IMPORTANT NOTICE

Our forest product suppliers have advised that urea-formaldehyde is used in the production of particle board, hardwood plywood or paneling which they supply us and which we utilize in our finished product. These suppliers have requested that we communicate this to our customers.

For your information, we are reproducing samples of statements which have been provided to us by our suppliers.

**WARNING:** THIS PRODUCT IS MANUFACTURED WITH UREA-FORMALDEHYDE RESIN. FORMALDEHYDE VAPOR MAY IN SOME PEOPLE CAUSE HEADACHES, EYE, NOSE AND THROAT IRRITATION, AND AGGRAVATION OF ALLERGIES AND RESPIRATORY PROBLEMS, SUCH AS ASTHMA. PROPER VENTILATION SHOULD REDUCE THE RISK OF SUCH PROBLEMS.

*Champion International Corporation*

**WARNING:** IRRITANT: THIS PRODUCT CONTAINS A UREA-FORMALDEHYDE RESIN AND MAY RELEASE FORMALDEHYDE VAPORS IN LOW CONCENTRATIONS. FORMALDEHYDE CAN BE IRRITATING TO THE EYES AND UPPER RESPIRATORY SYSTEM OF ESPECIALLY SUSCEPTIBLE PERSONS SUCH AS THOSE WITH ALLERGIES OR RESPIRATORY AILMENTS. USE WITH ADEQUATE VENTILATION. IF SYMPTOMS DEVELOP, CONSULT YOUR PHYSICIAN.

*Georgia-Pacific Corporation*

**WARNING:** THIS PRODUCT IS MANUFACTURED WITH A UREA-FORMALDEHYDE RESIN AND WILL RELEASE SMALL QUANTITIES OF FORMALDEHYDE. FORMALDEHYDE LEVELS IN THE INDOOR AIR CAN CAUSE TEMPORARY EYE AND RESPIRATORY IRRITATION, AND MAY AGGRAVATE RESPIRATORY CONDITIONS OR ALLERGIES. VENTILATION WILL REDUCE INDOOR FORMALDEHYDE LEVELS.

*Weyerhaeuser Company*

Ventilation is important in maintaining a comfortable environment and we direct your attention to the discussion of ventilation in the "LIVING WITH YOUR TRAILER" chapter in this Owner’s Manual.

**WARNING**

This travel trailer contains components containing or manufactured with 1,1,1-Trichloroethane, a substance that may be harmful to the public health and environment by destroying ozone in the upper atmosphere.
SAFETY REGULATIONS REGARDING LP GAS SYSTEMS AND LP GAS APPLIANCES

The manufacturer of this recreational vehicle is required to furnish the following consumer information as provided by the National Fire Protection Association and the American National Standards Institute. The information and warnings found here may also be found in other chapters of this Owner's Manual. Please see chapters titled "LP GAS SYSTEM" and "APPLIANCES" for other safety and operating information.

**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.

**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 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 APPLIANCE(S) 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.

**WARNING**

PORTABLE FUEL-BURNING EQUIPMENT, INCLUDING WOOD AND CHARCOAL GRILLS AND STOVES, SHALL NOT BE USED INSIDE THIS RECREATIONAL VEHICLE. THE USE OF THIS EQUIPMENT INSIDE THE RECREATIONAL VEHICLE MAY CAUSE FIRES OR ASPHYXIATION.

**WARNING**

DO NOT BRING OR STORE LP GAS CONTAINERS, GASOLINE, OR OTHER FLAMMABLE LIQUIDS INSIDE THE VEHICLE BECAUSE A FIRE OR EXPLOSION MAY RESULT.

A warning label has been located near the LP gas container. This label reads: DO NOT FILL CONTAINER(S) 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.

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

**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 tank 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.

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.
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INTRODUCTION

Welcome to the recreational vehicle life-style and the growing family of Westport owners. We sincerely thank you for choosing Fleetwood!

Your Westport has been designed to provide you with many years of carefree, pleasant traveling and vacationing. This manual describes many features of your trailer and provides an operating guide so that you can obtain the best performance from those features. Your trailer has been designed to conform with, or exceed, the American National Standards Institute A119.2, National Fire Protection Association 501C, Canadian CSA Standard Z-240 (units built for Canada only), and applicable motor vehicle standards. These standards establish the minimum plumbing, heating, electrical and other requirements for quality and safety. Compliance with these standards is indicated by the seal attached just outside the entry door. This seal is the outward sign of internal quality.

If you have any questions regarding operation, maintenance, or service, please contact your dealer immediately so he can assist you. Your dealer’s Service or Sales Department will handle any normal problems which might occur. Customer service is of utmost importance to your dealer, and is just as important to Fleetwood. Your trailer is covered by one of the most comprehensive warranty programs in the industry, and this manual contains a section outlining the warranty and explaining your rights and obligations, as well as the rights and obligations of the dealer and manufacturer, under the terms of the warranty. Please read this section carefully. You will be better informed in case you have a warranty-related problem, and your dealer will be better able to get you on the road again. If you have questions about the warranty or what it does or does not cover, please contact your dealer.

You will automatically receive an Ownercare Card approximately 3-4 weeks after delivery of your new Westport. This plastic card is imprinted with your name, the trailer serial number, and manufacturing plant location. If your trailer ever needs warranty service, present this card to the dealer.

It is best to return your Westport to the selling dealer for warranty service. If this is not possible, you may contact any other authorized dealer that sells your brand, or any authorized Fleetwood travel trailer dealer. The service department at the plant listed on the inside back cover of this manual can help you find a dealer in your area. If, for some reason, a problem is not handled to your satisfaction:

1. Discuss any warranty-related problems directly with the manager or owner of the dealership, giving him an opportunity to help his service department resolve the matter for you.

2. If a problem arises that cannot be resolved to your satisfaction by your local dealer, contact the manufacturing plant service manager.

3. We sincerely believe that your dealer and the factory representative will be able to solve any problem which might arise. If their combined efforts are not satisfactory, please send a letter describing the circumstances to:

   Fleetwood Enterprises, Inc.
   RV Tovable Group
   P.O. Box 7638
   Riverside, CA 92513-7638

   Please include the brand name and serial number of your trailer. The serial number is located on a tag on the front roadside, on the 5th-wheel pin box, or on the road side mainrail behind the front crossmember.

4. If you wish to call for assistance, please use this toll-free telephone number:

   (800) 445-3307

The trailer has been thoroughly inspected at the factory before shipment.

YOUR DEALER IS RESPONSIBLE FOR PERFORMING A COMPLETE PREDELIVERY INSPECTION OF ALL TRAVEL TRAILER COMPONENTS AS SPECIFIED IN THE PREDELIVERY CHECKLISTS SUPPLIED BY FLEETWOOD. YOU SHOULD RECEIVE A COPY OF THESE COMPLETED CHECKLISTS FROM YOUR DEALER WHEN YOUR TRAILER IS DELIVERED TO YOU.
Reporting Safety Defects

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 Fleetwood Enterprises Consumer Affairs.

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 Fleetwood Enterprises, Inc.

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1-800-424-9393 (or 366-0123 in Washington, D.C. area) or write to: NHTSA, U.S. Department of Transportation, Washington, D.C. 20590. You can also obtain other information about motor vehicle safety from the Hotline.

Planning and Preparation

Each year millions of Americans embark on trips using some type of recreational vehicle. Proper planning of your trip will ensure a pleasurable experience. A thorough knowledge of your RV is important if you are going to get the most out of the convenience and safety items built into your trailer. Be as familiar with it as you are with your personal car or truck. If you have trouble or have questions, you should consult your dealer.

Inspect and Maintain

Follow a consistent schedule of inspection and maintenance for your trailer. Your continuing safety and comfort depend on it. This manual includes a section outlining maintenance intervals. Adherence to these schedules will minimize the possibility of failure of any important system or part of your trailer. The time spent inspecting and maintaining your trailer will provide you with many years of recreational pleasure.

The Owner’s Information Package

This package contains very valuable documents explaining details of operation for the major appliances, systems and equipment built into your trailer for your enjoyment, convenience and safety. Included in this package is the warranty information on the various appliances and components in your trailer. Warranty registration cards for these items should be filled out and mailed as soon as possible after you take delivery of your trailer. Since this owner’s manual does not cover every possible detail of equipment and options installed on or in your trailer, there are booklets and instructional material in the package that will help you operate, maintain and troubleshoot those items. Be sure you read all this information. Keep it handy for reference. If you ever decide to sell or trade your trailer, be sure the new owner gets all the material in this package.

NOTE: Some equipment and features described or shown in this manual may be optional or not available on some models. This instructional manual is of general nature only. Because of the continuous program of product improvement conducted by Fleetwood, it is possible that recent product changes may not be included in this manual. Specifications may change without notice. The instructions included in this manual are intended as a guide, and in no respect extend the responsibilities of the manufacturing subsidiary, parent company or affiliates beyond the standard written warranty as presented in this manual.

Photographs or Illustrations in this manual are representative of function and may or may not be specific in their depiction of actual equipment, fabrics, interior or exterior decor or design options as installed on or in your trailer.
Take a few minutes to fill in this information. It will be a handy reference for you.

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RULES FOR EQUIPMENT SELECTION AND PREPARATION

Your towing equipment, its adjustments and how you load the trailer will have a great effect on trailer towing stability and handling. The following rules will help you select and adjust your equipment in a manner that will help produce acceptable towing characteristics. Also check specific requirements in the states and provinces where you will travel.

* Use a tow vehicle that is large enough for your trailer and has the needed power and appropriate towing equipment package (such as heavy duty radiator, transmission, final drive, suspension, wheels and tires). The tow vehicle must be rated by its manufacturer both to tow the gross weight and to carry the tongue weight of the fully loaded trailer.

* Weigh your loaded trailer. See the section in this chapter on “Travel Trailer Loading”. Improper loading can lead to axle and frame damage, and can lead to loss of towing stability and control.

* Installation of the hitch, sway control, and brake control equipment MUST be performed by a competent hitch installer. Make sure the installation follows the tow vehicle and hitch manufacturer’s instructions.

Conventional trailers: Use a weight distributing hitch rated to pull not less than the trailer Gross Vehicle Weight Rating (GVWR) and with spring bars rated not more than the ratings shown under “Travel Trailer Loading” in this chapter. The hitch must be equipped with a 2-5/16” diameter ball. Keep the hitch ball as close as practical to the rear bumper to minimize rear overhang.

USE A SWAY CONTROL SYSTEM, installed and adjusted according to the sway control manufacturer’s instructions.

Fifth-wheel trailers: Use a hitch and receiver assembly sized for the 2” SAE kingpin and rated to pull not less than the Gross Vehicle Weight Rating (GVWR) of the fifth-wheel trailer. The receiver should be attached to the truck chassis. No weight distributing or sway control devices are needed with a fifth-wheel hitch.

* Use a brake controller that automatically applies the brakes in proportion to the tow vehicle brakes and also has a hand control for applying the trailer brakes only. See the section in this chapter on “Braking System”.

* Inflate the rear tires of the tow vehicle AND the trailer tires to their maximum cold pressure. See the maximum pressure rating on the tire sidewalls.

* Use outside mirrors installed and adjusted to allow a clear view of the area at both sides of and behind the trailer. Locate them as close as possible to the driver to provide the maximum field of view.

HITCHING UP

The hitch, spring bars, sway control, safety chains, and breakaway switch are all important safety devices that protect your investment as well as other peoples’ lives and property. As a trailer owner, it is your responsibility to be familiar with these devices and their proper use. Make sure you read and understand the instructions furnished by the manufacturers of each of these devices.

Hitching up your trailer will become routine with experience. Make it a habit to examine all hitch components before hitching the trailer. If you have a conventional ball hitch, check for cracked or bent parts, cracked welds, and deformed or stripped bolts. Be sure the hitch ball is tight and well lubricated. Check the trailer tongue for cracks, especially under the front crossmember. Be sure the ball locking device works freely. Inspect the safety chains. If you find defects in any hitch component, correct it before towing the trailer.

If you have a fifth-wheel model, check all truck-mounted hitch components. Check for worn, cracked, or bent parts. Be sure the pin locking device works properly. Inspect the pin box assembly on the trailer. Check the king pin. If you find any defective components, repair or replace them before towing. Be sure that all moving parts of the hitch are well lubricated.
Hitching Procedure for Conventional Trailers

Before attempting to hitch up your trailer, read the instructions provided by the hitch manufacturer. The following instructions are usable in most cases. If the instructions provided with your hitch deviate from this procedure, follow the hitch manufacturer’s instructions.

1. Turn the tongue jack crank clockwise (or operate power jack) to raise the tongue and coupler. Raise the tongue sufficiently to clear the hitch ball on the tow vehicle.

2. Back the tow vehicle until the hitch ball is directly under the coupler ball socket. If you are working alone, a backing aid mirror may be helpful.

3. Be sure the coupler latch locking lever on the tongue is fully open. Lower the tongue jack until the ball is firmly seated in the socket. Close the coupler latch and secure it with a locking pin, bolt, or small padlock.

4. Raise the tow vehicle and trailer with the tongue jack high enough to allow room to install the weight distributing hitch spring bars.

5. Attach the spring bars according to the hitch manufacturer’s instructions.

**WARNING**
FOLLOW THE HITCH MANUFACTURER’S INSTRUCTIONS FOR ADJUSTING THE WEIGHT DISTRIBUTING HITCH. OVERTIGHTENING OF HITCH SPRING BARS WILL REDUCE CORNERING AND STOPPING ABILITY.

6. After adjusting the spring bars, lower the jack, remove the foot, and fully retract the jack. Step back and check that the trailer is level from front to back. Do not permit the front to be lower than the rear on tandem axle trailers; this reduces tongue weight and loads the front axle, reducing sway stability. Adjust the hitch ball height if necessary.

7. Adjust the sway control system according to the manufacturer’s instructions.

8. Connect the safety chains. Loop each chain through a suitable attachment eye on the tow vehicle and insert the chain quick coupler through an appropriate chain link. Adjust each chain length so it is as short as possible, but still permits full turn angles without becoming tight. Both chains should be the same length and short enough to cradle the trailer’s tongue off the ground if the trailer ever accidentally becomes uncoupled.
WARNING
NEVER ATTACH SAFETY CHAINS TO THE HITCH BALL OR TO ANY REMOVABLE PART OF THE HITCH.

Hitching Procedure for Fifth-Wheel Trailers

Before attempting to hitch up your trailer, read the instructions provided by the hitch manufacturer. The following instructions are usable in most cases. If the instructions provided with your hitch differ from this procedure, follow the hitch manufacturer's instructions.

Adjust the height of the receiver and trailer pin box so that the loaded trailer is level when hitched to the truck and ready to travel.

NOTE: Check pin box adjusting bolt torque with a torque wrench. Torque to 150 ft.-lbs.

Both the truck and trailer should be on level ground. Connecting the receiver and pin box will be much easier if both height and side-to-side level are carefully matched.

1. Raise or lower the front of the trailer so that the king pin height matches that of the coupler assembly in the truck.
2. Open the coupler locking device so that the pin will engage the hitch plate jaws.
3. Lower the truck tailgate.
4. Slowly back the truck towards the pin box until the truck tailgate can be raised after clearing the king pin. Keep the king pin and coupler aligned.
5. Close the truck tailgate.
6. Continue backing and engage the king pin and coupler completely.
7. Close the coupler locking device. Engage the safety latch.
8. Raise the fifth-wheel landing gear.

9. Connect the breakaway switch lanyard to an attachment eye on the tow vehicle. Be sure that the switch lanyard is adjusted so the switch is not activated during a full "jackknife" turn.

WARNING
DO NOT CONNECT THE BREAKAWAY SWITCH LANYARD TO THE HITCH BALL OR TO ANY REMOVABLE PART OF THE HITCH.

Remember that the breakaway switch's emergency braking feature requires a fully charged battery on the trailer. This important safety item is required in most states.

10. Plug the 12 volt electrical cord into the mating tow vehicle socket.

11. Run an operational check of stop lights, turn indicators, running lights, and electric brakes before driving off. See "Braking System" in this chapter and "ELECTRICAL SYSTEM" chapter for more details about the electrical systems.

12. Reverse the procedure for unhitching.
9. Connect the breakaway switch lanyard. Be sure the lanyard is adjusted so that the switch is not actuated during a full "jackknife" turn.

10. Plug the 12 volt electrical cord into the mating receptacle in the truck bed.

11. Run an operational check of stop lights, turn signals, running lights, and electric brakes before driving off. See "Braking System" in this chapter and "ELECTRICAL SYSTEM" chapter for details.

12. Reverse the procedure for unhitching.

**BRAKING SYSTEM**

The electric brakes on your trailer are similar to the drum brakes on many cars and trucks. The basic difference between them is that your trailer brakes are operated by 12 volt DC power from the tow vehicle, rather than by hydraulic action. The brakes have been factory-calibrated for smooth, positive response. During break-in, they may squeak; this is normal and should cease after a few miles of wear.

**Brake System Components**

The brake system on your trailer consists of several major components, all of which must function properly for safe braking.

**Tow Vehicle Battery.** The tow vehicle is the primary electrical power source for the trailer braking system. The connection is made at the positive post of the battery, or at the tow vehicle starter solenoid battery terminal.

**Brake Controller.** NOTE: The brake controller is not supplied with your trailer. The electric trailer brakes are automatically applied by the brake controller, which is mounted within easy reach of the driver. This controller is connected to the tow vehicle's brake system and is actuated whenever the tow vehicle's brakes are applied. It may also be used to manually apply the trailer's brakes to control sway (see section on "Safe Driving Rules" in this chapter). The controller should have an adjustment for its engagement point; it is best to have the trailer brakes start acting slightly before those of the tow vehicle. This is called brake "lead." This causes the trailer to pull against the tow vehicle, keeping the two vehicles in alignment. This is particularly important during rainy weather or whenever the road surface is slippery. If the tow vehicle sets its brakes first, the trailer will tend to push the tow vehicle and possibly "jackknife." You may also need a resistor to keep trailer braking force low enough to prevent wheel lockup. Consult your controller instructions for further information and wiring instructions.

**WARNING**

DO NOT INSTALL A FUSE IN THE CIRCUIT BETWEEN THE TOW VEHICLE BATTERY AND THE BRAKE CONTROLLER. A BLOWN FUSE WOULD CAUSE THE CONTROLLER TO CEASE OPERATING BOTH AUTOMATICALLY AND MANUALLY, CAUSING LOSS OF TRAILER BRAKING WITH NO ADVANCE WARNING.
**Connector Plug.** The multi-pin cord connector at the front of the trailer transfers electrical power from the tow vehicle’s battery to the trailer brakes, exterior lighting system, and battery.

![7 Circuit Receptacle Diagram](image)

When the switch closes, power for brake application is transferred to the onboard trailer battery. The steel lanyard must be anchored to the tow vehicle when the trailer is hitched up. Secure this cable loop to the permanent frame of the tow vehicle, or a part of the hitch that is non-removable. **DO NOT FASTEN THE BREAKAWAY SWITCH LANYARD TO THE HITCH BALL OR ANY OTHER REMOVABLE PART OF THE HITCH.** Remove the pull pin every three months and lubricate it with light oil. Before reinserting the pin, spray the inside of the switch with an electrical contact cleaner to prevent corrosion.

Test the breakaway switch operation before each trip as follows:

1. Hitch the trailer to the tow vehicle.
2. Pull out the breakaway switch actuating pin.
3. Test brakes by attempting to drive away. The breakaway switch is functioning properly if the trailer brakes are activated.
4. If the brakes are not activated, check that the trailer battery is connected and fully charged, and the trailer brakes are properly adjusted.
5. Obtain service repair if the trailer brakes do not operate after making these checks.
6. Reinsert the breakaway switch actuating pin before towing the trailer.

**Lanyard Attachment for Breakaway Switch**

**Brake System Connector Plug**

Keep the plug clean, tight, and protected from the elements. Inspect it carefully every time you hitch up. Be certain that your installation includes a “charge line” from the alternator on the tow vehicle to terminal number four on the tow vehicle’s connector receptacle. This wire should be 10 gauge stranded copper with insulation rated for underhood temperatures. A 30-amp circuit protector should be installed near the alternator connection. This circuit will keep the trailer battery charged as you travel. See “ELECTRICAL SYSTEMS” chapter.

**Trailer Battery.** The trailer battery provides power to activate the brakes in case of an emergency where the trailer becomes unhitched during towing.

**NOTE:** The battery is not supplied by the trailer manufacturer.

**Breakaway Switch.** The breakaway switch is located on the trailer tongue. It has a steel cable (lanyard) fastened to it which will reach to the frame of the tow vehicle. This device is one of the most vital components on your trailer’s braking system. It automatically applies the trailer brakes if the tow vehicle and trailer become uncoupled while in motion. The breakaway switch operates when a pull pin linked by the cable to the tow vehicle is separated from the switch.
WARNING
DO NOT TOW A TRAILER WITH A MALFUNCTIONING BREAKAWAY SWITCH.

WARNING
DO NOT LEAVE THE PULL PIN OUT OF THE BREAKAWAY SWITCH FOR MORE THAN A FEW MINUTES, OR THE BATTERY WILL BE DRAINED. DO NOT USE THE BREAKAWAY SWITCH FOR A PARKING BRAKE.

