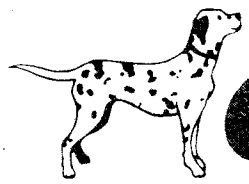
1975

# MOTOR HOME

# OWNER'S MANUAL



Coachmen

INDUSTRIES, INC.

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# *FOREWORD*

*Welcome to the Coachmen family! This Owner's Manual will assist you in obtaining maximum enjoyment, relaxation, adventure and fun with your new Coachmen Motor Home. It will also explain the operation and use of your motor home and its components.*

*Many years of owner, dealer and our own personal traveling experience have been incorporated into the design and engineering of your Coachmen Motor Home. Your unit has been constructed from the finest components and materials available; by experienced craftsmen to meet our rigid specifications and quality requirements.*

*You will derive many hours of enjoyment from the comfort, convenience, reliability and safety built into your Coachmen Motor Home. Happy Motoring!*

# CHAPTER 1

## COACHMEN WARRANTY

### Establishing Warranty Coverage

It is important for you, the owner of a new Coachmen Motor Home, to establish, with your authorized Coachmen dealer, warranty coverage for your unit. After the dealer has completed the warranty registration form for your unit, you should retain the third (yellow) copy of this three-part form for interim warranty identification until your plastic wallet size owner's card is mailed to you by Coachmen Industries, Inc. This card, or the yellow sheet, will provide proof of ownership and other data necessary for warranty adjustment. Be sure to have the card or yellow sheet in your possession whenever you need warranty work. You should also complete the warranty coverage forms for the chassis and other equipment not covered by the Coachmen warranty.

### Warranty Repairs and Adjustments

All warranty repairs and adjustments should be accomplished by an authorized Coachmen dealer or authorized chassis manufacturer dealership (in the event repairs or adjustments to the chassis are required).

As specified by the warranty, you should return your unit to your selling dealer for warranty service. If you are out of town on a trip, any authorized Coachmen dealer will honor your warranty.

Orders for repair parts or requests for product information should be requested by your authorized Coachmen dealer or the chassis dealership servicing your unit.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND OF ANY OTHER OBLIGATIONS OR LIABILITY ON THE PART OF THE MANUFACTURER AND COACHMEN INDUSTRIES, INC., NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH SUCH MOTOR HOME.

# WARRANTY

Coachmen Industires, Inc., a manufacturer, warrants each new Coachmen recreational vehicle delivered to the original retail purchaser by an authorized Coachmen dealer, to be free from defects in material and workmanship under normal use and service. Coachmen Industries' will repair or replace at its option any part or parts thereof, which shall within twelve (12) months after delivery of such coach to the original retail purchaser be returned to an authorized dealer or factory-operated service center, and which examination shall disclose to have been defective.

The repair or replacement of defective parts under this warranty will be made by such dealer or service center without charge for parts or labor.

The provisions of this warranty shall not apply to normal deterioration of soft trim and appearance items due to wear and exposure, nor shall this warranty apply to any Coachmen product which is (a) used for commercial purposes or held for rental or hire (b) subjected to misuse, neglect or accident; or (c) repaired or altered by any other than an authorized dealership or factory-authorized service center in any way deemed by the manufacturer to adversely affect its appearance and/or reliability.

Coachmen accepts responsibility for all components selected for use in its products but does expect service for motor home chassis, tires, tubes, batteries and optional generators to be handled directly with their respective manufacturer service centers.

Coachmen Industries, Inc., reserves the right to make changes in design and changes or improvements upon its products without imposing any obligation upon itself to install the same upon products theretofore manufactured.

## APPLIANCE AND COMPONENT IDENTIFICATION SHEET

| EQUIPMENT | MANUFACTURER | MODEL NUMBER | SERIAL NUMBER |
|---|---|---|---|
| Motor Home | COACHMEN | | |
| Refrigerator | | | |
| Range/Oven | | | |
| Heater/Furnace | | | |
| Water Heater | | | |
| Toilet | | | |
| Water Pump | | | |
| Tires | | | |
| | | | |
| | | | |
| | | | |
| Spare Tire (Opt.) | | | |
| Converter | | | |
| | | | |
| Door Key | | | |
| Air Conditioner (Opt.) | | | |
| Chassis | | | |
| Generator (Opt.) | | | |
| | | | |
| | | | |

Should you need service on your unit, be sure that you identify the motor home and/or equipment and serial numbers when you contact the dealer for assistance.

NOTE: For your convenience we suggest you complete this page for easy reference.

# CHAPTER 2

## YOUR COACHMEN MOTOR HOME

The purpose of this chapter is to give you a better understanding and basic knowledge of your motor home, its chassis and systems. As you read this manual you will notice that each system, component part, accessory and option is covered in greater detail in the following chapters.

Over the years, many changes in components, design and construction have been made in our never-ending quest to design and build the best quality motor home possible. Your Coachmen Motor Home is a product of this desire. Our goal is to give you, our customer, the ultimate in relaxation and enjoyment from your Coachmen Motor Home. Through the years, we have asked our owners for suggestions; we have met with our dealers; we have complied with or exceeded governmental regulations and industry standards in order to offer you safety and trouble-free enjoyment in your motor home.

Coachmen uses chassis manufactured by the major automotive companies. A separate chassis manual is provided with your motor home, describing your particular chassis.

The systems contained in your motor home are listed below. A brief description of each appears in the following sections of this manual.

A. Automotive System
B. LPG System
C. Water System
D. Drainage System
E. Electrical System
F. Appliances

We recommend that you become familiar with, and have a good understanding of, each system in your motor home.

# CHAPTER 3

## ENJOYING YOUR COACHMEN MOTOR HOME

Your Coachmen Motor Home will give you many hours of relaxation and pleasure. To insure safe operation be sure you study and understand the owner's and chassis manufacturer's manuals. As you travel, you will undoubtedly receive "tips" from veteran owners that will make your traveling even more enjoyable. The following are a few tips to get you started:

1. Use manned toll gates on toll roads. Usually you'll be charged one class more than a car.

2. If you are operating on the self-contained water system and want to conserve water, try a "Navy Shower." Wet down, turn off the water, soap up, then rinse.

3. Many people, for good camp etiquette, put a plastic bucket under the sink water drain plug connection.

4. Do not dump sewage at any place other than an approved dumping station.

5. For more effective air conditioning (opt.)—
   a. Keep out the sunlight (direct rays or reflected) by closing the curtains. This will just about double the air conditioner's effectiveness.
   b. Park in the shade if possible.

6. Many travelers find sleeping bags save much work when preparing for bed. They take less room than blankets and are more effective in cold climates than blankets.

7. Some tunnels, such as the Holland Tunnel in New York, will not let you pass through them. The reason is that you are carrying LP Gas on board your unit. If your route includes a long tunnel, check with the highway patrol or with that state's Department of Highways before your leave. A phone call may save you an unpleasant detour.

8. Be sure you have the door step tucked back in when you are driving out on the road.

9. When traveling, be sure that the refrigerator door safety pin or latch is in place.

10. It is a good idea to remove objects from places like the top of the refrigerator or the top of the kitchen work area while you are driving.

11. Plastic containers with tight fitting caps are much better than carrying open containers of liquids like milk or orange juice in your refrigerator or cabinets.

12. During peak tour seasons and holidays, it is wise to phone ahead and make reservations at the park where you want to stop.

13. Carry a duffel bag for soiled clothing. Along the road you will find laundromats in practically every town and at most RV parks.

14. Be careful not to leave any food stuff, soap or odor-causing materials in your unit for any extensive period of time. Damp clothing, hunting gear, etc., should never be stored in closets or drawers.

15. If you ask for it, many stations or truck stops will give you a truck discount on gasoline.

16. Try to make your last gas stop of the day a real "pit" stop. Pick up groceries, fresh vegetables, newspapers or other needed items. Avoid having to leave your parking place after you get there. You will have more time for fun and relaxation once you have parked.

17. Always taste the water before filling your tanks in an unfamiliar location. Some water contains salt or may have a sulphur taste. Never use a NEW plastic hose to fill your tank; it may leave an undesirable taste.

**Equipment Owners Have Found Useful to Carry**

1. First aid kit
2. Road emergency flares (required in some states)
3. Flashlight
4. Fire extinguisher
5. Folding chairs
6. Ordinary cleaning equipment—bucket, sponges, hand vacuum cleaner, etc.
7. Campground Guide (Woodall's, etc.)
8. Atlas
9. Small tool kit
10. Plastic buckets
11. Extra batteries
12. Extra fuses
13. Tire gauge (truck type - double head)
14. Rope
15. Electric extension cord (25')
16. Large funnel

# CHAPTER 4

## CARING FOR YOUR COACH

**Exterior**

The exterior of your motor home is a pre-finished, baked enamel, aluminum with a fiberglass front. No strong abrasives should be used to clean this surface. Wash it frequently using a mild detergent. It is best to wash your unit in the shade to minimize water spotting. Touch up nicks or scratches as they develop.

A good automotive cleaner-wax may be used occasionally to remove road tar, insects and other stains.

**Interiors**

Interiors of Coachmen Motor Homes are primarily natural wood and vinyl. Use the same cleaning methods as you would in your home. Do not use abrasives.

**Cleaning Cushions and Draperies**

The following methods are recommended for cleaning cushions and draperies.

**Cushions:** Use a light detergent and clean with a sponge application. You may also use a commercially available upholstery type foam cleaner. **Do not remove the cover from cushion. Do not dry clean.**

**Draperies:** Use a mild detergent and totally immerse the draperies in lukewarm water. Hand wash. Do not dryclean as it removes the fire-retardation from the material.

# CHAPTER 5

## PREPARATION AND USAGE

**Trip Preparation**

Now that you have your own motor home, its use will soon be second nature to you. Driving the motor home is much the same as driving your family car. Always remember to exercise caution in handling your unit. It is longer, wider and higher than your car. It requires more room to turn and takes a longer open space to pass another vehicle.

With minimum preparation and a few precautions, all signs are "go" for a most enjoyable and carefree trip for you and your family. Imagine the profound relaxation of a vacation with no set schedules, no checking in or out of motels and hotels and no luggage to handle daily. Everything you need is in your motor home with you whenever or wherever you stop. The great outdoors is your world, whether it is at your chosen camping site or viewed from your comfortable home on wheels. Highways or byways, city or country, representing a complete panorama of scenery is yours for the taking. Traveling in your self-contained motor home will give you a great sense of well being—economical and luxury living on wheels—your type of living.

Your Coachmen Motor Home is the product of many miles of road testing in every climate and type of terrain. As a result, your vehicle is designed to provide the convenience afforded by the spacious storage capacity of the wardrobes, closets and cupboards, while also providing the smoothest and easiest maintenance-free traveling available. Your motor home may be loaded with the personal equipment and clothing you may need with you whenever and wherever you travel. Be sure you take along the necessary food supplies and personal belongings you may need.

**Proper Loading**

Care must be exercised in loading the vehicle to obtain proper balance and weight distribution. We recommend that you weigh the loaded motor home to determine if the vehicle is within its gross vehicle weight rating (GVWR). The GVRW of your unit is shown on the identification plate located in the driver's area of your coach. See Chapter 16, "Weights of RV Supplies and Equipment." Recommended tire pressures should be maintained at all times. (Check your chassis owner's manual for proper tire pressure ratings.)

**Preparing Your Motor Home for Travel**

Everything you want and need travels with you. You have a self-contained home for economical luxury living on wheels. Your own particular needs will dictate

what necessities and comfort items you will take with you. As you become accustomed to motor home living—and it does become a delightful habit—you will devise your own method for storing and arranging your personal items. Use these rules to insure a safe, happy trip:

a. Stow heavy items (cooking utensils, cleaning equipment, canned goods, tools, etc.) in the lower cabinets.

b. Light-weight items should go in the upper cabinets.

c. Cameras, portable radios, pottery, glasses and other such items should be stowed much the same as in any vehicle. It is best to wrap them in paper or cloth to minimize breakage and store in such a manner that these items will not move or roll around.

d. Leave trunks, suitcases and other luggage at home.

e. Pack closets and wardrobes so they are full.

f. Use drawers for foldable wearing apparel such as socks, sweaters, underclothing and sportswear.

**Bulky Items**

Bulky items which cannot be stored in cabinets or closets, such as your television, portable furniture or chairs, should be lashed down with rubberized cord to prevent shifting and toppling during travel. Rubberized cord can also be used for securing such small appliances as can openers, toasters, radios, etc.

**Liquids**

Never leave open liquid containers of oil, water, milk, juices, etc., in your motor home when traveling. Empty the remaining liquid into plastic containers that can be tightly sealed.

**Packing Your Cabinets**

After you have packed your motor home with your supplies and equipment, open each cabinet door. Make sure that the cabinets are packed tightly to keep the contents from sliding and falling over. You'll probably remember that time while you were traveling in your car when a map which was lying perfectly flat on the seat of the car fell off or slid to the side of the seat. When you are traveling in a moving vehicle, the start and stopping and turning of the vehicle tend to move objects around. The same thing is going to happen in your motor home. If you must, it is best to move things from one cabinet to fill another and leave a few cabinets empty.

Take the time to load your motor home properly. It will make your traveling much more enjoyable. Before getting underway, be sure that the pin or safety latch on the refrigerator door is engaged.

**Overloading**

The vehicle data plate (located just to the left of the driver's seat) lists the maximum gross vehicle weight (GVWR) and vehicle capacity. Care should be taken that the springs, tires and axle capacities are not exceeded. See Chapter 16, "Weights of RV Supplies and Equipment."

**Checklist for Getting Underway**

Before you get underway with your Coachmen Motor Home, always run through the following checklist:

a. Check fuel gauge.

b. Check crankcase and transmission oil levels.

c. Check battery water levels for automotive and motor home batteries.

d. Check radiator coolant level.

e. Check light operation—headlight, running lights, clearance lights, turn signal, backup lights, side marker lights and instrument panel lights.

f. Check and adjust side-view mirrors for proper driver position.

g. Check operation and efficiency of windshield wipers.

h. Check operation of windshield washer and fluid level in reservoir.

i. Check brake operation.

j. Check oil in electrical generating system (opt.).

k. Check gauge on L.P.G. tank. Refill if necessary.

l. Check level and fill water tank.

m. Drain holding tank.

n. Close dump valve, remove sewer hose and replace drain line cap.

o. Check and be certain that your sewer hose is stowed properly in your sewer hose storage area.

p. Disconnect your water hose, coil it for storage, and stow in its storage area. Couple the ends of the hose so that any water remaining in the hose will not leak inside your storage area.

q. Periodically check each lug nut on each wheel; make sure that all lug nuts are tightened properly. Refer to chassis owner's manual for torque pressure.

r. Check the tire pressure on each tire. It is best to check the tire pressure in the morning when the tire is cool. If a tire needs additional air pressure, drive a few miles and then inflate to the proper pressure. For the recommended tire pressure, see the chart below:

**20'-25' Motor Home - Tire Pressure Chart**

| Size | Front | Rear |
|---|---|---|
| 7:50 x 16 6-ply rated | 55 PSI | 45 PSI |
| 8:00 x 17½ 6-ply rated | 55 PSI | 45 PSI |
| 8:00 x 17½ 8-ply rated | 60 PSI | 45 PSI |
| 8:00 x 19½ 8-ply rated | 65 PSI | 55 PSI |
| 7:50 x 17 8-ply rated | 65 PSI | 55 PSI |

NOTE: Add 10 PSI for long heavily loaded trips.

s. Fold all portable furniture and stow.

t. Remove and stow your electrical extension cord in its storage area.

u. Enter your motor home and close all vents and make certain that all wardrobe and closet doors are closed and latched.

v. Fasten the door to your bathroom.

w. Switch your refrigerator to 12-volt, then engage the door locking mechanism.

x. Drive your motor home a few feet from the camp site and stop. Get out and walk back to the camp site where the vehicle was standing and check to see if there are any tools and/or camping gear left behind.

y. Close and lock all storage area doors and access panels.

z. Push in the retractable step and lock it in place, then close and **LOCK** the main door.

**Traveling**

Traveling with your Coachmen Motor Home requires few basic skills and techniques that are not common to driving a regular family car. Of course, it is much larger and you must become accustomed to its size and the way it handles, accelerates, stops, turns and drives. Do remember these basic changes when you are driving your motor home:

a. Become accustomed to the fact that your motor home is much heavier and longer than a normal passenger car; therefore, normal driving habits must be slightly revised to maintain good rules of the road.

b. Your motor home is a "cab-over-engine" vehicle with no hood to look over. At first it will seem that you must drive too much to the center of the road.

c. Use your side-mounted rear view mirrors to determine your road position.

d. Be sure that your driver's seat is properly adjusted for comfortable motor home driving. Always fasten your seat belt.

e. Anticipate traffic movements. With a larger and longer vehicle, you need more reaction time. Drive defensively.

f. CAUTION: Because of the longer rear overhang, care must be taken in turning corners so that the rear end of the unit does not swing into something. (See section regarding turning corners.)

g. You need more room to cut into traffic; more room to pass; you are driving a longer and heavier vehicle than your car.

**Getting Started**

Check the traffic in all directions and slowly accelerate to pull into traffic. Gradually and smoothly accelerate to a safe speed, making sure you frequently check your rear view and side mirrors to observe traffic. Carefully move into the proper traffic lane. Your motor home is designed for any legal speed that is allowable for your size vehicle.

**Normal Stopping**

When you are stopping, start to brake a little sooner than usual so that you stop smoothly. Your motor home brakes are designed to provide smooth, straight stops. Don't forget! Smooth slow stops also save your tires.

**Turning Corners**

Because your vehicle is heavier and larger and has a slightly greater turn radius, you must allow more room in the direction that you are turning than you do normally. To compensate for this condition when you turn a corner, pull your vehicle farther into the intersection so that when you make the turn, your motor home does not ride too close to the curb. Be sure to judge your road position properly, using extra care while becoming accustomed to your "cab-over-engine" vehicle.

Also, when traveling on sharply curving roads, you should reduce your speed before you enter the turn, keeping as far away as possible from the shoulder or the pavement in the other traffic lane. While in the curve, continue to keep away from the shoulder or pavement of the other traffic lane. As you come out of the turn, slowly and smoothly accelerate into the straight road stretch. It is always a good idea to maintain a safe distance from the traffic ahead of you so that you will have time to react and adjust to various road conditions.

**Passing Slower Vehicles**

When you approach slower moving traffic and wish to pass, first remember that you will require additional time to accelerate and a longer stretch of clear road in which to pass than you would in a passenger car. Wait until the road ahead can be seen and is free of traffic for at least a quarter of a mile, then fully accelerate. Check your rear view mirrors to make sure you are completely clear to return to your traffic lane, and then smoothly guide your motor home into your lane. Be sure to use your turn indicators to signal the other drivers.

**Passing Acceleration**

To obtain quick acceleration between 30 and 50 miles per hour, depress the accelerator briskly to the floor. This shifts the transmission to a lower range. When the accelerator is released you will return to the selected driving range.

**Climbing Mountains and Steep Grades**

When traveling in mountainous areas or on a steep grade, the most serious problem is engine overheating caused by allowing your vehicle to overwork.

When you come to a steep grade, shift down into a lower transmission range to reduce strain on the engine. Don't wait until you are in your climb—do it before it seems necessary. Your vehicle's capacity to pull without overheating will be greatly aided since your increased engine speed will help circulate the water in your cooling system faster and allow the automotive transmission to

work with less effort.

