OWNER'S MANUAL

1977

1977 S/W

Southwind®

Welcome to the recreational-vehicle lifestyle! This manual describes the many features of your recreational vehicle and gives a few simple steps relating to use or maintenance. Use these suggestions to help assure your family of years of carefree, pleasant traveling, or vacationing.

A form describing our manufacturer's warranty has been posted at about eye level inside the wardrobe. Please complete the reply portion of that warranty form and mail it today.

Your dealer's Service or Sales Department will promptly handle any normal problem which might occur. Customer service is of utmost importance to your dealer and is just as important to the manufacturer.

If, for some unusual reason, a problem is not handled to your satisfaction, we make the following suggestions:

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

2. Should a problem arise that cannot be resolved to your satisfaction by your local dealer, contact the factory representative. The back cover of this manual has a factory listing. Please contact the one nearest you.

3. The above steps are suggested because of our sincere belief that your dealer and the factory representative will satisfactorily handle any problem which might arise . Should you find their combined efforts have not done so, please send a letter describing the circumstances to Fleetwood Enterprises, Inc., P.O. Box 7638, Riverside, California 92503. Please include the brand name and serial number of your vehicle.

Thank you for choosing our product. Your Dealer and we, the Manufacturer, will continually strive to merit your confidence.

FOREWORD

This manual describes the various design features and operating procedures of your motor home to aid you in understanding its capabilities.

Like all fine equipment, your motor home will require care and regular maintenance in order to retain its maximum performance characteristics. This manual, along with the Chassis Operator's Manual and the information from other component manufacturers provided for your use, defines the important areas of maintenance you will want to follow. The few minutes spent reading and understanding these instructions will result in your having a good working knowledge of the unit. Knowing how to use your motor home and how to keep it properly maintained will help you enjoy thousands of miles of motoring pleasure.

Your motor home has been designed to conform with or exceed the American National Standards Institute Standard A119.2 and/or State and Federal motor vehicle safety standards as applicable. These Standards establish the plumbing, heating, electrical and other requirements for quality and safety. Compliance with this standard is indicated by the seal installed just outside the entry door. This seal is the outward sign of internal quality.

Should you have any questions regarding operation, maintenance or service, please contact your DEALER immediately so he can be of assistance.

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PLANNING & PREPARATION

Plan your trip and organize all preparations before you leave. Proper preparation can be the key to getting the most enjoyment from your motor home. The following suggestions are provided only as a guide. Review them carefully before starting on your first trip. Refer to the list when on trips and make note of items forgotten to make subsequent trips even more enjoyable.

- Plan your route carefully. Consult maps and guidebooks (available at most bookstands and newstands), to become aware beforehand of any road conditions, campsite availability and other circumstances.

- BE SURE ALL EQUIPMENT IS SERVICED AND READY FOR TRAVEL. Check the following items:

  a. Check all fluids including:

     Motor Home Engine crankcase oil
     Transmission fluid
     Power steering fluid
     Radiator recovery system reservoir level
     Master cylinder brake fluid
     Electrolyte level of batteries
     Windshield washer reservoir level

  b. Inspect wheel lugs for tightness. Examine all tires for road damage, then inflate to the proper pressures as recommended for the tire size and the operating conditions appropriate for your motor home as directed in the Chassis Operator's Manual. In using your Chassis Operator's Manual, note that tire pressures are given for cold tires which are to be used under nominal driving and load conditions, and also for unusual operating or load conditions. Always refer to the procedures applicable to your motor home.

  c. Check oil level in the generator power plant (if installed). Refer to instructions and maintenance manual provided by the generator manufacturer for other pre-use service requirements applicable to this equipment. Check that extra oil and other service supplies are provided for the generator power plant if the motor home is to be used for extended periods.

  d. Check that jack, jack handle and lug wrench are properly stowed.

  e. Check that the 115 volt power supply cord is properly stowed in compartment. A power supply cord adapter will be required in some camping areas. Be sure to use adapters which provide proper electrical ground.

  f. Check that a serviceable fire extinguisher is secured in the mounting bracket.

  g. Verify that all items you plan to take are on board.

  NOTE: Be sure the weight of passengers, equipment and supplies does not cause your home to exceed axle loads and overall vehicle loads for which it was designed. If in doubt, weigh the vehicle at a public scale. See paragraph on "WEIGHING".

  h. Check that accessories, such as a plastic sewer hose with the necessary fittings and a water supply line (such as garden hose type approved for 125 psi) are on board. It may be desirable to check ahead with specific campsites where you plan to stop for any special adapters which may be required.

  i. Fill fresh water tank, if required. (Refer to Plumbing Section.)

- Check to see that drain line cap and holding tank knife valve(s) are closed and secured. Add a holding tank chemical to a few gallons of water in your body waste holding tank. (See Plumbing Section).

- Check all stop lights, running lights and other vehicle safety items.

- Put motor home contents in "travel" condition.

  a. Secure any loose objects which could shift while traveling.

  b. Secure refrigerator contents (place lids on all containers holding liquids, for example) then secure locking latch on refrigerator door.

  c. Be sure all cabinets have the contents secured and the doors latched.

  d. Be sure all exterior doors are closed and locked.

- Adjust the driver's seat to the most comfortable position, then adjust the side view mirrors for maximum visibility.

- Fill the fuel tank(s) and give special attention to the operation of the fuel tank switch-over valve (when the optional auxiliary fuel tank is installed). Refer to Illustration 4. Your motor home is designed to use only the fuel recommended in the chassis operator's manual. It is recommended that you use fuel from the auxiliary tank first. Never run a fuel tank completely dry when driving since it can cause the engine to stall and may result in a delay in restarting the engine when switching to the main fuel tank.

  WARNING: Always extinguish pilot lights and open flames on your appliances before filling your gasoline tank(s).

- Fill the liquid petroleum (LP) gas fuel tank if required.

Take the time before leaving to become familiar with the location and operation of the instrument control panel and other items in the driver compartment. Check all instruments to verify that equipment is working. Dash instrument controls include: two-speed wiper control, windshield washer, lighter, fuel switch-over valve (optional), emergency start (optional), three-speed heater/defroster blower control and the under-dash air conditioner blower/temperature controls (optional). Also located on the dash is the optional sound system. The Cruise Control (optional) is located on the turn indicator handle. The emergency flasher control is located on the right side of the steering column. Refer to Illustration 4. See the chassis operator's manual or individual instructions from equipment manufacturers for operation of equipment, both standard and optional.

It is recommended that the chassis operator's manual (provided) be kept readily available in the glove compartment. This will prove invaluable as reference information.

VEHICLE LOAD CAPACITY—WEIGHING

Your motor home is designed to carry the loads defined by the Gross Axle Weight Rating (GAWR) and Gross Vehicle Weight Rating (GVWR) shown on the certification tag posted on or near the left edge of the instrument panel. These ratings are for fully-loaded vehicles including passengers and normal belongings.

NOTE: Exceeding the GAWR or GVWR of your motor home can cause undesirable handling characteristics and may even create a safety hazard. Modification of your vehicle by addition of racks not specified by the manufacturer to carry additional equipment or vehicles is not recommended and may make your warranty inapplicable.

Periodically weigh the motor home at a public scale to determine axle loads. The following procedure is suggested, although any method recommended by the scale operator which correctly determines weight values is acceptable. During all measurements, it is important that the vehicle be kept as level as possible.

1. Run only the front wheels onto the scale platform and obtain a reading. (This first value is the front axle Gross Axle Weight.)

2. Next, place the entire vehicle (both axles) on the scale and obtain a reading. (This second value is Gross Vehicle Weight.)

3. Drive forward until only the rear axle is on the platform and obtain a reading. (This third reading is rear axle Gross Axle Weight.)

4. Compare reading 2 with the GVWR for your vehicle. If this reading exceeds the GVWR rating, it will be necessary to reduce total vehicle load.

5. If reading 2 is less than the GVWR of your vehicle, check readings 1 and 3 to verify that each is less than the GAWR on the certification tag. If either exceeds the GAWR for the axle, redistribute enough equipment from front to back or the reverse to ensure that loads on front and rear axles are within the required limit.

Check vehicle weight periodically to obtain optimum mileage from tires and improved handling. Tires should always be inflated as recommended in the chassis manufacturer's instructions. See your Chassis Operator's Manual.

READY TO LEAVE

The following suggestions may be helpful when you are ready to leave. (Be sure to place the entry step in travel position.)

STARTING AND WARM-UP

For best results, always follow the recommendations in your Chassis Operator's Manual when starting or operating your engine.

NOTE: Be sure transmission is in N (neutral)or P (park) and parking brake is engaged to keep the motor home from rolling. If the parking brake needs adjustment, see the Chassis Operator's Manual for proper adjustment instructions.

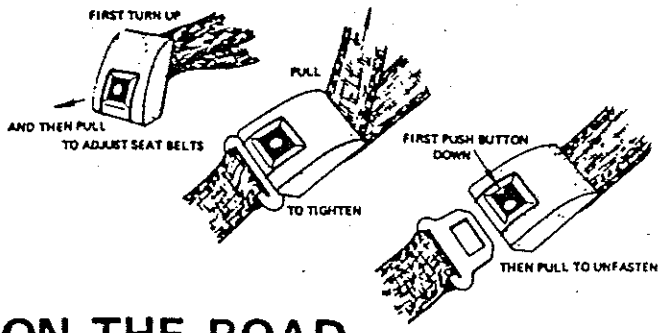
SAFETY BELTS

Seat belts are an important safety feature of your vehicle. For your protection, it is required that all belts be fastened while your motor home is in motion. The driver's seat and all other seats designed to carry passengers while under way have been equipped with lap belts.

NOTE: Seats which are not equipped with safety belts should not be occupied while vehicle is in motion and will be labeled: "Not for use while the vehicle is in motion."

Safety belts are adjusted in the following manner. To lengthen the belt, tip the buckle at right angles to the belt. Holding the buckle in this position permits the belt to slide through. Pull on the buckle until the desired length is obtained. To fasten the belts, make sure the belts are not twisted, then push the tongue end of one belt into the buckle of the mating belt. Be sure it goes in all the way and that it latches. Tighten by pulling the loose end of the belt while holding the buckle.

