

CHINOOK RV

Chinook Motor Coach, LLC
1482 N. Eel River Cemetery Rd.
Peru, IN 46970

MOTORHOME

Owner's Manual



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INTRODUCTION

Congratulations on your purchase of a Chinook RV! We welcome you to the exciting world of recreational travel. This manual will guide you through Chinook's Motorhome product line.

All Chinook RV's are engineered, manufactured, inspected and tested to meet or exceed all current safety standards enforced by the Recreational Vehicle Industrial Association (RVIA)

To assure that you maximize the usage of your motorhome, we offer this manual to assist and direct you in proper vehicle operation. Please read the entire manual to become familiar with the overall features of your motorhome and refer to the table of contents in front of the manual for specific areas of interest or concern.

You should also refer to the separate supplemental manuals provided by our various component manufacturers. This manual is not intended as a substitute for these publications and in the event of conflicting instructions, illustrations, or other descriptions, the INFORMATION FURNISHED BY THE RESPECTIVE MANUFACTURER'S PUBLICATIONS SHALL TAKE PRESEDENCE.

When service and maintenance are required, remember that your Chinook RV dealer knows your vehicle best and is interested in your complete satisfaction. They will provide professional maintenance, warranty service, repairs, and any other assistance you may require. For your convenience and handy reference, please fill in the following:

Unit No. _____ Serial No. (VIN) _____

Model: _____

Selling Dealer: _____

Address: _____

Phone #: _____ Ext _____

If there is anything you need from us, the manufacturer, please write, call or fax:

Customer Service
Chinook RV
1482 N. Eel River Cemetery Rd.
Peru, IN 46970

Phone (574) 584-3756
Fax (574) 343-1883

WARRANTY & SERVICE

Your new recreational vehicle is protected by a “limited warranty” through a chain of responsible parties, including Chinook RV, our authorized dealer network, our component suppliers, and ultimately you, our retail customer. As a key part of this chain, you have certain obligations to fulfill in order to activate and keep your “limited warranty” in force.

Please read this section carefully so that you will understand what you can expect from Chinook RV and our authorized dealers. This will also help clarify what you must do to validate and maintain your warranty and how to make a warranty claim.

Your first step is to verify that the warranty registration is submitted to us within **TEN (10) DAYS** of purchase either by yourself or your dealer to:

Warranty Registration
Chinook RV
1482 N. Eel River Cemetery Rd.
Peru, IN 46970

Your “limited” two-year/ 30,000 mile warranty automatically starts on the day of purchase, not when you return your warranty registration or use the motorhome for the first time.

DEALER RESPONSIBILITIES

Our authorized dealers assume several responsibilities to the warranty and to you. Our dealers shall maintain the motorhome while in their possession prior to retail sale. They are required to prepare and service your new motorhome before you take delivery. This operation is generally referred to as a pre-delivery inspection or PDI. A PDI typically includes operational and safety inspection of all systems to ensure a safe and camp-ready vehicle. They are to check and repair as necessary any plumbing, gas or structural leaks, 110 and 12-volt electrical operations, appliance and hardware operations, etc. They should also inspect and note all interior and exterior surfaces for cosmetic and functional blemishes or imperfections. Finally, they are to thoroughly explain the operation of all systems and features of your vehicle. Don't be too bashful to ask questions!

OWNER RESPONSIBILITIES

If you have the need to file a claim under guidelines of our warranty, please contact your authorized dealership. They will help you determine whether the problem is a warrantable defect and whether it should be submitted to Chinook RV or one of our

component suppliers. The dealer will work with you to get the warranty claim processed promptly. As outlined in the warranty, several items such as appliances, electronics, etc. are not manufactured by, nor warranted by, Chinook RV.

Take a few minutes and review our “Limited Warranty” and discuss any questions with your dealer to prevent future misunderstandings.

When contacting your dealer or Chinook RV, you should have the following specific information readily available:

- 17 digit vehicle identification number (VIN)
- Year, brand and model
- Date of purchase
- Description of the problem
- Conditions relating to the problem (weather, highway, etc)
- Prior repair history

Remember that your dealer is responsible for providing service for many customers, so try to allow sufficient time if service is required. Provide them with a complete list of service requirements prior to scheduling your appointment. Last minute issues may not have been allowed for by their service writer and may delay return of your motorhome. If possible, arrange to leave your motorhome at the dealership for repairs. Unexpected problems or parts requirements do occur. Many dealers do not allow customers in their service area due to insurance and safety considerations.

Chinook RV warranty policy only allows dealers to perform warranty service at their physical location. Service calls, transportation charges and other incidental expenses are specifically excluded from warranty coverage. If you are traveling and require service, contact Chinook RV for assistance in locating an authorized facility. The vast majority of RV dealers throughout the United States are authorized to perform warranty service on major appliances and components. The component manufacturer documentation also provides service contact information. Be aware that full restitution for a warrantable repair is not guaranteed if performed by an unauthorized service facility.

Upon completion of your warranty repairs, you must sign a warranty claim form that will be submitted by your dealer for reimbursement to them. Carefully inspect the repairs for completion and function *before* signing your acceptance on the claim form.

COMMERCIAL & RESIDENTIAL USE

Our motorhomes are not designed or manufactured with the intent to be used for residence or commercial use. Such use will void certain aspects of the warranty.

REPORTING SAFETY DEFECTS

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

If NHTSA receives similar complaints, it may open an investigation. If a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or Chinook RV.

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

LIMITED TWO-YEAR / 30,000 MILE WARRANTY

Chinook RV warrants each new motorhome it manufactures beginning the time of retail sale by an authorized dealer to be free from substantial defects in materials and workmanship, which will, under normal non-commercial, non-residential use and service, interfere with the performance and function of vehicle. The obligation of Chinook RV under this warranty is limited to repairing or replacing, at its option, any part or parts thereof within twenty-four (24) months / thirty-thousand (30,000) miles from delivery of such motorhome. Repairs shall be provided to the original retail purchaser, upon prepaid delivery to Chinook RV, the retailing dealer, or an authorized Chinook RV servicing facility as scheduling allows.

EXCLUSIONS & LIMITATIONS

This warranty does not apply to attached components including but not limited to chassis or chassis components, axles, tires, range/oven, water heater, furnace, refrigerator, air conditioner, and other appliances, interior furnishing and cabinet doors, windows and doors, vents, plumbing fixtures or rubber roof located within or on an Chinook RV motorhome. These components are warranted by their respective manufacturers.

This warranty specifically excludes recovery for consequential damages to any or all unit structures or appliances caused by customer abuse or negligence, overloading, unauthorized repairs, alterations, or the use of components not supplied by Chinook RV.

This warranty specifically excludes recovery for consequential damages to any or all unit structures or appliances due to failure to obtain repairs in a timely manner.

This warranty specifically excludes recovery for consequential damages to any or all unit structures or appliances due to failure to maintain the motorhome as outlined in the owner's manual. This includes but is not limited to structural sealants, paints and lubricants.

This warranty specifically excludes recovery for any incidental or consequential damages to any person or property, incurred expenses, loss of income or use or inconvenience.

This warranty specifically excludes recovery for routine adjustments of components unless required as a direct result of a warrantable repair.

This warranty specifically excludes recovery for repairs to any or all unit structures or appliances not performed within the warranty period unless reported prior to the warranty expiration date and not beyond 30 days of the warranty expiration date.

This warranty gives you specific legal rights and you may also have other rights that may vary from state to state. Some states do not allow limitations on how long an implied warranty lasts or the exclusion of incidental or consequential damages, so the above limitations may not apply to you.

This warranty extends only to the original retail purchaser and is not transferable.

To obtain service, contact your dealer or:

Chinook RV
1482 N. Eel River Cemetery Rd.
Peru, Indiana 46970
(574) 584-3756

ABOUT THIS MANUAL

This manual is inclusive of our entire product line including Motorhomes. Most instructions and recommendations will apply to all types and most models. When it is important to differentiate between types and/or models, we will do so. **Not every instruction or feature will apply to your unit.**

In our effort to provide the best value, quality and design, Chinook RV will make ongoing changes in our product. With this in mind, there may be discrepancies between the manual and your motorhome. If you are uncertain about the operation of any aspect of your motorhome, please refer to the separate component manuals accompanying your motorhome or consult your dealer.

Throughout this manual items of note are indicated with the following symbols:



SAFETY
WARNING



GENERAL
INFORMATION



SERVICE &
MAINTENANCE

SUPPLEMENTAL INFORMATION

Supplemental manuals and warranty information for the following component suppliers may be included with your motorhome. However inclusion of a document shall not imply that the component is necessarily a feature of your motorhome. There may also be warranty registration documents which should be completed and returned to the respective component manufacturers. Below is a list of many of our suppliers and their components.

MANUFACTURER	COMPONENT
Carter Tires	16" Wheels
Cummins Onan	Generator
Decho	Faucets
Dometic	Air Conditioner
	Refrigerator
	Toilet
	Power Roof Vent
Flame King	LP Tanks
	LP Regulator
FlexTech	Manifold System
	LP Line
Girard	Awning
Hushmat	Hushmat Thermal Insulation
KIB	Monitor Panel
King	T.V. Antenna
	WiFi Max Router/ Extender
Lithionics Battery	Lithium Battery
	Remote Control LED Switch w/ Wire Harness
Mastercraft	Furniture
	Upholstery

MANUFACTURER	COMPONENT
MCD	Duo Window Shade
Nations Starter & Alternator	Secondary Alternator
Owens Products	Fiberglass Structure
Patrick	12V Tank Heaters
	Stinger 200Amp Battery Relay & Isolator
	Powermax 30Amp Transfer Switch
Pentair	Water Pump
ProAir	Air Conditioner
RiverPark	KVH Satellite System
	Sirius XM Antenna
	4 Way Camera System & Monitor Display
	32" HD Smart TV
	JBL Media Center
	-12V Subwoofer
	-AM/FM Antenna
	-JBL Interior Speaker
SmartPlug	30Amp SmartPlug Cord Set
Summit Products	Ladder
Thetford	Cooktop
	Refrigerator

MANUFACTURER	COMPONENT
Truma	Propane/ Electrical Heat & Water Heater
	Water Pressure Regulator
Way Interglobal	Microwave
	Solar System
Wiley	Aluminum & Steel Structure
Xantrex	Inverter
	Digital Echo Charger

DRIVING AND TOWING TIPS

One of the most critical aspects of safely operating a motorhome is knowing weights involved and where they are placed. The first thing to determine is how much cargo is being loaded and confirming that it is within the capacities of the equipment being used. Determining WHERE that load is placed is critical to the way your rig will handle on the road.

Do not try to guess what your recreational vehicle weighs loaded. Load your motorhome including water, propane, etc and take it to a public scales. Weigh each axle of your vehicle. Refer to your axle weight and tire limits to see if your within a safe range. Total all axle weights and make sure you are below the GVWR. If you are not overloaded make sure your load is balanced. Do not load too much on one side. A balanced load is much easier to tow or drive.

Front to back balance is also important. Step back and look at your recreational vehicle. Make sure that there is not too much weight on the front or on the rear of the motorhome. Be sure to secure all items. Loose items can cause damage and be a safety issue if not properly secured.

The Occupant Cargo Carrying Capacity tag shown on page 28 is installed on every motorhome and can be found on the driver's side door jam, above the Tire and Loading Label.

To arrive at the "THE COMBINED WEIGHT OF OCCUPANTS AND CARGO SHOULD NEVER EXCEED" number, Chinook Motor Coach LLC weighs the vehicle as finished and adds the weight of full tanks of liquid propane and chassis fuel. That number is subtracted from the Gross Vehicle Weight Rating (GVWR) of the motorhome and listed on the tag, The total weight of any and all cargo, including but not limited to dealer or customer modifications or additions, fluids (freshwater, holding, and water heater tanks), food, clothes, tools, the tongue weight of a towed trailer or vehicle, and passengers should never exceed the number listed while the motorhome is in transit.

The "Safety belt seating capacity" is the number of passengers that seat belts are provided for.

When loading the vehicle it is important to keep the Gross Vehicle Weight Rating, Gross Axle Weight Ratings, Tire Weight Ratings (listed on the vehicle Tire Information Placard), and the Cargo and Occupant Capacity in mind and not to exceed these specifications. Your safety depends on not overloading the motorhome, motor home axles, and tires.

WEIGHING

To determine the actual weight of your motorhome with personal cargo and water it must be weighed on scales as you plan to travel. The most common scales are those used by states to weigh trucks used along the highway. In rural areas, grain elevators and cement outlets are a good source and another would be a gravel pit. If you have trouble locating scales, a call to your State Highway Patrol will usually find them very cooperative in assisting you.

Vehicle and Trailer Weights and Ratings Definitions

-Gross Vehicle Weight Rating (GVWR) is the maximum permissible weight of the motorhome.

