until it stops.
5. Release the handle on the P&T valve - it should snap closed.

Close the faucet and turn on the cold water supply. As the tank fills, the air pocket will develop. Repeat this procedure as often as needed to reduce the frequency of the weeping P&T valve.

⚠ WARNING

Do not place a valve between the pressure and temperature (P&T) valve and the tank. Do not remove or plug the relief valve under any circumstances.

Maintenance

Do not allow the burner to burn with a yellow flame, or continue to operate the water heater with an improper burner flame.

Periodically, inspect the water heater vent for soot. Soot is a sign of incomplete combustion and must be corrected before operating the water heater. This is your visual warning that the water heater is operating in an unsafe manner. If soot is present, immediately shut the unit down and contact your dealer or a qualified service agency.

Periodically inspect the vent for obstructions. Do not terminate the vent on your water heater inside of add-on rooms, screen porches or patios. Doing so will result in products of combustion being vented into the rooms or occupied areas.

Draining and Winterization:

If the recreation vehicle is to be stored over the winter months, the water heater must be drained to prevent damage from freezing. Damage to the water heater caused by freezing is not warrantable. It is recommended the water heater be drained and bypassed during the winterization process, **particularly if introducing RV antifreeze into the plumbing system**. **Never drain the water heater when it is HOT or UNDER PRESSURE.**

To drain the water heater:

1. Turn off electrical power to the water heater either at the switch from the electrical element of at the breaker.
2. Shut off the propane supply to the water heater.
3. Turn off the pressure pump on the water system.
4. Open both hot and cold water faucets.
5. Remove the anode rod from the tank.

For detailed information, see the *Winterizing The Plumbing System* and *Water Heater Bypass* sections of this manual.

OUTSIDE SHOWER (IF SO EQUIPPED)

A handheld shower assembly with both hot and cold water may be included for use outside of your recreational vehicle.

1. Be sure the water heater is ON and had sufficient time to heat the water.
2. Open the outside shower compartment door.
3. If dry camping, be sure the 12-volt water pump is ON.
4. Remove the handheld shower from its holder.
5. Turn ON the hot and cold faucet knobs, and adjust the water temperature as desired.
6. To activate the handheld shower turn ON the sprayer head attachment (some models).

To turn off the water, **always** close the hot/cold control (faucet) knobs. The lever on the shower head will not completely stop the flow of water; this is intentional to allow for draining. After the water has been allowed to drain from the shower head, return it to the outside shower compartment. Any remaining water in the shower hose will drip or run out; this is not a leak but performs as intended. If you are dry camping, turn the water pump OFF.

Turning off the water with the shower head lever can also create a condition where the hot and cold water will mix through the outside shower faucet, thereby reducing the temperature of the hot water. It can appear as though the hot water heater is not working properly.

FAUCETS

The bathroom, kitchen and outside shower faucets operate much the same way as the faucets in your home. Make sure there is sufficient water available and the 12-volt water pump is turned ON before operating.

NOTE: There may be air in the water plumbing lines which needs to be bled out before a steady stream of water comes from the faucet.

BATHROOM TUB / SHOWER

Keep the water heater and holding tank capacities in mind when using the fresh water system. The used water will drain through the plumbing pipes into the grey water holding tank.

- Be sure the water heater is ON and had sufficient time to heat the water.
- If dry camping, be sure your 12-volt water pump is ON.

Unlike your home, the recreational vehicle does not contain a water pressure balance valve. If someone is using the shower, it is recommended that the fresh water system **NOT BE USED** until they are finished.

⚠ WARNING

Water temperatures over 125°F (49°C) can cause severe burns instantly therefore, be careful when using hot water. **Always test the water temperature before showering or washing.**

The shower faucet includes a vacuum breaker for the shower. There are two purposes for this breaker:

- To prevent siphoning water through the hose from another fixture.
- To prevent water from being retained in the hose.

The showerhead DOES NOT have a complete shut-off valve (the complete shut-off is at the faucet). The showerhead may drip slightly in the OFF position after use; this is normal and does not indicate a leak or defect.

Maintenance

Refer the manufacturer's user guide or label instructions for detailed cleaning information. The tub/shower walls are made of ABS plastic material. Use a mild detergent soap and warm water to clean. Do not use gritty or abrasive particle soaps or scouring compound to clean ABS plastic. Avoid using "Citrus" or biodegradable cleaners which contain "D-Limonene." They will damage plastic materials. Contact your dealer for repair or replacement.

GREY DRAINS

Camping trailers are not equipped with grey water tanks, but they do include either a grey water dump valve, or a grey water drain for the sink. Some models have a grey water drain plug located on the side of the trailer, with a threaded fitting that will attach to a garden hose. Other models are equipped with a grey water dump valve. The dump valve is located outside and under the trailer. The dust cap should be removed before operating the valve handle.

Grey water dump valve

Threaded Grey water drain

TOILET (IF SO EQUIPPED)

Depending on your model it may be equipped with a portable (cassette) chemical toilet and shower combination.

The toilet has two tanks joined together. The upper tank has clean water used for flushing; the lower tank is the waste tank. **NEVER add deodorizer into the upper water tank.** For specific instructions on how to dump the waste tank refer to the manufacturer's user guide.

⚠ CAUTION

- To prevent help toilet blockage, always use RV grade single-ply toilet paper. Do not flush paper towels, diapers, sanitary napkins or other foreign objects down the toilet.
- Do not use chlorine (undiluted) or caustic chemicals, such as laundry bleach or drain opening types, in the toilet system. These products damage the seals in toilets and dump valves.

Cleaning & Maintenance

The toilet should be cleaned regularly for maximum sanitation and operational efficiency. For detailed information refer to the manufacturer's operator manual.

AIR CONDITIONER PREP (IF SO EQUIPPED)

Your camping trailer may have the wiring needed to install an air conditioner (customer supplied). We recommend that aftermarket parts installation be performed by qualified RV technician(s). The camping trailer roof weight limit for air conditioners is 110 lbs. **It is your responsibility to verify that the air conditioner to be installed complies with all necessary codes and weight limits.** Exceeding the roof weight limit can damage the roof and lifter system (this damage is not covered by the **Towable Limited Warranty** or **Extended Limited Warranty.**

POWER ROOF VENT (IF SO EQUIPPED)

The 12-volt DC attic fan (or powered roof vent) allows fresh air to circulate through the recreational vehicle. Do not leave the attic fan open when the recreational vehicle is stored or unattended for long periods.