Adjust the belt as low on the abdomen and as snug as comfort will allow, for greatest safety. Never use a belt for more than one person at a time. If your belts have been equipped with retractors, be sure belt is pulled all the way out of the retractor. To release the belt, depress the button in the center of the buckle and slide the tongue out of the buckle.



ON THE ROAD

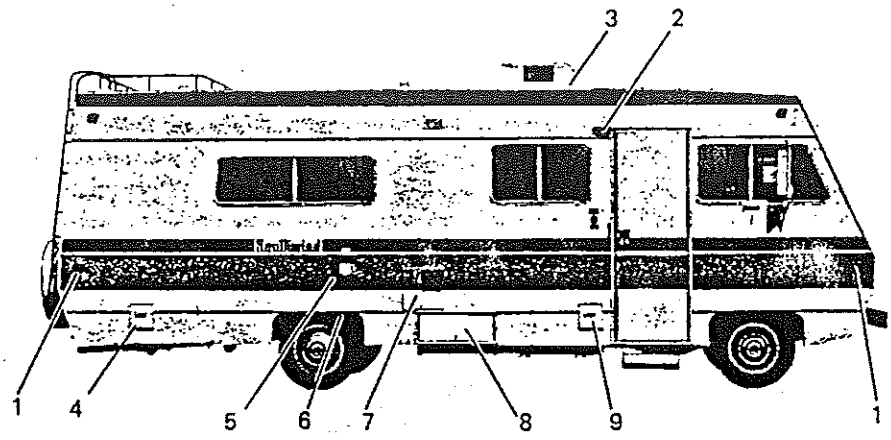
DRIVING AND PARKING

Driving the motor home is comparable to driving your family car, once you become accustomed to the feel of the controls and to the reference points from the driver's seat relating to the position of the motor home in traffic. Be cautious when maneuvering to allow for the length and width of the vehicle. Always allow extra room in cornering and when changing lanes. Check the side mirrors often. Learn to use the view of the roadway behind, as seen through the side mirrors, as a reference to help keep a good road/lane position.

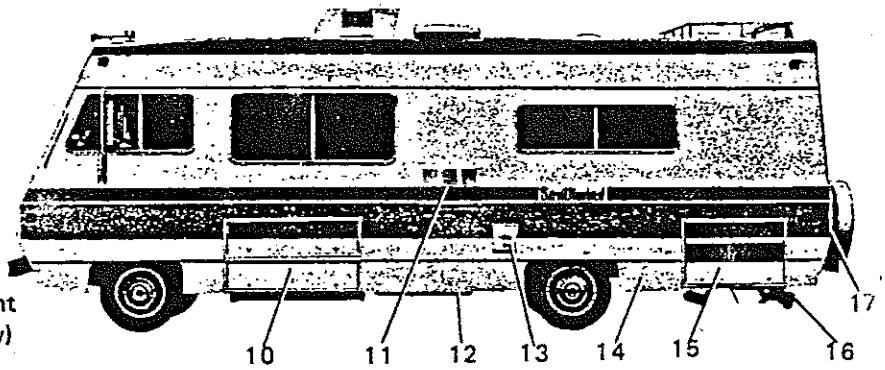
Drive with consideration on the highway, observing all applicable speed and safety regulations. The best cruising speed for your motor home will vary with road and weather conditions. Remember that the higher speeds may result in a sharp increase in fuel consumption.

Driving on winding or mountain roads is not difficult if done with reasonable care. Observe proper vehicle speeds when ascending or descending hills and always operate in the proper transmission range. Downshift on hills to avoid overheating or undue engine loads by using the hand control as recommended by the Chassis Operator's Manual.

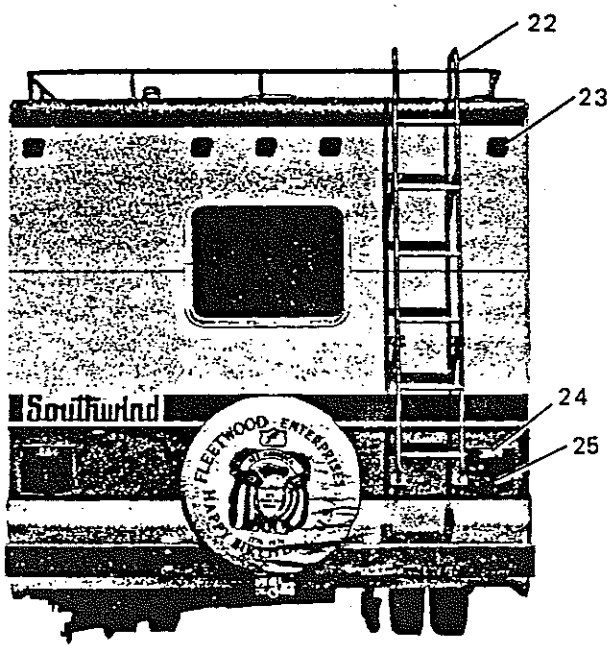
Allow for the extra height of your coach and avoid areas having low overhead clearance. Check for low-hanging tree branches or other obstructions whenever you drive or park. Avoid low roofs when pulling



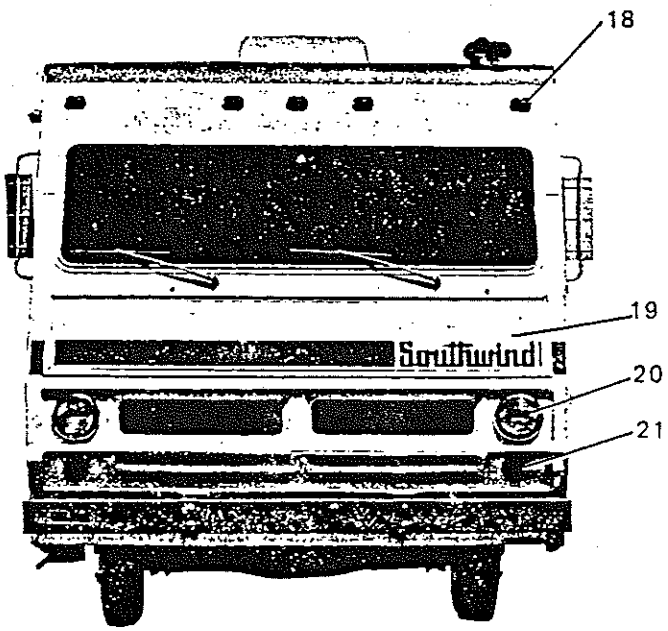
1. Side Marker Lights
2. Porch Light
3. Roof Air Conditioner (Optional)
4. Auxiliary Fuel Tank
5. Fresh Water Tank Fill
6. Fresh Water Tank Drain
7. Water Heater Service
8. Storage Compartment



9. Main Fuel Tank
10. Storage Compartment
11. Refrigerator Service
12. Chassis Mounted LP gas Tank
13. 25 ft. 110-Volt AC Power Cord Stroage Compartment
14. Sewer Hose Carrier
15. Storage Compartment or Optional Power Plant
16. Waste Water Connection - Knife Valve (Below)

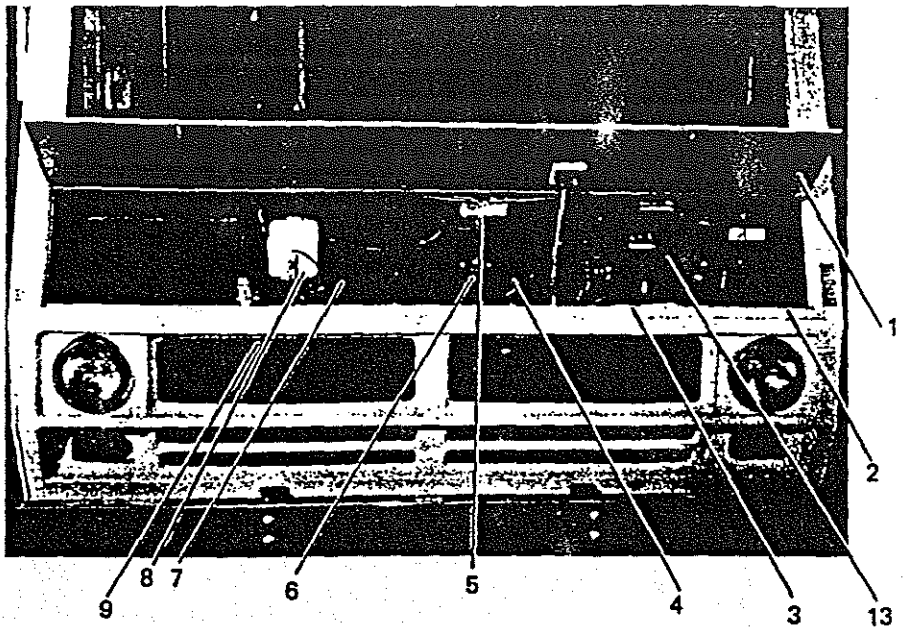


17. City Water Connection
18. Front Running Lights
19. Engine Service Door
20. Headlights



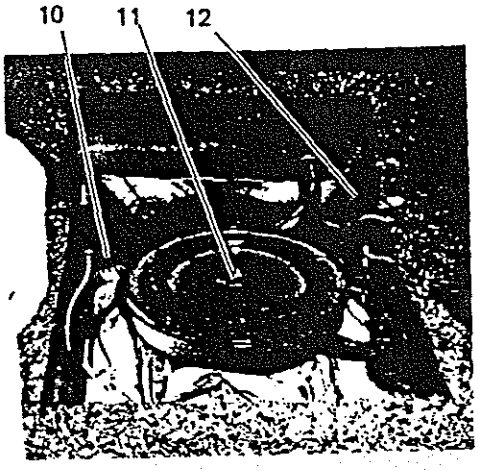
21. Parking, Turn Signal
22. Storage Rack and Ladder (optional)
23. Rear Running Lights
24. Back-up Lights
25. Tail, Stop, Turn, and Emergency Flasher Lights

