



## 2023 OWNER'S MANUAL



A subsidiary of Thor Industries, Inc.



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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.

### **INTRODUCTION**

*Congratulations!* On your Jayco recreation vehicle purchase. We are excited to welcome you to our growing RV family. We are committed to being the most respected name in RVs. 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.

We invite you to drop by our Visitors Center located in Middlebury, Indiana. To book a factory tour or check on available tour times, log on to <https://www.jayco.com> and click on the **ABOUT** heading. Select “**Visit Us**” from the drop down for factory tour information.

### **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**

Dealers who are authorized to sell Jayco motor homes are also there to provide customer service after the sale. We work closely with them in an effort to keep you satisfied.

At the time of sale of the new motor home, your dealer is expected to explain or provide the following:

Provide orientation of the motor home, its systems, components and their operation (including a test drive). Request that you read all motorized warranty information and explain any provision not clearly understood.

- Complete and return the *Warranty Registration and Customer Delivery form* and the chassis manufacturer’s *Chassis Manufacturer’s Delayed Warranty Start form* to activate the applicable warranty coverage (mileage and date of purchase must be included on both forms). Retain copies of these forms in the motor home for any required warranty coverage as needed at home or while traveling.
- Ensure that you receive a complete Owner’s Portfolio and review the individual manufacturer’s limited warranty provisions with you. The dealer can assist in completing these forms and in locating any required component model or serial numbers.

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.

## **SECTION 1: WARRANTY & SERVICE**

**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.
- 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 internet. 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 the internet 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**

<b>Mailing address</b>	<b>Shipping address</b>
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	<a href="mailto:info@Jayco.com">info@Jayco.com</a>
Parts email	<a href="mailto:parts@Jayco.com">parts@Jayco.com</a>
Service email	<a href="mailto:service@Jayco.com">service@Jayco.com</a>
Website	<a href="http://www.Jayco.com">www.Jayco.com</a>

We welcome you to join our online community by following and engaging with us on our various social media pages.

- Facebook: Jayco RV
- Instagram: @jaycorv
- YouTube: <https://www.youtube.com/user/jaycorvs>

Become a part of something bigger and join the Ascend Community. This virtual community comes together over stories of adventure, fun and family, spreading the word about the RV lifestyle.

- Apply now: <https://www.jaycofamily.com/partnerships/>

### **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, 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.*

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.

### **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.

**CHASSIS GUIDE**

Throughout this manual, frequent reference is made to the vehicle's Chassis Guide. The Chassis Guide includes the owner's manual provided by the manufacturer of the chassis on which this motor home is built, warranty cards and/or registrations. It also includes pertinent information regarding the transmission, tires, etc. Consult the Chassis Guide for operating safety, maintenance, servicing instructions and warranty coverage. The Chassis Guide should be considered a permanent component of the vehicle and kept in the motorhome at all times for reference.

**SAFETY ALERTS**

Throughout this manual, certain items are labeled **NOTE**, **NOTICE**, **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.

**NOTICE**

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

 **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.

 **WARNING**

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

 **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.

### **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](http://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.

To file a safety concern, you can complete an on-line form at <https://tc.canada.ca/en/road-transportation/defects-recalls-vehicles-tires-child-car-seats/report-potential-safety-defect-vehicles-tires-child-car-seats>, or call to speak with a defect investigator.

For additional information, please refer to the Transport Canada website at [www.tc.gc.ca/recalls](http://www.tc.gc.ca/recalls)

**To contact Transport Canada by phone:**

**1-800-DEFECTS**

**1-819-420-4300 (Ottawa-Gatineau area or internationally)**

Toll free: 1-800-333-0510 (in Canada)

**To contact Transport Canada by mail:**

Transport Canada -ASFAD  
330 Sparks Street  
Ottawa, ON  
K1A 0N5

[www.tc.gc.ca/rappels](http://www.tc.gc.ca/rappels)

Téléphone: 819-994-3328 (dans la région de Ottawa-Gatineau et à l'extérieur du pays)

Sans frais: 1-800-333-0510 (au Canada)

Adresse postale :

Transports Canada -ASFAD  
330, rue Sparks  
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.

## **SECTION 1: WARRANTY & SERVICE**

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).

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 email it to Customer Service along with documentation showing proof of ownership. Please include your current vehicle mileage.

### **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 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**

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. 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 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.
- 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.*

### **OBTAINING SERVICE FOR SEPARATELY WARRANTED ITEMS**

Your selling dealer is responsible for servicing your recreation 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**.

### **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.

### **AFTERMARKET ACCESSORIES**

#### **WARNING**

Do not add any type of rack or frame to any motor home chassis or chassis part. The alteration to the length and/or weight distribution may result in unstable handling, be a safety hazard, or could damage the motor home components.

Installation of aftermarket accessory(s) may affect the Limited Warranty applicable to your recreation vehicle, damage your RV and/or cause a failure. Your RV manufacturer accepts no responsibility for results of work performed by unauthorized technicians.

If you wish to make changes, consult an authorized dealer or your RV manufacturer before contacting other resources. They may be able to refer you to a specialist for assistance.

## SECTION 1: WARRANTY & SERVICE

### **2023 JAYCO MOTORIZED (CLASS B) LIMITED WARRANTY**

#### **THIS LIMITED WARRANTY COVERS:**

- The Motorhome when it is used only for its intended purpose of recreational travel and camping;
- Only the first retail purchaser;
- Only those portions of the Motorhome not excluded under the section “What is Not Covered”;
- The Motorhome only when sold by an authorized dealership; and,
- Only defects in workmanship performed and/or materials used to assemble those portions of the Motorhome not excluded under the section “What is Not Covered”.

#### **This Limited Warranty is not transferable.**

When you request and accept the performance of warranty repairs under the terms of this Limited Warranty, you are accepting 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 when suit must be filed for breach.

#### **LIMITATION AND DISCLAIMER OF IMPLIED WARRANTIES:**

**THE DURATION OF ANY IMPLIED WARRANTY IS LIMITED TO:**

- **THE DURATION OF THIS LIMITED WARRANTY;**
- **THE SCOPE OF COVERAGE THIS LIMITED WARRANTY PROVIDES;**
- **DEFECTS EXISTING AT THE TIME OF SALE THAT MANIFESTED THEMSELVES AND SURFACED DURING THE IMPLIED WARRANTY COVERAGE PERIOD; AND**
- **DEFECTS DISCOVERED AND REPORTED WITHIN THE DURATION OF THE IMPLIED WARRANTY. THERE ARE NO EXPRESS WARRANTIES OR ANY IMPLIED WARRANTIES ON THOSE PORTIONS OF THE MOTORHOME EXCLUDED FROM COVERAGE.**

**NOTWITHSTANDING THE ABOVE PROVISIONS, JAYCO EXPRESSLY DISCLAIMS AND EXCLUDES ANY AND ALL IMPLIED WARRANTIES AND CONDITIONS, STATUTORY OR OTHERWISE, WHEN THE MOTORHOME IS USED FOR COMMERCIAL, RENTAL OR BUSINESS USE OR WHEN THE MOTORHOME IS TITLED OR REGISTERED IN A BUSINESS NAME OR WHEN THE JAYCO IS SOLD IN CANADA.**

There is no warranty of any nature made by Jayco beyond that contained in this Limited Warranty. No person has authority to enlarge, amend or modify this Limited Warranty. The dealer is NOT Jayco’s agent. Jayco is not responsible for any undertaking, representation or warranty made by any dealer or others beyond those expressly set forth within this Limited Warranty. Some states and provinces do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

#### **DISCLAIMER OF CONSEQUENTIAL AND INCIDENTAL DAMAGES:**

**THE FIRST RETAIL BUYER AND ANY SUBSEQUENT OWNER, ALONG WITH ANY PERSON WHO IS AN INTENDED OR UNINTENDED USER OR BENEFICIARY OF THE MotorHome, ARE NOT ENTITLED TO RECOVER ANY CONSE-**

**QUENTIAL OR INCIDENTAL DAMAGES CAUSED BY A DEFECT IN THE MOTORHOME. BY WAY OF EXAMPLE, CONSEQUENTIAL DAMAGES INCLUDE FUEL AND TRANSPORTATION EXPENSES TO DELIVER THE MOTORHOME TO A SERVICING DEALER, HOTEL ROOMS, LOST WAGES AND MOISTURE DAMAGE SUCH AS MOLD AND MILDEW AS WELL AS RUST AND CORROSION. THE EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES IS NOT DEPENDENT UPON WARRANTY REMEDIES SUCCESSFULLY CURING ANY DEFECT; THE EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES SHALL SURVIVE ANY FAILURE OF THE LIMITED WARRANTY REMEDIES FULFILLING THEIR PURPOSE.** Some states do not allow the exclusion or limitation of consequential or incidental damages, so the above exclusions may not apply to you.

**COVERAGE TIME:** The duration of this limited warranty is 2 years after the first retail owner takes delivery of the Motorhome from an authorized dealer OR 24,000 miles of use, whichever occurs first. If the dealer places the Motorhome in service before retail sale, the coverage period is 2 years after the dealer first placed the Motorhome in service OR 24,000 miles of use, whichever occurs first. **ANY ACTION FOR BREACH OF THIS LIMITED WARRANTY OR FOR ANY IMPLIED WARRANTY MUST BE COMMENCED NO MORE THAN 26 MONTHS AFTER THE BREACH.**

Jayco reserves the right to have new or remanufactured parts of similar quality used 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 the Motorhome, and this limited warranty is not intended to extend to the future performance of the Motorhome, or any of its materials, components or parts. In addition, the Motorhome 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 Motorhome owner to contact Jayco directly when attempting to pursue remedies under state or federal law.

If the Motorhome is not of the current or prior model year when the first retail owner takes delivery, the limited warranty ends 90 days after the first retail owner takes delivery of the Motorhome OR after the odometer reaches 5,000 miles, whichever occurs first. **ANY ACTION FOR BREACH OF THIS REDUCED LIMITED WARRANTY OR FOR ANY IMPLIED WARRANTY MUST BE COMMENCED NO MORE THAN 15 MONTHS AFTER THE BREACH.**

Unless prohibited by state or provincial law, repairs do not extend the time when you must commence an action for breach of warranty and shall not extend the warranty coverage period. This reduction in time may not apply to you because some states and provinces do not allow the reduction of the time to commence an action for breach of warranty. Any performance of repairs after the warranty coverage ends and any performance of repairs to those portions of your Motorhome excluded from coverage are "good will" repairs, whether or not Jayco was aware of the any such coverage lapse or warranty exclusion at the time of repairs. Such "good will" repairs do not alter the express terms of this limited warranty or extend the warranty coverage periods or the limitation period in this paragraph. Jayco is not required to notify you if authorized repairs are considered "good will" by Jayco. You should expect the need for warranty repairs. Jayco may use new and/or remanufactured parts and/or components to complete a repair. It is likely that warranty repairs were performed at the factory during assembly OR at the selling dealership after delivery of the Motorhome to your selling dealer. If you discover a defect or damage to the Motorhome when you take

## **SECTION 1: WARRANTY & SERVICE**

delivery of your Motorhome, you **MUST** notify your dealer **OR** Jayco within 10 days of the date of purchase to have defect or damage repaired at no cost to you. Minor adjustments will be performed, free of charge, by the dealer within 90 days of your purchase; thereafter, such adjustments are your exclusive responsibility as normal maintenance.

**REPAIR REMEDY:** Jayco's obligation is to repair any covered defect discovered within the warranty coverage period provided: (1) you notify Jayco or an authorized dealer within 10 days of your discovery of a defect; **AND** (2) you deliver the Motorhome to Jayco **OR** an authorized dealership at your cost and expense.

**BACK-UP REMEDY:** If the primary repair remedy fails to successfully cure any 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 defect **OR** have Jayco pay diminished value damages if the defect is incurable. You must exhaust both the repair remedy and the back-up remedy **AND** these remedies must fail to fulfill their essential purpose before you can seek any other remedies for breach of express or implied warranty.

**THIS LIMITED WARRANTY IS NOT A WARRANTY THAT PROMISES OR EXTENDS TO FUTURE PERFORMANCE BECAUSE IT DOES NOT MAKE A REPRESENTATION ON HOW YOUR MOTORHOME WILL PERFORM IN THE FUTURE BUT REPRESENTS ONLY WHAT THE REMEDY WILL BE IF A DEFECT EXISTS.**

**HOW TO GET SERVICE:** To obtain warranty service the owner must:

- Notify Jayco or an authorized Jayco dealer, within the applicable warranty coverage period designated above, that you are making a warranty claim;
- Provide the notification mentioned in (1), above, within ten (10) days of the discovery of a defect in material or workmanship; and,
- Promptly schedule an appointment with and take the Motorhome to Jayco or an independent, authorized dealer.
- If you need assistance, you may contact Jayco at 903 South Main Street, P. O. Box 460, Middlebury, Indiana 46540, Attn: Customer Service, (800) 283-8267.