You should help your engine when you anticipate overheating problems by reducing the load on the heating system. If your vehicle is equipped with an automotive air conditioning system, turn it off while climbing the hill. Your air conditioner requires a lot of power and naturally increases the potential of overheating. It is also possible to lighten the heat load on your cooling system by turning your heater on to maximum heat. This, together with your increased engine speed, will help your cooling system in overcoming potential overheating problems.

If your engine should overheat, pull off on the shoulder of the road or into a rest area and keep your engine running a little faster than at idle until the engine cools down. If your TEMPERATURE pointer indicates H, run your engine for a few minutes to cool the engine before continuing your travel.

**Steep Down Grades**

When descending on a steep downgrade, shift to a lower transmission gear and allow the engine compression to brake your descent and slow you down. Avoid using your brakes except if necessary. Pump them smoothly and apply your brakes when approaching and entering sharp turns, and as you come out of the turn, release your brakes and once again rely on your engine to brake your descent.

**Travels Through Mud or Sand**

If your travels take you through mud or sand, always try to maintain your speed and keep moving to get through. Keep in the traveled ruts and maintain your speed. Should your motor home get bogged down, it can often be moved by a rocking motion. Move the gear selector rhythmically between "Drive" and "Reverse" while applying slight pressure to the accelerator.

CAUTION: Avoid racing the engine or spinning the wheels. Prolonged efforts to free a stuck vehicle may result in overheating and transmission failure.

**Stopping on Hills**

The vehicle will hold in any driving gear on a slight upgrade with a slight pressure on the accelerator. When you must stop on a hill or steep grade, slowly reduce your speed and shift down to a lower transmission range. Gently and smoothly apply your brakes. Never idle your engine for prolonged periods with the transmission in gear. Use wheel blocks while you are stopped on a hill.

**Stopping on Wet or Icy Highway**

The first and most important action for you to take on a wet or icy highway is to travel at reduced speed during these bad road conditions. If you reduce your speed you have better control of your vehicle and more time to anticipate emergency situations. Remember, it is better to be late when you arrive than have an accident. Use normal driving know-how when driving your motor home in these adverse conditions, remembering that your vehicle is heavier than a passenger car and has more forward momentum at like speeds. Pump your brakes when stopping.

**Rest Stops and Refueling**

When you stop at rest areas or for refueling at gas stations, you should take the opportunity to check your vehicle. This doesn't take much time, but it can prevent a delay or trouble later. Here are a few things to check:

a. Check your motor home tires and lights. Look around to see that windows and doors are properly closed.

b. Have someone operate your running, directional and stop lights and replace any burned-out light bulbs immediately.

c. If the gas station attendant checks your tires after you have been running awhile and the pressure is high, do not remove air from the tire. When the tire cools down, the air will contract to a lower pressure. Check the air pressure the next morning when the tires are cool.

**Overnight Parking**

Your Coachmen Motor Home has made possible the choice of selecting the overnight parking stop of your personal choice. You are no longer required to plan every individual detail of your travel so you can be at a particular site or park. You are fully equipped to stop where you please and when you please. The only limiting factors are the regulations established by the locality in which you are traveling and finding a comfortably level site for your motor home.

Of course, there are thousands of private and public parks that are equipped for recreational vehicles. These parks generally provide electricity, water and sewage. If your travels include a series of overnight stops away from these parks, you should stop at a park every few days to replenish your water supply and pump your holding tank.

When you stop for the night, select as level a parking site as possible. If you are in a park, remember the rules of etiquette. If you arrive late at night, be quiet, drive slowly and park with consideration of others.

If you have electricity available, connect your electrical extension cord between the power service and your Coachmen Motor Home.

You are now able to enjoy the luxury built into your Coachmen Motor Home.

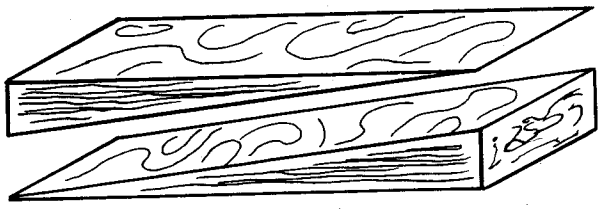
When you are ready to leave your parking site, run through the check list earlier in this chapter and you will be ready to travel on to new adventure.

**Extended Stay**

An extended stay at your very own retreat is not very different from making an overnight excursion since all the necessities of living are at your fingertips in your Coachmen Motor Home. While traveling, you will stop, pack and do all the little things in the same easy way you

did when you went on an overnighter. About the only difference is that you will want your motor home to be as steady and level as possible for that permanent feeling.

Place a level on the floor of your motor home so that it indicates side-to-side level. (We suggest that you purchase a set of leveling blocks. The blocks can be made from 2x6 lumber—which has been cut on the diagonal. Figure 5A.) The motor home can then be leveled by driving the low side up the blocks until the unit is level. Then block the wheels.



(Fig. 5A)

It is important to note that for proper refrigerator operation the motor home should be level; ½-half bubble off is too much.

Now that you have leveled your motor home, you are ready to use any utilities made available for your extended stay, as follows:

a. Connect to the water service, using your water hose between the service and your motor home.

b. Connect your electrical extension cord between the power source and your motor home.

c. Connect your sewer hose to your motor home drain outlet and place other end of sewer hose in service outlet provided by the park.

d. Connect any appropriate equipment to your convenience outlets.

e. Switch your refrigerator to electrical operation if desired.

## SERVICE PROBLEMS ON THE ROAD:

### Wheels and Tires

Your truck-size tires are heavy and require special tools for proper tightening of lugs. It is recommended that owners change tires only when other service facilities are not available.

It is possible to remove one of the dual rear wheels for use on the front if a front tire should fail. Remove the wheel from the same side of the vehicle as the failed wheel by following the jacking instructions for replacing a rear wheel on Leprechauns. (Front and rear tires are interchangeable on Chevrolet models. They are not interchangeable on Dodge models.)

The wheel from the rear may be mounted on the front the same as if it were a spare. However, on the Leprechaun series, the spare fits only the front (Dodge). It is possible to drive the vehicle at low speed in this condition until you are able to reach a service station to have the flat tire repaired. However, do not exceed 25 mph to eliminate the possibility of overheating the single rear tire and causing a blow-out.

### Changing a Wheel

The motor home is supplied with a hydraulic jack. The mini's are equipped with an automotive type screw jack.

Turn off the engine and set the parking brake. Block both front and back of the wheel diagonally opposite the wheel to be removed.

### Front Tire Changing

Remove the optional spare tire from vehicle to use as a replacement, using the front tire changing procedure below.

1. Place the jack on a firm base and adjust its height until it just contacts the straight portion of the axle near the wheel to be removed.
2. Raise the jack just enough to take some of the load off of the wheel. (Do not raise the tire off the ground at this time.)
3. Take the lug nut wrench out of the storage compartment and loosen, but do not remove, the lug nuts.
4. Resume jacking until the tire clears the ground approximately one (1) inch.
5. Remove the nuts and the wheel.
6. Place the spare wheel on the vehicle and replace the nuts as tightly as possible with the tire off the ground.
7. Set the adjustment on the jack to the lowering position. Lower the unit until the tire touches the ground.
8. Tighten all lug nuts with the lug nut wrench.
9. Remove the jack and store both the jack and the lug nut wrench in their storage compartment.

In an emergency or when a spare is not available, remove a rear wheel from the vehicle to use as a spare. Use Caution—DO NOT EXCEED 25MPH when driving in this condition.

It is suggested that you stop at a service station as soon as possible to have the spare tire repaired and have the attendant check the lug nuts to be sure they are tightened to correct torque (See owner's chassis manual).

### Rear Tire Changing

In changing a rear tire, the same procedure for the front tire changing should be followed with the exception of the jack position (the jack should be positioned under the spring retaining bracket).

Failure of one of the dual wheel tires does not necessitate removing the wheel on the road. However, the vehicle should not be driven in excess of 25 mph until it is repaired. Driving in excess of 25 mph may destroy the flat tire and may overheat the remaining tire, causing it to blow out.

### Lug Nuts

Lug nuts should be checked periodically to see that they are tightened to the correct torque per nut as

suggested in the owner's chassis manual. Most service stations have equipment to check the torque. Special care must be taken in this regard whenever a tire is changed.

**Trailer Towing**

Travel trailer towing and automobile towing with this unit is not recommended.

# CHAPTER 6

## MAINTENANCE

You will find your Coachmen Motor Home will provide trouble-free operation with a minimum of maintenance. The following is a guide to preventative maintenance:

**After Every Trip**

1. Check to see that the LP gas tank valve is off.
2. Drain and flush holding tank. Lubricate valve shaft with oil. IMPORTANT: If a cleaning agent is used, it **must** be a special preparation such as TST or Pink Magic. Never leave gate valve open when holding tank is in use or it might become clogged with paper.
3. Check battery water level. Add as necessary (both auto and RV).

**Every 30 Days**

1. Check battery water level and charge (every 2 weeks in cold weather). A safe level of charge is a specific gravity reading of 1.225. A fully charged battery reads 1.250 to 1.280. Keep the cable connections clean.
2. If your motor home is equipped with the optional air conditioner, the air filter should be washed in soapy water and then rinsed. The access panel can be removed by turning the two spring-loaded screws on the face of the unit.
3. Lubricate L.P.G. bottle clamp screw shaft (mini-motor homes).
4. Wash range hood filter with soapy water and rinse.
5. Lubricate door hinges and the retracting step moving parts with spray silicone.

# CHAPTER 7

## MOTOR HOME STORAGE AND WINTERIZING

There is danger of damage from freezing if water remains in the water lines, drain systems (including traps), water pumps, holding tanks and water heater in your Motor Home. To winterize your Motor Home, follow this procedure:

1. Dispose of the water and sewage in your holding tank at a sanitary dumping station. Rinse the holding tank and drain lines well.
2. Open all faucets, including shower head (if so equipped).
3. Open drain valves on the
   a. Water tank
   b. Hot water heater (relief valve and drain valve)
4. Open and flush the toilet flushing valve.
5. Close all drain valves and faucets.
6. Open each faucet one at a time to allow the remaining water in the lines to flow out. Be sure to open shower head valve and the toilet flushing valve.
7. Open all drain valves and faucets and leave them open.
8. Pour two cups of special non-toxic anti-freeze each in the bath and kitchen sinks, toilet, and tub or shower drains to prevent freezing in these traps. Also add some antifreeze to the city water fill.
9. Remove any other items from the inside of the coach that might spoil or damage from freezing.
10. Open one window or roof vent slightly for ventilation of the unit.

NOTE: Since it is difficult to assure that all water has drained from any low spots in the water or drainage systems, we highly recommend performing steps 1 through 7 and then installing five gallons of special non-toxic anti-freeze, such as "Winterize" (available from your Coachmen dealer), in the water tank along with three gallons of water. (Since the special anti-freeze is non-toxic, you need only to drain the system and refill your tanks with fresh water and you are ready for the next trip. Run fresh water through your water system for a short time; the color of the anti-freeze will disappear. Even if some slight color is left in the water, it is not harmful.) Thereafter, follow this procedure:

a. Turn on your demand water pump.
b. Open each faucet, including the shower head, one at a time, until the mixture comes out of the fixture. Then close.
c. Flush toilet.

11. Remove the batteries from the motor home, charge and store them in a warm place. The batteries should be kept full of water and charged each month when your unit is not in use. **Do not** store batteries on concrete but place them on wood blocks.
12. Turn off valves at the LP gas tanks.
13. Turn off all gas valves at each appliance—range/oven, refrigerator, hot water heater and furnace or heater. This will prevent any accidental

leakage of LP gas into your unit, should someone turn on one of the valves at the gas bottles or should you turn them on yourself next spring when you are preparing for a trip. Shut off valve handle should be penpendicular to the direction of LP gas flow.

14. We recommend that you check your unit periodically during storage periods to be sure that no problems have developed.

15. It is a good idea to occasionally take a short drive in your motor home during periods of non-use. It is harder on any equipment to sit rather than to be used.

16. Refer to Chassis Manual for engine winterization.

17. Refer in this manual to Chapter 8, "Automotive System Description and Operation."

18. Unplug all electrical appliances and turn off all electrical breakers.

# CHAPTER 8

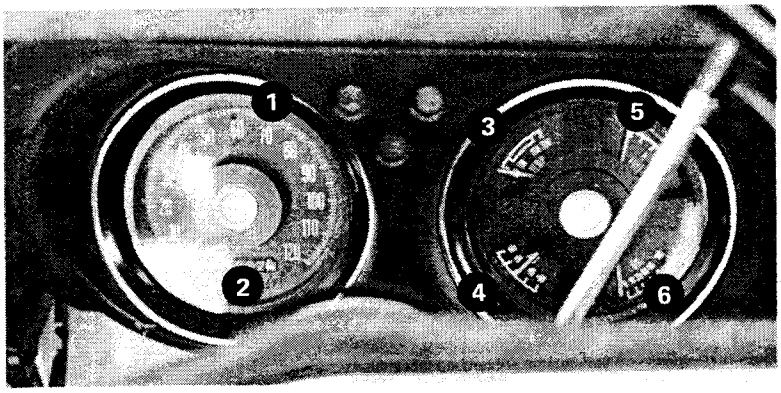
## AUTOMOTIVE SYSTEM DESCRIPTION AND OPERATION

Your motor home automotive equipment has been manufactured to provide convenience and safety for your travels. The chassis which is an integral part of your motor home is the finest and most reliable equipment developed especially for recreational vehicles.

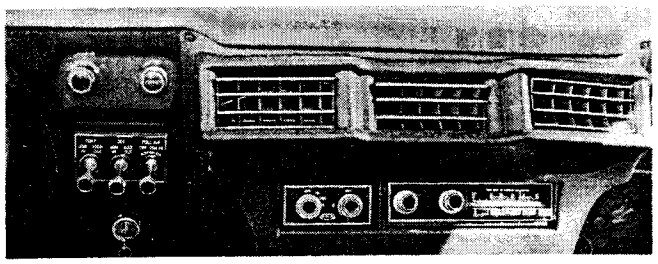
**Instruments and Controls**

The instruments and controls for the operation of the automotive equipment are located on the dash of your motor home and are identified below.

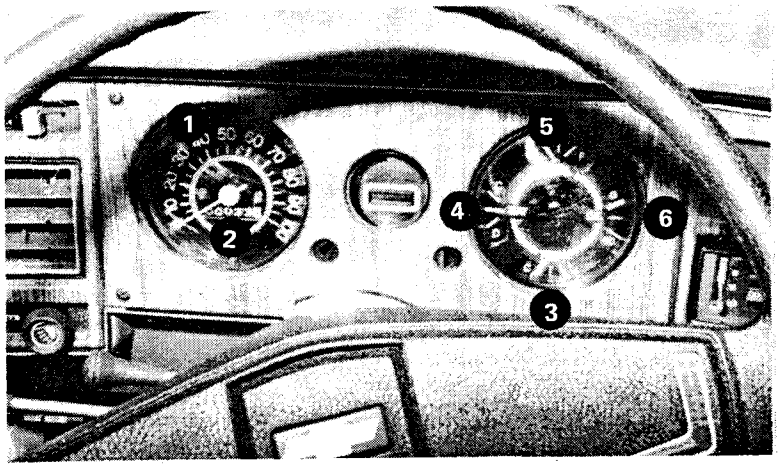
**MINI-HOME INSTRUMENT PANELS**



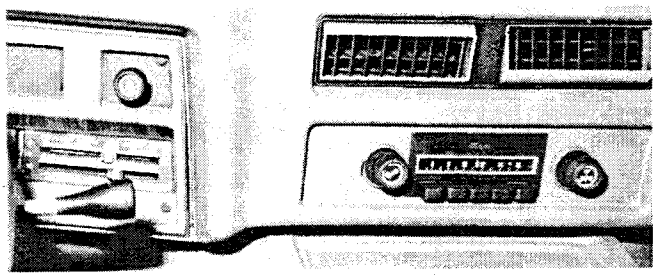

**DODGE**



1. Speedometer 2. Odometer 3. Alternator 4. Temperature Gauge 5. Fuel Gauge 6. Oil Pressure Gauge




**CHEVROLET**



1. Speedometer 2. Odometer 3. Temperature 4. Battery Condition Indicator 5. Fuel Gauge 6. Oil Pressure Gauge

## DODGE

1. Gear Shift Lever
2. Generator Switch (opt)
3. Remote LP Gas Gauge
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5. Engine Temp. Indicator
6. Speedometer
7. Alternator
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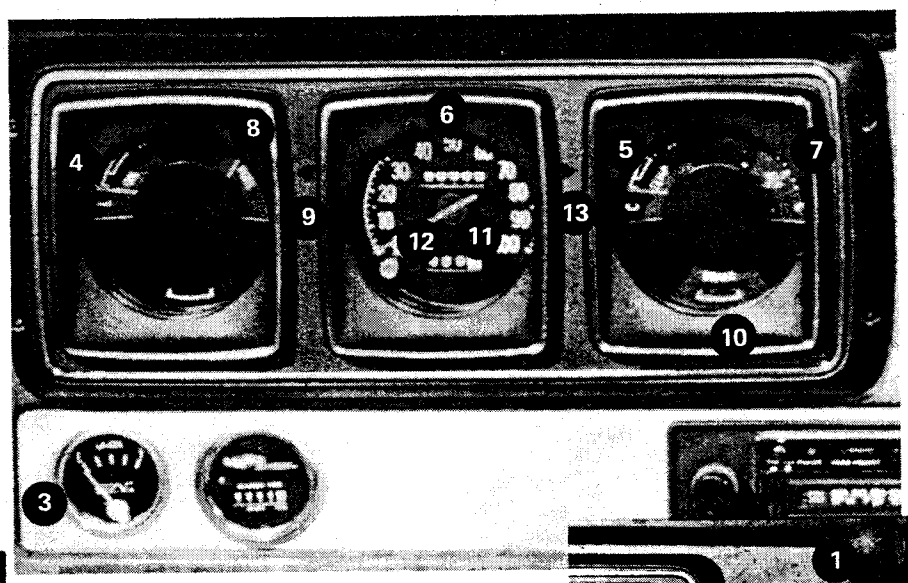
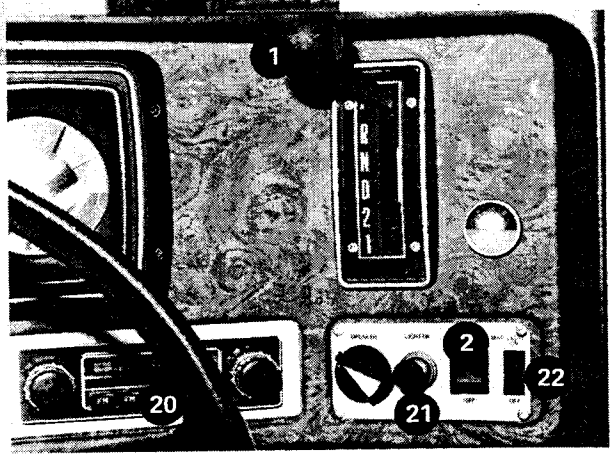
13. Right Turn Indicator





14. Lights
15. Heater/Blower
16. Heat Control
17. Air Vent
18. Windshield Wipers
19. Defroster/Blower
20. Radio
21. Lighter
22. Map Light

