

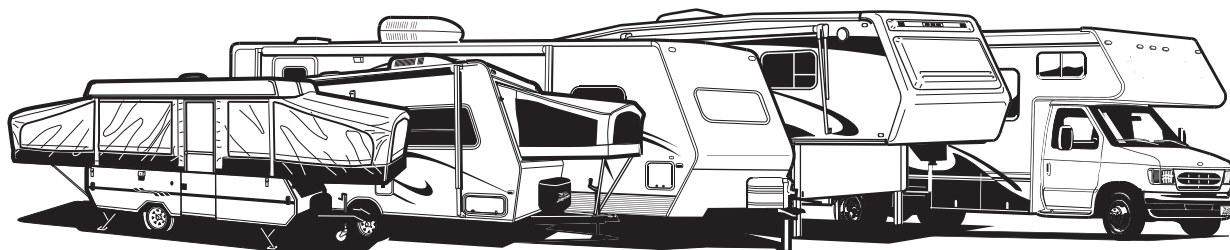


[www.jayco.com](http://www.jayco.com)

AMERICA'S MOST LIVEABLE RVs.



**Travel Trailer  
and  
Fifth Wheel  
Owner's Manual  
Model Year 2007**





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

This manual has been provided by Jayco, Inc. for the sole purpose of providing instructions concerning the operation and maintenance of this vehicle and its components. Nothing in this manual creates any warranty, either expressed or implied. The only warranty offered by Jayco, Inc. is as set forth in the limited warranty applicable to this vehicle.

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

Instructions are included in the manual for operating various components which are optional on some vehicles. In addition, the owner should refer to individual manufacturer's operating instructions contained in the owner's packet.



**WARNING:**

- **Review the compatibility of your tow vehicle with the trailer you will be towing. You, as the owner, are responsible for the safety and compatibility of your tow vehicle and trailer selections.**
- **You must not exceed the gross vehicle weight rating (GVWR) of the trailer. Include all additions, cargo and tank fluids when calculating the weight of your trailer.**
- **Do not exceed the towing or cargo capacity of your tow vehicle. You must clearly understand how your tow vehicle's capacities are calculated.**
- **Do not load your trailer so that it is unbalanced from front to rear or from side to side.**
- **Know your loaded hitch weight and select a hitch that is adequate for that weight. Consult your hitch and tow vehicle manufacturers with any questions before you tow your trailer.**
- **You are responsible for the maintenance of your tow vehicle and trailer. Make sure your tow vehicle is mechanically sound for your intended usage. Pay particular attention to suspension components, tires and tire pressure.**
- **We recommend the use of sway control devices and weight distributing hitches with all Jayco towable products (excluding fifth wheels, which use a different type of hitch).**
- **Obey all traffic laws and use your seatbelts at all times. Many states have lower speed limit requirements for tow vehicle/trailer combinations. We recommend that you do not exceed 55 MPH when towing a trailer.**

Consult an expert for specific driver education when towing a trailer. There are private RV driving schools, and some RV clubs, which offer driving seminars as part of their club activities. Recreation vehicle publications and the Internet can be a source of information regarding RV driver education, as well as many other topics to help you learn to safely use your recreation vehicle.

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**Congratulations!** Thank you for selecting the 2007 JAY FLIGHT by Jayco. We are excited to welcome you to our growing family. Jayco is proud to be the largest, privately held manufacturer in the RV industry and we invite you to stop by our Visitors Center located in Middlebury, Indiana. We offer regularly scheduled guided tours of our manufacturing facilities (closed holidays). If this is of interest, please contact us at 1-800-RV-JAYCO.

## ABOUT THIS MANUAL

This manual is a guide to the operation and maintenance of your RV. The JAY FLIGHT is available in several sizes and models, so accessories and components may differ. Some equipment described in this manual may not apply to your RV. If you find the 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 RV.

*The 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.*

## GOODIE BAG

The Goodie Bag contains original equipment manufacturer (OEM) operator's manuals, warranty cards and/or registrations. It is important you complete and mail the warranty cards and registrations to each OEM within the prescribed time limit to avoid loss of warranty coverage. This Owner's Manual and the Goodie Bag should be considered a permanent part of the RV. If the RV is sold, they should remain with the vehicle for the next owner.

## SAFETY ALERTS

Your safety, and the safety of others, is very important. To help you make informed decisions, we have provided operating

procedures and other information on safety labels affixed to your RV and in this manual. Please call your dealer or Jayco Customer Service if you are unsure how to proceed. Always use the appropriate safety gear when servicing or maintaining your RV.



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.

### **DANGER**

This indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

### **WARNING**

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

### **CAUTION**

This indicates a potentially hazardous situation which, if not avoided, will result in minor or moderate injury.

### **CAUTION**

This indicates a potentially hazardous situation which, if not avoided, may result in property damage.

## REPORTING SAFETY DEFECTS

### In the United States

If you believe that your RV has an alleged defect that could cause a crash or cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA), in addition to notifying Jayco





Customer Service. 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 Jayco. For additional information, please refer to the NHTSA website at [www.safercar.gov](http://www.safercar.gov).

To contact NHTSA by phone:

Call the DOT Vehicle Safety Hotline at 1-888-DASH-2-DOT (1-888-327-4236) and a NHTSA representative will record your complaint information. Or TTY: 1-800-424-9153 or 1-202-484-5238

To contact NHTSA by mail:

U.S. Department of Transportation  
National Highway Traffic Safety Administration  
Office of Defects Investigation  
NVS-210, 400 7th Street, SW  
Washington, DC 20590

### In Canada

If you believe your vehicle has an alleged safety defect, you should contact Transport Canada, in addition to contacting Jayco Customer Service. Transport Canada prefers to be called instead of posted mail or email as it enables their investigators to confirm that your information is correct, and to answer your questions accurately. For additional information, please refer to the Transport Canada website at [www.tc.gc.ca](http://www.tc.gc.ca).

To contact Transport Canada by phone:

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

To contact Transport Canada by mail:

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

## MANUFACTURING PROCESS



RVIA seal

Jayco recreational vehicles are manufactured for use as temporary living quarters for recreation, camping and travel uses, all as defined by the bylaws of the Recreational 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 RV as a business asset such as a mobile office or using the RV 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. RVs built for sale in Canada may differ to conform to Canadian Codes.*

## CUSTOMER RESPONSIBILITY

It is important you read and understand the information in this manual and your Goodie Bag before using your RV. Familiarize yourself with the applicable warranties. You are responsible for ensuring the procedures for obtaining warranty repairs are followed properly.

As the owner of the RV, you are responsible for regular and proper maintenance performed in accordance with this manual and the OEM operator's manuals. This will prevent conditions arising from neglect that are not covered by the Towable Limited Warranty. It is your responsibility and obligation to return your RV to your dealer for warranty service repair.

As with your other personal belongings, it is important that you protect yourself and others with insurance coverage. Your insurance agent can assist you in obtaining the appropriate insurance coverage for personal liability, theft, collision, property damage, etc. Or your dealer may be of assistance in obtaining a JayPlus Retail Insurance quote for



you. This insurance quote is offered to you directly by GMAC Insurance (not Jayco, Inc.). For more information, please contact your dealer or call 1-800-252-2031 Savings Code: GL 2A to contact GMAC insurance.

## DEALER RESPONSIBILITY

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

- ❑ Deliver your RV in the best condition possible and ensure that it passed the pre-delivery inspection and all systems tests.
- ❑ Provide orientation of the RV, its systems, components and operation.
- ❑ Request that you read all warranty information and explain any provision not clearly understood.
- ❑ Ensure you receive the Goodie Bag. Your dealer can assist you in completing the component-manufacturer warranty cards or registrations and locating any required component model or serial numbers.
- ❑ Complete and return the Warranty Registration and Customer Delivery Form to Jayco within 10 days of delivery to activate the applicable warranty coverage.

Please note that your Towable Limited Warranty is activated only after Jayco receives a signed Warranty Registration and Customer Delivery Form from your selling dealer. If it has been more than 60 days since the purchase of your new RV and you have not received a confirmation letter from Jayco, please contact your selling dealer or Jayco Customer Service.

*If you have mailed in a Limited Warranty Transfer application you will receive a response letter from Jayco confirming your warranty status (please allow 6-8 weeks for processing).*

## SUGGESTIONS FOR OBTAINING SERVICE

The independent dealers who are authorized to sell Jayco RVs are also there to provide service after the sale. We work closely with them in an effort to keep you satisfied. 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...** Don't wait until you are ready to use your RV. Your dealer may not be able to service it immediately and/or the repair may require parts be ordered. The dealer's service department is busiest on Mondays, Fridays and before the holidays.

**Prepare for the appointment...** If you are having warranty work performed, be sure to have the right papers with you. Take your warranty folder and have your vehicle information available. Not all the work to be performed may be covered by the warranty; discuss additional charges with the dealer's service management.

**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 manager. Keep a maintenance log of your RV'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 RV returned back by a specific time, discuss the situation with the dealer's service management 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 do not be offended if you are told you cannot watch the work being done. Some insurance requirements forbid admission of customers to the service area.



**Inspect the work performed...** Finally, check out the service or repair job when you pick up your RV. Notify the dealer's service management immediately of any dissatisfaction. If you cannot return your RV immediately for repair, make an appointment as soon as possible.

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

## CUSTOMER RELATIONS

Jayco, Inc. 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.**

Most issues arise from misunderstandings about warranty or service needs. We recognize that, on some occasions, you will not be totally satisfied with a dealer's decision or actions. If this is the case, you should write or call Jayco Customer Service. Our hours are Monday – Friday, 8:00 a.m. – 5:00 p.m. (closed holidays). Please provide the following information:

- ☐ Your name, location and phone number.
- ☐ Your RV's 17-digit vehicle identification number (VIN).
- ☐ Date of purchase.
- ☐ Name of the dealership who sold the RV to you.
- ☐ Name and address of the dealer servicing your RV.
- ☐ A detailed description of the concern.
- ☐ If applicable, the component description, serial number and model number.

### Mailing address

Jayco, Inc.  
Customer Service  
P.O. Box 460  
903 S. Main Street  
Middlebury IN 46540

Phone number:

Fax number:

Email:

Website:

### Shipping address

Jayco, Inc.  
Customer Service  
100 Bontrager Drive  
Bldg 42 Door 4220  
Middlebury IN 46540

(574) 825-0608

(866) 709-9139

[service@jayco.com](mailto:service@jayco.com)

[www.jayco.com](http://www.jayco.com)

### California Lemon Law notice

If you have determined that your vehicle has non-conformities under the California Lemon Law, you must provide written notice of the claimed defects directly to Jayco, Inc., and permit Jayco to perform a final repair attempt.

### An important note

#### about alterations and warranties

Installations or alterations to the original equipment vehicle as distributed by Jayco, Inc. are not covered by the Towable Limited Warranty. The special body company, assembler, equipment installer, or upfitter 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, Inc. is not responsible for the safety or quality of design features, materials or workmanship of any alterations by such suppliers.

## CHANGE OF

## ADDRESS OR OWNERSHIP

Help keep our records current so that if, in the event of a recall, you are notified. Please notify Jayco Customer Service of a change of address or ownership. Mail the completed form (located in the back of this manual) to Jayco. If you have purchased your RV as "used" include documentation showing your proof of ownership (i.e., a copy of your bill of sale, insurance policy, etc.).





### OWNER'S INFORMATION

Complete the information below for ready reference when maintenance or service is needed. If you ever need to contact your selling dealer or Jayco Customer Service, you will need your 17-digit VIN and delivery date.

AMERICA'S MOST **LIVEABLE** RVs.

Owner Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ ST/Province \_\_\_\_\_ ZIP/Postal Code \_\_\_\_\_

VIN \_\_\_\_\_

License Plate No. \_\_\_\_\_ Delivery Date \_\_\_\_\_

Dealer Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ ST/Province \_\_\_\_\_ ZIP/Postal Code \_\_\_\_\_

Dealer's Phone No. \_\_\_\_\_ Fax No. \_\_\_\_\_

Salesperson \_\_\_\_\_

### Key Numbers

Entry Door Deadbolt \_\_\_\_\_

Entry Door Lock \_\_\_\_\_

Other \_\_\_\_\_ Other \_\_\_\_\_

Other \_\_\_\_\_ Other \_\_\_\_\_

Insurance Company \_\_\_\_\_

Policy Number \_\_\_\_\_

Agent's Phone No. \_\_\_\_\_ Fax No. \_\_\_\_\_

Agent's Name \_\_\_\_\_



## THE JAYCO TRAVEL CLUB



All owners of Jayco RVs are eligible for membership in Jayco Travel Club. The club promotes family camping and the active use of your RV with others who have similar interests in the RV lifestyle.

Joining is easy, please contact them directly at 1-800-262-5178 or (574) 258-0571 ext. 45.

## JAYCO CUSTOMER FIRST EMERGENCY ROADSIDE ASSISTANCE

Jayco has teamed up with Coach-Net, to give you 24 hour, 7 days a week motorist assistance. We are offering this free of charge for the first year of ownership (certain restrictions apply\*). You may continue your emergency roadside assistance benefits in the following years by contacting Coach-Net to discuss any applicable terms and rates for this independently continued coverage.

For further details on how to access your emergency roadside assistance benefits, please refer to your Member Benefit Guide that is sent out after Jayco receives your completed Warranty Registration and Customer Delivery Form, or contact Coach-Net ([www.coach-net.com](http://www.coach-net.com)) direct at (toll-free) 1-877-801-0333.

*\*To qualify for coverage, your RV must be eligible as set forth under the terms of the Jayco limited warranty.*

## OBTAINING EMERGENCY WARRANTY REPAIR

A roadside emergency can happen at any time, whether your RV is new or old. If you are traveling, using the following guidelines can help get you back on the road faster.

1. Find a dealer or RV service center willing to perform your repairs and make an appointment. Ask the campground staff for referrals or check the local telephone yellow pages for a service center.

2. Contact the service center to discuss your situation and ask how their billing will be handled. They may choose to bill Jayco directly; otherwise, you are expected to pay them.
3. Have the service center inspect your RV and call Jayco Customer Service to discuss your concern.
4. Once the repair is approved, Jayco Customer Service will issue an authorization number and advise if any original parts need to be returned. Keep in mind you will only be reimbursed by Jayco for the specifically authorized repairs and parts.
5. Inspect the completed repair thoroughly. Make sure you are satisfied with the repair before you pay the service center directly or leave the premises. If you are not satisfied, communicate that immediately to their service management.
6. Either you or the service center must send Jayco Customer Service a copy of your itemized repair order and any requested return parts by UPS (regular ground, freight pre-paid) to our shipping address.

*Make sure to include the following: The RV 17-digit VIN, your name, address, phone number, authorization number and a copy of your return freight bill.*

If you are unable to locate a dealer for warranty service, please contact Jayco Customer Service for assistance.

### For weekend or after hours assistance

If a Jayco dealer is not located nearby, contact your selling dealer for assistance. If your dealer is closed, check with the campground staff or telephone yellow pages for a service center. 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 reimbursement(s) and loss of warranty.*



## OBTAINING SERVICE FOR SEPARATELY WARRANTED ITEMS

Your selling dealer is responsible for servicing your RV 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 component-manufacturers whose products are warranted separately and excluded from the Jayco limited warranty (refer to your Goodie Bag).

## OBTAINING SERVICE AT JAYCO

Should your RV be in need of service, and your dealer recommend that the repairs be made at the Jayco Factory Service Center, your RV may be returned to us with the following guidelines\*:

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

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

## JAYPLUS EXTENDED SERVICE CONTRACT



You can purchase the JayPlus Extended Service

Contract through a participating Jayco dealer. For more information, please contact your dealer or call 1-800-RV-JAYCO to locate participating dealers.

## REPLACEMENT PARTS

Jayco does not sell parts retail direct or to non-authorized dealers. Please contact your RV dealer for assistance in obtaining replacement parts. If the original part is no longer available, Jayco will try to provide an appropriate substitute.



## **TOWABLE LIMITED WARRANTY**

### **WHAT AND WHO IS COVERED**

The Jayco warranty covers this recreational vehicle ("RV"), when used only for its intended purpose of recreational travel and camping, for two (2) years. The warranty period begins on the date that the RV is delivered to the first retail purchaser by an independent, authorized dealer of Jayco, or, if the dealer places the vehicle in service prior to retail sale, on the date the RV is first placed in such service. In the event that a substantial defect in material or workmanship, attributable to Jayco, is found to exist during the warranty period, it will be repaired or replaced, at Jayco's option, without charge to the RV owner, in accordance with the terms, conditions and limitations of this limited warranty.

This limited warranty applies to the first consumer purchaser, and the next subsequent owner, only. This limited warranty may be transferred once during the warranty period. However, the subsequent owner must submit a warranty transfer form to Jayco to make the warranty transfer effective. You may contact an independent, authorized dealer for details. All rights and limitations within this warranty are applicable to the original owner and the subsequent owner of the RV. The subsequent owner's warranty coverage period is the remaining balance of the warranty coverage period that the prior owner was entitled to under this limited warranty.

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

### **LIMITATIONS, EXCLUSIONS AND DISCLAIMER OF IMPLIED WARRANTIES**

**ANY IMPLIED WARRANTY THAT IS FOUND TO ARISE BY WAY OF STATE OR FEDERAL LAW, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR ANY IMPLIED WARRANTY OF FITNESS, IS LIMITED IN DURATION TO THE DURATION SET FORTH IN THIS LIMITED WARRANTY AND IS LIMITED IN SCOPE OF COVERAGE TO THE SCOPE OF COVERAGE OF THIS LIMITED WARRANTY.** Jayco makes no warranty of any nature beyond that contained in this limited warranty. Jayco does not authorize any person to create any other obligation or liability for it regarding this RV, and Jayco is not responsible for any representation, promise or warranty made by any dealer or other person beyond what is expressly stated in this limited warranty, and no one has the authority to enlarge, amend or modify this limited warranty. Any selling or servicing dealer is not Jayco's agent, but an independent entity.

**JAYCO SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES THAT MAY RESULT FROM BREACH OF THIS LIMITED WARRANTY OR ANY IMPLIED WARRANTY. THIS EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES SHALL BE INDEPENDENT OF ANY FAILURE OF THE ESSENTIAL PURPOSE OF ANY WARRANTY, AND THIS EXCLUSION SHALL SURVIVE ANY DETERMINATION THAT THIS LIMITED WARRANTY OR ANY IMPLIED WARRANTY HAS FAILED OF ITS ESSENTIAL PURPOSE.**

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



## HOW TO GET SERVICE

To obtain warranty service the owner must do all of the following:

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

For warranty service, simply contact one of Jayco's independent, authorized service centers for an appointment and then deliver your RV to the service center on the specified appointment date. If you need assistance you may contact Jayco, at P.O. Box 460, Middlebury, Indiana 46540, Attn: Customer Service, (574) 825-0608, or <http://www.jayco.com>.

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

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

## WHAT IS NOT COVERED

By way of example only, this Limited Warranty does not cover any of the following: defects in materials, components or parts of the RV not attributable to Jayco, items that are added or changed after the RV leaves the possession of Jayco; additional equipment or accessories installed at any dealership, or other place of business, or by any other party, other than Jayco; any RV used for rental or other commercial purposes (Note: It shall be concluded that the RV has been used for commercial and/or business purposes if the RV owner or user files a tax form claiming any business or commercial tax benefit related to the RV, or if the RV is purchased in a business name); any RV not used solely for recreational travel and camping; normal wear, tear or usage, such as tears, punctures, soiling, mildew, fading, or discoloration of exterior plastic or fiberglass, or soft goods, such as upholstery, drapes, carpet, vinyl, screens, cushions, mattresses and fabrics; the effects of condensation or moisture from condensation inside the RV; mold or any damage caused by mold to the inside or outside of the RV; imperfections that do not affect the suitability of the RV for its intended purpose of recreational use or items that are working as designed but that you are unhappy with; problems, including water leaks, related to misuse, mishandling, neglect or abuse, including failure to maintain the RV in accordance with the owner's manual, or other routine maintenance such as inspections, lubricating, adjustments, tightening of screws, tightening of lug nuts, sealing, rotating tires; damage due to accident, whether or not foreseeable, including any acts of weather or damage or corrosion due to the environment, theft, vandalism, fire, or other intervening acts not attributable to Jayco; damage resulting from tire wear or tire failure; defacing, scratches, dents, chips on any surface or fabric of the RV; damage caused by off road use, overloading the RV or alteration of the RV, or any of its components or parts; wheel alignment or adjustments to axles when caused by improper maintenance, loading or damage from road hazards, including off road travel, wheel damage or balancing or damage from tire failures.

In addition, this limited warranty does not cover any material, component or part of the RV that is warranted by another entity, including, by way of example, handling, braking, wheel balance, muffler, tires, tubes, batteries, gauges, generator, jacks, inverter, microwave, television, VCR, CD player, tape player, radio, speakers, television, refrigerator, range, water heater, stove, carbon monoxide detector, smoke detector, furnace or any air conditioner. (Note: The written warranty provided by the manufacturer of the component part is the direct responsibility of that manufacturer).

Defects and/or damage to interior and exterior surfaces, trim, upholstery and other appearance items may occur at the factory. These items are usually detected and corrected at the factory or by the selling dealer prior to delivery to the retail customer. You must inspect your RV for this type of damage when you take delivery. If you find any such defect or damage you must notify the selling dealer at time of delivery to have these items covered by this limited warranty and to have work performed on the items at no cost to you as provided by this limited warranty.





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

Certain things completely discharge Jayco from any obligation under this warranty and void it. By way of example, the following shall discharge Jayco from any express or implied warranty obligation to repair or replace any defect that results from: any rental or other commercial use or purchase of the RV (as defined in this warranty), any defect in a separately manufactured component part, owner neglect or failure to provide routine maintenance (See Owner's Manual), unauthorized alteration, off road use, collision or accident, whether or not foreseeable, including any acts of weather or damage or corrosion due to the environment, theft, vandalism, fire, explosions, overloading in excess of weight ratings, and tampering with any portion of the RV.

## **LEGAL REMEDIES**

Any action to enforce any portion of this limited warranty, or any implied warranty, shall be commenced within six (6) months after expiration of the warranty coverage period designated above. Any performance of repairs shall not suspend any limitation period from expiring. Any performance of repairs after the warranty coverage period has expired, or performance of repairs regarding any thing excluded from coverage under this limited warranty shall be considered "good will" repairs, and they will not alter the express terms of this limited warranty, or extend the warranty coverage period or this limitation period in this paragraph. In addition, this warranty is not intended to extend to future performance, and nothing in this warranty, or any action of Jayco, or any agent of Jayco, shall be interpreted as an extension of the warranty or this limitation period. Some states do not allow a reduction in the statute of limitations, so this reduction may not apply to you.

## **WARRANTY REGISTRATIONS:**

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

## **CARE AND MAINTENANCE**

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

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

JAYCO, INC.  
903 South Main \* P.O. Box 460 \* Middlebury, IN 46540  
Telephone: 574-825-0608



## LIMITED WARRANTY TRANSFER APPLICATION

Mail original copy of Jayco, Inc. Limited Warranty Transfer Application to:

Jayco, Inc.  
Warranty Dept.  
P.O. Box 460  
Middlebury, IN 46540

### REQUIRED FIELD

Vehicle Identification Number \_\_\_\_\_

### Transfer Coverage To:

#### A NEW OWNER INFORMATION

Last Name \_\_\_\_\_

First Name \_\_\_\_\_

Owner Address 1 \_\_\_\_\_

Owner Address 2 \_\_\_\_\_

Owner Address 3 \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip \_\_\_\_\_

Phone Number \_\_\_\_\_

\_\_\_\_/\_\_\_\_/\_\_\_\_  
Date of Transfer

\_\_\_\_/\_\_\_\_/\_\_\_\_  
Odometer Reading at Transfer **MUST BE COMPLETED ON ALL MOTORIZED VEHICLES**

### Transfer Coverage From:

#### B PRIOR OWNER INFORMATION

Last Name \_\_\_\_\_

First Name \_\_\_\_\_

#### C SELLING DEALER INFORMATION (IF APPLICABLE)

Dealership Name \_\_\_\_\_

Dealer Address 1 \_\_\_\_\_

Dealer Address 2 \_\_\_\_\_

Dealer Address 3 \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip \_\_\_\_\_

Phone Number \_\_\_\_\_

**PLEASE READ TERMS AND REPRESENTATIONS PRIOR TO SIGNING.**

#### D ALL TITLED OWNER SIGNATURES

**I HAVE READ AND AGREE TO THE TERMS AND CONDITIONS ON THE BACK OF THIS FORM.**

\_\_\_\_\_  
New Owner's Signature

\_\_\_\_\_  
New Owner's Signature

\_\_\_\_\_  
New Owner's Signature

\_\_\_\_\_  
Selling Dealer's Signature

**THE LIMITED WARRANTY MAY BE TRANSFERRED ONE (1) TIME DURING THE WARRANTY PERIOD WITH THIS APPLICATION.**



### TERMS AND REPRESENTATIONS

By my signature(s) on the face side of this form, and in order to induce Jayco, Inc. to transfer its Limited Warranty, I represent the following:

1. That I have received and read a copy of the Jayco Limited Warranty and Owner's Manual.
2. I understand that the unit is to be used only for recreational camping and travel.
3. That all information provided by me on the face side of this form is true and correct.
4. I understand that I am purchasing a pre-owned recreational vehicle and Jayco, Inc. does not make any representation as to its present condition.



Camping is a great way to enjoy the outdoors with your family and friends. By following the proper precautions and planning, you can help insure a safe, enjoyable and trouble-free trip. We encourage you to develop a family safety plan in case of an emergency or severe weather condition, and practice it with your entire family, especially children.

- ❑ Draw a floor plan of your RV and find two ways to exit. There should be one way to get out of your RV without opening the door.
- ❑ Please teach everyone what the RV alarm signals mean and how to be prepared to leave the RV by themselves if necessary.
- ❑ Teach everyone how to check doors and not to open them if they are hot. Also to stay low and not to breathe smoke, fumes or gases.
- ❑ Decide on a meeting place a safe distance from your RV and make sure everyone understands where he or she should go and wait if there is a dangerous condition.
- ❑ Conduct safety drills at least every six months to make sure that everyone, including guests, knows what to do in order to escape safely.
- ❑ Make sure everyone knows where to go to call the fire department or 911 from outside the RV. Consult your local fire department for additional safety precautions.

## SEVERE WEATHER INFORMATION

One of the more serious conditions you need to take into account when camping is that of the weather which is subject to change with little or no warning. However, local radio and TV stations normally broadcast weather conditions and warnings as they occur. Research other methods of learning about severe weather conditions and how to deal with them.