### **WHAT IS NOT COVERED:**

- Equipment and appliances installed after the Motorhome is assembled by Jayco;
- Motorhomes used for any rental, business and commercial purpose - If the Motorhome owner or user files a tax form claiming a business or commercial tax benefit related to the Motorhome, or if the RV is purchased, registered or titled in the name of any business association it shall be irrefutable that the Motorhome has been used for rental, commercial or business purposes;
- Any Motorhome sold or used outside of the United States, U.S. Territories or Canada;
- Any Motorhome not used solely for recreational travel and camping;
- Any Motorhome purchased through auction or wholesale;
- Any Motorhome purchased from a dealer that is not an authorized dealer;
- Normal wear, tear or usage, such as tears, punctures, soiling, mildew, rust, fading, or discoloration of exterior plastic or fiberglass, or soft goods, such as upholstery, drapes, carpet, vinyl, screens, cushions, mattresses and fabrics;
- The effects and damage caused by condensation or moisture;
- Mold;



## **SECTION 1: WARRANTY & SERVICE**

- Any damage caused by mold;
- Items working as designed but that you are unhappy with;
- Damage caused by misuse, mishandling, neglect, abuse, failure to maintain the Motorhome in accordance with the owner's manual, or failure to perform other routine maintenance such as inspections, lubricating, adjustments, tightening of screws and fittings, tightening of lug nuts, sealing, rotating tires;
- Damage caused by accident, whether or not foreseeable;
- Damage caused by weather or corrosion due to the environment;
- Damage caused by theft, vandalism or fire;
- Damage caused by tire wear or tire failure;
- Defacing, scratches, dents, chips on any surface or fabric of the Motorhome; damage caused by infestation by insects or animals;
- Damage caused by off road use;
- Damage caused by overloading the Motorhome or any of its components or parts;
- Wheel alignment or adjustments to axles caused by improper maintenance, loading;
- Damage caused by road hazards;
- The leveling jacks/system:
- Any component, system or part warranted by another entity. Examples are, automotive chassis, (including the power train, steering, handling, braking, wheel balance, muffler, tires, tubes, batteries and gauges); generator; awning; inverter; converter; microwave; television; DVD/CD player; radio; speakers; television; refrigerator; range; water heater; water pump; stove; carbon monoxide detector; smoke detector; propane detector; furnace; and, any air conditioner. The written warranty provided by the manufacturer of the component part is the direct and exclusive responsibility of that manufacturer).

### **EVENTS DISCHARGING JAYCO FROM OBLIGATION UNDER WARRANTY:**

- Any rental, business or commercial use or purchase of the Motorhome;
- Any Motorhome titled or registered in a business name;
- Any Motorhome purchased or sold outside of, or used outside of the United States, U.S. Territories or Canada;
- Any Motorhome purchased through an auction or wholesale or by a non-authorized dealer;
- Owner neglect;
- Failure to provide routine maintenance;
- Alteration; off road use;
- Collision or accident, whether or not foreseeable;
- Acts of God, including weather;
- Damage or corrosion caused by the environment, theft, vandalism, fire, explosions, or overloading.

## **SECTION 1: WARRANTY & SERVICE**

**LEGAL REMEDIES:** EXCLUSIVE JURISDICTION FOR DECIDING LEGAL DISPUTES RELATING TO AN ALLEGED BREACH OF WARRANTY OR ANY REPRESENTATIONS, OF ANY NATURE, MUST BE FILED IN THE COURTS WITHIN THE STATE OF MANUFACTURE, WHICH IS INDIANA. THIS LIMITED WARRANTY SHALL BE INTERPRETED AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF INDIANA. UNLESS PROHIBITED BY STATE LAW, ALL CLAIMS, CONTROVERSIES AND CAUSES OF ACTION ARISING OUT OF OR RELATING TO THIS LIMITED WARRANTY, SHALL BE GOVERNED BY THE LAWS OF THE STATE OF INDIANA, INCLUDING ITS STATUTE OF LIMITATIONS, WITHOUT GIVING EFFECT TO ANY CONFLICT OF LAW RULE THAT WOULD RESULT IN THE APPLICATION OF THE LAWS OF A DIFFERENT JURISDICTION.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE AND PROVINCE TO PROVINCE. ALL ACTIONS OF ANY KIND RELATING TO THE MOTORHOME SHALL BE DECIDED BY A JUDGE RATHER THAN BY A JURY.

**WARRANTY REGISTRATIONS:** Your warranty registrations should be completed and delivered to the manufacturer of component parts. The selling dealership will assist you in completing and filling out the Jayco product warranty registration. Upon receipt of the product registration by Jayco, your Warranty will be registered. The failure to submit this warranty registration to Jayco will not affect your rights under this limited warranty as long as you can present proof of purchase, however, it can cause delays in obtaining the remedies offered by this limited warranty, and it may adversely affect 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 Motorhome and to assure correct load distribution. For details regarding this, please see your owner's manuals. Please review all manuals and contact your selling dealership, Jayco or supplier of the component part if you have questions.

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

### **JAYCO, INC.**

903 S. Main Street \* P. O. Box 460 \* Middlebury, IN 46540

Telephone: 800-283-8267

### ***FIRE SAFETY***

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

1. Evacuate the vehicle immediately and call 911.
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***

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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 included in your warranty packet.**

#### **Inspection and maintenance**

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

- ❖ **NOTE: 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.

## SECTION 2: OCCUPANT SAFETY

### **SMOKE ALARM**

Your recreation vehicle is equipped with a smoke alarm that is listed for use in recreation vehicles. The smoke alarm will only work if it is operational and maintained. **Refer to the manufacturer's user guide for detailed safety and operating information.**

Smoke Alarms 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.

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
- Smoke Alarms cannot work without power. Battery operated units cannot work if the batteries are missing, disconnected or dead, if the wrong type of batteries are used, or if the batteries are not installed correctly.
- 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.
- Smoke Alarms cannot detect fires if the smoke does not reach the Alarms. Anything preventing smoke from reaching the alarm may delay or prevent an 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.
- Smoke Alarms are not foolproof and cannot prevent or extinguish fires.

### **CARBON MONOXIDE ALARM**

Your recreation vehicle is equipped with a carbon monoxide (CO) alarm that is listed for use in recreation vehicles. The carbon monoxide alarm will only work if it is operational and maintained. **Refer to the manufacturer's user guide for detailed safety and operating information.**

 **WARNING**

- Do not cover or obstruct the carbon monoxide alarm with anything that could prevent gas from entering the alarm.
- This alarm is not designed to detect smoke, fire or gases other than carbon monoxide.
- 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 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.
- Symptoms of CO Poisoning include:
  - Mild Exposure: Headaches, running nose, sore eyes, often described as “flu”-like symptoms.
  - Medium Exposure: Dizziness, drowsiness, vomiting.
  - Extreme Exposure: Unconsciousness, brain damage, death.
- Test the alarm operation after the recreational vehicle has been in storage, before each trip and at least once per week during use.

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.

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, 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).

## SECTION 2: OCCUPANT SAFETY

### **WARNING**

Actuation of this detector indicates the presence of carbon monoxide which can kill you.

If the alarm sounds:

1. Immediately move to fresh air—outdoors or by an open door or window. Do a head count to check that all persons are accounted for. Do not re-enter the premises, or move away from the open door or window until the emergency services responder has arrived, the premises have been aired out, and your CO Alarm remains in its normal condition.
2. Call your emergency services, fire department or 911.
3. After following steps 1-2, if your CO Alarm reactivates within a 24-hour period, repeat steps 1-2 and call a qualified appliance technician to investigate for sources of CO from fuel-burning equipment and appliances, and inspect for proper operation of this equipment. If problems are identified during this inspection have the equipment serviced immediately. Note any combustion equipment not inspected by the technician, and consult the manufacturers' instructions, or contact the manufacturers directly, for more information about CO safety and this equipment. Make sure that motor vehicles are not, and have not, been operating in an attached garage or adjacent to the residence.

### **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.**

#### **CAUTION**

Product in this vehicle may contain formaldehyde, which may be an irritant to you. You may experience a greater concentration during high humidity and temperatures. Ventilate to remove. Consult your owner's manual for additional information.

DO NOT REMOVE THIS LABEL

### **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.

- 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**

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.

### **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.

## **SECTION 2: OCCUPANT SAFETY**

❖ Notes:



### **VEHICLE LABELS**

Decals and data plates used throughout the motor home 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 9-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 motor home weight ratings. Doing so could damage your motor home or affect handling and braking characteristics.
- Your motor home braking system is designed and rated for operation at GVWR not GCWR.

### **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 motor home manufacturer as the maximum allowable loaded weight of the motor home in combination with its towed trailer or towed vehicle. The tongue weight of a towed vehicle/ trailer counts as part of the motor home cargo.

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

**OCCC - Occupant and Cargo Carrying Capacity:** Is equal to the GVWR of the motor home minus the:

- weight of the motor home, as completed at the factory
- weight of all occupants, including the driver
- weight of all personal cargo
- weight of a full tank of chassis engine fuel
- weight of a full tank of propane (if applicable)

The full weight of potable water, including the water heater and the tongue weight of a towed vehicle/ trailer counts as cargo in or on the motor home. Additions to or other changes made to the motor home after it left the factory will affect (reduce) the OCCC.

**UVW - Unloaded Vehicle Weight:** The weight of this motor home as manufactured at the factory with fuel, engine oil and coolants and if applicable, the weight of a full tank of propane.

### **Weight and Capacity Labels**

The following labels are located on the inward-facing surface of the main entry door of the motor home and on the lower sidewall left of the driver's seat.

## SECTION 3: PRE-TRAVEL INFORMATION

### OCCE Label (Occupant and Cargo Carrying Capacity)

The upper portion of this yellow label is federally required and indicates the total combined weight value of occupants and cargo that may be placed in or on your motor home as it was manufactured and weighed before leaving the factory. This label also indicates the number of safety seat belts that have been installed at the factory. Additions or other changes made to the motor home after it left the factory will affect (reduce) the OCCE.

MOTOR HOME OCCUPANT AND CARGO CARRYING CAPACITY  
VIN: XXXXXXXXXXXXXXXXXXXX  
THE COMBINED WEIGHT OF OCCUPANTS AND CARGO SHOULD NEVER EXCEED:  
XXX kg OR (XXX Lbs)  
SAFETY BELT EQUIPPED SEATING CAPACITY: X  
CAUTION:  
A FULL LOAD OF WATER EQUALS XXX kg OR (XXX Lbs.) OF CARGO @ 1 kg/l @ 1.19 g/l  
AND THE TONGUE WEIGHT OF A TOWED TRAILER COUNTS AS CARGO

#### Upper Section Federal OCCE Weight Label

THE WEIGHT OF THIS RECREATIONAL VEHICLE MOTOR HOME AS COMPLETED AT THE FACTORY WITH FULL PROPANE TANK AND FULL ENGINE FUEL IS:

XXXX kg OR (XXXX Lbs.)

THE GCWR OF THIS RECREATION VEHICLE MOTOR HOME IS: XXXX kg OR (XXXX Lbs.)

CONSULT YOUR DEALER AND SEE OWNER'S MANUAL FOR DEFINITIONS, ADDITIONAL WEIGHT, LOADING, WEIGHING INFORMATION AND TOWING GUIDELINES INCLUDING AUXILIARY BRAKE REQUIREMENTS FOR ANY TOWED TRAILER OR VEHICLE.

#### Lower Section Federal OCCE Weight Labels

The lower portion of the label is provided voluntarily and indicates the weight value of the motor home as it was manufactured and weighed before leaving the factory. This label also indicates the GCWR of the completed motor home.

The motor home towing and braking label is located on the rear bumper above the hitch receiver. Be sure to read and follow the guidelines and information stated on this label. Refer to the Chassis Guide for additional information.

**⚠ WARNING**

The braking capacity of your motor home is not necessarily as great as its towing capacity. Separate braking systems should be used for control of a towed vehicle, (auto, trailer, boat etc.), behind the motor home. Braking requirements will vary by chassis type, chassis manufacturer and state law. Contact your chassis dealer or independent RV dealer for assistance to determine if a separate braking system is recommended and what limit(s) may apply for your towing combination and traveling safety.

The use of a reducing sleeve and smaller diameter draw bar or a longer draw bar in and on the hitch receiver will reduce the hitch weight rating and towing capacity. Use of a draw bar longer than 18-inches (457mm) is prohibited.

Consult your vehicle owner's manual(s) and your independent RV dealer for specific weighing instructions and towing guidelines.

Improper use of towing equipment and towing setups can cause loss of control that may lead to an accident resulting in death or serious injury.

**For more information:** Consult a hitch specialist or your dealer for assistance when preparing your motor home for towing a vehicle or trailer.

### Vehicle Alterer's Label

Required by the government to verify the RV complies with all motor vehicle standards for Canada and the United States. It includes the following information: Manufacturer name, VIN and the date.

VIN / NO: 2CBVJ2G652065 (M1R7801)

THIS VEHICLE WAS ALTERED BY / CE VEHICULE A ÉTÉ MODIFIÉ PAR: JAYCO, INC. IN 02/10 AND AS ALTERED IT CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY, BUMPER AND TIRE PREVENTION STANDARDS AFFECTED BY THE ALTERATION AND IN EFFECT IN 02/10.

CE VEHICULE EST CONFORME À TOUTES LES NORMES DU LUU SONT APPLICABLES EN VERTU DU RÈGLEMENT SUR LA SÉCURITÉ DES VEHICULES AUTOMOBILES DU CANADA EN VIGUEUR À LA DATE DE SA FABRICATION.

TYPE: TYPE OF VEHICLE / TYPE DE VEHICULE: MOTOR HOME / AUTOCARAVANE  
MULTI-PURPOSE PASSENGER VEHICLE / VEHICULE DE TOURISME A USAGES MULTIPLES

**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.

Modified Roof Information Label (Canadian models only)

**TIRE AND LOADING INFORMATION**  
RENSEIGNEMENTS SUR LES PNEUS ET LE CHARGEMENT

SEATING CAPACITY / NOMBRE DE PLACES: TOTAL 4 FRONT 2 REAR 2

The combined weight of occupants and cargo should never exceed 1,320 kg (2,900 lbs).

TIRE PNEU	SIZE DIMENSIONS	COLD TIRE PRESSURE / PRESSION DES PNEUS À FROID
FRONT AVANT	L7225/79R16 E	460 kPa, 66 psi
REAR ARRIERE	L7225/79R16 E	550 kPa, 80 psi
SPARE DE SECOURS		

SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION  
VOIR LE MANUEL DE L'USAGER POUR PLUS DE RENSEIGNEMENTS

This label means a roof on a vehicle has been modified in whole or in part.

"This vehicle has a modified roof, and CMVSS 226 — EJECTION MITIGATION does not apply to this vehicle. / Ce véhicule a un toit modifié et la NSVAC 226 — RÉDUCTION DES RISQUES D'ÉJECTION ne s'applique pas à ce véhicule."