-Gross Vehicle Weight (GVW): comprises weight of vehicle including

-Gross Axle Weight Rating (GAWR) is a maximum permissible axle weight.

-Gross Trailer Weight (GTW) is a maximum permissible trailer weight to be towed.

-Trailer Tongue Weight Rating (TWR) is the maximum permissible weight of the trailer tongue. This counts as cargo when loading a motorhome.

NOTE: Check the chassis manual for all weights and the tire information placard location.

WEIGHT DISTRIBUTION

Motorhomes have fresh water and wastewater tanks, a water heater, and storage areas. It gives you great flexibility in loading. With flexibility come responsibility. If you want to load down all the storage compartments, the amount of fluids may have to be reduced. It's a trade off so plan wisely. Distribute your additional cargo as evenly as possible with the heaviest objects located as low as possible.

Do you really want to carry a full freshwater tank to a RV park 1,000 miles away and then hook up to a city water supply? Even if you're going to the "boondocks", you can usually fill your water tank shortly before entering the area. Just reducing your load by 10 gallons of water lets you carry an additional 80 pounds of cargo.

SEATBELTS

Federally approved seat belts are provided for the use of the driver, the right front passenger, the second row captain chairs, and the rear lounge. Most states require by law that all passengers in a motor vehicle use seat belts while in transit. It is strongly recommended that all occupants remain seated with their safety belts firmly attached while the motorhome is in transit. The driver should adjust his seat so that he is able to reach all controls easily with the belt on, and be able to use all the travel on the foot brake. Seat belts should be placed as low as possible around the hips to prevent sliding out from under them in case of accident. This places the load of the body on the strong hipbone structure instead of around the soft abdominal area. Remember one occupant per seat belt when traveling.

The driver and front passenger seat belt buckle operation and is explained in the chassis manual.

The rear lounge and rear captain chairs seat belt buckles are secured by inserting the male end into the female buckle until the buckles are secured. To release the buckle, press the release button on the female end.



WARNING: Become familiar with and follow all directions, advice, and warnings pertaining to seats, seat belt operation, and restraint systems, provided in the chassis owner's manual. Do not allow passengers to ride anywhere in the motorhome except in seats that are equipped with approved seat belts.



WARNING: Children must be secured in a Federally Approved Child Restraint Device. Failure to use proper restraints while in transit can result in severe or fatal injuries. Never place an infant seat that faces to the rear on the front passenger seat. Never place an unbelted infant seat on any seat while in transit.

Child restraint devices are designed to be secured with lap or lap/shoulder belts. All instructions supplied by the restraint manufacturer must be followed. Statistics have shown children are safer when properly restrained in a rear seating position than in a front seating position.

Often the children traveling in motorhomes are grandchildren. There are times when our love for grandchildren makes us hesitate to properly supervise their actions. Don't hesitate when it comes to passenger safety. Make sure all passengers are properly restrained.

CHILDREN HAVE LOVED ONES TOO.

IF YOU WON'T BUCKLE UP FOR YOURSELF, BUCKLE UP FOR THEM.



DANGER: Drinking or taking drug and driving is a very dangerous combination. Even a small amount of alcohol or drugs can affect your reflexes, perception, and judgment. The possibility of a serious or even fatal accident is sharply increased when you drink or take drugs and drive. Never drink and/or take drugs and drive or allow anyone to drive after drinking and/or taking drugs.

TRAILER HITCHES



WARNING: Failure to use proper equipment and driving technique can result in a loss of vehicle control when towing a trailer. Improper towing or failure to follow the instructions contained in this section can result in serious injury. Follow the guidelines below carefully to assure safe trailer operation. Ask your authorized Chinook Motor Coach LLC dealer if you require an explanation of information contained in the manuals.

Certain units have hitches and wiring installed from the chassis manufacturer. We install hitches and wiring for other units. The 7-way connector is used for lights and charge line on a trailer. For further information, please see your authorized chassis dealer.

The bumpers on your vehicle are not designed for use with camp type hitches. Do not attach rental hitches or other bumper type hitches to them.

To reduce the possibility of damage, remove the hitch ball adapter from the receiver when not in use.

Since this vehicle is designed and intended primarily as a load-carrying vehicle, towing a trailer will affect handling, durability and economy. Maximum safety and satisfaction depends upon proper use of correct equipment and avoiding overloads and other abusive operation.



WARNING: The total weight of the motorhome and trailer must not exceed the GCWR listed on the weight label inside of your motorhome. The maximum towing capacity varies according to the size of the motorhome and its GCWR. Vehicles should be properly equipped for towing trailers. Information on trailer hauling capabilities and special equipment required may be obtained from your Chinook Motor Coach LLC dealer.

LOADING A TRAILER/ MOTORHOME

When loading a trailer, you should observe that neither the permissible GTW (Gross Tongue Weight), nor the trailer GVWR are exceeded.

Maximum permissible values are listed on the safety compliance certification labels for the vehicle and for the trailer to be towed. For their location, see the chassis owner's manual. The lowest value listed must be selected when determining how the vehicle and trailer are loaded.

To assist in attaining good handling of the vehicle/trailer combination it is important that the tongue weight be maintained at approximately 10%-15% of the loaded trailer weight, but not to exceed the hitch rating. Tongue loads can be adjusted by proper distribution of the load in the trailer, and can be checked by weighing separately the loaded trailer and then the tongue.

The tongue weight (TW) at the hitch ball must be added to the GVW to prevent exceeding your chassis towed vehicles or rear GAWR.

When towing trailers, motorhome tires should be inflated to the highest pressures shown on the chassis Tire Information Placard. See chassis manual for its location. The Cargo Carrying Capacity (CCC) of this vehicle is reduced by the amount that equal the trailer tongue load on the hitch.

CHECKING WEIGHTS OF VEHICLE AND TRAILER

To assure that the motorhome and trailer comply with the maximum permissible weight limits and to know the actual weights, have the loaded vehicle-trailer combination (tow vehicle including driver, passengers, and cargo and trailer fully loaded) weighed on a commercial scale as explained earlier in this section.

Also, check the vehicles front and rear axle weights and tongue weight. The values as measured must not exceed the chassis weight ratings listed on vehicle information placards and in the chassis manual.

NOTE: Check the chassis manual for all weights and tire information placard locations.

ATTACHING A TRAILER

Please observe maximum permitted trailer dimensions (weight and length). Most states and all Canadian provinces require safety chains between your tow vehicle and trailer. The chains should be crisscrossed under the trailer tongue. It must be attached to the hitch receiver, and not to the vehicles bumper or axle. Be sure to leave enough slack in the chains to permit turning corners.

Most states and all Canadian provinces require a brake system for towing trailers.



WARNING: The towing vehicle's braking system is rated for operation at GVWR (GROSS VEHICLE WEIGHT RATING). NOT at the GCWR (GROSS COMBINED WEIGHT RATING). A separate functioning brake system is required for any towed vehicles or trailers weighing more than 1000 lbs. (450 kg) when fully loaded. NEVER exceed the GVWR (GROSS VEHICLE WEIGHT RATING), or the GAWR (GROSS AXLE WEIGHT RATING) specified on a motorhome certification label. Also NEVER, exceed the weight ratings of trailer hitch installed on a motorhome. Failure to heed any part of this warning could result in loss of control of the motorhome and towed vehicle or trailer and may cause an accident and serious injury. For specified towed vehicle braking requirements, consult the chassis owner's manual that comes with this vehicle.



WARNING: Do not connect a trailer brake system (if trailer is so equipped) directly to the vehicles hydraulic brake system if your vehicle is equipped with antilock brakes. If you do, neither the vehicles brakes nor the trailers brakes will function properly. Property damage, injury, or death to you or others may be the result.

The provided vehicle electrical wiring harness for a trailer towing has a brake signal wire for hookup to a brake controller. Most states and all Canadian provinces require a brake away switch on trailers with a separate brake system. The switch activates the trailer brakes in the possible event that the trailer might separate from the tow vehicle. Please consider using a trailer sway control system. For further information, see your authorized Chinook Motor Coach LLC dealer.

TOWING A TRAILER

There are many different laws, including speed limit restrictions, having to do with trailer towing. Make sure that your vehicle - trailer combination will be legal; not only for where you reside, but also for where you'll be driving. A good source for this information can be the State Attorney General, State Police, or local authorities.

Before you start driving with a trailer, check the trailer's hitch, break away switch, safety chains, electrical connections, lighting and tires. Also, adjust the mirrors to permit unobstructed view beyond rear of trailer.

If the trailer has brakes using an electric brake controller, start your vehicle and trailer moving slowly, and then apply the brakes manually using the brake controller to be sure the brakes are working properly. Read and follow the controller manufacturers recommendations.

When towing a trailer, check occasionally to be sure that the load is secure, and that lighting and trailer brakes (if so equipped) are functioning properly. Always secure items in the trailer to prevent load shifts while driving.

Take into consideration that when towing a trailer, the handling characteristics are different and less stable from those when operating the vehicle without a trailer. It is important to avoid sudden maneuvers.

In order to gain skill and an understanding of the vehicles behavior, you should practice turning, stopping and backing up in an area which is free from traffic.

If possible, do not brake abruptly, but rather engage the brake slightly at first to permit trailer to activate its brake. Then increase the braking force.

We want every owner to be a safe and courteous driver. A few hours of towing practice in a large empty supermarket lot will make pulling your trailer over the road much easier. Line out two corners for left and right turns. You may also use these corners to practice backing and parking.

DURING PRACTICE OBSERVE THAT THE TRACKS MADE BY THE TRAILER WHEELS ARE DISTICTLY DIFFERENT FROM THOSE MADE BY THE TOW VEHICLE.

Studying this will make it easier for you to correct mistakes. Consider truck or trailer type fender or door grip rear view mirrors for maximum visibility. In most states the law requires them.

After thoroughly inspecting your hitch, brakes, and tires you should be ready to often in your mirrors, and observe the action of the trailer, then carefully move into the proper lane of traffic. Remember that the trailer wheels will not follow the path of the tow vehicle wheels; therefore, **WIDER TURNS ARE NECESSARY WHEN TURING TO THE LEFT OR TO THE RIGHT.**

ON FREEWAYS OR EXPRESSWAYS try to pick the lane you want and stay in it. Always maintain plenty of space between you and the car ahead, at least the length of the tow vehicle plus trailer for every ten miles per hour. Remember that in order to pass another vehicle you will need longer to accelerate. You must also allow for the length of the trailer when returning to the right hand lane.

TRACKING

On a two-lane road, cars may be lining up behind you because you are traveling at a lower speed. It is both courteous and sensible to signal and pull over at the earliest safe opportunity, and let them pass.

The BRAKE CONTROLLER (if so equipped) is activated when you apply the brakes of the tow vehicle. Your tow vehicle brakes will automatically apply the trailer brakes first when properly adjusted. This will help keep your tow vehicle and trailer in a straight line and make you stop as if you were driving the tow vehicle alone. If swaying or swerving should occur, briefly operating the controller separate from the vehicle brakes may help correct the situation. Practice this maneuver on a clear highway. Don't wait for an emergency then grope for the controller.

When trailering you might encounter a temporary cooling system overload during severe conditions such as hot days when pulling on a long uphill grade, when slowing down after higher speed driving, or driving long idle periods in traffic jams. If the hot indicator light comes on, or the temperature gauge indicates overheating and you have your air conditioner turned on, turn it off. Pull over in a safe place and put on your emergency brake. Don't turn off the engine. Increase the engine idle speed. Lift the engine hood and check for fluid leaks at the radiator overflow outlet. Check to see that all drive belts are intact and the fan is turning. If you have a problem, have it fixed at the next opportunity. If there is no problem, the light should go off or temperature should come down within one minute. Proceed on the highway a little slower. Ten minutes later resume normal driving.



DANGER: Never open a radiator cap when the tow vehicle is hot. Add coolant when the vehicle is cool.

When going downhill in dry weather, down shift so that engine compression will slow the whole rig down. Take dips and depressions in the road slowly and do not resume normal driving speeds until you are sure that trailer wheels are clear of the dip.

When driving in mud and sand, let the momentum carry the rig through. Apply power gently and use as little as possible. Stay in the tracks of the vehicle ahead and keep the tow vehicle in the highest possible gear. If you are stuck, it is best to tow out the entire rig together without unhitching.

Despite the best hitch, you will notice that whenever a large bus or truck overtakes your rig, the displaced air first pushes the trailer rear slightly to the right and then affects the front. It may be necessary to steer very slightly, momentarily, toward the bus or truck to help compensate for the sway induced by the passing-vehicle. Do not apply the vehicle brakes, as this can tend to exaggerate the situation. You may find, however, that briefly applying the trailer brakes with your manual control will help eliminate sway.



WARNING: CHOCK THE TRAILER WHEELS when stopping on a hill or slope. Leaving your tow vehicle in gear is not enough for standstill safety. Do not use trailer brakes as parking brakes.