ILLUSTRATION 1 TYPICAL MOTOR HOME LAYOUT

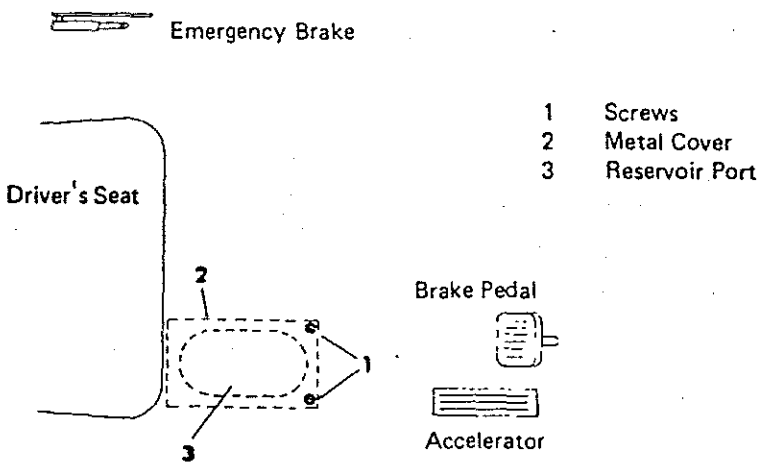


1. Engine Service Door
2. Main Vehicle Battery
3. Auxiliary Battery
4. Engine Oil Dipstick
5. Windshield Wiper Motor
6. Radiator Fill
7. Engine Oil Filler Cap
8. Windshield Washer Reservoir
9. Coolant Fill
10. Power Steering Reservoir
11. Air Cleaner
12. Engine Dipstick and Filler Cap
13. Dual Battery Isolator

(INSIDE ENGINE COVER REMOVED)

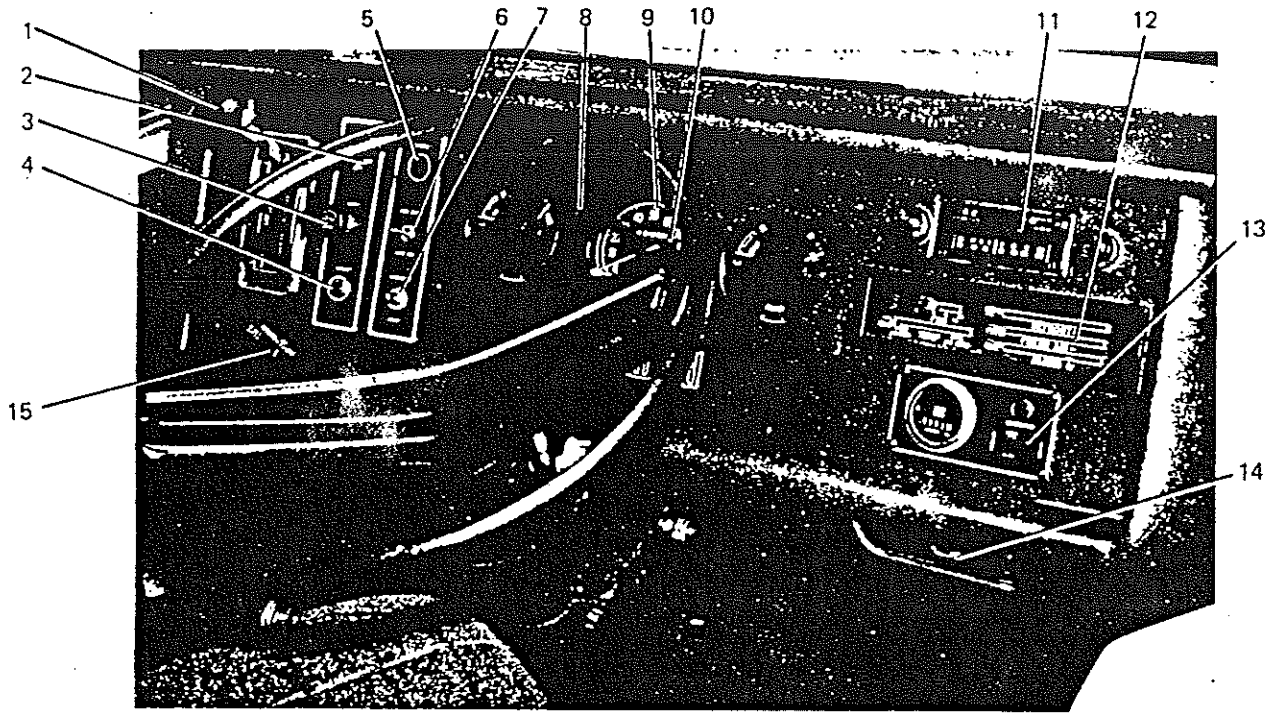


(ILLUSTRATION 2) TYPICAL ENGINE SERVICE AREAS



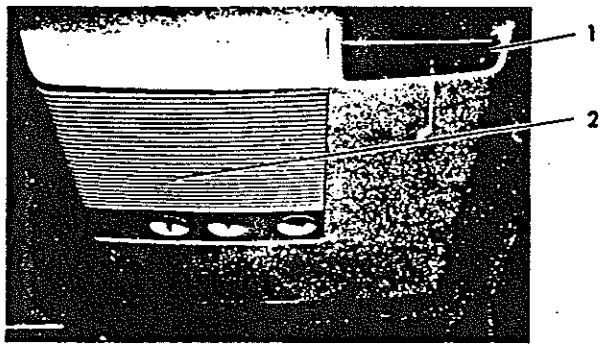
1 Screws
2 Metal Cover
3 Reservoir Port

ILLUSTRATION 3 BRAKE CYLINDER RESERVOIR ACCESS PORT

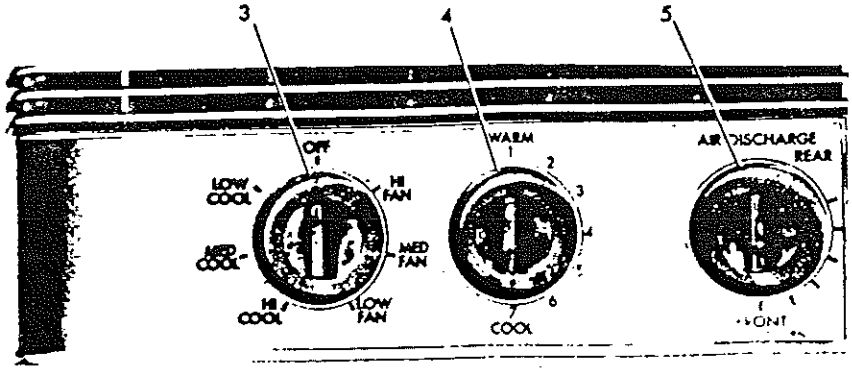


1. Shift Selector
2. Lights
3. Windshield Wipers
4. Windshield Washer
5. Cigar Lighter
6. Fuel Switchover (optional)
7. Emergency Start (optional)
8. Turn Signal Indicator
9. Hi-Beam Indicator
10. Instruments (See your chassis Operators Manual)
11. Radio Sound System (optional)
12. Heater Controls - (option) Auto Air Controls
13. Generator Remote Start Panel (optional)
14. Air Duct
15. Turn Signal Lever and Optional Cruise Control

ILLUSTRATION 4. TYPICAL INSTRUMENT PANEL AND CONTROLS



1 Directional Louver Control
2 Removable Air Filter (under grill)



3 Blower Switch
4 Thermostat
5 Air Flow Control

ILLUSTRATION 5. **TYPICAL ROOF AIR CONDITIONER (Optional)**

in for service. This may be particularly important if you drive with the overhead vents open or if the coach is equipped with a roof air conditioner, a roof rack or CB antenna.

When parking parallel, be sure to allow for poles or obstructions near the curb, as the front and rear portions of the motor home swing wider than an automobile. When parking on an incline, it is recommended that the front wheels always be turned into the curb in the direction of roll to aid the parking brake.

OVERHEATING

The engine and cooling system on your vehicle should be operated and serviced as recommended in your Chassis Operator's Manual.

WINDSHIELD DEFROST – COMFORT CONTROL

During winter months, it is important to keep the windshield clear and keep the passenger compartment at comfortable temperatures while on the road. This can be done by use of the proper combination of heater and defroster controls (See Illustration 4).

12–VOLT FUSE REPLACEMENT

If part of your vehicle electrical system should fail while on the road, check the replaceable circuit fuses located below the dash behind the steering column. These are automotive type fuses available at most service stations. Refer to the ELECTRICAL section for information on living area (non-automotive) 12-volt fuses.

NOTE: Fuses for exterior running lights are located exteriorly along the frame rail in rear of vehicle.

CHANGING A TIRE

For tire changing instructions, see the Chassis Operator's Manual. Your motor home is equipped with premium grade truck-type tires. Under normal circumstances and with proper tire maintenance, you should receive thousands of miles of trouble-free service. Before attempting any repairs, in the event you do have a flat tire, it should be noted that your fully loaded motor home is very heavy. As a result, each wheel lug nut is torqued to a factory recommended setting of 480 to 500 foot pounds, making the lug nuts extremely difficult to remove. In addition, each tire and wheel weighs approximately 90 pounds and is difficult to handle. It is therefore advised that you obtain road service wherever possible and only attempt to change tires yourself under emergency conditions.

WARNING: Loosening the rear lug bolts may release both outside and inside wheels. Do not attempt to remove lugs without having a jack in proper position to absorb weight.

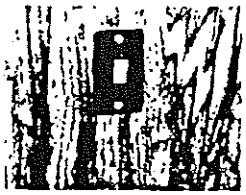
If the flat tire is on one of the inside (rear) dual wheels, the outside wheel on that side will give adequate support and no tire change may be required. Just continue at reduced speeds to a service station for repair. Do not exceed 25 MPH or drive for long distances as this may overheat the single rear tire causing a blow out.

EMERGENCY START SYSTEM (Optional)

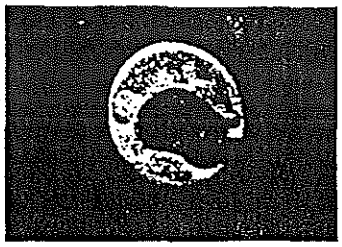
An optional Emergency Start System permits the auxiliary battery power to aid in starting the motor home engine if the vehicle battery has discharged.