### LOADING YOUR MOTOR HOME

#### **WARNING**

- Never load the motor home in excess of the GVWR or the GAWR for either axle. Overloading your motor home may result in adverse handling characteristics and damage to the chassis.**
- DO NOT EXCEED YOUR GVWR!** This means you should weigh your vehicle as loaded for your normal travel to determine the actual weight. If you exceed the GVWR, you **MUST** remove items from the motor home, or drain liquids, then re-weigh the vehicle to ensure you have achieved a safe weight.
- The actual weight of the vehicle, passengers, all options, liquids, the hitch weight of your towed vehicle and your personal cargo is important for you to know so you do not exceed the Gross Vehicle Weight Rating (GVWR) of the motor home. The volume of space available for storage may exceed the amount of available cargo capacity. Large storage compartments have been designed to accommodate normal camping items, which are bulky, but not necessarily heavy.

Store and secure all loose items inside the motor home 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, furnace or water heater, etc.
- For traveling safety, it is important to make sure the tie down straps are secured on all appliances such as the toaster, coffee maker, etc. Vibration during travel will move the appliances, creating the potential for them to fall out of their cabinets possibly causing injury.

### ROOF RACK

Refer to the roof rack manufacturer's owner's manual for detailed safety and user information.

## SECTION 3: PRE-TRAVEL INFORMATION

### ⚠ WARNING

- ❑ The maximum weight capacity of the roof rack is 200 lbs. (90 kg) evenly distributed over all roof rails. Each individual rail can support a maximum weight of 40 lbs. (18kg). **Do not exceed the weight capacity.**
- ❑ **It is critical that you properly all items to the roof rack.** You are responsible for securing items to your roof rack, checking the attachments prior to use, and periodically inspecting the products for adjustment, wear, and damage. You should read and understand all of the information supplied with your product prior to installation or use. The roof rack should only be used in accord with the manufacturer's guidelines and weight limits. Failure to properly attach and secure all items to the rack, or using the racks in any way other than specified, may result in property damage or serious injury.

### ⚠ CAUTION

- ❑ Know your recreation vehicles weight limitations prior to loading the roof rack. Items stowed on the roof rack, should be included in the weight calculation when determining the maximum cargo weight load of your motor home.
- ❑ When loading the roof rack, evenly distribute the items on the rack. Avoid loading all the heavy items in one spot. Weight of the items should be evenly distributed.
- ❑ Make sure all items are secured to the roof rack. Periodically re-check the load to make sure it is still securely fastened and has not shifted.

### TRAILER PLUG

If you choose to tow behind your RV, a chassis manufacturer supplied trailer plug (located at the hitch) is pre-wired into your motor home. Before hitching up to a trailer, please read *Using the Rear Hitch*, vehicle weight ratings, etc. Your motor home will have a 7-way trailer receptacles. Wiring to operate your towed vehicle brakes must be the same size in both the towed vehicle and the motor home.

White	1	Ground
Blue	2	Electric Brakes
Green	3	Running lights
Black	4	House batteries charge line
Red	5	Stop & left turn
Brown	6	Stop & right turn
Yellow	7	Back up Lights



**7-way trailer  
plug-rear view**

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 trailer connections.

### **WEIGHING YOUR MOTOR HOME**

When your motor home is loaded you should have it weighed. The actual weight of the motor home, passengers, all options, liquids, the hitch weight of your towed vehicle and your personal cargo is important for you to know so you do not exceed the GVWR. There are two important factors when loading your motor home, total weight and balance.

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

**Periodically weigh your motor home 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 motor home being partially off the scale.

Different types or scales may require different procedures when weighting the motor home. The motor home must remain as level as possible on the scale (even if an axle is not physically on the scale). To obtain the side-to-side weights, make sure there is enough space on either side of the scale to accommodate the motor home being partially off the scale.

If a boat, trailer or other vehicle is being towed, it should be weighed separately. Combine this weight with the motor home's Gross Vehicle Weight (GVW) to ensure the total combined weight does not exceed the GCWR.

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

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 may be overloaded, although the total axle load is within the GAWR.

### **CAUTION**

It is important to redistribute the load to avoid component failure as well as to improve the handling characteristics of the vehicle.

### **WARNING**

Dump the gray and black water holding tanks before traveling to avoid carrying unnecessary weight. Full tanks can affect your fuel consumption, and depending on tank location, can affect your vehicle handling characteristics. If you cannot immediately empty your holding tanks, reduce your vehicle speed until you reach a dumping station.

## **SECTION 3: PRE-TRAVEL INFORMATION**

❖ Notes:

## **VEHICLE OPERATION**

Your motor home will travel safely and comfortably at highway speed limits. However, it will take longer than a passenger automobile to reach that speed. Allow more time to go around the vehicle you are passing. Avoid situations that might require sudden momentum changes as the length of the motor home 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 motor home.

The motor home has a longer turning radius. When turning, check the road clearance and be aware of others, especially if towing a vehicle behind your motor home.

Adverse weather conditions and extremes in terrain may affect the performance and handling of your vehicle. Do not operate the cruise control on icy or extremely wet roads, gravel roads, winding roads, in heavy traffic, or in any other traffic situation where a constant speed cannot be maintained. Use care when accelerating or decelerating on a slippery surface. Abrupt speed changes can cause skidding and loss of control.

❖ **NOTE: CALIFORNIA TIRE CHAIN NOTICE: YOUR MOTOR HOME MAY NOT BE OPERATED WITH TIRE CHAINS**

### **Braking and Stopping**

Even though your motor home is equipped with brakes designed for its Gross Vehicle Weight Rating (GVWR) we suggest you practice stopping away from traffic until you become accustomed to your motor home's stopping distance. Your motor home is equipped with a third brake light that activates when the brakes are engaged.

See the chassis owner's manual for additional information. The transmission and engine will help in controlling downhill speed and can lengthen brake life. The distance required to stop the motor home is greater than an automobiles.

Driving through water deep enough to wet the brakes may affect stopping distance or cause the vehicle to pull to one side. Check the motor home'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.**

## **⚠ WARNING**

Your motor home chassis braking system is rated for operation at GVWR not GCWR.

### **Parking Brake**

The parking brake should be engaged when the motor home is parked. Never drive your motor home with the parking brake engaged as this will reduce braking effectiveness and cause excessive driveline wear. Refer to your Chassis guide for more information on the parking brake.

## **TOWING BEHIND YOUR MOTOR HOME**

## **⚠ CAUTION**

Do not install a frame equalizing type hitch on your motorhome.

Towing will affect vehicle handling, durability and fuel economy. Exceeding any of the listed weight ratings will result in unacceptable overall vehicle performance. Your safety and satisfaction require proper use of correct equipment.

## SECTION 4: VEHICLE OPERATION

For maximum pulling load and vertical tongue weight, refer to the label located on the rear hitch. A hitch bar of appropriate strength and steel should be selected to meet the capacities of the towing receptor.

Always use safety chains between the motor home and the towed trailer or vehicle. Cross the chains under the tongue and allow for slack when turning corners. Connect the safety chains to the vehicle frame or hook retainers. Never attach the safety chains to the bumper.

Before descending a steep or long grade when towing a trailer or vehicle, reduce speed and shift the motor home into a lower gear to control vehicle speed. Avoid frequent or prolonged brake application, which can cause overheating or brake failure.

By definition the GCWR is “the maximum total weight rating allowed for a vehicle and any attachment, such as a trailer or towed vehicle. To determine the total allowable weight for a towed item, subtract the GVWR from the GCWR.

### ▲WARNING:

YOUR MOTORHOME CHASSIS BRAKING SYSTEM IS RATED FOR OPERATION AT GVWR, NOT GCWR. CONSULT YOUR OWNER'S MANUAL(S) FOR SPECIFIC WEIGHING INSTRUCTIONS AND TOWING GUIDELINES. THE BRAKING CAPACITY OF YOUR MOTORHOME IS NOT NECESSARILY AS GREAT AS THE TOWING CAPACITY. SEPARATE BRAKING SYSTEMS MAY BE NECESSARY FOR CONTROL OF A TOWED VEHICLE. (ALTO, TRAILER, BOAT, ETC.) BEHIND THE MOTORHOME. IF THE TOWED VEHICLE MEETS OR EXCEEDS THE MINIMUM WEIGHT AS DETERMINED BY THE CHASSIS MANUFACTURER, THIS MINIMUM WEIGHT RATING WILL VARY BY CHASSIS AND CHASSIS MANUFACTURER. CONTACT YOUR CHASSIS DEALER OR MANUFACTURER FOR ASSISTANCE IN DETERMINING WHETHER A SEPARATE BRAKING SYSTEM IS RECOMMENDED AND WHAT LIMITS THERE ARE FOR YOUR TOWING COMBINATION AND TRAVELING SAFETY.

### Towing and Braking Label

## ▲ WARNING

- Total weight of your motor home and any trailer or vehicle towed by it must not exceed the GCWR.** Do not assume that you can tow a vehicle that happens to be within the capacity of the hitch. By doing so, you may exceed the total GCWR of the motor home.
- The total weight of your motor home (including cargo, passengers, fluids, etc.) in addition to the vertical (tongue) weight must not exceed the GVWR and/or any GAWR.** Once again, do not assume that you can tow a trailer or vehicle that happens to be within the vertical (tongue) weight capacity of the hitch. By doing so, you may exceed the GVWR and/or GAWR of the motor home.
- Your motor home chassis braking system is rated for operation at GVWR, NOT GCWR.** Any trailer or vehicle being towed by your motor home must have adequate brakes as required by all state (or province) and local regulations for towing with your motor home, including areas you may be traveling through. **Failure to follow the towing guidelines may result in property damage or injury.**

In addition, a separate supplemental braking system must be installed if the towed trailer or vehicle meets or exceeds the minimum weight determined by the chassis manufacturer (*this minimum weight rating will vary by chassis and chassis manufacturer*).

Contact your dealer for assistance in determining whether a separate braking system is recommended for your towing and traveling safety. Failure to follow these instructions will create a safety hazard and may result in an accident.

### Maintenance

Keep the hitch clean along with your general frame maintenance.

- At the beginning of the season, and monthly or thereafter, clean the inside of the receiver tube with a wire brush and spray with a silicone spray.
- Always remove the utility mount from the receiver when it is not in use. This will help prevent the utility mount from rusting to the tube.



- Periodically check the bolts for tightness. They need to be torqued to the proper setting (refer to your Chassis Guide).

Refer to the chassis manual for detail on hitch specifications and towing guidelines.

### **RUNNING BOARDS/REAR BUMPER ENTRY ASSIST**

Running boards are located on both sides and serve as a step into and out of the vehicle. The rear bumper can be used for entry assist into the rear of the vehicle. When driving, snow, dirt, rocks and other debris can collect on the running boards and bumper. It is imperative to keep these areas clean when using them to enter or exit the vehicle.

#### **⚠ CAUTION**

Care should be taken when using the running boards and bumper as an entry assist if the surfaces are wet.

### **DRIVER AND PASSENGER SEAT**

#### **⚠ WARNING**

- Do not adjust the seat while driving. After adjusting the seat, make sure that it is locked in position. To ensure that the seat is locked securely, try to move the seat forward or backward without using the adjusting lever or button. Do not put packages, pets or other objects between the driver's and front passenger co-captain's seat.
- **Reclining Seats:** To minimize the risk of personal injury in the event of a collision or sudden stop, always keep both the driver's captain and passenger co-captain seat backs in a nearly upright position while the motor home is moving. The protection provided by the seat belts may be reduced significantly when the seat back is reclined. Reclining the seats while the motor home is moving may result in serious injury.
- **Power Seats:** Keep hands and feet clear of the power seat while in operating the power feature.

❖ **NOTE:** The driver's and front passenger seat must be locked in the forward facing position while the motor home is in motion.

#### **Power Seat**

Use the controls to slide the power seat to the desired position. Depending on your model, seat controls may be located on the seat or on the door. Release the control, and the seat will lock at that position. Features may include a 3-point adjustable seat belt, lumbar support, swivel, slide and reclining capabilities. (Not all of these features will be available in all motor home models).

#### **To rotate the driver/passenger seat**

Depending on your model, you may have the ability to rotate the driver/passenger seats towards the rear of the motor home. To face the driver or front passenger seat toward the rear of the vehicle, pull the seat swivel release lever up and rotate the seat. To return the seat to the original position, rotate seat back to the driving position until you hear a click and the seat locks into position.

### SEAT BELTS

#### **WARNING**

**Seat belts should always be worn by anyone who drives or rides in this vehicle.**

- Never use one seat belt for more than one occupant. Never carry more people in the motor home than there are seat belts.
- Only seats equipped with seat belts are to be occupied while the vehicle is in motion. While traveling, do not occupy beds or any seats that do not have seat belts.
- Be sure to lock all doors before driving. Locking the doors and using the provided seat belts will minimize the risk of injury or ejection in an accident.
- If you are pregnant, consult your health care professional for advice on seat belt use.

**Always use seat belts.** In an accident, injury to the driver and passengers may be reduced if seat belts are properly used. If your motor home is equipped with a booth dinette, hide-a-bed sofa, or easy bed sofa they will have two-point lap-seat belts installed. **Seat belts should be used in all seating positions.**

#### **Maintenance and inspection of seat belts**

The webbing used in seat belts may be cleaned with a mild soap or detergent solution. Allow the belts to dry in the shade and do not allow them to retract until fully dry.

Regularly check the seat belt buckles and release mechanisms for positive action and check automatic locking retractors for positive engagement.

If the seat belt webbing shows obvious cuts, protruding broken fibers or severe fading which indicates weakening by exposure to sunlight, the entire seat belt assembly should be replaced. Do not try to bleach or re-dye the belts. The resulting color may rub off and the webbing strength could be affected.

### **CHILD SAFETY RESTRAINT SYSTEMS**

When transporting infants or small children, an appropriate child safety restraint system should always be used.

- ❖ **NOTE: All child safety restraint systems should always face the front or rear of the motor home. They should never be installed so the occupant is facing the side of the motor home.**
- ❖ **NOTE: Children too large for a child safety seat (per government specifications) should always wear a seat belt.**

#### **DANGER**

- Never allow a passenger to hold a child on their lap while the motor home is moving. The use of safety seats for children are required when transporting a child in your motor home. All child age and weight guidelines as specified by law should be strictly adhered to.
- Rear facing child seats or infant carriers, or child booster seats should never be placed in the front seats of the motor home.