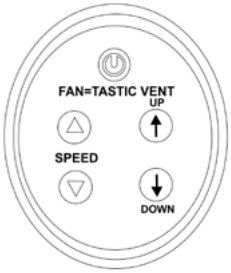
High winds, other unusual conditions or obstructions may prevent the dome from closing; the resulting leakage could cause non-warrantable damage.

To use your fan most effectively, close all vents and slightly open a window on a shaded side of your recreation vehicle. You are directing the air flow by opening a window.

For additional safety and operating information refer to the manufacturer's owner's manual.

Control pad (if so equipped)

The attic fan may be controlled by a control pad. The dome can be raised or lowered with the UP/DOWN buttons, and the speed of the fan is controlled by the ARROW buttons. It is also equipped with a rain sensor that will close the vent automatically when it rains. The rain sensor can be turned on/off by holding the DOWN button for 3 seconds.



Attic Fan Control

FURNACE

The furnace installed in your recreation vehicle is controlled by a 12-volt DC thermostat. Depending on your model, there may be up to two thermostats enabling you to control the temperature to your comfort level.

The furnace requires both 12-volt power and propane gas for full operation. Make sure you have sufficient power available before operating your furnace.

If you have any questions contact your dealer or Customer Service. A qualified RV technician should perform all furnace maintenance at least once a year (more often depending on furnace usage). Never attempt to repair the furnace yourself.

Ducting & Return Air

All heat discharges, registers and return air grills must be free and clear of obstructions. This includes all closeable registers that are intended to reduce airflow, do not shut it off completely.

⚠ WARNING

- The furnace should be inspected periodically (monthly during the heating season) for presence of soot on the vent. Soot is formed whenever combustion is incomplete. This is a visual warning that the furnace is operating in an unsafe manner. If soot is observed on the vent, immediately shut the furnace OFF and contact a qualified service agency. Operating the furnace under this condition could lead to serious property damage, personal injury or loss of life.
- To ensure your personal safety, do not obstruct or alter the furnace in any manner. Do not install screens over the vent for any reason. Screens will become restricted and cause unsafe furnace operation. For your safety, only the manufacturer's factory authorized parts should be used on your furnace.

COOKING SAFETY

In Case Of a Grease Fire

⚠ WARNING

Do not attempt to use water to put out the fire. Water can spread some types of fire, and electrocution is possible with an electrical fire.

Grease is flammable. Never allow grease to collect around top burners or on the cook top surface. Wipe up spills immediately. Refer to Section 2 – Safety Precautions, for fire safety and fire extinguisher information.

Cooking With Propane (if so equipped)

See the *Propane System Section* for important safety instructions. Refer to the manufacturer's owner's manual for detailed operating and safety instructions for all propane appliances.

COOKTOPS; RANGE & OVEN (IF SO EQUIPPED)

For detailed operating and safety information, refer to the manufacturer's user guide.

⚠ WARNING

- During and after use, do not touch or let clothing or other flammable material come in contact with the top burners (or heating elements), burner grates or other areas near the top burners or oven until they have had sufficient time to cool. These areas can get hot enough to cause burns.
- Never leave cooking food unattended. Turn pan handles inward, but not over the tops of the other range burners. Ensure that pans used are large enough to contain the food and avoid boil-overs. Heavy splattering or spills left on the cooktop can ignite and cause burns.
- If using glass, glass/ceramic, ceramic, earthenware or other glazed utensils (or cookware) verify it is safe for use on the top burners. Only certain types of utensils (or cookware) are suitable for surface or top burner use.
- **Do not cover the oven vent openings while the oven is in operation.** Restricting the flow of combustion air will create an asphyxiation hazard.

⚠ CAUTION

Never use oven cleaners, chlorine bleach, ammonia or glass cleaners with ammonia. Always allow the cooktop to cool before cleaning.

Cleaning instructions

Refer to the manufacturer's user guide included for detailed cleaning instructions.

General Cleaning

- **To avoid damage and possible burns, be sure the appliance is off and all parts are cool *before* handling or cleaning.**
- Use care to avoid steam burns if a wet sponge or cloth is used to wipe spills on a hot surface.
- Some cleaners can produce noxious fumes if applied to a hot surface.
- To prevent staining or discoloration, clean appliance after each use.

- If a part is removed, be sure it is correctly replaced.
- If a spillover occurs while cooking, immediately clean the spill from the cooking area while it is hot to prevent a tough cleaning chore later. Using extreme care, wipe spill with a clean, dry towel.

Electric Drop-In Cooktops (if so equipped)

NOTE: Make sure you are connected to a 120-volt power source.

⚠ CAUTION

Do not use aluminum foil on the electric range cooktop, as this material will damage the cooktop surface if it melts. Do not use aluminum foil under any circumstances on the electric range cooktop.

Gas Drop-In Cooktops (if so equipped)

Depending on your model, it may be equipped with either a 2 burner or 3 burner cooktop. The 2 burner match-light cooktop has two 6500 BTU/H burners with control panel.

The 3-burner piezo-igniter cooktop has (1) front 9000 BTU/H burner and two rear 5200 BTU/H burners. The 3 burner cooktop is also equipped with a control panel.

Refer to manufacturer's user guide for detailed operating and cleaning information.

Kitchen Range & Oven (if so equipped)

NOTE: To help reduce potential condensation or unwanted cooking odors, turn on the overhead kitchen roof vent or the range hood vent (if so equipped)

To prevent damage, always use the manufacturer's recommended size flat bottom pan(s). Generally, the pan should be large enough to cover the burner, but not be more than one inch larger than the burner grate.

Do not use a broiler pan, griddle or any other large utensil that covers more than one burner at a time. This will create excessive heat that may cause melting, sooting or discoloration.

The use of undersized pans could expose a portion of the heating element to direct contact and may result in ignition of clothing. Proper relationship of pans to burner will improve efficiency.

Oven (if so equipped)

The propane gas oven must have 12-volt power to operate. If you have any questions, contact your dealer or our customer service department. **Do not use the oven as a storage area.**

Refer to the manufacturer's user guide for detailed operation, cleaning and safety information.