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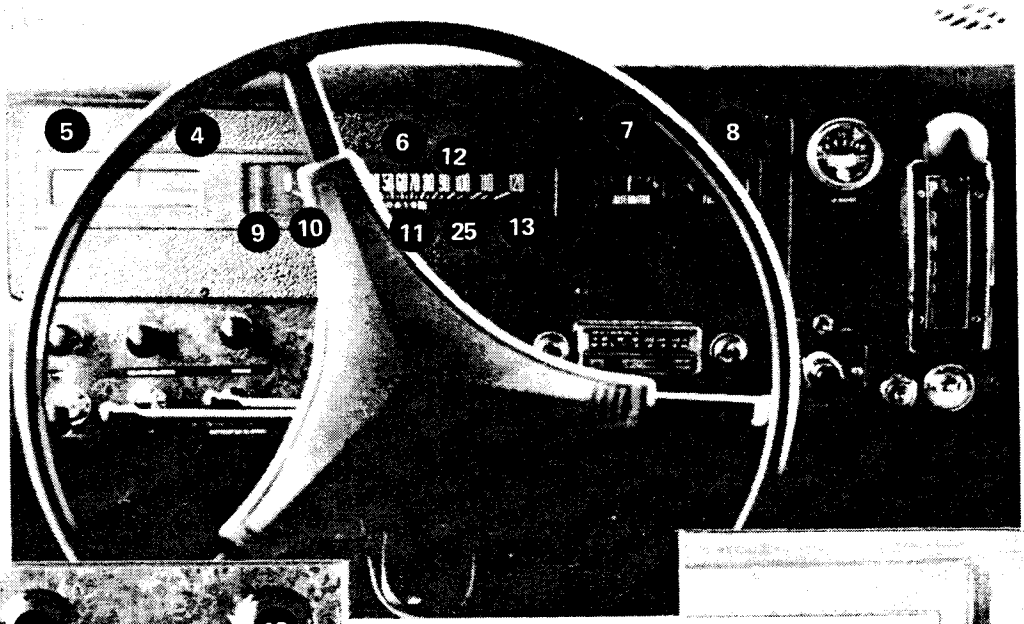


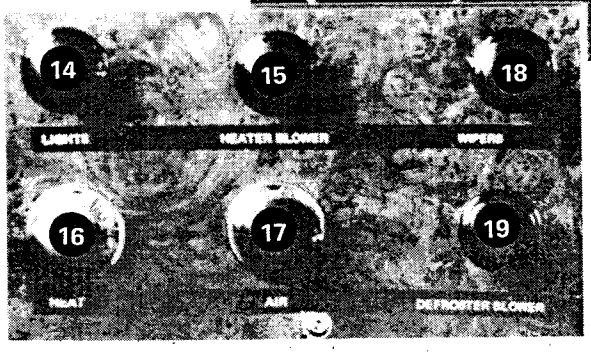


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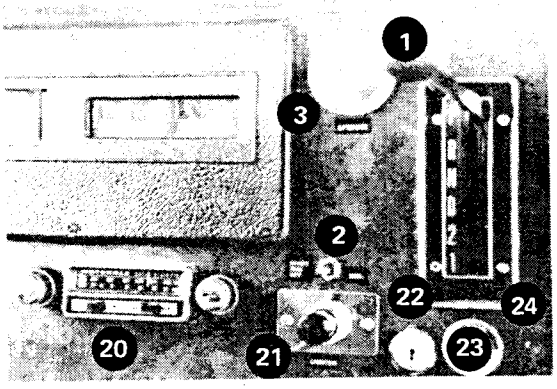

**Ignition Switch**

Your ignition switch is a four-position, key-operated switch. The key is inserted into the switch and turned to the desired position.

**Accessory.** Your electrical equipment, including turn signals, windshield wipers, horn, entertainment system and heater/air conditioner blowers, is operable.

**Off.** Power is removed from all electrical equipment which is controlled through your ignition switch.

**On.** The ignition system and electrical equipment, including turn signals, windshield wipers, horn, entertainment system and heater/air conditioner blowers, are operable.

**Starting.** The starter engages to start your engine. After the engine is started, release and switch returns to ON.

**Instrument Panel**

Your instrument panel provides you useful and helpful information regarding your engine and other automotive equipment. At night the instrument panel is softly lighted and glare-free. The intensity of the light is controlled by adjusting the light switch knob in either a clockwise (dimmer) or counterclockwise (brighter) direction.

1. **Fuel.** With the ignition key in the "on" or "accessory" position, the pointer will indicate the relative amount of fuel in your gas tank.

2. **Alternator.** Indicates whether your automotive and motor home batteries are being charged or discharged by your engine. The pointer will normally remain at the center while driving when the batteries are fully charged and no lights or automotive accessories are in use.

3. **Speedometer.** Indicates the speed at which you are traveling.

4. **Temperature.** Indicates the engine coolant temperature. The pointer is normally 3/4 of the way toward "H" but may rise slightly in congested traffic or under heavy load. If the pointer remains at "H," inspect for the cause.

5. **Oil.** Indicates oil pressure but not oil level. The pointer should always indicate pressure when the engine is operating. If no pressure is indicated while traveling—stop the engine immediately and do not operate until the difficulty is corrected.

6. **Turn Signal Indicators.** Indicates when the left or right turn signal is operating. The indicator lights flash simultaneously with the motor home turn signal lights.

> **NOTE:** If either turn signal indicator remains lighted or flashes more frequently than normal, the corresponding front or rear turn signal lamp or both turn signal lamps are inoperative. Check and replace the defective lamp at the first occasion.

7. **Hi-Beam Indicator.** When your headlights are operating and on high beam, the indicator blue lens is illuminated.

8. **Odometer.** Miles traveled are indicated in miles with the last digit on the right indicating tenths of miles traveled. A trip odometer is standard on the Dodge chassis.

**Gear Shift Lever**

Your gear shift lever allows you to select the particular driving gear you desire for your traveling. The gear ranges available for your use are as follows:

> **"P" - Parking.** Supplements parking brake by locking the transmission. Engine can be started in this range. Never use "P" when vehicle is in motion. Apply parking brake while in this range.
>
> **"R" - Reverse.** For backing use this range. Do not shift into this range until your motor home has been stopped completely. When in this range, your back-up lights will operate to provide better visual control when backing.
>
> **"N" - Neutral.** Shift to neutral when motor home is standing for prolonged periods with engine running. Engine can be started in this range.
>
> **"D" - Drive.** For most city and highway driving.
>
> **"2" - Second.** For driving slowly in heavy city traffic or mountain roads where more precise speed control is desirable. Use it also when climbing long grades and for engine braking when descending moderately steep grades.
>
> **CAUTION:** To prevent excess engine speed, do not exceed 45 miles per hour in this range.
>
> **"1" - First.** For driving up very steel hills and for "engine braking" at low speeds (25 miles per hour or less) when going down hill.
>
> **CAUTION:** To prevent excess engine speed, do not exceed 25 miles per hour in this range.

**L Switch**

The L (light) switch is a two-position switch. When pulled to the first position, the parking, running, side marker, tail, license plate, instrument panel and gear shift lamps light.

When pulled completely to the second position, the headlights, in addition to all lamps lighted in the first position, light. The light switch knob controls the light intensity of the instrument panel. Turning the knob clockwise decreases the intensity; counterclockwise increases the intensity. When the light switch knob is turned all the way to the left (counterclockwise), an overhead dome light is turned on.

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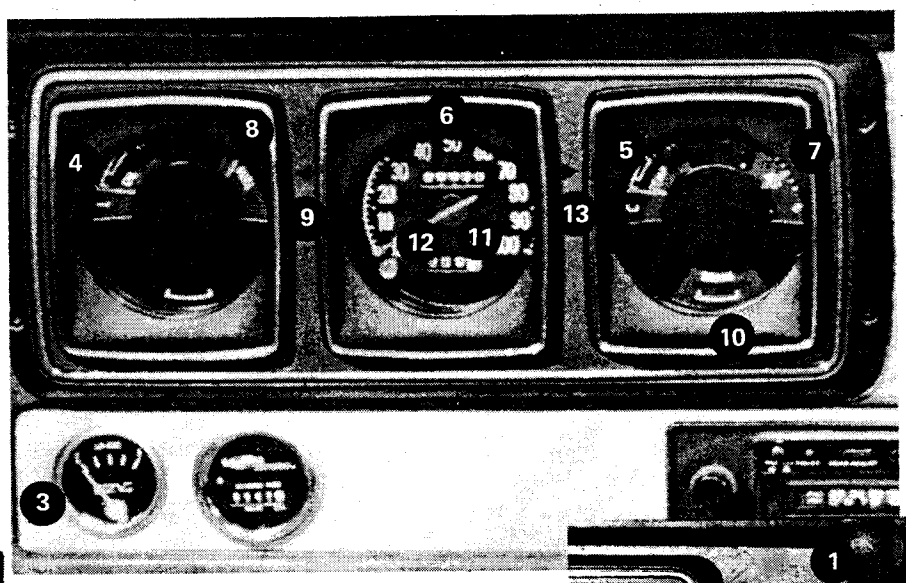



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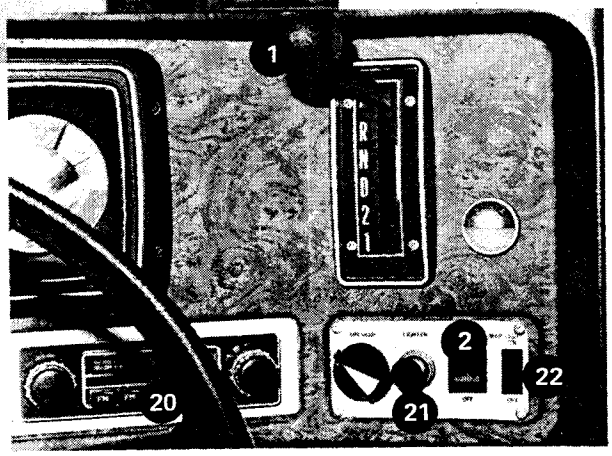


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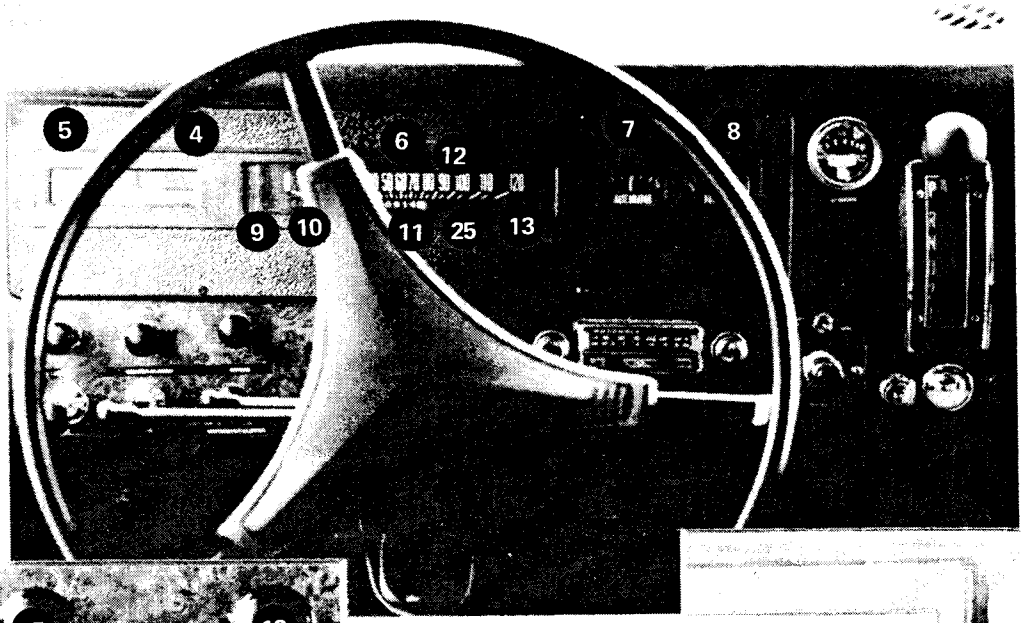


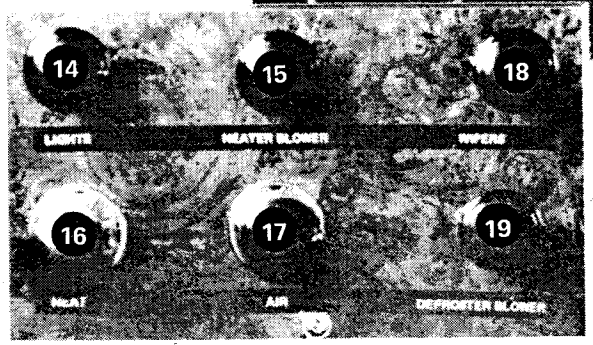


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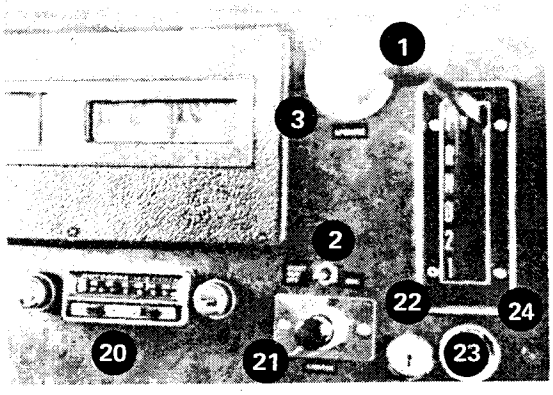

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>
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### Windshield Wipers

Your windshield wipers operate electrically. Simply turn the control knob and adjust until the wiper speed you desire is achieved. Never operate your windshield wipers when the glass is dry and dirty. Wash the windshield using your windshield washer before operating the wiper.

### Windshield Washers

Your windshield washer is operated by manually pumping the foot control which is located on the floor of the driver's compartment to the left of the steering column. When actuated, the windshield washer fluid is sprayed on the windshield. The windshield washer reservoir is a plastic container located above the radiator and behind the hood (outside radiator access door). To fill the container, snap open the small, round cap on top and towards the front of the container. Be sure to add windshield washer anti-freeze when traveling in cold climates.

## CONTROLS

### Power Brakes

Your Coachmen Motor Home is equipped with extra-heavy-duty, vacuum-hydraulic, power brakes. This allows you easier control and greater stopping power. Because they are easier to operate than conventional brakes, try them a few times at low speed to get the feel of the pedal. The brake vacuum depends on the engine being in operation; however, the brakes are fully operable when the engine is not running. When you operate your brakes, the stop lights at the rear of your motor home light to signal drivers behind you that you are reducing speed or stopping.

The mini home is equipped with automotive type power brakes.

### Accelerator

The accelerator allows you to control the speed of the engine. The optional speed control device which is attached to your throttle allows you to set your speed at any cruising speed you desire. This allows freedom of movement and maximum comfort. Not only does the speed control provide comfort and convenience, but it provides safety and economy as well. Your complete attention can be focused on traffic and the set speed eliminates unintentional speeding. Maintaining a safe, steady speed is the most economical way to drive—and you get there just as fast.

To operate your **optional** speed control:

a. Accelerate to the desired speed.

b. Depress the speed set button.

c. Remove your foot from the accelerator and relax. Speed control will keep the motor home at the desired speed mile after mile.

d. To disengage, merely depress the brake pedal.

You can accelerate beyond the cruising speed at any time. Then just remove your foot from the accelerator and the motor home returns to the set speed.

### Parking Brake

The parking brake is located to the left of your driver's seat. The brake is set when the handle is pointing upwards and to the rear of the coach and is released when pointing downward and to the rear.

**NOTE:** To check the parking brake adjustment, set the brake and put the gear shift lever in position "1." Accelerate the engine slightly. If the brake is properly adjusted, your vehicle will not move. The brake adjustment knob is located on the end of the parking brake.

### Power Steering

To ensure that your travel is as relaxing as it is enjoyable, your motor home is equipped with power steering to take the effort out of driving. Take the time to practice and become acquainted with the advantages afforded by your power steering so that you will know how your motor home steering will assist you when traveling.

### Turn Signals

Your turn signals operate by moving the lever on your steering column up for a right turn and down for a left turn. When the lever is in either position, your front and rear turn signals flash to forewarn other drivers of your anticipated turn.

### Hi-Beam

When you activate the foot operated hi-beam switch, both headlights are lighted to provide maximum lighting on the road ahead of the motor home.

### Emergency Flasher

The front parking lights and the taillights all flash simultaneously when the emergency flasher switch is pulled out. This is an emergency warning system only and is not normally used when the motor home is in motion. If it is necessary for you to leave your motor home to go for service, the flasher system will continue to operate even with the ignition key removed.

## DRIVER'S ACCESSORIES

### Steering Wheel Adjustment

With the International Harvester chassis you may adjust the tilt of the steering wheel by lifting the lever below the turn signal lever. The 1974 Dodge chassis also has an adjustable steering column whose adjustment lever is on the left-hand side of the steering column (looking like a clutch pedal). Push this forward with the foot and pull the column back to the desired position. Release the lever to lock.

### Seat and Adjustments

Your spring-loaded driving compartment seat can be adjusted for your comfort. Your control handles are

located at the side, beneath the seat so that you can adjust the seat for height, forward, reverse and circular pivoting.

**CAUTION:** After you have adjusted your seat to the desired position then **lock** the seat in this position before moving the vehicle.

**Seat Belts**

Your seat belts are for your protection. Use them at all times when traveling. These belts are easily operated and comfortable. They are made of high-quality material and will give years of trouble-free service.

To Fasten: Make sure the belts are not twisted and simply push the tongue end into the buckle. Tighten by pulling the loose end away from the buckle.

To Unfasten: Push the button in the middle of the buckle to release the belt.

**Sun Visors**

Your sun visors are easily adjustable for your comfort while driving.

**Map Light**

The map light is located to the right of the driver on the dash.

**Operating Instructions**

Familiarize yourself with the various motor home automotive instruments and controls. They provide useful information and should be checked frequently as you travel.

**Starting the Engine**

**NOTE:** The starter should not be operated continuously for longer than one-minute intervals. A waiting period of at least two minutes between intervals should be observed to protect the starter from overheating.

Normal Starting - Engine Cold

a. Apply the parking brake.

b. Move the gear shift lever to either park (P) or neutral (N).

c. Depress the accelerator pedal to the floor and release.

d. Insert the ignition key into the ignition switch and turn the switch to START. Release when the engine starts.

Normal Starting - Engine Warm

a. Apply the parking brake.

b. Move the gear shift lever to either park (P) or neutral (N).

c. Depress and hold the accelerator pedal 1/3 of the distance to the floor.

d. Insert the ignition key into the ignition switch and turn the switch to START. Release when the engine starts.

Extremely Cold Weather Starting (Below Zero)

a. Apply the parking brake.

b. Move the gear shift lever to either park (P) or neutral (N).

c. Depress the accelerator pedal to the floor and release. Then depress and hold the accelerator pedal 1/3 of the distance to the floor.

d. Insert the ignition key into the ignition switch and turn the switch to START. Release when the engine starts.

Starting a Flooded Engine

a. Apply the parking brake.

b. Move the gear shift lever to either park (P) or neutral (N).

c. Depress the accelerator pedal to the floor and hold.

d. Insert the ignition key into the ignition switch and turn the switch to START. Release when the engine starts and also let the accelerator pedal return to its normal position.