**Failure to follow these guidelines can result in serious injury or death.**

### **WARNING**

- ❑ Improper installation or failure to properly secure a child restraint may result in failure of the restraint.
- ❑ Follow the child restraint manufacturer's directions exactly when installing an infant or child restraint. Be aware of all warnings and safety information included with any infant or child safety restraint system.
- ❑ Never place a front or rear facing child restraint in the front seat of a vehicle. A deploying passenger front air bag can cause death or serious injury to a child 12 years or younger, including a child in a child restraint. A child restraint should only be installed in a rear seat.
- ❑ To ensure proper safety belt fit, always use booster seats for children who are size and age appropriate. Refer to the governmental safety regulations for child sizing charts.

**Failure to follow these guidelines can result in serious injury or death.**

### **VEHICLE DASH**

### **WARNING**

Do not set anything on, or attach anything to, the instrument panel or dash. Do not attach anything to the steering wheel cover. Failure to follow these warnings may restrict the driver's visibility or cause an object to strike and injure an occupant in the case of a collision or sudden stop.

### **Maintenance**

To clean the vinyl/ABS dash, soak a soft cloth in a solution of mild detergent and water. Wipe off the dash. To rinse, dip a cloth in fresh water and wring it out well. Wipe off the detergent thoroughly.

### **CAMPSITE HOOK-UP**

- ❑ Refer to *Electrical Systems* section before connecting the shore line power cord (when using full hook-up) or operating the vehicle on 12-volt power when dry camping.
- ❑ 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.

### **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.

## **SECTION 4: VEHICLE OPERATION**

2. Place the second warning indicator 100 feet behind the recreation vehicle in the center of the lane and toward approaching traffic.
3. 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**

If your motor home ever needs to be towed, refer to the instructions in your Chassis Guide. Please contact an emergency road service provider or a qualified service facility for assistance.

Make sure the road service technician reads and is familiar with the information contained in your Chassis Guide regarding emergency towing.

### **⚠ WARNING**

- Never allow anyone to go under the motor home while it is being lifted by towing equipment.
- Be aware of the strap locations. Misplaced straps could result in damage to the exterior of your unit. Damage resulting from misplaced straps is the responsibility of the towing company, and is not covered by the unit warranty.

## **FRONT AXLE TIRE ALIGNMENT**

The term alignment refers to both the adjustment angles on the steering axle and suspension and tracking of the rear axle. Steering components, suspension, wheel bearings and even proper loading will affect the alignment.

We recommend you have the front suspension and steering alignment checked and adjusted after you have fully loaded the vehicle as part of the vehicle maintenance. Thereafter, it is your responsibility to have the alignment inspected periodically to maintain vehicle steering performance and prevent uneven tire wear as part of your normal maintenance.

❖ **NOTE: Always have the alignment checked and adjusted by a qualified shop with the proper equipment to handle heavy vehicles.**

❖ **NOTE: A road test by the dealer should be included as part of the pre-delivery inspection. The dealer can check for and correct any steering problems before you take delivery.**

After this road test has been completed, front-end alignment and/or vibrations will not be covered as part of the new vehicle limited warranty.

Follow the Chassis Guide maintenance instructions for the front and rear axle for wheel and suspension maintenance, including the brakes and wheel bearings. Contact your Chassis manufacturer for assistance.

**WHEEL LUG NUTS/WHEEL LINERS**

**⚠ WARNING**

- Check and tighten the wheel lug nuts regularly to ensure they did not loosen during travel. Refer to your Chassis Guide for torque recommendations.
- Failure to tighten and maintain wheel lug nuts to the proper torque specification, could allow the wheels to come off while driving, resulting in serious injury or property damage in the event of a collision or loss of vehicle control.

Torque is the amount of rotating force applied to a lug nut, and can only be achieved by using a properly calibrated torque wrench and socket. **Do not** use a 4-way socket or any other type of wrench that does not measure the actual pressure applied to the lug nut.

❖ **NOTE: The proper method of tightening wheel lug nuts is with a torque wrench, not with an impact wrench or by hand. 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.**

After your first trip, check the wheel lug torque periodically for safety according to your Chassis Guide. If you suspect the wheel lug nuts have loosened at any time, have them checked and torqued to the proper limits immediately.

Lugs should be checked:

- After winter storage
- After a wheel removal
- Before starting a trip
- Following extensive braking.
- Check and re-torque after the first 10, 25 and 50 miles (16, 40 and 80 kilometers). Thereafter, check and maintain the torque according to the listed torque values.**

Refer to the Chassis Guide for torque guidelines.

**Wheel Lugs**

If you suspect or notice the wheel stud bolts are cracked or broken, they must be replaced, along with adjacent bolts that have probably also been weakened due to the additional stress placed on them.

**Aluminum Wheels (if so equipped)**

Clean the aluminum wheels with a cleaner that is designed for use on aluminum and apply an appropriate protection agent. Do not use abrasive cleaners. Wheels exposed to sea water or road chemicals should be cleaned as soon as possible. Be sure to use a sponge or chamois leather (brushes may damage the aluminum wheel surface).

❖ **NOTE: If your motor home is equipped with aluminum wheels, only the outer dual wheels are aluminum, the inner duals are steel wheels.**

**TIRES**

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

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







## SECTION 4: VEHICLE OPERATION

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

### **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 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.

### Tire pressure

### **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.

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

Proper inflation should be monitored closely. Failure to do so 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 Recreation 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.

## ***CHANGING A TIRE***

### **WARNING**

- The motor home is very heavy. Raising the motor home to replace the tire should only be done with extreme caution by a qualified technician. The vehicle could slip, causing personal injury or death. **DO NOT ATTEMPT TO DO THIS YOURSELF.**
- When replacing a tire, make sure to replace it with a tire of the same size and specifications.

If you experience a flat tire on your motor home while driving, gradually decrease your vehicle speed (if possible), and move the motor home to a safe place on the side of the road. Contact your road service provider (if applicable) or a qualified service facility for assistance. **Do not attempt to change the tire or jack the motor home up yourself.**

Make sure the road service technician reads and is familiar with the Chassis Guide information regarding changing the tires. Make sure the wheel lug nuts have been tightened to the proper torque.

## ***AWNINGS***

The following is an overview on awning care. **Refer to the manufacturers user guide for additional details on set up and use.**

### **WARNING**

- Awnings must be closed (and secured) while the RV is in transit.
- Keep clear of arm assemblies while opening, adjusting or closing the awning. Failure to obey this caution could result in injury and/or property damage.
- Always operate the awning according to the instructions.
- Keep the awning fabric and arms clean.

### CAUTION

- The effects of wind and rain on an awning are unpredictable and can cause severe damage to the awning and/or the recreation vehicle. Retract the awning:
- If wind or extended periods of rain are expected.
- If you leave the RV unattended for a length of time, to avoid unexpected climate conditions.

#### Awning Care

Keep your awnings clean and in good condition to prevent costly repairs.

- Keep the awning fabric clean. For detailed cleaning information, refer to the manufacturer's owner information.
- Do **not** use insecticides or other sprays near the awning fabric. These can cause stains, and could adversely affect the fabric's ability to repel water.
- Do **not** expose the awning to adverse environmental conditions, corrosive agents, or other harmful conditions.
- Never** close the awning (for storage) when wet. The combination of moisture and dirt could result in mildew, discoloration, and stains. If it is necessary to roll up awning (temporarily) while it is wet, make sure you roll it out and let it dry (as soon as conditions allow) before rolling it up again.
- Do **not** allow dirt, leaves, or other debris to accumulate on the awning, which could cause abrasion and stains. Mildew could grow on dirt and organic debris, causing permanent discoloration, stains, and odors to the awning fabric.
- Do **not** use strong chemicals or abrasives to clean parts, as their protective surfaces will be damaged. Do **not** use abrasive or corrosive cleaners, mildew removers, or hard bristle brushes.

To clean the fabric:

- Open the awning.
  - Vinyl Fabric-use a soft brush, warm water with soap.
  - Acrylic Fabric-use a stiff brush, warm water with soap.
- Always use a natural soap, not a detergent.
- The water should be cold to lukewarm, never more the 100° F.
- Air-dry only.
- Never apply heat to the fabric.
- Make sure the fabric is dry before closing the awning.



### **THE ELECTRICAL SYSTEM**

The RV electrical system is comprised of the following:

- 12-volt DC power
- 48-volt DC power – Air Conditioner and Invertor/Charger
- 120-volt 60hz AC power – Heat/Water Hater and GFCI Receptacles

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 manufacturer documentation.

Consult the Chassis Guide for information pertaining to the chassis drivetrain electrical system.

#### **Electrical System Maintenance**

Before working on the electrical system:

- There are two (2) DC disconnect switches installed for the rooftop solar array. One is located on top of the roof and one is located on the interior of the unit. Although the one located on the roof is designated for emergency use, a secondary has been added to the interior for customer convenience. Turning the switch off will disconnect power from the solar array.
- Using Inverter Remote Switch, turn off the inverter.
- Disconnect the shore power cord.
- Turn off the battery disconnect switch.
- Turn off the 120V main circuit breaker.
- Turn off lithium battery. The Battery Self-Lock Switch is located under an access panel in the passenger sofa/bed base.

### **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.

### **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.

**⚠ WARNING**

**Do not hook 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
- That has non-functioning ground circuits
- That shows outward signs of heat damage.

Doing so may result in property damage or serious injury. Plugging the shore 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. A power cord left coiled 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 external power source to the RV.
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 power cord should be unplugged when the recreation vehicle is left unattended.**

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 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.

## **BATTERIES**

### **House Battery**

Your motor home is equipped with a nominal 51.2V smart lithium iron phosphate battery. This battery is also equipped with a nominal 12V output.

Unless a battery has been fully discharged, the house battery is normally charged in one of three ways:

- The chassis alternator charging system supplies power to the house battery when the engine is running and the alternator regulator allows a charge (depending on SOC of the battery, temperature, etc.).
- When the power cord is plugged into 120-volt shore power, the converter/charger functions as a battery charger and will automatically charge the house battery when required.
- Power from the solar panels also run through the converter/charger to function as a battery charger/maintainer when required.

## **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.
- Remove metal jewelry and always wear eye protection when working around batteries.
- Make sure the inverter/charger is turned “off” before disconnecting the negative battery cable from the battery bank. Keep the batteries out of the reach of children.

### **Dry Camping**

House auxiliary and chassis batteries should be fully charged prior to dry camping. When disconnected from 120-volt shore or generator power (i.e., while dry camping or tailgating) all electrically operated appliances and accessories must be used sparingly. The smart lithium iron phosphate battery capacity is 210AH.

During this period these appliances and accessories are being powered by the house battery directly, and/or indirectly through the inverter/charger. If excessive amounts of power are drawn from the house battery, they will become deeply discharged. Permanent battery damage will occur after repeated deep discharge cycles.

### **Battery Switches**

The Lithium battery is equipped with a Self-Resetting Switch and Self-Locking Switch.

### **For long periods of storage**

Prior to long periods of storage, it is recommended to turn “off” the Self-Locking Switch and minimize the self-discharge rate when your motor home will not be connected to shore

## SECTION 6: ELECTRICAL SYSTEM

power.

During storage, it is important to check battery voltage at least every two weeks and to re-charge them as needed.

- Charge the battery to 50%-70% and turn off the battery with the Self-Locking Switch.

**To restart the battery**, long press the Self-Resetting Switch for 3-5 seconds. After restarting, the battery will automatically run the self-check program and release the protection mode if the recovery conditions have been reached.

### **Battery Replacement**

❖ **NOTE: Battery replacement and maintenance should only be done by a qualified Service Technician.**

Do not reverse the positive and negative battery cables. Doing so will blow the reverse polarity fuses that protect the power converter.

### **For more information**

Contact the battery manufacturer for more information on the house battery. Refer to your Chassis Guide for information pertaining to the chassis batteries.

### **12-Volt Battery Disconnect**

The 12-volt battery disconnect switch is typically located on the cabinet base inside the side sliding door. This momentary switch controls a solenoid which connects or disconnects the 12V output from the house battery. The switch lights up red when turned on. When engaged, the battery disconnect solenoid supplies battery power to all accessories connected to the house 12-volt fuse panel. The solenoid must be engaged for the 12-volt house electrical system to operate.



The battery disconnect feature should be used to disconnect the motor home from 12V house battery power. During periods of storage or during maintenance, turn off the battery with the self-locking switch.

## **12-VOLT DC SYSTEM**

The majority of your motor home lighting is powered by 12-volt electricity. The power is supplied from the 48V system. The Lithium Battery is charged from the Solar Panel system, Shore Cord and a 48V secondary alternator.

### **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 located on the front side of the mid-ship seat and is labeled to indicate fuse sizes, positions and the components powered.

### **Replacing a Fuse**

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

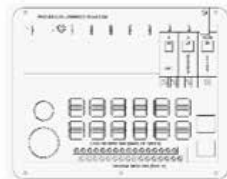
1. Turn off the main power switch.
2. Remove the fuse panel cover to check fuses.
3. Pull the fuse straight out of the fuse block.

4. 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.

### **LOAD CENTER**

The motor home load center consists of 30A Main and 15-20A breakers for all 120 Volt circuits in the unit. 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 breaker assignments.



**Typical Load Center Panel  
w/120V Main Breaker  
(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 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.

#### **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.

### **⚠ CAUTION**

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

### **⚠ 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 the 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, contact your dealer.