GAS BBQ GRILL (IF SO EQUIPPED)

⚠ WARNING

- Be sure to read, understand and follow all information supplied with your recreation vehicle concerning the use of propane before operating the BBQ grill. The propane hose must be correctly connected before lighting the grill. Failure to follow instructions supplied by the grill manufacturer, or use of any components other than those originally supplied with the grill, could result in death or serious injury.
- **If you smell gas: Shut off gas to the appliance; extinguish any open flame; open lid; if odor continues, immediately call you gas supplier or your fire department.**
- The maximum weight limit for the bracket supporting your BBQ grill is 50 lbs. This limit includes the weight placed on the BBQ grill. Exceeding this weight limit could result in injury or property damage.
- The BBQ grill is for use outside of the recreational vehicle. **Never use this grill inside a compartment or inside of the recreational vehicle.** Before operating the BBQ grill, make sure that it is securely mounted on the support rail attached to the side of the recreational vehicle (if so equipped) or the bumper mounting bracket (if so equipped).
- The BBQ grill must be **COMPLETELY COOLED** before storing it. The grill should be cool to the touch before storing. Storing the BBQ grill before it is completely cool may result in serious injury or property damage.

⚠ DANGER

Always open hood before turning on gas and lighting burner, failure to open the hood before lighting could cause an explosion causing property damage, injury, or even death.

Depending on your model, your grill will be mounted with either a bumper mount system, or a rail mount on the side of your recreational vehicle.

Bumper Mount (if so equipped)

Your RV may be equipped with a rear bumper grill mount. There are several styles of bumper mounts, each one may be designed to fit a specific type of grill or RV. Complete installation instructions for each bumper mount and each grill are beyond the scope of this manual. Please refer to documentation supplied in your warranty packet or call Customer Service for mounting information.

Rail Mount (if so equipped)

- Hang the grill bracket on the aluminum mounting strip located on the side of the recreation vehicle.
- Open the (2) folding arms on the bracket making sure they lock in position.
- Slide the grill onto the (2) arms against the stops. **Make sure the grill is fully on the arms.** Arms will slide into the "T" bracket on each side of the grill.
- Insert the retaining pins into the arms.
- To remove the grill, remove the retaining pins and simply slide it off the bracket arms. Wait until grill has cooled down before removing it.

Gas Grill & Mounting

Bracket on Support Rail

NOTE: Grill weight is 26 lbs.

Refer to the grill manufacturer's user guide for detailed operating and safety information.

Gas BBQ Grill Prep (if so equipped)

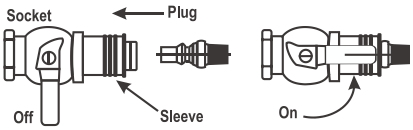
Your recreation vehicle may be equipped with a propane "quick-coupler" connection and support bracket for easy installation of the BBQ grill.

Attaching the "Quick Coupler" Connection

The "quick coupler" is directly connected to the RV propane system. The "quick-coupler" connection is equipped with a positive shut-off valve.

Place the "quick coupler handle in the OFF position and push back the sleeve. The valve handle must be OFF to make the connection.

1. Insert the plug and release the sleeve.
2. Push the plug until the sleeve snaps forward, locking the plug into the socket.
3. Turn the handle ON to allow propane to flow to the drop in stove.



Quick Connect Coupler

NOTE: This outdoor cooking warning label should not be removed from the RV.

REFRIGERATOR

The refrigerator is not intended for quick freezing or cooling. We recommend stocking it with pre-frozen or pre-cooled food when possible. The shelves should not be covered with paper or plastic and the food items should be arranged so air can circulate freely. Keep the area at the back of the refrigerator clean and free of debris. Check for obstructions in the exterior refrigerator vent area (i.e., spider webs, bird nests, etc.). Use a soft cloth to dust off the debris.

For optimum efficiency and performance, it is recommended the refrigerator be checked at least twice a year as part of the routine maintenance.

For detailed operating and safety information, refer to the manufacturer's user guide.

Gas/electric models (if so equipped)

⚠ WARNING

If you smell propane gas **STOP!** Follow the directions located in your manufacturer's owner's manual and in this manual.

Residential models (if so equipped)

NOTE: If you are using electric to power the refrigerator, make sure you are connected to a 120-volt power source.

⚠ CAUTION

The ice maker (if so equipped) should be turned off and the ice tray emptied when power to your recreation vehicle has been shut off. With no power, the ice will melt and water may "pool" in the refrigerator door. When power is restored, the vibration may cause this water to run out of the door and on to the vehicle floor.

3-Way Refrigerators (if so equipped)

Depending on your model, you may have a 3 way refrigerator (12VDC, LP GAS or 120VAC).

⚠ WARNING

Converter output (12VDC) is not intended for normal operation of the 3-way refrigerator. When the camping trailer is parked and the power cord is plugged in, set the 3-way refrigerator to "AC power." The "DC mode" is to be used only when traveling and will pull power from the auxiliary battery charge line (if so equipped). When camping without available AC power, utilize the propane mode.

Contact your dealer or Customer Service for details on winterizing your refrigerator.

Cleaning Your Refrigerator

The following are general cleaning guidelines. For detailed information on cleaning your specific refrigerator, refer to the manufacturer's user's guide.

Cleaning The Interior

1. Unplug refrigerator or disconnect power.
2. Hand wash, rinse, and dry removable parts and interior surfaces thoroughly. Use a clean sponge or soft cloth and a mild detergent in warm water.
3. Inside the refrigerator, use a warm water and baking soda solution consisting of approximately 1-tablespoon (15ml) baking soda to 1 quart (1 liter) of water. This solution cleans and neutralizes odors. Rinse and wipe dry.
4. Leave an open box of baking soda in the refrigerator and freezer to help prevent odors.

NOTE: Do not use abrasive or harsh cleaners such as window sprays, scouring cleansers, flammable fluids, cleaning waxes, concentrated detergents, bleaches or cleansers containing petroleum products on plastic parts, interior and door liners or gaskets. Do not use paper towels, scouring pads, or other harsh cleaning tools.

There is no need for routine condenser cleaning in normal operating environments. If the environment is particularly greasy or dusty, or if there is significant pet traffic, the condenser should be cleaned every 2 to 3 months to ensure maximum efficiency.

If you need to clean the condenser:

- Remove the base grille.
- Use a vacuum cleaner with a soft brush to clean the grille, the open areas behind the grille and the front surface area of the condenser.
- Replace the base grille when finished.

Cleaning The Exterior

Painted metal exteriors: wash with a clean sponge or soft cloth and a mild detergent in warm water.

Stainless steel exteriors: wash with a clean sponge or soft cloth and a mild detergent in warm water. Do not use appliance wax, polish, bleach, or other products containing chlorine on stainless steel. Stainless steel can be cleaned with a commercially available stainless steel cleaner. A spray-on stainless steel cleaner works best.

IMPORTANT: Do not allow the Stainless Steel Cleaner and Polish to come into contact with any plastic parts such as the trim pieces, dispenser covers or door gaskets. If unintentional contact does occur, clean plastic part with a sponge and mild detergent in warm water. Dry thoroughly with a soft cloth.

