

OWNER'S
MANUAL

BOLER

BOLER TRAILERS

A DIVISION OF
VANGUARD TRAILERS

RECREATION VEHICLE OWNER'S MANUAL

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THE COMPANY RESERVES THE RIGHT TO MAKE CHANGES IN BOTH PRICE AND SPECIFICATIONS OF ANY UNIT,
PART OR ACCESSORY AT ANY TIME, WITHOUT NOTICE.

PART 1

INTRODUCTION

When you took delivery of your new Boler Recreational Vehicle you not only purchased the best recreational vehicle your dollar could buy you became a member of one of the largest segments in our economy.

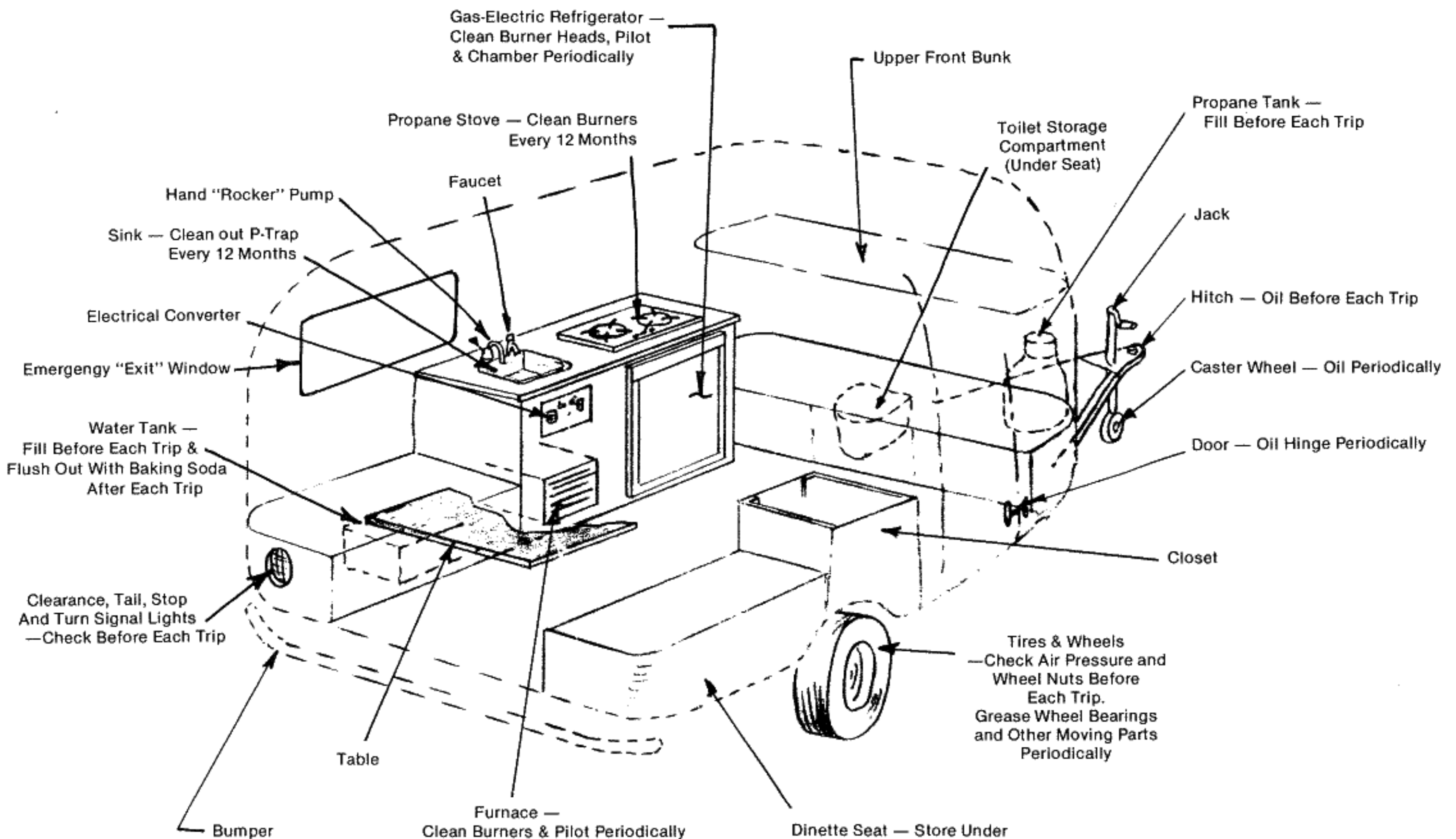
Your Boler has been designed and engineered to meet the latest federal, provincial, and C.S.A. regulations, as applicable to ensure many years of continued enjoyment and pleasure. The best in name brand appliances and equipment as well as production techniques have been used to insure you of receiving the best quality possible with your new recreational vehicle.

Boler Trailers has been producing quality recrea-

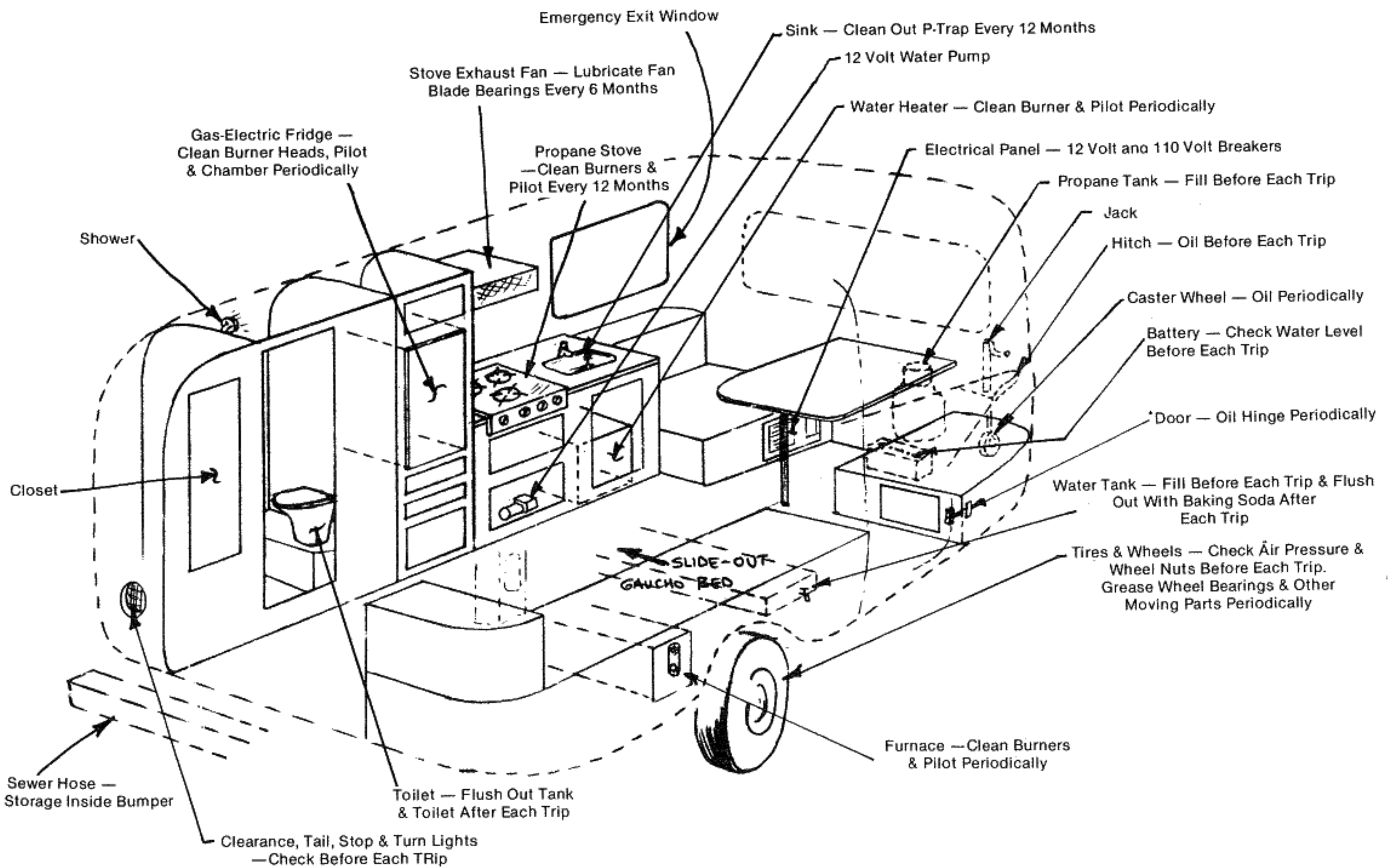
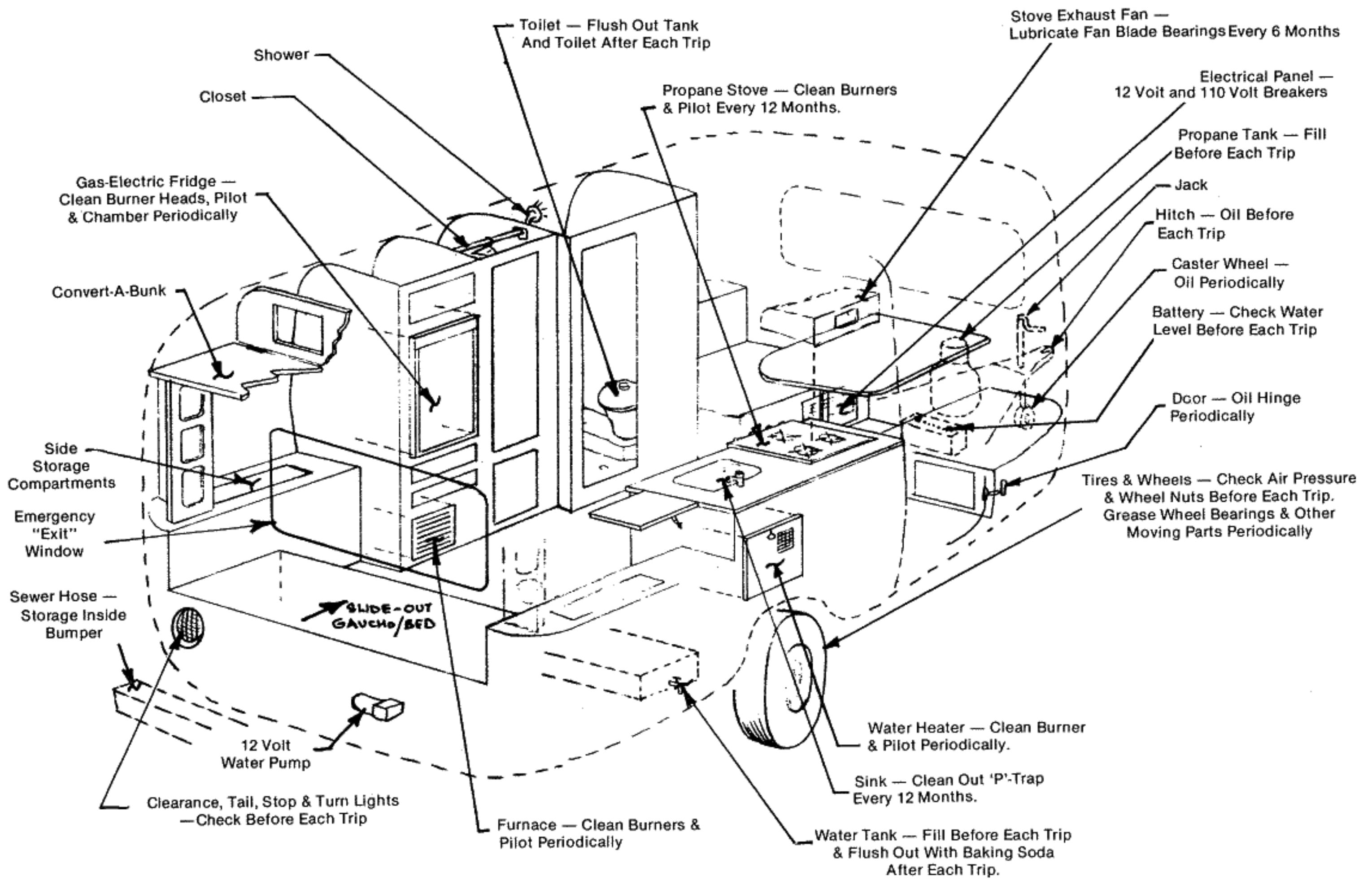
tional vehicles for twelve years and we would like to take this opportunity to welcome you to the Boler family. You have just entered a new way of life which is characterized by new friends, new sights and new ways of enjoying the great outdoors.