Familiarize yourself with the following weather terms:

**Warning** - Indicates that a particular weather hazard is either imminent or has been reported. A warning indicates the need to take action to protect life and property. Move to a safe location immediately. The type of hazard is reflected in the type of warning (i.e., tornado warning, blizzard warning, etc.).

**Watch** - Indicates a particular hazard is possible and that conditions are more favorable than usual for its occurrence. A watch is a recommendation for planning, preparation and increased awareness (i.e., to be alert for changing weather, listen for further information and think about what to do if the danger materializes).

You may want to consider investing in a weather radio. These radios offer up-to-date weather reports from the local National Weather Services in recorded messages that last from three to five minutes. These messages are replayed continually 24 hours a day. The recorded messages are revised every three to four hours (or more frequently when appropriate).

The frequencies used for National Oceanic and Atmospheric Administration (NOAA) stations nationwide are 162.400, 162.425, 162.450, 162.475, 162.500, 162.525 or 162.55 megahertz or visit their website at [www.noaa.gov](http://www.noaa.gov).

## WARNING

During severe weather conditions move indoors to a place of safety or shelter as directed by the campground or appropriate authorities. Avoid trees or power lines that could fall on your vehicle. The safest place is inside a basement or storm shelter, not a recreation vehicle or automobile.



Some RVers seek secluded areas and campsites that can be vulnerable to severe weather situations, especially flash flooding. Following these precautions may help you lessen the hazard of flash flooding or reduce your immediate involvement:

- ❑ Stay alert; thunderstorms can form at any time, in any month of the year. Listen frequently to weather reports on the radio or TV for weather and flood conditions.
- ❑ When camping near a stream, allow for plenty of sloping bank between your RV and the stream.
- ❑ Avoid deep canyons and dry washes during stormy or threatening weather. Have alternative exit routes mapped out. If heavy rain occurs, move to higher ground immediately (at least 30-40 feet above the canyon floor or bottom of the dry wash).
- ❑ During a flash flood, if you cannot move your RV, abandon it. Do not attempt to return to your RV until the waters have receded.
- ❑ Do not attempt to wade to your RV if the water is above your knees. Fast moving water exerts an enormous amount of pressure and can make it impossible to remain standing or walking.
- ❑ Do not try to drive through flooded areas.
- ❑ Follow the instructions of the local authorities. Leave immediately if advised to do so. Many lives are lost because people did not heed safety warnings.
- ❑ Have survival supplies on hand that will last for several days. Include food, water, first aid equipment and necessary medications. In desert areas during hot weather, allow three to four gallons of drinking water per person (per day).
- ❑ Before you leave home, inform someone of your destination and when you expect to return. Authorities at your destination should be notified immediately if you do not arrive on time.

Be aware of the heat index if camping during hot weather. Keep yourself hydrated, and try to stay indoors in an air-conditioned area during a high heat index warning.

## **EGRESS EXIT WINDOW**

Your RV has an egress exit window. This window will allow a quick exit from the RV during an emergency if access to the main entrance door is not available. Its red snap latches and label easily identify it. Practice opening the window before an emergency occurs, and make sure all occupants know how to operate it.

When pulling into your campsite make sure the egress exit window is not blocked by trees or other obstacles. Verify the area below the window is over solid ground that can be used as an escape path. Do not remove the label listed below from its location at the egress exit window:



Fig. 2.1 Exit label

## **FIRE SAFETY**

If a fire starts, follow these basic rules:

1. Always call the Fire Department, no matter how small the fire.
2. Have everyone (including pets) evacuate the RV immediately.
3. After everyone is clear and accounted for, check the fire to see if you can attempt to put it out.
4. If the fire is large or fuel-fed, get clear of the RV and have the Fire Department handle the emergency.





5. Do not attempt to use water to put out the fire. Water can spread some types of fire, and create an electrocution hazard during an electrical fire.

If you feel the fire was caused by a product failure you must contact Jayco Customer Service at (574) 825-0608 for approval before you clean any debris, enter, move or repair the RV (failure to notify Jayco may result in loss of coverage). Otherwise, when the fire is out clean up the area as soon as possible.

### OTHER FIRE SAFETY INFORMATION

In addition to the fire safety information contained in this section, to ensure an appropriate response in an emergency fire situation also refer to the following fire safety topics:

- ❑ **Sec. 3 Electrical Systems**, In case of an electrical fire.
- ❑ **Sec. 8 Camping & Operating**, In case of a grease fire.

For more information on fire fighting, contact your local fire department or the U.S. Coast Guard. Additional information can be found at the National Fire Protection Association website ([www.nfpa.org](http://www.nfpa.org)).

### FIRE EXTINGUISHER

The Underwriter Laboratories classify household fire extinguishers into four types:

Rating	Intended Use
<b>Type A</b>	For use on fires involving combustible materials such as wood, cloth and paper.
<b>Type B</b>	For use on flammable liquid fires, including kitchen grease. Never use water on this type of fire!
<b>Type C</b>	For use in fires involving energized electrical equipment
<b>Type ABC</b>	Works on all three types of fires listed above.

The dry chemical fire extinguisher, suitable for extinguishing small fires of the Class B and Class C type, is located near the entry door. Read the OEM operator's manual and the instructions on the fire extinguisher. Know how

and when to use the extinguisher and where it is located. If there is any doubt on the operation of the fire extinguisher, you and your family should practice using it then replace it. It is important to recognize when to leave the RV. Your No. 1 priority is to get out safely.

### ⚠ CAUTION

Avoid inhaling the dry chemical agent in the fire extinguisher. It is not toxic, but may cause skin irritation. In case of contact, flush the affected area with clean, cool water. If irritation persists, contact a physician immediately.

### SMOKE ALARM

Three of the most common fire safety issues are smoking in bed, leaving children unattended and cleaning with flammable fluids. There is no way to guarantee against injury or loss of life in a fire; however, the smoke alarm is intended to help reduce those risks. This smoke alarm will not alert hearing impaired residents. Special alarms with flashing strobe lights must be installed for the hearing impaired.

Proper use and care of your smoke alarm may save your life. Smoke alarms can only work if they are properly located, installed, operational and maintained and if smoke reaches them. They are not foolproof. Your RV is equipped with a battery powered smoke alarm that is listed to UL 10/1/99 smoke alarm standard for Residential and Recreational Vehicles.

The ceiling mounted smoke alarm is operational once the 9-volt battery is correctly connected. The LED will flash to show the battery is supplying power to the alarm. When the product of combustion is sensed, the smoke alarm sounds a loud alarm that continues until the air is cleared. Do not remove the following label from your RV:



## ⚠ WARNING

TEST SMOKE ALARM OPERATION AFTER VEHICLE HAS BEEN IN STORAGE, BEFORE EACH TRIP, AND AT LEAST ONCE PER WEEK DURING USE.

FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY.

0173019

Fig 2.2 Smoke alarm warning label

### How to test

Stand at arm's length from the smoke alarm when testing. The alarm horn is loud and may be harmful to your hearing. The test button will accurately test all functions. Never use an open flame from a match or lighter to test the smoke alarm; you may ignite and set fire to the smoke alarm and your RV. If the alarm does not test properly, return the alarm to your RV dealer immediately for repair or replacement.

### Battery

The smoke alarm will not function if the battery is missing, disconnected, dead, the wrong type of battery is used or the battery is installed incorrectly. When the battery becomes weak, the smoke alarm will "beep" (the low battery warning). If the low battery warning sounds, the battery **MUST** be replaced. Never disconnect the battery to silence the smoke alarm.

### Inspection and maintenance

Read the OEM operator's manual. Be sure to know how and when to use the smoke alarm and where it is located.

## CARBON MONOXIDE ALARM

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 RV or calling for assistance. Young children and household pets may be the first affected.

The following symptoms are related to carbon monoxide poisoning and should be discussed with all members of the household:

### Mild exposure

Slight headache, nausea, vomiting, fatigue (often described as "flu-like" symptoms).

### Medium exposure

Severe throbbing headaches, drowsiness, confusion, fast heart rate.

### Extreme exposure

Unconsciousness, convulsions, cardio-respiratory failure, death.

As of January 2005, carbon monoxide (CO) detectors are now standard equipment in any new RV. The carbon monoxide alarm is operational once the 9-volt battery is correctly connected. The LED will flash to show the battery is supplying power to the alarm. Individuals with medical problems may consider using warning devices that provide audible and visual signals.

The carbon monoxide alarm is designed to detect the toxic carbon monoxide fumes that result from incomplete combustion, such as those emitted from appliances, furnaces, fireplaces and auto exhaust. A carbon monoxide alarm is **NOT A SUBSTITUTE** for other combustible gas, fire or smoke alarms. There are hazards against which carbon monoxide detection may not be effective, such as natural gas leaks or explosions.

### What you should do if the alarm sounds

## ⚠ WARNING

Actuation of this alarm may indicate the presence of carbon monoxide that can kill you. This alarm will only indicate the presence of carbon monoxide gas at the sensor. Carbon monoxide gas may be present in other areas.



The alarm will automatically sense when the level of carbon monoxide in the air reaches dangerous levels. You should stay outside the RV in fresh air until the alarm is silenced. When the alarm sounds, do not stand too close to it. The sound produced by the alarm is loud because it is designed to wake a person in an emergency. Prolonged exposure to the alarm at a close distance may be harmful to your hearing.

1. Operate the RESET/SILENCE button.
2. Call your emergency services (fire department or 911).
3. Immediately move to fresh air (outdoors or by an open door or window).
4. Do a head count to check that all persons (and pets) are present.
5. Do not re-enter the premises. If unable to exit the premises do not move away from the open door or window until the emergency service responders have arrived, the premises have been aired out and your alarm remains in its normal condition.

If your alarm reactivates within a 24-hour period, repeat steps 1-5 and call a qualified appliance technician to investigate for sources of carbon monoxide from fuel burning equipment and appliances, and inspect for proper operation of this equipment. If problems are identified during this inspection, have the alarm serviced immediately. Note any combustion equipment not inspected by the technician. Make sure that any motor vehicle(s) are not and have not been operating in an attached garage or adjacent to the RV.

### Battery

The carbon monoxide alarm will not function if the battery is missing, disconnected, dead, the wrong type of battery is used or the battery is installed incorrectly. When the battery becomes weak, the carbon monoxide alarm will “beep” (the low battery warning). If the low battery warning sounds, the battery **MUST** be replaced. Never disconnect the battery to silence the carbon monoxide alarm.

### Testing the carbon monoxide alarm

Test the alarm operation after the RV has been in storage, before each trip and at least once per week during use. Test the carbon monoxide alarm after each cleaning. If the alarm does not test properly, return the alarm to your RV dealer immediately for repair or replacement.

## ⚠ WARNING

If the CO detector is not maintained and functioning properly according to the CO detector manufacturer's supplied instructions, you will not be warned if CO is present in the air. Death or serious illness could result from asphyxiation (inability to breathe) if CO is present.

### Inspection and maintenance

Read the OEM operator's manual. Be sure to know how and when to use the carbon monoxide alarm and where it is located.

## PROPANE (LP) GAS ALARM

## ⚠ WARNING

The alarm cannot detect propane or sound a warning for two minutes after it has been turned on. The propane leak alarm is not a smoke or fire alarm. The alarm will only indicate the presence of propane gas at the sensor. Explosive gas may be present in other areas.

For your safety protection, any new RV that contains a propane gas system with propane consuming appliances must have a propane leak detection device. Because the chemical composition of propane is heavier than air, the propane alarm is located near the floor of the RV (leaking propane tends to flow to and pocket in low areas). A lit green LED indicates when the alarm is active. Individuals with medical problems, or who are hard of hearing, should consider using warning devices that provide both audible and visual signals.



This alarm is designed to sense the presence of propane gas however there are other combustible fumes or vapors that may be detected by the sensor including (but not limited to): acetone, alcohol, butane and gasoline. These chemicals can be found in commonly used items such as deodorants, colognes, perfumes, adhesives, lacquer, kerosene, glues, wine, liquor, most cleaning agents and the propellants of aerosol cans. High temperatures can activate glue and adhesive vapors. If you close up a recreational vehicle on a hot day, the chemicals used in its construction may be detected for months after the vehicle was constructed (for more information, refer to **Sec. 9 Storage & Maintenance**, Formaldehyde).

#### **If the alarm sounds**

1. Turn off all propane gas appliances (i.e., stove, water heater, furnace, etc.).
2. Open all windows and roof vents, and evacuate the RV.
3. Turn OFF the propane tank valve.
4. Do not touch any electrical switch or use any phone or radio in the RV.
5. Do not start any vehicle engine or generator.
6. Determine and repair the source of the leak.
7. Do not re-enter the RV until the problem has been corrected.

If the alarm keeps sounding at regular intervals, a leak may be present. Contact your dealer or propane gas service to have the problem corrected before using the propane system again.

#### **Testing the propane leak alarm**

If the propane leak alarm does not test properly, return the alarm immediately to your RV dealer for repair or replacement.

Do not remove the following label from your RV:

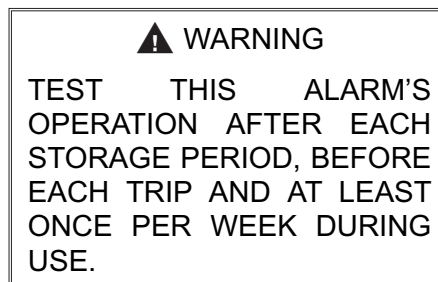


Fig. 2.3 Propane leak alarm warning label

#### **Battery or converter power source**

The propane gas alarm is powered by 12-volt DC through the converter or from the auxiliary battery (customer supplied). This alarm is always drawing a small amount of 12-volt current. Although this current draw is slight, it could drain the auxiliary battery during extended storage periods. If the auxiliary battery becomes extremely drained, the LED light on the face of the alarm will not light or the alarm may begin to sound on its own. This condition is not likely to occur except during storage situations when the converter cannot maintain the battery charge.

#### **⚠ WARNING**

The propane gas alarm should never be disabled because of nuisance or low battery alarms. If the auxiliary battery cable is disconnected, and other 12-volt power is not available, the propane leak alarm will not work and you will not be warned if leaking propane is present.

#### **For more information**

Read the OEM operator's manual. Be sure to know how and when to use the propane gas alarm and where it is located.



Your RV contains separate low voltage (12-volt DC) and high voltage (120-volt AC) electrical systems. All installations have been made in compliance with the safety requirements of ANSI standard A.1192, National Electric Code and Canadian Standards Association Code. Because the wiring and circuitry is engineered into a dedicated system specific to your RV, we recommend you do not make unauthorized changes or add fixed appliances yourself. Only qualified electrical dealer technicians should attempt to make changes or additions to the electrical system. Approved materials, components and methods of installation must be used to meet safety and code requirements. **Any changes or additions made to your RV may result in a hazardous condition.**

### ELECTRICAL SYSTEM PRECAUTIONS

Careless handling of electrical components can be fatal. Always take the appropriate safety precautions when working around the RV electrical system.

- ❑ Use caution when using metal tools around the RV electrical system. 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.
- ❑ Remove your rings, metal watchbands and any other metal jewelry before working around the RV electrical system.
- ❑ Never touch or use electrical components with bare feet, wet hands or while standing in water or on wet ground.
- ❑ **NEVER** allow children to play with the electrical system or components.

Always disconnect the power cord and auxiliary battery negative cable from the battery before working around the RV electrical systems.

### IN CASE OF AN ELECTRICAL FIRE

#### WARNING

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

1. Have everyone (including pets) evacuate your RV immediately.
2. After everyone is clear and accounted for, if possible:
  - a. Disconnect the power cord from the external power source.
  - b. Disconnect the auxiliary battery cables.
  - c. Turn OFF the generator (customer supplied)
3. Check the fire to see if you can attempt to put it out with the fire extinguisher. If there is any doubt, call the local Fire Department for emergency assistance.
4. Do not touch any electrical wires or appliances.

If you feel the fire was caused by a product failure you must contact Jayco Customer Service at (574) 825-0608 for approval before you clean any debris, enter, move or repair the RV (failure to notify Jayco may result in loss of coverage). Otherwise, when the fire is out clean up the area as soon as possible. Always have faulty or damaged wiring and electrical components repaired before using your RV again.

### 120-VOLT AC SYSTEM

#### WARNING

Make very certain the external power source (30 amp systems only) you connect the power cord to is rated for **120-volt AC** and not 240 volt AC.





Your RV is equipped with a 120-volt AC / 30-amp power cord and load center. A maximum of 30 amps (or 3600 watts) of power can be consumed at any given time. It may be necessary to stagger usage of some appliances to maintain your power usage at 30 amps or lower. The 120-volt AC system provides power to most of the appliances and all of the electrical outlets.

### 120-VOLT CIRCUIT BREAKERS

The circuit breaker panel protects the 120-volt electrical system from overloads, shorts in the wiring and shorts in the connected components. When an overload or short occurs, the circuit breaker will open (or “trip”) preventing any further flow of electricity and damage to the RV.

If a circuit breaker has been tripped, shut OFF the connected appliance (i.e., air conditioner, microwave, etc.) and allow a brief cooling period. Then reset the circuit breaker by moving the appropriate switch OFF and back ON. If the circuit breaker is continually tripped and no overload is evident, contact your RV dealer to have the electrical system tested and repaired. A circuit breaker identification label is permanently attached to the inside surface of the 120-volt load center. Circuit breakers will not offer complete protection of the RV electrical system in the event of a power surge or voltage spike.

#### Maintenance

At the beginning of camping season, inspect all the breakers. Turn each breaker OFF and back ON. Have the circuit breakers replaced as needed.

#### Replacement

### 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 over heating the RV wiring.

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

### 30-AMP POWER CORD

The 30-amp power cord is also commonly referred to as the “shore line power cord.” This power cord is designed to ground the RV electrical system through the external power source receptacle. It is also designed to carry the voltage and amperage output of most campground outlets. Occasionally the electrical service provided by a campground may experience low or high voltage (i.e., surges or spikes). Any prolonged exposure will shorten the life of the electrical system and appliances. Consult your dealer for recommendations on power surge protection.

#### Connecting the power cord

Always test the 30-amp external power source (i.e., the campsite power box or electrical box) with a ground monitor that uses indicator lights, before connecting your power cord to it. If the ground monitor indicates ‘reverse polarity’ or an ‘open ground’ **DO NOT** connect the power cord until the campground staff corrects their wiring problem.

1. Turn OFF 120-volt power to the campground power cord receptacle.
2. Turn OFF the load center main 120-volt circuit breaker.
3. Carefully extend the entire length of the power cord (approximately 25' - 35' or 7 m - 10 m) from the exterior electrical cable hatch to the external power source.
4. Plug the power cord into the receptacle. Be sure all the power cord prongs are properly plugged into the receptacle.
5. Turn ON 120-volt power to the campground power cord receptacle.
6. Return to your RV and turn ON the load center main circuit breaker.
7. **To help prevent power surges from damaging the connected loads, please follow these instructions when hooking up to the external power source:**



## **⚠ WARNING**

### **PLUG INTO 30-AMP SERVICE ONLY.**

- ❑ Do not hook up the 30 amp external power cord to any receptacle until you have contacted the campground owner and/or attendant of the premises to verify proper polarity and grounding. Polarity indicators can be purchased in most electrical and hardware stores.
- ❑ Do not use any cheater plug, adapter or extension cord to reduce 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 30-amp power cord plug to connect it to a receptacle for which it is not designed.
- ❑ Do not remove the grounding pin to connect to a non-grounded receptacle. Removal of the ground pin disables an important safety feature designed to prevent shock and electrocution hazards.
- ❑ Do not connect the power cord to an extension cord. Use of an improper extension cord will cause overheating of the cord as well as potentially causing premature failure of the AC equipment.

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

## **⚠ WARNING**

The power cord must be fully extended when in use and not left coiled in the electrical compartment or on the ground. If the power cord is left coiled, it may potentially create enough heat to melt its protective casing.

The power cord should unplugged when the RV is left unattended for any amount of time. If something would happen to the electrical system, this may help limit potential damage.

### **Ready to leave**

When you are ready to leave, reverse the power cord connection process. Be sure to close the electrical cable hatch to prevent water leaks.

### **Maintenance**

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

## **CONVERTER**

The converter converts 120-volt AC power to useable 12-volt DC power when the power cord is connected to an external power source. The converter also functions as a limited battery charger when power to run 120-volt lights and accessories is below the converter maximum output rating. The converter will automatically sense the condition of the auxiliary battery and, if it is below “full charge,” will begin charging. The rate of charge will decrease as the auxiliary battery reaches “full charge,” and the converter will remain “trickle” charging at a very low amperage rating.

If your auxiliary battery does not charge as described above, it is possible it has been fully discharged or is defective. If it is determined to be defective, contact the battery manufacturer for further instructions.

### **Thermal overload protection**

The converter has a built-in protective thermal breaker that will shut down the converter if it becomes overheated. Overheating can be caused by operating the converter above its maximum limit for an extended period of time or by an obstruction to its ventilation. The thermal breaker will reset itself after a cool down period and converter operation will resume. If the converter thermal breaker trips again shortly after an auto reset, take immediate steps to correct the cause of overheating. A portion of the RV 12-volt load



(lights or motors or both), should be turned OFF to reduce the total load. Remove any obstructions to the converter cooling fins or fan.

### **Inspection and maintenance**

Read the OEM operator's manual. If the converter is not working or the battery is not charging, check the two reverse polarity fuses located in the 12-volt fuse panel. There are no customer serviceable parts in or on the converter. If the converter box is opened, it will void the converter warranty. If you have further concerns contact your RV dealer.

### **GFCI RECEPTACLE OUTLET**

Grounding is your personal protection from electrical shock. Each RV has at least one ground fault current interrupter (GFCI) receptacle outlet engineered into the 120-volt AC electrical system. It may have additional outlets wired through, and protected by, the GFCI. Its function is to reduce possible injury caused by electric shock. The GFCI will not protect against short circuits or overloads.

#### **Test all GFCI receptacles monthly**

The 120-volt AC electrical system must be on in order to test the GFCI.

1. Plug a 120-volt AC electrical device into the GFCI receptacle outlet.
2. Push and release the RESET button (the 120-volt AC electrical device should operate normally).
3. Push in the TEST button.
4. The RESET button should pop out indicating the GFCI receptacle has been "tripped" and the 120-volt AC electrical device should cease to operate.

*If the GFCI receptacle outlet was furnished with an indicator light, it should be lit when the GFCI is "tripped."*

5. Push in the RESET button again and it should hold. If the GFCI did not trip, do not use the GFCI receptacle outlet or those wired to it. Call your RV dealer for repair

assistance if it does not hold and pops back out.

*If an indicator light is furnished, it will be OFF.*

When the GFCI breaker is tripped, it has interrupted ground fault current that could be caused by faulty wire insulation, wet wiring inside an appliance or equipment connected to the circuit, etc. Any faulty equipment should be repaired before your RV is used again.

*Although your RV's exterior power receptacle (if so equipped) is not a GFCI receptacle outlet, it is wired through and protected by the interior GFCI.*

### **CALCULATING ELECTRICAL LOAD**

When you purchase and use 120-volt appliances, remember your RV is limited to a maximum load of 30 amps. When camping and traveling, remember that each appliance, and 120-volt accessory places a load on your RV's electrical system. You may periodically trip a circuit breaker if the combined load of these appliances and accessories exceeds your 30-amp rating. You can determine the amperage rating of an appliance by dividing the watts it uses (usually found on a label or plate affixed to the appliance) by your RV's supply voltage.

*For example: 1200-watts divided by 120-volts equals 10-amps.*

### **12-VOLT DC SYSTEM**

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

- Power is supplied by the tow vehicle alternator when the engine is running and the 7-way trailer plug is connected. This powers the RV's running lights, brake lights, turn signals and brakes. In addition, the 7-way trailer plug provides a common ground and a 12-volt charge line to charge the auxiliary battery.



- ❑ The converter will supply interior 12-volt DC power when the power cord is plugged into a 120-volt external power source. The converter will also charge the auxiliary battery in most situations.
- ❑ The auxiliary battery powers many interior 12-volt components including the lighting fixtures, water pump, 12-volt motors, 12-volt appliances, slide room, etc. It also powers the breakaway switch.

In addition to the 12-volt DC system information contained in this section, also refer to the following 12-volt component information:

- ❑ **Sec. 5 Plumbing system**, 12-Volt Water pump & switch
- ❑ **Sec. 7 Towing & Handling**, Breakaway Switch
- ❑ **Sec. 7 Towing & Handling**, Wire harness/Connector plug.

### AUXILIARY BATTERY (CUSTOMER SUPPLIED)

Your RV has many 12-volt DC loads. When combined, their total is more than the converter can produce. High demands for 12-volt power can be met by an auxiliary battery for limited periods of time. The 12-volt DC electrical system is designed for usage with a Group 27, deep cycle battery.

#### Dry camping

Consider the charge condition of the auxiliary battery when dry camping. If the auxiliary battery is not being recharged and power is being drawn from it, it will eventually discharge. The battery will discharge at a faster rate as its energy level becomes depleted. It is recommended you plan your electrical usage accordingly.

A fully charged auxiliary battery will read 12.7 volts DC and 1.265 specific gravity at 80°F (32°C). The auxiliary battery is considered discharged at 11.8 volts DC by electronic standards. When voltage drops below those levels, permanent damage may occur. Typically, a deep cycle battery has an

amp-hour rating of 75-100 amps. If you run the furnace and refrigerator simultaneously, you will be using approximately (12.0 + 3.0) 15.0 amps per hour. This does not include any 12-volt lights, water pump or any other 12-volt component.

*If the furnace and refrigerator in the above example operated constantly, a 75 amp-hour battery would become fully discharged in 5 hours (75ah / 15a = 5h).*

For accuracy, test the auxiliary battery voltage using a volt-ohm meter (customer supplied).

For more information, refer to:

- ❑ **Sec. 5 Plumbing System**, Monitor Panel (If so equipped).
- ❑ **Sec. 10 Specifications & Glossary**, Approximate Electrical Load Rating.

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

#### Battery storage instructions

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

#### Replacement and maintenance

When it is time to replace the auxiliary battery, replace it with a Group 27 deep cycle battery only. Contact the battery manufacturer for further information. Do not reverse the positive





and negative battery cables. Doing so will blow the reverse polarity fuses that protect the converter.

### **BATTERY ISOLATOR FOR YOUR TOW VEHICLE (CUSTOMER INSTALLED)**

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

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

Your RV dealer can assist you with the selection, purchase and installation of this aftermarket part.

### **12-VOLT FUSE PANEL**

The 12-volt fuse panel is labeled to indicate the fuse sizes, positions and components powered. At the beginning of camping season, inspect all the 12-volt fuses and replace as needed.