When this occurs (indicated by one or more clicking sounds when the key is turned to the START position), use the Emergency Start System as follows:

NOTE: Be sure transmission is in N (neutral) or P (park) position and that emergency brake is applied

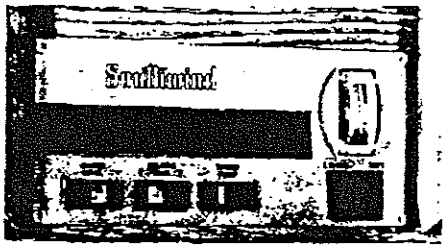


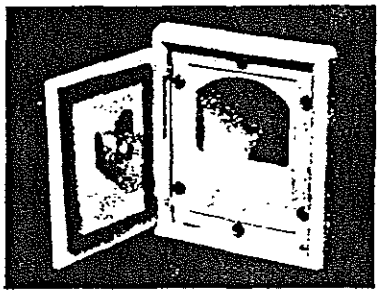
FRESH WATER SYSTEM, PUMP SWITCH
(located in galley overhead area)
(Keep switch in OFF position when tank is empty or city water is being used.)



CITY WATER INLET
(Keep cap in place when city water is not being used.)

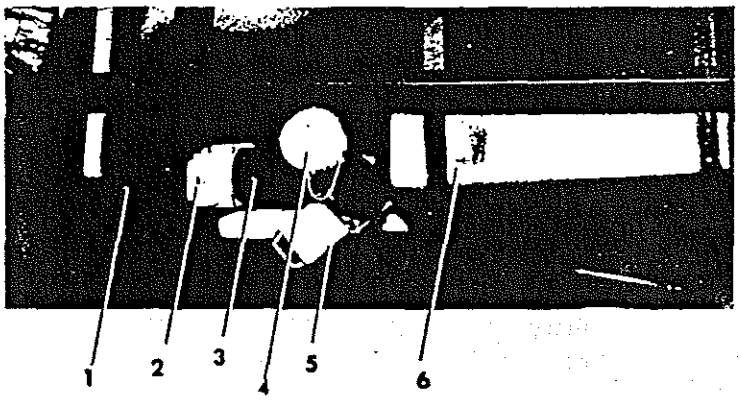
OPTIONAL FRESH WATER SYSTEM, LP GAS, AND BATTERY MONITOR PANEL.
(Located in galley overhead area.)





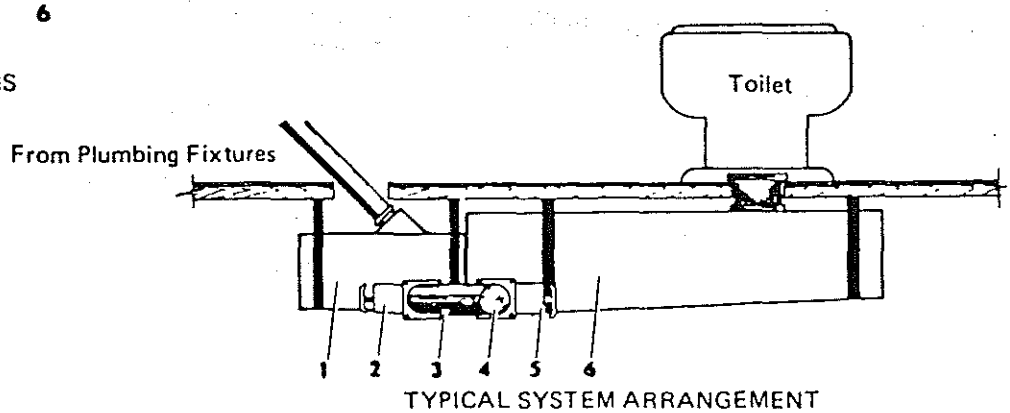
FRESH WATER FILL LOCATION

ILLUSTRATION 6. FRESH WATER SYSTEM COMPONENT LOCATIONS



DRAIN CONNECTIONS

1 Grey-Water Holding Tank
2 Grey-Water Knife Valve – 1-1/2"
3 Drain - Line Y - Fitting
4 Drain Cap
5 Body-Waste Knife Valve – 3"
6 Body-Waste Holding Tank



TYPICAL SYSTEM ARRANGEMENT

ILLUSTRATION 7. TYPICAL WASTE WATER SYSTEM DRAIN, WITH DUAL TANKS

1. Press the EMERGENCY START switch and hold in depressed position.
2. Turn the key to start engine in normal manner. Maintain EMERGENCY START button down until engine is running and the ALTERNATOR indicator on the instrument panel shows that the engine is charging the battery.
3. Release EMERGENCY START button and operate motor home in a normal manner.

When operating properly, your vehicle alternator should be able to handle normal vehicle driving requirements and also recharge the battery (or batteries) in a reasonable time when on the road.

SERVICING

MOTOR HOME CHASSIS OPERATOR'S MANUAL

Refer to your Chassis Operator's Manual for information on chassis service recommendations. As a general practice, you should have the coolant level, the battery electrolyte level and the engine oil levels checked each time when refueling.

NOTE: Proper engine servicing and record of servicing may be mandatory to ensure chassis warranty protection. Follow the manufacturer's instructions on periodic maintenance checks.

ENGINE SERVICE

Items serviced from the exterior of the coach are reached through the front access door. This door permits servicing the batteries, the radiator and coolant system, the engine oil level and oil filler cap and windshield washer. Refer to Illustration 1 for location of these items and for door latch information.

More extensive engine service, including engine removal if required, can be accomplished through the exterior section by removing the following items:

1. Front bumper
2. Front access door
3. Front moldings
4. Lower fiberglass body panel
5. Optional equipment (such as air conditioner and transmission cooling coils)

Items serviced from inside the coach are reached through the engine compartment cover located between the driver and passenger seats. This gives access to the power steering reservoir, transmission oil dipstick and the air cleaner. The brake fluid reservoir is reached by lifting a special access cover on the floor near the accelerator pedal. Refer to Illustration 3 for location of these items. When the engine is being serviced from inside the coach, protect your carpet and furnishings against oil and dirt. Your serviceman will be glad to use a protective cloth if you remind him.

BATTERY SERVICE

Main Vehicle Battery – Your motor home has a 12-volt automotive battery located under the front engine access door. This battery provides power for all vehicle requirements. Have this battery serviced when fueling or servicing other vehicle systems.

Auxiliary Battery Service – There is an auxiliary 12-volt battery to provide living-area power requirements. Service this battery when fueling or servicing other vehicle systems. This battery is also located under the front engine access door (See Illustration 2).

GENERATOR POWER PLANT SYSTEM SERVICE

Generator Power Plant service, recommended by the Generator Manufacturer, should be performed at an authorized service center (listed in the information provided in your Owner Information Kit). Routine or emergency service, such as adding oil, changing filters or replacing spark plugs, could be accomplished at auto service centers but must be done in accordance with the service instructions specified by the Generator Manufacturer.

PLUMBING

FRESH WATER

Fresh water is provided from one of two sources:

1. City water, provided under pressure when the motor home is hooked up to a park or city water supply.
2. Water stored in an on-board water tank with pressure provided by a pump operating automatically from your 12-volt electrical system.

EXTERNAL WATER SUPPLY

When camped in a park or near a city water supply, connect the water supply to the motor home as follows:

1. Turn water pump switch inside the motor home to OFF (refer to Illustration 6).
2. Let the water run a few minutes with your supply line attached to clean the lines.
3. Remove protective cap over city water inlet pipe on your motor home.
4. Connect water hose to the motor home inlet and to the city water supply line.
5. Turn city water supply valve to ON.

NOTE: Both the on-board pump and on-board fresh water tank are now isolated from the water pressure in the system. Do not turn pump on until pressure line is disconnected to avoid damaging the pump.

Use the following procedure to disconnect the city water supply:

1. Turn the city water supply valve to the CLOSED position.
2. Disconnect the water supply hose from the motor home inlet connection and replace inlet pipe protective cap. If the on-board tank is to be filled, go to next step. If not, store the supply hose in available compartment.

CAUTION: It may be necessary to turn water supply down (or off) at night to avoid damage to water systems in some campgrounds having unusually high water pressure at night.

3. Fill on-board fresh water tank from city water source if needed, then remove hose and store in available compartment.

FILLING FRESH WATER SUPPLY

The on-board fresh water supply in your motor home provides fresh water automatically to all systems whenever a faucet is opened. Pressure is provided by a 12-volt automatic self-priming pump which functions any time power is available and the pump switch near the galley sink is ON (refer to Illustration 6).

CAUTION: Do not run the pump without water in the system. Always keep the switch off when the water system is empty of water or when hooked to city water. Running the pump when dry can damage it and may make the warranty inapplicable.

Your on-board water storage tank is filled through a special filler cap (Illustration 6) outside the vehicle. To fill the fresh water tank, proceed as follows:

1. Turn water pump switch to OFF.
2. Open the water tank filler spout.
3. Fill the water tank.
4. Close the water tank filler spout.
5. Turn pump ON. Water pressure system is now activated. Turning on any faucet will result in water flow.

It is a good practice to avoid leaving water in the tank when not in use.

WARNING: Use only potable (drinking quality) water in the tank. To ensure clear, fresh water, drain after using. Flush and drain before each use and sanitize if system seems to give water a taste. See directions for sanitizing this system.

CAUTION: When in climates where freezing temperatures might occur, be sure that all water system components, including the storage tank, are drained or protected by a special type of non-freezing additive if the vehicle is to be left unheated.

TROUBLESHOOTING WATER SYSTEM

During normal use, your pump should operate automatically (if power is provided and the pump switch is ON) whenever a faucet is turned on. It may operate intermittently as pressure changes in the tank and water lines. Should your on-board water supply fail to function when a faucet is opened, check to see that the pump switch is ON. If the switch is on, check the fuse. If no pressure is available although the pump is ON, power is available, and the pump fuse is intact, refer to the information provided by your water pump manufacturer for instructions.

If the water pump continues to operate when no water is being used, there may be a leak in the system or in a faucet. If no leak is found and the pump continues to operate, refer to the information provided by the water pump manufacturer for additional checks.

