

COMMERCIAL VEHICLE

TABLE OF CONTENTS

1 – INTRODUCTION

About this Manual	1-1
Safety Messages Used in this Manual	1-1
Pre-Delivery Inspection	1-2
Before Driving	1-2
Front Axle Tire Alignment	1-2
Service and Assistance	1-2
Reporting Safety Defects	1-2
Occupant and Cargo Carrying Capacity Label	1-3
Vehicle Certification Label	1-4
specifications and Capacities	1-5
Owner and Vehicle Information	1-6

2 – SAFETY AND PRECAUTIONS

General Warnings	2-1
Driving Safety	2-1
Fuel and Propane Gas	2-2
Propane Gas Leak Detector	2-2
Carbon Monoxide Warning	2-3
Carbon Monoxide Alarm	2-3
Smoke Alarm	2-4
Fire Extinguisher	2-4
Electrical	2-5
Loading	2-5
Maintenance	2-5
Slideout Rooms	2-6
Formaldehyde Information	2-6
Mold, Moisture, and Your Vehicle	2-6
Roof and Ladders	2-7
Roadside Emergency	2-8
Jump Starting	2-9
Engine Overheat	2-9

3 – DRIVING YOUR VEHICLE

Seats – Driver/Co-Pilot	3-1
Seat Belts	3-2
Child Restraints	3-4
Passenger Workstation	3-4
KeyOne™ Lock System	3-4
Mirrors – Power Electric	3-4
Front Drop-Down Solar/Night Shade (12-Volt)	3-6
Brake-Shift Interlock	3-6
Park Brake – Foot Pedal	3-6
Fuel Pump Shut-Off Switch	3-7
Tow/Haul Transmission Mode	3-7

Table Of Contents

Hazard Warning Flashers	3-7
Signal Lever/Headlight High-Low Beam	3-7
Headlight Switch	3-8
Map Light Switch	3-8
Battery Boost Switch	3-8
Air Conditioner/Heater – Automotive (Dash)	3-9
Defrost Fans	3-9
Radio In-Dash/Rearview Monitor System	3-10
Infotainment Center/GPS	3-11
CB Radio Power Wiring	3-13
Front Service Access	3-13
Engine Access – Interior	3-14
Engine Cooling System	3-15
Chassis Battery Disconnect Switch	3-15
Tires	3-15
Suspension Alignment and Tire Balance	3-16
Lights	3-16
Circuit Breakers and Fuses – Chassis/Dash Automotive 12-Volt	3-16
4 – PROPANE GAS	
Propane Gas Supply	4-1
Safe Use of the Propane Gas System	4-2
Propane Gas Warnings and Precautions	4-3
Propane Gas Pressure Regulator	4-4
Propane Vaporization in Cold Weather	4-5
5 – ELECTRICAL	
Electrical Cautions	5-1
Electrical System – House 120-Volt AC	5-1
Power Cord – External	5-1
Circuit Breakers – House 120-Volt AC	5-3
Electrical System – House 12-Volt DC	5-3
House/Coach Battery Disconnect Switch	5-4
Battery Access	5-4
Battery Care	5-5
Circuit Breakers – House 12-Volt	5-6
6 – ENTERTAINMENT	
Front TV Ignition Switch Interlock	6-1
TV Antenna – Digital	6-1
TV Signal Amplifier	6-2
7 – SLIDEOUT ROOMS AND LEVELING	
Slideout Room Lock System	7-1
Slideout Room Travel Locks – Electric	7-1
Slideout Room Keylock	7-2
Slideout Room Operation – Electric	7-2
Slideout Room – Extreme Weather Precaution	7-4
Slideout Room Troubleshooting (Power Gear®) In Wall Slideout	7-5

Table Of Contents

Slideout Room Troubleshooting (Power Gear®) Under Floor Slideout	7-5
Slideout Room Troubleshooting (Lippert)	7-7
Slideout Emergency Retraction (Power Gear®) In Wall Slideout	7-8
Slideout Emergency Retraction (Power Gear®) Under Floor Slideout	7-8
Slideout Emergency Retraction (Lippert)	7-9
General Slideout Care	7-11
Leveling System	7-11
Checking Hydraulic Oil Level	7-14
8 – MAINTENANCE AND STORAGE	
Sealants – Inspection and General Information	8-1
Roof	8-1
Undercarriage	8-2
Plastic Parts – Cleaning	8-2
Headlights and Exterior Lights	8-2
Doors and Windows	8-3
Vehicle Storage – Preparation	8-3
Vehicle Storage – Removal	8-4
Chassis Service and Maintenance	8-4
Chassis Fuses and Relays	8-4
9 – MISCELLANEOUS	
Loading the Vehicle	9-1
Weighing Your Loaded Vehicle	9-1
Car or Trailer Towing	9-3
Trailer Wiring Connector	9-4
Towing Guidelines	9-4
Step (Entry) – Electric	9-5
Roof Ladder	9-6
Storage Compartment Doors	9-7
Compartment Lights Switch	9-7
Effects of Prolonged Occupancy	9-7

SECTION 1 – INTRODUCTION

ABOUT THIS MANUAL

This operator's manual was prepared to aid you in the proper care and operation of the vehicle and equipment.

Please read this manual completely to understand how everything in your coach works before taking it on its "maiden voyage". In addition, please become familiar with the New Vehicle Limited Warranty.

NOTE: This manual describes many features of your commercial vehicle and includes instructions for its safe use.

This manual, including photographs and illustrations, is of a general nature only.

Some equipment and features described or shown in this manual may be optional or unavailable on your model.

Because of Winnebago Industries[®], continuous program of product improvement, it is possible that recent product changes and information may not be included.

The instructions included in this manual are intended as a guide, and in no way extend the responsibilities of Winnebago Industries beyond the standard written warranty as presented in this manual.

The descriptions, illustrations, and specifications in this manual were correct at the time of printing. We reserve the right to change specifications or design without notice, and without incurring obligation to install the same on products previously manufactured.

The materials in your InfoCase contain warranty information and operating and maintenance instructions for the various appliances and components in your commercial vehicle.

NOTE: Many of the instruction sheets and manuals for the various appliances and components have been incorporated into

the Operator's Manual Supplement for your convenience.

Please read the FAQ in Section 1 of the Operator's Manual Supplement for more details.

Throughout this manual, frequent reference is made to the vehicle chassis manual that is provided by the manufacturer of the chassis on which this vehicle is built.

Consult the chassis manual for operating, safety, and maintenance instructions pertaining to the chassis section of the vehicle.

SAFETY MESSAGES USED IN THIS MANUAL

Throughout this manual, certain items are labeled Danger, Warning, Caution, Notice, or Note. These terms alert you to precautions that may involve damage to your vehicle or a risk to your personal safety. Read and follow them carefully.



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



WARNING indicates a hazardous situation which, if not avoided, could result in death or serious personal injury.

SECTION 1 – INTRODUCTION



CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate personal injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

NOTE: A “Note” is not necessarily safety-related, but indicates a recommendation or special point of information that could assist in understanding the use or care of a feature item.

PRE-DELIVERY INSPECTION

This vehicle has been thoroughly inspected before shipment. Your dealer is responsible for performing a complete pre-delivery inspection.

As a part of the pre-delivery inspection procedure, the dealer is responsible for road testing the coach, noting, and correcting any problems before delivery.

BEFORE DRIVING

Familiarize yourself with State/Province and local regulations before traveling. There are many local rules that may impact your RV travels.

FRONT AXLE TIRE ALIGNMENT

We recommend that you have the front suspension and steering alignment checked and adjusted after you have fully loaded the vehicle according to your needs. Thereafter, have

alignment inspected periodically to maintain vehicle steering performance and prevent uneven tire wear.

SERVICE AND ASSISTANCE

Your dealer will be glad to provide any additional information you need, as well as answer any questions you might have about operating the equipment in your coach. When it comes to service, remember that your dealer knows your vehicle best and is interested in your satisfaction. Your dealer will provide quality maintenance and any other assistance that you may require during your ownership of this vehicle.

If you need warranty repairs while traveling, you may take your vehicle to any authorized Winnebago Industries® dealership and request their assistance.

See the Service Dealer Directory in your InfoCase.

REPORTING SAFETY DEFECTS

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

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

To contact NHTSA, you may either call the Vehicle Safety Hotline toll-free at: 1-888-327-4236; (TTY: 1-800-424-9153) or go to their website at <http://www.safercar.gov> or write to:

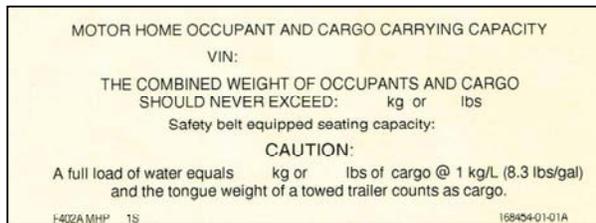
Administrator, NHTSA
1200 New Jersey Avenue S.E.
Washington, D.C. 20590

You can also obtain other information about

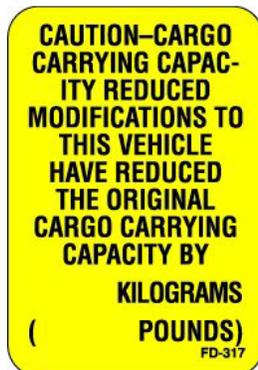
motor vehicle safety from the NHTSA website at <http://www.safercar.gov>

OCCUPANT AND CARGO CARRYING CAPACITY LABEL

This label is affixed in the driver's area next to or near the Vehicle Certification Label. It contains vehicle occupant and cargo carrying capacity along with the number of seat belt positions in the vehicle. The label also provides the weight of a full load of water and advises that this weight, along with the tongue weight counts as cargo.



If any weight exceeding 45.4 kg (100 lbs.) is added to your coach between final vehicle certification and first retail sale, the occupant and cargo carrying capacity must be corrected and a label similar to the one shown below will be affixed inside your coach.



SECTION 1 – INTRODUCTION

VEHICLE CERTIFICATION LABEL

This label is affixed to the lower driver side armrest panel, driver door, or the driver side door jamb, depending on model. It contains vehicle identification numbers and other important reference information.

MANUFACTURED BY WINNEBAGO IND. INC.			3	INCOMPLETE VEHICLE MANUFACTURED BY			1	2			
			GVWR			4	LB			KG	
GAWR:			SUITABLE TIRE AND RIM CHOICE			COLD INFLATION PRESSURE					
FRT	5	LB	KG	6	TIRE	7	RIM	8	PSI	KPA	9
RR		LB	KG					PSI	KPA		

THIS VEHICLE HAS BEEN COMPLETED IN ACCORDANCE WITH THE PRIOR MANUFACTURER'S IVD, WHERE APPLICABLE. THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

SERIAL NO.	10	VIN	11	TYPE	12	COLOR	13
XXXXX XXXX XX XX/XX/XX XXX-XXXXX			14		15	XXXXXX-XXX	

EXPLANATION OF DATA

1. Chassis manufacturer.
2. Chassis manufacture date.
3. Month and year of manufacture at Winnebago Industries®.
4. Gross Vehicle Weight Rating: Total permissible weight of the vehicle, including driver, passengers, total cargo carried (including all liquids), and equipped with all options.
5. Gross Axle Weight Rating: Total permissible weight allowed for the front and rear axles (listed in pounds and kilograms).
6. Suitable Tire Choice: Tires recommended to meet handling and safety requirements. When replacing any of the tires on your vehicle, always replace with a tire that meets these specifications.
7. Suitable Rim Choice: Wheel rims recommended to meet handling and safety requirements. When replacing any of the rims on your vehicle, always replace with a rim that meets these specifications.
8. Cold Inflation Pressure: Inflation pressures at Gross Axle Weight Ratings recommended (while cold) for the tires originally equipped on your vehicle. These pressure levels must be maintained to assure proper handling, safety, and fuel economy.
9. Rear Axle Wheel Configuration: Single or Dual as it relates to the inflation.
10. Serial Number: This is the serial number assigned to the completed vehicle by Winnebago Industries.
11. Vehicle Identification Number (VIN): This number identifies the chassis on which the vehicle is built. The 10th digit of the VIN designates the chassis model year (E=2014, F=2015, G=2016, H=2017, etc.). This information is useful when ordering chassis repair parts.
12. Type: States the NHTSA designated usage classification for your vehicle. MPV signifies a Multi-purpose Passenger Vehicle.
13. Color: Signifies the color code number of the decor used throughout the vehicle. This number is necessary for ordering replacement cushions, curtains, carpet, etc.
14. Winnebago® model year and series/family name.
15. Model: Lists the Winnebago product model number of your vehicle.

SPECIFICATIONS AND CAPACITIES

	33S				38S		
	Standard Ford® F53 22,000 lb. Chassis with 22.5" Tires	Optional Freightliner® FRED 24,000 lb. Chassis	Optional Freightliner® FRED 27,500 lb. Chassis	Optional Freightliner® FRED 26,000 lb. Chassis	Optional Ford® F53 26,000 lb. Chassis with 22.5" Tires	Optional Freightliner® FRED 27,500 lb. Chassis	Optional Freightliner® FRED 26,000 lb. Chassis
Feature Number	16L	1LX	1AV	1AT	16A	1AV / 1AQ	1AY / 1AZ / 1AT
Length	33' 6.5"	33' 6.5"	33' 6.5"	33' 6.5"	38' 10"	38' 10"	38' 10"
Exterior Height ¹	11' 10"	11' 10"	11' 10"	11' 10"	12'	12'	11' 11"
Exterior Width ²	8' 5.5"	8' 5.5"	8' 5.5"	8' 5.5"	8' 5.5"	8' 5.5"	8' 5.5"
Interior Height	7'	7'	7'	7'	7'	7'	7'
Interior Width	8' 0.5"	8' 0.5"	8' 0.5"	8' 0.5"	8' 0.5"	8' 0.5"	8' 0.5"
Propane Capacity ³	28 gal.	28 gal.	28 gal.	28 gal.	28 gal.	28 gal.	28 gal.
Wheelbase	208"	208"	208"	208"	248"	248"	248"
GVWR	22,000 lbs.	24,000 lbs.	27,500 lbs.	26,000 lbs.	26,000 lbs.	27,500 lbs.	26,000 lbs.
GAWR - Front	8,000 lbs.	9,000 lbs.	10,000 lbs.	10,000 lbs.	9,000 lbs.	10,000 lbs.	10,000 lbs.
GAWR - Rear	15,000 lbs.	15,000 lbs.	17,500 lbs.	17,500 lbs.	17,500 lbs.	17,500 lbs.	17,500 lbs.
GCWR ⁴	26,000 lbs.	26,000 lbs.	30,000 lbs.	30,000 lbs.	30,000 lbs.	30,000 lbs.	30,000 lbs.
Fuel Capacity	80 gal.	80 gal.	80 gal.	80 gal.	80 gal.	80 gal.	80 gal.

Notes:

All information is based upon the most recent data available. Visit the Winnebago Industries, Inc. web page – www.winnebagoind.com – for the most current product information.

¹ The height of each model is measured to the top of the tallest standard feature and is based on the curb weight of a typically equipped unit. The actual height of your vehicle may vary by several inches depending on chassis or equipment variations. Contact your dealer for further information.

² Floorplans feature a wide-body design - over 96". You should be aware that some states restrict access on some or all state roads to 96" in body width. You should confirm the road usage laws in the states of interest to you.

³ Capacities shown are the tank manufacturer's listed water capacity (W.C.). Actual filled propane capacity is 80% of listing due to overfilling prevention device on tank.

⁴ Actual towing capacity is dependent on your particular loading and towing circumstances which includes the GVWR, GAWR, and GCWR as well as adequate trailer brakes. Refer to the chassis operator's manual of your vehicle for further towing information.

SECTION 1 – INTRODUCTION

OWNER AND VEHICLE INFORMATION

OWNER INFO

Owner's Name(s) _____

Address _____

VEHICLE INFORMATION

Model Number _____

Serial Number _____

Chassis Vehicle Identification No. (VIN) _____

Vehicle Mileage at Delivery _____

Selling Dealer Name _____

Address _____

YOUR WINNEBAGO INDUSTRIES® DEALER /SERVICE CENTER

Name _____

Address _____

Contact _____ Phone _____

CHASSIS SERVICE CENTER

Name _____

Address _____

Contact _____ Phone _____

INSURANCE POLICY

Company _____

Policy Number _____

Agent _____ Phone _____

SECTION 2 – SAFETY AND PRECAUTIONS



GENERAL WARNINGS

- Only seats equipped with seat belts are to be occupied while the vehicle is moving.
- Make sure all passengers have seat belts fastened. Lap belts should fit low on the hips and upper thighs. The shoulder belt should be positioned snug over the shoulder.
- For pregnant women: Never place the shoulder belt behind your back or under your arm. Adjust the lap belt across your hips/pelvis, and below your belly. Place the shoulder belt across your chest (between your breasts) and away from your neck.
- Child restraints should be installed properly according to manufacturer's instructions. See "Child Restraints".
- All moveable or swiveling seats should be placed and locked in travel position while the vehicle is moving.
- Never let passengers stand or kneel on seats while the vehicle is moving.
- Inspect the fire extinguisher monthly for proper charge and operating condition. This should also be done before beginning a vacation or any extended trip.

DRIVING SAFETY

WARNING

This motorhome has been designed, manufactured and tested with concern for the protection of it's occupants. We recommend you perform the following inspections for your safety and the safety of your passengers before starting your vehicle.

1. LP GAS SYSTEM - Turn off at tank for traveling. Test for leaks upon arrival at destination before lighting pilots.
 2. WHEELS - Inspect for damage and check lug nuts for tightness.
 3. TIRES - Inspect for wear and damage and check for recommended air pressure.
 4. LIGHTING - Test for proper operation of all interior and exterior lights including dash lights, headlights, tail lights, brake lights, clearance lights, and turn signals.
 5. EXITS - Inspect release mechanism on emergency exit window, test both locks on main entrance door for ease of operation and instruct passengers how to use both means of exit.
 6. SEAT BELTS - Direct passengers to designated seats, be certain swivel seats are locked into position, and require use of a seat belt. See operator's manual for occupancy and weight restrictions.
 7. APPLIANCES - Turn off and latch or lock doors where provided.
 8. LOOSE PARCELS - Store securely.
 9. UTILITY SUPPLY LINES - Disconnect all electrical, sewer and water lines and secure properly.
 10. ENTRANCE DOOR STEP - Assure step is in retracted position for traveling.
- Read your motorhome and chassis owner's manual for further precautions.



SECTION 2 – SAFETY AND PRECAUTIONS

- Do not attempt to adjust the driver's seat while the vehicle is moving.
- Do not adjust tilt steering in a moving vehicle.
- Do not operate the cruise control on icy or extremely wet roads, winding roads, in heavy traffic, or in any other traffic situation where a constant speed cannot be maintained.
- Use care when accelerating or decelerating on a slippery surface. Abrupt speed changes can cause skidding and loss of control.
- Never drive the vehicle with a slideout room extended.
- Driving through water deep enough to wet the brakes may affect stopping distance or cause the vehicle to pull to one side. Check brake operation in a safe area to be sure they have not been affected. Never operate any vehicle if a difference in braking efficiency is noticeable.
- Adverse weather conditions and extremes in terrain may affect handling and/or performance of your vehicle. Refer to your chassis manual for complete and related information on driving your vehicle.
- Never use an open flame to test for propane gas leaks. Replace all protective covers and caps on propane system after filling. Make sure valve is closed and the door is latched securely.
- Never connect natural gas to the propane gas system.
- Portable fuel-burning equipment, including wood and charcoal grills and stoves shall not be used inside the vehicle. The use of this equipment inside the recreational vehicle may cause fires or asphyxiation.
- Propane gas regulators must always be installed with the diaphragm vent facing downward. Regulators are 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 could result in excessive gas pressure causing fire or explosion.

FUEL AND PROPANE GAS

WARNING

Propane gas containers, gasoline, or other flammable liquids shall not be placed or stored onboard the vehicle because a fire or explosion may result. Propane gas containers are equipped with safety valves, which relieve excessive pressure by discharging gas to the atmosphere. Failure to comply could result in death or serious injury.

- Never smoke while refilling vehicle fuel tank or propane gas tank.