#### **Replacing a fuse**

### **⚠ 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 over heating the RV wiring.

Before replacing a fuse, always turn OFF the electrical component(s) protected by it.

1. Disconnect the power cord.
2. Disconnect the auxiliary battery negative cable at the battery.
3. Remove the fuse panel cover to check fuses.

4. Pull the fuse straight out of the fuse block. If the fuse is not blown, something else must be causing the problem. Please contact your RV dealer for further assistance.
5. Insert a new fuse of the same specified voltage, amperage rating and type in the original location. **Never use a higher rated replacement fuse.**

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

### **12-VOLT DC OUTLET (IF SO EQUIPPED)**

There may be a 12-volt DC outlet (not applicable on all models) in your RV. When the 12-volt DC outlet socket is used as a power source for an electric appliance, make sure that the electric appliance operates at 12-volts and has an electric capacity of 60 (5 amps) watts or less. Cap the 12-volt DC outlet when it is not in use as the socket might become clogged by foreign material and become short-circuited.





**LP** (*liquefied petroleum*) gas is a clean and efficient form of energy when proper handling and safety precautions are observed. It enables you to enjoy a comfortable lifestyle when other forms of energy are not easily accessible. LP-gas includes both propane, butane and/or a mixture of both; however, regulatory codes require you use propane only in your RV. Propane is used as a fuel source for the majority of your appliances. The propane system is comprised of a propane container or cylinder, a two-stage regulator, hoses, piping and tubing to deliver propane to each appropriate appliance. If you have further questions about the operation of the appliances or the propane system after reading this Owner's Manual and the OEM operator's manuals, contact your RV dealer or a qualified propane service technician.

#### For more information

In addition to the information contained in this section, also refer to the following:

- ❑ **Sec. 2 Safety Precautions**, Propane (LP) gas alarm.
- ❑ **Sec. 8 Camping & Operating**, Cooking with propane.

#### Testing the propane system

### **DANGER**

**Never use an open flame to test for a propane leak.** Do not check for leaks using ammoniated or chlorinated household type detergents; these detergents can cause cracks to form on the metal tubing and brass fittings.

Although both Jayco, Inc. and your selling dealer test carefully for leakage, travel vibrations can loosen fittings. Continued maintenance is necessary for safe operation. The propane system should be checked every 30 days of RV use or 5,000 miles of travel (or at least once a year) as part of your normal maintenance. The propane system testing should only be performed by your RV dealer or a qualified propane service technician.

## PROPANE SAFETY PRECAUTIONS

### **WARNING**

The propane cylinder is equipped with a safety valve that relieves excessive pressure by discharging gas to the atmosphere. Do not bring or store portable propane containers(s) or other flammable liquids inside the RV because a fire or explosion may result.

Propane is a colorless and odorless gas that in the liquefied state resembles water. An odorant (ethyl mercaptan) with a scent similar to rotten eggs is added as a warning agent. It is possible some individuals may be less sensitive to the odorant used and not notice the smell of propane. Therefore, it is very important that everyone rely on the propane gas alarm. Practice safety at all times.

Propane is flammable, is always contained under pressure, and the liquid can freeze skin. Always wear protective clothing such as gloves and eye protection when the potential for contact with liquid propane is present. If you smell propane gas within the RV, quickly and carefully perform the procedure listed on the label below. This label should be kept permanently affixed to your RV.

### **DANGER**

#### IF YOU SMELL GAS

1. Extinguish any open flames, pilot lights and all smoking materials.
2. Do not touch electrical switches.
3. Shut off the gas supply at the container valve(s) or gas supply connection.
4. Open doors and other ventilating openings.
5. Leave the area until odor clears.
6. Have the gas system checked and leakage source corrected before using again.

FAILURE TO COMPLY COULD RESULT IN EXPLOSION RESULTING IN DEATH OR SERIOUS INJURY.

0173021

Fig. 4.1 "If you smell gas" label



It is important that everyone knows where to find the manual shut off valve on the propane cylinder, and understands how to operate it.

## HOW TO LEAK TEST THE PROPANE SYSTEM

### WARNING

IT IS STRONGLY RECOMMENDED THAT YOU HAVE A PROFESSIONAL TEST THE RV PROPANE SYSTEM FOR LEAKS ONE TIME EACH YEAR AS PART OF NORMAL MAINTENANCE.

Use an appropriate propane detector solution or create a soapy water solution. The propane detector solution can be purchased at your RV dealership (if soapy water is used, make sure that the soap used does not contain ammonia or chlorine). Apply the propane detector solution to all propane piping connections. If a leak is present, the solution will bubble at the connections.

#### If a leak is detected


1. Turn off all appliances that utilize propane.
2. Make sure that everyone is out of the RV, including pets.
3. Turn off the propane at the cylinder(s).
4. Contact your RV dealer for a service appointment and have the propane system repaired before using it again.

## DOT PROPANE CYLINDER

### WARNING

DOT propane cylinders must be transported and stored in an upright position so the pressure relief device will function properly. Laying a DOT propane cylinder on its side may potentially create a very dangerous situation.

Propane is stored in pressurized containers in a liquid state. As the propane is released from the container, it changes to vapor that is then used for the operation of the appliances. Propane will not run through the appliances in the liquid state. The volume of liquid propane increases approximately 1-1/2% for every 10°F (5.5°C) it is warmed. Heat the propane 100°F (55°C) and the container liquid volume will increase 15%. That is why it is imperative to leave sufficient space inside the cylinder to allow for natural expansion of gas during warmer weather. The following label should be kept permanently affixed to your RV.

 **WARNING**  
DO NOT FILL PROPANE CONTAINER(S) TO MORE THAN 80 PERCENT OF CAPACITY.  
FAILURE TO COMPLY COULD RESULT IN A FIRE OR PERSONAL INJURY.


 **CAUTION**  
THIS PROPANE PIPING SYSTEM IS DESIGNED FOR USE WITH PROPANE ONLY. DO NOT CONNECT NATURAL GAS TO THIS SYSTEM.  
Securely cap inlet when not connected for use. After turning on propane, except after normal cylinder replacement, test propane piping and connections to appliance for leakage with soapy water or bubble solution. Do not use products that contain ammonia or chlorine. JA-176

Fig. 4.2 "Do not fill to more than 80%" label

The main shut off valve must be kept closed at all times unless you are using the propane system or filling the propane cylinder. When the cylinder is disconnected from the hose, install the valve cover that is attached so the container. This is required by the National Fire Protection Agency (NFPA), other applicable local codes and for your own safety.

Close the propane cylinder main shut off valve by hand tightening only. Use of tools creates a potential to over tighten the valve (damaging the interior seals on the cylinder valve seat). If this type of damage occurs, the cylinder will not close properly and create a false sense of security.



The following label should be kept permanently affixed to your RV.

**WARNING**

THIS SYSTEM IS DESIGNED FOR USE WITH PROPANE ONLY.  
DO NOT CONNECT NATURAL GAS TO THIS SYSTEM.

**BEFORE TURNING ON PROPANE:**

- (A) BE CERTAIN APPLIANCES ARE CERTIFIED FOR PROPANE AND ARE EQUIPPED WITH CORRECT BURNER ORIFICES.
- (B) MAKE CERTAIN ALL PROPANE CONNECTIONS ARE TIGHT BY TESTING WITH SOAPY WATER, ALL APPLIANCE VALVES ARE TURNED OFF, AND ANY UN-CONNECTED OUTLETS ARE CAPPED.

**AFTER TURNING ON PROPANE:**

- (A) LIGHT ALL PILOTS.
- (B) ALL CONNECTIONS, INCLUDING THOSE AT THE APPLIANCES, REGULATORS, AND CYLINDERS, SHOULD BE LEAK-TESTED PERIODICALLY WITH SOAPY WATER BY THE OCCUPANT. NEVER USE A LIGHTED MATCH OR OTHER FLAME WHEN CHECKING FOR LEAKS.
- (C) DO NOT LEAVE SYSTEM TURNED ON OR CONTAINERS CONNECTED UNTIL THE SYSTEM HAS BEEN PROVEN TO BE FREE OF ANY LEAKS.
- (D) COOKING APPLIANCES SHOULD NOT BE USED FOR SPACE HEATING
- (E) WHEN THE CONTAINERS ARE DISCONNECTED, THE PROPANE SUPPLY LINE SHOULD BE CAPPED OR PLUGGED.

**AVERTISSEMENT**

CETTE INSTALLATION EST CONÇUE POUR LE PROPANE SEULEMENT.  
NE PAS L'ALIMENTER EN GAZ NATUREL.

**AVANT LA MISE EN SERVICE:**

- (A) S'ASSURER QUE LES APPAREILS SONT CERTIFIÉS POUR LE PROPANE ET MUNIS D'ORIFICES DE BRÛLEUR APPROPRIÉS.
- (B) VÉRIFIER L'ÉTANCHÉITÉ DE TOUS LES RACCORDEMENTS AU PROPANE, LA FERMETURE DE TOUS LES ROBINETS D'APPAREILS ET L'OBTURATION DE TOUTES LES SORTIES NON RACCORDÉES.

**APRÈS LA MISE EN SERVICE:**

- (A) ALLUMER TOUTES LES VEILLEUSES.
- (B) L'OCCUPANT DOIT ÉPROUVER PÉRIODIQUEMENT L'ÉTANCHÉITÉ DE TOUS LES RACCORDEMENTS, Y COMPRIS CEUX AUX APPAREILS, AUX DÉTENDEURS ET AUX BOUTEILLES, EN Y APPLIQUANT DE L'EAU SAVONNEUSE. NE JAMAIS SE SERVIR D'UNE ALLUMETTE OU AUTRE FLAMME POUR LA DÉTECTION DES FUITES.
- (C) NE PAS LAISSER L'ALIMENTATION OUVERTE, NI LES RÉCIPIENTS RECCORDÉS, AVANT D'AVOIR COMPLÉTÉ L'ÉPREUVE D'ÉTANCHÉITÉ AU PROPANE DE L'INSTALLATION.
- (D) LES APPAREILS DE CUISSON NE DOIVENT PAS ÊTRE UTILISÉS POUR LE CHAUFFAGE DES LOCAUX.
- (E) LORSQUE LES RÉCIPIENTS SONT DÉCONNECTÉS, L'ALIMENTATION DE PROPANE DOIT ÊTRE OBTURÉE OU SCELLÉE.

JA-105

Fig. 4.3 “Use propane only” label

### Servicing or filling

**⚠ WARNING**

Before entering a propane or fuel service station make sure all pilot lights are extinguished. Shut off gas to all appliances by closing the propane gas main shut off valve. Always shut OFF any engine before refueling. Do not smoke and do not operate other ignition sources while refueling.

Have the RV checked for leaks at the connections on the propane system soon after the purchase and the initial filling of each propane cylinder. When you have a new cylinder filled for the first time, make sure your propane supplier purges your new cylinder of trapped air. Otherwise, an improper mixture of

gas and air will make it impossible to light your propane appliances.

When a propane container is low, occasionally there may be a concentration of an onion or garlic-like odor, which can be mistaken for a propane leak. After a propane cylinder has been refueled, the odor will usually disappear. If not, turn OFF each propane cylinder shut off valve and have the propane system inspected by your RV dealer or a qualified propane service representative.

No one should be inside or and only the qualified propane service technician should be near the RV while the propane tank is being filled. The new propane container must be carefully purged for best performance and must **NEVER BE OVERFILLED**. The following label should be kept permanently affixed to your RV

**⚠ DANGER**

**ALL PILOT LIGHTS, APPLIANCES AND THEIR IGNITORS (SEE OPERATING INSTRUCTIONS) SHALL BE TURNED OFF BEFORE REFUELING OF MOTOR FUEL TANKS AND/OR PROPANE CONTAINERS. FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY.**

AD-05

Fig. 4.4 “Shut off during re-fueling” label

*Before filling your propane cylinder, make sure that the propane technician is qualified, knows and understands proper inspection and safety procedures.*

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



## ⚠ WARNING

The pigtail hose must be installed to avoid tension or pulling stress at either end of the hose. Keep the pigtail hose away from sharp edges of the cylinder collar, rigid corners, walls, doors or other compartment structures including the cover.

### Double propane cylinder assembly with the cylinder rack located on the A-frame or front trunk

The containers must be positioned in the tray with the valves pointing away from the trailer. The wing nut is placed on the threaded rod to hold the cross bar down and orient the containers. The regulator bracket is held in position by the threaded rod and centers the regulator between the two cylinders that are secured at the base on the tray.



Fig. 4.10 Double cylinder assembly

1. Connect the 3/8" low-pressure hose to the outlet of the two-stage regulator.
2. Place the cylinders on the bracket provided on the A-frame and secure them so the outlet of the cylinder valves point away from the front of the trailer.
3. Using the threaded center rod, position the regulator bracket. This centers the regulator between the two cylinders as they are secured to the base tray.
4. Attach the 1/4" inverted flare x 11" Type-1 pigtail hose to the regulator inlet and the right hand swivel nut to the cylinder valve.

**Two propane cylinders (20 lbs/44 kgs. or 30 lbs./66 kgs.) in a recessed compartment or housing:**



Fig. 4.6 Two propane cylinders

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

### Main Supply Hose – Low Pressure

Attach the main supply hose from the regulator to the brass manifold fitting in the frame of the trailer. The swivel brass nut on the main hose will be your final attachment. Several things to remember each time the propane container is removed:



Fig. 4.7 Main supply hose

1. Check that ALL fittings are tight.





2. Check that ALL connections are tested with leak solution. Consult with your RV dealer or propane service personnel.
3. Open the main valve slowly to avoid a fast rush of propane to excess flow valve causing propane freeze up. If you experience a propane “freeze-up,” close the main valve and wait at least fifteen (15) minutes before trying again. Refer to the regulator OEM operator’s manual.
4. Listen carefully - a “hissing” sound longer than one second may indicate a propane leak. Close the valve and search for the leak.

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

#### **Propane container overfill**

Never overfill your propane container above the liquid capacity indicated on the container. If a container is overfilled, liquid gas may flow through the gas regulator, causing it to freeze and/or introduce dangerous excessive gas pressure into the lines. In addition, an overfilled container placed in hot sunlight may expel excessive gas through the relief valve and be susceptible to ignition by any nearby open flame or spark.

If you do overfill the propane container, contact your RV dealer or a qualified propane technician for assistance immediately. Do not attempt to service a propane container overfill yourself.

#### **Maintenance**

Propane gas is normally non-corrosive - you need not worry about the inside of your container. However, the outside should be kept free from rust by a periodic coat of paint in a light reflective color. Rust, scratches and/or dents can affect the safety of the cylinder. Inspect the cylinder at regular intervals. If there is a problem, have it evaluated by a qualified technician and discard it. DOT requires that a visual inspection be made prior to each filling.

Any cylinder that has been exposed to fire, leaks or seems damaged should not be refilled. Do not attempt to repair any containers, container valves, regulator or appliances by yourself. Use only trained certified propane gas service technicians to perform repairs.

#### **Propane cylinder recertification**

If you have an older RV you should know that, according to Federal law, DOT cylinders may only be used for 12 years after their manufacture date (The number of years for certification may vary in your area). After that, the cylinders must be “recertified” which provides another five years of use. The cylinders can be recertified every five years thereafter. Federal DOT (Department of Transportation) regulations require periodic inspections and re-qualifications of the propane cylinders. DO NOT USE damaged or rusted containers.

Verify with your local propane dealer that all required inspections and certifications have been completed on the propane cylinder within the correct time period before refilling the cylinder.

#### **For more information**

Refer to the OEM operator’s manual.

### **PROPANE REGULATOR**

#### **⚠ WARNING**

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

The two-stage regulator has the only moving components in the propane system. Its sole function is to reduce the pressure from the propane containers to a safe and consistent





low operating pressure. The first stage reduces the container pressure to 10-13 lbs. The second stage reduces the 10-13 lbs. of pressure further to an operating pressure of 11" W.C. (water column) or 6.35 oz. of outlet pressure to your appliances. The second stage is adjustable and will need to be adjusted by your RV dealer or qualified propane service technician for optimum performance (this adjustment should always be made with a properly calibrated manometer). If the pressure is too high, it affects performance and safety; if the pressure is too low, your appliances will not operate correctly.

Your RV is equipped with an "automatic" two-stage regulator. With both cylinders full of propane, turn the lever on the regulator towards the cylinder you wish to use first. This will now be the "supply" cylinder and the other the "reserve." Slowly open both cylinder valves. The indicator on top of the regulator will turn bright green. When the cylinder becomes empty, the indicator will change to bright orange. Now turn the regulator lever to the side of the "reserve" cylinder and the green signal should return. You may now remove the empty cylinder to have it refilled without interrupting the flow from the full bottle. After filling the cylinder, connect the pigtail hose and slowly open the bottle valve.

Have the LP system checked for leakage each time a cylinder is refilled or after any part of the propane system has been disconnected.

#### **For more information**

Read the OEM operator's manuals.

### **HOSES, PIPES, TUBES & FITTINGS**

The hoses, pipes, tubes and fittings used in your propane system are designed to withstand pressures exceeding those of the propane system. However, because environment and time can both contribute to the deterioration of these components, they must be inspected for wear at regular intervals. Be sure to inspect the hose before each season and when having the tank refilled. Look for signs of deterioration such as cracks or loss of flexibility. When replacing the hose or

other propane components, make sure to always replace them with components of the same type and rating (check with your RV dealer).

Fittings are used to connect the various system components to each other. The P.O.L. fitting at the end of the propane supply hose is made of brass so that pipe sealants are not necessary to prevent leaking. It also has a left-handed thread, which means that it is turned clockwise to remove, and counter-clockwise to tighten. The P.O.L. fitting has been designed to help restrict the flow of LP gas in the event of a regulator failure or hose malfunction.

### **USING THE PROPANE SYSTEM**

#### **WARNING**

Do not use portable fuel-burning equipment, including wood and charcoal grills and stoves, used inside the RV. The use of these items inside a RV may cause fires or asphyxiation (inability to breathe).

After the RV is completely set up and you are prepared for camping enjoyment, use the following steps for propane operation:

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



manufacturer's owner manual located in the Goodie Bag.

Make sure that you read and fully understand ALL safety requirements for handling and operation of the propane system. The Goodie Bag contains OEM operator's manuals for the various appliances hooked to your propane system. The propane system provides added benefits to your camping enjoyment; however, it must be handled with care. If you have any questions or concerns, consult with your RV dealer and/or the specific OEM.

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

*If flooding is predicted for your area, shut OFF each propane cylinder valve before the water rises. If the propane system has been flooded, do not turn it back ON until it has been checked by your RV dealer or a qualified propane service technician.*

## CALCULATING PROPANE USAGE

It is important to remember that (if applicable) your furnace, refrigerator, water heater and range all may use propane to operate. Each has a different BTU rating, and you will need to consider them to determine how long your propane supply will last. Most RV gas appliances are operated intermittently. Propane consumption depends on individual use of appliances and the length of time operated. Unless there is heavy use of hot water, the water heater consumption of propane is minimal. During cool temperature or high wind conditions, furnace consumption can be extremely high.

*To calculate your propane supply, take the BTU ratings for your propane appliances and divide that into the BTU availability. Each gallon of propane (3.86 liters) produces about*

*91,500 BTU's (46,514 kilojoules) of heat energy.*

## TRAVELING WITH PROPANE

Use care when fueling your tow vehicle. Make certain your propane container is properly fastened in place. The label listed below should be kept permanently affixed to your RV:

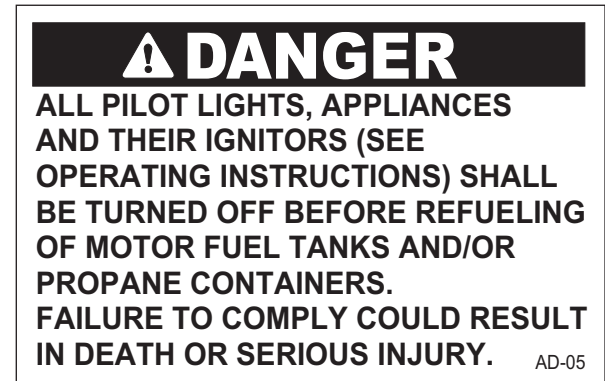


Fig. 4.8 Refueling warning label

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



**SECTION 4  
PROPANE SYSTEM**

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*There* are two different water systems in your RV: the fresh water system and the waste water system. The fresh water system consists of the fresh water holding tank, fresh water connections, water pump, outside shower assembly (if so equipped), water heater, faucets, shower or tub and water purification system (if so equipped). The waste water system consists of the waste water holding tank, sewage holding tank, drains and toilet.

Recreation vehicles shake and vibrate while going down the road. It is possible for plumbing fittings to come loose. Check all fittings, pressure and waste, for leaks before each trip or before vehicle storage as part of your normal maintenance:

- ☐ Inspect all faucets, the water purification system (optional) and sink connections (including drain baskets or filters).
- ☐ Remove the access panels. Inspect the shower faucet fittings and shower drain lines.
- ☐ Inspect connections at the water pump and water heater.

At the end of every trip, you should drain any unused water from the fresh water system.

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

## 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 (or 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.

## WARNING

DO NOT drink water deemed microbiologically unsafe or of unknown quality.

## MONITOR PANEL

The interior wall-mounted monitor panel allows you to monitor the fresh water, grey water, black water and auxiliary battery levels. These functions are controlled using the "tact" switches located on the monitor panel faceplate. The monitor panel operates on 12-volt DC power supplied by either the converter or auxiliary battery. Sensors installed in the holding tanks connect to a resistor assembly (relaying an electronic message to the display board). No power is drawn from the battery unless a switch is pushed or turned ON. Fuses for the monitor panel are located in the load center. Refer to the OEM operator's manual for further information.

### Operation

Press only one "tact" switch at a time. As you push either the "FRESH", "BLACK", "GREY1" or "GREY2 (optional)" switch, one or more LED lights will illuminate indicating that holding tank content level. When pushing the "BATT" switch, the highest LED light illuminated indicates the estimated auxiliary battery condition.

- C = charge at 12.7 volts
- G = good at 12.1 volts
- F = fair at 11.6 volts
- L = low at 6.0 volts

### Water pump switch (optional)

When the water pump switch is ON the water pump runs until 45 pounds of pressure has been achieved. The red light will stay ON. Turn the water pump switch OFF when it is not in use.

### Water heater switch (optional)

The "propane GAS" water heater switch enables propane operation of the water



heater. The “ELECTRIC” water heater switch enables electric operation of the water heater.

## FRESH WATER HOLDING TANK

The fresh water tank can be filled by pressure filling through the fresh water inlet (called city water) or by gravity fill. There are plastic overflow tubes plumbed into the fresh water holding tank. They allow water to flow out of the water tank. Occasionally, you may see water coming from the overflow tubes (located underneath the RV) when the fresh water holding tank is filled. This is normal, and is caused by external circumstances, including the RV being parked on an incline, or the motion caused by starting or stopping the RV during travel.

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.

## FRESH WATER CONNECTIONS

### ⚠ WARNING

Never leave the RV unattended while filling the fresh water system.

There are two types of direct exterior fresh water connections in your RV: city water and gravity fill.



City Water



Gravity Fill

Fig. 5.1 Fresh water connections

### To use the city water fill

1. If needed, sanitize the water system.
2. Move the "water heater bypass valve" to the NORMAL position.

3. Remove the connection cap and attach a garden hose to the inlet.
4. Turn ON the water at the water source.
5. Enter the RV and open the cold water supply faucets to bleed air from the water lines.
6. The water heater will fill first, followed by the supply lines and faucets.

When the water lines are nearly full, you may experience some “air pockets.” Allow them to escape before closing the cold water supply faucets.

**The fresh water connection should be unplugged (i.e., the garden hose disconnected) when the RV is left unattended for any amount of time. If something would happen to the water system, this may help limit water damage to a smaller area.**

### To disconnect the city water fill

7. Shut OFF the water at the water source.
8. Disconnect the garden hose and reinstall the connection cap.

To reduce the chance of contamination, prevent the garden hose from coming into contact with the ground. Reinstall the connection cap when the fresh water connection is not being used. Do not remove the following label from your RV:

### ⚠ WARNING

**POTABLE WATER ONLY. SANITIZE, FLUSH AND DRAIN BEFORE USING. SEE INSTRUCTION MANUAL. FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY.**

AD-04

Fig. 5.2 Potable water only label





### Dry camping

You can gravity fill the fresh water system if you do not have access to city water; however, allow extra time to fill the fresh water system if you are using this method. Follow the steps listed above; however, at step 3 put the other end of the garden hose into your container of fresh water, and at step 4 turn ON the water pump (instead of turning ON the water at the water source.) When the fresh water tank is full, shut OFF the water pump and disconnect the garden hose as discussed in step 8.

### WATER PRESSURE REGULATOR (CUSTOMER SUPPLIED)

#### ⚠ CAUTION

Not using a water pressure regulator when using city water may cause the o-rings to blow. To prevent damage to the plumbing system or components when using the city water connection, a 45 lb. (315 KPa) rated water pressure regulator is recommended.

Excessive pressure from water supply systems may be encountered in some parks, especially in mountain regions. Water pressure regulators are available to protect your system against such high pressure. A regulator of this type is recommended to prevent damage to the plumbing system or components. Water pressure regulators (customer supplied) are available from your RV dealer to protect the RV plumbing system against such high pressure.

### 12-VOLT WATER PUMP & SWITCH

Once activated, the water pump (also known as the demand pump) will self-prime, and provide water. The water pump continues to run until approximately 45 lbs. of pressure is achieved and shut off. The water pump will automatically re-start when pressure drops. Some cycling may occur, depending on the volume of water being released. The water pump is engineered by the OEM with a check valve to prevent water from back flowing into the fresh water supply tank

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

### Dry camping

When you want to use water in your RV and the RV is not hooked up to city water, you will need sufficient 12-volt DC power to run the water pump. Depending on your trailer model, the pump will be located under the bed, in a cupboard, under the unit or under the sink. The switch to operate the water pump is located on the monitor panel or an interior wall.

### For more information

Read the OEM operator's manual.

### WATER HEATER

#### ⚠ WARNING

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

The water heater is designed to heat water quickly and efficiently. The water heater manufacturer has preset the sensing limit to maintain the water temperature when the water heater is activated. Hydrogen gas in the water lines may result if you have not used the water heater for two weeks or more. To reduce the risk of injury under these conditions, open the hot water faucet for several minutes at the kitchen sink before you use any electrical appliance connected to the hot water system. If hydrogen is present, you probably will hear an unusual sound such as air escaping through the pipe as the water begins to flow. Hydrogen gas may be present even after water has been drained from the tank. Open



faucet at the sink and allow system to vent for five to ten minutes (or as needed).