**CAUTION**

Avoid inhaling exhaust gases because they contain carbon monoxide, which by itself is colorless and odorless. Carbon monoxide is a dangerous gas that can cause unconsciousness and is potentially lethal.

If at any time you suspect that exhaust fumes are entering the passenger compartment, have the cause determined and corrected as soon as possible. If you must drive under these conditions, drive only with *all* the windows *fully* open.

The best protection against carbon monoxide entry into your vehicle is a properly maintained engine exhaust system, motor home body and ventilation system. It is recommended that the exhaust system and body be inspected by a competent mechanic:

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

To allow for proper operation of your unit's ventilation system, keep the front ventilation inlet grille clear of snow, leaves, or other obstructions.

Do not run engine in confined areas, such as garages, any more than needed to move vehicle in or out of the area. When the vehicle is stopped in an unconfined area with the engine running for any more than a short period, adjust heating or cooling system to force outside air into the unit.

**Heater**

Your heater in the automotive section of your motor home is operated by the controls located on the

instrument panel. You can select the temperature setting and operate the controls so that the heater provides you a most comfortable environment. If your unit is equipped with the optional automotive air conditioner, your motor home can be heated or air conditioned during over the road travels.

The heater is located below the dash on the passenger side of the motor home.

Heat Control. Allows you to set the degree of heat you wish from the heater. This control is a pull-push type control so that you can adjust the temperature by pulling the knob until you achieve the desired temperature. Out position is full heat.

Air Control. Allows you to introduce outside air into the coach just in front of the driver. When auto air is used, this knob controls air conditioner.

Defroster Control. Allows you to redirect the heat or fresh air from the heater to the windshield vents for defrosting or defogging. The windshield vents may be positioned to direct the air onto the windshield or to the side windows in the manner you desire. Full defrost — out.

Air Control. If your unit is equipped with the **optional** automotive air conditioner, the degree of coolness you desire from the air conditioner is regulated by this control.

Air Vent Control. The air vent control for the driver is located on the left hand side of the instrument panel when auto air is used.

**Heating**

Pull the HEAT control out for the desired temperature and turn the fan switch to the desired speed.

For maximum heat, push the AIR knob to a closed position, pull the HEAT control out as far as possible, and turn fan switch to high.

**Defrosting the Windshield**

Pull the HEAT and DEFROST knobs out to the desired temperature and amount of fresh air required and turn the fan switch to the desired speed.

**Defogging the Windshield**

Motor Home Heated. Pull HEAT control and DEFROST control to acquire proper temperature, turn fan switch to desired speed.

**Air Conditioning**

If your unit is equipped with the **optional** automotive air conditioner, make certain your HEAT control is closed, adjust the AIR control to the temperature of cool air you desire and turn the fan control to the desired speed.

**Emergency Heat**

Your automotive heater can be used to temporarily heat your motor home during an emergency heating system failure (exhaustion of L.P.G., etc.) when your motor home is parked. Of course, your automotive engine must be running to heat the engine coolant for the heater.

If your motor home is equipped with an electrical generating system, or if an outside source of power is available, a separate electric heater may be used. Make certain that your electric heater does not exceed the power rating of the appliance circuit, as explained in the Electrical System.

**Caution: Never** use an oil space heater in your motor home.

**Never use an open fire** (for instance, an outdoor type barbecue grill) inside the motor home. If you use a gasoline camp stove inside the motor home for heating, make absolutely sure at least one window is fully open.

**Motor Home Automotive Specifications**

Refer to owner's chassis manual.

**Motor Home Automotive Capacities**

Refer to owner's chassis manual.

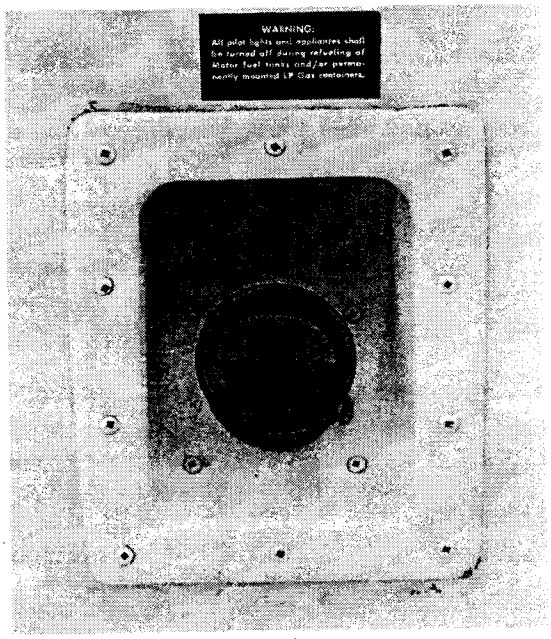
**Automotive Engine Access**

The engine, located between the driver and passenger compartments, is easily accessible by releasing the latches on the cover and lifting up on the motor cover.

As an added feature, the engine is removable through the front grill.

**Gasoline Filler Location**

The gasoline fill point for your motor home is dependent on the model. See the following chart for the exact location. Your engine (and your optional e-



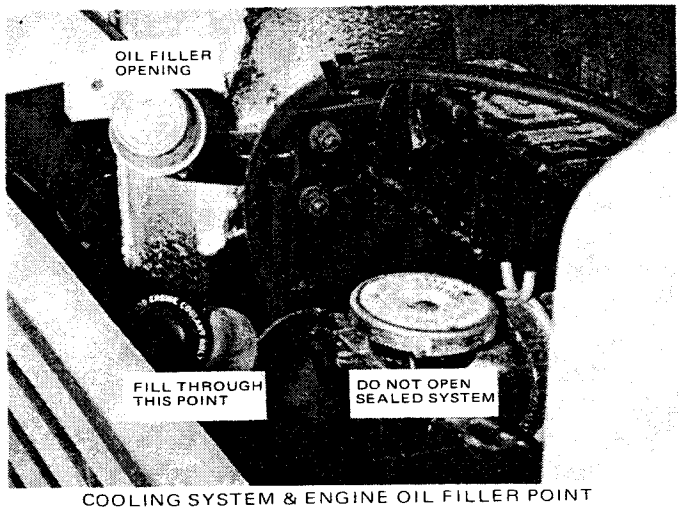
| Driver's Side | Passenger Side |
|---|---|
| 20' RB | 25' Statesman |
| 20' RG | 23' V.I.P. |
| 20' V.I.P. | |
| 22' RB | |
| 22' RG | |
| 21' President | |

**All** Leprechaun gasoline fills are just behind driver's side rear duals.

lectrical generating system) is designed to operate on low-cost regular gas. Premium gasoline not only in us- necessary but may even be detrimental to the operation of your electrical generator.

### Cooling System

Your cooling system level can be checked through the hood (front access door) to determine the proper coolant level. During cold weather the concentration of permanent type anti-freeze should be checked frequently. Maintain coolant level according to marks on overflow bottle. All inspection and refilling must be done through overflow bottle. Never pour cold water or anti-freeze into the radiator when the engine is overheated. If your unit is equipped with an automotive air conditioner, permanent type anti-freeze must be added to your engine coolant for proper operation of the air conditioner.



COOLING SYSTEM & ENGINE OIL FILLER POINT

### Engine Oil Level

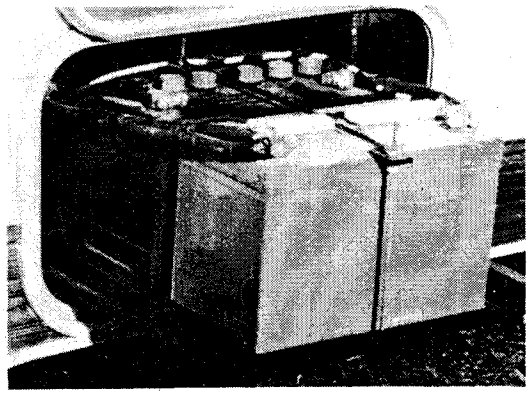
Your engine oil level should be checked before you start, after a stop, and at fueling stops. Use the dipstick which is accessible through the engine access door (hood) to check your engine oil level. Add oil if needed.

### Transmission and Power Steering Level

Periodically check the transmission and power steering lubrication level. Access to check these levels is achieved by removing the engine cover between the driver and passenger compartment.

### Battery Fluid

The battery fluid level should be maintained approximately ¼-inch above the plates with distilled water. Any accumulation of external corrosion should be removed with a solution of ammonia or soda and water. A thin coat of petroleum or chassis lubricant on terminals will help prevent corrosion. Access to your motor home and automotive batteries is gained by removing the retaining pin at the front of the sliding tray and pulling the tray out to expose the batteries . . . except the Mini's (front hood access).



**Warning:** NEVER allow a spark or flame near the battery. Hydrogen gas, which forms in normal battery operation, may be present and cause an explosion.

### Preparation of Engines for Storage

If you plan to store your Coachmen Motor Home, some protective measures **must** be taken to prevent damage and deterioration. These vehicles are subject to the formation of rust on certain operating parts of the engine which will, in the course of time, lead to excessive piston ring wear, sticking valves and rocker arms and abnormal wear of valve guides and other moving parts. Vehicles which are to be stored for a long period of time without use require special preparation to prevent damage from internal rusting.

### Storage for LESS than Thirty Days

In cases where the vehicle will be inoperative or in storage for less than thirty (30) days, or will be driven infrequently during this period, the following steps are recommended:

1. Add one (1) quart of special rust preventive oil for each five (5) gallons of gasoline in the fuel tank.
2. Run the engine on this mixture for five (5) minutes at an engine speed of 1000 RPM.

No additional treatment will be necessary when the vehicle is returned to storage after having been driven for short distances.

### Storage for MORE than Thirty Days

The following steps are recommended if the vehicle is to be stored for more than thirty (30) days (but not over ninety [90] days) and the engine **will not** be operated during the storage period.

1. Add one (1) quart of special rust preventive oil to each five (5) gallons of gasoline.
2. Run the engine on this mixture for at least five

(5) minutes at an engine speed of 1000 RPM.

3. **Drain** the fuel tank and continue to operate the engine until the carburetor runs dry. Failure to observe this precaution usually causes carburetor malfunctions.

4. Remove spark plugs and pour two (2) ounces of special rust preventive oil into each cylinder through the spark plug opening. Crank the engine through several revolutions with the starter to distribute the rust preventive oil on the cylinder walls. Replace the spark plugs and tighten to the correct torque according to the owner's chassis manual.

5. Remove valve covers and coat the rocker arms, rocker arm shafts, valve springs, push rods, and valve stems with special rust preventive oil. Use a clean paint spray gun with **dry** air.

6. Check the cooling system for leaks and adequate protection for low temperatures likely to be encountered during the storage period.

**Storage for OVER Ninety Days**

If the vehicle is to be stored for more than ninety (90) days, treat as outlined in "Storage for MORE than Thirty Days" and perform the following operations:

A. First Method

1. Drain cooling system and tag the vehicle accordingly so it will not be started until coolant is replaced.

2. Completely lubricate the vehicle, check transmission, rear axle and steering system for proper lubricant level (contact authorized chassis service center).

3. Place the vehicle on blocks or jack stands to take the weight of the vehicle off the tires. Inflate the tires to the recommended pressures (check owner's chassis manual for proper tire pressure). Clean all oil and grease from the tires and be sure that the valve caps are in place.

4. Disconnect the battery cables. Clean and coat the cable terminals with grease. Remove the battery and place it on a "trickle" charge for future use.

B. Second Method

At least once every thirty (30) days operate the vehicle at highway speed for a minimum of one (1) hour.

# CHAPTER 9

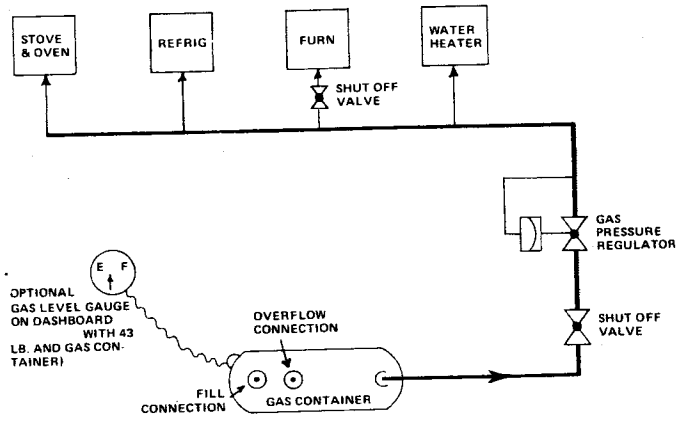
## LPG SYSTEM

LP-GAS (liquified petroleum gas) is a true gas compressed into liquid form for easy transportation and storage. It is also known as butane, propane or bottled gas. It is safe, economical and because of its portability, provides modern living convenience no matter where you travel, requiring no external hook-up.

The LP-gas system provides gas for cooking your meals, heating your water and warming your motor home in cold weather. This system also operates the gas/electric refrigerator when it is set to operate on gas. LPG is convenient, safe in operation and, in most cases, readily available.

Do **not** connect your motor home to natural gas. Your appliances are designed to work **only** on LPG.

The gas system consists of a fill connection, gas container(s), overflow connection, gas shut-off valve, gas pressure regulator, water heater, furnace, gas/electric refrigerator and a stove and oven, as shown on the diagram below.




**LP Gas Tanks Should Not Be Overfilled**

The LP gas tank in your Coachmen Motor Home is designed with ample safety factor. This means that it is tested to withstand pressures well in excess of what it would normally be subjected to by a user. Every LP gas tank has a safety feature built into it which allows the tank to be filled to 80% capacity of liquid LP gas. The other 20% volume provides vapor space which allows "expansion" of the gas with temperature changes and for vapor escape through a service valve as the outside temperature rises. **Fill the tank to only 80% capacity.**

In selecting the proper fuel, butane or propane, temperature and climate must be considered. In a subtropical area, hot desert or any warm locale, butane is the best fuel since it has a higher boiling point. That is, it converts from a liquid to a gas at any temperature over 32 deg. F. Below that point butane will not function. In cold climates propane would be the logical choice since its boiling point is 44 deg. F below zero. It is unlikely that motor home owners will experience such low temperatures. In actual practice many companies today are offering a mixture of butane and propane where the boiling point would be somewhere between 44 deg. F below zero and 32 deg. F above zero, a wide enough

latitude to handle most every season. Local conditions will determine the selection of the LPG the supplier offers for your tanks.

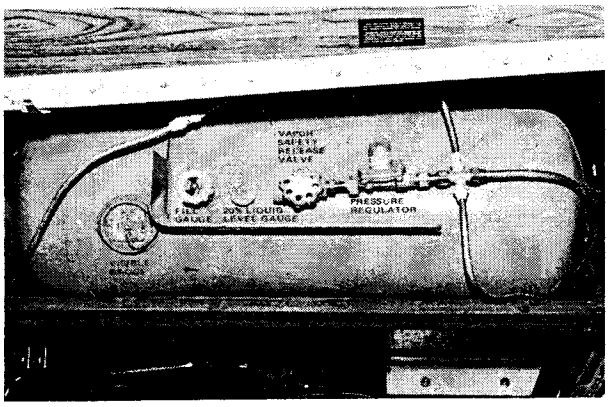
Butane and propane as gases are heavier than air. That simply means that when released into the atmosphere, butane and propane will flow to a low point. Actually, both gases diffuse with air quite readily.

Butane and propane are tasteless and odorless. The peculiar odor you often smell is an artificially introduced chemical which allows for the detection of escaping gas.

Your dealer should have checked your gas system before delivery. If you have any doubts, have an authorized LP gas serviceman check your system for leaks. The system was inspected prior to the unit's leaving the factory; however, **we strongly recommend another check be made.** We also recommend that a gas system check be made each time the gas bottles are refilled or any time you smell gas.

**Caution:** Never allow open flames or smoking near the motor home during the checkout procedure. Do not check for leaks with an open flame.

To check the system, shut off all valves and burners (range/oven, refrigerator, hot water heater, furnace, etc.). Open the valve located on the gas container to allow gas to flow into the system. With the gas system now under pressure, check each fitting with a solution of soapy water. Liquid used in children's bubble blowing solution is suitable for this purpose. A gas leak will cause bubbles to appear.




Gas line fittings are located at the gas container(s), on the main gas line running under the motor home, and at each individual item of equipment which uses gas. Each fitting should be tested with the soapy solution to detect any leaks which may have developed. After you have made sure that all fittings are tight, you are ready to use the system. Your dealer will be happy to run through the entire system with you so that you will understand it fully.

Included with your motor home is a set of operating instructions for each item of equipment. Reading and following these instructions will assure safe and satisfactory operation of these appliances. If operating instructions should be missing for a particular appliance, notify your dealer.

The gas heater/furnace, water heater and gas refrigerator for your motor home use **outside** air for combustion fumes are vented directly to the outside for your safety and comfort. The stove and oven must use inside air. Therefore, a window or vent must be partially open any time the stove and/or oven are in use. This will avoid the danger of exhausting the air inside your motor home. NEVER use the stove or oven for heating your unit.

**Caution:** Close the gas container shut-off valve during transit. This is a law in some states, and is a good safety practice. All gas valves should be closed when filling the gasoline tank(s). Turn your refrigerator to 12-volt operation.

# CHAPTER 10

## WATER SYSTEM

Your water system consists of a fill connection, a water storage tank, a water heater, sink, lavatory, shower or tub and toilet.

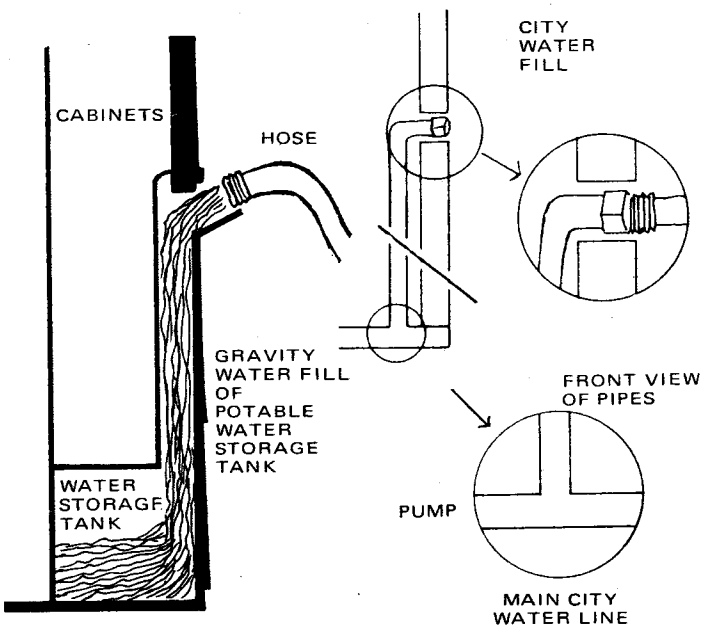
Your water storage tank (see Figure 10A for capacity) has a demand pump which supplies water throughout the system at the turn of a faucet or by flushing the toilet. The pump is 12-volt and is powered by the battery. The water tank is filled by gravity feeding.