PROPANE GAS LEAK DETECTOR

–If Equipped

Your coach may be equipped with a propane gas leak detector, similar to the one shown below. The leak detector sounds an alarm if an unsafe amount of propane gas is present inside the coach.



Propane Gas Leak Detector



WARNING

EXPLOSION HAZARD: DO NOT use an open flame to test for gas leaks. When testing for gas line leaks with a soapy water solution, DO NOT use a detergent containing ammonia or chlorine. These substances may generate a chemical reaction causing corrosion to gas lines, resulting in dangerous leak conditions. Death or serious injury can result.

Power Connection

The propane gas leak detector is powered by the house batteries. If the House/Coach Battery Disconnect switch is shut off or the battery cable is disconnected from the batteries, the alarm will not work. The propane gas leak detector fuse or circuit breaker is located in the 12-volt house electrical load center.

Because the propane gas leak detector is connected to the house battery, it is always drawing a small amount of current. Even though this current draw is slight, it could drain the house battery during storage periods when the house battery will not be charged regularly by the engine or shoreline.

Further Information

See the manufacturer’s information provided in your InfoCase for further instructions on nuisance alarms and care and testing of the propane gas leak detector.

CARBON MONOXIDE WARNING

WARNING

Avoid inhaling exhaust gases, as they contain carbon monoxide, which is a colorless, odorless, and poisonous gas. Death or serious injury can result.

The best protection against carbon monoxide entry into the vehicle body is a properly maintained engine exhaust and ventilation system. It is recommended that the exhaust system and body be inspected by a qualified vehicle service center:

- Each time the vehicle is serviced for an oil change.
- Whenever a change in the sound of the exhaust system is noticed.
- Whenever the exhaust system, underbody, or rear of the vehicle is damaged.

To allow proper operation of the vehicle’s ventilation system, keep front ventilation inlet grill clear of snow, leaves, or other obstructions at all times. **DO NOT OCCUPY A PARKED VEHICLE WITH ENGINE RUNNING FOR AN EXTENDED PERIOD.**

Do not run engine in confined areas, such as a garage, except to move vehicle into or out of the area.

CARBON MONOXIDE ALARM

Your coach is equipped with a Carbon Monoxide (CO) Alarm (provided in your InfoCase Box). The CO Alarm has a sensor that is designed to detect toxic carbon monoxide gas fumes resulting from incomplete combustion of fuel. It will detect CO gas from any combustion source such as the furnace, chassis engine, and electric generator engine.



Carbon Monoxide Alarm



SECTION 2 – SAFETY AND PRECAUTIONS

WARNING

Failure to replace this product by the “REPLACE BY DATE” may result in death by Carbon Monoxide poisoning.

Replacement

When replacing this alarm, we recommend replacing only with the same model, or with one that is also listed for RV application. We recommend obtaining a replacement from your Winnebago Industries® dealer.

Further Information

Please read the information provided by the manufacturer, which is included in your InfoCase for further information.

SMOKE ALARM

Your coach is equipped with a Smoke Alarm (provided in your InfoCase Box). The Smoke Alarm is powered by a 9-volt battery and has a sensor that is designed to detect smoke.



Smoke Alarm

The following label is affixed to the Smoke Alarm.

WARNING

Test smoke alarm operation after vehicle has been in storage, before each trip, and at least once per week during use. Failure to do so can result in death or serious injury.

Replacement

When replacing this alarm, we recommend replacing only with the same model, or with one that is also listed for RV application. We recommend obtaining a replacement from your Winnebago Industries® dealer.

Further Information

Refer to the manufacturer’s information provided in your InfoCase for complete operating instructions, maintenance information, and safety precautions.

FIRE EXTINGUISHER

A dry chemical Fire Extinguisher is provided in your InfoCase Box.



Fire Extinguisher
(Provided in your InfoCase Box)

We recommend that you become thoroughly familiar with the operating instructions displayed on the side of the Fire Extinguisher and in the information supplied in your InfoCase.



We also recommend that you inspect the Fire Extinguisher for proper charge at least once a month in accordance with National Fire Protection Association (NFPA) recommendations as stated on the label.

If the charge is insufficient, the Fire Extinguisher must be replaced.

NOTICE

Do not test the fire extinguisher by discharging it. Partial discharge can cause leakage of pressure or contents, which would render the unit inoperative when needed. When using the fire extinguisher, aim the spray at the base of the fire.

Replacement

If for any reason you must replace the Fire Extinguisher, the replacement must be the same type and size as the one originally supplied in your coach. We recommend obtaining a replacement only from your Winnebago Industries® dealer or a reliable RV parts supplier.

ELECTRICAL

- Careless handling of electrical components can be fatal. Never touch or use electrical components or appliances while feet are bare, while hands are wet, or while standing in water or on wet ground.
- Improper grounding of the vehicle can cause personal injury. Do not plug the utility power cord into an outlet which is not grounded and do not adapt the plug to connect to a receptacle for which it is not designed.
- Do not attach an extension cord to the utility power cord.
- Do not use any electrical device that has had the ground pin removed.

- Avoid overloading electrical circuits. Replace fuses or circuit breakers with those of the same size and amperage rating only. Never use a higher rated fuse or breaker.
- Use caution when handling or working near electrical storage batteries. Always remove jewelry and wear protective clothing and eye covering. Avoid creating sparks.

LOADING

- Store or secure all loose items inside the vehicle before traveling. Possible overlooked items such as free-standing objects can become dangerous projectiles during a sudden stop.
- Be aware of GVWR, GAWR, and individual load limit on each tire or set of duals (See “Loading the Vehicle” in Section 10 - Miscellaneous).
- Never load the vehicle in excess of the gross vehicle weight rating of the gross axle weight rating for either axle.

MAINTENANCE

- Do not remove the radiator cap while engine and radiator are still hot. Always check coolant level visually at the see-through coolant reservoir.
- Never get beneath a vehicle that is held up by a jack only.
- Do not mix different construction types of tires on the vehicle, such as radial, bias, or belted tires, as vehicle handling may be affected. Replace tires with exact size, type, and load range.
- Refer to your chassis manual for complete maintenance precautions and recommendations.



SECTION 2 – SAFETY AND PRECAUTIONS

SLIDEOUT ROOMS

 **WARNING**

Your vehicle may have more than one slideout room. Understand which switch operates which slideout room prior to operation. Make sure all slideout rooms are clear of people who could be harmed or obstacles that could cause damage prior to operating any slideout rooms. Failure to observe can result in death or serious injury.

Check inside and outside the vehicle to make sure that there are no people who could be harmed or obstacles that could cause damage due to room activation.

 **WARNING**

Keep all persons clear of the slideout room and moving parts while extending or retracting. Do not occupy the slideout room while it is being extended or retracted. Failure to observe can result in death or serious injury.

FORMALDEHYDE INFORMATION

Some of the materials used in this vehicle emit formaldehyde. Eye, nose, and throat irritation, headache, nausea, and a variety of asthma-like symptoms, including shortness of breath have been reported as a result of formaldehyde exposure. Reaction to formaldehyde exposure may vary among individuals. Elderly persons and young children, as well as anyone with a history of asthma, allergies, or lung problems may be at greater risk. Research is continuing on the possible long-term effects of exposure to formaldehyde. Inadequate ventilation may allow

formaldehyde and other contaminants to accumulate in indoor air. Ventilation to dilute the indoor air may be obtained from a passive or mechanical ventilation system. Always be sure to thoroughly ventilate your recreational vehicle before and during each use. High indoor temperatures and humidity may raise formaldehyde levels. When a recreational vehicle is in areas subject to high temperatures, an air conditioning system can be used to control indoor temperature levels. If you have any questions regarding the health effects of formaldehyde, consult your doctor or local health department.

 **WARNING**

This vehicle, like other vehicles, may contain small amounts of one or more substances which are listed by the state of California for causing cancer or reproductive toxicity.

MOLD, MOISTURE, AND YOUR VEHICLE

What is Mold?

Molds are part of the natural environment. They are as old as the Earth itself and mold spores are almost everywhere at some level waiting to grow. Mold plays a part of nature by breaking down dead organic matter, such as fallen leaves and dead trees. Indoors however, mold growth should be avoided. Molds reproduce by means of tiny spores. Those spores are invisible to the naked eye and float throughout the outdoor and indoor air.

Mold is a plant and requires its own special environment to grow. That environment includes organic materials, nutrients, moisture, and proper temperature.

How Can I Avoid Mold?

To reduce the ability for mold to grow, you must reduce what constitutes its growth environment. Mold can grow with the smallest of



a nutrient base. Just small amounts of dirt or dust on the carpet can be enough to allow the mold process to begin. Keep the environment as clean as possible. Vacuum the carpet. Clean food spills thoroughly and quickly.

Minimize moisture in your vehicle and keep humidity low. Clean spills quickly. Do not allow condensation to build up. You can open windows and vents to minimize condensation. Use of the air conditioner can assist in removing moisture from the air. Avoid leaks, but if leaks do occur, make repairs promptly.

Avoid bringing mold into your vehicle. Plants, cloths, books, and other items may already have mold present. It is easy to transfer mold into the coach.

Monitor your vehicle. Periodically check those hidden areas to assure mold is not present.

What if I Find Mold?

If mold develops, clean the area with a concentrate of soap and bleach. Items that contain mold that cannot be cleaned should be removed from the vehicle.

Can Mold Harm Me?

The effects of mold and airborne mold spores may cause irritation to some people. Experts disagree on the level of exposure that may cause health concerns.

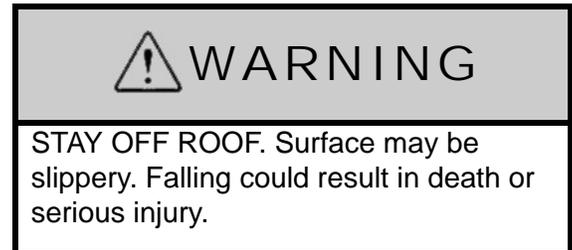
If Mold Is Present, What Will Winnebago Industries® Do?

If Winnebago Industries determines that mold is present in the vehicle as a result of a manufacturing defect reported to Winnebago Industries within the limited warranty period, Winnebago® will clean the affected area(s) and/or replace affected items as it deems necessary. This is the extent of coverage provided by Winnebago Industries. Winnebago Industries, however, will not assume responsibility for mold deemed to be a result of a users lack of timely and appropriate action to mitigate circumstances should a problem occur.

If Winnebago Industries determines that mold is present due to conditions it determines is not a result of a manufacturing defect found within the

warranty period, Winnebago Industries will not provide any financial assistance to the repair of the condition.

ROOF AND LADDERS



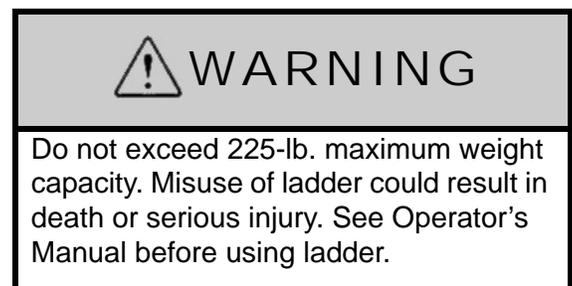
The optional ladder on your coach is provided for limited access to the roof.

Walking or working on the roof should be left to qualified service personnel using proper safety equipment in a safe environment. You should only walk or work on the roof if you are qualified and have created a safe environment.

For your safety, it is not recommended that you store or carry items on the roof.

Before Using the Ladder

- **Inspect the ladder** to make sure it is not damaged. Never use a damaged ladder.
- **Keep the rungs of the ladder clean and dry** while in use. Never use the ladder when it is raining, snowing, or icy. The rungs can become slippery. Do not step onto the rungs if the rungs are wet, or if your shoes are wet or carry mud or debris that could result in a loss of footing.
- **Never ignore warning labels** or weight limits defined on your ladder. The following warning label is located on or near the ladder:





SECTION 2 – SAFETY AND PRECAUTIONS

- **Maximum Capacity: 225 lbs.**
 - **Do not overload.** Ladder is intended for one person.
 - **Make sure you are physically capable** to safely use the ladder. Strength, flexibility, and stability are required.
 - **Be aware that the vehicle may sway** as you climb the ladder. Do not use the ladder in high winds.
 - **As you climb the ladder,** grasp the side rails firmly and always use both hands. Keep your body centered between the side rails. Do not over-reach.
 - **Never allow children** on the ladder.
 - **Do not transport items** anchored to the ladder. You could damage the ladder.
 - If you must change lanes to get to a safe stopping place, use your signals to warn other motorists and change lanes smoothly and carefully after you are certain the lane is clear.
 - Let the vehicle coast to a stop, gently steering to a safe stopping place off the traffic lanes of the road. Do not worry about damaging the tire or wheel rim by driving on it. A tire or wheel replacement is cheaper than damaging the vehicle or injuring yourself.
 - When you have come to a stop, activate your hazard flashers to warn other motorists, then exit the vehicle carefully.
 - Set out flares or other warning devices.
- Check your tires for proper inflation before each trip and at least once a month with an accurate tire gauge.

ROADSIDE EMERGENCY

Because of the size and weight of this vehicle and its tires, and the possible complications involved in tire changing, we strongly advise obtaining professional road service to change a flat tire whenever possible. However, if an emergency requires you to change the tire yourself, please exercise extreme caution and read all tire changing information in the chassis manual.

Never get beneath a vehicle that is held up by a jack only.

If You Get A Flat Tire

- DO NOT panic.
- Grip the steering wheel firmly and steer the vehicle as straight as possible. Avoid quick maneuvers. You may need to counter-steer to compensate for “pull” created by the failed tire.
- DO NOT stomp on the brake. This abruptly shifts the vehicle’s weight forward, making it nose-dive and pull toward the blown-out side.
- DO NOT jerk your foot off the accelerator. Just ease back on the accelerator slowly and gently to continue momentum. The deflated tire will slow the vehicle.

Recovery Towing

When calling a professional towing service, we recommend that you advise them of your coach length and approximate front axle weight listed on your Vehicle Certification Label. This will allow the towing operator to determine the proper towing equipment to use.

Winnebago Industries® does not assume responsibility for damage incurred while towing this vehicle.

NOTE: Consult your chassis manual for towing instructions or precautions provided by the chassis manufacturer.

<h2>NOTICE</h2>
Do not lift on bumper. Damage will result to front end body parts.



 **WARNING**

Stay out from beneath the vehicle while it is suspended by the towing assembly. Do not allow passengers to occupy a towed vehicle. Death or serious injury can result.

JUMP STARTING

If your coach will not start from the chassis battery, try using the Battery Boost switch to divert power from the house batteries to the starter. (See “Battery Boost Switch” in *Section 3 - Driving Your Vehicle*).

If you wish to try jump starting the engine using another vehicle or booster system, see your chassis manual for connecting jumper cables to the automotive electrical system.

NOTICE

Do not attempt to push start this vehicle. Damage to the transmission or other parts of the vehicle will occur.

ENGINE OVERHEAT

If you see or hear steam escaping from the engine compartment or have any other reason to suspect an extreme engine overheating condition, pull the vehicle over to the roadside as soon as it is safe to do so, stop the engine, and get all passengers out of the vehicle.

NOTICE

Operating a vehicle under a severe overheating condition can result in damage to the vehicle.

For information on what to do in case of overheating, consult your chassis manual.

SECTION 3 – DRIVING YOUR VEHICLE

The information in this section refers only to features installed or adapted to the dash and driver compartment area by Winnebago Industries®.

Further Information

See the chassis manual in your InfoCase for all original chassis related controls, instrumentation, switches, and other features. This includes items such as transmission, parking brakes, cruise control, gauges, wipers, lights, etc.

SEATS – DRIVER/CO-PILOT

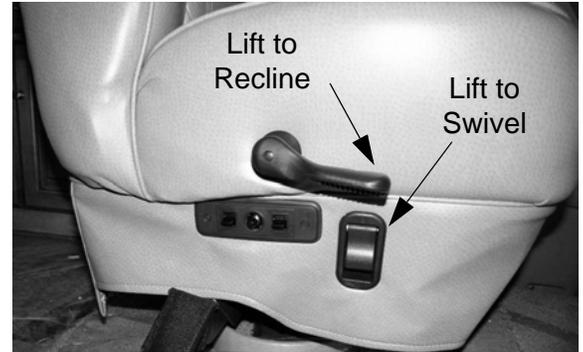
The driver and co-pilot seats may be independently adjusted to suit individual preference.

The seats may be swiveled to provide easy entrance and exit. The swivel feature also allows the seats on most models to be turned toward the living area for additional seating while the unit is parked.

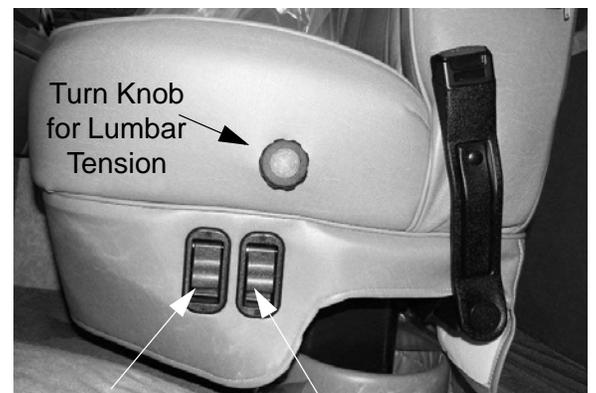
WARNING

Assure seat is in its forward and locked position for travel. Do not adjust seat while vehicle is in motion. Failure to comply may result in injuries.

Front Seats



Driver Seat
-Typical View

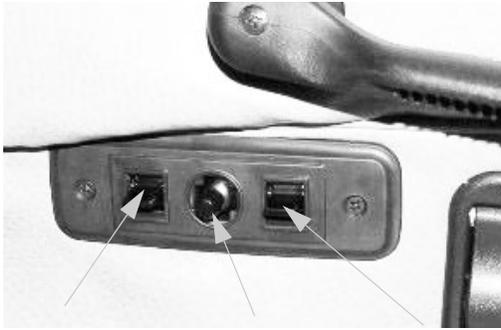


Passenger Seat
-Typical View

Multi-Adjustable Power Seat -If Equipped

The power seat controls are located on the lower right hand side of the driver seat base.

SECTION 3 – DRIVING YOUR VEHICLE



- Hip Area
- Up/Down
- Main Seat
Position
- Up/Down
- Fore/Aft
- Knee Area
- Up/Down
- Typical View

To Face Driver's Seat Rearward

Manual Seat

- Tilt the steering wheel all the way up.
- Put the left armrest down.
- Swivel the seat to the right until it just contacts the steering wheel, then slide the seat ahead all the way.
- Lift the recliner lever and let the seat back tilt ahead to clear the steering wheel.
- Swivel the seat the rest of the way to face the living area.
- Tilt the steering wheel down.
- Reverse the procedure to face the seat forward.

Power Seat

- Tilt the steering wheel all the way up and put the left armrest down.
- Move the seat rearward fully and then ahead a few inches.
- Swivel the seat to the right until it just contacts the steering wheel, then move the seat ahead all the way to clear the steering wheel.
- Swivel the seat the rest of the way to face the living area.
- Position the tilt wheel down and to provide maximum clearance to recline the seat.
- Reverse the procedure to face the seat forward.

Armrest Adjustment –If Equipped

The armrests may be swung upward out of the way for easy exit or access to the front seats. A roller on the underside of the front of the armrest also lets you adjust the resting angle for personal comfort, whether the seat is upright or reclined.



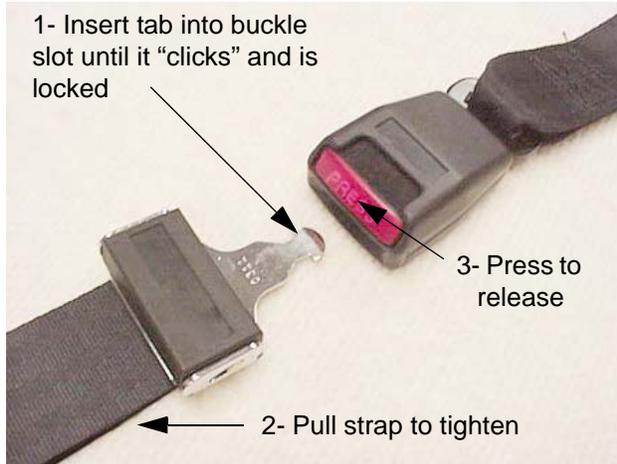
-Typical View

SEAT BELTS

Seats intended for occupancy while the vehicle is in motion are equipped with seat belts for the protection of the driver and passengers.