## ⚠ WARNING

**HYDROGEN GAS IS EXTREMELY FLAMMABLE.** Do not smoke or have any open flame near the open faucet. On DSI water heater models make sure the interior control switch is OFF during the above listed procedure.

### Odor from the hot water system

Many water supplies contain sufficient amounts of sulfur to produce an odor, often called "sulfur water." Sulfur water can be caused by a chemical action or by bacteria. Generally, sulfur water is not harmful, only unpleasant to smell. To eliminate sulfur water sanitize the water heater. Odor from sulfur water is not a service problem.

### High altitude deration

Operation of the water heater at high altitudes may require derating. Consult with your local propane gas company, RV dealer or the water heater manufacturer for proper derating of the water heater. Change out of the orifice (derating) should be done by your RV dealer or a service agency authorized by the water heater manufacturer. It is important that once the RV has returned to lower elevation any high altitude deration or other adjustments be reversed for proper operation of the water heater.

### Pressure & temperature relief valve

When cold water is heated in the water heater tank, the water pressure will rise. For this reason, a pressure and temperature (P&T) relief valve is required for safety in all water heaters. It is normal for the P&T relief valve to release a small quantity of water during the heating cycle and does not indicate a defective P&T relief valve. One way to reduce the frequency of the water weeping or dripping from the P&T relief valve is to maintain an air pocket at the top of the water heater. This air pocket will form in the tank by design; however, it will be reduced over time by the

everyday use of your water heater (refer to the OEM operator's manual); If the weeping persists consult your RV dealer or a service agency authorized by the water heater manufacturer.

### Operating instructions

## ⚠ WARNING

If you smell propane gas then **STOP!** and follow the procedures listed in **Sec. 3 Propane System** before attempting to operate the water heater.

**STOP!** Read the safety and operating information provided in the OEM operator's manual before attempting to activate the water heater. Make sure the water heater is filled with water before using the water heater; momentary operation of the water heater without water in it can be detrimental.

### Draining and winterization

If the RV is to be stored over the winter months, the water heater must be drained to prevent damage from freezing. It is recommended the water heater be drained and bypassed during the winterization process particularly if introducing RV antifreeze into the plumbing system.

### Water heater bypass

Use the factory installed water heater bypass, available in most floor plans, to avoid filling the entire water heater with RV antifreeze.

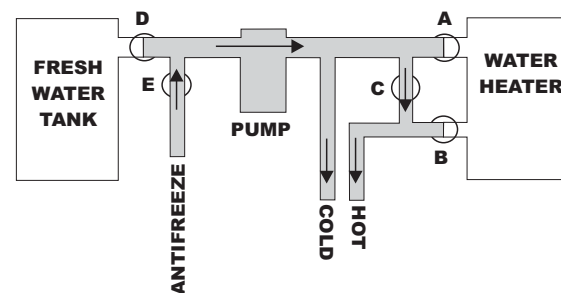


Fig. 5.3 Water heater bypass

To bypass the water heater close valves A and B, and open the mixer valve (valve C). For normal camping usage of the water heater, reverse these instructions.



### For more information

Read the OEM operator's manual.

## OUTSIDE SHOWER (IF SO EQUIPPED)

A handheld shower assembly with both hot and cold water is available for washing or rinsing outside the RV. Be sure the water heater is ON and had sufficient time to heat the water.

1. Open the door with the key and allow it to hinge down.
2. If dry camping, be sure the 12-volt water pump is ON.
3. Remove the hand held showerhead and hose from its holder and turn ON the sprayer head valve.
4. Open the faucet knobs and adjust them to the desired temperature.



Fig. 5.4 Outside Shower

To cease operation, close the faucet knobs and the showerhead valve. After the water has been allowed to drain from the showerhead, replace it in the outside shower compartment. Any remaining water in the shower hose will drip or run out of the vacuum breaker; this is not a leak but performs as intended. Water will drain out along outer edge of the ABS plastic box.

The showerhead can be removed to drain the hose faster. If you choose to remove the showerhead to drain the hose, reassemble it for storage. Coil the hose and arrange it with the showerhead inside the faucet assembly. Make sure that the hose is not being pinched and the showerhead is not being damaged when the door is closed. For sanitary reasons, keep the exterior shower compartment door closed when not in use.

## 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, if dry camping, the 12-volt water pump is turned ON before operating. To open the faucets, turn the hot and cold knobs ON and adjust the temperature to your comfort level. Close the faucets when a sufficient amount of water is released.

## ⚠ WARNING

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

The tub or shower faucet requires a vacuum breaker when the shower hose and head are used. There are two purposes for this breaker:

- ❑ To prevent siphoning water through the hose from another fixture.
- ❑ To prevent water from being contained 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. There may be air in the plumbing lines that will need to be bled out before a steady stream of water comes from the faucet.

### For more information

Refer to the OEM operator's manual located in your Goodie Bag.

## BATHROOM SHOWER OR TUB

Your bathing facilities in the RV function similar to those in your home. Prepare the bath or shower curtains to prevent water from spilling onto the floor. Keep the water heater and holding tank capacities in mind when using the fresh water system. Long showers are not suggested due to the limited amount of water available. The used water will drain through



the plumbing pipes into the grey water holding tank.

1. Be sure the water heater is ON and had sufficient time to heat the water.
2. If dry camping, be sure your 12-volt water pump is ON.
3. Adjust the hot and cold faucets to the desired temperature before bathing.
4. To conserve water while showering, wet down and turn the water OFF while you use soap, then rinse.
5. When you are finished, shut the water faucets OFF.

Unlike your home, the RV 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 he or she is finished.

### Maintenance

Read the OEM operator's manual. The shower walls (if applicable) in your RV are made of ABS plastic material. Use a mild detergent soap and warm water to clean (these cleaning instructions are similar to those recommended for fiberglass tubs and shower walls). Contact your RV dealer for repair or replacement.

*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.*

### WATER PURIFICATION SYSTEM (IF SO EQUIPPED)

The water purification system is located under the kitchen sink. If the water supply has not been used for some time, allow the water to flow for several minutes to flush the system. When not in use, the water filter cartridge should be stored out of freezing temperatures. RV antifreeze will damage the water filter cartridge. The OEM has supplied a clear plastic bypass hose with fittings on either end to replace the water filter cartridge when the

RV is being winterized. This clear plastic bypass hose is re-usable; store it when it is not in use.

Each new RV is winterized with RV antifreeze before it leaves Jayco, Inc. To use the water purification system the clear plastic bypass hose must be removed and the water filter cartridge installed.

### Replacing the water filter cartridge

Replace the water filter cartridge when water flow from the kitchen faucet is too slow for convenience, or at least once a year.

1. Drain the fresh water system.
2. Place a container beneath the water cartridge filter to catch any spillage.
3. Unscrew the fittings at the top and bottom of the water filter cartridge. Pull the water filter cartridge down and out of the fittings.
4. Insert the new water filter cartridge and tighten the fittings securely by hand. Dispose of the used water cartridge filter.

### For more information

Refer to the OEM operator's manual and the label on the water filter cartridge.

### DRAINING THE FRESH WATER SYSTEM

To drain the fresh water holding tank and supply lines:

1. Open all faucets, including the outside shower faucet.
2. Open the "fresh tank drain" valve. All permanent fresh water tanks can be drained by one of two types of drain valve: a white plastic drain is attached to the exterior wall (open valve to drain) or a valve located inside the RV adjacent to the water tank (this knob turns 45° to open or close).

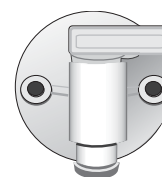


Fig. 5.5  
Exterior fresh  
water drain





3. Open the "low point drains." These valves are placed near the floor and may be located under cabinets, dinettes, sofas, beds, or in storage areas. As their name indicates, they will be at the lowest point of water lines. A label is placed on the outside of the travel trailer to indicate where the drains are located. The drains will typically need to be opened from inside the trailer. Once the label is found on the outside of the trailer, go inside to find the corresponding location of the drains.
4. Turn ON the water pump and allow it to run as needed.
5. Operate the toilet flush lever until water stops flowing.
6. Open all faucets, including the outside shower faucet.
7. Make sure your "water heater bypass" valves are open.
8. Relieve the water pressure using the P&T valve BEFORE removing the water heater drain plug. Otherwise, if there is any water pressure present the water will spray out of the opening when the drain plug is removed.

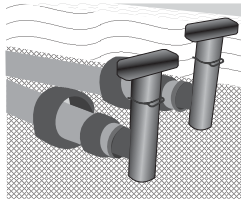


Fig. 5.6 Low point drains

When you are finished draining the fresh water system, reverse these steps and dump the grey and black water holding tanks at an appropriate facility or according to local public codes.

## SANITIZING THE PLUMBING SYSTEM

### ⚠ WARNING

Failure to sanitize the potable water system could result in death or serious illness.

Potable water systems require periodic maintenance to deliver a consistent flow of fresh water. For your personal safety, the plumbing system should be sanitized when your RV is new, at the beginning and end of each season and when the water system becomes contaminated (or approximately every three months of use).

### How to sanitize

### ⚠ WARNING

Chlorine is poisonous. Always recap the household bleach bottle and clean utensils and containers after use.

1. Level the RV and drain the fresh water system.
2. 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.
3. If a 100-ppm concentration is required as discussed in step 13, use 1/2 cup of household bleach with one gallon of water to prepare the chlorine solution. One gallon of the solution should be used for each 15 gallons of tank capacity.  
  
Turn the "water heater bypass" valves to the BYPASS position.
4. At the gravity fill connection, place a hose into the container with the chlorine solution.
5. Turn the water pump ON.
6. After the recommended amount of solution is in the tank, turn OFF the water pump.
7. Turn the "water heater bypass" valves to the NORMAL position.
8. Open the hot water line on all the faucets (kitchen, lavatory, shower and outside shower) until water begins to flow





continuously and a chlorine smell is noticeable.

9. Close the hot water lines and repeat with the cold water lines on the faucets.
10. Let the solution remain in the system for at least four hours when disinfecting with 50-PPM residual chlorine.

If a shorter time period is desired, then a 100-PPM chlorine concentration should be permitted to sit in the system for at least one hour.

11. After the required period, drain the chlorine solution from the fresh water system (see Draining the fresh water system).

**Some solution may remain in the water heater and will be flushed in the following steps:**

12. Fill the fresh water system using clean (potable) water (see Fresh water connections) completely full.
13. Then, drain the fresh water system (see Draining the fresh water system).

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.

## WINTERIZING THE PLUMBING SYSTEM

### ⚠ 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.

Preparing your RV 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. No commodity or product should be added to the fresh water system to ensure freeze protection other than RV antifreeze. The RV should be winterized at the end of the camping season or when the RV will be

exposed to temperatures that will fall at or below 32°F (0°C). Repairs due to freezing are not covered under the terms of the Towable Limited Warranty.

There are two methods of winterizing your trailer based upon your model. Please read, understand and follow all instructions before beginning.

### Air pressure (all models)

This method will utilize an air hose to blow excess water from the water lines.

1. Make sure all holding tanks are empty and drain valves OPEN.
2. Run the water pump until it is dry, this will take approximately 15-20 seconds.
3. OPEN all faucets and drains, and the toilet.
4. Using an air hose and adapter (customer supplied), blow air through the city water connection. Any remaining water will blow out in five to ten minutes.
5. Pour one cup of non-toxic RV antifreeze into all drain P-traps.

### Water heater bypass (most models)

It may be easier to winterize the RV with another person to assist you.

1. Level the RV and drain the fresh water plumbing system.
2. If so equipped, replace the water filter cartridge with the clear plastic bypass hose.
3. Make sure the water heater 12-volt and 120-volt interior control switches are OFF.
4. Turn the water heater bypass valves to the BYPASS position.
5. Make sure the "fresh tank drain" and "low point drains" are closed.
6. Insert the garden hose into a container of RV antifreeze solution (this quantity should be enough to winterize the RV); attach the other end to the Gravity Fill.
7. Turn the water pump ON.



8. Open the hot water line on all the faucets (kitchen, lavatory, shower and outside shower) until RV antifreeze begins to flow continuously.
9. Close the faucet hot water lines and repeat with the cold water lines on all the faucets. Do not forget to run RV antifreeze through the toilet.

**When you are done adding RV antifreeze**

10. Remove the garden hose from the container of RV antifreeze.
11. To prevent staining, wipe the RV antifreeze out of the sinks, shower (or tub) and toilet using a soft, dry cloth.

To reduce the chance of contamination, prevent the garden hose from coming into contact with the ground. If needed, contact your RV dealer for assistance.

## BLACK/GREY WATER SYSTEM

Water from the sinks and shower (or tub) flow into the gray water (or waste water) holding tank. Water from the toilet will flow into the sewage (or black water) holding tank. Certain floor plans may also have the lavatory draining into the waste (black) tank.

### Drain pipes

The drain pipes have a “P-trap” installed to help prevent odors from escaping into the RV. During travel, water from the P-traps may spill and permit odors into the RV. These odors come from food particles decomposing in the tank. By adding water and using a RV approved deodorizing agent you will dissolve the contents faster and will keep the drain lines and tanks clean and free flowing. These chemicals are available at an RV supply store or your Jayco independent dealer.

### Vents

Another important part of this system is the vent pipes and vents that release air from the grey and black water holding tanks. The exterior vent cap is attached to the roof and must be kept clear of obstructions to perform as intended. On some models, the vent pipe

may be part of the drainage system referred to as a “wet vent” (water flows downward as air flows upward in the same pipe).

## BLACK/GREY WATER HOLDING TANKS

### ⚠ WARNING

Never travel with full black or grey water holding tanks. This not only wastes your fuel but depending on the location of the tank(s), it can affect your tow vehicle handling characteristics.

The weight of the holding tank contents is not calculated into the RV cargo carrying capacity (this extra weight would reduce your available cargo capacity). Traveling with full holding tank(s) could possibly 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 your RV holding tank(s) are located behind the axles, the weight of the full tank(s) will reduce the hitch weight. Trailer sway and other handling difficulties can be the result of the hitch weight being too light.

Dump the gray and black water holding tanks before traveling to avoid carrying unnecessary weight. If you are dry camping and cannot immediately empty your holding tanks, reduce your vehicle speed until you reach a dumping station. When connected to the sewer drain line at a campground, keep the “black tank drain” valve closed until the holding tank is at least  $\frac{3}{4}$  full. This should provide sufficient water to assist in complete draining of the black water holding tank. Repeat as needed.

Before using the RV or after dumping the grey and black water holding tanks, always add the proper amount of deodorant to the black water tank to prevent malodors and help break down holding tank contents (unless winterizing). Follow the deodorant bottle or package instructions. Driving to a disposal site will normally loosen any accumulated waste



debris or solids from the sides of the holding tanks.

## **⚠ WARNING**

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.

Never leave the black tank drain in the open position continuously when connected to the campground sewer system.

### **BLACK & GREY TANK DRAINS**

There are labels on the exterior of the RV indicating the location of the grey tank drain and black tank drain (also called dump valves). Always drain the black water holding tank first so the following grey tank waste water can help rinse any solids or debris from the dump outlet and sewer hose.

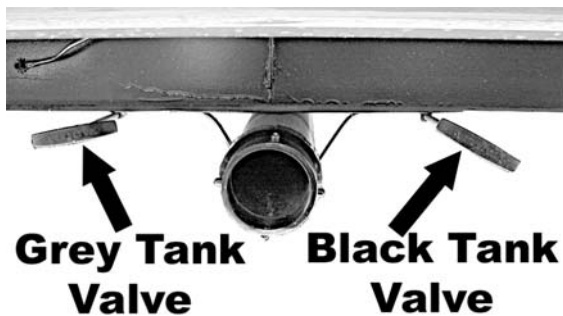


Fig. 5.7 Black & Grey tank dump valves

1. To make drainage easier, level the RV.
2. Remove the sewer hose housing dust cap, and attach the sewer hose (customer supplied).
3. Place the end of the sewer hose into the approved dump station.
4. Open the black tank dump valve (close the dump valve when the black water holding tank is emptied).

5. Open the grey tank dump valve (close the dump valve when the grey holding tank is emptied).
6. Remove, clean and store the sewer hose.
7. Close the sewer hose housing dust cap.

Most states and parks have strict laws and regulations to prohibit dumping of wastes into any kind into anything other than proper disposal facilities or sewer systems. Almost all privately owned parks offer a campsite hookup for sewage. You can locate many dump stations throughout the United States and Canada in Woodall's, Rand McNally Camp Guide, Good Sam Camp Guide, KOA Kampgrounds 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).

### **TOILET**

## **⚠ WARNING**

It is important to prevent solid waste buildup. Follow the toilet manufacturer's recommended instructions each time after emptying the black water holding tank.

The toilet is efficient and easy to operate. Generally, more water is required only when flushing solids. Prior to using the sanitation system, it is strongly recommended to flush the toilet several times to release sufficient water into the holding tank. If there is not a sufficient amount of water used during flushing, the waste materials may not evacuate properly from the drain line to the tank. Clogged tanks and pipes could eventually occur.

The toilet system will perform better when water is run for ten to fifteen seconds after flushing to ensure that the waste will proceed to the bottom of the tank. Unlike a toilet in a



home, which uses four to seven gallons (10-32 liters) of water per flush, the average recreation vehicle system uses one to three quarts (1 - 3 liters). For added convenience and better sanitation system performance, it is advisable to always have four to six inches (10 - 15 cm) of water in the toilet.

To prevent help toilet blockage, always use RV grade single-ply toilet paper. Do not flush paper towels, diapers, sanitary napkins or other foreign objects down the RV toilet.

### **Sewage (black) tank preparation**

#### **⚠ CAUTION**

It is important to add enough water to prevent solid waste buildup. Follow the directions listed below and in the OEM operator's manual.

1. Release one to two quarts (1 or 2 liters) of water into the toilet bowl.
2. Follow the directions on your toilet chemical bottle (customer supplied), by placing the recommended quantity of holding tank chemical into the toilet bowl.
3. Flush the toilet and allow at least two gallons (8 liters) of water to flow into the holding tank.

### **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.

### **Cleaning & Maintenance**

The toilet should be cleaned regularly for maximum sanitation and operational efficiency. Do not use chlorine (undiluted) or caustic chemicals, such as laundry bleach or drain opening types, in the toilet system. These products damage the seals in toilets and dump valves.

### **For more information**

Refer to the OEM operator's manual located in the Goodie Bag.



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To help ensure your traveling enjoyment, call ahead for tourist information in each area that you will be visiting or traveling through. To help eliminate frustration, make sure you obtain the most current road maps. Research and make sure there are no federal, state or local regulations that may prohibit you from fully enjoying your camping adventure.

- ❑ Arrange for someone to check your house periodically while you are away. Stop mail or newspaper delivery.
- ❑ If you intend to be away for more than two weeks, you may want to consider requesting police surveillance for your house.
- ❑ Carry an extra set of vehicle and house keys with you on a separate key ring.
- ❑ Be sure to renew your license if it has expired, or will expire during your trip.

If you are planning to visit other countries, contact the consulate nearest the point at which you plan to enter that country for the specific and most current information (including rules for re-entering the United States).

**Always carry your vehicle registration, insurance policy card(s) and warranty registration.**

## TOW VEHICLE

If you plan to tow your RV with a tow vehicle you already own, contact your tow vehicle dealer to find out your vehicle towing capacity. If you plan to purchase a new tow vehicle, be certain to tell your automotive dealer the GVWR, size and type of RV that you will be towing (some tow vehicles can be purchased with an optional tow package). As a minimum requirement, the gross vehicle weight rating (GVWR) of your RV must not exceed your tow vehicle's towing rating.

Some automotive manufacturers publish brochures that discuss towing considerations. Ask your automotive dealer how to obtain a copy of this information. If applicable, verify if the brochure ratings are listed "with" or "without" an optional tow package.

## WEIGHT LABELS

Vehicle weight labels are posted on all Jayco manufactured recreation vehicles so you can make a decision before your purchase as to how much cargo capacity is important for you personally. Do not remove these labels from your RV. If the labels are missing, contact your RV dealer or Jayco Customer Service for replacements.

MANUFACTURED BY: FABRIQUÉ PAR:		JAYCO, INC.		DATE _____	
INC. VEHICLE MFG. BY: VÉHICULE FABRIQUÉ PAR:		V.I.N./N.I.V. _____		PRESS./COLD INFL. PRESS. DE GONFL. À FROID	
GVWR/PNBV: KG _____		SIZE/DIMENSION TIRE/PNEU _____ RIMS/JANTE _____		PSI/LPC _____ KPA _____	
GAWR/PNBE: KG _____		FRONT/DEVANT _____		INT/CENTRAL _____	
_____		REAR/ARRIÈRE _____		_____	
TYPE OF VEHICLE/TYPE DE VÉHICULE: TAILER / CARAVANE MULTIPURPOSE PASSENGER VEHICLE/VÉHICULE DE TOURISME À USAGES MULTIPLES					
THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR VEHICLE SAFETY STANDARDS AND STANDARDS PRESCRIBED UNDER THE CANADIAN MOTOR VEHICLE SAFETY REGULATIONS EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.			CE VÉHICULE CONFORME À TOUTES LES NORMES QUI LUI SONT APPLICABLES EN VERTU DU RÈGLEMENT SUR LA SÉCURITÉ DES VÉHICULES AUTOMOBILE DU CANADA EN VIGUEUR À LA DATE SA FABRICATION CI-DESSUS.		

Fig. 6.1 Federal Certification label

TRAILER WEIGHT INFORMATION	
VIN or SERIAL NUMBER _____	
MODEL _____	
<p><u>GVWR</u> (Gross Vehicle Weight Rating) is the maximum permissible weight of this trailer when separated from the tow vehicle.</p> <p><u>UVW</u> (Unloaded Vehicle Weight) is the total weight of this trailer as manufactured at the factory when separated from the tow vehicle. If applicable, it includes full generator fuel, engine oil, and coolants.</p> <p><u>CCC</u> (Cargo Carrying Capacity) is equal to GVWR minus each of the following: UVW, full fresh (potable) water weight (including the water heater), full LP-gas weight.</p> <p><u>GCWR</u> (Gross Combination Weight Rating) means the value specified by the trailer manufacturer as the maximum allowable weight of this trailer with its towed trailer or towed vehicle.</p> <p>**The GCWR of this trailer is: _____</p>	
CARGO CARRYING CAPACITY (CCC) COMPUTATION	
Pounds / Kilograms (kg.)	
GVWR.....	.....
Minus UVW.....	.....
Minus fresh water weight of _____ gallons @ 8.33 Lbs./gal. ....	.....
Minus LP-gas weight of _____ gallons @ 4.24 Lbs./gal. ....	.....
CCC for this trailer*.....	.....
<p>*Dealer installed equipment will reduce the CCC.</p> <p>**This trailer is not recommended or intended to be used to tow any other vehicle or trailer.</p> <p>CONSULT OWNER MANUAL(S) FOR SPECIFIC WEIGHING INSTRUCTIONS AND TOWING GUIDELINES.</p>	

Fig 6.2 Trailer Weight Information label



## ⚠ WARNING

The Trailer Weight Information label is specific to the recreation vehicle for which it is supplied and is not interchangeable.

## VEHICLE IDENTIFICATION NUMBER (VIN) EXPLAINED

The 17-digit VIN is the legal identification of the completed RV and provides information unique to your camper. It is listed on the Federal Certification label affixed to the exterior front roadside of your RV and it is located on an exterior frame cross member (usually located on the third or fourth cross member under the camper, forward of the bumper). The VIN is also listed on the Trailer Weight Information label.

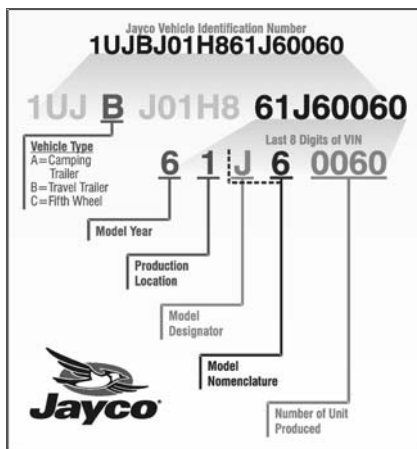


Fig. 6.3 VIN example

The Jayco serial number is needed whenever making an appointment with or ordering replacement parts from your RV dealer. The serial number is the last six-digits of the Jayco VIN (in the example shown above, the Jayco serial number is 61J60060).

## VEHICLE LABELS

Decals and data plates used throughout the RV aid in its safe and efficient operation; others give service instructions. Read all decals, data and instruction plates before operating your recreational vehicle. If any

decals, data or instruction plate is painted over, damaged or removed, it should be replaced.

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

## HITCH (CUSTOMER SUPPLIED)

## ⚠ CAUTION

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

Hitch selection is important because it affects the towing and handling characteristics of your RV. There are many kinds of hitches available for various uses and assuring that you have the correct hitch installed is critical to a safe towing experience. Ask your RV dealer about the proper class and type of hitch you need to purchase for your individual tow vehicle/RV combination (a travel trailer requires a frame mounted hitch; a fifth wheel travel trailer requires a pin box hitch bolted directly to the floor of the truck box through the frame).

The hitch manufacturer assigns a hitch class rating based on the capacity that hitch has for towing and a weight classification. The weight classification is determined from the hitch's weight carrying capacity (also known as the tongue weight on a travel trailer). Before selecting a hitch, you must know your RV's GVWR and tongue weight or pin box rating.



Maintain the proper tongue weight of the trailer. Stay within the target range of 10-15% of the overall gross weight (trailer weight plus contents). Fifth-wheel trailers typically maintain 25% of their overall gross weight (trailer weight and contents) on the hitch.

Equipment that sometimes gives autos, trucks and sport utility vehicles a softer ride can accentuate swaying when pulling a RV; conversely, suspension that is too stiff will increase vibration, bounce and accelerate wear of your tow vehicle and trailer. Educate yourself to protect you, your family and other motorists.

**The rating of the hitch package purchased should be equal to or greater than the RV's GVWR and the hitch weight or pin box rating.**

### HITCH HEIGHT & HITCH BALL

**This unit hitch height is:**

To determine the hitch height for your model, make sure that the travel trailer is level. When the loaded RV is hitched to the tow vehicle, check the hitch

ball height. This can be determined by measuring the distance from the center of the hitch ball to the ground. Record this number in the box for future reference.