Read over the owners manual thoroughly as it will help answer questions which may not have been covered when checking your unit out with the dealer. The manual is designed to help you care for and service your new recreational vehicle as well as supply you with many tips on recreational vehicle use which were drawn from thousands and thousands of happy Boler owners.

GETTING ACQUAINTED WITH YOUR NEW BOLER



MODEL B-1300



PART 2

SERVICE & WARRANTY POLICY

A warranty registration card is enclosed on Page 6 of this OWNERS MANUAL. This card lists pertinent information for the company which will allow us to give you more prompt and complete service.

You and the dealer must fill out and sign this warranty registration card and return it to us within fifteen (15) days of purchase, in order to validate warranty. Please insure that the warranty card is completed in full before mailing it to the factory.

Upon receipt of the signed warranty registration card Vanguard will issue a warranty authorization card which must be carried in the vehicle at all times. When any warranty work is necessary the warranty authorization card must be presented to the dealer performing the necessary work. This card must be presented before any work will be done.

Your OWNERS MANUAL has a "Customer's Check List" which the dealer will use to familiarize you with the operation of your unit.

Your time spent with the dealer will pay you and the dealer dividends in trouble-free operation of the units.

Take time to study your OWNERS MANUAL. It has many ideas and suggestions on how to get the most enjoyment out of your unit, as well as instructions on "Safety First" operations.

This warranty is the only warranty applicable to the recreation vehicle and is expressly in lieu of all other warranties, expressed or implied.

REMEMBER, this warranty is valid and effective only if your warranty card is properly filled out and mailed to the company within fifteen (15) days from the date of purchase.

ACCESSORIES WARRANTY

Our product is built to the highest standard in the Recreational Vehicle industry, and as such to qualify all components used must comply to Federal, Provincial and C.S.A. codes.

The company is not the manufacturer of the following products: ranges, ovens, range hoods, refrigerators, heaters, water heaters, air compressors, air conditioners, windows, brakes, tires, chassis, toilets, jacks, rectifiers and L.P.G. accessories. The company has conducted no independent tests of their quality and fitness, and makes no expressed or implied representation regarding their freedom from apparent or latent defects. They are warranted by the individual manufacturer and a copy of his warranty has been supplied to you.

Nearly all of these manufacturers maintain service centers throughout the country. However, should you experience any problems, contact your dealer **first** before attempting to obtain service through other means (see Supplier List).

WARRANTY

BOLER TRAILERS does hereby warrant this unit against any defects in material or workmanship for the period of one year from the date of purchase. Appliances and accessories are warranted separately by the respective manufacturers excluding labour charges to replace any such item should it become defective. This warranty does not include the chassis or tires as such items are covered by separate warranties of the chassis and tire manufacturers respectively. This warranty is extended to the original purchaser only, and shall not be effective if the unit has been the subject of abuse, negligence or accident, nor if the unit has been repaired or altered outside of **BOLER TRAILERS** factory without their approval. Nominal maintenance shall be the responsibility of the owner. Any transportation charges for defective parts returned under warranty must be assumed by the purchaser, replacement parts will be shipped back prepaid.

BOLER TRAILERS

BOLER TRAILERS

BOX 280,
WINFIELD, B.C.
CANADA

Model B1700RBH Serial No. 95273-27 Reg. No. _____

Name _____

Address _____

City _____

Selling Dealer Smgl Motors

Date of Sale _____ Expiry Date _____

WARRANTY AUTHORIZATION CARD

ADDENDUM:

PARTIAL LIST OF SUPPLIERS OF MAJOR APPLIANCES AND ACCESSORIES



1. Trailer Brakes, Running Gear, Tires

A. Standen Ltd.
1222 - 58th Avenue S.E.,
Calgary, Alberta
403/253-7611

B. Goodyear Tire & Rubber Co.
Any Franchised Goodyear
Dealer

2. Windows

A. Hehr International, Inc.
708 Industrial Road,
Nampa, Idaho 83651
208/466-7833
3333 Casitas Avenue,
Los Angeles, Calif. 90039
213/663-1261

3. Roof Vents and Range Hoods

A. Jensen Corporation
1946 E. 46th Street,
Los Angeles, Calif., 90058
213/232-8292

4. Ovens, Ranges and Ice Boxes

A. Ward and Son Inc. (Traveler)
15343 Proctor Avenue,
City of Industry, Calif. 91744
213/330-0601

5. Refrigerators

A. Dometic Sales of Canada Ltd.
303 - 58th Avenue S.E.,
Calgary, Alberta
403/252-5544

6. Furnaces

B. Suburban Manufacturing Co.
P.O. Box 399
North Broadway,
Dayton, Tenn 37321
(615) 775-2131

7. Water Heater

A. Traco Mfg. Ltd.
7041 Farrell Road,
Calgary, Alberta
403/253-2231

8. Water Pumps

A. Shurflo Products
1400 Cerritos Avenue East,
Anaheim, California 92805
714/533-7700
Distributed and Serviced
IN Canada By
Traco Mfg.
7041 Farrell Road,
Calgary, Alberta
403/253-2231

9. Toilets

A. Thetford Corp.
1820 N. Lemon Street,
Anaheim, California
Distributed and Serviced
in Canada By
Traco Mfg.
2041 Farrell Road,
Calgary, Alberta
403/253-2231

B. Monogram
430 Freeman Blvd.
Redondo Beach Calif.
90278

10. L.P.G. Tanks & Regulators

A. Eng. Products of Canada Ltd.
2020 Centre Avenue N.E.,
Calgary, Alberta
403/272-5506

PART 3

TRAILER RUNNING GEAR

Tires:

The tires on your travel trailer were chosen for that unit on which they are mounted. You should be certain that after damaging tires that you replace the original equipment with one of equal rating. It is important that you check your tire pressure periodically to see that it conforms to the following inflation levels as recommended by the manufacturer.

TIRE SIZE	RECOMMENDED PRESSURE	MAXIMUM CAPACITY (Per Tire)
F-78 x 14 - 4 ply B	— 32	1500
600 x 13 - 2 ply	— 28	1010

Do not overload your trailer. Remember that water alone weighs about 10 pounds per gallon. Additional weight is added by your personal belongings, utensils, and groceries, etc. Therefore, while travelling, it is good practice to store some of these items in the towing vehicle.

Suggested loading procedures are based upon the use of a load equalizing type of hitch. It is important that the proper capacity and type of load equalizing hitch be selected by a qualified expert.

ELECTRIC BRAKE SYSTEM

The electric brakes on your travel trailer are similar to those on your automobile, the difference being that they are activated by 12 volt electrical impulse, as opposed to hydraulic foot pedal. Recommended brake control is Teconsha 20-30 R.

THE OPERATION OF YOUR BRAKES SHOULD ALWAYS ADHERE TO THE FOLLOWING BASIC RULES:

1. Never, excessively use your trailer brakes alone.
2. Never, excessively use your tow vehicle brakes alone.
3. Always try to use your tow vehicle and trailer brakes together.
4. However, on icy or wet pavement, apply your trailer brakes first, then your tow vehicle brakes.
5. Wind gusts or road dips may cause your trailer to sway. By lightly touching the trailer brake controller, the unit can be stabilized and brought under control.

Brakes are usually maintenance free. However, road and driving conditions may at times cause them to grab, drag or fade. Also, improper grounding of the trailer to the tow vehicle, irregular electric current, or a short circuit in the wiring system, will cause electric brakes to malfunction. In any case, we recommend that you consult your dealer or local trailer brake specialist on these problems.

WHEEL BEARINGS

Wheel bearings should be cleaned and repacked every 7,000 miles.

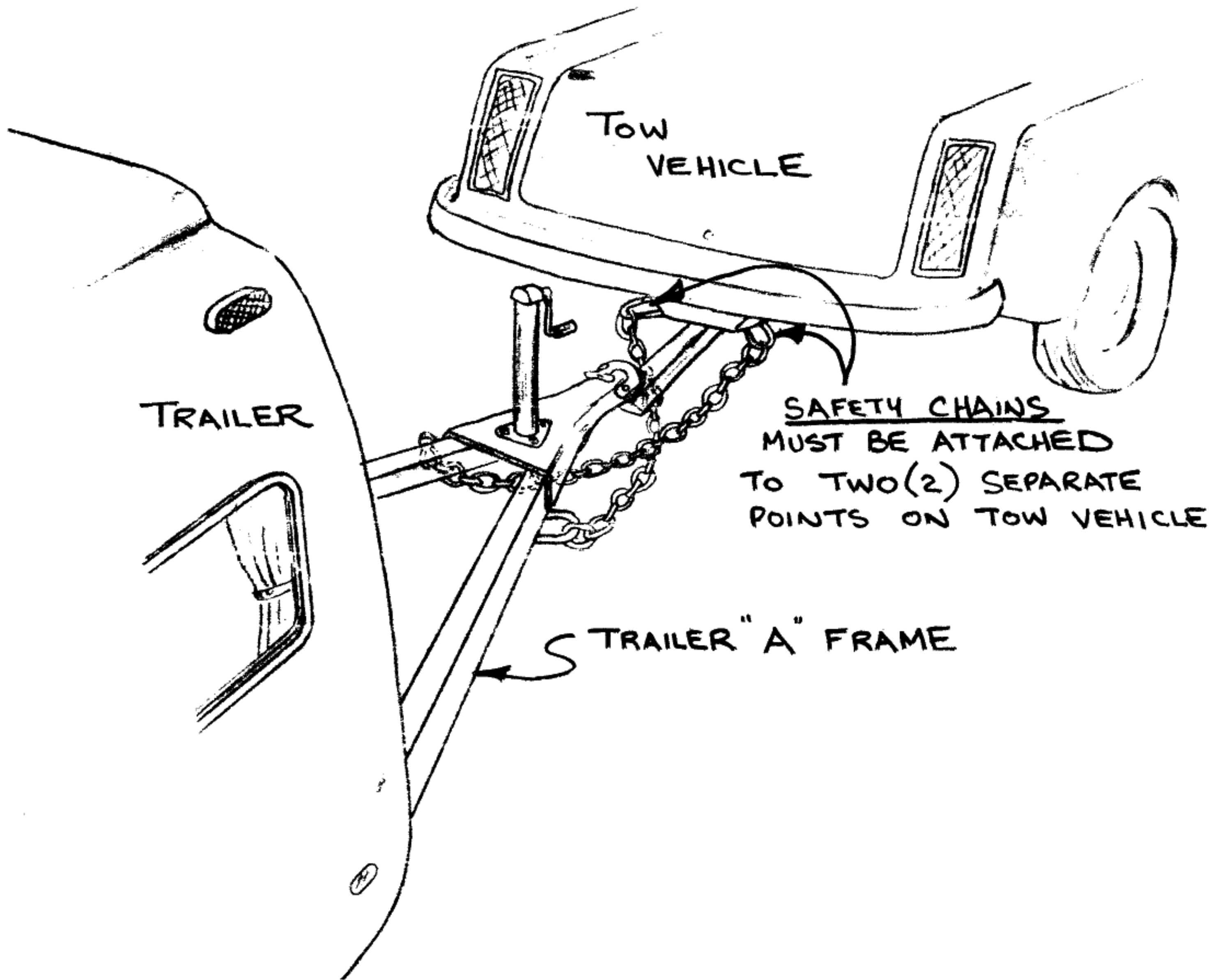
LOAD EQUALIZING HITCH

A load equalizing hitch is recommended which will distribute part of the trailer's hitch weight toward the front wheels of your car. This helps to reduce unfavorable hitch weights and sway at highway speeds.

We recommend that you consult your automobile dealer and your R.V. dealer to select a proper hitch that will match your travel trailer to your tow vehicle.