Lap Belts

The lap belts must be worn as low as possible and fit snugly across the hip area. Always sit erect and well back into the seat. To gain full protection of the safety belt, never let more than one person use the same safety belt at any one time, and do not let the safety belts become damaged by pinching them in the doors or in the seat mechanism. After any serious accident, any seat belts which were in use at the time must be inspected and replaced if necessary.



Adjustment

To lengthen belt, swivel the tab end at a right angle to belt and pull strap to desired length. To shorten, pull loose end of belt.

To Fasten

Be sure belt is not twisted. Grasp each part of the belt assembly and push tongue into buckle. Adjust to a snug fit by pulling the loose end away from the tongue.

To Release

Press button in center of buckle and slide tongue out of buckle.

 WARNING
Snug and low belt positions are essential. This will ensure that the force exerted by the lap belt in a collision is spread over the strong hip area and not across the abdomen, which could result in serious injury. Only seats equipped with seat belts are to be occupied while vehicle is in motion. Swivel seats must be in the locked, forward facing position while vehicle is in motion.

Lap/Shoulder Belts

Fastening

Hold the belt just behind the tongue. Next, bring the belt across the body and insert the tongue into the buckle until the latch engages.

Unfastening

Press the release button in the buckle. Hold onto the tongue when you release it from the buckle to keep it from retracting too rapidly.

When the lap-shoulder belt is in use, the lap belt must ride low across the hip area and the shoulder belt must ride diagonally over the shoulder toward the buckle.

The shoulder belt is designed to lock only during a sudden stop, sudden body movement or a collision. At all other times it will move freely with the occupant.

 WARNING
Never wear the shoulder belt in any position other than as stated above. Failure to do so could increase the chance or extent of injury in a collision.

Seat Belt Care and Cleaning

- Be careful not to damage the belt webbing and hardware. Take care not to pinch them in the seat or doors.
- Inspect the belts and hardware periodically. Check for cuts, frays, and loose parts. Damaged parts should be replaced. Do not remove or modify the belt system.
- Keep belts clean and dry. If the belts need cleaning, use only a mild soap and water solution. Do not use hot water. Do not use abrasive cleaners, bleach, or dyes. These products may weaken the belts.
- Replace any belt assembly that was used during a severe impact. Replace the complete assembly even if damage is not apparent.

SECTION 3 – DRIVING YOUR VEHICLE

CHILD RESTRAINTS

–If Equipped

A properly installed and secured child restraint system can help reduce the chance or severity of personal injury to a child in an accident or during a sudden maneuver. Children may have a greater chance of being injured in an accident if they are seated in a child restraint system which is not properly secured.

A child restraint system is designed to be secured in a vehicle seat by a lap belt or the lap belt portion of a lap-shoulder belt.

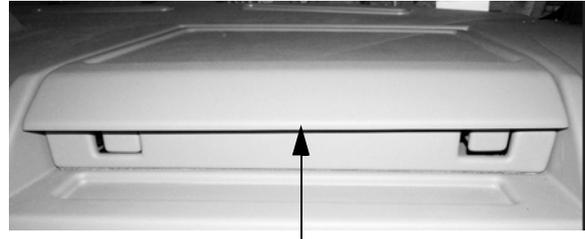
When purchasing a child restraint system, follow these guidelines:

1. Look for the label certifying that it meets all applicable safety standards.
2. Make sure that it will attach to your vehicle and restrain your child securely and conveniently so that you are able to install it correctly each time it is used.
3. Be certain that it is appropriate for the child's height, weight, and development. The instructions and/or the regulation label attached to the restraint typically provides this information.
4. Review the instructions for installation and use of the restraint. Be sure that you understand them fully and can install the restraint properly and safely in your vehicle.

PASSENGER WORKSTATION

Your coach is featured with a passenger in-dash Workstation, for your convenience.

- Grasp center lower edge of Workstation and extend to the position that best suits your needs.



- Grasp center lower edge of Workstation to extend



- To store, push Workstation in until it “clicks” into secured position.

KEYONE™ LOCK SYSTEM

–If Equipped

Your coach is equipped with the KeyOne lock system. A single key will open every door lock in the entire vehicle (except the ignition and security deadbolt lock on the entrance door).

The key number for your coach is registered in our factory database, so if you ever lose your keys, any Winnebago Industries® dealership can order a new key for you.

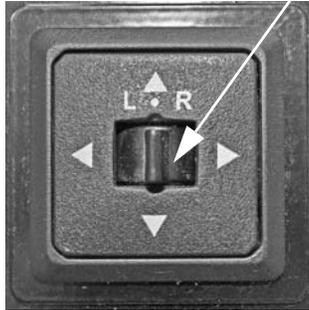
MIRRORS – POWER ELECTRIC

Always adjust mirrors for maximum rear visibility before driving off. Make sure the seat is adjusted for proper vehicle control and that you are sitting back squarely into the seat.

Mirror Adjustment Control

The mirror control is located on the driver side armrest panel or the dash. The ignition key must be on to adjust the mirrors.

Move Selector Switch L or R to select mirror.
Center “neutral” position disables arrows
to avoid unintentionally moving a mirror.



Press Arrow Buttons to move
mirror surface in direction indicated.
-Typical View

Mirror Heaters

The mirrors may also contain heating elements to de-fog or de-ice the mirror glass during cold weather operation. An ON-OFF switch for the mirror heaters is located near the remote mirror controls.



Mirror Heat Switch
(Located on driver side dash)
-Typical View

Mirror Arm/Head Adjustment

If you cannot adjust a mirror properly using the control switch, the mirror may need a coarse adjustment by rotating the mirror head.



Mirror Head Pivot Lock

- Loosen Allen head set screws to pivot mirror head
- Torque 75-100 in./lbs.

NOTE: Set screws may be located on the opposite side of the mirror arm. Passenger side mirror is similar.

Sideview Camera

The sideview cameras (built into the driver and passenger side mirrors) activate with the corresponding turn signals and replace the rear camera view on the monitor until the turn is completed or the signal lever is canceled manually.

- Sideview Camera



SECTION 3 – DRIVING YOUR VEHICLE

FRONT DROP-DOWN SOLAR/ NIGHT SHADE (12-VOLT)

Your coach is equipped with a 12V Front Drop-Down Solar/Night Shade that provides privacy and solar heat protection as well as a sunvisor feature.

The power switches for the 12V Front Drop-Down Solar/Night Shade are located on the dash or driver side trim panel, depending on model.



12-Volt Front Drop-Down Solar/
Night Shade Switches
-Typical View

Press the Solar Shade (black) or the Night Shade (white) switch up or down to adjust the shade to the setting that best suits your needs.

Dual range motors provide lowering of either two shades to visor height restriction when the ignition is ON and lowers completely to cover the entire windshield when the ignition is OFF.

The Chassis Battery Disconnect switch must be ON to supply power to the solar/night shade.

NOTE: If power is gradually drained and falls below the lower limit of 11-volts, the motors may lose their electronic set limits and will require reprogramming once normal power has been restored. Refer to the Solar/Night Shade manufacturer's information provided in your InfoCase.

Automatic Safety Retraction

The Solar/Night Shade in your vehicle is equipped with an Automatic Safety Retraction feature, which will retract the Solar/Night Shade to the full upper position in the rare event of an internal motor failure.

Should the Automatic Safety Retraction feature deploy, go to your nearest Winnebago Industries® dealer for service before operating the shade again.

NOTE: Do NOT attempt to extend the Solar/Night Shade or operate the power switches after deployment.

Further Information

Refer to the manufacturer's user guide provided in your InfoCase for complete operating instructions, troubleshooting tips, and maintenance care.

BRAKE-SHIFT INTERLOCK

Ford® Chassis

The Brake-Shift Interlock is a safety feature that prevents the shift lever from being moved from the Park position unless the ignition is ON and the service brake pedal is pressed.

NOTE: If the brake light fuse is blown, the interlock feature will not work properly and an alternate method must be used. See the chassis manual provided in your InfoCase for detailed instructions on what to do in this situation.

PARK BRAKE – FOOT PEDAL

Ford® Chassis

The park brake foot pedal and release lever are located beneath the left side of the dash.

Step the pedal down fully to apply and pull the brake release knob to disengage.

FUEL PUMP SHUT-OFF SWITCH

Ford® Chassis

Vehicles built on Ford chassis are equipped with an inertial-type switch that shuts off the fuel pump in the event of collision. This switch must be manually reset to resume the fuel supply to the engine.

See the chassis manual provided in your InfoCase for location and reset procedures for this switch.

NOTE: It is possible to accidentally trigger the Fuel Pump Shut-off switch by abruptly striking an object such as a curb or parking block. If your vehicle exhibits symptoms of running out of fuel immediately after such an occurrence, the Fuel Pump Shut-off switch may need to be reset. See your chassis manual for additional information.

TOW/HAUL TRANSMISSION MODE

Ford® Chassis only

This mode locks out Overdrive and helps reduce gear “hunting” by the automatic transmission while towing. It also improves power delivery and uses engine braking to help control vehicle speed when descending hills.

This mode may also be useful when the coach is fully loaded or when driving into a strong headwind.



- Press the button at the end of the shift lever to engage Tow/Haul Mode when pulling a trailer or tow vehicle.

Further Information

See the chassis manual in your InfoCase for further operating instructions and cautions.

HAZARD WARNING FLASHERS

The hazard warning flashers provide additional safety when the vehicle must be stopped on the side of the roadway and presents a possible hazard to other motorists. When the flashers are on, it serves as a warning to other drivers.

Further Information

See your chassis manual for instructions on activating, operating, and canceling hazard warning flashers.

SIGNAL LEVER/HEADLIGHT HIGH-LOW BEAM

The signal lever controls the turn signals and headlight high/low beams.



Turn Signals/High-Low Beams
(Typical View - your coach may differ depending on model)

- Move multi-function lever upward for right turn signal and downward for left turn signal. An audible chime will alert you when the signals are flashing.
- Pull end of handle toward you to switch headlight high/low beams.

SECTION 3 – DRIVING YOUR VEHICLE

Further Information

See your chassis manual for further operating instructions and features.

HEADLIGHT SWITCH

The headlight switches are located on the left side of the dash.

- **Fog Lights:** press the switch UP.



- **ALL Lights ON:** press the switch UP.
- **Parking Lights ON:** press the switch to the middle position.
- **ALL lights OFF:** press the switch DOWN.
- **Bright:** press the switch UP.
- **Dim:** press the switch DOWN.

Headlight Switches
(Located on left side of dash)
-Typical View

Further Information

Refer to the chassis manual provided in your InfoCase for additional information on the Headlight switch.

MAP LIGHT SWITCH

Turn the driver side Map Light on using the light dimmer wheel (located on dash). Roll it up to maximum position until you feel it click into the Map Light “On” position.

Further Information

Refer to the chassis manual provided in your InfoCase for more information on the driver side Map Light switch.



Driver Side Map Light Switch
(Located on driver side dash)

- Roll light dimmer wheel upward fully to turn driver side Map Light on.



Passenger Side Map Light Switch
(Located on dash)

- Press switch UP to turn on.
- Press switch DOWN to turn off.

BATTERY BOOST SWITCH

The Battery Boost switch can be used to draw emergency starting power from the house batteries to start the engine if the chassis battery is discharged.

Press and Hold the Battery Boost switch in the ON (up) position while turning ignition key for emergency starting power.

NOTE: The House/Coach Battery Disconnect switch near the entrance door must be ON and house batteries must be sufficiently charged for this feature to work.



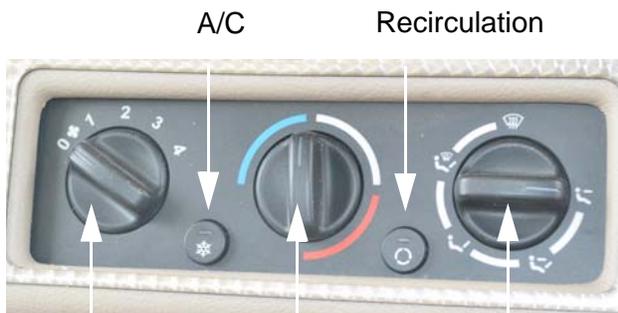
**Battery Boost Switch
(Located on dash)**

-Typical View

- If chassis battery is discharged, press and hold while turning ignition key for emergency starting power.

AIR CONDITIONER/HEATER – AUTOMOTIVE (DASH)

Controls for the air conditioner, heater, defroster, and vent are located on the dash. Your coach is equipped with one of the following controls.

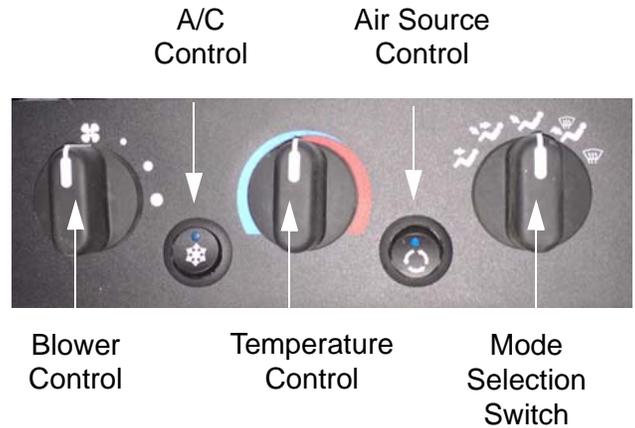


**Blower
Control**

**Temp
Control**

**Mode
Selector**

-Typical View



-Typical View

NOTE: The dash air conditioner/heater is not designed to heat and cool the entire interior of the coach, but is intended only to provide heating and cooling for the cab area.

A small amount of air will blow out all of the defrost and the dash vents regardless of the mode setting.

Further Information

See the manufacturer's user guide provided in your InfoCase for complete operating instructions.

DEFROST FANS

-If Equipped

The two-speed auxiliary fans are intended to assist the automotive windshield defroster system in clearing fog and frost in cold weather or humid conditions.

- **HIGH** - For maximum defrost output, press the Defrost Fan switch UP.
- **LOW** - For lower defrost output, press the Defrost Fan switch DOWN.
- The middle position on the switch is OFF.

SECTION 3 – DRIVING YOUR VEHICLE



Defrost Fan Switch
(Located on dash)
-Typical View

RADIO IN-DASH/REARVIEW MONITOR SYSTEM

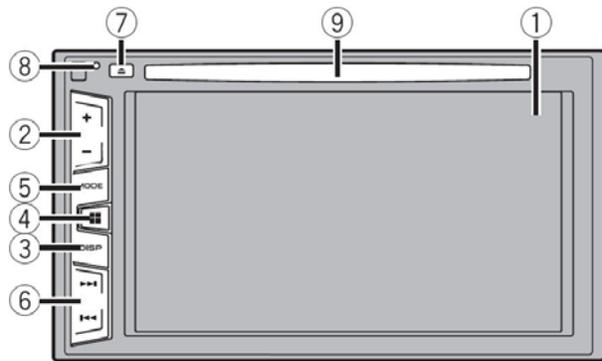
-If Equipped

The radio in your coach can receive AM/FM stereo stations. It also has a CD/DVD player for your listening enjoyment through quality high-output speakers located in several areas of the coach.

This system is also featured with a rearview camera monitor system, which lets you see what is directly behind your coach for safety and maneuvering assistance. The viewing screen is integrated into the dash.

The radio screen switches automatically when the transmission is shifted into reverse.

NOTE: The camera polarity setting needs to be set to "Battery" for automatic camera viewing when the vehicle is put into reverse. The "Camera Polarity" setting is found under "Camera Settings" in the system menu.



Basic Operating Instructions

- (1) **LCD Screen.**
- (2) **+/- VOLUME** - Press to set the volume.
- (3) **DISPLAY** - Press to turn the display on or off.
- (4) **TOP MENU** - Press to switch the display between the top menu screen and the current source screen.
- (5) **MODE or MUTE (depending on model)** - For **MODE**: Press to switch between the Application screen and the AV operation screen. Press and hold to switch to the camera view mode. For **MUTE**: Press to switch the mute setting to on or off.
- (6) **TRACK** - Performs manual seek tuning, fast forward, reverse and track search controls.
- (7) **EJECT** - Press to eject the CD/DVD.
- (8) **RESET.**
- (9) **DISC LOADING SLOT**

NOTE: When parked the Radio Power switch should be set to "HOUSE", make sure the park brake is set prior to turning the vehicle off or the radio may not play DVDs.

Sideview Cameras

The sideview cameras (built into the driver and passenger side mirrors) activate with the corresponding turn signals and replace the rear camera view on the monitor until the turn is completed or the signal lever is canceled manually.

Satellite Radio

–If Equipped

Your coach may be equipped with a SiriusXM® satellite radio receiver that plays through your radio.

See the receiver manufacturer’s information in your InfoCase for programming and operating instructions.

USB Cable

–If Equipped

Your coach may be equipped with a cable to connect your USB to play through your radio. The USB cable is located on the dash beverage tray.

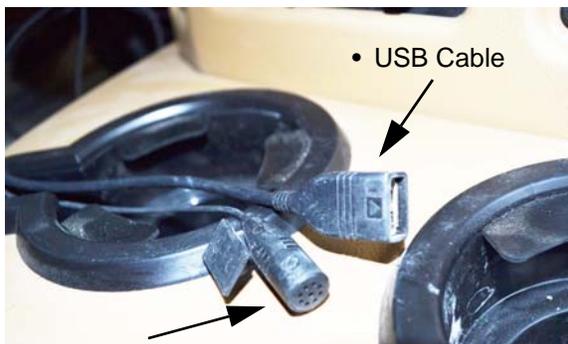
See the manufacturer’s information in your InfoCase for operating instructions.

Bluetooth

–If Equipped

Your coach may be equipped with a Bluetooth microphone cable for hands-free cell phone usage. The microphone cable is located on the dash beverage tray.

See the manufacturer’s information in your InfoCase for operating instructions.



- Bluetooth Microphone

Bluetooth Microphone and USB Cable
(Located on the dash beverage tray).
-Typical View (if equipped)

Radio Remote Control

A hand-held remote control for the radio lets you control the radio from a distance for your convenience. The remote control is included in your InfoCase.

Radio Power Switch

The Radio Power switch lets you connect the dash radio to the coach batteries with the ignition switch turned off for listening while parked. This prevents accidental draining of the chassis battery with prolonged use of the radio.

NOTE: The House/Coach Battery Disconnect switch must be ON while listening to the dash radio, as the audio relay is powered by house batteries. If the House/Coach Battery Disconnect switch is OFF, the speakers will not emit sound.



Radio Power Switch

(Located on lower dash area)

- Press HOUSE to listen to the radio while parked without the ignition key on.
- Press ENGINE (“ENG”) to listen while driving.

Further Information

See the manufacturer’s user guide provided in your InfoCase for complete operating instructions.

INFOTAINMENT CENTER/GPS

–If Equipped

The Infotainment Center in your coach is an all-in-one system that offers dash radio, rearview monitor, and GPS capability for your travel convenience.

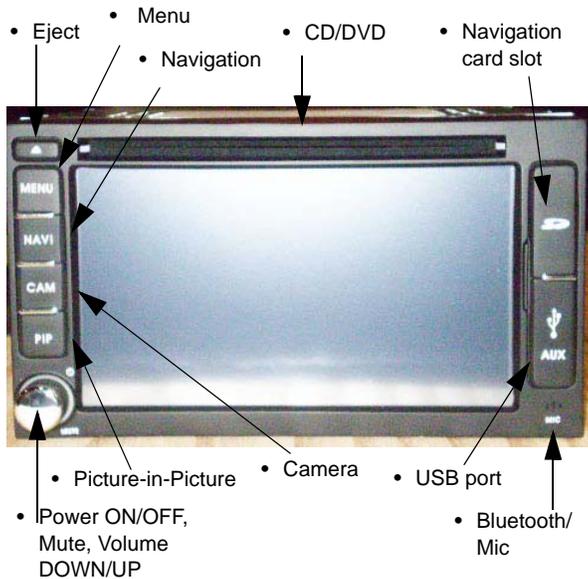
This system also features SiriusXM® satellite radio, iPod/USB connections, and CD/DVD player.