Adjust the equalizing bars of the hitch assembly so that the tow vehicle and the trailer are essentially level. A high hitch will transfer weight behind the axles and cause the vehicle to fishtail. A low hitch will transfer additional weight to the hitch. Refer to the hitch manufacturer instructions to adjust the weight-distributing hitch to the proper height. If you have additional questions, consult with your RV dealer. Jayco, Inc. cannot be responsible for the suspension system of any tow vehicle. There are a variety of tow vehicle suspension systems available that will affect the ball height, stability and levelness of a hooked up RV. Make certain your RV dealer is aware of the tow vehicle you are using so a compatible hookup is achieved. The required travel trailer hitch ball diameter is 2-5/16".

Read the OEM operator's manual supplied by the hitch manufacturer to achieve the best possible performance.

There is no recommended hitch height for fifth-wheel travel trailers; usually the fifth wheel pin box is adjustable for variance in trucks and truck suspension systems.

### SWAY CONTROL (CUSTOMER SUPPLIED)

#### **WARNING**

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

Sway control devices are available to reduce the sway produced by cross winds, air displacement caused by other vehicles passing you in transit, incorrect weight distribution, excessive speed, the RV tires dropping onto the shoulder of the road, etc. You will also want to discuss this purchase with your RV dealer.

The use of a sway control device will help to control the side-to-side movement and keep sway in check.

#### **Suggestions for sway situations**

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



## WEIGHT DISTRIBUTING SYSTEM (CUSTOMER SUPPLIED)

A weight distributing hitch system provides a more stable tow vehicle/travel trailer combination. This system will spread the weight evenly to distribute it to the tow vehicle front and rear axles and the trailer axle. Consult with your RV dealer to familiarize yourself with the operation and requirements of the weight distributing hitch system. Be certain your tow vehicle can carry the hitch weight.

## RV BRAKE SYSTEM

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

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

Braking system components include:

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

Canadian transportation laws require that brake linings be replaced if there is any cracking for semi-tractor and trailers only. This does not apply to recreation vehicles.

### For more information

Read the OEM operator’s manual.

## ⚠ WARNING

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

### Tow vehicle battery

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

### Brake controller (customer supplied)

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

For more information in this manual, read:

- ☐ **Sec. 3. Electrical Systems**, Auxiliary battery (customer supplied)
- ☐ **Sec. 7. Towing & Handling**, Wire harness/connector plug
- ☐ **Sec. 7 Towing & Handling**, Breakaway switch

## TRAILER FRAME

Sand, pebbles, objects on the highway, climate (salt air exposure) or ice inhibiting chemicals used during the winter months will damage the paint, inviting rust and other deterioration. Periodically inspect the exterior exposed areas, clean and repaint the steel members occasionally and whenever you notice rust or paint chipped away, to insure protection.

If rust occurs, the frame should be cleaned and painted. We recommend the use of Rust-Oleum® Rusty Metal Primer and Rust-Oleum® gloss black paint (follow the directions on the paint can). To prevent rust or corrosion, you may wish to purchase a





commercial treatment application such as Ziebart®, etc. Rust or frame damage resulting from lack of routine maintenance voids the Towable Limited Warranty.

## E-Z LUBE AXLE

The E-Z Lube feature on your axles provides the ability for the bearings to be periodically lubricated without removing the hubs from the axle. This feature consists of axle spindles that have been specially drilled and fitted with grease zerks in their ends. When grease is pumped into the zerk, it is channeled to the inner bearing and then flows back to the outer bearing and eventually back out the grease cap hole. An operator's manual is supplied by the axle OEM that covers the maintenance of your axles. If you have further questions, consult with your independent, authorized dealer and/or visit the manufacturer's website.

The convenient lubrication provisions of the E-Z lube axle and the oil lubrication must not replace periodic inspection of the bearings.

## Wheel Bearings

Your RV wheel bearings require maintenance just as any other vehicle wheel bearings. Make sure you read, understand and follow the axle OEM operator's information. If you have further questions, consult with your RV dealer and/or visit the OEM website.

## RV TIRE INFORMATION

### 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.**

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

The tires on your RV are specially constructed for the unique requirements of recreation vehicle travel. They are tested under Department of Transportation (D.O.T.) standards at the allowed highway speed limits. Proper care and maintenance of your tires is essential to ensure your safety, as well as the safety of others, as you travel. Taking time to become educated on the special qualities of RV tires and care they require will enhance your travel enjoyment. Refer to tire information supplied with your trailer's literature.

Routine maintenance on your RV is important, but it cannot be overstated just how critical proper tire maintenance is to the safety, operation and durability of your new RV. For safe operation and maximum weight carrying capacity, it is imperative that the tires are inflated to and maintained at the listed tire pressures on the Federal Certification label affixed to the lower front corner of the exterior roadside sidewall on the RV. You must follow the manufacturer's inflation guidelines for maximum load capacity; under-inflation is just as dangerous as over-inflation.

### WARNING

It is recommended that the tire pressure be checked at the beginning of each journey to obtain the maximum life of the tire. Follow the instructions listed on the Federal Certification label, affixed to the roadside front corner of your trailer, to determine the correct tire pressure. Under-inflation may cause tire failures and swaying. This will result in loss of control, injury, death or property damage.

To insure your tires are operating safely, regular inspection of your tires and checking tire pressures is absolutely mandatory. Examine your tires frequently for unusual wear. Alignment, balance and bearing wear will affect tire wear. Make sure to look for cracking, bulging, uneven tread wear, etc. Check and adjust tire pressures before and after each trip. Always check and adjust with





the tires cold. Never add or release pressure from the tires when they are hot (after having driven a mile or more).

### Replacement

#### **⚠ WARNING**

Be sure to use only tires that are rated for trailer use. The use of passenger tires should be avoided. The load rating/ range embossed on the sidewall of passenger tires must be de-rated accordingly they do not have the same load capability as tires that are specifically identified for trailer use. Failure to use tires that are properly matched to your recreation vehicle could lead to premature tire wear or less than optimum trailer handling.

If you experience a flat tire on your RV while driving, gradually decrease your vehicle speed (if possible). Hold the steering wheel firmly and move the RV to a safe place on the side of the road. If a tire needs to be replaced, make sure it is the same size and load capacity as those originally supplied with your trailer. Refer to the RV Federal Certification label for the proper tire size and load range. If you have further questions, consult with your RV dealer or local tire store.

### Spare Tire Carrier (If So Equipped)

#### **⚠ WARNING**

When replacing a tire make sure to replace it with a tire of the same size and specifications (refer to the Federal Certification label information.)

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

### To extend the tire down

1. Remove the cotter key from the pin holding the tire carrier in place.
2. Remove the pin and extend the tire carrier away from the trailer.
3. Always return the tire carrier to the upright position and lock it in place while traveling.



Fig. 6.4 Cotter key

### To remove the tire from the tire carrier

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



Fig 6.5 Spare tire carrier installation

### To install the tire on the tire carrier

1. Place the tire on the tire carrier with the top lug bolt inserted into one of the holes in the tire rim and the bottom lug bolt in the center of the rim.
2. Install the top lug nut.
3. Place the support bracket over the bottom lug bolt across the center of the rim.

4. Install the bottom lug nut over the support bracket.
5. Make sure the lug nuts are tightened securely before returning to travel.

### Changing the tire

#### ⚠ WARNING

Never raise the RV by placing the jack under the axle beam, springs or any attachment parts. Failure to comply could result in property damage, personal injury or death.

1. Keep the RV attached to the tow vehicle. Block the tire on the opposite side of the RV from the tire you are changing.
2. Loosen the wheel lug on the tire you are changing before jacking up the RV. **DO NOT** remove the lug nuts; only loosen them for ease of removal when the tire is off the ground.
3. Locate the main frame rail of the trailer (it spans from the front-to-back just inside the tires).
4. To raise the RV, place the jack (hydraulic or screw) under the main frame rail. It must be just ahead of the front tire or just behind the rear tire.

### Wheel Lugs

#### ⚠ WARNING

Wheel lug nuts must be applied and maintained at the proper torque levels to prevent loose wheels, broken studs and possible separation of the wheel(s) from your trailer. The lug nuts on the wheels of your Jayco trailer must be maintained according to the torque values listed in the OEM operator's manual. Over-torquing and/or under-torquing wheels may result in component failure.

After your first trip, check the wheel lugs periodically for safety. Check the wheel lugs after winter storage, before starting a trip or following extensive braking. The proper procedure and sequence for attaching the wheels and torquing lug nuts is as follows.

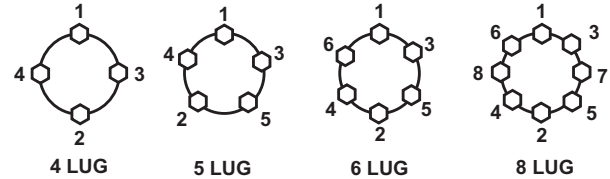


Fig. 6.6 Lug nut sequence

1. Start all nuts by hand to prevent cross threading.
2. Tighten the nuts in the sequence shown.
3. Tighten the lug nuts equally in stages as indicated for your trailer's wheels in the OEM's chart (reprinted in **Sec. 10 Specifications & Glossary**).
4. Torque the wheel lug nuts before the first road use and after each wheel removal.

**Check and re-torque after the first 10, 25 and 50 miles (16, 40 and 80 kilometers). Thereafter, check and maintain the torque as defined in the chart listed in the OEM operator's manual.**

#### ⚠ WARNING

Failure to maintain proper torque of the wheel lug nuts could lead to separation of the tire and wheel while driving, possibly resulting in property damage or personal injury.

### For more information

Tires are warranted by the tire manufacturer and are to be serviced and warranted by an appropriate service center. They are not to be returned to your RV dealer or Jayco, Inc. **If you have questions regarding your tires, contact the tire manufacturer or Jayco Customer Service.**



## LOADING YOUR RV

### ⚠ WARNING

Never load the RV in excess of the GVWR or the GAWR for either axle. **Overloading your RV may result in adverse handling characteristics and damage to the chassis.**

The actual weight of the RV, 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 RV. 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, such as lawn chairs, portable grill, sporting goods (fishing poles, golf clubs), which are bulky, but not necessarily heavy.

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; when loading heavy objects keep them as low as possible (preferably on the floor).

Decide on the various items of food, clothing, equipment and other supplies you will need for the length and destination of your trip. Store and secure all loose items inside the RV before traveling. Overlooked items such as canned goods, or small appliances on the countertop, cooking pans on the range or free-standing furniture 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. For traveling safety, it is important to make sure any tie down straps (if

so equipped) on appliances or furniture are secured.

### ⚠ WARNING

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.

## WEIGHING YOUR TOW VEHICLE & RV

### ⚠ WARNING

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

Now that your RV is loaded you should have it weighed. The actual weight of the RV, 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 RV, total weight and balance. It is imperative that you verify compliance within all applicable weight ratings. Overloading your RV will void the Towable Limited Warranty and the warranties of many component part manufacturers.

**Have your RV weighed periodically at a public scale to determine the proper load distribution.** Keep in mind that individual scales will operate differently. The surroundings of the scale need to be adequate to accommodate weighing each side of your RV.



### To weigh your tow vehicle and RV

#### **⚠ WARNING**

**Total weight of your tow vehicle and RV must not exceed the GCWR.** Do not assume that you can tow a RV that happens to be within the capacity of the tow vehicle hitch. By doing so, you may exceed the total GCWR of your tow vehicle and RV towing combination.

#### **⚠ WARNING**

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

Read through all the weighing instructions before you begin. If you have further questions, consult with your RV dealer or the scale operator. Your RV must be weighed fully loaded (that is with food, clothing, fuel, water, propane, supplies, etc).

1. Weigh the RV including the tongue weight, while detached from the tow vehicle. This actual overall weight must be less than or equal to the GVWR for safe operation. If the overall weight is greater than the GVWR, some contents must be removed until the actual overall weight is less than or equal to GVWR.
2. Hitch the RV to your tow vehicle. Weigh the RV and the tow vehicle to determine the GCW. Make sure that this rating is less than or equal to the GCWR as specified by the manufacturer of your tow vehicle. If this overall weight is greater than the GCWR, some contents must be removed to bring the combination into compliance with the listed ratings.
3. Weigh the RV while attached to but excluding the tow vehicle. This will result in the actual weight that is exerted on all of the RV tires. This weight may be subtracted from the overall RV GVWR to determine the actual "tongue" weight.

4. With the RV still attached to the tow vehicle, weigh each wheel position separately to ensure each tire is not overloaded.

#### **To determine the wheel position weight**

5. Pull the RV onto the scale so only one tire is on the scale. Record the weight. Your RV must remain as level as possible on the scale (even though an axle or side is not physically on the scale). Obviously, to obtain the side-to-side weights, there must be enough space on either side of the scale to accommodate the RV being partially off the scale.
6. To calculate the opposite side of the RV wheel position weight, subtract the first side's weight from the weight determined in step #3.

If there is a difference in the weights on one side of the vehicle as compared to weights on the other side, components (tires, wheels, brakes, springs, etc.) on the heavier side could be overloaded, even though the total axle load is within the GAWR. It is important to redistribute the load to avoid component failure, improve the handling characteristics of the tow vehicle and not void the Towable Limited Warranty.

With these actual weights, it is now possible to compare them against the Trailer Weight Information label weight ratings to ensure you are below the posted minimum ratings.

#### **For more information**

See also **Sec. 9 Unit Care & Maintenance**. Read the axle OEM operator's manual.

#### **FIRST SHORT TRIP**

After familiarizing yourself with the RV, including going through test runs on the systems and having the RV weighed, it is time to take one or two short trips. The experience gained can be priceless. We recommend an overnight stay at a nearby campground. That way it is more convenient if you need to go back to get an item you forgot or didn't know you would need.





Otherwise, you may end up spending time or money needlessly by bringing along unused items that take up space or trying to locate and purchase items you hadn't counted on needing prior to leaving your home on an extended trip in unfamiliar territory. Not all RVers will need the same equipment or supplies. For example, individual needs and personal tastes differ, as does the various climates and terrains you will be traveling through with your RV. Remember if most of your trips are planned for the summer and your shake down trip is made during some other season, there will be adjustments that you will need to take into consideration.

*Be sure to have a pen and notebook available to write down items that you feel may be needed in future travels, as well as noting the equipment you feel you need to become more comfortable using or learning how to operate safely.*

### RV Departure Checklist

Following is a preliminary list of items that need to be checked on your RV before leaving your home or campsite. As you camp, you may want to develop your own list tailored to your individual camping style in addition to the checklist provided:

- ☐ Check the area under the RV after overnight parking and look for water or other fluid leaks. If leaks are detected, find the cause and correct it immediately.
- ☐ Have someone observe the operation of all exterior lights while you activate the controls.
- ☐ Check wheel lug nuts for tightness and tires for proper air inflation pressure.
- ☐ 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 the LP gas tank gauge to make sure there is LP gas available.
- ☐ Retract any awnings and secure them for transport.

- ☐ Close all the roof vents.
- ☐ Disconnect any cable TV or phone hookups and lower the TV antenna (if so equipped).
- ☐ Turn off the interior lights and appliances.
- ☐ Secure any loose, heavy or sharp objects in the RV or exterior compartments.
- ☐ Disconnect the shore line power cord and ensure it is stored correctly.
- ☐ Fasten all interior and exterior doors securely. Lock them (if applicable).
- ☐ Make sure the stabilizer jacks and entry step are retracted to the travel position.
- ☐ Make sure the tongue jack (travel trailer) is retracted to the travel position and the dolly wheel (travel trailer) removed.
- ☐ Walk around your RV one last time to make sure everything is stored away and the baggage compartments are closed and locked.
- ☐ Pull forward, clean the site (if applicable) and check for forgotten items.
- ☐ Secure and lock the entrance door.

### Pre-travel Checklist

In order to enjoy your travel, having all the right tools and supplies will help. A checklist may be beneficial to avoid forgetting something essential. This list is meant to be a starting point, while realizing that personal preference will also play a large roll in your packing. There are items here that may not apply for you and items that could trigger other ideas. As you expand your camping experience, you may wish to develop your own list of needs.

#### Before leaving home

- All list items packed in trailer/tow vehicle
- Arrange for pet care, mail/newspaper pickup
- Disposable rubber gloves
- Leave itinerary with neighbor/family/friend
- Loose items secured
- Map/road atlas/campground directory
- Membership cards
- Owner's manual for RV
- Owner's manuals and information regarding component parts





- Proof of insurance
- Refrigerator door locked
- Road flares
- Roadside assistance phone number, membership card and/or policy
- Security watch for house (neighbor/family/friend)
- Trailer keys
- Vehicle registration
- Weigh fully loaded trailer (people, cargo and liquids included) and maintain proper weight distribution (redistribute as necessary)

#### Bedding

- Blankets
- Comforters
- Pillows
- Sheets
- Sleeping bags

#### Kitchen

- Aluminum foil, plastic wrap, etc.
- Charcoal and lighter fluid
- Cooking utensils
- Dish soap
- Dish towels and rags
- Food supplies
- Paper plates, towels, napkins, coffee filters, etc.
- Pots & pans
- Trash bags and/or paper sacks

#### Personal Supplies

- Clothing
- Laundry detergent
- Toiletries
- Towels - beach and bath

#### Recreation

- Campfire supplies
  - fire grate for cooking
  - firewood, newspapers and/or kindling
  - matches in waterproof container and/or utility lighter
  - skewers, pie irons, etc.
- Games - cards, board, dice
- Lawn chairs

- Outdoor activity equipment (fishing poles, tennis rackets, etc.)

#### Supplies

- Bug spray
- First aid kit
- Flashlight(s)
- Sun screen
- Toilet paper

#### Tow Vehicle/Trailer

- Breakaway switch and lanyard connected
- Check belts
- Check fluids
  - battery terminal
  - brake fluid
  - coolant
  - oil
  - power steering fluid
  - transmission fluid
  - washer fluid
- Check lights
  - brake lights
  - clearance lights
  - headlights
  - turn signals
- Check tire pressure (include inner wheel and spare, if applicable)
- Check tire wear (uneven wear pattern)
- Check wheel lugs
- Proper tongue weight maintained (25% of gross weight - fifth-wheel travel trailer and contents / 10-15% of gross weight - conventional travel trailer and contents)
- Safety pin or locking lever must be seated (if applicable)
- Test brakes for proper operation
- Tools
  - AC voltage tester
  - axe
  - duct tape
  - fuses and light bulbs (compatible with your RV)
  - jack
  - jumper cables
  - rope, cord, bungee cord(s) or wire
  - saw (bow or folding)
  - shovel (small folding)
  - tire pressure gauge



## SECTION 6 PRE-TRAVEL INFORMATION

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- tool kit (screws, hammer, pliers, etc.)
- torque wrench
- work gloves
- Trailer electric cable secure
- Trailer is level
- Trailer safety chains connected (if applicable)
- Wheel blocks removed
- Surge protector
- Telephone and/or cable wire (if applicable)



**D**riving safety and protection against injury cannot be fully ensured. However, we recommend you pay special attention to the following:

- ❑ The use of daytime running lights can increase other motorists' awareness of the RV to all traffic.
- ❑ Keep the tires inflated to the specified levels. Replace the tires before they are excessively worn.
- ❑ Before changing lanes check the outside rearview mirrors, rear vision camera for other vehicles, and activate the appropriate turn signal to alert other drivers.
- ❑ While driving, watch the behavior of other drivers, bicyclists and pedestrians. Always follow all traffic laws and regulations. Pay attention to traffic and road conditions. Be a courteous and alert driver. Always leave room for unexpected events, such as sudden braking.
- ❑ Never drive when you are sleepy or tired. Never drive when alcohol, drugs or medication have affected your judgment, reflexes or alertness.

Obey all traffic laws and use your seatbelts at all times. Many states have lower speed limit requirements for tow vehicle/RV combinations. We recommend that you do not exceed the posted speed limit when towing an RV. Adverse weather conditions and extremes in terrain may affect the performance and handling of your tow vehicle. Do not operate the tow vehicle cruise control on icy or extremely wet roads, winding roads, in heavy traffic or in any other traffic situation where a constant speed cannot be maintained.

## RV DRIVING SCHOOLS & SEMINARS

If you have any concerns about driving while towing a RV, consult an expert for specific RV driver education. There are private RV schools and some RV owner's organizations that offer driving seminars. The schedules and locations of the various RV driver education seminars and schools can be researched through RV-related publications and internet sites.

Use caution when using the internet as a resource tool. Verify the information is from a credited and reliable source in the RV industry, and it pertains to your RV. If in doubt, contact your RV dealer or Jayco Customer Service for assistance.

## DRIVING & ALCOHOL

### **WARNING**

Driving after drinking or taking drugs (including some prescriptions and/or over-the-counter medications) can lead to an accident. Studies have shown perceptions are less sharp, reflexes are slower, drowsiness may be experienced and/or judgment may be impaired.

The presence of alcohol in significant levels in the blood increases the probability that the driver will be involved in an accident. Exercise your good judgment and encourage others to do the same. Know the legal alcohol limits and do not exceed them. Be aware of your personal limits, which may be lower than the legal limits. Should you ever exceed your limits or find your driving is impaired, find alternative transportation. **NEVER DRINK AND THEN DRIVE.**

## BREAKAWAY SWITCH

### **CAUTION**

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

The breakaway switch is a crucial part of the RV braking system. Located on the travel trailer A-frame or fifth wheel pin box, this switch will apply the trailer brakes if the trailer becomes detached from the tow vehicle. Attach the breakaway switch lanyard to a permanent part of the tow vehicle (on a travel trailer do not attach it to the hitch ball or similar



removable parts) when hitching the trailer. If the RV becomes detached from the tow vehicle, the pull pin will be pulled from the switch. This automatically causes the switch to “close” and activates the RV brakes.

**An auxiliary battery (customer supplied) must be installed to activate the breakaway switch.**

#### For more information

Refer to the OEM operator’s manual in the Goodie Bag. Consult with your RV dealer if you have further questions.

### SAFETY CHAINS (TRAVEL TRAILER)

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

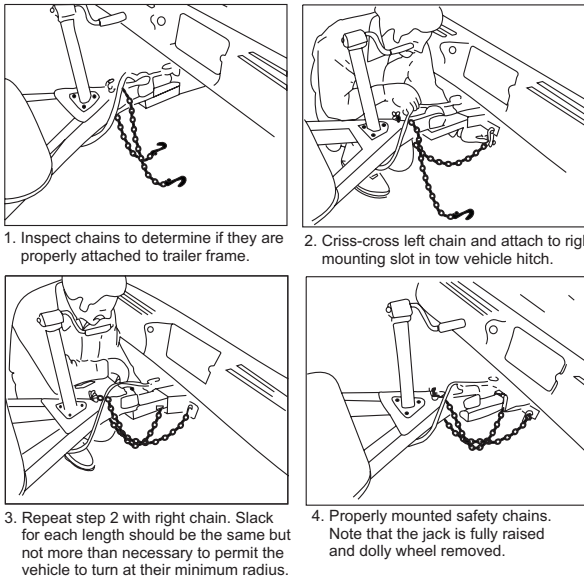


Fig. 7.1 Safety chain installation

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

### WIRE HARNESS/CONNECTOR PLUG

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

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

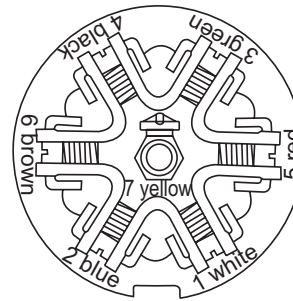


Fig. 7.2  
7-way trailer plug  
Car end, rear view

The connector plug may build up corrosion with extended use and 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.

### STABILIZER JACKS

#### **⚠ WARNING**

**DO NOT USE THE STABILIZER JACKS TO LEVEL THE RV.** It is important to remember that the stabilizer jacks are to be used only for support while occupying and moving around the RV. They are not designed to bear the weight of the RV.



1. Each stabilizer jack can be individually adjusted to stabilize the trailer for use.
2. When setting your RV up on soft ground, you may wish to place a wood pad or the equivalent under each stabilizer jack foot. This will help keep the stabilizer jack from sinking into the ground.
3. To lower each jack, insert the jack crank onto the applicable stabilizer jack shaft.
4. Turn the crank clockwise to lower each leg until it contacts the ground and stabilizes the trailer.

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

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

### TRAVEL TRAILER HITCHING PROCEDURE

Hooking up a travel trailer will become easier with practice. The following procedure will help until you become more experienced.

1. Make sure the trailer wheels are blocked.
2. Turn the tongue jack crank to raise the travel trailer tongue above the hitch ball.
3. Open the coupler latch on the travel trailer hitch.
4. Back the tow vehicle into the proper position.
5. Turn the tongue jack crank to lower the coupler onto the hitch ball.
6. Close the coupler latch after it is completely seated.
7. If so equipped, install the weight distributing bars (equalizers).
8. Remove the dolly wheel or platform and retract the tongue jack to its maximum height.

9. Attach the breakaway switch cable to the tow vehicle.
10. Attach the safety chains.
11. Plug in your wire harness/connector plug from the tow vehicle to the travel trailer.
12. Remove the trailer wheel blocks.

### FIFTH WHEEL HITCHING PROCEDURE

Hooking up a fifth wheel will become easier with practice. The following procedure will help until you become more experienced.

1. Make sure the trailer wheels are blocked.
2. Make sure the hitch lever is in its open or "cocked" position unless it has been designed to open automatically. Adjust the fifth-wheel travel trailer pin to the proper height. Lower the tailgate, if applicable.
3. Back the truck so the hitch encircles the fifth-wheel travel trailer pin.
4. A gentle contact of the hitch saddle against the pin will cause the mechanism to close.
5. Secure the hitch lever as specified by the manufacturer.
6. Put the truck in drive (DO NOT press on the accelerator) and 'bump' the hitch to make sure it is locked.
7. Be sure to raise the fifth-wheel landing gear all the way up.
8. Attach the breakaway switch cable to the tow vehicle.
9. Plug the wire harness/connector plug from the tow vehicle to the fifth wheel.
10. Raise the tailgate of the tow vehicle, if applicable.
11. Remove the wheel chocks from the trailer wheels





## TOWING

### ⚠ WARNING

**Your RV braking system is rated for operation at GVWR not GCWR.**

You will find that your RV will travel safely and comfortably at most posted trailer highway speed limits. However, it will take longer than a passenger automobile to reach that speed. Keep this in mind when overtaking and passing another vehicle. Allow more time to go around the vehicle you are passing. You cannot cut back into the traffic lane as quickly due to the longer length of your tow vehicle/RV combination. Drive with caution to avoid situations that might require quick momentum changes.

Even though your RV is equipped with brakes designed for GVWR, we suggest practicing stopping away from traffic until you become accustomed to your RV's stopping distance. A good way to practice is at a large parking lot (where it is permissible). Easing to a stop and starting smoothly saves wear and tear on your tow vehicle/RV combination.