FOR YOUR OWN SAFETY AND COMFORT, have your hitch properly installed by an expert.

TYPICAL SAFETY CHAIN ATTACHMENT



UNIT LENGTH AND WEIGHT DISTRIBUTION

MODEL	Overall Length Ft. & In.	* Approx. Overall Weight-Unladen Lbs.	Weight Over Axle - Unladen Lbs.	Hitch Weight Unladen Lbs.	Disposable Load (See Note) Lbs.
B-1300S	13'2"	1232	1098	134	See Note
B-1700 R.G.S.	17'2"	2294	2092	202	
B-1700 S.G.S.	17'2"	2162	1894	268	
B-1300 H	13'-2"	1312	1178	134	
B 1700 RGH	17'-2"	2372	2170	202	
B 1700 SGH	17'-2"	2240	1972	268	

NOTE: Disposable Load — 300 lbs. Minimum or 20% of Factory Weight (Whichever is Greater.)

*Overall Weight Includes Full Propane Cylinders and Full Water Tank.

PART 5

EXTERIOR CARE AND MAINTENANCE

Exterior Maintenance

The Boler exterior color is a permanent part of the fiberglass structure and will last indefinitely with very little maintenance. A wash and a light coat of wax periodically will preserve its sparkling finish. To avoid rock chips on the front of the trailer, simply hang protective flaps on your automobile. In the unlikely event the body should be damaged, it can be repaired by the factory or you can have it done at most local body shops. PLEASE TAKE CARE NOT TO USE ABRASIVES on the front or rear windows as the plastic surfaces will scratch. Windows should be cleaned with a very soft wet cloth only. Note: Applies to Model 1300.

Windows and Doors

Vibration occurs through normal use of your recreational vehicle which may cause seams to open and screws to loosen on the windows. Screws should periodically be retightened, and where ever necessary, to provide a more positive seal.

Hub Caps

The beauty of the chromium finish on your hub-caps should be protected by periodically applying a coat of automotive type wax similar to that used on the exterior of your unit.

Trailer Chassis

The sturdy steel frame of your trailer is susceptible to nicking from rocks and other foreign matter. Also, chemicals often used on roads are corrosive. A can of touch-up paint should be used before rust has had an opportunity to take hold. Be sure to properly clean the surface before painting.

PART 6

INTERIOR CARE AND MAINTENANCE

Interior Paneling

The rich interior paneling is covered with a vinyl protective or prefinished surface and may be cleaned with a mild detergent, damp cloth, and warm water. Never use strong solvents or harsh abrasives. An occasional coat of furniture wax should be applied to the edges of cabinet doors to preserve the finish.

Floors

Your floor is covered with durable, cushioned vinyl linoleum. It should be cleaned with a mild detergent and warm water and its brightness may be preserved by applying a coat of vinyl floor wax.

Table and Counter Tops

Table and counter tops are made of the finest grade of high pressure laminate. They may be easily cleaned with soap and warm water.

Draperies

The colorful draperies are not washable and should be dry cleaned only.

Upholstery

Cleaning Instructions

Solution:

- 1 Part Mild Liquid Soap
- 5 Parts Water
- 1 Teaspoon Vinegar

Use Soap Suds only. Do not saturate fabric. This can cause water stains and shrinkage.

For stubborn stains, consult professional cleaners listed in yellow pages.

PART 7

THE LIQUIFIED PETROLEUM GAS SYSTEM (LPG)

Liquid petroleum gas is a true gas compressed into liquid form and is commonly known as Propane, Butane, or Bottled Gas. It converts into vapor from 44° F below zero (Propane) to 30°F above zero (Butane). Your appliances burn the resulting vapor. These gases all have the following characteristics:

1. CAUTION: LP Gas is potentially lethal and highly flammable.
2. They are heavier than air and will settle and flow on a surface like water.
3. They give off a noxious odor.
4. In a confined space they are highly explosive.
5. The by-product of a properly adjusted gas flame is carbon dioxide and water vapor. An improperly adjusted gas flame can produce carbon monoxide, an odorless poisonous gas. Burning also reduces the oxygen content of the air.
6. VENTING: If outside ventilation is not provided, the result could be asphyxiation for the occupants. For this reason, all units have ventilators such as roof vents, stove hoods, and opening windows. OPEN THEM! A decal is affixed to your range and LPG tank reminding you of this important step. Be sure to provide proper ventilation when occupying or sleeping in your unit, as breathing itself consumes oxygen from the air.

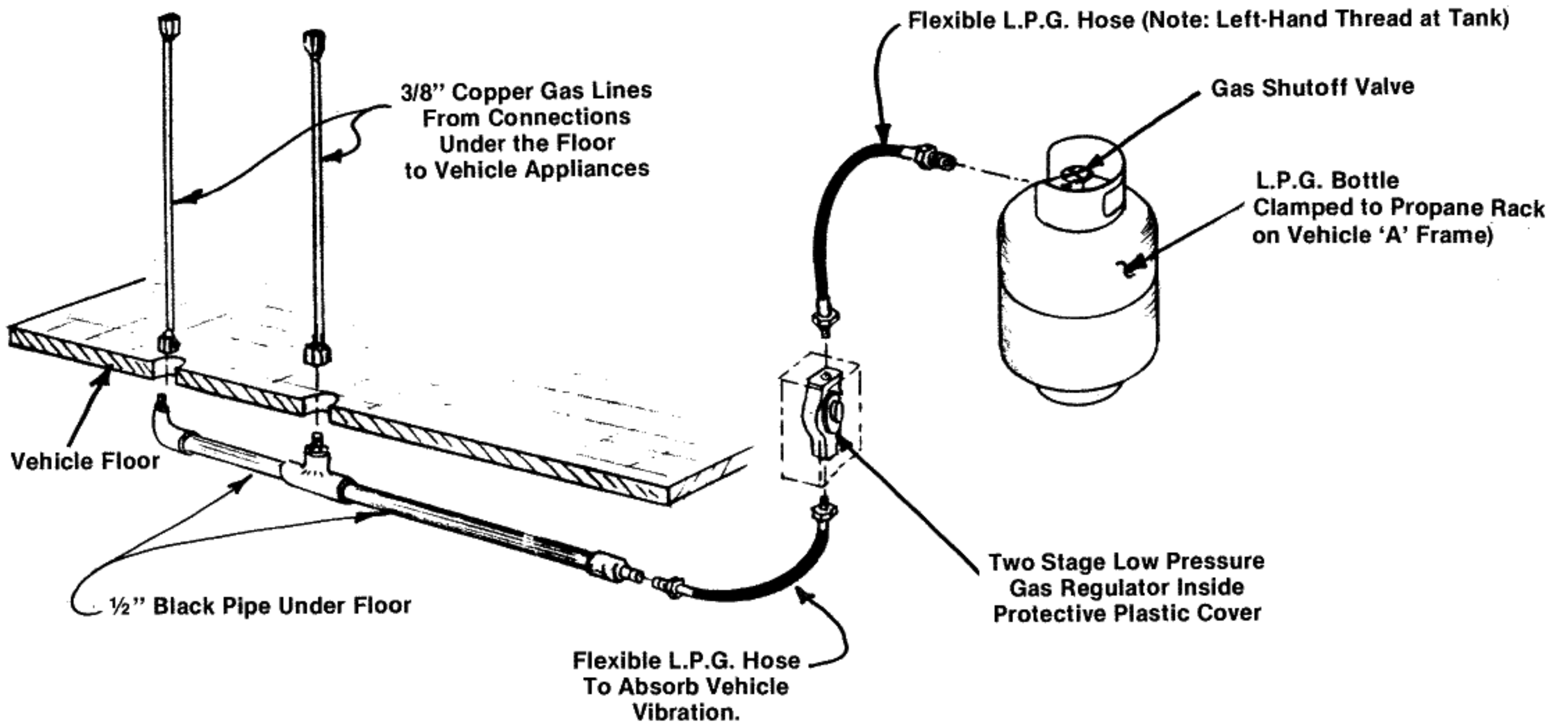
LP Gas can be dangerous to use if not handled properly; consequently, we are listing some basic practices for safe and trouble-free usage of your liquified petroleum gas (LPG) system.

LPG SAFETY PRECAUTIONS

(See typical drawing of tank and regulator to become familiar with the names of the components.)

1. Have your tank filled ONLY AT AN AUTHORIZED OR LICENSED LPG GAS STATION. Never allow a tank to be filled while it is still installed in the LPG compartment.
 - a. There are many LPG gas fueling stations located throughout the country. They are listed in the telephone directory in the Yellow Pages under "Gas — Liquified Petroleum — Bottled & Bulk."
2. While the tank is being filled, the liquid level gauge must be open to prevent over filling. When the tank has been filled to capacity liquid gas will squirt from the open liquid level gauge. Your tank is now filled — simply close both the shutoff valve and liquid level gauge.
3. When tightening the spud nut (left hand) on the shutoff valve, draw it up snug with a proper wrench — don't jam it. This is a machined male brass fitting which seats securely against a female seat in the valve — NO PIPE DOPE IS NECESSARY. If strong pressure is necessary to stop a leak, the valve should be repaired or replaced.
4. When using the tank, open the shutoff valve all the way, then close ¼ turn. This will always enable you to determine whether the valve is opened or closed.
5. Check all tank and line connections each time you refill your propane tank to be sure they are tight. When testing for leaks, use soapy water — NOT MATCHES!
6. Make certain your tank is properly fastened in place.
7. Under no circumstances should the LPG regulator be adjusted except by an authorized or licensed LPG serviceman.
8. When you take your LP gas tank to an LP gas dealer for filling transport it in the proper position in which it is used — with the valves closed. Secure the tank against falling or rolling.
9. Never install, store or transport any LPG gas tank (filled or empty) inside your unit.
10. Never attach a lock or device requiring a key, special tools or knowledge to open, to the LPG gas compartment access door. In an emergency the tank service valve should be readily accessible.
11. NEVER use an upright tank in a laydown position or a laydown tank in an upright position.
12. You need not worry about the inside of your tank as LP gas is non-corrosive. However, the outside should be kept from rusting by applying a coat of good paint as needed.
13. Always ensure that your system is turned off at the tank while travelling.
14. Always be sure to completely ventilate your camper or trailer after travelling or a period of non-use before attempting to light an LPG appliance. If the odor of gas is present, do not use the camper or light any matches or appliance. Take your unit to an authorized dealer for service.
15. For initial lighting of an LP gas appliance, it may be necessary to bleed the LP gas supply line of trapped air before the appliance will light. To do this, open the burner valve or pilot and hold a lighted match or flame near the burner opening. Allow time for air to escape. This will vary depending on the distance the appliance is located from the LP gas tank.
16. If moisture is present anywhere in your gas system, it can freeze solid at low temperatures. When you fill your tank, have the authorized serviceman inject a little dry methyl alcohol into the tank (about one ounce to 20 pounds of fuel). The alcohol will act as an antifreeze for the entire system.
17. PRACTICE SAFETY AT ALL TIMES. If you do not understand the operation of your appliance or LP gas system, contact your dealer or authorized and licensed LPG representative before proceeding.