SECTION 3 – DRIVING YOUR VEHICLE

NOTE: As a safety feature, this system will not play DVD's unless the Parking Brake is set.

Basic Operating Instructions

Refer to the manufacturer's owner manual and/or quick start guide provided in your InfoCase for a complete explanation of features and operating/set-up instructions.



Rearview Monitor

The rearview monitor feature of this system lets you see what is directly behind your coach for safety and maneuvering assistance. Sideview cameras also allow you to see what is beside you before turning or changing lanes.

The radio monitor automatically changes to camera mode when transmission is shifted into reverse. A microphone built into the rear camera lets you hear warning sounds or verbal directions from an assistant.

Sideview Cameras

The sideview cameras (built into the driver and passenger side mirrors) activate with the corresponding turn signals and replace the rear camera view on the monitor until the turn is completed or the signal lever is canceled manually.

GPS

The GPS navigation system can help you confidently chart your course through the most dense concrete jungle or remote country backroad using global satellite positioning technology.

Navigational information can be displayed on both the GPS and radio monitors using either the radio or the remote control.

NOTE: Ensure the Input Button on the GPS Display Panel is set to VIDEO 1 and the "Aux Zone" on the radio is set to NAV.

Bluetooth

Your coach is equipped with a Bluetooth microphone built into the radio system for hands-free cell phone usage.

See the manufacturer's information provided in your InfoCase for programming and operating instructions.

Satellite Radio

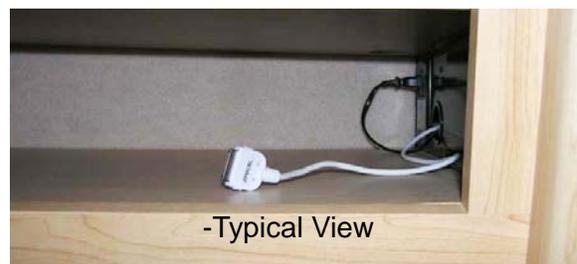
Your coach is equipped with a SiriusXM[®] satellite radio receiver that plays through your dash radio.

See the manufacturer's information provided in your InfoCase for programming and operating instructions.

iPod Connection

(For coaches equipped with GPS system)

Your coach may be equipped with an iPod Connection (located in an overhead compartment) to play your iPod through the dash radio.



Radio Power Switch

The Radio Power switch lets you connect the dash radio to the coach batteries with the ignition switch turned off for listening while parked. This prevents accidental draining of the chassis battery with prolonged use of the radio.

NOTE: The House/Coach Battery Disconnect switch must be ON while listening to the dash radio because the audio relay is powered by house batteries. If the House/Coach Battery Disconnect switch is OFF, the speakers will not emit sound.



Radio Power Switch
(Located on lower dash area)

- Press HOUSE to listen to the radio while parked without the ignition key on.
- Press ENGINE (“ENG”) to listen while driving.

Further Information

See the manufacturer’s user guide provided in your InfoCase for complete operating instructions.

CB RADIO POWER WIRING

Your coach is pre-wired for CB radio power connection. The wires are located beneath the dash to the left of the steering wheel.

Look for a pair of wires - yellow (+) and white (-) with connectors and flag labels suspended from the wiring harness.



CB Power Wires
(Located behind fuse and breaker panel)
-Typical View

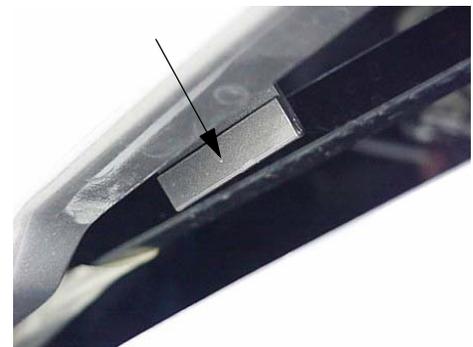
FRONT SERVICE ACCESS (HOOD)

The Hood Panel can be opened for access to service items such as the engine oil dipstick, oil fill, radiator fill, power steering reservoir, and windshield washer fluid reservoir.

The Hood Latch is located behind the bottom edge of the Hood Panel near the center of the grille.

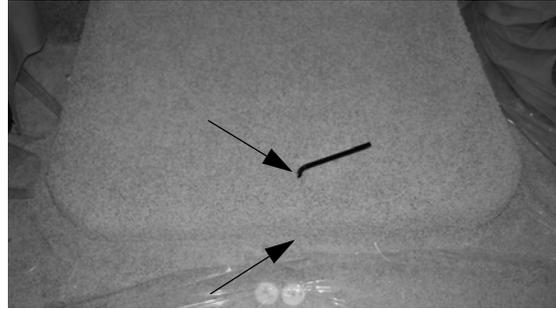
To Open Hood Panel

- Squeeze or Pull the Hood Latch toward the Hood Panel to release the latch.
- Pull the Hood Panel outward slightly and raise up into open position.



Hood Latch
(Squeeze or Pull toward Hood Panel
and raise up into open position)

SECTION 3 – DRIVING YOUR VEHICLE



- Insert hex wrench into the hole located on the top center of the engine cover (as shown) **or** the front edge of engine cover (depending on model) to unlock.

-Typical installation shown

To Close Hood Panel

- Pull Hood Panel **DOWN** and swing **IN**.
- Press top edge of Hood Panel in firmly with palms of hands to ensure proper latching.

NOTE: On certain models, there may also be additional screws to remove at the lower front corners on each side of the engine cover. See following photo.

ENGINE ACCESS – INTERIOR Front Engine Cover (Located between cab seats)

NOTE: Take precautions to protect carpet and interior furnishings when removing engine cover. The underside of the engine cover could contain deposits of oil and fuel or other engine fluids and substances that could damage fabrics and interior furnishings.

- **To remove the engine cover**, insert the supplied hex wrench into the hole (located on the top center **or** the front edge of the engine cover, depending on model).
- Turn the hex wrench to the left (counter-clockwise) to unlock.



- Remove screws at the lower front corners on each side of the engine cover (if equipped).
- Typical installation shown
- Remove engine cover and set aside.



-Typical View

NOTE: If your coach is featured with a beverage tray, it may need to be removed to provide additional clearance before removing the engine cover.

If the beverage tray is equipped with a drawer, it must be removed to expose the fasteners that hold the tray to the engine cover.

- **To reinstall the engine cover**, position the front end of the cover first, then lower the rear end.
It is important to ensure the front edge is pushed completely forward to the radiator cover to ensure an air-tight seal.
- Press the rear end of the engine cover down and turn the hex wrench to the right (clockwise) until the latch pulls the cover downward and stops.
- Reinstall the screws at the lower front corners on each side of the engine cover (if equipped).

ENGINE COOLING SYSTEM

Do not remove the radiator cap while engine and radiator are still hot. Always check coolant level visually at the see-through coolant reservoir.

NOTE: Your chassis engine cooling system is filled with special extended-life coolant that is not the same as common anti-freeze available at retail outlets. The coolant system MUST be refilled or topped up with the same type of coolant as equipped to maintain the special long-life properties.

NOTICE

When refilling the coolant system of a vehicle equipped with a rear auxiliary automotive heater and motoraid water heater, be sure to allow for additional coolant capacity of the heater and its supply and return hoses.

Further Information

Refer to the chassis manual in your InfoCase for information and precautions on filling, servicing, and checking the fluid level.

CHASSIS BATTERY DISCONNECT SWITCH

The Chassis Battery Disconnect switch disconnects most chassis electrical loads from the chassis (starting) batteries to avoid discharge by constant draws such as engine computers, radio clock, sensors, etc. (except the electric entrance step). This feature is intended to help conserve battery charge during storage.



Chassis Battery Disconnect Switch
(Located near entrance door)
-Typical View

Turn the switch to the OFF or ON positions to disconnect or reconnect the chassis batteries.

NOTE: The Chassis Battery Disconnect switch must be ON to start the engine.

TIRES

Improper tire pressure can result in tire overloading and abnormal wear and also affects handling, ride characteristics, and fuel economy.

! WARNING

Make sure all replacement tires are of the same size and rating as those shown on your Vehicle Certification Label.

SECTION 3 – DRIVING YOUR VEHICLE

SUSPENSION ALIGNMENT AND TIRE BALANCE

The front suspension and steering system of this vehicle was factory aligned using highly accurate equipment prior to delivery to the dealership. However, alignment should be checked and adjusted after you have fully loaded the vehicle according to your personal needs. Thereafter, the alignment should be periodically inspected to help prevent uneven tire wear.

Any excessive or abnormal tire wear may indicate worn or misaligned suspension or steering, unbalanced tire, or other tire/suspension problem.

Alignment can be affected by worn steering/suspension parts or by incidents which happen during driving, such as hitting a curb, pothole, or railroad track, etc. Improper alignment can cause tires to roll at an angle and wear unevenly. It may also cause the vehicle to “pull” to the right or left. Have your dealer inspect your vehicle’s suspension and steering components periodically for misalignment or wear.

Out-of-balance tires will not roll smoothly and can lead to vibrations and uneven tread wear, such as cupping and flat spots. Tires may need to be balanced if uneven wear is detected or if ride comfort decreases noticeably.

Further Information

See the chassis manual in your InfoCase for further information.

LIGHTS

All exterior lights should be checked for proper operation each time the vehicle is prepared for a trip. Any bulbs which fail to light should be checked and replaced, when necessary, with a new bulb of the same size. A failure of more than one light, such as both taillights not operating, may indicate a burned out fuse. Check fuse and replace with one of the same rating when necessary. If a fuse is not the cause of the problem, the wiring system should be checked immediately by an authorized service center.

Further Information

Refer to the chassis manual in your InfoCase for further information.

CIRCUIT BREAKERS AND FUSES – CHASSIS/DASH AUTOMOTIVE 12-VOLT

The 12-Volt Automotive Fuses and Circuit Breakers are conveniently located beneath the left end of the dash in front of the driver seat. Remove cover to access.

The circuit breakers will pop outward if they are tripped. Simply push in to reset. Always replace plug-in blade fuses with ones of the same size and amperage rating/color.



Automotive 12-Volt
Circuit Breakers and Fuses
(Located beneath left end of dash)
-Typical View



Further Information

Refer to the chassis manual provided in your InfoCase for additional information about chassis-supplied fuses and circuit breakers.

SECTION 4 – PROPANE GAS

PROPANE GAS SUPPLY

–If Equipped

The propane gas system supplies fuel for the furnace. When used and handled properly, this system is safe and economical and provides modern living conveniences wherever you travel.

See *Section 2 - Safety and Precautions* in this manual for other safety and precautions you need to be aware of related to propane.

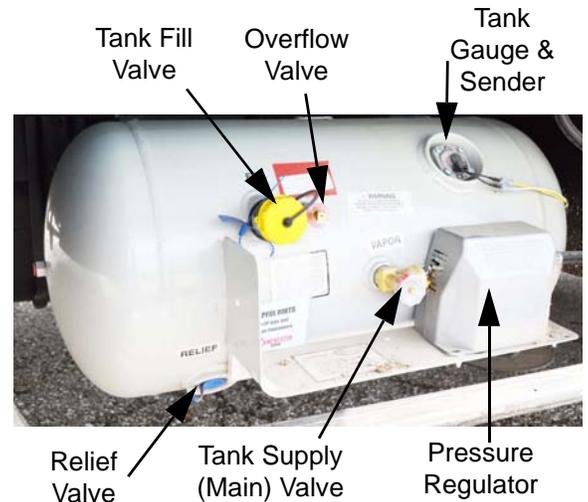
How Propane Gas Works

Propane is a type of LP (Liquefied Petroleum) gas compressed into liquid form for easy transportation and storage. Propane gas may also be called tank gas, bottle gas, or simply LP.

Propane is used by appliances in vapor form only, but is stored in the tank as a liquid under very high pressure. As the liquid gas is released, it reverts back to a vapor and expands to many times its compressed volume.

Propane Tank System

The storage reservoir for the propane gas system is a horizontally mounted tank which is permanently attached to the vehicle frame. The tank is accessible only from the outside of the vehicle.



Propane Tank Features
-Typical View



WARNING

Do not alter or remove propane tank valves or gauge. Propane can escape, which can cause an explosion resulting in death or serious injury. Have the propane system serviced by a qualified service center.

Refilling Propane Tank

Since the propane tank is permanently mounted to the frame, the vehicle must be taken to a propane dealership for filling. Do not attempt to remove the propane tank from the vehicle. The tank is equipped with a fill adapter with both internal and external threads, which allows easy filling with any propane filling equipment. The tank is full when liquid propane gas appears at the overflow valve.

NOTE: The propane tank is equipped with an automatic 80% stop-fill device.

SECTION 4 – PROPANE GAS

WARNING

Do not fill propane container(s) to more than 80 percent of capacity. A properly filled container contains approximately 80 percent of its volume as liquid propane. Overfilling propane container(s) can result in uncontrolled propane flow, which could lead to a fire or explosion and result in death or serious injury.

DANGER

All pilot lights, appliances, and their igniters (see operating instructions) shall be turned off before refueling of motor fuel tanks and/or propane containers. Can cause ignition of flammable vapors, which can lead to a fire or explosion and result in death or serious injury.

WARNING

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 to test for leaks. Can lead to a fire or explosion, which could result in death or serious injury.

Selecting Propane Fuel Types

We recommend using straight propane in your propane tank. Propane gas is commonly available at all propane gas outlets in the U.S. (According to the National Propane Gas Association,

propane gas outlets in the United States do not offer any other type of liquefied petroleum gas than propane to the general public.) Check local phone directory yellow pages for locations of local propane gas refilling stations or bulk dealerships.

NOTE: If you travel outside the U.S. with your vehicle, you may find butane or propane/butane mixtures available in addition to propane. Because gas-burning appliances are designed to run on propane only, we recommend that you request straight propane only. Butane burns about 30 percent hotter than propane and can overheat some appliances and cause permanent damage. Other appliances designed to operate on propane can become sooted and lose efficiency by using butane fuel.

Air in the Propane Gas Tank

If your gas appliances do not stay lit or require frequent adjustment, even though you know the propane tank contains sufficient fuel, the problem may be air in the propane gas tank. Air in the tank mixes with the propane gas vapors causing them to burn poorly. This condition could linger for weeks if the air is not purged from the tank. Most propane gas dealers have equipment for purging air from propane gas tanks and will purge before refilling the tank.

SAFE USE OF THE PROPANE GAS SYSTEM

The propane system is designed and built with strict adherence to national, state, and recreational vehicle industry requirements for mobile propane gas equipment.

For your safety, there are many safety devices and backup systems installed, such as fill overflow valves, an interior propane gas detector/ alarm, and an interior carbon monoxide (CO) detector/ alarm.

Propane gas also contains an odor additive that you can smell if propane is present in the air.

Here are a few precautions to observe that will help you to use the propane gas system safely:

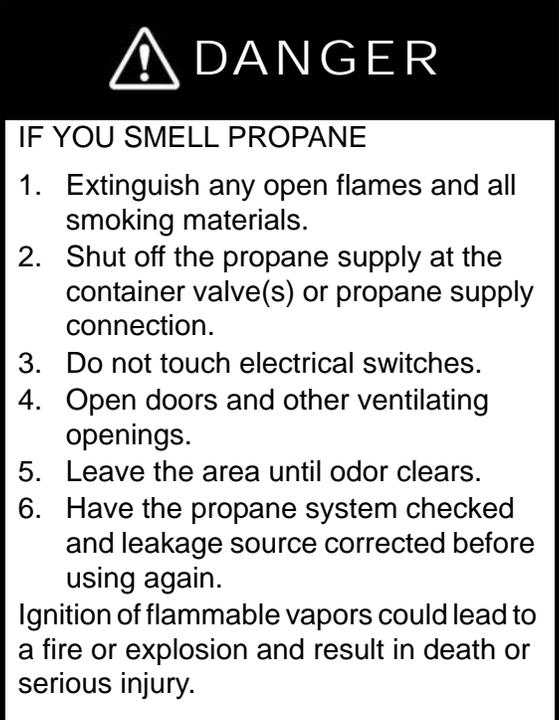
- Exercise caution at all times. Be familiar with the distinctive odor of propane gas. If a leak is suspected, turn off the supply valve immediately. Have the propane gas system checked by your dealer or other qualified propane gas service center.
- Do not tamper with the propane gas piping system, pressure regulator, or gas appliances. Service and maintenance of propane gas system components should be performed only by your dealer or a qualified propane gas service center.
- Never attempt to connect natural gas to the propane gas system.
- Have the entire propane gas system inspected for possible leaks and missing or damaged parts at each filling. Also inspect before and after each trip, and any time trouble is suspected.
- Turn the propane supply valve off when not using the propane gas system.
- Never use a wrench to tighten the supply valve. It is designed to close leak-tight by hand. If a wrench is required to completely close the valve, it is defective and must be replaced.
- Be sure appliance and outside vents are open and free from obstruction when using the propane gas system.
- Never attach a lock or any device requiring a key to the propane compartment door. According to standards set for recreation vehicles, the propane supply valve must be readily accessible in an emergency.
- Exercise caution when drilling holes or attaching objects to the walls. Gas lines and electrical wiring could be seriously damaged and present an extreme safety hazard.

PROPANE GAS WARNINGS AND PRECAUTIONS

It is illegal for vehicles equipped with propane tanks to travel on certain roadways or through certain tunnels in the U.S. To avoid inconvenience, check state regulations concerning flammable gas transportation.

Propane Gas Leaks

The following label is located within the vehicle. If you smell gas, quickly and carefully perform the procedures listed.



⚠ DANGER

IF YOU SMELL PROPANE

1. Extinguish any open flames and all smoking materials.
2. Shut off the propane supply at the container valve(s) or propane supply connection.
3. Do not touch electrical switches.
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.

Ignition of flammable vapors could lead to a fire or explosion and result in death or serious injury.

- All pilot lights must be extinguished and appliances and their ignitors turned off while refilling the fuel tank or propane tank.
- Never smoke while refilling vehicle fuel tank or propane gas tank.
- Avoid inhaling exhaust gases produced by burned gasoline, diesel fuel, or propane gas in items such as the chassis engine, generator engine, and furnace. They contain carbon monoxide, which is an odorless, colorless, and poisonous gas.

SECTION 4 – PROPANE GAS

WARNING

Do not place propane cylinders inside the vehicle.

Propane cylinders are equipped with safety devices that relieve excessive pressure by discharging propane to the atmosphere.

Propane gas is highly flammable.

Can lead to a fire or explosion and result in death or serious injury.

- Never use an open flame to test for propane gas leaks. Replace all protective covers and caps on propane system after filling. Make sure valve is closed and door latched securely.
- Portable fuel-burning equipment, including wood and charcoal grills and stoves, shall not be used inside the vehicle. The use of this equipment inside the vehicle may cause fires or asphyxiation.
- Regulators are 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 could result in excessive gas pressure causing fire or explosion.

PROPANE GAS PRESSURE REGULATOR

The pressure regulator is protected from the elements by a plastic cover, which should be left in place at all times.

Propane regulators must always be installed with the regulator vents 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 that could result in excessive propane pressure causing fire or explosion.

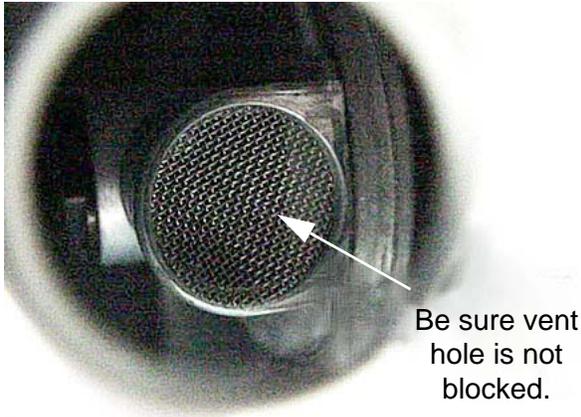
Only your dealer or a qualified propane gas service should remove the regulator cover for adjustments.

WARNING

Visually inspect the pressure regulator vent periodically for blockage by accumulated debris or insect nests, etc. Vent obstruction could result in excessive pressure causing fire or explosion, which could result in death or serious injury. If an obstruction exists, have the regulator serviced by a qualified service center.