SANITIZING WATER TANK

It is suggested that your fresh water tank be renewed periodically using a chlorine solution followed by clear water rinses.

1. Prepare a chlorine solution by adding 1/4 cup of liquid household chlorine-base bleach to each gallon of potable water.
2. Add one gallon of solution to the empty supply tank for each 15 gallons of tank capacity.
3. Fill balance of tank with potable water.
4. With pump ON, open each faucet long enough for water to run out, to remove all air from system and lines.
5. Allow the system (now filled with chlorine solution) to stand for at least three hours. Before performing the following step, provisions should be made to allow for drainage of all water from the fresh water tank.
6. Flush the piping by running water through faucets for at least one minute each.
7. Turn pump OFF.
8. Drain tank and pipes by opening tank drain valve. Open each faucet to permit water to drain from each pipe.
9. When the tank is empty and each faucet has been opened, drained and closed, close the drain valve.
10. Fill system with clear fresh water.
11. Repeat steps 6 through 9 .
12. Partly fill the system with fresh water and check the tank and system for taste and odor. If a chlorine taste or other traces of impurity remain, accomplish step 13. If the system is clear, go to step 14.
13. Prepare a solution of 1-quart vinegar in five gallons of water and place in tank. Fill the system completely. Agitate this solution by vehicle motion, then repeat steps 4 and 5 .
14. Repeat steps 6 through 9 to empty the system.
15. If the system is to be used, fill with fresh water. If not, the system is ready for storage.

WASTE WATER SYSTEM

Your motor home has a self-contained drainage system in which body wastes (that is, residue from the toilet) go directly to a holding tank and are isolated from normal grey water (that is, water from sink, shower or other fixtures). All of the plumbing components in the vehicle are usable even when the drain is capped.

NOTE: Some floor plans require the shower and lavy water be drained into the body waste tank.

WASTE WATER DRAINING

Body wastes enter the plastic holding tank to be retained until the tank can be evacuated into a disposal area. Refer to the information provided by your toilet supplier for information relating to use and maintenance of your toilet system.

The holding tank should be evacuated only at intervals since the dumping action is more effective in removing solids when the tank is relatively full. DO NOT PULL THE HOLDING TANK KNIFE VALVE OPEN WHEN THE PROTECTIVE CAP IS IN THE SECURED POSITION. Always ensure that the tank is evacuated into an acceptable sewer inlet or dump station. To evacuate wastes from the holding tank, proceed as follows:

1. Remove the plastic sewer hose from the capped storage tube (refer to Illustration 1). The hose has been compressed for storage but will extend as needed.
2. Place a container under the drain outlet to catch any water in the drain, if required, then remove the protective cap from the drain outlet by turning it firmly counterclockwise. (Refer to Illustration 7).
3. Place sewer line over the termination fitting and secure by twisting.
4. Place the plastic termination fitting over the motor home drain outlet and secure by turning firmly clockwise, being careful that the clips catch firmly to hold the line in place.
5. Insert the ground end of the sewer line into a ground sewer or dump station inlet, pressing it firmly far enough into the opening to be secure. In some cases, adapters may be required between the line and the inlet. Arrange sewer line between motor home outlet and dump station so that it is free from dips.
6. Unlatch body waste holding tank (large) knife valve by removing wire clip or unscrewing lock screw. Grasp the handle firmly and slide the valve open with a quick, steady pull.
7. Allow sufficient time for the tank to be completely drained. Rinse and flush tank if

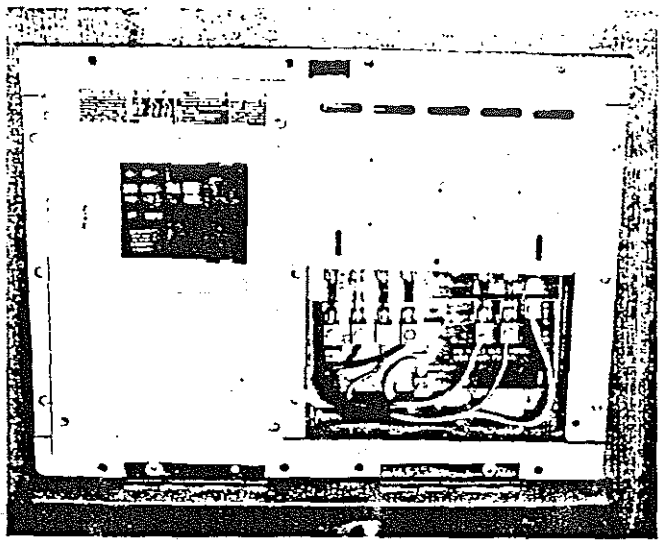
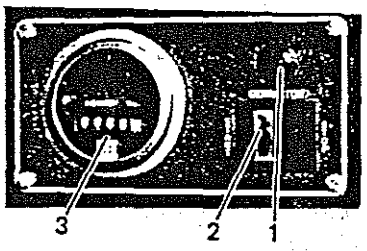


ILLUSTRATION 8.

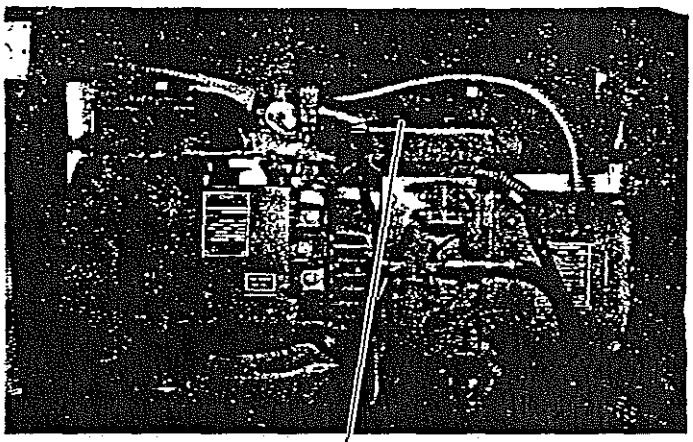
CENTRAL ELECTRICAL PANEL



(INSIDE)

REMOTE START PANEL

1. Remote Indicator Light (optional)
2. Remote Start Switch (optional)
3. Hourmeter (optional)
4. Start Switch



OUTSIDE POWER PLANT

25-ft. ELECTRIC POWER CORD

(OUTSIDE)

ILLUSTRATION 9. GENERATOR POWER PLANT ENGINE SERVICE AREA (Optional)

necessary, or if the vehicle is to be stored. When tank is empty, push handle inward to close valve. Reset retaining clip or replace cap.

8. The motor home is equipped with a (grey water) holding tank, repeat steps 7 and 8 for the small knife valve. This tank is dumped last to help flush outlets.
9. Remove the sewer hose by turning termination fitting counter-clockwise.
10. Rinse out sewer hose with a separate fresh water hose or supply, then remove line from ground inlet.
11. Stow sewer line and fitting and replace sewer or dump station covers if applicable.

PLEASE. . .USE GOOD HOUSEKEEPING WHEN DRAINING WASTES AT A CAMPSITE OR DISPOSAL STATION. LEAVE THE SITE IN GOOD ORDER. ABOVE ALL, AVOID POLLUTION OF LAKES AND STREAMS.

WINTERIZING THE WATER SYSTEM

If the motor home is to be stored in temperatures below freezing, the fresh water and waste systems should both be winterized as follows:

1. Drain fresh water tank by opening water tank drain on exterior sidewall spigot.
2. Open the drain faucets on HOT and COLD water pipes. (These valves are located under interior cabinets at floor level and drain through the floor.) After all water has been drained from the water pipes, close faucets.
3. Turn pump ON. Open a cold water faucet. When flow of water has stopped, turn pump OFF.
4. Drain water heater by opening drain plug at bottom of heater and safety valve. Also, open the hot water faucets.
5. Drain waste water system by following normal procedure for emptying holding tank (refer to paragraph on Waste Water Draining.)
6. Place a minimum of 1-1/2 gallons of approved non-toxic antifreeze solution for plastic piping, drains, and traps in water tank. Open all cold water faucets, turn water pump ON, and operate until the tank has emptied solution into system.
7. Pour one-half cup of this solution into each drain to ensure that traps are protected. Have automotive radiator solution tested to ensure that vehicle is well protected to any anticipated freezing level, as recommended in Chassis Operator's Manual.

The above is a basic procedure designed to be performed by the Motor Home Owner. In areas of extreme cold extra freeze protection can be obtained by scheduling a motor home dealer to perform this winterization for you. He has specialized equipment that will enable him to blow the water and drain lines clear.

DO'S AND DON'TS – WASTE TANKS

DO keep your holding tank clean using any cleaner approved for recreational vehicle sanitation systems.

DO add a special deodorizer or chemical additive approved for recreational vehicle system to sanitize and improve the tank action.

DO guard against freeze-up.

DO keep your tank knife valve closed, permitting the tank to get as full as convenient before emptying.

DO keep both the tank knife valve(s) and the drain cap(s) tightly in place when traveling to permit use of the system when on the road.

DO use any soft (single-ply) toilet tissue.