## SECTION 6: ELECTRICAL SYSTEM

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***

<b>12 VOLT SYSTEM</b>	
Fan	1.5 AMPS
Furnace	12.0 AMPS
Illuminated Switch	.125 AMP
Inverter	variable
Light; LED	1.7 AMPS
Light; Vanity	4.2 AMPS
Lights; Aisle	1.0 AMP
Lights; Decorative Wall / Map / Porch	1.5 AMPS
Lights; Double -12"	2.0 AMPS
Lights; Double -18"	2.5 AMPS
Power Awning	10.0 AMPS*
Power Vent	5.0 AMPS
Refrigerator	3.0 AMPS
Water Pump	7.0 AMPS

\*Momentary Load

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

<b>120 VOLT SYSTEM</b>	
Air Conditioner	18 AMPS
Coffee Maker	6-12 AMPS
DVD System	3 AMPS
Hair Dryer or Curling Iron	10-14 AMPS
Vacuum Cleaner	8 AMPS

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

### ***120-VOLT, 30-AMP AC ELECTRIC SYSTEM***

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 campgrounds.

**⚠ 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**

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**

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.

A circuit breaker “trip” 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.

**GFCI CIRCUIT BREAKERS**

Ground fault current interrupter breakers have been engineered into the electrical system, and are designed to reduce the possible injury caused by electric shock. The breakers will protect against short circuits or circuit overloads.

**FIREFLY MULTIPLEX SYSTEM**

The Firefly multiplex system controls numerous components in your motor home. Some of these include the air conditioner, generator, tank heaters, water pump, awning and lighting.

The MAIN POWER switch located at the mid-ship door area must be turned ON to enable the multiplex system.

The multiplex switch panels are backlit and when a switch is selected, it will light up indicating it is ON. Pressing the switch a second time turns it OFF.

Refer to the Firefly manual detailed operating instructions.

**SOLAR ENERGY SYSTEM**

Your recreation vehicle is equipped with a Solar Energy System consisting of Solar Panels, an Inverter and Lithium Battery. In the event of a system issue, there is a high voltage/solar panel disconnect on the roof for emergency usage and a secondary disconnect located near the lithium battery for easier customer access.

## SECTION 6: ELECTRICAL SYSTEM

Refer to the manufacturer's guide (for each component) for important safety and user information.

### **⚠ DANGER**

- ❑ Danger of electric shock! Make sure that all power supplies on solar inverter disconnected and that all capacitive power is released before checking or operating accordingly!
- ❑ The Solar Energy System is a **HIGH VOLTAGE SYSTEM** and should only be serviced by a **Qualified Technician**.

**Failure to follow these guidelines may result in serious injury or death.**

### **⚠ WARNING**

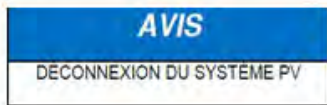
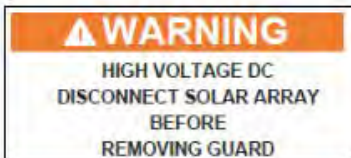
- ❑ The components are not serviceable and the system should only be inspected or repaired by a Qualified Service Technician.
- ❑ The energy system should be turned off (using the disconnect switch) before checking any component.

**Failure to follow these guidelines may result in serious injury or death.**

### **⚠ CAUTION**

Adding additional solar panels or equipment will affect the carrying capacity of the motor home. Vehicle weight ratings should be considered before adding these components.

The following warning labels have been added to the motor home. These labels should not be removed (appearance may vary slightly).



### **Solar Panels**

The energy system should be turned off (using the disconnect switch) before cleaning the solar panels.



### Cleaning

Although the Solar Energy System is generally maintenance free, significant performance gains can be made with clean solar panels

- Clean the solar panels monthly. Use water and a soft sponge or cloth. A mild non-abrasive cleanser can be used for more stubborn residue. Rinse well.
- Clean solar panels more frequently during drier months, as they may become covered in dust more quickly. A pressure washer is not recommended.
- Visual inspection – check the exterior for cracks, missing or broken hardware or other potential problems. Check all roof penetrations and replace sealant areas as required

Any maintenance or repairs should only be performed by a Qualified Technician.

### **WARNING**

You should not attempt to remove the battery yourself. **The Solar Energy System is a HIGH VOLTAGE SYSTEM and should only be serviced by a Qualified Technician.**

**Failure to follow these guidelines may result in serious injury or death.**

Please note if your solar panel(s) are covered by snow they will not produce power and can not be depended upon to keep the batteries topped up. In mild climate storage you can depend upon your solar system to top up your batteries when they are exposed to sunlight. Make sure that all parasitic draws are removed from the batteries i.e. clock radio, etc. to make sure the solar panel(s) can keep the batteries topped up even with reduced sun exposure.

## **SECTION 6: ELECTRICAL SYSTEM**

❖ Notes:

**FUEL SAFETY**

**⚠ DANGER**

Automotive fuels can cause serious injury or death if misused or mishandled. If you have further questions, consult your dealer or Customer Service for assistance

- Always shut OFF the vehicle engine while refueling.
- Do not bring or store fuel or other flammable liquids inside the motor home as a fire or explosion may result.
- Before refueling, extinguish all smoking materials and any open flames.
- Before refueling, always turn OFF all spark producing appliances (i.e., water heaters, furnaces, etc.).
- Do not overfill the fuel tank(s). The pressure in an overfilled fuel tank may cause leakage and lead to fuel spray and/or fire.
- Fuel spills represent a serious fire hazard, and should be cleaned up immediately.
- Never restart an engine or re-light any pilot lights while raw fuel is present.

**FAILURE TO COMPLY COULD RESULT IN FIRE, DEATH OR SERIOUS INJURY.**

**Fuel Filler Cap**

**⚠ WARNING**

Do not replace the fuel fill cap with one of a different type. Only use a cap specified for your motor home. Use of a substitute cap may create excessive fuel system pressure, resulting in fuel station damage and improper operation in a collision.

Remove the fuel fill cap by slowly turning it counterclockwise, waiting for any “hiss” noise to stop, and then unscrew the cap all the way. To close the fuel fill cap, securely turn the cap clockwise until you hear clicking sounds.

**Filling the fuel tank**

**⚠ DANGER**

All pilot lights, appliances and their igniters (see operating instructions) should be turned off before refueling of motor fuel tanks.

These can cause ignition of flammable vapors, which can lead to a fire or explosion.

**FAILURE TO COMPLY COULD RESULT IN FIRE, DEATH OR SERIOUS INJURY.**

Use care when fueling your motor home. If you spill fuel on the motor home, clean it up immediately. Fuel can dull or soften paint and damage other surfaces.

**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 parked motor home with either the engine running or a generator running there is a potential for exhaust fumes to filter back into the motor home.

To avoid breathing exhaust gases, follow these precautions:

- Do not run the engine in confined areas, such as a closed garage, any longer than needed to move your motor home 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 motor home.
- If you suspect that exhaust fumes are entering the passenger compartment, have the cause determined and corrected as soon as possible.

If you must drive under these circumstances, close all the windows, and adjust the heating or cooling system to force outside air into the motor home (set the blower on high speed).

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

**Maintenance**

It is recommended that the exhaust system and vehicle body be inspected by a qualified motor home service center:

- Each time the engine is ready for an oil change.
- Whenever a change in the sound of the exhaust is noticed.
- Whenever the exhaust system, underbody or rear of the vehicle is damaged.

**For more information refer to your Chassis Guide.**

***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, water heater, tub/shower. On some models, it may also include the water purification system or outside shower assembly (if so equipped).
- Depending on your model, the waste water system consists of the wastewater and sewage holding tank(s), drains and toilet. Models with a cassette toilet will only have the wastewater system.

**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 (if so equipped) and sink connections (including drain baskets or filters).
- 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).

Refer to the manufacturer’s operating manual included in your warranty packet for the detailed operating, sanitizing, and winterizing information for each water system component.

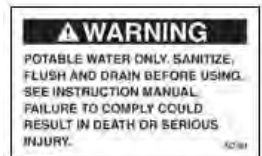
***FRESH WATER SYSTEM***

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 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.

 <b>WARNING</b>
<ul style="list-style-type: none"><li>□ DO NOT drink water deemed microbiologically unsafe or of unknown quality.</li><li>□ Avoid traveling with full fresh, black or grey water holding tanks. The weight of holding tank contents is not calculated into the RV cargo carrying capacity. Traveling with full tanks could cause you to exceed the individual tire ratings and/or the RV GAWR or GVWR. Traveling with full tanks can also affect your vehicle handling characteristics.</li></ul>

Do not remove the potable water label from your recreation vehicle.

You should use a non-toxic drinking water hose dedicated only to supplying the recreation vehicle with fresh water. To reduce the chance of contamination, prevent the non-toxic drinking water hose from coming into contact with the ground.



**Potable Water Label**

## SECTION 8: PLUMBING SYSTEM

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

### Water Pressure Regulator (customer supplied)

## **⚠ 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.

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 *Utility Center* or *Water Connection* section. There are plastic overflow tubes in the fresh water holding tank which allow water to flow out of the water tank. 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

There must be sufficient 12-volt DC power to run the water pump when your recreation vehicle is not hooked up to city water. Once activated, the water pump (also known as the demand pump) will self-prime, and provide water. The water pump continues to run until maximum pressure is achieved and shut off. The water pump will automatically re-start when it senses a drop in the water pressure. 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.



Some cycling may occur, depending on the volume of water being released. The water pump is engineered with a check valve to prevent water from back flowing into the fresh water supply tank.

❖ **NOTE:** The water pump switches should be in the **OFF** position when the recreation vehicle is left unattended for any amount of time.

### Maintenance

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, clear any debris, then reinstall.

Normal pump maintenance consists of checking and cleaning of the strainer, normal sanitizing and winterizing and occasionally checking all plumbing hardware and fittings for tightness. Lack of sanitizing can lead to premature pump failure and poor performance over time. Scale build-up on the diaphragm and valves, can cause low flow and leak back (occasional pump cycling with no faucets open or tank filling up when hooked up to city water).

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**

Most water pump switches illuminate when the water pump is activated. Typical switch locations are in the back of the unit or on the monitor panel, or the switch may be part of a touchscreen system (if so equipped). When the water pump switch is ON the pump runs until 45 lbs. of pressure has been achieved. The red light will stay on.

### **WATER FILTER**

This filter is typically located at the utility center. RV antifreeze and sanitizer will damage the water filter cartridge. The water purification system manufacturer has supplied a (reusable) plastic bypass hose with fittings on either end that is designed to replace the water filter cartridge when the recreation vehicle is being winterized or sanitized. Store the hose when it is not in use.



- Do not allow water to freeze in the filter.
- Remove the cartridge before using antifreeze to winterize or chlorine solution to sanitize the system.
- Flush thoroughly before placing it back into service after winterizing or sanitizing or if the system has not been used for some time.
- For best results replace the filter every 6 months or as needed.

### **Replacing the secondary water filter cartridge**

1. Turn off water supply to the filter. Turn the black valve (next to the cartridge filter) OFF. Water pump should be OFF.
2. Place a cloth under the filter housing to catch any spillage.
3. Relieve pressure on the line before removing the filter.
4. Unscrew the two fittings from each end of the old filter or the bypass hose.
5. Remove bypass hose or filter cartridge (dispose of filter properly).
6. Install new filter screwing it on the two fittings in the utility center.
7. Turn on the water supply black valve and the water pump to check for leaks.
8. Make sure if you are using the pump, the Water Pump Backflow Valve is turned ON.

**For more information refer to the water purification manufacturer's information in the Owner's Warranty Packet.**

### **DRAINING THE FRESH WATER SYSTEM**

A recreational vehicle with a demand pressure pump system will have low-point drains attached to the water lines. These low-point drains will release water in the supply lines by opening the valves and all faucets. These valves are typically located inside the side door. Location may vary by model. There is a valve to drain hot water, cold water and the fresh water tank.

To drain the permanent fresh water supply lines:

1. Open all faucets.

## SECTION 8: PLUMBING SYSTEM

2. Open the “fresh tank drain” valve.
3. Open the low point drain valves. There is a label to indicate where the drains are located.
4. Turn ON the water pump and allow it to run until water no longer flows.

Some water may remain in the lines. If the recreation vehicle will be exposed to cold temperatures, it must be winterized to protect the plumbing system and components. Damage to the water lines and components due to freezing is not covered by warranty. Refer to the *Sanitizing/Winterizing the Plumbing System* for details

### **UTILITY CENTER (P4)**

The **Utility Center** allows you to perform the following functions:

Power fill the fresh water tank for remote or dry camping

Use the pump to supply water to fixtures from the fresh water tank

Use the pump to siphon fill or sanitize the fresh water tank from a bucket

Connect to city water at the camp site to supply water to RV fixtures

Winterize the plumbing lines and fixtures

Rinse off items outside the unit with a hot/cold faucet



#### **City Water Connection Inlet**

Use a non-toxic drinking water hose dedicated only to supplying fresh water. To prevent contamination, keep the non-toxic drinking water hose from coming into contact with the ground. Install the city water connection inlet cap when the fresh water connection is not being used. The fresh water connection should be disconnected (i.e., the non-toxic drinking hose disconnected) when the recreation vehicle is unattended for any amount of time.

### **⚠ WARNING**

A check valve is located inside the city water connection inlet on the utility center. ***NEVER*** depress the check valve on the “CITY WATER CONNECTION” inlet with pressure in the line. It will cause **irreparable** damage to the valve function and the inlet will leak water.

#### **City Water (Pressurized fresh water source)**

The City Water connection allows you to power fill your fresh water tank. It can also be used as a fresh water supply using your non-toxic drinking hose.

❖ **NOTE: If the utility center is used for a continual water source, the back door of the motor home will need to remain open.**

1. Connect the fresh water hose to the CITY WATER inlet.
2. Set the color-coded valves to the CITY WATER setting (refer to the Utility Center label for valve configuration).
3. Connect other end of the hose to the pressurized fresh water source.

Turn ON the pressurized water source.



Water should now be available to all fixtures in the RV.

To disconnect from city water, turn off water at the pressurized source first. Disconnect the hose from the water source, (to release pressure off the system) then disconnect the hose at the city water connection on utility center last.

### **Filling the Fresh Water Tank (Pressurized fresh water source)**

1. Connect the fresh water hose to the CITY WATER inlet on the utility center.
2. Set the color-coded valves to the POWER FILL TANK position (refer to the Utility Center label for valve configuration).
3. Connect the other end of the hose to a pressurized fresh water source (faucet or spigot).
4. Turn the pressurized water source ON, the tank should begin filling.
5. When water has reached the desired level, turn the pressurized water source OFF. **DO NOT OVERFILL** (tank level can be viewed on the monitor panel on the touch screen).
6. Disconnect water source from the spigot/faucet first, then disconnect from the city water fill inlet on the utility center.

