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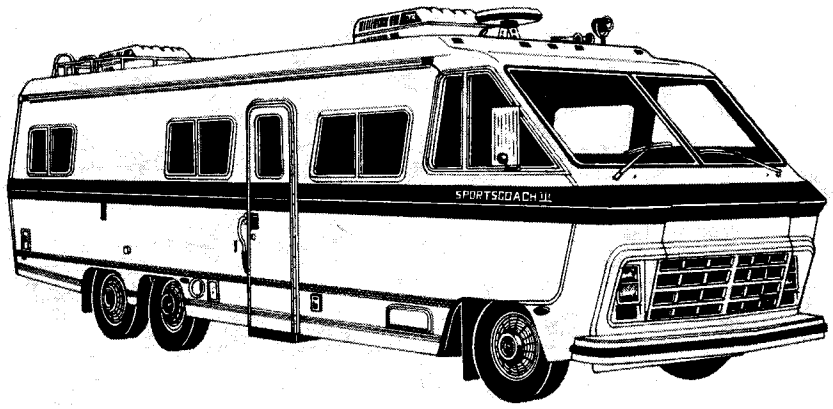
Leadership in Luxury



owner's manual

SPORTSCOACH®

Welcome to the ever-growing family of happy Sportscoach owners. Hours of relaxation, adventure and enjoyment are possible for you in your new unit. Thousands of Sportscoach owners have been enjoying their units for many years.

This Owner's Manual has been prepared to help you and your family enjoy your new motor home to its fullest, by providing basic instructions for the operation and maintenance of its appliances, accessories and RV systems. Read it carefully and follow the instructions. Also read and follow the instructions contained in the appliance and accessory instruction booklets provided by various manufacturers which also are a part of the "Sportscoach Information Packet".

Operating and maintenance instructions pertaining to appliances in this Owner's Manual were obtained from and are used with the permission of the various manufacturers. We reserve the right to present edited portions of their material.

Sportscoach Corporation of America works year-round to improve its products. Accordingly, all specifications, equipment, and prices set forth in our literature are subject to change without notice or obligation.

Sportscoach offers a wide variety of models and choices of standard and optional equipment; therefore, certain descriptions in this manual may not apply to your unit. Ask your Sportscoach dealer, or see the current brochure, for information concerning available standard or optional equipment.

TABLE OF CONTENTS

INTRODUCTION

GENERAL

Now that you've purchased your new motor home, you're anxious to try it out. And we want you to. We also want you to enjoy every outing, be it an overnight, weekend, or cross-country excursion. Thus, we've included some tips and suggestions besides the basic operations and maintenance of the systems and appliances to help you get started. You may want to try a short trip first. The experience you gain and the hints other RVers are usually eager to share will help make your future RVing more enjoyable.

You bought your unit with the standard and optional equipment of your choice. There are countless other accessories available. Experience is invaluable before you invest in these. What may be a necessity for another RVer may not be to you. Remember, your dealer is ready to assist you in anyway he can.

THIS MANUAL INCLUDES MANY ILLUSTRATIONS TO ASSIST YOU. EXTERIOR FEATURES OR COMPONENTS ACCESSIBLE FROM THE OUTSIDE OF THE VEHICLE ARE ILLUSTRATED ON THE FOLDOUT AT THE BACK OF THIS MANUAL AND ARE IDENTIFIED BY A FIGURE NUMBER. BECAUSE OF THE LARGE VARIETY OF MODELS, HOWEVER, YOUR RV MAY NOT HAVE ALL OF THE COMPONENTS ILLUSTRATED OR DESCRIBED. ASK YOUR DEALER FOR DETAILS CONCERNING SPECIFICS ABOUT YOUR UNIT.

LICENSES

The vehicle licensing laws vary from state-to-state. Check with your state license bureau or nearest branch office for the requirements of your state. Be sure to renew your driver's license if it has or will expire during your trip.

INSURANCE

Personal liability, property damage, collision and theft of contents may be features of your automobile policy which apply to your RV. Talk to your insurance agent about details of your coverage. Always carry your policy card.

TRAVEL PREPARATION

GENERAL

When planning a trip, determine various items of equipment, clothing, food and other supplies required for the length and destination of your trip. Each moment spent loading is time lost from the length of your stay. You may want to reduce loading time by purchasing plastic dinnerware, stainless steel flatware, pots, pans, towels and bedding, which can remain in your unit at all times. The following is a guide to help in your travel preparations.

AIR QUALITY

State of the art construction and energy conserving methods have made indoor air quality a matter of increasing concern. Air infiltration and air exchange rates have been substantially reduced. Thus, certain airborne contaminants, which were previously dissipated by normal air infiltration and air exchange, tend to accumulate in your recreational vehicle. These contaminants may be generated by building products emissions, smoking, cooking, fuel-burning appliances and human activity. Adequate ventilation will reduce the level of air contaminants. Such periodic airing is required on a regular basis and particularly during periods of high temperature and high humidity and after prolonged storage.

CLOTHING

Compile a clothing list for each person. Consider the season and areas through which you intend to travel. Basic articles are: Underwear, socks, footwear, shirts, blouses, trousers, slacks, dresses, shorts, sweaters, jackets or coats, rainwear and swimsuits.

CAMP HYGIENE

Basic items are: Dishsoap, dishcloths and dishtowels; garbage and trash bags; mop, broom and dustpan; vacuum cleaner.

PERSONAL HYGIENE

Basic items are: Soap, washcloths, towels, toothpaste, toothbrush, deodorant, shaving kit and toilet paper.

SAFETY

You should take flares and reflectors, first aid kit, tow rope and/or chain.

FOOD AND WATER

Don't try to take enough food for an extended trip. Take what you need for two or three days and replenish supplies along the way. Take a basic assortment of seasonings: sugar, salt, pepper and spices. Plan meals so that fresh or refrigerated items are used before they spoil. Fill your fresh water tank before leaving (when traveling in winter, it is recommended that the water tank not be filled until the interior of your unit is thoroughly warmed or until you reach your destination).

MEAL PREPARATION

Take openers for bottles and cans; matches, lighter or igniter device; pots, pans, plates, glasses, and cups (plastic or paper are lighter and less likely to break while the vehicle is in motion); silverware and carving knife.

TOOL CHEST

Include an assortment of wrenches and screwdrivers; pliers, hammer, tire pressure gauge, small level, electrical and masking tape.

ADDITIONAL TOOLS

You may also wish to take a hatchet, saw, shovel, and 12-volt portable tire pump.

EQUIPMENT

Take a fresh water (garden) hose. You also may need a bucket, "Y" type water hose fitting; 20-foot 3-prong power cord; 3-prong adapter with grounding wire; extra fuses; wheel chocks, leveling ramps, blocks or jack stands.

SLEEPING GEAR

Sleeping bags are ideal for cold climates but are not as well suited for warm weather as are sheets and blankets. Take along an extra blanket or two for sudden drops in temperatures such as can be expected in mountain areas even during summer. Be sure to take pillows, pajamas and mattress pads, if normally used.

ENTERTAINMENT

Take along games, toys, books, magazines, tape player/recorder, binoculars, camera, film and flash equipment, sports gear, or other items to enjoy at stops, while traveling or in the event of inclement weather.

IMPORTANT DOCUMENTS

Carry your vehicle registration and insurance policy card(s). If you are borrowing a vehicle, it is best to have a notarized letter of approval from the owner with you.

TOURIST INFORMATION

Obtain current road maps and tourist information from each state through which you intend to travel. You also may want to purchase a tourist guide book.

If you will be visiting federally-operated national parks, monuments and recreation facilities, you may wish to look into the Golden Age Passport and the Golden Eagle Passport. They can help families cut spending at those areas where fees are involved.

GOLDEN AGE PASSPORT — The Golden Age Passport is a free, lifetime pass for persons 62 and over and covers all admission fees and a 50 percent discount on use fees (except fees charged by private concessionaires). It may be obtained only at park service offices and at parks where entrance fees are charged. It cannot be obtained by mail or at post offices. To obtain the Golden Age Passport you will need proof of age, such as driver's license, or be prepared to sign an affidavit swearing that you are 62 or over. NOTE: Medicare cards are not accepted since in some cases they are issued to younger persons.

GOLDEN EAGLE PASSPORT — The Golden Eagle Passport costs $10 and is designed for persons who plan to visit several parks or federally-operated facilities in a single year. It covers all admission charges but does not cover use fees and is good only during the calendar year in which it is issued. It may be purchased in person or by mail at the National Park Service Headquarters, Department of the Interior, Washington, D.C., 20240; at regional offices and at facilities where entrance fees are charged.

Both the Golden Age and Golden Eagle Passports cover admission fees for the permit holder and any persons accompanying him or her in a private vehicle. Where entry is not by vehicle, the passport covers the permit holder and members of his or her immediate family.

HOME SECURITY

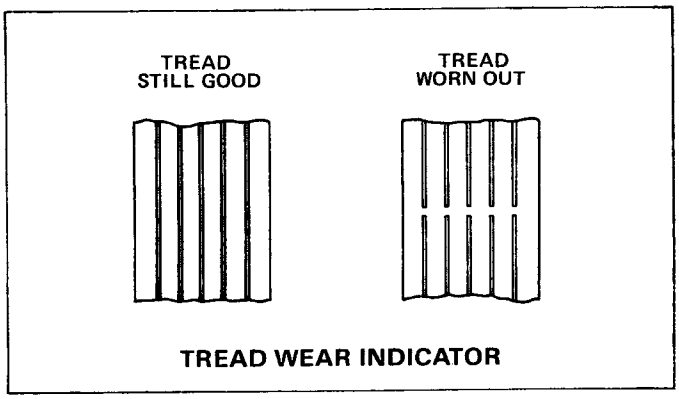
Make arrangements for someone to check your house periodically. Stop mail and newspaper delivery. If you intend to be away for more than 2 weeks, request police surveillance. Carry an extra set of vehicle and house keys on a separate key ring.

PRE-TRAVEL CHECK

GENERAL

Whenever you depart, be it from your home, rest area, or campsite, you should perform these pre-travel checks:

TIRES should be inspected before each trip. Replace a tire when it is worn to 1/16" depth in two or more adjacent grooves, or to the level of tread indicators molded into the bottom of the tread grooves, when the indicators appear in two or more adjacent grooves at three locations around the tire. Check tire for uneven wear, road damage, foreign objects, or excessive peeling or bulging.



TREAD WEAR INDICATOR

When purchasing a new tire, be certain it is the same size and has the same ply rating and load range as the old tire. DO NOT mix radial ply with bias or bias-belted tires.

Each morning inspect tire condition and pressure on your unit. Heat generated by surface friction will increase the tire's air pressure approximately 6 to 9 psi; therefore, do not bleed air out of a hot tire. Inflate tire to recommended pressure as indicated on the side of the tire or in tire manufacturer's instruction booklet.

NOTE: Proper tire inflation is extremely important.

WHEEL LUGS must be tightened to the specifications in the chassis manufacturer's owner's manual.

LIGHTS should be tested, including brake lights, warning flashers, clearance lights, taillights, turn signals and headlights. Clean all lens covers.

REARVIEW MIRRORS should be adjusted so the driver can see to the rear on both the right and left side of the unit.

POWER CORD (120-Volt Shoreline) must be unplugged from the external source, pushed into the compartment and the cord hatch secured.

WATER FILL hoses must be disconnected and the caps and hatches secured.

SEWAGE TERMINATION VALVES must be closed and locked. The sewer hose must be removed from the termination valve outlet and stored. Termination caps must be securely fastened to the termination outlet(s).

STEP must be returned to its travel position (Figure 1).

AUTOMOTIVE SYSTEM should have the pre-travel check outlined in the chassis manufacturer's manual.

LP GAS TANK and gas line connections should be checked.

NOTE: Some states prohibit vehicles equipped with LP gas tanks from using tunnels. A few other states prohibit traveling with the Service Valve open and the pilots lit. Check the regulations of the states through which you intend to travel.

WINDSHIELD should be clean, wiper blades inspected, and windshield washer reservoir filled.

TV ANTENNA must be cranked down to its traveling position.

INTERIOR DOORS AND DRAWERS should be closed and secured. Loose items should be lashed down or stored away.

EXTERIOR ACCESS DOORS for storage and equipment should be closed and locked.

REFRIGERATOR DOOR should be secured with the travel latch.

WINDOWS AND VENTS should be closed and secured or adjusted as desired (see the chassis manufacturer's owner's manual for cautions about opening rear windows while unit is being driven).

LOADING

GENERAL

A properly-loaded vehicle is safer and easier to drive. Distribute your cargo evenly from side-to-side and front-to-back.

Heavier items should be stowed on or near the floor and as centrally as possible. They should be secured so they cannot slide during a panic stop, causing damage — but also because loose cargo can upset the careful balance you had when you started. Lighter items can be stored in overhead cabinets or other areas. Remember to leave space and weight allowance for souvenirs and other items you may purchase during your travels. A properly-loaded vehicle can help you conserve fuel and prevent excessive wear on your vehicle's automotive system.

AIR CYLINDERS

Some models have front suspensions that are equipped with urethane air cylinders inside the coil springs. Air pressure in these cylinders may be increased or decreased to adjust vehicle trim and minimize "crash through" on large road bumps. Inflation pressure should be checked at least monthly.

For all "32" models, inflation pressure must be maintained between 10 psi minimum and 50 psi maximum on 4,300-pound front suspension and 40 psi minimum and 50 psi maximum on 5,000-pound front suspension.

The term "32" refers to the General Motors or Chevrolet chassis model, not a 32-foot model RV.

WEIGHT DETERMINATIONS

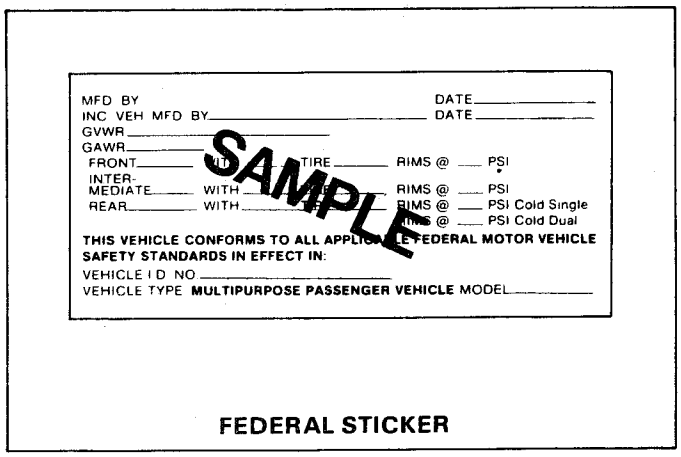
It is extremely important that you weigh your vehicle prior to leaving on a trip, to determine whether your cargo is within the allowable limits for the various suspension components. Check the Federal Sticker or the Vehicle Identification Number plate for the maximum weight ratings of each axle and the proper tire inflation for the intended load.

Overloading your vehicle is considered misuse, which is not covered by the warranty. The chassis is designed and intended as a load-carrying vehicle.

Do not use your motor vehicle for the purpose of towing other vehicles or trailers. Towing and/or the installation of hitches for the purpose of towing constitutes misuse of the vehicle under the terms of the Warranty.

FEDERAL STICKER

The Federal Sticker, found on the panel at left of driver area, lists the chassis Serial Number, the front and rear GAWR and the GVWR. The Vehicle Identification Number (VIN) plate also lists the GAWR, GVWR and chassis serial number. The RV manufacturer's Serial Number is stamped into the main entrance door frame or is listed on the Serial Number Sheet which is attached to the inside of a kitchen cabinet.



FEDERAL STICKER

DEFINITIONS

GAWR — The allowable weight, including cargo and passengers, which can safely be supported by each axle.

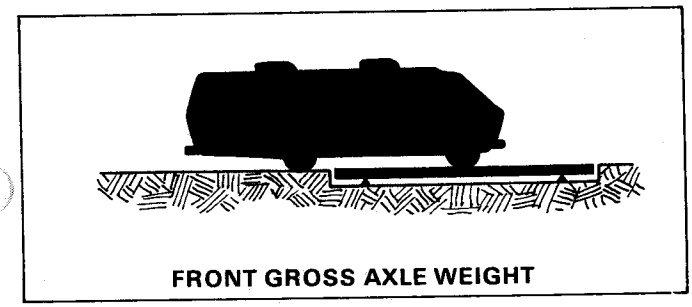
GVWR — The maximum permissible weight of your vehicle, including cargo, all options and passengers.

GVW and GAW — Are found by weighing the vehicle fully-loaded. GVW is the actual weight of the vehicle and all standard and optional equipment, cargo and passengers. GAW is the portion of the fully-loaded vehicle which is transferred to each axle.

VEHICLE WEIGHING

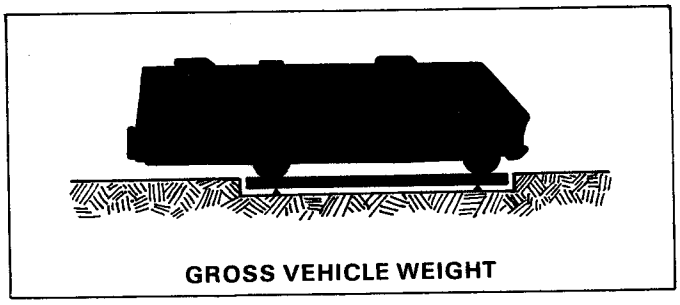
You can weigh your vehicle at a nearby grain elevator, sand and gravel dealer, coal company or government weighing station (they are listed in the yellow pages of your telephone book). Make an appointment to weigh your unit, fully-loaded. The small fee is an investment in safe traveling and peace of mind.

STEP 1 — Drive only the front axle of the unit onto the scale. Compare the weight to the front GAWR listed on the Federal Sticker.



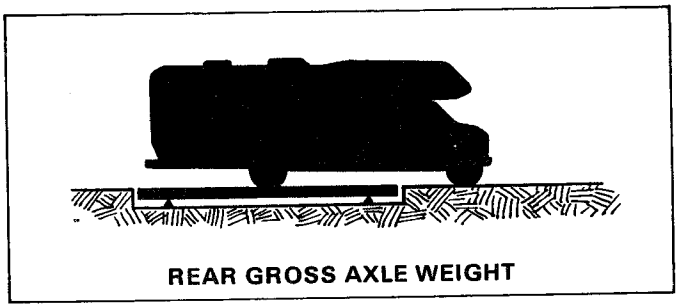
FRONT GROSS AXLE WEIGHT

STEP 2 — Pull forward so that the front and rear axle(s) are on the scale. Compare the weight to the GVWR listed on the Federal Sticker.



GROSS VEHICLE WEIGHT

STEP 3 — Pull forward so that only the rear axle(s) is on the scale. Compare the weight to the rear GAWR listed on the Federal Sticker.



REAR GROSS AXLE WEIGHT

NOTE: If any of the weights exceed the listed rating, relocate the passengers and redistribute or remove a portion of the cargo, until the weight is within proper tolerance.

DRIVING

GENERAL

Power steering and power brakes help make driving your motor home as effortless as possible. But you must remember that it is longer, higher, wider and heavier than a family automobile. Be especially watchful for low bridges, overpasses, awnings, or similar obstructions, which might damage your roof or accessories mounted on the roof. Watch for overhanging tree branches which also can do considerable damage to the windshield or roof of your RV (refer to the brochure for clearance measurements). Before leaving on a trip, you may want to practice turning, braking, backing and accelerating.

PULLING INTO TRAFFIC

Check for oncoming traffic in all directions. Signal before entering the traffic flow. Accelerate slowly and smoothly and remember to compensate for less acceleration than that of a vehicle with a higher power-to-weight ratio.

TURNING

Because of the length of your RV, always pull farther ahead before turning either left or right, to allow sufficient clearance for the rear of your vehicle.

PASSING

Avoid sudden maneuvers when passing another vehicle. Remember that additional time and distance are required to pass safely. Wait until the road is clear of oncoming traffic for at least 1/2 mile. Check the rearview mirrors and signal lane change before passing. When you are safely ahead of the other vehicle, signal lane change and return to your original lane.

DRIVING ON A GRADE

When climbing or descending a steep grade, manually downshift the transmission to a lower gear.

BRAKING

Allow a safe distance in which to stop your motor home. Never follow another vehicle closer than one vehicle length for each 10 mph. Pump the brake pedal lightly to stop on wet or icy roads. If you start to slide, turn the steering wheel in the direction of the slide. DO NOT tromp the brake pedal — a panic stop will increase the slide. DO NOT rest your foot on the brake pedal when you are not intending to stop. "Riding" the brakes will waste gasoline and can cause excessive brake temperatures, lining wear and possible brake failure.

OVERHEATING

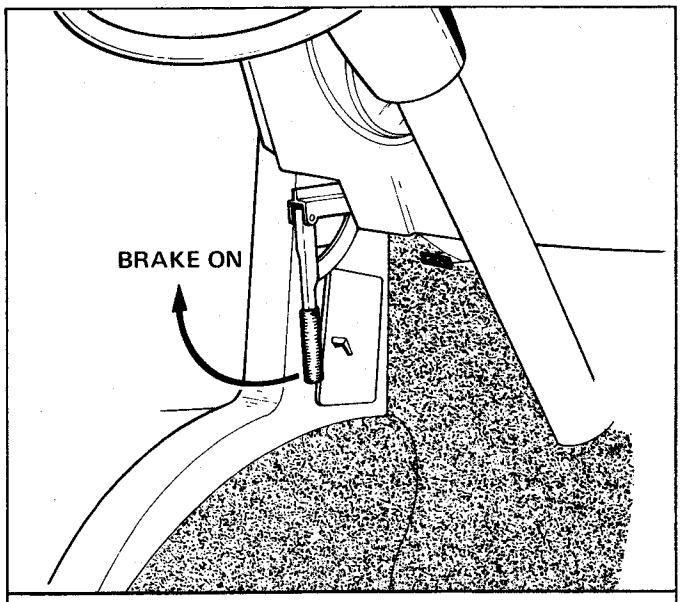
If your motor home's engine overheats, pull well off the road. Shift to Park (P) and run the engine with your foot resting lightly on the accelerator pedal. If the engine does not cool within 2 to 3 minutes, turn it off and locate the problem.