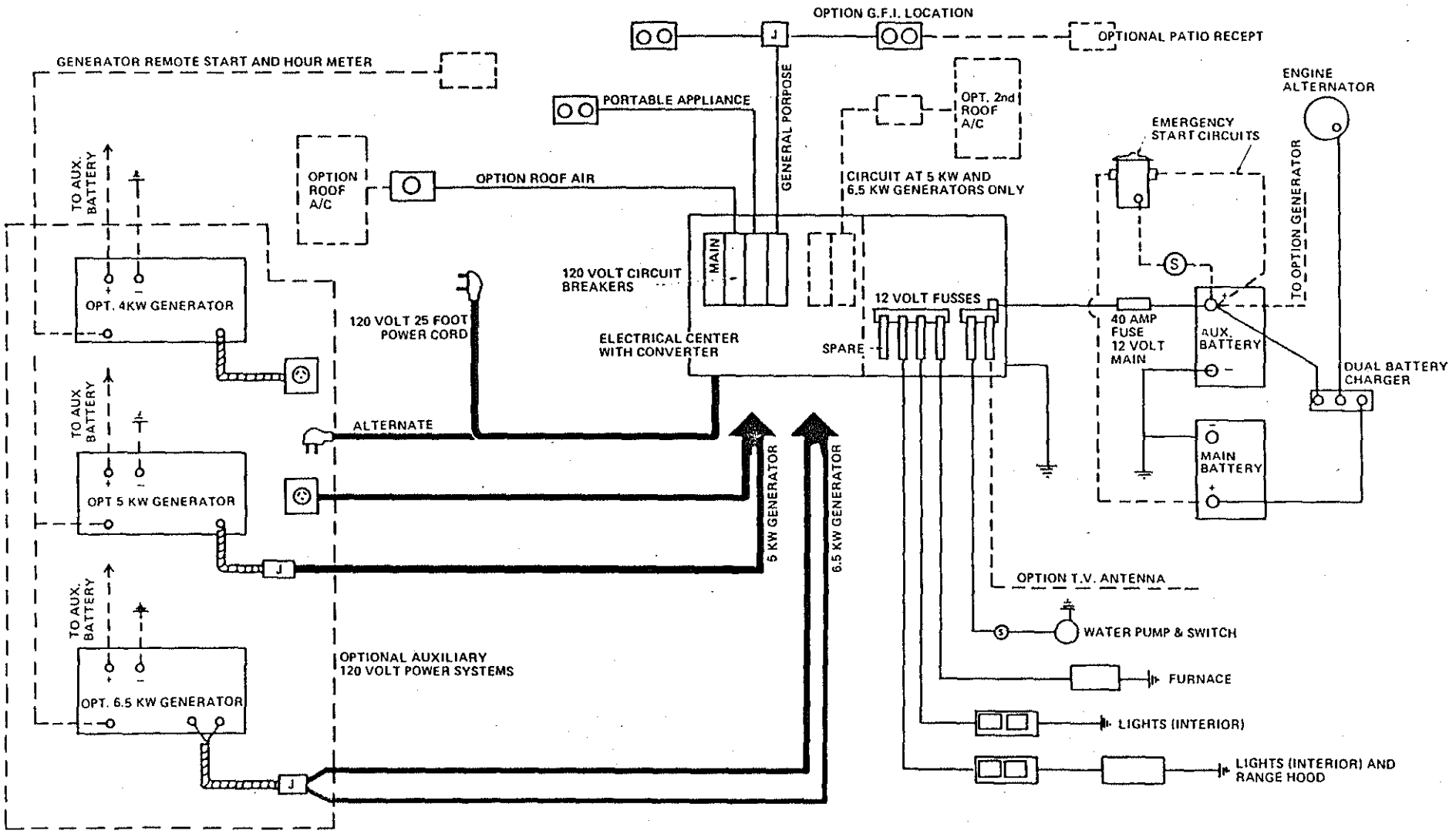
DO open the bath vent to keep bathroom fresh.

DON'T put facial tissues, paper, permanent (automotive) anti-freeze, sanitary napkins, or household toilet cleaners in your holding tank.

DON'T put anything solid in your holding tank which can scratch or damage the plastic.

ELECTRICAL

Your motor home has two electrical systems. One provides 115-volt power to operate all 115-volt living area lights and appliances. This system is used when power is available from a ground power source or from an on-board generator power plant, if one is installed. The second system uses on-board batteries to provide power for all 12-volt lighting, appliances and accessories as well as normal vehicle needs. (Refer to Illustration 10)



ELECTRICAL SCHEMATIC
ILLUSTRATION 10.

115 VOLT SYSTEM

A 25-foot, heavy duty power supply cord is provided in a special storage compartment (refer to Illustration 9). This cord is pulled out and connected to any adequate 115-volt power source to activate all power circuits. The connector is rated for 30-amp capacity. Use this power plug only with the proper mating connector and only with facilities having a 30 amp capacity. Such facilities are available in most parks and campsites.

CAUTION: Using your power cord with power supplies which have less than 30 amps capacity, or using the plug with receptacles for which it was not designed, may damage your appliances and may make the motor home warranty inapplicable.

12-VOLT SYSTEM

When the power supply cord is not connected to a 115-volt ground source (or to the generator power plant receptacle) power for lights and most appliances is automatically provided from your auxiliary battery.

12-VOLT FUSES

The fuses for the 12-volt electrical system in the living area (except for the 12-volt chassis circuit fuses) are located in the electrical center inside the motor home. Fuses for the motor home chassis circuit are located on a panel under the dash behind the steering column. See your Chassis Operator's Manual for further information. Optional equipment may have additional fuses installed; refer to the equipment instructions for information.

NOTE: If fuse replacement is necessary, replace with fuses of the same amperage.

AUXILIARY 12-VOLT BATTERY

The motor home is equipped with an auxiliary 12-volt battery. It is installed in the location shown in Illustration 2. The auxiliary battery is the source for normal living area power needs. If the main vehicle battery becomes discharged, the auxiliary battery may be used to start the vehicle using the Emergency Start circuit (optional) or with the use of jumper cables available at most automotive or hardware stores.

NOTE: All radios and tape decks draw from the vehicle battery and extended usage may deplete it.

AUXILIARY GENERATOR POWER PLANT (Optional)

The engine-driven 115-volt generator power plant (if installed) is located in a special compartment (refer to Illustration 1). This generator option has a self-starting system which includes the auxiliary battery. Starting controls are at a remote control panel located inside the motor home and at the generator location. Refer to Illustration 9 for the generator power system and typical auxiliary control panel.

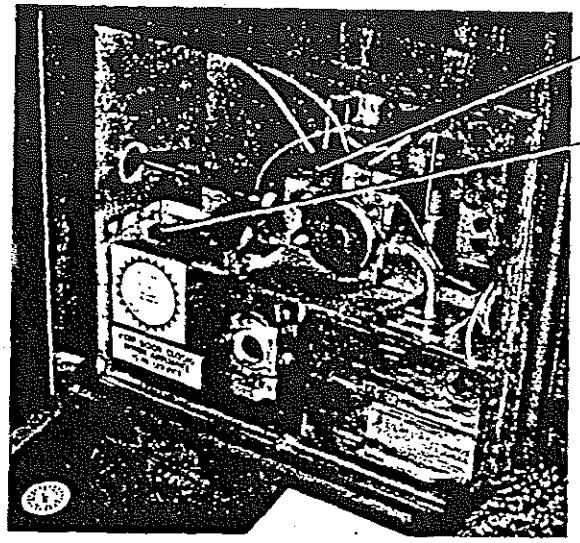
The 115-volt output of the 4.0 and 5.0 KW generator is provided directly to a receptacle which is located inside the power cord storage compartment for models with the generator power plant option. With the generator power plant operating and the power cord plugged into this receptacle, power is conducted through the circuit breaker panel to supply all of the 115-volt power requirements of the motor home, just as if the cord were connected to an external power source. (6.5 KW generator has automatic switchover from shore power to generator power - no recepticle).

Gasoline for the generator is taken from the main fuel tank through a special feeder tube which is higher in the tank than the feeder tube to the motor home engine. This is to prevent immobilizing the motor home by accidentally permitting the generator to run the fuel tank dry.

NOTE: Refer to generator power plant manufacturer's instructions (provided in your Owner Information Kit) for service information before starting the generator. Do not start unit with a heavy power load. Always start the generator, wait at least three minutes, then turn on (or plug in) heavy electrical loads. (Example: When optional roof air conditioner is installed.)

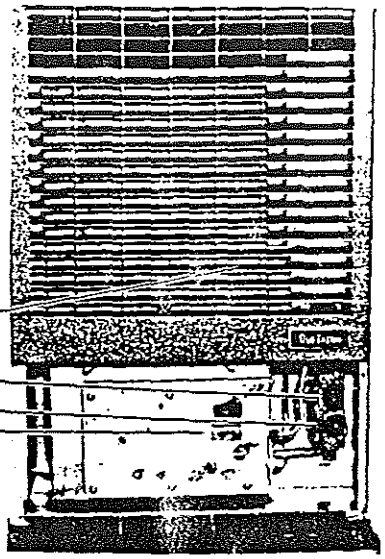
To start the generator, hold the switch in the START position until the unit starts, then release the switch. If unit is slow to start, DO NOT hold the switch in the START position for more than 10 seconds. Release the switch, wait 15 seconds, then repeat. This will help avoid overheating the generator starting motor and may prevent damage to the starting system. If the system fails to start, manual starting instructions are discussed in the General Power Plant Manufacturer's Instructions. To stop the unit, hold switch to the STOP position until the engine stops operating.

A clock/meter is in the control panel located inside the motor home. This meter indicates the hours of running time on the generator. Operating-hours information is important in scheduling proper service maintenance for the generator.



1. Stricker
2. Pilot/Flame Control

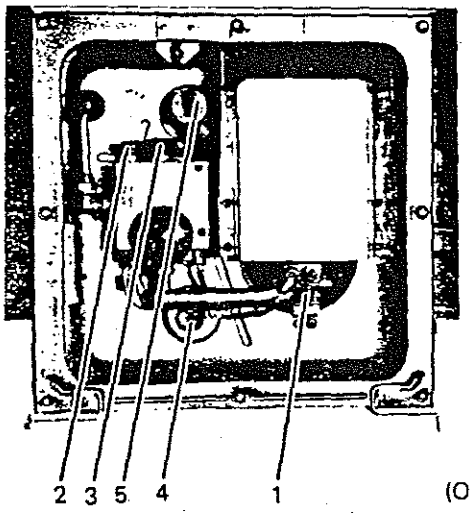
FORCED AIR FURNACE



1 Fan Switch (if provided)
2 Pilot/Flame Control
3 Temperature Control (or thermostatic sensor optional)
4 Lighting Port

RADIANT HEATER

ILLUSTRATION 11. TYPICAL FURNACE (S)

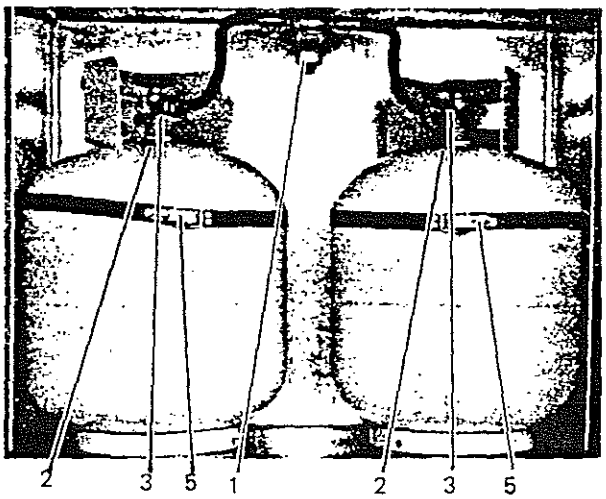


(OUTSIDE)

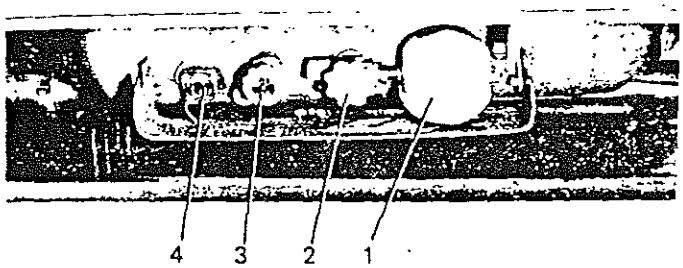
NOTE: For gas appliances with flame-out valves; Press while lighting and hold until flame stays lit when released.

