



CASITA  
OWNERS  
MANUAL





Congratulations!! Our family at Casita would like to Thank You. We want you to enjoy your Casita in every way and every time you use the Casita. Whether it is an overnight trip or a weekend getaway, or your very own cross- country excursion. Please feel free to contact us if you need questions answered or just to say hello. Here at Casita, our customers are the most important aspect of our company. We want your trip and experience to be a memorable one. As always we would love to hear from you.

May God Bless you on your trips-  
Casita Enterprises Staff



## CASITA'S WARRANTY POLICY

\*CASITA offers a one year warranty on its installation and quality. This one year warranty is for original owner only and is non-transferable.

\* This warranty covers only items produced at the Casita factory, which would include the fiberglass body and furniture and the chassis. Casita warranty guarantees that quality workmanship and installation was performed at our factory to items such as windows, carpet, water systems, trailer wiring, axle, cabinet doors and hardware, gas lines, and rain tests. If the original purchaser experiences any problems with any of the items listed while under the one year warranty, you must contact the Casita Service Department to make arrangements for repairs. If the purchaser is unable to return to Casita's dealership for repairs, you must contact the Casita Service Department at 1-800-442-9986 before work is done. Repairs made without prior authorization may be subject to denial or only partial reimbursement.

\*CASITA installs appliances that are guaranteed by the Manufacturer's Warranty. Casita is not authorized to repair or service any appliances or components and can not work on them. Any warranty issues must be taken to the appliance manufacturer's authorized service dealer. Every appliance in the trailer has individual literature and documentation stating their warranty policies and service arrangements. Please read these provided documents to learn about the details of the proper procedures to take to abide by these individual warranties. You are still urged to contact Casita Service Department if you experience any problems with any appliances, and our staff will assist you with how to make arrangements for repairs.

CASITA ENTERPRISES, INC.

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\_\_\_\_\_  
Customers Signature



# Foreword



Thank you for selecting this recreational vehicle. Welcome to the life-style that it will provide you. You will have the freedom to travel and enjoy recreation wherever you may wish.

Items of quality, such as this recreational vehicle, will always respond best to considerate treatment and care. Therefore, before operating it, we suggest that you review the entire contents of this manual. The material within has been prepared in sufficient detail to be of considerable help when you are getting to know your new recreational vehicle.

This manual is intended to explain the majority of the features of our, Travel Trailers. Most of these are similar in nature, however; some features mentioned in this manual may not apply to your specific recreational vehicle.

Review this manual with your dealer. Be sure to ask them any questions you have at that time. Also make sure to read all warranty and registration information carefully. Read all component manufacturer's owner's manuals, and validate any individual warranties by completing and mailing individual warranty cards as required.

Always keep this owner's manual with the recreational vehicle for easy reference, making sure to observe all notes and warnings associated with the use of the recreational vehicle. A careful owner is the best insurance against an accident.

THIS OWNER'S MANUAL IS AS CURRENT AS POSSIBLE AT THE TIME YOUR RECREATIONAL VEHICLE WAS PRODUCED. HOWEVER, SINCE OUR PRODUCTS ARE CONSISTENTLY BEING UPGRADED AND IMPROVED; SOME DIFFERENCES MAY OCCUR BETWEEN THE DESCRIPTION IN THIS MANUAL AND THE PRODUCT IN THE RECREATIONAL VEHICLE. IF THIS OCCURS, FOLLOW THE COMPONENT MANUFACTURER'S INSTRUCTIONS PROVIDED IN THEIR LITERATURE.

SOME OF THE PRODUCTS SHOWN IN THIS MANUAL MAY BE OPTIONAL EQUIPMENT NOT INCLUDED OR AVAILABLE WITH YOUR RECREATIONAL VEHICLE. ANY SPECIAL EQUIPMENT, MODIFICATIONS, OR ADDITIONS MADE BY OR AT THE REQUEST OF THE CUSTOMER, OR ANY SUBSEQUENT OWNER, WHETHER MADE AT THE FACTORY OR IN THE FIELD, ARE NOT COVERED IN THIS MANUAL. WE RESERVE THE RIGHT TO CHANGE THE CONSTRUCTION OR MATERIAL OF ANY PARTS AT ANY TIME WITHOUT INCURRING THE OBLIGATION TO INSTALL SUCH CHANGES ON DELIVERED UNITS.

## Forward

This recreational vehicle has been designed for short term and recreational use. It was not designed to be used as a permanent dwelling. If you intend to use your recreational vehicle as a permanent dwelling, it could cause your carpet, drapes, upholstery, and interior surfaces to deteriorate prematurely. This premature wear caused by permanent residency may under the terms of the new vehicle warranty be considered abnormal and abusive, and **COULD REDUCE YOUR WARRANTY COVERAGE**.

Should a problem develop for which you need assistance, contact your dealer. The dealer will be able to determine whether the trailer should be taken to the dealership for proper remedy. If the problem is with an appliance, check the appliance manufacturer's information supplied with the recreational vehicle for information regarding warranty work and/or location of appliance service centers.

If when traveling, you experience a breakdown or problem while your recreational vehicle is under warranty, and an authorized service center or dealer is not available, contact the dealer you purchased your recreational vehicle from before having the work done at an independent service center. By notifying them, you will know what is covered under the terms of your warranty, as well as making them aware of your problem. Any parts that require replacement, that are covered under the terms of the warranty should be retained and returned to your dealer along with your invoice. This way, they are able to check what has occurred, and also make sure you are properly reimbursed for your expenditures.

Repairs made without prior authorization may be subject to denial or partial reimbursement. Modifications made to the recreational vehicle without proper authorization can result in reduction or loss of warranty coverage. Please make sure to contact your dealer before making such changes.

**The following note is added as a requirement of the National Highway Traffic Safety Administration (NHTSA):**

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying the manufacturer.

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 the manufacturer.

To contact NHTSA, you may either call the Auto Safety Hot-line toll-free at 1-800-424-9393 (or 366-0123 in Washington, D.C. 20590. You can also obtain other information about motor vehicle safety from the Hot-line



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## **Recreational Vehicle Serial Number, Decals and Data Plates**

The CASITA Travel Trailer VIN Number is located on a data plate mounted on the out side of the frame, drivers side, towards the front of the trailer in the area of the L.P. gas bottles. There is also a silver sticker on the fiberglass body, same side as data plate, close to the bottom of the coach toward the front that contains the VIN Number and other trailer specifications.

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

When any decal, or data, or instruction plate is damaged, painted over, removed, etc.; it should be replaced.

## **Manufacturer's Warranties**

The following list of components have been compiled to help you know which products on your recreational vehicle may have their own warranties. If you have any of these components on your recreational vehicle, be sure to check the literature supplied by the manufacturer to see if they require that you register your purchase with them to validate their warranty. These warranties usually apply only to the first owner of the recreational vehicle. We recommend that you send the various warranty registration cards immediately before any time constraints on registration expire. Manufacturer's literature is contained in a separate packet furnished with the owner's manual on newly delivered units. Only those products and options which are on your recreational vehicle will be included in this packet. Any shortage of literature should be reported to the dealer at that time.

### **Appliances**

Air Conditioner- Roof (17' only)  
Air Conditioner - Front Mount  
Furnace  
Range  
Range Hood  
Refrigerator  
Water Heater  
Microwave (Optional in 17' only)

### **Electrical**

120 volt/12 volt Converter  
Battery

### **Accessories**

Fantastic Fan (optional)  
Reg. Crankout roof vent  
12 volt Bath Vent (Deluxe models only)  
Awning (Optional)  
Antenna (Optional)  
Smoke Alarm

### **L.P. Gas**

Regulator  
Gas Tank  
L.P. Gas Detector

### **Water & Drainage**

Toilet  
Water Pump  
Water Faucets

### **Frame**

Axle  
Tires  
Breakaway Switch

## – SAFETY REGULATIONS FOR LP GAS SYSTEMS AND APPLIANCES–

The following warnings are posted throughout your recreational vehicle to provide information on the LP gas safety. They have been installed not only because of the requirement to do so, but also as a constant reminder to occupants of the recreational vehicle to exercise proper caution when using or being around LP gas appliances and equipment. We are listing them here so that you may study them and make sure that you and your family understand and follow them.

1. **WARNING:** LP Gas containers shall not be placed or stored inside the vehicle. LP gas containers are equipped with safety devices which relieve excessive pressure by discharging gas to the atmosphere. Failure to comply could result in death or serious injury.

2. **WARNING:** It is not safe to use cooking appliances for comfort heating.

Cooking appliances need fresh air for safe operation. Before operation:

1. Open overhead vent or turn on the exhaust fan, and
2. Open window.

This warning label has been located in the cooking area to remind you to provide an adequate supply of fresh air for combustion. Unlike homes, the amount of oxygen supply is limited due to the size of the recreational vehicle, and proper ventilation when using the cooking appliances will avoid dangers of asphyxiation. It is especially important that cooking appliances not be used for comfort heating as THE DANGER OF ASPHYXIATION IS GREATER WHEN THE APPLIANCE IS USED FOR LONG PERIODS OF TIME. FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY OR DEATH.

3. **WARNING:** Do not store LP gas containers, gasoline, or other flammable liquids inside the vehicle because a fire or explosion may result.
4. A warning label has been located near the LP gas container. This label reads: DO NOT FILL CONTAINERS TO MORE THAN 80 PERCENT OF CAPACITY.

Overfilling the LP gas container can result in uncontrolled gas flow which can cause fire or explosion. A properly filled container will contain approximately 80 percent of its volume as liquid LP gas. An 80 percent automatic shut-off has been installed on the LP gas tank which will automatically prevent further filling when the gas volume has reached 80 percent of tank capacity.

5. The following label has been placed in the vehicle near the range area:

### **IF YOU SMELL GAS:**

- Extinguish any open flames, pilot lights, and all smoking materials.
  - Do not touch electrical switches.
  - Shut off the gas supply at the tank valves or gas supply connection.
  - Open doors and other ventilating openings. (DO NOT USE THE RANGE HOOD)
  - Leave the area until the odor clears.
  - Have the system checked and leakage source corrected before using again.
6. LP gas regulators must always be installed with the diaphragm vent facing downward. Regulators that are not in compartments have been equipped with a protective cover. Make sure that regulator vent faces downward and the cover is kept in place to minimize vent blockage which could result in excessive gas pressure causing fire or explosion.
  7. **WARNING:** Portable fuel burning equipment including wood or charcoal burning grills and stoves shall not be used inside the vehicle because they may cause fire or asphyxiation.



## Fire Safety:

Fire safety is an important part of owning a recreational vehicle. The following basic rules of fire prevention can help eliminate the possibility of a fire. Make sure that everyone in your recreational vehicle is familiar with the location of exits, including emergency exit windows should an emergency arise.

1. Never store flammable liquids in the recreational vehicle.
2. Never leave cooking food unattended.
3. Never smoke in bed, and always use an ashtray.
4. Never allow children to play with the LP gas or electrical equipment.
5. Never use an open flame as a flashlight
6. Always repair faulty or damaged wiring and electrical components.
7. Never overload electrical circuits.
8. Locate and repair LP leaks immediately.
9. Keep cooking surfaces clean.
10. Don't allow rubbish accumulation.
11. Never clean with a flammable liquid.
12. Spray fabrics annually with a flame retardant liquid.

### If a fire does start, make sure to follow these basic rules of safety:

1. Have everyone evacuate the recreational vehicle as quickly as possible.
2. After everyone is clear, 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 recreational vehicle and have the fire department handle the emergency.
3. 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.

If you determine that you can attempt to control the fire using the fire extinguisher, make sure you know how to use it. Read the label on the fire extinguisher, and study the information in this manual to become familiar with the safe operation and maintenance of the extinguisher.

## Fire Extinguisher:

Underwriter Laboratories classifies fires into three types:

Class A - Fires in wood, paper, fabric, rubber, and certain plastics.

Class B - Flammable liquids such as grease, cooking oils, gasoline, or kerosene.

Class C - Electrical fires started from live electrical wires, from short circuited motors or switches.

The fire extinguisher provided with the recreational vehicle is a chemical type suitable for extinguishing small fires of the class B or C type. Extinguishers are designed to put out a fire in the initial stage, not when it is blazing out of control. If a fire cannot be approached within 10', it is too late to do any good.

To fight a fire with a fire extinguisher, first remove the tamper tape which covers the discharge push button. The extinguisher does not need shaking. Hold it upright and stand six to ten feet from the fire with a clear path to an exit. Press the button down all the way, aimed at the base of the fire and spray with quick motions from side to side.

Avoid inhaling the dry chemicals. Although non toxic, they could cause temporary irritation and vomiting. When the fire is out, clean up the area as soon as possible. The dry chemicals are non-corrosive, but some residue may cause surface damage if left to long.

In the case of an electrical fire, disconnect the battery and throw off the main circuit in the unit. It is important that everyone knows where to find the main circuit and how it operates. If the shoreline power cord is connected, disconnect it.

### To keep a fire extinguisher in operating condition:

Check pressure monthly or more often. Check the nozzle for obstruction. Please read instruction on the fire extinguisher for maintenance instructions and instructions on how to use the fire extinguisher.

# FIRE EXTINGUISHER

LOCATED IN THE CLOSET ON ALL DELUXE MODELS - 13', 16' AND 17'.  
LOCATED ON THE REFRIGERATOR CABINET ON 13' STANDARD MODEL  
LOCATED ON THE REAR PARTITION ON 16' AND 17' STANDARD MODELS.

## How To Use Your Kidde Extinguisher

1. Pull yellow pin,  
Hold it upright



2. Stand back six feet  
Aim at fire's base.



3. Press button sweep  
side to side.



After the fire, clean up dry chemical powder immediately to avoid corrosion.

**CAUTION:** Under certain fire and heat conditions, the dry chemical powder in this extinguisher (and similar units) will cause damage or prove extremely difficult to remove from oven surfaces, including self-cleaning models. Do not use self-cleaning feature to remove ABC Powder.

**CAUTION:** Avoid inhaling the dry chemical agent. The agent contained in the extinguisher is not toxic, but may cause skin irritation. In case of contact, flush affected area with clean, cool water. If irritation persists, contact a physician immediately. Chemical name of agent is printed on extinguisher label.

### Inspection And Maintenance

To insure that your fire extinguisher will be ready when needed:

- Read and follow all instructions on label and in owner's manual.
- Inspect the extinguisher AT LEAST once a month - more frequently if exposed to weather or possible tampering.
- Check pressure by pressing in white indicator button. If button does not spring back, extinguisher will not work properly and must be discarded.
- Be sure the yellow lock pin is firmly in place.
- Keep the extinguisher clean. Check for dents, scratches, corrosion, or any other damage.
- Check the discharge nozzle. Make sure it is clean and free of obstructions.

DO NOT TEST BY  
PARTIALLY DISCHARGING,  
LOSS OF PRESSURE  
WILL OCCUR.

### Two-Year Limited warranty

For two (2) years from date of purchase, KIDDE will repair or replace this product to the original owner free of charge, if defective in material or workmanship. This warranty does not apply to damage resulting from accident, abuse or failure to follow instructions.

KIDDE, at its option, may refund the purchase price in lieu of replacement or repair. ANY AND ALL IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL BE LIMITED TO A PERIOD OF TWO (2) YEARS FROM DATE OF PURCHASE. KIDDE, its dealers and distributors shall not be responsible or in any way liable for any special or consequential damages for breach of any warrant or implied warranty.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

### OWNERS' MANUAL

Read fire extinguisher labels completely before you read this owner's manual.

### WHICH EXTINGUISHER TO USE

There are two corrosion type of fire extinguishers. Type ABC extinguishers fight wood, paper and cloth fires, plus flammable liquid and electrical fires. Type BC extinguishers are for flammable liquids and electrical fires.

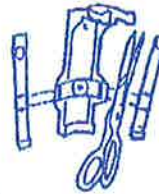
To determine which class or classes of fire your extinguisher is designed to fight, locate the blue use code symbols on the front extinguisher label.

Using the wrong extinguisher on a fire could do more harm than good. Be sure you understand which extinguisher is appropriate for each class of fire. For protection against ALL COMMON CLASSES OF FIRES, you must choose a type ABC extinguisher.

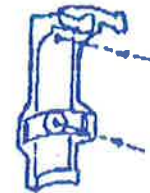
### MOUNTING YOUR EXTINGUISHER

U.S. Coast guard approval is valid only with the marine mounting bracket specified on the rear label of your extinguisher.

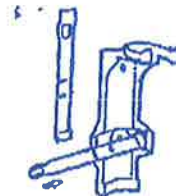
### STRAP BRACKET INSTRUCTIONS



1. Remove straps from bracket with scissors.



2. Fasten bracket to wall with two 1/4" screws and washers (not included). The top of the extinguisher should be 4 feet from the floor. Which not only allows wheelchair-bound people to reach the extinguisher (but also meets NFPA 10)



3. Push ends of straps through slots on bracket (side of strap with circles faces outward).



4. Place extinguisher into bracket. Buckle straps together to lock in place.

For more information on fire fighting, contact your local fire department or the U.S. Coast Guard. Additional information on extinguishers can be found in the National Fire Protection Association (NFPA) pamphlet No. 10, "Portable Fire Extinguishers"

## Smoke Detector

An ionization detector offers a broad range of fire sensing capabilities. However, they do possess limitations. Fire could start in a location that would prevent smoke from reaching the detector. They are also better at detecting fast flaming fires than the slow smoldering variety. They are also not a cure for poor fire safety habits. Smoke detectors need occasional maintenance for reliable service. A smoke detector is designed to be relatively maintenance free, but there are three things you can do to keep a detector in reliable working order:

1. **TEST IT** - at least once a week by firmly pressing the button located near the center of the cover. The alarm should sound briefly. If it does not work, replace the 9 volt battery and test again.
2. **CLEAN** - the detector if grease or dust accumulates. The following procedure should be followed once a year.
  - a. Remove the cover and the 9 volt battery.
  - b. Clean dust from sensing chamber openings with a vacuum and soft brush attachment.
  - c. Replace the battery and depress the test switch. The alarm should sound briefly. If it does not work, try a new 9 volt battery.
3. **SERVICE** - the detector if it does not work by sending it to the manufacturer or their repair -center. Do NOT attempt to make the repairs yourself (other than battery replacement).

### What to do when alarm sounds

**Warning** - Never ignore any alarm. If the alarm sounds and you are not absolutely certain of the source of the smoke, get everyone out of the house immediately.

- Leave immediately by your plan of escape. Every second counts, do not waste time getting dressed or picking up valuables.
- Feel doors before opening them to see if they are hot. If a door is cool, open it slowly and check for fire and heat before you proceed. Do not open a hot door -use an alternate escape route.
- Stay close to the floor if air is smoky. Take short shallow breaths through a wet cloth if possible.
- Once outside. Go to your selected meeting place and make sure everyone is there.
- Call the Fire Department from outside of the building with the activated alarm, at a safe location.
- Do not return to your home until fire officials say that it is safe.

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## CASITA ENTERPRISES, INC.