BACKING UP

In BAKCING UP, the important thing to remember is to DO EVERYTING SLOWLY and to correct immediately if you see the trailer turning the wrong way. Concentrate on the rear of the trailer. With your tow vehicle and trailer in a straight line, back up slowly and turn the bottom of the steering wheel in the direction you want the trailer to go. Watch out the window or in the mirror until the rear of the trailer is pointing in the desired direction. Your tow vehicle will be following the trailer in an arc. Straighten the tow vehicle and trailer by turning the steering wheel more sharply, and then when they are in line, straighten the steering wheel.

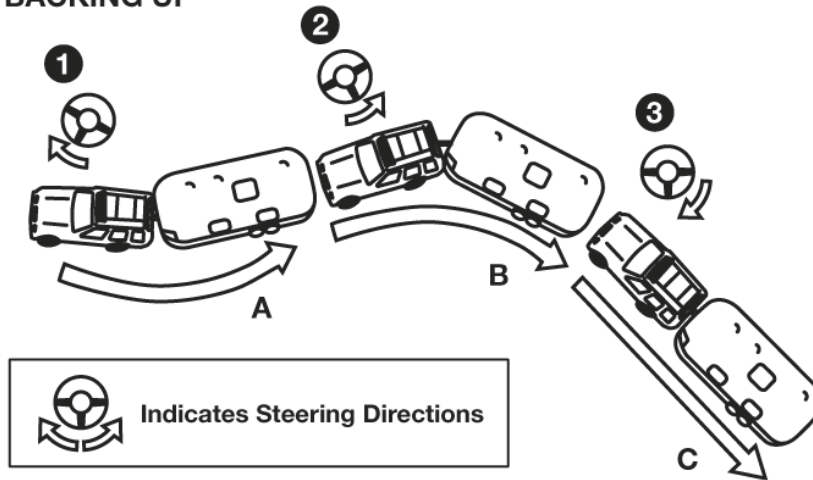
ALWAYS TRY TO BACK TO YOUR LEFT BECAUSE THE VISIBILITY IS MUCH BETTER. When you don't make it on the first try, it is usually much easier to pull forward to your original straight position and start over.

If your spouse or traveling companion normally directs you when backing, they should position themselves forward of the tow vehicle so the driver can easily see them. Their directions should always indicate to the driver the direction the rear of the trailer should go. A little practice in a parking lot with the person giving directions can save a lot of frustration when backing into a campsite.



WARNING: Take into consideration that when towing a trailer, the handling characteristics are different and less stable from those with operating the vehicle without a trailer. It is important to avoid sudden maneuvers. Sudden maneuvers may lead to loss of control over the vehicle – trailer combination.

BACKING UP



Position (A) start. Turn steering wheel as shown in (1) will put you in trailer Position (B). Turning steering wheel show in position (2) puts you in trailer position (C). Steering position (3) returns front wheels for straight backing.

PARKING YOUR MOTORHOME



WARNING: to reduce the risk of personal injury, or damage to the vehicle power train, as a result of vehicle/trailer movement, always:

- Keep right foot on the brake pedal.
- Shift gear selector lever to position “N”.
- Have a second person place wheel chocks on downhill side of left and right trailer wheels.
- Slowly release brake pedal cannot vehicle and trailer roll into chocks until stopped.
- Firmly depress parking brake pedal.
- Move gear selector lever to position “P”.
- On inclines, turn wheels towards the road curb.

TOWING YOUR MOTORHOME

NOTICE: Considerable damage may occur if the motorhome is improperly lifted for towing purposes. Only qualified professional towing service companies with proper equipment should be used. Observe all cautions and warning in the chassis owner’s manual before towing your motorhome.

NOTICE: Do not tow the vehicle if the key cannot be turned in the ignition lock.

If the key cannot be turned, the ignition lock remains locked and the vehicle cannot be steered. With the engine not running there is no power assistance for the braking and steering systems. In this case, it is important to keep in mind that a considerably higher degree of effort is necessary to brake and steer the vehicle. The vehicle must not be towed with the front axle raised and key in position two in the ignition lock as the drive wheels could lock due to the acceleration skid control (ASR). See the chassis owner’s manual for information on the ASR.

NOTE: Chinook Motor Coach LLC recommends the house battery ground should be disconnected during chassis electrical work. A grounding stud is located inside the house battery box at the top. Battery ground wires are routed to this threaded stud. Remove the wires from the stud to break the ground circuit.

RUNNING, TAIL, AND STOP LIGHTS

All exterior running lights meet ICC specifications and have been designed for maximum visibility and highway safety. Before you start on a trip, the exterior lighting system should be checked. Check the turn signals (both directions), the running lights, tail lights, and brake lights.

TOOLS AND EQUIPMENT

We recommend that the following tools and equipment be carried in your motorhome:

- | | |
|---|--|
| <ul style="list-style-type: none"> • A tool box and assorted tools • Pliers • Wrench assortments • Screwdrivers (standard, square, phillips) • Lug wrench • Spare fuses and bulbs • Bottle of soapy water (to test for LP leaks) • Tire gauge • Hammer or mallet • Levels • Wheel chocks | <ul style="list-style-type: none"> • Leveling ramps or boards • Water hose • Waste water hose • Road flares or reflectors • Hydraulic or screw type jack • 30 amp electric extension cord • 30 to 15 amp emergency adapter • First aid kit • Shovel • Flashlight or lantern • Plastic pails |
|---|--|

Your Chinook Motor Coach LLC motorhome should be given a thorough safety check before a trip. Regular use of the following list will provide safe operation of your motorhome and will help you spot any malfunctioning equipment and correct the problem as soon as possible. The list is to help you and may not be all- inclusive.



WARNING: Failure to heed the following items may cause damage to the vehicle or personal injury.

EXTERIOR CHECK LIST (BEFORE ENTERING VEHICLE)

1. Check condition of tires, keep tires at recommended inflation pressure per the tire and loading placard on the driver’s door B-pillar.
2. Turn off Remote LPG valve switch.
3. Check that macerator hose, city water hookup, TV cable/satellite, and all exterior components are unhooked and properly stowed.
4. Check that all external compartments and filler openings are properly closed, latched, and/or locked.
5. Check that items stored on exterior of vehicle are securely tied down.
6. Would any items stored on exterior of vehicle present a clearance problem?
7. Follow all automotive manufacturers’ recommendations.
8. Check exterior lights and general condition of vehicle.

INTERIOR CHECK LIST (BEFORE DRIVING OFF)

9. It is important that all doors be completely closed and locked during travel.
10. Turn off living area water pump.
11. Check that refrigerator door is closed and latched if equipped.
12. Check that nothing heavy is stored in overhead or high cabinets, which could fall out and cause injury. Heavy items should be stored in lower cabinets.
13. Stow galley flip up shelf and pedestal tables.

14. Check that counter tops, range top, and shelves are clear of even small items that could become projectiles during an emergency braking or accident.
15. Retract and latch the wetbath wall.
16. Do not cook while unless motorhome is parked and stable. Hot food or liquid could scald due to a sudden stop or accident while traveling.
17. Be sure all LPG controls on the appliances are turned off.
18. Check that any internal stowage is securely held in place.
19. Check that lights and switches are set in positions safe for travel.
20. Adjust the driver's seat so that you can easily reach and operate all controls. Make sure seat is locked in position. Do not adjust driver's seat swivel or recline mechanisms while vehicle is moving. The seat could move unexpectedly causing loss of control.
21. Check that all passengers have seat belts on properly.
22. The freedom of movement of the brake and accelerator pedals must not be impaired in any way.
23. Check rear view mirrors adjustment, inside and outside. Adjust window covering is necessary for maximum visibility.
24. Secure children in a Federally Approved Child Restraint Device.

WEIGHTS & LOADING

Your motorhome has been designed to make maximum use of living and storage space. The equipment and supplies you carry while traveling can be loaded safely provided the additional weight is distributed properly and adequately secured.



Proper weight distribution within your motorhome is an important factor in safe and efficient operation of your RV brakes and suspension. **CARE MUST BE TAKEN NOT TO OVERLOAD YOUR MOTORHOME.** The total load carrying capacity of your motorhome, known as the Gross Vehicle Weight Rating (GVWR) is listed on the weight label located on the inside of a overhead cabinet door normally in the kitchen area. When fully loaded with supplies, water, LP Gas, etc., the total weight of the motorhome must not exceed the listed GVWR.

The GVWR, axle weights, hitch weight as well as the center of gravity of your motorhome are to be considered to provide safe and easy towing. These basic rules should be followed:

- Stay within your GVWR; preferably travel as light as possible
- Distribute additional weight as evenly as possible
- Store heavy items over the axles and as near the floor as possible
- Secure all cargo to prevent shifting and bouncing
- If possible, empty the waste water holding tanks before traveling

Heavy items such as canned goods, books and cooking utensils should be placed in the lower storage areas over or slightly ahead of the axle(s). Storage of heavy items on or near the floor will help maintain a lower center of gravity. Use the overhead storage area for lighter objects such as sleeping bags, bedding, clothing and lightweight bulky items. The weight distribution of your supplies and cargo can affect the highway operation of your rig.

STORAGE OF FLAMMABLE SUBSTANCES



WARNING: Storage or transport of LP-Gas containers, gasoline or other flammable liquids inside your vehicle – even for short periods of time – presents a risk of fire and/or explosion. All flammable liquids should be stored safely in a well-ventilated area outside your vehicle and in proper containers.

RATED CARGO LOAD

The cargo carrying capacity (CCC) is the additional weight that can be carried in your unit without exceeding the GVWR, over and above the actual dry weight (UVW) of the motorhome.

GVW	<p>Gross Vehicle Weight The actual weight of the motorhome and all of its cargo. This weight will vary depending on the cargo and various fluids. The GVW should never exceed the GVWR</p>
GCWR	<p>Gross Combination Weight Rating The maximum allowed loaded weight of the motorhome and any towed trailer or towed vehicle.</p>
SCWR	<p>Sleeping Capacity Weight Rating The manufacturer’s designated number of sleeping positions multiplied by 154 pounds.</p>
UVW	<p>Unloaded Vehicle Weight The weight of the motorhome as manufactured with no fluids (water, LP, etc.)</p>
CCC	<p>Cargo Carrying Capacity The sum of the weights of all fluids, supplies & equipment that the motorhome is allowed to carry. This weight can be calculated by subtracting the unloaded vehicle weight (UVW) from the gross vehicle weight rating (GVWR)</p>

WEIGHT INFORMATION LABELS

There are two labels affixed to your motorhome regarding weight information.

RVIA WEIGHT LABEL: This label is attached to the inside of your motorhome (usually on the interior of a galley overhead cabinet door) and GVWR, UVW and CCC.

MOTORHOME WEIGHT INFORMATION		HA2252	
VIN OR SERIAL NUMBER			
CARGO CARRYING CAPACITY (CCC) COMPUTATION		POUNDS	KILOGRAMS
GVWR (GROSS VEHICLE WEIGHT RATING) IS THE MAXIMUM PERMISSIBLE WEIGHT OF THIS FULLY LOADED MOTORHOME.			
MINUS-UVW (UNLOADED VEHICLE WEIGHT) IS THE WEIGHT OF THIS MOTORHOME AS MANUFACTURED AT THE FACTORY WITH FULL FUEL, ENGINE OIL AND COOLANTS.			
MINUS-FRESH WATER WEIGHT OF	GALLONS @ 8.3 LB/GAL=		
MINUS-PROPANE WEIGHT OF	GALLONS @ 4.2 LB/GAL=		
MINUS-SCWR (SLEEPING CAPACITY WEIGHT RATING) IS THE MANUFACTURER'S DESIGNATED NUMBER OF SLEEPING POSITIONS MULTIPLIED BY 154 POUNDS (70 KILOGRAMS). OF			
	PERSONS @ 154 LB/PERSON=		
= CCC CCC (CARGO CARRYING CAPACITY) IS EQUAL TO GVWR MINUS EACH OF THE FOLLOWING: UVW, FULL FRESH (POTABLE) WATER WEIGHT (INCLUDING WATER HEATER), FULL PROPANE WEIGHT AND SCWR. FOR THIS MOTORHOME*			
GCWR (GROSS COMBINATION WEIGHT RATING) MEANS THE MAXIMUM ALLOWABLE LOADED WEIGHT OF THIS MOTORHOME AND ANY TOWED TRAILER OR TOWED VEHICLE.			
*DEALER INSTALLED EQUIPMENT AND TOWED VEHICLE TONGUE WEIGHT WILL REDUCE CCC			
WARNING: CONSULT OWNER MANUAL(S) FOR SPECIFIC WEIGHING INSTRUCTIONS AND TOWING GUIDELINES INCLUDING AUXILIARY BRAKE REQUIREMENTS FOR ANY TOWED TRAILER OR TOWED VEHICLE.			