1 Flame-out Valve
2 Pilot-Light Control
3 Heat Control
4 Drain
5 Relief Valve

ILLUSTRATION 12. TYPICAL WATER HEATER



REMOVABLE LP GAS TANKS



CHASSIS-MOUNTED LPG TANK

1. LP Gas Regulator w/Cover
2. Supply Valve(s)
3. Fill Valve or Plug
4. Pressure Gage (if installed)
5. Restraining Clamp

ILLUSTRATION 13. TYPICAL LP TANK (S)

ROOF AIR CONDITIONER (Optional)

Your motor home may have one or two air conditioners installed on the roof (refer to Illustration 1) which use 115-volt power from the generator power plant or from the ground power source depending on system design. The air conditioner has three controls on the lower panel of the air conditioner, as shown in Illustration 5. These are a blower switch, a thermostat and an air-flow direction control. A removable filter is located on the air conditioner panel inside the vehicle. For best results, carefully follow all instructions provided by the air conditioner manufacturer with regard to operation and maintenance.

CAUTION: If the air conditioner is switched off for any reason, wait a few minutes before starting it again to avoid over-loading circuit breakers. See the manufacturer's instructions. When air conditioner is not being used, always keep controls in deactivated positions (WARM-OFF) to reduce unnecessary circulation of refrigerant.

Keep air filter screen clean and working properly, especially in dusty or dry areas.

AUTOMOTIVE AIR CONDITIONER (Optional)

For specific instructions, refer to the information provided by the air conditioner manufacturer.

CAUTION: The automatic air conditioner places an additional load on the vehicle cooling system. If engine runs abnormally hot, shut off air conditioner until engine cools down.

LIQUID PETROLEUM GAS SYSTEM

Liquid Petroleum (LP) gas is the energy source for your range, oven and furnace. It is also an alternate power source for your LP Gas/Electric refrigerator.

CAUTION: Do not use natural gas in system.

LP gas is a colorless gas, but is stored under pressure as a liquid. The tanks are located in one of the compartments accessible on the outside of the vehicle. It is commercially available under such names as Butane, Propane, or other brand names. Though odorless in a natural state, LP gas is always odorized to smell like garlic for easy detection in the event of a leak. The gas and the liquid tank in which it is stored are safe and convenient, provided sensible precautions are followed.

CAUTION: LP Gas is flammable and potentially explosive. Use proper handling, lighting and ventilating procedures. As a gas, LP Gas is heavier than air and will dissipate if ventilation is provided to permit a downward flow.

USING LP GAS SYSTEM AT LOW TEMPERATURES

Your gas system will function well at low temperatures, provided the components are kept at a temperature above the boiling point of the gas.

NOTE: Butane boils or turns to a gas at about 32°F and propane boils at about —40°F.

The following are suggestions to keep gas appliances working smoothly:

1. Choose a type of LP gas which has a boiling point lower than any temperature you expect to encounter. Ask your LP gas supplier or your motor home dealer for information on products available in your area.

2. If outside temperatures get below the boiling point of the LP gas in your system, keep exposed area (such as the tank, regulator and lines) at a higher temperature with a protective cover.

3. Keep the system free from water vapor (which may turn to ice in lines and regulators). Commercial additives such as dry methyl alcohol, added to the LP gas tank, can help avoid water condensation in the regulator and the lines. Ask your LP gas supplier or your motor home dealer.

If, despite precaution, the gas flow to your appliance should fail at low temperatures, the stoppage may be due to ice in the LP gas regulator as a result of condensed moisture. Try melting the ice by warming the regulator, using a small light bulb on an extension cord — NOT AN OPEN FLAME. Once flow is restored, make certain that regulator cap is properly installed to prevent water from entering the regulator which will cause it to freeze again. If the problem persists, ask your LP gas supplier to service the tank or regulator, removing the moisture or adding an ice-inhibitor as required.

OPERATION OF LP GAS SYSTEM

If your motor home has the LP gas stored in removable tanks, your appliances will operate from either tank through a T-fitting and a regulator (refer to Illustration 13). The first is normally used until empty, then the tank valve is closed and the second tank opened. Pilot lights on all appliances need to be relighted after a tank is switched in this way.

Your system may use LP gas stored in a chassis-mounted tank (refer to Illustration 13). The chassis-mounted tank has four controls; the gas pressure regulator, vapor withdrawal service valve, the fill valve and the gauge. To provide LP gas to appliances, first open the vapor withdrawal service valve all the way (counter-clockwise) then close it two-thirds of a turn. When all LP gas systems are not in use, close the valve all the way.

CAUTION: Do not use pliers nor a wrench to tighten valves. If a valve is not leak-tight when closed by hand, see your LP gas service representative. Extinguish all pilots and open flames. Stop the engine and stop the auxiliary power generator, if installed, before filling LP gas tanks or fueling your vehicle tanks. Pilots and open flames should be extinguished when the vehicle is under way and, by regulation, must be extinguished in certain areas such as tunnels or restricted areas. Check ahead to areas where you plan to travel to determine any special regulations which may apply.

FILLING THE REMOVABLE LP GAS TANKS

Removable LP gas tanks should always be removed from the storage compartment while being filled. Take the tank to an LP gas supplier or to a service station which sells LP gas. Keep the tank at least 25 feet from the vehicle while it is being filled. Do not smoke or expose to open flames in or near a filling area. To remove the tank, first close the tank valve, then disconnect the tank from the supply line.

CAUTION: In removing the fittings, use the proper size wrench to avoid damaging the fitting. Turn the fitting clockwise to loosen (reverse thread).

Remove restraining clamps by lifting the loop release lever from the strap and opening the strap. With the line disconnected and the strap loose, remove the tank by lifting it out.

NOTE: An empty tank weighs approximately 20 pounds or more; handle it carefully to avoid damage or injury.

To replace the LP gas tank, reverse the above procedure. Be sure to use a counter-clockwise or reverse-thread motion to tighten the connector. Be sure that the male fitting is properly aligned with the female receptacle to avoid damaging the threads. Be sure that connections are tight, but avoid excessive force.

FILLING THE CHASSIS-MOUNTED LP GAS TANK

If you have a chassis-mounted storage tank, drive the vehicle to an LP gas supplier or one of the service stations which sell LP gas to have the tank filled. Look under Gas, Liquified Petroleum, Bottled and Bulk, in your classified directory or refer to the service directory available at your dealer. For additional information, refer to instructions for your gas appliances provided in your owner's kit.

LP GAS SYSTEM LEAK CHECKS

For your safety, check for leaks in your gas system each time the tank is filled or before each trip. Always check the system any time the odor of garlic is detected. To perform a leak check, open the tank valve and spread a non-ammoniated type (i.e. castile, etc.) soap-bubble solution over all connections. Escaping gas will create visible bubbles to show the location of any leak.

WARNING

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

Keep the tank valve closed and turn OFF all appliances if the unit is not being used. When operating LP gas appliances, use only one tank at a time to avoid depleting your LP gas supply.

LP GAS APPLIANCES

Your range-top and oven, furance and water heater operate on LP gas while your refrigerator can operate on either LP gas or electricity. Warranty certificate registration cards, service instructions and other information are included in the owner information kit provided with the motor home. All information relating to your appliances should be kept readily available for easy reference.

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

It is important to follow carefully all operating and lighting instructions provided on or near each appliance (or in your owner information kit). For the initial lighting of an LP gas appliance, it may be necessary to purge the LP gas supply line of air before the appliance will light. To purge a line, open a burner. Allow time for air to escape. The time will vary depending on the distance the appliance is located from the LP gas tank. After several seconds, the gas should ignite and burn steadily.

Range Top and Oven

The range top and oven in your motor home are provided with a vent or range hood. The hood has a power vent fan. Always use the fan when using the oven or range top in order to ensure adequate ventilation. When cooking for long periods or with a large number of people in the home, it may be desirable to open a window or a roof vent slightly to further increase ventilation level.

CAUTION: Do not use open flames, such as the oven or range top, to warm the living area because gas combustion consumes the oxygen inside the home.

Some models of range tops have pilot lights (optional). The oven has a pilot light. Refer to information on the appliance or from the manufacturer for instructions on use. When using the oven pilot, note that the type of heat-actuated ignition control used for the main oven burner may result in a normal delay of a few seconds, after the oven control knob is turned ON, before the main oven burner ignites. If you are sure the pilot is burning, anticipate approximately five (5) seconds delay for the burner to ignite. If it doesn't ignite within five (5) seconds turn the control knob OFF and check the pilot light or the supply.

Radiant Heater

Your motor home may be provided with an LP gas fueled radiant heater (refer to Illustration 11). Operating controls are located on the heater panel. Refer to the information on the unit, or provided by the manufacturer, for lighting and operating instructions.