TYPICAL LPG SYSTEM

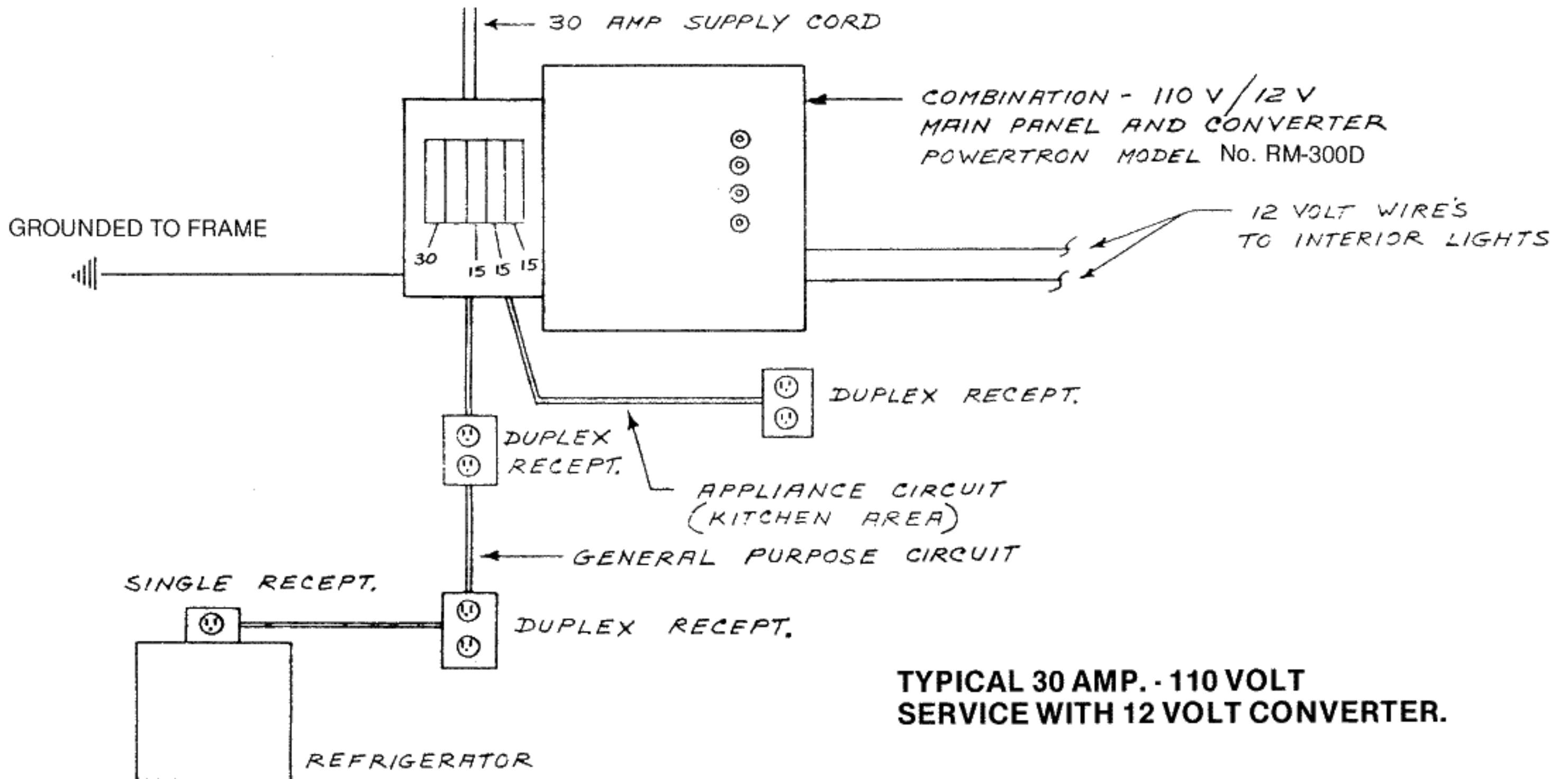


PART 8 ELECTRICAL SYSTEM

While away from a 110 volt source, all your 12 volt requirements for interior lighting, fans, pumps, etc. are supplied by your truck's 12 volt D.C. battery-alternator system. The Power Converter distributes and

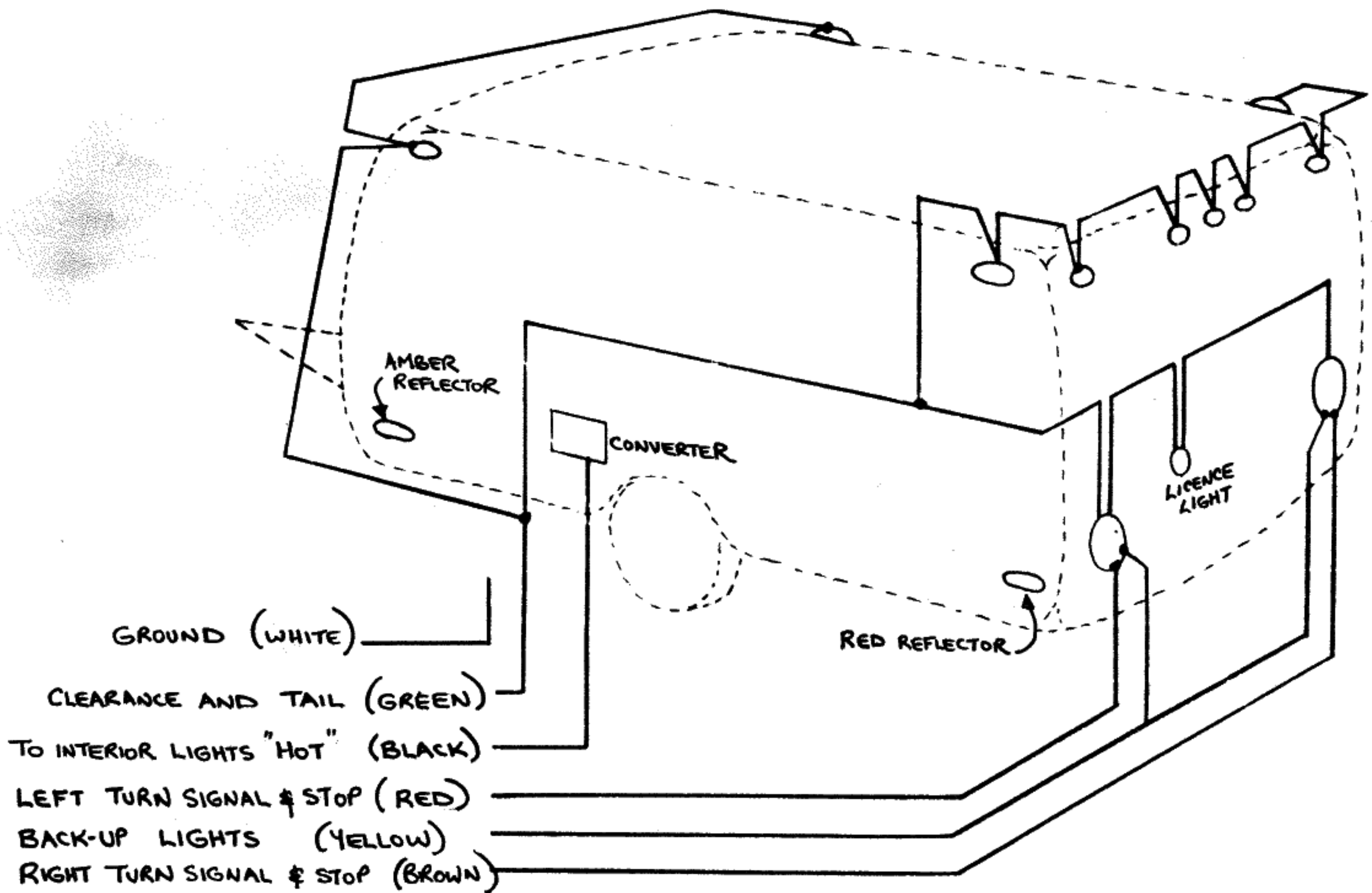
controls your entire electrical needs within your camper. (Some models)

While hooked up to a 110 volt source, a flip of the switch converts the 110 volt A.C. current automatically to 12 volt D.C. for continuous safe operation of all your 12 volt camper equipment.

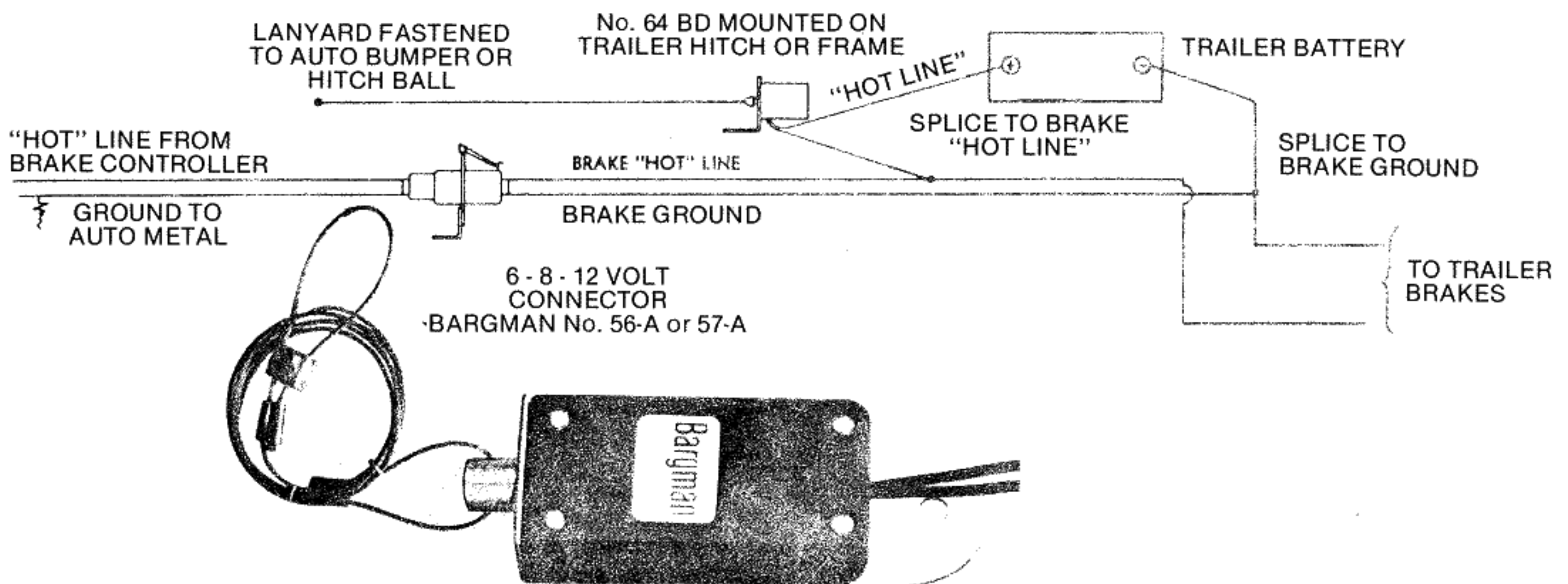


TYPICAL 30 AMP. - 110 VOLT SERVICE WITH 12 VOLT CONVERTER.