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5059 SE McKinney St Bldg #1  
I-45 Exit 237 or 238  
Rice, Texas 75155-9781  
1-800-442-9986

### CHECK LIST—FOR SET UP

|     |  |  |
|-----|--|--|
| 1.  | <input type="checkbox"/> Yes <input type="checkbox"/> No | Put on front jack wheel, chalk tires and disconnect safety chains.                 |
| 2.  | <input type="checkbox"/> Yes <input type="checkbox"/> No | Unlock trailer coupler from hitch ball.  |
| 3.  | <input type="checkbox"/> Yes <input type="checkbox"/> No | Remove sway bar (if required).   |
| 4.  | <input type="checkbox"/> Yes <input type="checkbox"/> No | Level trailer front to back, then put stabilizer jacks down.                       |
| 5.  | <input type="checkbox"/> Yes <input type="checkbox"/> No | Open shower drain shut off valve if equipped with trailer.                         |
| 6.  | <input type="checkbox"/> Yes <input type="checkbox"/> No | Open air conditioner cover (16' and 13' only).                                     |
| 7.  | <input type="checkbox"/> Yes <input type="checkbox"/> No | Pull out step (17' only)   |
| 8.  | <input type="checkbox"/> Yes <input type="checkbox"/> No | Make sure all appliances are in the off position and all water faucets turned off. |
| 9.  | <input type="checkbox"/> Yes <input type="checkbox"/> No | Open propane tanks.  |
| 10. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Unlock outside Vent-A- Hood vent.  |
| 11. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Plug in trailer's 120 volt power cord to correct 30 AMP, 120 volt source.          |
| 12. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Hook up water hose, with pressure regulator, to city water connection.             |
| 13. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Hook up sewer and gray water drain hose.   |
| 14. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Light hot water heater. Make sure water heater is full of water.                   |
| 15. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Make sure appliances are turned on to their proper energy source.                  |

Casita Enterprises, Inc. is furnishing you with this guideline to assist you through your travels. If further assistance is needed, please contact our service department at the number listed above during our normal business hours.

Thank you again for purchasing a Casita Travel Trailer.



# CASITA ENTERPRISES, INC.

5059 SE McKinney St Bldg #1  
I-45 Exit 237 or 238  
Rice, Texas 75155-9781  
1-800-442-9986

## CHECK LIST—FOR TRAVEL

|     |  |   |
|-----|--|---|
| 1.  | <input type="checkbox"/> Yes <input type="checkbox"/> No | Are all interior drawers and doors closed and secured?                    |
| 2.  | <input type="checkbox"/> Yes <input type="checkbox"/> No | Are all windows closed and locked and mini blinds down and secured?       |
| 3.  | <input type="checkbox"/> Yes <input type="checkbox"/> No | Is roof vent closed?  |
| 4.  | <input type="checkbox"/> Yes <input type="checkbox"/> No | Is range hood vent on outside of trailer locked?                          |
| 5.  | <input type="checkbox"/> Yes <input type="checkbox"/> No | Is air conditioner cover secure? (16' and 13' only)                       |
| 6.  | <input type="checkbox"/> Yes <input type="checkbox"/> No | Are stabilizer jacks secured in the upright position?                     |
| 7.  | <input type="checkbox"/> Yes <input type="checkbox"/> No | Is power cord put inside locking hatch and hole plate door down?          |
| 8.  | <input type="checkbox"/> Yes <input type="checkbox"/> No | Is shower drain shutoff valve closed , if equipped with trailer?          |
| 9.  | <input type="checkbox"/> Yes <input type="checkbox"/> No | Are propane tanks shut off and propane tank cover secure?                 |
| 10. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Is awning secured tightly in casing?                                      |
| 11. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Is trailer coupler secured to hitch ball and locked and hitch pin secure? |
| 12. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Is front jack raised all the way and wheel removed?                       |
| 13. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Is trailer plug secured to vehicle plug?                                  |
| 14. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Is termination valve up so it won't drag and cap put on?                  |
| 15. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Is refrigerator on 12 volt power and 12 volt lights off?                  |
| 16. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Is door closed securely and locked?                                       |
| 17. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Is step up? (17' only)  |
| 18. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Has sway bar been put on and pins in place (if required)?                 |
| 19. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Are safety chains secure?   |
| 20. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Are water hoses and sewer hose disconnected and stowed?                   |
| 21. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Is outside TV cable disconnected and stowed?                              |
| 22. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Do all lights check okay—running lights, turn signals, etc.?              |
| 23. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Are all lug nuts tight?   |
| 24. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Do tires have correct pressure?   |
| 25. | <input type="checkbox"/> Yes <input type="checkbox"/> No | Is water pump in off position and all faucets turned off?                 |

Casita Enterprises, Inc. is furnishing you with this guideline to assist you through your travels. If further assistance is needed, please contact our service department at the number listed above during our normal business hours. Thank you again for purchasing a Casita Travel Trailer.

# OPERATIONS AND PROCEDURES

## Proper Loading and Weight Distribution

Your recreational vehicle has been designed to carry loads within specified limits. Exceeding these limits will greatly affect the handling of the recreational vehicle. These limits are defined in two ways:

1. Gross vehicle weight rating (GVWR) - This is the total designed weight rating of the recreational vehicle.
2. Gross axle weight rating (GAWR) - This is the designed weight rating of the axle.

Check weight ratings of your recreational vehicle on the serial number identification tag on the recreational vehicle.

Additional terms used when discussing weight and distribution include:

1. Gross Vehicle Weight (GVW) - The total loaded weight of the recreational vehicle. It includes everything that combines to give the recreational vehicle its total weight when traveling. Included are the weight of the Casita, all furnishings, appliances, and conveniences, fuel, water, personal belongings stored both inside and outside.
2. Gross axle weight (GAW) - The total loaded axle weight under any given loaded condition.
3. Curb Weight (shipping) - The weight of the vehicle with standard equipment and maximum capacities.
4. Unloaded vehicle weight (UVW) - The weight of the vehicle with its maximum fluid capacity required to operate vehicle.
5. Rated cargo load - The weight difference between the GVWR and the UVW.
6. Tongue Weight (Towable Casitas) - This is the weight of the tongue as it bears down on the hitch of the towing vehicle. Tongue weight should be determined with the travel trailer fully loaded for travel.

DO NOT assume that you can fill all tanks and all storage areas and be within the GVWR. Weights of stored items will vary greatly and will affect total weight of your Casita.

Always weigh the Casita at a certified weight station equipped with platform scales. Check the telephone directory or with local authorities for the location of weight stations in your area. If you find that you have exceeded the GVWR of the Casita, you will have to remove items until you are within specified limits.

fam

It is a good idea to empty the holding tanks before leaving on a trip, and as often as possible when traveling, to help keep weight reduced. Try to carry only as much water as you will use when traveling. Sometimes, the water tanks can be used to balance the weight in the Casita (a gallon of water weighs approximately 8 pounds). ie - adding fresh water to the rear of the trailer can reduce tongue weight.

It is also important to keep in mind, when traveling, that all items stored inside and outside the Casita are secure, and all doors and drawers are secure. DO NOT add any type of rack or frame to the Casita frame or chassis. The alteration may result in unstable handling, be a safety hazard, or could damage the Casita trailer. In any case, the Casita warranty will be affected.

Once you become familiar with loading your trailer and how to distribute the weight and which items you normally carry, make a list and diagram you can use for future reference. Plan your loading and storage so that emergency items are easily accessed. Place heavier or breakable items on the travel trailer floor and lowest storage compartments for greater load stability. Make sure these items are well packed and secured to prevent shifting.

## Towing Vehicle Requirements

When considering a towing vehicle, keep in mind certain requirements for safety and easy use:

1. **Transmission** - The transmission can be manual or automatic, but for most people, an automatic transmission will control engine loads better.
2. **Power** - Make sure your towing vehicle has adequate power to tow your travel trailer on the type of roads you will be using. Factors to consider are engine power, cooling capability, and axle ratio. Discuss the towing capabilities of your vehicle with both your Casita dealer and your tow vehicle dealer.
3. **Tires & Suspension** - It is important to make sure that your tow vehicle tires and suspension have a sufficient rating to handle the additional capacity needed to tow a trailer. Check with your tow vehicle dealer and owners manual for what type of tires and tire pressures are required. If your tow vehicle is equipped with air shocks as a load leveling device, level the tow vehicle/travel trailer combination once it is hitched up.
4. **Hitch** - Make sure that your towing vehicle is equipped with a minimum of a Class III Hitch for a 17 ft. trailer, and a Class II Hitch for a 13 foot or 16 foot trailer. A Class I Hitch is not recommended at all.
5. **Sway Control** - Make sure to install a sway control system that is compatible with both your hitch and tow vehicle. Have it installed and properly adjusted per the manufacturer's instructions.

## Tow Vehicle Wiring

Along with your hitch, it is also necessary to install proper electrical connection from the tow vehicle to your travel trailer. A car end pigtail is supplied with leads of adequate length to allow connection to your tow vehicle wiring system. Make sure that you use wiring of the correct gauge with sufficient slack between the travel trailer and tow vehicle to allow for turning without dragging on the ground. Have your tow vehicle dealer, and/or hitch installer assist you with the installation.

The wiring color code for connection of the trailer to the tow vehicle is as follows: (Also refer to page 11)

WHITE - Ground

GREEN - Tail, running and license plate lights.

RED - Left turn and stop.

BROWN - Right turn and stop.

BLUE - Electric brakes

YELLOW - Back-up light

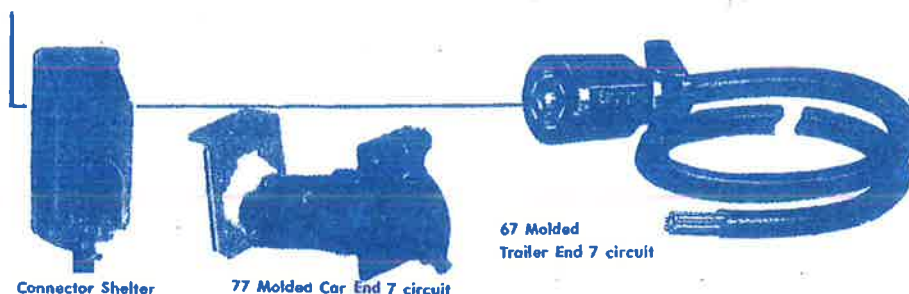
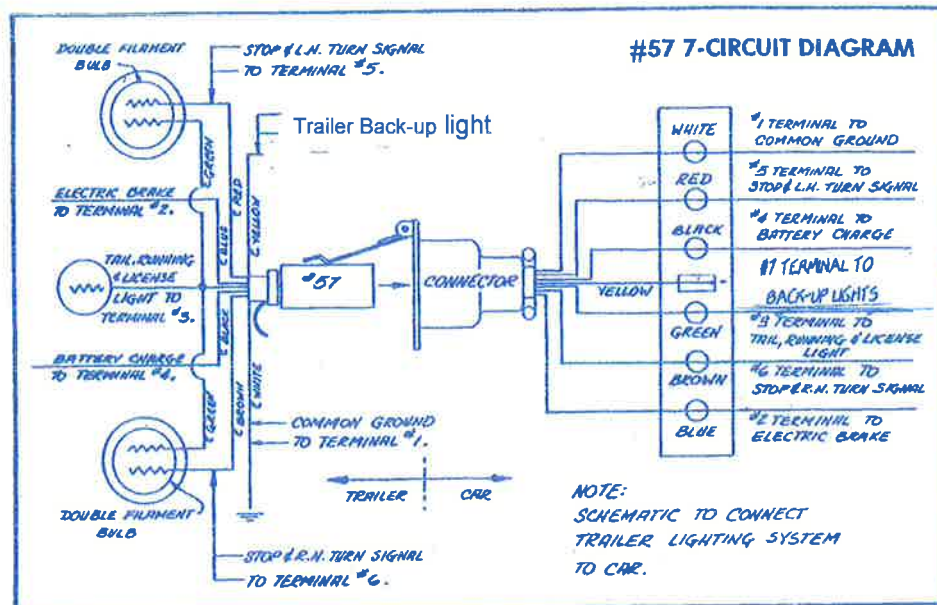
BLACK - Battery charge

Although your travel trailer has been checked at the factory, we recommend that you visually check to see that all lights are functioning properly before using the trailer.

## Electrical Hook-up

Plug the trailer electrical pigtail into the socket located on the tow vehicle. Be sure there is enough slack to prevent disconnection during a full 90 degree turn:

## Wiring Diagrams for BARGMAN 7 Circuit 12V Electrical Connectors

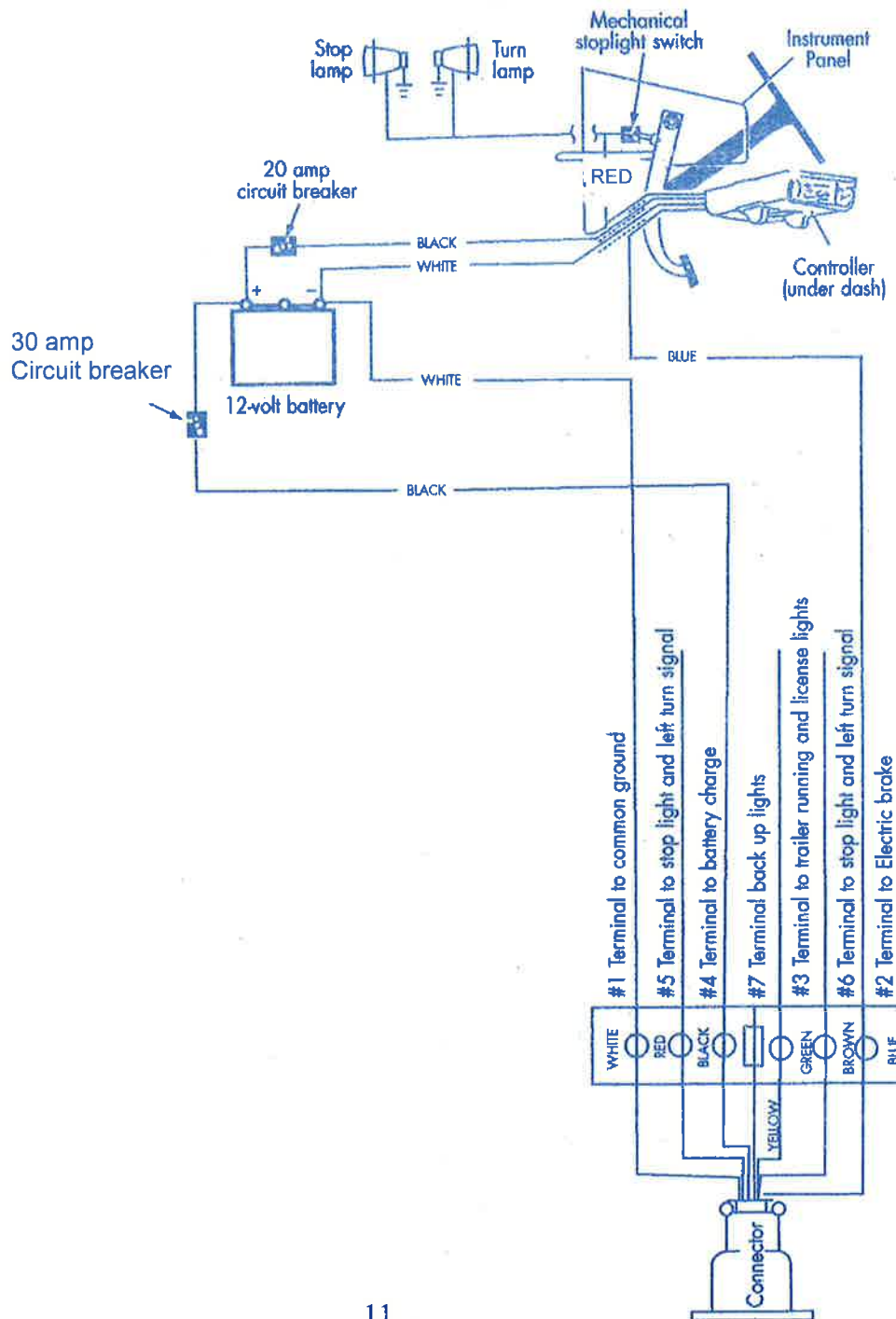




# WIRING DIAGRAM FOR VEHICLE BRAKE CONTROLLER AND CHARGE LINE WIRING

- + Black - Power Supply - 12 awg. To Brake Control
- White - Ground - 12 awg. To Brake Control
- Red - Cold Side Brake Switch - 16 awg.
- Blue - Brake output - 14 awg.
- + Black - Trailer Battery Charge - 10 awg.
- White - Ground to Car/Trailer Plug - 10 awg.

Note: It is recommended that all connections be made with insulated, solderless, crimp-style connectors. Use rubber grommet where wires pass through the firewall. All wires should be run in a protective wire loom.



## Safety Chains

After you have the travel trailer coupler properly attached to the hitch ball, the safety chains must be attached. To do so proceed as follows:

1. Cross the safety chains under the tongue and hitch
2. Attach the hooks to the chain attachment loops provided on the towbar portion of the hitch or to the vehicle frame.
3. Make sure that the chain slack length is equal on both sides and that it is sufficient to allow the tow vehicle and trailer to turn at their minimum radius without the chains dragging on the pavement.

**DO NOT ATTEMPT TO REPAIR A DAMAGED CHAIN.**

**IF THE SAFETY CHAIN HAS BEEN DAMAGED, IT MUST BE REPLACED.**

## Breakaway Switch

The breakaway switch is a safety feature designed to automatically engage the trailer brakes if the trailer should somehow come unhitched from the tow vehicle. A steel cable connects the switch to the tow vehicle. If separation occurs, the switch is activated by the action of the cable pulling out the switch actuating pin.

Make sure the cable is attached to the tow vehicle with sufficient slack to allow a full 90 degree turn without activating the trailer brakes. Do not allow cable to drag on the ground.

**WARNING** - Do not allow the Switch Activating Pin to stay removed for prolonged periods of time. When the Switch Activating Pin is removed, full electrical current is being applied to the Trailer Brakes. Overheating and severe damage will occur.

**WARNING** - Disconnect trailer plug before testing breakaway unit. Failure to do so will result in severe damage to electronic brake control in the tow vehicle.