### ⚠ WARNING

**DO NOT** travel with waste in the holding tanks. Liquid or debris in the holding tank(s) will affect the towing characteristics and may result in property damage or personal injury.

Drive defensively, try to anticipate problems that may occur and prepare for them (even if they may never happen). Be aware of road surface conditions. Slow down well in advance of dips and bumps to reduce the jolting to your tow vehicle/RV combination. Drive over them slowly and let the trailer tires pass over them before accelerating. Cross railroad tracks slowly (always release your brakes before crossing).

When descending a long hill, drop down into a lower gear (or lower range if you have automatic transmission). Avoid conditions that require excessive and prolonged use of your brakes. Apply and release brakes at short intervals to give them a chance to cool. The tow vehicle transmission and engine will help in controlling downhill speed and can lengthen brake life. The distance required to stop the RV is greater than an automobile's. Use care when accelerating or decelerating on a slippery surface. Abrupt speed changes can cause skidding and loss of control.

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

## Towing behind your RV

### ⚠ WARNING

Towing items behind your Jayco trailer, or overloading the rear, will void the warranty and may result in: damage to the trailer or add-on items, towing difficulties, property damage and/or personal injury.

**DO NOT tow anything behind your RV. The RV frame and bumper are not designed for towing.** If your RV is equipped with a roof ladder, do not leave items attached to it while traveling (see **Sec. 9. Storage & Maintenance**, Roof ladder (if so equipped), Rear bumper).

## Vehicle Clearance

Remember some bridges, older ones in particular, may not support the weight of your tow vehicle/RV combination. Know the weight and size of your towing combination and observe any posted weight and clearance limits. The added height of roof air conditioners, TV antennas or floodlights may



cause clearance problems around some tunnels, canopies and hanging signs.

### Turning Corners

When turning, the tires do not follow the path of your tow vehicle tires. The RV will make a tighter turn than the tow vehicle. You must compensate for this action by carefully pulling the tow vehicle out into the intersection further than you would normally so that the RV clears the curb (or any parked vehicles along the curb). When making a turn, check the road clearance and be aware of others. Have someone help guide you out of a difficult parking space or traffic pattern. Swerves and sharp turns, especially at high speeds, could result in loss of control of the RV.

### Backing up

If your camping destination does not have pull through sites, pick a level site and back in carefully. We suggest you stop near the site, get out of the RV and observe the surrounding area. Check to ensure there are no obstacles in your path and that you have plenty of vehicle clearance. Check for low-hanging tree limbs, posts, large rocks or other obstacles. Try to choose a site that is on the driver's side, so you can see what the rear of the RV is doing. With the site on the passenger side, you would be backing into the site on your blind side, which is more difficult. When you determine the site conditions are satisfactory, maneuver the RV into position for backing up into the site space. Back the RV up slowly using your tow vehicle mirrors as a guide. Have another person outside the RV assist you until the RV is parked in the desired position.

### Parking

After the RV is in the desired location set the tow vehicle parking brake and place the transmission in park. Turn OFF the ignition switch. Go outside the RV and block all wheels securely with wheel chocks. The wheel chocks can be wood blocks or purchased items as long as they prevent the RV from rolling. Be aware of your surroundings. If parking at night at a rest stop, truck stop or parking lot chose a well-lighted area.

### Here are some tips to keep in mind when parking in unfamiliar surroundings:

#### Have a pre-determined plan of action...

Develop response plans for all situations. Dry-run typical situations as a way of making your responses to each simulation second nature. A cellular phone is a good investment to protect yourself, especially when traveling alone.

**Be alert to all situations...** Assess your surroundings to help anticipate possible problems and responses. If someone unfamiliar knocks on the door, do not open it until you are certain the request is legitimate and represents no possible harm to you or your RV.

**Trust your intuition...** This is a natural tool at your disposal. If something does not seem to be right, you may want to evacuate the vicinity immediately or call 911.

**Remember, nothing is 100 percent effective...** Do not rely on your dog or an alarm system, etc. Always remain wary.

Developing these habits may help prevent loss to you or your property as you travel and enjoy your RV.

## EMERGENCY STOPPING

Always carry road flares or reflective warning signs to display if necessary. Pull off the roadway as far as possible for emergency stopping or tire changing. Turn ON your RV 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 RV, directed at the nearest approaching traffic.



2. Place the second warning indicator 100 feet behind the RV in the center of the lane and toward approaching traffic.
3. Place the third warning indicator 100 feet in front of the RV in the center of the lane and away from the traffic approaching from behind.

The hazard-warning flasher provides additional safety if the RV is stopped on the side of the roadway and presents a possible hazard to other motorists. When the flasher is on, it serves as a warning to others to approach and overtake your vehicle with caution.

**For personal safety, always stand off the road and out of the way of traffic. Curves and/or hills may affect the safe placement of warning indicators**

## **EMERGENCY TOWING**

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### **⚠ WARNING**

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

If your RV ever needs to be towed, refer to the OEM operator's manual. Please contact your road service provider (if applicable) or a qualified service facility for assistance. Make sure the road service technician reads and is familiar with the OEM operator's manual.



**B**y purchasing your RV you have entered into a lifestyle that encourages long-lasting friendships. People who camp next to one another for a few days are allowed the unique opportunity to cultivate new acquaintances and neighbors. Camping is a great way to relax and enjoy the great outdoors with your family and friends. Please remember to tread lightly on our beautiful land and leave only your footprints so that others may enjoy nature as much as you did.

Searching for the right campground prior to traveling might be the first step in selecting your site. Some campgrounds will allow making advance reservations (recommended depending on your travel destination and the season of the year, especially holidays). Your trip experience will be affected by the site you choose to park your RV. With time, you will know what you are looking for and what best fits your needs. A few items to keep in mind when selecting your campsite are:

- ❑ Arrive before dark, if possible, to make the site selection easier.
- ❑ Is the ground level? This will help with leveling your RV and making your stay more comfortable.
- ❑ Is there plenty of space?
- ❑ If applicable, will it accommodate slideout, awnings, etc.?
- ❑ Is there room for picnic tables, lawn chairs, campfire, etc.?
- ❑ Is it void of hanging limbs that may damage your unit?
- ❑ Is it located in a convenient area?
- ❑ Will you be able to park close enough to hookups (water, sewer, electric)?
- ❑ Are you away from noisy areas or things that might detract from a positive experience?
- ❑ Is there plenty of shade? Is there good drainage in case of bad weather?

Some campgrounds will post a set of rules for you to see when you check in, but your fellow campers will count on your basic good

manners and courtesy. Show respect to others, don't make shortcuts through occupied campsites. Remember to keep your campsite tidy. Put refuse in containers provided for that purpose, and please avoid contaminating any lake or stream. If you are traveling with pets, we encourage you to research the campground policy regarding pets.

## SETTING UP YOUR CAMPSITE

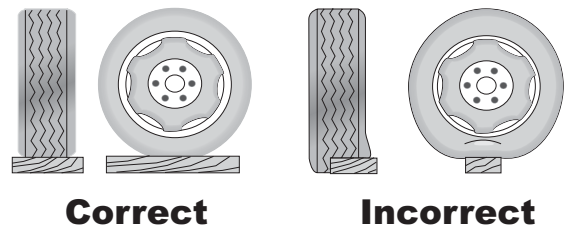


Fig. 8.1 Blocking the wheels

### Un-hitching your travel trailer

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

### Un-hitching your fifth wheel

1. Pull into the site, and park the RV where you want it.
2. Block the wheels securely to prevent the RV from moving.



3. Drop the landing gear (important!) Refer to the operator's manual for proper operation.
4. Disconnect the wire harness/connector plug and breakaway switch lanyard.
5. Drop the truck tailgate (unless you have a tailgate specially designed to accommodate a fifth-wheel hitch).
6. Gently put your truck into reverse (don't give it any fuel/acceleration).

This effectively moves the kingpin off the locking bar that will allow you to disengage it.

7. Step on brake and apply parking brake.
8. Disengage the locking bar and unhitch.
9. Drive away.
10. If applicable, raise truck tailgate.
11. Adjust the fifth-wheel height for proper front to back leveling of the RV.

### **Leveling the RV**

Now that you have parked your RV, you need to ensure it is level. Leveling is very important. A level RV is more comfortable for sleeping and walking. The refrigerator is designed to operate when level for best performance due to the absorption system. The water drainage systems are designed with proper slope and must be level for proper operation. The appliances perform best when level.

### **Extended dry camping**

For extended dry camping, management of all your resources is essential. Conserve your water supply. Check your propane and battery levels (conserve the battery power, use it sparingly.)

### **Cold Weather Usage**

When used in freezing or below freezing temperatures, the following precautions need to be taken:

- ❑ Proper care should be taken with the fresh water and drainage systems to avoid freeze-ups.

- ❑ Propane gas and sufficient power is needed for protection from possible freeze-ups on the propane gas regulator. Keep in mind that more frequent furnace operation will substantially increase battery draw and propane gas use.
- ❑ During cool weather usage, ventilation or addition of a dehumidifier will be required to reduce condensation.

### **KEYS**

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

**Make sure the keys are not inside the RV before you close and lock the entrance door.**

### **ENTRANCE DOOR WITH SCREEN DOOR**

#### **⚠ CAUTION**

Make sure the entrance door is completely closed and locked when traveling. It is dangerous to drive with the door not shut. Locking the door helps prevent it from opening unintentionally and keeps intruders from your RV.

The entrance door is located on the curbside of the RV. We have included an assist grab handle at the entrance door. The interior portion of the entrance screen door is equipped with a plastic slide panel that allows access to the entrance door handle and locks. The entrance door has both a regular door lock and a dead bolt lock. Always hold onto the entry door when opening or closing it; damage caused by the entry door catch and holder because you failed to do so is not covered by the Towable Limited Warranty.





## BE SAFE, LOOK BEFORE ENTERING OR EXITING YOUR RV!

To keep your door operating in the manner in which it was designed and delivered to you, there is some routine maintenance that should be performed regularly.

### Strike plate or bolt adjustment

#### CAUTION

Do not adjust the lock if the RV is not level.

The door in your recreation vehicle was installed and adjusted in a factory setting in a level position. The setting of the striker plate or bolt may change over the course of time and road conditions, and that setting may need to be changed or adjusted to insure that your door operates as smoothly and efficiently as it should.

All doors, with the exception of the 6555 door, are built with a camber in the door. This camber is designed in the door to assist in obtaining a tight seal at the top and bottom of the door. To adjust the strike bolt in the rotary lock, loosen the bolt with a 5/8" socket or box end wrench; move the bolt in the direction needed and re-tighten the bolt to 35 foot pounds of torque. The door in your recreation vehicle operates much like an automotive door and must be closed firmly to enable the lock to engage the secondary locking or fully closed position and to compress the seals in the door. Adjusting the lock to lessen the effort needed to close the door will cause the door to not seal properly.

### Locks

The key cylinder in your locks needs to be lubricated on an annual basis or as needed. Always use powdered graphite, never a petroleum product. The petroleum product will gum up the cylinder and cause it not to operate smoothly. Apply a light coating of white lithium grease to the face of the lock bolt to obtain a smooth closing.

### Hinges

The hinges on your door should be lubricated annually or as needed with any high quality spray lubricant.

### Fiberglass Skin

To maintain good appearance and long service life, Philips door skin panels should be washed and cleaned periodically. Cleaning removes the accumulation of dust and dirt, which can combine with sunlight and wind to attack exposed surfaces both chemically and abrasively.

The following methods and materials are suggested for cleaning fiberglass door skin panels. However, you are cautioned to conduct a test in a corner of the door skin to determine suitability.

- General cleaning - A 10% solution of trisodium phosphate in warm water (not to exceed 120°F), may be applied in a scrubbing motion, using sponge, brush, or cloth. Rinse thoroughly after cleaning.
- Removing oil residues or difficult substances - Mineral spirits, applied with a clean cloth, will aid in removing most oily residues or substances. After using mineral spirits, clean the door with a mild soap solution to remove any residue of the mineral spirits.
- Removing hard water deposits - A 10% solution of acetic acid in cold water may be used in the manner described in General Cleaning above. Rinse thoroughly after cleaning.
- Waxing - Though not mandatory, waxing will help maintain the appearance and service life of the door. If waxing, use a high quality automotive or recreation vehicle wax, nonabrasive.

Use non-corrosive cleaning compounds. Avoid the use of compounds containing ammonia or chlorine since they may cause the panels to yellow. Do not use rubbing compounds, as they will etch and damage the panel surface.



## LIGHTS

Porch light(s) on either sidewall will have switches located on the interior wall by the entrance door. Front convenience (hitch) lights on trailers have a switch included with the light assembly.

## SLIDEOUT ROOM SYSTEM (IF SO EQUIPPED)

### ⚠ WARNING

Ensure that the trailer is level before operating the slideout room. Water leaks and other problems could result if the slideout is operated without leveling the trailer.

Ensure there are no people or obstructions blocking the path of the room when it is moving. Keep away from the slide rails when the room is in motion. The gear assembly may pinch or catch on loose clothing causing personal injury.

Ensure the slideout is in the closed position prior to hooking the unit to the tow vehicle.

**FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN SERIOUS INJURY OR DEATH.**

### ⚠ CAUTION

Do not place excessive weight in the slideout room. It can cause the slideout room to malfunction and cause damage to the slideout.

The slideout room system is designed for additional floor space and comfort. The mechanical components are gear driven. Electric powered slideout room systems have a manual override to allow you to extend or retract the slideout room(s) in case of a power loss.

For the slideout system to work properly, the RV must be leveled before extending the room. Periodically check the accuracy of the leveling system. Check the vehicle leveling system by placing a circular bubble level in the center of the freezer floor with the RV leveled.

Make sure you have sufficient power available before operating your slideout system (refer to **Sec. 2 Electrical Systems**, Calculating electrical load).

### Transit bars (if so equipped)

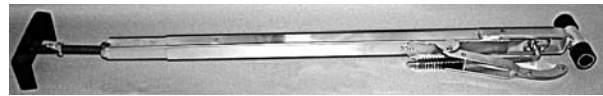


Fig. 8.2 Transit bar

Some RVs have transit bars that need to be installed when the slideout room is in the travel mode. Remove the transit bars before operating the main slideout room. Be sure to install the transit bars where indicated by label on the interior RV wall. The following label should remain permanently affixed to the RV:

**TRANSIT BAR**

JA-119

Fig. 8.3 Transit bar label

### Extending the slideout room

1. The auxiliary battery (customer supplied) must be fully charged and connected. If possible, the RV should be hooked up to 120-volt AC power so that the converter operates.

**Sofa slideout room (if so equipped).** The auxiliary battery (customer supplied) must be fully charged and connected. If possible, the RV should be hooked up to 120-volt AC power so that the converter operates.



2. The RV must be level and the stabilizer jacks in the extended position.

## ⚠ CAUTION

Additional support jacks are not needed under the slideout. Damage can occur to your slideout room from improper use of aftermarket support jacks.

3. Locate the slideout room control switch.
4. To move the room out, press the OUT section of the switch and hold it until the motor stops (travel time is approx. 25 seconds). Operating the switch after the room is fully extended will damage the switch and motor.



Fig. 8.4  
Slideout  
control  
switch

After the slideout is extended, verify that the corners of the black rubber seal are set up correctly. The corners of this seal are cut at a 45° angle. The top of the seal must overlap the side of the seal to avoid the possibility of water penetration.



Fig. 8.5 Exterior  
slideout room  
corner

### Retracting slideout room

Press the IN section of the slideout room control switch and hold it until the motor stops. Operating the switch after the room is fully retracted will damage the switch and motor.

## Maintenance

## ⚠ CAUTION

Do not work on your system unless the 12-volt DC (auxiliary battery, customer supplied) and 120-volt AC electrical systems (shore line power cord) have been disconnected.

Your slideout system has been designed to require very little maintenance. To ensure a long life of your slideout system, read, understand and follow these simple instructions.

When the slideout is extended, visually inspect the inner slide rail assemblies. Check for excess build-up of dirt or other foreign material; remove any debris that may be present. If the system squeaks or makes any noise, apply a coat of lightweight oil to the drive shaft and roller areas. Remove excess oil so dirt does not build-up.

On travel trailers with a flush floor slideout, a light coat of silicone spray is recommended one time per year. To apply the spray, lift the carpet flap. Using a light coat of spray, make one pass all along the glide bar. It is recommended that this be done prior to each camping season.

## ⚠ CAUTION

Use only a silicone spray to lubricate the glide bar. Other lubricants may attract dirt and oils which will stain the carpet.

This system contains a pre-lubed bearing that is lubricated when the room is moved in and out. Do not spray oil or grease on the rails while the room is extended.



### **Troubleshooting the electric slideout**

If the slideout does not move when the slideout switch is depressed, follow these steps.

- ❑ Check the auxiliary battery (customer supplied) for a full charge and good wire connections.
- ❑ Check the 12-volt fuse or circuit breaker.
- ❑ Check for loose connections at the slideout motor.

If the slideout still will not operate, follow these steps.

- ❑ If the slideout is extended, see the section on overriding the electric slideout system.
- ❑ If the slideout is retracted, leave it in that position.
- ❑ Take the RV to a RV dealer or service center.

If the slideout extends crooked or only one side moves, follow these steps.

- ❑ Follow steps on overriding the slideout system.
- ❑ You may need to push the side that is not sliding to get it to retract all the way.
- ❑ Take your RV to an RV dealer or service center.

### **Tools required**

- ❑ ScruLox head screwdriver (if RV has an underbelly)
- ❑ 1/2" wrench
- ❑ Adjustable wrench or ratchet and 3/4" socket.

### **Main room slideout override**

If the RV has an underbelly, locate and remove the access panel to access the slideout motor (this panel is typically under the RV on the opposite side of the slideout room). Use a 3/4" socket and ratchet

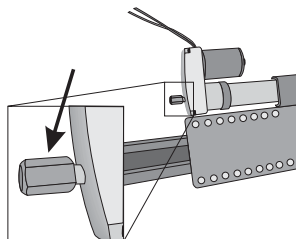


Fig. 8.6 Main slide hex head

on the hex head located on the end of the drive shaft. Turn the drive shaft until the slideout is in the position you desire. Contact your RV dealer for service.

### **Sofa slideout override**

Inside the RV, lift the sofa skirt to access the slideout motor. Locate the hex head screw on the front of the motor. Using a ratchet and 3/4" socket, turn the screw counter-clockwise to retract the slideout.

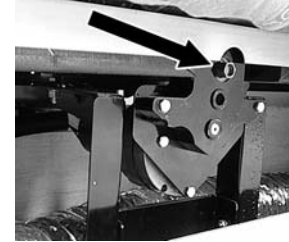


Fig. 8.7 Bed slide hex head

Install the travel bars in the proper locations as indicated by the wall labels. Contact your RV dealer for service.

### **For more information**

If you have further questions please refer to the OEM operator's manual, contact your RV dealer or Jayco Customer Service.

## **HIDE-A-BED (IF SO EQUIPPED)**

The hide-a-bed sofa functions much the same as a regular residential hide-a-bed sofa. To make the hide-a-bed sofa into a bed, remove the seat cushions and pull the strap located at the front of the sofa seat bottom out towards you firmly and gently.

To convert the hide-a-bed back into the upright sofa position, reverse the process (make sure to pull the seat belts out into their usable positions). Be sure to hold the sofa strap firmly to ensure the hide-a-bed sofa does not suddenly drop shut. Refer to the furniture manufacturer's care instructions for this product.

## **J-STEEL SOFA (IF SO EQUIPPED)**

The J-steel sofa functions much the same as a residential futon. To make the J-steel sofa in to a bed, lift up on the bottom seat cushion and pull it towards you. The sofa back will drop down to provide a flat sleeping surface. For additional comfort and to reduce fabric damage, you may want to place a cover or air



mattress (customer supplied) over the J-steel sofa when it is in the sleeping position. The J-steel sofa kick plate is hinged, allowing storage of items underneath the sofa.

### BOOTH DINETTE (IF SO EQUIPPED)

The dinette is designed to seat up to four adults. You can access the dinette bench storage by removing all the cushions and lifting the bottom seat supports. If the dinette bottom seat support is screwed shut, it is to protect factory-installed equipment that must have proper ventilation (do not use that area for storage). To reconvert back to a booth dinette, reverse the process.

The booth dinette can be converted into a bed. To convert, remove all the cushions from the booth dinette. Lift the tabletop, remove the detachable table legs and place the tabletop on the ledges provided between the booth dinette benches.

Lay the seat back cushions against the back of the booth dinette bench. Lay the dinette seat bottom cushions in between the seat back cushions. The area where the cushions meet should be slightly raised. Push the raised cushion ends down gently. The cushions are designed to fit snugly. Reverse this process when reconverting back to the booth dinette.

### Extendable dinette (if so equipped)

Your RV may be equipped with side extensions on the dinette benches that can be used only when the slideout is extended.

#### To extend the dinette benches:

1. Remove the snap strap (located at the back of the dinette bench) that secures the extensions in the travel position.
2. Pull out the dinette bench extension until it hits the factory-installed stops.



Fig. 8.8  
Extendable  
dinette

3. Remove the seat, seat back cushion and plywood seat extender from the revealed storage compartment (put the cushions off to the side).
4. Position the plywood seat extender across the dinette bench extension brackets. The plywood seat extender **MUST** be in place to use the extendable dinette.
5. Place the seat and seat back cushions on the extensions and repeat the process for the other dinette bench extension.

To close the extendable dinette, reverse the process. The extendable dinette must be closed, the snap strap secured and the tabletop put in the bed position **BEFORE** the slideout room is retracted for transit.

### TV ANTENNA, CABLE TV, & SATELLITE DISH WIRING

RG-6 coax runs from the TV antenna, exterior cable TV connector and exterior satellite dish connector to a wall plate near the dedicated television space. Connect the television (customer supplied) to the antenna and exterior cable TV jack with a short piece of terminated coax running from the wall plate port labeled "TV.". Connect the satellite receiver (customer supplied) to the exterior satellite dish connector with a piece of satellite grade coax running from the wall plate port labeled "AUX/SAT.". You will need to work with your satellite provider to ensure safe installation and proper equipment.

TV antenna and exterior cable TV signals pass through the circuit board on the backside of the television wall plate to the secondary TV location (if so equipped). Connect the secondary TV (customer supplied) to the wall plate with a short piece of terminated coax. Satellite circuitry does not extend to the secondary location.

*The television entertainment system will not run cable television on one television set and local stations off the other set without customer modification. You can either view local stations or you can view cable television.*





## TV POWER SUPPLY

For good station reception, the TV power supply must be turned ON to view local television stations. Turning the TV power supply ON sends 12-volt DC through the cable to the TV roof antenna. The voltage energizes the transistors in the antenna head amplifier. The TV signal then comes down the cable to the outlets.



Fig. 8.9  
TV Power Supply

*Turn the TV power supply OFF to view cable television or to use a VCR or DVD (if your RV is so equipped).*

## TELEVISION ROOF ANTENNA

To raise the TV antenna to the operating position turn the antenna elevating crank clockwise in the UP direction until some resistance to turning is noted.

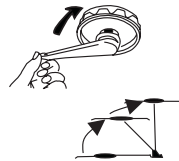


Fig. 8.10

On amplified models, 12-volt DC power is required (refer to the OEM operator's manual). After the antenna is in the full UP position, pull down on the round knob with both hands until it disengages from the ceiling plate. Rotate the knob for best picture.



Fig. 8.11

### Lowering the antenna

Rotate the antenna until the pointer on the directional handle aligns with the pointer on the ceiling plate. Turn the elevating crank counterclockwise in the DOWN direction until resistance is noted. The antenna is now locked in the travel position.

## TELEPHONE JACK (IF SO EQUIPPED)

To operate your interior phone the RV must be connected to an external telephone service provider. To use the phone, plug a telephone cord with a RJ-11 plug (customer supplied) to the exterior phone jack.

### CAUTION

It is recommended the telephone cord be disconnected from the external power source in the event of a storm. The telephone cord can carry voltage from the external power source into the RV and cause potential damage.

## REFRIGERATOR

### WARNING

If you smell propane gas **STOP!** Follow the directions located in your OEM operator's manuals and **Sec. 3 Propane Systems**.

The refrigerator has been designed to operate on 120-volt AC electric, 12-volt DC power and propane gas. 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.

For optimum efficiency and performance, it is recommended the refrigerator be checked at least twice a year as part of the routine maintenance. Keep the area at the back of the refrigerator clean and free of debris. Check for obstructions in the exterior refrigerator vent area (i.e., spider webs, bird nests, etc). Use a soft cloth to dust off the debris.

### For more information

Refer to the OEM operator's manual for operating, defrosting and maintenance instructions. Cleaning the refrigerator is usually done after it is defrosted or put in storage.



## COOKING WITH PROPANE

### ⚠ WARNING

Do not turn gas range burner controls ON and allow propane gas to escape before lighting.

### ⚠ WARNING

Do not use portable fuel burning equipment (i.e., wood and charcoal grills or stoves) inside the RV.

Unlike large homes, the oxygen supply inside a RV is limited. The following warning labels are located in the kitchen area to remind you to provide an adequate amount of fresh air for combustion. To avoid danger of asphyxiation, provide proper ventilation when using the gas range top or gas oven. Do not remove the following labels from your RV:

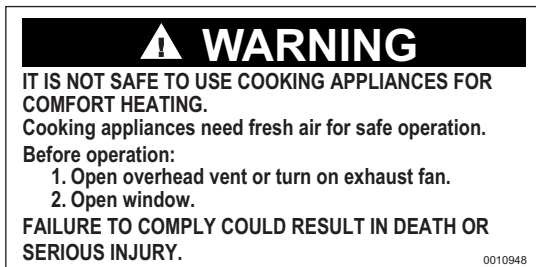


Fig. 8.12 Cooking / comfort heating label

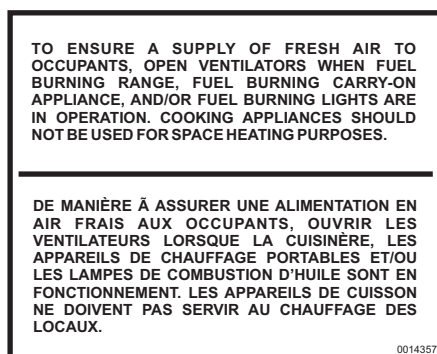


Fig. 8.13 Ensure a supply of fresh air label

## KITCHEN RANGE & OVEN

To prevent damage to the range top, use the manufacturer recommended size flat bottom pans. Generally, pans should be large enough to cover the surface unit heating element (or burner) but not be more than one inch larger than the grates. In addition, the use of undersized utensils will expose a portion of the heating element to direct contact and may result in ignition of clothing. Proper relationship of utensils to burner will also improve efficiency. Do not use a broiler pan, griddle or any other large utensil that covers more than one range or cook top burner at a time. This will create excessive heat that may cause melting, sooting or discoloration.