MOTOR HOME OCCUPANT & CARGO CARRYING CAPACITY (OCCC) LABEL: This label is attached to the driver’s side door jam, above the Tire and Loading Label.

MOTOR HOME OCCUPANT AND CARGO CARRYING CAPACITY VIN:XXXXXXXXXXXXXXXXXX
 THE COMBINED WEIGHT OF OCCUPANTS AND CARGO SHOULD NEVER EXCEED XXX kg or XXX lbs
 Safety belt equipped seating capacity: XXX
 CAUTION:
 A full load of water equals XXX kg or XXX lbs of cargo @ 1 kg/L (8.3 lb/gal) and the tongue weight of a towed trailer counts as cargo

HOW TO WEIGH THE VEHICLE

Your motorhome can be weighed at any public weigh station. The motorhome should be freestanding and level. Some scales allow for separate axle and hitch weights. The scale operator can assist you with their particular configuration.

GENERAL OPERATION & USE

GETTING FAMILIAR WITH YOUR RIG

It is important to become comfortable and confident when driving a motorhome. You will notice significant differences between driving your vehicle and driving your motorhome. Acceleration, stopping distances, turning radius, weather related conditions, and visibility are a few of the considerations you will encounter during your ventures onto the highways. Often, the selling dealer will offer a short training session for their customers. Don't hesitate to take them up on the offer. Also, refer to your chassis owner's manual for specific recommendations and requirements regarding motorhomes.

- Your initial test drive should be in an area with minimal traffic and obstructions. A large vacant parking lot is ideal. Recruit the assistance of a spotter to watch for clearances until you become accustomed to the length, width and **height** of your rig. Ensure your motorhome's mirrors and brakes are adjusted and operating properly.
- Become familiar with acceleration and deceleration at various speeds. You will need to allow more time for both. Get the feel of braking at different speeds and intensities; and note the additional time and distance required.
- Make several turns in both directions and observe the larger turning radius. Throughout all turns, monitor traffic in front, behind and along side of you. Of course you need to signal your intention to turn well before you reach the intersection.

HIGHWAY DRIVING

It is important to allow additional travel time and to be patient. Avoid hard acceleration, abrupt lane changes and hard braking. Your engine and drive-train have much greater demands placed on them. You can save fuel, extend engine life and arrive at your destination much more relaxed with advanced route planning and additional time allowances.

When changing lanes and passing, know that additional time and distance are required. Be sure you are fully clear of the passed vehicle before merging back into your lane. Remember that many passenger side mirrors are convex and the distance of objects can be deceiving.

Keep a firm grip on the steering wheel and be prepared for wind gusts from larger vehicles passing and from around buildings, bridges and trees. Under extreme windy weather, it is advisable to slow down or even pull over and wait for calmer conditions.

If your engine begins to labor when traveling up a grade, shift into a lower gear. On long upward grades, it is best not to use overdrive. Likewise, when traveling down a hill or grade, shifting into a lower gear will lessen the need to ride the brake pedal. If you need to slow down on a hill, try using your brake controller to apply only the trailer brakes, if towing a trailer. This will help prevent jack-knifing.

TIRES – GENERAL INFORMATION

This portion of the Owner's Manual contains tire safety information as required by 49 CFR 575.6.

Section 1, based in part on the National Highway Traffic Safety Administration's Brochure entitled “Tire Safety – Everything Rides on It.” contains the following items:

- Tire labeling, including a description and explanation of each marking on the tires, and information about the DOT Tire Identification Number (TIN).
- Recommended tire inflation pressure, including a description and explanation of:
 - A. Cold inflation pressure
 - B. Vehicle Placard and location on the vehicle
 - C. Adverse safety consequences of under inflation (including tire failure)
 - D. Measuring and adjusting air pressure for proper inflation
- Tire Care, including maintenance and safety practices.
- Vehicle load limits, including a description and explanation of the following items:
 - A. Locating and understanding the load limit information, total load capacity, and cargo capacity.
 - B. Calculating total and cargo capacities with varying seating configurations including quantitative examples showing/illustrating how the vehicles cargo and luggage capacity decreases as combined number and size of occupants' increases. This item is also discussed in Section 3.
 - C. Determining compatibility of tire and vehicle load capabilities.
 - D. Adverse safety consequences of overloading on handling and stopping on tires.

Section 2 contains “Steps for Determining Correct Load Limit”

Section 3 contains a Glossary of Tire Terminology, including “cold inflation pressure”, “maximum inflation pressure”, “recommended inflation pressure”, and other non-technical terms.

SECTION I

The National Traffic Safety Administration (NHTSA) has published a brochure (DOT HS 809 361) that discusses all aspects of Tire Safety, as required by CFR 575.6. This brochure is reproduced in part below. It can be obtained and downloaded from NHTSA, free of charge, from the following web site:

http://www.nhtsa.dot.gov/cars/rules/TireSafety/ridesonit/tires_index.html

Studies of tire safety show that maintaining proper tire pressure, observing tire and vehicle load limits (not carrying more weight in your vehicle than your tires or vehicle can safely handle), avoiding road hazards, and inspecting tires for cuts, slashes, and other irregularities are the most important things you can do to avoid tire failure, such as tread separation or blowout and flat tires. These actions, along with other care and maintenance activities, can also:

- Improve vehicle handling
- Help protect you and others from avoidable breakdowns and accidents
- Improve fuel economy
- Increase the life of your tires.

This booklet presents a comprehensive overview of tire safety, including information on the following topics:

- Basic tire maintenance
- Uniform Tire Quality Grading System
- Fundamental characteristics of tires
- Tire safety tips.

Use this information to make tire safety a regular part of your vehicle maintenance routine. Recognize that the time you spend is minimal compared with the inconvenience and safety consequences of a flat tire or other tire failure.

Safety First—Basic Tire Maintenance

Properly maintained tires improve the steering, stopping, traction, and load-carrying capability of your vehicle. Under inflated tires and overloaded vehicles are a major cause of tire failure. Therefore, as mentioned above, to avoid flat tires and other types of tire failure, you should maintain proper tire pressure, observe tire and vehicle load limits, avoid road hazards, and regularly inspect your tires.

Finding Your Vehicle's Recommended Tire Pressure and Load Limits

Tire information placards and vehicle certification labels contain information on tires and load limits. These labels indicate the vehicle manufacturer's information including:

- Recommended tire size
- Recommended tire inflation pressure
- Vehicle capacity weight (VCW—the maximum occupant and cargo weight a vehicle is designed to carry)
- Front and rear gross axle weight ratings (GAWR—the maximum weight the axle systems are designed to carry).

[For TT] Both placards and certification labels are permanently attached to the trailer on the forward half of the left side, and are easily readable from outside the vehicle without moving any part of the vehicle. You can also find the recommended tire pressure and load limit for your vehicle in the vehicle owner's manual.

[For MH] Both placards and certification labels are permanently attached to the vehicle door edge, doorpost, or glove box door. You can also find the recommended tire pressure and load limit for your vehicle in the vehicle owner's manual.

Understanding Tire Pressure and Load Limits

Tire inflation pressure is the level of air in the tire that provides it with load-carrying capacity and affects the overall performance of the vehicle. The tire inflation pressure is a number that indicates the amount of air pressure—measured in pounds per square inch (psi)—a tire requires to be properly inflated. (You will also find this number on the vehicle information placard expressed in kilopascals (kPa), which is the metric measure used internationally.)

Vehicle manufacturers determine this number based on the vehicle's design load limit, that is, the greatest amount of weight a vehicle can safely carry and the vehicle's tire size. The proper tire pressure for your vehicle is referred to as the "recommended cold inflation pressure." (As you will read below, it is difficult to obtain the recommended tire pressure if your tires are not cold.)

Because tires are designed to be used on more than one type of vehicle, tire manufacturers list the "maximum permissible inflation pressure" on the tire sidewall. This number is the greatest amount of air pressure that should ever be put in the tire under normal driving conditions.

Checking Tire Pressure

It is important to check your vehicle's tire pressure at least once a month for the following reasons:

- Most tires may naturally lose air over time.
- Tires can lose air suddenly if you drive over a pothole or other object or if you strike the curb when parking.
- With radial tires, it is usually not possible to determine under inflation by visual inspection.

For convenience, purchase a tire pressure gauge to keep in your vehicle. Gauges can be purchased at tire dealerships, auto supply stores, and other retail outlets.

The recommended tire inflation pressure that vehicle manufacturers provide reflects the proper psi when a tire is cold. The term cold does not relate to the outside temperature. Rather, a cold tire is one that has not been driven on for at least three hours. When you drive, your tires get warmer, causing the air pressure within them to increase. Therefore, to get an accurate tire pressure reading, you must measure tire pressure when the tires are cold or compensate for the extra pressure in warm tires.

Steps for Maintaining Proper Tire Pressure

- Step 1: Locate the recommended tire pressure on the vehicle's tire information placard, certification label, or in the owner's manual.
- Step 2: Record the tire pressure of all tires.
- Step 3: If the tire pressure is too high in any of the tires, slowly release air by gently pressing on the tire valve stem with the edge of your tire gauge until you get to the correct pressure.
- Step 4: If the tire pressure is too low, note the difference between the measured tire pressure and the correct tire pressure. These "missing" pounds of pressure are what you will need to add.
-
- Step 5: At a service station, add the missing pounds of air pressure to each tire that is under inflated.
- Step 6: Check all the tires to make sure they have the same air pressure (except in cases in which the front and rear tires are supposed to have different amounts of pressure).

If you have been driving your vehicle and think that a tire is under inflated, fill it to the recommended cold inflation pressure indicated on your vehicle's tire information placard or certification label. While your tire may still be slightly under inflated due to the extra pounds of pressure in the warm tire, it is safer to drive with air pressure that is slightly lower than the vehicle manufacturer's recommended cold inflation pressure than to drive with a significantly under inflated tire. Since this is a temporary fix, don't forget to recheck and adjust the tire's pressure when you can obtain a cold reading.

Tire Size

To maintain tire safety, purchase new tires that are the same size as the vehicle's original tires or another size recommended by the manufacturer. Look at the tire information placard, the owner's manual, or the sidewall of the tire you are replacing to find this information. If you have any doubt about the correct size to choose, consult with the tire dealer.

Tire Tread

The tire tread provides the gripping action and traction that prevent your vehicle from slipping or sliding, especially when the road is wet or icy. In general, tires are not safe and should be replaced when the tread is worn down to 1/16 of an inch. Tires have built-in tread wear indicators that let you know when it is time to replace your tires. These indicators are raised sections spaced intermittently in the bottom of the tread grooves. When they appear "even" with the outside of the tread, it is time to replace your tires. Another method for checking tread depth is to place a penny in the tread with Lincoln's head upside down and facing you. If you can see the top of Lincoln's head, you are ready for new tires.

Tire Balance and Wheel Alignment

To avoid vibration or shaking of the vehicle when a tire rotates, the tire must be properly balanced. This balance is achieved by positioning weights on the wheel to counterbalance heavy spots on the wheel-and-tire assembly. A wheel alignment adjusts the angles of the wheels so that they are positioned correctly relative to the vehicle's frame. This adjustment maximizes the life of your tires. These adjustments require special equipment and should be performed by a qualified technician.

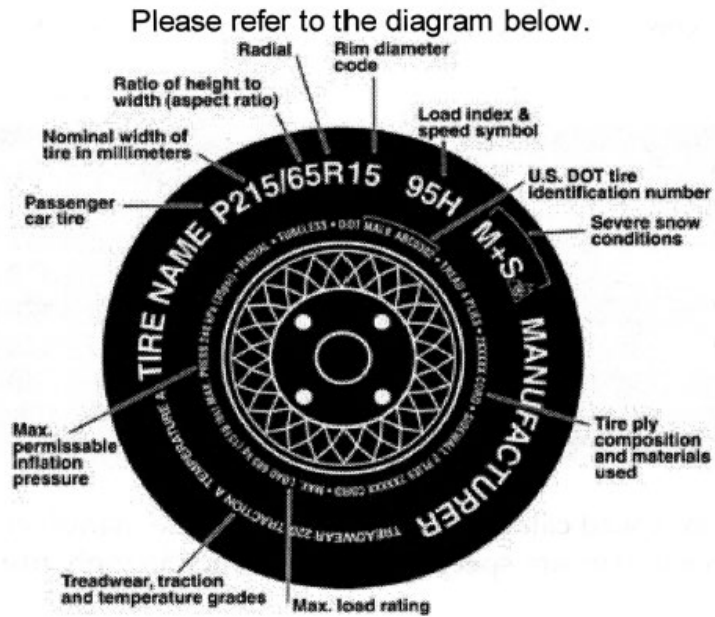
Tire Repair

The proper repair of a punctured tire requires a plug for the hole and a patch for the area inside the tire that surrounds the puncture hole. Punctures through the tread can be repaired if they are not too large, but punctures to the sidewall should not be repaired. Tires must be removed from the rim to be properly inspected before being plugged and patched.