## Rear Stabilizer Jacks

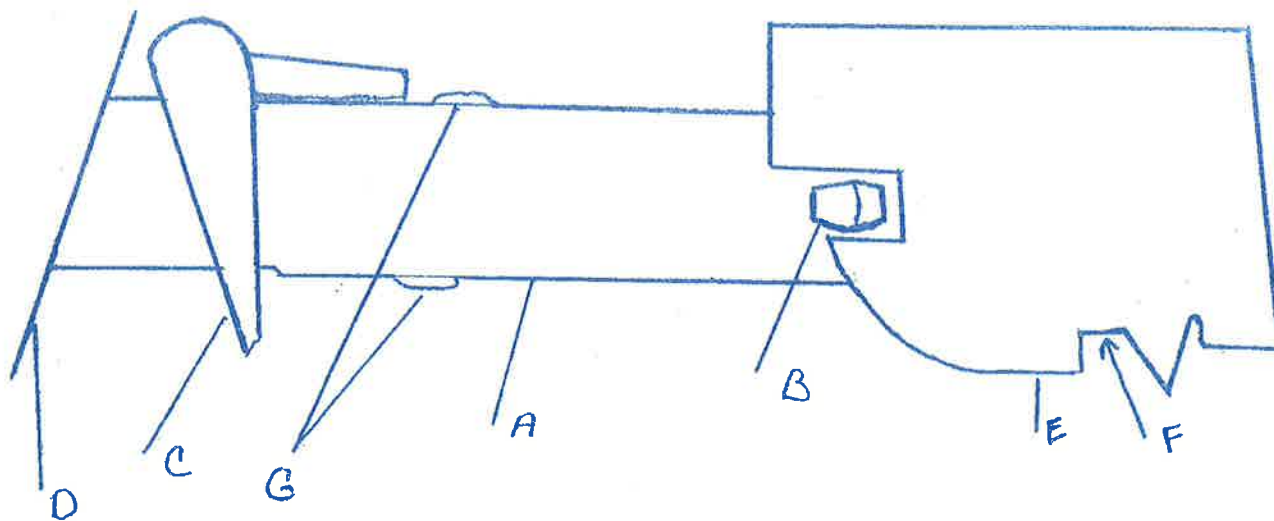
Your Casita comes standard with two rear jacks. Before using, make sure to pick as level a site as possible to park your trailer. If a level site is unavailable, it may be necessary to use wheel ramps or planking under the tires on the low side of the trailer. Never use the stabilizer jacks to level the trailer.

To use stabilizer jacks, proceed as follows:

1. Obtain as level a position as conditions at your campsite allow before unhitching. It may be necessary to use ramps or planking under the tires to achieve side-to-side balance.
2. Always use wheel chocks when parking.
3. Unhitch the trailer from your tow vehicle and level from front to rear with tongue jack
4. Lower the stabilizer jack on the lowest side of the trailer first, checking for and "fine tuning" level conditions with the jack
5. Once side to side balance is obtained, lower jack on opposite side to secure level position.

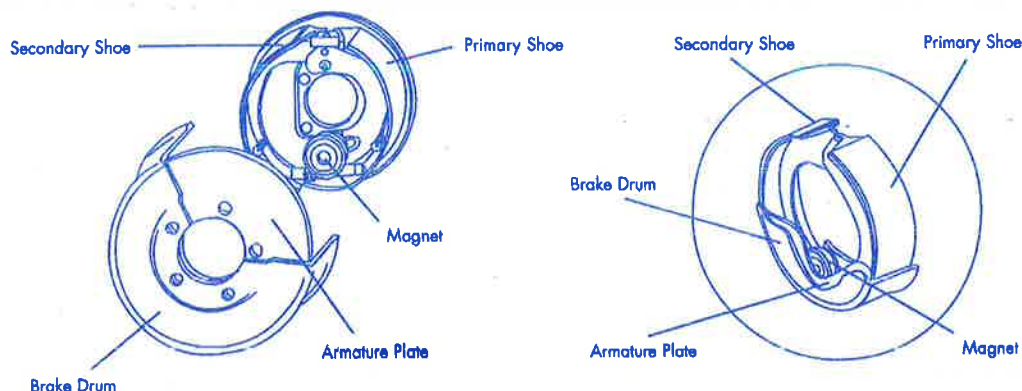
It is a good idea to use bubble levels where they may be observed during the leveling procedure.

### **Bottom of Trailer Passenger Side of Stabilizer Jack**



1. Grab stabilizer jack (A) and pull towards the left until stop tab (B) Clears stabilizer jack frame (E) and pull down until stop tab is locked in vertical tab position (F).
2. Push Tension lever (C) towards the down position and stabilizer foot (D) will fall to ground.
3. Using stabilizer jack handle (should be located in closet) Insert handle through tension holes (G) and stabilize trailer by pushing stabilizer jack handle down.

## Typical Right Side Trailer Brake Assembly



Talk to Casita about the type of brake controller available, and proper installation of the controller on your towing vehicle. Have them explain the electric brake operation, and the proper use.

Make sure to test the brakes and adjust them as necessary, per the instructions of the brake controller manufacturer. Proper adjustment of the brakes can help to avoid dangerous swaying or jack-knifing on slippery pavement, or during an emergency stop.

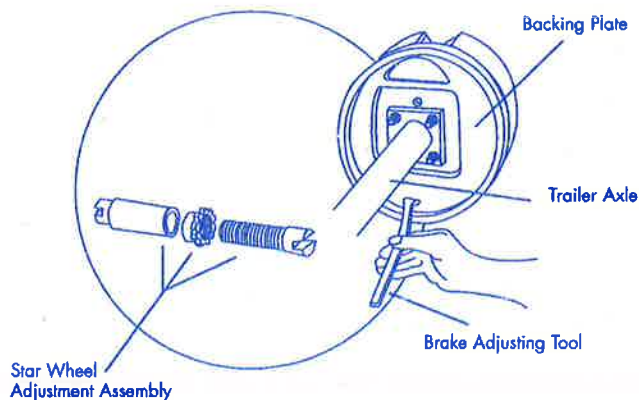
It is very important to achieve the proper balance between the brake action of both the trailer and tow vehicle. Both sets of brakes were designed to stop only the vehicle on which they were installed. If one set of brakes is asked to absorb the load of the other also, excess heat is formed, which increases brake lining wear and brake fading. If the tow vehicle's brakes are used alone, the weight of the trailer pushing on the back of the tow vehicle can cause jack-knifing. The correct method of brake synchronization has the trailer brakes being applied with a slight lead over the tow vehicle's brakes. Make sure this proper balance is achieved when the controller is installed and adjusted.

Before taking your trailer on a trip, check for proper brake action on a short road test. Apply the brakes several times at different speeds and pressure. If wheel lock-up occurs, the brake shoe adjustment may be too tight. If no trailer brake action is occurring, brake shoe adjustment may be too loose. Do not exceed a speed of 30 mph during this road test. Refer to the brake/axle owner's manual or adjustment procedures and troubleshooting guide.

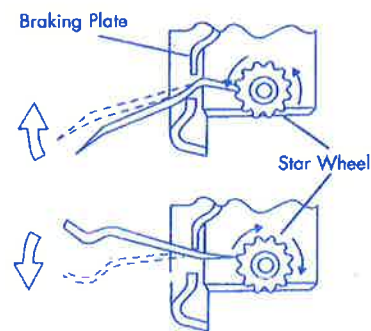
## Brake Shoe Adjustment

Unlike most automotive brakes which are self-adjusting, electric brakes require periodic adjustment to keep the shoes properly spaced. The main symptoms of brakes in need of adjustment are brakes that get hot while driving down the road (the shoes are dragging against the drum), or brakes that simply will not hold. Adjustment is simple, but important.

For shoe adjustment, jack up and properly support the trailer so that the weight is off the wheel and remove the plug from the back side of the backing plate so that an adjusting tool can be inserted through the hole. Slip the tool tip into a notch in the star wheel and ratchet and rotate the star wheel to expand the shoes against the drum (rotation may be clockwise or counter-clockwise, depending on the brake manufacturer). Expand the shoes until you cannot rotate the tire any further. This centers or seats each shoe evenly against the surface of the drum. Then back the adjustment off in the opposite direction until the wheel turns freely but has a very slight drag during rotation. Replace the plug to keep dirt and moisture out. Repeat this process on all brakes.



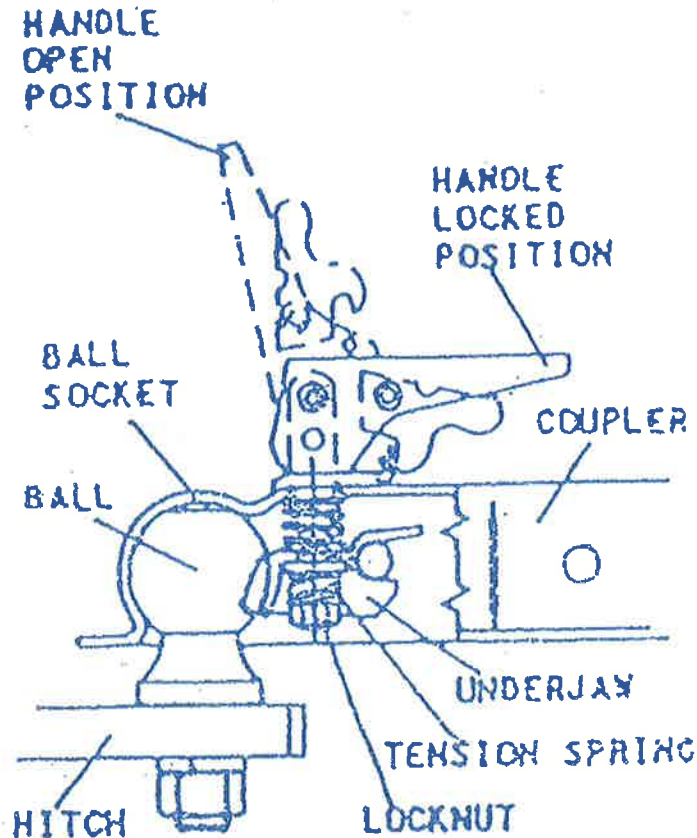
Each brake assembly has an adjusting slot accessed from behind the backing plate. A rubber plug usually covers the slot. Remove the plug and insert the adjusting tool to engage the star wheel. Rotate the star wheel until the shoes prohibit the drum from turning. Rotate in the opposite direction until only a slight drag is felt.



If trailer braking is inadequate, double-check each individual adjustment. Rotating the star wheel inside the assembly tightens the shoes against the drums.



# HITCH LOCK OPERATING INSTRUCTIONS



## **OPERATION INSTRUCTIONS POSI-LOCK COUPLER**

ADJUST COUPLER LOCKING PRESSURE ON BALL BEFORE USE. PLACE HANDLE IN LOCKED POSITION WITH BALL IN COUPLER TIGHTEN LOCKNUT AGAINST TENSION SPRING SO THAT COUPLER IS NOT LOSE ON BALL CORRECT ADJUSTMENT WILL ALLOW HANDLE TO BE RELEASED WITH MODERATE PRESSURE APPLIED TO HANDLE

TO OPEN. PULL UP ON COUPLER HANDLE AND ROTATE FORWARD PLACE COUPLER ON BALL WHEN BALL IS COMPLETELY NESTED IN BALL SOCKET, ROTATE COUPLER HANDLE BACKWARD UNTIL HANDLE IS IN LOCKED POSITION.

FOR ADDED TOWING SECURITY, CASITA RECOMMENDS THAT A LOCKING DEVICE BE INSERTED THROUGH THE COUPLER LEVER AND THE BRACKET HOLES.

AFTER TOWING FOR 50 MILES. CHECK COUPLER FOR TIGHTNESS ON BALL. ALWAYS CHECK TIGHTNESS BEFORE TOWING. BE SURE COUPLER HANDLE IS IN LOCKED POSITION.

SHELBY INDUSTRIES, INC.  
SHELBYVILLE KY 40066

## **WARNING**

FAILURE TO OBEY THESE RULES CAN CAUSE TRAILER TO DETACH WHILE TOWING WHICH MAY CAUSE SERIOUS INJURY OR DEATH.

NEVER EXCEED WEIGHT CAPACITY OF BALL OR LOAD LIMITS STAMPED ON COUPLER.

ALWAYS USE SAFETY CHAINS PURSUANT TO INSTRUCTIONS OF TRAILER MANUFACTURER ALWAYS USE CORRECT SIZE BALL SHOWN BY STAMP ON COUPLER.

ALWAYS CHECK THAT BALL IS COMPLETELY INSERTED INTO COUPLER SOCKET AND THAT UNDERJAW IS SECURELY CLOSED AROUND THE BOTTOM OF BALL.

ALWAYS CHECK THAT COUPLER HANDLE IS PROPERLY LOCKED BEFORE TOWING. ALWAYS ADJUST COUPLER LOCKING PRESSURE ON BALL BEFORE USE. CHECK COUPLER TIGHTNESS BEFORE TOWING AND AFTER TOWING 50 MILES. ALWAYS EXAMINE COUPLER AND BALL FOR DAMAGE BEFORE TOWING. REPLACE IF DAMAGED.

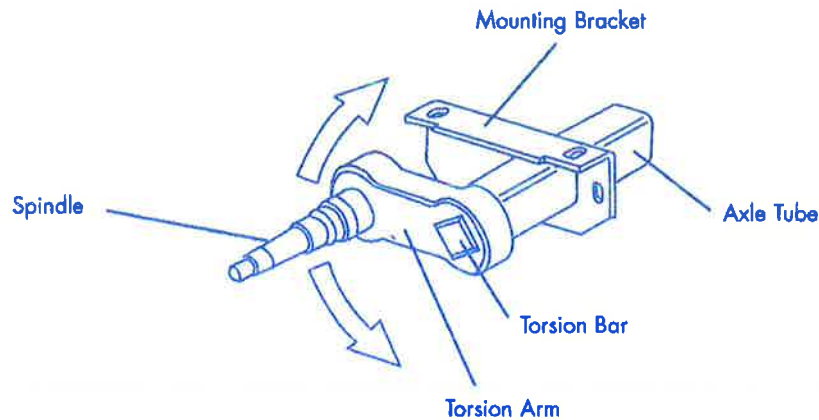
AVOID SHARP TURNS AND STEEP VERTICAL ANGLES WHEN TOWING WHICH MAY BEND OR DAMAGE COUPLER OR ITS COMPONENTS.

THIS INFORMATION MUST BE  
PASSED  
ON TO THE CONSUMER!

## **Torflex Suspension**

The TORFLEX suspension system is a torsion arm type suspension which is completely self contained within the axle tube. It attaches directly to the trailer frame using brackets which are an integral part of the axle assembly. The TORFLEX axle provides improved suspension characteristics relative to leaf spring axles through the unique arrangement of a steel torsion bar surrounded by four natural rubber cords encased in the main structural member of the axle beam.

The wheel/hub spindle is attached to a lever, called the torsion arm, which is fastened to the rubber encased bar. As load is applied, the bar rotates causing a rolling/compressive resistance in the rubber cords. This action provides the same function as conventional sprung axles with several operating advantages including independent suspension.



## **CASTER WHEEL**

When necessary to maneuver the trailer without the tow vehicle, the caster wheel can be used, however the ground surface should be paved. The wheel doesn't roll well over rocks, sand, gravel, or grass. Before the trailer is unhitched from the tow vehicle, the caster wheel must be attached to the bottom of the tongue jack. To achieve a correct attachment: 1). Locate and identify small dow inside the opening for the caster wheel. The tongue jack has a corresponding groove that runs vertical up and down the shaft of the jack. 2). Line up the dow of the caster wheel and the groove on the tongue jack shaft and the wheel will slide up. Slide wheel up as far as it will go, allow wheel to slide back down approx. 1/8" and turn wheel stock clockwise. This will turn the dow of the caster wheel into an opening on the tongue jack which will prevent the wheel from falling back down. 3). Once wheel has been correctly attached, crank tongue jack down until the trailer coupler is clear of the 2" ball. The trailer will be capable of maneuvering at this time, but do take the necessary precautions to prevent harm or injury before you attempt to move the trailer. Do not leave the caster wheel on the bottom of tongue jack when towing, as there is not enough ground clearance, and damage to wheel or tongue jack is likely to occur. To remove wheel lift up on wheel stock approx. 1/8", (not all the way up) and turn counterclockwise. The wheel should then slide off to be stowed appropriately.

## **STANDARD TONGUE JACK**

Located at the front of the frame of the trailer. It is to be used as a means of raising and lowering the front of the trailer for hitching and unhitching on to the 2" ball. It is also used to level the trailer from front to back when the trailer is unhitched. Basic maintenance consists of keeping it clean and lubricating. You will find a small hole at the top side of the jack close to the crank handle where a lightweight oil such as WD40 should be applied. Lubrication should be performed at the beginning of each season or more often as conditions demand.

## Electric Power Tongue Jack (OPTIONAL)

The power tongue jack takes the place of the manually operated jack for raising and lowering the Casita from front to back.

To operate, hold the switch in the position you wish to move the jack; either up or down. When released, the switch will automatically return to its centered, off position. It may be necessary to use the Emergency Hand Crank Handle if loss of power occurs. If power has been lost, check the 30 amp fuse in line with the hot wire jack, this is usually the problem. Be sure to replace with only the same amp fuse (30 amp).

## Overhead Vents

Vents are provided in the Casita to circulate fresh air and exhaust odor.

1. Bathroom power vent-The power bath vent has dual controls to operate both opening and closing, as well as the exhaust fan. Push out or pull in the grab handle to open and close the vent cover, while a turn button turns the exhaust fan on and off. Make sure to turn off the fan before closing the vent. Also be sure to remove any debris that falls into the vent that restricts its operation.
2. Fantastic Roof Vent with reverse - The roof mounted thermostatically controlled exhaust fan may be available, as an option on the Casita. To operate, follow these steps:
  - a. Open vent approximately 3" or more.
  - b. Press reverse switch to either in or out. NOTE: Motor fan blade must be completely stopped before reversing fan direction.
  - c. Rotate the speed control switch to the desired speed. (low, medium, high)
  - d. Place the thermostat on desired temperature.

## Entry Door( 17' trailers only)

The entry door consists of both the exterior door and the screen door used for ventilation when the Casita is parked. Always use the door retainer latch if you want to leave the door open. Failure to do so may result in damage to door.

DO NOT attempt to drive or pull the Casita with the doors open. DO NOT drive or pull the Casita with the outer door open and the screen door closed. **The doors may be damaged, and it is a safety hazard.**

## Entry Step (17' trailers only)

A manual operating step is provided as standard equipment on all 17' Casita trailers. To extend the step, lift up on the step and pull forward. The step is held in place by detent on each side. To retract the step, lift the step out of the detent, and push back to the original stored position. Make sure that the step is secure in the retracted position before moving the Casita.

Make sure to keep fingers away from the sliding mechanism when extending or retracting the step. Use extra caution if exiting or entering the Casita without the use of the step.