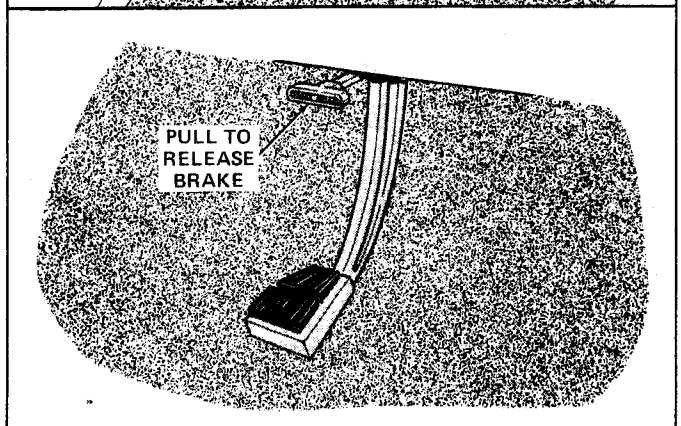
Engine temperature problems may be avoided if you climb long grades and descend moderately-steep grades in second gear; climb steep grades in first gear and if your unit has auto air conditioning turn it off.

CAUTION: DO NOT exceed the maximum speed listed in the chassis manufacturer's manual for first and second gear — excessive engine speed will overheat the transmission, which may cause early transmission failure.

PARKING ON A GRADE

Always apply the foot brake then set the parking brake, when parking on a grade, before moving the shift lever to Park (P). When preparing to move the vehicle, move shift lever out of Park (P) before releasing parking brake. If this sequence is not followed, you may not be able to move the shift lever out of Park (P). If this torque lock does occur, you may have to have another vehicle push yours a short distance until you can move the shift lever.





PARKING BRAKES — TYPICAL

HOLDING ON AN UPGRADE

Use foot brake or parking brake and Park (P) position to hold the vehicle on an upgrade. Using a driving gear to hold the unit may cause the engine or transmission to overheat. DO NOT idle the engine for more than one minute with the transmission in gear.

FREEING A STUCK VEHICLE

To pull your vehicle out of snow, sand or mud, apply slight pressure to the accelerator pedal and move the gear selector lever rhythmically between first gear and Reverse (R). If possible, keep the front wheels pointed straight ahead. Avoid sharp turns. Once the vehicle starts to move, do not stop until it is on firm ground.

CAUTION: DO NOT race the engine or spin the wheels; prolonged efforts to free a stuck vehicle may result in overheating and transmission and axle failure.

SPEED CONTROLS

Your unit may be equipped with a speed control device, which automatically controls speeds at over 30 mph. The type of speed control depends upon whether it is original chassis equipment and will vary with the chassis type and chassis model year. Also, there are several types of speed controls which may be installed by the RV manufacturer.

The speed controls may be on the turn signal lever, on the spokes of the steering wheel, or on the dashboard. Despite the varying locations, the basic operation of each is similar. However, certain speed control devices have specific differences, so it is important that you read very carefully the instructions in the chassis manufacturer's owner's guide or those furnished by the manufacturer of the speed control device.

CAUTION: Do not use any auto speed control when conditions are not suitable for maintaining a constant speed, such as in heavy or varying traffic, in strong winds, or on slippery, winding or unpaved roads. Never shift to neutral (N) when using the speed control; it will cause the engine to overspeed. Use only properly installed, FCC-approved radio transmitting equipment (such as CB radios). Use of other transmitting equipment may cause the vehicle to malfunction.

TIRE CHANGE

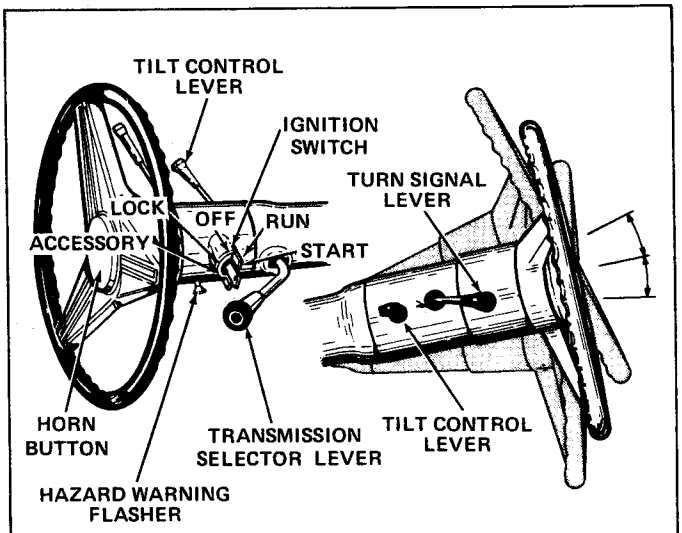
Change a tire on as level and firm a surface as possible. If you are on the roadside, activate the vehicle's hazard warning flashers. Apply parking brake and move transmission selector to Park (P). Set up flares and/or warning lights. See the chassis manufacturer's owner's manual for specific jacking and tire removal and replacement instructions which pertain to your unit. Stop at the nearest service facility and have the torque checked.

CAUTION: Never place the jack under a bumper or edge of the sidewall. Always place the jack under a frame member. Use the jack only for changing tires. Never get underneath the vehicle when using the jack; never start or run the engine while vehicle is on the jack. Always securely stow the spare tire on the spare tire carrier and return all jacking equipment to its proper storage area.

DASH BOARD/CONTROLS

Your motor home automotive instruments and controls are designed for convenience and safety. Read the chassis manufacturer's owner's manual for complete details on operation and maintenance of the systems, if you have a "mini" motor home. See the foldout at the back of this manual for the function of the instruments installed by your RV manufacturer if you have a class "A" motor home.

TILT STEERING WHEEL — The tilt steering wheel can be moved to allow additional room for entrance and exit, as well as selected driving positions. Operate the tilt mechanism by lifting the small control lever on the left side of the steering column just below the directional signal lever (some models have the tilt steering lever incorporated into the signal lever). Move the steering wheel to the desired position and release the lever to secure in place. Do not adjust steering position while the vehicle is in motion.



TILT STEERING WHEEL — TYPICAL

DIESEL ENGINE STARTING AND OPERATING PROCEDURES

The information provided here is basic; be certain to have your dealer demonstrate startup and operation of the diesel in your unit.

To start, apply parking brake, and place automatic transmission in "P" or "N" position (for manual transmissions, press clutch pedal to the floor and shift transmission to neutral).

Turn ignition key to RUN position, then: if the temperature is above 32 degrees F, depress accelerator halfway and hold; if the temperature is below 32 degrees F, depress accelerator fully and hold.

If the glow plug light illuminates, DO NOT crank engine. If glow plug light does not illuminate, or when it goes off, turn ignition key to START position and release key when engine starts. If engine fails to start after approximately 15 seconds of cranking, release ignition key, wait 5 seconds and repeat starting procedure. During cranking and/or after starting, glow plug light may cycle on and off a few times. This is normal; however, if the light stays on continuously, see your dealer.

Release the parking brake before driving.

The unit is equipped with a Water In Fuel warning light, which is to help prevent damage to the fuel injection system. If the light comes on, it means there is water in the system. If this occurs after refueling, stop the engine and have water removed immediately from the tank. If the light comes on while driving, have water removed as soon as practical, but within one or two days.

The fuel tank has a sludge valve installed in the bottom. This can be removed with a wrench to allow draining of sludge and water.

NOTE: DO NOT use starting fluid in your diesel engine: immediate engine damage may result.

Some sacrifice of quicker performance is made for diesel fuel economy on lower maintenance, reliability and durability. Unlike gasoline engines, the diesel will accelerate at its own rate. For easier operation, push the accelerator down until you reach your desired speed. For large hill or mountain climbing, use 1st or 2nd gear; this increases the fluid pressure and keeps the transmission cooler. Do not over-rev the engine while in gear. When in NEUTRAL or PARK or while starting, do not over-accelerate.

CAMPING

CAMPSITE SELECTION

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

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

COURTESY

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

LIVING AREA

CONDENSATION

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

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

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

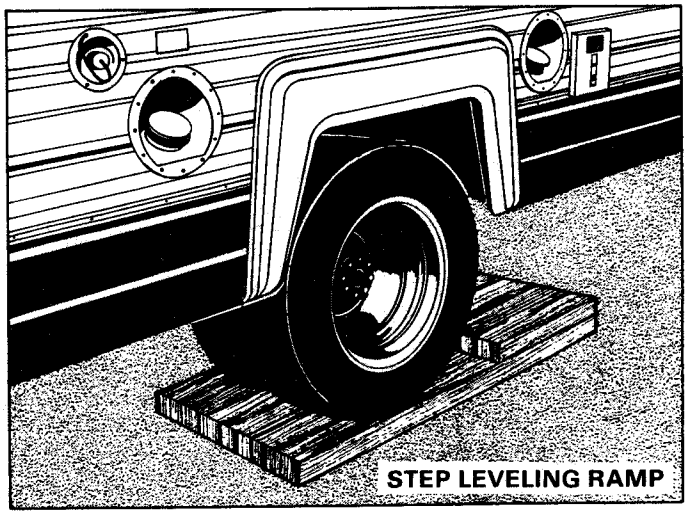
You can check on the humidity in your unit by installing a humidistat or hygrometer, which measure relative humidity. If humidity levels are persistently high, particularly in winter, a dehumidifier may be necessary.

If you use skirting on a temporary basis, be sure that it is ventilated adequately.

SETUP

You'll want your unit to be level for your own comfort (you don't want items sliding off counters and tables and out of cabinets). But more importantly, the unit must be level in order for your refrigerator and drainage system, both of which function by gravity, to operate properly. Place a level on the bottom of the refrigerator's freezer compartment or in a normally level location inside the vehicle to determine levelness.

NOTE: When the unit has been leveled side-to-side and front-to-back, you may wish to permanently attach levels on the front and/or back and sides of the unit or inside near the driver, on the sidewall and dash panel. This will allow you to tell at a glance if you've stopped on a level site, and will help speed up the leveling process.



STEP LEVELING RAMP

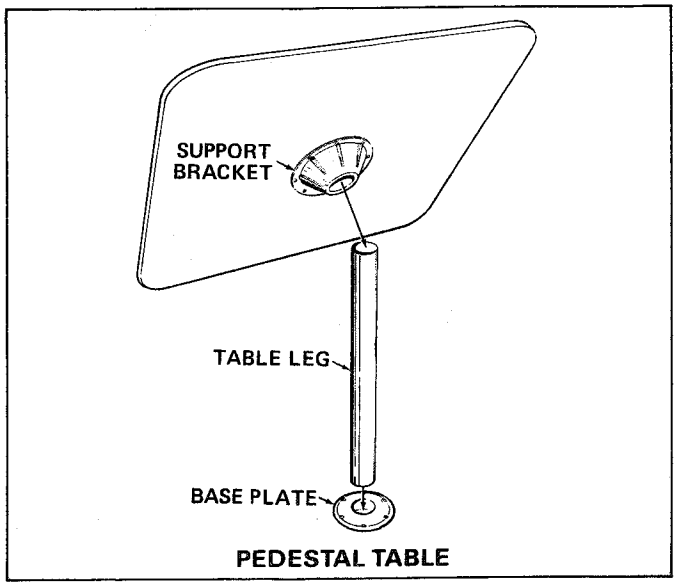
If your unit needs side-to-side leveling, you can make a step leveling ramp using 1" x 6" or 2" x 6" boards of varying lengths. Pull forward or back onto the leveling ramp until the tire(s) on the low side are level. There also are numerous commercial levelers available; ask your dealer about them.

Units equipped with the tag axle system are not to use the trailing wheels for leveling purposes.

TABLES AND BEDS

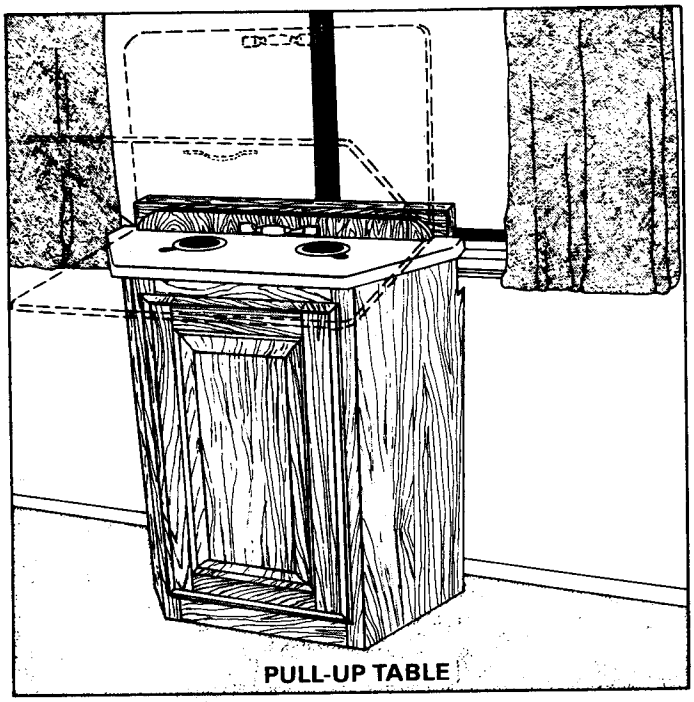
A variety of tables, many of which convert into beds, are used. The most common are illustrated and their operations described. Several types also can be extended. Have your dealer set up and demonstrate the tables and beds installed in your unit.

PEDESTAL TYPE — Insert table leg into recessed floor base. Lower the table support bracket onto the leg. Some pedestal tables have two legs and some have foldout leaves. They come in various sizes. To make into a bed, remove leg(s) and lower table top onto seat supports. Arrange cushions on top.

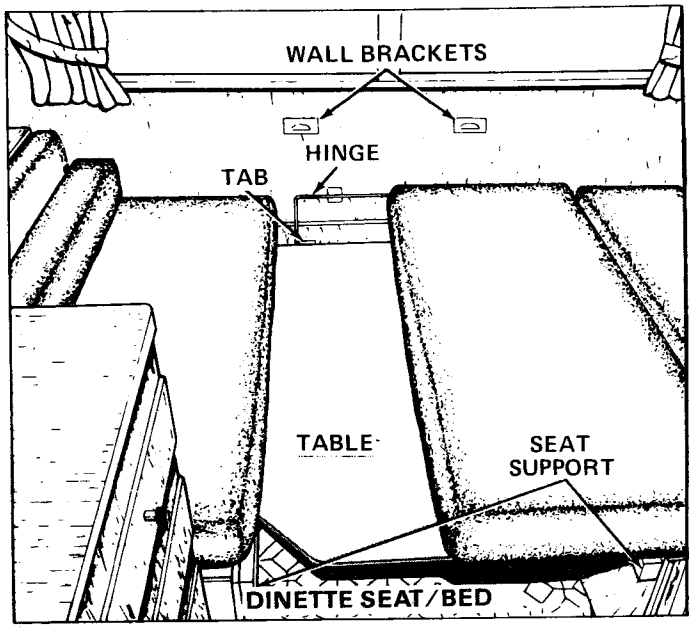


PEDESTAL TABLE

PULL-UP TYPE — Lift pull-up table from its storage location behind the cabinet. Lay it in position across the top of the cabinet. Some pull-up tables have extension leaves.


PULL-UP TABLE

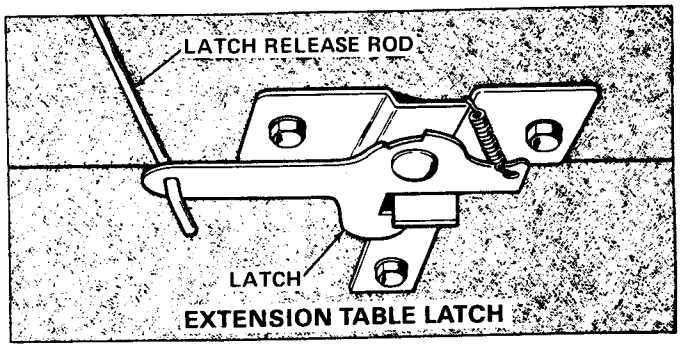
HINGE TYPE — Lift table front and lower back to insert tabs, located on the back edge of the table, into the wall brackets. Swing table leg down to the locked position. To make into a bed, fold leg under and lower table onto dinette seat supports. Arrange cushions on top.



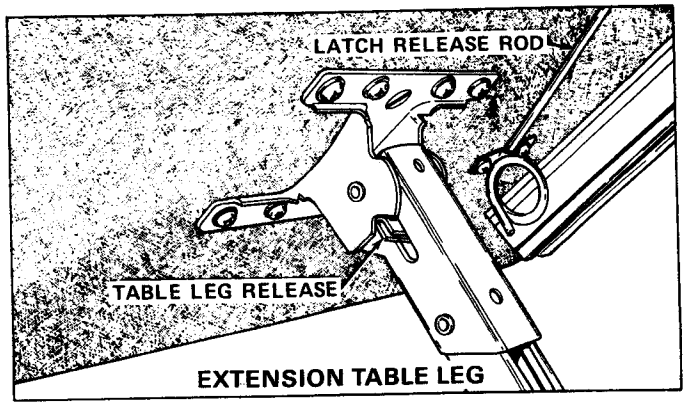
SINGLE GAUCHO — Remove table. Lift front edge of gaucho platform and slide it out. Arrange cushions on platform.

FACING GAUCHO PLATFORMS — Swing extension table down and latch in travel position. Slide each platform out until they meet. Arrange cushions on top.

EXTENSION TYPE — Pull table outward to release from travel position. Swing table up and pull leg down to the locked position. Release the latch located under the table. Pull out the sliding portion of the table. Insert leaf(s) and push table together. If table has an extension leg, push the release and allow the inner leg to drop to the desired length, then let lock pin seat in hole to hold leg at proper height.

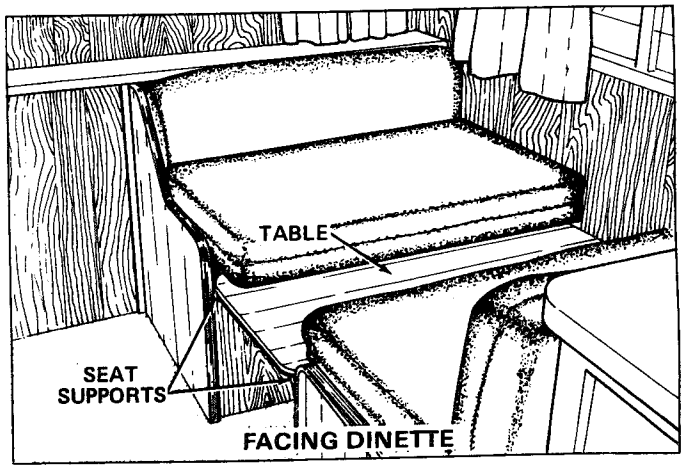


EXTENSION TABLE LATCH



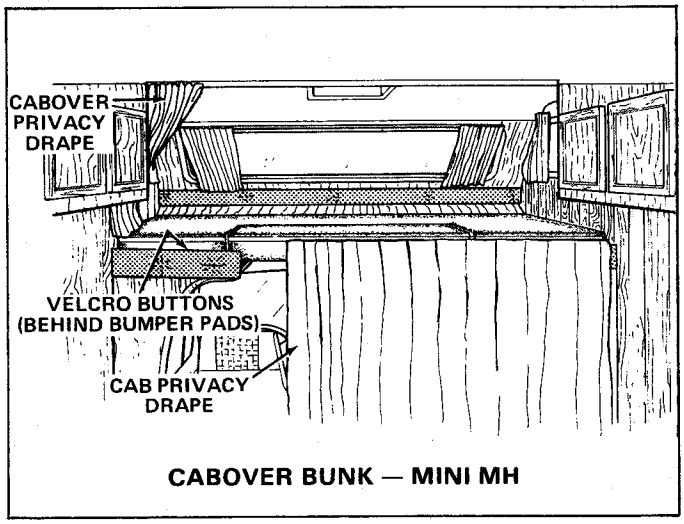
EXTENSION TABLE LEG

FACING DINETTE SEATS — Place table on seat supports and arrange cushions on top. Facing dinette seats may have pedestal or swing down-type tables.



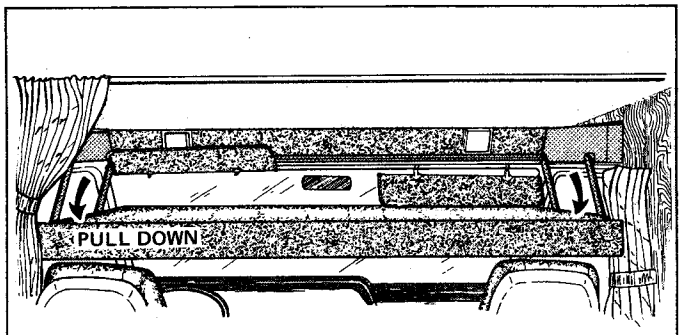
FACING DINETTE

CABOVER — The cabover bed assembly (mini motor homes) includes a privacy drape, which slides along a track on the ceiling. To use the bed, place the cutout section on the supports. A driving area privacy drape can be attached by pressing the Velcro strip on the drape to the Velcro buttons on the inside of the bumper pad. The drape hangs to the floor, separating the driving area from the living area.