### ⚠ WARNING

During and after use, do not touch or let clothing or other flammable material come in contact with the top burners (or heating elements), burner grates or other areas near the top burners until they have had sufficient time to cool. These areas can get hot enough to cause burns.

Never leave cooking food unattended. Turn pan handles inward, but not over the tops of the other range burners. Ensure that pans used are large enough to contain the food and avoid boil-overs. Heavy splattering or spills left on the cook top can ignite and cause burns.

If using glass, glass/ceramic, ceramic, earthenware or other glazed utensils (or cookware) verify it is safe for use on the top burners. Only certain types of utensils (or cookware) are suitable for surface or top burner use.

### For more information

Refer to the specific appliance OEM operator manuals contained in your Goodie Bag.



### Three-Burner Range/Cook top (if so equipped)

Read the OEM operator's manual for detailed operational instructions. If you have any questions contact your RV dealer or visit the OEM website. Do not use a broiler pan, griddle or any other large utensil that covers more than one range or cook top burner at a time. This will create excessive heat that may cause melting, sooting or discoloration.

### Oven (if so equipped)

#### **WARNING**

Do not cover the oven vent openings while the oven is in operation. Restricting the flow of combustion air will create an asphyxiation hazard.

### For more information

Read the OEM operator's manual provided by the oven manufacturer for detailed operational instructions. If you have any questions contact your RV dealer or visit the OEM website. Do not use the oven as a storage area.

### IN CASE OF A GREASE FIRE

Grease is flammable. Never allow grease to collect around top burners or on the cook top surface. Wipe spills immediately. If a fire does start, follow these basic safety rules:

- ☐ Have everyone evacuate the RV immediately.
- ☐ After everyone is clear and accounted for, check the fire to see if you can attempt to put it out. If it is large or the fire is fuel-fed, get clear of the RV. Have the Fire Department handle the emergency.
- ☐ Try to smother a flaming pan with a tight-fitting lid or cookie sheet.
- ☐ Never pick up a flaming pan.
- ☐ Flaming grease outside of the pan can be extinguished with baking soda or a multipurpose dry chemical or foam-type fire extinguisher.

#### **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.

### MICROWAVE (IF SO EQUIPPED)

Make sure there is sufficient 120-volt power available before operating the microwave (refer to **Sec. 2 Electrical Systems**, Calculating electrical load). Read the OEM operator's manual for detailed operational instructions. If you have any questions contact your RV dealer or visit the OEM website. To prevent damage, remove the turntable from the microwave when traveling.

### PANTRY

Depending on the kitchen layout of your RV, you may have a pantry that you can use to store items you wish to take with you as you travel and camp. Ensure items stored in the pantry are secured so they do not shift during travel. The cabinetry has been designed to accommodate the normal camping items (i.e., paper plates, flatware, cookware, etc.) which are bulky but not necessarily heavy.

**Remember your RV's load capacity is designed by weight, not volume, so you cannot necessarily use all available space.**

### BBQ GRILL PREP

#### **WARNING**

Make sure that you read, understand and follow all information supplied with your RV about propane before operating the BBQ grill. The propane hose must be correctly connected before lighting the grill. Failure to follow instructions supplied by the grill manufacturer with your RV or to use any other components than those originally supplied with the grill could lead to death or serious injury from fire or explosion.



Your RV is equipped with a propane “quick coupler” connection and support bracket for easy installation of the optional BBQ grill. The “quick coupler” is directly connected to the propane system of your trailer.

The “quick coupler” connection can be attached to the BBQ grill as follows:

1. Place the “quick coupler” handle in the OFF position and push back the sleeve. The valve handle must be OFF to make the connection.
2. Insert the plug at the end of the BBQ grill propane hose and release the sleeve.
3. Push the plug until the sleeve snaps forward, locking the plug into the socket.
4. Turn the handle ON to allow propane to flow to the BBQ grill.

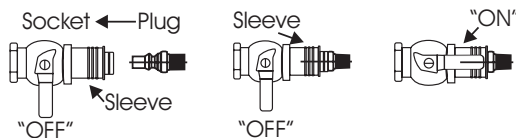


Fig. 8.14 Quick connect coupler

## BBQ GRILL (IF SO EQUIPPED)

### ⚠ WARNING

The maximum weight limit for the bracket on the side of your trailer is 50 lbs. This limit includes the weight placed on the BBQ grill. Exceeding this weight limit could cause damage to the unit and possibly cause personal injury from hot equipment.

The BBQ grill is for use outside of the trailer. Never use this grill inside a compartment or the trailer. The bracket and “quick coupler” propane connection are installed on your trailer as standard equipment. Make sure to read, understand and follow all instructions listed in the OEM operator’s manual. Before operating the BBQ grill, make sure that it is securely placed on the support bracket.

The BBQ grill must be COMPLETELY cooled before storing to avoid damaging the carrying case (if so equipped) and causing injury from handling the grill when it is hot. Wait until the grill is completely cooled, then store it.

### Vitco grills only

The carrying case will ONLY accommodate a cool grill. The grill carrying case has a pocket for accessories such as the propane hose in the lid. The bracket will not fit inside the carrying case and will need to be stored in a separate location. Sanitize the detachable steakplate extension tray before using it.

## PATIO AWNING (IF SO EQUIPPED)

Please refer to the awning OEM operator’s manual. Keep your awning in good condition to prevent costly repairs. It is very important to keep the awning clean. If weather conditions are windy or stormy, close the awning into the travel mode position. Shut the awning in the travel position if you will be away from the RV for an extended period of time.

### ⚠ WARNING

Awnings must be closed (and locked if applicable) while the RV is in transit.

## DUCTING & RETURN AIR

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

## CONDENSATION

### CAUTION

Condensation causes dampness, mildew, mold, staining and, if allowed to continue at high levels, damage to the camper.

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, which each of us adds to by breathing, bathing or cooking. The water vapor usually collects on the coolest surfaces. When the temperature reaches the “dew point,” the water vapor in the air condenses and changes to a liquid form. Most people have experienced a similar phenomenon when a moisture forms on kitchen windows, or bathroom mirrors during cool weather.

### **To reduce condensation**

Proper ventilation and, if needed, the use of a dehumidifier will assist in controlling the condensation. Many RV and marine dealers carry small dehumidifiers sized for RV use. Other suggestions are:

- ❑ When taking a shower open the bath roof vent (if so equipped) approximately  $\frac{1}{2}$ ” allowing the moisture to escape.
- ❑ Use the range power vent (if so equipped) when cooking.
- ❑ If condensation is found in cabinets or closets, open the door slightly to equalize the temperature and provide ventilation.
- ❑ Open windows and roof vents, when possible, to allow warm moist air to escape.

Uncontrolled condensation can cause dampness, mildew, etc., inside your RV. Be sure to make strong effort to control condensation. Repairs due to condensation are not covered under the terms of the Towable Limited Warranty.

### **ATTIC FAN (IF SO EQUIPPED)**

The 12-volt DC attic fan (or powered roof vent) allows fresh air to circulate through the RV. Read the OEM operator’s manual for detailed operational instructions. If you have any questions contact your RV dealer or visit the manufacturer’s website.

Do not leave the attic fan in active automatic mode when the RV 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 damage.

### **THERMOSTAT**

There are may be up to two 12-volt DC thermostats in your RV.). Use the controls to set the temperature to your comfort setting. Read the OEM operator’s manual for detailed operational instructions. If you have any questions contact your RV dealer or visit the manufacturer’s website.

### **AIR CONDITIONER (IF SO EQUIPPED)**

Your RV has a roof mounted air conditioning system that is controlled by a thermostat. Cooled air enters the RV through the adjustable “chill grill.” Make sure you have sufficient power available before operating the air conditioner (refer to **Sec. 2 Electrical Systems**, Calculating electrical load).

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.

A special foam gasket is placed between the roof material and the subframe of the air conditioner to guard against water leakage. The air conditioner is subjected to wind pressures along with motor vibration during normal operation. Inspect the mounting bolts for tightness to ensure there is no leakage or looseness at least annually. Re-tighten bolts when they are loose. DO NOT over tighten these bolts as it may damage this gasket. To gain access to the bolts, remove the filtered panel cover on central air systems or the entire air box on non-central air conditioners. Consult the OEM operator’s manual or your RV dealer for more information.





## FURNACE

### ⚠ WARNING

To ensure your personal safety, do not obstruct or alter the furnace in any manner. Do not install screens over the vent for any reason. Screens will become restricted and cause unsafe furnace operation. For your safety, only OEM factory authorized parts are to be used on your furnace.

The RV furnace installed in the RV is controlled by a thermostat. The furnace requires both 12-volt power and propane gas for full operation. Make sure you have sufficient power available before operating your furnace (refer to **Sec. 2 Electrical Systems**, Calculating electrical load). Read the OEM operator's manual for detailed operational instructions. If you have any questions contact your RV dealer or visit the OEM website.

### ⚠ WARNING

The furnace should be inspected periodically (monthly during the heating season) for presence of soot on the vent. Soot is formed whenever combustion is incomplete. This is a visual warning that the furnace is operating in an unsafe manner. If soot is observed on the vent, immediately shut the furnace OFF and contact a qualified service agency. Operating the furnace under this condition could lead to serious property damage, personal injury or loss of life.

A qualified RV technician should perform all furnace maintenance at least once a year (more often depending on furnace usage). Never attempt to repair the furnace yourself.

## DEPARTING CAMP CHECKLIST

When the time arrives to return home, it is again critical that you complete the necessary procedures to ensure a safe trip. As you develop a routine, it is possible that a checklist will be helpful. This is a general list, which you may want to customize as you determine your own needs. In addition, make sure you follow the hitching procedures listed in the "Before You Travel..." section of this manual.

### Safety

- Make sure you follow all safety precautions noted in this owner's manual and in any OEM operator's manual when preparing to travel home.

### Interior

- Close roof vents
- Close windows & latch blinds
- Counter items put away or tied down
- Furnace turned off
- Latch drawers, cabinets & doors
- Lights turned off
- Lower antenna & satellite dish (if applicable)
- Move slideout in and lock it in place (if applicable)
- Position the booth dinette in the bed position for travel (if applicable)
- Refrigerator door locked
- Set refrigerator to 12-volt (if applicable)
- Water heater turned off
- Water pump turned off

### Exterior

- Empty black holding tank
- Empty gray holding tank
- Lock all exterior compartments
- Pack equipment into compartments and secure it
- Propane turned off
- Retract awning and secure in place (if applicable)
- Retract slideout (if applicable)
- Retract step
- Rinse black holding tank, if necessary
- Visually look under RV for items missed
- Water hose & electric cord unhooked and stored



**Tow Vehicle/Trailer**

- Check belts
- Check fluids
  - oil
  - coolant
  - transmission fluid
  - washer fluid
  - power steering fluid
  - brake fluid
  - battery terminal
- Check lights
  - headlights
  - brake lights
  - clearance lights
  - turn signals
- Breakaway switch and lanyard connected
- Check tire pressure (include inner wheel and spare, if applicable)
- Check tire wear (uneven wear pattern)
- Check wheel lugs
- Coupler locking pin connected (if applicable)
- Dolly wheel removed (if applicable)
- Proper tongue weight maintained (25% of gross weight - fifth-wheel travel trailer and contents)(10-15% of gross weight - conventional travel trailer and contents)
- Retract stabilizer jacks
- Retract steps
- Safety pin or locking lever must be seated (if applicable)
- Test brakes for proper operation
- Tongue jack fully up (if applicable)
- Trailer electric cable secure
- Trailer is level.
- Trailer safety chains connected (if applicable)



Depending upon your area and where your RV is stored, your vehicle may be a target for damage from rodents and insects. To protect your RV, never leave food inside and ensure that all surfaces are clean. Place rodent control products in the unit during periods of storage. Mice and other rodents can do a tremendous amount of damage to the drapes, cushions, etc., particularly during the winter months. Storing your RV in a field can make it particularly inviting. Periodically inspect it during storage and seal off any areas that can offer an entry point to rodents or insects. Remember to remove any screens or tape used to seal openings before using the RV again. Damage from rodents or insects is not covered by the Towable Limited Warranty.

When storing your RV, it is recommended that the auxiliary battery (customer supplied) be disconnected to battery avoid discharge.

## FORMALDEHYDE

Some components in the RV contain formaldehyde-based adhesives that may release formaldehyde fumes into the air for an unknown time period. 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 RV closed for storage. To aid in dissipation, ventilate by opening all windows and circulate the air with a fan. The following label should be left permanently affixed to the RV:

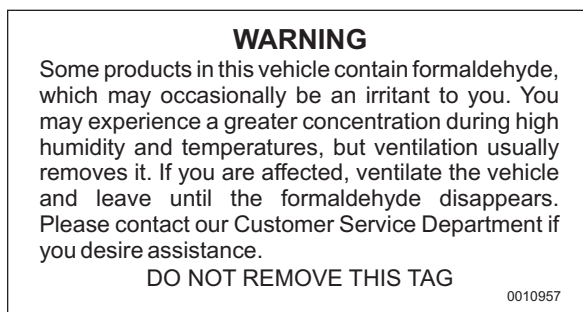


Fig. 9.1 Formaldehyde warning label

## ABS PLASTICS

ABS plastic components will retain their original beauty with reasonable care. Dust and wipe clean with soft, damp cloth or chamois, wiping gently. Wax or polish with Simoniz®, Aero-Wax® or Glo-Coat® using flannel or jersey cloth (after polishing, wipe gently with damp cloth to ground electrostatic charges that may attract dust particles). 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.

## BATHROOM TUB, LAVATORY SINK

The tub in your RV is made of ABS plastic material. DO NOT use abrasive type cleaners, as they may scratch surfaces. Use a mild detergent soap and warm water to clean the tub surface. These cleaning instructions are similar to those recommended for fiberglass tubs and walls. For any type of repair work, see your RV dealer.

## HARDWARE & SINK OR SHOWER FIXTURES

Use mild dish soap and water to clean these fixtures. Never use harsh chemicals or sprays. A mild solution of vinegar and water works well to remove hard water spots and stains from the sink or shower fixtures.

## SHOWER CURTAIN LINER OR GLASS SHOWER DOOR (IF SO EQUIPPED)

The shower curtain liner (or glass shower door, if so equipped) should be cleaned as you would clean a residential one.

## TOILET

The care and maintenance of your RV's toilet should be performed according to the OEM operator's manual. If you have further questions, consult with your RV dealer and/or visit the OEM website.



## **PANELING**

The wall paneling in your RV is a vinyl covered wood panel. If deep scratches occur, putty sticks can be used to cover them (they can be obtained from hardware stores and lumberyards). For decor paneling, replacement vinyl covering can be purchased for repairs if needed. Contact your RV dealer parts department for assistance.

To clean, use a mild solution of soap and lukewarm water with a soft sponge or cloth. DO NOT use abrasive cleaners. It could cause the vinyl to scratch and turn dull. Grease spots and stubborn dirt can be cleaned off with an all-purpose spray cleaner. Harsh cleaners and organic solvents can attack the printed vinyl; they are not recommended.

## **FURNITURE**

Vacuum occasionally to remove dirt, dust and pet hair. Have the furniture dry cleaned when necessary. Always test the fabric for color fastness in an inconspicuous location before using any product.

## **COUNTERTOPS (HIGH PRESSURE LAMINATE)**

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.

## **CUSHIONS**

Do not dry clean vinyl components. If the cushions are dry cleaned, the vinyl on the reverse side of the cushion will shrink, become hard and crack. Vacuum the fabric with a brush attachment periodically to remove dirt and wipe the vinyl surfaces. If a spill does occur water base cleaners are recommended (solvents are not recommended as they may have an adverse reaction to the specific backing of your upholstery fabric). Blot up the

spot, but do not rub it in or saturate the area. Clean it in a well ventilated area and avoid products containing toxic materials. Always test the fabric for color fastness in an inconspicuous location before using any product. Use a professional furniture cleaning service for an overall cleaning. The dinette covers are treated with a stain protector.

## **VINYL FLOOR**

To care for the vinyl floor covering, use a damp mop with water and a mild cleaner. DO NOT SOAK THE FLOORING. Use care to avoid wetting the carpet edges. To avoid problems of "yellowing" linoleum, the flooring OEM recommends avoiding cleaners that contain oil based solvents (i.e. cleaners containing lemon oil, Murphy's Oil Soap, etc.).

## **CARPETING**

Because of the additional dirt typically associated with camping, we recommend that you vacuum the carpet frequently. Have tough and deep stains professionally steam cleaned. Use spot removers for minor spills. Always test the carpet for color fastness in an inconspicuous area before using any product. Avoid chemical cleaners. Do not permit cleaners to touch carpet or fabrics.

## **BEDSPREADS**

Dry clean only. Test fabric for color fastness in an inconspicuous location before using any spot cleaners.

## **WINDOW TREATMENTS**

The window treatments in your RV may include mini blinds, pleated shades and/or drapes. To prevent scorching of the window shades, do not use the swivel arm lamps located adjacent to the slideout if one of the lampshades is broken or missing. Remove the light bulb and contact your RV dealer for repairs or replacement.



Refer to the following guidelines for cleaning:

Window Treatment	Light Cleaning	Extensive Cleaning
Miniblinds	Dust or Vacuum	May be removed and washed with a mild detergent and warm water
Privacy Drapes	Vacuum	Dry Clean

## AIR CONDITIONER

A special foam gasket is placed between the roof material and the subframe of the air conditioner to guard against water leakage. The air conditioner is subjected to wind pressures along with motor vibration during normal operation. Inspect the mounting bolts for tightness to ensure there is no leakage or looseness at least annually. Re-tighten bolts when they are loose. DO NOT over tighten these bolts as it may damage this gasket. To gain access to the bolts, remove the filtered panel cover on central air systems or the entire air box on non-central air conditioners. Consult the OEM operator's manual or your RV dealer for more information.

## FURNACE

Preventive maintenance and safety checks should be performed by a qualified technician at least once a year, or more, depending on the use of the furnace. Failure to properly maintain the furnace may void the furnace warranty and can result in unsafe furnace operation. Preventive maintenance is NOT covered under the warranty. Power should be disconnected before servicing. Refer to the OEM operator's manual for more information.

## DOORS & LOCKS

Locks on entrance and baggage doors need biannual lubrication. Light silicone lubricant is recommended. Conditions such as rain, salt, dust and pollution may increase the maintenance needs.

## MAXISTOR™ STORAGE (IF SO EQUIPPED)

The Maxi-Store Storage provides space for large and bulky items. However, keep all weight capacities in mind as you load this storage space. Review the capacities as defined on the "Trailer Weight Information" label in your RV. Always maintain the proper hitch weight of your RV. A label similar to the following is located inside the storage compartment's doors. The maximum weight allowed in this storage area will vary (depending your model). Make sure that you stay within the weight limits on the label attached to your RV.

**WARNING**

PROPER ATTENTION MUST BE TAKEN TO ASSURE TOWING AND TRAVELING SAFETY. CONSULT YOUR OWNER'S MANUAL(S) FOR SPECIFIC LOAD DISTRIBUTION, WEIGHING INSTRUCTIONS AND TOWING GUIDELINES. COMPLY WITH THE TOW VEHICLE'S OWNER'S MANUAL FOR TOWING REQUIREMENTS.

THIS STORAGE AREA IS TO BE LOADED BY WEIGHT NOT BY VOLUME.  
MAXIMUM CAPACITY ### LBS. (### KG.)

1. LOAD THE STORAGE AREA FROM FRONT TO BACK, KEEPING HEAVIER ITEMS TO THE FRONT OF THE STORAGE AREA.
2. LOAD ALL ITEMS EVENLY FROM SIDE TO SIDE IN THE STORAGE AREA.
3. SECURE ALL ITEMS TO PREVENT LOAD SHIFTS DURING TRANSIT.
4. AFTER LOADING, WEIGH THE TRAILER AT THE HITCH, EACH AXLE, AND EACH WHEEL. OBSERVE ALL TRAILER GROSS, AXLE AND TIRE RATINGS.
5. IF THE WEIGHT OF THE LOADED TRAILER EXCEEDS ANY OF THE RATINGS AS LISTED ON THE CERTIFICATION LABEL LOCATED ON THE FRONT LOWER LEFT OUTSIDE WALL, REMOVE OR REDISTRIBUTE THE CARGO LOAD UNTIL THE WEIGHT(S) ARE LESS THAN THE MAXIMUM RATINGS.
6. THIS AREA IS NOT FOR STORAGE OR TRANSPORTATION OF ENGINE FUEL(S), COMBUSTIBLE LIQUIDS OR VEHICLES EQUIPPED WITH FUEL POWERED ENGINES.

FAILURE TO FOLLOW THESE GUIDELINES AND INSTRUCTIONS MAY RESULT IN ADVERSE TRAILER TOWING AND HANDLING AND COULD LEAD TO AN ACCIDENT OR LOSS OF CONTROL RESULTING IN DEATH OR SERIOUS INJURY.

Fig. 9.2 MAXISTOR™ label

## MAXISTOR™ Storage bed operation

If your RV has the MaxiStor™ storage door, you will need to fold up the beds to open up the area for storage. To utilize this compartment, follow these simple steps:

- Model 20 BH (ED), 27 BH (EF), 29 FBS (EL), 29 BHS (EN), 29 BHS (ES), 27.5 BHS (PD):
1. Fold the mattress in half and place it against the interior side of the bed.
  2. Lift up on the edge of the bed platform to open up the area for storage.
  3. Load cargo into the storage area.





Model 31BHS (EM):

1. Remove the mattress cushions and place them along the interior wall at either end of the bunk.
2. Lift up in the center of the bed platform. Fold both ends up.
3. The top bunk will fold up to provide a larger storage space.
4. Load cargo into the storage area.

## **METAL**

Your RV has an improved smooth metal with a new polyester automotive paint finish. This metal surface may be cleaned and polished as you would your automobile. We recommend that you do not take your recreation vehicle through automatic car washes. Extreme caution should be used if utilizing any type of pressure sprayer around all attachments, doors, windows, appliance vents, etc. Avoid forcing water inside the unit, which could possibly damage component parts.

## **STONE GUARD (IF APPLICABLE)**

Wash the stone guard with liquid dishwashing soap or liquid car washing soap and water. Do not use powdered detergent, powdered soap, liquid and spray cleaners or pressure washing. Wax frequently to protect the surface and make cleaning easier.

## **RUBBER ROOF**

The rubber roof on your RV is manufactured by Alpha Systems. Read and follow the OEM operator's manual when cleaning the rubber roof. If you have questions contact your RV dealer.

## **ROOF LADDER (IF SO EQUIPPED)**

Your RV may be equipped with an optional roof ladder. The RV roof has decking under the rubber roof membrane to allow you to walk on the roof (with caution) to do maintenance.

## **⚠ WARNING**

If your RV is equipped with a roof ladder, do not leave items attached to it while traveling. The ladder has a weight limit of 350# when using it to access the roof. DO NOT exceed this weight limit.

## **REAR BUMPER**

The rear bumper of your RV is not designed to carry cargo. Items that extend beyond the bumper OR weigh over 100# (45kg) will place undo strain on the bumper. The 100# bumper capacity includes the weight of the spare tire that may have been attached at the factory. Some items may fall within the given weight range, however, can still cause damage. Over time, weight added to the bumper will cause damage from the motion created while traveling. In addition, extra weight behind the axle may reduce the hitch weight (leading to adverse handling conditions from wind gusts and/or passing traffic).

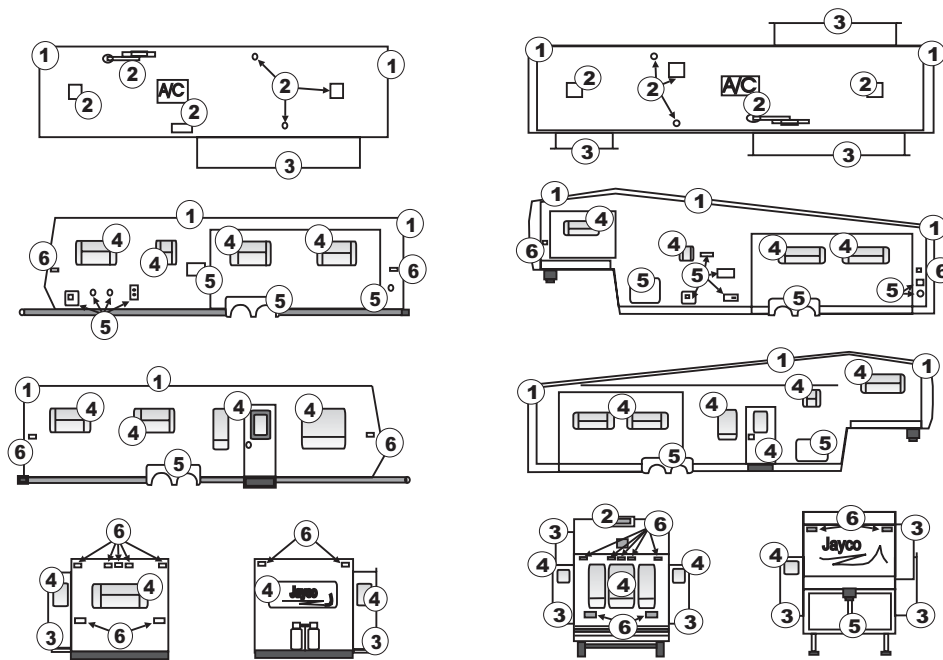
## **⚠ CAUTION**

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

## **SEALANTS**

Water is a recreation vehicle's worst enemy when it is allowed to enter where it is not intended. Sealants perform a very important function, must 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.



- 1 = Moldings  
2 = Vents/Attachments to Roof  
3 = Slideout Trim/Moldings

- 4 = Windows/Doors  
5 = Exterior Attachments  
6 = Marker & Tail Lights

Sealants can be affected by ultraviolet exposure, air pollution, extreme temperatures and exposure to other elements. Conditions such as rain, salt, dust and pollution may increase the need to maintain your RV's sealants. Checking the sealants is considered customer maintenance. It is recommended that you or your RV dealer:

Inspect all sealants, a minimum of every six months. Make sure to check the roof and all four sides of the RV including all moldings, windows, doors, vents and exterior attachments. Reseal as necessary and at least one time each year as preventative maintenance.