Look up inside hole on underside of regulator housing to see vent screen.



Regulator Freeze-up

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

If regulator freeze-up should occur, you may attempt to thaw the regulator using a light bulb. **DO NOT USE AN OPEN FLAME OR HEAT LAMP.**

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

PROPANE VAPORIZATION IN COLD WEATHER

Propane gas vaporization increases and decreases in direct relation to ambient temperature. In other words, the lower the temperature, the slower the liquid propane will vaporize into a usable gas for appliances.

This means that in extremely cold weather when a large volume of gas is being used by the furnace for heating, it is possible to experience a loss of gas pressure.

At first, this problem may appear to be caused by an empty tank or a regulator freeze-up, but is actually caused by failure of the liquid gas to vaporize as fast as it is needed by the furnace.

The demand for propane to produce heat increases to the point where the gas cannot vaporize fast enough to keep the furnace going. The only solution to this problem is to reduce gas usage where possible.

A final step is to lower the thermostat setting to reduce gas usage by the furnace.

SECTION 5 – ELECTRICAL

Your coach may be equipped with an electrical system consisting of two separate voltages:

- 12-volt DC system (battery current); and
- 120-volt AC system (household current)

The 12-volt system consists of two internal power sources, while the 120-volt system is operated from an outside power source or the optional 120-volt generator.

ELECTRICAL CAUTIONS

- Careless handling of electrical components can be fatal. Never touch or use electrical components or appliances while feet are bare, while hands are wet, or while standing in water or on wet ground.
- Improper grounding of the vehicle can cause personal injury. Do not plug the utility power cord into an outlet which is not grounded and do not adapt the plug to connect to a receptacle for which it is not designed.
- Do not attach an extension cord to the utility power cord.
- Be sure that all electrical appliances to be used contain 3-prong plugs for proper grounding.
- Avoid overloading electrical circuits. Replace fuses or circuit breakers with those of the same size and amperage rating only. Never use a higher rated fuse or breaker.
- Use caution when handling or working near electrical storage batteries. Always remove jewelry and wear protective clothing and eye covering. Avoid creating sparks.

ELECTRICAL SYSTEM – HOUSE 120-VOLT AC

The 120-volt system operates from the shoreline cord connected to an outside 120-volt utility service. When the shoreline cord is connected to an outside power source, or when the auxiliary electric generator is running, the

power converter automatically changes a portion of the 120-volt current to 12-volt DC current. All equipment in the vehicle that is normally powered by the house batteries is then powered through the converter.

In addition, the following equipment is entirely dependent on 120-volt current: air conditioner and any 120-volt electrical equipment used at convenience outlets.

POWER CORD – EXTERNAL

(Shoreline)

–If Equipped

The external power cord (commonly referred to as a “shoreline”) is located in the utility compartment on the left (drivers) side of the coach.



WARNING

Do not use an extension cord. Improper sized cords, damaged cords, and poor connections can lead to fire, which can result in death or serious injury.



WARNING

Do not connect the external power cord to any receptacle until you have verified proper polarity and grounding. Be sure all prongs of the supply cord are properly plugged into the receptacle. Failure to observe can result in death or serious injury.

The power cord is designed to ground the electrical system through the receptacle. If the electrical receptacle to be used is designed to

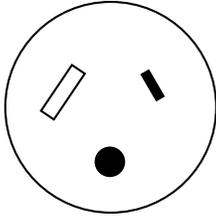
SECTION 5 – ELECTRICAL

mate with the prongs of the power cord plug, the electrical connection can be expected to carry rated load.

Connecting The Power Cord

To connect to an external source, remove the cord from the utility compartment and plug it into a suitable 50-amp power receptacle to provide external power to the coach and converter/charger system.

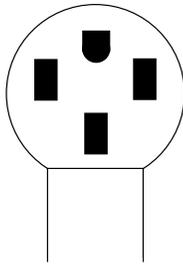
NOTE: If no 50-amp service is available, you will need to connect to a standard 30-amp service pole using an adapter.



30 Amp Receptacle

! WARNING

This connection is for 110/125 Volt AC, 60 Hz 30 Ampere supply. Do not exceed circuit rating. Exceeding the circuit rating may cause a fire and result in death or serious injury.



50 Amp.
Power Receptacle

! WARNING

This connection is for 208Y/120-Volt or 120/240 Volt AC, 3-pole, 4 wire, 60 Hz 50 Ampere supply. Do not exceed circuit rating. Exceeding the circuit rating may cause a fire and result in death or serious injury.

A flip-down hatch lets you route the power cord out the bottom of the compartment so you can close the compartment door while the power cord is connected.

1. Flip the hatch downward.



2. Swivel the cover section aside to reveal cord notch.



3. Route the cord through the notch and flip the hatch back up into place and close the compartment door.



! WARNING

Service inlet access must be closed when utility connections are not in use.

After disconnecting the power cord, neatly stow it in the utility compartment.

CIRCUIT BREAKERS – HOUSE 120-VOLT AC

The breaker panel protects all 120-volt components in the coach from either an overload on the circuit or a short in the wiring or component itself. When an overload or short develops, the breaker will open preventing damage to the system.

Shut off the equipment (example: roof air conditioner) and allow a brief cooling period. Then reset the breaker by moving the switch to “Off” and back to “On”. If the breaker is continually tripped and no overload is evident, have the system checked for a short in the wiring or the appliances.

*NOTE: Breakers are labeled on panel.
Arrangement may vary according to
appliance and equipment options.*



-Typical View

ELECTRICAL SYSTEM – HOUSE 12-VOLT DC

The DC voltage system consists of the chassis battery, the 12-volt house batteries, and the 12-volt power converter.

Converter

See “Power Center.”

Chassis Battery

The chassis battery is used to operate the engine starter and automotive accessories and controls found on the instrument panel. The slideout room systems and the electric step are also connected to the chassis battery.

See your chassis manual for further information on chassis batteries and chassis electrical system.

House Batteries

House batteries are “deep-cycle” type batteries. They will provide longer lasting power than standard automotive starting batteries and will withstand the frequent drain-and-recharge cycles that occur under demanding conditions.

The house batteries supply power to 12-volt equipment. This includes the following 12-volt powered components (if equipped): interior 12-volt lighting, propane furnace fan, and 120-volt electrical generator starter.

SECTION 5 – ELECTRICAL

The house batteries can also provide emergency power to start the engine if the chassis battery is discharged. (See Battery Boost switch or House/Coach Battery Disconnect switch).

House batteries are automatically charged by the chassis alternator while the engine is running.

HOUSE/COACH BATTERY DISCONNECT SWITCH (COACH BATT)

The House/Coach Battery Disconnect switch lets you disconnect the house batteries from the 12-volt system of your coach during storage periods to avoid battery drain by electrical items that are hooked directly to the house batteries, such as clock displays and radio memories, etc.

Always leave this switch ON while using the coach.

NOTE: Some electronic displays and memory functions may need to be reset after power has been reconnected.

See also “Battery Care” elsewhere in this section.



House/Coach Battery Disconnect Switch
(Located near entrance door)
-Typical View

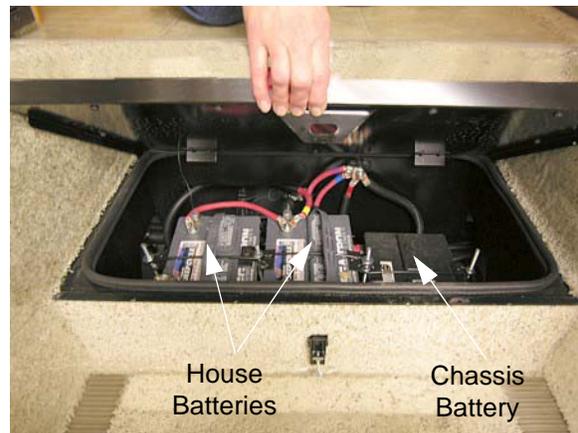
BATTERY ACCESS

The house/coach batteries (and chassis batteries in certain models) are located beneath the interior entrance steps. With the Residential Refrigerator, the house batteries are accessed by a separate exterior door.

- Unfasten the step retainer, then lift the step upward and remove to service batteries.



-Typical View



-Typical View



CAUTION

Step cover must be closed and latched.
Failure can cause injury.

BATTERY CARE

Lead-acid type batteries are electro-chemical devices for storing and releasing electrical charge. As such, they are simply an electrical reservoir, not an electrical source. As soon as energy is removed from the battery, it should be replaced by the engine alternator or the coach converter system.

If a battery sits unused for 30 days or more, especially during warm weather, it can develop a deposit of sulfate crystals on the metal plates inside the battery. This condition is called “sulfating” and prevents the battery from either releasing or accepting a charge. If this condition occurs, the battery must be replaced.

If a battery does not contain at least 80% charge during freezing temperatures, the electrolyte can freeze and crack the battery case.

The two best defenses against sulfating and insufficient charge are to:

1. Turn off the House/Coach Battery Disconnect switch to avoid parasitic discharge (the trickle discharge caused by directly connected components like propane gas detectors or digital clock displays, etc.)
2. Check the battery and recharge as necessary at least once a month during long storage periods. Turn the House/Coach Battery Disconnect switch off to avoid electrical arcing when attaching or detaching charger clamps.

NOTICE

Disconnect batteries before connecting external charging equipment to avoid damage to sensitive electronic components.

WARNING

This vehicle, like other vehicles, may contain small amounts of one or more substances which are listed by the state of California for causing cancer or reproductive toxicity.

WARNING

California Proposition 65 Warning: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and reproductive harm. Wash hands after handling.

NOTE: Do not leave the shoreline plugged in during storage. Follow regular battery inspection and maintenance.

Further precautions are:

- Check the state of charge periodically to avoid discharge or sulfating.
To ensure that the battery will always accept and hold a charge, follow these simple maintenance practices:
- Make sure the batteries always remain securely clamped in the battery tray.
- Make sure battery cable clamps are tight on the terminal posts and are free of corrosion.
- Neutralize corrosion buildup or acid film on top of battery by washing with a baking soda/water solution. Rinse with clear water.

NOTE: Make sure vent caps are on securely to prevent baking soda solution from entering the battery and contaminating the electrolyte fluid.

SECTION 5 – ELECTRICAL



WARNING

Before removing any battery cables or battery, make sure all 12-volt equipment in the vehicle is off and the power cord has been disconnected. Be sure to replace the battery terminal boot, if supplied, back onto the positive terminal after servicing. Care must be taken to avoid pinching the cable between any metal parts. Should the cable be damaged, a short circuit could result in personal injury or damage to equipment. Replace any damaged cables at once. Always remove jewelry and wear protective clothing and eye covering when checking or handling batteries.



WARNING

To prevent wiring damage, it is essential when replacing the cables on the battery, or when using a “booster” battery, that the positive post and the positive cable be attached and the negative post and negative cable be attached. The posts are marked (+) plus and (-) minus. If a “boost charger” is used while battery is in the vehicle, disconnect both battery cables before connecting the charger to avoid damage to engine electronic components. Never attempt to charge or boost a frozen battery. An explosion can occur resulting in personal injury.

- Clean and tighten battery terminals and have the specific gravity checked at least once a year.
- Check the battery fluid level every month, or more often in hot weather. Fill to approximately 3/8 inch above the plates. **DO NOT OVERFILL.** If fluid is added during freezing weather, the vehicle should be driven several miles to mix water and electrolyte to prevent freezing.
- Fluid level check may be omitted if equipped with maintenance-free batteries.

Chassis Batteries

If your coach is going to be unoccupied for two weeks or more, Winnebago Industries® recommends disconnecting the chassis batteries in your coach to avoid battery discharge.

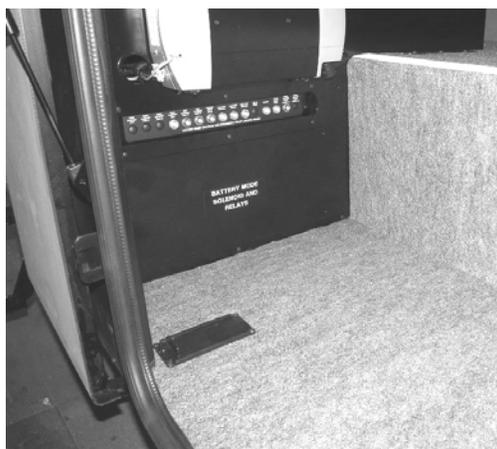
Turn the Chassis Battery Disconnect switch (located near the entrance door) to the OFF position to disconnect batteries.

CIRCUIT BREAKERS – HOUSE 12-VOLT

All 12-volt circuits and equipment in the coach area are protected by the breaker panel. When a circuit is overloaded or a short develops in any part of the system, a fuse or breaker will shut down that circuit. If this happens, turn off all affected lights or appliances and reset the breaker or replace the fuse with a new one of equal amperage rating.



House 12V Circuit Breaker Panel
-Typical View



Auto Chassis 12V Circuit
Breaker Panel
(Located inside passenger
side compartment)
-Typical View

A label on the panel states the amperage rating and circuit protected for each fuse or breaker.

NOTE: Breakers are labeled on panel.

*Arrangement may vary according to
appliance and equipment options.*

Battery Boost Switch

See *Section 3 - Driving Your Vehicle* for information on the Battery Boost switch.

SECTION 6 – ENTERTAINMENT

FRONT TV IGNITION SWITCH INTERLOCK

–If Equipped

If your coach is equipped with a front overhead TV, it is plugged into a special electrical outlet with a built-in ignition switch interlock. The device allows the TV to operate only when the ignition key is in the Off or Accessory positions.



Front TV Ignition Switch Interlock
-Typical View

TV ANTENNA – DIGITAL (Jack® Digital HDTV Over-the-Air Antenna)

–If Equipped

Your coach is featured with a digital antenna, which provides crystal clear digital HD reception of over-the-air channels in addition to superior broad reception range.

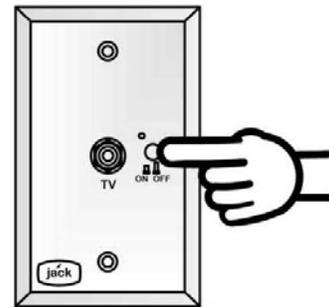
The digital antenna is equipped with a built-in amplifier for maximum VHF and UHF programming.

WARNING

Never allow the antenna to touch electrical power lines or any other electrical wires.

Operating the Digital Antenna

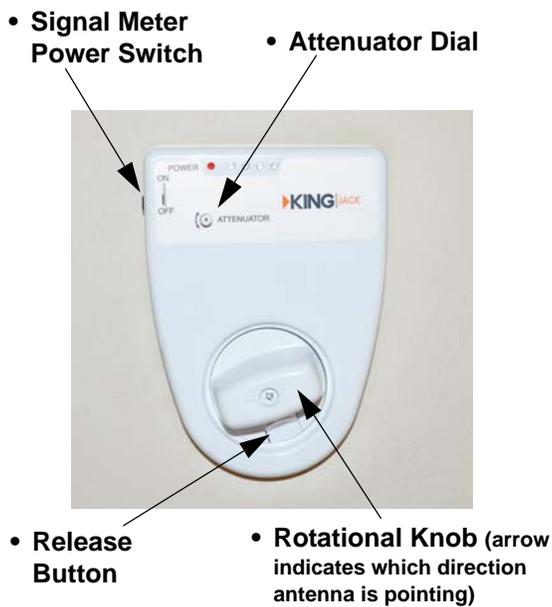
1. Turn the Digital Antenna Power Switch ON.



Digital Antenna Power Switch
(Located in an overhead cabinet or mounted on a wall near the TV)

2. Turn ON the Signal Meter Power switch (located on the side of the Signal Meter).

SECTION 6 – ENTERTAINMENT



3. Rotate the Attenuator Dial fully **CLOCKWISE**.
4. Press Release Button on the Rotational Knob and rotate antenna (until maximum number of LED lights illuminate on the Signal Meter).

NOTE: LED lights will illuminate from left to right. All LED lights may not illuminate, depending on signal strength.

5. Rotate Attenuator Dial **COUNTER-CLOCKWISE** until the last illuminated LED light flickers.
6. Rotate antenna to illuminate the last flickering LED light.
7. Repeat Steps 5 and 6 to pinpoint signal reception.

NOTE: Refer to television manufacturer's instructions to scan for available channels.

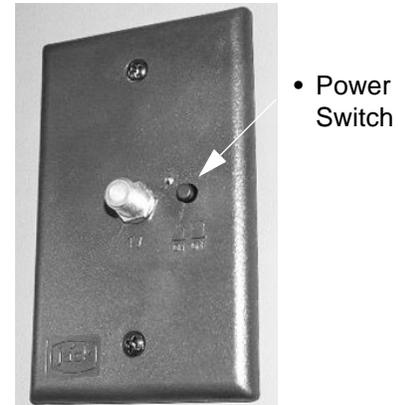
Further Information

See the antenna manufacturer's user guide provided in your InfoCase for complete operating and maintenance information.

TV SIGNAL AMPLIFIER

The TV Signal Amplifier is built into the antenna and can be turned on or off with a power switch located near the entertainment center cabinet.

An indicator light will illuminate when the switch is on and the signal amplifier is active.



TV Signal Amplifier Power Switch
(Located near entertainment center cabinet)
-Typical View

SECTION 7 – SLIDEOUT ROOMS AND LEVELING

SLIDEOUT ROOM LOCK SYSTEM

-If Equipped

If your vehicle is not equipped with a slideout room keylock, then the ignition key must be placed in the on or run position to operate the slideout room(s). The park brake must be applied for the room(s) to run. Winnebago recommends running the engine whenever you run the slideout rooms in or out, the engine alternator should insure the rooms have adequate 12-volt DC power to operate correctly.

SLIDEOUT ROOM TRAVEL LOCKS – ELECTRIC

-If Equipped

Some models are equipped with electric Slideout Room Travel Locks on slideout rooms to restrict movement of the slideout room while the vehicle is in motion. The slideout room will not extend until the lock is fully released.

Slideout Room Travel Lock switches are typically located on a wall in an area near the slideout room.



Slideout Room Travel Lock
(Your model may be equipped
with one or more types)
-Typical View

NOTICE

Release Slideout Lock before attempting to extend slideout room. The room will not extend until the lock is fully released. Fasten Slideout Lock before driving vehicle. See following instructions.

NOTE: *Be sure locks are fully released before attempting to extend or retract room. If the latch mechanisms are protruding more than 1/4", the room will not extend or retract and the slideout pump will run in idle/bypass mode.*

To Release

- Press and Hold the UNLOCK side of the Slideout Room Lock switch for about 7 seconds. (You may be able to hear the lock motor sound stop).

To Lock

- Press and Hold the LOCK side of the Slideout Room Lock switch for about 7 seconds. (You may be able to hear the lock motor sound stop).

Slideout Lock Drain Line

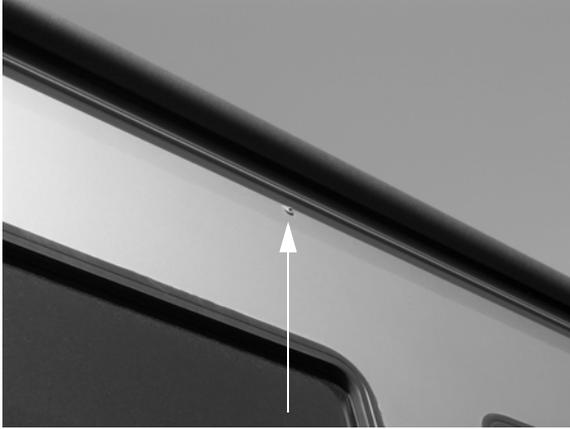
If your coach is equipped with electric Slideout Room Travel Locks, it is recommended to periodically inspect the slideout lock drain line (located near the top of the exterior slideout room).

NOTE: *Depending on the length of your slideout room, there may be two Slideout Room Travel Locks. Therefore, two drain lines will need to be inspected (typically one located on each end of the slideout room).*

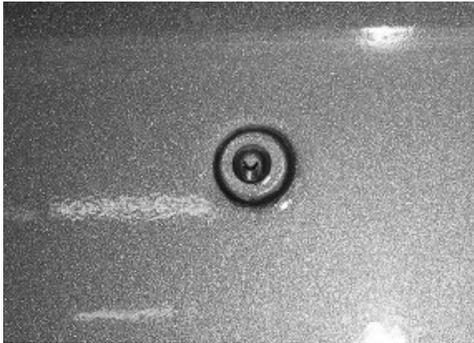
It is possible for dirt and debris to collect inside the drain line and cause obstruction, not allowing water to drain properly. If the drain line

SECTION 7 – SLIDEOUT ROOMS AND LEVELING

is plugged, use a small tool (i.e. pipe cleaner) to dislodge any debris. Failure to comply may result in water backing up inside the drain line, resulting in water leaks and/or property damage.