### **Dry Camping (pump supplies water from the fresh water tank)**

1. Make sure the fresh water tank has an adequate supply of water.
2. Set the color-coded valves to the DRY CAMPING setting position (refer to the Utility Center label for valve configuration).
3. Turn the pump switch ON. The LED indicator light below the pump switch will be lit if the pump has power.
4. Water should be available to all fixtures. Pump runs when a fixture is opened.
5. Turn pump OFF when water is not being used.

❖ **NOTE: To fill the fresh water tank without a pressurized water source, refer to SANITIZE (Siphon Fill) section, and use a container holding fresh potable water and your fresh water hose. Water will be drawn into the tank by the pump. There is no gravity fill inlet on the recreation vehicle.**

### **Handheld Shower**

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

- Be sure the water heater is ON and had sufficient time to heat the water.
- If dry camping, be sure the 12-volt water pump is ON.
- Remove the handheld shower from its holder.
- Turn ON the hot and cold faucet knobs, and adjust the water temperature as desired.
- 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 showerhead 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 showerhead, return it to the outside shower storage. 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 showerhead 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.

❖ **NOTE: The showerhead may be removed from the hose so that it will drain faster. If you remove the showerhead, be sure to reassemble it prior to storage.**

## SECTION 8: PLUMBING SYSTEM

- ❖ **NOTE:** When putting the shower assembly back into the storage compartment, make sure the hose is not pinched or the showerhead is positioned in a way it can be damaged.

### Sanitizing the Plumbing System

- 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.

### **Preparing to sanitize**

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 and should remain in system for at least 4 hours.

If a 100 ppm concentration is prepared, use 1/2 cup of household bleach with one gallon of water. One gallon of the solution should be used for each 15 gallons of tank capacity. Allow to remain in system for at least 1 hour.

- ❖ **NOTE:** Fresh water tank sizes vary by model. Contact your dealer or customer service for your specific tank size.

### **How to Sanitize**

1. Set the colored valves to **SANITIZE** setting (refer to the Utility Center label for valve configuration).
2. Level the recreation vehicle and drain the fresh water system (see *Draining the Fresh Water System*).
3. Close the low point drain valves and the fresh water tank drain valve.
4. Remove and bypass the water filter:
  - Bypass the cartridge water filter:  
Use the clear plastic tube (supplied with RV) to bypass the water filter.

- ❖ **NOTE:** Filters should be replaced at the beginning of the camping season or if they have been exposed to contaminated water, sanitizer or antifreeze.

5. Attach a short section of garden hose to the CITY WATER inlet at the utility center. **DO NOT use your fresh water hose for sanitizing.**
6. Insert the other end of the short hose into a container holding the chlorine solution.
7. Turn the pump switch ON (red LED will light). The solution will be drawn into the fresh water tank. Turn the pump OFF when solution has been drawn into the tank. To aid in siphoning, set the container on a surface approximately (2) feet off the ground. The drain valves must be turned OFF.
8. Disconnect the short hose from the CITY WATER inlet. Leave the colored valves in the SANITIZE position.
  - Power Fill Water Tank**  
Attach your fresh water hose to the CITY WATER inlet at the utility center. Connect the other end of the hose to a pressurized water source. Turn the water on and finish filling the water tank with fresh water. **DO NOT OVERFILL THE TANK!**
  - Siphon Fill Water Tank**  
If there is no pressurized water source available, fresh water can be siphoned into the water tank from an external container (bucket). Fresh water hose should be connected to the CITY WATER inlet, other end of the hose placed in the bucket of water. Colored valves should still be in SANITIZE position. Turn the pump ON and water will be siphoned into the tank. **DO NOT OVERFILL THE TANK**

9. When the tank is full, turn off the water source. Disconnect the hose from the faucet/spigot first. Then disconnect the hose from the utility center panel.  
At this point the following conditions should be met:
    - Water filter has been bypassed or removed (depends on model).
    - Sanitizer has been put into the tank.
    - Water tank is full having been topped off with fresh water.
  10. Set the valves to the **DRY CAMPING** setting.
  11. Turn the water pump ON and sanitized water will flow into the water lines from the water tank when a fixture is opened.
  12. Open hot water faucets one by one until water begins to flow continuously and a chlorine smell is noticeable. Close hot water faucets. Repeat this process with the cold water faucets. Include outside shower faucets.
  13. Turn OFF the water pump.
  14. Let the solution remain in the tank and lines for at least four hours when disinfecting with 50-PPM residual chlorine, and for at least one hour if using a 100-PPM chlorine concentration
- ❖ **NOTE: To thoroughly sanitize the fresh water tank, the unit should be driven around for a short distance allowing the solution to splash the sides and top of the tank.**
15. 15. After the required period, drain the chlorine solution from the fresh water system.

### **Rinse the system with fresh water**

16. 15. Fill the fresh water tank full of clean (potable) water. Use water either from a pressurized source, or from a container (as detailed below).
17. When the fresh water tank is full, set the valves to the **DRY CAMPING** setting. Turn the pump ON to send water through the lines.
18. Run water through all faucets (hot and cold, including outside shower) until chlorine smell is gone. Turn all faucets and outside shower off, turn pump OFF.
19. Drain the fresh water system again. The bypass hose can be removed from the water filter canister and the filter re-installed.
20. Refill the fresh water tank with fresh water again.

**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. Remove the canister water filter and bypass the water heater as the vinegar solution may damage the water heater or the water filter.**

- Follow the steps outlined in *Draining the Fresh Water System* Remove or bypass the water filter.

**Cartridge filter:** Remove the clear plastic bypass tube and replace the water filter cartridge.

### **After draining the system:**

1. Put the vinegar solution into the fresh water tank.
2. Set the colored valves to the **SANITIZE** setting.
3. Attach a short hose to the CITY WATER inlet. Put the other end of the hose in a container with the vinegar solution. Do **NOT** use your fresh water hose. Turn the water pump ON. The solution will be drawn into the fresh water tank. When the container is empty, turn pump OFF, and disconnect hose from utility panel.
4. To aid in siphoning, place the container approximately (2) feet off the ground. The drain valves must be closed.

## SECTION 8: PLUMBING SYSTEM

5. Fill the fresh water tank full of clean (potable) water. Use water either from a pressurized source, or from a container.
6. Set the valves to the **DRY CAMPING** setting. Run water through all faucets (hot and cold, including outside shower and outside kitchen if applicable) until chlorine smell is gone.
7. Close all faucets including outside shower. Turn pump OFF.
8. Drain the system again.
9. Close low point drains and fresh water tank drain.
10. Refill the fresh water tank with clean potable water. Use the CITY WATER CONNECTION inlet or SANITIZE/WINTERIZE inlet depending on which fill method you use.
11. Open faucets and check that the chlorine smell is gone.
12. Drain the system one more time.
13. Replace the water filter:
14. Refill the water tank. All drain valves should be turned OFF.
15. After filling the water tank, set the valves to either DRY CAMPING (which uses the water pump) or CITY WATER (which uses pressurized water) to send water through the plumbing system.

### Winterizing the Plumbing System



## CAUTION

If the recreation vehicle is going to be stored in a non-temperature controlled environment with a risk of temperatures reaching 32°F (0°C) or lower, the plumbing system *must* be winterized with RV antifreeze. Repairs due to freezing are not covered under the terms of the **Towable Limited Warranty**.

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.

If you choose to perform the winterization process yourself, read and understand the following information before starting. It may be easier to winterize the RV with the aid of a second person.

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

**Appliances (refrigerator) must be winterized. Refer to the appliance owner's manual for additional information or contact your Dealer or Customer Service for assistance.**

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

**Winterize with ANTIFREEZE METHOD**

**⚠ 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.

Requires non-toxic RV antifreeze in the water lines and does not require any special tools. Use **ONLY RV ANTIFREEZE** in your fresh water system for freeze protection.

No other product or commodity should be used. Antifreeze should **never** enter the water heater, RV water filter, refrigerator, refrigerator water filter, or fresh water tank.

1. Drain the fresh water plumbing system. Refer to *Draining the Fresh Water System*. Parking the RV on level ground will aid in draining the plumbing system.
2. Remove water filter:
  - **Cartridge Style:** Replace filter with the bypass tube supplied with the RV.
3. Make sure the “fresh water tank drain” and “low point drains” are **closed**. This includes the refrigerator low point drains (if so equipped).
4. Set the colored valves to WINTERIZE setting (refer to the Utility Center label for valve configuration).
5. Attach a short hose to the CITY WATER inlet. Place the other end of the hose in a container of antifreeze. Do **NOT** use your fresh water hose for winterizing.
6. Turn the water pump ON with the pump switch on the utility center panel (LED indicator light will be lit if the pump has power). Antifreeze will be drawn into the water lines when a fixture in the RV is opened. To aid in siphoning, place the container approximately (2) feet off the ground. The drain valves must be closed.
7. Open the hot water faucets one at a time (kitchen/bath sinks, shower, outside shower and outside kitchen (if equipped) until RV antifreeze begins to flow continuously. Then close each faucet.
8. Repeat with all the cold water line faucets (kitchen/bath sinks, shower, outside shower.

**When you are finished adding RV antifreeze:**

1. Turn the water pump OFF with the switch on the utility center panel.
2. Remove hose and container from the CITY WATER inlet. Put the cap back on the inlet. Leave the colored valves in WINTERIZE position.
3. Wipe any RV antifreeze out of the sinks, with a soft, dry cloth.

Contact your dealer if you require further assistance.

**Winterize with Air Pressure**

This method uses compressed air to blow out any remaining water in the system after initially draining water lines using drain valves. **Tools required would be an air compressor and a blowout plug.**

### **⚠ WARNING**

**Before applying air pressure to the utility center, the (4) colored valves *MUST* be set to 45° or damage may occur to the utility center.**

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 your RV dealer. Using RV antifreeze is the preferred method of winterization.

**Recommended air pressure is 30 PSI MAX. Exceeding this pressure may rupture water line couplings and void your warranty.**

1. When possible, park the RV on level ground and drain the fresh water tank, the tank (storage) water heater and the hot and cold water lines. Open all low point drains and the fresh water tank drain. Faucets inside the RV should be opened to relieve pressure to allow water lines to drain. Refer to *Draining the Fresh Water System* section.
  2. Water filter should be removed for winterizing. See *Water Purification System* section.
    - **Cartridge Water Filter:** Remove the cartridge filter and replace it with a bypass hose (supplied with your RV).
- ❖ **NOTE: Filters should be replaced at the beginning of the camping season or if they have been exposed to contaminated water, sanitizer or antifreeze.**
3. Turn the (color) valve handles to the POWER FILL position.
  4. Low point drains should be open to remove water from the lines.
  5. Open all faucets in the RV. If there is an outside shower, attach the shower hose to the shower, and open shower faucets.
  6. Run the water pump until pump is dry (approximately 15 to 20 seconds). Do not operate pump longer than that without water, it can damage the pump.
  7. **After water is drained from the lines, turn the RED, BLUE, GREEN and WHITE handles so they are at 45°.**
  8. Attach a blowout plug to the City Water Inlet on the utility center panel.
  9. Attach the air hose to the blowout plug. Set the compressor to **30 PSI. Red, Blue, Green and White handles must be set at 45° before applying air pressure 30 PSI Max.**
  10. Blow air into the utility center (**30 PSI Max**). Water lines should be clear in 5 to 10 minutes.
  11. Turn off air supply, remove air hose and blowout plug.
  12. Close low point drains, replace the water heater drain plug.
  13. Set the colored valves to the WINTERIZE positions.



Refer to the Utility Center manufacturers User Guide for additional operating information.

### **GREY WATER SYSTEM AND TANK**

The grey water system consists of the drain water from the sink and the shower.

#### **Shower drain**

The water from the shower will drain directly into the grey water holding tank.

### Sink drain

The water from the sink drain is pumped (using a macerator pump) through the drain lines to the holding tank. Any time you drain water from the sink, you will need to use the momentary switch until the water is pumped into the tank. The pump will make a high pitch sound when there is no water present. Immediately turn pump off, or damage to impeller and housing will occur. Do not run pump dry for more than 15–20 seconds. In the event the sink becomes clogged, do not pass any type of clean out tool through the pump. Clearing the pump from any clogs should only be done by a Qualified Service Technician.

### CAUTION

- Do not pass any type of clean out tool through the drain line pump.
- Do not run the pump dry for more the 15 to 20 seconds

**Failure to comply may result in damage to the pump.**

### Tank Drain Hose Storage

There is a storage tube under the (driver side) rear of the motor home that can be used to store the (customer supplied) tank drain hose when not in use.

### Vents

Vent pipes and vents release air from the grey water holding tanks. The exterior vent cap is attached to the roof and must be kept clear of obstructions to perform as intended.

### Grey Water Holding Tanks

Dump the grey water holding tank before traveling to avoid carrying unnecessary weight. The weight of the holding tank contents is not calculated into the RV cargo carrying capacity. Traveling with full holding tank(s) could cause you to exceed the individual tire ratings and/or the RV GAWR or RV GVWR. Potential damage to suspension components, such as springs, tires and axles, could result.

If you are dry camping and cannot immediately empty your holding tanks, reduce your vehicle speed until you reach a dumping station.

### WARNING

Never travel with full grey water holding tanks. Depending on the location of the tank(s) it can affect your vehicle handling characteristics.

### CAUTION

Do not add automotive antifreeze or caustic chemicals, such as laundry detergents, into the holding tanks. Although these products may have a deodorizing effect, they may damage the plastic and rubber parts of the plumbing system or the components

There is a label on the exterior of the recreation vehicle indicating the location of the grey tank drain (also called dump valve).

1. To make drainage easier, level the RV.
2. Remove the sewer hose housing dust cap and attach the sewer hose (customer supplied).