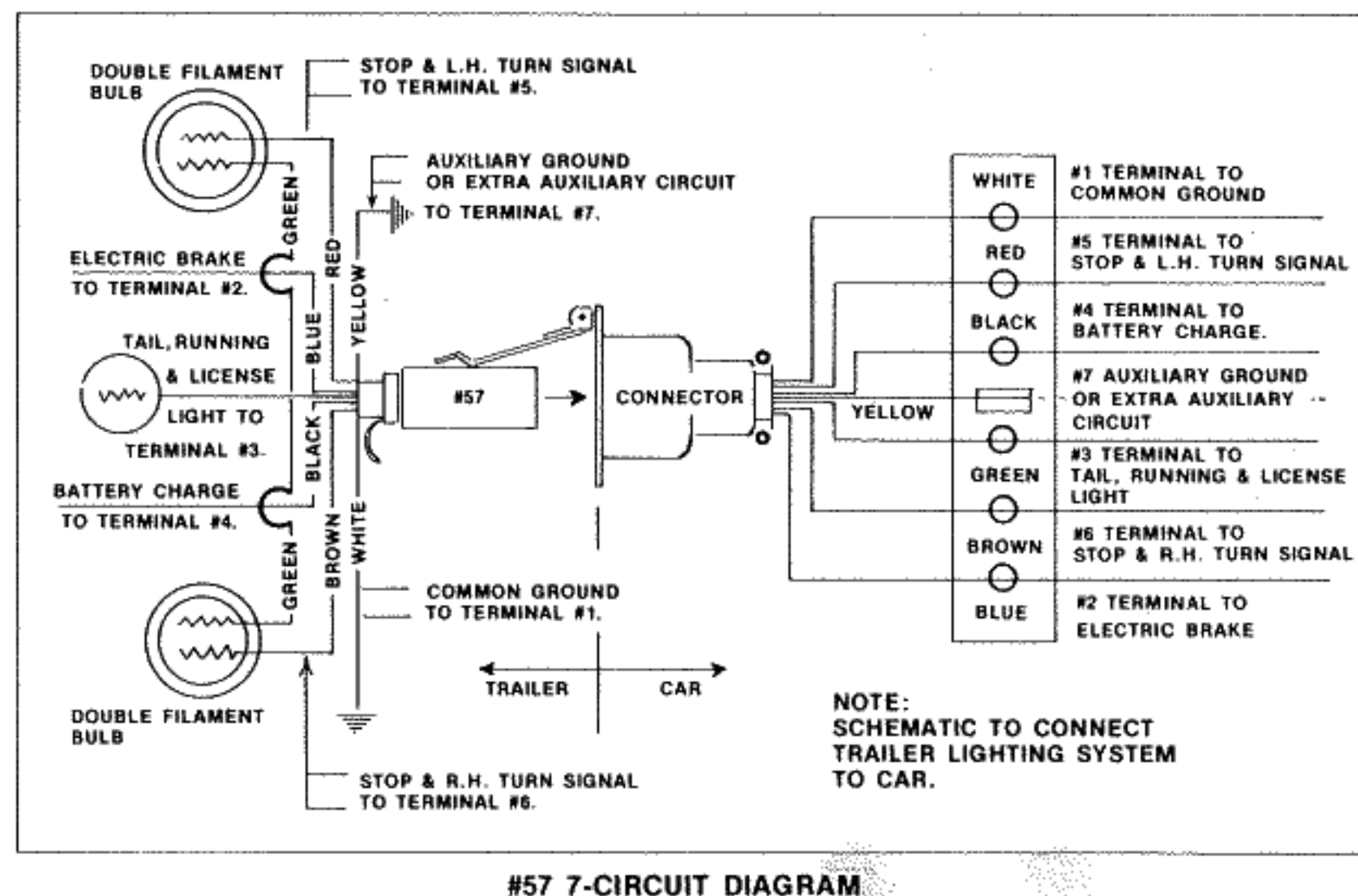
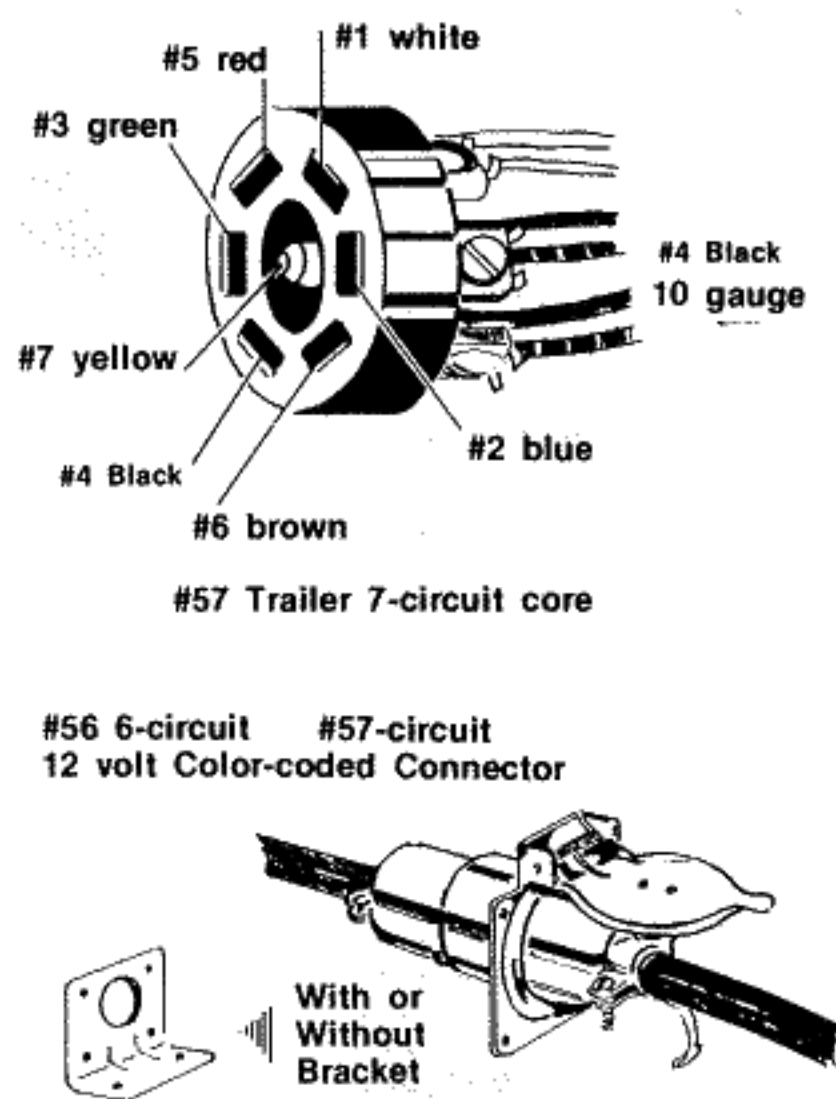
TYPICAL CLEARANCE AND TAIL LIGHT WIRING



SCHEMATIC WIRING DIAGRAM SHOWING BREAKAWAY SWITCH INSTALLATION WITH BATTERY MOUNTED ON TRAILER.



Wiring Diagram for Bargman 57 7-circuit 12 Volt Electrical Connector



Travel Trailers:

A seven way connector is used to complete the circuit between trailer and tow vehicle. All wires leading to your tow vehicle are fused within the tow vehicle itself.

For self-contained units, a **Min. of 90 Amp.** heavy duty battery is recommended. A bracket is located on the tongue of the trailer to hold the battery. The complete circuit will enable you to charge your trailer battery through the operation of your tow vehicle.

PART 9 THE 110 VOLT SYSTEM

All units have a separate 110 volt electrical system. This system provides power for house-type appliances, electrical lights, utility outlets, refrigerators, and other convenience accessories. Power is instantly provided by plugging in the extension power cord (self-grounding) into a 110/15 volt outlet. Some outlets may require a special adaptor available from your dealer or electrical supply store. Be sure to ground your vehicle by other means, should this adaptor by-pass the "ground lead"

of the power cord. THIS IS A SAFETY PRECAUTION. A circuit box with breakers is used to protect your unit from current overload. Should a breaker flip to the "off" position, then you have overloaded your circuit. This may have been caused by placing too many appliances on any one circuit. If this is not the case, a short has developed somewhere along the line. Your dealer or electrical serviceman should be contacted.

PART 10

THE WATER SYSTEM

INSTRUCTIONS FOR SANITIZING POTABLE WATER SYSTEMS

To assure complete sanitation of your potable water system, it is recommended that the following procedures be used. This applies if it is a new system, one that has not been used for a period of time, or one that may have become contaminated.

1. Prepare a Sodium Hypochlorite solution using potable water and household bleach (5¼ or 6%) in the ratio of ¼ cup of bleach to 1 gallon of water. (Common household bleaches are Purex and Clorox.)
2. Pour 1 gallon of hypochlorite solution for each 15 gallons of capacity into an empty Potable Water System.
3. Add enough potable water to completely fill the water system. (Be sure to evacuate all entrapped air by venting the system to atmosphere and resealing.)
4. Allow closed system to stand for three (3) hours.
5. Drain the hypochlorite solution from the system and refill with potable water.
6. Excessive hypochlorite taste or odor remaining in the potable water system is removed by rinsing the system with a vinegar solution mixed in the ratio of 1 quart of vinegar to 5 gallons of water.
7. Drain the system and flush with potable water.

8. Drain the system and refill with potable water.

The above recommendations conform to the code covering electrical, plumbing and heating of a recreational vehicle. The solution is approved and recommended by competent health officials.

For a fresh tasting supply of water, it is recommended that you periodically flush out your tank with a baking soda and warm water solution. Use several tablespoons of baking soda.

WINTERIZING YOUR WATER SYSTEM

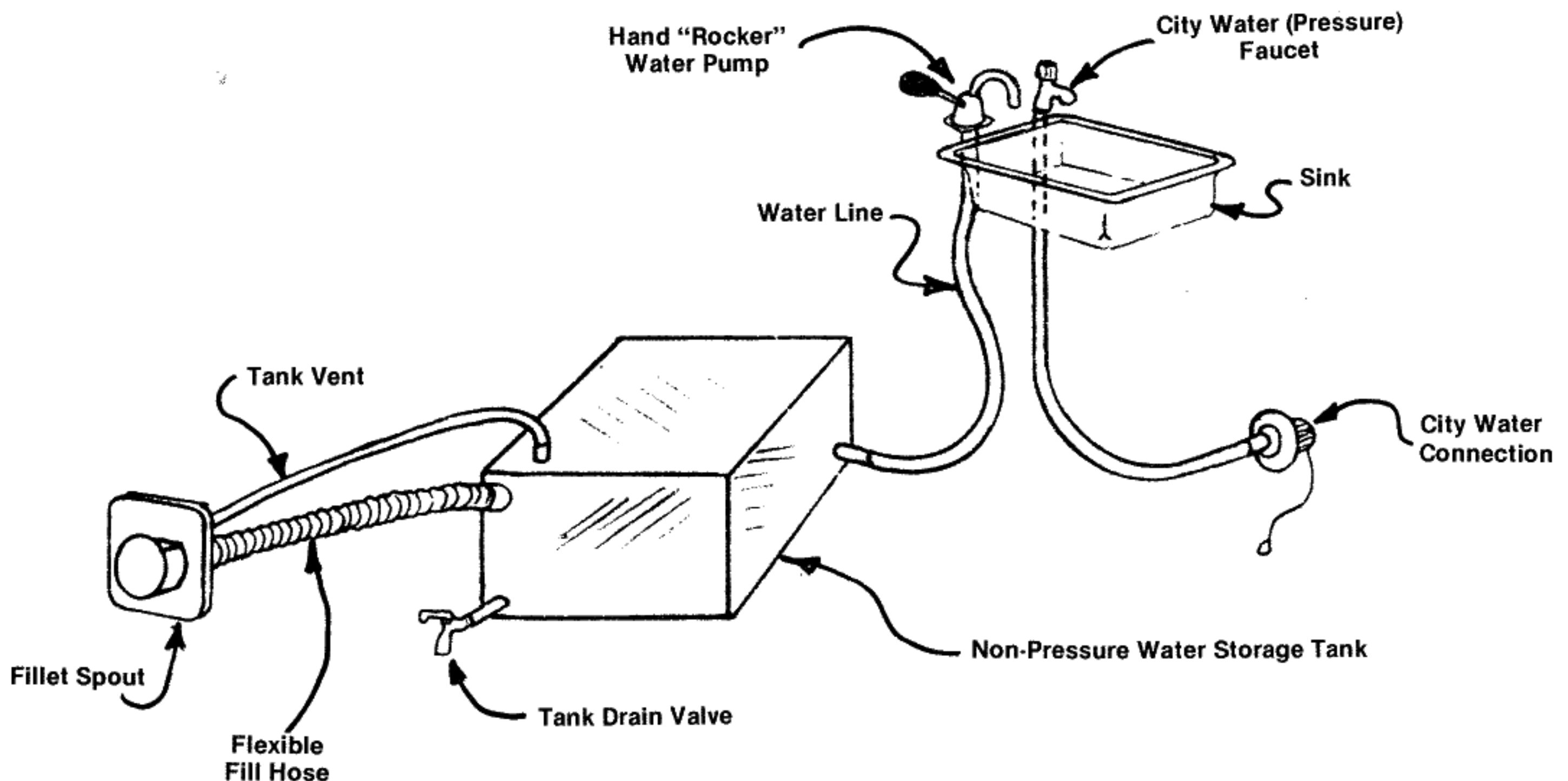
Satisfactory winterizing requires the draining of water from the entire system. Because of the check valve mechanism built into the pump, blowing the lines will not remove the water from the pump and tank. Proceed as follows:

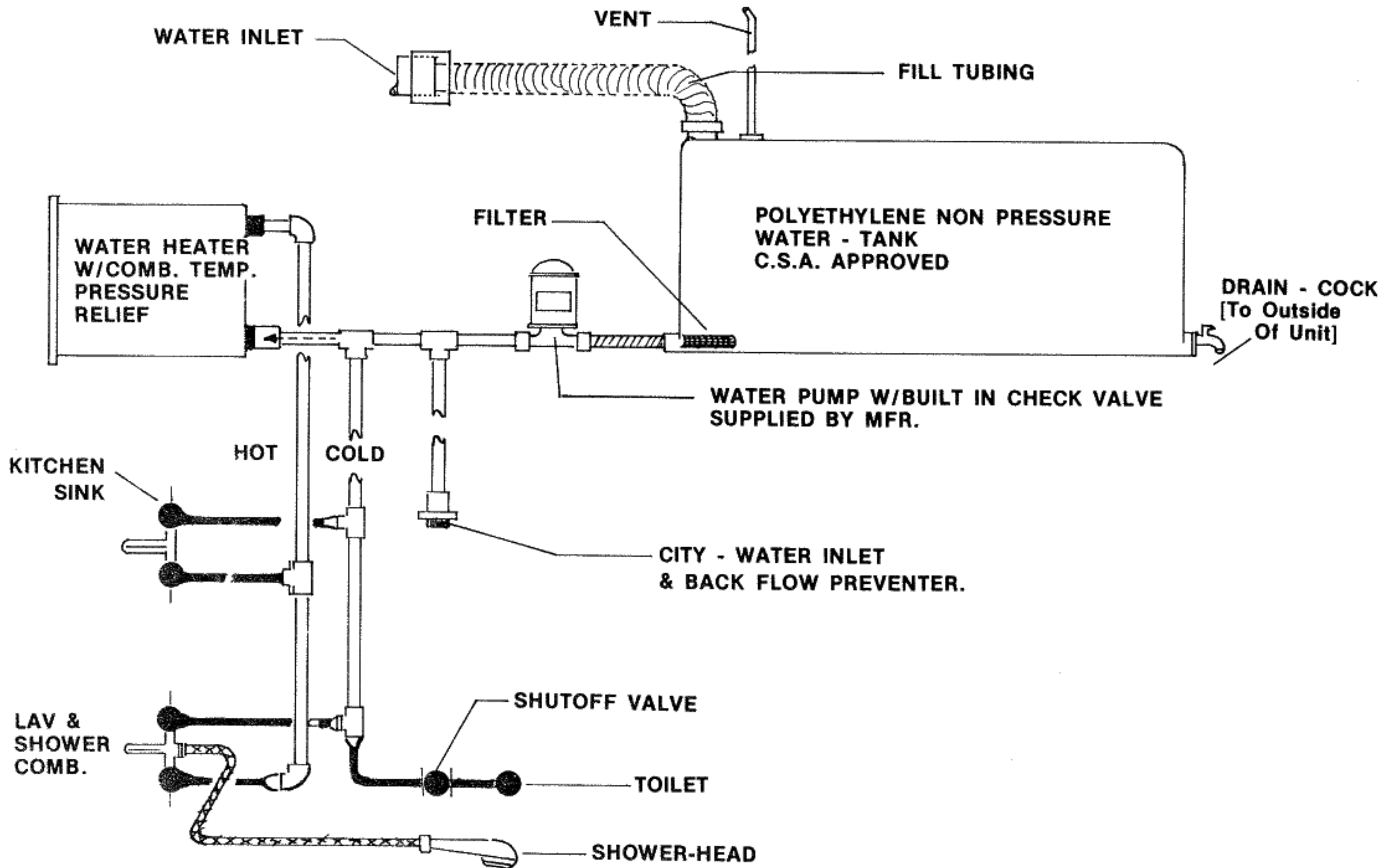
Drain the tank through the drain provided. If none is provided open a faucet and turn the pump on to pump the tank dry. Then drain the lines by opening the lowest outlet or drain in the system.

Remove the output hose at the pump. Turn the pump on and pump out any remaining water — about a cupful. Use a towel or rag to catch the water. If you feel the lines should be blown apply the air nozzle to the system lines where the hose was removed.

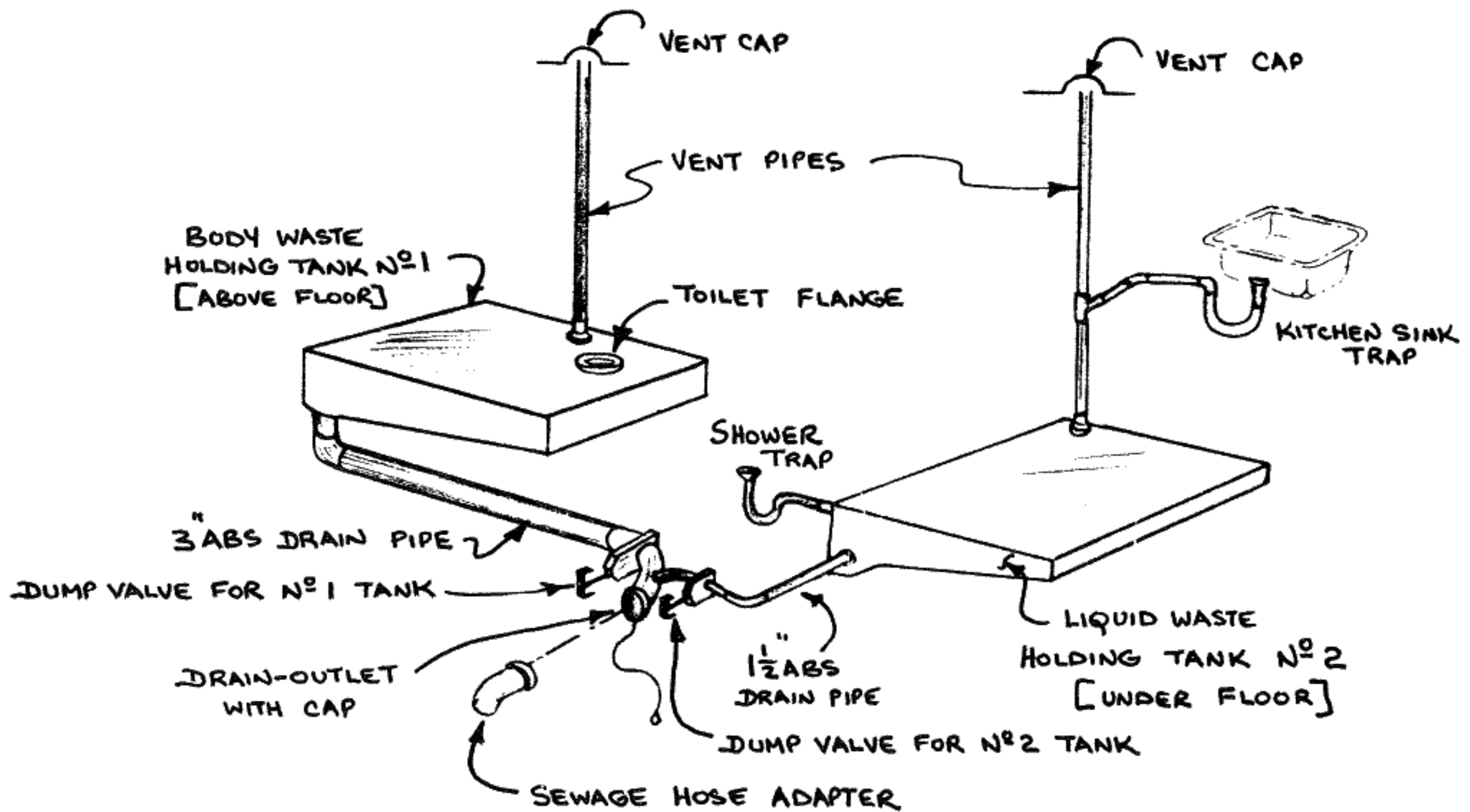
Attach the hose now or later as you feel necessary. The system is now winterized. It's a lot easier to use the new potable antifreeze solutions. Merely follow the directions.

TYPICAL NON-PRESSURE WATER SYSTEM





TYPICAL SELF-CONTAINED WASTE SYSTEM



PART 11

COMPONENT PARTS MANUFACTURERS INSTRUCTIONS

This section is included in your owners manual to enable you to become more familiar with the operation, and enjoyment of your recreational vehicle.

The instructions, and diagrams on the following pages have been issued by the respective manufacturers to ensure the safe, and proper usage of their components.

REFRIGERATOR OPERATING INSTRUCTIONS

How to Start the Refrigerator - RM360. For information on starting RM211 refrigerator see operating manual.

GAS OPERATION

1. To start the refrigerator turn the knob A to position "Gas". The gas valve is now opened and the electric circuits are disconnected.
2. Turn the gas thermostat knob C to setting 4.
3. Pull the knob D of the flame failure safety device and after 5 - 10 seconds, press the button E to the piezo lighter. The pressing may have to be repeated. Through the reflector F it can be observed that the burner is lit.
4. After the burner has been lit, keep the knob D in pulled out position for another 5 seconds. Then release the knob and check through the reflector that the burner stays lit.

NOTE: After a replacement of the gas container or a long shut-off period the gas pipes are likely to be filled with air. In such a case the lighting procedure has to be repeated until the air is pushed out of the pipes and the gas has reached the burner.

ELECTRIC OPERATION

1. Check that the attachment plug of the flexible cord is correctly connected to the main supply. The 12

volt connection is made at the marked terminals at the rear of the refrigerator.

2. Turn the knob A to "off" position, then press the knob in to bottom and turn to desired electric position.
3. Turn the thermostat knob G to setting 4.

NOTE: When the refrigerator is equipped for 110 volts, and 12 volt operation the turning movement of the knob A should be made as follows:

In gas OFF position the knob is pressed and turned clockwise to the 12 volt position. If 110 volt operation is desired press once more, and continue the clockwise turning to the 110 volt position marked "ELEC."

HOW TO OPERATE YOUR HYDRO FLAME FURNACE

1. Open pilot hole cover door.
2. Depress pilot knob and turn to "OFF" — release — wait 5 minutes.
3. Turn pilot Knob to "PILOT" position — depress firmly — light pilot — hold knob depressed 1 minute — release — close pilot door, and fasten it securely.

NOTE: Be sure pilot door is tightly closed so there can be no air leakage.

4. Wait 3 minutes — turn pilot knob to "ON" position.
5. If automatic adjust numbered knob or wall thermostat to desired temperature setting.
6. Should pilot go out, repeat above procedure to re-light.
7. For complete shut-down of furnace — turn pilot knob to "PILOT" position — depress and turn to "OFF".

SUBURBAN FURNACE OPERATING INSTRUCTIONS

LIGHTING INSTRUCTIONS

1. To light the furnace, turn the manual valve to the "off" position and wait 5 minutes with blower running. (set thermostat above actual temperature to operate blower).
2. After 5 minutes, set the thermostat to the "off" position.
3. Open manual valve. (Correct operating characteristics depend on this valve being positioned fully open. Never attempt to operate with valve partially closed).
4. Remove the lighter hole cover. (The furnace front is not exposed, so the lighter hole must be reached by removing the cabinet front).
5. Insert a burning match through opening so that flame is near the pilot.
6. Press reset button and hold. (On the initial lighting, the pilot may not light immediately due to air in the gas line. If such is the case, it may be necessary to hold the reset button in for a minute or more before the pilot lights; however, you must be sure that a burning match is near the pilot during this time). When the pilot is burning, continue to hold the reset button for approximately 30 seconds.
7. Replace the lighter hole cover.
8. Replace furnace panels.
9. If the main burner and pilot goes out prematurely, turn the manual shut-off valve to the "OFF" position and wait 5 minutes with blower running.
10. Repeat steps 2 through 9.

BURNER ADJUSTMENT

After the pilot is lit, the furnace is ready for adjustment and observation of the main burner and pilot flame.

To adjust primary air to the main burner, it is necessary to gain access the same way as with lighting the pilot. The small sheet metal cover found just below and to the right of the lighter opening must be removed. Behind the cover is a slotted screw head. With a screwdriver, turn screw head counterclockwise for less primary air and clockwise for more primary air. A symptom of too much primary air will be a howling or screeching noise when the burner is on (reduce air to correct). A symptom of too little primary air will be sooting on the exterior vent and a distinct yellow and floating flame (increase air to correct). A hard blue flame is the sign of correct adjustment.