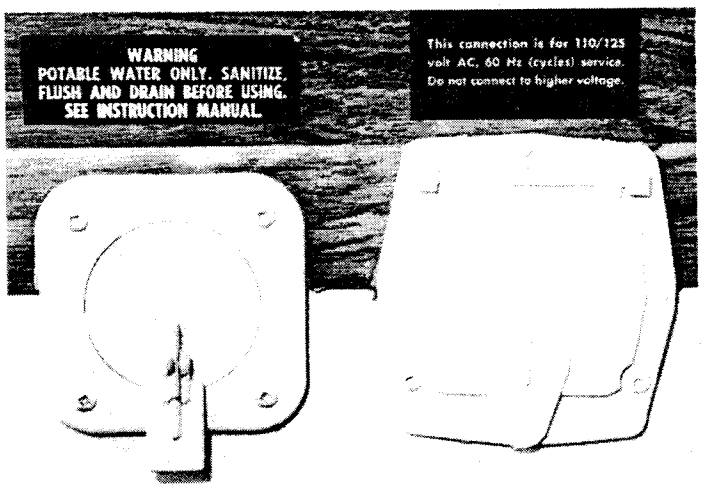
**Water Tank Capacity**
**(Figure 10A)**

| | |
|---|---|
| 20' RB - 29 gal. | 21' Pres. - 42 gal. |
| 20' RG - 30 gal. | 22' RG - 36 gal. |
| 20' V.I.P. - 42 gal. | 23' V.I.P. - 42 gal. |
| 22' RB - 42 gal. | 25' Statesman - 47 gal. |

To hook up to a city water supply, first be sure that the drain valves are closed. Then check to make sure that the toilet shut-off valve is closed. Check the drain valve on the water tank to make sure that it is closed. When these checks are completed, you may then connect the water hose to the fill connection on the side of the coach. (Figure 10B shows the gravity water fill, water storage tank and city water connection fill points for your motor home.) To be sure that the hot water heater is filled, open the hot water valve.

The water system offers hot and cold running water at the turn of a faucet. Before you leave, be sure to fill your system with water. If a city water supply is available where you go, connect the water hose to the gravity water fill connection and open the kitchen cold water faucet. Fill the tank until water runs from the faucet.




Note: The water storage tank **can only be filled** through the gravity water fill.

### Draining

During periods of non-use, your water system should always be drained. Be sure that the water pump is turned off. Open the drain on the bottom of the coach. Allow the water to drain out of the water tank. Then shut off the gas supply to your hot water heater. Then drain the water heater. This procedure will avoid possible contamination and fresh water in your tank on the next trip will definitely taste better.

### Instructions for Sanitizing Potable Water Systems

To assure complete sanitation of your potable water system on a new unit, or one which has not been used for a long period of time, or for a system that has become contaminated, it is recommended that you follow the instructions listed below:

1. Prepare a chlorine solution using one gallon of water and ¼ cup of Chlorox or Purex household bleach (5% sodium hypochlorite solution). Pour one gallon of solution into tank for each 15 gallons of tank capacity.
2. Complete filling tank with fresh water. Be sure to open each faucet and drain cock until all air has been released from the water pipes and the entire water system is filled.
3. Allow to stand for three hours.
4. Drain and flush with potable fresh water.
5. To remove excessive chlorine taste or odor which might remain, prepare a solution of one quart vinegar to five gallons of water and allow this solution to agitate in the tank for several days by vehicle motion.
6. Drain tank and again flush with potable water.

### City Water Hook-Up

Connect a hose to the connection on the side of your motor home. You will then be drawing water from the outside supply every time you turn on a faucet. Make sure the electric pump switch is in the "off" position.

### Water Management

Remember, this is your potable water system. Check the water **before** filling your tank. Here are some hints.

1. Don't use a dirty water hose. Dirt particles have a way of ending up at the faucet.
2. Plastic water hose and some rubber hoses sometimes leave an odd taste in the water. Use an approved drinking water hose available through your dealer.
3. Always taste the water before filling your tank. If not to your liking, drive on to the next place.
4. If you don't want to fill your water tank where the water has objectionable minerals, sulphur or salt, but you need water for dishwashing, etc., fill two five-gallon plastic folding jugs and keep your system clean. Bottled water, sold in most supermarkets, can be used for drinking and cooking.
5. If your travels take you in areas where the water is questionable, consider purchasing a water purifier for installation in your unit. The purifiers remove bad tastes and kill harmful bacteria. Also, chlorine (ordinary household bleach) and chlorine tablets can be used to sanitize water.
6. Another important item to remember is the maximum recommended pressure is 65 PSI for your water system. It has been tested and proven fail-proof at 100 PSI; however, the system is rated at 65 PSI.

## DEMAND PUMP WATER SYSTEM TROUBLE SHOOTING

| Problem | Possible Cause | Solution |
|---|---|---|
| Pump does not run | Battery discharged | Charge battery |
| | Blown fuse | Replace fuse |
| | Disconnected wire | Check and repair |
| | Switch off | Turn on switch |
| | Water in pump may be frozen | Use electric light bulb placed near pump to provide heat for thawing |
| Pump runs but water does not appear. | No water in tank | Fill tank |
| | Kink in water hose | Straighten hose |
| | Air leaking in at inlet fitting | Tighten clamps |
| | Clogged line from tank | Remove line and check for object in line and remove |
| Pump runs but water sputters. | Air in lines | Run pump to clear air from lines |
| | Air in lines from tank | Tighten clamps |
| Pump cycles On & Off | Leak in system | Check lines for leaks |
| | Open or leaking faucet | Close faucet or repair leaking faucet |
| | Air in hot water tank | Run hot water to remove air |
| Pump does not shut off | Stuck switch on pump | Tap lightly with hammer or screwdriver head. |
| | Low battery | Charge battery |

# CHAPTER 11

## DRAINAGE SYSTEM

### General

The drainage system used to drain the bathroom and kitchen wastes from your motor home is designed for satisfactory service in two types of usage:

1. Self-contained service while on the road or when parked without being connected to a sewer line.

2. Stationary use connected to a sewer for overnight or lengthy stays. Except for the holding tank, the sewage system is very much like the system at your home.

The kitchen sink, bath sink and shower/tub all drain to a large 3-inch diameter quick-connect locking plug which must be removed for proper drainage. The sewer hose is connected to this drain and to an in-park sewer system. If a sewage system is not available and you do not have the optional kitchen/bath water holding tank (available on selected units), a plastic pail should be placed under the drain opening to catch kitchen and bath water to avoid mud puddles and to keep detergents from killing foliage. In some states it is illegal to drain water directly onto the ground.

The toilet drains directly into a holding tank which has the capacity for retaining your sewage for several days, should you so desire. The dump valve is located near the sewer line drain pipe.

**Caution:** If your unit does not have the optional holding tank, and if the drain plug is left on the end of the drain line, water from the kitchen sink and bath sink has no way to get out of the motor home and will back up into the lowest drain, which is the tub or shower.

### Holding Tank

Your sewage holding tank is designed and constructed to be corrosion and leak-proof and to afford you maintenance-free operation of your sewage system. The capacity of the holding tank varies with the motor home model. Ask your dealer for the size holding tank on your model.

You may use your sewage system several days self-sustained before you need to use a disposal facility. To extend this length of time between dumpings, water conservation must be practiced.

### To Drain Holding Tank

To drain the holding tank at a sewage disposal station, use the following procedure:

1. Make sure that the holding tank drain valve is closed. (Handle pushed in.)

2. Remove the drain plug. Place a pail under drain to catch waste.

3. Attach a sewer hose (stored in square rear bumper) to the drain.

4. Insert the opposite end of the hose into a sanitary station connection.

5. Rotate the cap counterclockwise and loosen the locking collar on the handle by turning it in a counterclockwise direction, then pull open the slide valve handle all the way out to insure proper flushing.

6. After the sewage has drained out, run some water in the sinks and flush the toilet two or three times to insure a complete flushing of the system.

7. After all waste has drained out of the unit, close the valve and replace the cap.

8. Remove the hose and wash it out with a water hose. Replace hose in the square rear bumper. Replace cap.

If you are moving on, place a small amount of clean water in your holding tank along with a recommended amount of commercial cleaner, such as Pink Magic (available at your Coachmen dealer) so that it will slosh around and clean the tank while you are driving.

When at a campsite which offers a sewage system and you are hooked into this system, it is advisable to keep the drain valve closed to prevent a blockage in the system.

### Toilet

The toilet is a fresh water, permanently installed sanitation system. It uses the Micro Rinse flushing principle, which utilizes high velocity water injection, micrometrically measured, to produce a "swirl effect" in the bowl that literally scours the bowl with each flush. A self-cleaning, odor-tight, gas-tight, teflon seal closes the holding tank when the unit is not in use. Since each and every flush uses fresh water, no mandatory chemical additives with their associated schedules are needed.

### Recirculating Toilet

If your unit is equipped with the recirculating toilet, it operates on the principle of recirculating four gallons of water and a chemical charge through a self-cleaning filter. You are not using fresh water and you are not adding water to the holding tank with each flush.

To flush, simply press the black button. When the color of the chemical water solution changes from blue to greenish, empty the unit and recharge with fresh water and additional chemicals.

To empty, remove the plastic baseboard from the toilet. This will expose a black valve handle. Release the springs from the handle and pull the handle toward you. This opens a valve which lets the waste material and chemical drop into the holding tank. Each emptying will put about 8 gallons into the holding tank.

To refill, push the black valve handle into the closed position and snap the springs back into position on both sides of the handle. Add 4 gallons of water to the toilet, flush, and add a package of Monochem T-5 chemical to the water as it is flushing. You should get 80 or more flushings before emptying. (See literature provided with your toilet.)

### Tips

Although your motor home sewage system is highly reliable and maintenance free, care must be exercised to insure its long life and maintenance-free operation. The following guidelines are recommended:

1. Provide waste cans for facial tissues. They can clog drains.
2. Use ashtrays for your cigarettes as nicotine reduces the action of the cleaners.
3. Check after each flush to make sure that paper is not caught in the valve. If this happens, the paper holds the valve open and water may trickle through continuously, wasting both water and holding tank space. The valve must be clean to insure proper operation.
4. Do not use detergents or bleaches; they may attack certain parts of the system. Use only commercial cleaners recommended by your Coachmen dealer.
5. Do not use anti-freeze, alcohol, ammonia, or acetones in your holding tank. If you are storing your motor home for winter, refer to the section on winterizing.
6. Use RV type toilet paper.

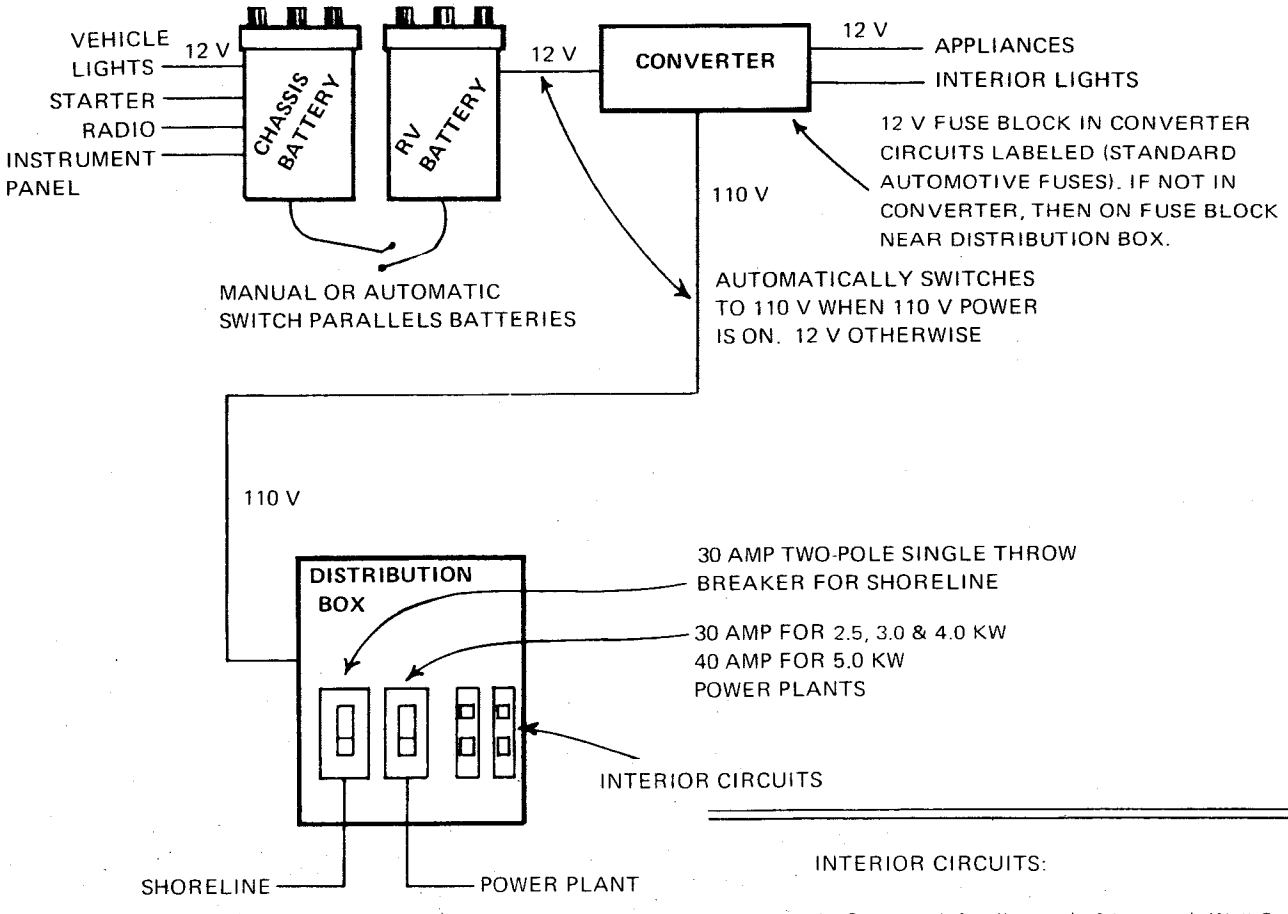
### Vents

The sewage system of your motor home is connected to vents in the roof. These vents carry out all undesirable odors which accompany drainage and sewage and prevent a back-pressure buildup in your system. These vents should be checked periodically to make sure they are open.

# CHAPTER 12

## ELECTRICAL SYSTEMS

Your Coachmen Motor Home is provided with two electrical systems: a 12-volt D.C. system and a 110-volt A.C. system, in addition to the automotive-type wiring system for headlights, ignition, etc. These two circuits are illustrated in Figure 12A, the diagram of electrical systems.




INTERIOR CIRCUITS:

1. Converter, Appliances (refrigerator), Wall Outlets
2. First Air Conditioner
3. Second Air Conditioner

### 12-Volt

The 12-volt system is used for interior lighting and to furnish power for the heater blower, the stove hood, the water pump for the water system, the refrigerator, the optional recirculating toilet and the 12-volt outlets. Power is provided by a battery and a converter.

Plugging the power supply cord into a 110-volt source will provide 12-volt power through the converter. In addition to converting 110-volt A.C. to 12-volt D.C. power, the converter has a battery charger to keep the RV battery charged. The 12-volt lighting system uses automotive type bulbs (No.1141), which are readily available to travelers at garages and service stations.

The 12-volt converter circuits are provided with fuses which will shut off a circuit if it is overloaded. If this should happen, reduce the load on the circuit, such as turning off lights or appliances, to correct the overload condition. If not, you may have a short circuit, which should be repaired by an electrical serviceman.

The **automotive and RV batteries** on the large motor homes are charged by the alternator on the engine. These two batteries are normally operated separately, each with its own circuitry. However, a device for paralleling the batteries has been provided. The paralleling switch enables you to do the following:

a. While moving and when operating on the automotive alternator, the paralleling switch can be closed to charge both the RV and automotive batteries.

b. When operating the RV through the converter (plugged into an external electrical outlet) with the parallel switch closed, both RV and automotive batteries are charged.

c. When operating the RV on the optional generator with the paralleling switch closed, both RV and automotive batteries are charged.

**Caution:** If the paralleling switch is closed while you are parked, operating on the RV battery only (not plugged into an external electrical outlet or operating on the optional electrical generator), it is possible to run both batteries down.

Prior to closing the battery parallel switch, make sure that the two parallel switch wires are connected to the positive terminals of the two batteries. If one battery is hooked up backwards, closing the switch will create a "dead short" with excessive arcing and high current flow, which could cause a fire.

### 110-Volt

The 110-volt system provides power to the convenience outlets, the outside outlet, the optional air conditioner, the refrigerator, the stove hood light and the converter. Power for this system can come from a trailer park outlet or from an optional, built-in motor generator.

Your 110-volt system uses one "hot," one "neutral" and one "ground" wire; in order to complete the grounding, you must hook to a grounded trailer park outlet. Check with the park operator about the reverse polarity of his electrical hook-ups.

It is the trailer park operator's responsibility to provide a grounded power source. However, if you have any reason to doubt its effectiveness, you should check with the park operator to assure that satisfactory grounding is provided. You can improvise a grounding stake by running heavy copper wire (No. 8) from the chassis of the motor home to a long metal stake driven into the ground. Make sure both connections are good.

All 110-volt circuits are protected with circuit breakers. Should your power supply be shut off by a circuit breaker, it may be the result of temporary overload. If (after resetting) the breaker again releases, you should then check for the cause.

Included with your motor home are operating instructions for each item of electrical equipment. Reading and following these instructions will insure safe and satisfactory operation of your appliances. If the operating instructions are missing for a particular appliance, notify your dealer.

### Generator

The Coachmen Motor Homes use an optional mobile type engine generator to provide 120-volt power when you are unable to hook up to park electrical power. It, in addition, powers the roof-mounted air conditioner (optional).

Four generators—2,500, 3,000, 4,000 and 5,000-watts capacity—are available. The various sizes, of course, depend on the anticipated electrical load of your unit. All models operate in the following manner.

### Pre-Start Checks

Before starting your generator after it has been unused for a long period of time, open the compartment and check the following:

1. Lube Oil Level. Keep in safe operating range.
2. Fuel Filter. Clean sediment and water from bowl if required.
3. Air Intake. Make sure all air inlets and outlets are clean and unobstructed.
4. Compartment. Keep interior free of accumulations of dust, oil, etc.

**Note:** You should also check your battery to be sure connections are light between the generator and battery and that the electrolyte level is adequate.

### Starting-Stopping Procedure

The **Start-Stop** switches in the motor home and on the Controller (located on generator) are of the momentary-contact type, which means that they must be held in until the plant starts or until it comes to a complete halt. Disconnect appliances before starting your power plant. This will allow a faster start. Also allow for a brief cooling period after operating your power generator by running the plant on light or no-load for a few moments just prior to shutdown.