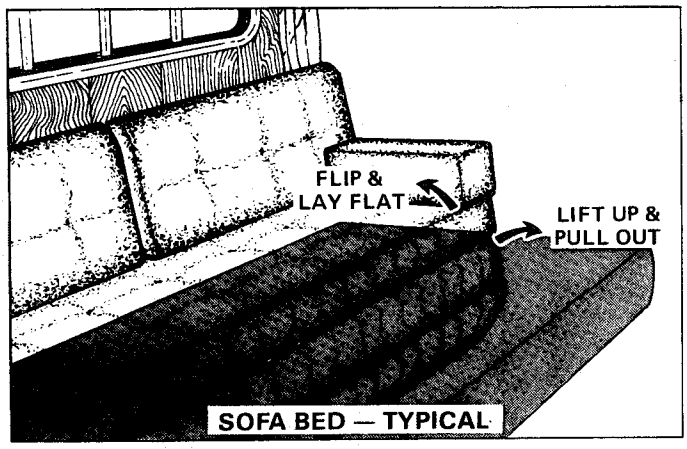
CABOVER BUNK — MINI MH

FRONT OVERHEAD BED — The front overhead bed (Class "A" motor homes) has springloaded supports. Simply pull down on the front edge until it is completely lowered. When not in use, push up to the travel position. Some overhead beds may have support straps of vinyl or Velcro, which must be unfastened before bed is pulled down. The straps should be reattached when bed is in the travel position.

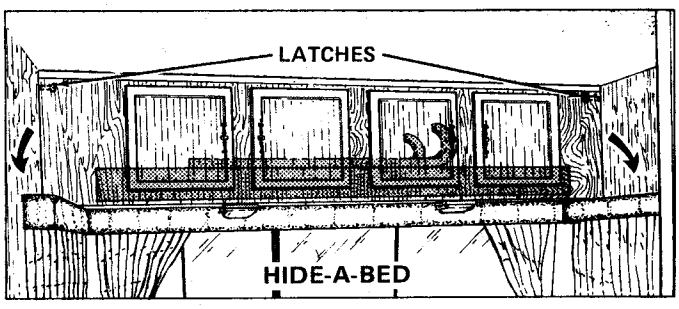


CABOVER BUNK — CLASS 'A' MH

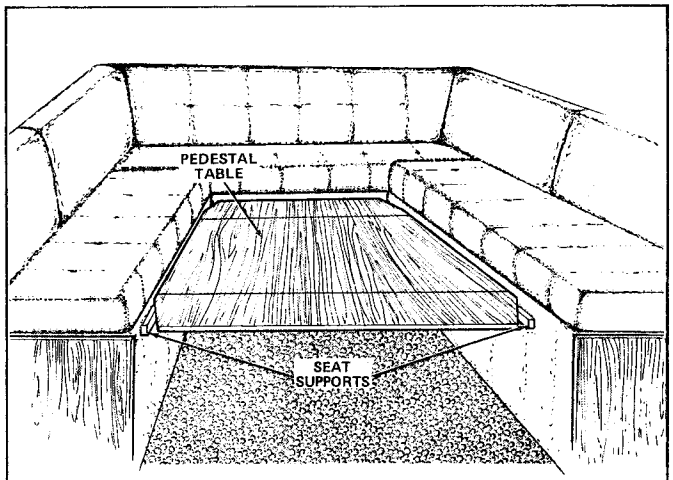
SOFA — Several types of sofas are used. Some are ready to be used as a bed when the bottom is pulled out and the back folded down; others need to have the back cushions removed and the bottom of the seat flipped back as part of the mattress. Be certain your dealer instructs you in the proper operation of the type of sofa bed in your unit.



HIDE-A-BED TYPE — Release latches located at each end of cabinet front. Close and latch the cabinet doors. Swing cabinet face down so that it rests on the supports. Position the reinforcing boards on top of the cabinet face. Arrange cushions on platform.

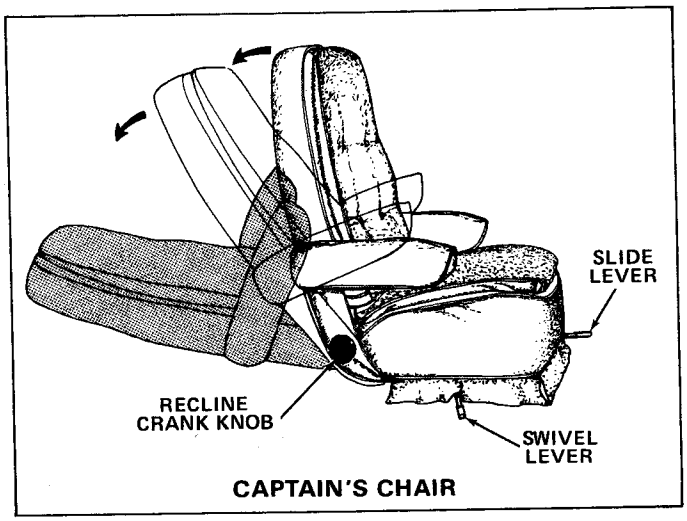


U-SHAPE BED — The U-shape dinette converts into a large bed. Remove the pedestal table, place it on the seat supports and arrange cushions on top. Some U-shape dinettes have a slideout base instead of using the table for the bed support.



U-SHAPE DINETTE/BED

DRIVER AND PASSENGER CHAIRS — Some driver and passenger chairs slide, swivel and recline; others may slide and swivel or slide only. Have your dealer demonstate the operation of the chairs in your unit. The chair illustrated slides forward and backward, swivels and reclines in many positions. To move the seat forward or rearward, pull lever located under the front left side to the left, then slide the seat in desired direction. To swivel seat, push back on the lever under seat on the right side and turn to desired position. The chair reclines in infinite positions by turning the crank knob clockwise or counterclockwise. Swing armrests up or down as desired.

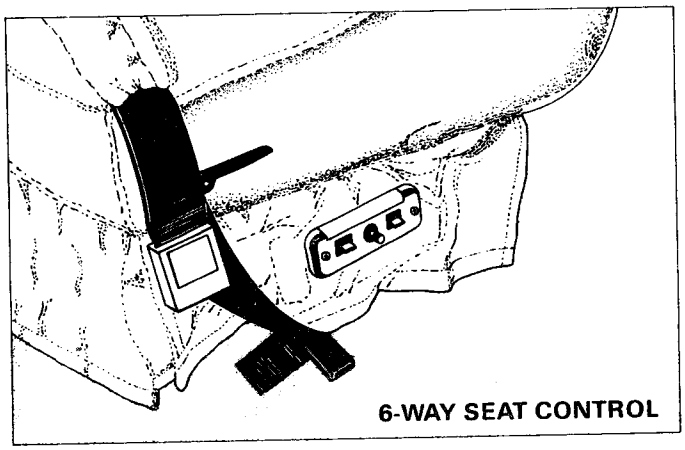


CAPTAIN'S CHAIR

ELECTRIC PILOT SEAT OPERATION — The switch assembly is mounted on the side of the pilot seat next to the engine motor cover. The seat has 3 control levers. The forward lever controls the angle of the front of the seat, the rear flat lever controls the angle of the rear of the seat (push switch up to tilt angle upward and push switch down to tilt angle downward), and the round lever located between the two flat levers controls the forward/backward slide (push the lever forward to move seat forward and push the lever back to move the seat backward).

WARNING: Seat must be occupied before operating any of the controls to prevent damage to the mechanism.

The chrome lever on the side releases the lock so the back of the seat may be reclined.

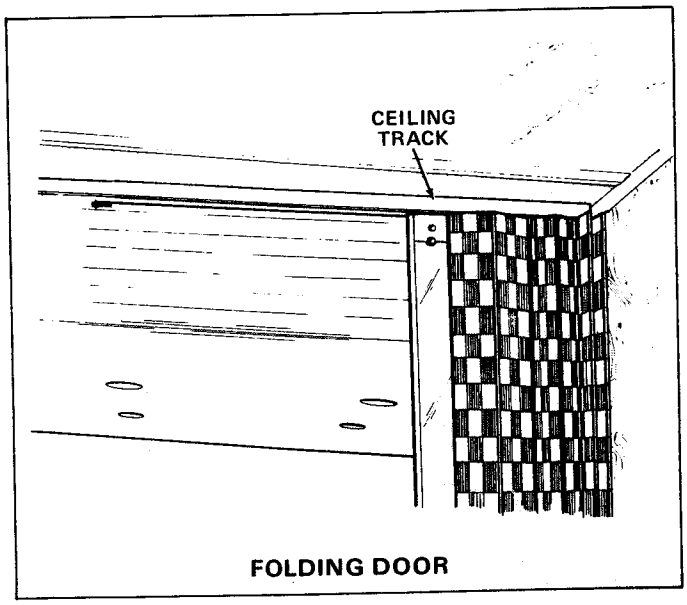

6-WAY SEAT CONTROL

BARREL CHAIRS — To swivel seat, push down on lever located on the right side of seat and turn seat to desired position. To slide the seat, pull lever located at left front and move seat forward or backward. Be cautioned, some barrel chairs DO NOT swivel.

DIVIDER DRAPES — A divider drape, to separate the driving area or bath from the living area is installed in some models. The drape slides along a ceiling track. When open, it can be attached to the unit's side, behind the driver or at the door frame, with a tieback.

The optional windshield drapes slide along a track over the sun visors. The drapes meet in the center of the windshield when closed. Secure with tiebacks on either side of the unit when open.

A folding divider door, installed in some models, slides along a track at the top of the doorway or ceiling. Secure open with tieback when not in use.



FOLDING DOOR

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

DRAPES, CURTAINS — Drapes and curtains should be dry cleaned only.

VALANCES, BLINDS — Valances and blinds should be vacuumed or wiped with a damp cloth.

NOTE: Cushion, seat and drapery fabrics are subject to normal deterioration and to wear and exposure. Normal protective measures can help ensure longer fabric life.

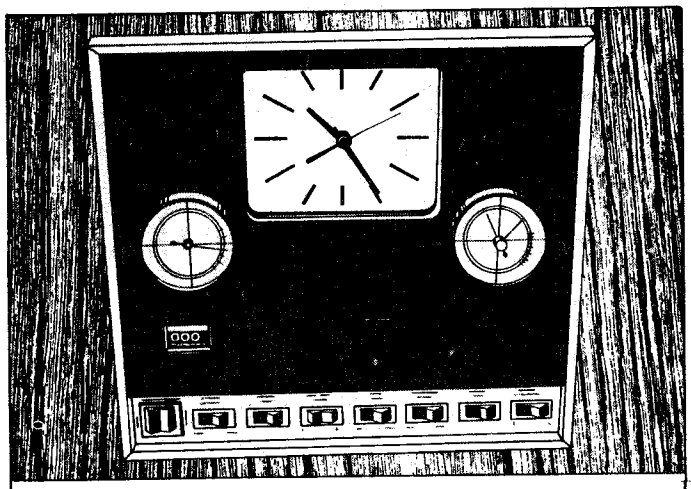
CARE OF WOODWORK and floor coverings is covered in the Maintenance section of this manual.

BASIC SYSTEMS

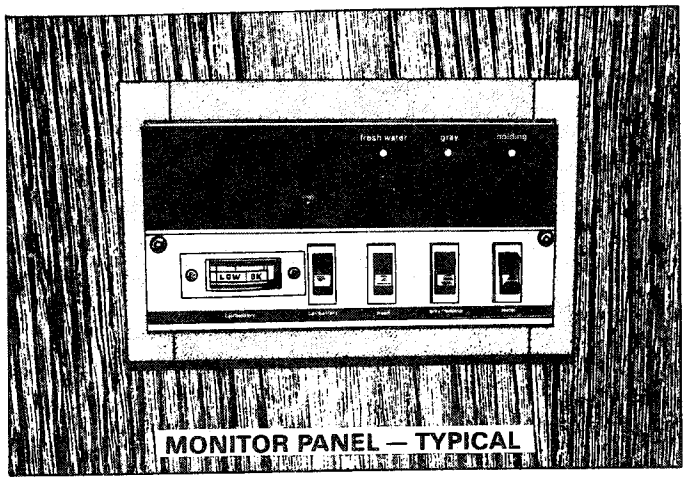
GENERAL

The basic utility systems in your unit can be classified under four general titles: Electrical, LP Gas, Fresh Water, and Drainage/Sewer. This section outlines these systems, describing their function, operation, and simple maintenance. This section is not intended as a service guide. Your unit has been engineered and built to provide trouble-free operation. Should a problem arise, we recommend that you contact your authorized dealer.

A monitoring panel allows you to check some of these systems: the volume of fresh water, waste and gray water in your holding tanks, and the condition of your RV battery and LP gas. A variety of types of monitoring panels is installed by the manufacturer, though only two are illustrated. Have your dealer explain and demonstrate the operation of the monitoring panel in your unit. The panel may also include a clock, the water pump switch, and a radio with tape deck or cassette. Some monitoring panels are incorporated into the dash panel; these are illustrated on the dashboard insert.



MONITOR PANEL — TYPICAL



MONITOR PANEL — TYPICAL

ELECTRICAL

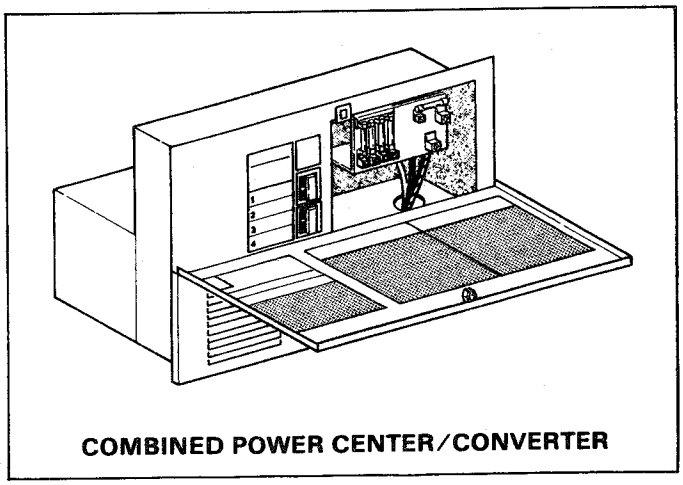
GENERAL

The recreational vehicle contains two separate electrical systems, providing you with power while you are camped or traveling. There is a 12-volt direct current system, similar to the one in automobiles, and a 120-volt alternating current system, similar to the one in homes. Your 120-volt system requires an external source of electricity. This is provided by a connection to a campsite or household receptacle or by the auxiliary generator.

The 12-volt system is supplied by a battery or batteries or the Power Center converter. The 120-volt system is used whenever a 120-volt hookup is available, to reduce the 12-volt load on your RV battery. Although most components in your unit, such as the water pump, range hood light and fan, and interior lights, operate only from a 12-volt source, the Power Center converter changes 120-volt AC to 12-volt DC power.

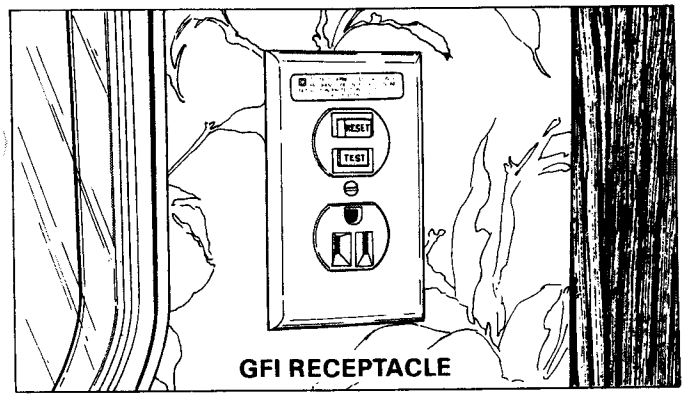
120-VOLT SYSTEM

The 120-volt system supplies power through the Power Center for the optional roof air conditioner, refrigerator, exterior receptacles (Figure 2) and interior receptacles (shown below) which are used to operate regular household appliances. The converter section of this Power Center provides 12-volt power for all of the unit's 12-volt components. When you use the external 120-volt power cord, the power is connected directly into the main electrical service panel of the Power Center and is distributed through circuit breakers.



COMBINED POWER CENTER/CONVERTER

GROUND FAULT INTERRUPTER — The bath and exterior receptacles are protected by a GFI (Ground Fault Interrupter). This highly sensitive circuit breaker, built into the bath receptacle or a circuit breaker, protects against severe electrical shock if a ground fault occurs in that circuit. The GFI senses the fault and breaks the circuit to the bath and exterior receptacles. If this happens, unplug all appliances on that circuit and reset the breaker in the bath receptacle.



GFI RECEPTACLE

GFI RECEPTACLE — The receptacle shown above is installed in the bath and is connected to the outside receptacle. Test the GFI system at least once a month. Push the TEST button in the receptacle with a test light plugged into the outlet. The test light should go out. To restore power, push the RESET button in the receptacle.

NOTE: If the button does NOT pop out or if the test light indicates a live circuit, DO NOT use the outlets. Call your authorized dealer.

CAUTION: The GFI does not eliminate electrical shock completely. Small children and persons with heart conditions or other disabilities that make them especially sensitive to electrical shock may still be injured by a ground fault on the bath or exterior receptacles.

SHORELINE CONNECTION — The Shoreline (Figure 3) is a heavy-duty cable with a 3-prong grounding plug on one end, permanently attached at the other end, to the power center. It can be pulled from its storage compartment through a hatch in the sidewall of your vehicle and connected to an external receptacle. Some campsites and trailer parks still have two-slot outlets. If it is necessary to use a three-to-two adapter, be certain its grounding wire is fastened securely to the outlet grounding screw. If in doubt, you may attach a No. 6-AWG copper wire to the frame of the vehicle and fasten it to an 8-inch copper or brass stake driven into the ground.

The 120-volt system is protected by the circuit breakers. If a circuit breaker opens, unplug the appliances on that circuit, allow a short period for the breaker to cool, then reset the breaker. If the breaker continues to open, contact your authorized dealer.

GENERATOR

GENERAL — The optional auxiliary generator (Figure 4) is a gasoline powered appliance which will supply 120-volt electricity. It draws gasoline from the main gasoline tank and can be operated when your motor home is stopped or while you are traveling. A remote generator starter switch is mounted in your unit and there is a starter switch on the generator.

An automatic transfer switch prevents simultaneous use of both the generator and the Shoreline connection. When the generator is started, the transfer automatically switches from shoreline to generator power. Likewise, when the generator is shut down, the transfer automatically switches to Shoreline power. When the generator is started, there is a 60-second delay built into the transfer switch to prevent a power surge which might cause damage to electrical circuits or appliances. On some units, the transfer switch is attached to the back of the Power Center; in other units, it is in a separate electrical box, connected to the Power Center.

CAUTION: When running, the engine powering a generator can discharge carbon monoxide gas, which can cause death if inhaled even for a short period. Although exhaust fumes are usually readily evident, carbon monoxide is particularly dangerous because it is colorless and odorless. When operating a generator, DO NOT open roof vents, windows, or doors which could draw fumes into your unit. DO NOT operate the generator where an object such as a tree, bush, or building may deflect exhaust fumes inside your unit. DO NOT operate the generator inside a building unless the exhaust is vented safely outside. DO NOT operate the generator where exhaust gas could accumulate and seep back inside an occupied vehicle, tent, or building.

STARTING — Before starting your generator make sure the air intake and exhaust outlets are free of obstruction. Also make sure the roof air conditioners and the microwave oven are off. Depress the generator START/STOP switch to START and hold until the generator is running (when released, the switch will return to the neutral position). When using the generator for the first time, apply the electrical load gradually to break in the engine. Operate the generator at one-half load for 30 minutes, then an additional 30 minutes at three-quarters load before applying a full electrical load.

If the generator cranks, but will not start, the fuse on the generator has probably blown. Replace the fuse with one of the same ampere rating.

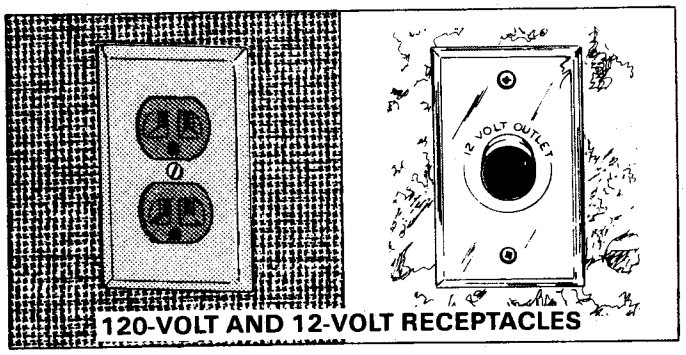
SHUTDOWN — To shut down the generator press the START/STOP switch to STOP and hold until the generator stops running. Make sure the roof air conditioners and microwave oven are turned OFF before stopping your generator.

CARE OF GENERATOR — The complete operation and care procedures for your generator are in the generator manufacturer's manual, but below are a few of the basic requirements:

Check the oil level daily or at least every 8 hours of operating time. Change oil in a new generator after the first 25 hours of operating time and every 100 hours, or six months, thereafter. Clean the cooling fins at least every 200 hours; remove any dust, dirt, or oil which may have accumulated. Check the air cleaning element every 100 hours; clean it by tapping against a flat surface. Change the air cleaning element at least every 200 hours.

SCHEDULES

The schedules listed are only a guide. When the generator is used in extremely dusty or cold conditions, all maintenance steps may need to be more frequent.



120-VOLT AND 12-VOLT RECEPTACLES

12-VOLT SYSTEM

The 12-volt system, which includes the automotive battery and optional RV battery (Figure 5), plus the 12-volt converter, supplies power to the exterior and interior lights, the range hood fan and light, the furnace blower, water pump, interior 12-volt receptacles, porch light and monitoring panel. The 12-volt receptacles can only be used for appliances specifically designed for that type of energy. The 12-volt energy is supplied by the automotive battery, the RV battery, or the power converter.

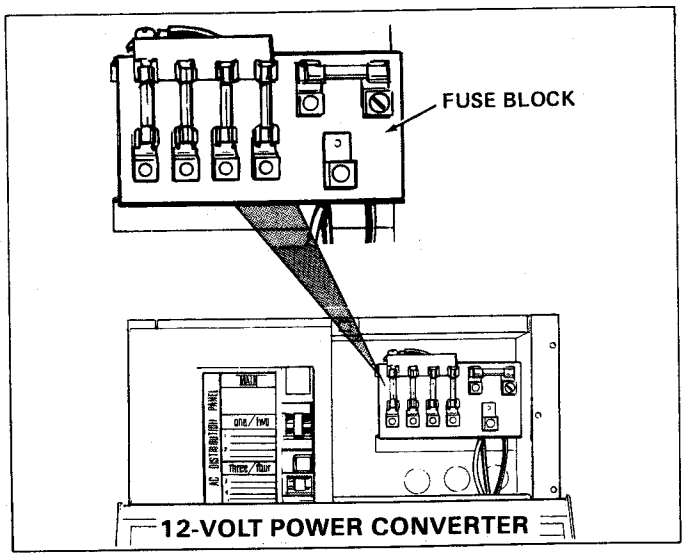
The automotive alternator supplies 12-volt power to the vehicle's lights and components and the RV's 12-volt system, including running lights, brakes and appliances, when the engine is running. The automotive alternator also will charge the RV battery(s).