SEQUENCE OF NORMAL OPERATION

1. When the thermostat calls for heat, the blower motor is energized immediately.

2. As the blower motor reaches approximately 75 percent of the normal r.p.m. (within 3 to 5 seconds) the microswitch, in response to the air flow, will engage allowing current flow to the solenoid valve or base valve.
3. The current to the valve opens it and allows gas to the main burner. The pilot light then ignites the main burner.
4. If within a period of approximately 2 minutes after the main burner is lit, the thermostat is turned back, both the blower motor, and solenoid valve are de-energized. However, if the furnace continues to run longer than 2 minutes, which it normally should, a slight snap can be heard from within the casing. The snap is caused by the fan switch as it changes its position. After this occurs, if the thermostat is satisfied or turned back, the solenoid valve will close, the flame on the main burner will go out, but the blower will continue to run for a short period of time and will then shut off. The purpose of this is to remove most of the remaining gases from the heat exchanger. Be assured that this period of blower override is a part of the unit's normal operation.

WATER HEATER LIGHTING INSTRUCTIONS

1. Turn gas cock to off position and wait five minutes.
2. Turn to pilot position, press reset button, and light pilot — hold down until pilot remains lit — turn to on position.
3. Set temperature indicator to desired temperature.
4. If pilot goes out repeat steps 1, 2 and 3.
5. To shut down turn to off position.

RANGE OR HOT PLATE

RULES FOR SAFE OPERATION

1. Read the Owners Manual and these Rules for Safe Operation carefully.
2. Check that all applicable state and local codes regarding installation have been followed. The supplier of the propane gas is usually an expert in this regard.
3. Check that minimum clearances to combustible materials have been maintained.
4. When igniting the burners, have lighted match ready when the burners are turned on, if not equipped with lighters.
5. Never light matches in the vicinity if the odors of gas are noted.
6. A window or other air vent should be opened slightly while using the range counter unit. Gas burner flames consume oxygen which has to be replaced to assure proper combustion.
7. Do not tamper with the burner orifices or change their size.

HOW AND WHEN TO EVACUATE HOLDING TANK WHEN CONNECTED TO OUTSIDE SEWER LINE.

After hookup to sewer line at campgrounds, leave the vehicle termination valve on the blackwater (toilet waste) holding tank closed until the tank is at least $\frac{3}{4}$ full. This allows sufficient water to build up in the tank to ensure complete flushing of waste material into the outside sewer line.

Unlike the toilet at home which uses between 4-7 gallons of water per flush, the average RV toilet uses from 1 cup to several quarts of water per flush, which is enough water to flush the waste from the toilet into the holding tank. If there is not sufficient water in the holding tank, waste materials may not evacuate properly when the termination valve is opened and clogging could eventually result.

To empty the blackwater holding tank, open the termination valve. When holding tank is empty, rinse with several gallons of fresh water. Be sure to close termination valve after emptying and rinsing out the holding tank.

TO CONTROL HOLDING TANK ODORS, USE A CONCENTRATED HOLDING TANK DEODORANT.

To stop odors before they start, add a highly concentrated holding tank deodorant (such as Aqua Kem

Concentrate) with enough fresh water to cover the bottom of your empty blackwater holding tank.

CAUTION: Do not use household detergents or cleaning compounds. They may contain chemicals that would damage the plastic drain system or termination valve seals.

TO PREVENT HOLDING TANK CLOGGING BY TOILET TISSUE.

It is recommended that you use a specially formulated toilet tissue that disintegrates and dissolves rapidly in your holding tank. An example would be Aqua Soft Toilet Tissue.

This type of tissue helps prevent messy clogs and flushes easily from the bowl.

NOTE: If you have two holding tanks, one for blackwater (toilet waste) and one for graywater (sink and shower waste), there will be two vehicle termination valves — one for each holding tank. You may leave the graywater termination valve open during hookup to the outside sewer line. Graywater contains few solid particles and will not clog the holding tank. But it is a good practice to flush the graywater tank with clear water before closing the termination valve.

PART 12

HELPFUL HINTS FOR THE NEW OWNER.

Driving Tips

Your R.V. vehicle has been designed to be driven or pulled at legal highway speeds without any sway or unusual handling characteristics. Driving with a recreational vehicle may be a new experience for you: consequently, we are outlining some important driving tips to assist you.

1. Try your rig out on very short trips to get the feel of it before you leave on extended travels.

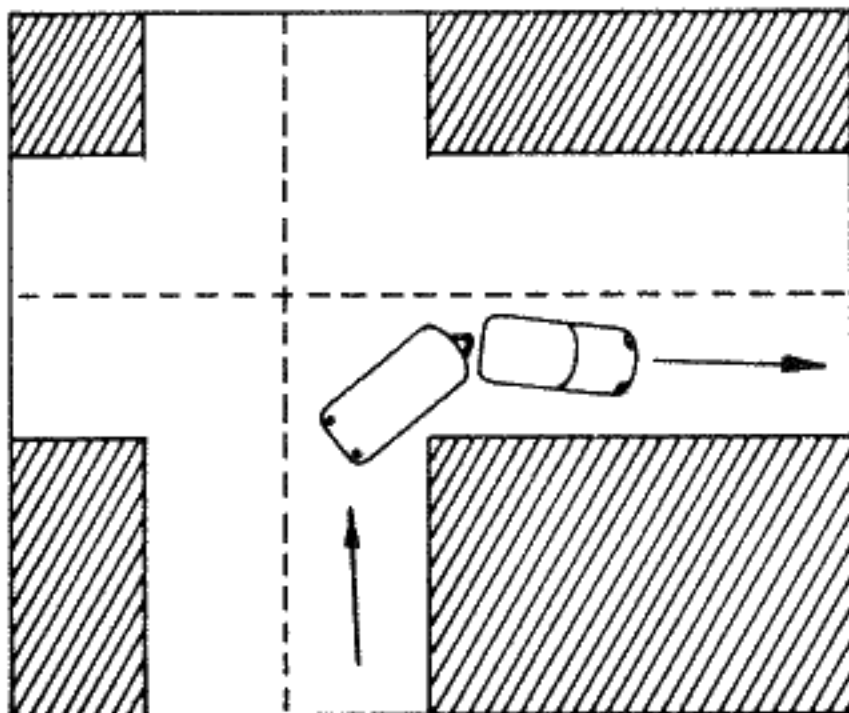
2. Be sure you have traffic clearance before pulling out from the curb. Apply power slowly and evenly, avoiding over acceleration.

3. Watch out for dips or obstructions in the road as they can cause serious damage to the undercarriage of a truck or trailer.

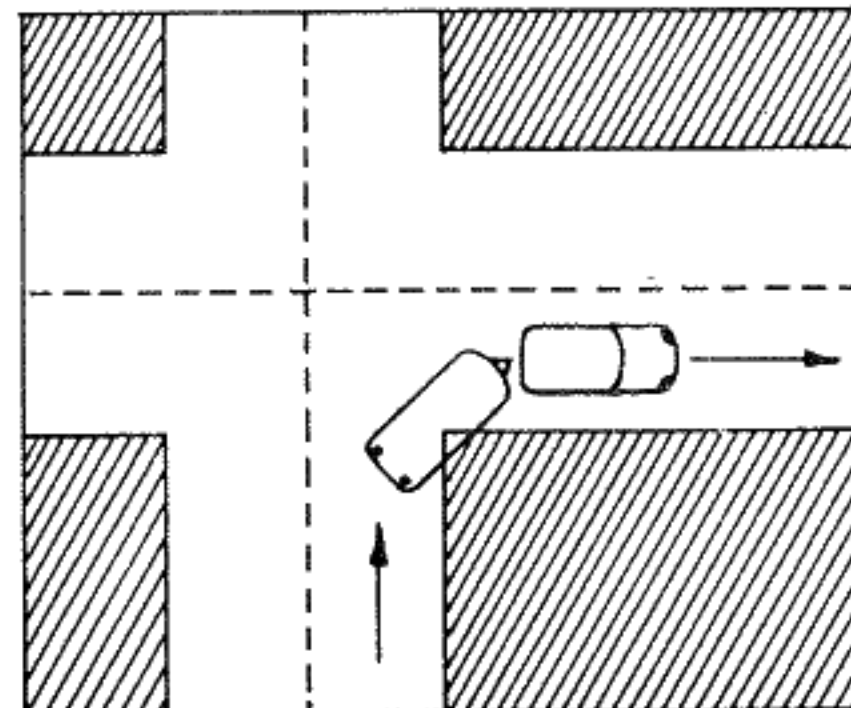
4. Safe stopping depends upon brakes, speed, road surface, tire condition and other factors. Be sure to keep your distance with the traffic ahead of you since your recreational vehicle adds an additional stopping burden to your vehicle.

5. The wheels on a trailer do not follow the path of the front wheels of the tow vehicle. You should, therefore, make your turn slightly beyond the turning point to give you safe clearance.

6. A camper or travel trailer takes up a long stretch of road space. These units are also heavy and will detract from the normal acceleration of your vehicle. For these reasons, allow plenty of distance in front of you before attempting to pass.



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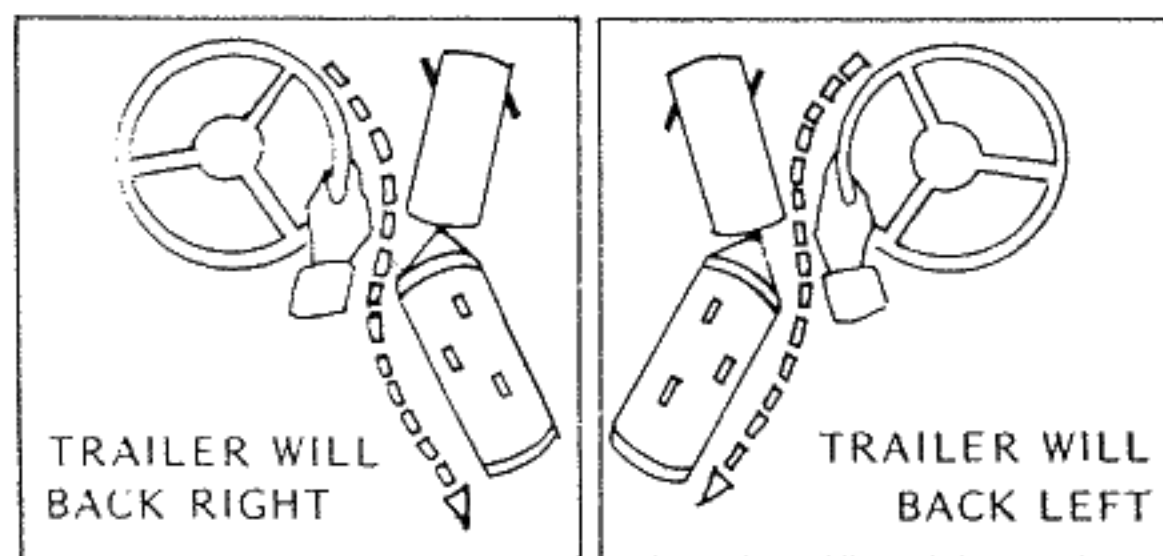


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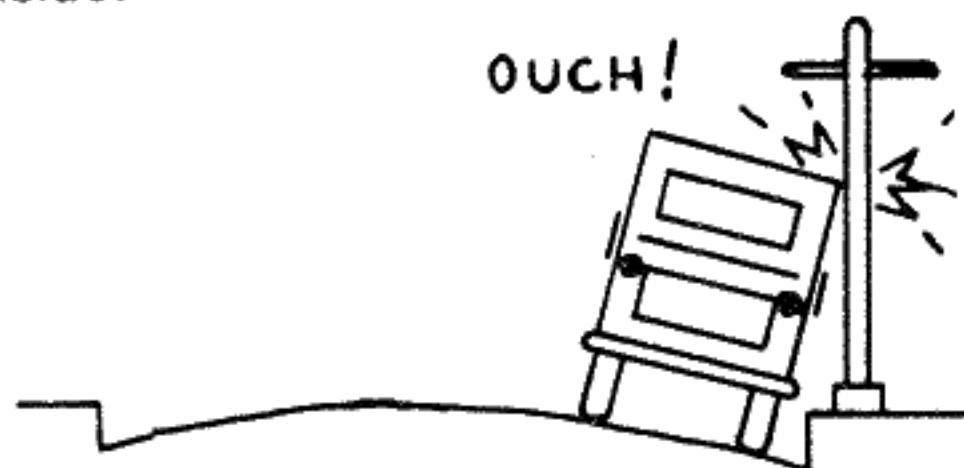
7. The engine and transmission on your vehicle may overheat when you are driving in hilly or mountainous terrain. If this happens, pull off to the side of the road and allow your engine to idle while your transmission is in neutral. This will help return engine and transmission temperature to normal.