## ELECTRIC SYSTEM TROUBLE SHOOTING

| Problems | Possible Cause | Solution |
|---|---|---|
| No 12-volt power | Connector and/or battery not connected | Make necessary corrections. Check battery terminals for corrosion. |
| | Fuse blown | Replace fuse |
| | Battery shorted | Replace battery |
| | Dead battery | Charge battery |
| No 120-volt power | Switch off at park box | Push handle to the "on" position |
| | Circuit breaker open | Reset circuit breaker |
| | No Shoreline Power | Use Generator |
| Dim lights or sluggish fan motor | Discharged battery | Charge battery |
| | 25 or 50 cycle power | Use 60-cycle power |
| Blown fuse/circuit breaker | Overloaded circuit | Turn off switches to reduce load and replace fuse/reset breaker. |
| | Electrical short | Disconnect appliances from circuit. Replace fuse/reset breaker, then plug in one at a time to locate defective appliance. If none, check for defective wiring. |
| | Battery shorted | Replace battery. Replace fuse/reset breaker. |
| | Battery terminals not properly connected | Make proper connections and replace fuse/reset breaker. |
| Converter automatic circuit breaker clicks on and off | Incorrect input line voltage such as 240 volts or 95 volts | Connect to 120-volt 60-cycle power. |
| | Shorted battery | Replace battery |
| | Overloaded circuit | Turn off switches to reduce load. |

## ELECTRICAL COMPONENT IDENTIFICATION SHEET

| Unit | Location | Type | Electrical Specification |
|---|---|---|---|
| Battery (2) | Battery Box | 6½x9¾x10¼ | 12-volt 95-amp hr |
| Interior Lights | Various | 1141 | 12-volt 1.4 amp |
| Roof Vent Fan | Roof | Vent-Line V-2026 | 12-volt 4.0 amp |
| Refrigerator | Various | FrigiKing 3-Way (4 & 5 cu ft) | 12-volt, 120-volt and gas |
| | | Instamatic (7 cu ft) | |
| Water Pump | Various | PAR | 12-volt 6.2 amp |
| Furnace | Mini-Motor Home | 16,000 Btu Suburban | 12-volt 4.2 amp |
| | Various | 32,000 Btu Suburban | 12-volt 4.2 amp |
| | Various | 22,000 Btu Suburban | 12-volt 4.2 amp |
| | Mini-Motor Home | 16,000 Btu Duo Therm | 12-volt 2.4 amp |
| | 21' President & 22' Leprechaun | 26,000 Btu Duo Therm | 12-volt 4.2 amp |
| | | 28,000 Btu Duo Therm | 12-volt 4.2 amp |
| | 20' RG | 16,000 Btu Suburban | 12-volt 2.4 amp |
| | 20' RB | 16,000 Btu Duo Therm | 12-volt 2.4 amp |
| | 22' RB, 22' RG & 21' President | 26,000 Btu Duo Therm | 12-volt 4.2 amp |
| | 20' V.I.P. & 23' V.I.P. | 22,000 Btu Suburban | 12-volt 4.2 amp |
| | 25' Statesman | 32,000 Btu Suburban | 12-volt4.2 amp |
| Electra-Magic Toilet | Various | Thetford | 12-volt 9 amp |
| Monomatic Toilet | Various | Monogram Industries | 12-volt 9 amp |
| Aqua Magic Toilet | Various | Thetford | NONE-Marine Toilet |
| Converter | Various | Phillips | Input-120-volt AC<br>Output-12-volt DC |
| Air Conditioner | Various | Duo Therm | 12-volt AC 12-15 amp |

### Running Lights Outside

| | | | |
|---|---|---|---|
| Tail, Stop, Signal | Rear | 1034 or 1157 | 12-volt |
| Clearance | Front/Rear | 37 | 12-volt |
| Back-up | Rear | 1141 | 12-volt |

# CHAPTER 13

## APPLIANCES

For your complete comfort and enjoyment, your Coachmen motor home is equipped with appliances to make cooking, showering or just lounging a pleasure. Appliances include your American Gas Association (AGA) and Canadian Gas Association (CGA) certified range and oven, gas/electric refrigerator, furnace/heater and hot water heater. They operate on LP gas (not natural gas), and your refrigerator also is equipped to operate on 120 VAC & 12VDC. The correct operation of each appliance is described in the following pages.

### GAS RANGE/OVEN

The range has three or four top burners, depending upon your model. To light: Push in the knob and turn it to the left. Light the burner with a match. There is no pilot light for the burners on top of the stove. Be sure a vent is open while you are operating your range. The gas supplied to the oven is controlled by a shutoff valve which is located just under the top panel of the range. Raise up the top panel and you will find the shutoff valve at the right end of the manifold pipe. This valve need only be open when oven is in use. Should you turn off the gas supply, you will have to open this valve and light the pilot light inside the oven.

The oven has a constant burning pilot which burns all the time the gas supply is on to the oven. When the

thermostat (oven knob) is turned on, a second pilot ignites from the constant pilot. This pilot heats an element which in turn opens the safety to allow gas to flow to the oven burner.

**Lighting Instructions for Oven:**

1. Turn "on" gas to oven. (Shut off valve.)
2. Wait 60 seconds to insure that air has been purged from the line. Be sure oven knob is in "off" position.
3. The standby pilot adjusting screw located behind the oven thermostat is adjusted to full "on" from the factory. This is the correct position.
4. Light pilot with a match.

To use oven, turn oven knob to desired temperature setting. Before traveling be sure that the shut off valve is turned to the "off" position.

The pilots have been adjusted at the factory to operate under normal gas pressure; however, should you, by observing the flame, determine that adjustment is necessary, follow these instructions:

> Remove the oven control knob by pulling on it to reveal the adjustment screws. With a screwdriver, adjust the standby pilot so flame is just visible past the first opening in shield. To adjust the heater pilot flame, turn knob to any position above the 140 degree mark on the dial and turn the pilot adjustment screw until a slight yellow tip appears on flame. Replace the oven thermostat control knob.

To remove the top of the range, grasp the top at the front burner opening and raise up. To replace, center top over burners and snap down. Enclosed in the oven when shipped, are clips to fasten top grates to top of the range. These would be used while the motor home is in transit to keep grates from falling off. They need not be used when the motor home is not in transit.

To remove the oven door, open the door. Insert a nail or rod into the hole of the arm connecting the door to the range. Grasp the arm close to the inside of the door and raise up both arms. This unhooks the arms from the door allowing the door to move forward and off. To replace the door, place the two hinge arms into the slots on front of the frame. Raise the door up to the arms and rehook by raising arms same as they were removed.

To remove the bottom of the oven, place one hand on the back of the bottom of the oven pushing down. Then place your other hand at the front of the bottom of the oven and pull forward. The bottom of the oven is now free from its hold-down clips. Lift it out.

Regular cleaning with a warm detergent solution and a soft cloth are all that is necessary to keep your range looking new and sparkling clean. This cleaning should be done as soon as the range cools. Be sure to clean the filter in your range hood and the fan blades frequently. Grease spatters that are allowed to become hard will eventually bake on and become very difficult to remove. Frequent cleaning will prevent these spatters from baking on your range.

The windows on your range should be cleaned only after the range has cooled completely. If any gas ports on the burners are stopped up, clean with a toothpick—do not use a metal instrument as it may distort or enlarge the ports in the burner.

**CAUTION:** Never use steel wool to clean burner caps or bright chrome trim on your range, as it will dull the finish. Do not use a wet or damp cloth to clean the porcelain surface while it is still hot. The top is made of glass fused onto steel and may craze. While cleaning oven, be careful to avoid bending the tube clipped to the rear lining below the vent opening. This is the thermal sensing unit. Distortion of this tube could cause a variation between the oven temperature and the dial setting.

**Troubles and Possible Solutions:**

1. **Orange Colored Flames**—This is almost always caused by fine particles of dust that are drawn into the air opening and usually will burn out in a very short time.
2. **Yellow Tips on Burner Flames**—This is due to improper mixture of air and gas. See your oven/range operations manual for adjustment procedure.
3. **Oven Burner Does Not Ignite**—Check to see if the stand-by pilot flames are operating. If only the stand-by pilot is on, remove the oven control knob and turn the heater pilot adjustment screw counter-clockwise.

**Note:** When traveling in your motor home the exhaust fan vent should be closed and secured. This can be accomplished by turning the exhaust fan to the OFF position which allows the vent cover to fall into place. Then the brass clip (right side, under the hood) can be pushed in to secure the vent cover in place.

## 3-WAY GAS/ELECTRIC REFRIGERATOR

We call this refrigerator 3-way because there are three ways you can use it.

1. In a trailer park with an exterior power source—use 120 volts.
2. Parked away from park service—use LP gas.
3. On the highway—use 12-volt operation from your battery.

The recommended routine when going on a trip is to plug in your motor home power cord at your home about six hours before leaving. Switch the refrigerator to 120V. This will mean that the refrigerator is cold before you start your journey. On the highway switch to low volt operation until you get to your destination. When you arrive, switch to LP or 120V.

**For Operation When Parked (120-Volt):**

1. Turn YELLOW knob, gas selector switch to

"gas off."

2. Turn BLACK knob, electric selector switch to "120V."

3. Turn BLUE knob, electric thermostat to "C."

**For Operation When Parked (LP Gas):**

1. Turn BLACK knob, electric switch to "off."

2. Turn YELLOW knob, gas selector switch to "gas on."

3. Turn RED knob, gas thermostat to "C."

4. Push RED (safety) button and BLACK (ignition) button at the same time.

5. Release BLACK button when you see the flame appear steadily through flame viewing window.

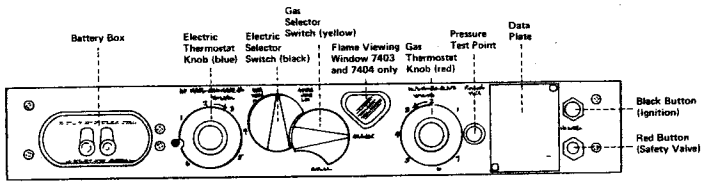



Figure 13A

6. Continue to hold the RED button for 20 seconds.

7. Release RED button.

If the burner goes out, repeat procedures 4, 5, 6 and 7 above. **DO NOT use LP gas when in transit; use low volts instead.**

**For Running on Highway (Low Volts):**

1. Turn YELLOW knob, gas selector switch to "gas off."

2. Turn BLACK knob, electric selector switch to "low volts on."

3. Turn BLUE knob, electric thermostat to "C."

Your refrigerator is now connected to your towing vehicle battery. When you arrive at your destination, switch over to LP gas or 120V.

**Thermostat Controls:**

Position "C" is the coldest setting.

Position "D" is for defrost.

The numbers between are for you to judge for yourself how cold you need the refrigerator. The higher the number, the colder the refrigerator.

To make ice, fill ice trays with cold water and place them on the top shelf in the freezer. Turn the thermostat to position "C." Ice cubes take some time to form. It is advisable to keep the trays full and ready to use.

For proper storage of frozen food, adjust the thermostat control knob to position "5." If freezing occurs in the main food compartment, the thermostat setting should be turned to a lower number.

1. Adhere strictly to the recommendations for storage times suggested by the frozen food manufacturers for their products.

2. Do not store frozen food which has thawed and the carton has become limp and damp. Such food should be eaten within 24 hours and never refrozen.

3. Always place frozen food and ice cream in the freezer with the least possible delay after purchase. Buy frozen foods last on your shopping trips.

The cold drink shelf, located in the left-hand side of the freezer, is colder than the main food compartment. Use it to store cold drinks.

Defrosting is necessary because excessive build-up of frost on the cooling surfaces impairs the efficiency of the refrigerator. Humidity, frequency and the length of time the refrigerator door is opened, and improper storage of food affect the rate of frosting. Warm food should be allowed to cool before being placed in the refrigerator.

**To Defrost:**

1. Remove frozen food and ice cream, wrapping them in several thicknesses of newspaper.

2. Remove the ice trays. Turn the thermostat to position "D."

3. Empty the main food compartment and cold drink shelf. Leave the refrigerator door open. Make sure the drip tray is under the freezer.

4. When all the frost has melted, empty the drip tray, wash and dry the interior of the refrigerator and freezer with a clean cloth.

5. Replace the ice trays and food and set the thermostat to position "C" for a few hours. Then reset the thermostat to its normal position.

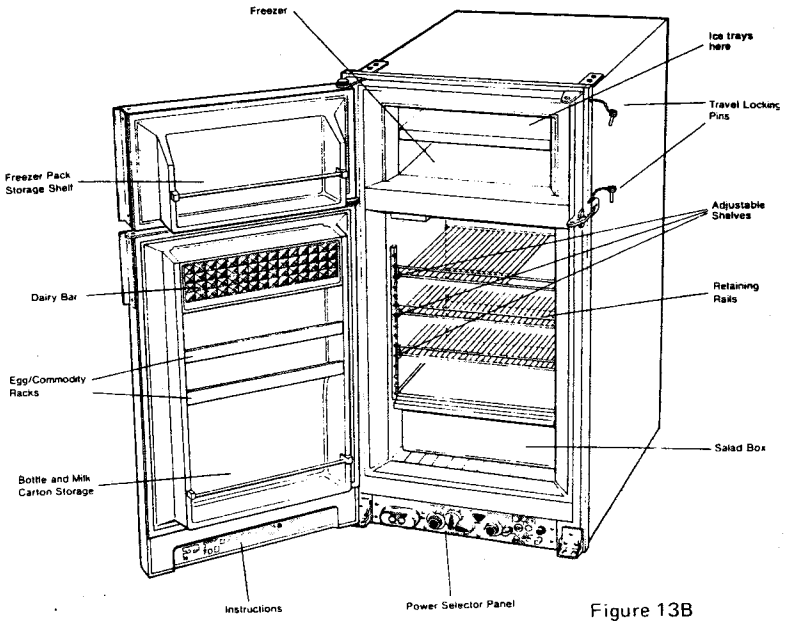



Figure 13B

Figure 2

**If Your Refrigerator Is Not Working Correctly, Check the Following:**

1. Check to see that all starting instructions have been observed.

2. Check to see if excessive frost has built up on the plate, tubes or cooling fins. If it has, defrost the

refrigerator as noted.

3. Check to see that the thermostat tubes are firmly in place (see figure 3).

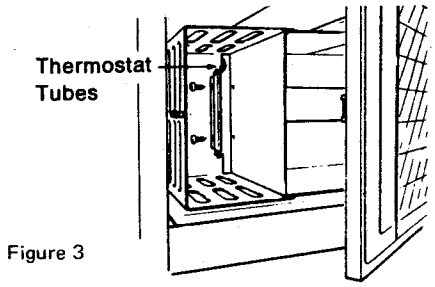



Figure 3

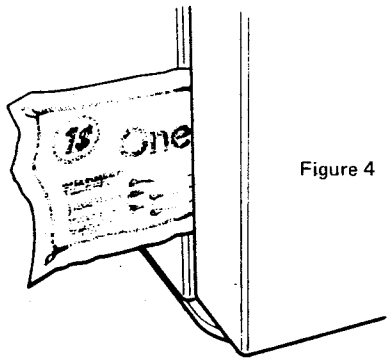


Figure 4

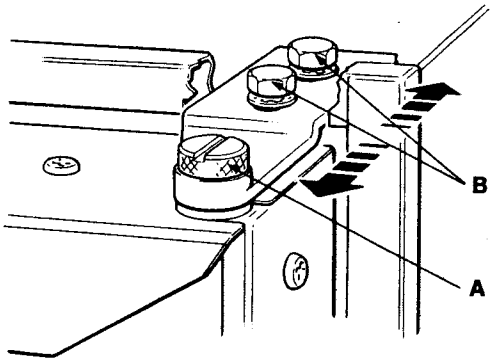
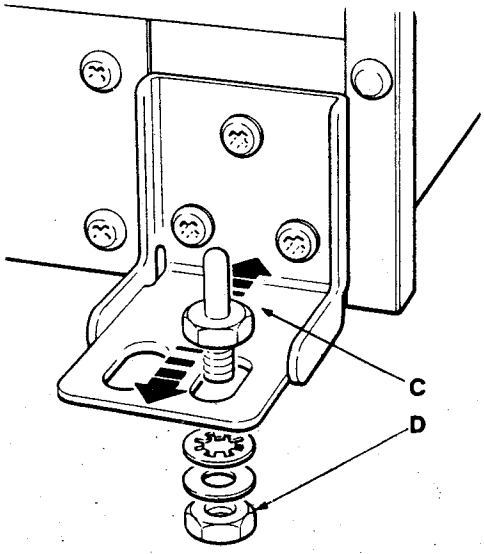



Figure 5




4. Check door seal all around. Put a dollar bill in the door as shown in Figure 4. When the door is closed, the bill should stay firmly held. If the bill slips, the door seal is not good. Smooth out the door sealing gasket. Look to see if the gasket on the door is twisted. Adjust the door with hinge pins as shown in Figure 5.

5. Examine the outside ventilator and roof outlet on your motor home (located above refrigerator). Make absolutely sure that they are clear and unblocked.

6. Make sure that hot air from adjacent heaters is well away from the refrigerator front.

7. If using gas, switch to electricity. If refrigerator then gets cold, something is likely to be wrong with the gas components. Go through the checks 9 and 10 (following).

8. Look through the flame viewing window shown in Figure 1 to see if there is a flame. If no flame is seen, go through starting instructions.

9. Check that there is sufficient gas in the supply tank. You can do this by turning on your stove and observing the flame.

10. Check that supply tank valve and the gas "on-off" valve in the supply line to the refrigerator are open.

11. Check that the two "D" cells are correctly fitted the right way around in the battery box, Figure 6.

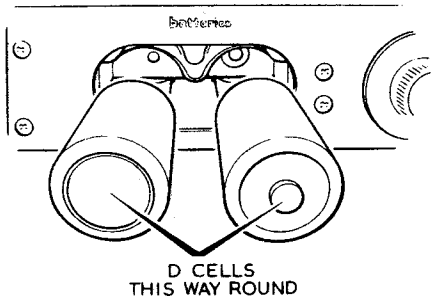



Figure 6

12. Check that the electrical contacts in the battery box cover are clean.

13. Check that you have good, fresh, clean "D" cells of the alkaline type. These "D" cells can be checked in your flashlight.

14. After all these checks, if you still cannot get a flame, it is possible to light your refrigerator from outside the trailer using a match. However, this means of lighting the burner requires two people—one to hold down the RED button and the other to apply the match. Open the ventilator on the outside wall of the trailer behind the refrigerator. Remove the screws holding the burner shield. With the RED safety valve button depressed, allowing gas to reach the burner, apply a lighted match to the burner to ignite the gas. Release the RED safety valve button after approximately 30 seconds. If the burner remains lighted, replace the burner shield and close and securely fasten the lower ventilator. If the burner is extinguished when the RED button is released, repeat the method. If the burner still

fails to ignite, report it to your dealer. Ignition with a match is only a temporary measure. See your dealer as soon as possible.

15. If you are using electricity (120-volts), check that the electricity supply is connected and that the circuit breaker and wiring are in order.

16. If using low volts, check that the battery supply is connected and that the fuses, circuit breaker and wiring are satisfactory.

17. Insure that the battery has sufficient power to operate the refrigerator.

**NOTE: DO NOT attempt to loosen the gas connections on your refrigerator. Leave these tasks for your authorized dealer. If you feel that your gas pressure is not correct, visit your nearest authorized Coachmen dealer for service. DO NOT attempt any adjustment yourself. Whether or not your refrigerator gives good service after these checks, it is always advisable to have your dealer check any adjustments you have made.**

If your refrigerator still fails to operate on gas, 120-volts or 12-volt electricity, be sure to turn off the gas supply and the electric supply at the switch. Notify your dealer, giving him the model and serial numbers of your unit, so that he can properly service your refrigerator.

## INSTAMATIC OPERATION

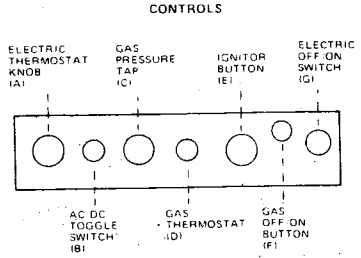
### LEVELING

When the trailer is parked, care should be taken that the refrigerator is properly leveled. It is standard procedure to check the level in the freezer compartment using a small level for this purpose. Whenever possible, the trailer should be parked so that the refrigerator side will be away from the afternoon sun.