- ❑ Cap seal (if applicable) or replace the sealant if you notice any cracks, gaps, lifting, looseness, peeling, shrinkage, voids or any sign of physical deterioration. Complete repairs immediately to prevent damage to your RV.
- ❑ Always use the same type of sealant originally used to build your RV. Consult

with your RV dealer for the proper sealant(s) to use on your RV.

- ❑ If you notice water inside the unit, immediately have the RV dealership check for the source of the leak. Failure to correct the leak may result in serious damage to your RV. This damage will not be covered under the Towable Limited Warranty.

Although the above diagrams may not accurately reflect the exact model of your RV, make sure you inspect all sealants as indicated in the text. If you have questions and/or need assistance with sealing your RV, consult with your RV dealer.

## ⚠ CAUTION

Failure to properly maintain or reseal your RV may result in serious water damage to the roof and other parts of the unit. This damage is not covered by the Towable Limited Warranty.



## **⚠ CAUTION**

To check the exterior sidewall sealants, use a stepladder placed safely beside the RV. Do not prop a ladder against the body of the RV as it may damage the finish.

### **STORAGE CHECKLIST**

#### **Prior to Storage**

If storing for the winter, be sure the RV is winterized (refer to **Sec. 5 Plumbing System**, Winterizing the plumbing system).

- Check your roof and other surfaces to ensure there is no damage and potential leakage that might otherwise go unnoticed until it is too late.
- Close all windows and roof vents.
- Close the propane cylinder valve(s). If your cylinders do not already have a cover, purchase at least a vinyl propane cylinder cover and make sure the regulator is covered.
- Cover all external outlets, such as furnace, exhaust, etc. to prevent mice or other rodents from entering.
- Cover the roof air conditioner.
- Disconnect 120-volt AC power to the RV.
- Do not use the stabilizing jacks during storage.
- Drain all water lines.
- Drain and flush all holding tanks (fresh water, gray water, black water and/or hot water tanks).
- Inspect the sealant and reseal as needed.
- Remove all batteries from the RV and store in a place where they won't freeze. Batteries that have been frozen will never hold a proper charge.
- Remove all perishable items from the interior. If storing during the winter months, include any items that are susceptible to freezing.
- Store your RV indoors, under a roof or purchase a tarp to cover your RV during storage. Make sure you invest in a good tarp that can "breathe."

- Thoroughly wash the interior and the exterior of your RV.
- To prevent weather checking and other UV damage, cover tires that are exposed to sunlight.
- Turn all cushions on edge to prevent the moisture/mildew buildup during storage.
- Turn off 12-volt DC/120-volt AC/propane to the refrigerator; defrost and clean. Use crumpled newspaper or open boxes of baking soda in the refrigerator to eliminate odors during storage.

#### **During Storage Period**

- Remove snow loads from the top of your RV to prevent damage to the unit's structure.

## **⚠ CAUTION**

Excessive snow, 8" or more, or ice, 2" or more, places excessive weight on the RV roof. Remove excessive snow or ice as needed. Care **MUST** be exercised to not damage the roof material when removing snow & ice. Excessive weight can damage the roof, seals, etc. Water leaks and poor fit or operation are the results of this damage.

### **MAINTENANCE CHECKLIST**

This list is a quick reference sheet for suggested areas of regular maintenance. Review all OEM operator's manuals supplied with your RV to perform these listed maintenance items.

#### **Prior to First Trip**

- Check propane lines for leaks.
- Check wheel lug nuts at specified intervals to listed torque specifications, re-torque as needed (refer to the axle OEM operator's manual).
- Open all windows and the entry door, start the furnace. Leave the windows and door open and the furnace ON until the odor from the initial use of the furnace is fully dissipated.
- Sanitize fresh water system.
- Test propane and carbon monoxide detectors.



### First Two-Hundred Miles

- Check wheel nuts at specified intervals to listed torque values. Re-torque as needed. Refer to the axle manufacturer's manual.
- Have brakes adjusted by a qualified service technician.

### Each Trip

- Check battery water level (If equipped with battery.)
- Check propane lines for leaks.
- Check running lights.
- Check tire pressure and wear. Make sure the tires are cold when checking the tire pressure.
- Flush out water heater tank.
- Inspect safety chains for signs of wear. (If applicable)
- Test brakes.
- Test propane, smoke and carbon monoxide detectors.

### After Every Tire Change

- Tighten wheel nuts to specified torque values at 10, 25 and 50 miles (16, 40, and 80 kilometers) to assure that they are correctly "seated" after the tire change. Refer to the axle OEM operator's manual.

### Daily

- Ensure propane detector operation light is green in color.
- Recharge battery after each use.

### Weekly

- Check propane lines for leaks.
- Check tire pressure and wear. Make sure tires are cold when checking the tire pressure.
- Test propane smoke and carbon monoxide detectors.

### Monthly

- Check fire extinguisher pressure. Refer to the fire extinguisher label for specific instructions.
- Clean and lubricate the coupler (if applicable)
- Test the ground fault circuit interrupter (GFCI)

### Every Three Months or 3,000 Miles

- Check propane lines for leaks.
- Check wheel nuts at specified intervals to listed torque values. Re-torque as needed. Refer to the axle manufacturer's manual.
- Check, clean, tighten and lubricate battery cables.
- Compare refrigerator pilot flame with ideal flame. Refer to the refrigerator OEM operator's manual for ideal flame. Have cleaned and adjusted as necessary by a qualified technician. (RV type refrigerator only)
- Compare water heater pilot flame with ideal flame. Refer to the water heater OEM operator's manual for ideal flame. Have cleaned and adjusted as necessary by a qualified technician.
- Drain and sanitize fresh water system.
- Examine the tires for unusual wear, sidewall defects from possible cuts, bulging and abrasions.
- Have brakes adjusted by a qualified service technician.
- Inspect propane cylinders for rust, pits, gouges, scrapes or sharp dents. Repaint cylinders if rust is present.
- Inspect refrigerator combustion seals. Have cleaned and adjusted as necessary by a qualified RV technician. (RV type refrigerator only)
- Inspect refrigerator door seal.
- Lubricate hitch ball (if applicable)
- Lubricate tongue jack (if applicable)

### Every Six Months or 6,000 Miles

- Check pipe connections for tightness. Tighten if necessary. Lubricate all moving parts on the entrance steps.
- Clean and lubricate stabilizer jacks.
- Clean drains with approved drain cleaners.
- Have suspension system serviced by a qualified service technician.
- Inspect and reseal as defined earlier in this chapter.
- Inspect wheels for cracks, dents or distortion.
- Lubricate entrance and baggage door locks.



- Lubricate the bearing surface between the rotating gear housing and the base plate on the television antenna.
- Lubricate the elevating gear on the television antenna.
- Lubricate the rubber quad ring on the elevating shaft located on the television antenna.
- Perform routine preventative maintenance on entire trailer and all component parts.

**Every Year or 12,000 Miles**

- Apply silicone spray to the fifth-wheel landing gear inner tube and pad and the inside of the handle alignment tube. (if applicable)
- Check demand tank vent for obstructions.
- Check water pump connections and mountings for tightness.
- Clean city water entry strainer.
- Grease gears in the gear box and at the top of each leg of the fifth-wheel landing gear with extreme pressure grease. (if applicable)
- Have brakes inspected and serviced by a qualified technician.
- Have furnace inspected and serviced by a qualified technician.
- Have propane system inspected and serviced by a qualified technician.
- Have the refrigerator inspected and serviced by a qualified technician.
- Inspect and reseal as defined earlier in this chapter.
- Lubricate moving parts on the awning hardware. (Awning option only.)
- Manually operate the pressure-temperature control lever on the water heater.
- Oil the shaft bushings of the fifth-wheel landing gear with SAE 30 oil. (if applicable)
- Perform routine preventative maintenance on entire trailer and all component parts.
- Repack wheel bearings.
- Replace battery on the carbon monoxide detector.
- Rotate fluorescent tubes in the light fixtures.

**Every Five Years**

- Replace propane and carbon monoxide detectors.





## OEM LIST

The following chart provides information to contact some of the individual original equipment manufacturers (OEM) of appliances/component parts that may be installed on your RV. The information listed in this chart is the latest available at the time of publication of this manual. If you have questions or concerns on component parts not listed here, contact your RV dealer for further assistance.

Component Part	OEM	Website	Phone #
Air Conditioner	Coleman	<a href="http://www.rvcomfort.com/rvp">www.rvcomfort.com/rvp</a>	(316) 832-4357
Attic Fan (power)	Ventline	<a href="http://www.ventline.com">www.ventline.com</a>	(574) 848-4491
Awning	Carefree of Colorado	<a href="http://www.carefreeofcolorado.com">www.carefreeofcolorado.com</a>	(800) 622-3230
Axle	Dexter Axle	<a href="http://www.dexteraxle.com">www.dexteraxle.com</a>	(574) 295-7888
BBQ Grill	Vitco C-Land Manufacturing	<a href="http://www.vitco.com">www.vitco.com</a> <a href="http://www.clandmanufacturing.com">www.clandmanufacturing.com</a>	(877) 736-2635 (352) 624-9667
Carbon Monoxide Alarm	Quantum	<a href="http://www.qginc.com">www.qginc.com</a>	(800) 432-5599
Converter	Iota	<a href="http://www.iotaengineering.com">www.iotaengineering.com</a>	(520) 294-3292
DVD/CD	Contact your RV dealer		
Entrance Step	Hickory Springs	<a href="http://www.hickorysprings.com">www.hickorysprings.com</a>	(800) 438-5341
Exhaust Fan	Ventline	<a href="http://www.ventline.com">www.ventline.com</a>	(574) 848-4491
Fifth Wheel Landing Gear	Atwood	<a href="http://www.atwoodmobile.com">www.atwoodmobile.com</a>	(815) 877-5700
Furnace	Atwood/Hydroflame	<a href="http://www.atwoodmobile.com">www.atwoodmobile.com</a>	(815) 877-5700
Microwave	Contact your RV dealer		
Outside Shower	B & B Molders	<a href="http://www.bandbmolders.com">www.bandbmolders.com</a>	(574) 259-7838
Propane (LP) gas alarm	MTI	<a href="http://www.mtiindustries.com">www.mtiindustries.com</a>	(800) 383-0269
Propane Cylinder	Manchester Tank	<a href="http://www.manchestertank.com">www.manchestertank.com</a>	(800) 877-8265
Propane Regulator	Marshall Brass	<a href="http://www.marshallbrass.com">www.marshallbrass.com</a>	(800) 447-9513
Range	Atwood	<a href="http://www.atwoodmobile.com">www.atwoodmobile.com</a>	(815) 877-5700
Rangehood	Ventline	<a href="http://www.ventline.com">www.ventline.com</a>	(574) 848-4491
Refrigerator	Norcold	<a href="http://www.norcold.com">www.norcold.com</a>	(800) 543-1219
RV Frame	Leland Engineering	<a href="http://www.lelandengineering.com">www.lelandengineering.com</a>	(800) 669-7681
Slideout (main)	V-tech	n/a	(574) 294-6409 (574) 266-7356
Slideout (sofa)	RBW Industries	<a href="http://www.rbwindustries.com">www.rbwindustries.com</a>	(800) 451-7821
Smoke Alarm	MTI	<a href="http://www.mtiindustries.com">www.mtiindustries.com</a>	(800) 383-0266
Speakers	Contact your RV dealer		
Television	Contact your RV dealer		
Thermostat	Coleman	<a href="http://www.rvcomfort.com/rvp">www.rvcomfort.com/rvp</a>	(316) 382-4357
Tires	Contact your local tire distributor for assistance		
Toilet	Thetford	<a href="http://www.thetford.com">www.thetford.com</a>	(800) 521-3032
TV Antenna	Winegard	<a href="http://www.winegard.com">www.winegard.com</a>	(800) 788-4417
Water Filter	Flowmatic	<a href="http://www.flowmatic.com">www.flowmatic.com</a>	(800) 461-4406
Water Heater	Atwood	<a href="http://www.atwoodmobile.com">www.atwoodmobile.com</a>	(815) 877-5700
Water Pump	Shurflo	<a href="http://www.shurflo.com">www.shurflo.com</a>	(800) 854-3218



## OEM WHEEL LUG TORQUE CHART

Wheel Torque Requirements					
Lug Nut	Rim	Type	Stage 1	Stage2	Stage 3
4-Lug Nuts	12"	Steel	20-25 ft/lbs	35-40 ft/lbs	50-75 ft/lbs
5-Lug Nuts	13"	Steel	20-25 ft/lbs	35-40 ft/lbs	50-75 ft/lbs
5-Lug Nuts	13"	Chrome	20-25 ft/lbs	35-40 ft/lbs	50-75 ft/lbs
5-Lug Nuts	14"	Steel	20-25 ft/lbs	50-60 ft/lbs	90-120 ft/lbs
5-Lug Nuts	14"	Chrome	20-25 ft/lbs	50-60 ft/lbs	90-120 ft/lbs
5-Lug Nuts	14"	Aluminum	20-25 ft/lbs	50-60 ft/lbs	90-120 ft/lbs
5-Lug Nuts	15"	Chrome	20-25 ft/lbs	50-60 ft/lbs	90-120 ft/lbs
6-Lug Nuts	15"	Steel	20-25 ft/lbs	50-60 ft/lbs	90-120 ft/lbs
6-Lug Nuts	15"	Aluminum	20-25 ft/lbs	50-60 ft/lbs	90-120 ft/lbs
6-Lug Nuts	15"	Chrome	20-25 ft/lbs	50-60 ft/lbs	90-120 ft/lbs
6-Lug Nuts	16"	Steel	20-25 ft/lbs	50-60 ft/lbs	90-120 ft/lbs
6-Lug Nuts	16"	Chrome	20-25 ft/lbs	50-60 ft/lbs	90-120 ft/lbs
8-Lug Nuts	16"	Steel	20-25 ft/lbs	70-80 ft/lbs	110-130 ft/lbs
8-Lug Nuts	16"	Aluminum	20-25 ft/lbs	70-80 ft/lbs	110-130 ft/lbs

A torque wrench is the best way to assure the proper amount of torque is being applied. Also review the axle manufacturer's operation and service manual supplied with your trailer or contact your independent, authorized dealer for further assistance.

## DC FUSE PANEL LAYOUT

Below is a typical wiring layout. Your individual trailer may be different.

#	Size	Function
1	12.5 amp breaker	Bedroom Slideout Motor
2	15 amp fuse	Bathroom Lights & Vent
3	15 amp fuse	Monitor Panel/Holding Tanks/Water Pump/Water Heater/Sink Lights
4	15 amp fuse	Refrigerator/Furnace
5	15 amp fuse	Bedroom Lights
6	15 amp fuse	Propane Detector/TV Outlet
7	15 amp fuse	Porch/Entry/Main Living Area Lights
8	15 amp fuse	Bunk/Rear Ceiling/Trunk Lights
9	15 amp fuse	Main Slideout Lights
10	15 amp fuse	Option
11	15 amp fuse	Option
12	20 amp breaker	Main Slideout Motor



## CIRCUIT BREAKERS

The following table provides generic circuit breaker alignment information. Your RV may not be exactly the same as shown depending on the model, floor plan and options.

Main	30-amp	main, incoming power to unit
A	15-amp	microwave
B	15-amp	refrigerator/GFCI (kitchen/bath)
C	20-amp	air conditioner
D	15-amp	utility/converter
E	15-amp	water heater

## REPLACEMENT LIGHT BULBS

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

<b>Interior:</b>	Square Lights	#921	<b>Exterior:</b>	Porch Light	#912
	Power Hood Lights	#912		Tail Light	#1157
	Brass Light	#1076		Turn Signal & Brake	#1157
				Clearance Light	#194

## PROPANE CONSUMPTION CHART

The following chart provides an average propane consumption information.

Appliance	Approximate BTU Consumption Per Hour	Approximate Kilojoules Per Hour
Water Heater	12,000	12,660
Refrigerator	1,500	1585
Furnace	16,000 - 35,000	16,880 - 36,930
Range w/ Oven	29,100	30,700
Slide-in Cooktop - 3 burner	22,000	23,200



## APPROXIMATE ELECTRICAL LOAD RATINGS

Use actual amperage (or wattage divided by 120) of appliance being used whenever possible.

120 VOLT SYSTEM	
AIR CONDITIONER - COLEMAN MACH 13,500 BTU (RUN)	13.50-16.25 AMPS
AIR CONDITIONER - COLEMAN MACH 13,500 BTU (START UP)	15.75-16.25 AMPS*
BLENDER (ESTIMATED 300-400W)	2.50-3.50 AMPS
COFFEE MAKER (ESTIMATED 1000-1300W)	7.00-11.00 AMPS
CONVERTER - SINGLE 45 AMPS (IOTA 750W)	5.00-6.25 AMPS
CURLING IRON (ESTIMATED 50-100W)	.50-1.00 AMPS
ELECTRIC BLANKET (ESTIMATED 150-200W)	1.25-1.75 AMPS
ELECTRIC FAN - PORTABLE (ESTIMATED 125-175W)	1.00-1.50 AMPS
ELECTRIC FRYING PAN (ESTIMATED 1000-1200W)	8.50-10.00 AMPS
HAIR DRYER (ESTIMATED 1000-1900W)	8.50-16.00 AMPS
HOME THEATER SYSTEM (EXECUTIVE 128W, MEMOREX 133W)	1.25-1.75 AMPS
LAPTOP COMPUTER CHARGER (ESTIMATED 25-75W)	.25-75 AMPS
MICROWAVE OVEN (900-1500W)	7.50-12.50 AMPS
RADIO (ESTIMATED 10-35 W)	.10-.30 AMPS
REFRIGERATOR - RV GAS/ELECTRIC (NORCOLD #611 300W, #821 300W) (ESTIMATED 250-350W)	2.00-3.00 AMPS
SATELLITE RECEIVER (ESTIMATED 50-150W)	.50-1.25 AMPS
STEAM IRON (ESTIMATED 1000-1500W)	8.50-12.50 AMPS
TELEVISION (ESTIMATED 65-2100W)	.50-2.00 AMPS
TOASTER (ESTIMATED 1000-1500W)	8.50-12.50 AMPS
TOASTER OVEN (ESTIMATED 1100-1600W)	9.25-13.50 AMPS
VCR (ESTIMATED 25-75W)	.25-75 AMPS
WATER HEATER - RV GAS/ELECTRIC (ATWOOD 11.66 AMPS)	11.75-12.25 AMPS

12 VOLT SYSTEM	
AISLE LIGHTS	1.0 AMPS
BAGGAGE COMPARTMENT LIGHTS	1.4 AMPS
BEDROOM RADIO	1.5 AMPS
DECORATIVE WALL LIGHTS	1.5 AMPS
EXTERIOR ENTERTAINMENT CENTER	5.0 AMPS
FANTASTIC FAN	5.0 AMPS
FLUORESCENT DOUBLE 12"	2.0 AMPS
FLUORESCENT DOUBLE 18"	2.5 AMPS
FURNACE	12.0 AMPS
HALOGEN LIGHT	1.5 AMPS
ILLUMINATED SWITCH	.50 AMPS
LP DETECTOR ALARM	1.0 AMP
PORCH LIGHT	1.50 AMPS
POWER VENT	2.0 AMPS
REFRIGERATOR	3.0 AMPS
TV PLATE/ANTENNA BOOSTER	1.0 AMPS
WATER HEATER	6.0 AMPS
WATER PUMP	7.0 AMPS

\*MOMENTARY LOAD



## GLOSSARY OF TERMS

**AC ELECTRICITY** – Alternating current also known as shoreline power. For purposes of this manual, it refers to 120-volt AC (abbreviated 120 VAC).

**AUXILIARY BATTERY** – For purposes of this manual, the term refers to the 12-volt DC group 27 deep cycle battery (customer purchased) that should be installed in your camper.

**BLACK WATER** – Term associated with the sewage holding tank. The toilet drains directly into this tank.

**BRITISH THERMAL UNIT (BTU) -**  
Measurement of heat that is the quantity required to raise the temperature of one pound of water 1°F. RV air-conditioners and furnaces are BTU-rated.

**CAMP STORE** – A store that usually has bread, milk and other essentials but not fresh meats, fruits or vegetables.

**CAMPER** – For purposes of this manual, this term refers to your conventional travel trailer or fifth wheel travel trailer.

**CAMPING** - An outdoor recreational activity involving the spending of one or more nights in a tent, primitive structure or recreational vehicle at a campsite with the purpose of getting away from civilization and enjoying nature.

**CAMPSITE** - The term usually means an area where an individual or family might go camping.

**CARBON MONOXIDE** – A colorless, odorless and poisonous gas.

**CARGO CARRYING CAPACITY (CCC) -**  
Equal to GVWR minus each of the following: UVW, full fresh potable) water weight (including water heater), full propane weight and SCWR.

**CITY WATER** – Term associated with the water supply you hook up to at the campsite. It is called city water because water is pulled from a central outside source (like a city) and not the fresh water tank.

**CURBSIDE** – This refers to the side of the camper that faces the curb when parked. Also referred to as the door side.

**DC ELECTRICITY** – Direct current also known as auxiliary battery power. For purposes of this owner's manual, it refers to 12-volt DC (abbreviated 12 VDC).

**DEALER** – For purposes of this manual, this refers to the independent dealer authorized to sell and/or service your camper by Jayco, Inc. This term will be used in this context unless specified otherwise.

**DRAIN TRAP** – This is the curve that is in all drains. Water is trapped in the curve and creates a barrier so tank odors cannot escape through the drain.

**DRY CAMPING** – Camping when there is no city water hookup or shore power (i.e., using only the water and power available in the camper and not from any other source).

**DUMP STATION** – Site where you drain your gray water (waste) and your black water (sewage) tanks. In most states, it is illegal to drain your tanks anywhere except dump stations.

**DUMP VALVE** – Another name for the T-handle valve used to release and drain the black tank (sewage) and gray tank (waste).

**EGRESS WINDOW** – The formal name for the emergency escape window. Egress windows are identified by their red handles.

**FRESH WATER** – The fresh water system provides potable water to the fresh water tank, kitchen sink, shower, bathroom lavatory, toilet, water heater and outside shower.





**FULL HOOK-UP SITE** – A campsite that has city water, shore power and sewer hook-ups or connections available.

**GRAY WATER** – Term associated with the waste water holding tank. Water from the sink drains, shower and washer/dryer (if so equipped) go into this tank.

**GROSS AXLE WEIGHT RATING (GAWR)** – The MAXIMUM ALLOWABLE WEIGHT each axle assembly is designed to carry, as measured at the tires, therefore including the weight of the axle assembly itself. GAWR is established by considering the rating of each of its components (tires, wheels, springs, axle), and rating the axle on its weakest link. The GAWR assumes that the LOAD IS EQUAL ON EACH SIDE.

**GROSS CARRYING CAPACITY (GCC)** - Means the maximum carrying capacity of your camper. The GCC is equal to the GVWR minus UVW. The GCC will be reduced by the weight of fresh water or other tanks, Propane, occupants, personal items or dealer installed accessories.

**GROSS COMBINED WEIGHT RATING (GCWR)** – The MAXIMUM ALLOWABLE COMBINED WEIGHT of the tow vehicle and the attached towed vehicle. GCWR assumes that both vehicles have functioning brakes, with exceptions in some cases for very light towed vehicles, normally less than 1,500 pounds. (Check your tow vehicle's towing guide.)

**GROSS TRAILER WEIGHT RATING (GTWR)** - The MAXIMUM TOWED VEHICLE WEIGHT. Each component (receiver, drawbar, ball) of a ball-type hitch has its own rating. Some ball-type hitches have separate ratings when used with a weight distributing system.

**GROSS VEHICLE WEIGHT RATING (GVWR)** – The MAXIMUM ALLOWABLE WEIGHT of the fully loaded vehicle, including liquids, passengers, cargo, and the tongue weight of any towed vehicle.

**HITCH WEIGHT** – The amount of the camper's weight that rests on the tow vehicle. It should be approximately 10 to 15 percent with conventional travel trailers, approximately 15 to 20 percent for fifth wheels.

**LOW POINT** – The lowest point in the plumbing. Drains are placed here so that water will drain out of the lower end of the camper when flushing or winterizing the water system. These drains must be closed when you fill the water tank.

**NET CARRYING CAPACITY (NCC)** - The MAXIMUM WEIGHT of all personal belongings, food, fresh water, Propane, tools, dealer installed accessories, etc., that can be carried by the RV.

**OEM** – This refers to the original equipment manufacturer of the individual appliances or components.

**PRIMITIVE SITE** – A campsite that may have city water, shore power or sewer hook-ups but not all of them; primitive sites may have no hook-ups or connections at all.

**PULL-THROUGH SITES** – Campsites you can drive through and park (without having to back up into the site).

**ROADSIDE** – This refers to the side of the camper that faces the road when it is parked. Often called the off-door side.

**SANITIZATION** – Refers to the camper's fresh water system that has been sanitized with chlorine bleach before use or after storage.

**POWER SOURCE** – Also referred to as shore power, this refers to the receptacle outlet you are using to plug in your shoreline power cord. This can be a campsite power box or electrical box, a residential receptacle outlet specifically wired for your camper or a generator (customer supplied).



**SHORELINE POWER CORD** – This is the electrical power cord that runs from the camper to the campsite shore power outlet.

**SLEEPING CAPACITY WEIGHT RATING (SCWR)** – The manufacturers designated number of sleeping positions multiplied by 154 pounds (70 kilograms).

**TIRE RATINGS** - The MAXIMUM LOAD that a tire may carry is engraved on the sidewall, along with a corresponding COLD inflation pressure. A reduction in inflation pressure requires a reduction in load rating. Tire manufacturers publish charts that establish the load capacity at various inflation pressures.

**TONGUE WEIGHT, TONGUE LOAD, VERTICAL LOAD (TWR/TLR/VLR) -**

Tongue Weight, Tongue Load, Vertical Load Rating Different terms for the MAXIMUM VERTICAL LOAD that can be carried by the hitch UNLOADED.

**UNLOADED VEHICLE WEIGHT (UVW) -**

The WEIGHT of a vehicle as built at the factory with full fuel, engine (generator) oil and coolants. It does not include cargo, fresh water, Propane, occupants, or dealer installed accessories.

**WEIGHT & LOAD** - These terms are generally used interchangeably. For the purposes of understanding RV applications, vehicles have WEIGHT, which impart LOADS to tires, axles and hitches. Scale measurements taken when weighing are LOADS carried by the tires. These measured loads are used to calculate Gross Vehicle Weight (GVW), Gross Axle Weight (GAW), Gross Combination Weight (GCW), and hitch loads.

**WINTERIZED** – Refers to a camper that has been prepared for storage. The water systems have been drained and RV antifreeze has been added to protect the water lines and drains. The low point drains should be in the open position.



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