For silver-accented plastic parts, wash with soap or other mild detergents. Wipe clean with a sponge or damp cloth. Do not use scouring pads, powdered cleaners, bleach or cleaners containing bleach as these products can scratch and weaken the paint finish.

WATER HEATER – SEE PLUMBING SECTION

CLEANING THE INTERIOR

To keep the value of your recreation vehicle, perform regular maintenance using the proper materials and procedures. Using the wrong cleaner may result in damage to the surfaces in your vehicle. Check with the manufacturer's information for the recommended cleaning agent. If in doubt, check to see if the cleaner will cause damage by testing a small area out of sight or contact your dealer for assistance. Do not use flammable liquids or sprays to clean the recreation vehicle.

Décor Glass (if so equipped): Use a glass cleaner to remove smudges, smears and spots. If there is decorative etching on the décor glass, use care when cleaning around that area.

Furniture Upholstery: To retain the value of your recreation vehicle, maintain the furniture upholstery carefully and keep the interior clean. Vacuum the furniture regularly using a soft brush attachment to remove any loose dirt or debris.

Fabric (if so equipped)

It is recommended the fabric be professionally cleaned if it becomes stained or soiled. The professional cleaner should be made aware the fabrics that may have been treated to be fire resistant. For more information, refer to the specific furniture manufacturer's care instructions.

Ultraleather™ (if so equipped): It is recommended the Ultraleather™ be professionally cleaned if it becomes stained or soiled. For more information, refer to the specific furniture manufacturer's care instructions.

Leather (if so equipped): Periodic vacuuming, using a dry cloth to wipe up spills immediately, and using a damp cloth on problem areas, will help to keep your leather furniture in good condition. Leather surfaces can vary, as do the cleaning methods. Refer to the furniture manufacturer's recommendation, or consult a cleaning professional.

It is recommended you do not use any cleaners containing oils, waxes or silicones. Cleaners containing silicone can eventually destroy the finish on the leather. Cleaners containing oils or waxes should not be used as they leave residues on the surface of the leather which can attract more dirt which can eventually lead to cracking.

Window Treatments

Fabric – Drapes and valances: Dust occasionally with a vacuum and soft brush attachment. It is recommended the fabric be professionally cleaned if it becomes stained or soiled. The professional cleaner should be made aware the fabrics that may have been treated to be fire resistant.

Window Shades

Shades should be vacuumed periodically to remove dust. It doesn't matter what type of shade or fabric you have, using your vacuum cleaners upholstery brush on low suction will remove most dust and dirt from the shade. Refer to the shade manufacturer's owner's manual for additional and detailed information.

To remove stuck on dust or stains refer to the following guide.

Solar Shields: Use a sponge or soft brush and water to remove stains. A mild cleaning solution can be used to remove tougher stains. Rinse after cleaning by wetting a clean cloth in fresh water, wringing our any excess and wiping the areas where the cleaner was used.

Day/Night Shades: Clean with a mild cleaning solution using a sponge or paper towel. Wipe down with water after cleaning and dry thoroughly before raising the shade. Do not use spot remover, household cleaners or detergents to remove soiled spots, as these may cause damage to fabric or loss of color from fading.

Mini Blinds: A simple dry rag may do the trick. If they are especially dirty, you can use cold or warm water to clean them; never use hot water.

Fill a spray bottle with water and a tiny amount of soap. Then spray a lint-free towel with the mixture and use the towel to wipe down each slat. While cleaning, try not to bend the slats. They can also be soaked in a bathtub to loosen up any debris so the slats can be wiped down easily.

Roller Shades: Can be easily cared for by simply using soapy water or a mild cleaning solution on spots. However try a small area first. Harsh household cleaners or detergents may cause damage to fabric or loss of color. It is our recommendation to dust the rails and fabrics of the shades on a regular basis. Shades should be kept in the closed or up position when not in use, to maintain pleat retention and minimize dirt and soil build-up. Do not store shades in the down position. This may cause some loss of pleat retention if the shades are not operated on a consistent basis.

NOTE: If your recreation vehicle must be stored for an extended period of time, store shades in the up position and cover your windows with additional protection (I.E. Cut out cardboard).

Cabinetry and Tables

To keep hardwood doors, cabinet fronts and hardwood tables looking like new regularly dust with a soft cloth dampened with a cleaning polish or mild detergent solution. Avoid using ammonia based products or silicone oils as they may cause damage if used over a long period of time.

The finish is durable and resistant to most household spills. However, spills should be wiped up promptly to avoid potential problems. Excessive prolonged exposure to direct sunlight, high temperatures and high humidity can cause damage to both the finish and the wood itself. These should be avoided.

Interior Wall Panel

Please contact your dealership service department for assistance in repairing décor paneling. If deep scratches occur on the wall panel, putty sticks can be used to cover scratches on wood surfaces. These can be obtained from local hardwood stores and lumberyards.

To clean, use a mild solution of soap and lukewarm water with a soft sponge or cloth. Wipe dry with a soft, clean cloth.

⚠ CAUTION

Do not use abrasive cleaners as they may cause the vinyl to scratch and become dull. Do not use cleaners that contain bleach

Quik Panel Wall Panels (if so equipped)

Quik Panels are used on certain Entegra motor home models and may be treated and cleaned as a high quality painted surface. All Quik Panels are sealed or glazed and can be cleaned with a soft cloth and mild soap and water (such as dish soap).

NOTE: Oil based soaps and cleaners are not recommended. No abrasive cleaners or alcohol cleansers should be used. If other cleaner solutions are used, we recommend trying a spot in an inconspicuous area.

ABS Plastics

Dust and wipe clean with soft, damp cloth or chamois, wiping gently. Do not use gritty or abrasive particle soaps or scouring compound to clean ABS plastic. Avoid using "citrus" or biodegradable cleaners that contain "D-Limonene" as they may damage plastic materials.

Pantry or Hutch (if so equipped)

Your recreation vehicle may have a pantry or hutch that you can use for storage. Make sure all items stored in the pantry or hutch are secured to prevent shifting during travel. This cabinetry has been designed to accommodate the normal camping items which may be bulky but not necessarily heavy. **Remember your recreation vehicle's load capacity is designed by weight, not volume, so you cannot necessarily use all available space.**

If your pantry or hutch has sliding pantry shelves, they have been equipped with a locking mechanism to keep them in place during transit. To secure the shelf in place, push it all of the way in until the latch tab clicks into place. Always pull out slightly on the shelf to make sure that it is stationary and secure in the transit position. To release the shelf, push in on the tab and pull the shelf slowly towards you.