Slideout Lock Drain Line
(Located near the top of the exterior slideout room)



Master Slideout Room Keylock
(Located near interior slideout control switches)

SLIDEOUT ROOM OPERATION – ELECTRIC

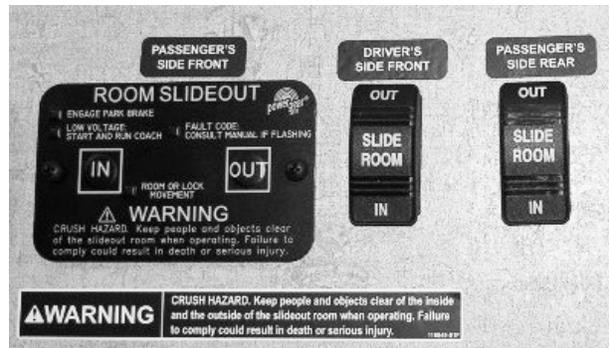
⚠ WARNING

Your vehicle may have more than one slideout room. Understand which switch operates which slideout room prior to operation. Make sure all slideout rooms are clear of people who could be harmed or obstacles that could cause damage prior to operating any slideout rooms. Failure to observe can result in death or serious injury.

SLIDEOUT ROOM KEYLOCK

–If Equipped

A Master Slideout Room Keylock is located near the interior slideout control switch(es). This keylock must be turned ON to operate slideout room(s).

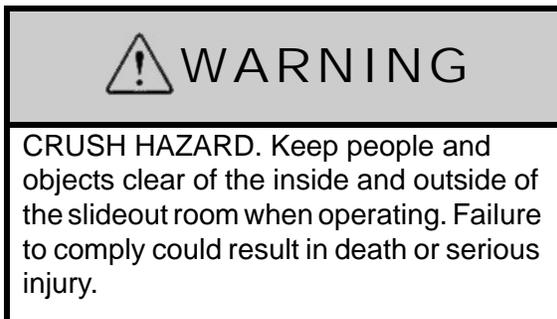


Slideout Switches
(Your coach may have one or more of these switches depending on model, options, and available equipment)
-Typical View



The slideout room system uses 12-volt DC motorized mechanisms with an electronic control system to provide smooth operation and positive weather seal.

NOTE: We recommend that you KEEP THE ENGINE RUNNING WHILE EXTENDING OR RETRACTING SLIDEOUT ROOMS so the engine alternator can provide maximum power for proper operation of the slideout mechanisms.



To Extend Slideout Room

Before Extending!

- Level the coach and set the Parking Brake.
- Release the travel lock or latch (if equipped) inside the coach. *See information at beginning of this section (if equipped).*
- Ensure exterior compartment doors are closed so that they will not interfere with slideout operation.
- Ensure driver and co-pilot seat backs are clear of slideout trim before extending slideout.
- Check inside and outside the vehicle to make sure that there are no people who could be harmed or obstacles that could cause damage due to room extension.

- If the slideout room has a couch or other furniture, make sure no people or pets are seated on them until the room has been fully extended.



Extend Procedure:

See “Before Extending!” before proceeding.

- Start the engine so the alternator can provide maximum power for proper operation of slideout mechanisms.
- Insert the Safety Lock key and turn to activate slideout room control switch.
- Press the Slideout Room “EXTEND/OUT” switch and hold until the room is fully extended, then release the switch.
- To stop extending the room during operation, release the button.
- Deactivate the slideout switch with the Safety Lock key.

To Retract Slideout Room

Before Retracting!

- Be sure the coach is level and the Parking Brake is set.
- Ensure exterior compartment doors are closed so that they will not interfere with slideout operation.
- Ensure driver and co-pilot seat backs are clear of slideout trim before retracting slideout.
- Check inside and outside the vehicle to make sure that there are no people who could be harmed or obstacles that could cause damage due to room retraction.
- If the slideout room has a couch or other furniture, make sure no people or pets are seated on them until the room has been fully retracted.

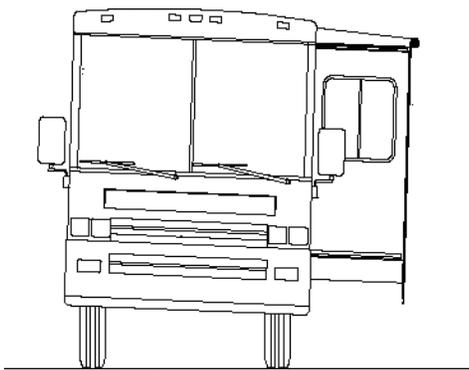
SECTION 7 – SLIDEOUT ROOMS AND LEVELING

- Remove all items from the coach living room floor and close cabinet doors and drawers. Be sure there are no items at the end of the bed, behind the driver seat, or protruding from compartments, which could be crushed or cause damage to floor covering or cabinets when the room is retracted.

NOTICE

Because the slideout roof is drawn into the interior of the coach when retracted, be sure there is no debris, such as excessive dirt, tree seeds, twigs, leaves, etc. on the roof before retracting.

If it has rained recently before you retract the slideout room, we recommend using the hydraulic leveling system (if equipped) to lean the coach and drain off any excess water possibly remaining on the roof before retracting. Lean the coach slightly to the left or right (depending on slideout location), by raising both right or left side jacks to let excess water flow away from the rooftop weather seal and toward the outside of the slideout roof. Retract the slideout slowly, starting and stopping to allow water to drain off room cover.



Retract Procedure:

See ***“Before Retracting!”*** before proceeding.

- Start the engine so the alternator can provide maximum power for proper operation of slideout mechanisms.

- Insert the Safety Lock key and turn to activate slideout room control switch.
- Press the Slideout Room “RETRACT/IN” switch and hold until the room is fully retracted, then release the switch.
- To stop retracting the room during operation, release the button.
- After the room is retracted, deactivate the slideout switch with the Safety Lock key, then refasten the travel lock or latch inside the coach (if equipped).

SLIDEOUT ROOM – EXTREME WEATHER PRECAUTION

Certain extreme weather conditions, such as heavy rains, heavy snow, and high winds, or any combination of these, could cause damage to the slideout room cover-awning (if equipped) or reduce effectiveness of the slideout room weather seals.



Slideout Cover-Awning
-Typical View

Also, freezing rain and snow can prevent the slideout cover-awning (if equipped) from closing and may cause damage to the cover-awning, slideout room, weather seals, and mechanisms.

To avoid potential damage, we recommend retracting your slideout room during extreme weather conditions.

**SLIDEOUT ROOM
TROUBLESHOOTING (POWER
GEAR®) IN WALL SLIDEOUT**

–If Equipped

**Battery Voltage or Circuit Breaker
Problems**

If the slideout room will not work:

- Turn the Chassis Battery Disconnect switch OFF (leave off for 20 seconds) and then turn ON again. This will, in many cases, reset power to the slideout system.
- The chassis battery may be low on charge. Press and Hold the Battery Boost switch (located on the dash) while pressing the interior slideout control switch. This momentarily connects the house batteries to assist in slideout room operation.
- The circuit breaker may be tripped. The circuit breaker, labeled “Slideout Power” is located on a panel on an interior wall of the passenger side storage compartment just behind or ahead of the entrance door.

**Problems Retracting or Extending
the Room**



- Fault Code
LED

Slideout Control Box
(Located in a driver or passenger side
compartment, depending on model)
-Remove panel to access

If an error is detected on your slide system, the LED light on the control panel will blink an error code. If an error code appears, see the In Wall Slideout manufacturer’s user guide in your InfoCase to determine the problem. The error code must be cleared prior to operating the room.

Further Information

See the In Wall slideout room operating guide included in your InfoCase for further instructions and troubleshooting information.

**SLIDEOUT ROOM
TROUBLESHOOTING (POWER
GEAR®) UNDER FLOOR
SLIDEOUT**

–If Equipped

**Battery Voltage or Circuit Breaker
Problems**

If the slideout room will not work:

- Turn the Chassis Battery Disconnect switch OFF and then ON again. This will, in many cases, reset power to the slideout system.
- The chassis battery may be low on charge. Press and Hold the Battery Boost switch (located on the dash) while pressing the interior slideout control switch. This momentarily connects the house batteries to assist in slideout room operation.
- The circuit breaker may be tripped. The circuit breaker, labeled “Slideout Power” is located on a panel on an interior wall of the passenger side storage compartment just behind or ahead of the entrance door.

Problems Retracting the Room

- Set the Park Brake if the Engage Park Brake light flashes while pressing the Retract (IN) button.

SECTION 7 – SLIDEOUT ROOMS AND LEVELING

- Light will flash if park brake not set
- Light will flash fault code if system malfunctions



- Low Voltage Indicator

Slideout Touchpad
(Located near monitor panel)
-Typical View

If an error is detected on your slide system, the LED light on the control panel will blink an error code. If an error code appears, see the manufacturer's user guide in your InfoCase to determine the problem. The error code must be cleared prior to operating the room. To clear the error and reset the system:

- If none of the “Battery Voltage or Circuit Breaker Problems” troubleshooting recommendations reset the system, remove the touchpad from the monitor panel (a screwdriver will be needed) and press and hold the RESET button (“Set Stops/Clear Fault”) located on the back of the touchpad for 5 seconds. The slideout is now ready to be retracted. Press IN on the touchpad to retract the room.
- Reinstall touchpad to the wall.
- Take your vehicle to an authorized service center for repair.

Before operating the room after an error has been detected, check for obvious faults such as obstructions prior to trying to operate the room again. If the error code appears again, the room will need to be retracted using either the manual retraction method or the fully manual method. Both methods listed below are intended as a means to retract the room to prepare the coach for travel to the nearest authorized service center.

Manual Mode

Manual Mode lets you individually move the two room arms by pressing the IN and OUT buttons on the touchpad. This mode can be used only if there is not a motor failure or full electrical system failure. To override the encoder and enter the Manual Mode, press and hold the RESET button (“Set Stops/Clear Fault”) located on the back of the touchpad until the two LEDs begin to flash.

While in the Manual Mode, each of the two room slide arms are activated by pressing and holding the IN and OUT buttons. The “OUT” button will retract the front arm. The “IN” button will retract the back arm. Both IN and OUT buttons may be held down at the same time to simultaneously activate both arms to retract the room. If one side of the room gets ahead of the other, release that button until the other arm catches up. The current limiting feature of the control still functions in the Manual Mode so each side can be fully retracted until it stops.



Once the room has been retracted, the control will return to the automatic mode after 60 seconds.

In the event of a total system failure where Manual Mode cannot be used, two crank handles may be used to retract or extend the room. See *Slideout Emergency Retraction* elsewhere in this section.

Problems Extending the Room

- Set the Park Brake if the Engage Park Brake light flashes while pressing the Extend (OUT) button.

- Light will flash if park brake not set
- Light will flash fault code if system malfunctions



- Low Voltage Indicator

Slideout Touchpad
(Located near monitor panel)
-Typical View

If an error is detected on your slide system, the LED light on the control panel will blink an error code. If an error code appears, see the manufacturer’s user guide in your InfoCase to determine the problem. The error code must be cleared prior to operating the room. To clear the error, perform the following steps (one at a time) to reset the system:

- If none of the “Battery Voltage or Circuit Breaker Problems” troubleshooting recommendations reset the system, remove the touchpad from the monitor panel (a screwdriver will be needed) and press and hold the RESET button (“Set Stops/Clear Fault”) located on the back of the touchpad for 5 seconds. The slideout is now ready to be extended. Press OUT on the touchpad to extend the room.
- If touchpad was removed, reinstall to the wall.
- Take your vehicle to an authorized service center for repair.

Further Information

See the slideout room operating guide included in your InfoCase for further instructions and troubleshooting information.

**SLIDEOUT ROOM
TROUBLESHOOTING
(LIPPERT)**

-If Equipped

Battery Voltage or Circuit Breaker Problems

If the slideout room will not work:

- Turn the Chassis Battery Disconnect switch OFF and then ON again. This will, in many cases, reset power to the slideout system.
- The chassis battery may be low on charge. Press and Hold the Battery Boost switch (located on the dash) while pressing the interior slideout control switch. This momentarily connects the house batteries to assist in slideout room operation.
- The circuit breaker may be tripped. The circuit breaker, labeled “Slideout Power” is located on a panel on an interior wall of the passenger side storage compartment just behind or ahead of the entrance door.

- Status LED's
- Motor Direction
- Mode Button



- Motor 1 Connection
- Motor 2 Connection

Slideout Room Controller
(Located in a driver or passenger side compartment, depending on model)
- Remove panel to access

SECTION 7 – SLIDEOUT ROOMS AND LEVELING

Error Codes

When an error occurs during slideout room operation, the slideout control panel (located in driver side compartment) will use LED display lights to indicate where the problem exists.

For specific motor faults, the green LED light will blink 1 time for Motor 1 and 2 times for Motor 2. The red LED light will blink from 2 to 9 times, depending on the error code. The error codes are as follows:

- **(2) - BATTERY DROP OUT.** Battery capacity low enough to drop below 6 volts while running.
- **(3) - LOW BATTERY.** Voltage below 8 volts at start of cycle.
- **(4) - HIGH BATTERY.** Voltage greater than 18 volts.
- **(5) - EXCESSIVE MOTOR CURRENT.** High amperage (also indicated by one side of slideout room continually stalling).
- **(6) - MOTOR SHORT CIRCUIT.** Motor or wiring to motor has shorted out.
- **(8) - HALL SIGNAL NOT PRESENT.** Encoder is not providing a signal. This is usually a wiring problem.
- **(9) - HALL POWER SHORT TO GROUND.** Power to encoder has been shorted to ground. This is usually a wiring problem.

NOTE: When an error code is present, the slideout control panel needs to be reset. Operating the Extend/Retract switch will reset the slideout control panel. Operate the Extend/Retract switch again for normal operation.

Manual Override

In the event that the slideout room fails to retract and manual operation is required:

- Locate the slideout control panel (located in driver side compartment).

- Press the Mode button 6 times, quickly. Press a 7th time and hold for approximately 5 seconds.
Red and green LED lights will begin to flash, confirming the override mode.
- Release Mode button.
- Use the slideout control switch (located inside the coach) to retract the room.

NOTE: If slideout room fails to retract using the Manual Override method, see “Slideout Emergency Retraction” elsewhere in this section.

Further Information

See the slideout room operating guide included in your InfoCase for further instructions and troubleshooting information.

SLIDEOUT EMERGENCY RETRACTION (POWER GEAR®) IN WALL SLIDEOUT

–If Equipped

If the slideout mechanism is malfunctioning and the room will not retract using the interior control switch, see the In Wall Slideout Room operating guide included in your InfoCase for further instructions and troubleshooting information.

SLIDEOUT EMERGENCY RETRACTION (POWER GEAR®) UNDER FLOOR SLIDEOUT

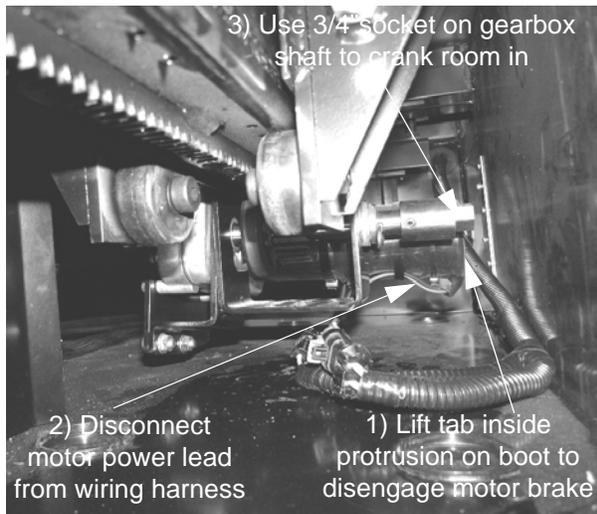
–If Equipped

If the slideout mechanism is malfunctioning and the room will not retract using the interior control switch, you may need to access the motor/gear assembly and manually crank the room in to the travel position.

Your coach may be equipped with one or two motor/gearbox units (depending on model), which is located beneath the slideout room rail (or beneath each of the slideout room rails, if equipped with two motor/gearbox units).

Crank-In Procedure

1. Disengage the motor brake, which appears as a flat “square” protrusion on the protective boot at the end of the motor. Move the brake lever slightly - about 1/8 turn counter-clockwise, or to left when facing end of motor (repeat for motor at other end of room, if equipped).
2. Disconnect the motor power lead from the wiring harness (repeat for motor at other end of room, if equipped).
3. Use a 3/4” socket and ratchet wrench on the motor gearbox shaft to crank the room in to the travel position.



Slideout Motor/Gear Assembly
(Located beneath end of slideout room rail)
* Shown with slideout room extended
-Typical View

NOTE: If equipped with two motor/gearbox units, crank both sides of the room alternately and equally to avoid wedging the room.

If help is available, a second person (with a duplicate socket and ratchet) cranking the other end simultaneously will greatly speed up the process.

4. Crank the room(s) until it is just “snugged up.” Do not over-crank or you could damage the gear assembly.

5. While maintaining pressure on ratchet wrenches, re-engage the motor brake by moving lever clockwise slightly - or to right when facing end of motor (repeat for motor at other end of room, if equipped).
6. Reconnect motor power lead to wiring harness (repeat for motor at other end of room, if equipped).
7. Fasten slideout room travel latching device (if equipped) inside the coach before driving the vehicle.
8. See your dealer for service of the slideout mechanism before using again.

Further Information

See the Under Floor Slideout Room operating guide included in your InfoCase for further instructions and troubleshooting information.

SLIDEOUT EMERGENCY RETRACTION (LIPPERT)

-If Equipped

If the slideout mechanism is malfunctioning and the room will not retract using the interior control switch or exterior control panel, you may need to access the slideout motors and manually push the room in to the travel position.

There are two slideout motors equipped on the end wall of each slideout room. Pull back wipe seal to access motors.

NOTE: Use caution when removing components on painted units.

Push-In Procedure

1. Using a razor blade, remove sealant from the top of screw cover.

SECTION 7 – SLIDEOUT ROOMS AND LEVELING



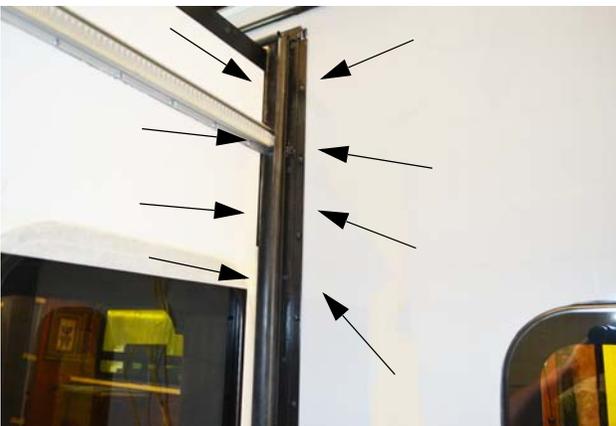
2. Using a flat-head screwdriver, push it up underneath the screw cover and pull up to release the cover. Remove the rest of the cover by hand and set aside.



5. Using a flat-head screwdriver, push bottom of slideout motor UP to disengage (approximately 1/2" from base).
Repeat on opposite slideout motor.