Tire Fundamentals

Federal law requires tire manufacturers to place standardized information on the sidewall of all tires. This information identifies and describes the fundamental characteristics of the tire and also provides a tire identification number for safety standard certification and in case of a recall.

Information on Passenger Vehicle Tires



P -The "P" indicates the tire is for passenger vehicles.

Next number -This three-digit number gives the width in millimeters of the tire from sidewall edge to sidewall edge. In general, the larger the number, the wider the tire.

Next number -This two-digit number, known as the aspect ratio, gives the tire's ratio of height to width. Numbers of 70 or lower indicate a short sidewall for improved steering response and better overall handling on dry pavement.

R - The "R" stands for radial. Radial ply construction of tires has been the industry standard for the past 20 years.

Next number -This two- or three-digit number is the wheel or rim diameter in inches. If you change your wheel size, you will have to purchase new tires to match the new wheel diameter.

Next number -This two- or three-digit number is the tire's load index. It is a measurement of how much weight each tire can support. You may find this information in your owner's manual. If not, contact a local tire dealer. Note: You may not find this information on all tires because it is not required by law.

M+S - The "M+S" or "M/S" indicates that the tire has some mud and snow capability. Most radial tires have these markings.

Speed Rating - The speed rating denotes the speed at which a tire is designed to be driven for extended periods of time. The ratings range from 99 miles per hour (mph)

to 186 mph. These ratings are listed below. Note: You may not find this information on all tires because it is not required by law

Letter Rating	Speed Rating
Q	99 mph
R	106 mph
S	112 mph
T	118 mph
U	124 mph
H	130 mph
V	149 mph
W	168* mph
Y	186* mph

* For tires with a maximum speed capability over 149 mph, tire manufacturers sometimes use the letters ZR. For those with a maximum speed capability over 186 mph, tire manufacturers always use the letters ZR.

U.S. DOT Tire Identification Number - This begins with the letters "DOT" and indicates that the tire meets all federal standards. The next two numbers or letters are the plant code where it was manufactured, and the last four numbers represent the week and year the tire was built. For example, the numbers 3197 means the 31st week of 1997. The other numbers are marketing codes used at the manufacturer's discretion. This information is used to contact consumers if a tire defect requires a recall.

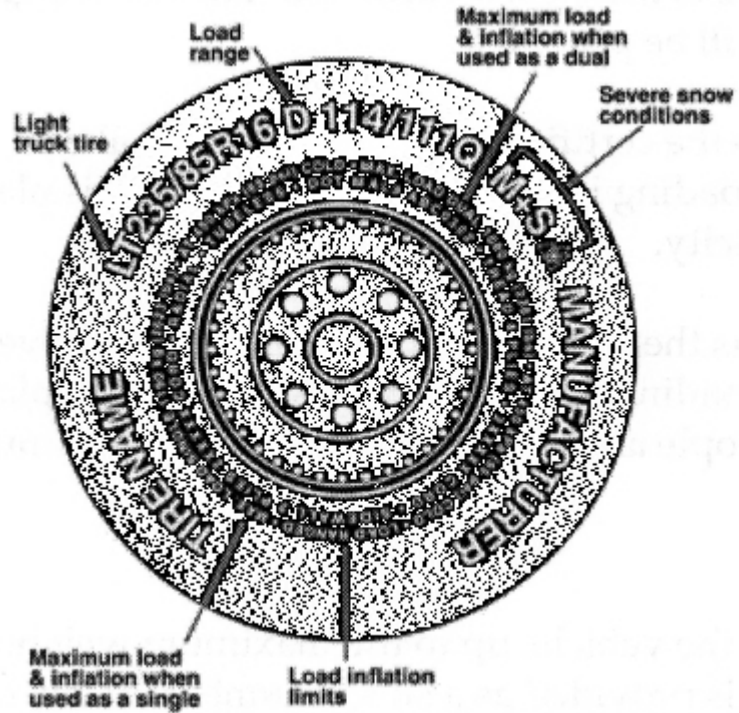
Tire Ply Composition and Materials Used - The number of plies indicates the number of layers of rubber-coated fabric in the tire. In general, the greater the number of plies, the more weight a tire can support. Tire manufacturers also must indicate the materials in the tire, which include steel, nylon, polyester, and others.

Maximum Load Rating - This number indicates the maximum load in kilograms and pounds that can be carried by the tire.

Maximum Permissible Inflation Pressure - This number is the greatest amount of air pressure that should ever be put in the tire under normal driving conditions.

Additional Information on Light Truck Tires

Please refer to the following diagram.



Tires for light trucks have other markings besides those found on the sidewalls of passenger tires.

LT -The "LT" indicates the tire is for light trucks or trailers.

ST - An "ST" is an indication the tire is for trailer use only.

Max. Load Dual kg (lbs) at kPa (psi) Cold -This information indicates the maximum load and fire pressure when the tire is used as a dual; that is, when four tires are put on each rear axle (a total of six or more tires on the vehicle).

Max. Load Single kg (lbs) at kPa (psi) Cold -This information indicates the maximum load and fire pressure when the tire is used as a single.

Load Range -This information identifies the tire's load-carrying capabilities and its inflation limits.

Vehicle Load Limits

Determining the load limits of a vehicle includes more than understanding the load limits of the tires alone.

[For TT] On a trailer, there is a Federal certification label that is located on the forward half of the left (road) side of the unit.

[For MH] On a motorhome, there is a Federal certification label that is affixed to either the hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to

the driver's seating position. If none of these locations is practicable, this label will be located to the left side of the instrument panel, or affixed to the inward-facing surface of the door next to the driver's seating position.

[Both TT and MH] The certification label will indicate the vehicle's gross vehicle weight rating (GVWR). This is the most weight the fully loaded vehicle can weigh. It will also provide the gross axle weight rating (GAWR). This is the most a particular axle can weigh. If there are multiple axles, the GAWR of each axle will be provided.

[For TT] In the same location as the certification label described above, there is a vehicle placard. This placard provides tire and loading information. In addition, this placard will show a statement regarding maximum cargo capacity.

[For MH] In the same location as the certification label described above, there is a vehicle placard. This placard provides tire and loading information. In addition, this placard will show the vehicle's seating capacity for people and a statement regarding maximum cargo capacity.

Cargo Capacities

[For TT] Cargo can be added to the vehicle, up to the maximum weight specified on the placard. The combined weight the cargo is provided as a single number. In any case, remember: the total weight of a fully loaded vehicle cannot exceed the stated GVWR.

[For MH] Cargo can be added to the vehicle, up to the maximum weight specified on the placard. For motorized vehicles, the combine weight of passengers and cargo is provided as a single number. If fewer people are traveling, more cargo can be added. If more people are involved, the weight of cargo must be reduced. In any case, remember: the total weight of a fully loaded vehicle, including passengers, cannot exceed the stated GVWR.

[For TT] Water and propane also need to be considered. The weight of fully filled propane containers is considered part of the weight of the RV before it is loaded with cargo and is not considered part of the disposable cargo load. Water however, is a cargo weight and is treated as such. If there were a fresh water storage tank of 100 gallons, this tank when filled would weigh about 800 pounds. If more cargo is being transported, water can be off-loaded to keep the total amount of cargo added to the vehicle within the limits of the GVWR so as not to overload the vehicle. Understanding this flexibility will allow you, the owner, to make choices that fit your travel and camping needs.

[For MH] Water and propane also need to be considered. The weight of fully filled propane containers is considered part of the weight of the RV before it is loaded with people or cargo and is not considered part of the disposable cargo load. Water however, is a cargo weight and is treated as such. If there were a fresh water storage tank of 100 gallons, this tank when filled would weigh about 800 pounds. If more cargo or people are being transported, water can be off-loaded to keep the total amount of cargo added to the vehicle within the limits of the GVWR so as not to overload the vehicle. Understanding this flexibility will allow you, the owner, to make choices that fit your travel and camping needs.

[Both TT and MH] When loading your cargo, be sure it is distributed evenly to prevent overloading front to back and side to side. Heavy items should be placed low and as close to the axle positions as reasonable. Too many items on one side may overload a tire. The best way to know the actual weight of the vehicle is to weigh it at a public scale. Talk to your RV dealer to discuss the weighing methods needed to capture the various weights related to the RV. This would include weights for the following: axles, wheels, hitch or pin (in the case of a trailer) and total weight.

How Overloading Affects Your RV and Tires

The results of overloading can have serious consequences for passenger safety. Too much weight on your vehicle's suspension system can cause spring, shock absorber, or brake failure, handling or steering problems, irregular tire wear, tire failure or other damage.

An overloaded vehicle is hard to drive and hard to stop. In cases of serious overloading, brakes can fail completely, particularly on steep hills. The load a tire will carry safely is a combination of the size of tire, its load range, and corresponding inflation pressure.

Excessive loads and/or under inflation cause tire overloading and, as a result, abnormal tire flexing occurs. This situation can generate an excessive amount of heat within the tire. Excessive heat may lead to tire failure.

It is the air pressure that enables a tire to support the load, so proper inflation is critical. Since RVs can be configured and loaded in many ways, air pressures must be determined from actual loads (determined by weighing) and taken from the load and inflation tables provided by the tire manufacturer. These air pressures may differ from those found on the certification label. However, they should never exceed the tire limitation for load or air pressure. If you discover that your tires cannot support the actual weights, the load will need to be lightened.

Tire Safety Tips Preventing Tire Damage

- Slow down if you have to go over a pothole or other object in the road.
- Do not run over curbs or other foreign objects in the roadway, and try not to strike the curb when parking.

Tire Safety Checklist

- Check tire pressure regularly (at least once a month), including the spare.
- Inspect tires for uneven wear patterns on the tread, cracks, foreign objects, or other signs of wear or trauma.
- Remove bits of glass and foreign objects wedged in the tread.
- Make sure your tire valves have valve caps.
- Check tire pressure before going on a long trip.

- Do not overload your vehicle. Check the Tire Information and Loading Placard or User's Manual for the maximum recommended load for the vehicle.

SECTION 2

STEPS FOR DETERMINING CORRECT LOAD LIMIT

1. Locate the statement "The combined weight of occupants and cargo should never exceed XXX lbs" on your vehicles placard.
2. Determine the combined weight of the driver and passengers that will be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXX kilograms or XXX pounds.
4. The resulting figure equals the available amount of cargo and luggage capacity. For example, if the "XXX" amount equals 1400 lbs. and there will be five 150 lb. passengers in your vehicle, the amount of available cargo and luggage capacity is 650 lbs. $(1400 - 750 (5 \times 150) = 650 \text{ lbs.})$
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage capacity calculated in Step # 4.
6. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult this Manual to determine how this reduces the available cargo and luggage capacity of your vehicle.

SECTION 3

GLOSSARY OF TIRE TERMINOLOGY

Accessory weight - The combined weight (in excess of those standard items which may be replaced) of automatic transmission, power steering, power brakes, power windows, power seats, radio and heater, to the extent that these items are available as factory-installed equipment (whether installed or not).

Bead - The part of the tire that is made of steel wires, wrapped or reinforced by ply cords and that is shaped to fit the rim.

Bead separation - This is the breakdown of the bond between components in the bead.

Bias ply tire - A pneumatic tire in which the ply cords that extend to the beads are laid at alternate angles substantially less than 90 degrees to the centerline of the tread.

Carcass - The tire structure, except tread and sidewall rubber which, when inflated, bears the load.

Chunking - The breaking away of pieces of the tread or sidewall.

Cold inflation pressure - The pressure in the tire before you drive.

Cord - The strands forming the plies in the tire.

Cord separation - The parting of cords from adjacent rubber compounds.

Cracking - Any parting within the tread, sidewall, or inner liner of the tire extending to cord material.

CT - A pneumatic tire with an inverted flange tire and rim system in which the rim is designed with rim flanges pointed radially inward and the tire is designed to fit on the underside of the rim in a manner that encloses the rim flanges inside the air cavity of the tire.

Curb weight - The weight of a motor vehicle with standard equipment including the maximum capacity of fuel, oil, and coolant, and, if so equipped, air conditioning and additional weight optional engine.

Extra load tire - A tire designed to operate at higher loads and at higher inflation pressures than the corresponding standard tire.

Groove - The space between two adjacent tread ribs.

Gross Vehicle Weight Rating (GVWR) - The maximum permissible weight of this fully loaded motorhome.

Gross Axle Weight Rating (GAWR) - The value specified as the load carrying capacity of a single axle system, as measured at the tire-ground interfaces.

Hitch Weight - The vertical trailer load supported by the hitch ball.

Inner liner - The layer(s) forming the inside surface of a tubeless tire that contains the inflating medium within the tire.

Inner liner separation - The parting of the inner liner from cord material in the carcass.