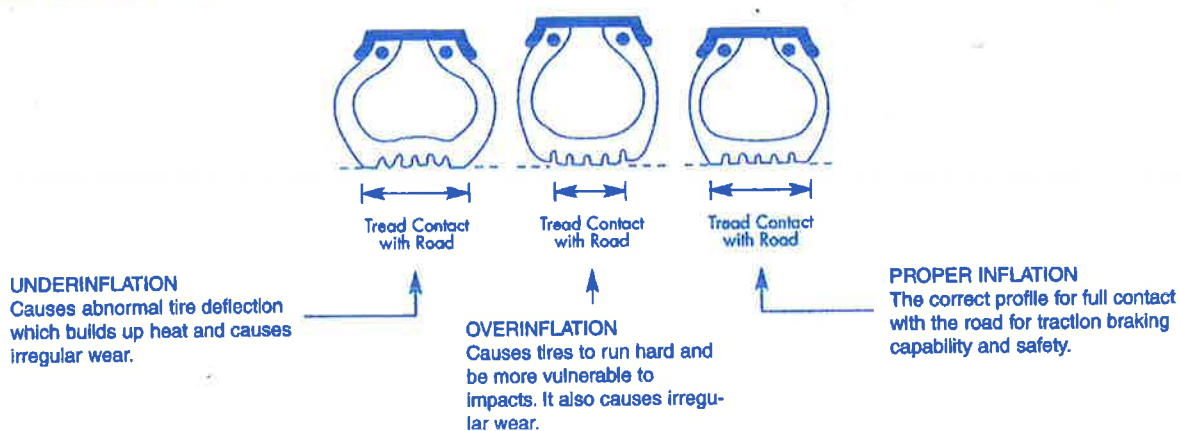
## Wheels and Tires

Your Casita tires play an important role in the load carrying capacity of the vehicle. To insure good tire life, check tires often. Inspect the general condition of the tires, as well as the air pressure.

Always check the air pressure when the tire is cold. Tires that are hot from traveling will show higher pressures. The maximum tire pressure and the load carrying capacity of the tire is imprinted on each tire sidewall, as well as on the vehicle serial number I.D. tag. Always inflate your tires to their correct pressure. Do not over or under inflate. Under-inflated tires will run hot, shorten the tire's life, and decrease the Casita safe load limit. Over-inflated tires will cause a rough and bouncing ride that can damage RV components or cargo. It is a good idea to always carry an accurate tire pressure gauge in the RV to make these checks. If pressure checks indicate a tire is losing air, check for signs of valve leakage, penetration, or wheel and rim damage. Under or over inflating tires can cause tires to fail.

The way you drive can have a significant effect on the wear and life of tires also. High speeds, unusual use of the brakes, taking corners too quickly, and surfaces in poor condition all can contribute to the early wear and failure of your tires. When you drive on surfaces with holes or rocks and other loose objects that can damage tires and cause misalignment, make sure to reduce speed and drive carefully.

If you notice damage to a tire such as a bulge, uneven wear, or damage by a foreign object or the road, have it inspected and repaired or replaced as needed. Remember that tires should be taken to an authorized tire repair facility.



**NOTE:** Cold tire inflation pressure is defined as a tire that has not been used for three or more hours, or has been driven less than one mile. Tire inflation pressure of a hot tire may show an increase of as much as 6 psi over a cold tire. Never bleed air out of a warm tire.

**⚠ WARNING:** When replacing a tire, make sure to replace it with a tire of the same size and specifications. Never use different types of tires together on the RV (i.e. radial, and bias-belted). Mixing of tires can cause handling to be effected as well as unusual tire wear, both of which can create unsafe or even dangerous driving conditions.

## Wheel Nut Torques

It is also important to have the wheel nuts checked regularly to make sure they have not loosened during travel. Follow the schedule for regular wheel nut torque checks. If you suspect that wheel nuts have loosened at any time, have them checked and torque to proper limits immediately.

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

You, as the owner of the Casita, need to make frequent inspections of wheels and tires, looking for signs of wear or damage. You also need to avoid abusive driving habits, such as hitting curbs, or chug holes at high speed which can damage tires and wheel components.

**NOTE:** The proper method of tightening wheel nuts is with a torque wrench, not with an impact wrench or by hand. Because of the importance of having proper torque on wheel nuts, you should have wheels mounted and properly torqued by authorized personnel with the proper tools.

**⚠ WARNING:** Failure to retighten wheel nuts as required could allow wheels to come off while the vehicle is in motion, causing loss of control and possible collision.

## DRIVING TIPS

### GENERAL

Get to know how your tow vehicle handles with the added weight of your RV. The brakes and steering operation will be different. Before leaving on a trip practice making right and left turns, braking, backing up and accelerating. Below are tips to help you in your driving.

### CLEARANCE

Watch out for overhanging tree branches, awnings, or similar obstructions which can damage your vehicle's roof or equipment or accessories mounted on the roof.

### TURNING

Generally the wheels of your RV are set wider than those of your tow vehicle. Pull several feet farther ahead before turning to allow for this extra width and the length of your RV to avoid hitting curbs or parked vehicles.

### PASSING

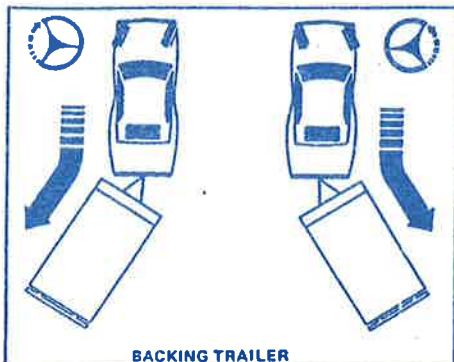
Avoid sudden maneuvers when passing a slower moving vehicle. Remember that additional time and distance are required to pass safely. Wait until the road is clear of oncoming traffic. Check the outside rearview mirrors and signal lane change before passing. When you have safe clearance, signal lane change and return to your original lane.

### BRAKING

Allow a safe distance to stop; follow no closer than one combined tow vehicle-RV length for each 10 m.p.h.. Pump the brake pedal lightly to stop on wet or icy roads. If you start to slide, turn the steering wheel in the direction of the slide, DO NOT stomp the brake pedal-a panic stop may increase the slide and could cause your unit to jackknife.

### BACKING

When backing your RV, place your right or left hand at the bottom of the steering wheel. To move your trailer to the left, move your hand to the left; to move the trailer to the right, move your hand to the right. If the trailer starts to jackknife, stop, pull forward and start again. This maneuver may require stationing someone behind the unit to guide the driver.



### DOWNGRADES

Speed should be reduced, shift the transmission to a lower range to assist in braking on long or steep downgrades.

### UPGRADES

Reduce speed to 45 m.p.h. or less when climbing a steep upgrade. Shift the transmission to a lower gear to avoid engine overheating.

### PARKING ON AN UPGRADE

Parking vehicles on an upgrade is not recommended. If it is necessary, apply the brakes and have a passenger place wheel chocks behind the tires of your RV. When in place, slowly release brakes until unit is stopped by chocks. Apply parking brake and place transmission in park position (place in gear for stick-shift vehicles).

### CHANGING TIRE

Turn on tow vehicle hazard warning flashers. Set up flares or warning lights. Chock opposite tire and unhitch' trailer from tow vehicle. Place jack directly under frame, close to the tire you intend to change, Do NOT use a bumper jack, or the axle to jack up your trailer. While jacking up unit check to make sure the jack has not moved and is still centered on frame. If jack should slip off frame it could damage the bottom of unit. It may also cause injury. Raise the jack to take some of the weight off the tire. Loosen the lug nuts. Raise the jack until the tire clears the ground and finish loosening and remove lug nuts. Pull off the old tire and put spare on hub. Removal of the spare tire requires an open ended wrench to loosen and remove 3/4" mounting nut. Replace and hand tighten lug nuts. Lower and remove jack. Now tighten lug nuts completely. Stop at nearest service facility and have the tire checked or repaired.

### SWAYING OR FISHTAILING

If this happens, accelerate, then gradually slow down. If you have an automatic brake controller installed, apply only the brakes of your RV. If your unit is still swaying, pull off the road and check the tire pressure, cargo location or tow vehicle front end alignment and suspension.

### EMERGENCY STOPPING AND TOWING

If an emergency ever requires you to be stopped be sure to follow these guidelines:

1. Pull off the road as far as possible.
2. Turn on your hazard warning flashers
3. Use warning indicators such as flares, reflectors, or lanterns as required by the uniform Vehicle Code and Model Traffic Ordinance
4. Always stay off the road.

## CAMPSITE SELECTION

Some campgrounds do not accept reservations, but make one whenever you can. If possible, *arrive* early so you may inspect and choose a site during daylight hours. Try to avoid sites near a swamp, stream or other bodies of water which may harbor mosquitoes or other insects. Avoid parking under dead trees or loose limbs which might fall and cause injury or damage. Stay away from areas which show signs of flash flooding. DO NOT park on private property without first obtaining permission.

In winter, park behind a grove of trees, bushes or similar type of windbreak. Close the gap between the ground and the bottom of your vehicle's outside walls with plastic, canvas or similar material. This will cut down cold drafts which can affect interior temperatures.

## COURTESY

Common courtesy will help make your stay more pleasant. Campsites are often close together and RV walls are not as thick as those on your home, so loud noises may disturb your neighbors. Follow the posted rules of the campsite. Open fires may not be permitted. If you can build a campfire, clear the area of flammable materials; never leave a campfire unattended and always make certain the embers are completely extinguished.

## SETUP

You'll want your unit to be level for your own comfort (you don't want items sliding off the counters and tables and out of the cabinets). But more importantly, the unit must be level in order for your refrigerator which functions by gravity, to operate properly.

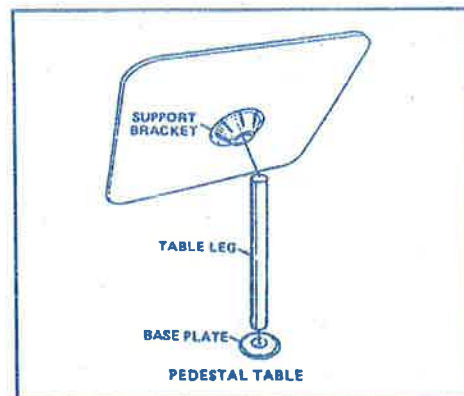
NOTE: Once the unit is level side-to-side and front-to-back, you may wish to permanently attach levels on the front and/or back and sides of the RV. This will allow you to tell at a glance if you've stopped on a level site and will help speed up the leveling process.

If your unit has permanently-mounted stabilizing jacks, unhitch the unit, then obtain a fore and aft level using the unit's front jack. Check level for low side of trailer (some parking areas will require the use of a leveling ramp on the low side of the trailer). Lower the stabilizing units on the LOW side of the trailer, bringing the trailer to a **FINE LEVEL** position. Lower the stabilizers on the opposite side of the trailer to the ground and **FIRM UP**. An angle of 55 to 60 degrees provides best stabilization. Before moving your trailer, stabilizers to **FULLY CLOSED** position, then give another quarter turn to snug up.

**CAUTION:** Stabilizer jacks are designed for **FINE LEVELING AND STABILIZING ONLY**. DO NOT attempt to use them to support the full weight of the trailer.

## TABLE

Your table is the pedestal type. To set up table, install table leg into base located on the floor. Lower table and line up table leg with base on bottom of table.



## MAKING BEDS

Remove table leg from base in floor. Remove leg from base on table. Set table on the back rest cushions to the center and arrange to make mattress. Store table leg under table on floor or in the closet.

To make up the bunk beds, pull out the back rest of sofa and push seat to the back, set bunk posts in the bunk post retainer on the bottom of back rest and on sofa

NOTE: The Maximum allowable weight for the upper bunk in the Bunk Bed model is 75 lbs.

## LIVING AREA

### CONDENSATION

Condensation can be a problem in modern, tightly constructed, well-insulated recreational vehicles. When the unit is tightly closed, especially in cold weather, the relatively-small air volume in the RV can absorb only a certain amount of moisture. When the saturation point is reached, the moisture is released in the form of condensation. Certain amounts of condensation should be expected, especially on cool surfaces such as windows and metal frames. However, excess condensation can damage your carpeted walls and ceiling.

Bathing, dish washing and unvented gas burners are among causes of added moisture in the air. You can control this by allowing the moisture to escape to the outside. Use your vent hood and fan when cooking; keep bathroom door closed and the vent window open when bathing (and for even a period of time when you have finished bathing, to allow for dissipation of all the moisture); don't hang wet clothes in your unit to dry.

In hot weather, air conditioning can help make you more comfortable because it removes excess humidity from the air, while lowering the air temperature.



## General Information:

The liquid petroleum (LP) gas system in your Casita furnishes the fuel for cooking, heating, and hot water. LP gas can also be used as an alternate energy source for refrigeration. LP gas is a clean, efficient, safe form of energy when proper handling and safety precautions are observed. It enables you to enjoy a comfortable lifestyle where other forms of energy are not easily utilized.

The gas is stored under extreme pressure in the tank, with space in the tank to allow for expansion into vapor. This vapor is reduced in pressure by passing through a regulator. This reduction in pressure is a two-step process which assures consistent pressure for use.

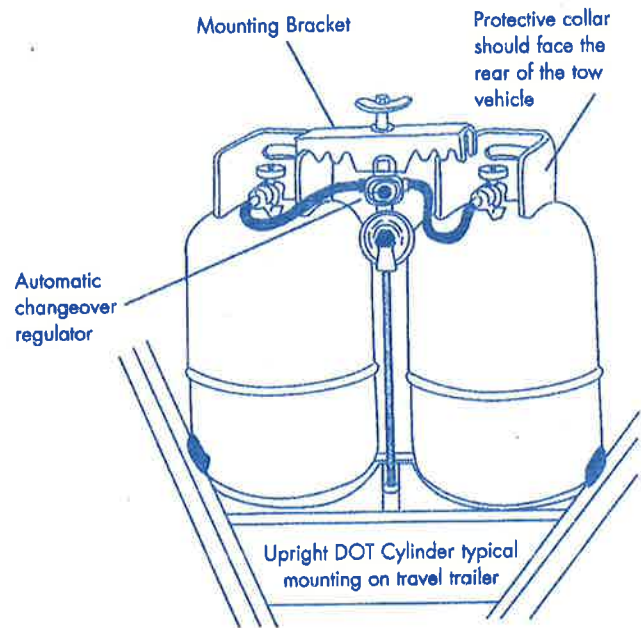
Your LP system is designed to accept either propane or butane. However, since butane vaporizes at about 32 degrees F, it can only be used in areas where you can be sure of higher temperatures. Propane vaporizes at approximately -40 degrees F. There are blends of propane and butane available, which will vary in the temperature at which it vaporizes. When filling your tank, select an LP gas that has a boiling point about 40 degrees lower than temperatures you expect to travel in. Talk to your dealer, or your local LP gas supplier about what you should be using.

**NOTE:** Even though the tank is equipped with an automatic 80% shut-off which prevents overfilling beyond 80% tank capacity, it is a good idea to have the supplier monitor the 20% liquid level-gauge, and stop filling process if liquid does appear.

**WARNING:** LP-Gas cylinders shall not be placed or stored inside the vehicle. LP-Gas cylinders are equipped with safety devices that relieve excessive pressure by discharging gas to the atmosphere. FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY.

## Filling the LP Gas Tank

1. Before entering the LP gas bulk plant or service station, make sure all pilot lights are extinguished. Shut off gas to all appliances by closing the LP gas main shut off valves on the LP gas bottles.
2. Extinguish open flames and smoking materials.
3. Remove LP gas bottles from the trailer and have them filled by an authorized LP fuel supplier.
4. NEVER allow anyone to fill your LP gas bottles while they are mounted on your trailer. Bottles should be removed and weighed to achieve proper fuel fill capacity.
5. A warning label has been placed near the LP-Gas container. This label reads as follow; Do not fill containers to more than 80% of bottle capacity. Overfilling the LP gas container can result in uncontrolled gas flow which can cause fire or explosion. A properly filled container will contain approximately 80% of its volume as liquid LP gas. If the container is overfilled, have the LP gas dealer bleed out the excess.
6. DO NOT use a wrench to tighten the service valves; they are designed to be closed leak-tight by hand. If you cannot hand tighten properly, the valve probably needs repair or replacement.
7. Remount both LP gas bottles on the trailer frame. Make sure bottles are fastened down securely and bottom rings of LP gas bottles are inside of tabs or raised ears on the edge of the trailer frame. These tabs or ears are designed to keep the bottom of the LP gas bottles from sliding off the edge of the trailer frame. If mounting a single bottle, make sure straps are fastened securely.
8. Drive at least one mile from the LP supplier before relighting pilot lights or appliances. This will allow any minimal leakage which occurred while filling the tank to dissipate. DO NOT LIGHT PILOTS LIGHTS IF YOU CONTINUE TO SMELL LP GAS. Allow the Casita to ventilate for 30 minutes. If you still detect LP gas odor, have the source of the leak located and repaired.



## LP Gas Regulator

The regulator reduces the pressure of the LP gas vapor in the tank, to the pressure required for use at the appliances. This reduction in pressure is performed by a two-stage regulator. Two regulators are used in the same body to reduce the pressure of the LP gas in the tank for use by the appliances in the Casita. The regulator seldom requires service, but it should always be protected from the elements and extremes of hot and cold.

The high pressure regulator (first stage) is used to reduce the pressure to approximately 10 to 13 PSI before sending it to the low pressure regulator (second stage). This second stage regulator reduces the pressure further to 11 inches water column, or 6.35 ounces per square inch.

The two-stage regulator does not have to work as hard since the second stage receives consistent pressure rather than inlet pressure which varies. The result is an efficient, safer system that helps to eliminate problems such as freeze up and pilot outages.

The regulator has been preset by the manufacture of the regulator, and adjustment should not be necessary. If adjustment should be required however, DO NOT attempt to adjust it yourself. Adjustment must be made with special equipment by a qualified LP gas service technician.

Have the regulator checked annually, or whenever you suspect a problem. The correct line pressure should be 6- $\frac{1}{4}$ , oz or 11 inches of water column.

Because air is required for proper operation of the regulator, it is very important that the regulator vent is kept clean and free of dirt and debris. This is why it is necessary to keep the vent facing downward and the regulator covered to protect it from contamination. A toothbrush can be used to clean the vent if it becomes clogged by foreign matter.

During cold weather, it is important to keep ice from forming in the regulator, which will shut off the flow of the LP gas to your appliances. Have the supplier add anhydrous Methanol when filling your tank for use during cold weather.

Regulator freeze up can occur in any weather if there is moisture in the tank, or if the tank has been overfilled. Always use moisture-free LP gas, and make sure the tank has not been filled beyond 80% of capacity. If moisture has entered the tank, have the tank purged, or have anhydrous methanol added by an authorized LP supplier.

If you believe a regulator has been damaged or otherwise is not functioning, have it replaced by a qualified LP Gas service technician.



## LP Gas Regulator

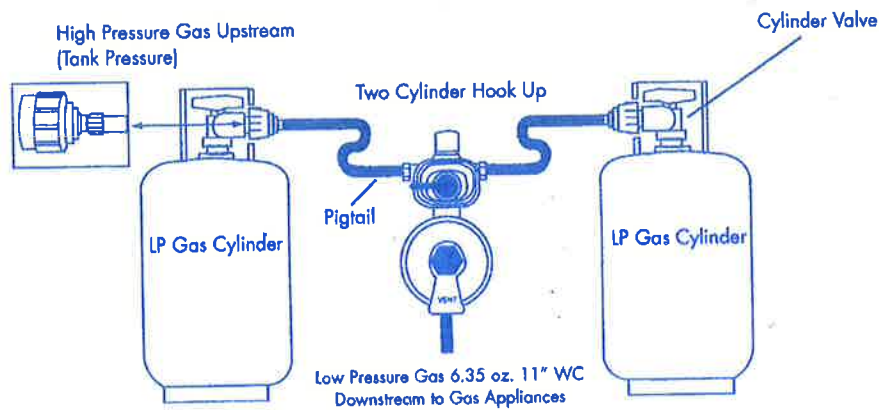
### Automatic Changeover Regulator

The two-stage changeover regulator offers the convenience of changeover from empty to full gas cylinders, plus the additional efficiency of two-stage pressure regulation. The top portion of the changeover is a dual high pressure regulator, which reduces bottle pressure to approximately 10 to 15 PSIG and sends it to the second stage regulator, which completes the regulation process by reducing the 15 PSIG inlet pressure down to 11 inches of water column (0.4 PSIG) outlet pressure.