⚠ WARNING

Your RV's load capacity is designated by weight, not by volume, so you cannot necessarily use all available space when loading the vehicle. Do not exceed your GVWR and ensure you are loading the vehicle as evenly as you can for the best possible handling. Ensure heavy items are secured so they do not shift during travel.

Countertops

To prevent permanent damage

- Always use hot pads or trivets under hot pans, dishes, or heat producing appliances such as frying pans. Heat will damage the countertop.
- Use a cutting board to prevent unnecessary damage to the countertops. Do not cut directly on the solid surface countertop.
- Avoid harsh chemicals such as drain cleaners, oven cleaners, etc.
- Do not let cleaners with bleach set on the top. Wipe them off promptly.

For additional information on the removal of difficult stains or surface damage repair, refer to the countertop manufacturer's user guide.

Your recreation vehicle may be equipped with one or both of the following countertops.

Laminate Countertops (if so equipped)

Glass rings, food spills, water spots and smudges usually wipe off with a damp sponge. Stubborn stains can be removed with a general-purpose spray cleaner. Some stains can be

removed by squeezing fresh lemon juice over the stain and allowing the juice to soak for approximately forty-five minutes. After 45 minutes, sprinkle baking soda over the lemon juice and rub with a soft cloth.

Solid Surface Countertops (if so equipped)

Soapy water, ammonia based cleaners (not window cleaners as they can leave a waxy build up that may dull the surface) or commercially available solid surface cleaners will remove most dirt and residue from all types of finishes. A damp cloth followed by a dry towel will remove watermarks.

Difficult stains can be removed from the matte finish with a green Scotch Brite® pad and a mild abrasive cleaner. Disinfect the surface periodically with diluted household bleach (one part water to one part bleach).

For cuts and scratches, sand the matte finish lightly with (220) fine grit sandpaper until the cut or scratch is gone. Restore finish with a green Scotch Brite® pad and mild abrasive cleaner.

Run cold water when pouring hot/boiling water into the sink.

Solid surface sink maintenance

Occasionally, clean the solid surface sink by filling one-quarter full with a 50/50 water/bleach solution. Let soak for 15 minutes, and then wash sides and bottom of sink as solution drains.

FLOORING

Always test a cleaning agent in an inconspicuous area for colorfastness.

Carpet

Vacuum your carpet regularly. It is important to remove loose soil and debris while it is on the surface. Heavily traveled areas (i.e., walkways, areas in front of the furniture) may be protected with small throw rugs to prolong the life of the carpet.

Prompt attention to spots and spills is essential. Remove as much of the spill as possible. Absorb wet spills as quickly as possible by blotting repeatedly with white paper or cloth towels.

Refer to the manufacturer's guide for detailed cleaning information, or contact a cleaning professional.

Vinyl Flooring

Periodically vacuum or sweep to remove dirt and gritty particles. Although most common spills will not permanently stain the vinyl floors, they are usually easier to remove if wiped up before they set. Blot with a paper towel and wipe clean with a damp cloth. Do not use dish detergents or vinegar and water because they will dull your floor.

To care for the vinyl floor covering, use a damp mop with water and a mild cleaner on the entire floor. DO NOT SOAK THE FLOORING. Use care to avoid wetting the carpet edges. To avoid problems of "yellowing" linoleum, the flooring manufacturer recommends avoiding cleaners that contain oil based solvents (i.e. lemon oil, Murphy's Oil Soap, etc.).

HEATED BED MATS (IF SO EQUIPPED)

The heated bed mats are manufactured to reach gentle, soothing heat warmth, NOT the pain relieving heat of a heating pad. At first touch it may seem only slightly warm because it is conserving energy. As your body weight presses onto the bedding, and a blanket covers you, it will feel considerably warmer and comfortable.

⚠ WARNING

- Be sure to read all instructions carefully before using the heated bed mats. **YOUR BEDDING SHOULD ALWAYS REMAIN FLAT, NEVER FOLDED, ROLLED OR BUNCHED. EXCESSIVE HEATING MAY OCCUR FROM MISUSE.**
- Do not use dry cleaning fluid on the heated bed mats. Cleaning solvents may have a deteriorating effect on the insulation of the heating element.

- Ensure the heated bed mats are on the bed board so the label and connector point up.
- The cord should be at the head of the bed.
- Do not tuck in the wired area of the heated bed mats.
- Let the cord hang free. Do not route electrical cords between the heated bed mats and the bed boards. Do not allow the cords to be pinched. NEVER pull a heated bed mat by its cord.
- Keep the heated bed mat control away from an open window.
- Do not use pins or any heavy, sharp pointed objects on the heated bed mats. They may damage the heating elements.
- Be sure the heated bed mats are used on a 120 volt AC circuit.
- Turn off the electric current when this bedding is not in actual use.

Maintenance

Unplug the bed mats first. Wipe gently or blot the soiled area, using a damp cloth treated with a mild detergent. DO NOT IMMERSE the heated bed mats; allow them to dry thoroughly before plugging them in for use.

Notes:

CLEANING THE EXTERIOR

To protect your recreation vehicle's exterior finish, wash it often and thoroughly.

For recreation vehicles with painted exterior graphics: If desired you may wash and wax your vehicle 60 days after purchase. The exterior paint does need time to cure before any wax is applied to the exterior surface. Careful maintenance for the first 60 days will assure a long lasting durable finish.

Your recreation vehicle is exposed to many environmental conditions that have an adverse affect on the paint finish:

- Road Salt and Sodium Chloride
- Road Tar / Bugs
- Bird Droppings / Tree Sap
- Industrial Fallout / Acid Rain /Pollution
- UV Exposure and Moisture

The most common problems resulting from these conditions are corrosion, staining, and chemical spotting. Generally, the longer the foreign material remains in contact with the exterior finish, the more extensive the damage. These problems can be minimized by regularly scheduled washing and polishing. Wash your recreation vehicle as soon as possible if it becomes contaminated with foreign material.

Avoid parking under trees or near ocean sea salt. Ice or snow should not be scraped from the painted surface: Brush off!

Gravel roads should be avoided.

Anti-freeze, gasoline or washer solvents if spilled on the painted surface should be rinsed off with water immediately. Bugs and bird droppings should be rinsed off daily.

Washing

Commercial washing should be avoided. Wash with cold water using a mild liquid soap. Dry wiping with a dry cloth is not recommended.