Intended outboard sidewall - The sidewall that contains a white-wall, bears white lettering or bears manufacturer, brand, and/or model name molding that is higher or deeper than the same molding on the other sidewall of the tire or the outward facing sidewall of an asymmetrical tire that has a particular side that must always face outward when mounted on a vehicle.

Light truck (LT) tire - A tire designated by its manufacturer as primarily intended for use on lightweight trucks or multipurpose passenger vehicles.

Load rating - The maximum load that a tire is rated to carry for a given inflation pressure.

Maximum load rating - The load rating for a tire at the maximum permissible inflation pressure for that tire.

Maximum permissible inflation pressure - The maximum cold inflation pressure to which a tire may be inflated.

Maximum loaded vehicle weight - The sum of curb weight, accessory weight, vehicle capacity weight, and production options weight.

Measuring rim - The rim on which a tire is fitted for physical dimension requirements.

Non-pneumatic rim - A mechanical device which, when a non-pneumatic tire assembly incorporates a wheel, supports the tire, and attaches, either integrally or separately, to the wheel center member and upon which the tire is attached.

Non-pneumatic spare tire assembly - A non-pneumatic tire assembly intended for temporary use in place of one of the pneumatic tires and rims that are fitted to a passenger car in compliance with the requirements of this standard.

Non-pneumatic tire - A mechanical device which transmits, either directly or through a wheel or wheel center member, the vertical load and tractive forces from the roadway to the vehicle, generates the tractive forces that provide the directional control of the vehicle and does not rely on the containment of any gas or fluid for providing those functions.

Non-pneumatic tire assembly - A non-pneumatic tire, alone or in combination with a wheel or wheel center member, which can be mounted on a vehicle.

Normal occupant weight - This means 68 kilograms (150 lbs.) times the number of occupants specified in the second column of Table I of 49 CFR 571.110.

Occupant distribution - The distribution of occupants in a vehicle as specified in the third column of Table I of 49 CFR 571.110.

Open splice - Any parting at any junction of tread, sidewall, or inner liner that extends to cord material.

Outer diameter - The overall diameter of an inflated new tire.

Overall width - The linear distance between the exteriors of the sidewalls of an inflated tire, including elevations due to labeling, decorations, or protective bands or ribs.

Pin Weight - The vertical trailer load supported by the king pin of a fifth wheel hitch.

Ply - A layer of rubber-coated parallel cords.

Ply separation - A parting of rubber compound between adjacent plies.

Pneumatic tire - A mechanical device made of rubber, chemicals, fabric and steel or other materials, that, when mounted on an automotive wheel, provides the traction and contains the gas or fluid that sustains the load.

Production options weight - The combined weight of those installed regular production options weighing over 2.3 kilograms (5 lbs.) in excess of those standard items which they replace, not previously considered in curb weight or accessory weight, including heavy duty brakes, ride levelers, roof rack, heavy duty battery, and special trim.

Radial ply tire - A pneumatic tire in which the ply cords that extend to the beads are laid at substantially 90 degrees to the centerline of the tread.

Recommended inflation pressure - This is the inflation pressure provided by the vehicle manufacturer on the Tire Information label and on the Certification / VIN tag.

Reinforced tire - A tire designed to operate at higher loads and at higher inflation pressures than the corresponding standard tire.

Rim - A metal support for a tire or a tire and tube assembly upon which the tire beads are seated.

Rim diameter - This means the nominal diameter of the bead seat.

Rim size designation - This means the rim diameter and width.

Rim type designation - This means the industry of manufacturer's designation for a rim by style or code.

Rim width - This means the nominal distance between rim flanges.

Section width- The linear distance between the exteriors of the sidewalls of an inflated tire, excluding elevations due to labeling, decoration, or protective bands.

Sidewall - That portion of a tire between the tread and bead.

Sidewall separation - The parting of the rubber compound from the cord material in the sidewall.

Test rim - The rim on which a tire is fitted for testing, and may be any rim listed as appropriate for use with that tire.

Tread - That portion of a tire that comes into contact with the road.

Tread rib - A tread section running circumferentially around a tire.

Tread separation - Pulling away of the tread from the tire carcass.

Tread wear indicators (TWI) - The projections within the principal grooves designed to give a visual indication of the degrees of wear of the tread.

Vehicle capacity weight - The rated cargo and luggage load plus 68 kilograms (150 lbs.) times the vehicle's designated seating capacity.

Vehicle maximum load on the tire - The load on an individual tire that is determined by distributing to each axle its share of the maximum loaded vehicle weight and dividing by two.

Vehicle normal load on the tire - The load on an individual tire that is determined by distributing to each axle its share of the curb weight, accessory weight, and normal occupant weight (distributed in accordance with Table I of CRF 49 571.110) and dividing by 2.

Weather side - The surface area of the rim not covered by the inflated tire.

Wheel center member - In the case of a non-pneumatic tire assembly incorporating a wheel, a mechanical device which attaches, either integrally or separably, to the non-pneumatic rim and provides the connection between the non-pneumatic rim and the vehicle; or, in the case of a non-pneumatic tire assembly not incorporating a wheel, a mechanical device which attaches, either integrally or separably, to the non-pneumatic tire and provides the connection between tire and the vehicle.

Wheel-holding fixture - The fixture used to hold the wheel and tire assembly securely during testing.

CHANGING A FLAT TIRE

It is advisable to carry a spare tire, lug wrench, hydraulic or scissor jack and tire gauge. To change a tire, first be certain that you are safely away from passing traffic. Set the emergency brake and turn on the emergency flashers. Set up flares or reflectors to warn approaching motorists of your situation. Chock the wheels opposite to the flat tire. Use a lug wrench to break the lug nuts loose but do not remove them. Position a screw or hydraulic jack directly under the frame and raise the motorhome until the tire just clears the ground.



DO NOT use the axle or suspension components to raise the motorhome.

DO NOT use the motorhome's leveling system to raise the R.V.

You may use the leveling system after raising the motorhome for added stability. Proceed to remove the lugs nuts and flat tire, install your spare tire and reverse the entire procedure. Follow the guidelines on lug nuts in the following section.

WHEEL LUG NUTS



Lug nuts on your wheels can loosen during travel, especially when new or after a tire change or rotation. Each lug nut should be torqued to the specifications and by the procedure as outlined in the chassis manufacture's owner's manual. Remember that over tightening is just as damaging as under tightening. Check lug nut torque prior to each trip. Keep the lug nuts and bolts free of rust.



NEVER drive a motorhome with missing or damaged lug nuts.

The following instruction label has been placed over the wheels of your vehicle to remind you of important required actions:

NOTICE!
CHECK WHEEL LUGS

On first trip, tighten wheel lugs at start and at 10, 25 and 50 miles. Tighten to manufacturer's specifications

Thereafter, check wheel lugs before each trip, after excessive braking and following winter storage

BEARINGS, BRAKES & SUSPENSION: SERVICE



The remaining components of the motorhome’s running gear require service and maintenance at varying intervals of time &/or mileage, most of which should be performed by your dealer’s service department. Please refer to your chassis owner’s manual and follow their instructions, recommendations and maintenance schedule.

FIRE EXTINGUISHER



For personal safety it is mandatory that you carry a fire extinguisher in your motorhome at all times. All Chinook RV motorhomes are equipped with this safety feature. It is located just inside the entrance door. The fire extinguisher should be checked prior to each trip to ensure that the charge is adequate. Should the gauge indicate a low charge, replace the unit immediately. It’s too late to worry about it if a fire starts!

NOTE: Fire extinguishers supplied by Chinook RV are a disposable type and cannot be recharged. Consult your dealer for replacement units.

ROOF VENTS

Roof vents should be inspected occasionally to prevent build-up of dirt and debris that may hinder opening. Each vent should be lubricated periodically to keep it in good working order. Automotive vinyl and plastic treatment will prolong the life of the vent cover. Never force open a roof vent.



DO NOT travel with the roof vent(s) open. They are not designed for the pressures exerted by highway speed airflow. Also, dust and dirt may enter the motorhome through the vent.

Vent screens should be removed and cleaned to ensure proper ventilation and to avoid premature failure of the fan motor in power vents.



Check the caulking around the edge of roof vents at least twice a year. If the caulking appears dry or cracked, consult your dealer to obtain the proper materials for re-caulking. Should a leak occur, it is important to find the source and prevent additional water from entering the motorhome. **Chinook RV is not responsible for consequential damage due to inadequate maintenance of caulks and sealants.**

WINDOWS

Just like the roof vents, windows should be tightly closed during transit. Road vibration and wind can damage the hinges and operators. During long trips, you should check the windows periodically to be sure they have not vibrated open. Particular attention should be paid to the egress windows. Be certain that the locking mechanism is secured and that nothing will interfere or come in contact with the lock during transit.

FLOORS

While high quality materials are used in the manufacturing of your floor, changes may occur because of condensation, thermal expansion and settling of the wood after blocking of the motorhome at the campsite. These variations may include an increase in “squeaking” or flexing and they do not compromise the floor structure. Seasonal changes may also result in a certain amount of expansion and contraction of the wood. Keeping humidity down inside the unit and checking the level of your motorhome after blocking can minimize floor flex; however, a certain amount is to be expected.

EXTERIOR MAINTENANCE

Your motorhome will give you many years of service with proper maintenance and care. Care in setting up your new motorhome and periodic maintenance of the interior and exterior will help ensure trouble-free use throughout the motorhome season. Keeping your motorhome in peak condition requires a minimum of effort if done consistently. Most maintenance involves merely inspection, cleaning and/or lubrication. If your motorhome is neglected, serious problems may go unnoticed until they become irreparable or dangerous.

ALUMINUM WALLS

Exterior paint finish life can be extended with good maintenance

Routine cleaning should be performed with warm water and a mild detergent. Normal automotive cleaning products are recommended. Avoid cleaners containing bleach as they may discolor the exterior graphics. Use of high-pressure sprayers is also discouraged. The force of the spray can actually strip the decals and force water through the seams of the aluminum siding.

A spray wax, or wash and wax combination should be used due to the texture of the aluminum. This not only preserves the paint and prevents oxidation, but also allows for easier removal of dirt and road tars. Use of touch up paint for small areas keeps the recreational vehicle in like new condition

GENERAL EXTERIOR

Inspect the window, door and molding screws for tightness at least twice a year. Temperature and humidity conditions, road vibration and sealant “oozing” will cause screws to loosen. Gently tighten the screws, making sure the screw is snug, without bending or buckling the attached component or molding.

Routinely check the caulking on the corner moldings, roof seams, vents, windows, doors, etc. Extreme temperatures, ultraviolet light and chemicals will affect the various sealants used and create the possibility of water leaks. Caulking should be inspected periodically and, if needed, the unit should be re-caulked before damage can occur. Remove the old sealant and clean the surface before applying new sealant. Your dealer can recommend the appropriate sealants.

Should a leak occur it is important to find the source and prevent additional water from entering the motorhome. Inspection and repair of the affected area should be performed promptly to prevent deterioration inside the roof, walls and floor. Chinook RV is not responsible for consequential structural or cosmetic damage due to failure to maintain sealant integrity.

Graphite powder on the entry and compartment door locks will keep them working freely.

INTERIOR APPEARANCE CARE

General household, automotive and specialized RV cleaners and polishes are adequate for cleaning and maintaining the interior surfaces of your motorhome. Follow the label instructions, warnings and recommendations for each product and test the product on an inconspicuous area if there is any concern of discoloration or deterioration.



Do not use ***citrus cleaners*** on vinyl and plastic surfaces as they have been shown to cause discoloration and/or yellowing. This includes fixtures such as tubs, toilets, sinks, and faucets as well as other components like screen door panels, light fixtures and receptacles. This type of damage is excluded from warranty coverage.



Many cleaners may be toxic or flammable, and their improper use may cause damage, personal injury or death. No chemical agent should be utilized for any purpose for which it is not intended. Be sure the vehicle is well ventilated while using any cleaning agents. Turn off all appliances when using flammable chemicals. Follow the cleaner manufacturers' recommendations in using such products.

GENERAL FABRIC AND UPHOLSTERY CARE

Dust and loose dirt that accumulates should be removed frequently with a vacuum cleaner, whisk broom or soft brush. Normal soiling, spots or stains can be cleaned with the appropriate cleaning solutions. Never use gasoline, nail polish remover or acetone, lacquer thinners, bleaches, etc.

Do not machine wash any interior fabrics. Due to possible shrinkage, cushion covers should not be removed for cleaning. Check the upholstery tag for warranty information and cleaning instructions. Some basic steps should be remembered before the cleaning is attempted:

- Test cleaners on an inconspicuous location
- Remove stains as quickly as possible before they “set”
- Use a clean cloth or sponge and change to a clean area frequently. A soft brush may be used if stains persist
- Use solvent type cleaners in a well ventilated area, and do not saturate the stained area
- If a ring or discoloration should form after spot cleaning, the entire area should be cleaned immediately
- Follow instructions on the label of the cleaner
- Allow the surface to thoroughly dry before using

PANELING – WALLS, CEILING & CABINetry

The walls, ceiling and cabinet surfaces are vinyl clad. Use a damp sponge or soft cloth with mild detergent and warm water to clean these surfaces. Avoid saturating amounts of water to prevent wicking at the edges and seams of the panels.