Make sure there is propane in both cylinders before you start. Rotate the black lever on the top front side of the regulator toward the cylinder you want to use first.



This will be the "service" cylinder and the other will be the "reserve" cylinder. Slowly open the service cylinder valve, then the reserve cylinder valve. The indicator on the top of the regulator will turn bright green. The indicator color will stay green as long as there is fuel coming from the service cylinder. When the service cylinder empties, the regulator will start drawing from the reserve cylinder providing an uninterrupted fuel flow to the system. When it switches over, the indicator color changes from green to red. This red color signals that the service cylinder is empty and needs to be filled. To remove the empty cylinder, rotate the black lever all the way over towards the reserve cylinder. The indicator will turn green and the reserve cylinder becomes the service cylinder. Next, shut off the cylinder valve on the empty cylinder. Before disconnecting the empty cylinder, be sure to close the bottle still remaining full with gas. The regulator will allow gas to bleed out with out the secondary bottle still being attached to the hand-tight screw on hose. Now disconnect the empty cylinder and have it refilled. After filling, reconnect the pigtail and slowly open the cylinder valve. The full cylinder now becomes the reserve cylinder.



Overview of Typical LP Gas Hook Up

## Regulator Freeze up

The term "regulator freeze up" is a misleading one. Regulators and LP gas do not freeze. However, the moisture that can be contained in the gas will freeze as the gas expands and cools passing through the regulator. This freezing of the moisture in the gas can build up and partially or totally block the passage of the gas through the regulator. Freezing can also occur when outside temperatures are low enough to contribute to the freezing of the moisture in the gas.

The source of the moisture is varied. It can occur at the refinery or gas bulk plant, in the cars used to transport the gas, or even within your own LP tanks. Moisture in an LP tank can occur when a tank service valve is left open, allowing moist air to enter and become trapped.

A two-stage regulator helps to reduce the possibility of freeze up because of its large orifice size, and the fact that heat is transferred through the walls of two regulators instead of just one.

There are several steps that can be taken to inhibit or prevent this from happening:

1. Make sure that your LP tank is free of moisture before refilling.
2. DO NOT overfill the LP tank.
3. Make sure to keep the service valve on an empty tank closed.
4. If freezing has occurred, have your LP dealer purge the LP tank before refilling.
5. Add anhydrous methanol or approved LP antifreeze or de-icing agent to the LP tank.
6. Keep the regulator covered at all times.

## Other Cold Weather Factors

Remember that as the outside temperatures drop, the BTU value of the LP gas is lessened, since the colder liquid LP in the tanks requires the heat from the surrounding air to vaporize. This lowering of BTU value can significantly affect the performance of the system. You can help insure proper performance by keeping your LP tanks as full as possible in cold weather, and reviewing the BTU/hr rating plates on LP appliances for proper LP management.

## Hoses, Pipes, Tubes and Fittings

The hoses, pipes, tubes, and fittings used in your LP system are designed to withstand pressures far exceeding those of the LP 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 LP components, make sure to always replace them with components of the same type and rating (check your dealer).

Road vibration can loosen LP gas fittings. It is important to check your LP system for leaks at least every 5000 miles, and whenever the tank is filled. It is also a good idea to have your entire LP gas system checked annually by a qualified LP gas service representative.

## LP Gas Safety Precautions

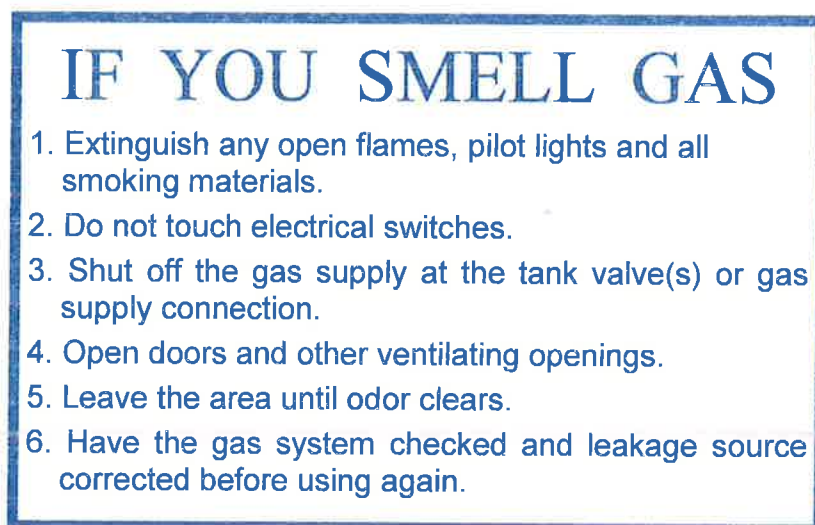
If you smell Gas:

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

Be careful when doing any work or maintenance in the Casita, that you do not puncture a gas line with a screw or drill bit.

A complete listing of the LP gas warning labels and decals used throughout the Casita can be found in the front part of the manual. They have been installed not only because of requirements to do so, but also as a constant reminder to our customers to exercise proper caution when using or being around LP gas appliances and equipment. Make sure that you and your family understand and follow all of them. Never remove these warning labels and decals. If one should be lost, it should be replaced as soon as possible.

The following label has been placed in the vehicle near the range area.



## **L.P. GAS DETECTOR**

On all trailers except the 13' Patriot, and 16' & 17' Liberty, the L.P. Gas Detector can be found on the side of the rear bunk, across the aisle from the converter. On the 13' Patriot, and 16' & 17' Liberty the detector is mounted just beside the converter, on the Kitchen side of the trailer. They are mounted low to the floor because propane gas is heavier than air and will seek the lowest level. When the presence of gas is detected, an alarm will sound and the green L.E.D. light will flash red. ( See Procedures to take during an alarm.

### **PROCEDURES TO TAKE DURING AN ALARM**

1. Turn Off All Gas Appliances, )Stove, Heaters, Furnace,), Extinguish All Flames and Smoking Material. Evacuate, Leave Doors and Windows Open.
2. Turn Off The Propane\CNG Tank Valve.
3. Determine and Repair The Source of The Leak. Seek Professional Help If Necessary.

**CAUTION - DO NOT RE-ENTER UNTIL THE  
PROBLEM IS CORRECTED.**

The L.P. Gas Detector is hard wired into the trailer wiring from the converter. This means that the 12 volt trailer battery must be fully charged, or the converter must be plugged in. If the LED light is not on, check the fuse inside the converter. Be sure to test the operation of this detector after the vehicle has been in storage, before each trip, and at least once per week during use. See Manufacture instructions for proper operation.

## **General information:**

The electrical power supply provided for the Casita is a dual system, operating with 120 volt AC and/or 12 volt DC.

The 120 volt power may be provided by either connecting the Casita to an outside power source when parked, or by use of a generator, 3000 Watt is sufficient. When the 120 volt system is operational, power also passes through a system converter, allowing the full use of all 12 volt functions in the Casita.

Please note that when the trailer is plugged into a 120 volt source, the refrigerator should be switched to run on the 120 volt or propane settings and not on 12 volts. The refrigerator draws approximately 15 amps on 12 volts. This will consume a lot of the 12 volt capacity of the converter. The refrigerator only draws approximately 1.5 amps when running on 120 volts A.C. and does not use the 12 volt converter for this operation.

120 volt functions in the Casita include the refrigerator, air conditioner, microwave oven (17' only) and outlets for 120 volt operated conveniences. All other electrical functions in the Casita are supplied with the 12 volt power.

When it is not possible to access 120 volt power, the 12 volt system functions can be supplied by the auxiliary battery. The auxiliary battery is rechargeable by the power converter when the Casita is attached to an outside 120 volt power source, or by the generator if you chose to use one. The battery can receive a charge from your tow vehicle also.

## **Connecting to an Outside Power Source**

A 30 amp shoreline power cord is provided to attach the Casita to a grounded power source. The electric utility service connection is located on the driver's side of the Casita near the middle. The power cord is stored inside the electric utility service compartment. The electric utility service door can be closed and locked for security when the cord is in use as well as when the cord is stored away.

Never use a two wire extension cord or a cheater adapter with the ground pin removed, or put a lower amperage plug on your power cord in place of the molded plug.

Casitas are equipped with a 30 amp service.

## **12 Volt Battery**

The battery is located inside a compartment located at the rear of the trailer on the driver's side. It is accessed through a locking service door that is also vented.

NOTE: Differing loads affect the ampere-hour rating of a battery. In normal use, loads vary in both amperage and the length of time they are applied, so these figures should be considered a guide rather than an accurate representation. Ampere-hour ratings vary depending on the size of battery the manufacturer, and method used to calculate the rating.

When ampere-hour ratings are known, they can be used to determine how many and what size batteries you need for your RV.

### **Ampere-Hour Ratings**

Typical Amperage Draws of Common RV Equipment

| <b>Equipment</b>                                      | <b>Amps</b> |
|---|-------------|
| Incandescent light, single socket, type 1141 bulb     | 1.5         |
| Incandescent light, double socket, type 1141 bulb     | 2.5         |
| Water pump  | 4.0 -8.0    |
| Forced-air furnace                                    | 4.0 - 8.0   |
| Roof vent fan, 3-speed (depending on brand and speed) | 3.0 - 6.0   |
| Bathroom vent fan                                     | 2.0         |
| Range hood fan  | 3.0         |
| Refrigerator, 3-way, on 12-volt setting               | 15.0        |
| TV, AC/DC, 9-inch, color on DC                        | 3.0 -4.0    |
| TV, AC/DC, 5-inch, black-and -white, on DC            | 1.0 - 1.5   |
| Stereo/cassette player, automotive type               | 1.7 - 6.0   |
| Equalizer/amplifier on stereo/cassette player         | 1.0 - 2.0   |
| CB radio, receive-only mode                           | 0.5         |
| Video cassette player, 12 volt                        | 1.5         |

### **Battery Maintenance**

Battery maintenance is important. Checking the condition of the battery at regular intervals will help insure its proper operation. Here are some recommendations for checking and servicing batteries.

1. Keep the battery mounted securely. Vibration causes early failure of many batteries.
2. Check the electrolyte level of the auxiliary battery at regular intervals. Keep each cell filled to just above the plates with distilled water. Once the plates have dried out, they cannot be reactivated, and capacity of the battery is reduced in direct proportion to the area of the plate surface that has become dry. This kind of damage can occur quickly. Usually it can happen overnight.
3. Keep the battery clean. Corroded terminals make poor contact and do not allow the towing vehicle alternator or the converter to bring the battery up to full charge. Battery sulfating occurs when the battery has been standing in a discharge condition over a long period of time, or when the battery has been operated continually in state of partial discharge. Use baking soda solution to neutralize the acid accumulations on the battery top. Do not allow the soda solution to enter the battery. Make sure the vent caps are secure. Flush with water. Thoroughly dry all cables and terminals, reinstall, and use a plastic ignition spray to protect the terminals.
4. Check the outside condition of the battery. Look for cracks in the case or vent plugs. If the case is cracked, the battery must be replaced. If vent plugs are cracked, they must be replaced.
5. Watch for overcharging. Three ways to spot overcharging are:
  - a. Active material on the vent cap (heavy deposit of black lead-like material on the underside of the vent cap)
  - b. Excessive use of water.
  - c. By testing voltage regulator output.
6. Make sure the battery hold downs and carrier are kept clean and free of corrosion.

When removing the battery, you can leave the wires hooked up to the battery. They are made long enough to allow for the battery to be placed on the ground before the wires are disconnected. When reconnecting the wires to the battery, make sure they are hooked up as follows: Black wire to the positive (+) terminal, white wire to the negative (-) terminal, and the green or bare copper wire to the negative (-) terminal. Two wires go to the negative terminal and one wire goes to the positive terminal.

When a battery needs to be replaced, make sure to replace it with a battery of the same characteristics as the original equipment.



## Battery Safety

Always shield your eyes when working near batteries.

**WARNING:** Batteries can explode! Do not smoke or expose any battery to electric sparks or flame. Batteries, when charging or discharging, generate hydrogen. Hydrogen and air are a very explosive mixture. Do not short across the battery terminals. The sparks could ignite the gases. Do not wear metal jewelry or a watch when working on a battery. Before doing any work on the electrical system, disconnect battery cable and 120 volt power cord. Do not reconnect the cables until all work has been completed. This will avoid the possibility of shorting or causing damage to electrical components or shock to the servicing person. Battery electrolyte is corrosive, poisonous, sulfuric acid. Avoid contact with skin, eyes, clothing, or any painted surface.

## Power converter

The converter is used to convert 120V electricity from an external supply, or from the generator, to 12V electricity to power interior lights and 12V accessories. The converter requires no maintenance under normal circumstances.

If the converter does not have 120V supply to convert to 12V, it automatically switches the batteries into the electrical circuit to power 12V functions. When reconnected to a 120V supply, it will again operate from this power source.

The converter will run warm and this is normal. If however, it gets too hot, it will turn itself off. After it cools down, it will come back on. In most cases, when this occurs it is because something has been put around or too near the converter preventing it from getting adequate ventilation. Make sure not to put anything near the converter that could obstruct ventilation.

A slight hum during operation is also normal for the converter. If you have no 12 volt power and no hum, check to see if 120 volt power to the converter has been interrupted.

## Common Complaints of Converters

Although not always at fault, many times converters are blamed for a particular ill. The below listed complaints are general complaints followed by possible causes. The possible causes are listed in the following priority order:

- Easy to check and most likely the problem
- Easy to check but least likely the problem
- Difficult to check but most likely the problem
- Difficult to check and least likely the problem

### 1. Converter overcharges the battery:

- Faulty battery
- Loose or corroded connections
- Faulty PC board
- Excessive AC volts
- Shorted SCR
- Faulty transformer or rectifier section

### 2. Converter does not charge the battery

- Blown fuse to battery
- Faulty connections
- No AC input
- Faulty PC board
- Faulty LED (if equipped)
- Faulty SCR
- Faulty transformer

### 3. Converter automatic relay chatters:

- Low AC volts
- Reversed AC polarity
- Very low frequency (should be 60 hertz)
- Faulty relay
- Loose internal connections

### 4. 12-Volt bulbs blow when on converter power, but are fine on battery:

- High AC volts
- Reversed AC polarity
- Improper capacitor used
- Faulty transformer

### 5. Radio/Television interference with converter on:

- Radio not wired properly
- Battery charge line too close to speaker wires
- Too small radio ground wire
- Speaker wires in same harness as 120-volt AC Romex
- Faulty filter or no filter in system

### 6. Converter drains battery:

- Branch circuit drain
- Weak or faulty battery
- Faulty PC board
- Bleeding diode
- Faulty SCR
- Faulty transformer
- All batteries have a normal internal drain and all converters have a normal resistance that does cause some current loss. Anything under 20 mA is considered normal.

### 7. No converter DC output

- No incoming AC voltage
- Tripped breaker
- Blown fuse
- Faulty connections
- Faulty relay
- Faulty diode or transformer

## Troubleshooting Converter

When troubleshooting the power converter, here are five basic preliminary steps:

1. Verify the proper incoming AC voltage-be sure the incoming voltage falls between 103 and 130 volts AC. High and low voltage can have a damaging effect, not only on the converter, but other AC components as well.
2. Verify the correct polarity-reversed polarity or an open hot or neutral wire somewhere in the 120-volt supply system can indeed be harmful to the converter. Always check the polarity and test the GFCI each time you enter a new campground. If it is not correct, move to a new site or simply do not plug in the shoreline. Likewise, check the polarity of the DC conductors from the battery. Some components may be damaged if the battery is mis-wired.
3. Eliminate the battery as the culprit-because of the close association, many times the converter is blamed for battery or other DC system-caused problems.
4. Make sure all electrical connections are clean, dry and tight-many electrical problems are associated with loose wires and connections. It is a common occurrence because of the jostling most RVs endure during their lifetimes.
5. Analyze the symptoms closely and carefully-take notes as you go through the process of checking. Follow a systematic approach by first considering the DC system in general. Next, look at the problem area in specifics. Third, consider the components in the sequence. And finally, accurately measure and record the following voltages:
  - The incoming AC line voltage
  - The battery voltage in an open circuit test
  - The output voltage with the converter without the battery in the system
  - The output voltage with the battery connected

Should you need to call a service facility or seek advice, having the above voltage information handy will provide a starting point to begin troubleshooting.

## Battery Charging

The converter also operates as a battery charger when it is connected to a 120V power source. If the battery is below its full charge, the converter charger will begin operation at a rate that reflects the level of discharge. When the battery is again fully charged, the converter charger drops its charging level back to a maintenance level to keep the battery fully charged.

If for any reason you charge a battery with a source outside the Casita, make sure to follow the rules of battery maintenance and safety outlined in this section. Also observe these additional safety precautions related to battery charging:

1. Disconnect the battery from the recreational vehicle.
2. Check the electrolyte before charging. Be sure each cell is properly filled with distilled water.
3. Make sure to use care when connecting and disconnecting the cables from charger. A poor connection can cause an electrical arc, which can result in an explosion.
4. Remove the battery vent caps before charging, and make sure that the electrolyte does not splash out as a result of charging too quickly.
5. Check literature supplied by battery manufacturer, and follow warnings and cautions outlined.

## Circuit Breakers

The 120 volt system is protected by circuit breakers which automatically shut the circuit off if the circuit load is too heavy, or a short circuit occurs. If a circuit breaker has been tripped, do not reset the breaker until the cause of the problem is identified and corrected. Please acknowledge that the 120 volt outlet on the side of the sink and stove cabinet is a GFI outlet. In the event the outlet is tripped, it has to be reset by pushing the "reset" button on the 120 volt outlet. For any additional trouble shooting, please refer to common complaints of converters.

## 12 Volt Fuses

A 12V DC distribution panel is located next to the 120V circuit breakers. The panel contains circuits with replacement fuses for protection of recreational vehicle 12V lines. If any line is loaded beyond the capacity of its fuse, the fuse will "blow". A portion of the 12V on the line must be turned off to reduce the total load on the line to a level below the capacity of the fuse. Replace the fuse with the same size fuse. DO NOT replace with larger fuse than indicated.

If this reduction of load on the line does not stop the blowing of replaceable fuses, there may be a short somewhere along the 12V line, or at a non fused 12V component on the line. Check the 12V line and any component along the line. Locate the short and take necessary steps to repair it. If you cannot locate the problem, have a qualified electrician check it out.