3. Remove the top (4) pan head screws and top (4) flat head screws at the top of the aluminum trim.



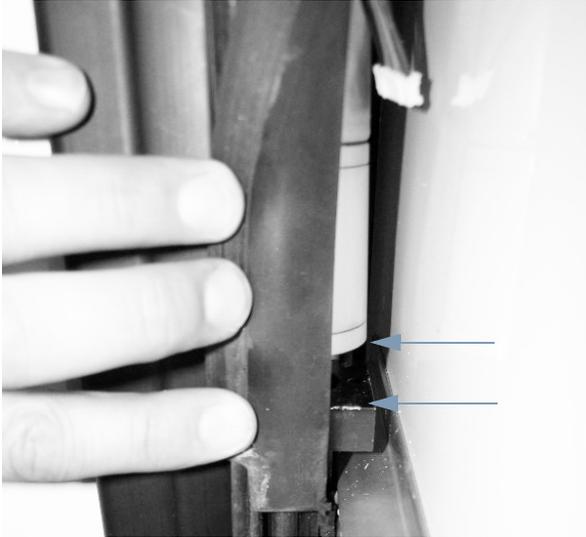
4. Gently pull aluminum trim away from sidewall with hand to disengage screw from motor.



Slideout Motor

(Located behind slideout wipe seal)

- Use a screwdriver to push slideout motor UP (disengage).



- Ensure slideout motor is disengaged approximately 1/2" from base.

6. Push slideout room in to travel position, ensuring both sides are relatively even.

NOTE: Several people may be needed to push the room in.

7. When the slideout room is fully retracted, secure the room with a support item (e.g. 2x4 wood board) above the interior slideout room to secure room during travel.

NOTE: For larger slideout rooms, place a travel support item on each end of the interior slideout room.



Slideout Travel Support
-Typical installation shown

- Place support item (e.g. 2x4 wood board) above interior slideout room as shown.

8. See your dealer for service of the slideout motors before using again.

Further Information

Please refer to the slideout manufacturer's user guide provided in your InfoCase for further instructions and troubleshooting information.

GENERAL SLIDEOUT CARE

- Keep slideout room seals clean.
- Clean the floors inside the coach before retracting the slideout room to avoid floor scratches or carpet pile snags.
- Wipe outer slideout room seals occasionally with talc or 303 brand protectant for smooth, quiet operation.
- See your authorized dealer for regular maintenance and service of the slideout mechanism.

Slideout Room Seal Care and Maintenance

While most household cleaners work well for cleaning slideout room seals, certain chemical agents may cause the seals to degrade. Typically, 409[®] and Lysol[®] type products work well. Use a product, such as Armor All[®] to keep seals soft.

In addition, certain caulks and sealers may include chemicals that may adversely effect the performance of the seals. See your authorized dealer for caulks and sealers recommended for your coach.

LEVELING SYSTEM

-If Equipped

The Hydraulic Leveling System makes selecting a parking site easier and faster by reducing the effect of uneven ground.

Hydraulic jacks raise the affected low corners of the coach to make leveling "set up" faster and easier for you.

The Hydraulic Leveling System Control Panel is located on the dash.

SECTION 7 – SLIDEOUT ROOMS AND LEVELING

See the **Leveling System Operation Guide** provided in your **InfoCase** for complete operating instructions. It also contains additional precautions, technical information, and instructions for manual operation if a system failure occurs.

NOTE: When parking at an uneven site, always park the front of the vehicle to the downhill side. This allows you to level by raising the front end rather than the rear. Since only the rear wheels are locked while in PARK, raising either one or both of the rear wheels off the ground could allow the vehicle to roll off the jacks.



WARNING

- Keep all people clear of the coach while the leveling system is operating.
- When extending the rear stabilizers, do not lift the wheels beyond ground contact. This makes it possible for the vehicle to roll unexpectedly forward (or backward) off the jacks. This could cause severe injury or death.
- Do not use the levelers on icy or slick surfaces on which the foot pads may slip.
- Do not use leveling jacks to support the vehicle for service or tire changing.
- Do not use the leveler as an emergency brake. They are not designed for any type of vehicle braking purpose.
- Never check for hydraulic fluid leaks using your hands and/or any other body part. The leaking fluid is under pressure and is capable of cutting and penetrating your skin, resulting in severe injury.

Auto Level Remote Switch

In addition to the Leveling System Control Panel, there is an additional Auto Level Remote switch for your leveling convenience.

This switch allows you to extend or retract your jacks and observe them at the same time. It also allows you to stop them suddenly, if needed, without having to climb in and out of the coach.

The Auto Level Remote switch is located near the entrance door.



Auto Level Remote Switch
(Located near entrance door)
-Typical View

Jacks Down Light

The “Jacks Down” reminder is intended to warn you to retract your Leveling Jacks before moving the vehicle. The light will come on briefly and a chime will sound when the ignition key is turned to the On or Run positions if the jacks are down.



“Jacks Down” Light
(Located on dash)
-Typical View

NOTICE

- Do not try to drive vehicle unless “TRAVEL” light is glowing with ignition switch on.
- Do not try to drive the vehicle until the air suspension system has built up sufficient pressure if you have used the coach leveling system or have used the DUMP button to manually exhaust the air suspension system.
- Do not rely only upon the warning lights to indicate when jacks are up. It is the owner’s responsibility to check that all jacks are up before moving the coach.

NOTE: If the Leveling Jacks should fail to retract, see “Troubleshooting” and emergency operation instructions in the Leveling System Operation Guide provided in your InfoCase.

In The Event Of Accidental Jack Extension

1. Bring the vehicle to a safe and complete stop as soon as possible.
2. Turn the Leveling System Power switch ON, use the arrow “Down” button and select “Auto Retract”, and press Enter).
3. Visually inspect the vehicle undercarriage for any problems.
4. See the Leveling System Operation Guide supplied in your InfoCase for troubleshooting instructions or operating the Leveling System if jacks fail to retract or any other functions fail.

Further Information

See the manufacturer’s operation guide provided in your InfoCase for complete operating instructions, safety precautions, and troubleshooting tips.

SECTION 7 – SLIDEOUT ROOMS AND LEVELING

CHECKING HYDRAULIC OIL LEVEL

See the Leveling System Operation Guide provided in your InfoCase for complete maintenance instructions and information.

All maintenance should be done as part of the normal servicing of the coach.

The hydraulic oil level should be checked when the vehicle is first purchased and after any extended storage. During regular vehicle use the hydraulic fluid level should be checked once a month. If an oil leak develops, the hydraulic oil level needs to be checked frequently until repairs can be completed.

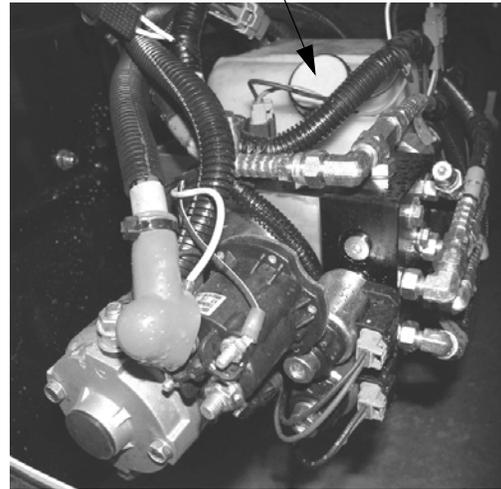
The hydraulic pump/reservoir is located behind the driver side front tire. In certain models, an access panel must be removed to access the pump/reservoir.

NOTE: Leveling jacks must be in the retracted (UP) position to get an accurate oil level.

The hydraulic oil level is checked visually by inspecting the hydraulic oil reservoir. Always keep the hydraulic oil level full (to the lip of the breather cap).

NOTE: Always clean away any dirt and debris from the top of the reservoir before removing the breather cap to avoid entry of debris and contamination of hydraulic oil in the reservoir, which could lead to pump failure or other problems.

Breather/Fill Cap



Hydraulic Oil Reservoir
(Located behind driver side front tire)
-Typical View

NOTE: Only fill the hydraulic reservoir with the jacks in the retracted (UP) position. Adding fluid with the jacks in any other position will cause fluid to leak through the breather/fill cap.

Hydraulic Fluid Recommendation

The leveling system is filled from the factory with AW-22S synthetic hydraulic oil that has been specially formulated for use in the leveling system and that is compatible with Automatic Transmission Fluid (ATF).

DO NOT USE brake fluid or hydraulic jack oil, which can damage the seals and cause leaks.

Further Information

For replacement fluids, see the manufacturer's recommendation in the leveling system operation manual provided in your InfoCase.

SECTION 8 – MAINTENANCE AND STORAGE

SEALANTS – INSPECTION AND GENERAL INFORMATION

Water is a recreational vehicle’s worst enemy when it is allowed to enter where it is not intended. Sealants perform a very important function and should be inspected closely and maintained regularly. Winnebago Industries® utilizes many different types of sealants. Refer to the “Sealants Call-Out Sheet” provided in your InfoCase for further information.

Sealants, in general, do not have “set” lifetimes. Varying environmental factors affect the pliability and adhesiveness of sealants. You or your dealer must:

- Inspect all sealants, a minimum of every six months.
- Inspect the moldings, windows, clearance lights, exterior compartment doors, and all their attachments.
- Also, inspect weather seals around entrance door, etc., and if necessary, have a dealer replace them immediately.
- Check for cracks, voids, gaps, breaks, adhesion, and any sign of physical deterioration.

NOTE: Proper sealant inspection includes not just visual observation but running a finger along sealant seams to verify proper adhesion to the surface. Any loosened areas must be replaced.

- Have the sealant replaced if you notice any of the above. Your local Winnebago Industries dealer has the correct and necessary parts and experience to help you maintain your sealants. See “Sealants Call-Out Sheet” provided in your InfoCase.
- Always use the same type sealant that was removed.
- Immediately have dealership check moldings, windows, and exterior attachments for leak source if you notice water inside of unit.

NOTICE

Sealants must be inspected every 6 months and replaced if necessary.

ROOF

WARNING

STAY OFF ROOF. Surface may be slippery. Falling could result in death or serious injury.

The roof is made of Thermo-Panel materials like the walls and floor. It will support the weight of an average adult for periodic maintenance or repair of the roof or roof mounted components.

Walking or working on the roof should be left to qualified service personnel using proper safety equipment in a safe environment. You should only walk or work on the roof if you are qualified and have created a safe environment.

For your safety, it is not recommended that you store or carry items on the roof.

Always have damage to the roof area repaired immediately. Damaged or detached sealant around the vents, air conditioner, body-to-roof seams, etc., should also receive immediate attention. Delaying these repairs may allow water leakage and result in damage to interior ceiling and body panels, upholstery, etc., which is not covered by the limited warranty (see “New Vehicle Limited Warranty” provided at the beginning of this manual).

SECTION 8 – MAINTENANCE AND STORAGE

UNDERCARRIAGE

Buildup of mud and dirt under the body of the vehicle can cause damaging rust or corrosion on steel or aluminum parts and can add needless weight to the vehicle. This, in effect, reduces the amount of cargo you can carry and remain within GVWR and GAWR limits.

Corrosive materials, such as those used for ice and snow removal and dust control, can also accumulate on the underside of a vehicle. These materials should be removed by flushing the undercarriage regularly with water, especially horizontal surfaces, cavities, and other areas where mud and other deposits may collect.

PLASTIC PARTS – CLEANING

Many parts in your vehicle, such as the dash, exterior light lenses, and certain exterior body panels are made of high-impact plastic materials that can be damaged by wiping with solvents or improper cleaning products.

Always try cleaning plastic parts with the mildest cleaners first and work your way up to stronger cleaning products. Use the following cautionary lists as a guide when selecting cleaning products to use on plastic parts.

NOTICE

Do not use citrus-based cleaners on polycarbonate finishes. Citric compounds will damage the high-gloss surface, causing it to appear dull or “flat”. Always test a cleaning product on a hidden area to be sure it will not cause damage to the appearance of the part.

Here is a list of mild cleaners that **may be used safely**:

- Car washing soap and water
- Glass cleaners *without ammonia*
- Mineral oil

- Multipurpose cleaners (such as Fantastik[®], Formula 409[®], etc.)

The following products, compounds, or solvents must be **wiped off immediately** to avoid damage:

- Ammonia
- Brake fluid
- Bathroom basin, tub, and tile cleaners
- Chlorine
- Ethyl alcohol
- Isopropyl (rubbing) alcohol
- Kerosene or gasoline
- Naphthalene
- Pine-type household cleaners

Do not use cleaners containing the following products, compounds, or solvents. These products **will damage** the finish.

- Acetic acid
- Acetone (nail polish remover)
- Aromatic solvents (lacquer thinners)
- Benzene
- Butyl alcohol

HEADLIGHTS AND EXTERIOR LIGHTS

Exterior Light Lenses

Most Winnebago Industries[®] vehicles have polycarbonate lenses on exterior lamps, which are very sensitive to a variety of chemical solvents and cleaners.

Use only soap and water to clean exterior lamp lenses - especially headlights.

- Contact with certain chemicals can cause etching, “crazing”, or cracking of the lens, which can significantly reduce the lens clarity and effectiveness of the lamp and may require replacement of the complete lamp housing.
- Some popular citric acid cleaners may cause bicarbonate lenses to become “hazy” or “foggy”.
- Do not use a pressure washer to clean headlights.

- Inspect and operate the lights regularly to confirm proper operation and mounting condition.

Headlight Moisture

Your coach is equipped with composite headlights, which contain replaceable halogen “bulb” elements, common to most current automobiles. This type of lamp assembly is not sealed from the atmosphere and is designed with a moisture venting system.

Because they are not sealed, under “dew point” conditions the headlights may exhibit signs of humidity condensation on the reflector surface and lens, such as small droplets of water or “fogging over”.

If this happens, drive with the headlights on so the moisture can evaporate and expel through the venting system designed into the headlamp assembly.

DOORS AND WINDOWS

Windows may be periodically cleaned with a good quality glass cleaner or mild soap solution using a soft cloth.

Use care when removing ice or frost from the windows. Always use a plastic ice scraper, never one made of metal. Use care when removing ice from the mirrors to protect the reflective surfaces.

Door locks and hinges should be lubricated periodically with powdered graphite to ensure trouble-free operation and to protect against freeze-up.

VEHICLE STORAGE – PREPARATION

Properly preparing your vehicle for storage will lessen the possibility of damage to your vehicle. Prepare the vehicle for vacancy just as you would if you were leaving your house for an extended period.

Clean and Prep Coach for Storage

1. Turn off the propane gas tank.
2. Turn the electronic thermostat switch OFF.

3. **Fully charge the batteries. Batteries must have at least 80% charge to survive freezing temperatures and long period of non-use.** We recommend that you connect a battery charger or plug in the shoreline once a month during long-term storage periods to maintain battery charge and to avoid sulfating. If connecting a charger directly to batteries, turn the House/Coach Battery Disconnect switch off to avoid electrical arcing when attaching and detaching charge clamps.

NOTE: We do not recommend leaving the shoreline plugged in continuously during storage.

4. After charging batteries, turn the House/Coach Battery and Chassis Battery Disconnect switches off to disconnect the batteries and avoid parasitic* drain.

** Parasitic battery drain is the gradual drain by items connected directly to battery power such as clocks, radio memory, and the engine computer.*
5. Have the vehicle chassis completely serviced and lubricated. Be sure radiator antifreeze protection level is sufficient for the lowest anticipated temperatures.
6. Wash and wax the coach.
7. Inspect all seams and seals around doors, windows, vents, and any other joints. Replace or repair any that are damaged. Sealing materials and compounds can be purchased from your dealer. Badly damaged weather seals may need to be replaced by your dealer.
8. Close all windows and roof vents. Protect all appliance vent openings from contamination by animals or insects (e.g. bird nest, wasp nests, etc.)
9. Lubricate all door hinges and locks.
10. Clean the interior of the coach. Dirt and stains are more easily removed when fresh.

If you are storing your vehicle through the winter or in cold climates, extra preparations must be made to protect equipment and systems

SECTION 8 – MAINTENANCE AND STORAGE

that can be damaged by freezing temperatures. See “Winterizing Procedure” in *Section 7 - Plumbing*.

VEHICLE STORAGE – REMOVAL

1. Completely air out the vehicle.
2. Have the entire LP gas system checked for leaks.
3. Check window operation.
4. Check around all appliances for obstructions and ensure that all vent openings are clear.
5. Clean walls and surfaces.
6. Replace batteries, if necessary, and check out electrical system to make sure all lights and electrical components operate.
7. Check tires for proper cold inflation pressure. See “Vehicle Certification Label” in *Section 1 - Introduction*.
8. After washing accumulated winter grime from the vehicle, it is important to carefully inspect the seams and sealants for separation or cracks that may have appeared around the window frames, vents, and any other joints. See “Sealants – Inspection and General Information” at the beginning of this section. Re-sealing is quite simple and the material is quickly and easily applied. Appropriate compounds are available from your dealer. See “Sealants – Recommended Application” page in the Supplement Manual provided in your InfoCase.
Also inspect weather seals around doors, etc., and if necessary, have a dealer replace immediately.

CHASSIS SERVICE AND MAINTENANCE

Consult the appropriate sections in your chassis manual for specific information regarding operating safety, service recommendations, and maintenance schedules for the chassis section of your vehicle.

CHASSIS FUSES AND RELAYS (Freightliner® Chassis)

Chassis and dash component fuses and relays are located behind driver side front hood panel.



Automotive Fuses
(Located behind driver side front hood panel)
-Typical View



- Typical Installation shown

See the chassis manufacturer’s fuse allocation chart inside your InfoCase.

SECTION 9 – MISCELLANEOUS

LOADING THE VEHICLE

NOTE: Your vehicle's load capacity is designated by weight, not by volume, so you cannot necessarily use all available space when loading your vehicle.

- Store or secure all loose items inside the vehicle before traveling.
- Be aware of GVWR, GAWR, and individual load limit on each tire or set of duals.

When loading the vehicle, distribute the cargo load equally so that you do not exceed either the Front or Rear Gross Axle Weight Rating (GAWR) or the Gross Vehicle Weight Rating (GVWR). The Gross Axle Weight Rating (GAWR) means the weight value specified by the chassis manufacturer as the load carrying capacity of a single axle system as measured at the tire-to-ground interfaces. This is the total weight a given axle is capable of carrying. Each axle has its own rating.

Have your vehicle weighed to determine the proper load distribution for your vehicle. Also distribute cargo side-to-side so the weight on each tire or dual set does not exceed one half of the GAWR for either axle.

For example, if the Front GAWR is 6,000 lbs., there should be no more than 3,000 lbs. on each tire. (If the left side weighs 3,100 lbs. and the right side weighs 2,700 lbs., at least 100 lbs. of the load must be shifted from the left side to the right side.) The GVWR is listed on the Vehicle Certification Label. (See sample in *Section 1 - Introduction*).

The GCWR (Gross Combination Weight Rating) means the maximum allowable loaded weight of this vehicle and any towed trailer or towed vehicle.



WARNING

The weight of the loaded vehicle (including options, attachments, passengers, water, fuel, luggage, and all other cargo) must not exceed the GVWR or GAWR of either axle.

WEIGHING YOUR LOADED VEHICLE

To check the weight of your fully loaded coach, locate a commercial weighing scale that is capable of weighing large trucks.

NOTE: Sales literature may give approximate or standard weights. Your actual coach weight may differ based on added factory and/or dealer options.

Loading

Load your vehicle completely with everything you would typically carry.

Finding a Scale

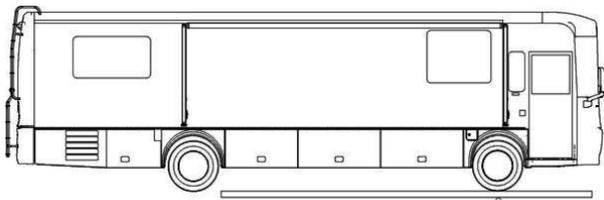
In urban areas, the most common places to find a public access scale are commercial truck stops. In rural areas, most grain storage elevators have scales available. Most scales charge a nominal fee for weighing a vehicle.

Weighing

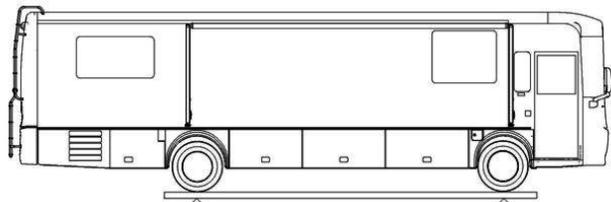
There is typically a scale operator to direct you but the basic routine is to take three separate weights - front axle, whole vehicle, and rear axle.

You will first drive only your front wheels onto the scale pad, then drive ahead so that the whole vehicle is on the scale, then finally pull off until just the rear wheels are on the pad.