WINDOWS & MIRRORS

The glass surfaces should be cleaned on a periodic basis for continued good visibility. Use of a household glass-cleaning agent containing ammonia will remove residue from tobacco smoke, dust and cooking.

COUNTERTOPS

Counter tops may be cleaned with detergent and water or liquid cleaners. Do not use abrasive cleansers and pads. Do not use the counter as a cutting surface. Do not place hot cookware directly on the counter's surface. Do not allow liquids to stand on the surface near the counter's edges or cutouts (range & sink). The untreated edges can absorb excess moisture that may cause swelling and premature deterioration.

SETUP AND OPERATION

CONDENSATION

Condensation of warm water vapor on cooler interior surfaces may temporarily occur in your motorhome. Moisture from outside air infiltration, showering, cooking and your own body contribute to interior moisture.

When camping in cool weather you will notice moisture in the motorhome on the windows first. A combination of proper ventilation using ceiling vent fans and the range vent along with normal balanced heating and air conditioning will help control excessive condensation.

While camping in cooler weather, condensation will likely accumulate on the windows, vents covers and other surfaces. To help alleviate this condition, open a roof vent slightly and utilize power vents if equipped. Periodic operation of the air conditioner's fan to circulate the interior cabin air is also effective in reducing condensation. Increased comfort and the elimination of condensation will offset the increased demand on the furnace due to heat loss.

While using the air conditioner during warmer temperatures, be sure to keep windows and doors tightly closed to prevent humid outside air from entering and condensing on the cool interior surfaces. The air conditioner will remove excess interior moisture and discharge the condensation on the roof of the trailer. It is normal for condensation to temporarily accumulate around the ceiling registers during the initial cooling period.

During extended camping trips, periodically open cabinets and wardrobes to allow fresh air to circulate into these areas. Condensation is more likely to accumulate in the areas where heating and air conditioning cannot circulate.

Cargo Area

The anchoring of any equipment within the cargo area is wholly the responsibility of the owner. Damage to the motorhome or to the equipment due to shifting during stopping and accelerating may occur if you do not adequately secure your load.

PLUMBING SYSTEM

POTABLE FRESH WATER SUPPLY

All models are equipped with a dual water system – onboard demand water and city water. Both systems provide water pressure for all of the motorhome's water fixtures.

The demand water system utilizes an onboard fresh water supply tank with a hose connection, a low voltage demand water pump and a remote switch. The water tank is filled from the exterior at the hose connection. If available, you can fill the tank with softened water from a household washing machine connection. This will help prevent the buildup of hard water minerals in the tank. While initially filling the tank, allow it to flush for a few minutes by removing the drain plug, then reinstall the plug and continue filling the tank. You can watch the tank monitor inside the coach to tell when the tank is full or simply allow the tank to back up and overflow the fill.

When connected to your 12-volt power source and the remote switch activated, the pump will draw water from the supply tank and pressurize the water system to a working pressure of approximately 40 psi. Once the working pressure is attained the pump will automatically turn off. When a faucet is opened, the line pressure will drop and the pump will cycle on and continue to run until the faucet is closed. An inlet filter protects the water pump. This filter must be cleaned periodically by opening the filter housing, and removing and cleaning the internal screen.

The city water system allows for direct connection to a public water supply via an FDA approved water hose. Pressure from the external water source will usually prevent the demand water pump from running. Some external water supplies have unusually high water pressure. Although the plumbing in Chinook RV motorhomes is capable of handling pressures of up to 100 psi, the resulting water hammer and forceful spray can be annoying. Aftermarket pressure regulators are available to reduce the hydrant pressure.

WATER HEATER

The water heater in your motorhome is one of several models. Gas pilot, Gas direct spark ignition, or either of these combined with 110-volt operation. Refer to the water heater instructions for proper operation and maintenance. On motorhomes with a combination gas pilot and 110-volt water heater, Chinook RV installs a secondary 110v operation wall switch in the galley area for your convenience.

Both water systems automatically fill the water heater tank. During the initial pressurization, air inside the water heater must be purged through a faucet. This can take several minutes. After a steady flow of water appears from the faucet's hot side, the water heater tank is full.

Your water heater may be equipped with a bypass valve system to allow for economical winterization. Access to the bypass is made at an interior cabinet door, an

exterior luggage compartment, or it may require removal of an interior access panel. The bypass system consists of three valves - a cold water inlet shut off, a hot water outlet shut off, and a bypass shut off. Refer to the following section on winterization for instructions on the use of the bypass.

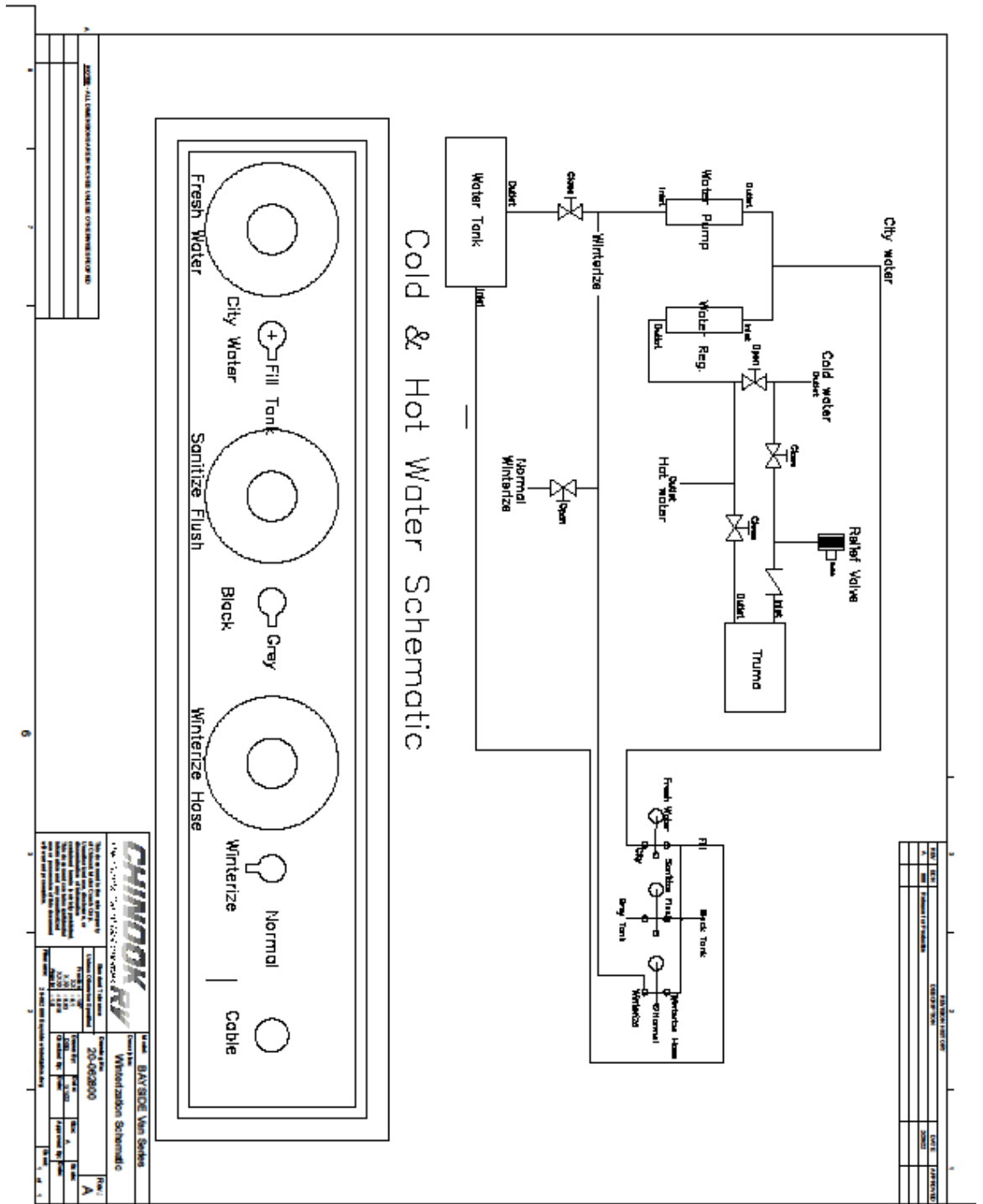
Refer to you water heater owner’s manual for operation, maintenance and warranty information.

WINTERIZATION



WARNING! NEVER use alcohol, automotive antifreeze or swimming pool antifreeze in any portion of your vehicle’s potable water system.

1. Hook up the hose to the winterized inlet that is on the outside of the motorhome.
2. Turn the Selector to winterize.
3. Inside of the motorhome: Open the valve on the winterize inlet hose.
4. Close the valve at the fresh water tank outlet.
5. Close the valves at the Truma in and out.
6. Open the valve for bypass at Truma.
7. Turn on the water pump.
8. Run all of the faucets to ensure distribution of the antifreeze



SANITIZING THE POTABLE WATER SYSTEMS

The following procedure is recommended to assure complete sanitation of your potable water system: It applies equally to a new system, one that has not been used for a period of time, or one that may have become contaminated.

1. Mix a solution of one gallon of water and $\frac{1}{4}$ cup of chlorine bleach (5% sodium hypochlorite).
2. Make sure tank is empty. Pour solution into tank. Use one gallon of solution for each 15 gallons of tank capacity. Use care not to spill the solution on the side of the motorhome.
3. Fill tank with fresh water. Open all faucets and drain valves until all air has been released and entire system is filled. Close faucets and valves.
4. Allow to stand for three hours.
5. Drain, and flush with fresh water.
6. To remove excess chlorine taste or odor which might remain, mix solution of one quart of vinegar to five gallons of water. Pour this solution into tank and allow to agitate in tank for several days (rock or move vehicle back and forth several times a day).
7. Drain tank and again flush with potable fresh water. Water should not be left in water tank after your trip. Fresh water before each trip will insure the highest quality drinking water for your family.

SEWAGE AND WASTE SYSTEMS

The waste system in your motorhome consists of the sink, tub and toilet fixtures, holding tank(s) and termination valve(s). Proper care and maintenance of your motorhome's waste system will assure many years of trouble free service.

Vehicles equipped with this total waste system make you independent of the other restroom facilities during your travels. Depending on the size of your holding tanks, the size of water tanks, and the amount of water used, you can stay away from service facilities for extended periods of time. Also, please remember if you leave the cap on your drain, water may back up into the lowest part of the drain system.

BLACK WASTE TANK

The black waste tank collects and contains human waste from the toilet. No other waste water is directed into the black tank. The black tank requires an initial charge of water and chemicals prior to use. This prevents solid matter from accumulating and clogging the inlet and/or outlet of the tank. Introduce enough water to cover the bottom of the tank about $\frac{1}{2}$ " deep (typically about 3 gallons) either by flushing the toilet or pouring from a bucket into the toilet bowl with the flush lever depressed. It is also recommend using a waste tank chemical to deodorize and dissolve the solid waste

material and tissue paper in the tank. There are several aftermarket products available from your dealer.

Also available from your dealer is toilet tissue paper specifically for black water waste systems. It is formulated to more readily break down in a shorter period of time. You may also use household tissue that is safe for septic systems, although it will typically retain its solid form longer and is more prone to clogging or restriction.

While using the black waste system, DO NOT leave the waste valve open, even if you are connected to a septic system. You must allow the tank to fill up as much as possible (at least ½) so there is sufficient water volume to wash out the solid matter when dumping.



DO NOT use your potable water hose to put water in the black tank by inserting it into toilet bowl.

GRAY WASTE TANK

The gray waste tank collects and contains drainage from the galley and lavatory sinks and the tub/shower. This is generally all liquid waste with only a small amount of solid matter from washing dishes. Chemical treatment is usually not required to maintain the gray water tank. Although continuous draining into a permanent public septic waste system is an acceptable practice, it is again advisable to allow the tank to fill and receive the benefit of the washout action.