It is a good idea to keep additional fuses on hand in the Casita. Replacement fuses are available at service stations, hardware stores, or automotive supply stores. Remember that the replacement fuse must be the same amperage rating as the original.

## General Information:

Your new Casita plumbing system has the dual ability to be self contained with onboard storage, or use facilities provided by an external pressurized source. In either case, the components of the system operate like those in your home. Components of the plumbing system consist of strong, lightweight, corrosion resistant materials that provide long life, and easy cleaning. By following the instructions outlined here, you can expect efficient operation with minimum maintenance.

Casita's plumbing can be divided into two separate systems. The fresh water system consists of those items which are used to deliver water for your use, while the waste water system is made up of the drains and tanks which store and remove water that has been used.

## Fresh Water System

Fresh water is provided from an external pressurized source, or from the fresh water storage tank.

### External Hookup

Water provided from outside the Casita is pressurized by the system from which it is delivered. When you connect your Casita to an outside source, the fresh water tank and the water pump are kept separate from the remainder of the system by in-line check valves.

To attach the Casita to an outside source of water:

1. Remove the cap from the city water inlet on the side of the Casita.
2. Attach a water hose pressure regulator to the outside source of water.
3. Attach one end of the fresh water hose to the outside source of water.
4. Connect the other end of the hose to the Casita city water inlet.
5. Turn the outside source of water on. Open the various faucets in the Casita gradually to clear the air from the lines.

Close the faucets when the water flows freely.

**Note: Do not turn the water pump on when using water from an external supply.**

To disconnect from the outside source of supply:

1. Shut off outside source of supply.
2. Disconnect the hose from the supply valve and the Casita inlet.
3. Re-reel the hose and store.
4. Reinstall the cap on the Casita inlet.

## Fresh Water Tank

When an outside source of water is unavailable, water can be drawn from the fresh water storage tank for use in the Casita. The tank is filled through a gravity controlled water fill spout on the rear area of the Casita. Standard capacity of fresh water tank is 16 gallons. Only the 17' has the option of a 25 gallon tank.

To fill the fresh water tank, proceed as follows:

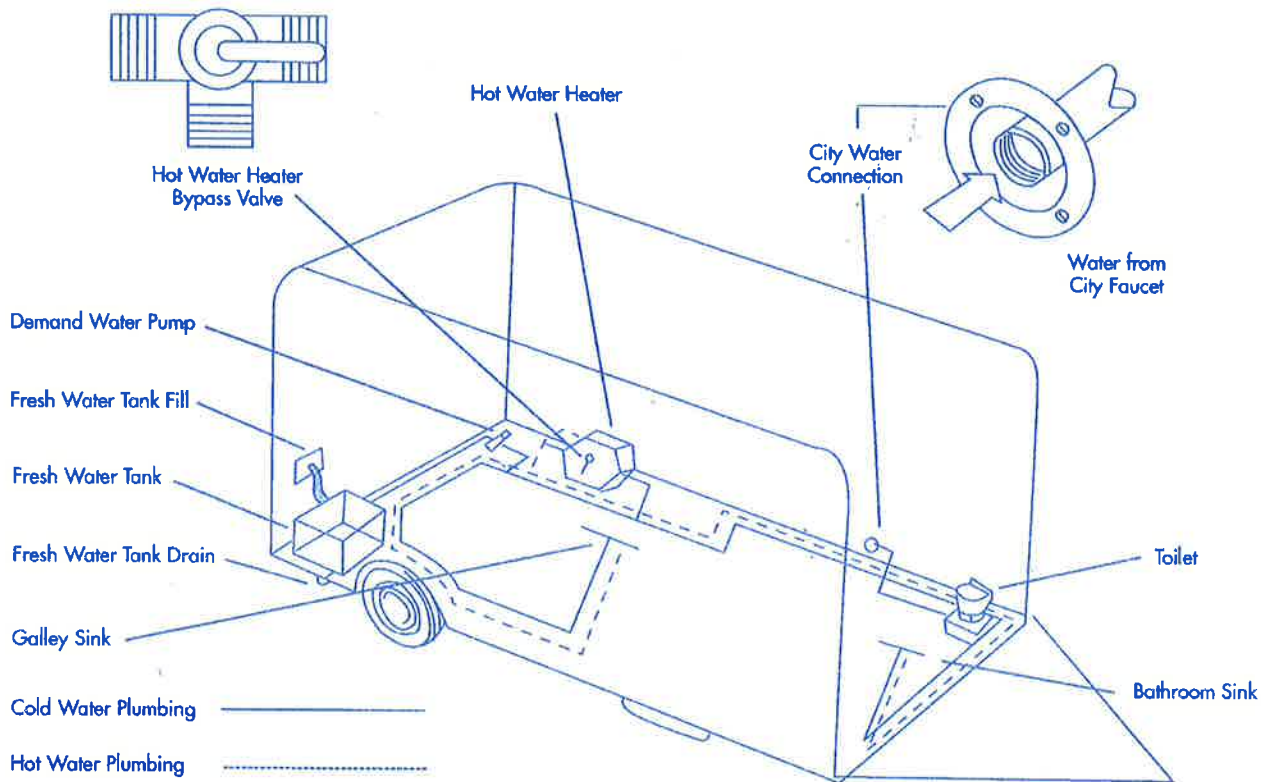
1. Unlock and open the fresh water fill door.
2. Remove the water fill spout cap.
3. Water can now be added directly to the tank through the fill spout by use of a known clean hose or bucket, used only for this purpose.
4. When the tank is filled, replace the water fill cap and close and lock the fresh water fill door.

**NOTE: Always fill the tank with clean drinkable water from a known safe source. Make sure to close the fill spout when the tank is filled. Also, always fill system with a hose or bucket that you know is clean, and is used only for this purpose.**

When traveling, you may want to drain the tank, or keep the quantity of water in it to a minimum. This reduces the total weight of the Casita for travel. Make sure when draining the tank, that the water pump has been turned off. The fresh water tank drain valve is located under coach on rear passenger side. Water in the tank can be drained by removing gray drain cap.



The Casitas come with a 16 gallon fresh water tank.



**Water Pressure Diagram**

**Note:** When trying to drain entire onboard fresh water system, make sure to open faucets, water heater drain, and system low point drains to remove all fresh water from the system.

## Water Pump

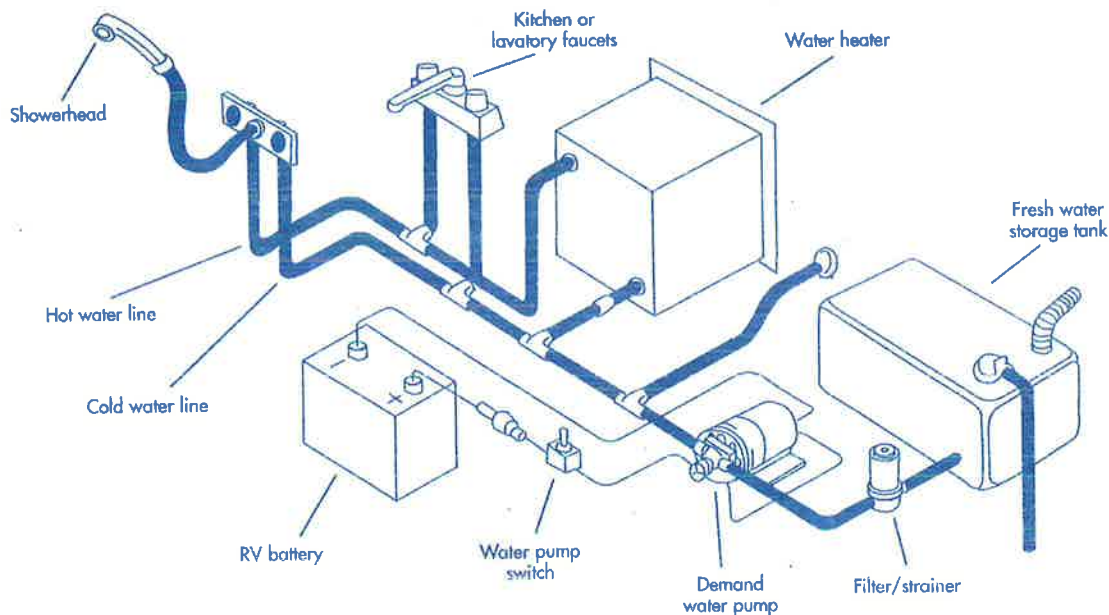
When using water from the fresh water tank, the system must be pressurized. A self-priming 12 volt DC pump is provided to handle this function. A pump on/off switch is located on the front of the sink cabinet.

When initially starting up the self contained water system, follow this procedure:

1. Make sure the tank is filled with water.
2. Open all faucets in the Casita, both hot and cold.
3. Place the pump control switch in the ON position.
4. Allow time for the hot water tank to fill. Shut off each faucet as the flow becomes steady and free of air. When the last faucet is shut off, the pump should also shut off.
5. The system is now ready for use.

The self contained water system is a demand system. This means that the water pump will run whenever there is a need for water.

**NOTE:** When filling the system, you may want to add additional water to the tank to replace the water used when filling the hot water and water lines.



**Typical Fresh Water Demand System**

### Sanitizing the Fresh Water System

Sanitize the system before initial use, after extended periods of non-use, at least once a year during continuous use, and whenever there is suspicion that the system has been contaminated.

1. Prepare a chlorine solution using a gallon of water and 1/4 cup of liquid household bleach (5% sodium hypochlorinate solution). Use one gallon of solution for each 15 gallons of tank capacity.
2. With the tank empty, and all faucets and drains closed, pour the solution into fresh water tank.
3. Complete filling the tank with fresh water.
4. Switch on the water pump. Open all faucets one at a time until all air is purged, and the water flows freely.
5. Again add fresh water to the tank until the water level reaches the fill spout.
6. Allow the system to stand undisturbed for a few hours (at least three).
7. Drain the system by opening all faucets, and the fresh water tank drain valve, while flushing the system with water of drinking quality.
8. Continue flushing the system, allowing the water to flow for several minutes.
9. Close the tank drain valve and faucets. Refill the system with water of known drinking quality.

### Waste Water System

The waste water system in your Casita can be described as two separate systems - a gray water system that consists of the drain lines and holding tank for waste water from the sinks and shower, and a black water system which includes the holding tank and drain for toilet wastes. Each system is self contained, and allows disposal of the waste water at designated dump stations at your convenience.

Components of the gray water system have drain traps, and both tanks are vented to equalize air pressure and disperse odors caused by drain water and waste outside. Sometimes, the rocking movement of the Casita while driving may empty the drain traps of their water, and allow the odors of the gray water tank to come into the coach. Residue in the drain water lines can also produce odors. To combat gray water holding tank odor, an approved deodorizing agent should be used. An agent that dissolves grease and fats and contains a detergent will help keep tank and drain lines clean and free-flowing.

### Holding Tanks

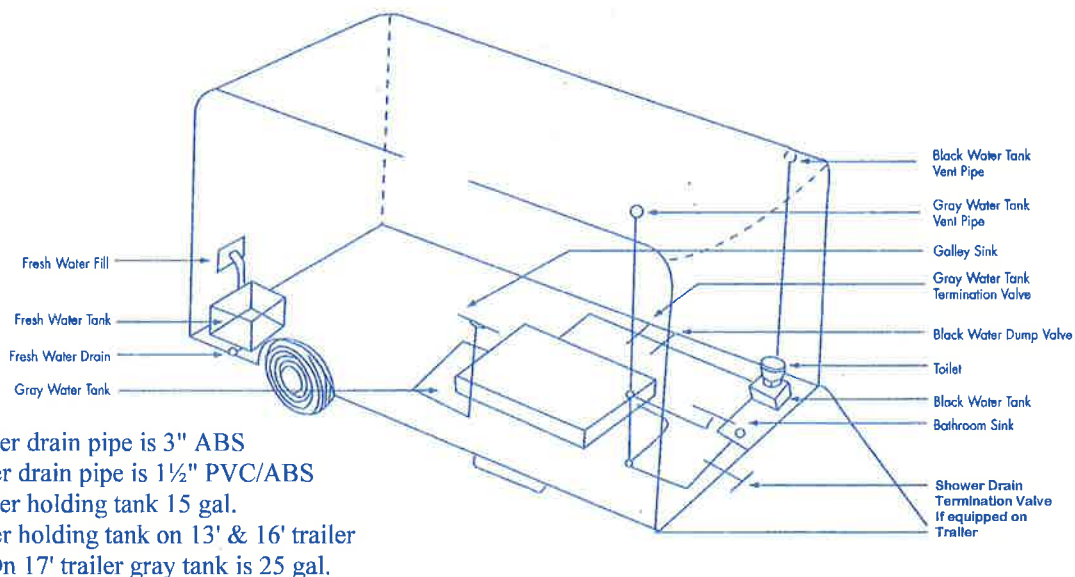
Each tank has a separate drain line and dump valve, which permits dumping tanks individually. Each tank should be emptied often at a dump station designated for this purpose. Most national, state, and private camp-grounds have

dumping facilities. Many have hook-ups on the campsite, while some have portable dump collectors. Many service stations, particularly along interstate highways, also have these facilities. Many campground directions list dumping station locations across the nation.

If possible, empty holding tanks before a trip to reduce the gross vehicle weight. Enough water should be kept in the black water tank to cover the bottom, to prevent hardening of any residue that may remain.

Never dump the black water tank until it is 3/4 full. This practice makes sure that enough water is in tank to flush all wastes into the sewer line. If necessary, fill tank to the 3/4 mark with additional water before draining.

Never put anything in the holding tanks other than normal drain water, wastes, and biodegradable products. Paper products, gum, cigarettes, etc., no matter how small they may be, should never be placed into either the gray or black tanks.



## Dump Outlets

The outlets from the holding tanks are usually configured into a single termination assembly that is comprised of one main outlet for connecting to the campground sewer and two inlets, one from each tank. Between each tank outlet and the inlet to the termination assembly are the termination valves or "dump" valves. The gray water tank dump valve must be a minimum 1-1/4 inch diameter, while the black tank must maintain its 3 inch diameter from inlet to outlet. A flexible sewer hose with an appropriate adapter can be attached to the termination assembly, when connected to the campground or dump station, the tanks can be emptied.

**NOTE:** It is important to note that harmful and toxic materials can accumulate if the holding tanks are not regularly drained and thoroughly rinsed. It is also important to use holding tank deodorant and cleaning agents in the waste water tanks to reduce odors and keep the lines open and free-flowing.

### To Empty the Holding Tanks:

1. Remove the sewer drain hose from the tubed rear bumper. Pull rubber bumper cap off to access sewer hose. When storing the sewer hose back in the bumper, always put the cap back on, and push center of cap inward to ensure it locks in place so it does not fall off while traveling.
2. Remove the cap from the Casita sewage drain, and connect the drain hose to it.
3. Swivel main outlet for termination assembly down into position for tanks to drain.
4. Attach the other end of the flexible drain line to the dump station inlet. Make sure both ends of the flexible drain line are securely attached. Many campsites will require the use of an adapter on the end of the sewer hose that drains into their dump station which will prevent septic waste fumes from dispersing into the environment.
5. Drain the black water tank first, by pulling the termination valve handle toward you. Make sure to allow sufficient time for the tank to completely drain, then rinse the tank with several gallons of water by depressing the stool flush pedal. Close the stool flush pedal and fill toilet with water, then flush. This creates additional force to clean the tank more completely.

5. Drain the gray water tank by pulling the termination valve handle toward you. Draining the gray water tank last, with its soapy water, helps to further rinse the drain and flexible drain hose.
6. When tanks are emptied, close termination valves by pushing handles back to closed positions.
7. Remove flexible drain hose and wash it thoroughly with clean water. Remove the other end from the dump station inlet, and replace it in the rear bumper. Secure the bumper end caps, and replace the caps on the Casita and dump station inlet.

**The following guidelines will help to ensure trouble free operation:**

1. Never put anything in the black water tank other than toilet paper, especially for RV systems.
2. Do not put automotive antifreeze, household toilet cleaners, or drain cleaners, or any solid material into the waste water system.
3. Always use chemicals in the black water system, using cleaners made for the RV systems.
5. Always keep the drain cap in place, and termination valves closed.
6. After every third time the holding tanks are emptied, fill and flush both tanks with clean fresh water a couple of times to keep them clear and clean.

**NOTE:** If connecting to a campsite sewer inlet, DO NOT open termination valves until tanks are 3/4 full. DO NOT keep black water valve open while parked. Wastes are NOT flushed directly into sewer system. Only liquid waste is drained, therefore, water must accumulate, and chemicals in tank need time to break down solids before they can be released. If draining gray water tank directly into sewer inlet while parked, make sure to close termination valve for a period of time before leaving, allowing some water to accumulate in tank to use for flushing drain line and flexible hose.

**NOTE:** Always remember to clean up dumpsite before leaving. Never empty your holding tanks directly on the ground, a roadway, river or stream. DO NOT POLLUTE! !!!!

## **Termination Valve Maintenance**

Periodically, the dump valves, especially the black water valve, will need to be serviced. Usually dump valves are bolted in place between two adapter fittings. After draining and flushing the tanks, these bolts can be taken out and the valve removed from in between the adapter fittings.

On either side of the dump valve is an "O" ring that periodically needs to be replaced. Also, occasionally, waste will accumulate in the groove for the slide portion of the valve. To avoid crisis repairs while traveling, once a year remove, disassemble, clean and lubricate both termination valves. This little bit of yearly maintenance will eliminate most dump valve problems encountered.

Also, during the camping season, use a slide valve lubricant. Two to four ounces of this water soluble additive is poured down the drain into the gray tank and flushed down the toilet into the black tank to lubricate the inside of the dump valve blades and to coat the inside of the drains and tanks to aid in complete draining and trouble-free valve operation. One of the most disagreeable RV repairs is replacing a stuck or broken dump valve with a full holding tank. RV technicians hate it and they get paid to do it. It is certainly no fun when it happens to you, miles from nowhere, in the middle of a vacation getaway. A little attention to the waste systems can avoid such scenarios.

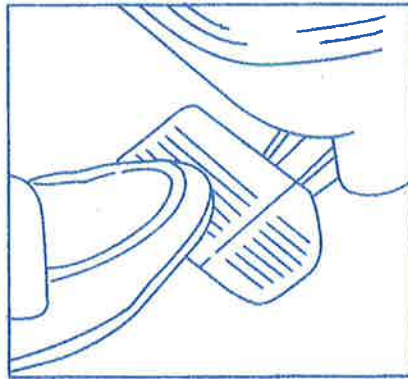


Unnecessary frequent flushing of the stool will quickly deplete your fresh water supply and fill your holding tank. If the black water tank becomes full, you will no longer be able to flush the stool until the tank can be drained.

Always use deodorizing agents specifically designed for use in holding tank systems and a good biodegradable tissue. Never use chlorine or, caustic chemicals such as drain openers or laundry bleach in your system. They will damage your toilet seals. Never allow foreign objects (non-dissolving items) to be flushed through the toilet.