### CONTROLS

All controls are mounted on a panel located at the base of the refrigerator for easy access without the necessity of opening the refrigerator door. A Gas Thermostat is used to control temperatures during gas operation and a separate electric thermostat is used for electric operation. These thermostats can control temperatures ranging from "defrost" to very cold. The "coldest" setting may be useful for faster ice making and for starting up of the refrigerator.

INSTAMATIC




### GAS OPERATION

a. Turn on gas at tank.
b. Before relighting, turn valve knob to "off" and wait 5 minutes.
c. Turn gas knob to "gas on" position.
d. Turn gas control knob to "coldest" position.
e. Holding the red ignition button in, push in the ignition lever for ignition of the burner.
f. Release button in about 20 seconds.
g. If the cabinet gets too cold, turn gas control knob to a warmer setting.

**IMPORTANT: As air may be present in the gas lines when first starting up, it may be necessary to repeat ignition procedure.**

### ELECTRIC OPERATION – 120V

a. Plug in the power cord to the 120v supply receptacle.

**IMPORTANT: 12 Volt DC operation should only be used while in transit. When going on a trip, plug in your trailer utility cord at home and operate refrigerator on 120V (or LP-Gas if desired) for about 6 hours before leaving. Your refrigerator will then be cold before you start your journey. For highway use, switch to 12V until you get to your destination. When you arrive, switch to LP-gas or 120V.**

### ICE MAKING

For rapid ice production, set the temperature control knob at "coldest" position. When ice has been produced, turn the temperature control knob to the normal operating position, otherwise, food in the cabinet may become frozen. Ice cubes take some time to form and it is advisable to keep the ice tray full and ready for immediate use. When storing frozen foods in the freezer section the temperature control knob should be positioned at or near "coldest" setting position depending on such factors as outside temperature and frequency of door opening, and also on amount of exposure to the sun.

### DEFROSTING

Frost will gradually form on the evaporator. Since excessive frost accumulation may reduce cooling efficiency, it is recommended that you defrost at regular intervals, depending on frost build-up.

### HOW TO DEFROST

When operating on gas, turn the temperature control knob to "defrost" position. To defrost when operating on electricity, turn the electric thermostat knob left to the "off" position. Empty the ice trays and fill with hot water to hasten the defrost time. An additional panfull of hot water is also desirable. This will melt the frost sooner and help prevent the food compartment from warming up. As soon as the frost build-up has completely disappeared, wipe the interior of the cabinet so it is dry before turning the unit on. Refer

to next paragraph (Cleaning).

**IMPORTANT: When adjusting the temperature, be sure to turn the right control knob. When operating on gas, turn control knob "F". Turn control knob "A" for operation on electricity.**

CLEANING.

It is a good practice to clean the cabinet interior and other parts at regular intervals, preferably when defrosting. Remove all stored foods. Clean the shelves and wash the lining with lukewarm water to which a little detergent has been added. Wash the ice cube trays, shelves and vegetable bin. Also, clean around the evaporator, door frame and door gasket. Rinsing with a solution of baking soda and water is recommended. Finish wiping with a soft dry cloth. Do not use abrasives or steel wool.

FLUE CLEANING

Although the flue tube is constructed from heavy steel and will give many years of satisfactory operation if kept clean, the burner flame, if not correctly positioned or if partially blocked, can quickly cause soot formation which can impair operation. Any obstruction in the flue will reduce draft and can result in higher cabinet temperatures and other faulty operation. It is advisable to clean the flue at least twice a season so it will be kept free of dust and soot. To do this, it will be necessary to remove the top louvers and then proceed as follows: Remove the metal burner housing and cover the burner assembly with a rag so that loose dirt will not fall into the burner. Remove the flue baffle by lifting on the baffle support wire until it is out of the flue tube. From the top, clean the flue with a suitable wire brush. Clean the baffle before replacing.

**IMPORTANT: The burner must have a clean, sharp blue flame. The flue must be unobstructed.**

## REFRIGERATION TROUBLE SHOOTING

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|---|
| Refrigerator only partially cold. | Incorrect thermostat setting | In warm weather turn dial colckwise to a colder setting. |
| | Flame has gone out | Check gas supply |
| | Heavy frost | Turn thermostat to defrost position (see defrosting instructions) |
| | Flame undersize | Clean orifice |
| | Air circulation around coils restricted | Check instructions for proper venting |
| | Door seal | The magnetic door gasket is self-adjusting. If gaps appear between gasket and cabinet, gasket is defective and should be replaced. |
| | Refrigerator not level | Level inside freezer compartment |
| Refrigerator too cold | Thermostat set too cold | Turn to a warmer setting |
| | Room temperature abnormally cold | Turn the thermostat dial to a warmer position during cooler hours and return it to a colder setting during the day. |
| | Capillary sensing element not in receptacle. | Insert sensing element into receptacle |
| During electric operation refrigerator does not cool satisfactorily | Thermostat at wrong setting | Turn thermostat dial to a higher setting |
| | Refrigerator not level | Check level in freezer compartment |
| | Air leakage into cabinet | Check fit of door gasket |
| | Evaporator heavily coated with frost | Defrost more often |
| | Heating element improperly located | Heating element must be inserted all the way into receptacle |
| | Low voltage | Supply voltage at refrigerator should be not less than 12 VDC or 70 VAC |
| Burner flame is soft or yellow | Burner primary air openings clogged | Clean air openings |
| | Flue clogged | Clean flue |
| | Defective or clogged orifice | Clean or replace orifice |

## FURNACE

The furnace in your motor home is ducted to give you heat throughout your unit. It is also equipped with a wall-mounted thermostat. The furnace uses outside air for combustion. The burned gas is exhausted to the outside. When you require heat, light your furnace and set the thermostat to the temperature you desire. The furnace will operate automatically giving you heat throughout your unit. Below is an explanation of the operation of your furnace.

When the thermostat reaches a pre-set temperature a valve is turned on allowing gas to the main burner. The pilot light then ignites the main burner giving you heat. When the desired temperature is reached, the main burner turns off. The blower will continue to run for a short period of time and will then shut off automatically. The furnace will complete this cycle every time the temperature drops below the setting you have selected on the thermostat.

**The Blower Serves Two Functions:**

1. Brings outside air into the combustion chamber and forces the combustion products out the exhaust tube to the outside of your motor home.
2. Circulates the room air across the heat chamber and out into the motor home area.

Although only one motor is used to drive the two blowers, the combustion air blower is sealed so as to allow no passage of air between the combustion chamber and the interior blower fan. The blower motor works on the 12V electrical system.

Sometimes when the furnace is running, you may hear a slight snap noise from inside the furnace. This snap is caused by the fan switch as it changes position and is a normal part of the unit's operation.

**Lighting Your Furnace Is Very Simple; Follow the Instructions Listed Below:**

1. Turn the manual valve located next to your furnace to the "off" position and wait 5 minutes. Set your wall thermostat at its lowest setting. Open the gas line manual valve to its full open position. Correct operation depends upon this valve being fully open. Never attempt to operate the furnace with valve partially closed.
2. Remove the lighter hole cover.

**NOTE: If you have an ignitor button, pump it in and out three or four times to light the pilot, instead of using a match.**

3. Press reset button and hold. Insert a burning match through opening so that flame is near the pilot. On the initial lighting, the pilot may not light immediately due to air in the gas line. If this is the case, it may be necessary to hold the reset button in for approximately 30 seconds, or until the pilot light will light and continue to burn when the reset button is released.
4. Replace the lighter hole cover.
5. Close the metal furnace door.
6. Set your wall thermostat to the desired temperature.

To adjust the pilot or the main burner, remove the front cover of the furnace by removing the two screws which are located at each side of the cover. The pilot flame on your furnace should be just high enough to envelop the thermocouple. If it is too high or too low, turn the adjustment screw on the pilot regulator located in the brass fitting in the pilot light gas line.

To adjust the air to the main burner, it is necessary to remove the small sheet metal cover located below and to the right of the lighter opening. Behind this cover there is a slotted screw head. With a screwdriver turn this screw head counter-clockwise for less air and clockwise for more air to the main burner. A symptom of too much air will be a howling or screeching noise when burner is fully ignited (reduce the air flow to correct this situation). A symptom of too little air to the main burner would be the depositing of soot on the exterior vent of your furnace, along with a distinct yellow floating flame in the furnace (increase the air supply to the main burner to correct this situation). A slight trace of orange should remain at the tip of the burner flame; this is a sign of correct adjustment.

If for any reason the main burner of your furnace has been allowed to operate with a high yellow flame, a soot formation is sometimes deposited inside the combustion chamber. This carbon deposit may require cleaning. To clean the combustion chamber, shut off furnace and allow time to cool. Insert the end of your vacuum cleaner hose in the access hole on the front of the radiation chamber of your furnace. The suction of your vacuum should clean out any carbon deposit in the combustion chamber.

The fan motor requires no oiling since it is oiled and sealed at the factory.

**Trouble Shooting the Heating System:**

**No Heat—**

1. Thermostat off. Check to be sure thermostat is set high enough to call for heat. The wire to the thermostat could be off the terminal under the cover on the wall thermostat.
2. Gas supply. Be sure manual gas valve is in the open position (parallel to gas line). Be sure that there is gas in the gas bottles.
3. Pilot. Be sure the pilot is lit.
4. Electrical connections and power. Be sure your battery is charged. (The motor in your furnace must run at full speed for the furnace to operate properly.) Check with an authorized dealer.

**Pilot Fails to Light—**

1. Gas supply. Check for gas, as in 2 above.

2. Igniter fails to light. Check position of tip. Align the igniter tip with the flow of gas to the pilot through the igniter hole. A match can be used to light the pilot if necessary.

3. Adjustment of pilot. You may need to adjust your pilot to insure proper operation of the furnace.

If the above techniques fail to produce heat, check with an authorized dealer.

## WATER HEATER

Your water heater is a safe, fast-return and convenient appliance to supply your hot water needs. Access to the water heater is available by removing the outside exterior panel cover.

**Operation Instructions:**

1. Turn main gas knob to the "off" position. Wait 10 minutes.
2. Turn lighting/control dial to pilot counter-clockwise against the spring loaded stop when you are lighting the pilot with a match. Continue to hold against this stop for 30 to 60 seconds until pilot remains lighted when you release the dial.
3. Turn control dial clockwise to "on" for automatic control.
4. Set selection lever for desired temperature setting for your water.
5. To shut off the water heater, turn the gas knob to the "off" position.

To adjust the pilot on your water heater, remove the pilot adjustment cap which is located at the lower right side on the front of the control. Located behind this cap is an adjustment screw. When you rotate this screw clockwise, you will reduce the size of the pilot flame. When you rotate the screw counter-clockwise, you will increase the height of the pilot flame. **CAUTION: Always replace the pilot adjustment cap to prevent gas leakage. The pilot should burn with a small yellow tip when it is properly adjusted.**

**Burner Adjustment:**

The air shutter on your water heater can be regulated to increase or decrease the air supply to the burner. This is accomplished by loosening the air shutter screw and sliding the air shutter to create a larger or smaller opening as required. Proper air adjustment is attained when a yellow tip appears at the end of the main burner flame. Then slowly increase the air opening until the yellow tip disappears. Tighten the air shutter screw to maintain this position.

NOTE: Travel in remote country areas, on dirt roads, or during periods of storage, may cause dirt and foreign matter to accumulate inside the heater. Be sure to keep the front interior of your heater clean. Be sure that all air openings are free of any obstruction. Check prior to use. Clean with brush and soap and water.

1. To drain water from your hot water tank, open the drain valve, lift the lever on the relief valve (hold open) and allow to drain. Be sure all the faucets in your motor home are open to permit proper drainage of the hot water tank.

**If Your Hot Water Heater Is Not Working Properly, Check the Following:**

1. If pilot fails to light, check your gas supply.
2. Failure of gas to control temperature, check for obstruction at the rear fitting on manifold or possible mashed gas line.
3. Water dripping from bottom of the flue box is only condensation and will occur only while heating water in a cold tank.
4. If the heater smokes, open the air shutter. Take a one-foot length of clothes line rope, fray one end so that it is bushy and run it back and forth through the burner several times. This will clean obstructions in the burner. Spider webs cannot be blown out. (Spider webs are the greatest offenders.) Check the adjustment of the pilot light and the main burner for smoking. They may need adjustment.

# CHAPTER 14

## COACHMEN MINI-MOTOR HOMES

The Coachmen Mini-Motor Home operates in much the same way as the Coachmen Motor Homes; however, there are a few differences which are described below.

**Automotive Systems**

Refer to the owner's chassis manual.

**Electrical**

The Coachmen Mini-Motor Home uses only one (1) battery for both automotive and RV power.

A 3 KW generator, available as an optional item, is accessible from the rear of the motor home—and may be controlled from a switch located in the living area of the motor home.

**Water System**

Refer to Chapter 10 in this manual.

**Drainage System**

The 20' Leprechaun with rear bath has no holding tank. It is equipped with an Electri-magic recirculating toilet.

The 20' Leprechaun with rear gaucho is equipped with a holding tank.

Also, refer to the Drainage System Chapter in this manual.

**LP Gas System**

Both the 20' RB and 20' RG have undermounted 43-lb LP-gas tank. An optional dash-mounted LP-gas gauge is available.

**Appliances**

Refer to the appliance chapter in this manual.

**Jacking Instructions**

Refer to the owner's chassis manual.

**Wheel Nut Torque**

Refer to the owner's chassis manual.

**Weights of RV Supplies and Equipment**

Refer to chapter on weights.

**Caution: Keep all heavy objects loaded in front of the rear axle.**

# CHAPTER 15

## ACCESSORIES AND OPTIONAL EQUIPMENT

**Fold Away Step**

Your motor home main door step is located just below the main door. Lift up slightly and slide the step out, lowering so it locks into place. To return step, simply lift up under it and push it in until it locks into place.

**Assist Handle**

Your motor home is equipped with an assist handle just to the side of the main door. The assist handle can be used to steady yourself as you enter the unit.

**Lighted Range Hood**

The canopy over your range is equipped with a light for full range illumination. It is also equipped with an exhaust fan. It draws the cooking heat and fumes from your range and oven out through a filter and discharges the heat and fumes outside of your unit.

For further information about your range refer to the Appliance section of this manual.

**Wrap Around Windshield Curtain**

An optional wrap around windshield curtain is available for your privacy.

**TV Antenna**

The optional factory-installed TV antenna has a crank which is located inside your unit. Turn the crank to raise or lower the antenna. Push up on the crank to turn the antenna to the desired direction. The crank and the plug for the antenna are located inside your unit, just below the antenna. Be sure to lower the antenna before moving your vehicle.

**Sun Deck and Ladder**

The optional sun roof and ladder allows extra space for the storage of equipment on the top of your unit. In addition, this area may be used for better viewing of sporting events, when hunting, etc. Caution should be used not to load the sun deck with too much weight and against making holes in the roof skin.

**Storm Windows**

Storm windows are available for your Leprechaun models. They clip to the inside of your windows.

**Generator Hour Meter**

The generator hour meter is optional. It gives you the actual total running time on your generator.

**Dash Mounted LP-Gas Gauge**

For your convenience, an optional LP-gas gauge can be included on the dash of your motor home. This instrument shows the amount of LP gas you have in your tank.

**Recirculating Electric Toilet**

If your motor home has the optional recirculating electric toilet, you may further conserve your water supply. The recirculating toilet will accommodate approximately 80 usages with its initial charge of four gallons of water, and Monochem T-5 chemical.

**Speed Control**

If your motor home has the optional speed control, refer to the automotive system section for operational information.

**Air Conditioner**

If your motor home is equipped with an optional roof-mounted air conditioner, you can enjoy total living comfort on those hot days and nights whenever you are connected to a 120-volt power source or obtain 110-volt from the generator. The adjustable, factory-installed air conditioner, in conjunction with the insulation of the Coachmen Motor Home, provides the cooling comfort for your total enjoyment.

To cool your motor home with your optional air conditioner, follow these instructions (see Figure 15A):

1. Close the windows, door and roof vent.
2. Set the thermostat dial on the air conditioner control panel to the desired temperature.
3. Turn the blower switch in the desired position—Hi-Cool or Low-Cool. The other two positions

(Hi-Fan and Low-Fan) operate the fan only.

4. Adjust the air flow for the desired air distribution. This control (push-in and turn) diverts air all to the front, all to the rear, or divided equally between the front and rear of the unit.

5. Adjust the louvers on the air box for the best air distribution.

6. After the temperature of the motor home is reduced to the desired temperature, you may wish to adjust the operation to low-cool and low-fan, or adjust the thermostat control until the temperature is as you desire.

7. To completely shut down the unit, turn the blower switch to the "off" position.

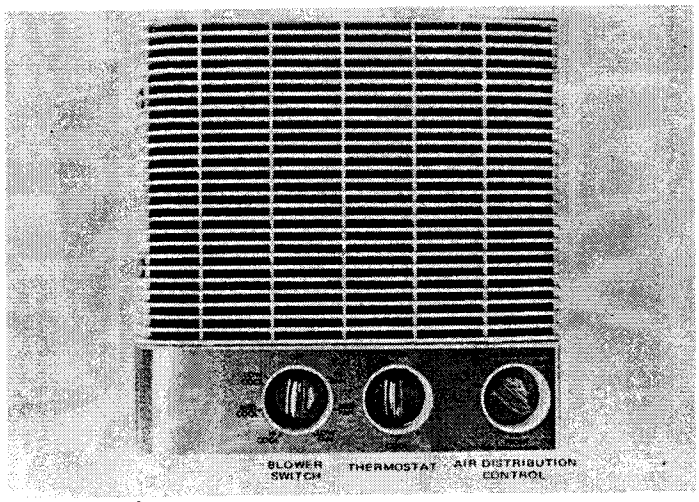



Figure 15A

**Note.** When the unit is turned on, the fan will start immediately. In approximately two minutes the compressor will start. After shutdown, unit will not restart for approximately two minutes.

Your air conditioner is equipped with a permanent type filter which can be removed and washed in a solution of water and mild detergent. After you wash the filter, rinse it thoroughly, and allow it to dry before you replace it in the air conditioner. While your filter is out for cleaning, you should remove any lint from the air inlet duct so that the filter seats properly back in the unit.

There is a protective vinyl cover available as optional equipment to protect your unit during the off-season.

If your unit is equipped with the 10,000-BTU dash-mounted automotive air conditioner, you may regulate the temperature by adjusting the thermostat to the degree of coolness desired, and regulating the blower fan (see the Automotive System section for further information).

**Tire Carrier**

The optional Kenco tire carrier would be mounted on the rear bumper of your motor home or on the front of your mini motor homes. If the tire is in front of the trunk door, you need only to pull the ring which is located behind the tire which will allow you to fold the tire back and down, thus giving you access to the trunk. An optional vinyl tire cover is available to protect the tire from the sun.