The RV battery supplies power to the furnace blower, monitoring panel, water pump, interior 12-volt receptacles, optional power vent(s), range hood fan and light and interior lights. The RV battery also is charged by the power converter, whenever you are using a Shoreline connection.

BATTERY — Check the liquid level at least once a month. It must be above the plates. The battery manufacturer recommends using a good grade of drinking water, excluding mineral water. Keep in mind this only applies to batteries that need water. Some models will have maintenance free batteries that do not need water. Keep terminals free of dirt and corrosion. You may use a battery hydrometer to check the charge level of the battery. When specific gravity is below 1.225, recharge the battery until 1.265 is indicated. To check the battery using the monitoring panel, disconnect the Shoreline and turn on at least three interior lights: a discharged battery will show full charge unless some electricity is being drawn. RV battery locations vary from model-to-model and on various chassis. Have your dealer explain the connection for your RV battery(s) and the location.

NOTE: If the battery must be "quick charged," turn off the refrigerator and electronic water heater.

CONVERTER — The power converter section of the Power Center transforms 120-volt AC into 12-volt DC, supplying power to all of the 12-volt systems. Each 12-volt circuit is protected by a fuse in the power center. Turn the twist-lock or lift the cover to open the door and check the fuses. A listing of the circuits is on the inside of the door or on a label in front of the fuses. Some fuses protect circuits with more than one function, others may be for specific appliances. If a fuse breaks, turn off or unplug all appliances on that circuit. Replace the broken fuse with one of the same ampere rating. If the fuse continues to break, contact your authorized dealer. See the Power Center manufacturer's manual for specifications and operation and testing procedures.



12-VOLT POWER CONVERTER

FRESH WATER SYSTEM

GENERAL

Fresh water for your unit is supplied either by the vehicle's fresh water tank or an external pressurized source. Both supply water to the sinks, lavatory, tub/shower, toilet, and water heater.

CITY WATER

Connect a hose to a "city" pressurized water faucet and to the vehicle's water inlet (Figure 6). When using the city water hookup, the water tank and pump are bypassed. You cannot fill the water tank through the city water inlet.

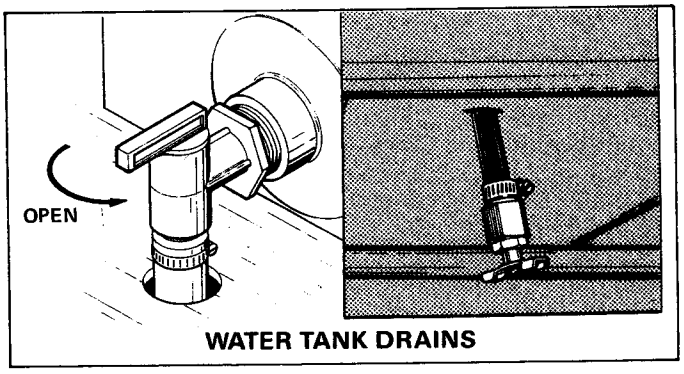
Although a common garden hose can be used to fill the water tank and connect to city water, long time RV'ers recommend a hose specifically manufactured for this purpose.

CAUTION: In areas where city water pressure exceeds 60 pounds-per-square-inch, you should use a pressure regulator. Excessive water pressure may damage lines and connections. See your authorized dealer for further details.

WATER TANK

Open the gravity water fill by pulling out the fill spout (Figure 7). Use a hose or vessel to fill the water tank. Water will flow out the water fill when the tank is full. The water tank in some models is beneath a gaucho, dinette, kitchen cabinet or the bed.

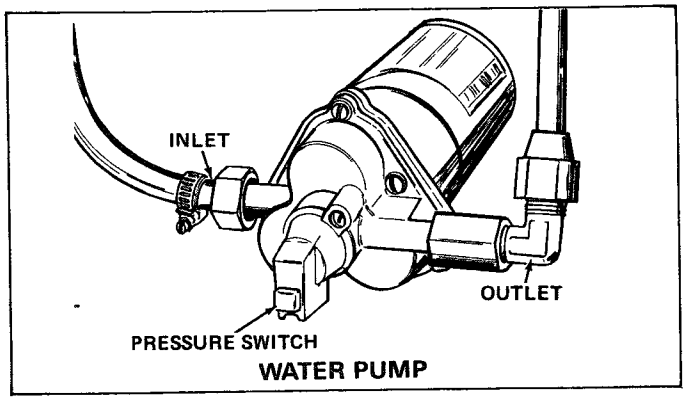
SANITIZING WATER TANK — Sanitize your unit's water tank before initial use, after a period of nonuse, and whenever the tank is suspected of being contaminated. Open the drain cock and let the water drain out. The drain cock is attached to a port near the bottom of the water tank. The drain cock can be reached from inside or outside the unit (Figure 8). In both cases, the drain line extends to the outside of the unit. When the tank is empty, close the drain cock or petcock. Mix 3 gallons of water with 3/4 cup of liquid household bleach. Pour solution into the tank through the gravity water fill. Wait 3 hours. Drain and flush the tank with fresh, potable water. If a chlorine taste lingers, pour 1 quart of vinegar and 5 gallons of water into the tank. Wait several days before draining tank. Flush tank with fresh, potable water.



WATER TANK DRAINS

WATER PUMP

Your water pump is a 12-volt DC appliance, activated by a switch on the monitoring panel or one mounted in the kitchen area. You may leave the switch ON while camping. This arrangement is known as a demand system. When you want water, simply open a faucet; the pump supplies water from the fresh water tank and will run only as long as needed. If the pump fails to start when the switch is ON, check the fuse located in the converter. If the pump continues to operate, whether the faucets are opened or closed, check the water tank; it may be empty , or there may be a leak in the system.



WATER PUMP

WATER PURIFIER

The water purifier installed in some models, is designed to provide clear, good-tasting, bacteria-free drinking water. It is connected to the cold water line below the sink. See the manufacturer's instruction booklet for back-flushing the purifier element and maintenance.

NOTE: Replace filter cartridge if water pressure drops noticeably or a change in taste or the presence of an odor is evident.

To replace the filter cartridge:

1. Shut off water by lifting valve handle. Move counterclockwise as far as possible.
2. Turn colored ring all the way to the left. Ring will drop about 1/2".
3. Lift the cartridge slightly and turn it further to the left until it can be disengaged.
4. Lower cartridge to disengage it from the ring. Discard used filter cartridge.
5. Insert new filter cartridge following above steps in reverse.

Check cartridge to be sure it seals after water pressure is turned on again.

SINKS

Clean the kitchen and bathroom sinks with non-abrasive cleanser. Stainles steel cleaner may be purchased at most grocery stores. ABS cleaner, such as Aqua K-7, may be purchased from your authorized dealer.

LEAKS

Traveling over bumpy or rough roads can cause pipe fittings to loosen. Check pipe fittings regularly for signs of leakage.

DRAINAGE/SEWER SYSTEM

GENERAL

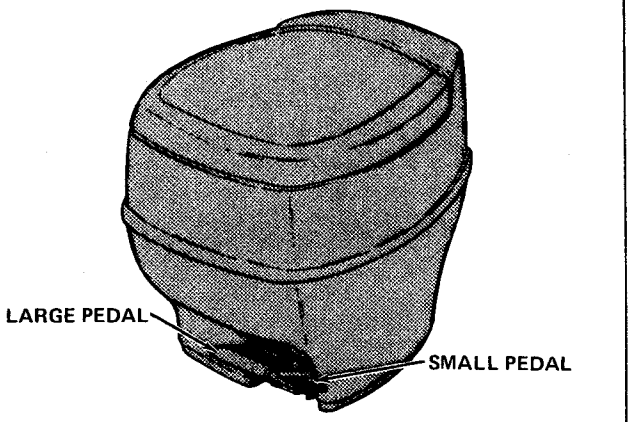
Your vehicle is equipped with a Drainage/Sewer system that functions much the same as the one in your home. It includes drain lines from the kitchen sinks, lavatory and tub/shower to a gray water holding tank and a marine type toilet that empties directly into a separate waste holding tank. The drainage system also includes vents which carry odors (caused by drain water and waste) out through the roof, while equalizing air pressure. The latter is necessary to maintain a water barrier against odors in the P-traps and to ensure smooth flow and escape for your drainage system.

TOILET

Your toilet will be an Aqua Magic Galaxy or an Aqua Magic IV. The Galaxy has two pedals near the front base for flushing and adding water. The Aqua Magic IV has a black lever for flushing and a white lever for adding water.

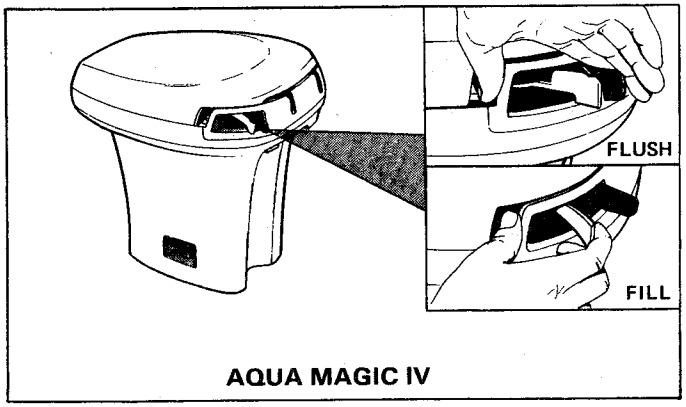
Before initial use and after emptying the holding tank, flush the toilet. When the bowl is filled, pour in an 8-ounce bottle of Aqua Kem concentrate or similar product, then flush the toilet again. This will help control odors.

To operate the Galaxy, step on the small pedal to add water to the bowl. When the desired amount has entered, release the pedal slowly. To flush, step on the large pedal until the water swirls, then release pedal slowly.



AQUA MAGIC GALAXY

To operate the Aqua Magic IV, pull the black lever forward, which simultaneously activates the white lever, and hold until all contents have been swept into the holding tank. Always open for a minimum of 3 full seconds. When you release the black lever, the bowl will automatically fill with water for next use. If you desire to add more water to the bowl, pull the white lever forward.



AQUA MAGIC IV

CARE OF TOILET — Use Aqua Bowl Cleaner as directed. DO NOT use highly-concentrated or high-acid household cleaners (NO scouring powder). If the slide valve does not move freely, apply silicone spray.

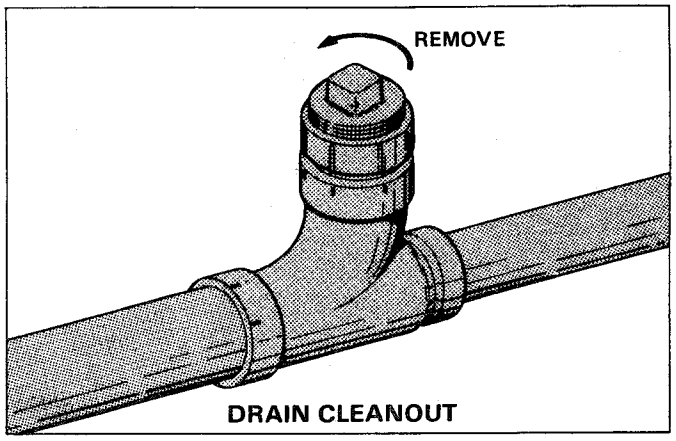
HOLDING TANKS

A gray water holding tank is for kitchen sink, lavatory and tub/shower water; a waste holding tank is for the toilet. Holding tanks should be emptied frequently, but always into a specified dumping station. Most campgrounds are equipped with dumping stations, often at each campsite; many service stations also have waste dumping stations. You can prevent unnecessary accumulation of solids in the waste holding tank by not putting facial tissues or similar items into the toilet.

EMPTYING HOLDING TANKS — Be certain your vehicle is level, since the emptying of holding tanks depends on gravity. Remove the sewage drain hose (Figure 9) from its storage area. Remove the cap from the termination outlet and connect the sewage drain hose. With hose connected while you are camped, you can leave the GRAY WATER dump valve open. DO NOT open the waste water dump valve until you want to empty the holding tank. The toilet is not like the one at home which uses many gallons of water to flush wastes directly into the sewer system. Instead, if the dump valve is left open, the rinse and flush water will run off, leaving the solids to collect and harden in the bottom of the tank. Drain the toilet waste holding tank first. When it is empty, drain the gray water tank, which will help clean the drain hose.

To drain a holding tank, pull out the dump valve slide handle (Figure 10, typical). Before pulling the slide valve handle out on some units, it is necessary to unfasten or unlock a holding device. Some have a locknut, others wire retention clamps, while some merely slide in and out, seating in place automatically. Close the valve (and lock in place, if so equipped) after the tank has drained. Flush or pour about 2 gallons of water through the toilet when emptying the waste holding tank and drain again. This flushes the tank and helps clean the drain hose. Repeat as necessary. Follow the same procedure for gray water holding tank, although a repeat flushing may not be necessary. When the tank is empty, push the dump valve handle in until it seats (or lock as required). Remove the hose, wash it and replace it in its storage holder. Replace termination cap securely.

DRAIN CARE — Use clear water to clean exterior pipe surfaces. DO NOT use harsh drain cleaner chemicals or solvents in drains. Drain cleanouts are installed at intervals to facilitate drain line cleaning or unclogging. Use a wrench to remove and replace drain cleanout plug.

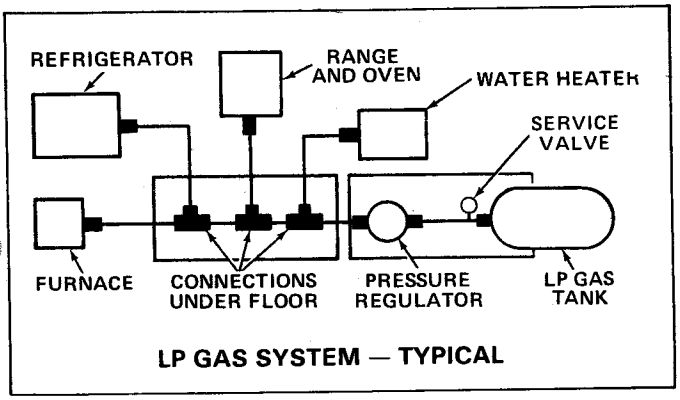


DRAIN CLEANOUT

LP GAS SYSTEM

GENERAL

The Liquefied Petroleum (LP) Gas System in your unit furnishes fuel for hot water, heat, cooking, and refrigeration. LP gas, a by-product of the petroleum refining process, provides a portable, efficient and inexpensive source of energy. It is stored in a tank (Figure 11) which is mounted to the chassis of your unit and is reached through an access door. Under pressure in the tank, the LP gas turns to vapor; it is the vapor which burns. Each tank has an automatic 80% stop fill valve, which allows space in the tank for vapor expansion. The high pressure of the vapor in the tank is reduced in two stages through a regulator. The tank pressure will vary with temperature and altitude, but may be 100 to 250 pounds per square inch or more. It is reduced to about 12 psi in the first stage, then to about 6-1/4 ounces in the second stage (the 6-1/4 ounces per square inch also is expressed as 11 inches of water column). The LP gas is propane or a blend of propane and butane, depending upon your locale.



LP GAS SYSTEM — TYPICAL

The LP gas system is designed and built to rigid standards and tested before leaving the factory. Your dealer also tests the system prior to delivery to you. Except for simple maintenance and occasionally tightening a connection, you should take your vehicle to an authorized dealer for LP gas problems. The LP container should always be filled by an authorized LP supplier.

NOTE: The manufacturer is not responsible for personal injury or property damage resulting from improperly maintained LP gas appliances and systems.

LP gas burns readily and with intense heat. *With proper care and maintenance, it is safe and efficient.* However, there are certain characteristics of LP gas of which you should be aware. In its natural state, LP gas is odorless, but an additive gives it a distinctive garlic odor so that leaks may be readily detected.

WARNING: For your safety, if you smell gas:

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

LP gas is heavier than air and tends to collect in low pockets. As LP gas settles into any closed area, it displaces air and thus could cause suffocation if not detected. It could also create a fire or explosion hazard.

WARNING: LP gas containers shall not be placed or stored inside the vehicle. LP gas containers are equipped with safety devices which relieve excessive pressure by discharging gas to the atmosphere.

Before using any LP gas appliance, read the respective manufacturer's instruction manual.

CLIMATE DIFFERENCES

The appliances will not function if the LP gas does not vaporize. Butane will not vaporize below 32 degrees F. (the freezing point of water), but propane will continue to vaporize down to 44 degrees below zero. Propane has become the main type of LP gas used in RV's in recent years. Your LP supplier will have the correct type or blend for your locale. If your travels will take you into an area where climate differs, ask your LP dealer for his recommendations. The names of LP suppliers can be found in the yellow pages of your telephone directory under "Gas-Liquefied Petroleum — Bottled & Bulk". Many campgrounds now have LP gas fill facilities, as do some service stations.

To operate any LP gas appliance, the LP gas tank's Service valve (Figure 11) must be OPEN. When first used, or after a refill, there may be some air in the gas lines which will escape when you open a range burner or similar LP gas valve. The air may extinguish your match or igniter the first time or two, before you get ignition. Remember, too, that when you close the tank's Service valve some of the gas will remain in the lines. To completely bleed the lines of gas, CLOSE the tank's Service valve and light a range burner to use up the excess. When the flame burns out, turn the range burner OFF.

FILLING THE LP GAS TANK

Before having an LP gas tank filled, be certain all burners and pilot lights are off.

Drive your RV to an authorized LP supplier for filling (never remove the tank). He will connect the fill nozzle to the LP gas tank fill valve. When the tank is being filled, the Service valve must be CLOSED and the 20% liquid level gauge must be OPEN. The 80% stop fill valve may close the valve before liquid appears at the 20% liquid level gauge, but if liquid does appear, stop filling immediately; the tank is filled to its LP capacity. When liquid LP gas is no longer visible, close the liquid level gauge. Do not use a wrench to tighten the Service valve or the 20% gauge; they are designed to be closed leak-tight by hand. If you cannot hand-tighten properly, the valve probably needs repair or replacement.

Because there may be some leakage of LP gas when the tank is being filled, we recommend that you drive at least a mile away from the LP gas dealer's before you relight any pilot lights or appliances. DO NOT relight pilots or appliances if the scent of LP gas is present. Open the windows and doors and wait 30 minutes. If the odor is still present, follow the instructions in the LP GAS LINE CHECK section.

WARNING: A warning label has been located near the LP Gas container. This label reads:

DO NOT FILL CONTAINER(S) TO MORE THAN 80 PERCENT OF CAPACITY.

Overfilling the LP Gas container can result in uncontrolled gas flow which can cause fire or explosion. A properly filled container will contain approximately 80 percent of its volume as liquid LP Gas. If the container is overfilled, have the LP Gas dealer bleed out the excess. DO NOT smoke, strike a match or ignite a lighter when the LP Gas container is being filled. A spark or flame could ignite fumes. Be certain all burner and pilot flames are out and the Service Valve is closed when filling your vehicle's LP Gas or fuel tanks.

LP GAS LINE CHECK

Always check the gas line connection after each refill and inspect other connections regularly, at least every 30 days or 5,000 miles of travel. To check, turn off all burners and pilot lights. Open all doors and windows. Open the LP gas container Service valve and use soapy water, a bubble solution or approved leak detector to test all line connections. Do not use products that contain ammonia or chlorine. Bubbles indicate a leak. Tighten the connections with two open end wrenches until bubbles stop. If leak persists, contact your dealer.

REGULATOR PRESSURE

Check the LP gas regulator at the beginning of each season, or whenever a problem is indicated. Correct line pressure is 11 inches of water column. Your dealer or LP gas supplier can perform this check.

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

LP CONTAINER CARE

After each trip, inspect the LP gas container(s). Sand off traces of rust and apply a rust preventive paint. Always use white paint, which reflects heat. When the LP gas system is not in use, the Service valve should be closed.

LP GAS REGULATOR FREEZEUPS

LP gas regulator freezeup is a problem RV owners can prevent if they are aware of its causes. Freezeup is usually caused by one of three things: moisture in the tank, an overfilled tank, or a greater vapor withdraw demand than the tank can deliver at a particular temperature. Freezeups occur more frequently in cold weather when equipment can freeze and there is a lower rate of vaporization and a higher rate of demand.

Moisture can enter the tank in the LP gas or through condensation if air is allowed into the tank through an open valve. Avoid these conditions by using moisture-free LP gas and keeping all tank valves closed during storage. If moisture is present, have an authorized dealer purge the tank and add anhydrous methanol; the dealer will know the correct amount for your size tank.

An overfilled tank can allow liquid gas, instead of vapor, to flow through the regulator. This can result in erratic regulator delivery pressure, improper appliance operation or burner outage, and possible frosting of the regulator and LP gas lines. This can be avoided by following the previously cited precaution about overfilling.

Liquid gas does not vaporize as rapidly in cold weather so you may place too great a demand on your tank's capacities in certain conditions. This can cause a refrigeration effect resulting in frosting of the tank and regulator. Check with your authorized dealer or LP supplier about the appliance demands which can be met by your tank at various temperatures. Always have your LP supplier add anhydrous methanol before filling the tank in cold weather.

APPLIANCES AND ACCESSORIES

RANGE, RANGE HOOD, OVEN

GENERAL — Your RV may have a three- or four-burner range; it may have an oven beneath the range or at eye-level, and it may have a gravity range hood with a light, a power range hood with fan and light, or a range hood with fan only. The range burners and oven are LP gas appliances. Read the range manufacturer's manual carefully for complete details on the operation and care of the range, range hood and oven.