Don't allow a small problem to go unsolved. As soon you detect a problem, take necessary steps to correct it. It is also a good idea to carry a few spare parts that will correct any small problem that might develop, without unduly interrupting your trip.

Follow the toilet manufacturer's recommendations supplied with the toilet for cleaning and maintenance. If you have a toilet that differs from the description given here, make sure to follow the manufacturers' advice for operation.



Flush - Depress pedal all the way down to flush.

To add water - Depress pedal only half way down.

## **SHOWER AND CONTROLS**

### **GENERAL**

The shower is installed with a hot and cold water control to select the temperature you prefer while taking a shower. Be sure the shower curtain is in place in front of door to prevent water from getting the floor wet outside the door.

### **CARE OF SHOWER**

From time to time you will want to remove the soap film from the shower wall. Use any household foam cleaner. Never use harsh chemicals or abrasives on the shower walls or shower base. After taking your shower, leave the bath door open to allow the humidity and moist air to escape. Also leave the bath door open when the unit is not in use or in storage. This allows circulation of air to prevent mildew.



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## WATER SYSTEM WINTERIZATION

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1. From outside the trailer drain GRAY, BLACK and FRESH WATER TANKS, then drain the hot water heater tank by using a 1-1/16" socket on the hot water heater drain plug. This plug is also the ANODE. (Refer to the hot water heater owners manual if there are any questions concerning the Anode).
2. Hook up the BLOW-OUT PLUG at the CITY WATER CONNECTION. Open all water faucets. Attach air hose to blow out plug, and blow out all lines and then stop and close all the tank drains.
3. Now re-install the hot water heater drain plug, anode and blow out cold and hot water lines separately to ensure all water is out of all the lines.
4. Before putting RV Anti-freeze into the fresh water tank, be sure the hot water by pass valve is in the HORIZONTAL position. Next, add one or two gallons of RV Anti-freeze into the fresh water tank.
5. Then turn on both hot and cold faucets in kitchen and bath and demand pump until you see anti-freeze coming out of the faucets and toilet!!!!

DO NOT FORGET TO FLUSH THE TOILET.

6. Make sure to run enough anti-freeze to fill the P-traps on all the drains and allow a little to go into the black and gray water tanks.

### Antifreeze solutions include the following:

1. 60% Glycerol, by weight and water, UNDILUTED.
2. 22% Magnesium Chloride, by weight in water, UNDILUTED
3. Any recommended plastic pipe antifreeze.

Before using the system again in warmer weather, completely flush the system with water, flush the toilet, and sanitize the entire fresh water system. When using the CASITA during cold weather, and water in a tank or drain line should happen to freeze, you should take immediate steps to thaw it before damage to the system occurs. DO NOT continue to use water system components if such a condition exists. If damage has occurred, make sure to have it repaired before using again.

### Water Systems Maintenance and Troubleshooting

As with any mechanical system, your plumbing is subject to the development of problems. Most of these problems can be greatly reduced, if not altogether eliminated, by following a schedule of planned inspections and maintenance. Neglect of proper maintenance procedures is the usual cause of most water system problems.

Road vibrations and excessive pressure from some city water sources are the main physical causes of water systems damage. It is important to inspect all plumbing joints and fittings often for cracks and leaks. Water leaking from a plumbing joint can cause considerable damage if left unchecked.

A leak somewhere in the fresh water system should be suspected whenever the pump is running and all faucets and valves are closed. When the leaking fitting has been identified, attempt to stop the leak by tightening. DO NOT over tighten. Plastic fittings rarely need to be tightened with a wrench. If these fittings leak after tightening by hand, disconnect the fitting and check for dirt, scale, or other foreign substances which may be causing the leak. Clean the fitting thoroughly and reinstall. If leaking persists, shut off the water supply until the fitting can be properly replaced. Check with Casita for correct method of replacement, and replacement parts.

Proper winterization procedures of plumbing systems will normally be all that is necessary to prevent the damage caused by freezing. Freezing damage can harm any component of the system, including the water tanks, toilet, pump, and all piping. Be sure to follow the winterization procedures outlined in this manual. Also, be sure to discuss any additional precautions that should be taken to winterize your trailer's plumbing system with your dealer. Local climates vary; and winter maintenance needs may be effected.

Be sure to read the literature supplied with plumbing components, such as the pump, for troubleshooting tips. Also remember that it is possible for an electrical problem to cause water system problems. Lack of power to the pump can be caused by a variety of reasons. If you are unsure of how to locate and/or repair a plumbing problem, it is best to have your dealer or a qualified plumber handle the job.

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# APPLIANCES

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## General Information

The following instructions are general in nature and may vary with the appliances in your Casita. Each appliance should have an individual owner's manual and operating instructions supplied with the Casita. Please refer to these manuals for more detailed instructions and information on the operation of your particular appliance.

The various appliances in your Casita will provide home-like convenience while traveling. They have been designed and tested by their manufacturers and then again at Casita.

Each appliance in the Casita is warranted by the respective manufacturer. Be aware that constant improvement in design of the Casita may mean that an appliance in the Casita may not yet be covered in this manual. It is extremely important that you review all the literature provided in the manufacturer's information package provided with your Casita. Fill out and mail any warranty registration cards required by the appliance, and report any missing literature at that time.

It is important that you carefully read all the manufacturer's information provided regarding both operation and maintenance of the appliances. Pay close attention to all safety precautions given, and make sure to follow them. If the instructions for operation of any appliance differ from the instructions outlined in this manual, make sure to use the information provided with the appliance.

Be sure to keep all literature, including this manual with the Casita for easy reference. If service on any appliance is required, contact Casita or a service representative of the appliance manufacturer. Most appliance manufacturers have a toll free service telephone number for your convenience.

## Refrigerator

Make sure to read the owner's manual furnished with the refrigerator for complete instructions regarding the operation and maintenance of your refrigerator. The refrigerator may be powered by either 120 volt A.C. or 12 volt D.C. or LP gas. On 4 cubic foot models, which are only installed in 17' trailers, the controls for operation are located on the front panel of the refrigerator. Controls include a mode selector switch to choose gas or electric operations, or shut off, and thermostat to set the temperature from a cold to coldest setting. Indicators on the control panel confirm the mode in which the refrigerator is operating, as well as letting you know if the flame has been lost during LP gas operation. On 2 cubic foot models, which are installed in 13' & 16' trailers, the controls are located behind the refrigerator. The controls are accessed from outside the trailer by opening the lower refrigerator vent door. Refer to refrigerator owner's manual for operation instructions.

The thermostat should be set on the coldest setting during start up and initial operation. After your refrigerator has run for awhile allowing it to cool, the thermostat should be lowered to the desired temperature range, which is usually approximately mid setting.

The freezer compartment (only in 4 cubic foot model) is not designed for the quick freezing of food, but to retain frozen food in that state. Foods purchased for storage in the freezer compartment should be frozen when purchased to reduce the load on the refrigerator system. Ice will be made more rapidly if the thermostat is set at its highest position.

## Water Heater

The water heater is automatically filled from the fresh water system only if the hot water heaters bypass valve is in the inline position, or when the Casita is connected to an outside water system. When a hot water faucet is open and a steady stream of water is running out of the hot water side of the faucet, your water heater is full. Make sure the water heater has been filled before attempting to light it. Read all the literature provided with your water heater before using it. Pay particular attention to any cautions or warnings associated with its use.

When operating, it will provide hot water to the kitchen and bath.

Refer to the water heater manufacturer's owner manual for further information on the water heater.

The Pressure and Temperature (P & T) relief valve is an interesting device. As a safety component, the P & T valve has often been viewed by RVers as an item of mystery. Many P & T valves have been unnecessarily replaced, thought to be defective because they dripped water every day. By design and intent, the P & T relief valve will usually drip some water during each and every heating cycle. This is why.

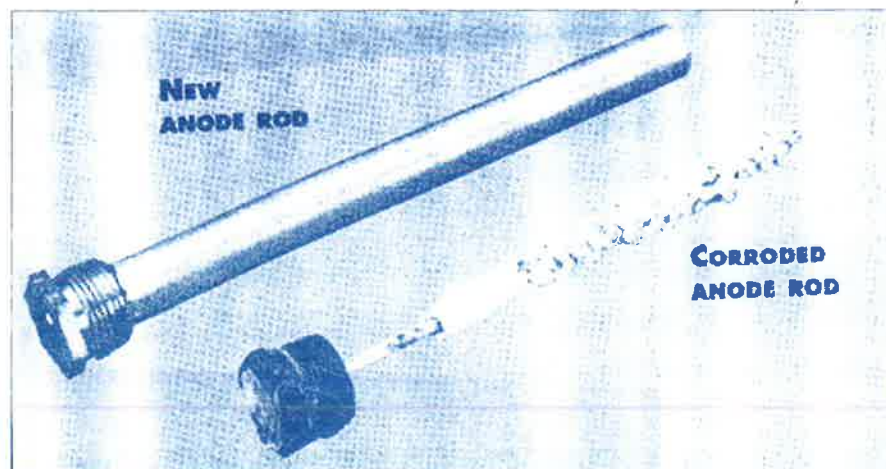
As any containerized liquid is heated, that liquid will expand, causing not only a rise in temperature, but also a rise in pressure (a percolator effect, if you will). Since the RV water heater is a tank filled with water, if there were no method to regulate or control this expansion during the heating cycle, the unchecked pressures and temperature could rupture the tank within the water heater, resulting in serious injury.

All P & T valves on today's water heaters are pre-set (non-adjustable). In the small confines of the RV water heater, the water is heated very quickly with a rather inordinately large LP burner flame, so keeping up with the drastic fluctuations of both temperature and pressure is no easy task.

In RV water heaters there is usually a cushion of air at the very top above the water level that acts as an accumulator and buffers the water. It also allows space for the water to expand into while being heated. This air (oxygen), is eventually absorbed into the oxygen portion of the water. At this point, there is no place for the expanding water to move into since the tank is literally completely full. The P & T valve then does its job of becoming a virtual hot water faucet it opens. Expelling hot water from the outlet of the P & T valve allows more cold water to enter the tank (lowering the temperature) and the disc valve portion of the relief valve snaps shut. Usually, draining some water from the water heater tank will reinstate this cushion of air if excessive dripping is encountered. To accomplish this, remove the water source (either turn the demand pump off or interrupt the city water flow), and open any two hot water faucets in the coach. Next, open the manual lever on the relief valve until the water flow stops. Close the valve and the faucets, then turn the pressure back on.

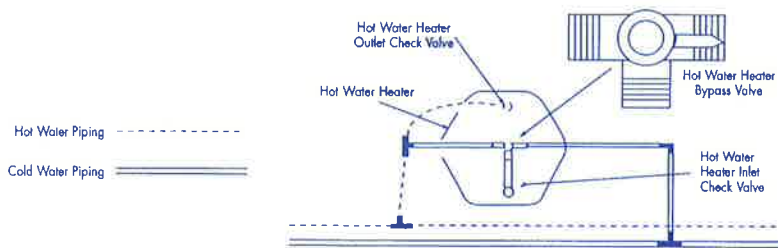
There will continue to be P & T valves that will simply fail or not seal, or otherwise become faulty, but by and large all will drip occasionally. They must, however, drip only during the heating cycle. If indeed they drip or weep during non-heating phases and the pressure within the fresh water system is less than 150 PSI, then the relief valve may be faulty.

Suburban Manufacturing Company incorporates a component called an anode in their line of water heaters. The anode is a long cylindrical bar of magnesium that is threaded into the inner tank at the rear of the heater on some older water heaters. Newer Suburban models configure the anode rod as a portion of the drain plug, making annual inspections easy. Designed as a sacrificial element, it keeps electrolysis to a minimum and extends the life of the inner tank. All chemical and mineral reactions taking place inside the tank will attack the "weaker" molecules of the magnesium anode instead of the aluminum or glass lining in the inner tank. Periodically, this sacrificial anode will have to be replaced. A deteriorated anode rod will produce a less than favorable odor that permeates the water system and is released through the faucets. Most RVers assume this smell is caused by something in the fresh water tank, but rarely do they consider the water heater tank an extension of the fresh water system. If a terrible odor is present at any of the faucets in the RV, seriously consider the anode rod in the water heater as the culprit.





This troubleshooting chart will help you determine the cause of many common complaints of pilot model water heaters.



### Pilot Model Water Heaters

| Condition                   | Possible Causes  |
|-----------------------------|--|
| Pilot will not stay lit     | <ul style="list-style-type: none"> <li>Faulty, weak or loose thermocouple</li> <li>Faulty magnet in safety valve</li> <li>Insufficient LP pressure</li> <li>Too large or too small pilot flame</li> <li>Dirty pilot orifice</li> </ul>   |
| Main burner will not ignite | <ul style="list-style-type: none"> <li>Faulty gas control valve</li> <li>Dirty main orifice</li> <li>Obstruction in mixing tube</li> <li>Insufficient LP pressure</li> <li>Misalignment of mixing tube</li> <li>Improper air shutter adjustment</li> <li>Water already at thermostat setting</li> </ul>                                |
| Erratic main burner flame   | <ul style="list-style-type: none"> <li>Orifice partially blocked</li> <li>Misalignment of mixing tube</li> <li>Mixing tube damaged or blocked</li> <li>Improper air adjustment</li> <li>Flame spreader mis-positioned</li> <li>Insufficient LP pressure</li> <li>Moisture in LP container</li> <li>Exhaust grill is blocked</li> </ul> |
| Flashback in mixing tube    | <ul style="list-style-type: none"> <li>Incorrect LP pressure</li> <li>Misalignment of mixing tube</li> <li>Improper air adjustment</li> </ul>  |

### Water Heater Bypass

The Casita is equipped with a water heater bypass kit. This is especially useful when storing or winterizing the RV during cold winter months. Installed at the rear of the water heater, and accessible behind the wooden cabinet under the rear bed, beside the converter, its valve configuration allows the water heater to be closed off from the rest of the fresh water plumbing system. This is helpful when RV antifreeze is used during the winterizing procedures. With the kit, the water heater can simply be emptied and bypassed, thereby, saving a substantial amount of antifreeze.

### Range Hood

The range hood exhausts the air and the cooking odors from the kitchen area, and provides light for cooking and counter top activities. Exhaust fan control is provided by a switch on the front right hand side. The exhaust vent on the outside will open if the exhaust clips have been released. When the exhaust fan control is turned off the vent door closes automatically. It is important to lock the clips on the exhaust vent when traveling. The exhaust filter screen and fan should be cleaned occasionally to remove accumulated dirt and grease. Clean the filter screen in a hot detergent solution.

### Range

Make SURE to read the owner's manual provided by the range manufacturer carefully BEFORE using the range, and follow all precautions outlined. Never leave the range unattended when lit.

**NOTE:** DO NOT light the range if you detect the odor of LP gas. Follow all safety procedures associated with use of an LP gas appliance and system. DO NOT use the range to heat your CASITA. The open flames of the burners can deplete oxygen available inside the trailer.

The range in your Casita is a two burner style range. It is necessary, to use a source of flame to light the burners. Refer to range manufacturer's Owner Manual.

The following warning label has been located in the cooking area to remind the user to provide a sufficient supply of fresh air for combustion:



1. Cooking appliances need fresh air for safe operation.  
Before operation: (a) Open overhead vent or turn on exhaust fan. (b) Open window.
2. Unlike homes, the amount of oxygen supply is limited due to the size of the recreational vehicle, and proper ventilation when using the cooking appliances will avoid danger of asphyxiation. It is especially important that cooking appliances not be used for comfort heating, as the danger of asphyxiation is greater when the appliance is used for long periods of time.

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

Portable fuel-burning equipment, including wood and charcoal grills and stoves, shall not be used inside the recreational vehicle. The use of this equipment inside the recreational vehicle can cause fires or asphyxiation.

DO NOT bring or store LP-Gas cylinders, gasoline, or other flammable liquids inside the vehicle because a fire or explosion can result.

**The following label has been placed in the vehicle near the range area:**

**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.



## Microwave Oven for 17' Casita (ONLY)

The microwave oven is an optional appliance that can be used for the convenient and fast defrosting, cooking, or heating of foods. The microwave is controlled by an auto touch panel which allows it to be programmed for all its various functions. Make sure to read the literature provided with the microwave for detailed information regarding its operation.

## Roof Air Conditioner for 17' Casita (ONLY)

The 17' Casita can be equipped with a roof mounted air conditioner. It operates on 120 volt power and is located above the rear bed/table area. The Casita comes with factory equipped wiring and necessary bracing for the installation of the air conditioner.

Refer to the manufacturers' owner's manual for complete operating and service instructions. Efficiency when using the air conditioning can be increased by closing the mini blinds and all the windows, and parking in the shade. Air conditioning consumes a large portion of the electric power available in the Casita, so efficient operation can be an important consideration. Even though your Casita is equipped with 30 amp capabilities, be aware that some camp grounds may offer less than 30 amp service. Check what amperage is available before utilizing excess power that may create a fire hazard or trip breakers in the CASITA.

### Roof Air Troubleshooting Guide

| Condition                            | Possible Causes   | Condition                    | Possible Causes   |
|--------------------------------------|---|------------------------------|---|
| Blower motor will not run            | No voltage at air conditioner<br>Circuit breaker tripped<br>Open winding in motor<br>Loose connection<br>Faulty fan switch<br>Faulty motor  | Compressor runs continuously | Low refrigerant charge<br>Refrigerant leak in system<br>Dirty or blocked condenser<br>Faulty thermostat<br>Contaminated system<br>Damage or obstructed cap tube<br>Dirty or blocked evaporator coil<br>Thermostat sense probe not in position<br>Coach doors and windows open |
| Blower motor runs very slowly        | Low voltage<br>Loose wires or connection<br>Fan or squirrel cage misaligned   | Insufficient Cooling         | Low refrigerant charge<br>Refrigerant leak in system<br>Restricted or damaged cap tube<br>Blocked evaporator coil<br>Faulty compressor  |
| Compressor will not start            | Open compressor windings<br>Thermostat setting already attained<br>Overload device tripped<br>Faulty thermostat   |                              |   |
| Compressor turns, but will not start | Low voltage<br>Faulty start capacitor<br>Faulty run capacitor<br>Faulty compressor motor<br>Defective start relay<br>Unequalized pressure in system   |                              |   |
| Air conditioner short cycles         | Thermostat at or near desired setting<br>Partial loss of refrigerant charge<br>Faulty compressor bearings<br>Discharge pressure too high<br>Too much refrigerant charge<br>Thermostat sense probe not in position |                              |   |

## 13' and 16' Air Conditioner

Location is in the front of trailer at bottom portion of wardrobe closet on Deluxe Models. On Standard Models, the air conditioner is mounted under the front chesterfield bunk in the center of the bunk. Please read the A.C. owner's manual for operating instructions. Be sure that when operating A.C. that the front outside vinyl cover has been removed from the exhaust grill or damage to A.C. will occur. Attach the vinyl grill cover back onto the outside grill before traveling.