Make sure the RV's surface temperature is cool, under 90 F, and out of direct sunlight. A shaded area is ideal for washing your vehicle as direct sunlight causes water spotting. Use a mild soap, detergent or car wash shampoo. Try to avoid combination wash-n-wax products as these waxes can cause build up and are designed for smaller surfaces. Have two dedicated sponges or wash mitts: one for the exterior walls and one for the wheels and under carriage. Brushes or wash mitts made of plastic bristles are acceptable for use on tires and wheel wells, but are not intended for use on the exterior walls. Avoid using such items on painted surfaces as they will damage the finish. Wash the wheels and wheel wells first as this removes heavy dirt and debris and prevents it from splattering on panels. Wet the entire area down to remove loose dirt and grime, then hand wash one area at a time using your dedicated paint finish sponge or wash mitt. Wash from the top and work your way down, rinsing frequently to minimize grit abrasion. Follow with a final rinse of water. This process will remove most contamination from the recreation vehicle's surface.

For stubborn stains such as road tar or bug stains, use an ammonia based glass cleaner or a small amount of rubbing alcohol on a damp cloth followed immediately by warm soapy water, and rinsing with clean water. This may not dissolve the road tar, but it will loosen tar and bug stains and remove them from the surface.

Do not use solvent based cleaners on bird droppings or tree sap as these are water based stains. They can be dissolved using ammonia based glass cleaner, warm soapy water and a little "elbow grease". Once again, after removing stubborn stains immediately rinse with clean water.

Drying the recreation vehicle is just as important as washing your vehicle. Tap and well water contain many chemicals that could water stain your vehicle's finish.

We suggest using a damp natural or synthetic chamois. There are other drying products such as lint-free micro-fiber towels that work just as well.

During cold weather

Salt and other chemicals that are spread on winter roads in some geographical areas can have a detrimental effect on the recreation vehicle's underbody. **If your recreation vehicle is exposed to these conditions, spray the underbody with a high-pressure hose every time you wash the exterior of your recreation vehicle.**

Take special care to remove mud or other debris that could trap and hold salt or moisture. After washing your recreation vehicle, wipe off all water drops from the rubber parts around the slideout and doors.

NOTE: When the slideout or door is frozen, opening it by force may tear off or crack the rubber gasket that is installed around the slideout or door. Therefore, pour warm water on the gasket to melt the ice (wipe off the water thoroughly after opening the slideout or door). To prevent the weather stripping from freezing, treat it with a silicone spray.

Waxing

Wax your recreation vehicle once or twice a year, or when painted surfaces do not shed water well. Use a soft cloth to apply a small amount of wax to the painted surfaces. After the wax has dried, polish the recreation vehicle with a dry, soft cloth.

Do not wax your recreation vehicle in direct sunlight. Wax it after the surfaces have cooled.

Do not apply wax to any area having a flat black finish as it can cause discoloration. If the finish has been stained with wax, wipe off the area with a soft cloth and warm water. When waxing the area around the various openings, do not apply any wax on the weather strip. If it is stained with wax, the weather strip cannot maintain a weatherproof seal around the opening.

⚠ CAUTION

- Do not use waxes containing high-abrasive compounds. Such waxes remove rust and stains effectively from the paint work, but they are also harmful to the luster of the painted surface since they scrape off the coating. Further, they are detrimental to glossy surfaces, such as the grille, garnish, moldings, etc. do not use gasoline or paint thinners to remove road tar or other contamination to the painted surface.
- Do not use a buffer and a buffing compound as it may damage the exterior surface. Please contact a professional paint body shop for assistance.

Polishing your recreation vehicle
If painted surfaces have been severely damaged and have lost their original luster and color tone, polish the surface lightly with a fine polishing compound. Avoid limiting your polishing to the damaged surface only; polish a somewhat wider area, moving the polishing cloth in one direction. After polishing, flush the compound from the surface and apply a coat of wax to regain a beautiful luster.

Damaged paint
To prevent corrosion, touch up small cracks and scratches in the paint coat as soon as possible with touch-up film or paint. Carefully check the body areas facing the road and the tires for damage to the paint coat caused by flying stones, etc. Use the closest automotive paint (available locally) match possible when touch-up paint is needed.

Cleaning plastic parts
Use a sponge or chamois to clean plastic parts. Use warm water and a soft cloth or chamois to remove any white residue from dark colored plastic surfaces. Do not use a scrubbing brush, other hard tools, or wax containing abrasives as they may damage the plastic surface.

⚠ CAUTION

Do not allow plastic to come into contact with brake fluid, engine oil, grease, paint thinner, or battery acid. These will damage plastic. Use a soft cloth and a mild detergent solution to wipe away any such contact.

Chrome parts
To prevent chrome parts from spotting or corroding, wash with water, dry thoroughly, and apply a non-abrasive automotive wax. If the chrome is severely damaged or pitted, use a commercially available chrome polish product.

FRAME

Sand, pebbles, objects on the highway, climate (salt air exposure) or ice inhibiting chemicals used during the winter months will damage the paint, inviting rust and other deterioration. Periodically inspect the exterior exposed areas, clean and repaint the frame members occasionally and whenever you notice rust or paint chipped away, to insure protection.

E-Z LUBE OR SUPER-LUBE AXLE (IF SO EQUIPPED)

The E-Z lube or Super-lube feature on your axles provides the ability for the bearings to be periodically lubricated without removing the hubs from the axle. This feature consists of axle spindles that have been specially drilled and fitted with grease zerks in their ends. When grease is pumped into the zerk, it is channeled to the inner bearing and then flows back to the outer bearing and eventually back out the grease cap hole. If you have further questions, consult with your dealer.

NOTE: The convenient lubrication provisions of the E-Z lube or Super-lube feature must not replace periodic inspection and maintenance of the bearings. Use a hand-operated grease gun; improper use of a commercial grease gun may damage the seals.

EXTERIOR ROOF AND SIDEWALL VENTS

Inspect the roof vents (including sealants) for cracks and keep them clean. Inspect the refrigerator and holding tank vents for blockages from bird nests, spider webs, leaves, etc. All exterior access doors and vents need to be kept clean and free of obstructions (i.e., insect nests, mud daubers, etc.) while the appliances are in use.

SEALANTS

⚠ CAUTION

Failure to properly maintain or reseal your recreation vehicle may result in serious water damage to the roof and other parts of the recreation vehicle. This damage is not covered by the **Towable Limited Warranty.**

Sealants perform a very important function and should be inspected closely and regularly maintained. We incorporate many different types of sealants, including butyl/putty, black butyl-encapsulated foam, silicone (clear and colored), roof sealant and foam. In general, sealants do not have "set" lifetimes. Varying environmental factors affect the pliability and adhesiveness of sealants.