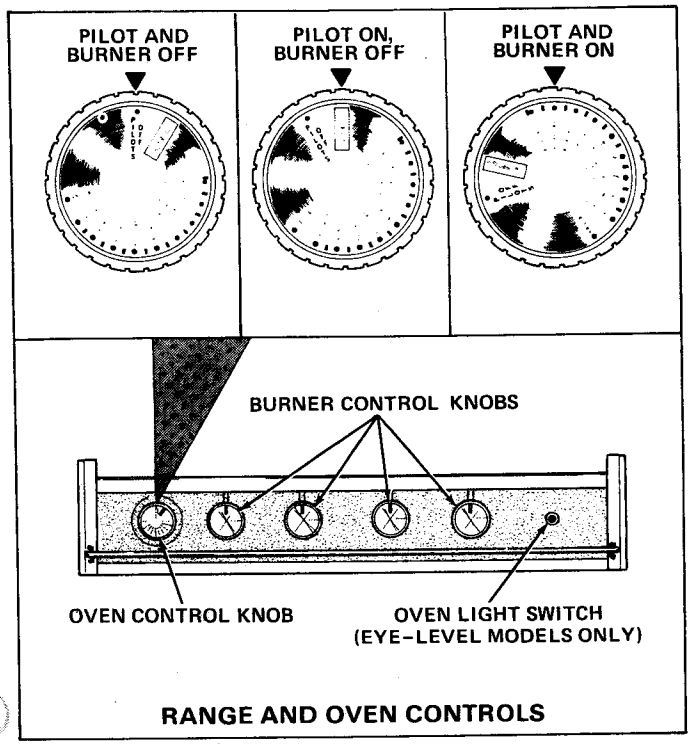
WARNING: IT IS NOT SAFE TO USE COOKING APPLIANCES FOR COMFORT HEATING.

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

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

This warning is to remind you to provide an adequate supply of fresh air for combustion. Unlike homes, the amount of oxygen supply is limited due to the size of the recreational vehicle. Proper ventilation when using the cooking appliance(s) will avoid dangers of asphyxiation. It is especially important that cooking appliances not be used for comfort heating as the danger for asphyxiation is greater when the appliance is used for long periods of time.

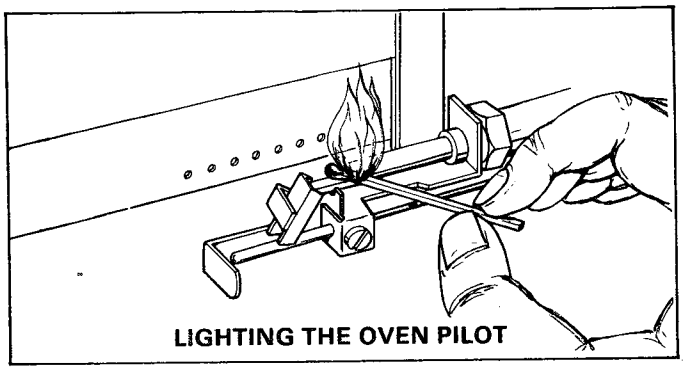
LIGHTING THE PILOTS — There are pilot burners on all LP gas ovens and the eye-level range/oven also has a pilot for the range burners. All pilot lights, including the range burner pilot, are turned on and off by the oven control knob. If you have the eye-level range/oven, you must light BOTH the oven pilot and the range top pilot.



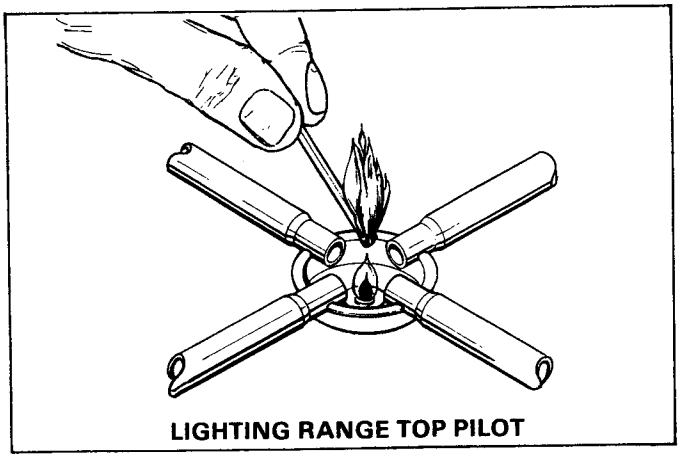
RANGE AND OVEN CONTROLS

CAUTION: The oven control knob must be in the PILOTS OFF position unless the pilot or pilots are lit. Once lighted, the pilots will continue to burn when the oven control knob is in the OFF position.

To light the oven pilot, be certain the LP gas container Service valve is OPEN, then depress and turn the oven control knob from PILOTS OFF to OFF. Open the oven door and hold a lighted match next to the constant pilot area (it is near the rear of the oven compartment, just below the main oven burner). Relight the pilot if air in the line extinguishes the flame. When the pilot remains lit, adjust the oven control knob to the desired temperature. If the oven is part of the eye-level model, light the range burner pilot before lighting the oven pilot.


LIGHTING THE OVEN PILOT

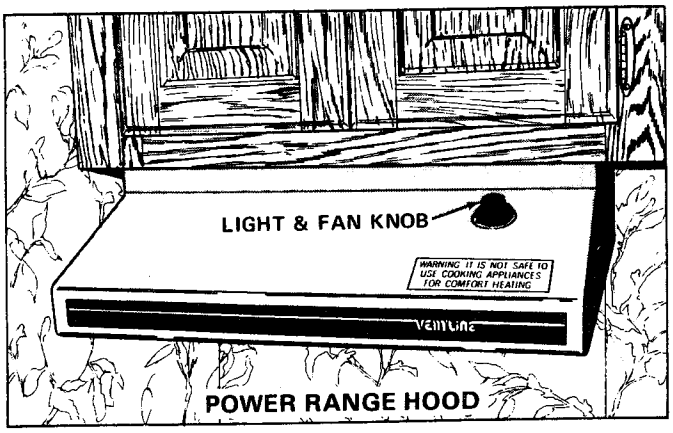
To light the range burner pilot (eye-level range/oven models only) lift the main top panel and touch a lighted match to the pilot. Turn a range control knob full ON; if the burner lights, the pilot is operating properly.


LIGHTING RANGE TOP PILOT

LIGHTING THE RANGE — Be certain the LP gas Service valve is OPEN. Light a match and hold it close to the range burner, then turn the burner's control knob to full ON. Air in the line may cause a blowing noise and may extinguish the match. When the line is free of air, the burner will light readily. Adjust the burner flame with the control knob.

BROILER — Your oven is equipped with a broiler. To use it, light the oven and set the control knob to "BR". Place the broiler pan in the area below the oven burner. Do not place meat too close to the flame; grease or fat may ignite. Use foil only as recommended: Never cover the holes in the broiler pan or the air openings in the oven bottom with foil. Always remove the broiler pan as soon as you have finished broiling. If the pan is not removed and the oven is used, the grease may bake onto the surfaces or the grease may ignite.

RANGE HOOD — The light and/or fan of a power range hood is controlled by a switch on the top. The range hood also has a damper, which must be open during use. Pull the ring on the right side of the filter to release the damper. Use the fan to draw smoke and cooking fumes out of the unit. To secure the damper, push the ring in. Keep the damper closed when traveling.



POWER RANGE HOOD

CARE OF RANGE AND OVEN — Allow the range top to cool, then clean it with hot, soapy water. Use a damp cloth to clean chrome surfaces. Grease splatters, which may bake onto the surfaces, should be wiped off before they have time to harden. Use chrome polish to remove stubborn stains. DO NOT use metal objects, such as an ice pick or wire, to unclog burners. They may distort the opening and adversely affect burner operation.

Clean the oven with commercial cleaner after each trip, or as necessary. DO NOT apply cleaner to aluminum gas tubing, thermostat sensing bulb or electrical components.

CARE OF RANGE HOOD — For metal surfaces, use the same procedure as for the range top. For the power hood, clean the plastic light cover by removing and washing it. If the light burns out, replace the bulb. To clean the power hood filter, push slot located in center front of screen and pull down. If not greasy, simply tap the filter to shake out the dirt. If the filter is greasy, run hot, soapy water over it until grease dissolves. Allow the filter to drain and dry, then replace by positioning the flanges and push into place. The gravity hood can be cleaned by gently rubbing a soapy cloth over the screen.

MICROWAVE OVEN — A microwave oven is a 120-volt appliance used to cook, defrost or simmer foods in less time than other cooking methods. Several brands and models are installed. Because each brand and model has different controls and settings, you must have your dealer demonstrate the operation of the model installed in your unit. Also, READ CAREFULLY the microwave oven manufacturer's instruction booklet on operation, maintenance and safety.

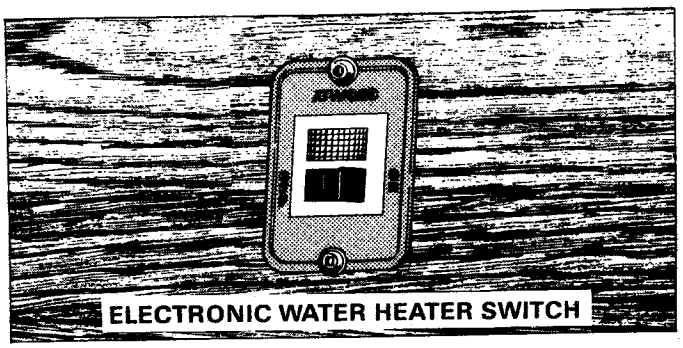
WATER HEATER

GENERAL — The water heater is an LP gas appliance capable of heating 6 or 10 gallons of water to a preset temperature. The water heater may be a match light or electronic ignition. When the system is connected to city water, fill the water heater by opening a hot water faucet. When filling the fresh water tank, turn the water pump ON and open a hot water faucet. In either case, when water flows steadily, turn the faucet OFF. Any air still in the tank can be removed by opening the relief valve in the outside access compartment (Figures 12, 13 and 14).

Before attempting to ignite any of the water heater models, be certain to OPEN the LP gas tank Service valve.

ELECTRONIC IGNITION — Place the switch in ON position. If switch light comes on, place switch in OFF position and wait 5 minutes. After required delay, again place switch in ON position. For complete shutdown, place switch in OFF position. It may take more than one start attempt when unit is being used for the first time or after the LP gas bottle has been refilled.

This model is equipped with a manual reset, automatic gas shutoff system, actuated by high water temperature. To reset, position switch in OFF position, then depress red button on limit switch through hole in junction box cover (Figure 14). The switch must be OFF before servicing.



ELECTRONIC WATER HEATER SWITCH

LIGHTING PILOT — Open gas bottle's Service valve. Turn the gas cock knob to OFF. Always wait 5 minutes to allow LP gas, which may have collected in the burner compartment, to dissipate. Your water heater will be equipped with a Robertshaw "UNITROL" thermostat (Figure 12) or an ITT General Control Thermostat (Figure 13).

CAUTION: DO NOT light pilot unless water heater is full of water.

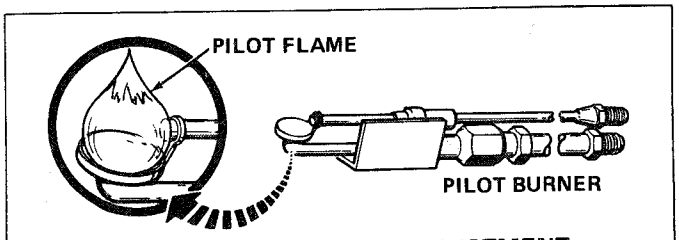
ROBERTSHAW "UNITROL" THERMOSTAT — Turn the gas cock knob counterclockwise to PILOT. Press and hold the reset button while you apply a lighted match to the pilot burner. Release the reset button after pilot has burned one minute (repeat procedure if pilot goes out). Turn the gas cock knob to ON.

ITT GENERAL CONTROL THERMOSTAT — Turn and hold the gas cock knob to the PILOT position as you hold a lighted match to the pilot burner. Release the gas cock knob after one minute (repeat procedure if pilot goes out). Turn the gas cock knob to ON.

TEMPERATURE CONTROL — Adjust the Temperature Control Dial (UNITROL), or the Temperature Selector Lever (ITT) to the desired temperature as marked on the control.

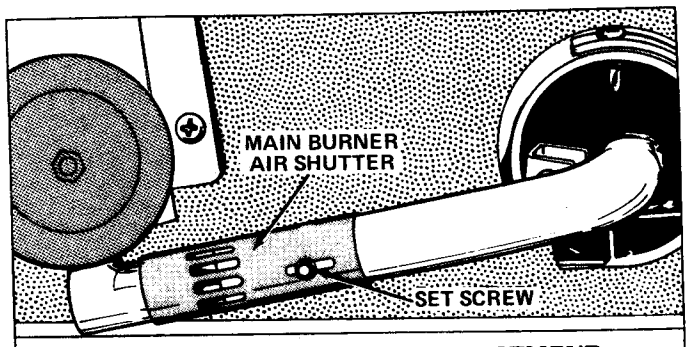
NOTE: The main burner will light automatically and burn as needed to maintain the temperature you have selected. It is a good idea to light the water heater the night before you leave and turn it off in the morning. The water will remain hot for some time while you are traveling.

PILOT ADJUSTMENT — Remove the pilot adjustment screw protective cap and turn set screw to adjust the flame so it is 1/2" high or has a yellow tip. The procedure for the ITT is the same, but the adjustment screw does not have a cap over it.



WATER HEATER PILOT ADJUSTMENT

BURNER ADJUSTMENT — Loosen the set screw which holds the air shutter in place. Slide the main burner air shutter to the right until the flame has a yellow tip. Slowly slide the shutter to the left until the yellow tip disappears. Tighten set screw.



WATER HEATER BURNER ADJUSTMENT

CAUTION: Hydrogen gas can be produced in a hot water system served by this heater that has not been used for a long period of time (generally two weeks or more). HYDROGEN GAS IS EXTREMELY FLAMMABLE. To reduce the risk of injury under these conditions, it is recommended that the hot water faucet be opened for several minutes at the kitchen sink before using any electrical appliance connected to the hot water system. If hydrogen is present, there should be an unusual sound such as air escaping through the pipe as the water begins to flow. There should be no smoking or open flame near the faucet at the time it is open. Contact your dealer or the Service Department at the address on the Manufacturer's Warranty if you are not certain of what action you should take.

EXTINGUISHING BURNER — Turn the gas cock knob to OFF.

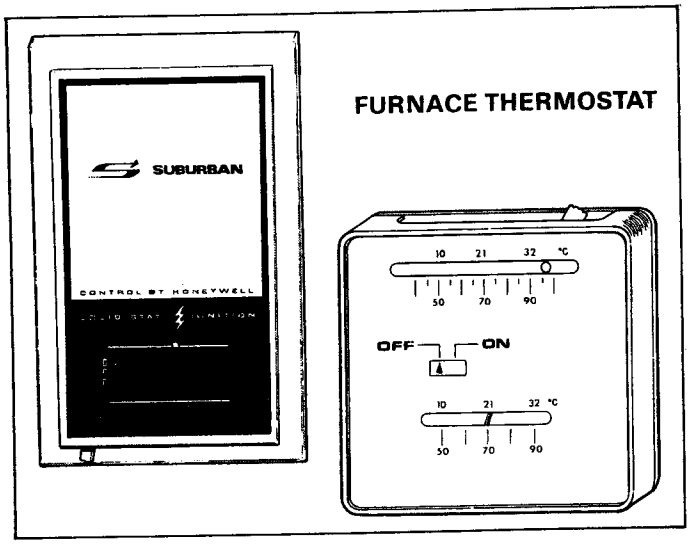
DRAINING — The water heater will have a drain cock or drain plug, which may be opened or removed in order to drain the water heater tank. To facilitate drainage, open all hot water faucets. When water ceases to drain, close the drain outlet. Because of the location of the drain outlet, about two quarts of water will remain in the the bottom of the tank. This can be flushed as described in CARE OF WATER HEATER.

CARE OF WATER HEATER — Be certain the exterior compartment is clean and does not contain combustible materials. Never obstruct the relief valve or vent. If the water heater has a drain cock, use a metal object to scrape away the sediment. Periodically drain and flush the water heater tank. After draining, the remaining water can be removed by flushing the tank with water or blowing dry with air. In either case, close all hot water faucets and open the drain cock or plug. The water hose or air hose can be connected to the water inlet or outlet (inside the unit) or to the relief valve port (in exterior compartment). To use the relief valve port, the relief valve must be removed. Use a pipe or crescent wrench to turn the valve counterclockwise. Attach water or air hose and flush until water ceases to drain. Replace the water inlet or outlet hose or the relief valve and close the drain cock or replace the plug. The water heater is now ready for refilling or storage.

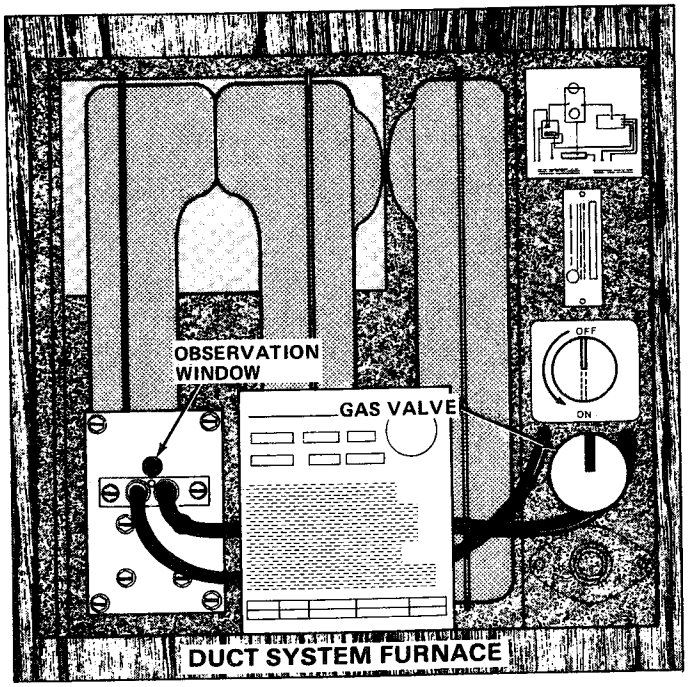
NOTE: The relief valve must be replaced securely. Use pipe compound to assure a water tight seal.

FURNACE

GENERAL — Furnaces have electronic ignition, controlled by a wall thermostat. Heat is delivered through a duct system or directly through the front grille.



NOTE: Although the furnace's fuel source is LP gas, the blower operates on 12-volt DC electricity. DO NOT operate the furnace for prolonged periods unless the Shoreline is connected, the generator is running, or the tow vehicle alternator is supplying 12-volt power. If you do, you could run down your RV battery.

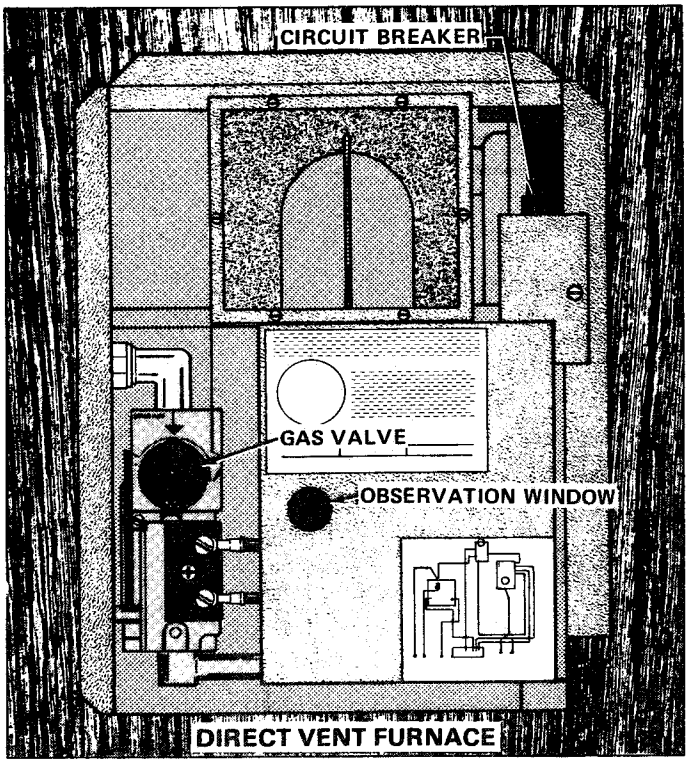


CAUTION: DO NOT use portable fuel-burning heating appliances, including kerosene heaters, wood and charcoal grills and stoves, in your recreational vehicle. Such appliances produce excessive moisture, consume oxygen and may emit dangerous products of combustion.

IGNITION — Before lighting a furnace, be sure the LP gas tank Service valve is OPEN and remove the furnace's front panel. Turn gas valve to ON (some models may be equipped with a gas valve that does not have a gas control knob). Set thermostat to lowest temperature setting, then to desired temperature (if thermostat has an ON/OFF switch, turn to ON). An automatic relay in your furnace provides a time delay. Therefore, when you turn up the thermostat there will be a pause prior to startup of the blower. At blower startup, your furnace air will enter your living quarters at room temperature. For complete shutdown, turn gas valve to OFF and the thermostat to lowest setting or OFF.

Your furnace will start warming quickly, and continue getting warmer for the next several minutes. If your motor home is cold throughout, it may take from one to several hours to heat all interior walls, ceilings, floors and fixtures to a comfortable temperature. Once reached, your furnace will automatically maintain steady warmth.

On initial lighting, the burner may not ignite due to air in the gas lines. If this occurs, set the thermostat back to lowest setting and wait 30 seconds; then reset thermostat to the desired temperature.



NOTE: If the furnace does not light after several attempts, while allowing each time for a delay pause, turn the thermostat and the furnace gas control valve OFF and contact your authorized dealer or furnace service center. DO NOT attempt to repair or adjust the furnace yourself.