Trailer Brakes. Your trailer brakes are actuated by electrical energy from the brake controller. The greater the braking effort from the brake controller, the greater the braking force applied to the trailer brakes.

Grounding. The electrical circuit that operates your trailer brakes can be reliably completed only by proper grounding back to the tow vehicle. A POOR GROUND CIRCUIT FROM THE BRAKES TO THE TOW VEHICLE BATTERY CAN HURT BRAKING PERFORMANCE AS MUCH AS A POOR PRIMARY CIRCUIT FROM THE BATTERY TO THE BRAKES. Do not rely on the hitch ball/coupler for a good ground. Run a separate ground wire from the cord receptacle to the tow vehicle negative battery post, or to the tow vehicle frame. The ground conductor must be the same wire size as the charge line.

Braking Tips
Before moving your trailer, inspect all external braking system components. Inspect all wiring connections. Test the breakaway switch as outlined above.

Never use the trailer brakes alone for extended periods. They are designed to stop the trailer, not the tow vehicle. This action places excessive loads on the brakes, causing overheating, fading, and premature wear.

Never use the tow vehicle brakes alone. The added weight of the trailer will more than double the load on the tow vehicle brakes, causing overheating, fading, and premature wear. Driving control can also be affected, due to the force of the trailer pushing against the tow vehicle. On slippery road surfaces this can result in "jackknifing".

Always use the automatic brake controller. This synchronized braking system allows you to drive in the manner recommended by experts: both hands on the steering wheel. The brake controller is properly adjusted when the trailer brakes slightly "lead" the tow vehicle brakes. This will help keep the vehicles aligned for a safe, straight stop.

TRAVEL TRAILER LOADING
A travel trailer chassis (springs, wheels, tires, axles, frame and tongue) is designed to carry a certain maximum load. This load consists of the empty trailer itself, plus weight added in the form of water, food, clothing, and anything else that may be stored in or attached to the trailer. The maximum load for which the trailer is designed is called the GROSS VEHICLE WEIGHT RATING (GVWR), and is the total of the weight on the axles and the weight on the trailer tongue or fifth-wheel king pin.

Another, critical weight factor is the GROSS AXLE WEIGHT RATING (GAWR). This is the maximum weight a specific axle is designed to carry. Again, the rating represents the empty vehicle's axle weight plus the maximum added load. On trailers with more than one axle, the weight is divided between each axle and each has its own GAWR. The total of all axle loads plus the tongue weight must not exceed the GVWR.

In addition to knowing the overall weight that can be safely loaded in or attached to the trailer, you must know how to distribute the weight so that correct amounts of weight are placed on the axles and tongue. The allowable cargo capacity of the trailer is calculated by weighing the empty trailer and subtracting the empty weight from the GVWR:

Cargo Capacity = GVWR - Empty Trailer Weight

Proper weight distribution for a tandem axle conventional trailer should have 9% to 15% of the loaded trailer weight on the tongue. Single axle trailers should have at least 10% to 15% on the tongue. Depending on your tow vehicle, the preferred weight on the tongue for conventional travel trailers is 11% to 12%. Fifth-wheel king pin weights should be 15% to 25% of the loaded fifth-wheel weight.

Proper weight distribution is required for towing stability and will assure that the trailer is not rear, front, or side heavy. A light tongue weight or heavy weights placed at the rear end of the trailer may cause sway. On the other hand, too much weight on the tongue can overload the tow vehicle and cause poor tow vehicle braking, poor cornering, and can damage the trailer frame.

Your trailer is designed for maximum tongue weights and hitch spring bar ratings according to the following chart (not applicable to fifth wheel models):

<table>
<thead>
<tr>
<th>TONGUE TYPE AND SIZE</th>
<th>MAXIMUM ALLOWABLE LOADED TONGUE WEIGHT</th>
<th>MAXIMUM ALLOWABLE HITCH SPRING BAR RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 inch tubular</td>
<td>500 lbs.</td>
<td>550 lbs.</td>
</tr>
<tr>
<td>4 inch channel</td>
<td>750 lbs.</td>
<td>750 lbs.</td>
</tr>
<tr>
<td>5 inch tubular</td>
<td>1000 lbs.</td>
<td>1000 lbs.</td>
</tr>
<tr>
<td>5 inch channel</td>
<td>1100 lbs.</td>
<td>1000 lbs.</td>
</tr>
<tr>
<td>6 inch tubular</td>
<td>1100 lbs.</td>
<td>1200 lbs.</td>
</tr>
<tr>
<td>6 inch channel</td>
<td>1200 lbs.</td>
<td>1200 lbs.</td>
</tr>
</tbody>
</table>
Determining and Distributing Your Trailer's Load

The Gross Vehicle Weight Rating (GVWR) and the Gross Axle Weight Rating (GAWR) for your trailer are found on the label attached at the front road side of the trailer. You must compare the GVWR to the actual loaded weight of your trailer. If the loaded weight of your trailer exceeds the GVWR, your trailer is overloaded and you'll have to remove items to bring the weight down to or below the GVWR. Follow the method outlined here to determine the weight distribution of your trailer. Use the "Trailer/Tow Vehicle Load Worksheet" (found at the back of this manual) to calculate and record the tow vehicle/trailer loading figures. When weighing your trailer or tow vehicle always use a platform scale such as those used by trucking companies or highway weigh scales. The weigh station attendant can guide you through the correct positioning of the trailer on the scales.

1. Weigh the trailer by itself. After driving the tow vehicle and trailer onto the scale, disconnect the trailer from the tow vehicle and move the tow vehicle off the scale. The measured weight of the loaded trailer must not exceed the GVWR of the trailer. Cargo or equipment items must be removed until the GVWR is not exceeded.

2. Find the tongue weight. When the total trailer weight is under the rated GVWR, you next determine the trailer tongue/coupler weight. For conventional trailers: Move the trailer until the tongue is off the scales. Relevel the trailer by adjusting the height of the tongue jack. Read the trailer weight on the axles alone. Subtract weight on the axle from the total weight. This weight difference will be the approximate tongue weight. For 5th-wheel models: Measure the weight of the loaded tow vehicle WITHOUT the trailer. Subtract this weight from the weight of the loaded tow vehicle WITH the trailer. This weight must be within the hitch rating and tow vehicle's recommended load capacity.

3. Calculate the tongue load percentage. Divide the loaded tongue weight by the total loaded trailer weight. Multiply this result by 100. This will tell what percent of the total weight the tongue is carrying. You need to know this so as to properly load your tow vehicle. If the tongue weight exceeds the proper range for your trailer, shift some of the load rearward to arrive at the proper tongue load; if the tongue weight is below the proper range, move some of the load forward. If you have to shift the load to get the proper tongue weight, check to be sure that you do not exceed the weight rating of the axle(s) or tongue.

\[
Tongue\ Weight\% = \frac{Loaded\ Tongue\ Weight}{Loaded\ Trailer\ Weight} \times 100
\]

**Recommended Weight Distribution**

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trailer (Tandem Axle)</td>
<td>9%</td>
<td>15%</td>
</tr>
<tr>
<td>Fifth-Wheel</td>
<td>15%</td>
<td>25%</td>
</tr>
</tbody>
</table>

Since a weight-distributing hitch transfers some of the hitch load to the tow vehicle's axles, you need to know the resulting weight on each axle of the tow vehicle with the trailer loaded and hitched to the tow vehicle with spring bars tightened. Be sure you are loaded the way you anticipate traveling. If you expect to carry water, be sure your tanks are full before you do the weight calculations.

**Drive onto the scale** loaded with all supplies, passengers, and equipment. Take a weight reading as each axle or group of axles comes onto the platform. Enter the readings in the appropriate spaces on the loading worksheet.

a. The first reading is the load carried by the tow vehicle's front axle. It must not exceed the tow vehicle's front axle Gross Axle Weight Rating (GAWR).

b. The second reading includes the total tow vehicle weight and a portion of the hitch load with the trailer connected. This weight must not exceed the tow vehicle's Gross Vehicle Weight Rating (GVWR).

c. Subtract the first reading from the second reading. This difference is the load on the tow vehicle's rear axle and tires. This must not exceed the tow vehicle's rear axle GAWR.

d. The third scale reading is the total gross combined trailer/tow vehicle weight. Subtract the second weight reading from this third reading. This is the weight on the trailer axle(s) GAWR(s).
NOTE: Periodically reweigh your trailer and tow vehicle. Different traveling configurations may change your loading and weight distribution.

If you use the worksheets provided in this manual, you will be able to see the relationships between these different weights. You will also have a permanent record that you can refer to if necessary.

**WARNING**

DO NOT EXCEED THE RATED LOAD OF THE TOW VEHICLE, THE TRAILER, OR THE RATED LOAD OF ANY AXLE.

Remember that your tow vehicle is an integral part of your total towing combination. Weigh and load it with the same considerations as the trailer. Gross weight and axle weight ratings will be found on tags on the driver’s door post, or inside the glove compartment door. Consult your tow vehicle Owner’s Manual for more information.

**NOTE:** If other equipment or options such as leveling jacks, awnings, roof storage pods, etc., are installed after the trailer leaves the factory, the weight of these items must be subtracted from the total of the load and cargo carrying capacities.

**Loading Tips**

After you have determined how much weight you can safely carry and selected those items to make up that weight, make a list and keep it for future reference. Load the trailer so that you get proper weight distribution on the axles. Do not load upper cabinets with heavy items. Secure and brace stored items so they won’t move during travel, thereby shifting the load in the trailer. Do not load heavy items near either end of the trailer or on the rear bumper. Adjust cargo to keep the side to side wheel loads as equal as possible. Carry only as much water as needed for travel use or to balance the load. Whenever possible, empty the waste water holding tanks before traveling.

**NOTE:** Use extra care in packing and storing dishes, utensils, and foods in rear-kitchen 5th wheel models.

**WARNING**

DO NOT INSTALL ANY TYPE OF WEIGHT CARRYING RACK, FRAME, OR HITCH TO THE REAR BUMPER, FRONT A-FRAME ASSEMBLY, CHASSIS OR BODY COMPONENT OF THE TRAILER. DAMAGE TO THE TRAILER BODY AND UNSTABLE HANDLING CHARACTERISTICS MAY RESULT. ADDITIONS TO THE REAR BUMPER, FRONT A-FRAME ASSEMBLY OR CHASSIS COULD VOID YOUR WARRANTY ON STRUCTURAL COMPONENTS.

**WARNING**

EXCEEDING THE GAWR OR GVWR OF YOUR TOW VEHICLE OR TRAILER CAN CAUSE UNDESIRABLE HANDLING CHARACTERISTICS AND MAY CREATE A SAFETY HAZARD. MODIFICATION OF YOUR VEHICLE BY THE ADDITION OF RACKS NOT SPECIFIED BY THE MANUFACTURER TO CARRY ADDITIONAL EQUIPMENT OR VEHICLES IS NOT RECOMMENDED, MAY CREATE A SAFETY HAZARD, AND MAY VOID YOUR WARRANTY.

Make a loading diagram representing your properly loaded trailer. It will help you locate where specific items are stored, and will help speed the loading process. Store emergency items in a readily accessible location. Include tools, first-aid kit, rain gear, flashlight, highway warning devices, and an electric cord with light.

**WARNING**

DO NOT STORE OR CARRY LP GAS CONTAINERS, GASOLINE, OR OTHER FLAMMABLE LIQUIDS INSIDE YOUR TRAILER.

**Carrying Capacity**

During the design and development of your trailer, the number and size of storage compartments and the liquid tank capacities are maximized for value and convenience. If the trailer operator fills all liquid tanks to capacity, and fills all storage compartments and cupboards to maximum volume, the trailer will probably be overloaded. The operator is responsible for analyzing the conditions under which the trailer will be used for each trip.

Thoughtful consideration of the weight placed in the trailer can yield important benefits:

- Maximum flexibility in the use of the available storage space provided in the trailer;
- Improved tow vehicle/trailer handling characteristics;
- Better tow vehicle fuel mileage and reduced tire wear.

**Roof Cargo Storage**

Heavy weights stored behind the rear axle of the trailer can adversely affect the trailer’s towing and handling characteristics. Cargo carried on the roof on models equipped with ladders and cargo racks is limited to 100 pounds while traveling. If a storage pod is added, the combined weight of the pod and cargo must not exceed 100 pounds.
SAFE DRIVING RULES

Your car or truck will have very different handling and stopping characteristics when it is towing a trailer. The following rules will help you develop needed driving skills for safe trailer towing:

Travel very slowly if you are new to trailer towing, or if you have a new trailer or tow vehicle, until you have learned the handling and stopping characteristics of the tow vehicle/trailer combination. Practice turning, stopping, and backing in a secluded place away from traffic.

Do not permit a driver who is inexperienced at towing to operate your tow vehicle/trailer combination without your direct supervision. Remember—it’s slow speed for beginners.

Tow at moderate speeds allowing for adverse highway and wind conditions. Even under the best of conditions, do not exceed 55 miles per hour. As speed increases, trailer sway stability, stopping ability, and the ability to make emergency maneuvers are greatly reduced.

Reduce speed before starting down hills—even short ones—and avoid heavy tow vehicle braking on downgrades. Trailer towing stability is reduced when traveling downhill, and is further reduced by tow vehicle braking.

Slow down before entering turns and avoid heavy braking in turns. Trailer stability is reduced in turns, and the weight of the trailer tends to push the back of the tow vehicle outward in turns, which can cause loss of control and "jackknifing".

If it is windy or passing vehicles are affecting the trailer, slow down until full, comfortable control can be maintained. Trailer sway can be started by crosswinds and the wind from passing vehicles, especially trucks and buses passing from the rear. Reduced speed improves trailer stability and handling.

Do not use an automatic speed control while towing. These devices can interfere with your ability to slow down in an emergency.

Avoid quick steering movements that can start the trailer swaying.

Fleetwood does not recommend transporting passengers in your recreational vehicle while traveling.

IF THE TRAILER IS SWAYING:

_Steer as little as possible_ while maintaining control of the vehicle. Because of your natural reaction time lag, quick steering movements to counter trailer sway will actually cause increased sway and loss of control. Try to hold the wheel as straight as possible until stability is regained.

_Slow down but avoid strong tow vehicle braking_. Reduce speed gradually whenever possible. Use the hand control to gradually apply the trailer brakes; this will help keep the vehicles aligned. Tow vehicle braking reduces trailer stability, and sliding tow vehicle tires causes loss of control and jackknifing.

If a reduction in trailer stability has occurred, _slow down immediately and stop_ as soon as possible. Check tire pressures, sway control adjustment, hitch spring bar adjustment, cargo weight distribution, and look for any signs of mechanical failure. Until the problem has been identified and corrected, travel at reduced speeds that permit full control.

_Maintain at least twice the normal stopping distance while towing your trailer_. The increased weight of the combination of vehicles requires greater stopping distances.

_Use lower gears on long grades_. Downshift on upgrades to avoid overheating or undue engine loads. Downshift on downgrades to allow engine braking to assist in controlling vehicle speed. Avoid continuous or frequent brake application. The weight of the combination of vehicles can cause brakes to overheat and fade.

_Allow ample time for passing_. Your acceleration will be much slower and your combination of vehicles is much longer than the tow vehicle alone.

Once you become accustomed to the feel of your tow vehicle/trailer combination, you will find towing your trailer comparable to driving your family car. Become familiar with the position of the trailer in traffic, and be cautious when maneuvering to allow for its length and width. Always allow extra room to corner and to change lanes. Learn to use the side mirrors to view the road behind and to the sides. Check them often.

Allow for the extra height of your trailer and avoid areas having low overhead clearance. Check for low hanging tree branches or other obstructions whenever you drive,
park, or when pulling in for fuel or service. Always check overhead clearances of overpasses and bridges. This may be particularly important if you drive with the roof vents open or if the trailer is equipped with a roof air conditioner, roof rack, or antennas.

**BACKING UP**

Place your hand at the bottom of the steering wheel. The back of the trailer will move in the same direction that your hand moves. The rear of the tow vehicle will go the opposite way you want the trailer to turn. Be careful as the trailer/tow vehicle angle gets large; the hitch and/or tow vehicle and trailer may be damaged by jackknifing.

You will need a much greater turning radius than the tow vehicle itself requires. When backing, be sure to watch not only the rear, but also both sides of the tow vehicle.

In time, and with a little practice, you will be able to back your trailer with little effort. Always be aware that you have poor visibility to the rear. Someone standing safely outside at the rear of the trailer to guide you can assist you in safe backing. Use both rear view mirrors when backing.

**PARKING**

When parking parallel to a curb, be sure to allow for poles or other obstructions beyond the curb as the front and rear portions of the trailer swing wider than the tow vehicle’s body. Always shift the transmission to PARK (“P”) and set the parking brake when parking.

**Parking On A Grade**

Try to avoid parking vehicles with trailers on a grade or hill. However, if you must park on a grade, follow these steps:

1. Apply and hold the tow vehicle brakes.
2. Have someone place wheel chocks under the trailer wheels.
3. When the wheel chocks are in place and the assistant is clear, release the tow vehicle brakes until the chocks absorb the load.
4. Apply the tow vehicle parking brake.
5. Shift the transmission to “P” (PARK), with automatic transmission or low or reverse with manual transmissions.

If the vehicle is parked on a grade, don’t shift the transmission to “P” (PARK) until the trailer wheels are chocked and the tow vehicle parking brake is set. If you do, the weight of the vehicle and trailer may put so much strain on the transmission that it may be hard to shift out of “P” (PARK).

When starting after being parked on a grade:

1. Apply and hold the tow vehicle brakes.
2. Start engine in “P” (for automatic transmission) or neutral with the parking brake set for manual transmissions.
3. Shift into gear and release the tow vehicle parking brake.
4. Release the tow vehicle brakes and move the trailer until the chocks are free.
5. Apply and hold the tow vehicle brakes and have an assistant remove the chocks.

**TIRES**

Your trailer is equipped with quality tires made by a major tire manufacturer. Under normal circumstances and with proper maintenance, you should receive thousands of miles of trouble-free service. For safety, trailer stability, and maximum tire life, proper inflation pressure must be maintained. The maximum cold inflation pressure is stamped on the tire sidewall. Always inflate the tires to this maximum pressure.

Be sure that an accurate tire gauge is part of your tool kit. Check the pressures in the morning before starting out; when the tires are cold. Don’t forget the spare! Do not bleed air out of warm tires. Inflation specifications are for cold tires. Inflate the rear tires of the tow vehicle to the maximum pressure on the tire sidewalls. This higher pressure improves tow vehicle stability.

**WARNING**

**CHECK TIRE PRESSURES BEFORE TRAVELING. ALWAYS CHECK PRESSURE WHEN TIRES ARE COLD. DO NOT EXCEED MAXIMUM RECOMMENDED PRESSURE.**

**WARNING**

**KEEP TIRES PROPERLY INFLATED. A TIRE THAT IS RUN LONG DISTANCES OR AT HIGH SPEEDS WHILE SERIOUSLY UNDERINFLATED WILL OVERHEAT TO THE POINT WHERE THE TIRE MAY LOSE AIR SUDDENLY AND/OR CATCH FIRE, POSSIBLY RESULTING IN DAMAGE TO THE VEHICLE AND ITS CONTENTS AND/or PERSONAL INJURY.**

**If You Get A Flat Tire**

In case of sudden tire failure, avoid heavy brake application. Gradually decrease speed. Hold the steering wheel firmly and move slowly to a safe place off the road. Park on a firm, level spot, turn off the ignition, and turn on the hazard warning flasher system.
Changing A Flat Tire

Even with good tire maintenance and normal driving, you may experience a flat tire. Summon professional help through your auto club road service, or a local tire service facility.

**WARNING**

TO AVOID PERSONAL INJURY AND/OR PROPERTY DAMAGE IF A BLOWOUT OR OTHER TIRE DAMAGE OCCURS, OBTAIN EXPERT TIRE SERVICE HELP. DO NOT ATTEMPT TO CHANGE THE TIRE YOURSELF. DO NOT REINFLATE A TIRE THAT HAS BEEN FLAT OR IS SERIOUSLY LOW ON AIR. HAVE THE TIRE REMOVED FROM THE WHEEL AND CHECKED FOR DAMAGE. NEVER ADD AIR TO TIRES UNLESS AN ACCURATE PRESSURE GAUGE IS USED.

**SPARE TIRE CARRIER – UNDER CHASSIS**
(If Equipped)

Your spare tire is mounted under the trailer with a cable-operated carrier assembly. A socket located in the rear, side, or in a luggage compartment allows access to the spare tire mechanism. Insert the special crank tool into the socket and turn counterclockwise to lower the spare tire.

To raise the tire, be sure the tire and wheel assembly is turned with the valve stem facing down. Pass the lifting plate through the wheel center hole. Turn the crank clockwise to lift the tire and wheel assembly. Be sure the cable and lifting plate are centered on the wheel. After the tire contacts the frame assembly, continue to turn until a “crisp break” is heard and felt in the crank handle. Continue to crank until a second crisp break occurs. This insures the cable is tensioned properly and the tire and wheel are locked in place.

**CAUTION**

DO NOT USE ANY TYPE OF IMPACT OR POWER TOOL TO RAISE THE TIRE AND WHEEL ASSEMBLY. Damage to the tire carrier clutch assembly could occur.

The tire carrier assembly is factory lubricated, sealed and no maintenance is required.

**WHEEL NUT TORQUE**

**WARNING**

CHECK WHEEL NUT TORQUE BEFORE EACH TRIP AND AFTER WHEEL REPLACEMENT. RECHECK AFTER REPLACEMENT AT 25 AND 50 MILES.

Proper wheel nut torque is very important to safe and dependable trailering. The wheel and axle systems used in travel trailers are similar in many ways to those used in cars and trucks. But they differ in several important ways. These differences require special attention to wheel nut torque both while the trailer is new and throughout the trailer’s life.

Trailer wheels must carry much higher loads per wheel than passenger car or truck wheels. Each wheel may carry from 2000 to 3000 pounds. Furthermore, wheels on tandem axle trailers do not steer, and are subjected to very high side load stress whenever the trailer makes a tight turn. When you go around corners -- especially slow, tight ones -- the wheels on your trailer are subjected to these strong side loads. This tends to flex the wheel and gradually loosen the wheel nuts. Although the materials and manufacturing methods are maximized for this kind of service, these extra load stresses and flexing can cause loosening.

It is critical that the wheels be properly torqued during the first 25 to 50 miles of road operation. Although the wheels have been properly torqued before leaving the manufacturing plant, settling and wearing in of components during the first few miles of operation may cause some loosening of the wheel nuts.

The wheel nut torque specification is 90-120 ft.-lbs. ALWAYS USE AN ACCURATE TORQUE WRENCH TO TIGHTEN WHEEL NUTS. A torque wrench with
adequate accuracy is available at most automotive tool stores. Considering the overall investment in the trailer, this is a very reasonable cost. Use of a torque wrench can also reduce the effort required to tighten the wheel nuts.

Before each trip and any time a wheel is replaced, be sure to tighten the wheel nuts, following the sequence shown in the diagram, to the specified torque. If the wheel was replaced, check the torque again after 25 and 50 miles. If you notice wheel wobbling or hear a rattling sound coming from a wheel, especially at low speeds, a wheel lug nut may have come loose. This problem is usually caused by improper tightening or by faulty or damaged lug bolt threads. If you have reason to believe a lug nut has come loose, **SAFELY STOP THE VEHICLE AT THE SIDE OF THE ROAD AS SOON AS POSSIBLE**. Put up warning devices. Remove the hub caps or wheel covers and check the tightness of all the lug nuts. Tighten all lug nuts to the specified torque of 90-120 ft.-lbs. If lug bolt threads are damaged or faulty, get professional service help. **Do not tow the trailer with missing lug nuts or faulty lug bolts.**

**CARBON MONOXIDE SAFETY PRECAUTIONS**

Carbon monoxide is a colorless, tasteless, odorless gas. It is a combustion by-product of fuel-burning engines. The engines in your tow vehicle and generator system (if installed) produce it constantly while they are running. **CARBON MONOXIDE IS DEADLY.** Please read and understand the following precautions to protect yourself and others from the effects of carbon monoxide.

**WARNING**

**EXHAUST GASES ARE DEADLY. DO NOT BLOCK THE TAILPIPES OR SITUATE THE VEHICLE IN A PLACE WHERE THE EXHAUST GASES HAVE ANY POSSIBILITY OF ACCUMULATING EITHER OUTSIDE, UNDERNEATH, OR INSIDE YOUR VEHICLE OR ANY NEARBY VEHICLES. OUTSIDE AIR MOVEMENTS CAN CARRY EXHAUST GASES IN-**

SIDE THE VEHICLE THROUGH WINDOWS OR OTHER OPENINGS REMOTE FROM THE EXHAUST OUTLET. OPERATE THE ENGINE(S) ONLY WHEN SAFE DISPERSION OF EXHAUST GASES CAN BE ASSURED, AND MONITOR OUTSIDE CONDITIONS TO BE SURE THAT EXHAUST CONTINUES TO BE DISPERSED SAFELY.

Beware of exhaust gas (carbon monoxide) poisoning symptoms:

- Dizziness
- Headache
- Weakness and sleepiness
- Nausea
- Vomiting
- Muscular twitching
- Throbbing in temples
- Inability to think coherently

If symptoms indicate the possibility of carbon monoxide poisoning, turn off the engine(s) immediately, get out into fresh air at once, and summon medical assistance.

**WARNING**

**DO NOT UNDER ANY CIRCUMSTANCES OPERATE ANY ENGINE WHILE SLEEPING.**

You would not be able to monitor outside conditions to assure that engine exhaust does not enter the interior, and you would not be alert to exhaust odors or the symptoms of carbon monoxide poisoning.

After traveling and/or before engine or generator operation, inspect the exhaust systems for road damage before starting any engine.

Check the exhaust systems during routine maintenance, and repair any leaks, damage, or obstructions before further operations. Do not modify any exhaust system in any way.
SETUP

This section outlines the procedures necessary to stabilize and setup your trailer.

Before attempting to set up the trailer, carefully read and understand these instructions. Setting up your trailer is not difficult but does require some forethought and care.

Your trailer is designed to be efficient and comfortable. Careful attention to details and thoroughness during setup will ensure that you will benefit from all the features and comfort built into your trailer.

LEVELING AND STABILIZATION

Leveling of your trailer at the site is important. A level trailer is not only necessary for comfort but your refrigerator must be reasonably level in order to operate properly. Stabilization is recommended to keep the trailer from jouncing while unhitched when people are moving inside the trailer.

Stabilizer jacks are intended to stabilize the trailer body while the trailer's full weight is supported by the hitch jack (conventional travel trailers) or landing gear (fifth-wheel trailers) and running gear. Stabilizer jacks are not designed to lift or level the trailer or support its entire weight.

Leveling Procedures for a Conventional Trailer

1. If the site is not an asphalt pad, concrete slab or other prepared surface, be sure it is as level as possible. Be sure the ground surface is not soft and will support the weight of the trailer on the stabilizing jacks or other support devices.

2. Before uncoupling, level the trailer from side to side with suitable lengths of 2" x 6" wood blocks under the trailer wheels. Place the 2" x 6" wood blocks on the ground surface forward of the trailer wheels, and tow the trailer onto the 2" x 6" blocks. Block the trailer wheels so the trailer cannot roll.

3. Put the foot pad on the hitch jack post, uncouple the trailer from the tow vehicle and level the trailer front to rear. It may be necessary to place a sturdy 2" x 6" wood block under the jack post foot pad to support the jack post on soft ground surfaces.

4. Check the level of the trailer with a carpenter's level both crosswise and lengthwise on the trailer floor. To assure reasonable level at the refrigerator, use the round bubble level inside the refrigerator. Acceptable level is when the bubble is within the marked area of the bubble level.

5. Lower the stabilizer jacks at the front and rear. Adjust each jack to a snug, tight fit. Sturdy wood blocking may be required to provide supporting area on the ground. CAUTION: AFTER MARKET STABILIZER STANDS MUST BE PLACED ONLY UNDER CHASSIS FRAME RAILS.

WARNING

DO NOT ATTEMPT TO LEVEL, RAISE OR OTHERWISE PLACE ALL OF THE WEIGHT OF THE TRAILER ON THE STABILIZER JACKS.

6. After stabilizing the trailer, be sure the trailer frame is not twisted, buckled, or stressed. Check that all doors and windows operate freely and do not bind.

7. Before resuming travel, be sure all stabilizers are removed or fully retracted.

Leveling Procedures For A Fifth-Wheel Trailer

1. If the site is not an asphalt pad, concrete slab or other prepared surface, be sure it is as level as possible. Be sure the ground surface is not soft and will support the weight of the trailer on the stabilizing jacks or other support devices.

2. Before unhitching, level the trailer from side to side with suitable lengths of 2" x 6" wood blocks under the trailer tires. Place the 2" x 6" wood blocks on the ground surface forward of the trailer tires and tow the trailer onto the 2" x 6" blocks. Block the trailer tires so the trailer cannot roll.

3. Lower the "quick drop" landing gear legs before extending the landing gear. The positioning of the "quick drop" legs will depend upon how level your campsite is from side to side and front to rear. The landing gear is then extended by the power motor. It may be necessary to place a sturdy 2" x 6" wood block under the foot pads to support the landing gear on soft ground surfaces.
4. Check the level of the trailer with a carpenter's level both crosswise and lengthwise on the floor. To assure reasonable level at the refrigerator, use the round bubble level inside the refrigerator. Acceptable level is when the bubble is within the marked area of the bubble level.

5. Lower the factory installed stabilizer jacks at the rear of the trailer. Adjust each jack to a snug, tight fit. Sturdy wood blocking may be required to provide supporting area on ground. **CAUTION:** AFTER-MARKET STABILIZER STANDS MUST BE PLACED ONLY UNDER CHASSIS FRAME RAILS.

**WARNING**
DO NOT ATTEMPT TO LEVEL, RAISE OR OTHERWISE PLACE ALL OF THE WEIGHT OF THE TRAILER ON THE STABILIZER JACKS.

6. The king pin area should be stabilized with the king pin stabilizer jack.

7. After stabilizing the trailer, be sure the frame is not twisted, buckled, or stressed. Check that all doors and windows operate freely and do not bind.

8. Before resuming travel, be sure all stabilizers are fully retracted.

**EFFECTS OF PROLONGED OCCUPANCY**

Your trailer was designed primarily for recreational use and short term occupancy. If you expect to occupy the trailer for an extended period, be prepared to deal with condensation and the humid conditions that may be encountered. The relatively small volume and tight, compact construction of a modern recreational vehicle mean that the normal living activities of even a few occupants will lead to rapid moisture saturation of the air contained in the trailer and the appearance of visible moisture, especially in cold weather.

Just as moisture collects on the outside of a glass of cold water during humid weather, moisture can condense on the inside surfaces of your trailer during use in cold weather when the relative humidity of the interior air is high. This condition is increased because the insulated walls of the trailer are much thinner than house walls. Estimates indicate that a family of four can vaporize up to three gallons of water daily through breathing, cooking, bathing and washing. Unless this water vapor is carried outside by ventilation, or condensed by a dehumidifier, it will condense on the inside of the windows and walls as moisture, or in cold weather as frost or ice. It may also condense out of sight within the walls or the ceiling where it will manifest itself as warped or stained panels. Appearance of these conditions may indicate a serious condensation problem. When you recognize the signs of excessive moisture and condensation in your trailer, you should take action to minimize their effects.

**NOTE:** Your trailer is not designed to be used as permanent housing. Use of this product for long term or permanent occupancy may lead to premature deterioration of structure, interior finishes, fabrics, carpeting and drapes. Damage or deterioration due to long term occupancy may not be considered normal, and may under the terms of the warranty constitute misuse, abuse, or neglect, and may therefore reduce your warranty protection.

**Ventilation And Moisture Control**

You can reduce interior moisture condensation by taking the following steps:

**Ventilate with outside air.** Partially open one or more roof vents and one or more windows to provide circulation of outside air into the interior. While this ventilation may increase furnace heating load during cold weather, it will greatly reduce water condensation. Even when it is raining or snowing, ventilation air from outside will be far drier than interior air and will effectively reduce condensation inside the trailer.

**Minimize moisture released inside the trailer.** Run the range vent fan when cooking and the bath vent fan (or open the bath vent) when bathing to carry water vapor out of the trailer. Avoid making steam from excessive boiling or use of hot water. Remove water or snow from shoes before entering to avoid soaking the carpet. Avoid drying overcoats or other clothes inside the trailer.

**WARNING**

**DO NOT HEAT THE TRAILER INTERIOR WITH THE RANGE OR OVEN.**

In addition to the hazards of toxic fumes and oxygen depletion, open flames add moisture to the interior air, increasing condensation. Do not use an air humidifier inside the trailer. Water put into the air by the humidifier will greatly increase condensation.

**Ventilate closets and cabinets.** During prolonged use in very cold weather, leave cabinet and closet doors partially open to warm and ventilate the interiors of storage compartments built against exterior walls. The air flow will warm the exterior wall surface, reducing or eliminating condensation and minimizing possible ice formation.
Install a dehumidifier. During prolonged, continuous use, a dehumidifying appliance may be more comfortable and effective in removing excess moisture from the interior air. While use of a dehumidifier is not a "cure-all", and ventilation, storm windows, and moisture reduction continue to be important, operation of the dehumidifier will reduce the amount of outside air needed for ventilation. Heating load on the furnace will be reduced, and the interior will be less drafty.

Install tight fitting storm windows to reduce or eliminate condensation on window glass. The interior surface of the storm window will be warmer, reducing moisture condensation.

**WARNING**

**DO NOT COVER EMERGENCY EXIT WINDOW(S).**

This window must be left accessible at all times for emergency exit.

**Dripping Ceiling Vents**

During cold weather and even in short term occupancy, condensation frequently forms on ceiling vents and may even accumulate to the point of dripping onto the surfaces below. This is frequently misinterpreted as a "leaking" roof vent but is most often condensation dripping. Follow the preceding steps to control moisture condensation, and protect surfaces with plastic sheeting until the moisture has dissipated.

**FIRE SAFETY**

The hazard and possibility of fire exists in all areas of life, and the recreational life style is no exception. Your trailer is a complex device made up of many materials—some of them flammable. But like most hazards, the possibility of fire can be virtually eliminated by recognizing the danger and practicing common sense safety and maintenance habits.

Recreational vehicle fires are generally caused by unattended food cooking on the stove or in the oven, faulty or damaged wiring and electrical devices, fuel leaks (both gasoline and LPG), or carelessness. The most common careless acts include smoking in bed, leaving children unattended and cleaning with flammable liquids.

Remember that portable fire extinguishers are appliances intended for use by the occupants of a building or area that is threatened by fire. They are most valuable when used immediately on small fires. They have a limited amount of fire-extinguishing material, and therefore must be used properly so this material is not wasted.

Fire extinguishers are pressurized, mechanical devices. They must be handled with care and treated with respect. They must be maintained as outlined in any maintenance instructions provided with the device so they are ready to operate properly and safely. Parts or internal chemicals may deteriorate in time and need replacement. Always follow maintenance and recharging instructions provided by the fire extinguisher manufacturer.

The fire extinguisher furnished with your trailer is rated for Class B (gasoline, grease, flammable liquids) and Class C (electrical) fires since these are the most common types of fires in recreational vehicles. Read the instructions on the fire extinguisher. Know how and when to use it.

Consider these fire safety suggestions:

Before refueling your tow vehicle or any generator fuel tank in the vicinity of your trailer, be sure to turn off all pilots and appliances in your trailer. Explosive gasoline vapors may be present at refueling stations.

If you experience a fire while traveling, **MAINTAIN CONTROL OF THE VEHICLE UNTIL YOU CAN SAFELY STOP IT.**

If you experience a fire while camped, **EVACUATE THE VEHICLE AS QUICKLY AND SAFELY AS POSSIBLE.**

Consider the cause and severity of the fire and the risk involved before trying to put it out. If the fire is minor or is fed by gasoline, LP gas or any type of oil product, stand clear of the vehicle and wait for the fire department or other emergency assistance.

If your trailer is damaged by fire, do not tow it or live in it until it has been thoroughly examined, the cause of the fire found, and fixed.

The smoke detector is furnished with your trailer as a warning device. Follow the instructions for its operation and testing which are included in the Owner's Information Package. See the **"EQUIPMENT" chapter.**
**WARNING**

URETHANE FOAM IS FLAMMABLE!

DO NOT EXPOSE URETHANE FOAMS TO OPEN FLAMES OR ANY OTHER DIRECT OR INDIRECT HIGH TEMPERATURE SOURCES OF IGNITION SUCH AS BURNING OPERATIONS, WELDING, BURNING CIGARETTES, SPACE HEATERS OR UNPROTECTED ELECTRIC LIGHT BULBS.

ONCE IGNITED, URETHANE FOAMS WILL BURN RAPIDLY, RELEASING GREAT HEAT AND CONSUMING OXYGEN AT A HIGH RATE. IN AN ENCLOSED SPACE THE RESULTING DEFICIENCY OF OXYGEN WILL PRESENT A DANGER OF SUFFOCATION TO THE OCCUPANTS. HAZARDOUS GASES RELEASED BY THE BURNING FOAM CAN BE INCAPACITATING OR FATAL TO HUMAN BEINGS OF INHALED IN SUFFICIENT QUANTITIES.

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**INTERIOR STORAGE**

Interior storage areas may be found in a number of places in your trailer—overhead compartments, wall closets, under the dinette, sofa bed, under the bed, lavy and galley cabinets. Overhead doors may have friction supports to hold them open.

Drawers rest in detent notches when they are closed. To open drawers, lift up slightly, then pull open. These "travel locks" reduce the opening of drawers during travel but may not hold on rough road surfaces.

Some closets are equipped with 12-volt lights that turn ON when the closet door is opened. Be sure the light goes OFF when you close the closet door or your battery could be rapidly discharged. If the light stays on when the door is closed, the door switch may require adjustment.

**EXTERIOR STORAGE**

Exterior storage compartments in the trailer maximize available space and should accommodate most of your storage needs. All of the storage compartments can be locked except for the LPG compartment which must remain unlocked at all times as required by safety regulations. Exterior storage doors should be kept locked when traveling to reduce the possibility of opening on the road.

The exterior compartments may tempt you to load them completely full of everything you can think of. Please note that if all compartments are filled with heavy or densely packed items, your trailer could be overloaded. Refer to "Travel Trailer Loading" and "Loading Tips" in the "ON THE ROAD" chapter.

When storing equipment and supplies:

- Always keep tools and equipment stored in areas where they will not shift while traveling.
- Be sure liquid containers are capped and cannot tip or spill.
- Exterior storage compartments may not be watertight in all weather and road conditions. Any articles which could be damaged by water or dirt should be carried inside the trailer.

**WARNING**

OUTSIDE STORAGE COMPARTMENTS ARE NOT SEALED, VENTED ENCLOSURES, AND MAY BE ACCESSIBLE FROM INSIDE THE TRAILER. DO NOT STORE HAZARDOUS CHEMICALS/MATERIALS OR FLAMMABLE, VOLATILE LIQUIDS IN THESE AREAS.

**ATTACHING AFTER-MARKET ACCESSORIES**

Structural members are located specifically to mount factory-installed components and accessories. These members may not be located to adequately support after-market accessories. Please consult with your dealer before attempting to install accessories on the interior or exterior of your trailer's walls.

Additionally, holes caused by fasteners on the exterior can lead to extensive damage caused by water intrusion. Proper sealing of exterior fasteners and maintenance of those sealants is critical to the life of your trailer walls. Holes drilled in the sidewall exterior can cause severe damage and may affect your warranty coverage.
FRESH WATER SYSTEM

Your trailer is outfitted with a system designed to provide fresh water service from a city water connection or from the trailer's own self-contained onboard supply.

The city water connection is located on the roadside of the trailer, inside the utility compartment.

When connecting to the city water hookup, use only a non-toxic water hose. Since water pressures at campgrounds vary, an inline pressure regulator is provided with your trailer. This will protect both the trailer water system from excessively high water pressure.

The self-contained fresh water holding tank is filled with a hose through the spout located on the outside of the trailer. Don't leave water in the tank when the trailer is in storage.

Water Pump

The onboard fresh water system is pressurized by a self-priming, 12-volt DC pump. The pump operates automatically when the pump power switch is ON and a faucet or valve is opened. When the faucet or valve is closed, the pump shuts off. A built-in check valve prevents back flow and protects the pump and fresh water tank from excessive city water system pressures up to 200 psi. At free flow, the pump draws approximately 7 amps. A fuse at the power center protects the pump circuit.

Turn the pump ON to pressurize the system. When a faucet is opened, the water may sputter for a few seconds. This is normal and is not cause for concern. The water flow will become steady when all air is bled from the water lines.

NOTE: When traveling, always turn off the water pump. This will reduce the possibility of water flowing during travel.

Never attempt to service the pump without first turning off the power and opening all faucets to relieve pressure in the water system.

Water System Troubleshooting

Water system problems usually fall into two categories: mechanical system problems, and problems caused by neglect. System problems are usually the result of road vibration and campsite water pressure variations. Problems of neglect usually stem from failure to clean filters, improper winterization, and poor battery maintenance.

Most water system problems can be avoided by conscientious maintenance.

Clogged Water Pump Filter — Dirt, mineral scale, or organic matter are filtered out of the fresh water system by an inline water filter on the inlet side of the water pump. If you suspect a clogged filter, it is easily removed and cleaned.

Inspect the filter after the first 90 days of use, clean it if necessary, and inspect annually thereafter.

Loosen the clamp at the inlet end of the filter.
Pull the water hose off the filter.
Unscrew the filter from the water pump.
Turn each end of the filter and pull apart.
Flush out and clean screen.
Reverse procedure to install.
Operate the water pump and check for leaks.

For additional information, please refer to the operating manual in your Owner’s Information Package.

Leaks — Check all plumbing for leaks at least once a year. If the water pump runs when a faucet is not open, suspect a leak. Be sure the tank drain valves are tightly closed. Leaks caused by freezing damage can be prevented by proper winterization of the system. See “TRAILER STORAGE” chapter. Freezing damage is usually extensive and may include a burst water tank, split piping, and a damaged water pump, toilet, and water heater. If you experience this type of damage, repairs can best be made by an authorized Fleetwood RV dealer.

Monitor Panel

The monitor panel allows you to check the approximate liquid levels in the fresh water and holding tanks and to monitor battery charge condition.
With the rocker switch depressed, the “E” or empty indicator light will always be lit. If the tank is full, all lights will be on. Lights are sequential and indicate level in approximately 1/3-tank increments.

**Sanitizing the Fresh Water System**

Sanitize the fresh water tank and piping at least once a year, and whenever the trailer sits for a prolonged period. This will help keep the tank and lines fresh and will discourage the growth of bacteria and other organisms that can contaminate the water supply. Rinse the tank with a chlorine/fresh water solution as follows:

1. Prepare a solution of 1/4 cup household liquid chlorine bleach (5% sodium hypochlorite) to one gallon of water for each 15 gallons of tank capacity.

2. Close drain valves and faucets, pour chlorine solution into the fresh water tank fill spout, and complete filling with fresh water.

3. Turn water pump switch ON. Open all faucets individually until water flows steadily, then turn off. This will purge any air from the lines.

4. Top off water tank with fresh water and wait three hours.

5. Drain the entire system by opening all fresh water tank valves, faucets, and plumbing line drain valves.

6. Flush the system with drinking quality water. Let the fresh water flow through the system for several minutes to flush out the chlorine solution.

7. After you stop the flushing, close the tank valve, the faucets, and drain valves. You can now fill the tank with fresh water, and the system is ready to use.

**Waste Water System**

The waste water system in your trailer is made up of sinks, tub, shower, toilet, plumbing drain and vent lines, a “gray water” holding tank and a “black water” holding tank. The holding tanks make the system completely self-contained and allow you to dispose of waste water at your convenience. A flexible sewer hose is required to connect the holding tank outlet to the inlet of an approved waste water dump station or sewer system.

The drain plumbing is very similar to that used in your home. The system is trapped and vented to prevent waste gases from backing up into the trailer. The drain plumbing is made of ABS plastic, and is durable and resistant to most chemicals. All drain plumbing except the toilet connection terminates in the gray water holding tank and drains directly into it.

**Toilet**

Your trailer is equipped with a marine-type toilet. The flushing mechanism, whether a foot-operated pedal or a hand-operated lever, allows a valve in the bottom of the bowl to open, permitting the contents to be flushed into the holding tank. A stream of water under pressure from the trailer’s water system swirls around the bowl, cleaning it and flushing the contents into the holding tank. Most models have two levers, each working independently of the other so the bowl can be filled with water prior to use.

For additional information, please refer to the operating manual in your Owner’s Information Package.

**Dumping the Holding Tanks**

The holding tanks terminate in a valve arrangement that permits dumping each tank separately or together. The valves are called “knife valves”. A blade closes the opening in the sewer drain pipes. The blade is connected to a T-handle that is pulled to release the contents of the tank(s). During self-containment use, the sewer line is securely capped to prevent leakage of waste material onto the ground or pavement. DO NOT PULL THE HOLDING TANK KNIFE VALVE OPEN WHEN THE PROTECTIVE CAP IS INSTALLED ON THE PIPE. Always ensure that the tank is evacuated into an acceptable sewer inlet or dump station.

**WARNING**

**HOLDING TANKS ARE ENCLOSED SEWER SYSTEMS AND AS SUCH MUST BE DRAINED INTO AN APPROVED DUMP STATION. BOTH BLACK AND GRAY WATER HOLDING TANKS MUST BE DRAINED AND THOROUGHLY RINSED TO PREVENT ACCUMULATION OF HARMFUL OR TOXIC MATERIALS.**

Whenever possible, dump the holding tanks before traveling. Waste water and sewage in the holding tanks reduce the carrying capacity of the trailer.

Dump the holding tanks only when they are about 2/3 full. If necessary, fill the tanks with water to 2/3 full. This provides sufficient water to ensure complete flushing of waste material into the sewer line.

The holding tank outlet is set up to be used with a removeable fitting that locks onto the outlet with a clockwise twist. The sewer drain hose is clamped to this fitting.
when you need to drain the holding tanks. When you are operating self-contained, or you store the trailer, install the protective cap in place of the removable hose.

The hose is compressed and stored in the trailer’s hose carrier. When you want to drain the holding tanks:

**Attach the hose to the dump valve.** Extend the hose and insert the end of the hose into the sewer or dump station inlet, pushing it firmly far enough into the opening to be secure. In some cases, adapters may be necessary between the line and the inlet. Arrange the sewer hose so it slopes evenly and is supported to maintain the slope.

**Dump the black water holding tank first.** Grasp the handle of the black water knife valve (the large one) firmly and slide the valve open with a quick, steady pull.

**Allow enough time for the tank to drain completely.** Rinse and flush the tank and drain hose through the toilet with a garden hose. When the tank flow stops, push the handle in to close the valve.

**Repeat the steps above for the small knife valve(s) to dump the gray water holding tank.** This tank is dumped last to aid in flushing the outlets and drain hose. The gray water knife valve may be left open in a semipermanent hookup.

**Remove the sewer hose** and replace the cap.

**Rinse out the sewer hose** with fresh water and remove the sewer hose from the dump station.

**Replace sewer** or dump station covers.

**Store the sewer hose.**

*PLEASE... PRACTICE GOOD HOUSEKEEPING WHEN DRAINING WASTES AT A CAMPSITE OR DISPOSAL STATION. LEAVE THE SITE IN GOOD ORDER. ABOVE ALL, DO NOT POLLUTE.*

**Holding Tank Care and Maintenance**

Since holding tanks don’t rely on any sophisticated mechanical devices for their operation, they are virtually trouble-free. The most common problem is also an unpleasant one clogging. You can minimize the chances of clogging by keeping the following considerations in mind:

- Keep the black water tank knife valve closed. Fill tank to at least 2/3 full before dumping. Be sure to cover the tank bottom with water after dumping.

- Use only toilet tissue formulated for use in septic tank or RV sanitation systems.

- Keep both knife valves closed and locked, and the drain cap tightly in place when using the system on the road.

- Use only cleaners that are approved for use in septic tank or RV sanitation systems.

- Use a special holding tank deodorant chemical approved for septic tank systems in the black

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[Image: Black Water and Gray Water Diagram]
and gray water holding tanks. These chemicals aid the breakdown of wastes and make the system much more pleasant to use.

Do not put facial tissue, paper, grease, ethylene glycol-based or other automotive antifreeze, sanitary napkins, or household toilet cleaners in the holding tanks.

Do not put anything solid in either tank that could scratch or puncture the tank.

If the drain system does get clogged:

*Use a hand-operated probe to loosen stubborn accumulations.*

*Seriously clogged P-traps may require disassembly. Be careful not to overtighten when reassembling.*

*Do not use harsh household drain cleaners.*

*Do not use motorized drain augers.*

*Sometimes the holding tank valve will get clogged. In this case, a hand-operated auger may be necessary. Be ready to close the valve quickly once the clog is cleared. If the seal gets damaged, it must be replaced.*

**WATER SYSTEM WINTERIZING**

If the trailer is to be stored unheated in temperatures below freezing, the fresh water and waste systems must be winterized. Refer to “Storage Below Freezing” in the “TRAILER STORAGE” chapter.
The electrical systems in your trailer are designed and installed in accordance with all codes, regulations, and standards in effect at the time the trailer was built.

There are three basic systems in your trailer. The 120 volt AC system is similar to that in a house; it is supplied by an external service connection, or by a generator set installed in a compartment (optional on certain models). The exterior lighting and braking systems use 12 volt DC power supplied by the tow vehicle. The interior lighting, fans, and most appliances use 12 volt DC power supplied either by the trailer battery, the tow vehicle, or by the AC/DC power converter.

120 VOLT AC ELECTRICAL SYSTEM

This system provides grounded (three wire) electrical service for appliances such as air conditioners, microwave ovens, etc. The 120 volt system also provides power for the AC/DC power converter. Your trailer is equipped with a heavy duty power cord to connect to an external 120 volt, 30-amp rated AC service. The cord and plug are molded together to form a weatherproof assembly. Do not cut or alter the cord in any way. Do not remove the ground pin from the attachment plug, or defeat the ground circuit in the trailer. If you have to use an adapter to plug into an electrical service, make sure the ground is maintained. Never use a two-conductor extension cord, or any cord that does not assure appropriate and adequate ground continuity. Never plug the 120 volt cord into an ungrounded receptacle.

WARNING

DO NOT OPERATE THE 120 VOLT AC ELECTRICAL SYSTEM WITHOUT A PROPER GROUND.

Ground Fault Interrupter

Galley, bathroom and patio 120 volt electrical outlets are protected by a Ground Fault Interrupter (GFI). This device is provided in compliance with ANSI A119.2 and NFPA 501C requirements, and is intended to protect you against the hazards of line to ground electric faults and electrical leakage shocks possible when using electrical appliances in damp areas.

The GFI device is designed to disconnect the outlet (and other outlets on the same circuit), limiting your exposure time to the shock hazard caused by current leakage to ground.

The GFI device does not prevent electric shock, nor does it protect a person who comes into contact with both "hot" and neutral sides of the circuit. It does not protect against electrical circuit overloads.

Test the GFI at least once a month while operating on 120 volts AC. To test the GFI:

Push the TEST button. The RESET button should pop out, indicating that the protected circuit has been disconnected.

IF THE RESET BUTTON DOES NOT POP OUT WHEN THE TEST BUTTON IS PUSHED, A LOSS OF GROUND FAULT PROTECTION IS INDICATED. DO NOT USE THE OUTLET OR OTHER OUTLETS ON THE SAME CIRCUIT. HAVE THE TRAILER ELECTRICAL SYSTEM CHECKED AT AN AUTHORIZED TRAILER DEALER OR BY A QUALIFIED ELECTRICIAN. DO NOT USE THE SYSTEM UNTIL THE PROBLEM HAS BEEN CORRECTED.
To restore power, push the **RESET** button.

Your *Owner's Information Package* contains a card that can be used to record test dates. Keep the card in a conspicuous place, and keep it up to date.

**NOTE:** If the galley or patio outlets don’t work, check the bathroom GFI. Reset it if necessary. If the GFI continues to trip, have the trailer electrical system checked at an authorized Fleetwood dealer or by a qualified electrician.

## POWER DISTRIBUTION CENTER AND ENERGY MANAGER SYSTEM

The power distribution center is divided into three sections:

A) **The 12-volt fuse panel** contains the fuses for the 12-volt circuits, and is located in the upper right corner of the center. For more information refer to the **12-volt DC System - Interior** section of this chapter.

B) **The 120-volt circuit breaker box** contains the 30-amp main breaker and the 15- and 20-amp branch circuit breakers, and is located in the upper left section of the center. The 120-volt circuit breakers interrupt the power if the rated current is exceeded. Never substitute a breaker with a higher amperage than the rating labeled on the panel. If a breaker trips repeatedly, reduce the load on that circuit and have the system checked by a licensed electrician.

C) **The energy manager system** is designed to help you prevent overloading the 30-amp main breaker, and yet be as easy to use as possible. The appliances in your Avion, such as air conditioners, water heater, and a microwave oven, consume electricity. In addition to these major electrical loads, owners typically add others, such as an electric coffee pot, hair dryer, toaster, iron, etc. The electric usage guide below presents typical power consumption for many appliances. Since there is a limited amount of current available to power these loads, the energy manager system provides an automatic method of choosing which ones can be used at any given time.

Campgrounds are typically equipped with one or more receptacle outlets for 120-volt electrical power to energize your trailer. Refer to the configuration chart to determine the amperage available. The most common configuration is 30-ampere, however, 20-ampere is frequently found in some regions. Finally, 50-ampere service may be available in limited campgrounds or camp-sites.

<table>
<thead>
<tr>
<th>Appliance</th>
<th>Typical Wattage</th>
<th>Approximate Amperage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central air conditioner</td>
<td>1400 to 1900</td>
<td>12 to 16</td>
</tr>
<tr>
<td>Booster air conditioner</td>
<td>1000 to 1200</td>
<td>6.6 to 9.2</td>
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<tr>
<td>Blanket</td>
<td>50 to 200</td>
<td>.5 to 1.5</td>
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<tr>
<td>Blender</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>Charcoal lighter</td>
<td>1350 to 1500</td>
<td>11 to 13</td>
</tr>
<tr>
<td>Coffee maker</td>
<td>550 to 700</td>
<td>5 to 6</td>
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<tr>
<td>Computer</td>
<td>50 to 100</td>
<td>.5 to .9</td>
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<tr>
<td>Converter</td>
<td>300 to 650</td>
<td>2.5 to 6</td>
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<tr>
<td>Drill</td>
<td>250 to 750</td>
<td>2 to 6</td>
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<td>Frying pan or wok</td>
<td>1000 to 1350</td>
<td>8 to 12</td>
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<td>Vacuum</td>
<td>200 to 500</td>
<td>1.5 to 4</td>
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<td>Water heater element</td>
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<td>10 to 13</td>
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<td>500 to 1500</td>
<td>5 to 13</td>
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<td>Iron</td>
<td>500 to 1350</td>
<td>5 to 12</td>
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<td>Light bulbs (120-volt)</td>
<td>40 to 100 each</td>
<td>.3 to .9</td>
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<td>Microwave oven</td>
<td>700 to 1000</td>
<td>6 to 9</td>
</tr>
<tr>
<td>Refrigerator</td>
<td>350</td>
<td>3</td>
</tr>
<tr>
<td>Space heater</td>
<td>1000 to 1500</td>
<td>8 to 13</td>
</tr>
<tr>
<td>Television</td>
<td>150 to 600</td>
<td>1 to 4</td>
</tr>
<tr>
<td>Toaster</td>
<td>750 to 1200</td>
<td>6 to 10</td>
</tr>
<tr>
<td>Washer/dryer (Westport option)</td>
<td>250 to 1450</td>
<td>2 to 12</td>
</tr>
</tbody>
</table>
The Westport automatic energy manager system monitors the total current (amperage) draw on 30-amp or 20-amp service. If the demand for current exceeds the available supply, then the energy manager will automatically shut off or "shed" the predetermined heaviest loads as necessary. This prevents overloading the main circuit breaker in the trailer or the power service to which you are connected. This is done so that you are not required to manually operate switches to utilize the conveniences in your trailer. In other words the energy manager will shut down certain equipment in your trailer to allow you to use another appliance and then automatically switch this equipment back on when the demand for power is reduced. The predetermined appliances that lose electrical priority in the "shedding" process are as follows in this priority:

-- The first item to be shed (shut off) is the electric heating element in the water heater. Your water heater also functions on LP gas, therefore, hot water is still available but you must activate the DSI water heater control switch.

-- The second load to be shed is the compressor of the air conditioner. The fan will continue to operate for air circulation as the fan draws a relatively small load (approximately 3 amperes). IMPORTANT: Whenever your air conditioner has been shut off by the energy manager there will be a two (2) minute delay before re-start. This is required to protect the compressor motor from damage.

-- The last appliance that would be shed, if necessary, will be the optional washer/dryer (if equipped).

The energy manager system WILL NOT interrupt the power to any of the following, BUT IT DOES MEASURE THE POWER THEY USE:
- Microwave oven
- Refrigerator
- DC power converter
- VCR or TV
- Electrical receptacles throughout the trailer

If the energy manager system prevents you from using an item you need, (the air conditioner, for example) then YOU MUST REDUCE THE POWER CONSUMPTION in your trailer. If you are using any large loads such as a coffee maker, toaster, hair dryer, iron, etc., you reduce the load by turning these items off. This will allow the energy manager to provide power for the air conditioner. Additionally, you can operate your refrigerator on LP gas by pushing the AUTO/GAS button. You can also reduce the 120-volt demand from your converter by turning off 12-volt lights and vent fans.

**Energy Manager LED Monitor**

To help you understand what the manager may be doing during load shedding, a series of LED load indicators are visible on the 120-volt power panel. When power is available, the LED will be on. When the system turns off the load, the LED associated with that load will not be illuminated.

**30-amp/20-amp Control Switch**

Some campgrounds and most private residences may only offer 20-amp service. This will limit the available current for your trailer. When connected to 20-amp service you should change the energy manager to restrict current to the lower level. The 20-amp service limit can be activated by pushing the momentary switch. The 30-amp LED will go out. Whenever the 30-amp LED is not illuminated, the energy manager will limit power consumption to 20 amps. Push the momentary switch again and the 30-amp service will be restored. The system will always revert to the 30-amp limit when reconnected to 120-volt power. If you are uncertain of
the available amperage, refer to the connector configuration diagram above.

The Power Converter

The power converter will supply 12 volt DC power when your trailer is operating on 120 volts AC. When you are connected to 120 volt AC power, the power converter works with the trailer battery to provide power for the interior 12 volt system and to keep the battery charged. While a battery is not necessary for converter operation, when 12 volt power demand is high some converters will produce more stable voltage levels if a battery is installed. At these high power draws, the battery supplies some of the power demanded; obviously, it will not charge as quickly or completely under this condition.

NOTE: The 12 volt battery is not supplied with the trailer by the manufacturer.

The converter will supply a small current to the battery even when it is fully charged. To prevent excess electrolyte loss, check the levels every 30 days when the converter is connected to 120 volt AC power. Always refill with distilled water. See “Battery Inspection and Care” in this section.

12 VOLT DC SYSTEM - EXTERIOR

This is the vehicle electrical system. It includes the trailer brake system, taillights, turn signals, running lights, and backup lights (if equipped). It is powered by the tow vehicle through the car connector cord.

Exterior Bulbs and Fuses

Replace bulbs and fuses with the same type or equivalent.

Fuses for these exterior lights are located on the tow vehicle, usually in the tow vehicle fuse panel. The brake system should never be fused.

12 VOLT DC SYSTEM - INTERIOR

All 12 volt DC lights (other than those listed above), fans, pumps, and motors are included in this system. The fresh water pump, furnace, and any 12 volt entertainment equipment are also included. Power may be supplied by the tow vehicle, the AC/DC power converter, or by the trailer battery if installed.

The power center contains most of the fuses for the 12 volt system. Some fuses for items such as power jacks may be located at the trailer battery. These fuses are automotive type and should be replaced with the same type and amperage rating. Blade-type fuses located in battery compartments must be a sealed type (ATC). Some fuse types have exposed fuse links and should not be used near flammable materials.

WARNING

DO NOT INSTALL FUSES WITH AMPERAGE RATINGS GREATER THAN THAT SPECIFIED ON THE FUSEBOX OR FUSE HOLDER LABEL.

Circuits which are powered by the battery (except trailer brakes) are protected by one or more 12-volt circuit breakers. If one of these breakers trips, reset by disconnecting the battery. Find the cause of the breaker tripping before reconnecting the battery.

Battery charge can be checked on the Monitor Panel or Battery Disconnect panel, if equipped. To check the battery charge:

Unplug the 120 volt AC power cord to turn the power converter off.

Turn on a light to load the battery slightly.

Press appropriate switch to activate monitor panel.

Read battery condition on the display.

BATTERY INSPECTION AND CARE

WARNING

DISCONNECT THE 120 VOLT ELECTRICAL CORD AND BOTH CABLES FROM THE TRAILER BATTERY BEFORE WORKING ON EITHER ELECTRICAL SYSTEM.

WARNING

REMOVE RINGS, METAL WATCHBANDS, AND OTHER METAL JEWELRY BEFORE WORKING AROUND A BATTERY. USE CAUTION WHEN USING METAL TOOLS. IF THE TOOL CONTACTS THE BATTERY TERMINALS OR METAL CONNECTED TO THEM, A SHORT CIRCUIT COULD OCCUR WHICH COULD CAUSE PERSONAL INJURY OR FIRE.

WARNING

DO NOT ALLOW BATTERY ELECTROLYTE TO CONTACT SKIN, EYES, FABRICS, OR PAINTED SURFACES. THE ELECTROLYTE IS A SULFURIC ACID SOLUTION WHICH COULD CAUSE SERIOUS PERSONAL INJURY OR PROPERTY DAMAGE. WEAR EYE PROTECTION WHEN WORKING WITH BATTERIES.
Check the external condition of the battery monthly. Look for cracks in the cover and case. Check the vent plugs. Replace them if they are cracked or broken. Keep the battery and terminals clean. Accumulations of acid film and dirt may permit current to flow between the terminals and discharge the battery. To clean the battery, wash it with a diluted solution of baking soda and water to neutralize any acid present, then flush with clean water. Foaming around terminals or on top of the battery is normal acid neutralization. Avoid getting the soda solution in the battery. Be sure the vent caps are tight. Dry the cables and terminals before reinstalling them, and don’t use grease on the bare metal inside the cable terminals to prevent corrosion. Grease is an insulator. Electricity will not flow through it. A plastic ignition spray will protect the terminals after you have cleaned and reinstalled them.

To prevent the battery from shaking in its carrier, be sure the hold-down strap is securely installed. Check it often. Keep the battery storage box clean and free of corrosion and chemical accumulation.

Battery Charging

Normally the battery will be kept charged by the tow vehicle charging system while on the road, by the power converter when plugged into AC service or by the optional solar battery charger. On those occasions when the battery needs to be charged from a different charging source, please follow these safety guidelines:

**WARNING**

NEVER EXPOSE THE BATTERY TO OPEN FLAME OR ELECTRIC SPARK. CHEMICAL ACTION IN THE BATTERY GENERATES HYDROGEN GAS WHICH IS FLAMMABLE AND EXPLOSIVE.

Do not smoke near batteries being charged or which have been recently charged. Please note that batteries are being charged while you drive, while you are connected to 120 volt AC power by the converter or by the solar battery charger (if equipped).

Do not break live circuits at the terminals of the battery. Use care when connecting or disconnecting booster leads or cables on fast chargers. Poor connections are a common cause of electrical arcs which can cause explosions.

Check and adjust the electrolyte level before charging. Fill each cell to the indicator with distilled water.

Do not charge the battery at a rate that causes the electrolyte to spew out the top of the battery.

Always remove the vent caps before charging the battery.

**Selecting A Replacement Battery**

When the battery requires replacement, always choose a battery with the physical and electrical characteristics required for your trailer’s electrical needs. We recommend an RV/marine deep cycle battery. Your dealer or any other authorized Fleetwood dealer can advise you on proper battery selection.

**Storage Precautions**

When you store your trailer for a week or more, be sure to disconnect the battery. Electronic tuning radios, clocks, and the LPG leak detector all draw a small amount of current whenever the battery is connected. Also, even a disconnected battery will naturally “self discharge” about 1% of capacity per day. If you intend to store your trailer for any length of time, remove the battery, store it in a cool, dry place, and recharge every month.

*Note: If your trailer is equipped with a solar battery charger and will be exposed to direct sunlight, battery removal for storage is not necessary. Check the battery electrolyte at least every 30 days during storage.*

**TYPICAL BULBS AND FUSES**

The following is a list of typical 12 volt bulbs and fuses used in your trailer. It is wise to keep a couple of spares of each type on hand.

**Bulbs**

<table>
<thead>
<tr>
<th>Type</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior lights</td>
<td>#1141</td>
</tr>
<tr>
<td>Stop/tail lights</td>
<td>#1157</td>
</tr>
<tr>
<td>Porch light</td>
<td>#1003 or 93</td>
</tr>
<tr>
<td>License plate light</td>
<td>#67</td>
</tr>
<tr>
<td>Clearance lights</td>
<td>#194</td>
</tr>
<tr>
<td>Backup lights</td>
<td>#1156</td>
</tr>
</tbody>
</table>

**Fuses**

<table>
<thead>
<tr>
<th>Type</th>
<th>Amps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blade type (Buss® ATC)</td>
<td>7.5, 10, 15, 20, and 30</td>
</tr>
<tr>
<td>Glass type (AGC)</td>
<td>30</td>
</tr>
</tbody>
</table>
USA 120-volt Electrical System Wiring Diagram

Canada/CSA 120-volt Electrical System Wiring Diagram
Typical (USA & Canada) 12-volt Electrical System Wiring Diagram

(some equipment on diagram is optional and may not be available in your trailer)
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Liquified petroleum (LP) gas is available from storage tanks to operate your range, oven, furnace, water heater, and refrigerator. LP gas is stored in one or two special tanks, either mounted on the trailer tongue or in a ventilated compartment.

A typical LP gas tank installation is illustrated below. Although specific details of the system may differ in your trailer, the major components and their relationships will be similar to those shown (USA models only).

**WARNING**
LP GAS IS FLAMMABLE AND POTENTIALLY EXPLOSIVE. USE PROPER HANDLING, LIGHTING, AND VENTILATION PROCEDURES.

1. The distinctive odor of LP gas indicates a leak. IF YOU SMELL GAS:
   - Extinguish all open flames, pilot lights and all smoking materials.
   - Do not touch electrical switches.
   - Shut off the gas supply at the tank valve(s) or gas supply connection.
   - Open all doors, windows, and vents.
   - Leave the area until the odor clears.
   - Have the gas system checked and the cause of the leak corrected before using the system again.

2. Inspect the entire LP gas system for leaks or damaged parts before each trip.

3. Never check for leaks with an open flame. Use an approved leak detection solution or a non-ammoniated, non-chlorinated soap solution only. A childrens' bubble toy solution works well. If the leak cannot be located, take the trailer to an LP gas service representative.

4. Always be careful when drilling holes or fastening objects to the trailer. The gas supply lines could be punctured by a nail or screw.

5. Do not restrict access to LP tanks. In an emergency, the tank service valve must be easily accessible. Do not store items or block ventilation openings in LP compartments.

6. Do not carry or store filled or empty LP gas containers inside your trailer. LP gas containers are equipped with a safety device that relieves excessive pressure by discharging gas to the atmosphere. Leaks can occur at valves and fittings. Always store LP tanks with the valves closed.

**LP GAS SAFETY PRECAUTIONS**
Historically, LP gas is a safe and reliable fuel. As with any other volatile and flammable material, common sense dictates that LP gas be handled and used with respect and caution. Because LP gas systems are so reliable, they are often taken for granted. Neglect can be a very dangerous habit. If the system is maintained regularly, you can expect almost trouble free operation.
7. Do not use any LP gas tank other than the one furnished with your trailer without being sure that all connecting components are compatible.

8. WARNING: TURN OFF GAS MAIN VALVE AND INDIVIDUALLY TURN OFF ALL GAS APPLIANCES OR ELECTRICALLY DISCONNECT AUTOMATIC IGNITION APPLIANCES BEFORE ENTERING AN LP GAS BULK PLANT OR MOTOR FUEL SERVICE STATION. WHEN NOT INDIVIDUALLY TURNED OFF, AUTOMATIC IGNITION APPLIANCES MAY CONTINUE TO SPARK.

9. WARNING: DO NOT FILL LP GAS CONTAINERS TO MORE THAN 80% CAPACITY. OVERFILLING CAN RESULT IN UNCONTROLLED GAS FLOW WHICH CAN CAUSE FIRE AND EXPLOSION. A PROPERLY FILLED CONTAINER HOLDS ABOUT 80% OF ITS VOLUME AS LIQUID.

10. LP gas regulators must always be installed with the diaphragm vent facing downward. Make sure that the regulator vent faces downward and that the cover is kept in place to minimize vent blockage which could result in excessive gas pressure causing fire or explosion.

11. Do not use a wrench or pliers to close the service valve. This valve is designed to be closed leak-tight by hand. If a tool is required to stop a leak, the valve probably needs repair or replacement.

12. Use a proper wrench to tighten the POL fitting. Don't force, jam, or crossthread the fitting. Always check this fitting for leaks after tightening.

13. Be sure the tanks are securely fastened in their rack whenever they are mounted on the trailer.

14. If you do not have the special tools and training necessary, do not attempt to repair LP gas system components.

15. Always think safety.

SYSTEM COMPONENTS
Hoses & Fittings

The hoses used in your LPG system are UL or CGA listed, and are rated to withstand many times the pressures encountered in the system. Although they are designed for efficient and trouble free use, they can deteriorate from the effects of the sun and impurities in the air. The average life of LP hoses is two to three years. Consequently, check the hoses for weather checking or other signs of deterioration every time you have the gas tank(s) filled or serviced. Protect the hoses and other parts of the system from sunlight whenever possible. When you replace hoses, be sure that replacements are properly rated and approved for RV use.

The POL fitting ("spud and nut") at the end of the gas supply hose is probably the one with which you will most often come into contact — you will handle it many times during your trailer ownership to service and fill your gas tanks. It has a left-hand thread. Turn it to the left to tighten, turn right to loosen. Because the mating surfaces are brass, it does not require any type of pipe sealant. If it ever leaks or cannot be reasonably tightened without excess force, replace the complete hose assembly and/or have the tank valve checked and serviced.

This fitting contains an excess flow valve to restrict gas flow if the hose is cut or the regulator is broken. Note that it is not designed to detect a leak or to totally shut down the system if a failure occurs. In some cases, this valve can restrict gas flow if the gas valve is opened too quickly. Always make sure this area is clean when changing tanks, and always open the gas valve slowly — never "snap" it open.
LP Gas Regulator

The regulator is the heart of the LP gas system. It reduces the tank pressure, which can vary from 250 psi to 7 psi, to a steady 6 ounces (11 inches of water column) to serve the appliances in the trailer. It does this in two stages for safety and efficiency.

![EXCESS FLOW VALVE](Image)

Because the regulator is constantly "breathing" it is equipped with a vent. It is very important that the vent stays clean and free from obstruction. Clogging from corrosion, dirt, insect nests, or other debris is the most common cause of regulator malfunction. Even a small piece of material that finds its way into the vent can result in improper pressure in the system and possible damage to or failure of components. The regulator is mounted so that the vent is facing downward and is protected from water and dirt by a water-resistant cover. Be sure the cover is on at all times. If the vent becomes clogged, it can be cleaned with a toothbrush.

![Regulator (cover removed)](Image)

![Regulator (cover installed)](Image)

The regulator incorporates a feature known as "automatic changeover". Gas systems used in travel trailers are designed to operate from two separate gas tanks, and the auto changeover allows continuous gas supply.

Consider this situation: You start out with two full tanks of gas. A knob on the regulator has a reminder arrow that points to the tank that is supplying the system. This is the current "supply" tank. The other tank is the "reserve" tank. When the current supply tank becomes exhausted, the system will automatically switch to the reserve tank. A red indicator alerts you that the system has switched over. Note that the knob itself does not turn during the switch over process — you have to do that manually.

![Auto-Changeover Indicator & Knob](Image)

WARNING
DO NOT ATTEMPT TO ADJUST THE REGULATOR. IT HAS BEEN PRESET BY THE MANUFACTURER. IF ANY ADJUSTMENT IS REQUIRED, IT MUST BE MADE BY A QUALIFIED LPG SERVICE TECHNICIAN USING SPECIAL EQUIPMENT.
You now turn the knob so that the arrow points to the reserve tank. It becomes the "supply" tank. You can then remove the empty tank, have it filled, and reinstall it in the system. The newly filled tank is now the "reserve" tank. You alternate the process for uninterrupted gas supply. Be sure to turn the arrow each time so you know which tank is supplying the system.

### USING LP GAS AT LOW TEMPERATURES

Your LP gas system performance is affected significantly as the temperature drops. The liquid propane in the tank vaporizes by absorbing heat from the surrounding air. But as the air temperature drops closer to the vaporization (boiling) point temperature of this liquid, it doesn’t vaporize as easily. This is similar to turning down the heat under a simmering pot of water. Consequently, the BTU value (a measure of fuel availability) of the LP drops dramatically.

The following chart shows the reduction of BTU availability of propane gas as the temperature drops:

Note that less heat is available as your tanks empty. With this in mind, keep your LP tanks as full as possible during cold weather. Another factor that influences BTU availability is altitude; the lower air pressure lowers the boiling point and increases vaporization. These values should be compared to the BTU/hr rating plates on your appliances. This information can help you manage your LP gas requirements efficiently.

### Chart: 20 LB. Bottle *

<table>
<thead>
<tr>
<th>% FULL</th>
<th>+20°</th>
<th>0°</th>
<th>-5°</th>
<th>-10°</th>
<th>-15°</th>
</tr>
</thead>
<tbody>
<tr>
<td>60%</td>
<td>36,000</td>
<td>18,000</td>
<td>12,750</td>
<td>8,500</td>
<td>4,250</td>
</tr>
<tr>
<td>55%</td>
<td>32,400</td>
<td>16,200</td>
<td>12,150</td>
<td>8,100</td>
<td>4,050</td>
</tr>
<tr>
<td>40%</td>
<td>26,800</td>
<td>14,400</td>
<td>11,400</td>
<td>7,600</td>
<td>3,800</td>
</tr>
<tr>
<td>30%</td>
<td>20,200</td>
<td>12,600</td>
<td>10,400</td>
<td>7,300</td>
<td>3,700</td>
</tr>
<tr>
<td>20%</td>
<td>16,600</td>
<td>8,300</td>
<td>6,100</td>
<td>5,400</td>
<td>2,700</td>
</tr>
<tr>
<td>10%</td>
<td>12,200</td>
<td>8,100</td>
<td>6,075</td>
<td>4,050</td>
<td>2,025</td>
</tr>
</tbody>
</table>

*30 lb. Bottle multiply x 1.40

LP gas systems can and do freeze up in very cold weather. It is a common misconception that the regulator or the gas itself freezes. Actually, it is the moisture or water vapor that gets trapped in the system or absorbed by the gas that freezes and causes the problem.

Where does the water come from? From a variety of sources: The gas can be saturated with water when it comes out of the gas plant or refinery unless care is taken to see that it is thoroughly dehydrated; the gas can absorb water while it is transported if the tank cars contain water; the gas storage tanks may have water in them because moist air has been trapped in the tank because a valve was left open.

When this water freezes, the ice can build up and partially or totally block the gas supply. There are a number of things you can do to prevent this freeze up:

1. Be sure the gas tank is totally moisture-free before it is filled.
2. Be sure the tank is not overfilled. This is also a safety consideration.
3. Keep the valves on empty tanks tightly closed.
4. Have the gas tanks purged by the LP gas service station if freeze up occurs.
5. Have the LP service station inject an approved antifreeze or de-icer into the tanks.
6. Be sure you have the proper gas blend for your traveling area. If you have the proper gas blend, it is very unlikely that the gas is at fault.

If, despite precaution, you do experience freeze up, try melting the ice by warming the regulator using a small light bulb. DO NOT USE AN OPEN FLAME. Once flow is restored, make certain that the regulator cover is properly reinstalled to prevent water from entering the regulator which will cause it to freeze again. If the problem persists, ask your LP gas supplier to service the tank or regulator as required.
FILLING LP GAS TANKS

1. Close Empty Tank Valve
2. Turn Indicator to Full Tank
3. Loosen & Remove POL Fitting & Hose
4. Install Plug
5. Remove Wing Nut
6. Remove Regulator and Hold Down Bracket

WARNING
TURN OFF LP GAS TANK VALVE BEFORE FILLING LP GAS TANKS OR ENTERING AN LP GAS BULK PLANT OR MOTOR FUEL SERVICE STATION. TURN OFF ALL PILOT LIGHTS AND APPLIANCES INDIVIDUALLY BEFORE RE-FUELING OF MOTOR FUEL TANKS AND/OR PERMANENTLY MOUNTED LP GAS CONTAINERS. WHEN NOT INDIVIDUALLY TURNED OFF, AUTOMATIC IGNITION APPLIANCES MAY CONTINUE TO SPARK WHEN LP GAS IS TURNED OFF AT THE CONTAINER. DO NOT FILL LP GAS CONTAINERS TO MORE THAN 80% OF CAPACITY.

To fill the storage tanks, the tanks must be removed from the trailer and taken to an LP gas supplier or one of the service stations which sell LP gas. (Vertical tanks shown)
1. Open the LP tank compartment door.

2. Close the supply valve on the empty tank. Turn indicator knob to the full tank.

3. Disconnect the POL fitting at the valve. Turn it to the right (clockwise) to loosen. Be sure the plastic plug is clean, and thread it into the valve orifice. This will help protect the valve fitting threads, and will prevent contamination or debris from entering the valve during transportation to a gas service facility.

4. Remove the wing nut from the threaded rod. Remove the hold down bracket and regulator.

5. Remove the tank, and have it filled.

6. Reverse the procedure to replace the tank.

LP GAS SYSTEM LEAK CHECKS

The smell of LP gas (actually, an additive, ethyl mercaptan) indicates a leak. Obvious leak sources are fittings, valves, and couplings.

For your safety, check for leaks in your gas system each time the tank is filled or before each trip. Always check the system any time you detect a garlic-like odor.

The first time you have your LP bottles filled, have the serviceman bleed a little LP gas out of the small outage valve (this also lets you check that the bottle is not overfilled) and note the odor for future reference. A small number of people cannot smell this odor; if you are one of these you must take extra care in checking for leaks, as well as whenever you use LP appliances.

To perform a leak check, swab a mixture of a non-ammoniated, non-chlorinated soap solution or an approved leak detection solution over each fitting, joint and connection in the system. Open the tank service valve. Inspect each joint. If even the smallest bubbles appear at any joint, this joint must be remade. Refer repairs to an authorized Fleetwood dealer, or your LP gas service facility. Never attempt to repair gas piping without proper tools and know-how.

Potential trouble spots for leaks are areas where piping runs close to chassis and frame members. Look for chafes and cracks around pipe hangers. If you find defects in any LP gas system component, have it repaired or replaced before using the system.

As an added precaution, do a visual check of all exposed piping and fittings after you have arrived at a destination and before you use the LPG system. Travel and road shocks may have caused damage to the system that you will need to repair before using the appliances.

**WARNING**

NEVER CHECK FOR LEAKS WITH AN OPEN FLAME. DO NOT CHECK COPPER AND BRASS PLUMBING LINES AND FITTINGS FOR LEAKS USING AMMONIATED OR CHLORINATED HOUSEHOLD TYPE DETERGENTS. THESE CAN CAUSE CRACKS TO FORM ON THE LINE AND BRASS FITTINGS. IF THE LEAK CANNOT BE LOCATED, TAKE THE UNIT TO AN LP GAS SERVICE REPRESENTATIVE.

Keep the tank valve closed and turn off all appliances if the unit is not being used.

**WARNING**

DO NOT USE PLIERS OR A WRENCH TO TIGHTEN VALVES. IF A VALVE IS NOT LEAK-TIGHT WHEN CLOSED BY HAND, SEE AN LP GAS SERVICE REPRESENTATIVE.

LPG LEAK DETECTOR (If Equipped)

An LP gas leak detector may be located near the floor in the galley area. The unit contains an alarm that will sound alerting you to the presence of low levels of potentially dangerous LP gas that may have been released due to a gas leak.

**NOTE:** This device detects the presence of LP gas—it does not disconnect the gas supply.

The detector unit is powered by the 12 volt DC system and is always powered as long as the trailer is connected to the tow vehicle, a charged battery, or 120 volt AC shore power. A green light on the front panel indicates that the detector has power.

Test the leak detector each time the trailer is relocated and set up for use.

* Hold a butane-fueled pocket lighter near the sensor.

* Open the lighter valve without striking the flame.

* The leak detector should respond within a few seconds.
* Press the silence button to reset the alarm.

* Lightly fan the area around the detector to insure complete dispersion of the gas from the lighter, and to prevent another sounding of the alarm.

A silence button allows you to temporarily quiet the alarm for 60 seconds after it has been set off or after testing.

If the alarm does not sound during a test or if the green indicator light is not visible, see your dealer or any other authorized Fleetwood dealer. There are no batteries or user serviceable parts inside the unit.

NOTE: Since the detector is continuously powered, disconnect the battery if you are not using your trailer.

LIGHTING LP GAS APPLIANCES

Detailed operating information for the LP appliances can be found in your Owner’s Information Package. Please read and follow these instructions.

Air trapped in the gas lines may delay the initial lighting of any appliance. It could take several seconds or minutes for the gas to reach the appliance. To purge some of the air from the gas system, first light a burner on the range. The other appliances will then light more quickly.

The first time the furnace or oven is operated, paints and oils used in manufacturing may generate some smoke and fumes. If this occurs, open doors and windows to air out the trailer. These materials should burn off after the first 15 to 20 minutes of appliance operation.

ALWAYS FOLLOW THE APPLIANCE MANUFACTURER’S LIGHTING AND OPERATING INSTRUCTIONS.
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The appliances installed in your trailer are designed for use in recreational vehicles and have been tested by independent laboratories to comply with rigid standards for their intended use.

All appliances in the trailer are covered under Fleetwood's Ownercare Warranty and also by the appliance manufacturer. Fill out the individual warranty card for each appliance, and mail them to the respective manufacturer to insure warranty registration.

NOTE: The individual appliance manuals included in your Owner's Information Package contain detailed operating and maintenance instructions. For greater detail, always refer to the respective manual for the appliance in question.

WARNING
THE WATER HEATER AND FURNACE EXHAUST MAY BE EXTREMELY HOT DURING OPERATION. DO NOT TOUCH THESE OUTLETS OR ALLOW ANY MATERIAL TO COME IN CONTACT WITH OR COVER INTAKE OR EXHAUST WHILE OPERATING THE WATER HEATER OR FURNACE.

WATER HEATER
The water heater is either a 6 or 10 gallon LP gas, Direct Spark Ignition (DSI)/120-volt electric water heaters. Electronic ignition eliminates the problem of pilot outage and relighting your water heater.

RV water heaters are fueled by LP gas. Instructions for lighting the water heater can be found inside the access panel of the heater on the outside of the trailer or in the water heater operating instructions. The DSI switch is located on the monitor panel.

CAUTION
Do not operate the water heater until it is filled with water.

Turn on the hot water at the galley sink, and when water flows continuously the heater is full.

Your combination water heater is designed to operate with the gas burner, electric heating element, or with both operational. THE ELECTRICAL HEATING ELEMENT MUST BE COVERED WITH WATER TO PREVENT DAMAGE WHEN OPERATING ON 120-VOLT POWER. The electric heating element can be shut off by the switch located on the rear of the water heater or by the water heater circuit breaker in the 120-volt power distribution center. To insure availability of hot water, operate your water heater on both gas and electrical power, especially when you are using high load appliances such as the air conditioner(s), microwave, washer/dryer, etc.

Occasionally you may experience "weeping" of the pressure/temperature relief valve on the water heater. This is not a defect. It is caused by the normal expansion of water while it is being heated in the closed water system of your travel trailer. The water heater tank is designed internally with an air gap at the top of the tank to reduce this weeping phenomenon. In time, though, the heating and expansion of the water will absorb this air. To replace the air and reduce relief valve weeping:

CAUTION
Wait until the water in the heater tank is cool before performing these steps.

* Turn off the water heater.
* Turn off incoming water supply.
* Open a faucet in the trailer.
* Pull the handle of the relief valve straight out and let water flow until it stops.
* Release the relief valve handle and let the valve snap shut.
* Turn on the water supply.
* Close the faucet when water flows continuously without sputtering.
* Turn on the water heater.

This procedure will re-establish the air pocket at the top of the tank. If the relief valve weeps again, repeat the above procedure.

CAUTION
Do not plug the pressure-temperature relief valve under any circumstances.

FURNACE
The furnace is a forced air unit fueled by LP gas and electrically powered by 12 volts DC. All furnaces equipped with a wall thermostat contain an ON-OFF switch.
The furnace will not operate properly if your stored personal items block the free flow of air at the registers or the return air to the furnace. Storage under cabinets should be done carefully so as to not crush or damage the furnace ducting. The operating manual included in your Owner’s Information Package contains detailed operating and maintenance instructions.

During the initial lighting of a furnace, smoke and fumes may be created as a result of the burning off of manufacturing compounds. This is normal; however, the initial lighting should be done with windows and doors open and should be of adequate duration to completely burn off the residue.

**WARNING**
PORTABLE FUEL-BURNING APPLIANCES ARE NOT SAFE FOR HEATING INSIDE THE TRAILER. ASPHYXIATION OR CARBON MONOXIDE POISONING CAN OCCUR.

**RANGE**
The gas oven and burners are operated with LP gas. The basic operation is the same as the range in your home. Both the range top and oven are equipped with pilot ignition for your convenience. Be sure to turn off all pilots during refueling and relight as needed. For additional information, please refer to the operating manual in your Owner’s Information Package.

A 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 is limited in an RV due to the size and construction of the vehicle. Proper ventilation when using the cooking appliances will prevent the dangers of asphyxiation.

**WARNING**
DO NOT USE OPEN FLAMES TO WARM THE LIVING AREA. GAS COMBUSTION CONSUMES THE OXYGEN INSIDE THE TRAILER.

**RANGE EXHAUST HOOD**
The exhaust hood allows vapors and cooking odors to escape and provides a vent for the galley area. Switches for the fan and light are located on the front of the hood. Some models of range hoods require that the exterior damper be opened on the exterior of the trailer prior to use. This is accomplished by simply releasing the locks on both sides of the flap. Other models incorporate an "automatic" opening damper when the range fan is turned on. Be sure your exterior damper is opened when the range fan is in use.

The hood has a grease filter screen which requires periodic cleaning. To clean, remove the screen and wash in soapy water. Rinse with water and let the screen drain dry. The fan blades may also be cleaned with soapy water. Replace the cleaned filter in the exhaust hood.

When towing your trailer, be sure the exterior vent cover is closed to prevent damage. The open-close feature helps to keep weather and debris out of your trailer when the vent is not in use.

**REFRIGERATOR**
The refrigerator may be operated from either LP gas or 120 volt electric power, depending upon availability and your preference.

The LP type refrigerator operates on the “absorption” principle and therefore must be leveled. When your trailer is stationary, it should be leveled to be comfortable to live in. If you can live in the trailer comfortably, the refrigerator unit will perform well. If the refrigerator unit is not “close” to level, it will not function properly and your foods will not be adequately cooled. Refer to the “Leveling and Stabilization” section of this Owner’s Manual. Consult the operating instructions furnished in your Owner’s Information Package.

**Power Sources**
The refrigerator can operate on LPG or 120-volt AC power.

**Operation**
Before starting the refrigerator, be sure the gas supply valves are open.

See your Owner’s Information Package for details on operation and maintenance.

**Using the Refrigerator**
1. **Food storage compartment.** This area of the refrigerator is completely closed and unventilated, in order to maintain the low temperature required for proper food storage. Consequently, foods having a strong odor, or foods liable to absorb odors, should be placed in sealed containers. Vegetables, salads and the like should be covered to retain their crispness. The coldest positions inside the refrigerator are underneath the cooling evaporator and at the bottom of the unit and the least cold positions are on the upper door shelves.

2. **Ice Making.** Fill ice cube trays to within 1/4" of the top. Release the ice cube twist by twisting the tray. Ice making can be accelerated by setting the thermostat to MAX. Do this a few hours before the ice will be needed, but always turn back the thermostat to its former setting once the ice is formed, or the foodstuffs in the storage compartment may freeze solid.
3. **Cleaning.** Remove all food to avoid possible contamination from cleaning agents. The interior lining of the refrigerator can be washed with a weak, lukewarm soda solution. All other parts must be cleaned with warm water only. Never use strong chemicals or scouring powders; they can damage the protective surfaces. Wipe all surfaces dry with clean, absorbant cloth.

4. **Defrosting.** Shut off the refrigerator. Empty the refrigerator leaving the drip tray under the finned evaporator and the cabinet and freezer doors open. If desired, defrosting may be speeded up by filling the ice tray with hot water and placing it in the freezer. It might be necessary to empty the drip tray once or twice during defrosting. When all frost is melted, empty the drip tray and dry the interior with a clean cloth. Replace the drip tray and ice tray, replace all food and set the thermostat to MAX for a few hours. Then reset the thermostat knob to its normal position.

5. **Shut Down.** If the unit is to be out of operation between trips, empty and clean the food compartment and freezer as previously described. Ice cube trays should be emptied, wiped dry and stored in one of the galley storage cabinets. Leave the refrigerator doors open slightly or place containers of activated charcoal inside to prevent the formation of mildew and odors.

**Periodic Maintenance**
Disconnect 120-volt AC and 12-volt DC leads before working on the refrigerator. Shut off gas valve.

The refrigerator has been designed to run with a minimum of service, but in the event a problem should arise while you are traveling, you will want to know how to locate and correct it, in order to keep the unit functioning until it can be checked by a qualified, factory-trained technician.

**MICROWAVE OVEN**
The microwave oven is powered by 120 volt AC power and will only operate when connected. A wall receptacle for the microwave is located in the overhead cabinet adjacent to the microwave cabinet. All Fleetwood trailers are designed to accept certain models of Magic Chef® microwave ovens. Installation of other types requires special attention to provide proper venting. Refer to the "Magic Chef® Care, Use and Safety Manual and Cookbook" for additional information.
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ENTRY STEP
Folding or sliding entry steps are located under each entry door. Some models may have double or triple steps.

To extend the double or triple step:
- **Pull** complete step assembly out; let it down completely.
- **Unfold** bottom step(s) from over top step; lower completely.
- **Reverse** to retract.

ENTRY DOORS, SCREENS, AND LOCKS
Entry door locks and deadbolts are keyed separately. Write down all key numbers in the “Identification Information” section of this manual.

The screen door may be separated from the main entry door. A holdback mechanism will secure the main door against the side of the trailer.

It is always a good idea to lock the entry door deadbolt(s) before traveling. This will reduce the possibility of the door(s) opening on the road.

WINDOWS
Windows in your trailer are either slider, torque, fixed panel or emergency exit type. Torque windows may be opened and adjusted by turning the knob or crank located at the bottom corner of the window.

Any ventilating window may permit water inside. This water must be trapped and provisions made for draining it to the outside.

On your ventilating windows, water is trapped by the frame. During a heavy downpour, water may be seen in the lower portion of the frame. The sloping sill and weep slots allow the water to drain to the outside. These weep slots must be kept open.

**IF WATER COLLECTS IN THE BOTTOM CHANNEL AND OVERFLOWS**, check the weep slots for debris and obstructions.

Emergency Exit Window (if equipped)
The emergency exit window provides an escape route in case the trailer must be evacuated under emergency conditions. The emergency exit window is provided only on models requiring an additional exit. To operate the window, pull the red handle(s) and push the window out. When parked at your campsite, be sure the exit window is not blocked by trees or other obstacles.

Storm windows should never be installed over emergency exit windows. Emergency exit windows can be identified by the red handles and EXIT tag.

FREE-STANDING FURNITURE
When preparing for travel, secure free-standing furniture. Lamps, chairs, tables, or other items can move around inside the trailer while traveling and can be damaged or damage other furniture, cabinetry, or flooring.

DINETTE CONVERSION (If Equipped)
To convert the dinette into a bed:

- **Remove** cushions.
- **Lift** table, reach underneath, un latch and fold the leg up under the table top, or remove the table leg(s) and if necessary, store them between the seats.
- **Raise** front portion of table several inches to disengage inserts from the wall supports.
- **Lower** table top to the dinette frame to complete bed base.
- **Slide** seat and back cushion into place over bed base.

The under-seat storage may be reached by raising the cushion platform.

MAGIC BED® CONVERSION (If Equipped)
To convert a Magic Bed® into a bed:

- **Remove** back cushions and side bolsters.
- **Lift** the lower front kick panel and seat upward and outward.
- **Rotate** the seat cushion back and down to make into a bed.
- **Reverse** the procedure to restore into seating position.
SOFA CONVERSION (If Equipped)

To convert a sofa bed into a bed:

- **Remove** sofa bolsters (if applicable).
- **Lift** front of sofa seat (above front kick panel) up and out.
  
  The back of the sofa will drop back and down as the seat is pulled outward.

To restore the sofa/lounge:

- **Lift** the front edge of the sofa seat up, and push it back towards rear. The sofa back will come up.
- **Push** the sofa fully into position.

FOLDING DOORS (If Equipped)

The folding door(s) allow you to separate areas in the trailer for privacy or heating/cooling management. These doors glide on nylon rollers which do not require lubrication. When the doors are open while traveling, be sure to reattach the holdback strap to keep the doors from sliding back and forth.

INTERIOR LIGHTING

Both decorative and "utility" style lighting fixtures are used in your trailer. Utility fixtures may be either single or dual. A slide switch operates the light and either single or dual brightness may be selected on dual lights. Select other incandescent lights are equipped with wall switches when there is no switch visible on the light.

Replace all light bulbs with the same type and wattage as originally installed or as indicated on the fixture.

OVERHEAD VENTS

Several overhead vents are located throughout the trailer for fresh air circulation and exhausting heat, odors and water vapor.

The 12-volt powered vents (where equipped) have a hand crank at the side to open the lid. The 3-speed fan switch controls fan operation. The fan will not turn with the lid closed and will shut off when the lid is closed.

If you travel in heavily wooded areas or other places where overhead clearance is restricted, close the vents or lower them so they don't strike overhead obstructions. To avoid damage, do not travel at highway speeds with the vent lid fully extended.

The vents may be cleaned from the top of the trailer. Use soapy water on the vent cover. The screens may be vacuumed or lightly brushed to remove accumulations of leaves or other debris.

Lubricate the gears and mechanism yearly with a light, water resistant grease.

AIR CONDITIONER

The air conditioner can operate only when the trailer is connected to 120-volt AC power from either a public utility or the generator. Be sure to turn the circuit breaker(s) ON. Some models provide a "distribution selector" switch to power the air conditioner or some other appliance. Be sure your switch is in the AIR CONDITIONER position.

For maximum performance, park the trailer in the shade and close window coverings. Close doors and windows and turn the temperature control knob for desired coolness. Adjust the air deflectors to your personal needs. Remember that the air conditioner consumes a large portion of your available electric power. Refer to the air conditioner manufacturer's instructions for detailed operation and preventive maintenance requirements.

Your trailer is equipped with hidden ceiling ducting to improve the flow of air to remote areas. The air conditioner is controlled by a wall-mounted thermostat.

Experience has shown that some RV parks may experience reduced power (low voltage) on days with high heat or humidity, commonly referred to as a "brown out." This condition may result in the air conditioner circuit breaker tripping in your power distribution center. This protects your air conditioner motor from damage and is necessary during low voltage conditions. This breaker tripping is sometimes perceived as a fault in your trailer, but it is a necessary "safety valve".

SMOKE DETECTOR

Most fire casualties are caused by inhalation of toxic fumes (smoke) from a fire and not by flame. The smoke detector responds to smoke that enters the sensing chamber. It does not sense gas, heat or flame.

A battery powered smoke detector complying with ANSI A119.2/NFPA 501C is located in the living/cooking area of your trailer. Please read the smoke detector Owner's Manual for details on testing and caring for this important safety device.

Test the smoke detector after the trailer has been in storage, before each trip, and at least once a week during use.

Turn the smoke detector counterclockwise to remove it from the bracket.

The smoke detector should never be disabled due to nuisance or false alarm from cooking smoke, a dusty furnace, etc. Ventilate your trailer with fresh air and the alarm will shut off. DO NOT DISCONNECT THE BATTERY.

Replace the battery once a year or immediately when the low battery "beep" signal sounds once a minute. The
detector uses a standard nine-volt battery, usually available at any retail store that sells batteries.

Test the operation of the smoke detector after replacing the battery. If the smoke detector fails to operate with a new battery, replace it with a new unit, available through an authorized Fleetwood dealer.

FIRE EXTINGUISHER

The fire extinguisher in your trailer is located near the main entrance door. Read the operating instructions that are printed on the extinguisher. You and your family should be familiar with fire extinguisher operation. Your fire extinguisher should be replaced immediately after use or discharge.

CARBON MONOXIDE DETECTOR (if Equipped)

Your trailer may be equipped with an optional carbon monoxide (CO) detector. Usually located in the main sleeping area, it is designed to alert you to the presence of dangerous levels of carbon monoxide in the air. Check the detector for normal operation at each camping set-up or weekly. Depending on the particular detector in-
stalled, it may require annual sensor and battery replacement. Please refer to the use instructions included in your Owner Information Package.

ENTERTAINMENT EQUIPMENT (if Equipped)

Instructional material for the optional entertainment system is included in your Owner’s Information Package.

If additional entertainment equipment requiring 12-volt DC power is installed in the trailer, obtain the 12-volt DC source from the Fused Battery Circuit at the power converter. If you install entertainment equipment requiring 12-volts DC, a choke filter with an amperage rating matched to the current requirements of the equipment may be necessary to eliminate “hum”.

TV ANTENNA

The roof-mounted antenna is designed for reception of VHF and UHF television signals. The signal is carried on 75-ohm shielded coaxial cable. Operating and maintenance instructions are included in your Owner’s Information Package.

When getting ready to travel, remember to lower the antenna and secure it to prevent damage to the antenna, trailer roof, or objects in the path of the antenna, such as overhead wires. DO NOT TRAVEL WITH THE ANTENNA RAISED.

The booster switch should be turned off to prevent battery drain. A red indicator light will glow when the unit is on. Park cable installations do not require booster operation.

Antenna Operating Instructions

Before raising antenna, check for clearance above the vehicle.

1. To raise the antenna to operating position, turn crank toward UP until you feel resistance. Switch the TV power to ON.
2. To rotate antenna, pull down on rotating knob with both hands until it disengages the ceiling plate. With the booster OFF, turn the antenna for the best picture and sound. If you can't get a "good" picture with booster off, turn on the booster. Do not rotate antenna except in the full UP position.

3. To lower the antenna, first rotate it to align the pointer on the ceiling plate. Then turn the crank toward the down position; stop when resistance is felt. Never lower antenna to any position without first aligning pointer.

4. DO NOT FORCE ANTENNA.

**WARNING**
DO NOT RAISE ANTENNA NEAR OVERHEAD ELECTRIC WIRE AS CONTACT MAY CAUSE SERIOUS INJURY.

**TV AND RADIO INTERFERENCE**

The television and radio systems in your RV have been chosen to provide good performance under varied signal conditions. Occasionally, though, you may experience "ghosts" on TV, "flutter" when listening to FM broadcasts, or other signal interference.

The fault is normally not with your receiver. Neither is your antenna system usually at fault. The idea that antennas, whether amplified or unamplified, "pull in" a signal is a popular misconception. An antenna does not pull a signal out of the air by virtue of its "power". The antenna only responds to signals present at the antenna elements. Antennas with boosters only amplify these signals.

Since distance from the broadcast tower is critical to reception clarity, remember that TV and FM signals have a range of only about 75 miles under the best of atmospheric and geographic conditions. The good reception you get at parks located at great distances from broadcast facilities is probably the result of satellite, microwave or other cable distribution systems. The antenna on your RV is no competition for these very expensive installations.

In addition, TV and radio frequency interference results from the electromagnetic fields produced by electric arc discharge. This arcing is found in lightning, vehicle ignition systems, and in 12 volt DC (brush type) motors used in power vents and furnaces. Note that nearly every DC motor has brushes. Most alternating current (AC) motors do not have brushes, and therefore do not generate the arcing interference. This is why this type of interference is less noticeable in a household environment.

As the signal diminishes with distance and geographical features (mountains, etc.), the effect of electric arc interference may become more and more noticeable. Eventually, the signal will be overcome by the interference. The following suggestions can improve reception:

* Use the "park cable" TV antenna system of your RV in remote areas rather than the roof antenna if the campground provides cable hook-up.

* Turn the television antenna. Sometimes turning the antenna will pick up a stronger signal. Try turning or rotating the antenna throughout its range. You may find your signal in a very unexpected direction.

* With FM stereo signals, switch the unit to MONO, if possible. Some of the phase and noise components of a stereo signal will disappear in MONO mode.

* Reduce the treble setting to reduce background noise. Although not yielding the best high-frequency performance, at least you may be able to reduce the irritation of the distortion and noise.

**SLIDE-OUT ROOM (If Equipped)**

The slide-out room is designed to provide additional living space for site set-up.

**CAUTION**

Never attempt to move your fifth-wheel with the bedroom slide-out room extended. Damage can occur to the slide-out or the fifth-wheel.

Before operating the slide-out room, level and stabilize your trailer as described in the "Levelling and Stabilization" section of the "Living with Your Trailer" chapter of this manual. Be certain that the stabilizer jacks make solid contact with the ground or other set-up surface. If the trailer is not leveled and stabilized, the slide-out, trailer and/or mechanism may be damaged. The stabilizer jacks help keep the trailer square and assure a weather-tight seal between the room and the trailer sidewall. The living room and optional bedroom slide-out rooms are hydraulically operated. Check the hydraulic fluid level if the room fails to extend or retract fully. If the fluid level is low, add Type A Automatic Transmission Fluid (ATF) only. **DO NOT USE HYDRAULIC OIL.**

**Slide-Out Operation**

Before extending or retracting the slide-out, make sure the trailer 12-volt batteries are fully charged, the trailer is connected to the tow vehicle, or the unit is connected to
a 120-volt source so that a charge is supplied to the batteries. The 12-volt slide-out pump motor may draw up to 85 amps during operation.

**WARNING**

**BE SURE TO REMOVE THE TRAVEL LOCKS BEFORE EXTENDING THE SLIDE-OUT. STAND CLEAR OF THE ROOM'S INTERIOR PATH AND VERIFY THAT THE EXTERIOR PATH IS CLEAR BEFORE EXTENDING THE ROOM.**

Remove all travel locks before operating the slide-out. The travel locks are rubber-tipped aluminum rods (similar to closet rods) with a yellow and red identification sticker. Install travel locks at the top corners of the slide-out when the room is fully extended.

Replace all travel locks before moving the trailer. Be sure all travel locks are in place.

To extend the slide-out room, depress the control switch until the room is fully extended to the seal points. Do not place stabilizer jacks under the slide-out room.

Both 120-volt AC and 12-volt DC power is connected to the room through connections in the floor. No further connections are required.

**WARNING**

**STAND CLEAR OF THE ROOM’S PATH BEFORE RETRACTING THE ROOM.**

To retract the slide-out room, move or rearrange furniture or other items to provide clearance for the room to retract into the trailer. Depress the control switch until the room is fully retracted to the seal point.

**REPLACE THE TRAVEL LOCKS IN THE TOP CORNERS OF THE SLIDE-OUT ROOM BEFORE MOVING THE TRAILER.**

**Slide-Out Troubleshooting**

If your slide-out room fails to operate, check the following:

**Battery Charge.** Make sure your batteries are adequately charged and boost your batteries with your tow vehicle charge line and/or connect your 120-volt AC electrical cord. Reduce the electrical load on the batteries by turning out 12-volt lights, fans and appliances.

**Hydraulic Fluid.** Check the hydraulic fluid level if the room fails to extend or retract fully. If the fluid level is low, add Type A Automatic Transmission Fluid (ATF) only. DO NOT USE HYDRAULIC OIL.

**Room Binding.** Hydraulic pumps are very powerful. The force generated on the slide-out mechanism could cause damage to the room or sidewall if a bind occurs. Be sure to correct any binding conditions to prevent damage.

**Slide-Out Seals.** Slide-outs that have been extended or retracted for a long period of time may exhibit some degree of "seal stick" when put back into use. This sticking can be reduced or eliminated with 303 Protectant® (a polymer based product). Use of any other protectant which may be petroleum based may degrade the rubber seals. 303 Protectant® should be available through your dealer’s service department. A two-ounce sample is supplied with your trailer along with reorder information in your Owner's Information Package. Spray each of the rubber seals lightly to eliminate sticking. If seals deteriorate excessively due to ultraviolet exposure or continuous compression they may need to be replaced.

**BEDROOM SLIDE-OUT ROOM (If Equipped)**

The bedroom slide-out room is available as an option on some models.

**CAUTION**

Never attempt to move your fifth-wheel with the bedroom slide-out room extended. Damage can occur to the slide-out or the fifth-wheel.

Before operating the bedroom slide-out room, be sure your fifth-wheel is leveled and stabilized as described in the "Leveling and Stabilization" section of the "LIVING WITH YOUR TRAILER" chapter of this manual. It is very important to use the king pin stabilizer when operating the bedroom slide-out. Unless your fifth-wheel is level and stable, there is a potential for damage. Additionally, a proper weather seal may not be achieved.

**Slide-Out Operation**

Before extending or retracting the slide-out bedroom, make sure the trailer 12-volt batteries are fully charged, the trailer is connected to the tow vehicle, or the unit is connected to a 120-volt source so that a charge is supplied to the batteries. The bedroom slide-out may draw up to 85 amps during operation.

**WARNING**

**BE SURE TO REMOVE THE TRAVEL LOCKS BEFORE EXTENDING THE BEDROOM. STAND CLEAR OF THE ROOM’S INTERIOR PATH AND VERIFY THAT THE EXTERIOR PATH IS CLEAR BEFORE EXTENDING THE ROOM.**

The slide-out activation switch is mounted on the bedroom wall adjacent to the slide-out room. Depress the control switch until room is fully extended. The 12-volt bedroom lighting is connected under the bed and requires no connection to function.
WARNING
STAND CLEAR OF THE ROOM'S PATH BEFORE RETRACTING THE BED.

To retract the bedroom slide-out, rearrange the area in the bed path to provide clearance for the bed to retract into the trailer. Depress the control switch until room is fully retracted.

Bedroom Slide-Out
Maintenance And Troubleshooting

If your bedroom slide-out fails to operate, refer to the preceding section on “Slide-Out Troubleshooting” for the main living/dining room slide-out. Each of these items apply to the bedroom slide-out also.

POWER HITCH JACK (Travel Trailers)
The power hitch post jack is a 12-volt motor driven screw jack which eliminates the physical effort required to lift and lower your trailer during hitching, unhitching and leveling of your trailer. It is recommended that the car connector charge line be connected while operating this jack to reduce the power drain on your battery. Refer to the Owner’s Information Package for operating instructions. See the leveling procedures for travel trailers in the “LIVING WITH YOUR TRAILER” chapter.

POWER LANDING GEAR JACKS (Fifth-Wheels)
The power landing gear is a 12-volt motor driven jack system which eliminates the physical effort required to extend and retract the landing gear during hitching, unhitching and leveling of your fifth-wheel. It is recommended that the car connector charge line be connected while operating this jack to reduce the power drain on your battery. The power control switch has been equipped with a key to prevent others from tampering with the landing gear on your fifth-wheel. We recommend you keep it locked OFF except when in use. Refer to the Owner’s Information Package for operating instructions. See the leveling procedures for travel trailers in the “LIVING WITH YOUR TRAILER” chapter.

SOLAR PANEL CHARGER READY

Your trailer is equipped with wiring and roof terminals to accommodate a future solar panel battery charger.

This installation is designed for an after market solar 12 volt battery charging system manufactured by Siemens® Solar Industries (formerly Arco Solar®). This installation should be performed by a competent, knowledgeable, electrical technician in order to provide a safe, reliable system. Read also the following section on “Solar Panel Battery Charger”.

SOLAR PANEL BATTERY CHARGER (Optional)
The solar battery charger option generates DC electricity when exposed to sunlight or other light. The solar option is designed for operation in 12 volt RV systems only and should not be used in systems of other voltages. Observe correct polarity when connecting the power cable wiring. The electrical power output of the charger panel is maximum in complete, direct sunlight. Shading any portion of the panel will diminish it’s efficiency and output. Follow all safety precautions regarding battery charging. See the “Battery Charging” section of the “ELECTRICAL SYSTEMS” chapter. Refer to the Owner’s Information Package for information about the solar charger.

GENERATOR READY

Fifth-wheel trailers are equipped with a generator ready compartment designed for after-market installation. This compartment is internally pre-wired for remote start and 120 volt AC connections in your trailer. A gasoline tank and generator fuel feed is also included in the option package. The Fleetwood option package was specifically designed for installation of an Onan 4 KW Mircrolite Gen Set. Other installations require modifications and are not approved.

WARNING
GENERATOR INSTALLATIONS REQUIRE QUALIFIED TECHNICIANS. GENERATOR INSTALLATIONS MUST COMPLY WITH ALL MANUFACTURER INSTRUCTIONS AND APPLICABLE CODES. DO NOT ATTEMPT TO INSTALL A GENERATOR SYSTEM UNLESS YOU ARE TRAINED AND FAMILIAR WITH APPLICABLE CODES AND INSTALLATION TECHNIQUES.
We strongly recommend that you purchase and install a carbon monoxide alarm in your trailer if you add a generator unit to your trailer.

**WARNING**

**BEFORE OPERATING ANY GENERATOR, READ AND UNDERSTAND THE "GENERATOR" SECTION OF THIS MANUAL AND THE MANUFACTURER'S OPERATING INSTRUCTIONS FOR YOUR GENERATOR.**

**GENERATOR**

(Optional some models)

Your trailer may be equipped with a gasoline powered generator which will provide complete electrical self-containment when public utility 120 volt AC power is unavailable. Controls are both at the generator and at a remote control panel located inside the trailer. The remote control includes a START/STOP switch and an indicator lamp that illuminates when the unit is operating.

The 120 volt output of the generator is connected directly to a receptacle located inside the 120 volt cord storage compartment. With the generator power plant operating and the power cord plugged into this receptacle, power is available at all of the 120 volt power outlets in the trailer, just as if the cord were connected to an external source.

**NOTE: Refer to your Generator Power Plant Manufacturer's Instruction Manual (provided in your Owner's Information Package) for service information before starting the generator. Do not attempt to start unit with a heavy power load connected. Always wait at least three minutes after starting generator before turning on (or plugging in) heavy electrical loads, such as the roof air conditioner or microwave oven.**

To start the generator, press the START/STOP switch to the START position and hold until the unit starts, then release the switch. If the unit is slow to start, DO NOT hold the switch in the START position for more than 10 seconds. Release the switch, wait two minutes, then try again. This will help avoid overheating and damaging the generator starting system. If this system fails to start the generator, a troubleshooting guide is provided in the manufacturer's instructions.

To stop the unit, hold switch to the STOP position until the engine stops. Be sure to hold it until the engine stops or the engine will continue to run. The engine should always be run for several minutes without a load in order to cool down before stopping.

**Generator Operating Safety Precautions**

* Read and understand the generator operating, maintenance and safety precautions furnished in your Owner's Information Package.

* Do not fill fuel tanks while the engine is running. Fuel contact with a hot engine or exhaust is a fire hazard.

* Do not smoke or use an open flame near the generator unit or fuel tank.

**CAUTION**

Do not block the generator ventilating air inlets or outlets. The air-cooled engine requires a constant supply of cooling air. Restricted ventilating air inlets or outlets can cause engine failure or fire from engine overheating.

* Do not use generator ventilating air for heating any interior living space. Ventilating air can contain high concentrations of lethal gases.

**WARNING**

**DO NOT PLACE FLAMMABLE MATERIAL OR STORE ANY OTHER MATERIALS IN THE GENERATOR COMPARTMENT.**

* Check engine fuel lines often. Fuel leakage in or around the compartment is an extreme fire hazard. Do not use the generator until fuel leaks are repaired.

**WARNING**

**EXHAUST GAS IS DEADLY! EXHAUST GASES CONTAIN CARBON MONOXIDE, AN ODORLESS AND COLORLESS GAS. CARBON MONOXIDE IS POISONOUS AND CAN CAUSE UNCONSCIOUSNESS AND DEATH. SEE THE "Carbon Monoxide Safety Precautions" SECTION OF THE "ON THE ROAD" CHAPTER.**

**PROTECTION AGAINST CARBON MONOXIDE INHALATION ALSO INCLUDES PROPER EXHAUST SYSTEM INSTALLATION AND VISUAL AND AUDIBLE INSPECTION OF THE COMPLETE EXHAUST SYSTEM AT THE START OF EACH GENERATOR SET OPERATION.**

**DO NOT BLOCK THE TAIL PIPE OR SITUATE THE TRAILER IN A PLACE WHERE THE EXHAUST GASES HAVE ANY POSSIBILITY OF ACCUMULATING EITHER OUTSIDE, UNDERNEATH, OR INSIDE YOUR VEHICLE OR ANY NEARBY VEHICLES. OUTSIDE AIR MOVEMENTS CAN CARRY EXHAUST GASES INSIDE THE VEHICLE THROUGH WINDOWS**
OR OTHER OPENINGS REMOTE FROM THE GENERATOR EXHAUST. OPERATE THE GENERATOR ONLY WHEN SAFE DISPERSION OF EXHAUST GASES CAN BE ASSURED. MONITOR OUTSIDE CONDITIONS TO BE SURE THAT EXHAUST GASES CONTINUE TO BE DISPERSED SAFELY.

DO NOT UNDER ANY CIRCUMSTANCES OPERATE THE GENERATOR WHILE SLEEPING. YOU WOULD NOT BE ABLE TO MONITOR OUTSIDE CONDITIONS TO ASSURE THAT GENERATOR EXHAUST DOES NOT ENTER THE INTERIOR, AND YOU WOULD NOT BE ALERT TO EXHAUST ODORS OR SYMPTOMS OF CARBON MONOXIDE POISONING.

* Check the generator exhaust system after every 8 hours of operation and whenever the system or trailer structure may have been damaged, and repair any leaks or obstructions before further operation.

WARNING
DO NOT OPERATE THE GENERATOR WHEN PARKED IN OR NEAR HIGH GRASS OR BRUSH. EXHAUST HEAT MAY CAUSE A FIRE.

* Do not modify the generator installation or exhaust system in any way.

* Disconnect the generator starting battery before performing any maintenance on the generator.

* Allow the generator to cool sufficiently before performing any maintenance on the generator.

* Do not use the generator as an emergency power source to a residential or industrial utility line. Such operation could cause death or serious injury to workers for utility companies. Such use is unlawful in some states.

Generator Maintenance and Service
Specific maintenance requirements are outlined in the Operator's Manual for your generator. Follow these guidelines and/or refer to your dealer for assistance.

ROOF RACK AND LADDER
(If Equipped)

The roof rack and ladder provides a reinforced roof storage area at the rear of your trailer. The entire roof is not reinforced – only the rack area. Pay close attention to loading the rack area so as to maintain proper weight distribution in transit. See "Roof Cargo Storage" in the "ON THE ROAD" chapter for additional information.

Frequent or repeated walking on the roof in areas other than the roof rack area can cause damage to the underlayment and rubber roofing material. Periodic washing of the roof and maintenance of the sealants are acceptable for one person on the non-reinforced rubber roof. The non-reinforced areas of the roof are designed as an underlayment for the rubber roof and are not intended for storage or repeated heavy traffic. Always use caution on the roof or ladder to avoid slips and falls.

PATIO AWNING
(If Equipped)

An operating and maintenance guide for your awning is included in your Owner's Information Package. It contains complete instructions for opening and closing the awning, as well as maintenance and care instructions.
MAINTENANCE

Your trailer has been designed to provide you with many years of trouble-free service with a minimum amount of maintenance. This section will familiarize you with the areas of your trailer that require scheduled maintenance and inspection. A few minutes spent taking care of your trailer on a regular basis will pay for itself in extended life and will protect your investment.

EXTERIOR FINISH

Many exterior parts of your trailer are made of fiberglass. The finish on these parts is durable, but not indestructible. Any material and finish will deteriorate in time. Exposure to sunlight, moisture and airborne pollutants can cause dulling and fading of the finish. Generally, changes in the finish due to weathering are cosmetic — they are on the surface of the part and do not affect its strength. Weathering can take several forms:

Chalking - The surface finish has broken down into a fine powder. It usually will wash off.

Fading - The color of the finish has changed. This can be caused by chemicals spilt on the surface, staining it, or by changes in the pigment used in the finish.

Yellowing - Usually caused by chemical changes in the material and pigments.

The best insurance against these effects is routine maintenance. If the finish is not washed thoroughly and waxed thoroughly, the surface can deteriorate very rapidly. The following maintenance guidelines can help you reduce these weathering effects:

1. Wash the exterior with mild soap monthly, at least. Avoid strong alkaline cleaners and abrasives.

2. Wax the exterior at least once a year - twice, if possible - with a wax formulated for fiberglass. When waxing, always read and follow the instructions and precautions on the container. Some cleaners and waxes are recommended for use on only certain types of surfaces. In some cases, a light rubbing compound may be required. Always follow rubbing compound with a high-quality wax.

Windows, Doors, Vents and Locks

Keep moving parts of windows and latches adjusted and maintained. Lubricate locksets, windows, latches, hinges in entry doors and exterior storage compartments at least annually with oil or silicone lubricant. If the trailer is located at a beach or is exposed to salt air, more frequent lubrication will be required.

WHEELS AND TIRES

Tire Inspection

To obtain maximum tire life, inspect tires for wear and damage before the start of each trip. When the average tread depth reaches only 1/16" at two adjacent tread ribs, replace the tire. Look for abnormal wear patterns such as cupping, feathering, or rapid wear of either the inside or outside of the tread. These conditions may indicate an inflation or alignment problem. Replace the tire if you see cuts, bulges, peeling tread or other signs of damage. Remove stones and other objects stuck in the tread. Be certain to check wheel nut tightness and tire pressures as outlined in the section "Tires" in this manual's "ON THE ROAD" chapter.

NOTE: The most common causes of tire failure are overloading and underinflation. See the "Loading" and "Tires" sections in the "ON THE ROAD" chapter.

Tire Rotation

Trailer tires do not wear in same way as the tires on your tow vehicle or family car. They are subjected to different stresses during towing. Regular rotation is not as critical, however, you will find that tire rotation at 5,000 - 7,500 mile intervals will help to achieve more even tire wear. The tires on your trailer are radial-type and should be rotated as shown in the illustration. Be certain to check wheel nut torque and tire pressures as outlined in the "Tires" section in the "ON THE ROAD" chapter of this manual.
Tire Replacement
Replacement tires must be the same size and have at least equal weight carrying capacity as the original equipment. The original equipment tires supplied on your trailer have capacities to support Gross Axle Weight Ratings (GAWRs) as stated on the Federal Certification Tag located on the front left side of your trailer. Radial and bias ply tires should not be mixed on the same axle.

Wheel Replacement
Replacement wheels must be of the same size, type, and load capacity as the original equipment. See your authorized Fleetwood dealer to obtain correct replacements.

BATTERY MAINTENANCE AND CARE
Refer to the “Battery Inspection and Care” section in this manual’s “ELECTRICAL SYSTEMS” chapter.

APPLIANCE MAINTENANCE
For individual appliance care, refer to the appliance manuals in your Owner Information Package.

LP GAS REGULATOR MAINTENANCE
Refer to this manual’s “LP GAS SYSTEM” chapter.

WATER AND HOLDING TANK MAINTENANCE
Refer to this manual’s “PLUMBING SYSTEM” chapter.

SEALANT RENEWAL
The adhesives and sealants used in the construction of your trailer were developed to remain waterproof under sustained effects of weather and vibration. However, even the finest materials will eventually dry out and lose their effectiveness under constant heat of the sun and attack by other elements. This section outlines the procedures that you must follow to maintain the weatherproof integrity of your trailer. Leak damage caused by neglect to follow these procedures may affect your warranty.

Your dealer can perform the resealing inspection and work for you, and he has current information on sealants used in your trailer and can recommend the appropriate sealants if you prefer to do this work yourself. Always use the recommended sealants.

ROOF RESEALING AND CARE
Inspect the roof at least every six months, paying particular attention to the seams where the areas of rubber and fiberglass are joined.

Carefully inspect the flange connections between air conditioners, vents, skylights, etc. If signs of cracking, weathering, or drying are evident, reseal as follows:

Remove any loose or cracked sealant being careful not to damage the roof. Use a wooden or plastic tool that will not gouge, pierce, or otherwise damage the roof.

Clean all areas requiring repair with a soft brush. This is to be done dry. DO NOT WASH WITH SOAP AND WATER, OR SOLVENTS. Be sure the surface is as dust-free as possible.

Check and tighten any loose fasteners. Be careful not to over-tighten, or stripping will occur.

Apply the new sealant, such as a quality acrylic caulk (not silicone) in a continuous bead along the seams and flanges, being careful not to leave any voids. Apply enough sealant to flow over the heads of all fasteners.

Allow at least 48 hours for the sealant to set completely (firm and tack-free when firmly pushed with the thumb) before washing or waxing the trailer.

WARNING
ROOF MATERIALS ARE SLIPPERY WHEN WET.

Rubber Roof
Cleaning
For normal cleaning, standard household detergents can be used to wash the rubber roof material. Rinse thoroughly after cleaning. Be sure to keep the sidewalls wet to reduce streaking.

Care
The rubber material itself does not require annual coatings or additional sealants. Periodic washing with soap and water is all that Is required.

The rubber roof material can be cut by sharp objects. Use caution when loading sharp articles on the roof. If you add accessories or new equipment on the roof, be sure the installer is qualified to work on the rubber roof material. This is required under the terms of the warranty.

Repair kits are available through your dealer. The roof requires special adhesives and material.

Please see your Owner's Information Kit for additional information on the roof system.

DOOR AND WINDOW RESEALING
Inspect the sealants around windows and doors at least every six months. If any of the following defects are evident during inspection, the affected areas must be resealed:

Sealant cracked or peeling
Voids in sealant
Shrunken or separated sealant
If you find any of the above defects:
Remove excess sealant with a plastic scraper.
Clean all areas to be resealed with mineral spirits and clean rags.

WARNING
MINERAL SPIRITS IS A FLAMMABLE LIQUID.
USE EXTREME CARE WHEN HANDLING AND USING. DO NOT EXPOSE TO OPEN FLAME, SPARKS, OR SMOKING MATERIALS. DO NOT USE IN UNVENTILATED AREAS.

Make sure that all areas to be resealed are absolutely dry before new sealant is applied.

FIFTH-WHEEL KING PINS, TRAVEL TRAILER A-FRAMES, AND BUMPERS

There is very little that can go wrong with this equipment. At the start of each trip, you should torque the adjustment bolts (150 ft.-lbs.) on the king pin on fifth-wheels and your truck's hitch hardware attachment. Travel trailer A-frames should be inspected for coupler wear and tow vehicle hitch and spring bar hardware should be inspected for tightness. Torque specifications should be followed which are found in the information in your Owner's Information Package.

Travel trailer A-frames will better resist rust if they are touched up when scratched or chipped from road damage. Regular washing and waxing will also help protect them from the elements.

The bumper attachment should be periodically checked for tightness. The bumper is made from tough polyethylene therefore will not rust and should not be waxed. Washing regularly and an occasional coating of 303 Protectant® will help keep it looking new.

SOLAR PANEL BATTERY CHARGER
(Optional)

Inspect installation regularly to ensure that Solar Charger wiring, connectors and all hardware are intact. Periodically check all mechanical fastenings, and electrical connections and power cables. A broken or otherwise faulty Solar Charger could be a safety hazard and should be replaced. Clean the Solar Panel with a damp cloth as necessary. To check the fuse, grasp the yellow portion of the fuse holder and pull it straight apart. Do not twist or bend the fuse holder assembly, as the fuse or diode could be damaged. If necessary, replace the fuse with a 5-amp automotive type only. Regularly check and maintain battery electrolyte level as described in "Battery Inspection and Care" section of the "ELECTRICAL SYSTEMS" chapter.

INTERIOR

Fabrics
Interior appointments such as draperies, bedspreads, mattress covers, upholstery, and wall pads are manufactured from high quality synthetic materials and should be dry cleaned only. Frequent vacuuming will keep them free of dust and dirt. Minor spills should be cleaned up quickly to avoid staining. The affected area should be blotted, not rubbed, to prevent the stain from working deeper into the fabric.

WARNING
DO NOT USE LACQUER THINNER, NAIL POLISH REMOVER, CARBON TETRACHLORIDE, GASOLINE, OR NAPHTHA FOR ANY CLEANING PURPOSE. THESE PRODUCTS MAY CAUSE DAMAGE TO THE MATERIAL BEING CLEANED, AND ARE HIGHLY FLAMMABLE OR POISONOUS.

Wall and Ceiling
The paneling of your trailer may be any of several finishes and textures. Never use harsh detergents or abrasive cleaners on walls. Most surfaces will clean with a soft cloth moistened with mild liquid detergent in warm water. Do not use large amounts of water which could saturate the material.

Carpeting
Vacuum carpeting regularly, and clean it with a quality carpet cleaner.

Tub/Shower Care
For routine cleaning use a non-abrasive cleaner. Never use harsh detergents or abrasive cleaners. Never use a razor blade or steel wool to clean these surfaces.

Wood Product Care
Remove dust with a clean, slightly damp cloth. Apply a quality furniture polish and buff with a soft, dry cloth. Never use harsh detergents and solvents.

Laminate Top Care
For cleaning laminate surfaces, use a mild dishwashing liquid with warm water. Use a soft cloth for both washing and drying. Abrasive cleaners, steel wool or gritty cleaners will damage the surface.
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The following checklists will help you perform the steps necessary to prepare your travel trailer for storage. Use the checklist that applies to the storage conditions you anticipate. These checklists do not include every detail required, and you may want to expand them to suit your needs.

**Short-term Storage (less than 45 days) Above Freezing**

- Wash the trailer exterior and underside. Hose off accumulations of mud and road salts.
- Inflate tires to maximum rated cold pressure.
- Park the trailer as level as possible front to rear and side to side. Block tires front and rear, and be sure the breakaway switch is not activated.
- Before disconnecting the battery cables, check the charge in the battery. Recharge as necessary. Clean terminals, top and sides of batteries and battery boxes. Leave the battery disconnected unless you are equipped with a solar panel battery charger.
- Drain holding tanks, toilet, and fresh water tank. Turn off water pump and water heater master switches.
- Turn off LP gas at tank valve.
- Turn off refrigerator, furnace, all range and oven burner valves and pilot valves (if equipped).
- Remove all perishables from refrigerator and galley cabinets. Block refrigerator open to reduce odor buildup. An open box or tray of baking soda in the refrigerator will help absorb odors.
- Open closet doors, drawers, and cabinets so air can circulate through them.
- Slightly open (1/4") one roof vent toward the front and rear for ventilation.
- Close and lock all windows. Be sure vent fan and range hood fan switches are off.
- Cover exterior vents (water heater, furnace, air conditioner shroud, range hood, refer) to prevent insects and small animals from getting in. Be sure to remove all covering material before using appliances or vents.
- Cap or close holding tank drain, city water inlet and fresh water fill spout.
- Turn off all radios, TV's, interior and exterior lights.
- Close curtains and/or mini blinds and pull shades.
- Apply 303 Protectant® to slide-out seals.
- Disconnect the 120 volt power shore cord and store in compartment.
- Cover tires with cloth, plywood or after market tire cover.
- Check the trailer weekly.

**Long-term Storage Above Freezing**

- Perform all the preceding as in short-term storage.
- Operate air conditioner periodically to lubricate compressor seals.
- Place battery in a cool, dry area. Check battery charge every 30 days. Recharge as necessary.
- Prepare generator (if equipped). (See Generator Operating Manual included in your Owner's Information Package.)
- Check tire inflation pressures approximately every 30 days.
- Oil mechanical moving parts such as the hitch and suspension parts that are exposed to the weather.
- Thoroughly clean the interior of trailer.
- Remove batteries in clocks or other battery-powered devices. Leave cover off the smoke detector as a reminder to replace battery when reactivating RV.
- Remove high grass or weed growth under or around the trailer.
- If equipped, extend and retract the slide-out room several times to keep seals from sticking and to lubricate the slide-out mechanism.
Storage Below Freezing

To avoid damage to the plumbing fixtures and other components, we recommend that your trailer be properly drained and have antifreeze protection. The following is a procedure checklist you can follow if you prefer to winterize your vehicle yourself. Many people prefer to have a Fleetwood Dealer Service Center perform this service.

☐ Perform all the preceding as in short-term and long-term storage.

☐ Check sealants around all roof and body seams and windows. Reseal if necessary. See "Sealant Renewal" section of the "MAINTENANCE" chapter.

☐ Cover the LP regulator to prevent moisture from entering and freezing in the vent opening.

☐ Drain the fresh water tank by opening the water tank drain. Leave drain open.

☐ Turn the water pump on and open all cold and hot water faucets. When the flow of water stops, turn the pump off. Open the drains on HOT and COLD water pipes.

☐ Drain the water heater by opening the drain valve at the bottom of the heater and open the pressure relief valve.

☐ Depress the flush pedal or hand operated lever on the toilet. Shut off all faucets, close the water line drain valves, fresh water tank drain valve, water heater drain and pressure relief valve.

☐ Drain the shower head and hose by disconnecting the hose at faucet.

☐ If equipped with exterior shower, disconnect hose and drain.

☐ Drain the waste water system by following the normal procedure for draining the holding tanks. (See "PLUMBING" chapter.)

☐ Apply silicone lubricant to the knife valve actuator rod.

☐ Be sure ALL water from ALL plumbing fixtures has been drained.

CAUTION

Draining the water system alone will not provide adequate cold weather protection. If the trailer is to be unheated during freezing temperatures, consult your dealer for the best winterizing procedure for your climate. Your dealer can winterize your trailer for you or can supply you with one of the special antifreezes which are safe and approved for use in RV water systems. Follow the instructions furnished with the antifreeze.

WARNING

DO NOT USE AUTOMOTIVE OR WINDSHIELD WASHER ANTIFREEZE IN THE TRAILER WATER SYSTEM. THESE COULD BE HARMFUL IF SWALLOWED.

☐ Turn water heater bypass valve to BYPASS position.

☐ Pour approximately three to five gallons of non-toxic RV approved water system antifreeze into the fresh water tank.

☐ Alternate Method: Disconnect the pump "suction" or inlet hose from the fresh water tank and draw non-toxic RV approved antifreeze directly from the container. This method reduces the quantity required.

☐ Turn water pump on.

☐ Open hot water faucet farthest away from water tank. When antifreeze appears, let at least one cup run down drain to winterize P-trap. Repeat this at all other hot and cold water faucets, including the shower.

☐ Depress the flush pedal or hand operated lever on the toilet until the antifreeze solution flows continuously.

☐ Install all protective caps:
   Water tank fill
   City water inlet cap
   Waste tank drain outlet cap

☐ Remove snow accumulation as often as possible.
Reactivating the Trailer
After Storage

The following procedure checklist assumes that you stored the trailer with care. If you didn’t, and extensive freeze damage or other serious deterioration has occurred, please consult your authorized Fleetwood Dealer Service Center for advice.

☐ Thoroughly inspect the outside of the trailer and open all doors and compartments. Check for animal or insect intrusion, water damage, or other deterioration.

☐ Remove all appliance vent, ceiling vent and air conditioner coverings. Be sure all furnace, water heater, and refrigerator openings are clear and free of debris or insect nests, webs, etc.

☐ Check charge level in battery. Refill and recharge as necessary. Be sure cable ends and terminals are clean and free of corrosion.

☐ Check tire condition and pressure. Reinflate to specified cold pressure.

☐ Open vents and windows for ventilation.

☐ Be sure all 12 volt DC fuses are installed and 120 volt AC circuit breakers are on.

☐ Check the operation of taillights, turn signals, backup lights, clearance lights, license plate light, emergency flashers.

☐ If system has been winterized, drain antifreeze from fresh water tank.

☐ Turn water pump on and open all faucets until flow of antifreeze stops.

☐ Open water heater bypass valve if equipped.

☐ Flush, and sanitize the fresh water system as outlined in the "PLUMBING" chapter.

☐ Check the water purifier cartridge (if equipped).

☐ Operate all faucets and fixtures in the fresh water system. Check for leaks at all joints and fittings. Repair if necessary.

☐ The fresh water system is now ready for use.

☐ Drain the holding tanks as outlined in the “Dumping the Holding Tanks” in the “PLUMBING” chapter. Inspect the drain hose for leaks. Replace if necessary. Hose repairs are usually not effective.

☐ Remove the regulator cover, check for damage. Inspect all pipes and fittings in the LP system. Check for leaks as outlined in the “LP GAS SYSTEM” chapter.

☐ If the LP tank shows signs of rust or corrosion, sand and paint it as necessary. Be sure to protect the valve opening with the plastic POL plug.

☐ Operate each LP gas appliance. Observe all burners and pilot flames for proper color and size. If there are any problems, refer to an authorized Fleetwood Dealer Service Center.

☐ Operate all 12 volt lights and accessories.

☐ Install new 9 volt battery in smoke detector.

☐ Check monitor panel operation (if equipped).

☐ Open and operate vents and vent fans.

☐ Inspect the 120 volt electrical system - power cord, converter, and outlets. If defects are found, refer service to an authorized Fleetwood Dealer Service Center.

☐ Prepare the AC generator (if equipped) for operation following instructions in the generator operating manual in your Owner's Information Package.

☐ Operate 120 volt AC appliances and air conditioners.

☐ Check the sealant around all roof and body seams and windows. Reseal if necessary. See “Sealant Renewal” section in the “MAINTENANCE” chapter.

☐ Lubricate all exterior locks, hinges, and latches.

☐ Wash and wax the exterior. Inspect the body for scratches or other damage. Touch up or repair as necessary.

Run thorough operational checks of brakes.

Operate the trailer slowly during these checks.

If equipped, extend and retract the slide-out room and visually insure the room seals are not sticking and are sealing properly.

Your trailer should now be ready for a new traveling season. If you choose, your dealer can double check your preparation and correct any defects or make any necessary adjustments.
# MAINTENANCE CHART

<table>
<thead>
<tr>
<th>Service To Be Performed</th>
<th>Every 3 Months</th>
<th>Every 6 Months</th>
<th>Annually or After Long Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lubricate breakaway switch pin</td>
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<tr>
<td>Clean breakaway switch contacts</td>
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<tr>
<td>Inspect water pump filter</td>
<td>First time</td>
<td>![ ]</td>
<td>Thereafter</td>
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<tr>
<td>Inspect roof sealants</td>
<td>![ ]</td>
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<td>![ ]</td>
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<tr>
<td>Inspect door &amp; window sealants</td>
<td>![ ]</td>
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<tr>
<td>Apply 303 Protectant® to rubber bulb seals</td>
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<tr>
<td>Inspect slide-out seals (if equipped)</td>
<td>![ ]</td>
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<td>![ ]</td>
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<tr>
<td>Replace carbon monoxide detector battery &amp; sensor (if equipped)</td>
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<td>![ ]</td>
<td>![ ]</td>
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<tr>
<td>Replace smoke detector battery</td>
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<tr>
<td>Inspect all hot, cold, drain plumbing</td>
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<tr>
<td>Sanitize fresh water tank</td>
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<tr>
<td>Complete LPG pressure check &amp; system check</td>
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<tr>
<td>Inspect brakes &amp; suspension system</td>
<td>![ ]</td>
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<tr>
<td>Pack wheel bearings</td>
<td>![ ]</td>
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<tr>
<td>Clean interior (as necessary)</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>Wax exterior</td>
<td>![ ]</td>
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<tr>
<td>Clean &amp; lube overhead vents</td>
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</tr>
<tr>
<td>Lube locks, hinges, hardware</td>
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</tbody>
</table>

Items marked with ! require special equipment and/or qualified personnel.
<table>
<thead>
<tr>
<th>Service To Be Performed</th>
<th>Start of Each Trip</th>
<th>Before Use At Setup, Or Weekly</th>
<th>Monthly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspect safety chains</td>
<td></td>
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<tr>
<td>Inspect brake wiring, connector, plug &amp; receptacle</td>
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<tr>
<td>Inspect hitch components</td>
<td></td>
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<tr>
<td>Test breakaway switch</td>
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<tr>
<td>Check tire inflation pressure</td>
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<tr>
<td>Inspect tires for wear &amp; damage</td>
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<tr>
<td>Check wheel nut torque</td>
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<tr>
<td>Check exterior lighting</td>
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<tr>
<td>Inspect LPG system components</td>
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<tr>
<td>Inspect LPG leak detector</td>
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<tr>
<td>Inspect generator exhaust (if equipped)</td>
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<tr>
<td>Check smoke detector operation</td>
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<tr>
<td>Check slide-out operation &amp; sealing</td>
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<tr>
<td>Check carbon monoxide detector operation</td>
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<tr>
<td>Check fire extinguisher</td>
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<tr>
<td>Inspect/clean battery, cables, terminals</td>
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<tr>
<td>Check battery charge (in storage)</td>
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<tr>
<td>Check battery electrolyte (in use)</td>
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<tr>
<td>Test GFI</td>
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</tr>
<tr>
<td>Lubricate coupler &amp; latch</td>
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<tr>
<td>Wash exterior</td>
<td></td>
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</tr>
<tr>
<td>Check slide-out room hydraulic pump fluid level</td>
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</tbody>
</table>
TRAILER/TOW VEHICLE LOAD WORKSHEET

Take following scale weights with both the tow vehicle and trailer fully loaded with driver, passengers, cargo, water, and full fuel tanks, and with trailer hitched and spring bars tightened. (Spring bars do not apply to fifth wheels)

<table>
<thead>
<tr>
<th>Description</th>
<th>Lbs.</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tow vehicle GVWR</td>
<td></td>
<td>Found on plate or placard in tow vehicle</td>
</tr>
<tr>
<td>Tow vehicle front GAWR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tow vehicle rear GAWR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st scale reading (load on tow vehicle front axle)</td>
<td></td>
<td>(not to exceed tow vehicle GVWR)</td>
</tr>
<tr>
<td>2nd scale reading (total load on all tow vehicle axles)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd scale reading (total weight of tow vehicle &amp; trailer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd scale reading</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MINUS (-)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st scale reading</td>
<td></td>
<td>(not to exceed tow vehicle rear axle GAWR)</td>
</tr>
<tr>
<td>equals load on tow vehicle rear axle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd scale reading</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MINUS (-)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd scale reading</td>
<td></td>
<td>(not to exceed trailer GAWR, or combined GAWRs)</td>
</tr>
<tr>
<td>equals load on trailer axle (s)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Take following scale weights with the trailer fully loaded with cargo, water, and fuel tanks.

<table>
<thead>
<tr>
<th>Description</th>
<th>Lbs.</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trailer gross weight (loaded) (WT_L)</td>
<td></td>
<td>(must not exceed trailer GVWR)</td>
</tr>
<tr>
<td>Trailer loaded axle weight (WT_A)</td>
<td></td>
<td>(Hitched to tow vehicle with spring bars released)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Lbs.</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trailer GVWR</td>
<td></td>
<td>Found on plate attached to front roadside of trailer</td>
</tr>
<tr>
<td>Trailer GAWR (each axle)</td>
<td></td>
<td>(not to exceed GVWR)</td>
</tr>
<tr>
<td>Maximum allowable tongue weight for your trailer (WT_t max)</td>
<td></td>
<td>(from Owners Manual)</td>
</tr>
<tr>
<td>Loaded weight of trailer (WT_L)</td>
<td></td>
<td>(not to exceed GAWR on single-axle units, or combined GAWR on tandem-axle units)</td>
</tr>
<tr>
<td>Loaded axle weight (WT_A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MINUS (-)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WT_A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>equals WT_t</td>
<td></td>
<td>(loaded tongue weight, not to exceed WT_t max)</td>
</tr>
<tr>
<td>WT</td>
<td></td>
<td>times (x) 100</td>
</tr>
<tr>
<td>equals tongue load %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Should be 15% to 25%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Must be between 9%-15% on tandem-axle trailers.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
WESTPORT SPECIFICATIONS AND CAPACITY DATA

Dry weights are based on standard features only and do not include optional equipment added by the manufacturer or dealer. All dry weight information is approximate and dry weights are not consistent from trailer to trailer.

All tank capacities are approximate.

Models, specifications, and capacity information were as accurate as possible at the time of publication but are subject to change without notice. Measurements are listed in both standard U.S. and metric values.

Check the Federal Certification Tag on the roadside front exterior sidewall for exact tire specifications, inflation recommendations, and gross vehicle weight ratings.

<table>
<thead>
<tr>
<th><strong>Model 30 5X</strong></th>
<th><strong>U.S.</strong></th>
<th><strong>Metric</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tire Spec-Load Range:</td>
<td>ST225/75R15-D</td>
<td>ST225/75R15-D</td>
</tr>
<tr>
<td>Tire Pressure:</td>
<td>65 psi</td>
<td>450 kPa.</td>
</tr>
<tr>
<td>Gross Dry Weight:</td>
<td>9,480 lbs.</td>
<td>4,302 kg.</td>
</tr>
<tr>
<td>Hitch Dry Weight:</td>
<td>1,780 lbs.</td>
<td>807 kg.</td>
</tr>
<tr>
<td>Axle Dry Weight:</td>
<td>7,700 lbs.</td>
<td>3,493 kg.</td>
</tr>
<tr>
<td>Interior Headroom:</td>
<td>6'-6&quot;</td>
<td>1.98 m.</td>
</tr>
<tr>
<td>Exterior Height:</td>
<td>11'-6&quot;</td>
<td>3.50 m.</td>
</tr>
<tr>
<td>Exterior Width:</td>
<td>8'-0&quot;</td>
<td>2.44 m.</td>
</tr>
<tr>
<td>Exterior Length:</td>
<td>31'-5&quot;</td>
<td>9.60 m.</td>
</tr>
<tr>
<td>Fresh Water Tank:</td>
<td>50 gallons</td>
<td>189 l.</td>
</tr>
<tr>
<td>Toilet Holding Tank:</td>
<td>40 gallons</td>
<td>151 l.</td>
</tr>
<tr>
<td>Gray Water Tank:</td>
<td>40 gallons</td>
<td>151 l.</td>
</tr>
<tr>
<td>Awning Length:</td>
<td>19'</td>
<td>5.75 m.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Model 33 5M</strong></th>
<th><strong>U.S.</strong></th>
<th><strong>Metric</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tire Pressure:</td>
<td>80 psi</td>
<td>550 kPa.</td>
</tr>
<tr>
<td>Gross Dry Weight:</td>
<td>10,070 lbs.</td>
<td>4,568 kg.</td>
</tr>
<tr>
<td>Hitch Dry Weight:</td>
<td>2,000 lbs.</td>
<td>907 kg.</td>
</tr>
<tr>
<td>Axle Dry Weight:</td>
<td>8,070 lbs.</td>
<td>3,660 kg.</td>
</tr>
<tr>
<td>Gross Veh. Wt. Rating:</td>
<td>12,800 lbs.</td>
<td>6,256 kg.</td>
</tr>
<tr>
<td>Interior Headroom:</td>
<td>6'-6&quot;</td>
<td>1.98 m.</td>
</tr>
<tr>
<td>Exterior Height:</td>
<td>11'-8&quot;</td>
<td>3.59 m.</td>
</tr>
<tr>
<td>Exterior Width:</td>
<td>8'-0&quot;</td>
<td>2.44 m.</td>
</tr>
<tr>
<td>Exterior Length:</td>
<td>34'-3&quot;</td>
<td>9.42 m.</td>
</tr>
<tr>
<td>Fresh Water Tank:</td>
<td>50 gallons</td>
<td>189 l.</td>
</tr>
<tr>
<td>Toilet Holding Tank:</td>
<td>40 gallons</td>
<td>151 l.</td>
</tr>
<tr>
<td>Gray Water Tank:</td>
<td>40 gallons</td>
<td>151 l.</td>
</tr>
<tr>
<td>Awning Length:</td>
<td>21'</td>
<td>6.40 m.</td>
</tr>
</tbody>
</table>

Gross Vehicle Rating 
w/bedroom slide-out: | 13,200 lbs. | 6,479 kg. |
(Recalculate per CSA requirements)
<table>
<thead>
<tr>
<th>Spec</th>
<th>U.S.</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tire Spec-Load Range</td>
<td>LT235/85R16-E</td>
<td>LT235/85R16-E</td>
</tr>
<tr>
<td>Tire Pressure:</td>
<td>80 psi</td>
<td>550 kPa</td>
</tr>
<tr>
<td>Gross Dry Weight:</td>
<td>10,200 lbs.</td>
<td>4,627 kg</td>
</tr>
<tr>
<td>Hitch Dry Weight:</td>
<td>2,270 lbs.</td>
<td>1,030 kg</td>
</tr>
<tr>
<td>Axle Dry Weight:</td>
<td>7,930 lbs.</td>
<td>3,597 kg</td>
</tr>
<tr>
<td>Gross Veh. Wt. Rating:</td>
<td>12,700 lbs.</td>
<td>6,175 kg</td>
</tr>
<tr>
<td>Interior Headroom:</td>
<td>6'6&quot;</td>
<td>1.98 m</td>
</tr>
<tr>
<td>Exterior Height:</td>
<td>11'-8&quot;</td>
<td>3.59 m</td>
</tr>
<tr>
<td>Exterior Width:</td>
<td>8'-0&quot;</td>
<td>2.44 m</td>
</tr>
<tr>
<td>Exterior Length:</td>
<td>35'-1&quot;</td>
<td>10.70 m</td>
</tr>
<tr>
<td>Fresh Water Tank:</td>
<td>50 gallons</td>
<td>189 l</td>
</tr>
<tr>
<td>Toilet Holding Tank:</td>
<td>40 gallons</td>
<td>151 l</td>
</tr>
<tr>
<td>Gray Water Tank:</td>
<td>40 gallons</td>
<td>151 l</td>
</tr>
<tr>
<td>Awning Length:</td>
<td>20'-6&quot;</td>
<td>6.25 m</td>
</tr>
</tbody>
</table>

**Gross Vehicle Rating**

w/bedroom slide-out: 13,100 lbs. 6,393 kg

*(Recalculate per CSA requirements)*