You or your dealer must:

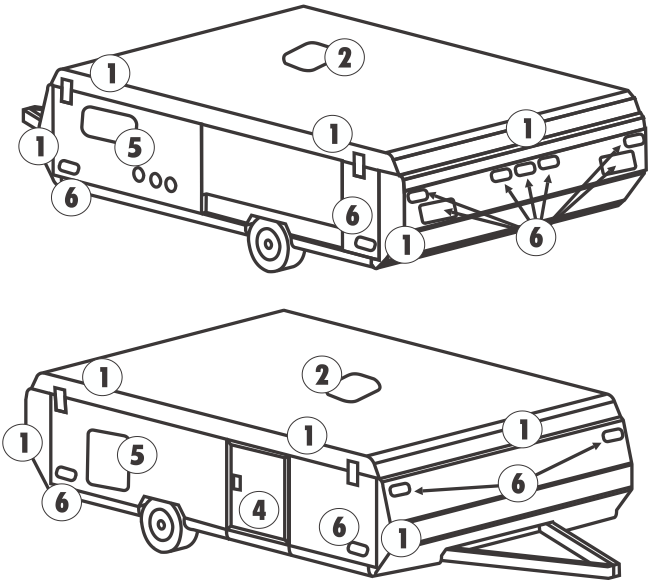
- Inspect all sealants, a minimum of every six months. Make sure to check the roof and all four sides of the recreation vehicle including al moldings, doors, vents and exterior attachments. A quick walk around the recreation vehicle before leaving may help prevent potential problems during trips and vacations.
- Have the sealant replaced if you notice any cracks, peeling, voids, gaps, breaks, looseness or any sign of physical deterioration. Reseal at least one time each year as preventative maintenance.
- Always use the same type of sealant that was removed. Your dealer recreation vehicle service or parts manager can help you obtain the correct sealant(s).

The sealants may become damaged due to road vibration, ultraviolet exposure, air pollution, freezing temperatures and exposure to other elements. If deteriorated, repair immediately to prevent damage.

If you notice water inside the recreation vehicle, immediately have the dealer check for the source of the leak. Failure to correct the leak may result in serious damage to your recreation vehicle; this damage may not be warrantable.

Although the following diagrams may not accurately reflect the exact model of your recreation vehicle, make sure you inspect all sealants as indicated in the text. If you have questions and/or need assistance with sealing your recreation vehicle, consult with your recreation vehicle dealer.

CAMPING TRAILER - SEALANT DIAGRAM



1. Trim Edges
2. Roof items
3. Slideout Roof/Floor
4. Windows/Doors
5. Storage Compartments/ Access Doors/Wheel Wells
6. Lights

Notes:

TRAVEL CHECKLIST

Following is a preliminary list of items that need to be checked before leaving your home or campsite. This is a general list, which you may want to customize as you determine your own needs.

Safety

- ☐ Make sure you follow all safety precautions noted in this owner's manual and in any manufacturer's operators manual when preparing to travel.

Maintenance

- ☐ Inspect seals and reseal as needed.
- ☐ Have the propane system checked for leaks by your dealer.
- ☐ Check wheel lug nuts after first two hundred miles and at specified intervals to listed torque specifications, re-torque as needed.
- ☐ Have brakes adjusted by a qualified service technician.
- ☐ Sanitize the fresh water system.
- ☐ Test the safety alarms.

Before leaving home (or campsite)

- ☐ Make sure all tow vehicle fluids are at proper levels. Check the engine oil, transmission fluid, engine coolant, power steering fluid and wind shield washer fluid.
- ☐ **Check the lights on the RV. Have someone observe the operation of all exterior lights while you activate the controls. Check the turn signals and brake lights.**
- ☐ Examine the tires for excessive tread wear or uneven wear patterns. Check for stones, nails, glass or other objects lodged in the tread. Inspect for tread cuts or sidewall **cracks.**
- ☐ **Check tire pressure** (including spare) and correct according to manufacturer specifications.
- ☐ **Check wheel lug nuts for tightness.**
- ☐ **Inspect safety chains for signs of wear.**
- ☐ Inspect and work all interior and exterior latches and locks (lube if necessary).
- ☐ Make sure the batteries are fully charged and installed correctly.
- ☐ Inspect the power cord and carefully clean the contacts if necessary. Plug in the power cord to an appropriate power source.
- ☐ Turn on the interior lights and check outlets for polarity. If needed, replace any blown fuses. Check the circuit breakers and test the GFCI.
- ☐ Check the propane cylinder gauge to make sure there is propane available. Make sure the propane cylinder is in place and secure for transport.
- ☐ **Inspect and turn on the propane system.** If you have any questions, contact your dealer or a qualified propane service representative for assistance. If the propane system is functioning properly, test any pilot lights or direct spark ignition features.
- ☐ **Inspect and test all safety detectors.** If needed, replace any drained or discharged batteries. If you have a defective or damaged safety detector, replace it immediately.
- ☐ Inspect the leveling jacks (if so equipped) for operation. If needed, perform maintenance as specified by the leveling jack manufacturer.
- ☐ Test all exterior and interior lights. Replace any bulbs if they are burnt out.
- ☐ Wash the exterior of the RV. Do a sealant inspection and repair as necessary.
- ☐ De-winterize and **sanitize** the fresh water system.
- ☐ **Connect your tow vehicle to the RV and test all connections and lights.Test brakes.**

Before leaving the campsite

- ☐ Check the area under the RV after overnight parking and look for water or other fluid leaks. If leaks are detected, find the cause and correct it immediately.
- ☐ Turn off propane tanks.
- ☐ Empty black and gray holding tanks, rinse as needed (if so equipped).
- ☐ Retract awning and secure in place for transport (if so equipped).
- ☐ Close roof vents.
- ☐ Close windows & latch blinds.
- ☐ Disconnect any cable TV or phone hookup, and lower the TV antenna (if so equipped).
- ☐ Turn off interior lights.
- ☐ Turn off water heater, water pump, furnace and appliances.
- ☐ Snap the Range Hood vent closed (if so equipped).
- ☐ Latch drawers, cabinets & doors. Counter items put away or tied down.
- ☐ Fasten and secure the furniture for travel (if so equipped).
- ☐ Refrigerator door locked (if so equipped). Set to 12-volt (if applicable).
- ☐ Secure any loose, heavy or sharp objects in the RV or exterior compartments.
- ☐ Disconnect the power cord and ensure it is stored correctly.
- ☐ Disconnect any water connections.
- ☐ Fasten all interior and exterior doors securely. Lock them (if so equipped).
- ☐ Move slideout(s) in and lock it in place (if so equipped).
- ☐ Walk around your RV one last time to make sure everything is stored away and the baggage compartments are closed and locked.
- ☐ Retract leveling jacks to the travel position (if so equipped).
- ☐ Retract step.
- ☐ Secure and lock the entrance door.