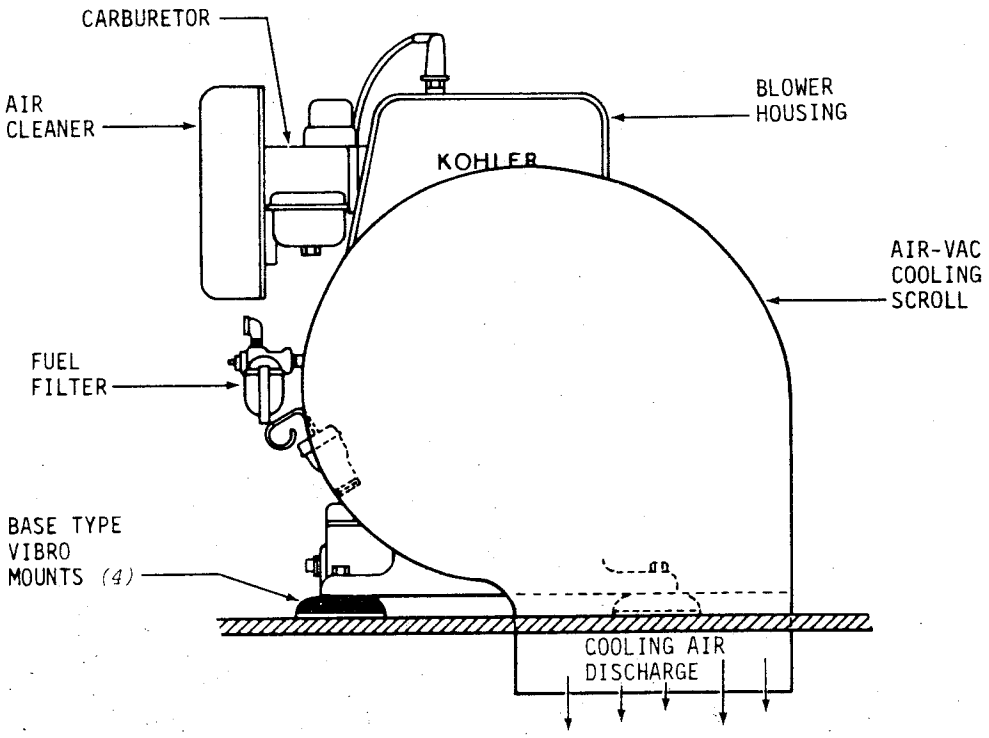



Figure 15B

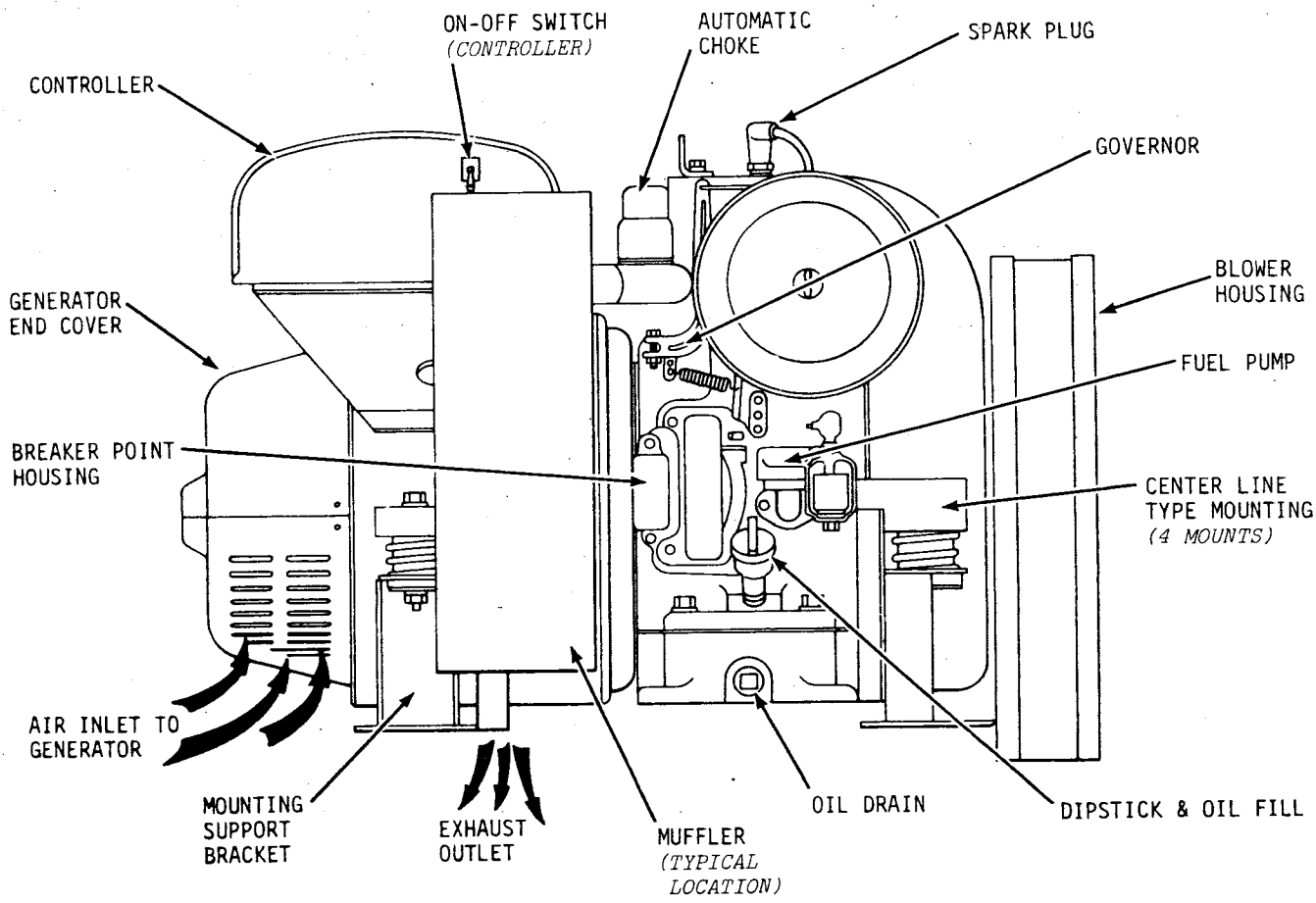



Figure 15C

### Overhead Bunks Operation and Load Capacity

1. Rear bunk maximum load capacity - 150 lb.
2. Front bunk maximum load capacity - 250 lb.

To operate the rear overhead bunk you must first release the two (2) pin locks located inside of the false cabinet front on either end, allowing the cabinet front to be lowered to a resting position on the end supports. The rear bunk has a maximum load capacity of 150 pounds.

To operate the front overhead bunk, the driver's seat must be in the full back position. The security catch (jeep hook) can then be released allowing the bunk to be pulled into the down position. The front bunk has a load capacity maximum of 250 pounds.

### Optional Generator

Diagrams 15B and 15C indicate the major parts of your optional generator.

## CHAPTER 16

### MISCELLANEOUS GEAR

| ITEM | WEIGHT IN POUNDS |
|---|---|
| Air Mattress | 5 |
| Aluminum Camp Cot | 7 |
| Aluminum Camp Cot w/Mattress | 22 |
| Army Cot | 15 |
| Auto Hand Vacuum | 5 |
| Ax | 3-6 |
| Battery | 37-50 |
| Battery Box (for boat) | 3 |
| Battery Charger | 10 |
| Bicycle | 45 |
| Binoculars | 1½-5 |
| Booster Air Shocks | 14 |
| Broom | 2 |
| Bucket/Wastebasket | 2 |
| Camera | 3 |
| Camera Outfit, Polaroid | 7 |
| Camp Folding Stool | 1 |
| Camp Folding Table | 16 |
| Camp Stove | 18 |
| Camper Fan | 4 |
| Camper Fold-away Steps | 18-19 |
| Camper Generator, 1100 Watt | 70 |
| Camper Stabilizer | 8 |
| Camper Sundeck & Ladder | 19 |
| Canopy | 18 |

| | |
|---|---|
| Canteen (2-quart) | 1 |
| Catalytic Heater | 8 |
| Chain Saw & Case | 18 |
| Charcoal | 10 |
| Charcoal Fluid Igniter | 1 |
| Chess/Checkers/Games | 1 |
| Clothes Line (50 foot) | 1½ |
| Clothes Pins (package) | ½ |
| Compass | ¼ |
| Double Bass Drum Set (15 pc.) with cases | 110 |
| Electric Cable (100 feet) | 10 |
| Electric Fan 12" | 10 |
| Envelopes/Stamps | ¼ |
| Extension Rear Bumper | 123 |
| Extinguisher | 5-17 |
| Film, 4 rolls | 1 |
| First Aid Kit | 3 |
| Flag/Reflector Kit | 7 |
| Flare | ½ |
| Flashlight | 1 |
| Floor Mats | 11 |
| Front Tire Carrier | 7 |
| Funnels (water, fuel) | ½ |
| Gas Lantern | 6 |
| Gas Stove (2 burner) | 11 |
| Gasoline Emergency Can (5 gal.) | 11 |
| Grease Gun and Grease | 14-15 |
| Ground Cloth | 1 |
| Guide Book | 2 |
| Hammer | 1-2 |
| Hand Saw | 2-3 |
| Hand Spotlight | 2 |
| Hatchet | 2-3 |
| Hiking Pack | 3 |
| Insect Fogger | 7 |
| Inverter, 12-volt | 13 |
| Iron | 2½-4 |
| Ironing Board (portable) | 2 |
| Jack | 10-15 |
| Lantern | 6 |
| Laundry Bag | 1 |
| Level | 1 |
| Maps (8) | 1 |
| Mess Kit (aluminum) | 2 |
| Mosquito Repellent (can) | 1½ |
| Movie Camera (8 mm) | 4-8 |
| Oil Paints | 5-11 |
| Easel | 6 |
| Padlock & Chain | 1 |
| Picnic Blanket | 3 |
| Playing Cards (2 decks) | ½ |
| Portable Toilet | 20-30 |
| Power Intercom | 4 |
| Propane (20-gal. bottle) | 45 |
| Propane Cylinders (disposable) | 2 |
| Radio, 2-way, 6-watt | 7-8 |
| Radio, portable | 6-16 |
| Refrigerator | 100 |
| Rope (100 ft., 5/8") | 14 |
| Roof Top Camper Air Conditioner | 150 |
| Sewer & Water Hook-up Kit | 10 |
| Sewing Machine | 20-50 |
| Shovel | 4-5 |
| Shovel (folding) | 3 |
| Spare Oil (10-qt can) | 20 |
| Stake Pocket Camper Hold-Downs (2) | 9 |
| Stereo Tape Player | 10 |
| Swing-Out Spare Tire Carrier | 17 |
| Tape Recorder | 4-20 |
| Tarp (10' x 12') | 20 |
| Television, Battery-Powered | 10 |
| Television, Portable B/W | 20 |
| Television, Portable Color | 61-76 |
| Tent, pup | 12 |
| Tent, large | 70-80 |
| Tire Chain Kit | 3 |
| Tire Gauge | ½ |
| Tire Iron | 4 |
| Tire Repair Kit | 4 oz. |
| Thermos (1 qt. steel) | 3½ |
| Thermos (2 qt. plastic) | 5 |
| Tool Kit (65 piece mechanic) | 15-21 |
| Trailer, Cycle | 225 |
| Trailer, Tent | 425-832 |
| Trailer, Utility ¼ton | 195 |
| Travel Information | ¼ |
| Truck Washing Brush | 3 |
| Tune-up Kit | 20 |
| Two-Suiter Case | 11 |
| Typewriter | 11-24 |
| Umbrella | 2 |
| Vacuum | 10-36 |
| Water Heater | 68 |
| Water Purification Tablets | ¼ |
| Water/Tire Pump | 6 |
| Week-end Case | 7 |
| Writing Pad | ¼ |

## CLOTHING

| ITEM | WEIGHT IN POUNDS |
|---|---|
| Blouse, Shirt | 1½ |
| Coat, lined | 4 |
| Culotte | 3/4 |
| Dress, Skirt | 3/4 |
| Jacket, lined | 2½ |
| Jeans, Slacks | 1-2 |
| Pajamas | 1 |
| Raincoat | 3-4 |
| Shoes | 1-3 |
| Shorts | ½-3/4 |
| Sunglasses | ¼ |
| Sweater | 1 |
| Swimsuit & Pullover | 1½ |
| Windbreaker | 3/4 |

## SPORT ITEMS

| ITEM | WEIGHT IN POUNDS |
|---|---|
| Anchor (boats up to 14 ft.) | 10 |
| Semi-V Aluminum Boat | 118-257 |
| Boat Trailer | 135-240 |
| Canoe (aluminum) | 65-75 |
| Fishing Boat (fiberglass) | 125 |
| Fishing Kit with light tackle box | 6 |
| Fishing Motor (electric) | 9-23 |

| | |
|---|---|
| Jon Boats (10-16 ft. aluminum) | 62-250 |
| Outboard Motors up to 5½ hp | 42-54 |
| Remote Gas Tank (for boat) | 5 |
| Rubber Boat (8 persons) | 85 |
| Rubber Boat (2 persons) | 15 |
| Safety Vest (adult) | 3 |
| Safety Vest (child) | 2 |
| Tackle Box (large) | 8 |
| Oars | 10 |
| | |
| Cartridges (20) | 2 |
| Duck Decoys | 9 |
| Gun Case | 2 |
| Gun Cleaning Kit | 3 |
| Hunting Bow | 4 |
| Arrows (6) | 1 |
| Hunting Knife | 8 oz.-1 |
| Rifle (30.06) | 7-12 |
| Scope | 1 |
| Shotgun | 9 |
| Shotgun Shells (5) | 1 |
| | |
| Golf Bag | 6-13 |
| Golf Cart | 16 |
| Golf Irons (8) | 11 |
| Golf Set (child's) | 11 |
| Golf Woods (4) | 7 |
| | |
| Bat/Ball/Glove | 6 |
| Boots | 3-5 |
| Mini-Bike | 84-170 |
| Scuba Gear (with tank) | 71 |
| Skates | 3-4 |
| Snow Skis, Bindings, Boots & Poles | 23-27 |
| Water Skis | 15-16 |
| Tennis Racket with Cover, Press, Balls | 3 |
| Pool Table (8-ft) | 306 |

## BASIC KITCHEN ITEMS

| ITEM | WEIGHT IN POUNDS |
|---|---|
| Abrasive Pads (package) | ¼ |
| Bags, Disposable (package) | 1½ |
| Basin/Rack (plastic) | 2 |
| Bottle Opener | ¼ |
| Can Opener (crank) | 1 |
| | |
| Coffee Pot | 1-3 |
| Cookbook | 3 |
| Cookware Set (8-piece aluminum) | 11 |
| Cookware Set (8-piece stainless steel) | 15 |
| | |
| Cooler (48-quart) | 15 |
| Cups, Disposable (40) | 3/4 |
| Cutting Board | 1½ |
| Dinnerware (45-pc. plastic) | 16 |
| Dish Cloth (12" x 12") | 1/8 |
| | |
| Dish Towel | ¼ |
| Dishes (53-piece for 8) | 40-60 |
| Foil (cooking) | ½ |
| Fry Pan (skillet - 15") | 13 |
| Glasses (8 plastic) | 1-3/4 |
| | |
| Juice Container (plastic) | ½ |
| Knives (kitchen) | 1¼ |
| Matches (carton) | ½ |
| Mixer (portable) | 3-5 |
| Oven-Broiler | 10-18 |
| | |
| Plate Scraper | ¼ |
| Plates (40 disposable) | ½ |
| Pots & Pans (10 pieces) | 14 |
| Pot Holders | 1/8 |
| Soap/Detergent (box) | 1 |
| | |
| Spatula/Pancake Turner | ½ |
| Sponge | ¼ |
| Stirring Spoon | ¼ |
| Table Covering (plastic) | ½ |
| Tablewear (50 pc. stainless) | 7 |
| | |
| Thermos (1 gallon aluminum) | 4 |
| Toaster | 1-9 |
| Tongs | ½ |
| Toweling, Paper (per roll) | ¾ |
| Trash Caddy | 2 |

## BASIC OUTFIT FOOD AND BEVERAGE CHECKLIST

| ITEM | WEIGHT IN POUNDS |
|---|---|
| Apple (large) | ½ |
| Bacon/Sausage | 1 |
| Baking Soda (box) | 1 |
| Banana (large) | ½ |
| Beverage (can) | 1 |
| | |
| Bread | 1 |
| Breakfast Cereal (box) | ½ |
| Butter/Margarine (carton) | 1 |
| Catsup (bottle) | 1¼ |
| Chili (can) | 1¼ |
| | |
| Cocoa | 1¼ |
| Coffee (1 lb.) | 1 |
| Cookies (package) | 1 |
| Cooking Oil (quart) | 1½ |
| Corned Beef Ham (can) | 1¼ |
| | |
| Crackers | 1 |
| Egg (fresh or hardboiled) | 1/8 |
| Flour/Pancake Mix (box) | 1 |
| Fruit (1 lb. can) | 1¼ |
| Fruit Juice (can) | 1 |
| | |
| Jelly/Jam | 1¼ |
| Macaroni/Spaghetti (can) | 1¼ |
| Milk (dried) | 1¼ |
| Milk (pint, carton) | 1 |
| Mustard (bottle) | 1¼ |
| | |
| Napkins (package) | ¼ |
| Olives (jar) | 1 |
| Orange (fresh, large) | ½ |
| Peanut Butter | 1¼ |
| Pickles (jar) | 1 |
| | |
| Pork & Beans (lb. can) | 1¼ |
| Potatoes/Rice | 4 |
| Poultry/Meat/Fish | 4 |
| Salad Dressing | 1¼ |
| Salt & Pepper (container) | ½ |
| | |
| Soup (can, condensed) | 3/4 |
| Spam (can) | 1 |
| Spices (assortment) | 1 |
| Stew (can) | 1¼ |
| Sugar (box) | 1 |
| | |
| Syrup | 1 |
| Tea (box of bags) | ¼ |
| Vegetables (lb. can) | 1¼ |

| | |
|---|---|
| Vegetables (fresh) | 1½ |
| Water (per gallon) | 8.4 |

## BATHROOM SUPPLIES

| ITEM | WEIGHT IN POUNDS |
|---|---|
| Bath Cap | ¼ |
| Bath Towel (22" x 24") | 3/4 |
| Chemicals (Toilet) | 1 |
| Cosmetic Case | 5 |
| Facial Tissue (box) | 3/4 |
| Hand Mirror | 1 |
| Hand Soap (bar) | ¼ |
| Hand Towel (16" x 25") | ½ |
| Shampoo (tube) | ¼ |
| Shaving Cream (can) | 1 |
| Shaving Kit | 2 |
| Sponge | ¼ |
| Suntan Oil | ¼ |
| Toilet Paper (roll) | ½ |
| Toothbrush Holder | ¼ |
| Toothbrush & Toothpaste (tube) | 5/8 |
| Wash Cloth (12" x 12") | 1/8 |

## BEDDING

| ITEM | WEIGHT IN POUNDS |
|---|---|
| Blanket (twin) | 2-5 |
| Pillow | 1-2 |
| Pillowcase | ½ |
| Sheet, disposable | 10 oz. |
| Sheet, twin | 1-2 |
| Sleeping Bag (cold weather) | 13 |
| Sleeping Bag (double) | 16 |

# MOTOR HOME INDEX

MOTOR HOME OWNER'S MANUAL

Serial No. _____


COACHMEN DRIVE
MIDDLEBURY, INDIANA 46540

1-754315 Litho U.S.A.