SEWAGE DISPOSAL AND TANK CLEANING

When it's time to drain your waste tanks, just take your motorhome to the nearest dump station. You will need to obtain a sewer hose, adapter and hose clamp available from your dealer. After you've secured the sewer hose adapter to the outlet connection, insert the sewer hose into the dump station port. Next, pull the black water tank slide valve. This is the larger valve. After the tank is drained, close the valve and pour in 3 to 5 gallons of rinse water through the toilet bowl with the flush lever depressed. Many dump stations have a rinse hose nearby for flushing the tanks and rinsing out the hose. Go outside and again fully open the black tank valve. After the rinse water has drained from the black tank, close the valve and then open the gray water slide valve. The gray waste water will serve to wash out the black waste from your sewer hose while it drains. It is advisable to also flush the gray holding tank with rinse water also by pouring water down the tub drain. Make sure both gate valves are securely closed. Carefully disconnect the hose adapter from the motorhome and "snake" any remaining water toward the sewer port to avoid spillage on the ground. Store the sewer hose in the bumper or other receptacle provided for the purpose. Finally, replace the cap on the waste tank collector outlet.



NOTICE: UNDER NO CONDITION SHOULD THE CONTENTS OF THE TANK EVER BE EMPTIED BESIDE THE ROADWAY, IN A RIVER OR STREAM, OR DIRECTLY UPON THE GROUND

THINGS NOT TO PUT INTO THE TOILET AND TANK

- Facial and other similar tissues. Unlike toilet paper, nearly all facial tissues are impregnated and treated to give them strength. This quality makes it almost impossible to dissolve them in the tank. Most toilet paper dissolves after a period of time, especially if agitated by traveling. However, facial and similar tissues do not, so never put them in the tank
- Do not use detergents and bleaches. This is fairly common practice and always does more harm than good because detergents remove lubrication oils and greases. It is better to use a motorhome sewage deodorizer that you can obtain from your dealer
- Do not use antifreeze, ammonias, alcohols, or acetones in your tanks. Such liquids may damage your tank, valve parts, tank fittings, or drain hose. They offer no advantage and may cause multiple problems
- Drain your tank when storing the coach to prevent freezing

LP GAS SYSTEM

BASIC INFORMATION

Your motorhome is equipped with a liquefied petroleum gas (LPG) system. LPG is a true gas compressed into liquid form for easy transportation and storage. It is also known as propane, butane, or bottled gas. On-board storage cylinders provide gas for cooking, heating, hot water and refrigeration.



DO NOT connect your motorhome to natural gas as your appliances are designed to operate on LPG only.

Please refer to the accompanying “What You Need to Know About LP Gas” pamphlet for additional information.

When utilizing LPG appliances at high altitudes, such as mountain campgrounds, the gas burns at a lower temperature. This causes a “cooler” flame and cooking times will be proportionately increased, as will gas consumption of the furnace, water heater, etc.

If you are preparing recipes in which cooking time and/or temperatures are critical, you should consult a good cookbook or seek local advice regarding the proper adjustments for the altitude at which you are camped.

FILLING OF LPG CONTAINERS

The LP cylinders used by Chinook RV utilize an overfill protection device incorporated into the service valve. This device prevents filling the cylinder beyond 80 percent of its liquid volume. Overfilling the LP-Gas container(s) can result in uncontrolled gas flow causing fire or explosion. A properly filled container will hold approximately 80 percent of its water volume as liquefied petroleum gas. The remaining 20 percent of the tank's volume contains LP vapor under high pressure.

When there is a demand for gas from one of the appliances, the high pressure vapor is drawn from one cylinder, through the pressure regulator and reduced to the operating pressure of the appliance. The regulator allows the gas to be drawn from only one of the cylinders at a time. When the supply of gas from the tank is depleted, internally the regulator automatically switches to second cylinder and the indicator at the top of the regulator turns red. At that time you may remove the empty cylinder for refilling by manually turning the changeover lever to the opposite position and disconnecting the flexible pigtail.

LPG REGULATOR INSTALLATION

LP-Gas regulators must always be installed with the diaphragm vent facing downward. Regulators that are not in compartments have been equipped with a protective cover. Make sure that the regulator vent faces downward and that the cover is kept in place to minimize vent blockage, which can result in excessive gas pressure causing fire or explosion.

LIQUIFIED PETROLEUM GAS (LPG) IS EXPLOSIVE

Propane in the gaseous state is heavier than air. If allowed to escape into the atmosphere it will flow to the lowest point in your motorhome. Propane in this natural state is odorless and tasteless. An odorant is introduced into the gas so that, in the event of a leak, you should detect a distinct odor. Utmost care should be exercised to prevent leaks from the LP system.



If you smell gas, immediately open all windows, vents, outside doors, and cabinet doors and exit the motorhome. Do not turn any electrical switches on or off. Close all LP tank service valves. Let the motorhome stand unoccupied for 2 hours. Opening the windows only will not eliminate the danger of an explosion. Do not open the LP tank service valves until the leak has been repaired and the system leak-tested.

LPG WARNINGS

The following labels have been placed in the vehicle near the LP tank area:

⚠ DANGER

IF YOU SMELL PROPANE

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

FAILURE TO COMPLY COULD RESULT IN EXPLOSION RESULTING IN DEATH OR SERIOUS INJURY. LD-101

⚠ DANGER

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

⚠ WARNING

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

⚠ CAUTION

THIS PROPANE PIPING SYSTEM IS DESIGNED FOR USE WITH PROPANE ONLY. DO NOT CONNECT NATURAL GAS TO THIS SYSTEM. Securely cap inlet when not connected for use. After turning on propane, except after normal cylinder replacement, test propane piping and connections to appliances for leakage with soapy water or bubble solution. Do not use products that contain ammonia or chlorine. LD-101

CHECK FOR GAS LEAKS



ALL BOTTLE AND LINE CONNECTIONS SHOULD BE CHECKED FOR LEAKAGE WITH A SOAPY WATER BUBBLE SOLUTION or APPROVED SOLUTION. DO NOT USE PRODUCTS THAT CONTAIN AMMONIA OR CHLORINE.



NEVER USE AN OPEN FLAME WHEN TESTING FOR LEAKS IN THE GAS SYSTEM.

Solid manifold piping runs from the LPG regulator hose connection to the appliance distribution lines. No connections are made within the walls or floor of the unit. Each appliance incorporates two brass flare nut connections – one at the appliance and one at the manifold pipe. Each of these connections as well as the LPG regulator hose connections should be checked for leaks at least annually and more frequently if the motorhome is under adverse highway conditions. The LPG tank valve connection should be checked every time the tanks are removed and reinstalled.

If you have any reservations about testing the LP system yourself, have an RV dealer or LPG dealer perform the leak test.

RANGE VENTILATION



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

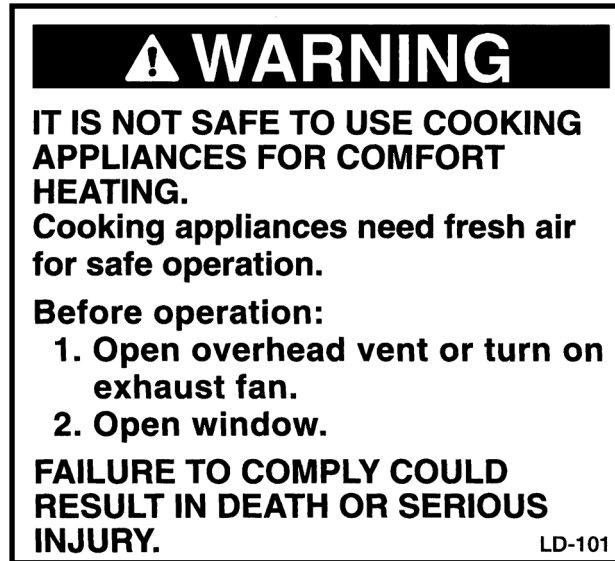
Cooking appliances require a supply of fresh air for safe operation.

Before using your range or oven:

1. Open overhead vent.
2. Open the galley or nearest window.

Unlike homes, the amount of oxygen supply is limited due to the size of the recreational vehicle. Proper ventilation when using the cooking appliance(s) will avoid dangers of asphyxiation. It is especially important that cooking appliances not be used for comfort heating.

The following warning label has been affixed in the general area of the range:



FUEL-

EQUIPMENT

PORTABLE
BURNING



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

ELECTRICAL SYSTEMS

GENERAL

Your motorhome is equipped with a dual voltage electrical system designed to provide power to the appliances and lighting from either a 120-volt outside source or a 12-volt battery installed on your motorhome. In addition, most models are equipped to charge the onboard battery from the 120-volt source or the tow vehicle.

CHANGES, MODIFICATIONS, AND ADDITIONS



Your electrical system of 120 volts AC and 12 volts DC has been designed and installed in accordance with the safety requirements of the National Electrical Code. Any changes, additions, and/or modifications that you might make after delivery may develop a hazardous condition. Be sure to consult your local authorized dealer for advice concerning changes or additions. Only qualified electrical technicians should attempt to make any changes or additions to your electrical system, and then, using only approved material and components and employing approved methods of installation.

120-VOLT AC SYSTEM

The 120-volt AC system operates from an external 120-volt 30-amp power source. The system is designed to provide 120-volt AC to all the electrical convenience outlets, power inverter, air conditioner, refrigerator and electric water heater (if equipped).

CONNECTING TO THE 120 VAC SOURCE

Your motorhome is equipped with a 120-volt 30-ampere power supply cord on the end of which is a heavy-duty 3-prong 120-volt 30-ampere plug cap. The power cord supplies electrical current to the distribution panel in the power converter. The round grounding prong is a means of connecting the exposed metal parts of the recreational vehicle to earth ground so there can be no voltage differential between them to produce an electrical shock. The National Electric Code is very explicit in its requirements to assure the connection of all exposed non-current-carrying metal parts that may become energized to the grounding conductor – which is thence connected to earth ground in accordance with the National Electric Code.



The insulation on the power cord should be inspected frequently for cracks, cuts, or chafing. Make sure the plug ends are corrosion-free and not bent.



Connecting the power cord to 240-volt or to an ungrounded (2-prong) power source can result in personal injury or death from electrocution.

The 30-amp service plug on your motorhome is capable of handling up to 30 amperes of current when connected to a 120-volt power supply. Some recreational vehicle parks may only provide standard 120-volt 15-ampere connections similar to typical interior residential receptacles. You can connect to the 15-amp service utilizing an adapter (not provided) but you must limit your electrical usage to only lighting and minimal accessories not exceeding a total of draw of 15 amperes. Do not use 15-amp service for air conditioning, water heater usage or electric appliances.



Overloading the service connection can lead to overheating of the electrical service cord, plug and/or components which could result in personal injury or death from electrocution or fire.

110-VOLT DISTRIBUTION PANEL

The 110-volt distribution panel is incorporated into the power converter. The distribution panel consists of one 30-amp main circuit breaker and additional branch circuit breakers as required for your particular model. When a circuit is overloaded or shorted, the breaker lever will trip to center. If this occurs, disconnect or turn off any appliances or accessories that you have connected to the circuit. Reset the breaker by switching the breaker lever to the off position and then back to the on position. If the breaker continues to trip and you have made certain that the circuit is not overloaded, a qualified electrical repair person should be consulted.

12-VOLT DISTRIBUTION PANEL

The power converter also houses the 12-volt distribution panel. This is where all 12-volt power sources connect to the motorhome's 12-volt equipment through the fuse panel. The 12-volt circuits are protected by single use ATC automotive type fuses. If a circuit is overloaded or shorted the fuse will "blow". Replace the fuse with one of the same amperage rating. If the fuse blows again, have the problem inspected by your dealer.



Do not by pass the 12-volt fuses or replace them with higher amperage fuses. Unsafe conditions could develop resulting in personal injury, fire or death.

HOUSE BATTERY

When camping without a 110-volt power source, your source of electricity will be two 6-volt batteries. Proper care of your battery is necessary for longer service life. Check the battery routinely for loose and corroded terminals, foreign matter on the top surface and low electrolyte. You can use a hydrometer to check the specific gravity of the battery. When installing two batteries, they should be of comparable size and capacity. Connect the batteries in a series circuit (positive to negative).

To clean the battery, remove it from the trailer and wash the top with a baking soda and water solution. Keep the top surface of your battery clean. Dirt and electrolyte on the top of the battery can actually close a circuit between the terminals and discharge the battery over a period of time.



Use caution when handling and checking the battery. Contact with the acid contained in the battery can cause burns or loss of sight. Charging a battery produces explosive gasses so always charge the battery in well ventilated areas away from sparks or flames. Follow the warnings on the battery label.

MISCELLANEOUS

OWNER'S CAUTION CHECK LIST

- Periodically check all gas connections to be sure there are no leaks (at least twice a year)
- Close the LP gas tank valves while traveling
- Allow stove to cool
- Check tire air pressure
- Check wheel lug bolts/nuts (before and during every trip)
- Verify that all brakes are functioning properly.
- Be sure to carry proper lug nut wrench
- Check all clearance, tail, brake and turn lights before and during each trip
- Retract the 4-point leveling system fully to the travel position
- Be sure power cord is unplugged and stowed and hatch cover is secured
- Make certain the city water hose is disconnected and stowed
- If possible, empty all gray and black water tanks before travel
- Tightly close and lock all windows, doors, vents and hatches