Front grille models are equipped with a manual circuit breaker (see illustration). If your furnace blower does not come on, reset the circuit breaker by depressing the button. If the problem persists, contact your authorized dealer or furnace service center.

CAUTION: When changing your unit's electrical source, as from 12-volt to Shoreline or generator, turn the thermostat off. This will preserve the life of your furnace's electronic system. Carefully read the furnace manufacturer's manual for other important Do's and Don'ts of service and operation.

PREVENTIVE MAINTENANCE — Clean the complete furnace and air box passageways periodically to remove dust, lint and other foreign materials. Check the gas system for leaks at least once each year by using a soap and water solution. Do not check with a flame. Check and clean the blower wheel annually.

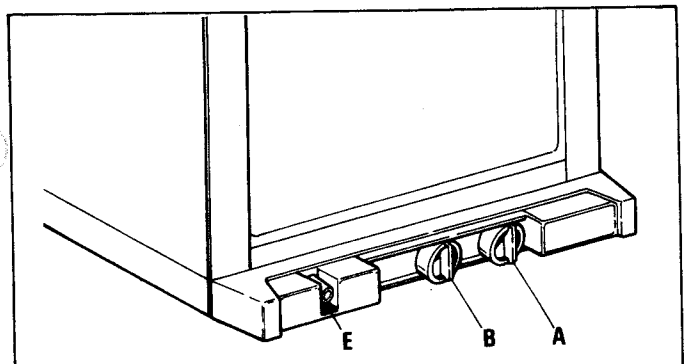
CARE OF FURNACE — Before each heating season, clean the circulating air blower, the combustion air blower, the inside of the furnace casing and the burners. Blow pressurized air through the slots and remove any contamination. Check all piping joints and furnace controls with a soap solution to detect leaks. The control compartment must be kept clean at all times. Check furnace Inlet/Exhaust Cover (Figure 15) on the outside of your unit periodically to be certain it is free of objects which might block the openings.

REFRIGERATOR

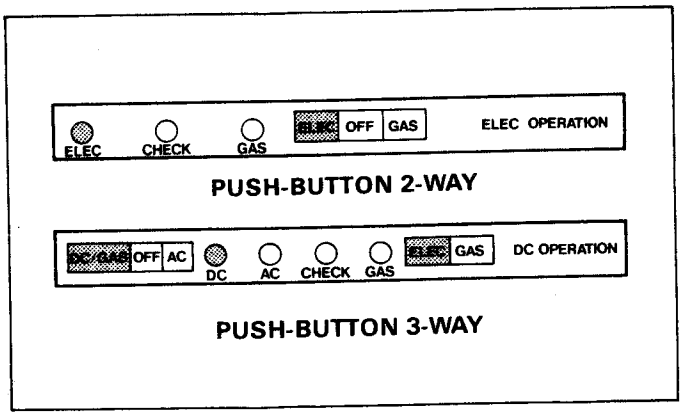
GENERAL — The refrigerator in your unit will be one of several types. Refrigerators are either two way (LP gas and 120-volt electricity) or three-way (LP gas, 120-volt AC or 12-volt DC). All come with operational instruction booklets and most also have instructions posted near the controls. Ask your dealer to demonstrate the operation of the refrigerator in your unit. The instructions given here are for your convenience; in case of a difference, use the instructions furnished with your refrigerator.

The refrigerator operates on the gravity flow of chemicals, so it must be level. If you must stop on an uneven site, turn the refrigerator OFF. Use a level on the freezer compartment floor to check levelness.

Before starting on a trip, use the Shoreline connection to cool the refrigerator the night before departing. Keep items to be stored in the motor home refrigerator in your home refrigerator or freezer until you are ready to leave. This will reduce the cooling load on your motor home refrigerator and help keep perishable foods fresh longer. Always store food in sealable containers or suitable wrapping. When traveling, switch to LP gas (or 12-volt DC, if so equipped) operation. Use door lock during travel.



AUTOMATIC ENERGY SELECTOR



AUTOMATIC OPERATION — This model has an automatic energy selector system, which selects the most suitable available energy source. The selection is made with highest priority to 120-volt, second priority to 12-volt from the vehicle alternator, and lowest priority to LP gas. To start the refrigerator, turn Knob "A" to ON. Lamp "E" will be green. Turn the thermostat, Knob "B", to the desired setting. Turn the refrigerator off by turning knob "A" to OFF.

The control system shuts off the LP gas when the refrigerator has correct temperatures. The LP gas flame will be lit by the control system when the temperature increases above the preset one.

To avoid an LP gas flame at gasoline stations, the refrigerator is programmed to delay LP gas startup for about 30 minutes after 12-volt operation. Thus delay occurs even after only one minute of 12-volt operation from your engine. If you want a quick LP gas startup after 12-volt operation, you can switch off the refrigerator for a few seconds and then switch back to ON. This operation is only available when the refrigerator is connected for three-way use.

If the battery voltage drops, the control system will start continuous LP gas operation. The lamp will not be lit and the thermostat will not be in operation. When the voltage increases, normal operation will start up again.

If the refrigerator does not succeed in lighting the LP gas, the Lamp "E" will change from continuous green into red flashing light. If this occurs, the refrigerator manufacturer recommends that you turn Knob "A" to OFF then back ON. The lamp will be green and the control system does a new start attempt. If the refrigerator has not been in operation for awhile or you have just refilled with LP gas, this operation may have to be repeated several times. Each start attempt will last up to three minutes. If the starting is not successful the lamp will turn red again.

If still unsuccessful after several attempts, check your LP gas supply. If you have LP gas, make sure the LP gas valves are open, including the one on the back of the refrigerator. If you have LP gas and the valves are open, contact an authorized dealer.

Read the refrigerator manufacturer's instructions for details on use, operation and maintenance.

PUSH-BUTTON OPERATION — This model has switches near the top of the refrigerator for you to select the type of operation you desire. A colored light will come on to indicate that the type of energy you have selected is operating properly; amber for 12-volt, blue for LP gas, and green for 120-volt. Many refrigerators now being installed are two-way, without the 12-volt mode. On all modes, turn the thermostat to Max. Cold position when starting, then later adjust the thermostat to the desired temperature. When using LP gas, if ignition does not occur, a Check (CK) Light will come on. To restart when Check Light is on, depress the switch to the OFF position and wait 10 seconds. Then depress switch again to the LP gas position. If you have just refilled your LP gas bottles, this operation may have to be repeated several times. Do not continue to reset the LP gas switch if the Check Light continues to come on after several tries. If the Check Light comes on a second time, turn the switch to OFF and check your LP gas supply. If you have an ample LP gas supply, consult your dealer.

The refrigerator is the only 12-volt appliance that does not draw power from the converter. Even with the Shoreline connected, the refrigerator's only source of 12-volt power is the RV battery. When you are traveling, your automotive alternator will maintain a charge in the RV battery. When you are parked, switch to LP gas or 120-volt electricity to operate the refrigerator.

CARE OF REFRIGERATOR — Remove food and ice after each trip. Clean the interior of the refrigerator with a lukewarm, mild soda solution. The evaporator, ice trays and shelves, must, however, be cleaned with warm water only. Wipe dry with a soft dry cloth. Never use strong chemicals or abrasives to clean the refrigerator; they can do harm to the plastic and aluminum surfaces. If the refrigerator is not in use for a period of time, turn all power off, empty and clean the interior and leave the door slightly ajar.

To defrost refrigerator freezer, remove food and ice. Turn the thermostat OFF. To speed up the defrosting process, fill the ice tray with hot water. When all frost is melted, empty the drip tray and dry the interior of the refrigerator with a clean cloth. Replace the drip tray and ice tray, replace all food stuffs and set the thermostat at MAX for a few hours. Later, reset the thermostat knob to its normal position.

ICE MAKER

Some models have ice makers, which must be level in order to operate properly. Never use an ice pick to loosen cubes. Defrost the ice maker periodically. When ice maker is not in use for some time, prop the door open about two inches. Do not use any electrical devices to defrost the ice maker. Make sure the front grille is clean, permitting good air flow. Refer to the ice maker manufacturer's instructions for specifics on operation and maintenance.

VACUUM CLEANER

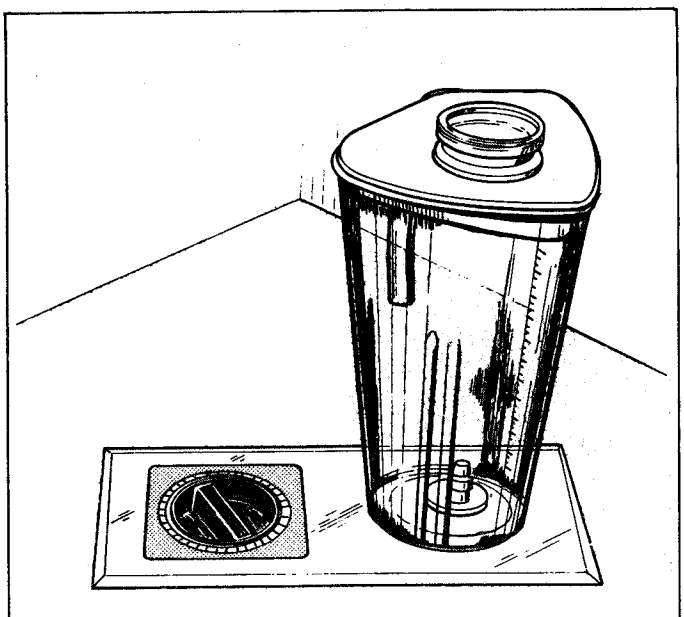
The vacuum cleaner, installed in some models, is a 120-volt appliance. To use, lift the inlet lid and connect the hose. Some systems activate when the lid is lifted, others when the hose is connected. They turn off when the lid is closed or the hose is disconnected. In certain models, the vacuum cleaner may operate only on generator power. Access to the filter bag is through the top of the unit. Periodically, remove the top cover to check the filter bag. Replace with a new bag when needed. Refer to the manufacturer's instructions for details on maintenance.

FOOD CENTER BLENDER

The food center blender installed in some units (optional on others) operates on 120-volt electricity. It consists of a power unit, six-speed control and blender.

Place the blender into the blender receptacle. Turn clockwise to lock into place. Place food into the blender. NEVER operate the blender unless the lid is firmly in place. Turn the control dial to the desired speed.

Your food center can also mix, shred, grind or slice food with additional attachments which are available from a Nutone food center dealer.



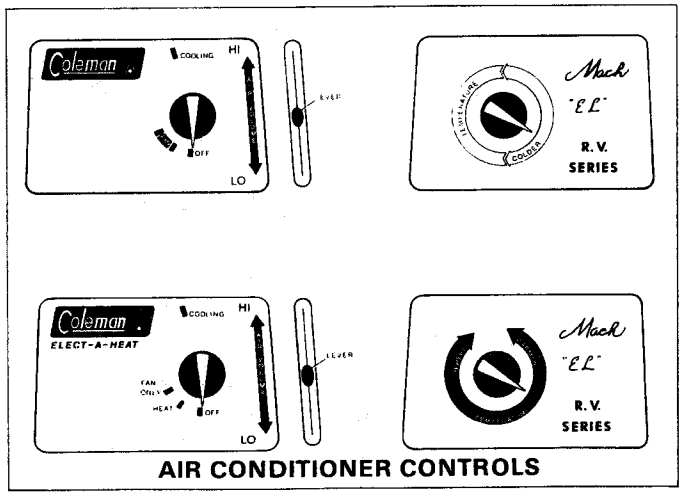
FOOD CENTER

ROOF AIR CONDITIONER

GENERAL — If you did not order the optional roof air conditioner at the time of purchase, your unit may be wired so that one can be installed later; ask your dealer. The roof air conditioner will operate ONLY on 120-volt electricity. When unit has (2) two roof air conditioners, one operates off Shoreline, the other (rear) operates off generator.

Several types of roof air conditioners are installed at the factory. The operation of three types is described, but consult your dealer and your roof A/C manufacturer's manual for specific instructions for the one installed in your unit.

Before starting any model of roof A/C, close all doors and windows. The optional heat unit on some models is not a substitute for a primary heating system. It is designed to warm the air during moderately cool days or nights.



AIR CONDITIONER CONTROLS

CONTROLS — The controls for the A/C model illustrated above are on a panel on the portion of the appliance which is attached to the ceiling inside your unit. You can select cooling, fan only, or — with the optional heat package — heating. Refer to the illustration for operating instructions.

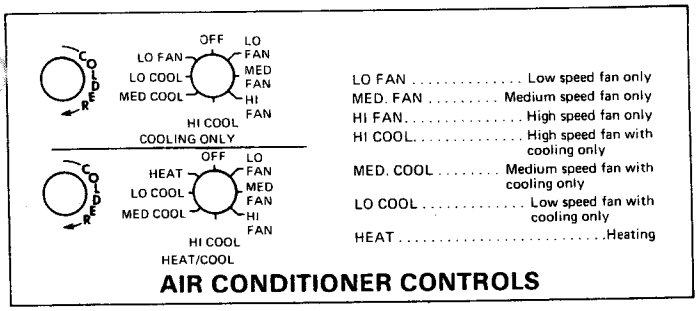
AIR CIRCULATION ONLY — Turn the Selector Switch to FAN (or to FAN ONLY with the optional heat package) and adjust the Damper Lever to the volume of air flow desired.

COOLING — Turn the Selector Switch to COOLING, then rotate the Thermostat to the position that is most comfortable to you and adjust the Damper Lever to the desired volume of air flow. The compressor will cycle on and off, automatically, to maintain the desired temperature.

HEATING — If equipped with the optional heat package, turn the Selector Switch to HEAT and rotate the Thermostat to the position most comfortable to you and adjust the Damper Lever to the desired volume of air flow. The heater will cycle on and off automatically to maintain the desired temperature.

NOTE: On units that do not have the optional heat package installed, this position will circulate the inside air only.

AIR FLOW — Adjust the louvers to the best air distribution.



AIR CONDITIONER CONTROLS

CONTROLS — The controls for the A/C model illustrated above are on a panel on the portion of the appliance which is attached to the ceiling inside your unit. Refer to the illustration for operating instructions.

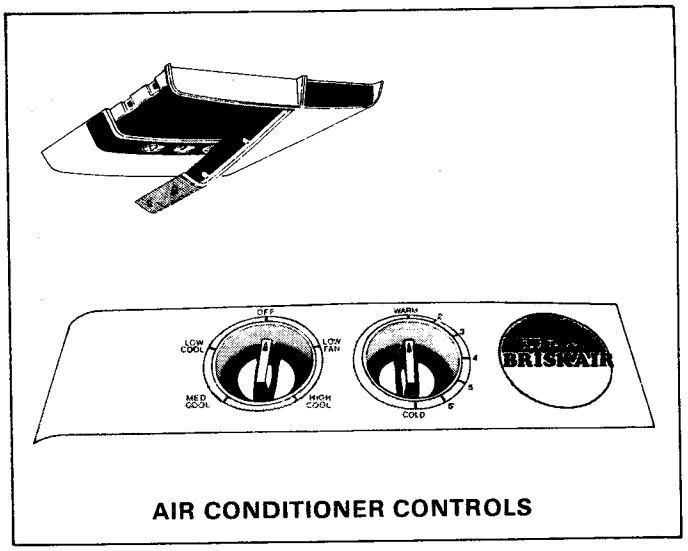
AIR CIRCULATION ONLY — Turn the Selector Switch to one of the fan settings.

COOLING — Turn Thermostat clockwise to its highest setting, then set Selector Switch to MED. COOL position. On extremely hot days, when maximum cooling is required, set Selector Switch to HI COOL. If room becomes too cool, turn the Thermostat counterclockwise; if too warm, reset in clockwise direction. Within a short time, you will learn the exact setting that gives you the temperature you prefer.

To reduce the rate of cool air delivered to the room, set the Selector Switch to LO COOL position.

AIR FLOW — Adjust louvers on air box for direction of air desired. Louvers can be closed to direct the desired distribution.

HEATING — With the optional heat package, set the Selector Switch to HEAT position.



AIR CONDITIONER CONTROLS

COOLING — Set the Thermostat to the desired temperature and place Selector Switch in desired position. When set at High Cool, Medium Cool or Low Cool, the blower will operate continuously and the compressor will come on when the Thermostat calls for cooling and go off when the desired temperature has been reached.

HEATING — With the optional heat package installed, place the Selector Switch at LOW HEAT. Place Thermostat in WARM position. This will circulate the air and allow the heater to cycle on and off to maintain the desired temperature.

NOTE: On units that do not have the optional heat package installed, this position will circulate the inside air only.

AIR FLOW — Adjust the louvers for the best air distribution.

After turning your roof air conditioner OFF, wait at least three minutes before restarting.

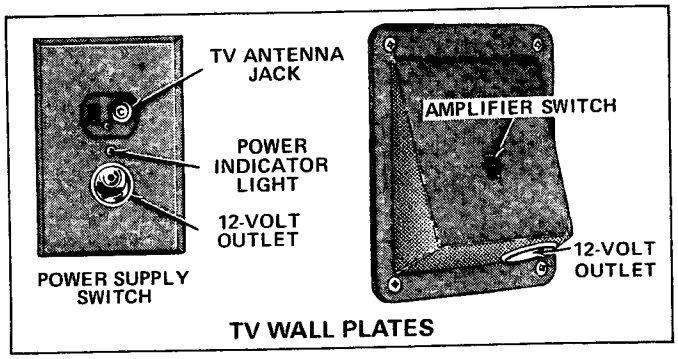
CARE OF AIR CONDITIONER — Your air conditioner will operate more efficiently with a clean filter. Either replace or clean the filters every two weeks during times of heavy use. To clean, remove filters and wash with soap and warm water, let dry and reinstall. See your air conditioner manufacturer's operation instructions for details on operation and maintenance.

AM/FM RADIO AND 8-TRACK OR CASSETTE TAPE PLAYER

For optimum performance, clean the tape head as often as necessary, depending upon frequency of use and tape cleanliness. Most models can be cleaned with a special "cleaning" cassette cartridge, while others also can be cleaned with isopropyl alcohol on a cotton swab. Keep cassettes away from magnetized objects and follow manufacturer's recommendations for tape types and length. For specific operating instructions, cleaning, tuning and helpful hints, read your radio/tape player manufacturer's instruction manual.

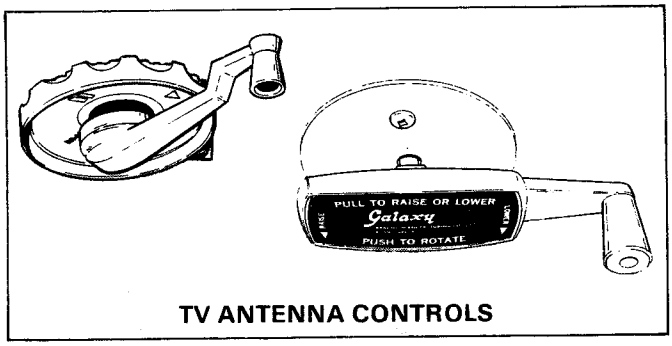
TV ANTENNA

Television reception can be better in many areas with an optional TV antenna. The TV antenna hookup includes an amplifying system, a coaxial connection for the antenna cable to your TV set, and a manual crank or automatic switch for inside control. Some systems also have 12-volt receptacles for TV sets designed to run on 12-volt DC power. The cable connection, amplifying system switch and power ON indicator light are on a wall plate. Several types are used (see illustration) so refer to the manufacturer's instructions for details. The "Skyliner" antenna is installed with a 300-ohm cable and does not require an amplifier.



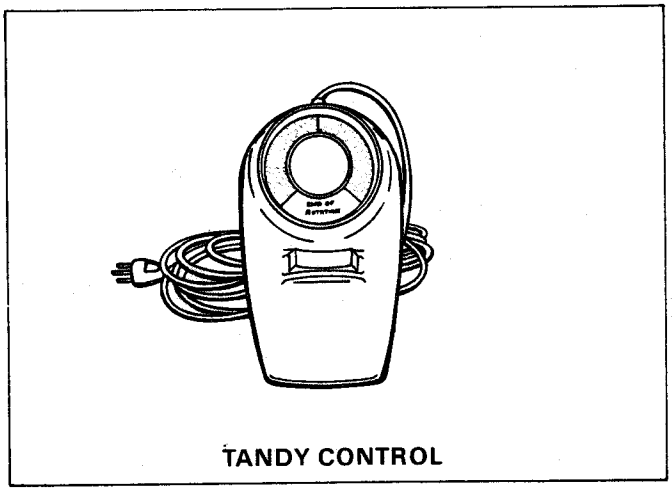
TV WALL PLATES

Turn the antenna crank handle in the UP direction until some resistance is felt. Pull down the rotating knob to disengage it from the ceiling plate and turn it until you find the best sound and signal.



TV ANTENNA CONTROLS

Always lower the antenna before moving your unit. Turn the rotating portion so that its pointer lines up with the ceiling plate pointer. Turn crank handle in DOWN direction until some resistance is felt. Always turn off the amplifier power switch.



TANDY CONTROL

OPERATION

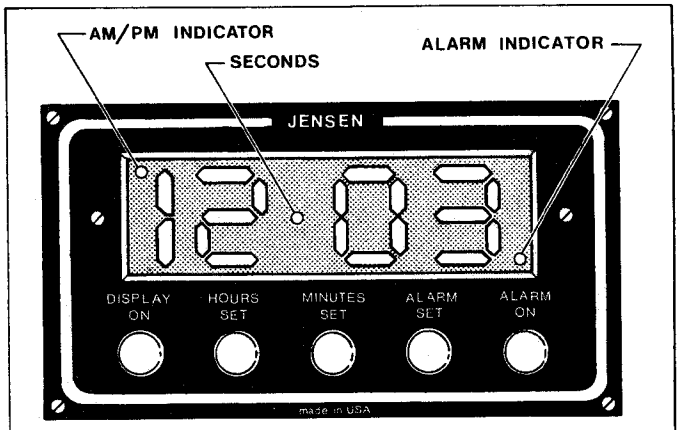
The Tandy-model TV antenna does not raise or lower. With the TV set on and a station tuned in, rotate the antenna by pressing the rocker switch located on the control unit. Pressing the right side of the switch will turn the antenna in a clockwise direction. Pressing the left side will turn it counter-clockwise. Although the actual antenna movement cannot be seen, the indicator arrow on the control unit will light, showing the direction of antenna rotation.