RV STORAGE

Properly preparing your RV for storage during periods of non-usage will prevent problems from arising. It will also make it easier to get started again for the following camping trip or season. To prevent costly freeze-ups, winterize the plumbing system when it will not be in use for an extended period of time, especially if it is stored in colder climates.

Prior to Storage

- ☐ Store your RV indoors, under a roof or a “breathable” cover for use during storage.
- ☐ To prevent weather checking and other UV damage, cover tires exposed to sunlight.
- ☐ Thoroughly wash the interior and the exterior of your RV.
- ☐ Do not use the stabilizing jacks during storage.
- ☐ Check the roof and other surfaces to ensure there is no damage and potential leakage that might otherwise go unnoticed.
- ☐ Inspect and seal off any area that offers an entry point for rodents, birds or insects. Cover all external outlets (i.e. furnace, vents etc.). Damage from birds, rodents, insect, etc., is not covered under the “Towable Limited Warranty” applicable to your RV.
- ☐ Close all windows and roof vents.
- ☐ Cover the roof air conditioner (if so equipped).

- ☐ Close the propane cylinder valve(s). We recommend using a propane cylinder cover, and to make sure the propane regulator is covered. If is equipped with a gas/electric DSI range, light a range gas burner to consume any gas remaining in the lines. Once the flame extinguishes itself, turn the burner valve OFF.
- ☐ Drain all water lines. Make sure the RV is winterized
- ☐ Drain and flush all holding tanks (fresh water, gray water, black water and/or hot water tanks).
- ☐ Adding fuel stabilizer to the generator (if so equipped) will aid in preventing condensation and fuel varnishing.
- ☐ Disconnect 120-volt AC power to the RV.
- ☐ Remove all batteries from the RV and store in a place where they will not freeze. A battery that has been frozen will never hold a proper charge.
- ☐ Turn all cushions on edge to prevent the moisture/mildew buildup during storage.
- ☐ Turn off 12-volt DC/120-volt AC/propane to the refrigerator; defrost and clean. Block the doors open so air can circulate and prevent mildew, or use crumpled newspaper or open boxes of baking soda in the refrigerator to eliminate odors during storage.
- ☐ Remove all perishables from the cabinets. Leave the cabinets and doors ajar to allow air circulation and prevent mildew and musty odors.
- ☐ Lubricate locks and hinges on exterior doors.

During Storage Period

Remove snow from the top of your RV to prevent damage to the unit's structure.

⚠ CAUTION

Excessive snow, 8" or more, or ice, 2" or more, places excessive weight on the RV roof. Remove excessive snow or ice as needed. Care MUST be exercised to not damage the roof material when removing snow & ice. Excessive weight can damage the roof, seals, etc. Water leaks and poor fit or operation are the results of this damage.

Notes:

FEATURED COMPONENTS QUICK REFERENCE CHART

Your recreation vehicle may be equipped with some of the items listed below. This is a partial listing and it is not intended to cover all components. All information is the latest available at the time of publication. Jayco reserves the right to change any of the following information without notice.

Component	Manufacturer	Website
Air Conditioner	Coleman-Mach	www.airxcel.com/coleman-mach
Awning	Lippert Components Carefree of Colorado Dometic	ww.lci1.com www.carefreeofcolorado.com www.dometic.com
Axle	Lippert Components Dexter Axle	www.lci1.com www.dexteraxle.com
DVD/CD	See manufacturers' user guide	
Entrance Step	Lippert Components Mor Ryde Step Above	www.lci1.com www.morryde.com
Fan, Exhaust 12V	Ventline Maxx Fan	www.ventline.com www.airxcel.com/maxxair/products/fans
Fire Extinguisher	See manufacturers' user guide	
Furnace	Atwood/Hydroflame	www.atwoodmobile.com
Microwave	See manufacturers' user guide	
Monitor Panel	KIB Enterprises	www.kib.us
Outside Shower / Utility Center	B & B Molders	www.bandbmolders.com
Propane Tank	Manchester Tank	www.mantank.com
Propane/Carbon Monoxide Alarm	See manufacturers' user guide	
Propane Regulator	Dehco	www.dehco.com
Range/stove/cooktop	Atwood Suburban Dehco	www.atwoodmobile.com www.airxcel.com/suburban/products/cooking www.dehco.com
Range hood	Ventline Inc.	www.ventline.com
Refrigerator	Norcold Frigidaire Samsung Dometic GE	www.norcold.com www.frigidaire.com www.samsung.com www.dometic.com www.ge.com
Smoke Alarm	See manufacturers' user guide	
Tank Sprayer/BLK	B & B Molders	www.bandbmolders.com
Thermostat	Coleman Mach	www.airxcel.com/coleman-mach
Toilet	Thetford Corp.	www.thetford.com

TV	See manufacturers' user guide	
TV Antenna	Winegard Company King Jack	www.winegard.com www.kingconnect.com
Water Heater, Tank DSI	Atwood Greenbrier	www.atwoodmobile.com
Water Heater, Tankless	Girard Systems Truma AquaGo	www.greenrvproducts.com www.truma.com
Water Pump, 12V	Shurflo East	www.shurflo.com

Vehicle Maintenance Record

Make:	
Model:	
Model Year:	
Vehicle Serial#:	

Service Date	Mileage	Work Performed	Performed By	Notes

Jayco
Ownership Notification
Fax Form To: (800) 825-7876

ATTENTION!
Federal record keeping laws require that we maintain a file of owners of our product. Your cooperation in filling out this from will be appreciated.

☐ Change of Owner

☐ Transfer of Limited Warranty
(see limited warranty for details)

Model Information:

Serial#: _____

Chassis #: _____ **Odometer Reading** _____
(Motorized only)

New Owner Information:

Purchased Date: _____

Name: _____

Address: _____

City: _____ **State/Province:** _____ **Zip Code**_____

Phone # _____ **E-Mail Address** _____

Previous Owner Information:

Purchased Date: _____

Name: _____

Address: _____

City: _____ **State/Province:** _____ **Zip Code**_____

Phone # _____ **E-Mail Address** _____

Notes: