

OWNERS MANUAL



LUXURY FIFTH WHEELS

“We’re not just building RVs, we’re building our customers’ dreams!”

Congratulations on your choice of a New Horizon's recreational vehicle (RV).

This guide has been prepared to be of assistance to New Horizon's owners in the care, maintenance, and operation of their RV.

When planning a trip to another state, we suggest that you check ahead for information detailing the laws for the state of your destination. Some states have specific laws pertaining to recreational vehicles.

Familiarization with the living aspects of the RV should begin with locating each appliance and system and understanding its **PROPER AND SAFE** operation. We strongly urge owners to be sure that each family member or traveling companion, who use any of these items of equipment, be instructed in their proper use. Each appliance and system have its own manual which is in the *Owner Information Package* in your New Horizons RV. Be sure to read each manual and complete and submit each component regulation card or register the component's online warranty per the manufacturer's guidelines.

After reading this manual, be sure to keep it in your RV as a reference. New Horizons RV Corp. will be happy to provide any further information you feel you need, as well as answer any questions about operating the equipment in your RV. Maintaining your New Horizons in top operating condition will ensure a long life for your RV. Accordingly, we suggest that you pay particular attention to the maintenance sections of this manual.

On behalf of the manufacturer, New Horizons RV Corp. of Junction City, Kansas, we are proud to have you as a New Horizons owner. Please be assured that your comments and suggestions are welcome.

NEW HORIZONS RV CORP. RESERVES THE RIGHT TO CHANGE
MATERIALS, STANDARD FLOOR PLANS AND/OR SPECIFICATIONS
AT ANY TIME WITHOUT WRITTEN NOTICE OR OBLIGATION. REVISED MATERIAL CAN BE OBTAINED
THROUGH NEW HORIZONS RV CORP. 1-800-235-3140

Revised 10/2019

DELIVERY

Manufacturer Responsibilities

A pre-delivery inspection and systems check. Thoroughly inspecting the RV and the operation of the factory installed components.

A customer walk-through. This is done to familiarize the customer with the RV, its systems and components, and their operations.

Delivery of the ***Owner's Information Package***. The detailed operating and maintenance instructions on these components are also included in this manual.

Providing the customer with information regarding warranty and non-warranty work on the RV and its separately warranted components whether the customer is in or out of the area.

Customer Responsibilities

The customer is responsible for regular and proper maintenance of the RV. Properly maintaining your RV will prevent conditions arising from neglect that will not be covered by the manufacturer's warranty. The maintenance guidelines in this manual and any other applicable manual should be followed. It is your responsibility and obligation to return the RV to a reputable dealer or the factory for repairs and service.

To assist you in avoiding problems with your RV, we recommend you do the following:

Read the warranty. Fill out and mail all warranty cards promptly.

Inspect the RV.

Ask questions about anything you do not understand concerning your RV.

Enjoy your New Horizons RV. Travel safe and have fun.

IMPORTANT:

Fill out the component registration forms and mail within the prescribed time to avoid loss of warranty coverage.

New Horizons RV Two Year Limited Warranty

New Horizons RV. Corp. (hereinafter referred to New Horizons). expressly warrants this recreational vehicle to the original purchaser, to be free from defects of materials or faulty workmanship for a period of two years (730 days) from date of original retail purchase (unit completion), or until the day the original purchaser sells or transfers their interest in the Product to a subsequent owner. This Product is warranted for nor-mal use, which includes recreational, temporary, or full-time living.

This warranty expressly includes the structural portion of this recreational vehicle and provides a guarantee against defects of materials or faulty workmanship of the steel frame, wood / aluminum structure, laminated sidewalls, roof, and all other parts and assemblies manufactured in whole or in part by New Horizons.

This warranty does not cover

Equipment and appliances such as tires, brakes, axles, water heater, water pump, furnace, stove, power jacks, generator, refrigerator, microwave, air conditioner, electronic equipment, power converter, step, etc. which are warranted directly by their respective manufacturers and are subject to their warranty terms and conditions. New Horizons provides copies of these written warranties to the owner at the time of the retail sale.

Damage to or related to:

Environmental condition (salt, hail, chemicals in the atmosphere)

Failure to do normal maintenance such as check all exterior sealants twice per year for cracks and/or voids which will allow water infiltration

Alteration or modification to the unit

Accident, negligence, or misuse of the unit

Normal wear and tear & exposure, carpet wear, fabric fading on furniture, etc.

Tire balancing and wheel alignment

Service items: light bulbs, fuses, lubricants, etc.

Condensation on or around windows

Any unit used for commercial purposes, rental, or leased. Commercial means used for business for prof-it or income purposes at any time.

Damage Limitations

New Horizons will not be responsible for incidental or consequential damages including but not limited to loss of use of vehicle, loss of income, loss of time, inconvenience, expense of travel, lodging, transportation and/or towing charges, or loss or damage to personal property. Some states do not allow the exclusion of limitation of incidental or consequential damages. In those states, the above limitation on damages may not apply.

Oral and implied Limitations:

NO ORAL OR IMPLIED WARRANTIES EXIST EXCEPT THOSE SPECIFICALLY EXPRESSED HEREIN, IN FACT OR IN LAW, (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE). Some states do not allow limitations on implied warranties, so, the above limitation of implied warranty may not apply to you.
THIS WARRANTY MAY NOT BE AMENDED AND IS NOT TRANSFERABLE OR ASSIGNABLE.

Owner's Obligation

Written notice of the defects must be given to New Horizons within 30 days after the defect has been discovered by the retail purchaser. Notice must be received by New Horizons during the warranty period. If repairs are needed, they will be made without charge, excluding any freight, after the Product is taken to New Horizons. The owner is responsible for normal maintenance. However, minor adjustments, such as door catches, baggage doors, LP regulators, slide room adjustments, etc. will be made by New Horizons within 90 days of delivery, thereafter, these adjustments are the responsibility of the owner as normal maintenance unless required as a direct result of repair or replacement of a defective part under this warranty. The owner will contact New Horizons with enough information to resolve the problem. The owner shall be responsible for transportation costs to New Horizons. In the event it is deemed by New Horizons the factory is beyond a reasonable distance, New Horizons may, at its discretion authorize a third-party dealership to perform warranty work.

If New Horizons deems this case to be true:

- Owner must notify New Horizons IN ADVANCE of all warranty work
- Requested Repair Shop must have an RVIA certified RV technician on staff
- New Horizons must contact the repair shop prior to any work being started for consultation of the most efficient path to resolution
- All warranty work must be pre-approved by New Horizons
- All other associated costs such as transportation, loss of use, etc. are applicable as described above

Since the third-party dealership is not a franchised New Horizons RV. Corp., they may choose not to allow payment directly from New Horizons, in which case the owner would be required to pay the dealership directly. New Horizons then would reimburse the owner within (30) days of receipt of proper documentation.

Legal Rights:

This warranty gives you the specific legal rights and you may also have other rights, including but not limited to those provided by the *Magnuson-Moss Warranty Act, 15U.S.C. 2301 et seq. as well as other rights*, which may vary from state to state.

Minus Ten (-10) Degree Guarantee

New Horizons guarantees our fifth wheels and travel trailers from freezing the holding tanks, water tank, water lines, and other essential plumbing down to **MINUS TEN (-10)** degrees Fahrenheit, (-23 Celsius) or -10-degree wind chill. For this guarantee to be applicable, the unit must have dual-pane windows installed and the furnace must be in operation. This “**MINUS TEN DEGREE GUARANTEE**” is in effect on models titled 2017 and newer only. It runs and expires concurrently with your normal warranty period. (This guarantee excludes exterior water lines, washer lines, ice maker lines, and exterior shower).

If the water system in your New Horizons unit should freeze, unit must be returned to the factory subject to terms and conditions explained above, and New Horizons will resolve the issue in the area that froze. New Horizons may, at its discretion, contact the National Weather Service to provide data on the weather conditions for that time period in the area you were located.

COMPONENT WARRANTY SUMMARY

New Horizons warrants this recreational vehicle to the original purchaser, to be free from defects of materials or faulty workmanship for a period of two years from date of retail purchase. Component parts purchased by New Horizons are covered under separate manufacturers' warranty specific to the item.

This information is based on how your coach is equipped with “standard” features. Optional equipment added to your coach that replaces standard items may carry different warranties. For warranty information on optional equipment, please refer to the user’s manual supplied with the optional item(s).

The above information is subject to change without prior notice. Brands and options may vary on a specific unit due to availability, and/or substitutions. Please consult with New Horizons for additional information.

SAFETY PRECAUTIONS

WARNING

Prior to towing your RV, be sure you have read this entire owner's guide and that you understand your RV's equipment completely and how to use the equipment safely. Read and understand all instructions and precautions in this manual before operating your new RV. Listed below are some safety precautions that **must** be adhered to.

(Items 1-3 see state regulations on passengers riding in fifth wheels or travel trailers: some states do not allow this).

1. DO NOT ride in vehicle while it is in motion.
2. Use care when accelerating or down shifting on a slippery surface. Abrupt speed changes can cause skidding and loss of control.
3. Do not alter the LP gas system at any time or in any way.
4. Never use an open flame to test for LP gas leaks. Replace all protective covers and caps on LP system after filling.
5. Never use the range or oven for comfort heating as it will deplete the interior oxygen and produce deadly carbon monoxide. While cooking, make certain a window or other ventilating means is open to the outside.
6. Never allow your LP tank to be filled above the 80 percent level.
7. If you have any leakage or failure, whatsoever, in your LP gas system, immediately turnoff the gas at the tank or bottle, and contact your dealer or an authorized LP gas mechanic or service facility.
8. All pilot lights and appliances must be turned off while refilling the fuel or LP tank.
9. Never load the fifth wheel in excess of the gross vehicle weight rating (GVWR) or the gross axle weight rating (GAWR) for either axle.
10. Do not mix different construction types of tires on your RV such as radial, bias, or belted tires as vehicle handling may be affected.

11. Do not use portable fuel burning equipment, including wood and charcoal grills and stoves, inside the recreational vehicle. The use of this equipment inside the RV may cause fires or asphyxiation.
12. The LP tanks must be turned “OFF” prior to moving your RV and while traveling.
13. The tires on your RV must be of the proper size and properly inflated for the load which you are carrying.
14. Check tire pressures and tightness of wheel lug nuts before and during travel.
15. Never carry extra gasoline inside the fifth wheel or travel trailer.
16. Never plug your external power cord into a non-grounded outlet unless an adapter with a grounding pigtail is used to connect the external ground.
17. Always unplug your external power cord should you ever receive an electric shock, however slight. Locate the cause before reconnecting power.
18. Check correct operation of all exterior lights.
19. Check to see that all doors and exterior access panels are securely fastened before traveling.
20. The fire extinguisher should be inspected monthly for proper charge and operating condition. The smoke alarm should also be tested on a regular basis. The label on the detector should be removed when preparing the unit for the first trip. In addition to the recommended inspection, these should also be checked prior to a vacation or extended trip.
21. Become familiar with the operation of the escape windows but use these windows strictly as an emergency exit.

CUSTOMER RELATIONS

To schedule an appointment for maintenance or service work at the factory:

WRITE:

New Horizons RV Corp
2401 Lacy Drive
Junction City, Kansas 66441

CALL:

TF: 1-800-235-3140
P: (785) 238-7575
FAX: (785) 238-4992

EMAIL:

ken@horizonsrv.com
info@horizonsrv.com

Thank you for allowing New Horizons to build your dream!

Wishing you great adventures & happy trails!

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SECTION ONE



LUXURY FIFTH WHEELS

Exterior Care

Interior Care

EXTERIOR CARE

Washing

The exterior of your new recreational vehicle is made of pre-finished fiberglass. Frequent washings and thorough cleanings are required to prevent damage to the vehicle finish after exposure due to damaging salts, calcium chloride, road tar, tree sap, insects, and other foreign material. Damage caused by exposure to these items is not covered by your warranty agreement. Never wash the vehicle in direct sunlight, while the vehicle is hot, or with hot water. Buildup of mud and dirt under the body can cause damaging rust on steel parts. Corrosive materials, such as those used for ice and snow removal and dust control, also accumulate on the underside of the vehicle. These materials should be removed by flushing the underbelly regularly with water, especially areas where mud and other foreign materials collect. The chance of corrosion can be minimized by frequent washings of the vehicle. When washing the vehicle, do not use strong soaps or detergents. Always use a mild soap in warm water, or a commercially prepared product used specifically for the care of fiberglass coaches, available at camping stores. Also, your local car wash is a good choice, but be careful when using a pressure-type washer to avoid loosening any exterior decals or sealants, etc. After washing, carefully inspect the caulking around window frames and vents and any other joints that may have separated. Re-caulking, if necessary, is relatively simple and is considered routine maintenance which is the responsibility of the owner.

IMPORTANT

Never use a strong solvent, such as lacquer thinner, or harsh abrasives, on any of the exterior painted surfaces.

Waxing

The exterior finish will require a routine waxing. When water will not bead and roll off a freshly washed RV, a new coat of wax is needed. Wax not only improves the appearance of the vehicle, but it also protects the finish against oxidation and corrosive materials. The recommended type is one that is compatible with painted or gel-coated fiberglass finishes and contains a UV (ultra-violet) inhibitor. Buffing with a polishing compound will improve a dull or discolored finish.

IMPORTANT

When using a polishing compound that does not contain a wax preservative, reapplying a coat of hard wax after polishing is recommended.

Seals

The seals around doors, windows, vents, slide out trim and external seams should also be checked at least twice per year. Also check caulking around the roof vents to be sure that it is pliable and intact.

Roof

XTRM PLY is easy to clean and maintain. Follow the steps below to help keep your XTRM PLY Roofing System looking brand new.

1. From the side of the RV, wet the surface of the roof membrane with clean, soapy water, sponged or sprayed on.
2. Scrub or brush the soapy water thoroughly to loosen any built-up dirt or sediment.
3. Rinse the soapy water from the surface with clean water. A rubber squeegee may be used to direct the water off the roof.

Recommended Cleaners: Fantastik, Soft Scrub, Windex, Tilex, Murphy's Oil Soap

DO NOT USE: *Cleaning Solutions Containing Solvents, Abrasive Pads*

IMPORTANT

Use caution when working on top of your RV.

The roof may be slippery when wet.

Striping and Decals

The striping and decals on your RV require little maintenance. Treat these as you would any painted surface on your RV. Wash them with mild soap and warm water, or any retail car soap. Never wash the vehicle in direct sunlight, while the vehicle is hot or with hot water. Rinse thoroughly to prevent soap residue accumulation. Use caution with high-pressure wash nozzles. **Keep them at least eighteen (18) inches from the edge of the decals.** High-pressure water may cause the decals to loosen and peel. Test small sections of decals when using any type of cleaning solution.

IMPORTANT

Do not use solvents such as acetone, MEK, toluene, etc. on the decals. Any solvent including alcohol may soften or smear colors. Do not use lacquer thinner or paint on decals. Do not overcoat the decals with clear paint. Do not allow gasoline or other fuels to drip or stay on the decals for any length of time. If this occurs, immediately flush the area with water.

INTERIOR CARE

Carpet

A weekly routine of vacuuming the carpet and fabrics throughout the vehicle is recommended. Doing this will prevent an accumulation of dirt that can detract from the material's appearance and shorten its life. Any good household carpet cleaner will work for small spots. Periodic cleaning with a good carpet cleaner or by a professional is recommended.

Wood Flooring

Use a soft cloth to blot spills and spots as soon as they happen. Always avoid allowing liquids to stand on your hardwood floor. Sweep, dust or vacuum the floor regularly. If vacuuming, use a hard floor attachment to avoid scratching or dulling your floor's finish. Clean the floor with Shaw Floors Hard Surface Cleaner, specially formulated to wipe away dirt and soil without damaging your floor's finish.

Preventative Care

- Use care with sharp objects
- Trim pet's nails regularly
- Remove shoes with spiked or damaged heels
- Avoid Prolonged exposure to sunlight

DO NOT

Don't use oil-based, wax, polish or strong ammoniated products, which can dull your floor's finish. Don't use steel wool, scouring powders or other abrasive cleaners, which can scratch or damage your floor's finish. Don't wash or wet-mop the floor with soap, water, oil-soap detergent, or any other liquid cleaning material. This could cause swelling, warping, delamination and joint-line separation, and void the warranty. Don't use any type of buffing machine.

Vinyl Flooring

If you're planning to do any wet cleaning, vacuum and dust the vinyl tile flooring or vinyl plank flooring to remove any debris. When vacuuming, do not use a vacuum with a beater bar or power rotary brush head, as these may damage the vinyl. Although vinyl is durable, it can still fall victim to stains. Any pH-neutral floor cleaner is safe to use on vinyl flooring. Avoid using ammonia-based cleaning solutions, highly abrasive scrubbers or detergents when removing stains from vinyl. They can damage the floor or leave a dull film in their wake. Once your vinyl flooring is free of stains, you might discover some scuffs in the tile.

Unfortunately, vinyl floor cleaning often includes battling scuffs and nicks. Luckily, there is an easy solution for minor scuffs. Simply buff out the scuff with a melamine pad/sponge. This should remove scuffs without damaging the vinyl's finish. Major scuffs, scratches and nicks may require replacing the affected vinyl tile or plank. The best way to ensure you have clean vinyl floors is to set up a good defense. Add flat nylon or felt floor protectors to the legs of your furniture. Put down a rug or doormat to accommodate heavy foot traffic. Regularly sweep and dust the floors to remove any dirt that may cause abrasions. If you need to move furniture, do so on a dolly to prevent tears in the vinyl flooring.

Fabrics

Spills, spot or stains should be treated as soon as possible to avoid permanent damage. If a spill occurs, blot the fluid with a dry towel. Do not rub the spill. Rubbing may cause the liquid to “set” in the fabric. When attempting to clean a spot or stain, always start from the outside and work inward to avoid spreading it further. Some stains or soils are extremely difficult or impossible to be removed completely. These should receive immediate professional attention. Spills, spots, stains or soils are the responsibility of the owner and are not covered by the New Horizon’s Limited Warranty.

IMPORTANT

The fading of upholstery, carpet and other interior fabrics is generally caused by excessive sunlight. The shades should be kept closed when the RV is parked for an extended period to minimize the fading. Normal deterioration of appearance to items due to wear and/or expo-sure is not covered by warranty.

When cleaning the upholstery and fabric in the unit, do not use lacquer thinner, nail polish remover, laundry soaps, or bleach. Never use carbon tetrachloride or gasoline for cleaning purposes. These items may cause damage to the materials being cleaned and most are highly flammable.

Walls and Ceilings

The wall and ceiling coverings should be cleaned periodically to maintain a new appearance. Use a non-abrasive cleaner with a soft cloth on the walls. Do not use solvents of any kind as they may damage the surface of the vinyl.

Woodwork

The wood cabinetry should be cared for as you would care for any fine furniture. Regular dusting with a soft cloth and uses of a good furniture polish will help prolong the life and looks of the woodwork in your RV. Water should be removed from wood immediately or the finish may discolor.

Annual (or as needed) application of a high-grade furniture polish is recommended to preserve and protect your RV's woodwork.

Specialty Window Coverings

Shades should be opened or closed by pushing the bottom rail up or pulling down with the knobs provided. For a duplex (DAY/NIGHT) shade or free-floating shade, move only one rail at a time. Shades should remain up when not in use to aid in pleat retention. If tension adjustments become necessary, simply wind the cords around the center of the bobbin fastener to tighten, or re-tie to loosen. Any adjustments should be made equally on both cords for the shade to remain level. Rubbing cords with paraffin (or candle) wax will help to lengthen the life of the cords by reducing friction/fraying. To clean, dry brush or vacuum only. Pleated shades should not get wet. Use a damp cloth with mild soap to remove small spots.

Countertops

To care properly for the countertop in your new RV, always use a hot pad or trivet to protect the surface from hot objects that may mar or damage the surface. Wipe the countertop with a damp cloth to remove water spots. For stains, wipe with soapy water or ammonia-based cleaners. Always use a cutting board to protect against nicks and cuts in countertops while using a knife or other sharp objects.

Solid Surface Care

For day to day general cleaning, use warm soapy water, non-abrasive household cleaner, or commercially available solid surface cleaner. Rinse immediately and towel dry to prevent spotting. To prevent heat damage, avoid placing any hot objects directly on the surface—always use trivets or flame-resistant heat mats. To further protect your solid surface: (a) avoid exposing the surface to harsh chemicals, (b) Do not cut directly on the surface—always use a cutting board, (c) Do not stand or sit on countertop.

Accessories

The light fixtures, bath accessories and faucets can be cleaned by wiping with a soft damp cloth. Washing with warm water will remove dry water spots. Do not use cleaners that contain harsh or abrasive chemicals. Alcohol or similar solvents should never be used.

Detectors

The LP detector is self-contained and DOES NOT require any maintenance other than normal cleaning and dusting. The smoke detector and the CO detector installed in this coach use AA Batteries. The battery needs to be tested periodically and replaced when necessary.

When cleaning the case on any of the detectors use a damp cloth or paper towel. DO NOT spray cleaners or wax directly into the case as it may cause false alarms.

NOTE

A good time to remember to change the battery on an annual basis is on New Year's Day.

Condensation

Damage may occur to your unit if excessive condensation exists. Accumulation of condensation on surfaces within your unit occurs when warm, moist air contacts a cool surface. It is most evident on the inside of windows. This problem is controlled by:

1. Slightly opening a window or roof vent to allow the moisture to escape from the unit.
2. Using a small dehumidifier is also very effective in removing moisture from the air.

Condensation levels are highest during times when a person is cooking or taking a shower, so a small opening in a window or vent will help dissipate the humidity.

Since surface condensation within the coach cannot be controlled by the Manufacturer, damage caused by condensation is not covered by your New Horizon's Limited Warranty.

IMPORTANT

Urea-formaldehyde is used in the production of particleboard, hardwood plywood, and most paneling. While New Horizons Units contain no particleboard, there still may be minimal amounts of formaldehyde released from paneling and plywood. Urea-formaldehyde resin may release formaldehyde vapors into the air, which may cause headaches, and in some people eye, nose, and throat irritation. Formaldehyde may intensify some allergies or upper respiratory problems like asthma. Proper ventilation should reduce the risk of such problems.

SECTION TWO



LUXURY FIFTH WHEELS

ELECTRICAL SYSTEMS

Battery Inspection & Care

Auxiliary Power

YOUR ELECTRICAL SYSTEM

The RV battery has a limited amount of storage capacity. You will find from experience just about how long the batteries will last before it needs recharging. One or two deep cycle high amp batteries, or 2 – 6-volt golf cart batteries are suggested for operating your coach with the 12 – volt system. 2 – 12-volt batteries should be wired parallel (Positive to Positive) and 2 – 6-volt batteries should be wired in series (Positive to Negative), to create 12 volts.

An approved 110-volt power supply cord has been supplied with the vehicle. Always use this cord for hook-up to the 110-volt power source. Note that the cord has either a 3-pin (for 30-amp) or a 4-pin (for 50-amp) plug, which provides proper grounding if not altered. Grounding is your personal protection from electric shock. Do not use any adapter, cheater, or extension cord that will break the continuity of the grounding circuit connected to the grounding pin. NEVER remove the grounding pin for the convenience of being able to connect to a non-grounded receptacle.

If you can feel a shock – even a small one – from the RV while standing on the ground, you should immediately disconnect the RV and locate the trouble. The fault is usually from a break in the grounding circuit, which should be continuous from the frame to the distribution panel board to the third pin on the power supply cord and then to the park receptacle and the earth ground.

THE ENTIRE ELECTRICAL SYSTEM HAS BEEN CHECKED AT THE FACTORY PRIOR TO DELIVERY TO ENSURE PROPER CONNECTIONS AND A SAFE SYSTEM. CIRCUIT BREAKERS AND FUSES ARE INSTALLED TO PROTECT ELECTRICAL CIRCUITS FROM OVERLOADING. YOUR ELECTRICAL SYSTEM IS VERY COMPLEX AND IS NOT INTENDED FOR CUSTOMER TROUBLESHOOTING OR MODIFICATION. OTHER THAN CHECKING FOR BLOWN FUSES AND/OR BREAKERS, ALL TROUBLESHOOTING AND/OR MODIFICATIONS SHOULD BE DONE BY A QUALIFIED RV SERVICE CENTER OR CERTIFIED ELECTRICIAN.

Since each model and floorplan are unique, we can only provide you with a general overview of your electrical system in this manual. Your 110-volt & 12-volt breaker boxes are located on the inside of your coach usually in a cabinet towards the bottom of the wall.



ELECTRICAL SYSTEMS

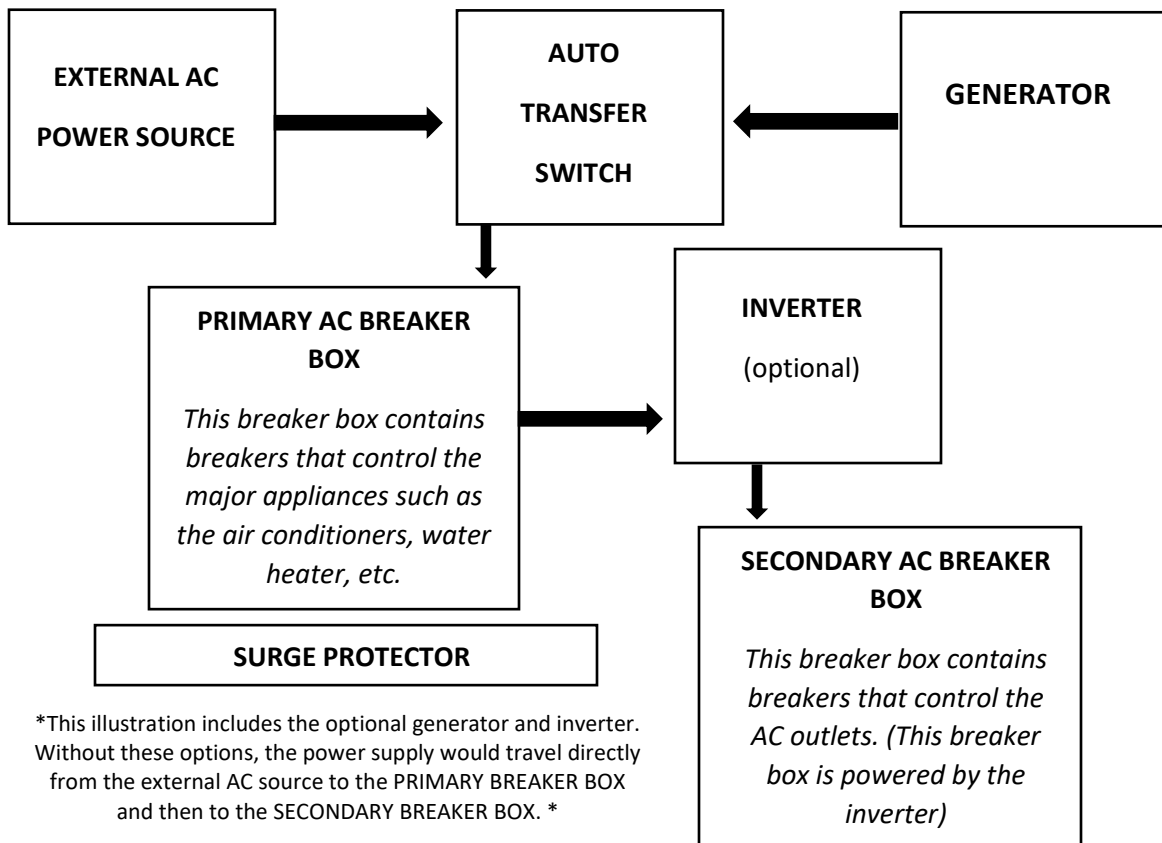
New Horizons RVs are equipped with an electrical system consisting of a 12-volt DC supply and a 110-volt AC supply provided through an external power hookup.

AC ELECTRICAL SYSTEM

The AC power is supplied by connecting to an outside source such as a power pedestal found in most campgrounds or from alternative sources such as an onboard generator or inverter.

GENERAL LAYOUT OF AN AC ELECTRICAL SYSTEM

(Electrical wiring and circuitry may vary due to floor plan and options.)



*This illustration includes the optional generator and inverter. Without these options, the power supply would travel directly from the external AC source to the PRIMARY BREAKER BOX and then to the SECONDARY BREAKER BOX. *

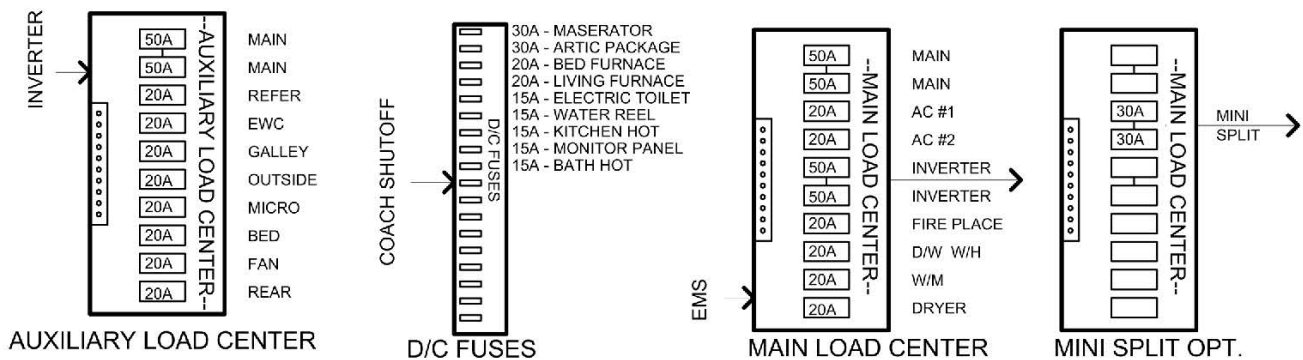
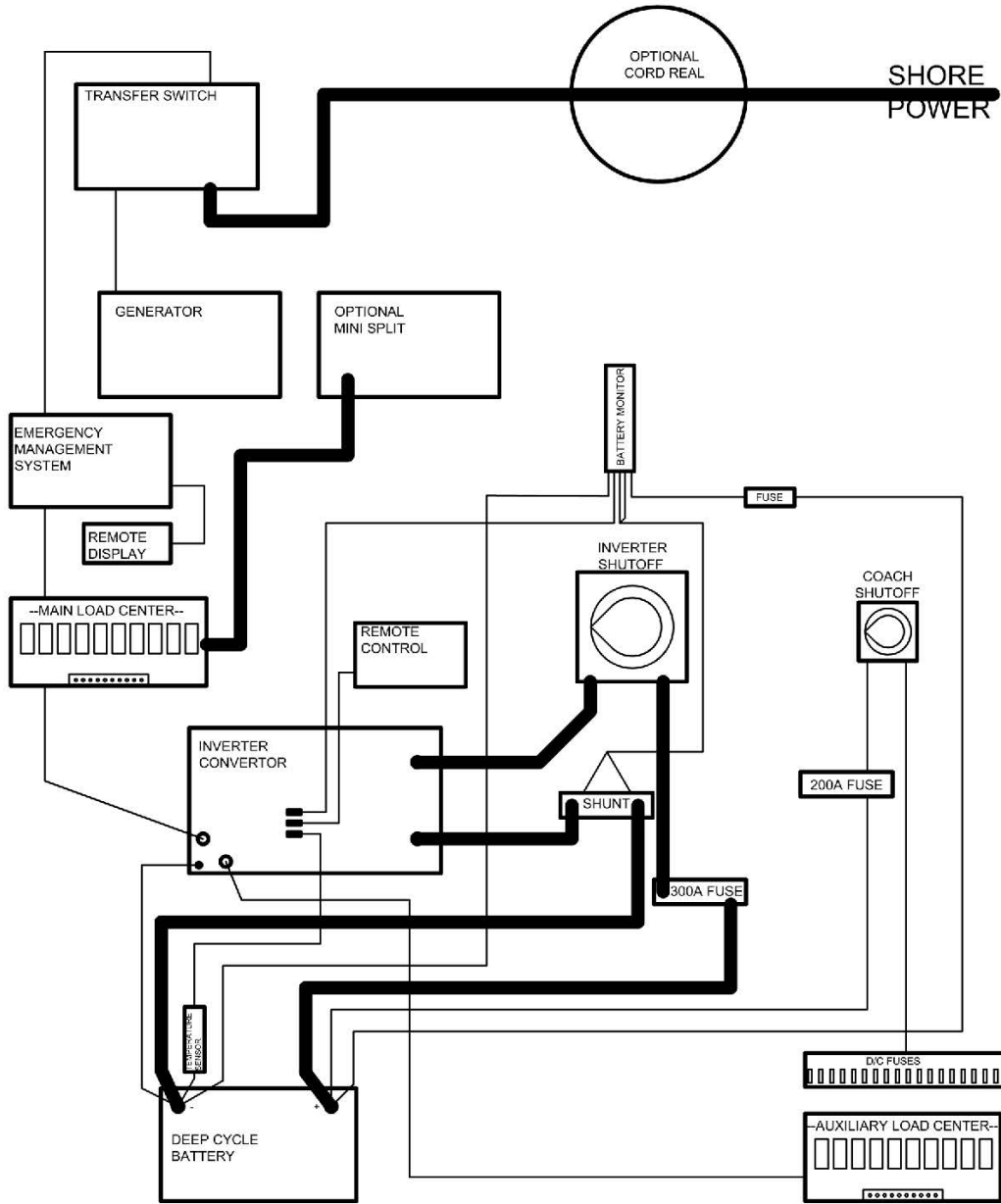
DC ELECTRICAL SYSTEM

Every RV has both AC (alternating current) and DC (direct current) wiring. DC wiring is the same as you would find in an automobile. The DC power is supplied by the onboard batteries. The batteries are recharged from the umbilical cord connected to the tow vehicle, the converter or inverter when connected to AC power and or optional solar panels. The block diagrams illustrate the distribution of power for each system.

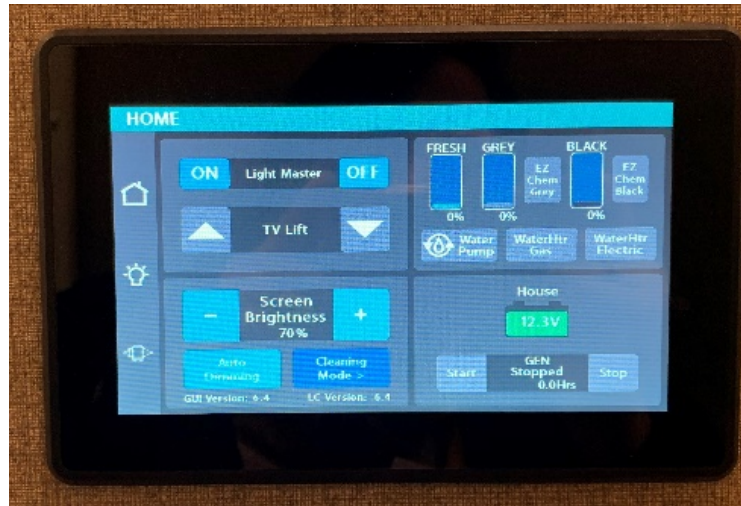
The 12-volt system uses the RV batteries. The batteries supply power for the interior and exterior lighting, refrigerator, water pump, heater, etc.

When the power cord is connected to an outside power source the converter automatically converts 110-volt AC power to 12-volt DC power. This operates all equipment in the RV that is normally powered by the batteries and keeps the batteries charged.

GENERAL ELECTRICAL SCHEMATIC



FIREFLY CONTROL SYSTEM



For full product information and usage, please visit:
<http://www.fireflyintegrations.com/firefly-system.html>

“Leading by innovation, engineering to each customer’s specific application, not adapting other products to meet the customer’s needs. Firefly listens to the customers' unique needs, designs applications with specific solutions, and provides service and support well after the sale.

Our switch panels introduce real time system monitoring through our line of Vega-touch capacitive color touch panels including Polaris, Lyra, Spectrum, and Lynx. The touchscreen display eliminates the need for installing varying, isolated monitors, displays and switches by having them all combined into one functional, stylish and cost-effective switch panel.”

RV POWER REQUIREMENTS

This is a list of common 120v AC RV appliances and their power requirements. Appliances and requirements may vary.

APPLIANCE	APPROXIMATE AMPS
Converter / Battery Charger	7-12
Air Conditioner (15,000 BTU)	12-14
Water Heater	6-8
Refrigerator (8 Cu. Ft. / 3-way)	3-4
Microwave (1,000 watts)	9-11
Washer / Dryer	12-16
Coffee Maker	4-10
Toaster	6.5-10
Television (LED)	
Residential Refrigerator	8-15
Hair Dryer	3-8

***NOTE:** The power converter will only change 110-volt AC to 12-volt DC. An inverter is required to invert 12VDC to 110Volt AC.*

BATTERY INSPECTION AND CARE

WARNING:

Remove rings, metal watchbands, and other metal jewelry before working around batteries. Use caution when using metal tools. If a tool contacts a battery terminal or metal connected to item a short circuit could occur which could cause personal injury, explosion or fire.

CAUTION

Disconnect the 120-volt electrical power cord and the negative terminal from the RV batteries before working on the electrical system.

Remember that when batteries are not used for an extended period, they may lose their charge. Periodic charging of the batteries during storage of the unit will increase the life of the battery. Check the external condition of the battery periodically. Look for cracks in the cover and case. Check the vent plugs and replace them if they are cracked or broken. Keep the battery clean. Accumulations of acid film and dirt may permit current flow between the terminals, which could drain the battery.

To clean, wash the batteries with a diluted solution of baking soda and water to neutralize any acid pre-sent. Rinse thoroughly with clean water. Foaming around the terminals or on top of the battery is a sign that acid is being neutralized. Avoid getting the baking soda solution in the battery. Secure all vent caps. Dry the battery cables and terminals to prevent corrosion. Do not use grease on the bare metal inside the cable terminals. Grease can act as an insulator, and electricity will not flow through it. A plastic ignition spray will protect the terminals after they have been cleaned.

WARNING

DO NOT allow the battery fluid to contact your skin, eyes, fabric, or painted surfaces. The fluid could cause serious personal injury or property damage. Wear eye protection when working with any battery. The batteries should be removed and stored in a warm place when not using your RV for an extended period. Mark the cables, positive and negative, for easy identification.

Batteries are not to be stored on concrete floors. The batteries require periodic charging during storage. If the RV is to be stored for a long period of time, it is recommended that all the batteries inside the unit be removed from clocks, radios, smoke alarms, etc. This will prevent unnecessary drain and corrosion of the batteries. The RV batteries are 6- or 12-volt deep cycle. This type of battery consumes water and must be filled periodically unless they are AGM or sealed batteries.

NOTE:

When leaving the coach without shore power or other auxiliary charging capabilities, it is recommended that the battery disconnect switch be turned to the off position. The battery disconnect switch is located near the batteries.

AUXILIARY GENERATOR POWER PLANT

(OPTIONAL)

This power generator has a starting system which uses the batteries. The generator can normally be operated from controls located on the generator and/or a remote start switch located inside the RV.

Refer to your generator manufacturer's instruction manual provided in the *Owner's Information Package* for service information **before** starting the generator. Do not start unit with a heavy power load. Always start the generator, wait at least three minutes, then turn on (or plug in) heavy electrical loads, such as the roof air conditioner. When the power cord is connected to an outside power source, or when the generator is in operation, the power converter automatically converts 110-volt AC power from the generator to 12-volt DC power to operate equipment in the RV and maintain a charge in the batteries.

CAUTION

Failure to turn off the 120-volt appliances when starting or stopping the generator may damage the transfer switch and/or electrical appliances.

INVERTER/CHARGER

(OPTIONAL)

The optional Inverter/Charger provides 120-volt AC power from the DC batteries. Refer to the manufacturer's manual provided in the *Owner's Information Package* for further instruction regarding your inverter/charger.

AUXILLARY SOLAR POWER

(OPTIONAL)

See the owner's manual provided in your *Owner's Information Package* for instructions in use and care of your solar system.

GROUND FAULT INTERRUPTER SYSTEM

GFI Breakers

Your RV uses two types of ground fault interrupters. Some units have a GFI breaker in the breaker box. The GFI in the main breaker box protects:

- All outside 110-volt outlets
- The lavatory sinks 110-volt outlets
- All 110-volt outlets within 72” of the kitchen sink

This breaker has a test button, which should be tested according to the manufacturer’s instructions found in the owner’s packet.

The bathroom outlet, galley outlet, and patio outlet are protected by a Ground Fault Interrupter (GFI). This device is intended to protect you against electrical shock possible when using electrical appliances in the bathroom, kitchen, or damp areas.

IMPORTANT

DO NOT store anything in or around the power converter or (optional) inverter. Both require an unobstructed air flow to dissipate the heat it generates during operation.

GFI Receptacles

Below is a list of typical components (some are optional) that may be included in your unit and what system they operate on:

110 Volt System	12 Volt System
Air Conditioner	All Lighting
Ceiling Fan	Roof Vents
Water Heater	Water Pump
Television	Hydraulic Jacks
Fireplace	Electric Awning
Convenience Outlets	Furnace
Washer / Dryer	High Volume Fan
Microwave Oven	Antenna Booster
Central Vacuum	Slide – Out Rooms
Home Theatre	
Range Exhaust Vent	
Satellite System	

The 110-volt system operates using resettable breakers. The 12-volt system operates using automotive type fuses, circuit breakers, and disconnects. Should you experience a power failure in any of the items listed in the chart above, go to the

appropriate box and either reset the 110-volt breakers or replace the automotive fuses depending on which system the item operates on.

If that does not correct the problem, check the item's user manual for the troubleshooting procedure for that item. If you are still unable to resolve the problem, call an RV service center, the manufacturer of the item, or service at New Horizons RV.

SECTION THREE



LUXURY FIFTH WHEELS

LP Gas System

LP GAS SUPPLY

Your fifth wheel is equipped with an LP gas system that supplies the following appliances:

- Range (Operates on gas only)
- Refrigerator (Operates on gas or 110V electricity)
- Water Heater (Operates on gas or 110V electricity)
- Furnace (Operates on gas only)

LP gas (Liquefied Petroleum Gas) is a true gas, compressed into liquid form for easy transportation and storage. It is also known as bottled gas or tank gas: or simply as propane which is a type of LP gas. Under proper conditions and handling, the system is safe, economical and provides modern living conveniences wherever you travel. When one bottle is empty, it is good to practice refill without delay. If the bottles run empty, the LP appliances in the trailer will shut off from lack of fuel and could cause problems if food is left in the refrigerator or if heat is required to keep water lines from freezing. For the lighting of an LP gas appliance, it may be necessary to purge the LP gas supply line of air before the appliance will light. To purge a line, open a burner. Allow time for air to escape. The time will vary depending on the distance the appliance is located from the LP gas tank. After several seconds, the gas should ignite and burn steadily. All New Horizons RVs are supplied with an LPG leak detector. Refer to your Owner's Information Packet for instructional materials and testing procedures. Refer also to the Leak Detector section in this manual.

WARNING!

- **DO NOT FILL LP GAS TANKS TO MORE THAN 80% OF CAPACITY. OVERFILLING CAN RESULT IN UNCONTROLLED GAS FLOW WHICH CAN CAUSE FIRE OR EXPLOSION.**
- **TURN OFF LP GAS MAIN VALVE IN ORDER TO EXTINGUISH ALL PILOT LIGHTS BEFORE FILLING GASOLINE OR LP GAS TANKS OR ENTERING A GASOLINE STATION OR LP GAS BULK PLANT AREA.**
- **TURN OFF LP GAS MAIN VALVE BEFORE TOWING THE RV.**
- **LP GAS IS FLAMMABLE AND POTENTIALLY EXPLOSIVE. USE PROPER HANDLING, LIGHTING AND VENTILATING PROCEDURES.**
- **NEVER CHECK FOR LEAKS WITH AN OPEN FLAME.**

- **DO NOT CHECK COPPER PLUMBING LINES 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.**
- **DO NOT USE PLIERS OR A WRENCH TO TIGHTEN VALVES. IF A VALVE IS NOT LEAK TIGHT WHEN CLOSED BY HAND, SEE YOUR LP GAS SERVICE REPRESENTATIVE.**

USING THE AUTOMATIC CHANGEOVER REGULATOR

Your RV incorporates an automatic changeover regulator in the LP gas system (photo one). This device allows both gas bottles to be turned on simultaneously. The arrow on the regulator indicates which bottle is in service. When the indicated bottle in service becomes empty, the automatic changeover will display a red signal in the glass vial. Flip the lever over to indicate service on the other bottle. The first bottle now depleted, can be turned off, uncoupled and taken to be refilled without disturbing the RV gas supply. After filling, it can be remounted and again turned to the on position. At this time, the red flag will disappear. Even though you will see the red flag in the glass vial, your system will operate on the second bottle until all gas is depleted from the system.



LP GAS CONTAINERS

THIS GAS SYSTEM IS DESIGNED FOR USE OF LIQUIFIED PETROLEUM GAS ONLY. **DO NOT CONNECT NATURAL GAS TO THIS SYSTEM.** SECURE CAP INLETS WHEN NOT CONNECTED FOR USE. AFTER TURNING GAS ON (*EXCEPT AFTER NORMAL CONTAINER PLACEMENT*) TEST GAS PIPING AND CONNECTIONS TO APPLIANCES FOR LEAKAGE WITH SOAPY WATER OR BUBBLE SOLUTION. DO NOT USE PRODUCTS THAT CONTAIN AMMONIA OR CHLORINE.

If the bottles are put in storage for any length of time, or if they are empty, close the service outlet to minimize entry of moisture into the regulator or bottle. Moisture in the regulator could freeze up and damage it.

LP Gas Regulator Setting

Never attempt to adjust the gas regulator yourself. Have an authorized service agency make any regulator adjustments. Even a little pressure over the recommended 11” WC (water column) can cause damage to appliances.

LP-GAS SAFETY INSTRUCTIONS

You should check for leaks at all the connections on the LP gas system as soon as the LP bottles are initially filled. To ensure that movement of the trailer has not loosened any fittings, we advise that you periodically check your LP-Gas system. This system was thoroughly tested by the manufacturer.

To test for leaks, use a soapy water solution applied to the outside of the gas pipe connections. If bubbles appear, you have a leak. Tighten the gas connection, check again with the solution to ensure that you did tighten the fittings sufficiently to stop any leak. If bubbles still appear, you may need to have a qualified RV service assist you with the problem.

WARNING:

Your vehicle has exterior combustion air inlets. Appliance pilot lights should be turned off during gasoline or LP-Gas refueling of the unit.

(Required by law in some states.)

TROUBLE FREE AND SAFE USE OF THE LP GAS SYSTEM

1. Be safety conscious always. Know the distinctive odor of LP gas. If a leak is suspected, turn off the tank valve immediately. Ask the LP gas dealer to check the system.
2. Have the entire LP gas system inspected for possible leaks and missing or damaged parts at the time of filling. *INSPECT BEFORE AND AFTER EACH TRIP AND ANYTIME TROUBLE IS SUSPECTED.*
3. Do not tamper with the LP gas piping system, pressure regulator or appliances. Use caution when drilling holes or attaching objects to the wall. Gas lines and electrical wiring could be seriously damaged and present an extreme safety hazard.
4. Be sure appliances and outside vents are open and free from obstruction when using LP gas operated appliances.
5. Never allow your tank(s) to be filled above the 80 percent level indicated by the flow of liquid gas out of the overflow valve.
6. Never attach a lock or device requiring a key to open the LP gas compartment door. In an emergency the tank valve must be accessible.
7. When not using the gas system, turn off the gas at the tank.
8. Never use a wrench to tighten the tank service valve. It is designed to be closed leak tight by hand. If a wrench is required to stop a leak, replace the valve.
9. Do not bring or store LP gas containers, gasoline or other flammable liquids inside the vehicle because a fire or explosion may result.
10. Your RV is equipped with rotating valves on the regulator with arrows indicating which tank you are using. A red flag in a glass window on the regulator will indicate the bottle is empty.

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 all doors and other ventilating openings**
- 5. Leave the area until the odor clears**
- 6. Have the gas system checked and leakage source corrected before using again**

LP-Gas is heavier than air and leakage tends to flow to the low points. It will sometimes pocket in a low area and remain there until moved with air currents.

WARNING:

IT IS NOT SAFE TO USE COOKING APPLIANCES FOR COMFORT HEATING.

Cooking appliances need fresh air for safe operation.

- 1. Open overhead vent or turn on exhaust fan**
- 2. Open window**

The amount of oxygen available is limited to the restricted size of your RV. Proper ventilation must be supplied to avoid asphyxiation.

DO NOT BRING OR STORE YOUR LP-GAS CONTAINERS, GASOLINE, OR OTHER FLMMABLE LIQUIDS INSIDE THE RV. FIRE OR EXPLOSIONS MAY OCCUR.

TRAVEL WITH LP GAS

It is required that all LP gas appliances be turned off and the valve on the LP tank be closed before traveling for several reasons:

1. **Safety**—Should your RV be involved in an accident and a gas supply line broken, LP gas would be free to escape from an open line, creating a fire hazard.
2. **State Regulations**—Many states are becoming increasingly regulatory about LP tanks and their use. For example, it is illegal for motor homes to pass through certain tunnels in the nation because of the LP tank or bottles aboard, even if the outlet valve is closed. We suggest you always check the local regulations of the states through which you plan to travel.

REGULATOR

Regulator freeze-ups are caused by the presence of moisture in the fuel. This moisture will pass through the cylinder valve and into the regulator where it freezes. Fuel producers, tank manufacturer's and LP gas dealers take every precaution to keep moisture out, but sometimes only a fraction of an ounce in a tank of gas can cause problems. To help avoid the possibility of freeze-up, always keep tank valve closed when not in use, even when tank is empty, to prevent moisture from collecting inside.

If moisture begins causing problems, have your LP gas dealer inject a small amount of dry methyl alcohol in your tank (approximately one ounce to 20 pounds of fuel or one pint to 100 gallons) to help guard against regulator freeze up.

AIR IN THE LP GAS LINE

If your LP gas supply has been depleted, it is possible that air has entered the gas lines. The gas will eventually force the air from the lines. To speed up the process, light a burner on the stove. Once lit, the increased gas pressure should force the air out of the lines throughout the system.

LEAK DETECTOR

This device does not prevent leaks, it only detects the presence of LP gas inside the RV. Refer to your *Owner's Information Package* and read the instructional materials on your LP Leak Detector. Should the detector indicate LP gas is present in the RV, follow these steps:

1. Extinguish all open flames.
2. Turn off LP gas at the tank.
3. Evacuate the RV for at least 15 minutes.
4. Ventilate RV by opening doors and windows.
5. Shut off all LP gas appliances, including pilots. If any of the appliances were turned on and were not lit, this may have been the source of the gas.
6. **DO NOT SMOKE!!!!**
7. Have the LP system checked for leaks



WARNING

DO NOT USE THE LP GAS SYSTEM UNTIL THE PROBLEM HAS BEEN REMOVED.

CARBON MONOXIDE DETECTOR

Carbon monoxide is a colorless, tasteless, odorless gas. It is a by-product of the burning of fossil fuels (gasoline, LP gas, diesel fuel, etc.). The generator engines, furnace, water heater, LP gas refrigerator, and range produce carbon monoxide constantly while they are operating. Carbon monoxide is **DEADLY!** Please read and understand the following precautions to protect yourself and others from the effects of carbon monoxide poisoning.

WARNING:

Exhaust gases are deadly. **DO NOT** block exhaust ports. **DO NOT** situate the RV in a place where the exhaust gases have any possibility of accumulating either outside, underneath, or inside your RV or any nearby vehicles. Outside air movements can carry exhaust gases inside the RV through windows or other openings remote from the exhaust outlet. Operate engines, carbon monoxide- producing systems, or components only when safe dispersion of exhaust gases can be assured. Monitor outside conditions to be sure that exhaust continues to be dispersed safely.

If you, or anyone else, experience any carbon monoxide symptoms (dizziness, nausea, vomiting, muscular twitching, throbbing in the temples, inability to think coherently, weakness and sleepiness, or intense headaches) exit the coach immediately. Seek medical attention if symptoms persist. Shut down the unit and do not inhabit it until it has been thoroughly inspected and repaired.

WARNING:

UNDER NO CIRCUMSTANCE SHOULD YOU OPERATE ANY ENGINE WHILE SLEEPING! When you are sleeping you will not be able to monitor outside conditions to assure that engine exhaust does not enter the RV. Check the exhaust system frequently for damage. If damage is found, **DO NOT** operate the system. Never modify the exhaust system in any way.

The detector is equipped with a “sensor activation strip”. This strip must be removed for the detector to operate properly. This should have been done at the time of delivery. Please check the detector to verify that the activation strip has been removed. Consult your carbon monoxide detector *User’s Guide* provided in your *Owner’s Information Package* for more detailed information.

SECTION FOUR



LUXURY FIFTH WHEELS

MAJOR APPLIANCES:

*Refrigerator, Microwave, Range/Oven,
Range Hood, Water Heater, Washer/Dryer,
Central Vac*

MAJOR APPLIANCES

Warranty certificate registration cards, service instructions and other information are included in the Owner's Information Package provided with your RV. Keep all information relating to your appliances readily available for easy reference.

New Horizons warranty does NOT cover appliances & components.

IMPORTANT

Be sure to fill out and mail the warranty registration cards on all appliances as soon as possible.

WARNING

Most LP gas appliances used in RVs are vented to the outside of the vehicle. When parked close to a gasoline pump it is possible that the gasoline fumes could enter this type of appliance and ignite the burner flame causing a fire or explosion. Use caution when refueling; ensure all LP devices are off and the LP system main valves are also off.

LP GAS/ELECTRIC REFRIGERATOR

Before starting the refrigerator, verify that the main LP gas valve is in the **ON** position. The two-way refrigerator is equipped with a semi-automatic energy selector (AES) control system. It can be set to select either 120-volt or LP gas operation, automatically, if desired.

A 12-volt power supply must be available for the electronic control panel to function. The shoreline must be plugged in, or the optional generator or inverter running to operate in the 120-volt mode. The main LP gas valve must be open for operation in the LP mode. To start the refrigerator, press the main power ON/OFF button to the ON position.

To use the two-way Auto Mode, push the AUTO/GAS mode selector in the ON position. IF 120-volt is available, the AC mode indicator light will be illuminated designating AC operation. If 120-volt is not available, the gas mode indicator light will be illuminated. The control system will automatically switch to gas operation. To operate on gas only push the AUTO/GAS mode selector until the gas indicator light has lit. After 45 seconds, the burner should be ignited and operating normally. The initial startup may take longer than 45 seconds in order to allow the air to be purged from the gas line.

If the gas does not ignite within 45 seconds, the check indicator light will illuminate, and the gas mode light will go off.

If the check indicator light illuminates and the gas mode indicator light is off, then the controls have failed to ignite the burner in the gas mode. When the check indicator light is on, press the main power ON/OFF button to the off position to reset. **DO NOT continue to reset the gas operation if the check indicator light continues to illuminate after several tries.**

The thermostat on the refrigerator controls the gas and electric operation.

This eliminated the necessity of resetting the temperature each time a different energy source is used. Press the temperature selector button until the light at the desired setting is illuminated.

After the initial startup, the thermostat should be moved from the coldest setting to the desired setting, which is usually mid-range.

Consult the operating instructions furnished by the manufacturer in the manual and posted inside the refrigerator. Be sure your RV is level. If it is not level, circulation of the refrigerant may be blocked by liquid accumulated in the condenser coils and cooling action could stop. Check the level at the refrigerator by placing a bubble level on the freezer shelf. Adjust the level by jacking and blocking under the wheels.

MICROWAVE

The microwave installed in you RV operates on 120-volt AC electricity. The microwave's control panel is the touch pad type. Simply enter the temperature, mode, and cooking time desires. For instructions on how to operate any of the special features on the microwave oven, please refer to the microwave owner's manual provided in your *Owner's Information Package*. For information on operating the optional convection /microwave oven, please refer to the owner's manual provided in your *Owner's Information Package*.

RANGE HOOD

The range hood is incorporated into the microwave. The microwave's control panel operates the range hood functions. This range hood has both a fan and a light for your convenience. For further detailed information on the hood operation, refer to the microwave Owner's manual.

RANGE

There is no pilot light for the range. The burners are controlled by a spark ignition. There are different models used, with different types of controls. To light the burners on some models, turn the control knob to LITE. The burner will spark and come on. All burner controls operate counterclockwise and must be pushed inward in order to turn. To light the oven, turn the knob to PILOT, push in on the knob and hold and light the pilot in the oven. Hold in for a few seconds and release. If the pilot stays on, set temperature to desired setting. For further instructions, please refer to the manufacturers' Owner's manual provided in your *Owner's Information Package*. The ignition control used for the main oven burner may require normal delay of a few seconds before the main oven burner ignites. If you are sure the pilot is burning, anticipate approximately five (5) seconds for the burner to ignite. Always use the fan when using the oven or range in order to ensure adequate ventilation. When cooking for long periods of time open a window or roof vent slightly to increase ventilation. Unlike homes, the amount of oxygen supply is limited due to the size of the recreational vehicle, and proper ventilation when using the cooking appliances will avoid dangers of asphyxiation.

IMPORTANT

If it does not ignite within five (5) seconds, turn the control knob off and check the pilot light or the gas supply.

Water Heater

WARNING

DO NOT turn on the water heater until it is filled with water.

It is important to read all the safety information provided in the water heater manufacturer's operation manual provided in the *Owner's Information Package*. Before turning on the water heater, fill the freshwater system. Purge any air from the water heater by opening all hot water faucets until water flows steadily from each one. The standard water heater installed in this unit is a ten-gallon gas/electric model with direct spark ignition. This water heater operates on either LP gas or 120-volt electricity. Make sure water heater is not in by-pass. If water is supplied from the on-board freshwater tank, the pump must be ON.

The following instructions are for the standard water heater with direct spark ignition (DSI). This appliance does not have a pilot light. It is equipped with an ignition device that automatically lights the burner. Do not try to light the burner by hand. **(If you smell gas, STOP!!)** Turn off all the electrical power to the water heater. Turn the gas supply to the OFF position. Wait five minutes for the gas to clear the area. Follow the safety instructions in the Operation Manual. If gas odor is not noticed, then turn the gas supply to the ON position. Turn on the electrical supply to the water heater. Inside the RV there is a dual switch, one to turn on the electric, one to turn on the gas. It can be operated in electric, gas, or both modes. There will be a fifteen (15) second purge before the unit will spark. If the burner does not light on the first try, there will automatically be two more tries for ignition before it will lock out. Each ignition cycle will have a fifteen (15) second purge. If lock out occurs before the main burner lights, turn the switch to OFF, wait fifteen (15) seconds, and turn the switch to ON again. This will re-start the ignition cycle. The initial start-up of the water heater may require several ignition cycles before all the air is purged from the gas lines.

WATER HEATER STORAGE

When storing your RV for the winter months, **the water heater must be drained to prevent damage from freezing**. The first step is to turn off all electrical power and LP gas going to the water heater. The water pump must also be turned off. Open both the hot and cold-water faucets to drain the lines. Open the drain on the water heater. Drain the entire water system. When preparing the unit for use after it has been stored, make certain the water system, including the water heater, has been filled before turning on the water heater. Failure to fill the water heater before lighting may damage the water heater and void the warranty.

WARNING

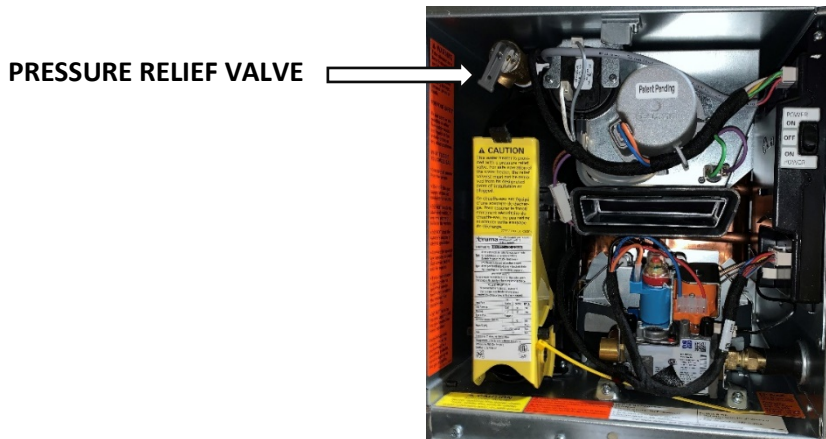
DO NOT store any combustible materials or liquids near or adjacent to the water heater

PRESSURE RELIEF VALVE

The temperature and pressure relief valve is located on the exterior of the water heater. It is designed to open if the water pressure in the heater reaches 150 pounds. RV water systems are closed systems, and during the water heating cycle the pressure build-up in the water system may reach 150 pounds. If this pressure is reached, the pressure relief valve will open, and water will drip from the valve. This dripping will continue until the pressure is reduced to below 150 pounds and the valve closes. This condition is normal and does not indicate a defective relief valve.

WARNING

DO NOT plug the relief valve under ANY circumstances!



WASHER/DRYER (Optional)

The plumbing and other preparations for the installation of a washer and dryer are an optional feature. The washers and dryers used function as those in a home, operating on 120-volt electricity. For more detailed information on the operating instructions, read the appliance owner's manual in the *Owner's Information Package*.

CAUTION

Prior to using the washer ensure that the gray water tank has enough capacity for the wastewater generated from the wash and rinse cycles. Caution must be used when operating the washer with the gray water tank valve closed as the washer will fill the gray water tank quickly causing an overflow condition.

CENTRAL VACUUM (Optional)

See the owner's manual provided in your *Owner's Information Package* for instructions in use and care of your Central Vacuum.

RESIDENTIAL REFRIGERATOR

The 18 & 22 cubic foot residential refrigerator option provides owners with a refrigerator such as you would have in your “sticks and bricks home” that holds its temperature better than the traditional (absorption) RV refrigerator and is larger than traditional RV refrigerators.

With the residential refrigerator option, New Horizons includes an extra 12V battery, a dedicated power inverter that converts 12V DC into 110V AC. The inverter has an internal transfer switch that automatically switches with connected/disconnected to shore power. There is also a remote switch that allows you to turn the power inverter ON or OFF.

This arrangement allows you to unplug shore power when you leave home or campsite, and keep the refrigerator running as you travel to your next destination.

Basic Operation

This manual is intended to supplement the manufacturer's refrigerator manual, so the explanations here will focus on the additional components and on usage aspects that are related to RVing.

Battery Life

If your batteries start the day with a full charge and are in good condition, there should be plenty of power to run the refrigerator while traveling an entire day. The batteries might supply enough power to run the refrigerator overnight as well, if you aren't using too much battery power for other devices.

Other Refrigerator Usage Instructions

Please refer to the manufacturer's manual on general instructions on how to use and care for the refrigerator.

Winterizing and De-Winterizing the Residential Refrigerator

To avoid freeze damage, all water needs to be evacuated from a number of areas including the ¼” supply line to the refrigerator, the reservoir coil inside the refrigerator, the ice maker and water dispenser lines inside the refrigerator, the ice maker and water dispenser solenoids inside the refrigerator, and the drain valve under the slide out (if so equipped). While winterizing is usually thought of as something that is used while storing the RV for the winter, you must also protect the exterior portion of the water supply line to the ice maker when the RV is in use and the temperatures are projected to drop below freezing! The ice maker shut-off valve is normally located under the kitchen sink.

Using the Drain Valve

Starting with early builds of the Residential Refrigerator option, a drain valve was installed on the trailer frame, underneath the refrigerator. By opening this drain, you can evacuate some of the water from the refrigerator. However, there is approximately 1 quart (1 liter) of water inside the refrigerator and some components may retain water even if you are successful in draining about a quart.

Antifreeze Method

While using RV antifreeze will protect the components from freeze damage, there could be issues with taste of the water and ice. With PEX water lines, antifreeze flushes out and taste usually returns to normal very quickly after de-winterizing. However, the 1/4" water supply line is a different material. Some owners have found that the supply line, solenoids, and reservoir may retain the taste of antifreeze for a longer time.

Using Compressed Air to Winterize the Refrigerator

Using compressed air at 40 psi or less to evacuate water from the ice maker and water dispenser and related components is the safest, most thorough and cleanest method available. The downside of course is that you'll need an air compressor and appropriate connectors to use this method.

NOTE:

If using RV antifreeze to protect the rest of the water system, the refrigerator procedure should be completed first, before introducing antifreeze into the RV's other water lines.

SECTION FIVE



LUXURY FIFTH WHEELS

ENVIROMENTAL:

*Air Conditioner, AC Operating Instructions,
Heat Pump, Heat Strips, Furnace, Condensation*

Air Conditioner(s)

Your RV has been equipped with a 15,000 BTU low profile ducted air conditioner from Coleman. Depending on the length of the coach, a second unit may be installed in the bedroom. Both ACs and the furnaces are controlled from a single multi-zone thermostat.

Condensation

NOTE

The manufacturer of this air conditioner will not be responsible for damaged caused by condensed moisture on ceilings or other surfaces. Air contains moisture and this moisture tends to condense on cold surfaces. When air enters the RV, condensed moisture may appear on the ceiling, windows, metal parts, etc. The air conditioner(s) removes this moisture from the air during normal operation. Keeping doors and windows closed when the air conditioner(s) is in operation will minimize condensed moisture on cold surfaces.

General Information

The air conditioner(s) installed in your RV will operate only when the unit is supplied with 120-volt AC power from the power cord or the generator. The air conditioner(s) circuit breaker must be in the ON position to work.

To assist the air conditioner(s) in cooling the RV, park in the shade and keep the blinds closed. Set the thermostat to the desired temperature.

The ability of the air conditioner(s) to maintain the desired inside temperature depends on the heat gain of the RV. Some preventative measures taken by the occupants of the RV can reduce the heat gain and improve the performance of the air conditioner(s). During extremely high outdoor temperatures, the heat gain of the vehicle may be reduced by:

1. Parking the RV in a shaded area.
2. Using window shades (blinds and/or curtains).
3. Keeping windows and doors shut or minimizing usage.
4. Avoiding the use of heat-producing appliances.

Operation on High Fan/Cool mode will give optimum or maximum efficiency in high humidity or high outside temperature.

Starting the air conditioner(s) early in the morning and giving it a “head start” on the expected high outdoor ambient will greatly improve its ability to maintain the desired indoor temperature.

Accessories such as a patio and window awnings will reduce heat gain by removing the direct exposure to the sun.

Maintenance

- **AIR FILTER**—Periodically remove the return air filters and wash with soap and warm water, let dry and then reinstall.
- **FAN MOTOR**—Factory lubricated and requires no service under normal use.
- **FROST FORMATION ON COOLING COIL**—Under certain conditions, frost may form on the evaporator coil. If this should occur, inspect the filter and clean if dirty. Make sure air louvers are not obstructed, Air conditioners have a greater tendency to frost when the outside temperature is relatively low. Adjusting the thermostat control knob to a warmer setting may prevent this.
- Most units will have multiple return air vents & filters.

NOTE

Never run the air conditioner without the air filter in place, this may plug the unit evaporator coil with dirt and affect the performance of the unit.

Having a second filter will allow you to rotate use.

RV air conditioners are designed by their manufacturers to keep the RV 20 degrees Fahrenheit cooler than the outside ambient air temperature.

Service—Unit Does Not Operate

If your unit fails to operate or operates improperly, check the following before calling your service center:

- If RV is connected to the optional generator, check to be sure the generator is running and producing power.
- If RV is connected to power supply by a landline, check to be sure line is sized properly to run air conditioner load and it is plugged into power supply.
- Check your fuse or circuit breaker to see if it is on.
- After the above checks, call your local service center for further help. ***This unit must be serviced by qualified service personnel only!***

When calling for service, always give the air conditioner Model Number and Serial Number located in your *Owner's Informational Package*.

FURNANCE

Designed, built and backed by one of the most trusted names in the RV Industry, the Suburban powerful furnaces provide superior, dependable heating.

Suburban does not require you to register your appliance for your limited warranty to be effective. If you should need repairs during your warranty period, all you need to provide to establish your warranty period is your bill of sale or other receipt showing the purchase date of your RV or appliance. Please refer to your owner's manual for information regarding your limited warranty.

FOR YOUR SAFETY

WHAT TO DO IF YOU SMELL GAS:

Extinguish any open flame.

Evacuate all persons from the vehicle.

Shut off the gas supply at the gas container or source.

Do not touch any electrical switch or use any phone or radio in the vehicle.

Do not start the vehicle's engine or electric generator.

Contact the nearest gas supplier or qualified service technician for repairs.

If you cannot reach a gas supplier or qualified service technician, contact the nearest fire department.

Do not turn on the gas supply until the gas leak(s) has been repaired.

PREVENTIVE MAINTENANCE

WARNING! If the user of this appliance fails to maintain it in the condition in which it was shipped from the factory or if the appliance is not used solely for its intended purpose or if appliance is not maintained in accordance with the instructions in this manual, then the risk of a fire and/or the production of carbon monoxide exists which can cause personal injury, property damage or loss of life.

Your furnace should be inspected by a qualified service agency yearly before turning the furnace on. Particular attention should be given to the following items:

1. Inspect chamber and venting to assure that these components are physically sound without holes or excessive corrosion and that the installation and/or re-installation is in accordance with Suburban's installation instructions. (Reference installation manual supplied with furnace.)
2. Inspect furnace, the venting, ducting and gas piping to furnace for obvious signs of deterioration. Correct any defects at once.
3. Inspect combustion chamber for restrictions in exhaust or intake. It is imperative that the flow of intake combustion air and the flow of exhaust gases being expelled to the outside atmosphere not be obstructed. Any soot or loose debris should be blown out using compressed air.
4. Inspect all gaskets. If any gaskets show signs of leakage or deterioration, replace them. Safe operation of the furnace depends on all gaskets being tight.
5. Inspect return air inlet openings to the furnace. Remove any restrictions to assure adequate air flow.

You, as the owner/user, should inspect the furnace monthly during the heating season for presence of soot on vent. Operating the furnace under this condition could lead to serious property damage, personal injury or loss of life. If soot is observed on the vent, immediately shut the furnace down and contact a qualified service agency.

The Suburban furnace installed in your unit is a forced-air furnace fueled by LP gas. The furnace is controlled by the multi-zone wall thermostat. This thermostat controls both the heating and cooling of the coach.

The heat is supplied to the unit through ducts located in various areas. The furnace will not operate properly if the airflow at the floor registers or the air return to the furnace, is blocked by personal or storage items. Storage under the cabinets should be done carefully to prevent crushing or damaging the furnace ducting or blocking of the warm air return.

Smoke and fumes may be created as a result of the residual burn off the manufacturing compounds that are sometimes present the first time the furnace is used. This is normal. To minimize the smoke and fumes, the initial lighting of the furnace should be done with the windows and doors open. Continue until the residue is completely burned off.

To operate the furnace:

1. Turn the thermostat to the ON position.
2. In MODE select FURNACE.
3. Depress FAN button and set fan speed to AUTO.
4. Using the UP or DOWN buttons, set the temperature to desired setting.

For your safety, do not use gasoline or other flammable liquids in the vicinity of the furnace or any other appliance. Clean the complete furnace and air tube passageways periodically to remove dust, lint, etc. Check the gas system for leaks at least once a year. Check and clean the blow wheel annually.

WARNING

Use caution when washing the exterior of your RV. Water should not be sprayed directly into the furnace vent. If water is forced beyond the rain baffles into the furnace vent, rusting of the furnace could occur. This could also cause improper combustion.

All LP Gas Appliances must be off while fueling tow vehicle!

The furnace should be thoroughly cleaned before the start of each heating season. Any debris in the system may restrict airflow for combustion, bind the combustion air impeller, or prevent the blower motor from running properly. Also, check the burner pilot orifices for debris. Lint accumulations may cause the blower to become unbalanced, vibrate, or restrict the ability of the blower to move air. If lint is blown into the heat exchanger, it may cause odors or create a fire hazard. Contact an authorized service technician for annual cleaning. Consult the manufacturer's operating instructions in your *Owner's Information Package* for further information.

Effects of Prolonged Occupancy

If you expect to live in the RV for extended periods, be prepared to deal with condensation and the humid conditions that may be encountered. The relatively small volume and tight construction of a modern recreational vehicle means that the normal living activities of even a few occupants will lead to rapid saturation of the air contained in the RV and the appearance of visible moisture, especially in cold weather. Know the signs of excessive moisture and condensation and how to minimize their effects.

Recognizing Condensation Symptoms

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 recreational vehicle during use in cold weather when humidity of the interior air is high. This condition is much greater in an RV than in most houses because the insulated walls of the RV are much thinner than house walls, and the small size and tight construction of the vehicle allow a quick buildup of high moisture levels in the inside air.

The air inside an RV can contain a surprisingly large amount of water vapor. 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 is carried outside by ventilation, or condensed by a dehumidifier, it may condense as water, frost or ice on the windows. It may also condense out of sight within the walls or the ceiling where it will manifest itself as stained panels. Appearance of these phenomena indicates a condensation problem.

Controlling Moisture Condensation

You can reduce or eliminate interior moisture condensation during cold weather by taking the following steps:

1. Ventilate with outside air. Partially open one or more roof vents and one or more windows to provide controlled circulation of outside air into the interior. While this ventilation will increase furnace heating load, it will greatly reduce, or eliminate water condensation.
2. Reduce moisture released inside the vehicle. 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 RV. Avoid making steam from excessive boiling or use of hot water.
3. Do not heat the RV interior with the range or oven. In addition to the hazards of toxic fumes and oxygen depletion which makes heating by the range or oven very dangerous, open flames add moisture to the interior air, increasing condensation.
4. Do not use an air humidifier inside the RV. Water put into the air by the humidifier will increase condensation.
5. 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 airflow will warm the exterior wall surface, reducing or eliminating condensation and preventing possible ice formation.
6. Install a dehumidifier appliance. 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.

NOTE

Even when it's raining or snowing, ventilated air from outside will be far drier than interior air and will effectively reduce condensation.

Thermostat

Thermostat Operation

(Please refer to the Manual that came with the Thermostat.)

The Zone thermostats create a climate control system that allows the operator to control up to four air conditioners or heat pumps and up to two heating sources with only one thermostat.

The thermostat system will operate in both heat and cool modes but will not allow the user to run simultaneously in heat and cool mode. Depending on the system that has been installed and programmed into the thermostat, each zone can be set up for a combination of the following systems: cool only units, heat/cool units, heat pump units and heating appliances.

A zone is an area of a RV that is climate controlled. This system can control up to four zones.

How does the Heat Pump Thermostat Work?

The RV Comfort, the Coleman True Air, and the RV Comfort ZC thermostats by RV Products INC. are all capable of running not only an Air Conditioning unit, but also an electric heat pump. Frequently we receive calls from customers who do not understand the function of the heat pump thermostats. This guide is a quick run through of the information already provided in the thermostat operation manual included with each thermostat.

The heat pump is an electric source for heat. It will supply and maintain heat assuming the outside (ambient) temperature is above 40 degrees. This number of course could be slightly higher or lower depending on the humidity. Higher humidity can cause a heat pump to lose efficiency at a slightly higher ambient temperature, while lower humidity can cause a heat pump to lose efficiency at a lower ambient temperature.

Since no one wants to wake up to find the outside temperature dropped below 40 degrees and it is now 50 degrees inside the coach, the heat pumps are programmed to internally recognize when the temperature drops five degrees or more from the set temperature to the actual inside room

temperature. When the temperature exceeds five degrees or more between the two , the thermostat will default to the next available heat source. The thermostat, upon sensing a temperature split of five degrees or more in the electric heat mode will bring the gas heat on to assist the electric heat. This is the first strike. A strike is created by the thermostat having to change modes (or run dual modes to sustain a temperature split.) The electric heat and gas heat will continue to run together until the thermostat reaches the set temperature and satisfies. When the electric heat comes back on, it will be electric heat only at that point. If the temperature again drops five degrees or more from the set point, the thermostat will again bring the gas heat on to assist. This is strike two. The system will then go through the above stated procedures. If the temp should drop five degrees from the set point for the third time, the thermostat will give up on the electric heat, lock the electric heat out for two hours (showing either DIFF on the display or FLASHING GAS HEAT on the display) and default to gas heat only. You **WILL NOT** be able to run any electric heat during this two-hour lockout.

This is the normal operation for these thermostats. We can also cause the thermostat to lock out in a few ways. If we set the electric heat set point five degrees or more higher than the room temperature the thermostat will default the same as it would if the temperature dropped five degrees or more. IF at any time the differential between the set temperature and actual temperature is five degrees or more, the thermostat would go into a strike point regardless of whether it is caused by raising the temperature too far, or the temperature falling inside the coach.

The other way the thermostat will receive a strike is if the system runs for twenty minutes and cannot reach the set temperature (satisfy). Again, the thermostat senses that something is wrong with the system and defaults to the next available heat source to assist. These strikes are the same as the strikes mentioned above and any combination of three strikes will result in a two-hour lockout.

Once the system comes out of lockout, it will only require one strike to go back into lockout. So, keep in mind, if you are coming out of a two-hour lockout, be careful to keep the set and room temperature within four degrees otherwise you will lock the system out again.

To Summarize:

1. There is no outside ambient sensor to shut down the heat pump. The heat pump will shut down only if the system is locked out. Ambient temperature does affect the performance of the electric heat.
2. If the thermostat set point and actual room temperature are FIVE degrees or greater the system will default to the next heat source for assistance and obtain a strike. Three consecutive strikes and the electric heat will be locked out for two hours.
3. If the electric heat runs for twenty minutes and cannot satisfy and shut the compressor off, the system will also default to the next heat source for assistance and obtain a strike. Three consecutive strikes and the electric heat will be locked out for two hours.
4. Once the thermostat is locked out, it is a hard lockout. There is no reset that will bypass the lockout. Pulling the fuse will not reset the thermostat lockout.

Basic Operation of the Thermostat

Setpoint Buttons

The Setpoint buttons are located to the right and below of the LCD display. These buttons adjust the desired temperature setpoint up and down. To change the setpoint press **UP** or **DOWN** once. This displays the word Set on the LCD and puts the system in the mode to change the setpoint. Then, each press of the **UP** or **DOWN** changes the setpoint up or down for the displayed zone by one degree per press of the button.

The setpoints are not adjustable when the thermostat is turned off. Also, the setpoint is not adjustable for the displayed zone when the displayed zone is set to run Fan High or Fan Low in that zone, or if the displayed zone is turned to OFF. The setpoints are stored permanently in memory for each zone in both heating and cooling. This allows the user to switch between heating and cooling at season changes and still have the same settings as the previous year.

SYSTEM Button

The **SYSTEM** button is used to put the thermostat into either heating, cooling or off. When in **OFF**, the system will not operate any heating or cooling appliances. However, the LCD display will still show the room temperatures in each zone.

When in **HEAT**, the system is in heating. The heating appliance selected will operate when the zone room temperature is one degree below the desired setpoint temperature. The heating appliance will continue to run until the zone room temperature is one degree above the desired setpoint temperature.

When in **COOL**, the system is in cooling. The cooling appliance connected in the zone will operate according to the mode the zone is set to.

ZONE Button

This button allows the user to toggle through the different area zones.

By pressing the **ZONE** button, the user toggles through each zone. When the system is first powered up, it determines how many zones are in the system and only displays the detected zones.

MODE Button

By pressing the **MODE** button, the user toggles through the different modes for the system. When in cool, the thermostat will toggle through the following modes: Cool Auto, Cool High, Cool Low, Fan High, Fan Low and Off. When in heat, the thermostat will toggle through the following modes: Gas Heat, Heat Elec and Off. However, this will only happen if the system has both gas and electric heat in a zone. For instance, if a system only has an air conditioner and a gas furnace in a zone, then when set to heat, the user will only be able to toggle through Gas Heat and OFF because there is no electric heat available. Furthermore, if the system does not have an appliance connected in a zone, then the user will not be able to toggle modes in that zone.

Setting the Thermostat

The thermostat default setting for each zone upon initial startup is 78°F for cooling and 68°F for heating. The fan speed for the cooling mode is **COOL AUTO**, which is set to vary the fan speed according to the cooling needs. The fan speed for the heating mode is dependent on the type of heat that is installed for each zone and cannot be changed.

***Note:** The temperature setpoint cannot be adjusted in the following situations: when in **OFF**, when the zone is turned off for either heating or cooling mode or when the fan is set to be running continuously in either high or low speed.*

Set Temperature

1. Use the **SYSTEM** button to select either **COOL** or **HEAT**. The current room temperature for that zone will display.
2. Press the **MODE** button to select the operation your desire.
3. Press either the **UP** or **DOWN** arrow once to place the thermostat in the **SET** mode. At this point the thermostat displays the current setpoint for the displayed zone. (**SET** will show on the LCD display).
4. Press the appropriate arrow button to change the set point temperature to the desired setting. Each press of the up arrow will increase the setpoint temperature by one degree. Each press of the down arrow will decrease the setpoint temperature by one degree.
5. Pressing **ZONE** button to toggle to the next zone or letting the thermostat sit idle for a few seconds will store the temperature setting in the thermostat memory.
6. This process should be done for each zone.

We use Coleman Air Conditioners, Coleman has been building[®]-Mach[®] RV air conditioners for over 50 years. All Coleman[®]-Mach[®] air conditioners are built in their factory in Wichita Kansas and backed by a 2 Year Warranty.

If the AC is not working call a RV Service person to have it checked.

Note: The Thermostat and the AC's use 12 volts DC for control voltage. Low batteries will affect operation of the AC's and Furnaces.

The ACs require very little maintenance.

Keep the Filters in the return Registers clean.

Have the AC's inspected once a year and the cooling fins cleaned if needed.

The filters should always be in place when the system is running. More important than their purpose of cleaning the air in the living space is the protection the filters give the evaporator coil. Without filters, a wet evaporator coil will quickly block so that adequate air cannot pass through it. Filters must be installed to completely fill the filter rack so that no air can flow around them or bypass them and carry dust, lint, etc. to the evaporator. If an evaporator has not been properly protected by its filter, the entire unit must be removed from the recreational vehicle and the coil cleaned with special detergent and water.

SECTION SIX



LUXURY FIFTH WHEELS

POTABLE WATER:

Fresh Water, Internal Water, & Water Pump

Potable Water Systems

Fresh Water System

The water system in your RV can be supplied from either of two sources: a water tank located within the RV, or from an outside city or campground water source. The water from either source supplies the kitchen sink, shower, bathroom vanity, toilet and water heater.

External Water Supply Operation

To operate from a city water supply, turn the electric demand pump switch off. Then attach a hose to the city water hose connection on the side of your RV and to the source of water. The hose connection should be capped when not in use. When connected to an outside source of water, the water bypasses the demand water pump and supplies pressure directly to the individual faucets and toilet. A check valve built into the pump prevents water from entering the pump and filling the storage tank. Therefore, the storage tank must be filled separately.

IMPORTANT

Due to the variance of water pressures, a water pressure regulator should be installed to the water hookup where the hose is connected, and the hose then connected to the regulator. All systems are designed to operate on 40-50 PSI. Campground pressures vary greatly. That's why it's important to use pressure regulators. With higher water pressure you may find what appears to be a leak. When you take it in to be fixed, the tech hooks it up to his system which is lower and can detect no leak.

Internal Water System

The internal water system consists of a polyethylene water storage tank and a self-priming water pump which automatically turns on and off to supply water when the faucets are opened and closed.

Water Pump

Pressure for the water system is supplied by a water system demand pump. The water pump is fully automatic when the water pump switch is in the "ON" position. When a faucet is opened, the pump instantly begins operation to provide a constant flow from the tank. As soon as the faucet is closed, the pump automatically shuts off.

The switch should be turned off when the RV is connected to an external water supply. It is advisable to keep the pump switch turned off when you are away from the RV or are not using the water system. A slow leak in a faucet could drain your water system as well as the battery.

Priming the System (START UP)

1. Put water into the onboard freshwater tank. Turn water pump power switch to “Off” position.
2. Open all faucets, hot and cold.
3. Turn on power to the pump at control switch.
4. Close each faucet as it starts to deliver a steady stream of water. (Close cold water first). Leave hot water faucets on until they too deliver a steady stream of water. This will ensure that the water heater is filled with water as well. Make sure the water heater drain valve is closed.
5. Flush stool until water runs into drain.
6. Check to be sure pump stops soon when all faucets are closed.
7. Pump is now ready for automatic operation. Pump will start when a faucet is opened and stop when a faucet is closed.

IMPORTANT:

If the water pump runs periodically when all faucets are off, you have a leak in the water system. The leak may be in the plumbing or it could be in the pump itself. If you are sure that your plumbing is not leaking, then the leak is most likely in the pump's internal check valve. This check valve is needed to keep water from flowing back through the pump into the freshwater holding tank when your fifth wheel is connected to an external water system. In fact, if you notice that the water level in the freshwater tank is rising it's a good sign that the pump is at fault. There are rebuild kits for most water pumps or, depending on how old the pump is, you may want to replace it.

Water Pump Strainer

The water pump is equipped with a metal mesh strainer to prevent any debris from getting into the pump. This should be checked periodically.

Filling the Water Storage Tank with an Outside Water Source

1. Connect to an outside water source.
2. Turn the Anderson valve to the “**tank fill**” position. (*This valve is in the outside utility box.*)
3. Turn on the outside water supply and the tank will begin to fill. Filling of the tank can be monitored by the monitor panel inside the unit and outside. The tank is equipped with a overflow hose.

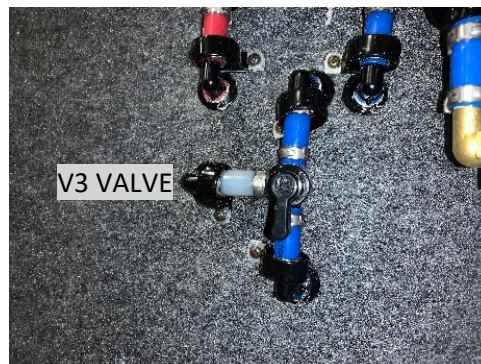
Filling the Water Storage tank from a Potable Water Tank

There may be an occasion when no outside water source is available and water change will have to be transferred from a portable water tank into the onboard water tank. This can be done by using the winterization and sanitize siphon hose.

1. Insert the siphon hose into the portable water tank.
2. Turn Anderson valve to winterize/sanitize.
3. Turn valve three (V3) to its alternate position.
4. Turn on the water pump. The water pump is a self-priming pump and will pump the water into the onboard water tank. (Note: This is the same valve positions for sanitizing the tank.)



ANDERSON VALVE



V3 VALVE

Fresh Water System Sanitation

It is not uncommon for RV owners to complain of bad water. The first sign of a contaminated water system is usually a bad taste, followed by strange odors coming from the water supply. Bacteria may have built up especially if the tank had not been used frequently or replenished with fresh, clean water regularly. When a rig comes out of storage or when a city water connection has been extensively used, the entire water system should be sanitized.

Water Tank Sanitation (How To):

1. Drain the tank and refill halfway with fresh water.
2. Mix 1/4 cup of household bleach for every fifteen (15) gallons of tank capacity in a container with a gallon or two of clean water. (Your coach has 100 gallons freshwater capacity.)
3. Turn Anderson valve to winterize/sanitize.
4. Insert the Siphon Hose into the container with the bleach mixture.
5. Turn valve V3 to its alternate position.
6. Turn on the water pump and pump the mixture into the water tank.

7. Top off the tank with fresh water. Drive the rig around the block to mix up the solution.
8. Pump water through each faucet so that all the lines are filled with the mixture from the tank
9. The hot water tank holds ten gallons. Run the hot water faucets until the maximum number of gallons has passed through to ensure that the hot water tank is completely full of the water/bleach mixture.
10. Let the water stand for several hours.
11. Drain the entire water system, including the hot water tank.

Draining the Water Storage Tank

The water tank has a cable operated valve that can be opened and closed to drain the tank. The handle to operate the valve is in the exterior utility box. The valve itself is located under the trailer near the water tank within the underbelly covering. When draining water should be visible under the trailer.

CAUTION

NEVER drain the water heater when it's hot or under pressure.

Winterizing the Water System

RV water systems need to be "winterized" when stored in cold weather to protect against freezing. Draining the water heater and emptying the low point water drains is NOT enough to winterize. There are two basic ways of winterization.

Use air pressure to blow all the water out. This is the faster and least expensive way for those who own an air compressor. A "Blow-Out Plug" can be purchased to facilitate pressurizing the system.

1. Start by draining water heater and low point drains, so all the easy water goes out.
2. Run the water pump to empty the water storage tank.
3. Close drains and reinstall water heater drain.
4. Pressurize the system to 40-50 PSI. Open faucets and supplies to appliances until no water runs out (one at a time). Don't forget showers, outside showers, and even icemaker. Pour one cup of RV anti-freeze into each drain and each holding tank. Let small amount run out of termination valves.

The Safest Way to Winterize is to use RV Anti-Freeze:

1. Turn off the water heater.
2. Shut off the water pump and disconnect from external water supply.
3. To drain the freshwater tank, open the drain valve. (Valve 12)
4. After the water heater has cooled off, remove the drain plug to drain the water from the water heater. Opening of the pressure relief valve on the water heater will allow the water to drain faster.
5. Open the low point drain valves and let water run out of the lines
6. Remove any water filters.
7. Turn the water heater by-pass valves. The water lines to the water heater are equipped with a pair of 2-way water valves. (Valve 6 & Valve 7) Turning these valves will prevent antifreeze from entering the water heater during the pumping of antifreeze into the water lines. These valves can usually be accessed from an interior compartment or cabinet.



HOT WATER HEATER BYPASS

8. Close the low point drains to prevent the antifreeze from draining through the lines onto the ground.
9. Review owner's manuals for winterizing instructions for any optional equipment such as Ice Maker, Clothes Washer, and Dish Washer
10. Move Anderson valve to "**winterize**". Connect hose to city with connect on. This valve diverts water to the water pump from the storage tank to the siphon hose.
11. Turn on the water pump. This will start the flow of antifreeze into the water lines. Once the water pump is turned on, proceed to the kitchen faucet, bath faucet, inside and outside shower, turning on the hot and cold, and flushing the stool until the antifreeze solution flows freely. This forces the antifreeze through all the water lines and faucets. Don't forget handheld shower, spray hose for toilet and outside wash down station.
12. Allow enough antifreeze solution to flow from the faucets and enter the drain lines and prevent the P-Traps from freezing. Check the antifreeze solution from time to time to make sure there is an adequate supply.
13. Close the antifreeze valve when the winterizing Process is complete. Store the in-take hose and turn the water pump off.

14. Move Anderson valve back to original position.

De-Winterize

1. Make sure the storage tank drain valve is closed.
2. Put water in the storage tank and pump at least one gallon through the water pump in order to remove the antifreeze from the water pump.
3. Keep the water heater by-pass valves open. They should be in the by-pass position.
4. Turn off the water pump.
5. Drain water from freshwater tank.
6. Using the external water supply open the kitchen faucet, bath faucet, inside and outside shower, turning on both the hot and the cold, and flushing the stool until the antifreeze solution is flushed out of the system and the water flows clear. Once the system has been flushed, open the water heater by- pass valves.
7. This would be a good time to sanitize the freshwater system. (see sanitizing section)

Long Term Storage/Winterizing

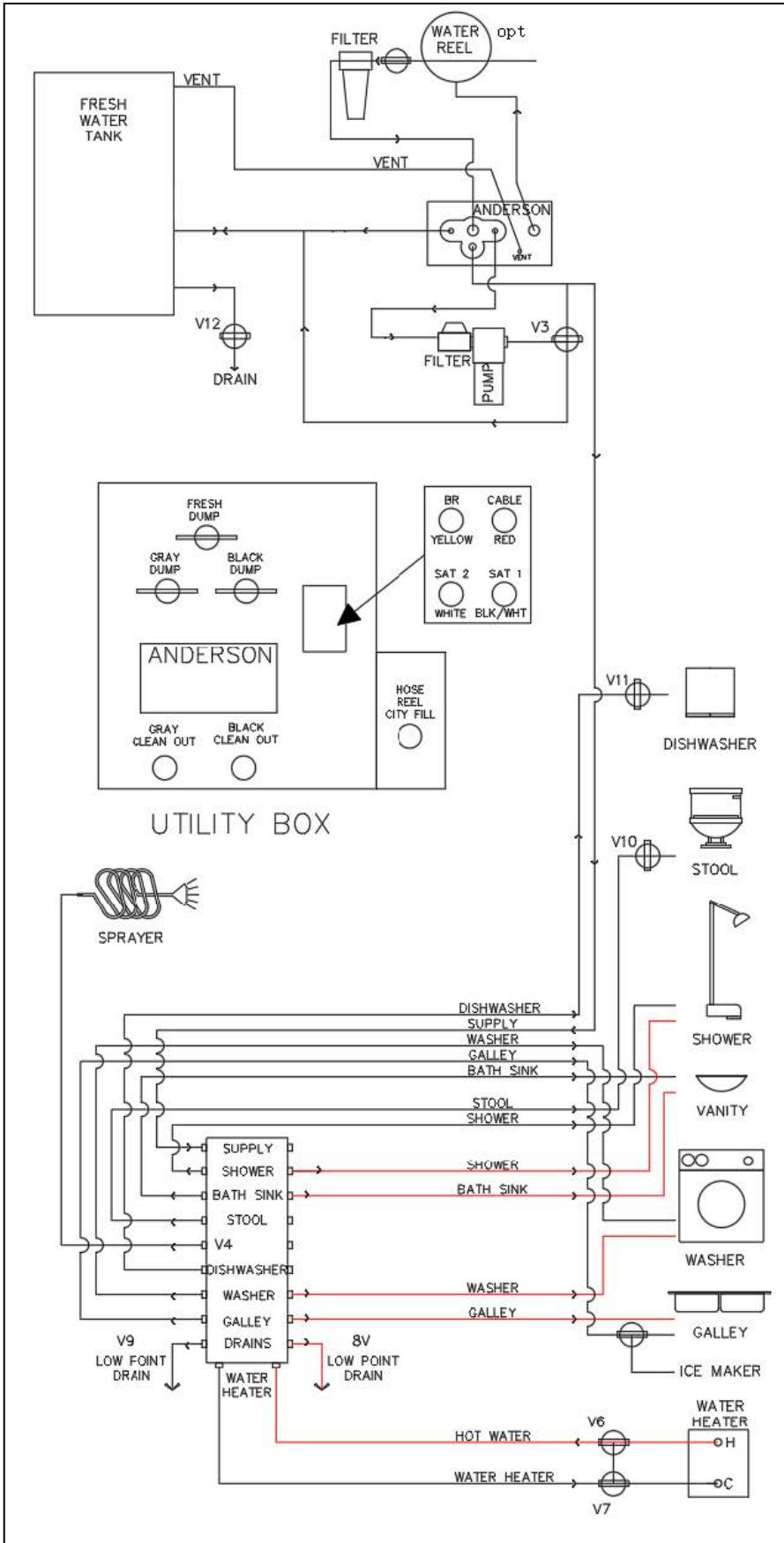
All routine maintenance is the responsibility of the owner and is not covered by the New Horizon's Limited Warranty. Use the enclosed maintenance record to log all performed maintenance as required. Please note that damage caused by improper or unapplied maintenance is not covered by warranty.

To store your unit for the winter months, it is necessary to winterize the water system to help prevent freezing. To do this, follow these instructions:

1. The water heater must remain off during this process. Shut off the water pump and make sure the water supply valves are closed.
2. To drain the freshwater tank, open the drain valve.
3. Open the low point drain valves. These are in the basement area. There is one drain valve for each water line, one cold and one hot. This is done to drain most of the water out of the system.
4. After the water heater has cooled off, remove the drain plug to drain the water from the water heater. In the interior compartment beside the water heater, there are two by-pass valves. The shut off valves must be closed, and the by-pass valves must be open prior to winterizing to prevent the anti-freeze solution from entering the water heater. When the valves are in the horizontal position, it is in the by-pass mode. When they are vertical, the water heater is in use.
5. Close the low point drains to prevent the anti-freeze from draining through the lines onto the ground.
6. Remove the water filter. See instructions for winterizing water filters.
7. Close the water supply valve that flows from the pump to the tank.

8. Use only non-toxic anti-freeze that has been approved for use in drinking/potable water systems. Place the in-take hose into the anti-freeze supply. Open the anti-freeze valve to allow the solution to flow freely. Once the water pump is turned on, proceed to the kitchen faucet, bath faucet, inside and outside shower, turning on the hot and cold and flushing the stool until the antifreeze solution flows freely. If the unit is equipped with a washer, be certain to purge the air from it also. This forces the antifreeze through all the water lines and faucets. It allows the antifreeze solution to enter the drain lines and prevent the P-Trap from freezing. Check the antifreeze solution from time to time to make sure there is an adequate supply.
9. Close the antifreeze valve when the winterizing process is complete. Store the in-take hoses and turn the water pump off.
10. Open the water supply valve that flows from the pump to the tank to help prevent freezing on that water line.

FRESH WATER SCHEMATIC



TO FILL THE FRESH WATER TANK:

- 1: Supply water to city fill connection or hose reel (opt)
- 2: Set the Anderson Valve to "TANK FILL"

TO USE WATER FROM FRESH WATER TANK:

- 1: Anderson valve set to "DRY CAMPING"
- 2: Turn water pump on.

TO USE WATER FROM OUTSIDE SOURCE:

- 1: Hook water supply to city
 - 2: Fill or hose reel (opt)
 - 3: Set Anderson Valve to "CITY FIXTURES"
- No pump

TO WINTERIZE WITH ANTI-FREEZE

- 1: Anderson Valve set to "WINTERIZE/SANITIZE"
- 2: Hook winterize hose to INLET
- 3: Place hose into anti-freeze
- 4: Turn pump on
- 5: Open each water valve to allow mixture through.

SANITIZE FRESH WATER TANK

- 1: Anderson Valve set to "WINTERIZE/SANITIZE"
- 2: Hook winterize hose to city fill
- 3: Place hose in chlorine mixture
- 4: Turn bypass valve V3 to clear tube
- 5: Turn pump on

WHEN USING "WINTERIZE/SANITIZE"

- METHODS:**
- 1: Bypass the filters
 - 2: Bypass water heater V6-V7
 - 3: Bypass Ice maker
 - 4: Bypass lines are marked.

1. Fill freshwater tank 30%
2. Put 40ml chlorine into 5 gal. bucket
3. Fill 5 gal. with water
4. Turn V3 valve
5. Turn pump on to drain 5 gal. bucket into freshwater tank
6. Fill freshwater tank to 80%
7. Open all faucets (optional), one by one to sanitize lines with Anderson valve dry camp.
8. After approximately 1-2 hrs. disinfection is complete
9. Add anti-chlorine in 5 gal. bucket. Turn V3 and put into freshwater tank - Repeat step 7

Sodium Bicarbonate to rid 100 gal. of Chlorine water.

SECTION SEVEN



LUXURY FIFTH WHEELS

WASTE WATER:

Black Water, Gray Water, & Macerator

Wastewater System

General Information

The waste management system was designed to provide adequate and safe storage and/or disposal of waste materials. The drainage system uses plastic piping and fittings connected to the sinks, toilet, and holding tanks. This provides for their drainage to an outside termination. The unit should be reasonably level for the best operation of the system. There are two separate waste systems. The gray water system is for wastewater from the sinks and shower. The black water system is usually for sewage waste from the toilet. Each tank has its own control valve, and both tanks drain through the sewer drain hose.

Toilet

The toilet operates from either the freshwater tank with the water pump on or the city water supply. Before using the toilet, add water to the bottom of the tank. Refer to the *Black Water Tank* instruction in this section. The toilet flushes waste directly in the black water holding tank. The toilet uses high velocity water injection to produce a swirl effect in the bowl. The greatest problem that causes toilet solids to build up the holding tank is the lack of liquids. When using your toilet, it is wise to fill the bowl 3/4ths full of water. This will help to wash the solids away from directly below the stool and ensure complete dumping of the holding tank. To add water to the toilet bowl, lift on the lever. To flush the stool, push down on the lever until the water swirls. The stool requires little maintenance. Use an approved non-abrasive cleaner to clean the bowl. Spraying the bowl-sealing blade with a silicone spray will retain the original smooth operating condition. Check the complete instruction and trouble-shooting guide in the toilet's manufacturer's owner's manual provided in the *Owner's Information Package*.

P-Traps

Each of the sink's drains, the shower drain, and the washing machine drain (if equipped) has a water trap (p-trap) to prevent holding tank odors from entering the coach. These traps must have water on them in order to trap the odors. While traveling, the water may splash out of the sink and shower drains. While stored, the water may evaporate allowing an odor to enter the RV. If this occurs, run water from the faucet into the drain allowing water to fill the trap.

Black Water Holding Tank

The black water, sewage, & holding tank is located directly beneath the toilet. Before using the stool, you will need to treat the tank with water that is mixed with an odor-controlling chemical. These chemicals are readily available at any RV supply store. Be careful not to spill chemicals on your hands, clothing, or the carpet because it may cause a permanent stain. The black water tank is equipped with an additional external connection to hook a water hose to aid in completely flushing with fresh water after emptying. It is recommended to run pressurized water to the clean-out for two to five minutes or until water runs clear.

CAUTION

Use only approved RV odor controlling chemicals in the holding tank. Products containing ammonia and petroleum will damage the ABS plastic holding tanks and seals.

Gray Water Holding Tank

The gray water holding tank is in the underbelly of the unit. It is primarily used for the drainage from the kitchen and bath sinks and the shower.

Wastewater Disposal

Both holding tanks terminate in a valve arrangement that permits draining each tank separately or together. It is recommended to drain the black water tank before the gray tank. This will allow the water from the gray tank to wash the black water residue from the drain lines and hose. The valves that open to drain the water are called gate valves. The blade that closes the opening in the sewer drainpipes is connected to the T-Handle to release the contents of the tank(s) when pulled. The sewer line must be securely capped during self-containment use to prevent leakage of waste material onto the ground or pavement. Do not pull the holding tank gate valve open when the protective cap is installed on the pipe. Always drain the tank into an acceptable sewer inlet or dump station.

Most of the systems and holding tanks empty through a common fitting located on the left side of the vehicle. The drainage system is self-contained allowing use of the toilet, sinks, or shower even in areas where sewage hookup is not available.

When the holding tanks become full or when it is convenient to empty a filled tank:

1. Remove the drain hose from the holder
2. Remove the dust cap from the drain and connect the drain hose. Be sure it is firmly attached.
3. Place the other end of the drain hose into the disposal connection.
4. Open the valve handle. (It is recommended to drain the black tank before the gray water tank.)
5. Close the black tank valve and open the gray tank valve. Close the valve as soon as the tank is drained.
6. After both tanks have been drained, run several gallons of water into the black tank through the toilet. (The tank may also be flushed with the flush out system.) Then open the sewage dump valve and drain the tank again.
7. Rinse the sewer hose thoroughly with water and stow.
8. It is also advisable to add approximately a ½ gallon of water and some odor control chemical to the sewage holding tank.

IMPORTANT

Traveling with full holding tanks should ALWAYS BE AVOIDED.

Use of In-Park Sewer System

When you are using a sewer hookup while parked, such as in a trailer park, keep the dump valves closed, and open only when preparing to leave or when the tank becomes full. This is important so that the solids in the tank are kept in suspension allowing them to be carried out with the rush of liquids when the dump valve is opened. If the valve is left open, the liquids will run off leaving the solids in the tank. Should this happen, disconnect the hose, fill the tank about half full of water and drive a few miles to dislodge the solids. A few starts and stops will aid in this process. Then reconnect the hose and drain in the normal manner.

Cable and Gate Valves

The unit is equipped with Cable Operated Gate Valves. These valves are operated by pulling and pushing handles located in the exterior utility box. There is no maintenance to be performed on the valves.

The most common problems associated with gate valves is the buildup of gunk within the slide grooves of the valves. Here are a few ways to help keep your valves trouble free:

1. Never leave the gate valves open
2. Flush the black tank each time you dump
3. Put 2 to 5 gallons of water into the tank after you've dumped.

SHURFLO

Macerator Pump (optional)

The macerator pump is designed to empty RV holding tanks of normal waste. The unique dual-cut blade design ensures waste is ground up thoroughly. A flow rate of up to (13) gallons per minute conveniently empties any tank in minutes. A standard 1” garden hose can be used to pump waste a reasonable distance if you are not able to park next to a dump station.

Operation

The pump switch is located near the pump so that the operator can hear the pump running. Make sure shut-off valve to pump and dump valve (if equipped) are both open. Turn on the switch to self-priming pump and pump out the tank. When the tank is empty, the pump will get louder with a high-pitch sound. Immediately turn the pump off, or damage to the housing would occur. Do not run the pump dry for more than fifteen to twenty seconds. Flush the tank and pump with water after each use. The macerator will handle normal waste tissue.

CAUTION

The macerator will not handle large or hard objects such as bone, fruit pits, rags, or feminine sanitary products.

Periodic Maintenance and Storage

Flush with water after each use. Check wire connections occasionally. After periods of non-use, impeller can stick. To loosen, open rear shaft cover and turn motor shaft clockwise with a flat tip screwdriver, then replace shaft cover. For extended periods of non-use, the pump impeller can be lubricated by running a small amount of mineral oil through the holding tank system. Whenever possible, drain the holding tanks prior to traveling. The carrying capacity of your unit will be reduced if water is left in the black or gray tanks. The holding tanks should only be drained when they are at least 3/4 full. Doing this will provide enough water to allow the complete flushing of waste materials in the drain lines and hose. If the tanks are not 3/4 full, add enough water to allow for enough flushing. After you have drained the black water tank, immediately drain the gray water tank. Doing this helps to flush the black water from the sewage hose.

When both tanks are empty, flush them with a freshwater rinse before you close the valves. The gray tank is easily flushed by pouring a couple of gallons of water into a sink drain. The drain outlet is engineered for quick release of the drain hose adapter. Always close the gate valves and secure the end cap to prevent leakage while in transit. After draining the black water tank, it is recommended to add a holding tank deodorant (such as Thetford Aqua-Kem) to help control the odor and break down the solids. Follow the instructions given on the holding tank deodorant package.

When using dump stations for draining the holding tanks, keep other travelers in mind. Practice good housekeeping. Leave the dump stations in good order. Above all, do not pollute.

WARNING

Holding tanks are an enclosed sewer system and must be drained into an improved dump station. Both black and gray water holding tanks must be drained and rinsed thoroughly on a regular basis in order to prevent the accumulation of harmful or toxic materials.

Camping with Sewer Hook-Up

When camping at parks with sewer hook-ups, it is always important to keep the black water holding tank gate valve closed, except when dumping. The gray tank can be kept open while hooked to a sewer connection but, the black water must be kept closed. This is done so that an ample supply of liquid remains in the tank to provide a smooth flow through the gate and drain valve when dumping. Enough liquid in the tank causes a swirling action that should take any accumulated solid wastes with it. Accumulation of solid wastes in the black water tank can be avoided by keeping the gate valve closed when connected to the sewer hook-up. If an inadvertent accumulation of solid wastes should happen, fill the tank about half full and drive around for a few miles to dislodge the solids, then pump as usual.

CAUTION

Do not use the same hose for the waste disposal that is used for filling the freshwater tank.

SECTION EIGHT



LUXURY FIFTH WHEELS

ENTERTAINMENT:

*Television, Stereo, Video Control CTR,
Cable, Satellite*

ENTERTAINMENT

WINEGARD RAYZAR AUTOMATIC Antenna



To fully understand how the Rayzar Automatic antenna functions, it is important to understand how Digital TV signals broadcast are. Whenever in a new location or after re-positioning the antenna a channel scan is required to receive any new/additional channels. During the channel scan, the TV will automatically detect Digital TV stations and program those to your TV. Each “channel” on a frequency may also likely have sub-channels that will show up on the TV as a “8.2”, “8.3”, etc. The Rayzar Automatic antenna is identifying all the TV frequencies being broadcasted, but only the TV can determine the number of sub-channels. Because of this, the number displayed on the control panel of the Rayzar Automatic is the number of TV frequencies found that are determined to be watchable. The actual number of channels scanned into your TV will vary, depending on the number of sub-channels on each frequency.

To view instructions and troubleshooting, please refer to your *Owner’s Information Package*.

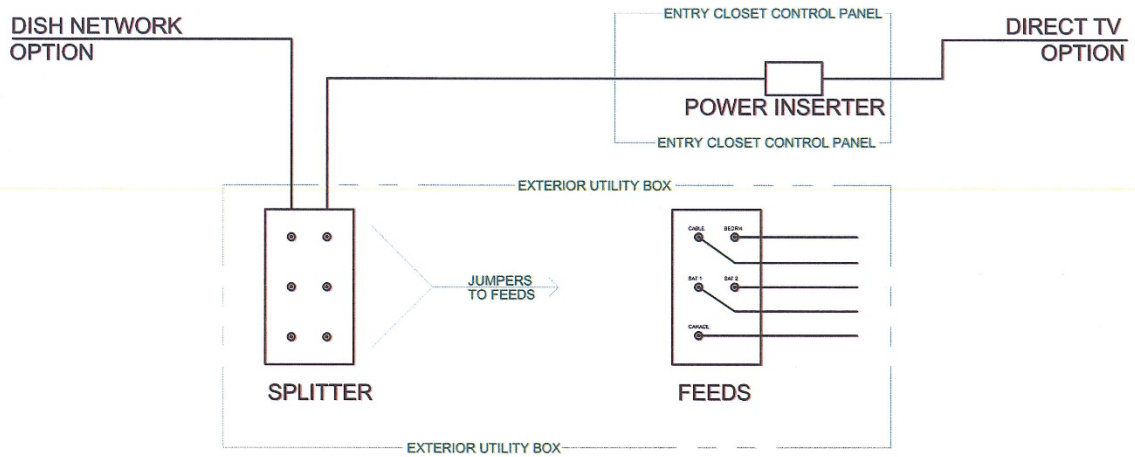
Television

The TV is cable ready with outlets in the living area and the bedroom. The televisions are powered by 120-volt electricity. Your RV must be plugged into shore power, or an auxiliary power source such as a generator, for the television to work. If your coach is equipped with the optional Inverter, it will invert the 12-volt power from the coach batteries into 120-volt power for some basic appliances. Please consult the owner’s manual provided in the *Owner’s Information Package* for operation directions for the televisions.

Cable Jack

The exterior cable jack and receptacle are standard features on this RV and are installed street side on the forward portion of the coach in the utility center. This will allow the user to connect the RV to cable TV, if the service is offered in the RV park.

SATELLITE OPTIONS SCHEMATIC



SECTION NINE



LUXURY FIFTH WHEELS

*HITCHING / LEVELING:
Morryde, Axels & Brakes,
Slide Operations, Awnings*

HITCHING & UNHITCHING

Hitching

1. The tires of the RV should always be chocked during the hitching and un- hitching procedures.
2. Lower the tailgate of the truck (if necessary) and back up so that the hitch is within a foot or so of the pin box.
3. Make sure that the king pin is centered with the horseshoe slot on the hitch plate.
4. Adjust the height of the RV so that the pin box is approximately one inch lower than the hitch plate.
5. This is usually a good time to connect the electrical cord from the RV to the truck.
6. Raise and close the tailgate if it was necessary to lower.
7. Make sure that the release handle on the fifth-wheel hitch is open.
8. Back under the RV until the release handle fully closes. (If the handle does not close completely, pull the handle to the release position and start over.)
9. Connect the safety brake cable.
10. Raise the front jacks of the RV until they are approximately an inch or so off the ground.
11. With the chocks still in place on the RV, put the truck in drive and **SLOWLY** attempt to pull forward. Applying the brakes to the trailer will serve the same purpose as the chocks. If the hitch did not latch properly, the truck will pull free of the RV and it will be necessary to repeat the hitching process.
12. After hitching to the RV raise the jacks the rest of the way.

Un-Hitching

1. When the RV is positioned and leveled, put the truck in reverse and set the parking brake before putting the vehicle in park or neutral. This will help to ensure that there is no pressure on the lock mechanism before attempting to release the hitch.
2. Chock the RV.
3. Extend the front jacks until there is no weight on the truck. There is a point when raising the RV where you see a slight separation between the hitch and pin box plate. At this time there will be no weight on the truck. To ensure the proper operation of the hitch, it is recommended that there should be some RV weight on the hitch when disconnecting.
4. Pull the hitch release handle. It should lock open.

5. Lower the tailgate, disconnect the trailer electrical cord and the break-away cable.
6. Pull forward slowly until the hitch is free of the pin box.

LEVELING SYSTEM

AUTOMATIC LEVELING SYSTEM – Standard on Majestics

The Big Foot automatic leveling system by Quadra is designed to automatically level your RV.

Quadra BIGFOOT Fifth Wheel Owner's Manual

is available on Quadra's website:

www.quadraleveler.com

and in your *Owner's Information Package*



FIFTH WHEEL OWNERS MANUAL



Visit us on the web

www.BIGFOOTLEVELER.COM

Corporates
Quadra Mfg. Inc.
305 US 131 S.
White Pigeon, MI. 49099
1-800-752-9815

Southern Division
Quadra Southeast
4411 Holden Rd.
Lakeland, FL. 33811
1-863-619-8617

AUTOMATIC LEVELING SYSTEM – Standard on Majestics

The Lippert automatic leveling system by Quadra is designed to automatically level your RV.

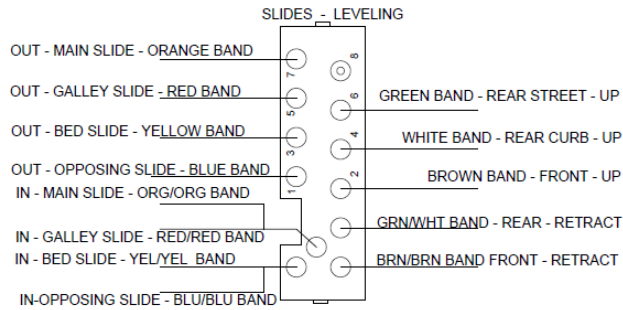
Lippert Leveling System Owner's Manual

Is available on Lippert's website:

[www. https://store.lci1.com/](https://store.lci1.com/)

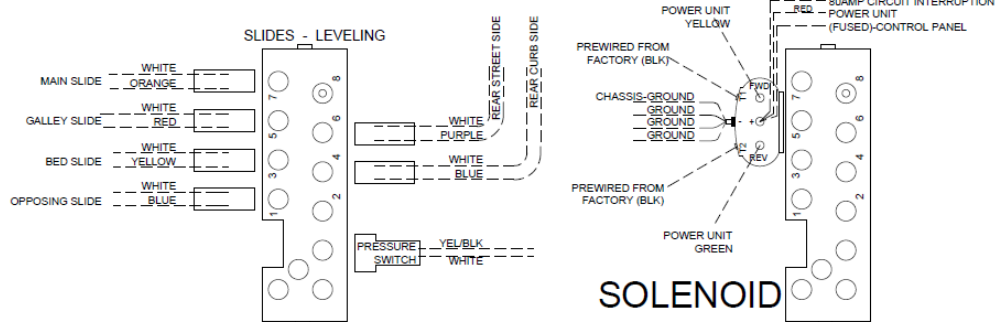
and in your *Owner's Information Package*





LIPPERT LEVEL-UP VALVE HOOK-UPS

HYDRAULICS



SOLENOID

ELECTRIC

AXLES & BRAKES

Every New Horizons RV is equipped with axles and brakes appropriately sized for the weight of the trailer.

The axles include the Independent Rubber Suspension System manufactured by MOR/ryde International. Electric drum brakes are standard.

The **MOR/ryde "IS" Independent Rubber Suspension System** uses 100% Natural Rubber Springs to support the trailer weight and absorb road shock. By absorbing the shock, the rubber provides a much smoother towing experience than steel leaf springs. With the new MOR/ryde "IS" Independent Rubber Suspension System, there are no more broken leaf springs! The towing is virtually hassle-free with the smoothest towing available for fifth wheels and travel trailers.

The primary benefits that you can expect from the MOR/ryde “IS” suspension are:

- Smoother Towing—the MOR/ryde suspension has up to 2 1/2 times the suspension travel of leaf springs or rubber axles, allowing the MOR/ryde suspension to absorb road shock much better
- Improved Tow ability—the MOR/ryde suspension is designed to “block” body roll, improving the cornering and stability of the tow vehicle and trailer combination.
- Automotive Style Alignment—a MOR/ryde first! You can manage your tire wear through toe and camber adjustments, a feature no other towable suspension offers. If uneven tire wear is observed, then wheel alignment is highly recommended. MOR/ryde, Int. can provide approved service facilities.
- Proven Durability—the MOR/ryde suspension has undergone strenuous testing to prove it’s durability. The result? No more broken leaf springs!

Majestics are standard with MorRyde Independent Suspension axels and Dexter Drum Brakes.

Summits are standard with Dexter Axles and Dexter Drum brakes.

Dexter has been a leading manufacturer of trailer axles and trailer brakes for over 50 years for the utility trailer, recreation vehicle, heavy duty, manufactured housing, agricultural, marine, and specialty trailer markets. For more information, please visit: <https://www.dexteraxle.com/> Kodiak Disc Brakes are optional on both the Majestics and Summits. For more information, please visit <https://www.kodiaktrailer.com/>

Axel Service Note

All service procedures must be performed with the vehicle supported at the frame with appropriately rated safety stands and jacks.

Axel Lubrication

After November of 2001, the pivoting shaft will have a grease zerk on the underside of the torque bracket. It should be greased every twelve months or 6,000 miles. The drum brake hub must be checked every five years or 10,000 miles. The optional disc brake hub must be checked regularly. For wheel bearing lubrication recommendations refer to the Axle service manual provided in the *Owner’s Information Package*.

TROUBLESHOOTING
INDEPENDENT SUSPENSION SYSTEM
“IS”

EXCESSIVE TIRE WEAR

<u>CAUSE</u>	<u>CORRECTION</u>
Tires not aligned	Have tires realigned
Worn torque bracket bearings	Have the bearings replaced
Shock absorbers are worn	Replace shock absorbers
Improper tire pressure	Adjust air pressure
Improper rubber spring deflection	Call MorRyde service department to select a different rubber spring

ROUGH RIDE

<u>CAUSE</u>	<u>CORRECTION</u>
Tires rubbing on wheel well or suspension system is bottoming out	Distance from the bottom of wheel well to the top of the tire is not enough. A spacer tube needs to be welded between the frame and “IS” suspension

EXCESSIVE SWAY

<u>CAUSE</u>	<u>CORRECTION</u>
Improper tire pressure	Adjust air pressure
Torn Rubber Spring	Replace Rubber Spring
Improper hitch weight	Travel trailers should have 10%-12% high weight, and fifth wheel should have 20%-25% hitch weight

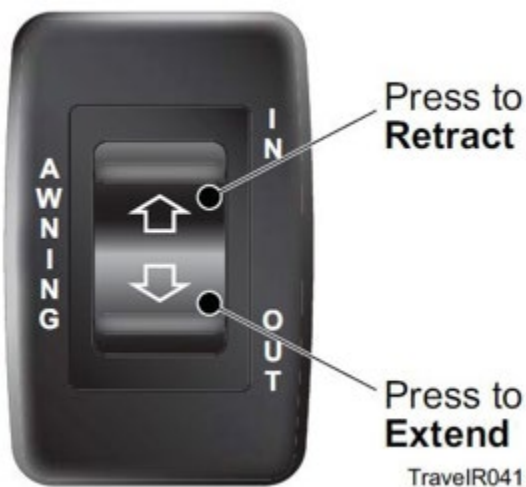
SLIDE OUT ROOMS MAINTENANCE

EXTERIOR & SEALS

1. The bottom and roof of the slide out rooms should be cleaned with soap and water. This should be done as often as the exterior of the unit is cleaned.
2. Clean the rubber seals around the rooms with soap and water when cleaning the exterior of the unit.
3. Apply a rubber protective product to the seals. There are several brands available that have UV blockers that help repel water and reduce excessive friction and wear. This will help extend the life of the seal.

Patio Awnings

The ***Carefree of Colorado Electric Patio Awning*** is the standard awning installed on your RV. The following is very general operation instructions. For more detailed operating instructions and care, please see the owner's manual provided in your *Owner's Information Package*.



OPERATION

STANDARD SWITCH OPERATION

To Operate the Awning:

Press & hold the patio switch until the awning is in the desired position then release the switch.

SECTION TEN



LUXURY FIFTH WHEELS

Checklists, Pre-Travel, Traveling

PRE-TRAVEL CHECKLIST

The following is a brief list of procedures that will aid in your driving safety and extend your equipment's life.

Interior

1. Lights are off.
2. Shut off all appliances, air conditioner, heater, water heater, etc.
3. Pantry bar is in place.
4. Counters are clear of anything that could become a missile while RV is in motion.
5. Lower antenna and satellite dish.
6. Close all windows and vents.
7. Retract all slides.
8. Put slide safety bar in place, if recommended at factory.
9. Secure all doors.

Exterior

1. Windows, mirrors, and light lenses on your tow vehicle should be clean and unobstructed.
2. Tires should be checked for proper cold inflation pressure.
3. Wheel lug nuts on RV and tow vehicle should be checked for proper tightness.
4. Fluid levels, including engine oil, transmission fluid, coolant, power steering fluid, brake fluid, and windshield washer fluid, should be checked and filled if necessary.
5. Disconnect the unit and store the sewer and water supply hoses as well as shoreline power cords.
6. Secure all cargo in the storage compartments as well as all cargo doors in the event of a sudden stop.
7. Be sure awnings are put away and secured.
8. Verify that the step is retracted, door is locked, and the entry handle is folded away.
9. Check to ensure the hitch is securely locked.
10. Ensure all legs are retracted completely.
11. Check light connections between truck and RV by performing a physical observation of taillights and turn signals on your RV.

NOTE

It is always wise to walk/check your entrance and exit routes. Look for low branches and possible obstructions, tight corners, etc. If possible, have a traveling partner walk and check as driver moves the rig until all is clear.

TRAVELING

There are various adjustments that need to be made prior to starting and moving your RV.

- Adjust the rear view and side mirrors.
- The dashboard may contain several gauges and controls you have not previously used. Become familiar with all these devices and their operation before starting out.
- The cruise control is not to be operated on icy roads, extremely wet roads, winding roads, heavy traffic, or in any other traffic situation where a constant speed cannot be maintained.
- While driving on slippery surfaces, use care when accelerating or decelerating. Skidding and loss of vehicle control may be the result of abrupt changes in speed.
- Driving through water deep enough to wet the brakes may affect the stopping distance or cause the vehicle to pull to one side. If you have driven through deep water, check the brake operation in a safe area to be sure they have not been affected. Never operate a vehicle if a difference in braking efficiency is noticeable.

RV Departure Checklist

This checklist is intended for towable recreational vehicles such as fifth wheels and travel trailers, and it includes steps necessary to prepare an RV for departure. As some items may not apply to you or may not be necessary for every type of departure, it is recommended that you customize to your specific RV and your own needs.

DAYS BEFORE DEPARTURE

- Confirm reservations at destination
- Change postal mail forwarding instructions (hold or send to new location)
- Prepare maps and directions
- Wash laundry (if facilities won't be available during trip)
- Buy groceries & supplies for trip
- Check propane bottle levels, fill if needed
- Check generator fuel levels, fill if needed (keep in mind fuel weight)
- Check RV battery charge (required for breaks in case of breakaway)
- Check two-way radio batteries (for communicating with spotter)
- Check flashlight battery
- Check tow vehicle fluid levels
(oil, transmission, break, coolant, power steering)
- Apply grease to hitch mechanism where needed (fifth wheel only)
- Inspect hitch to make sure it is attached securely to tow vehicle
- Close gray tank valves to collect water for flushing sewer hose after dumping black tank
- Fill fresh water tank to the desired level

DAY OF DEPARTURE

- Check tow vehicle tire pressure
- Check RV tire pressure
- Check RV wheel lug nut torque
- Fuel up tow vehicle
- Clean tow vehicle windows and mirrors
- Arrange breakable items to prevent breakage
- Fill drinking water containers

DEPARTURE

- Lower roof-mounted TV antenna
- Lower roof-mounted satellite dish (TV & Internet)
- Collect and store all items from the outside of the RV
- Secure items inside cabinets and storage compartments
- Secure all loose items throughout the RV
- Latch shower, pocket, and closet doors
- Secure TVs and TV sliding trays
- Secure other entertainment electronics and computer accessories
- Close roof vents and windows except those for ventilation
- Remove decor items from awnings then stowe and secure
- Check slide toppers for debris and water
- Move items out of the slides way in the RV
- Move in slides, and lock slide mechanism, if available
- Lay down and pad large items that may move or shift
- Turn off air conditioning units
- Confirm that all sliding trays are latched and secure
- Empty Black Tank and close black tank valves
- Empty Gray Tank and close gray tank valves
- Add treatment chemicals and one to two gallons of water to black tank
- If traveling with pets, make arrangements for their needs
- Disconnect cable TV and electricity and telephone lines and store cables
- Disconnect sewer and water hose and store hose and related accessories
- Turn off all RV lights to prevent unnecessary battery drain
- Turn off water pump
- Confirm that the refrigerator is running on 12 volt DC (if using inverter)
or turned off
- Turn off all other propane appliances (water, heater, furnace)

- Raise or remove all stabilizer jacks (leave front leveling jacks down)
- Remove king pin lock, if used (FW only)
- Lower truck tailgate before backing up for hitching (FW only)
- Close front storage compartment door
- Hitch RV to tow vehicle
- Connect RV breakaway switch cable to tow vehicle
- Connect RV umbilical cord to the tow vehicle
- Attach sway bars & safety chains
- Raise leveling or tongue jacks
- Collect and store leveling blocks from under jacks
- Remove wheel chocks
- Confirm that all is clear under the RV
- Confirm that all slides are moved in completely
- If RV wheels are resting on leveling blocks, move RV off,
collect & store blocks
- Close all internal doors
- Lock all external doors and panels
- Check RV and tow vehicle lights
- Check RV Brakes (three methods: press tow vehicle brake pedal,
engage RV brakes only by using trailer brake controller inside
tow vehicle, pull break-away switch cable on RV)
- Perform a final walk around, looking under and around RV
- Check tow vehicle mirrors, and adjust if necessary
- Record tow vehicle starting miles

RV ARRIVAL & SETUP

ARRIVAL & CHECKING IN

- Park RV near entrance or office as indicated by signs
- When checking in, ask for any applicable discounts, and a map of the park
- If arriving after office is closed, look for afterhours check-in instructions

LOCATING RV SLOT

- Find your spot on park map and determine entry and exit paths
- Walk to RV spot BEFORE driving: check for any obstacles
- Confirm that spot has expected facilities - full hook-up or partial
- Test water faucet, especially in freezing water

DRIVING IN AND PARKING

- If the spot has no sewer facilities, be sure to dump prior to set-up
- If spot has no water, be sure to fill fresh water tank prior to set-up
- Perform a two-way radio check if using a spotter
- Drive RV into spot and position as desired
- Confirm that all facilities are reachable
- Walk around RV to confirm position allows deployment of sides
- Check for high obstructions such as tree limbs
- Determine if RV is level laterally
- If RV is not level, use leveling blocks under the appropriate wheels
- Check RV wheels
- Place blocks under leveling jack or tongue jack
- Lower leveling jack or tongue jack until they support front weight of RV
- Remove Safety Chains and sway bars (TT only)
- Disconnect RV umbilical cord & breakaway switch cable from tow vehicle
- Unhitch RV from tow vehicle
- Install king pin lock, if used (FW only)

SETTING UP

- Level RV lengthwise (use tongue or leveling jacks)
- Deploy steps, handrails, and sides
- Lower stabilizing jacks to minimize RV movement
- Check if RV is level in both directions, adjust if necessary
- Connect electricity and make sure breaker is turned on
- Connect cable/satellite TV, telephone line, water hose, and water pressure regulator
- If sewer is available, connect sewer hose and make sure both ends are secure
- If sewer is available, open gray tank valves and empty black tank as needed
- Turn on all propane bottle valves and check for leaks
- Turn on water pump if no external water source is available
- Turn on air conditioners or furnace, set thermostat
- Return all items to their normal locations
- Unlock tabs on external range hood vent
- Raise roof mounted TV antenna and satellite dish
- Record tow vehicle ending miles
- Record towing miles in RV log (ending miles minus starting miles)

Enjoy!

SECTION ELEVEN



LUXURY FIFTH WHEELS

*FIRE SAFETY
EMERGENCY CHECKLIST*

FIRE SAFETY

The possibility of fire exists in all areas of life, and the recreational lifestyle is no exception. RVs are complex. They are made up of many materials, some of which are flammable. Like most hazards, the possibility of fire can be minimized, if not eliminated. Recognizing the danger and practicing common sense safety and maintenance habits do this. For safety reasons, your unit is furnished with both a fire extinguisher and a smoke alarm.

Fire Extinguisher

The fire extinguisher is rated for Class B (grease, gasoline, diesel fuel, flammable liquids) and Class C (electrical) fires. These are the most common types of fires in RVs. Read the operator's manual and the instructions on the fire extinguisher. Be sure to know how and when to use the extinguisher and where it is located.

Fire extinguishers are mechanical, pressurized devices. Care must be exercised when they are handled. They must be maintained as the operator's manual instructs for proper and safe operation. The extinguisher should be inspected at least once a month. More frequent inspections may be required if the extinguisher is exposed to the weather or to possible tampering. Do not test the extinguisher before partially discharging. Doing this will cause a loss of pressure.

If a fire occurs in the RV, evacuate the unit as quickly and as safely as possible. Consider the cause and the severity of the fire and the risk involved before trying to extinguish it. If the fire is major or fuel fed, move away from and stand clear of the RV and wait for emergency assistance to arrive.

Smoke Detector

The battery powered smoke detector is mounted on the ceiling in the living area of the unit. Read the operating instructions for details on the testing and care for this important safety device. Test the smoke detector after the unit has been in storage, before each trip, and at least once a week during use. The detector should never be disabled because of nuisance or false alarm from cooking smoke or a dusty furnace. Ventilate the unit with fresh air and the alarm will shut off. Never disconnect or remove the battery from the smoke alarm. The battery should be replaced once a year or when the low battery signal sounds.

Emergency Exit Windows

In the living room and bedroom of the unit, there is an emergency exit (egress) window. This window is designed to be used as an additional exit in emergency situations. It can be easily identified by the red color of the handles and the red EXIT label. To open the egress window, lift the handle and push outward on the window.

EMERGENCY EQUIPMENT CHECKLIST

- Flashlight
- First Aid Kit
- Road Emergency Flares
- Toolbox with an assortment of hand tools
- Plastic Bucket
- Tow Chain or Rope
- Water Hose
- 50 of Electricial Cord (with at least 20 amp capacity)
- Fire Extinguisher
- Lug Wrench
- Spare Tire
- Wheel blocks for leveling or extra jacks

HELPFUL TOOLS



LUXURY FIFTH WHEELS

USER RECORD

MAINTENANCE RECORD & SCHEDULE
COMPONENT SUPPLIERS LIST

Component Suppliers List

<i>Item</i>	<i>Company</i>	<i>Warranty</i>	<i>Phone Number</i>	<i>Website</i>
Air Conditioners	Coleman	2 Year	316-832-4357	www.airxcel.com
Antennas	Winegard Co.	2 yr parts/1 yr Labor	319-754-0600	www.winegard.com
Axles	Dexter	5-10 Years	574-293-1581	www.dexteraxle.com
Axles	Mor/Ryde	5 yr/50000 Miles	574-293-1581	www.morryde.com
Battery Monitor	Magnum Energy Inc	1 Year	425-353-8833	www.magnumenergy.com
Bed Lift Mechanism	Happijac Company	1 Year	800-231-7440	www.happijac.com
Big Foot Leveling	Quadra	1 Year/2 Years	269-483-9633	www.quadralever.com
Brake Actuators	Hydrastar	2 Years	812-655-4544	www.hydrastarusa.com
Brake Components	Dexter & Mor/Ryde	1 Year/2 Years	574-295-7888	dexteraxle.com/morryde.com
Brake Components	Kodiak	3 Years	800-242-4882	www.kodiaktrailer.com
Ceiling Fan	Westinghouse			www.westonhouselighting.com
Brake Controller	Hydrastar	LIFETIME	812-655-4544	www.hydrastarusa.com
Cooktop/Range	Suburban		423-775-2131	airexcel.com/rv/suburban
Cooktop/Range	Furrion		800-789-3341	furrion.com
Converter	Progressive Dynamics	2 Years	269-832-4357	www.progressivedyn.com
Dish Drawer	Fisher Paykel	2 Years	888-936-7872	www.fisherpaykel.com
Faucet-Bath/ Vanity	Huntington Brass	1 Year	800-888-6604	www.huntingtonbrass.com
Faucet-Kitchen	Moen	5 Years	800-289-6636	www.moen.com
Faucet-Shower	Huntington Brass	3 Years	800-888-8604	www.huntingtonbrass.com
Firefly Elec. System	Firefly Integrations	1 Year	574-825-4600	www.fireflyintegrations.com
Fireplace	Dimplex	2 Years	888-346-7539	www.dimplex.com
Gas Furnances	Suburban	2 Years/3 Years	423-775-2131	www.airxcel.com
Generator	Cummins Onan	2 Year/3 Years	800-888-6626	www.cumminsonan.com
Keyless Entry	RV Lock	1 Year	888-316-9899	www.rvlock.com
Slideout Systems	Lippert Components	3 Years/5 Years	574-537-8900	www.lci1.com
Inverter MS Series	Magnum Energy Inc	3 Years	425-353-8833	www.magnumenergy.com
LP Regulator	ABC Marketing	1 Years	800-877-2495	www.abcmktginc.com
Macerator Pump	Shurflo	1 Year	800-762-8094	www.shurflo.com
Shades	MCD Innovations	1 Year	574-522-1446	www.mcdinnovations.com
Shower	Onyx	LIFETIME	800-669-9867	www.onyxcollection.com
Smoke Alarm	Kiddie	3 Years	800-880-6788	www.kidde.com
Solar Controllers	Magnum Energy Inc		800-472-1142	www.magnumenergy.com
Steps	Mor/Ryde		574-293-1581	www.morryde.com
Surge/Power Protector	Progressive Industries	LIMITED LIFETIME	919-267-6948	www.progressiveindustries.net
Surge Protector	Intermatic	1 Year	815-675-7000	www.intermatic.com
Tank Monitor	Garnet Industries	1 Year	817-587-9601	www.garnetinstruments.com
Thermostat	Coleman	1 Year	316-832-4357	www.colemanac.com
Tires	Goodyear	LIMITED	800-321-2136	www.goodyear.com
Toilet	Dometic Corp	2 Years	800-321-9886	www.dometiccorp.com
Vent Fan	MaxxAir	2 Years	316-832-3400	www.maxxair.com
Water Heater	Suburban	2 Years	423-775-2131	www.airxcel.com
Water Pump	Shurflo/Revolution	2 Years	800-854-3218	www.shurflo.com
Water Reel	Technology Research LLC		800-780-4324	www.nema.org
Wheels	Tredit		574-293-0581	www.tredittire.com
Windows	State Wide	1 Year/Parts Only	574-262-2594	www.state-wide.com

USER RECORD AND WARRANTY INFORMATION

Write in the VIN number of your RV, Date of in- service, Date two years from date of in-service. List other appliances or devices that are warranted and fill in the serial number, model number, & expiration date.

VIN:

Item	Serial Number	Start Date	Expiration Date

MAINTENANCE SCHEDULE

Maintenance requirements will vary with usage. For maintenance requirements on appliances and components, refer to the component suppliers list.

Service to be performed	Each Trip	1000 Miles	Three Months	Six Months	Annually
Wash Exterior	x				
Inspect Tires	x				
Torque Lug Nuts		x			
Clean Battery Cables and Terminals			x		
Sanitize Water Tank			x		
Check all Exterior Seams, Roof, Windows, Sidewalls, etc.			x		
Inspect Seal on Roof				x	
Inspect seal on Windows, Sidewalls, and Doors				x	
Inspect Electrical Brake System				x	
Lubricate Hinges					x
Inspect and Clean Vents					x
Inspect Suspension					x
Clean Drapes and Interior Fabrics					x

MAINTENANCE RECORD

Date	MILEAGE	DESCRIPTION	PERFORMED BY

LOAD/INFLATION INFORMATION

TIRE LOAD LIMITS (LBS) AT VARIOUS COLD INFLATION PRESSURES (PSI) HIGHWAY STEER AND ALL-POSITION TREAD DESIGNS USED IN NORMAL HIGHWAY SERVICE*

TIRE SIZE	SINGLE (S) DUAL (D)	INFLATION PRESSURE – PSI																
		35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	
LT215/75R15	S	1345	1475	1600	1765(C)	1845	1960	2095(D)										
	D	1225	1340	1455	1610(C)	1680	1785	1930(D)										
LT235/75R15	S	1530	1680	1825	1985(C)	2100	2230	2335(D)										
	D	1390	1530	1660	1820(C)	1910	2030	2150(D)										
LT225/75R16	S	1500	1650	1790	1940(C)	2060	2190	2335(D)	2440	2560	2680(E)							
	D	1365	1500	1630	1765(C)	1875	1995	2150(D)	2200	2330	2470(E)							
LT245/75R16	S	1700	1865	2030	2205(C)	2335	2480	2623(D)	2765	2900	3042(E)							
	D	1545	1695	1845	2006(C)	2125	2255	2381(D)	2515	2640	2778(E)							
LT215/85R16	S	1495	1640	1785	1940(C)	2050	2180	2335(D)	2430	2550	2680(E)							
	D	1360	1490	1625	1765(C)	1865	1985	2150(D)	2210	2320	2470(E)							
LT235/85R16	S	1700	1870	2030	2205	2335	2485	2623(D)	2765	2905	3042(E)	3170	3300	3415	3550	3675	3750(G)	
	D	1545	1700	1845	2006	2125	2260	2381(D)	2515	2645	2778(E)	2885	3005	3085	3230	3345	3415(G)	
7.50R16LT	S	1620	1770	1930	2040(C)	2190	2310	2470(D)	2560	2670	2755(E)							
	D	1430	1565	1690	1820(C)	1930	2040	2150(D)	2245	2345	2470(E)							
8.75R16.5LT	S						2240	2405	2470	2570	2680(E)							
	D						1970	2095	2175	2260	2405(E)							

*The Goodyear Tire & Rubber Company periodically updates its product information.
For the most current information, please visit the RV Tire section of Goodyear's website at www.goodyear.com/rv.

TIRE LOAD LIMITS (LBS) AT VARIOUS COLD INFLATION PRESSURES (PSI) TRAILER DESIGNS USED IN NORMAL HIGHWAY SERVICE*

TIRE SIZE	MAX SPEED RATING (MPH)	SINGLE (S) DUAL (D)	INFLATION PRESSURE – PSI											
			70	75	80	85	90	95	100	105	110	115	120	125
215/75R17.5	75	S					3695	3860	4020	4180	4340	4495	4650	4805(H)
		D					3490	3645	3800	3950	4100	4245	4395	4540(H)

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For the most current information, please visit the RV Tire section of Goodyear's website at www.goodyear.com/rv.

TIRE LOAD LIMITS (LBS) AT VARIOUS COLD INFLATION PRESSURES (PSI) HIGHWAY STEER AND ALL-POSITION TREAD DESIGNS USED IN NORMAL HIGHWAY SERVICE*

TIRE SIZE	MAX SPEED RATING (MPH)	SINGLE (S) DUAL (D)	INFLATION PRESSURE – PSI										
			70	75	80	85	90	95	100	105	110	115	120
8R19.5	75	S	2540	2680	2835	2955	3075	3195	3305	3415	3525(F)		
		D	2460	2610	2755	2865	2975	3085	3195	3305	3415(F)		
225/70R19.5	75	S	2895	3040	3195	3315	3450	3640(F)	3715	3845	3970(G)		
		D	2720	2860	3000	3115	3245	3415(F)	3490	3615	3750(G)		
245/70R19.5	75	S	3640	3740	3890	4080(F)	4190	4335	4540(G)				
		D	3415	3515	3655	3970(F)	4115	4265	4410(G)				
245/70R19.5†	75	S			3640	3740	3890	4080(F)	4190	4335	4540(G)		
		D			3415	3515	3655	3970(F)	4115	4265	4410(G)		
265/70R19.5	75	S			3970	4180	4355	4540	4685	4850	5070	5170	5355(G)
		D			3750	3930	4095	4300	4405	4560	4805	4860	5070(G)

*The Goodyear Tire & Rubber Company periodically updates its product information.
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†Tires produced after 2/28/06

**TIRE LOAD LIMITS (LBS) AT VARIOUS COLD INFLATION PRESSURES (PSI)
HIGHWAY STEER AND ALL-POSITION TREAD DESIGNS USED IN NORMAL HIGHWAY SERVICE***

TIRE SIZE	MAX SPEED RATING (MPH)	SINGLE (S) DUAL (D)	INFLATION PRESSURE – PSI											
			70	75	80	85	90	95	100	105	110	115	120	125
255/70R22.5	75	S D			4190 3970	4370 4110	4550 4275	4675 4410	4895 4455	5065 4610	5205 4675	5400 4915	5510(H) 5070(H)	
275/70R22.5	75	S D				5170 4770	5400 4980	5630 5180	5850 5390	6070 5590	6290 5800	6510 6000	6730 6200	6940(H) 6395(H)
245/75R22.5	75	S D	3470 3260	3645 3425	3860 3640	3980 3740	4140 3890	4300 4080	4455 4190	4610 4335	4675(G) 4410(G)			
265/75R22.5	75	S D	3875 3525	4070 3705	4300 3860	4440 4040	4620 4205	4805 4410	4975 4525	5150 4685	5205 (G) 4805 (G)			
275/80R22.5	75	S D					5500 5080	5745 5305	5985 5530	6225 5750	6460 5965	6700 6185	6930 6400	7160(H) 6610(H)

*The Goodyear Tire & Rubber Company periodically updates its product information.
For the most current information, please visit the RV Tire section of Goodyear's website at www.goodyear.com/rv.

TIRE SIZE	MAX SPEED RATING (MPH)	SINGLE (S) DUAL (D)	INFLATION PRESSURE – PSI											
			75	80	85	90	95	100	105	110	115	120	125	130
295/80R22.5	75	S D		5480 4855	5750 5100	6020 5335	6285 5570	6550 5805	6810 6035	7070 6265	7320 6490	7580 6720	7830(H) 6940(H)	
315/80R22.5	75	S D			6415 5840	6670 6070	6940 6395	7190 6540	7440 6770	7610 6940	7920 7210	8270 7610	8680 7940	9090(L) 8270(L)
11R24.5	75	S D		5310 5070	5550 5260	5840 5510	6095 5675	6350 5840	6610(G) 6005(G)	6790 6205	6970 6405	7160(H) 6610(H)		

*The Goodyear Tire & Rubber Company periodically updates its product information.
For the most current information, please visit the RV Tire section of Goodyear's website at www.goodyear.com/rv.

*Thank you for choosing
New Horizons to build
your dream RV!*