When the antenna has made one full turn (360 degrees), the End of Rotation light will come on.

Observe the picture while rotating the antenna first in one direction and then the other, until the best picture quality is obtained.

DIGITAL CLOCK

A dashboard-mounted digital clock is standard on most models. Several types are used in various models. Carefully read the instructions provided by the clock manufacturer for setting and operating procedures. Have your dealer demonstrate the clock's functions.



DIGITAL CLOCK — TYPICAL

SECURITY SYSTEM

The Security System installed in some models consists of a main control box, with one interior and one exterior remote control. Either remote switch will turn the system ON or OFF or will shut down the system after it has been activated.

When the system is ON, both Green and Red lights will be lit. When system is OFF, Green light only will be lit, or both Green and Red lights will be out.

When the Green light is lit, it indicates the system is receiving power, all openings are closed, and the system is ready to be turned ON. When Green light is out, either an opening is not closed or there is no power to the system. Green light must be lit in order for the system to be turned ON. If the Green light is not lit, system will immediately go into alarm condition when turned ON.

When the Red light is lit, the system is ON. If Red light is out, system is OFF. A single turn of the key will either turn ON or turn OFF the system.

When the system is activated, the alarm will sound for a 5-minute period, then the system will reset automatically.

Have your dealer demonstrate the Security System operation and read the manufacturer's instructions for troubleshooting information.

ELECTRIC STEP — Some models have the optional electric step. Read the step manufacturer's manual for details on operation and maintenance. The basic operation:

With the entrance door open, flip wall switch ON. Close door and step should retract and lock in UP position. Open door, step should descend and lock in extended position, with under-step light on.

Flip the wall switch OFF and step should remain in down extended position, with under-step light off, when door is closed (this will also retain step in the up position).

With wall switch OFF, step extended with the entrance door closed, turn on ignition switch; the special wall switch override circuit will go into action and your step that was mistakenly left down will retract automatically. If this occurs, when you next stop and turn ignition off and then exit door is opened, the step will remain in up position until you flip the wall switch ON. The step will then descend and lock in extended position.

NOTE: When ignition switch remains on, the step will always activate with entrance door movement regardless of where wall switch is set.

MAINTENANCE

GENERAL

Motor home owners are noted for the pride they take in the appearance of their units. Proper maintenance will do more than keep your motor home looking nice, however. It can help ensure trouble-free operation and maximum efficiency of the various appliances and accessories. Failure to properly maintain the vehicle or its components also may constitute a breach of your warranty obligations. Read the various appliance and component manufacturers' manuals for specific maintenance information.

Unless otherwise noted, maintenance functions should be performed at least annually. All maintenance schedules are the minimum required; heavy use, unusual temperatures or humidity, or other environmental conditions may require more frequent maintenance. At the start of each season, or after a period of storage, thoroughly inspect and test all systems and components and be certain each is functioning properly before putting your motor home into use.

AIRING of the unit is essential before you occupy it. See details under Air Quality, Page 2, and Condensation, Page 8.

AUTOMOTIVE SYSTEM of your vehicle should be serviced and maintained as outlined in the chassis owner's manual. Have your authorized dealer explain the operation of the engine cover latches.

CAUTION: The interior engine access cover must be properly sealed to prevent engine exhaust from entering the living area of the vehicle. Make certain that carpeting or other materials do not interfere with the installation of the access cover.

AWNING RAILS and bright metal parts should be cleaned and coated with silicone annually.

AXLE, SPRING AND SUSPENSION system should be serviced according to the chassis manufacturer's instructions.

BATTERIES should be inspected every 30 days and refilled or recharged as necessary; cables and terminals should be checked and cleaned every 90 days.

BRAKES should be inspected and serviced according to the chassis manufacturer's instructions.

BODY should be washed to remove dirt, dust, road tar, bird and tree droppings, insects and other foreign material from exterior surfaces. Use a mild soap in cold or lukewarm water. Apply an automotive-type wax at least once a year.

BUMPERS that are painted, or with any exposed painted area, should be inspected for damage and rust; rust should be removed and bumper painted with rust preventive paint annually.

COUNTER AND TABLE TOPS should be cleaned periodically with a mild detergent and can be covered occasionally with furniture polish.

DOORS should be inspected for proper adjustment and weatherproofing every 90 days; adjust door and replace weatherstripping as necessary.

ELECTRICAL SYSTEM should be inspected and tested prior to each trip. Check the Shoreline for damage. Test the 120-volt system for proper polarity and voltage. You may want to purchase a ground monitor and a line voltage tester to perform these checks.

FABRICS (cushions, drapes, curtains) should be washed or dry cleaned, as specified, at least annually.

FLOOR COVERINGS should be cleaned as necessary. Vacuum carpeting.

FRAME should be inspected for damage and rust; rust should be removed and frame painted with rust preventive paint annually.

HINGES should be inspected and lubricated with light household oil annually.

LOCKS AND LATCHES should be inspected and lightly lubricated with graphite at least annually.

LP GAS system should be inspected and adjusted as outlined in LP Gas section of this manual. Be certain mounting supports for tanks and bottles are secure. Before using, clean all LP gas orifices and vents of spider webs or other foreign matter.

LUG NUTS should be checked, and tightened as necessary, prior to each trip.

ROOF, BODY, UNDERBELLY should be inspected for damage, rust or corrosion every 90 days and repaired as necessary. You may wish to undercoat the underbelly metal.

SEAL ALL SEAMS or joints around entrance doors, windows, roof and wall vents, access doors, storage compartments, roof edges, underbelly metal, luggage racks, ladders, air conditioners, TV antennas, rails and moldings at least once each year with Parbond or a similar high-quality sealant. Inspect all seams and joints at least twice each year and reseal as necessary. Some sealants cannot be applied over other types, so prepare areas to be resealed by scraping off old sealant. Clean metal areas with a vinegar and warm water solution and fiberglass areas with mineral spirits before applying new sealant.

SHADES AND VALANCES should be cleaned with a damp cloth as necessary.

STEP(S) shoulld be inspected, rust removed, and painted annually; lubricate moving parts as needed.

TIRES should be checked for proper inflation and damage prior to each trip; bias-ply tires should be balanced and rotated annually; radial tires should be balanced as necessary, but rotation, if required, should only be front-to-rear or rear-to-front.

TV ANTENNA exterior moving parts should be lubricated every 30 days.

VENTS should be inspected and cleaned and all moving parts lightly oiled annually.

VINYL-COATED ceiling and wall panels should be cleaned with a mild soap and damp sponge as necessary.

WATER HEATER control compartment should be kept clean and free of combustible material and flammable liquids. The vent and combustion air grille should be clear of any obstructions. Manually operate the pressure temperature relief valve at least once a year. Operate only when storage water in tank is cool. Should overheating occur, or the gas supply fail to shut off, turn off the manual gas control valve to the appliance. Periodically compare main and pilot burner flame with illustrations in the manufacturer's operating instruction manual. DO NOT tamper with the pilot orifice to increase the pilot flame size; this can cause high water temperature and failure of gas control.

WHEEL BEARINGS should be serviced according to the chassis manufacturer's instructions.

WINDOWS should be cleaned as necessary with a good commercial window cleaner.

WOOD CABINETRY should be protected and cleaned with a household polish containing natural ingredients, applied 6 times a year for furniture that gets normal use. Use a soft, lint-free absorbent cloth and always work with the grain of the wood. Do not use polish containing waxes or silicones and do not use rubber or vinyl products. Careful control of temperature and humidity will help reduce expansion and shrinkage of doors and door panels. If shrinkage occurs, exposing unfinished portions of door panels, cover the exposed areas with matching touchup stain, available from your dealer.

STORAGE

GENERAL

You should perform the following procedures if you will not be using your unit for an extended period.

LP GAS SYSTEM

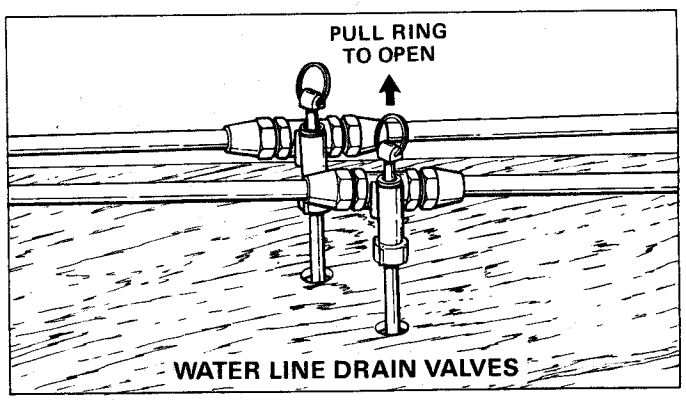
Close the LP gas container's Service valve. Extinguish all pilots and close all appliance LP gas valves (oven/range, water heater, refrigerator, furnace). Light a range burner (or range pilot on eye-level models) to consume any gas remaining in the lines. When the flame burns out, turn the range burner (or pilot) OFF.

WATER HEATER

Drain the water heater. To drain, see water heater DRAINING, in APPLIANCE section.

WATER TANK

To drain the water tank, switch the water pump ON and open all faucets. Remove the water tank's exterior drain cap or open the tank's drain valve. Open all hot and cold water line drain valves. When the tank is empty, close all faucets and drain valves, replace the drain cap (if so equipped).



WATER LINE DRAIN VALVES

WATER PUMP

When the water tank and water lines have been drained, remove the outlet hose from the pump. Turn the pump ON, allowing it to pump out any remaining water, usually about a cupful. Use a towel or rag to catch this water. You can reattach the outlet hose now or later.

ELECTRICAL SYSTEM

Turn OFF all circuit breakers at the Service Panel. Turn off generator at switch in generator compartment.

EXTERIOR

Place unit in a garage or other shelter. If this is not possible, cover with a tarpaulin or plastic.

INTERIOR

Close and secure all doors and windows. Open a roof vent or window slightly to allow circulation, but not so far that rain or snow can enter.

WINTERIZATION

GENERAL

You should make special preparations for storing your unit in cold winter climates. All systems and components should be inspected and, if necessary, repaired prior to storage. Winterize the unit before removing the RV battery.

NOTE: If you will be using your vehicle during cold weather, be certain to keep the fresh water system drained or use an approved, non-toxic

RV antifreeze to prevent freeze-ups. Have an LP supplier add anhydrous methanol to your LP gas containers. Consult your authorized dealer for other winter usage information.

HOLDING TANKS should be drained and rinsed before antifreeze is allowed to run into them. The dump valve shafts should be inspected and lubricated, if necessary. Be certain the dump valves are CLOSED.

FRESH WATER SYSTEM should be drained as described in STORAGE section, then pour six gallons of approved, non-toxic RV antifreeze into the gravity water fill. This will allow you to winterize the remainder of the fresh water system.

CAUTION: DO NOT use automotive antifreeze in the fresh water system; it is poisonous.

Winterize the fresh water system by briefly opening all water faucets and switching the water pump ON. Close the faucets when antifreeze flows out. Switch the water pump OFF.

WATER HEATER should be drained (see water heater DRAINING in APPLIANCE section). Although about two quarts of water will remain after the heater has been drained, there is ample room for expansion if it freezes. Add antifreeze to the water heater tank by opening a hot water faucet. When antifreeze appears at the spout, close the faucet.

AQUA MAGIC TOILETS should be flushed until antifreeze is present in the bowl. Pour one gallon of antifreeze down the toilet to winterize the waste water holding tank. The toilet water supply line should be completely drained and the water supply valve left open. On models with pedals, this can be done by inserting a round object, like a soft drink bottle, into the flush hole in the bowl. On models with the black and white levers, block the white lever in the open position with a wad of paper. When using air pressure to drain the water line, toilet valve should be held in the open position. If water is inadvertently frozen in the toilet, do not attempt to flush until the ice is thawed. Otherwise, damage to the toilet could occur.

DRAINAGE SYSTEM can be winterized by pouring one-half gallon of RV antifreeze into each drain.

SHOWER HEAD should be drained until antifreeze flows from spray nozzle.

LP GAS REGULATOR should be covered to keep moisture out of vent. LP gas system should be prepared as described in STORAGE section. Containers should have anhydrous methanol added by an LP gas supplier.

RV BATTERY should be recharged and water added, if necessary. Disconnect the battery cables and store battery in a cool, dry place. Check regularly and recharge as needed.

NOTE: DO NOT store battery in an area where it could be exposed to extreme heat or sparks. Be sure the room is properly ventilated to prevent accumulation of hydrogen fumes given off by batteries.

WINDOWS should be masked with newspaper or similar material to protect fabrics from exposure.

EXTERIOR VENTS (range hood, refrigerator, furnace) should be covered.

BODY should be cleaned and waxed; locks and hinges lubricated. Remove snow accumulation from the roof with a long-handled broom or similar tool.

FIRE SAFETY

Prevention is the best form of fire safety. Never smoke in bed. Use care with any open flame inside of your vehicle. Many of the materials in your vehicle are combustible and may produce toxic fumes when exposed to intense heat or open flame. Follow the instructions previously listed for the care, maintenance and operation of the various appliances in your vehicle. Make certain everyone in your party is familiar with the emergency features of the unit, the location of exits and the location and operation of fire extinguishers. A chemical fire extinguisher has been furnished with your unit. Check it regularly to be sure it is ready for immediate use. A fire extinguisher that is discharged, or partially discharged, should be replaced immediately.

WARNING: DO NOT bring or store LP gas containers, gasoline or other flammable liquids inside the vehicle because a fire or explosion may result.

SMOKE DETECTOR

Smoke detectors are installed in some models. Test the smoke detector operation after the vehicle has been in storage, before each trip, and at least once per week during use.

EMERGENCY EXITS

Emergency exits are installed in some models. These will be marked by a label which has one-inch high red letters. Handles that must be operated to open alternate exits also will be colored red. Make certain your dealer explains the location and operation of emergency exits to you and that you inform all members of your party.

VISITING CANADA OR MEXICO

GENERAL

Passports or visas are not required for entry into CANADA or MEXICO. However, tourist cards are necessary for MEXICO if you will be staying more than 72 hours or travel farther than 40 miles from the border. Cards can be obtained at the port of entry or from a Mexican consulate. You should carry your birth certificate, voter's registration card, baptismal certificate or similar proof of identity when entering either

country. Naturalized U.S. citizens should carry their naturalization papers or other proof of citizenship. Persons under 18 years of age should carry a notarized letter from their parents or guardians giving them permission to travel in CANADA or MEXICO.

The information in this section is general in nature and subject to change by the Canadian or Mexican government. For specific information, including rules for re-entering the U.S. as well as points of interest and campsites, contact the consulate nearest the point at which you plan to enter the country.

VEHICLES

No special driver's license or permit is necessary in either country, but renew your license if it has or will expire during the trip. Proof of vehicle ownership is required at the border. If you are using someone else's unit, you should have a notarized letter authorizing its use. MEXICO requires a vehicle permit for every self-propelled vehicle. The permit can only be obtained from Mexican customs (Auduana) offices upon presentation of tourist card, vehicle registration, and title or notarized statement from owner.

CANADA requires a Canadian Non-Residential Interprovincial Motor Vehicle Liability Insurance card, which is only available from U.S. agents. All provinces in CANADA require evidence of financial responsibility if visitors are involved in an accident. Limits vary from province to province. Contact your insurance agent for details. Your insurance policy is NOT valid in MEXICO. Temporary insurance must be purchased from Mexican companies whose offices are located near the border.

CB RADIO

CB radio operation in CANADA requires a temporary license which can be obtained by writing Regional Director, Telecommunications Regulation Branch, Department of Communications, 20th Floor, 2085 Union Avenue, Montreal, Quebec H3A 2C3, Canada. MEXICO currently prohibits the use of CB radios.

HUNTING AND FISHING

Each province has its own laws and license requirements. You must provide a written description and the serial number of each gun at the border. Revolvers, pistols and fully-automatic firearms are prohibited in CANADA. A license must be obtained from the province in which you intend to hunt or fish. Further information can be obtained by writing the Department of Lands and Forests, Wildlife Branch, in the province you intend to visit. Hunting and fishing laws in MEXICO are extremely complicated. Request further information from Secretaria de Communicaciones, Estados Unidos Mexicanos, Mexico DF.

DOGS AND CATS

CANADA requires a certificate, signed by a licensed veterinarian in the U.S. or CANADA, attesting that a dog has been vaccinated for rabies in the past 12 months. The certificate must contain a description of the dog and date of vaccination. Puppies under 3 months old need no certificate. There is no restriction on the entry of healthy cats.

A certificate, signed by a licensed veterinarian, describing the pet and attesting that it has had a rabies shot in the past 6 months, is required in MEXICO. A fee is charged for the required verification of the certificate by a Mexican consulate.

(Limited Warranty)

OUR WARRANTY

GENERAL — Your new recreational vehicle, is backed by our position as an industry leader, achieved through decades of experience in producing RV's noted for their quality and dependability. Our one-year limited warranty demonstrates our confidence in our products and is a commitment to customers' continued satisfaction.

Every effort has been made to provide you with a safe, dependable recreational vehicle. Your RV complies with applicable federal and state regulations and the requirements of ANSI A119.2, the nationally-recognized "Standard for Recreational Vehicles — Installation of Plumbing, Heating and Electrical Systems". The Recreation Vehicle Industry Association (RVIA) periodically inspects our production and assists in maintaining strict compliance with installation and safety standards for those systems. Similar periodic inspections of the systems are made by representatives of various states. You, the owner, must perform periodic inspections of the systems and provide a program of preventive maintenance as described in the Owner's Manual and instruction booklets.

WARRANTY SERVICE — We recommend that warranty service be performed by the authorized dealer from whom you purchased your RV because of the dealer's continued and personal interest in your satisfaction. But if you are traveling or in the event that you move, service under the warranty will be performed by any of our authorized dealers. Whenever possible, make an appointment to avoid unnecessary delays.

Always carry your Owner Registration Card, which must be presented to obtain warranty service. The card is proof of purchase and provides the date of retail sale, which are necessary to determine warrantability. If you cannot locate an authorized dealer, contact our Service Department at the address on the back of this manual.

WARRANTY PERIOD — The warranty period shall be for 12 months and begin on the date the new recreational vehicle is delivered to the first retail purchaser, or the first in-service date, whichever is first.

WHO IS COVERED — The first retail purchaser and subsequent owners during the unexpired term of the warranty, provided terms of the warranty are met. Subsequent owner coverage is subject to an inspection of the unit by an authorized dealer.

WHAT IS COVERED — The Manufacturer warrants to owners that an authorized dealer or Service Center will make repairs made necessary by defects in material or workmanship during the warranty period. Such repairs will be made without charge for parts and labor to the owner.

WHAT IS NOT COVERED — Our warranty does not cover the motor home chassis, tires, tubes, batteries or optional generators, repairs or adjustments required because of neglect, accident, misuse, failure to follow service and use instructions, normal wear and/or exposure, unauthorized repairs or unauthorized modifications to any part of the systems or body that might cause defective performance.

Your new recreational vehicle is designed as a temporary living quarters for recreational camping, travel or seasonal use and not as a permanent dwelling place. Usage as a permanent accommodation is a breach of warranty and we are not liable for any damage that results because of such misuse.

The manufacturer does not assume responsibility for loss of use of the recreational vehicle, loss of time, inconvenience or expenses due to equipment failures (refer to the warranty statement for other exclusions and limitations).

OTHER WARRANTIES — Be certain to complete and submit to the appropriate manufacturers the warranty forms for motor home chassis, tires, tubes, batteries, and optional generators, which are not covered by our one-year limited warranty. If service or parts are required for these products, refer to the furnished list of factory-authorized service centers. If the list is not available, write or call the manufacturer concerned to obtain the location of the nearest authorized service center.

OWNER RELATIONS — Owner satisfaction and goodwill are of primary concern to us. We recognize that our continued success as a leading manufacturer of recreational vehicles depends upon your complete confidence in our products and service. A pleasant and effective relationship through our dealers is as important as maintaining the technical excellence of our product. Your authorized dealer will assist you in providing service, maintenance, selection of options and instructions concerning the operation of your recreational vehicle.

Occasionally, a warranty or service matter may not be handled to your satisfaction. Often it is the result of a misunderstanding and can be resolved at the dealer level. Discuss the situation with the dealership management. If you cannot find satisfaction at the dealer level, we invite you to contact our Owner Relations Department, where we will make every effort possible to provide an agreeable solution. In most instances, we will eventually refer you back to the local dealer with our recommendations.

Write or telephone Owner Relations at the address or telephone number on the back of this manual.

MAINTENANCE SCHEDULE*

ITEM	Every Trip	Every 30 days or 1,000 miles	Every 60 days	Every 90 days or 2,500 miles	Every 6 months or 5,000 miles	Annually or 10,000 miles	REFERENCE
Airing	X						Air Quality, Condensation, Maintenance, this manual
Appliances	X					X	Appliances, this manual; Appliance Manufacturer's instructions
Automotive System	X						Chassis Manufacturer's manual
Awning Rails						X	Maintenance, this manual
Axle & Suspension						X	Chassis Manufacturer's manual
Batteries		X		X			Maintenance, this manual; Chassis Manufacturer's manual
Brakes					X		Chassis Manufacturer's manual
Body						X	Maintenance, this manual
Bumpers						X	Maintenance, this manual
Counter, Table Tops	X						Maintenance, this manual
Doors				X			Maintenance, this manual; Chassis Manufacturer's manual
Electrical System	X						Maintenance, this manual; Chassis Manufacturer's manual
Fabrics						X	Care of Fabrics, this manual
Floor Coverings	X						Maintenance, this manual
Frame						X	Maintenance, this manual
Hinges						X	Maintenance, this manual
Locks & Latches						X	Maintenance, this manual; Lock/Latch Manufacturer's manual
LP Gas	X	X					LP Gas, this manual; Appliance Manufacturer's instructions
Lug Nuts	X						Maintenance, this manual
Roof, Body, Underbelly				X			Maintenance, this manual
Seams (Seal)						X	Maintenance, this manual
Shades, Valances	X						Maintenance, this manual
Steps	X					X	Maintenance, this manual; Step Manufacturer's instructions
Tires	X					X	Pre-Travel Check, Maintenance, this manual; Tire Mfg's instructions
TV Antenna		X					TV Antenna Manufacturer's instructions
Vents						X	Maintenance, this manual; Vent Manufacturer's instructions
Vinyl Ceiling & Wall Panels	X						Maintenance, this manual
Water Heater	X					X	Maintenance, this manual; Water Heater Manufacturer's instructions
Wheel Bearings						X	Chassis Manufacturer's manual
Windows	X						Maintenance, this manual; Window Manufacturer's instructions
Wood Cabinetry	X		X				Maintenance, this manual

*Maintenance schedules listed are minimum requirements; heavy use, unusual temperatures or humidity, or other environmental conditions may require more frequent maintenance.