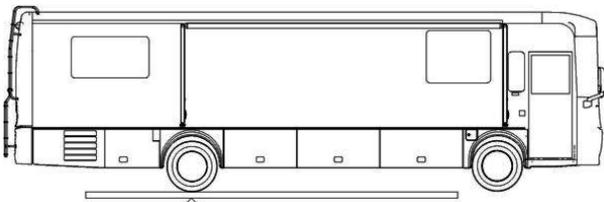
SECTION 9 – MISCELLANEOUS



Front GAWR (Front Axle Only)



GVWR - Whole Vehicle (All Axles)



Rear GAWR (Rear Axle Only)

You will receive a weight “ticket” that states your current Front Gross Axle Weight, Rear Gross Axle Weight, and Gross Vehicle Weight. You can compare these weights to the weight ratings listed on your Vehicle Certification Label to use as a guideline for future loading limits and weight distribution.

The gross weight of the vehicle must not exceed the Gross Vehicle Weight Rating (GVWR) specified on the Vehicle Certification Label. The front and rear axle weight also should not exceed the corresponding Axle Weight Rating specified on the Vehicle Certification Label.

Corner Weighing (Side-to-Side)

The most accurate method of weighing a vehicle is to weigh each “corner” of the coach separately (single L/R front wheels or L/R rear

dual sets.) This method will help you determine how to distribute your cargo to avoid overloading, especially on tires.

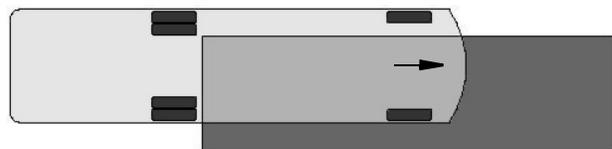
To determine the weight distribution on each tire or dual set, you will need to find a scale capable weighing side-to-side, or all four “corners” of the vehicle, separately.

A truck scale may be used if the ground is level with the scale surface and the scale has clearance to drive one side of the coach onto the scale as shown.

Drive the coach on the level area next to the scale and straddle the scale so that only one side of the coach will be on the scale pad.

NOTE: Wind and precipitation can also cause weight inaccuracies.

Pull only the right front wheel onto the scale pad as shown.



Weighing Right Front Corner

When the front wheel has been weighed, pull the coach straight ahead until only the right rear wheel/dual set is on the scale pad as shown.



Weighing Right Rear Corner

Now, turn the coach around and repeat the process for the other side.

The load on each wheel or dual-wheel set should not exceed one-half of the corresponding GAWR. For example, if the GAWR for the rear axle is 12,000 lbs., then the load on each rear dual set (left rear duals or right rear duals) should not exceed 6,000 lbs.

Tires must be filled to the recommended air pressure for the highest loaded tire set on that axle. For example, on the rear axle, if the left side weighs more than the right, fill the left tires to the pressure required for that weight, then fill the right tires to the same pressure as the left ones.

If your actual weight is considerably less than GAWR, you may be able to lower your tire pressure. See a tire dealer for a load/pressure chart.

NOTE: The Hitch Load from a Towed Vehicle or carrier box must also be counted on the Rear GAWR and subtracted from the rear axle cargo capacity.

Be aware that hitch load can affect handling characteristics. The more weight on the hitch, the lighter the front end will feel at the steering wheel.

CAR OR TRAILER TOWING

Hitch Capacity*

5,000 lbs. max.

Tongue Weight*

500 lbs. max.

The factory installed towing hitch on this coach is capable of pulling 5,000 lbs. load (max.), however, the vertical (tongue) weight may vary according to chassis and model combinations (*see label on hitch). Towing capacity may be less than hitch rating.

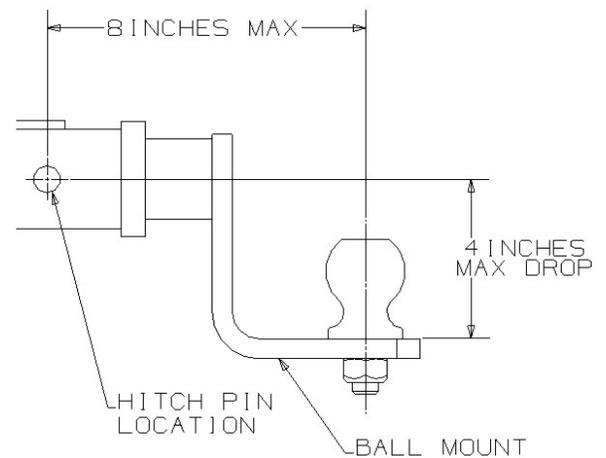
When towing a trailer or vehicle, do not exceed either the GVWR, the rear axle GAWR, or the chassis GCWR by the combined loaded weight of the coach and the towed vehicle. *See preceding items “Loading the Vehicle” and “Weighing Your Loaded Vehicle” for explanation of weight ratings.*

Because of individual vehicle use and loading habits, we recommend weighing the vehicle while fully loaded to avoid exceeding any of the listed Gross Weight Ratings. See “Vehicle Certification Label” in the Introduction section for information on gross weight ratings.

Towing will affect vehicle handling, durability, and fuel economy. Exceeding any of the listed Gross Weight Ratings will result in unacceptable overall vehicle performance. Maximum safety and satisfaction when towing depends on proper use of correct equipment.

When towing a vehicle behind your vehicle, the tow bar should be level or pointing slightly upward towards the tow vehicle.

When coupling the vehicle tow bar to the Factory Receiver Hitch using a “drop receiver” or a conventional “ball mount” (commonly referred to as a “stinger” or a “draw bar”), do not exceed a 4” drop, nor one that the centerline of the hitch pin to the centerline of the ball exceeds 8”. See the following Hitch Assembly illustration.



Hitch Assembly

If a towing “brake system” is required, we recommend that a “modulated” towed vehicle braking device be installed. This means that when the vehicle brakes are applied, whether hard or soft, a mirror effect occurs in the braking of the towed vehicle. In other words, the more force applied to the vehicle brakes, the more force will be applied to the rear vehicle’s braking system.

We do not recommend the usage of a “surge-style” braking device. The usage of a surge brake (especially when coupled with a hitch ball located outside our recommended limits) places

SECTION 9 – MISCELLANEOUS

excessive stress on the hitch. This abuse of the ball mount and the hitch may cause premature hitch assembly failure.

Finally, do not forget to consider the actual tongue weight. This should not exceed the stated hitch vertical load for your vehicle. This weight is typically defined as the tongue weight of a towed vehicle hitch, boat trailer tongue weight, or a receiver-mounted carrier rack.

Check state regulations on trailer weight and trailer brake requirements to be sure you select the right equipment before towing.

Before descending a steep or long grade when towing a trailer, reduce speed and shift into a lower gear to control vehicle speed. Avoid prolonged or frequent application of brakes which could cause overheating and brake failure.



WARNING

For safe towing and vehicle handling, maintain proper trailer weight distribution. The total weight of the vehicle and the vehicle towed must not exceed the Gross Combined Vehicle Weight rating. See the “Body and Chassis Specification” chart in the Introduction section.

NOTICE

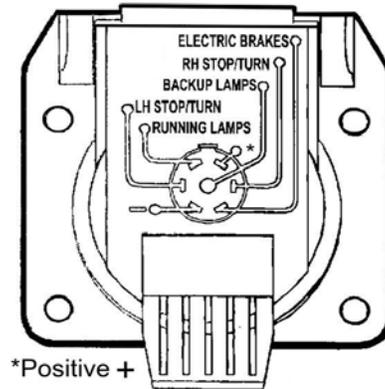
Exceeding any of the recommended gross vehicle weight ratings may result in vehicle damage. Do not install a frame equalizing-type hitch on your vehicle.

TRAILER WIRING CONNECTOR

Your coach is pre-wired for trailer or car towing lights with a 7-pin socket.

The following diagram shows proper connection of trailer or tow vehicle wiring to the coach light system. The “pigtail” assembly with the (car/trailer end) connector plug should be wired by a qualified technician.

The trailer brake controller connector is located to the left of the steering column.



TOWING GUIDELINES

Gross Vehicle Weight Rating (GVWR)

This is the maximum allowable weight of the fully loaded vehicle. Included are fuel, LP, passengers, cargo, tools, and optional equipment installed by the vehicle manufacturer, dealer, or owner. This value is found on the VIN label, typically placed near the driver position.

Gross Axle Weight Rating (GAWR)

This is the total weight a given axle is capable of carrying, measured at the ground. Each axle has its own rating. These values are also found on the Vehicle Certification Label: front and rear.

Gross Combination Weight Rating (GCWR)

This is the maximum allowable weight of the vehicle and loaded trailer, including the items noted in GVWR above. For purposes of this definition, the “trailer” can be a trailer, a vehicle towed on a dolly, or a vehicle towed by means of a tow bar. GCWR is typically specified based on durability and performance of the tow vehicle drive train: engine and cooling systems,

transmission, drive line, drive axle, and others. The tow vehicle brakes may be rated for operation at GVWR, not GCWR.

*NOTE: State or provincial laws/regulations may require the “trailer” to be equipped with brakes that are activated when the vehicle brakes are applied. **The user is responsible to know and understand the laws of the state or province being traveled.** The Department of Transportation in a given state or province should be able to provide specific information.*

Hitch Ratings

SAE Standard J684 defines:

- Class 1 trailers as “GVWR not to exceed 2,000 lbs”.
- Class 2 trailers as “GVWR over 2,000 lbs. and not to exceed 3,500 lbs. GVWR”.
- Class 3 trailers as “GVWR over 3,500 lbs. and not to exceed 5,000 lbs. GVWR”.
- Class 4 trailers as “GVWR over 5,000 lbs. and not to exceed 10,000 lbs. GVWR”.

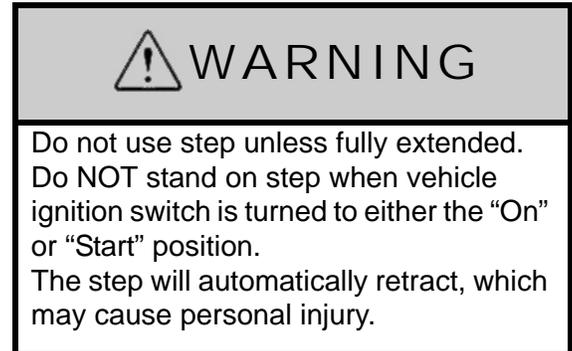
Hitches are to be permanently marked with “Maximum trailer GVWR to be drawn” and “Maximum vertical tongue weight to be imposed.” The SAE standard does not specify a vertical load rating.

Traditionally, hitches are labeled 3,500/350 as Class 2, 5,000/500 as Class 3, and 10,000/1,000 as Class 4. The vertical tongue load value of 10 percent of drawn rating comes from the collective experience that 10 percent is the minimum value that provides stable towing of a trailer.

Ford’s towing guide suggests 10 to 15 percent for trailers over 2,000 lbs. Within GCWR, a Class 3 hitch allows “dingy” towing a large car or mid-size SUV; a Class 4 hitch allows “dingy” towing a large SUV or pickup. (Hitch ratings are independent of towing vehicle ratings.)

The user must verify that the hitch equipment being used is adequate for the application.

STEP (ENTRY) – ELECTRIC



The power switch for the electric entry step is located to the left of the main entry door as you enter the coach.



Entry Step Switch
(Located near the entrance door)
-Typical View

The step has several automatic extend/retract functions that are controlled by the position of a sensor mounted on the inner edge (hinge side) of the screen door.

Automatic Mode - Entry Step Switch ON (Step Operates with Door)

With the Step switch in the ON position, the step is in Automatic Mode. This means it will extend and retract automatically whenever the screen door is opened or closed.

SECTION 9 – MISCELLANEOUS



Red Activation Lever

- The red Activation Lever located on the entry step switch must be depressed in order to put the step switch in the ON position.

Stationary Extended Mode - Step Switch OFF (Step Remains Extended)

With the Step power switch in the OFF position, the step will extend when the screen door is opened and will stay extended whether the door is opened or closed.

NOTE: The step switch is “locked” in the OFF position.

This position is normally used to keep the step extended when parked at a campsite or whenever people will be going in and out the vehicle frequently.

Automatic Retraction Feature

The step is equipped with an automatic retraction feature that stores the step automatically if the main entry door is closed and the Ignition Switch key is turned to the On or Run positions.

The step WILL RETRACT even if the Step switch is OFF.

This feature is intended to prevent injury or damage by an extended step while the vehicle is moving.

Further Information

For additional information on the step, see the manufacturer’s operators manual included in your InfoCase.

ROOF LADDER

–If Equipped

WARNING

STAY OFF ROOF. Surface may be slippery. Falling could result in death or serious injury.

The ladder on your vehicle is provided for limited access to the roof.

Walking or working on the roof should be left to qualified service personnel using proper safety equipment in a safe environment. You should only walk or work on the roof if you are qualified and have created a safe environment.

For your safety, it is not recommended that you store or carry items on the roof.

Before Using the Ladder

- **Inspect the ladder** to make sure it is not damaged. Never use a damaged ladder.
- **Keep the rungs of the ladder clean and dry** while in use. Never use the ladder when it is raining, snowing, or icy. The rungs can become slippery. Do not step onto the rungs if the rungs are wet, or if your shoes are wet or carry mud or debris that could result in a loss of footing.
- **Never ignore warning labels** or weight limits defined on your ladder. The following warning label is located on or near the ladder:

WARNING

Do not exceed 225-lb. maximum weight capacity. Misuse of ladder could result in death or serious injury. See Operators Manual before using ladder.

- **Maximum Capacity: 225 lbs.**
- **Do not overload.** Ladder is intended for one person.

- **Make sure you are physically capable** to safely use the ladder. Strength, flexibility, and stability are required.
- **Be aware that the vehicle may sway** as you climb the ladder. Do not use the ladder in high winds.
- **As you climb the ladder**, grasp the side rails firmly and always use both hands. Keep your body centered between the side rails. Do not over-reach.
- **Never allow children** on the ladder.
- **Do not transport items** anchored to the ladder. You could damage the ladder.

We recommend turning this switch OFF when the coach is not in use to avoid battery drain if a compartment light is left on accidentally.



Compartment Lights Switch
(Located near entrance door)
-Typical View

STORAGE COMPARTMENT DOORS

The high-density gaskets used on the exterior storage compartments are designed to provide a more positive seal against dust and weather. Sometimes this seal firmness can inhibit complete latching of the compartment doors if they are simply “dropped shut” or closing force is applied only to the center of the door.

To ensure that exterior storage compartment doors have latched properly, press firmly on the bottom edges (side edges - if equipped) of the doors with the palms of your hands. If the door is ajar you will hear and feel a loud “click” when the latches engage properly.

COMPARTMENT LIGHTS SWITCH

The Compartment Lights switch powers the lights inside of the compartments. This switch is located near the entrance door.

- Press the switch UP (On) to supply power to the compartment lights.
- Press the switch DOWN (Off) to disable power to the compartment lights.

NOTE: The Compartment Lights switch provides power to the compartment lights. You must manually turn each individual compartment light on or off inside of the compartments.

EFFECTS OF PROLONGED OCCUPANCY

Humidity and Condensation

Moisture condensing on the inside of windows is a visible indication that there is too much humidity inside the coach. Excessive moisture can cause water stains or mildew, which can damage interior items such as upholstery and cabinets.

When you recognize the signs of excessive moisture and condensation in your coach, you should take immediate action to minimize their effects.

You can help reduce excessive moisture inside the vehicle by taking the following steps:

Ventilate with outside air

Partially open one or more windows and a roof vent to circulate outside air through the coach. In cold weather, this ventilation may increase use of the furnace, but it will greatly reduce the condensation inside the coach.

SECTION 9 – MISCELLANEOUS

Minimize moisture released inside the coach

Avoid bringing extra moisture into the coach by way of soaked clothing or snow on shoes. Do not hang-dry wet overcoats or clothing inside the coach.

INDEX

About this Manual	1-1
Air Conditioner/Heater – Automotive (Dash)	3-9
Battery Access	5-4
Battery Boost Switch	3-8
Battery Care	5-5
Before Driving	1-2
Brake-Shift Interlock	3-6
Car or Trailer Towing	9-3
Carbon Monoxide Alarm	2-3
Carbon Monoxide Warning	2-3
CB Radio Power Wiring	3-13
Chassis Battery Disconnect Switch	3-15
Chassis Fuses and Relays	8-4
Chassis Service and Maintenance	8-4
Checking Hydraulic Oil Level	7-14
Child Restraints	3-4
Circuit Breakers – House 120-Volt AC	5-3
Circuit Breakers – House 12-Volt	5-6
Circuit Breakers and Fuses – Chassis/Dash Automotive 12-Volt	3-16
Compartment Lights Switch	9-7
Defrost Fans	3-9
Doors and Windows	8-3
Driving Safety	2-1
Effects of Prolonged Occupancy	9-7
Electrical	2-5
Electrical Cautions	5-1
Electrical System – House 120-Volt AC	5-1
Electrical System – House 12-Volt DC	5-3
Engine Access – Interior	3-14
Engine Cooling System	3-15
Engine Overheat	2-9
Fire Extinguisher	2-4
Formaldehyde Information	2-6
Front Axle Tire Alignment	1-2
Front Drop-Down Solar/Night Shade (12-Volt)	3-6
Front Service Access	3-13
Front TV Ignition Switch Interlock	6-1
Fuel and Propane Gas	2-2
Fuel Pump Shut-Off Switch	3-7
General Slideout Care	7-11
General Warnings	2-1
Hazard Warning Flashers	3-7

Index

Headlight Switch	3-8
Headlights and Exterior Lights	8-2
House/Coach Battery Disconnect Switch	5-4
Infotainment Center/GPS	3-11
Jump Starting	2-9
KeyOne™ Lock System	3-4
Leveling System	7-11
Lights	3-16
Loading	2-5
Loading the Vehicle	9-1
Maintenance	2-5
Map Light Switch	3-8
Mirrors – Power Electric	3-4
Mold, Moisture, and Your Vehicle	2-6
Occupant and Cargo Carrying Capacity Label	1-3
Owner and Vehicle Information	1-6
Park Brake – Foot Pedal	3-6
Passenger Workstation	3-4
Plastic Parts – Cleaning	8-2
Power Cord – External	5-1
Pre-Delivery Inspection	1-2
Propane Gas Leak Detector	2-2
Propane Gas Pressure Regulator	4-4
Propane Gas Supply	4-1
Propane Gas Warnings and Precautions	4-3
Propane Vaporization in Cold Weather	4-5
Radio In-Dash/Rearview Monitor System	3-10
Reporting Safety Defects	1-2
Roadside Emergency	2-8
Roof	8-1
Roof and Ladders	2-7
Roof Ladder	9-6
Safe Use of the Propane Gas System	4-2
Safety Messages Used in this Manual	1-1
Sealants – Inspection and General Information	8-1
Seat Belts	3-2
Seats – Driver/Co-Pilot	3-1
Service and Assistance	1-2
Signal Lever/Headlight High-Low Beam	3-7
Slideout Emergency Retraction (Lippert)	7-9
Slideout Emergency Retraction (Power Gear®) In Wall Slideout	7-8
Slideout Emergency Retraction (Power Gear®) Under Floor Slideout	7-8
Slideout Room – Extreme Weather Precaution	7-4
Slideout Room Keylock	7-2
Slideout Room Lock System	7-1

Slideout Room Operation – Electric	7-2
Slideout Room Travel Locks – Electric	7-1
Slideout Room Troubleshooting (Lippert)	7-7
Slideout Room Troubleshooting (Power Gear®) In Wall Slideout	7-5
Slideout Room Troubleshooting (Power Gear®) Under Floor Slideout	7-5
Slideout Rooms	2-6
Smoke Alarm	2-4
specifications and Capacities	1-5
Step (Entry) – Electric	9-5
Storage Compartment Doors	9-7
Suspension Alignment and Tire Balance	3-16
Tires	3-15
Tow/Haul Transmission Mode	3-7
Towing Guidelines	9-4
Trailer Wiring Connector	9-4
TV Antenna – Digital	6-1
TV Signal Amplifier	6-2
Undercarriage	8-2
Vehicle Certification Label	1-4
Vehicle Storage – Preparation	8-3
Vehicle Storage – Removal	8-4
Weighing Your Loaded Vehicle	9-1