8. Emergency braking may, under certain road conditions, cause a skid. Turn the front wheels of the vehicle in the direction of the skid to counteract its effects. Never lock the brakes on the tow vehicle or the trailer; apply them lightly until the skid is reduced.

9. You will find it fairly simple to back up a trailer after a little practice. Remember that the back of the trailer moves in the opposite direction from the back of the tow vehicle. To move the back of the trailer left, move your steering wheel to the right (clock-wise); to the right, move the steering wheel to the left.



10. When travelling off the highway in the country or mountains, you must be careful of overhanging tree limbs and other overhead or side obstacles. Light branches will brush aside, but heavier ones may cause damage to the roof or sidewall of your camper or trailer. Consider your roof vents, roof jacks, antennas and air conditioner when you are figuring clearance. Remember to avoid parking too closely to the curb, as signs, telephone poles, and other obstructions can cause problems. Drive-in food stands and gas station islands have taken more than their share of crunched roofs. Watch for sharply crowned roads which can tip your unit into obstructions when parking close to a curb or roadside.



Safety Consideration

We are listing some important safety checks to always review and keep in mind while you travel:

1. Never overload your vehicle. Improper load distribution can cause serious handling problems while on the road.

2. Do not modify your unit without consulting us first. External modifications such as motorcycle racks, boat racks and extended trailer bumpers have a direct effect upon the balance and handling of your recreational vehicle and may void our warranty.

3. Be sure that your tires are in good condition, have adequate tread and are properly inflated.

4. Check Provincial and State Laws in advance regarding their requirements for brakes, vehicle length

and weight, mirrors, break-away device, reflectors, flares, fire extinguishers, etc.

5. Never attempt to repair or alter a gas or electric appliance. Always consult an authorized and qualified service agency.

6. Thoroughly test your travel trailer brakes while off the road — not on the freeway.

7. Recreation vehicles are designed for temporary shelter purposes. Campers and travel trailers are not designed for the transportation of people and many laws forbid their use for such purposes. We recommend that all passengers be carried only in the motor vehicle hauling or towing your unit.

The Campsite

A public or private campsite will be your home and neighborhood while vacationing. Making new friends and relaxing with old friends is a rewarding and enjoyable experience. To make your stay comfortable and convenient, we suggest that you review these important considerations:

1. Pick a space large enough to maneuver your vehicle into without disturbing or crowding your neighbours.

2. Park in the space, lining up as closely as possible to available water, electrical and sewer facilities.

3. Block the wheels of your vehicle and level it as needed.

4. Attach necessary water, electrical and sewer services to your recreational vehicle.

5. Check all gas fueled appliances to be sure they are off; vent your unit well; then open the valve on your LPG tank.

6. Light gas appliances as necessary — refrigerator, wall heater, water heater, etc.

7. If campsite does not have sewer dumping facilities, place container to collect sink and shower waste water.

8. Unpack household goods and move family in. Now enjoy yourself!

Consumption of LPG Gas

Your LPG system uses liquified gas which contains approximately 92,000 BTU's of heat energy per gallon. To find out how long a gallon of gas will last, compute the total BTU input as shown on all of your gas appliances. Divide this figure into 92,000 — the result will give you the total hours of usage per gallon when all your appliances are operating at full capacity.

Condensation

Condensation occurs in your camper or trailer whenever the temperature outside is lower than the temperature inside. This causes moisture in the air to form as water droplets on interior surfaces such as roof vents, windows, metal mouldings, and cabinet hardware. Moisture is put into the air through various means such as the combustion of LPG gas, cooking food, washing dishes, and breathing of people inside. The following facts indicate how rapidly moisture is generated.

1. Four people discharge into the air apprx. one pound of water per hour.

2. An open flame from your range top can also discharge approximately one pound of water per hour.

You double the moisture holding capacity of the air for every 20° that you raise the temperature inside your unit (the reverse is also true). To reduce condensation you must exhaust the humid air and raise the temperature inside. The only proper way to heat is to utilize an externally vented heater. Never, never use the open flame from your stove or oven for heating the air, provide ventilation by partially opening your window, roof vent and stove hood.

Period Gas Check

Water leaks can be seen; gas leaks cannot. After every trip over rough roads, and at least each time you refill your propane tank, you should check all gas fittings leading to your appliances with a soapy water solution. Loose fittings should be snugly tightened and if leaks persist, should be replaced. Do not over-tighten the fittings or use improper tools as this may cause damage in itself. Consult your dealer or authorized and licensed LPG gas service outlet should any problems persist.

Dust Seepage

Travel over ungraded or rough roads inevitably generates quantities of dust which has a way of leaking into campers and trailers. The problem can be reduced by partially opening your roof vent which helps keep dust out. From time to time it is advisable to adjust the striker plate on your entrance door. Road vibration can cause it to loosen up and allow dust and moisture to leak in.

Code of Ethics

All recreational vehicle owners share a common set of values and standards, since we are all judged by the actions of each other. The Recreational Code of Ethics is as follows:

When Camping, I will . . .

1. Dispose of sewage in recommended places only, such as approved dumping stations — never contaminate lakes or streams.
2. Discharge my kitchen sink and shower waste only in designated and approved locations.
3. Use extreme caution with any fire, ensuring that it is never unattended and is properly extinguished when I leave.
4. Be especially careful with matches, cigarettes, cigars or pipe heels and will obey all regulations pertaining to "No Smoking" areas.
5. Place all garbage and trash in the receptacle provided, leaving no refuse on the grounds.
6. Never damage trees, shrubs or other items of natural beauty.
7. Leave my campsite as clean or cleaner than I found it.
8. Locate my recreational vehicle so that I do not disturb or interfere with others.
9. Always ask permission to park on private property when other facilities are unavailable.
10. Comply with all rules and regulations of forests and parks where I am staying.

When Driving, I will . . .

11. Realize that common courtesy and many laws require that on a two lane highway where passing is unsafe because of traffic in the opposite direction or other conditions, a slow moving vehicle, behind which three or more vehicles are formed in line, shall turn off the roadway wherever sufficient area for a safe turnout exists, in order to permit the vehicles following to proceed. A slow moving vehicle is one which is proceeding at a rate of speed less than the normal flow of traffic at the particular time and place.

12. Never be a litterbug, storing all refuse in my vehicle until it can be disposed of in a proper container.

13. Be especially careful to always use my ash tray for cigarettes, cigars and matches — not the open window of my vehicle.

14. Keep in the right hand lane except when passing.

15. Adhere to all recreational vehicle traffic regulations.

On maintaining my recreational vehicle, I will . . .

16. Frequently check the operation of the brakes and break-away device on my trailer.

17. Properly secure my LPG bottles, battery and accessories before travelling.

18. Grease wheel bearings and other moving parts of my recreational vehicle periodically.

19. Check the tires, wheel lugs, directional signals and lights frequently.

20. Carry sufficient insurance to protect others in case of accident.

21. Check L.P.G. system periodically before each season of use.



FINAL CHECK LIST

The following points should always be reviewed before you begin your trip:

1. Is your camper, motorhome or trailer properly loaded and balanced? Distribute the weight of all supplies equally.
2. Visually inspect the running gear of your trailer, including hitch and springs.
3. Check tire pressure on all wheels — be sure lug nuts are tight.
4. Check out your 12 volt and 110 volt wiring systems — replace burned out bulbs. Check battery for charge.

5. Test your trailer brakes for proper operation — safety chain and break-away hooked up?
6. Is your unit properly licensed and safety checked?
7. Fill your water tank and LPG tanks — it will improve the handling of your vehicle.
8. How about equipment?

Cooking —

Can opener
Bottle opener
Spatula
Long fork
Serving spoon
Measuring spoon
Butcher and paring knives
Skillet
Pot with cover
Oven pan
Coffee pot
Plastic shaker
Mixing bowl with cover
Aluminum foil
Plastic bags
Plastic waste baskets
Dishes, cups and glasses (plastic)
Silverware
Shot glasses
Wood type matches
Scissors
Hot pad
Paper towels and napkins

Cleaning —

Laundry soap
Cleanser
Dish soap
Scouring pad
Sponge
Cleaning rags
Broom and dust pan

Bathroom —

Hand soap
Shampoo
Shower cap
Toothpaste
Comb and brush
Toilet kit
Shaver
Toilet tissue
Towels and wash cloths

Linen —

Sleeping bags
Sheets and pillow cases
Pillows
Mattress pads
Extra blankets
Laundry bags

Personal —

Credit card
Travellers cheques
Cash
Driver's license (current)
Proof of citizenship
Vehicle registrations
Camera and film
Fishing equipment
Binoculars
Extra eye glasses
Sun Glasses
Pocket knife
Sewing kit
Reading material
Clothing

Baby Needs —

Porta crib
Car bed
"Papoose" back carrier

Pet Needs —

Leash
Feeding dish

Miscellaneous

String
Clothes line
Fly swatter
Insect repellent
Masking tape
Portable barbecue
Charcoal and lighter fluid
Paper and pencil
Crayons
Address book
Stamps and stationery
Extension cord
Folding lawn chairs
Children's toys
Games and puzzles
Maps
First Aid
Bucket
Axe
Shovel



WINTER STORAGE INSTRUCTIONS

Exterior

Outdoor winter storage requires certain precautions to prevent condensation of excessive moisture which can cause musty odors and mould. It is important to protect your vehicle in areas of heavy precipitation through the use of a vinyl type tarp. Do not cover the unit in such a way that no air can circulate. If your unit is covered, it is important to provide some air circulation within the unit by cracking a roof vent and a window.

All seams should be resealed before storage with an aluminum type sealant. Snow should never be allowed to accumulate on the roof. The weight of the snow would place an undue stress on the roof itself, and the freezing and thawing action may open up seams and cause leaking.

If your unit is stored without being covered it is often necessary to close roof vents, windows and doors tightly to prevent moisture and dust from entering the unit. In this event we offer the following tips:

Interior

The interior requires little pre-storage preparation. All appliances, both electrical and LPG should be turned off — this includes your LPG tanks. All electricity going into the unit should also be terminated. Since air circulation is virtually eliminated we offer the following tips:

1. Leave the door open on your refrigerator or icebox. (Remove all food).
2. Spread out your upholstery so that air can reach all portions.
3. Open all cupboard doors and drawers.
4. Place a container of moisture attracting salt in the unit.

The above tips will help reduce musty odors, mould, and excessive moisture.

Water System

The first step in preparing for winter is to drain your water tank and water lines. For non-pressure systems simply open the drain valve located at the tank outlet and let all water run out. Open all faucets and valves to drain excess water from system. If there is evidence that water may still be present repeat process. Ensure that water is drained from toilet; follow manufacturer's recommendations. Drain toilet holding tank. Thoroughly clean and deodorize holding tank; leave plugs out to allow drying, leave gate valve in closed position. A cup of permanent automotive type anti-freeze (ethylene glycol only) should be poured into each sink, shower, or tub drain. DO NOT put automotive anti-freeze in drinking water lines since automotive anti-freeze is poisonous.

Winterization of pressure water systems (pump controlled) is recommended with the addition of a non-toxic antifreeze. The following steps should be as follows:

1. Drain the water tank completely and close the drain valve.
2. On units equipped with a hot water heater, drain water, disconnect the inlet and outlet lines, then connect the lines together so the heater is bypassed.
3. Pour one to two gallons of non-toxic antifreeze (depending on size of unit) into water tank ensuring drain valve is in closed position.
4. Turn on water pump.
5. Open the faucet or valve nearest the water pump and allow one cup of antifreeze to flow from same. Close valve. Continue in a similar manner until you have allowed one cup of anti-freeze to flow from all faucets and or valves.

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