APPLIANCE IDENTIFICATION FORM

Should your unit or one of the appliances require warranty service, you will have to identify the manufacturer, model designator and serial number. Fill in this form as soon as possible. It will help you meet our identification requirements. Depending on your unit, certain items listed below may not be offered as either optional and/or standard. Most of this information can be found on the Recreational Vehicle Data Card attached to the inside of one of the kitchen cabinets.

EQUIPMENT	MANUFACTURER	MODEL DESIGNATOR	SERIAL NUMBER
Automotive Air Conditioner			
Converter			
Electric Water Pump			
Furnace			
Furnace			
Generator			
Ice Maker			
Keys — Door			
Exterior Storage			
Other			
Microwave Oven			
Motor Home Body			
Motor Home Chassis			
Radio			
Range/Oven			
Refrigerator			
Roof Air Conditioner(s)			
Toilet			
TV			
TV Antenna			
Water Heater			

SPECIFICATIONS

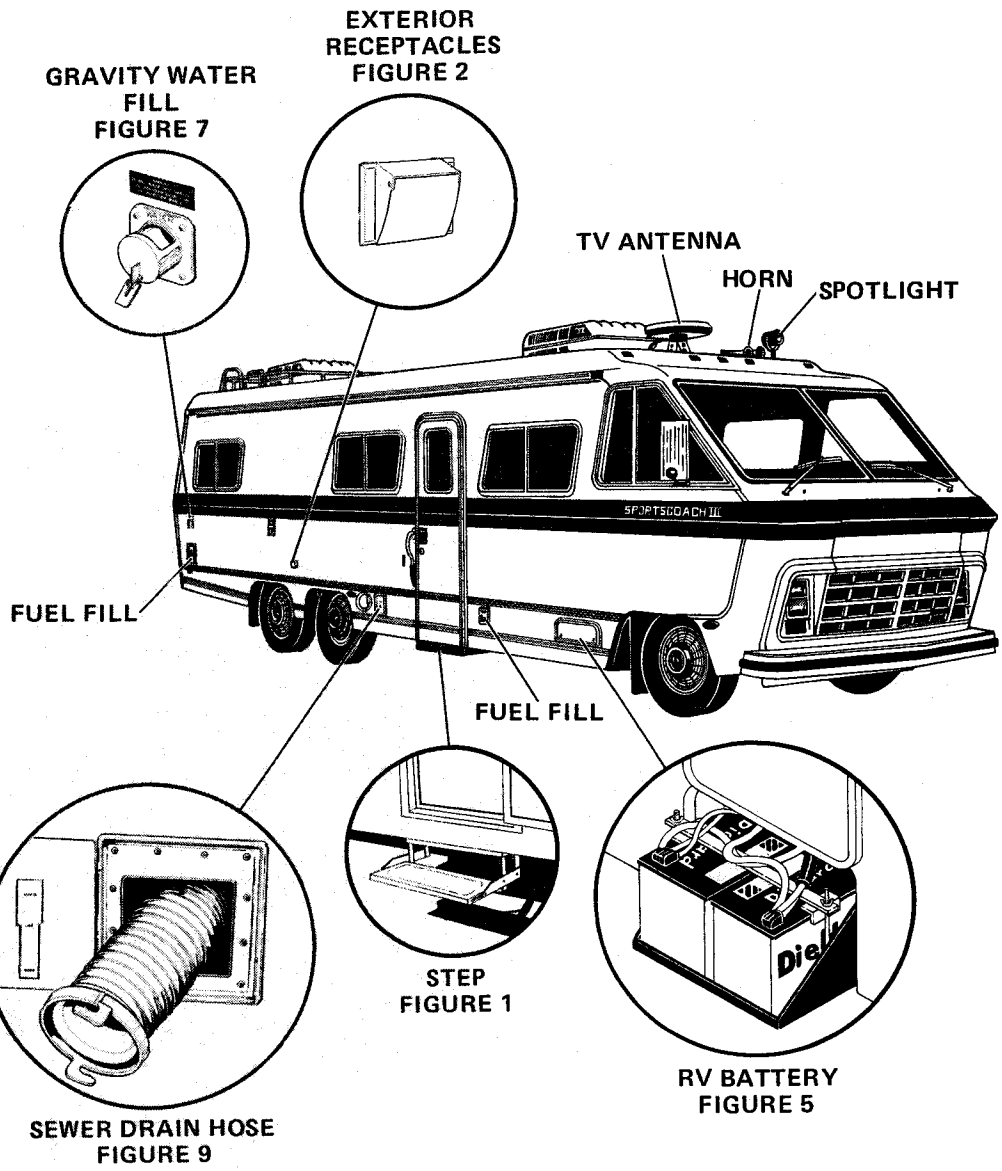
FUSES

Interior — 15-amp., 12VDC

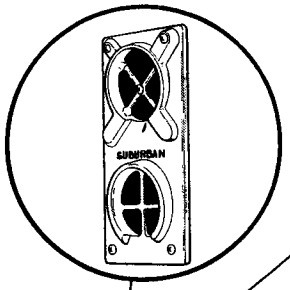
LIGHT BULBS

Interior 12VDC (Except dome light inside driver compartment and new SC ceiling light bulbs #1003 and wall fixture light bulbs #1076)	— 1141
Range Hood	— 25 Watts (12 VDC)
Turn, Tail and Stop	— 1157
Backup	— 1156
License Plate	— 67
Clearance	— 57
Patio	— 1003
Fluorescent Light Tube	— F15TB-CW

MISCELLANEOUS — See the brochure for the exterior dimensions, weight ratings and wheel/tire ratings which pertain to your unit.


EXTERIOR RECEPTACLES FIGURE 2
GRAVITY WATER FILL FIGURE 7
TV ANTENNA
HORN
SPOTLIGHT
FUEL FILL
FUEL FILL
STEP FIGURE 1
RV BATTERY FIGURE 5
SEWER DRAIN HOSE FIGURE 9

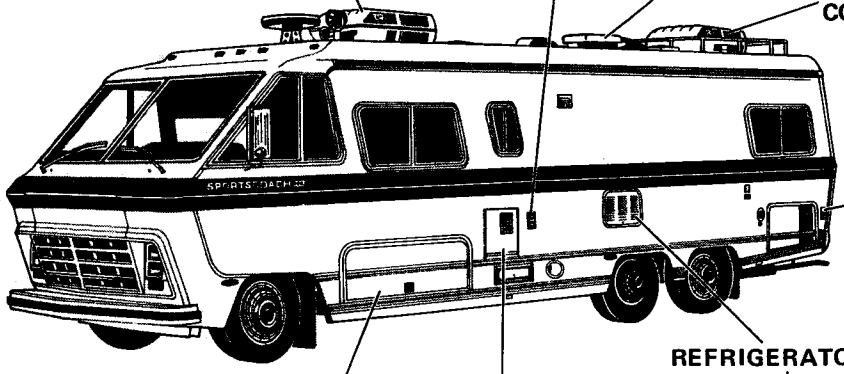
FURNACE INLET/EXHAUST
FIGURE 15

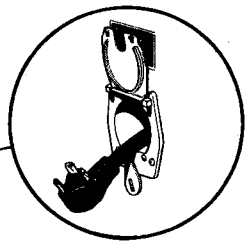


ROOF AIR CONDITIONER

REFRIGERATOR ROOF VENT

ROOF AIR CONDITIONER

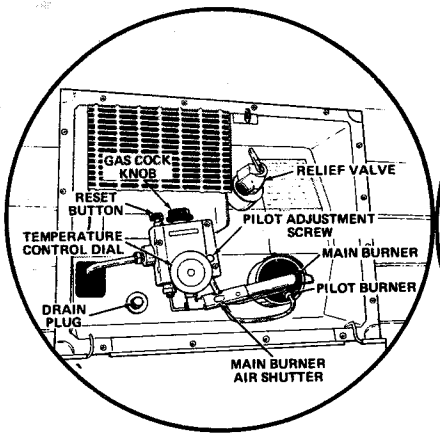




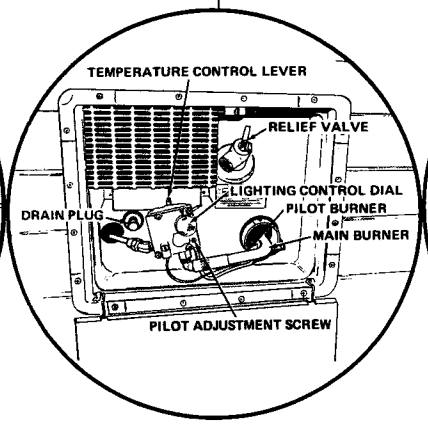
SHORELINE
FIGURE 3

REFRIGERATOR ACCESS DOOR

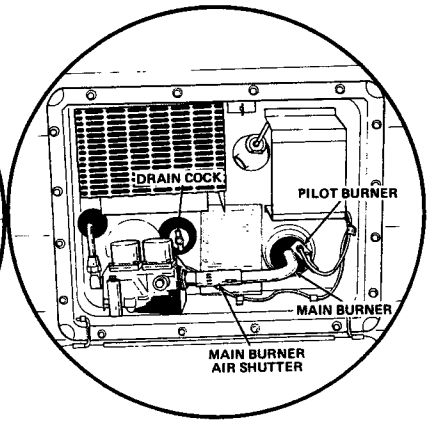
STORAGE



WATER HEATER (UNITROL)
FIGURE 12



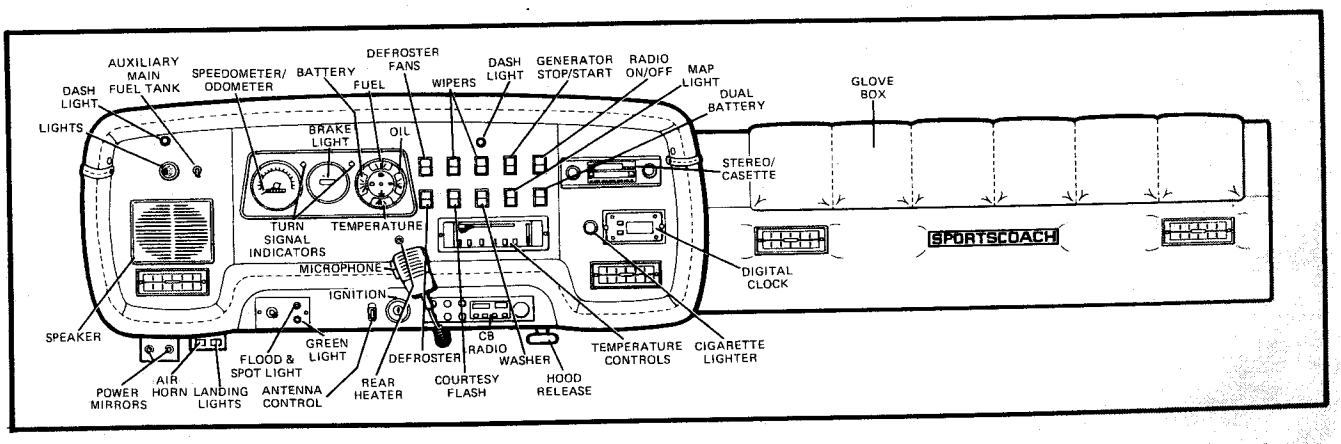
WATER HEATER (ITT)
FIGURE 13



WATER HEATER
(ELECTRONIC IGNITION)
FIGURE 14

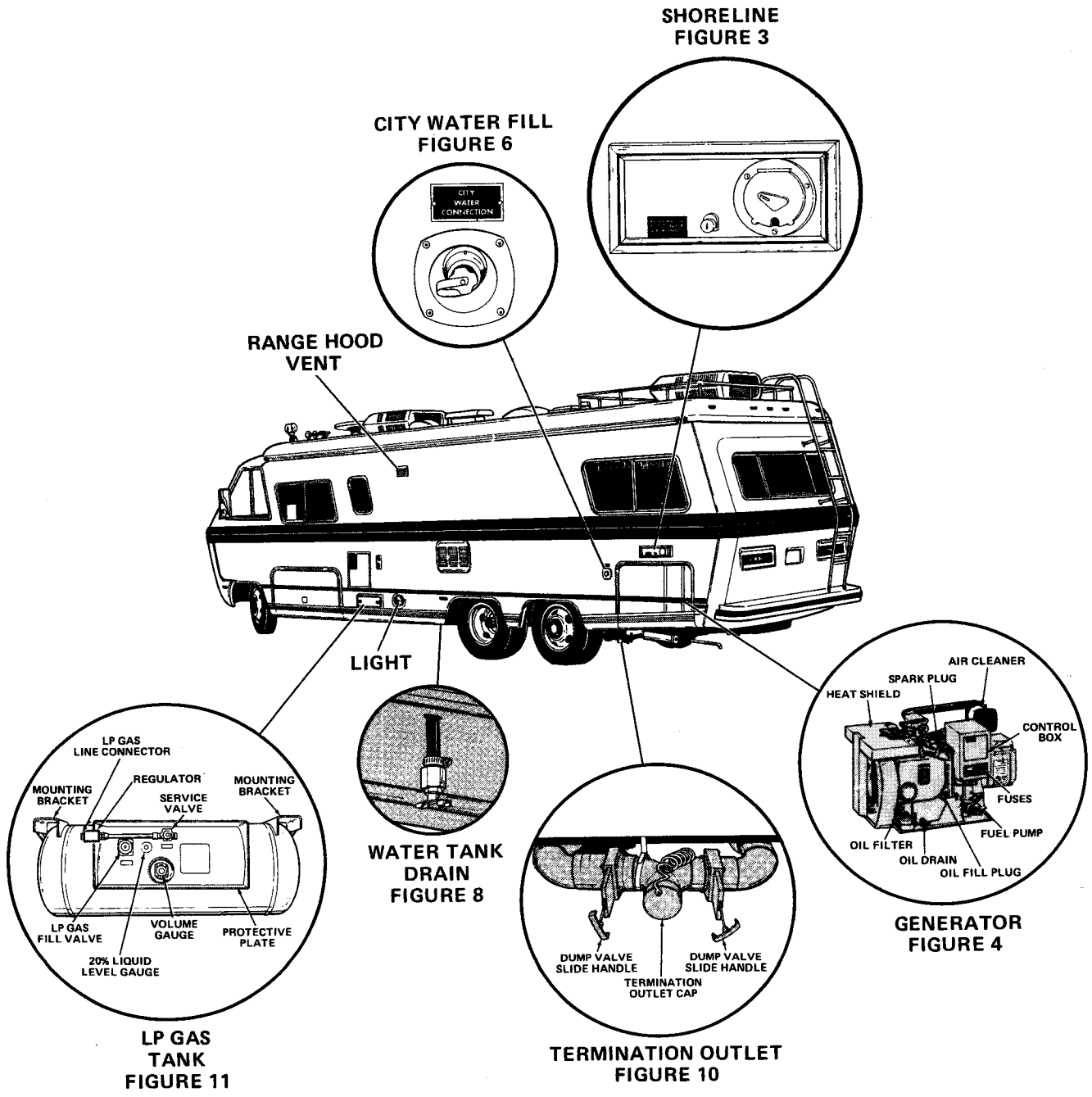
SPORTSCOACH SPECIFICATIONS

CAPACITIES	30RB	30SB	33RB	33SB
Fuel (Gasoline) Dual Tank	90 Gallons	90 Gallons	90 Gallons	90 Gallons
LP-Gas	85 lbs	85 lbs	85 lbs	85 lbs
Water	75 Gallons	75 Gallons	87 Gallons	86 Gallons
Holding Tank	91 Gallons	83 Gallons	91 Gallons	83 Gallons
BODY SPECIFICATIONS				
Engine	— — — — — — 454 CID V-8 Chevrolet or GMC — — — — — —			
Width (Exterior)	7'11½"	7'11½"	7'11½"	7'11½"
Height (Exterior)	10'3"	10'3"	10'3"	10'3"
Interior Headroom	6'5"	6'5"	6'5"	6'5"
GVW (Gross Vehicle Weight)	15,000 lbs	15,000 lbs	19,840 lbs	19,840 lbs
Front Axle Rating	— — — — — Refer to Chassis VIN Plate for Axle Rating — — — — —			
Rear Axle Rating				
Tire Size	8.00x19.5E	8.00x19.5E	8.00x19.5D	8.00x19.5D
Tire Pressure (Cold)	Refer to Tire or Chassis Manufacturer Recommendations or on Side of Tire			
Transmission	— — — — — — — — — 3 Speed Automatic — — — — — — — — —			
COMPONENT SPECIFICATIONS				
Air Conditioner, Roof w/Heat Strip	(2)13,500 BTU	(2)13,500 BTU	(2)13,500 BTU	(2)13,500 BTU
Furnace, Auto-Light	30,000 BTU	30,000 BTU	(2)24,000 BTU	(2)24,000 BTU
Power Center	50 Amp	50 Amp	70 Amp	70 Amp
Generator	6.5 KW	6.5 KW	6.5 KW	6.5 KW
CHASSIS SPECIFICATIONS				
Wheelbase	178"	178"	192"	192"
Independent Front Suspension	Yes	Yes	Yes	Yes
Steering Type	Tilt Wheel	Tilt Wheel	Tilt Wheel	Tilt Wheel



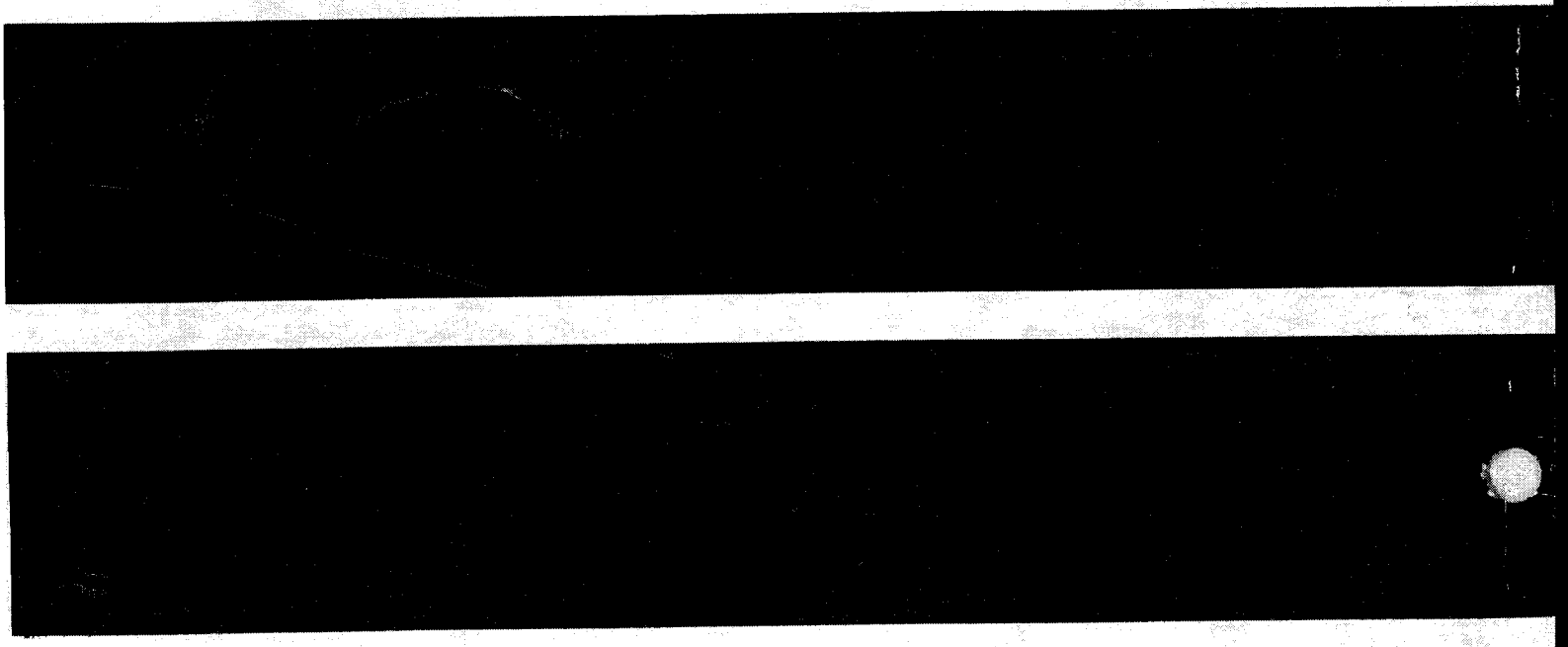
FOLDOUT

SPORTSCOACH CLASS "A" MOTOR HOME



VEHICLES SHOWN ARE FOR ILLUSTRATION PURPOSES ONLY. LOCATIONS OF COMPONENTS MAY VARY DEPENDING ON THE MODEL. SOME ITEMS SHOWN ARE NOT AVAILABLE ON CERTAIN MODELS AND MAY BE OPTIONAL ON OTHERS.

SPORTSCOACH SCA
CORPORATION OF AMERICA
P.O. Box 609 Elkhart, Indiana 46515 (219)522-6224



2-840.25M-CC