## SECTION 8: PLUMBING SYSTEM

3. Place the end of the sewer hose into the approved dump station.
4. Open the tank dump valve. Close the dump valve when the holding tank is empty.
5. Open the grey tank dump valve (close the dump valve when the grey holding tank is empty).
6. Remove, clean and store the sewer hose.
7. Close the hose housing dust cap.



**Grey Tank Drain**

You can locate dump stations throughout the United States and Canada in Woodall's, Rand McNally Camp Guide, Good Sam Camp Guide, KOA Campgrounds Camp Guide and various other publications. Some fuel stations also have dump stations. Please contact your RV dealer for assistance in the purchase and installation of a sewer hose or sewer hose extension (if needed).

### **Waste (grey) holding tank preparation**

No special preparation is required, however, placing a small quantity of chemicals into this tank, such as baking soda or an approved RV chemical, will reduce odors from food particles in the system.

## **CASSETTE TOILET**

The toilet is made up of two parts: a permanently fixed toilet and a waste tank that is accessible from the outside. The removable waste tank is located under the toilet and can be removed via an access door on the outside of the motor home.

### **Preparing For Use**

1. Remove the waste tank by pulling the safety catch upwards.
2. Pull the waste tank outwards to the stop. Tip it slightly and take out the tank completely.
3. Place the tank upright and turn the emptying spout upwards.
4. Remove the cap, with the measuring cup inside, from the emptying spout and pour the stated quantity of toilet treatment into the waste tank. This helps break down waste, avoids unpleasant smells in the waste tank and keeps the inside of the waste tank clean.
5. Add approximately ½ gallon (2 liters) of water - enough to ensure that the bottom of the waste tank is covered. Screw the measuring cap back onto the emptying spout. Turn the emptying spout back to its original position.

## **⚠ WARNING**

Never add toilet fluid via the valve blade or via the toilet.

6. Slide the waste tank back into its original position via the access door.
- ❖ **NOTE: Never use force if you are having trouble getting the tank back into place easily. This may cause serious damage.**
7. Make sure that the waste tank is secured with the safety catch. Shut the access door and lock it.
  8. Turn the toilet bowl to the desired position.
  9. Run some water into the bowl by pressing the flush button once. The toilet may be used with the blade open or closed. To open the valve, pull the valve handle under the toilet bowl towards you. The toilet is now ready for use.
- ❖ **NOTE: If the water pressure from the pump is too high, it can result in a powerful flush that spills over the top of the toilet bowl. In this case use the**



**pressure reducer supplied (packed with the toilet instructions). This pressure reducer must be inserted into the water hose at the point where the toilet is connected to the central water system.**

10. After use, open the valve blade (if it is still closed) and flush the toilet by pressing the flush button. Close the valve blade after flushing.

❖ **NOTE: Do not leave water in the bowl if the toilet is not being used. This does not help to reduce unpleasant smells and only leads to flooding.**

### **WARNING**

Do not travel with water in the flush tank of your toilet. Failure to adhere to this notice may result in water damage to your motor home.

### **Emptying**

The waste tank must be emptied, at the latest, when the warning lamp is lit. It is advisable to empty the waste tank earlier. The warning lamp illuminates when the waste tank contains in excess of 4 gallons (15 liters). This indicates that a capacity of 1/2 gallon (2 liters) is left, which will allow approximately 5 uses.

❖ **NOTE: Do not allow the waste tank to become too full.**

1. Make sure that the valve blade is closed. Open the access door outside the vehicle. Pull the safety catch upwards and remove the waste tank.
2. Carry the tank by the handles to a normal toilet or to a legal waste disposal site. Place the waste tank upright on the ground and turn the emptying spout upwards.
3. Remove the emptying spout cap. Hold the waste tank by the upper handle nearest to the emptying spout. Hold the rear handle with your other hand so that you can operate the vent plunger with your thumb. Keep the vent plunger pressed in to ensure the tank is emptied without splashing.

❖ **NOTE: The vent plunger should only be pressed once the emptying spout is pointing downwards!**

4. After emptying, flush the tank and clean the valve blade thoroughly with water. Also, clean the valve blade with water. Slide the waste tank into the toilet and close the access door.

### **Storage**

First empty the central water system. Press the flush button until the remaining water has been pumped away. Empty the waste tank. To allow the tank to dry, do not place the cap back on the emptying spout of the waste tank.

### **Cleaning and Maintenance**

The waste tank seal, the automatic pressure release vent seal and the cap seal must be cleaned regularly. When the toilet is being used frequently, monthly cleaning is generally sufficient.

❖ **NOTE: Never use household cleaners (bleach, solvents or other powerful cleaning agents). These may cause permanent damage to the seals and other toilet components.**

If the toilet will not be used for a long period, it is advisable to clean the seals and coat them lightly with Thetford Seal Lubricant. This will ensure that they remain in good condition (supple).

❖ **NOTE: Never use Vaseline or any vegetable oil. These may cause leakage.**

## SECTION 8: PLUMBING SYSTEM

- ❖ **NOTE:** The valve blade seal is a part of the toilet that is subject to wear. Depending on the extent and manner of servicing, after a certain period the seal will lose quality and must be replaced.

### Winter Use

You can continue to use the cassette toilet in cold weather, as long as the toilet is situated in a heated location. If not, there is a risk of freezing. In this case we advise that the toilet is drained by following the instructions under Storage. For environmental reasons the use of antifreeze is not advised.

### Use in Warm Weather and At Varying Heights

Height differences while travelling or temperature changes are not a problem as long as the waste tank is located in the toilet. The automatic pressure release vent keeps the pressure in the tank the same as outside.

**Refer to the manufacturer's guide for additional information.**

## 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 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 may include 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.

### **SHOWER MISER**

The Shower Miser is a device attached to your inside shower that helps to conserve water especially when you are dry camping and are restricted to the amount of water available in your fresh water tank and don't have ready access to a water supply.

The device is installed on the incoming water line for the shower and will circulate water from your water heater, back into your fresh water tank until the water in the shower comes up to temperature. This prevents needlessly dumping your limited supply of water waiting for the shower to heat up.

#### **Operation**

The device consists of a small valve and a blue plastic "dot" below the shower handle.

When the small valve (on the Shower Miser) is in the closed (OFF) position, wasted cold water is directed to the fresh water tank. No water will flow through the shower head. The blue "dot" will be dark blue when cold water is running through the shower plumbing. When the water is up to temperature, the blue "dot" will change color from a dark blue to white which indicates the water flowing into the shower is now hot. Turn the small valve the opposite direction (to ON) and turn on the shower valve so water flows out of the showerhead. The color change is obvious so there is no question when the water is at a comfortable temperature.

As you shower, the small Shower Miser valve can be turned OFF while you use the soap, so water will divert into the fresh water tank instead of down the drain, and it keeps the water up to temperature, so when you turn the Shower Miser valve back ON, you immediately have hot water to rinse with.

The Shower Miser system may vary depending on your model.

#### **Filling the fresh water tank**

Shower Miser will also fill the fresh water tank from inside the RV when hooked up to a pressurized water source.

- A pressurized water source must be connected to the RV and turned ON.
- Check the tank monitor to see how much fresh water is in the tank.
- Turn the lever on the Shower Miser to bypass the showerhead (OFF).
- Turn the cold water shower valve fully ON.
- Watch the tank monitor as the fresh water tank fills.
- When tank is full, turn the cold water shower valve OFF.

### **CAUTION**

When using the Shower Miser with pressurized city water hookups the fresh water tank can overflow on to the ground.

## **SECTION 8: PLUMBING SYSTEM**

❖ Notes:

**AIR CONDITIONER**

Cooled air enters the RV through the grill. Make sure you have sufficient power available before operating the air conditioner. Do not operate the air conditioner without the return air filter. Operating the system without the filter allows the lint and dirt that is normally stopped by the filter to accumulate on the cooling coil of the air conditioner. This also will lead to a loss of air volume, possible equipment damage and an expensive cleaning process.

**Refer to the manufacturer’s user guide for detailed safety and operating instructions.**

**POWER ROOF VENT**

The 12-volt DC 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.

The roof vent is controlled by either a switch.


**For additional safety and operating information, refer to the manufacturer’s manual.**


**TIMBERLINE FURNACE/WATER HEATER**

Your recreational vehicle is equipped with a Timberline heat & hot water system.

**Refer to the manufacturer’s manual for detailed operating and safety information.**

Timberline heat and hot water is generated by the Autoterm Binar Compact heating unit made for the most adverse conditions. A heated glycol solution is circulated through the interior of the living space through air handlers that provide radiant heat. The glycol is also circulated through an instantaneous water heat exchanger which produces hot water. By using the diesel or gasoline burner along with the 110V electric element, it provides efficient comfort whether dry camping or plugged into shore power.

 <b>CAUTION</b>
<b>Damage to the furnace caused by freezing!</b>
<ul style="list-style-type: none"><li><input type="checkbox"/> Water in pipes, faucets and appliances could freeze. Considerable damage may result.</li><li><input type="checkbox"/> Damage from freezing is not covered by the limited warranty</li></ul>

 <b>WARNING</b>
<b>Scalding injuries caused by hot water!</b>
<ul style="list-style-type: none"><li><input type="checkbox"/> Water temperatures over 125 °F (49 °C) can cause severe burns or scalding and in extreme cases even death.</li><li><input type="checkbox"/> Before using a hot water faucet or using the shower, mix with cold water and allow the hot water to run until the water temperature no longer increase.</li></ul>

**Maintenance**

**Hydronic System**

- The glycol system does not require annual maintenance.
- It is recommended to test the alkalinity in the system coolant annually.

## **SECTION 9: HEATING & COOLING**

### **Domestic Water**

- The domestic water loop does not require annual maintenance.
- Calcium build-up over time will act as an insulator. The exchanger unit can be back-flushed with a lime removal cleanser.

### **Fan Unit(s)**

- The fan unit does not require annual maintenance.

### **Furnace**

- The Timberline system is equipped with the efficient Autoterm Binar Compact Diesel or Gasoline burner. This burner is designed for optimal use in all climates including high altitude up to 10000 feet. There is limited required maintenance for the Autoterm burner.
- It is recommended to exercise the burner every month letting the burner run for 15-20 minutes. If the burner is utilized monthly there is no annual or hour based maintenance required.

### **Exhaust System**

- The exhaust system should be inspected annually for damage.

### **Winterization**

#### **System Coolant**

- The system coolant does not require winterization.
- The system coolant can be tested for its freeze protection value.

#### **Domestic Water System**

- The domestic water circuit needs to be drained or protected using RV winterizing fluid. Propylene-glycol can be pumped through the system using the domestic water pump and opening both hot and cold valves at a plumbing fixture. Using this procedure does not require draining the Demand Hot Water exchanger.
- Refer to the Draining the Fresh Water System and Winterizing the plumbing system sections.

**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.

**INDUCTION COOKTOP**

Induction cooktops are more efficient than gas or electric cooktops. The cooking surface heats through magnetic induction. Cookware for induction cooking should be magnetic (steel or cast iron) and have a flat bottom. Cookware made from aluminum, corning ware, Pyrex, or glass will not work by just placing them on the surface, but can be used if they are placed on top of a magnetic interface disk which will function as a conventional hot plate. Stainless steel cookware may or may not work. If there is a doubt as to whether a certain pan or skillet will work, check it with a magnet. If the magnet clings to it, it will probably work with the induction cooktop; if it doesn't or clings weakly it probably won't work.

**⚠ CAUTION**

Aluminum foil should ***NEVER*** be used with an induction cooktop. It can permanently melt to the cooktop cracking the surface or causing permanent damage.

**⚠ WARNING**

Touching a hot pan or cooking vessel can cause burns. Use pot holders or oven mitts to remove hot pans from the cooktop.

Induction cooktops are much safer to use than electric or gas.

- The stovetop stays cool, no burned fingers or hands if you touch the surface.
- Only the cooking vessel gets hot.
- The cooking surface only works when there is a magnetic pan (or interface disk) in place on it. Sensors detect the amount of ferrous material in the area of the magnetic field and if it is not the size of a small pan it won't turn on.
- Induction cooktops will not heat up the kitchen.
- Very rapid temperature increases can be achieved and very fine adjustments can be made.

**Refer to manufacturer's manual for detailed safety, operating and cleaning instructions.**

**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

## **SECTION 10: APPLIANCES**

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.**

### **Cleaning Your Refrigerator**

The following are general cleaning guidelines. For detailed information on cleaning your specific refrigerator, refer to the manufacturer's user guide.

#### **Cleaning the Interior**

1. 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.**

#### **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.

## **AIR COMPRESSOR**

Your motor home is equipped with an air compressor with (2) ports. One port is located under the hood on the passenger side of the motor home. The other port is under the rear bumper. The switch to operate the compressor is on the dash of the motor home.



## **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.

**Furniture Upholstery:** Vacuum the furniture upholstery regularly using a soft brush attachment to remove any loose dirt or debris.

### **Fabric**

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.

**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 and eventually lead to cracking.

### **Window Shades**

Shades should be vacuumed periodically to remove dust. Using your vacuum cleaner's 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 out 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.

- ❖ **NOTE: If your recreation vehicle must be stored for an extended period, 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.

## **SECTION 12: INTERIOR**

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.

### **Interior Wall Panel**

To clean, use a mild solution of soap and lukewarm water with a soft sponge or cloth. Wipe dry with a soft, clean cloth.

Putty sticks can be used to cover scratches on the wood surface wall panels. These can be obtained from local hardwood stores and lumberyards. Contact your dealership service department for assistance in repairing décor paneling.

## **⚠ CAUTION**

Do not use abrasive cleaners as they may cause the vinyl to scratch and become dull. Do not use cleaners that contain bleach.

### **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.

## **FLOORING**

### **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.).

### **FLOORING TOP SEAL**

The linoleum floor is equipped with a factory-applied urethane finish. No additional finishes are required, and applying any additional finishes is not recommended. For detailed care and maintenance information, refer to the manufacturer’s user guide.