Forced Air Furnace

Your motor home may be equipped with an LP gas ducted circulation system. (Refer to Illustration 11). Controls will be on or near the furnace and will include a wall-mounted thermostat. The furnace will keep room temperatures at a comfortable level by activating fan and gas controls as temperatures inside the motor home vary between preset levels. Refer to information on lighting, operation, adjustment and service on the furnace case (under the inside access door).

Water Heater

Your motor home is equipped with an LP gas water heater. The heater is a storage-type much like that in your home. There is a thermostatic control on the heater to maintain the water temperature within a preset range. Before lighting the water heater, make sure that it is filled with water by turning on a hot water faucet such as the one at the galley sink. If water is supplied from the on-board fresh water tank, the pump must be ON. If water

flows continuously, the heater is full of water. If water does not flow (and pressurized water is available), leave the faucet open until the tank fills. For lighting and operating instructions, refer to the manufacturer's instruction manual or see the instructions under the heater access panel (see Illustration 12).

LP Gas/Electric Refrigerator

Your refrigerator has separate controls for LP gas fuel or electric power. The refrigerator will operate on 115 volts in addition to LP gas. Consult the operating instructions furnished by the manufacturer in the manual and posted inside the refrigerator door. Before operating the refrigerator, be sure the vehicle is level. If it is not level, circulation of the refrigerant may be blocked by liquid accumulated in the condenser coils and cooling action could stop. Check the level at the refrigerator by placing a bubble-type leveling device (available from your dealer) on the freezer shelf. Adjust the level by jacking and blocking under the wheels.

NOTE: **Unlike most household refrigerators, the refrigerator will be completely silent when operating on electric power.**

EQUIPMENT & FURNISHINGS

PEDESTAL SEATS

Pedestal seats may have two types of position controls. The seat can be moved forward or back by releasing the catch under the front of the seat. The seat may swivel in either direction by loosening the twist-lock on the side of the pedestal base. The arm rests fold down by lifting the arm rest, moving it forward and releasing. To return the arm rest to position, reverse the motion. Be certain that seat controls and locks are secure prior to driving the vehicle and never adjust the seat position while in motion.

PEDESTAL DINETTE TABLES

To convert a pedestal style dinette table into a bed, proceed as follows:

1. Remove the top by lifting the table evenly, at the same time giving a gentle twist or rocking motion to loosen the top of the pedestal.
2. Remove the pedestal from the socket with a lifting, turning motion (rocking the metal gently if necessary).
3. Store the pedestal in any of the convenient compartments or closets provided.
4. Place table top in position to complete base for bed.
5. Slide seat and back cushions into place over bed area.

SPRING-BALANCED BUNK BEDS

Spring-balanced overhead bunks (optional) are located at the ceiling in the front and/or rear. These are moved into position simply by placing both hands on the center rim and pulling firmly down and forward (or down and back, for the rear bunk) against counter-tensioned springs. Be sure that fastener straps provided to hold the bunks in the UP position are properly snapped when traveling. Check that sun visors are down and out of the way before moving the front bunks down. When returning bunks to the raised position, be sure that no loose items which may strike the ceiling, are on top of the bunk. The overhead bunk should not be used as a storage area.

SWING-DOWN DINETTE TABLE

To convert a swing-down dinette table into a bed, proceed as follows:

1. Reach under table and fold leg back by releasing leg latch. The built-in spring will hold leg in place.
2. Raise front portion of table several inches to disengage inserts from wall plates.
3. Lower table top into position to complete base for bed.
4. Slide seat and back cushion into place over bed area.

PULL-OUT GAUCHO BEDS

To convert a pull-out or Gaucho seat into a bed, proceed as follows:

1. Pull out the support tray by grasping the trim below the outside of the cushion, pulling it outward, like a drawer, and release legs.
2. Unsnap the cushion backs where they are attached to the rear panel. The cushions may have hidden fasteners which require a simple pulling action of the tab to release.
3. Slide the lower cushions out, unfold the back cushions and lay them flat to complete the bed.

STORAGE

Storage facilities in your motor home have been especially designed to remain secure while the vehicle is in motion. Exterior compartments have key-operated locks except for the LP gas compartment which is required by fire-preventive regulations to be unlocked at all times. Drawers rest in small notches or detents, when closed; to open, lift slightly to clear the detent, then pull open normally. For best results, follow a few simple rules when stowing articles in the motor home.

1. Always keep tools and equipment stored in areas where they will not shift while traveling.
2. Wherever possible, place heavy articles in storage compartments which are low and between the axles for better weight distribution.
3. Use a "packing" technique of the articles in a compartment to prevent shifting. If necessary, secure articles with straps to prevent movement.
4. Be sure that containers holding liquids are capped and cannot tip or spill. When glass containers (or dishes) are transported, secure them well to protect against accidental breakage.

CARE & MAINTENANCE

INTERIOR CLEANING

Draperies, Cushions and Upholstery Fabrics

The furniture and decor of your motor home use materials and fabrics, often synthetics, which require only the simplest care. Before using a cleaning product on fabrics, always check the labels to identify the materials, then use the products recommended for that material. If the labels do not specify otherwise, drapes and cover fabrics must be dry cleaned. Vinyl fabrics may be cleaned using a mild detergent and a damp sponge or cloth.

Wall Paneling

The paneling and the ceiling of your motor home may be any of several finishes and textures. Never use detergents or abrasive cleaners on walls or ceilings. Most surfaces will clean with a soft cloth which has been dampened with mild liquid detergent in warm water; avoid the use of large amounts of water. Many panel suppliers suggest that one of the aerosol products designed for cleaning and preserving wood surfaces may be excellent for walls if used in accordance with manufacturer's instructions.

Carpeting

Use any approved cleaning product or procedure which is recommended for cleaning carpets.

Fixtures

Sinks, baths, showers or other fiberglass fixtures should be cleaned only with warm water and mild detergent or special cleaners - harsh abrasives may scratch or discolor the surface, causing it to have to be refinished or replaced. It is recommended that NO ammonia, or any cleaner with ammonia in it, be used on fiberglass. Should a fiberglass surface become chipped or scratched, it can be often repaired successfully by your local serviceman. Minor repairs can often be done by home owners themselves using repair kits available in a variety of colors and finishes at most hardware or paint stores.

WINDOWS

Moving parts of windows and latches should be kept adjusted and maintained. It is advisable to lubricate the windows with a light oil or powdered graphite at least once a year. The screws holding the windows in place should be checked and tightened periodically and the weather sealant checked for voids. Screens may be cleaned by gently wiping with a damp cloth or soft flat brush designed for the purpose.

LOCKSETS AND LATCHES

Annual lubrication of locksets and latches is recommended to ensure trouble free operation. If your motor home is located at the beach or is exposed to salt air, more frequent lubrication may be needed. One of the lubricants recommended by many locksmiths is powered graphite, available in a handy tube at most hardware or supply stores.

A record should be kept of the identification number of keys, with the make of lockset in your home. With this information alone it will be possible to obtain duplicates for any key that might be lost.

PLUMBING

The water supply plumbing should require little, if any, maintenance. Refer to information provided by the water pump manufacturer for any special maintenance recommendations on the pump mechanism. Refer to the recommendations from the toilet or tank manufacturer relating to maintenance or to chemical additives which may be appropriate for those components. Plumbing system drains and traps should be kept clean. Chemical products recommended for plastic pipe may be used in the drain lines. Precautions must be taken when using a mechanical device to remove obstructions from a drain line, to avoid damage to fittings and seals.

CONDENSATION AND VENTILATION

It is important that moisture-laden air not be allowed to build up inside your motor home. Moisture build-up is often evident from the forming of a water film on windows and other cooled surfaces. Particular precautions may be appropriate in kitchen or bath areas where normal washing or cooking activities can release water vapor or steam into the air. The following steps are recommended:

- Keep air circulating by providing adequate ventilation.
- When using shower, keep the bath vent open. Keep bathroom door closed for 20 or 30 minutes after use to permit moisture to escape through the vent.
- Avoid hanging wet clothing to dry inside the motor home. If it cannot be avoided, use the ventilated bath with the door closed.

EXTERIOR CARE

Exterior Metal and Trim

The exterior finish on your motor home is as easy to care for as the finish on your car. To keep it clean, simply hose it down with water, wiping the wet surface with a cloth or sponge if necessary. Never wipe the metal surface when it is dry. Do not use harsh abrasives or strong solvents on exterior surfaces.

Accumulated dirt or road film resulting from storage or from heavy travel should loosen easily with warm water and a mild detergent. Rinse with plain water, Application of a good quality automotive wax will protect the finish still more and add lustre to the color.

Roof

The metal adhesives and sealants used to construct your metal roof have been chosen especially to remain waterproof under the sustained effects of weather and vibration. Periodically, inspect the roof with careful attention as to possible scrapes or dents caused by over-hanging obstructions. Wash dirt and grime from the roof when washing the motor home to help minimize oxidation of the roof materials, then apply one of the roof sealing compounds available from your dealer or from trailer supply stores to any dents, nicks or holes.

CAUTION: When walking on the roof make sure sharp objects are not embedded in shoe soles which could damage roof.

REPAIRS

Your dealer should be able to perform most repairs or service required for your motor home. Repair or service for warranted appliances in your motor home will normally be handled through the appliance manufacturer in accordance with warranty instructions provided in the owner's kit. Your dealer will be glad to assist if you have difficulty obtaining service through your appliance service representative.

Refer to your Chassis Operator's Manual and to other information provided by the chassis manufacturer for chassis service instructions.

Repair of glass, fiberglass, aluminum or some plastic components can often be accomplished by camper/trailer service firms or by automobile body shops. Check with your dealer or look in the Classified Section of your telephone directory or newspaper.

It is recommended that all chassis body bolts be checked once a year for tightness to prevent rattles due to vibration.

FIRE SAFETY

To improve the excellent record for fire safety exhibited among recreational vehicle owners, we would like to make the following safety suggestions:

1. Establish good housekeeping practices. Do not allow combustible materials to accumulate. Be sure that flammable liquids are stored in approved containers and are stored in well ventilated space.
2. Provide readily accessible fire extinguishers.
3. Avoid the use of flammable solvents or products containing these solvents within this RV unit.
4. Install smoke detectors following the smoke detector manufacturer's installation instructions. These detectors provide early warning in the event of a fire.