**NOTE:** Always turn off air conditioner and all electrical appliances before disconnecting the CASITA from the 120 power source.

**NOTE:** If you cover the outside portion of your air conditioner during periods of storage, make sure to remove protective cover before reusing.

## **Furnace (Optional)**

Your CASITA can be equipped with a central heating system that is made up of a furnace and thermostat. The furnace is a self-igniting model that does not require the manual lighting of a pilot light for operation.

The furnace is vented to the outside for both intake and exhaust functions. Do not block the exhaust vents on the outside or the inside of the CASITA.

Sequence of Operation - Since the whole sequence is usually automatic on modern RV furnaces, here is a detailed account of what happens when the thermostat calls for heat.

If the room temperature drops below the set temperature on the thermostat, a 12-volt DC current is sent to the time delay relay/fan switch. The relay has three main components, a heater coil, a set of contacts and a thermal disc, that open and close the contacts at a certain temperature.

The relay receives the current from the thermostat and passes this current to the built-in switch inside the relay. This is accomplished by the heater coil which then actuates the bimetal thermal disc which closes the contacts.

Current is then passed to the 12-volt DC motor that spins two blower wheels simultaneously. One begins drawing fresh air into the combustion chamber from outside the RV while the other wheel begins blowing unheated air through the distribution ducting system.

The blower wheel blows against a large paddle attached to the sail switch that closes its contacts once the blower has reached approximately 75 percent of its normal speed. Once the sail switch closes, the current is next passed to the limit switch. The limit switch is a normally closed thermal switch that will only open the circuit if high casing temperatures are experienced. If a normal condition exists, the current passes through the limit switch to the printed circuit board.

Here is where things become slightly more complicated as the PC board next performs simultaneous tasks. The PC board has a built-in timer that allows the blower fan to purge the combustion chamber of any unused gases or other by-products of combustion. After this time has elapsed, the board will then send current to the gas valve, which opens and gas flows to the burner. At the same time, a high voltage spark is produced by the board and sent along what looks like a spark plug wire, to the electrode assembly. As the gas mixture flows through the spark created by the board, it ignites and burns. The electrode then will sense this flame by sending a very small current, measured in micro-amps, back to the board confirming the presence of the flame. The flame itself acts as a conductor to complete this sense circuit. If the flame did not ignite, the circuit is opened and the board either tries for a second or third time to light the burner, or it goes into a lockout condition.

This lockout condition is a safety feature that is not alterable. A lockout condition is when the flame does not ignite in the prescribed number of tries. Usually the board continually sparks until a flame is sensed. In some cases, the board may try three times to light the burner. Lockout stops any of the remaining events from happening until the wall thermostat contacts have been manually opened and reset. The fan may continue to run, but there will be no heat.

Have the entire heating system inspected annually by a qualified service agency to ensure safe and efficient operation. If you suspect a problem at any time with the system, have it taken care of immediately. Refer to the furnace manufacturer's owner's manual for specific operating instruction.

## **ANTENNA (STANDARD)**

The optional roof mount antenna is located in the ceiling of the rear area of the Casita on 13' and 16' Trailers. On 17' models, the antenna will be mounted on the ceiling closer to the front of the roof. The antenna is omni-directional and does not move for adjustment.

## **CARE OF TV ANTENNA**

Keep the antenna clean of bugs or dust. Wash it with a mild soap detergent. Never use an abrasive type cleaner on the finish. NOTE; While traveling in heavily wooded areas watch for trees limbs, etc., to be sure the antenna clears.

### Fiberglass

The care of the fiberglass shell is essentially the same as for any automotive finish. Wash your Casita at least once a month. Use warm water and a mild detergent to clean the finish. Take care to avoid spraying water directly into refrigerator and furnace vents when washing the Casita. Remove bird and tree sap droppings, insects, and tar as soon as possible to avoid staining of the finish.

It is important to note that any finish will deteriorate with time. Dulling and fading can be increased by exposure to extreme sunlight, air pollutants, and excessive moisture. Surface weathering of fiberglass does not change the strength of the fiberglass. Regular washing and waxing of exterior surfaces is the best insurance against surface deterioration such as fading, yellowing or chalking.

Wax fiberglass surfaces at least once a year with standard liquid or paste wax. Make sure to follow the directions for use as outlined by the product manufacturer. Make sure to wash and wax your unit out of the hot sun when exterior surfaces are cool.

Storage of the Casita out of direct sun is also a primary way to help preserve fiberglass finishes.

Physical damage to fiberglass should be taken care of immediately to avoid moisture from entering through breaks and causing problems with interior walls and components. Cover breaks in the fiberglass with plastic, sealing the edges with tape until proper repairs can be made.

**NOTE:** DO NOT use rubbing compound or any abrasive cleaner or cloth on the Casita. If using a tar and insect remover, make sure it is safe for use on painted surfaces.

### Seals and Adhesive

It is important to maintain the seals and adhesives of your Casita to prevent moisture from entering and destroying your Casita. When washing your Casita inspect the seals for signs of drying out and wear. Be aware that weather, sun, and road vibration will have an effect on seals causing them to dry, crack, or separate. If you are unsure what to look for, have Casita instruct you, and also show you the correct method for renewing the seals. If you prefer, they will be able to perform seal maintenance for you.

### Frame

Check the condition of the frame regularly. Keep it clean and repaint as necessary to help avoid rust. It is especially important to keep underbody components clean, when towing the Casita in the winter, in areas where road salts are used.

### Tires

In areas where hot sun constantly beats down on the Casita shading the tires by covering can reduce tire sidewall cracks from forming.

### Windows and Doors

Check the seals around the windows and doors at regular intervals. Follow previous instructions for checking the condition of seals and repairing as necessary.

Make sure that windows remain operative by adjusting and lubricating latches and moving parts annually. Also check the condition and operation of the door locks, lubricating as necessary. Use powdered graphite or light oil to lubricate moving parts on doors and windows.

Keep screens and window slides clean and free of debris to maintain proper operation, and avoid component damage. Test the operation of all windows occasionally to make sure they are working properly, closing flush and locks holding tight.

### LP Gas System

The LP gas system should be checked regularly for leaks and road damage. Follow the lines, looking for kinks or flattened spots that could have occurred during travel or maintenance on the Casita. The entire system, including regulator pressure, should be checked annually, or whenever you suspect a problem by a qualified LP gas service technician using proper equipment. The method of checking the system for leaks, and LP gas precautions can be found elsewhere in this manual.

## **Drainage System**

The drainage system, including the tanks and associated drain piping, should be periodically inspected for road damage. Any deterioration of the sealant around joints and fittings should be repaired immediately.

## **Exterior Lights**

Make sure to check the operation of all exterior lights often. Check identification clearance turn signal, brake, and back up lights to make sure they are working correctly. Replace burnt out bulbs as soon as possible.

## **Appliances, Sinks, Countertops**

Clean with hot soapy water or a good liquid cleaner. Avoid using abrasive cleaners. Never use steel wool on stainless steel, since the steel particles left in the sink can rust and become unsightly. Also, when cleaning stainless steel with a mild cleanser, rub gently with the grain, and rinse well. Rinse after each use and wipe down.

Be sure to remove all food and ice from the refrigerator at the end of each trip. Prop the door open slightly to keep the interior dry, and free of mold, mildew, and odors.

Make sure to read all literature provided with each of the appliances, and follow the maintenance instructions included. Pay particular attention to any cautions or warnings included. Also read the rest of this manual, following the instructions for the care and use of appliances.

Do not place hot pans directly on countertops, because they can loosen or scorch surface.

## **Pre-finished Panels and Wood Surfaces**

Treat cabinetry and wood surfaces as you would any fine furniture product in your home. Proper care and maintenance of wood products will keep them looking like new for many seasons of use.

Clean pre-finished panels with a spray-type furniture polish. Avoid getting wood surfaces wet. Wipe off and dry immediately if you do get wet. Do not use abrasive cleansers around wood finishes. Clean regularly with a soft cloth and cleaner designed for wood products such as lemon oil or any oil based wood cleaning product. Avoid constant exposure to direct sunlight which can cause fading and drying of wood surfaces.

## **Water System**

Check all hoses, fittings, and connections regularly for leaks and signs of wear. Make sure to keep the system sanitized, and take care to winterize during cold weather (see instructions elsewhere in this manual). DO NOT allow water to remain in system for extended periods or after a trip.

## **Electrical System**

The electrical system requires minimal maintenance under normal circumstances. Most electrical maintenance in the recreational vehicle involves the battery. Keeping the battery properly maintained will help to eliminate many frustrating electrical problems. Make sure to refer to the index for the location of electrical and battery maintenance instructions elsewhere in this manual.

**If you experience electrical problems with your recreational vehicle, make sure to have it checked by a qualified electrician.**

## **Roof Vents**

Check roof vents regularly for debris that may block air flow or jam the cranking mechanism. Lubricate the cranking mechanism with light oil.

## **ABS Plastic**

Many components of the recreational vehicle are constructed of strong, lightweight ABS plastic. Sometimes, it may be necessary to remove stains, or generally clean. A mild solution of soap and water will clean many stains, and should be used initially. Tougher stains may require stronger cleaners, but be sure to read the label to determine if the product is recommended for use on plastics.

Avoid abrasive cleansers (even the liquid and cream types), alcohol based products, and solvents such as acetone and MEK. Gasoline and kerosene should not be used because of the damaging effect they have on the plastic surface, as well as the fire hazard they present. Often the damage caused by solvents, alcohol, and oil based products may not be immediately noticeable, but the plastic is made weaker, and prone to stress cracking.



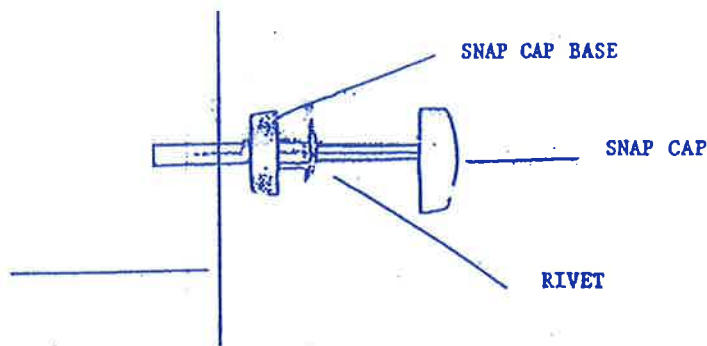
## RIVETS AND SNAP CAPS

Aluminum rivets are used to hold the interior trailer cabinets and furniture to the trailer's main body walls. Under stress from bumps and vibrations on the road, the aluminum rivets will break. This is normal and exactly what the rivet needs to do to avoid stressing or fracturing the surrounding fiberglass. When replacing a broken rivet, please refer to the following illustration on "Installation of a Rivet". Do not replace a rivet with any other hardware except an aluminum rivet.

The white buttons on the exterior of the trailer are the rivets covers. Periodically inspect these caps and replace them when they begin to show signs of deterioration.

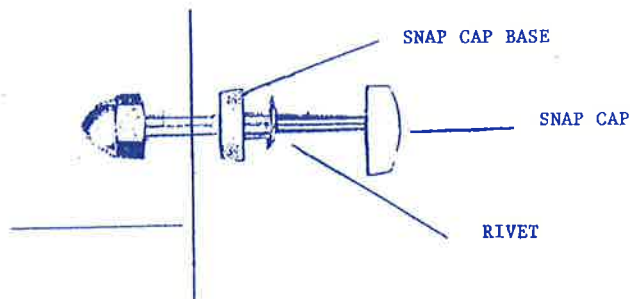
### INSTALLATION OF RIVET WITHOUT ACORN NUT

1. Drill Pilot hole for rivet.
2. Silicone around rivet and pilot hole.
3. Put snap cap base on rivet and put rivet through pilot hole.
4. Put snap cap on snap cap base and wipe excess silicone off.



### INSTALLATION OF RIVET

1. Drill Pilot hole for rivet.
2. Silicone around rivet and pilot hole.
3. Put snap cap base on rivet and put rivet through pilot hole.
4. Put acorn nut on rivet from other side of trailer wall and shoot rivet.
5. Put snap cap on snap cap base and wipe excess silicone off.



## CARE OF TABLE

Your table will warp if left in wrong position for any length of time. During storage or non use, the table should be left in the bed position, with the cushions left in the dining position. Never leave heavy items sitting on the table.

## CARE OF UPHOLSTERY FABRICS

The manufacture uses a variety of fabrics in its recreational vehicle models. The following is a general procedure. Regular vacuuming will help keep colors fresh and prolong wear. Apply a quality upholstery shampoo mixed to the manufacturer's instructions, to a small inconspicuous area of the fabric. If there are no adverse effects, clean the remaining area. Use suds, not water, and apply with a soft bush in a light, circular motion. When dry, vacuum. If the shampoo does not clean the test properly, contact a professional cleaner.

**NOTE:** Cushions Seat and drapery fabrics are subject to normal deterioration and to wear and exposure. Normal protective measures can help insure longer fabric life.



## Winter Precautions (Special Tips for Winter Use:)

**Water Systems** - If the fresh water storage tank is located inside the coach, the normal heating of the coach during cold weather should be enough to insure it against freezing. In severe cold however, it is wise to monitor the water temperature in the tank, and take appropriate steps to drain and winterize if necessary. In severe cold it may be necessary to open lower cabinet doors at night in both the bath and kitchen areas to keep warmer air circulating around water fixtures.

If you are going to have to leave the CASITA unheated for any length of time in severe cold conditions, it is best not to keep water in the fresh water tank. It may work best to carry cooking and drinking water with you in plastic jugs instead.

If you will be using your recreational vehicle when conditions fall below the freezing level, it will be necessary to protect the drainage system components from damage by the addition of an approved antifreeze solution as outlined on the product directions. Drain lines which are exposed outside the recreational vehicle are especially susceptible to freezing, and steps should be taken to protect them from damage.

**Food Storage** - In the event the recreational vehicle is left for a period of time without the furnace in operation, canned goods and other foods packed in water should be stored as high as possible, since heat rises. They might also be stored in the refrigerator as insulation against the cold. Store dry foods, and other items that are not damaged by freezing in the lower storage areas.

**LP Gas System** - Make sure to use an LP gas that will vaporize properly in the colder temperatures. Check with your LP gas representative for the proper fuel, and refer to the information on LP gas selection in the LP Gas section of this manual (check the index for the location).

**Heating** - Use ONLY the furnace to heat the recreational vehicle. It is properly vented to the outside. NEVER USE THE RANGE FOR HEATING - ASPHYXIATION COULD RESULT.

**Condensation** - Cooking produces large amounts of moisture, not just as steam from pots and pans, but also as a product of combustion. Make sure to use the exhaust vents and open a window slightly to control the humidity. At night, leave a roof vent and/or a window slightly open.

**NOTE:** It is important to remember that heating with LP consumes gas rapidly, so refill tank immediately when low, to avoid running out completely.

## STORAGE PREPARATION

When storing the recreational vehicle for the winter (or other extreme conditions), certain precautions need to be taken to protect it until you open it again for use. Make sure to talk with Casita concerning any special requirements for storage in your particular geographic area. The following steps are general, and Casita can help you choose those that are most appropriate for your needs.

1. Make sure to park the recreational vehicle on a level surface.
2. Make sure to winterize the Casita as outlined in the owner's manual.
3. Clean the recreational vehicle thoroughly, both inside and out, as previously outlined, including the refrigerator.
4. Make sure all electrical switches and appliances are turned off.
5. Close all mini-blinds for protection of the trailer interior from UV sunlight.
6. Make sure all windows, doors, and vents are closed securely. Cover exterior vents on appliances to prevent moisture and insects from entering during storage.
7. Check the interior of the recreational vehicle periodically while in storage to make sure leaks have not developed, or condensation formed that can cause damage to interior components. Condensation can most readily be observed as moisture accumulation on windows and mirrors. To reduce condensation, make sure to occasionally air out the recreational vehicle during storage.
8. Be sure that the battery has the proper electrolyte level and it is fully charged (specific gravity of 1.260). A discharged battery will freeze and crack the case, ruining the battery. In storage, a battery will lose charge gradually over a 30 to 45 day period, even when disconnected. We recommend that at least monthly the battery be checked for charge. If the charge is 80% (specific gravity of 1.235) or less, it must be recharged. You may wish to remove the battery from the recreational vehicle and store it in a heated area. However, even when warm, the battery charge level must still be maintained. A warm battery accepts charge much more readily however, than a cold one. Make sure to follow all precautions associated with battery care and maintenance outlined in the electrical section of this manual.
9. Make sure the tires are inflated to correct pressures.
10. If snow accumulates on the recreational vehicle, try to remove it as often as you can.

## PERIODIC MAINTENANCE CHART

| Item                     | Each Trip | Each Mo. | 3 Mo.  | 6 Mo. | Each Year  | *As Req. | Procedure  |
|--------------------------|-----------|----------|--------|-------|------------|----------|--|
| Fiberglass exterior      |           | X        |        | X     |            |          | Wash with warm water and mild detergent.<br>Wax with liquid or paste wax.  |
| Roof and Roof Components |           | X        |        |       | X          |          | Inspect and re-seal as needed.<br>Lubricate roof vents mechanism with light oil and clean completely.  |
| Windows and Doors        |           | X        | X<br>X |       | X<br><br>X |          | Check vinyl seals when washing exterior.<br>Check seals for damage and repair as needed.<br>Lubricate door hinges and step components with WD40.<br>Adjust and lubricate window latches with powdered graphite or light oil.<br>Lubricate door locks and strike pocket, including exterior storage and access doors. |
| Seals and Adhesives      |           | X        |        |       |            |          | Inspect and reseal as necessary.   |
| LP Gas System            |           |          |        |       | X          | X        | Check for leaks and road damage.<br>Have qualified serviceman check pressures and complete system.   |
| Water and Drainage       | X         | X        |        |       |            |          | Check hoses, fittings and connections for leaks and signs of wear.<br>Check drainage system for leaks and road damage.   |
|                          |           |          |        |       | X          | X        | Sanitize system.<br>Winterize system depending on local seasonal conditions.   |
| Electrical System        |           |          |        |       |            | X        | Check and service battery.   |
| Appliances               | X         |          |        |       |            |          | Remove food and ice from refrigerator after each trip.   |
|                          |           | X        |        |       |            |          | Clean fan blades and wash filter on range exhaust hood.  |
|                          |           | X        |        |       |            |          | Check for obstructions and dirt on exterior appliance vents.   |
| Safety Equipment         |           | X        |        |       |            |          | Check fire extinguisher pressure and conditions.   |
| Carpeting                | X         |          |        |       |            | X        | Vacuum after each trip.<br>Clean.  |
| Wood Surfaces            |           | X        |        |       |            |          | Clean pre-finished panels and wood.  |
| Weight and Distribution  | X         |          |        |       |            |          | Be sure unit is within specified load limits and proper operation.   |
| Wheel Bearings (towable) |           |          |        |       | X          | X        | Repack wheel bearings yearly   |
| Brakes (towable)         |           |          |        | X     |            | X        | Check operation and/or uneven wear   |