#### **Routine/Daily Maintenance**

- Remove all gross soiling (food, gum, residues, etc.). Take care if using a scraper or putty knife to avoid permanently damaging the surface of the flooring.
- Clean the flooring using a microfiber dust mop. If necessary, vacuum the floor to first pick up any large particles.
- Apply a properly diluted neutral cleaner to the surface using a microfiber wet mop pad.
- If necessary, use clean water and a clean microfiber mop pad to remove any remaining residue.

#### **Periodic Maintenance**

- Remove all gross soiling (food, gum, residues, etc.). Take care if using a scraper or putty knife to avoid permanently damaging the surface of the flooring.
- Clean the flooring using a microfiber dust mop. If necessary, vacuum the floor to first pick up any large particles.

- Using a properly diluted neutral pH cleaner, scrub the floor with a red buffing pad on a slow speed (175 – 300 RPM) rotary floor machine or auto-scrubber, vacuuming up any remaining cleaning solution.
- If necessary, use clean water and a clean microfiber mop pad to remove any remaining residue.

### ***THIRD SEAT AND TABLE(S)***

Your motor home may be equipped with a seat for additional passengers. This seat is adjustable to the front and side.

 <b>WARNING</b>
Always use seatbelts if sitting in the third seat while the motor home is in transit.

#### **Removable Table**

The small table can be removed and stored if desired. When installing the table pedestal, make sure it is securely seated and latched in the mounting hole.

#### **Side Table**

The side table (accessed through the sliding door) can be released at the top and lowered into place. The table is secured in place by the mounting hinge and by the adjustment cable. If the motor home is parked on an incline, the cable can be adjusted and secured so the table surface is level.

 <b>CAUTION</b>
Do not sit on or lean on the table(s). They are intended for use as a table only

#### **Table Tops**

##### **To prevent permanent damage**

- Always use hot pads or trivets under hot pans, dishes, or heat producing appliances.
- Heat will damage table tops.
- Use a cutting board to prevent unnecessary damage to the table tops. Do not cut directly on the table top.
- Avoid harsh chemicals such as drain cleaners, oven cleaners, etc.
- Do not let cleaners with bleach set on the top. Wipe them off promptly.
- Run cold water when pouring hot/boiling water into the sink.
- Use coasters under all glasses, bottles and cans.
- Do not store toiletry products directly on your table top surface. Hair products, perfumes, colognes, nail products, creams, lotions and potions have a tendency to spill or leak and go overlooked. Even though the counter top is sealed, a substance that remains on the surface for an extended period may stain the table top.

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.

For additional information on the removal of difficult stains or surface damage repair, refer to the table top manufacturer's user guide.

### **POWER BUNK BED**

Your motor home may be equipped with a power bunk bed.

**Refer to the manufacturer's user guide for important safety, operating and maintenance information.**

## **⚠ WARNING**

- There should be no people, pets or objects on or below the bed while raising or lowering it; the area should be clear when operating.
- Never ride on the bunk while the vehicle is in motion.
- Children should always be supervised when entering or exiting the bed.
- Do not stand in the bed lifting system operation area.
- Do not reach into the bed lifting system components while being operated.
- Do not interfere with the bed lifting system while operated, neither with any objects nor with hands.
- The bed lifting system must never be used while the vehicle is running.
- Always comply with the bed lifting system maximum load capacity, 725 lbs. (328 kg) in static conditions.
- Never lift weights that overcome the bed lifting system maximum load, i.e. 132 lbs. (59 kg) in dynamic conditions, people or animals are not included and they must not be on the bed when the system is operating.

**Failure to comply with these guidelines may result in serious injury or property damage.**

❖ **NOTE: Any adjustments to the bed should only be made by a Qualified Technician.**

#### **Operation**

To operate the bed, turn the key switch to the on position. Press the UP or DOWN arrow button. A green LED light will light up indicating the bed direction. The bed will continue to move until

- The switch is released.
- A pre-set stop position is reached.
- The bed is being lifted and the end-of-stroke position is reached.



When upper bunk is positioned where you want it, turn the key to the OFF position.

You should adhere to the following safety information:

- Safety devices shall not be tampered with for any reason.
- Before starting the vehicle engine and driving, always make sure the bed lifting system is in its highest position and the safety belts are fastened. **Refer to the manufacturer's guide for important safety belt information.**
- The bed lifting system shall only be used by adult and responsible staff.
- It is forbidden to use the bed lifting system while the vehicle is running.
- It is forbidden to start the bed lift system manually with disconnected wires from motor unit to control unit.
- Should the mechanism not work, do not use the bed and ask for assistance at the next service center.

**COUNTERTOPS**

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**To prevent permanent damage**

- Always use hot pads or trivets under hot pans, dishes, or heat producing appliances.
- Heat will damage countertops.
- Use a cutting board to prevent unnecessary damage to the countertops. Do not cut directly on the 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.
- Run cold water when pouring hot/boiling water into the sink.
- Use coasters under all glasses, bottles and cans.
- Do not store toiletry products directly on your countertop surface. Hair products, perfumes, colognes, nail products, creams, lotions and potions have a tendency to spill or leak and go overlooked. Even though the counter top is sealed, a substance that remains on the surface for an extended period may stain the countertop.

For additional information on the removal of difficult stains or surface damage repair, refer to the countertop manufacturer's user guide.

**Solid Surface Countertops**

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.

**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**

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**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.).

**CEILING FABRIC**

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The ceiling fabric is made from padded vinyl fabric. Wash with mild detergent and water. Use a soft bristle brush for stubborn soil. Rinse and dry. Some household cleaners and solvents remove plasticizers from vinyl, making them brittle. Abrasive cleaners may mar or scratch the surface. Always test a small hidden area before applying cleaners to the vinyl surface.

## SECTION 12: INTERIOR

❖ Notes:

**CLEANING THE EXTERIOR**

To protect your recreation vehicle's exterior finish, wash it often and thoroughly. You may wash and wax your new recreation vehicle 60 days after purchase. The exterior paint needs 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 RV 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 be brushed off, not scraped, from the painted surface. Avoid gravel roads.

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 paint finish 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 paint finish. 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 RV'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 rinse 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". After removing stubborn stains immediately rinse with clean water.

Drying the RV is just as important as washing it. Tap water and well water contain many chemicals that could water stain your RV'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.

## **SECTION 13: EXTERIOR**

### **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. 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.

### **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**

Frames receive heavy abuse from road conditions such as sand, pebbles, objects in the highway, and/or ice inhibiting chemicals, all of which will cause chipping and a blasting effect on the painted surface. Frames will show signs of rust much sooner when exposed to salty air. Periodically rinse off the frame (or as use requires) removing road grime, tar, oil, mud or salt. Refer to your Chassis Guide for the chassis manufacturer's maintenance instructions.

**EXTERIOR ROOF AND SIDEWALL VENTS**

Inspect the roof vents, including sealants for cracks and keep them clean. Inspect the 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.

**WINDOWS**

**⚠ WARNING**

To avoid exhaust gas entry into the motor home, keep windows closed when the chassis or generator engines are running.

Any ventilating window may permit water inside, especially during heavy rainstorms or while driving. This is normal and water should only be seen in the lower track portion of the window frame. Condensation will also cause water to accumulate on windows and in the tracks. Ensure that the escape window latches are properly adjusted (the window will pop open if not adjusted tight enough).

**EXTERIOR LADDER**

Your recreation vehicle is equipped with an exterior roof ladder.

The exterior ladder is stored on the back of the motor home. When it is in the stored position, make sure it is securely fastened and locked in place while in transit.

**⚠ CAUTION**

- The ladder should never be used to climb while in the stored location/position. Climbing the ladder while stored may result in damage to the vehicle rear doors.
- The ladder is provided for limited access to the roof.

## **SECTION 13: EXTERIOR**

To use the exterior ladder, unlock and remove the handle securing to the vehicle. Lift up and remove it from the storage bracket. Hook the top of the ladder to the (driver's side) roof rack rail. The ladder can be hooked at any location on the rail. Be mindful of placing the ladder against storage doors, windows or other components that may be damaged. Do not exceed the weight limit of the ladder.

### **WARNING**

#### **LADDER CAPACITY MAXIMUM 225 lbs. (102 kg)**

- DO NOT** exceed the ladder maximum weight rating.
- The maximum rating includes the person's weight **PLUS** weight of items carried.
- When climbing:
  - Always face the ladder.
  - Climb slowly with weight centered between side rails.
  - Keep a 3 point contact on the ladder at all times (3 Point contact-two hands and a foot or two feet and one hand).
- Keep hands free.
  - Use of accessories such as lanyards to keep carried items tethered will keep hands free and prevent falling items.
  - Heavy or bulky items should be brought up only after reaching the roof.
- Do not use the ladder if damaged in any way.

**Failure to follow these guidelines could result in death or serious injury.**

## **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 Limited Warranty.
- To check the exterior sidewall sealants, use a stepladder placed safely alongside the vehicle. Do not prop a ladder against the body of the RV as it may damage the exterior finish.

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 all 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 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. Repair deteriorated sealants immediately to prevent damage. Cap seal all trim and openings at least once after the first year and thereafter as cracks, peeling, lifting and shrinkage occur.

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, and this damage may not be warrantable.

If you have questions and/or need assistance with sealing your recreation vehicle, consult with your recreation vehicle dealer.

## **SECTION 13: EXTERIOR**

❖ 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. Refer to your Chassis Guide for information on chassis pre-trip inspections and maintenance.

#### **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.

#### **Before leaving home:**

- Make sure all fluids are at proper levels (engine oil, transmission fluid, engine coolant, power steering fluid and windshield washer fluid).
- Check the fuel gauge and lights on the motor home. **Have someone observe the operation of all exterior lights while you activate the controls. Check the turn signal and high beam indicators on the instrument panel.**
- 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 and correct according to manufacturer specifications.**
- Check wheel nuts for tightness.**
- Inspect and work all interior and exterior latches and locks and lube if necessary.
- Make sure the batteries are fully charged and installed correctly.
- Turn ON the motor home 12-volt battery disconnect switch.
- 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 circuits.
- Inspect and turn on the propane gas system** (if so equipped). If you have any questions, contact your independent dealer or a qualified propane gas 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 for operation. If needed, perform maintenance as per the manufacturer's information.
- Test all exterior and interior lights. Replace any bulbs that are burnt out.
- Prepare the chassis portion of the motor home for the camping season in accordance with the Chassis Guide.**
- Wash the exterior of the motor home. Do a sealant inspection and repair as necessary.
- De-winterize and sanitize system.
- If you are towing a vehicle, connect it to the motor home and test all connections and lights (if applicable).**
- Test brakes for proper operation.**
- Fill the fresh water tank. Disconnect, drain and store the garden hose on the bracket.*
- Check the seat belt buckles and release mechanisms for positive action and secure connections.

## **SECTION 14: TRAVEL/CAMPING/STORAGE CHECKLISTS**

### **Before leaving the campsite:**

- Check the area* under the motor home after overnight parking and look for fuel, water, oil or other fluid leaks. If leaks are detected, find the cause and correct it immediately.
- Turn off propane *tanks (if so equipped)*.
- Empty black and gray holding tank, rinse as needed.
- Retract any awnings and secure them for transport.
- Close all the roof vents.
- Close windows and latch blinds.
- Disconnect the cable TV and phone hookups and lower the TV antenna.
- Turn off the interior lights, water heater, furnace and water pump.
- Secure any loose, heavy or sharp objects in the motor home or exterior compartments.
- Disconnect the power cord and ensure it is stored correctly.
- Disconnect any water connections.
- Water pump and water heater (if applicable) turned off.
- Fasten all interior and exterior doors securely; lock them (if applicable). Latch drawers, cabinets and doors.
- Move slideout(s) in and lock it in place (if applicable).
- Walk around your motor home one last time to make sure everything is stored away and the baggage compartments are closed and locked.
- Refrigerator door locked.
- Furnace turned off.
- Make sure the leveling jacks are retracted to the travel position.
- Retract step.
- Secure and lock the entrance door.

### **MOTOR HOME STORAGE**

Properly preparing your motor home 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:**

- Prepare the chassis for storage in accordance to the Chassis Guide. Remember to use fuel additives and supplements if recommended.
- Wash and wax the exterior of the vehicle. Do a sealant inspection and repair as necessary.
- Inspect and clean tires. Check for wear, cracks and inflation pressure.
- 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 "Motorized Transferable Limited Warranty" applicable to your motor home.
- Close all windows, roof vents and range hood vent.
- Turn the furnace thermostat(s) to the OFF position (if equipped).
- If your motor home 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 motor home is winterized.
- Winterize the toilet and appliances (dishwasher, refrigerator, clothes washer).

## SECTION 14: TRAVEL/CAMPING/STORAGE CHECKLISTS

- Drain and flush all holding tanks (fresh water, gray water, black water and/or hot water tanks).
- Adding fuel stabilizer to the generator will aid in preventing condensation and fuel varnishing.
- Turn OFF the motor home 12-volt battery disconnect switch.
- Turn OFF the inverter mode at remote.
- Disconnect the batteries to prevent battery discharge.
- Remove all perishables from the refrigerator/freezer. Defrost, wash and dry the interior of the refrigerator/freezer and prop (or block) the doors open so air can circulate and prevent mildew.
- 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.

### **While the motor home is being stored**

If the vehicle is stored outside in areas of heavy snow, you should periodically brush the snow off to prevent excessive accumulation and prevent possible roof damage.

## SECTION 14: TRAVEL/CAMPING/STORAGE CHECKLISTS

❖ Notes:



***VEHICLE MAINTENANCE RECORD***

Make:	
Model:	
Model Year:	
Vehicle Serial#:	
Engine:	
Engine Serial#:	

Service Date	Mileage	Work Performed	Performed By	Notes

**SECTION 15: ADDITIONAL INFORMATION**

**Jayco**  
**Ownership Notification**  
Email the form to [unitfile@jayco.com](mailto:unitfile@jayco.com)

**ATTENTION!**

Federal record keeping laws require that we maintain a file of owners of our product. Your cooperation in filling out this form will be appreciated.

Change of Owner

Transfer of Limited Warranty  
(If Applicable - 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: