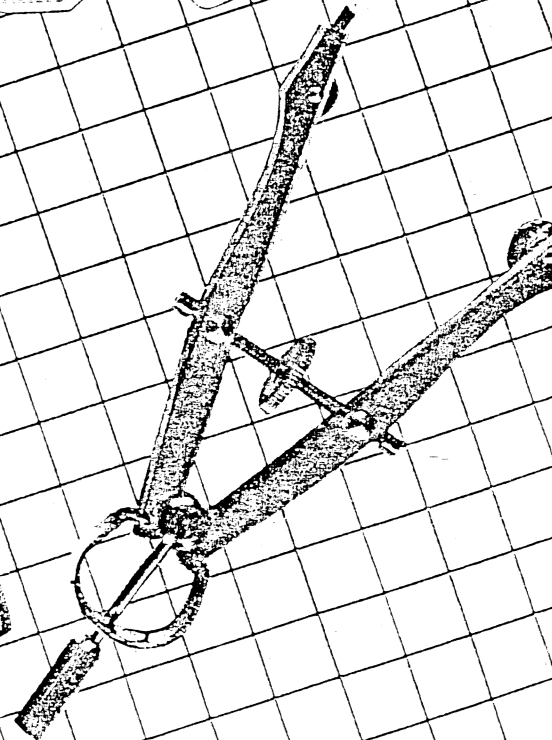
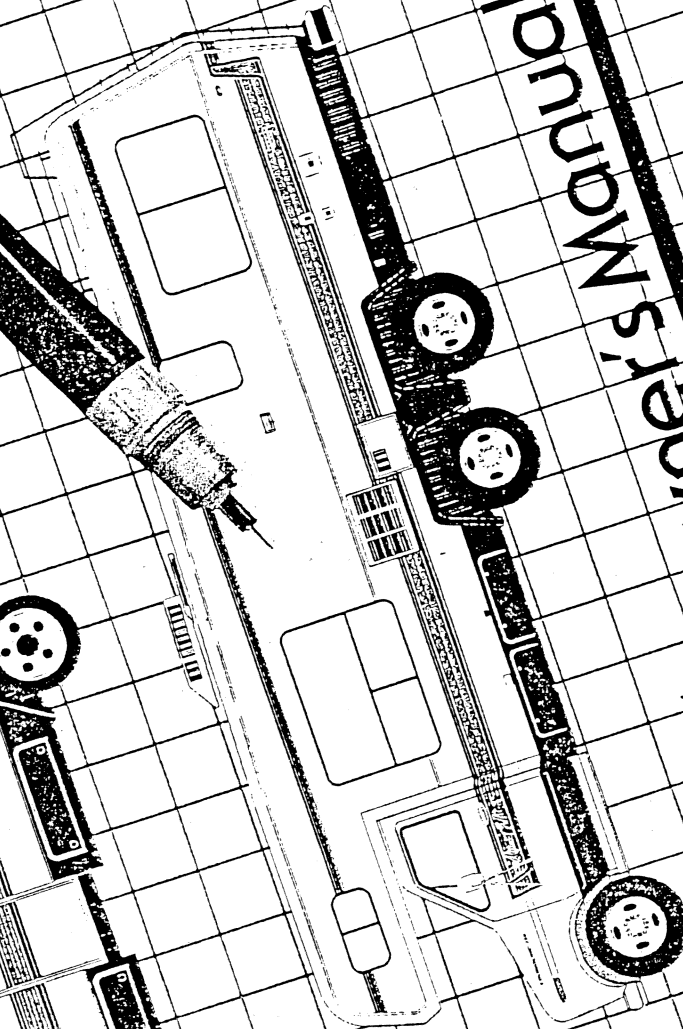
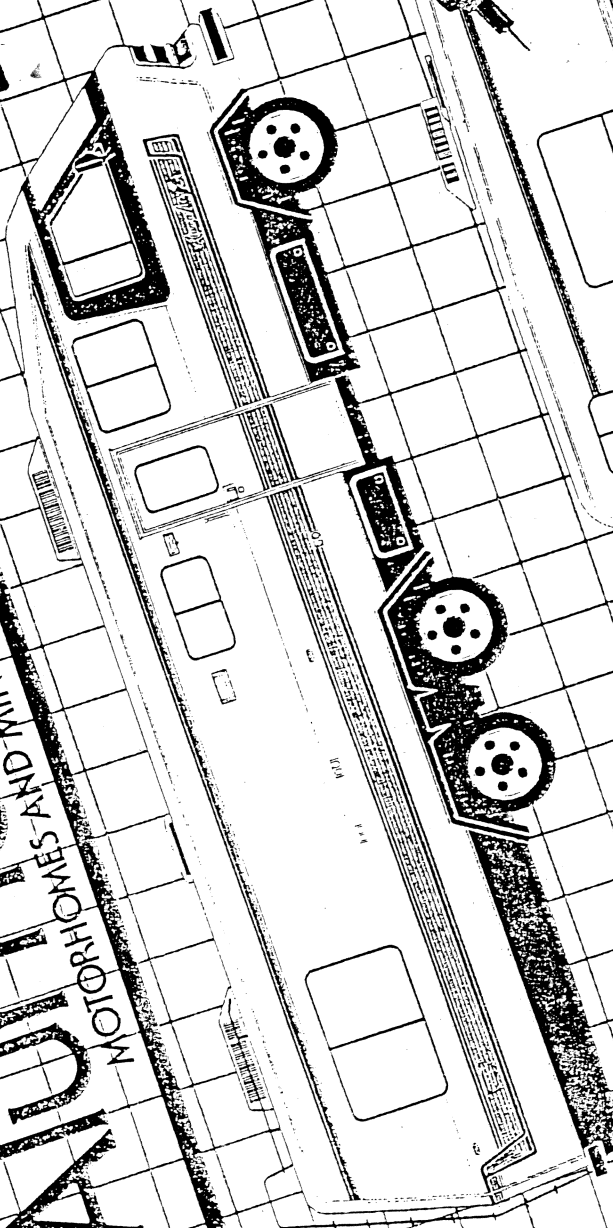




Aluma-Lite

MOTORHOMES AND MINIMOTORHOMES



1991 Owner's Manual

THE MANUAL HAS BEEN PROVIDED BY HOLIDAY RAMBLER CORPORATION® FOR THE SOLE PURPOSE OF PROVIDING INSTRUCTIONS ABOUT OPERATION AND MAINTENANCE OF THIS VEHICLE AND ITS COMPONENTS. NOTHING IN THIS MANUAL CREATES ANY WARRANTY, EITHER EXPRESS OR IMPLIED. THE ONLY WARRANTY OFFERED BY HOLIDAY RAMBLER CORPORATION® IS AS SET FORTH IN THE LIMITED WARRANTY APPLICABLE TO THIS VEHICLE.

THE OWNER'S FAILURE TO PROVIDE REQUIRED SERVICE AND/OR MAINTENANCE COULD RESULT IN THE LOSS OF WARRANTY. THE OWNER SHOULD REVIEW HOLIDAY RAMBLER CORPORATION'S LIMITED WARRANTY AND THE LIMITED WARRANTIES OF ALL OTHER MANUFACTURERS OFFERING THEM THAT ARE APPLICABLE TO THIS VEHICLE.

INSTRUCTIONS ARE INCLUDED IN THE MANUAL FOR OPERATING SOME COMPONENTS WHICH ARE OPTIONAL ON SOME VEHICLES IN ADDITION, THE OWNER SHOULD REFER TO INDIVIDUAL MANUFACTURER'S OPERATING INSTRUCTIONS CONTAINED IN THE OWNER'S PACKET AS INDICATED.

HOLIDAY RAMBLER CORPORATION®

Wakarusa, Indiana 46573

July 1990

Welcome to the Holiday Rambler Family

Thank you for purchasing a Holiday Rambler® recreational vehicle. We hope that you will enjoy many miles of travel and camping with your new camping vehicle. Holiday Rambler® camping vehicles are designed, constructed and intended to be used as temporary living quarters for recreational, camping or travel uses, all as defined in the by-laws of the Recreation Vehicle Industry Association. The camping vehicles are not intended for the hauling of cargo.

We compiled the most current information available to us at the time of publication. If the components in your vehicle vary significantly from what is described within, disregard that section and follow the instructions provided by the component manufacturer.

Keep this Owner's Manual in your vehicle for quick reference. Get to know your new vehicle and how it operates. You should carefully read these instructions and the booklets supplied by the component manufacturers of separately warranted products for important operation, safety and maintenance information.

Should you have questions that are not adequately answered by this manual or the manufacturer's instructions, consult your dealer. If he cannot satisfactorily answer your questions, he will refer you to our staff for help.

Your camping vehicle complies with applicable requirements of Federal Motor Vehicle Safety Standards, state regulations, and NFPA 501C-1982, the nationally recognized "Standard for Recreational Vehicles - Plumbing, Heating and Electrical Systems". The Recreation Vehicle Industry Association seal is displayed near your entrance door. RVIA inspectors periodically visit our production lines and help us comply with installation and safety standards.

We thank you for selecting a Holiday Rambler Corporation® product, and we hope you will enjoy it for many years to come.

Happy traveling,

HOLIDAY RAMBLER CORPORATION®

NOTES

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NOTES

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NOTES

DIRECTORY

Welcome to the Holiday Rambler Family	2
Customer Relations, Taking Delivery, Obtaining Service	
Safety Precautions	9
Checklist, Vehicle Loading, Smoke Detector, Safety Belt	
Towing, Leveling, Stabilization	17
Towing, Lifting, Rear Hitch, Leveling Jacks	
Electrical	21
General System, Batteries, 12 Volt Disconnect, Inverter, Ground Fault Circuit Breaker, Instrument Clusters, Monitor Panel	
LP Gas	27
General System, LP Gas Leak Detector, Liquid Propane Gas Detector/Alarm	
Appliances	35
Refrigerators, Microwave, Range Top, Furnace, Water Heater, Ice Maker	
Equipment	47
Generator, Air Conditioner, Kool-O-Matic Attic Fan, Awning, Alarm System, TV Antenna, Cruise Control, Intec, Power Seat, Electric Step, Dinette Seat	
Water System	55
Fresh Water, Disinfecting, Water Purifier, Waste System, Toilet, Winterizing	
Interior/Exterior Care	63
Exterior, Interior Components	
Vehicle Maintenance	68
Chassis Info, Bulb Chart, BTU Chart, Holding Capacities, Fuse Charts, Maintenance Charts, Winter Storage, Serial Numbers	
Holiday Ramblers Recreational Vehicle Club	80

CUSTOMER RELATIONS

Only by keeping your confidence and satisfaction with our products and services can we insure our continued success as a manufacturer of family camping vehicles. We've found that maintaining a cordial and effective relationship with our customers is just as important as improving the technical excellence of our products. Your authorized dealer is pleased to help you with service and instructions about your camping vehicle.

Most problems arise from misunderstandings about warranty or service and usually can be solved by the dealer. If the problem remains after you have consulted your dealer, you're invited to contact our Consumer Affairs Department. We will work with the dealer and see that every attempt to resolve the matter is made.

Write or call:

Holiday Rambler Corporation
Consumer Affairs Department

65528 State Road 19
Wakarusa, Indiana 46573
219/862-7278

As a service to our traveling customers, we provide a toll-free telephone number you may call Monday through Friday (7:30am - 4:00pm EST) to obtain the name and location of the nearest HRC Dealer. The operator may also be able to provide phone numbers for the manufacturers of components used in your unit. The phone number is 1-800-627-2821.

Please note that the operator cannot provide you with technical assistance or warranty information. For assistance in these areas, please call the Consumer Affairs Department at the previously mentioned phone number.

Please have all pertinent information (serial numbers, model numbers, etc.) when writing us. You will find space to list them all at the back of this manual.

The terms NOTE, CAUTION and WARNING have specific meanings in this manual.

A NOTE provides additional information to make a step or procedure easier or clearer. Disregarding a NOTE could cause inconvenience, but would not be likely to cause damage or personal injury.

A CAUTION emphasizes areas where equipment damage could result. Disregarding a CAUTION could cause permanent mechanical damage. However, personal injury is unlikely.

A WARNING emphasizes areas where personal injury or even death could result from failure to follow instructions properly. Mechanical damage may also occur.

REPORTING SAFETY DEFECTS

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

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

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1-800-424-9393 (or 368-0123 in Washington, D.C. area) or write to:

NHTSA
U.S. Department of Transportation
Washington, D.C. 20590

You can also obtain other information about motor vehicle safety from the Hotline.

SUGGESTIONS FOR OBTAINING SERVICE FOR YOUR R.V.

Give Thought to the Appointment Time...

Know when to take your RV in for service. Monday and Friday are busy days for most dealers. Therefore, it makes sense to make a mid-week appointment whenever possible.

Prepare for the Appointment...

If you're having warranty work done, be sure to have your warranty registration papers with you. All work to be performed may not be covered by the warranty; be sure to discuss additional charges with the service manager. Keep a maintenance log of your vehicle's service history. A maintenance record is provided in the back of this manual. This can often provide a clue to the current problem.

Prepare a List...

Make a written list of your RV's problems or the specific work you want done. If you've had an accident or work done that is not on your maintenance log, let the service manager know. Don't keep secrets.

Be Reasonable with Your Requests...

Don't leave a list of twenty items to be serviced and expect to have your RV back by five o'clock. If you list a number of items and you must have your RV by the end of the day, discuss the situation with the service manager and list your items in order of priority. Expect to make a second appointment for work not completed or for parts that may need to be ordered.

You Can't Look over the Technician's Shoulder...

Don't be offended when you are told you cannot watch the work being done. Insurance requirements forbid the admission of customers to a service repair area.

Inspect the Work Properly...

Check out the service or repair job when you pick up your RV and notify the Service Manager of any dissatisfaction. If cir-

cumstances prevent returning for immediate corrective work, make an appointment for as early a date as is possible or practical.

TAKING DELIVERY

Your camping vehicle has been inspected by factory personnel throughout the manufacturing process. Our final factory inspection by quality control inspectors is not the last one. Your dealer performs additional pre-delivery inspections and systems checks, and helps you understand the Limited Warranty and complete any necessary forms.

Dealer responsibilities include:

1. Orienting the customer to the family camping vehicle, its systems and components, and their operation.
2. Insuring the customer receives a complete Owner's Packet with warranty cards and registrations for the camping vehicle and for separately warranted products, including detailed operating and maintenance instructions.
3. Reviewing Limited Warranty provisions with the customer, stressing the importance of mailing warranty cards and registrations to the manufacturers within the prescribed time limits to avoid loss of Limited Warranty coverage. Assisting the customer in completing these forms if he wishes. Requesting that the customer read all warranty information as soon as possible and explaining any provisions not clearly understood.
4. Instructing the customer how to get local service and out-of-town service on the camping vehicle and its separately warranted components, whether in or out of warranty.

Customer responsibilities:

As a new family camping vehicle owner, you are responsible for regular and proper maintenance. This will help you prevent conditions arising from neglect that are not covered by your Holiday Rambler Corporation Limited Warranty. Maintenance services should be performed in accordance with this Owner's Manual, the chassis Owner's Manual, and any other applicable manuals.

As the owner, it is your responsibility and obligation to return the camping vehicle to an

authorized dealer for repairs and service (SEE LIMITED WARRANTY).

Since the Authorized Dealer where you purchased your new camping vehicle is responsible for its proper servicing before delivery, and has an interest in your continued satisfaction, we recommend that INSPECTION, WARRANTY AND MAINTENANCE SERVICES be performed by the dealership.

A sample pre-delivery form is included in this manual for your reference.

We suggest that you take your new family camping vehicle on a weekend "shakedown" before leaving on an extended trip.

SELLING DEALER IMPRINT

(REMOVE THIS TOP COPY BEFORE MAKING NOTATIONS ON
THIS PRE-DELIVERY FORM.)

MOTORIZED VEHICLE

PRE-DELIVERY INSPECTION

SERIAL NUMBER		VEHICLE IDENTIFICATION NUMBER	
PURCHASER'S NAME		PERMANENT ADDRESS	
CITY	STATE	ZIP	RETAIL DELIVERY DATE

ALL ITEMS MUST BE CHECKED OFF BY DEALER AS WORK IS BEING DONE

1. Water & Plumbing Systems

- ☐ Water Pump
- ☐ Water Tank
- ☐ All Water Lines
- ☐ All Faucets
- ☐ Winterize if necessary
- ☐ Water Intake Valve
- ☐ Water Heater
- ☐ Holding Tank
- ☐ All Traps
- ☐ Tub, Shower & Lavatory
- ☐ Sink
- ☐ Gate & Toilet Valve
- ☐ Drain Valves

2. LP. Gas System

- ☐ Gas Bottle Valve
- ☐ Gas Lines & Regulator
- ☐ Refrigerator Vents
- ☐ Furnace Vent

3. Electrical System

- ☐ 110V System
- ☐ 12V System
- ☐ All Interior Lights
- ☐ All Exterior Lights
- ☐ All Exterior Receptacles
- ☐ Battery Acid Full Charge
- ☐ Control Panel
- ☐ Converter Operation & Use
- ☐ Roof Air Conditioner
- ☐ AM/FM Radio-Cassette
- ☐ TV & Antenna
- ☐ Clock
- ☐ CB Radio

- ☐ Inverter
- ☐ 110 Volt Generator
- ☐ Power Seat
- ☐ Car Vision Monitor
- ☐ Windshield Wipers

4. General Appearance Items

- ☐ Interior/Exterior Trim Moulding
- ☐ Exterior Finish, Spot Paint, Step
- ☐ Touch-up & Rub out as necessary
- ☐ Trunk Door & Lock
- ☐ Windows, Proper Adjustment

5. Appliance & Safety Equipment

- ☐ LP. Gas Test Monometer Tied into system for 20 min. test
 - _____ WC Pressure Start
 - _____ WC Pressure Finish
- ☐ Furnace & Thermostat Lighting & Operation of System
- ☐ Range & Oven Lighting & Operation of System
- ☐ Water Heater Lighting & Operation of System
- ☐ Refrigerator (Gas & Electric) Operation of System
- ☐ Operation of Manual Gas Regulator
- ☐ Tighten Wheel Lugs to Manufacturer's Specifications
- ☐ Tire Pressure-Inflate to Amount Specified on Tire Sidewall
- ☐ Entrance Door Locks
- ☐ Driver's Door Locks
- ☐ Ice Maker
- ☐ Blender
- ☐ Vacuum Cleaner
- ☐ Burglar Alarm System
- ☐ Horns

6. Chassis Preparation

- ☐ Complete Chassis Preparation as Recommended by the Chassis Manufacturer
- ☐ Wheel Bearing Lubrication & Adjustment, Tag Axle (if equipped)
- ☐ Retension Air Conditioner & Alternator Belts (Class 'A' only)
- ☐ Hydraulic Leveling Jacks
- ☐ Kwikie Step
- ☐ Retorque U-Bolts on MOR/Ryde Single Axle Suspension to 150 ft. lbs.
- ☐ Retorque Axle Clamp Bolts (Drive-Axle) MOR/Ryde Tandem Axle Suspension
 - 5/8" Bolts 120 ft. lbs.
 - 3/4" Bolts 225 ft. lbs.

7. Dealer Installed Options

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

DEALER INSTALLED OPTIONS
ARE NOT WARRANTED BY
HOLIDAY RAMBLER
CORPORATION

REMARKS: _____

THE UNDERSIGNED CERTIFIES THAT THE INSPECTION WAS PERFORMED AND THE INFORMATION ABOVE IS COMPLETE AND CORRECT.

DATE	DEALER'S SIGNATURE
------	--------------------

MOTORIZED

IMPORTANT: THE CUSTOMER IS EXPECTED TO READ THIS DOCUMENT BEFORE SIGNING IT.

In the interest of customer satisfaction, Holiday Rambler Corporation requires that its' dealers perform a pre-delivery inspection and a demonstration for which it pays the dealers a fee. We have listed several items which will help acquaint you with your new family camping vehicle. You, the purchaser, should not sign this form until all these items have been demonstrated and/or explained to you, along with answers to any questions you may have. The dealer is not authorized to deliver this vehicle until this has been done and both you and the dealer have signed this form.

WARRANTY REGISTRATION

RETURN OF THIS INFORMATION IS REQUIRED IN ORDER TO COMPLY WITH FEDERAL LAW.

SERIAL NUMBER	VEHICLE IDENTIFICATION NUMBER	PURCHASER'S PHONE NUMBER
PURCHASER'S NAME		PERMANENT ADDRESS
CITY	STATE	ZIP
		RETAIL DELIVERY DATE

OWNER / DEALER INSPECTION

1. Exterior and interior finish.
2. Observe the dealer conduct monometer test for gas leaks.
3. Operate all appliances (electric & gas).
 - a. furnace & thermostat (lighting & maintenance)
 - b. range & oven (lighting & maintenance)
 - c. water heater (lighting & maintenance)
 - d. refrigerator (operation & maintenance)
4. Review operation of L.P. Gas Regulator.
5. Operate plumbing facilities including water faucets, shower and toilet.
6. Operate all doors and windows including locks.
7. Observe or check to assure that all wheel lugs are tight and tire pressure is correct.
8. Operate 110 volt generator (if so equipped).
9. Operate all air conditioners, radio, stereo, and television (if so equipped).
10. Complete review of Owner's Manual by dealer with owner.
11. Test Drive.
12. Odometer reading as observed by customer is: _____

I HAVE COMPLETED THE ABOVE INSPECTION ON THIS FAMILY CAMPING VEHICLE AND HAVE TAKEN THE TEST DRIVE AT THE TIME OF PURCHASE. I NOTED:

I RECEIVED A COPY OF THE HOLIDAY RAMBLER CORPORATION LIMITED WARRANTY BEFORE I PURCHASED THIS VEHICLE AND I UNDERSTAND THAT IT IS TO BE USED ONLY FOR FAMILY CAMPING AND TRAVEL ON IMPROVED ROADS.

DATE:	PURCHASER'S SIGNATURE
-------	-----------------------

THE PURCHASER HAS: INSPECTED, OR BEEN GIVEN THE OPPORTUNITY TO INSPECT THE VEHICLE; TAKEN THE TEST DRIVE SUPPLIED THE INFORMATION ABOUT HIS/HER NAME AND ADDRESS; BEEN GIVEN THE OPPORTUNITY TO MAKE NOTATIONS IN THE SPACE PROVIDED; OBSERVED, OR RECEIVED SATISFACTORY EXPLANATIONS ABOUT, ALL ITEMS LISTED ABOVE.

DATE:	SELLING DEALER	DEALER'S SIGNATURE
-------	----------------	--------------------

Dealer is to assure that this form is properly completed and returned to Holiday Rambler Corporation within fifteen (15) days after delivery.

NOTES

SAFETY PRECAUTIONS

Pre-travel Checklist	10
Backing In	11
Ready to Leave	12
Tires	12
Vehicle Loading	12
Smoke Detector	13
Fire Extinguisher	14
Safety Seat Belt	14
Infant & Child Restraints	14
Emergency Stopping	15
Egress Window	15

PRE-TRAVEL SAFETY CHECK LIST

Before each trip your motorhome should be given a thorough safety check. The following list is provided for your safety and may eliminate any personal injury or damage to your vehicle.

Exterior Check List

- Remove the wheel blocks
- Check "Cold" tire pressure, remember the spare. (Cold=Ambient Temperature)
- Check the lug nuts; tighten as required.
- Adjust mirrors
- Clean and repack the wheel bearings according to the manufacturer's specifications in the chassis owner's manual.
- Check transmission fluid level.
- Check power steering fluid level.
- Check radiator coolant level.
- Check oil level in engine and generator.
- Check windshield wipers.
- Check running lights.
- Check emergency brakes.
- Unhook 110V power cord and stow.
- Unhook water hose and stow.
- Fill the LP Gas tank and turn off the valve.
- Fill water tank, but guard against contamination. (Fill instructions are in the water system section.)
- Be certain entrance step is in the up position.

NOTE: When storing items in compartments, remember the compartments are not waterproof.

Interior Check List

- Lock refrigerator doors.
- Close all windows and vents.
- Secure all loose articles.
- Turn off lights and appliances.
- Lock doors.
- Keep the fire extinguisher handy. Have it inspected regularly for proper charge.
- Raise leveling jacks (if equipped).
- Avoid overloading (see GVWR in Safety section).
- Distribute load carefully (see Safety section).
- Test the brakes in a safe area, NOT on a highway.

- Use safety belts for both the driver's and the passenger's safety.
- Observe the warning labels for all systems. (including LP, Electrical, and Refueling.)
- Place matches in a tin box or glass jar - avoid fire hazards.

NOTE: Make sure that all items on the inside of the unit are secured or stowed away while in transit.

NOTE: Your unit is equipped with a dead-bolt lock, we suggest it be used in conjunction with the regular door lock, whenever you are in transit as an extra measure of protection.

Home

- Leave a house key with a neighbor
- Store valuables and important papers in a safe place
- Discontinue newspaper, milk and other deliveries.
- Ask the Post Office to hold your mail.
- Have your lawn, garden and house-plants cared for.
- Cover all food to keep ants, mice & insects out.
- Store oil, gasoline and other flammables properly.
- Notify Police

GENERAL GUIDELINES

Operating your new camping vehicle may be an unfamiliar experience for you. Use extra caution until you feel comfortable behind the wheel.

As you approach a hill, accelerate a bit more than usual. Do not be afraid to downshift, even with an automatic transmission. If it takes a lower transmission gear to climb a low or steep grade, then descend in the same gear.

You should have little difficulty on gradual turns. For sharper turns, it is helpful if you reduce your speed and be aware of obstacles located close to the curb or roadway.

Proper braking is extremely important to your safety. Your motorized vehicle weighs much more than most automobiles or small trucks that you are probably used to driving. Anticipate traffic signals, signs and side traffic. Decelerate slowly, whenever possible, to conserve fuel and prevent undue wear on the brakes, tires, etc.

Other Precautions

- Never exceed the posted speed limits; adjust speed according to weather, traffic or road conditions.
- Use extreme caution when going downhill. Excessive speed could cause a loss of control.
- Never attempt to pass on a curve or anywhere you do not have an unobstructed view of the road ahead.
- Know and observe the laws where you will be traveling as they may vary from state to state.

Parking

- Level and block all four wheels securely.
- Level the coach with the automatic leveling jacks.
- Connect the 110V/220V power.
- Open the valve at the LP Gas tank.
- Connect the fresh water supply
- Connect the waste drain hose.
- Start the refrigerator.
- Start the water heater.

- Start the furnace, if needed.
- Light oven and range pilots.
- Sanitize the water system, if necessary.

WARNING: Do not use the gearshift selector in place of the parking brake. Always set the parking brake fully AND make sure the gearshift selector is latched in P (PARK).

Backing In

If your destination doesn't have drive-through sites, pick a good level spot and back in carefully. We suggest:

- Stop near the site; get out and look it over. Check it for low hanging tree limbs, posts, large rocks or other obstacles.
- Try to place the site so it is on the driver's left, so you can see what the rear of the unit is doing. With the site on the door side (passenger side), you would be backing on your blind side, which is more difficult even with the side mirrors as a guide.
- If everything is clear, then maneuver the vehicle into position for backing into the space.
- Back up slowly, using the side mirrors as a guide or have another person outside to help guide you safely.
- Use the back-up monitor.

READY TO LEAVE

The following suggestions may be helpful when you are ready to leave.

Starting and Warmup

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

NOTE: Be sure transmission selector is in the "P" (park) position and that the parking brake is engaged to keep the motorhome from rolling. If the parking brake needs adjustment, see the chassis Operator's Manual for adjustment instructions.

TIRES

The chassis manufacturer equipped your vehicle with tires rated for highway speeds at the GVWR. Inflate when "cold" to recommended pressure found on tire sidewall. Check the tires often when traveling. Don't overload them.

Tires are covered by the tire manufacturer's warranty. If you have a defective tire, go directly to the nearest tire dealer for replacement according to the applicable warranty. Never discard a defective tire; return it to the tire dealer for inspection.

VEHICLE LOADING

Gross Vehicle Weight Rating (GVWR)

Your motorized vehicle's GVWR is printed on the Federal Manufacturer's Certification Label which is located on the sidewall next to the driver's seat. This number represents the unit's maximum safe weight, including the vehicle itself, and all additional cargo and passengers. **IT IS IMPORTANT THAT THIS WEIGHT NOT BE EXCEEDED WHEN LOADING YOUR MOTORIZED UNIT.**

Gross Axle Weight Rating (GAWR)

Your motorized vehicle's GAWR is found on the same federal tag. This number represents the maximum safe loading for each axle and must be considered in distributing weight as evenly as possible. It is extremely important not to exceed this weight for each axle. Overloading either in front of or behind axles can result in adverse handling characteristics.

Cargo Capacity

Cargo capacity is the additional weight, over and above the vehicle's own dry weight, which can be carried safely without exceeding the Gross Vehicle Weight Rating. It includes passengers, personal belongings, water and LP gas. To find your vehicle's cargo capacity, subtract the dry weight (found on the Certificate of Origin) from the Gross Vehicle Weight (found on the Federal tag on the dash or door post). From this figure, subtract the weight of the fluids (water and LP gas) to find the net cargo capacity. This is the amount of passengers' weights and personal items that can be carried safely.

CAUTION: It's also important to load personal cargo so that the Gross Axle Weight Ratings are never exceeded. For safety's sake, you should weigh your family camping vehicle frequently as loaded for travel. We can not emphasize too strongly that the Gross Vehicle Weight and Axle Rating **MUST NOT BE EXCEEDED.**

NOTE: When traveling, we recommend not to have the waste water holding tanks more than 1/2 full.

SMOKE DETECTOR

General

Statistics show that most fire casualties are not caused by direct flame, but by the less visible smoke (products of combustion). The detector responds to both visible and invisible products of combustion.

The detector will automatically return from the Alarm to the Normal state when the reason for activation, the presence of smoke, is completely removed.

Operation: How to Test

To test the electronics of the alarm, press the test button on the cover of the smoke alarm for a few seconds. The smoke alarm will sound by making a continuous loud "beep". To complete the test sequence release the button and the alarm should stop.

To test that the smoke is able to reach the ionization/sensing chamber you must blow smoke into the sensing chamber, in a careful, firesafe manner, until the alarm sounds. Do not use an open or direct flame of any kind, or you may damage your detector or your motorhome. The smoke alarm will stop sounding once the smoke has cleared the ionization chamber.

NOTE: When installed in recreational vehicles, test smoke alarm operation after vehicle has been in storage, before each trip, and at least once per week during use.

Battery Replacement

The only acceptable batteries for use in the smoke alarm are the Eveready 216, 522, 1222, Duracell MN1604, Mallory MN1604 and Gold Peak 1604P. The battery should power the smoke alarm for at least one year under normal use. When the battery reaches the end of its normal life a low battery warning lasting for up to 30 days (intermittent beeping) will indicate the need for battery replacement.

Maintenance

Vacuum the slots in the cover and sides with the soft brush attachment each month. Your smoke alarm should be cleaned every six months to help keep the unit working efficiently.

Problems are indicated by two events:

1. The alarm does not sound upon pressing the test button.
2. The alarm does not sound with the smoke test

Try the following:

1. Inspect for obvious damage.
2. Check that the unit contains recommended battery type.
3. Check that the battery is properly connected, or replace the battery if needed.
4. Gently vacuum as recommended above.

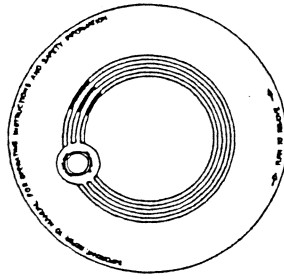
If these procedures do not correct the problem, **DO NOT** attempt repairs. If the smoke alarm is within warranty period and terms, indicate the nature of the problem and return the unit with proof of purchase to the distributor. Units beyond warranty cannot be economically repaired.

False Alarms:

Abnormal air conditions may cause the highly sensitive smoke alarm to give a "false" alarm. If no fire is apparent, ventilate the room and/or blow fresh air into the unit until the alarm stops. Once cleared, the smoke alarm will automatically reset. Dust can lead to excess sensitivity. Vacuum as recommended above.

DO NOT PAINT THE DETECTOR.

CAUTION: There is no way to guarantee against injury or loss of life in a fire; however, this smoke detector is intended to help reduce the risk of tragedy. Additional smoke detectors may further help to reduce the risk. This detector may not save your life from careless practices.



Three of the most common fire killers are:

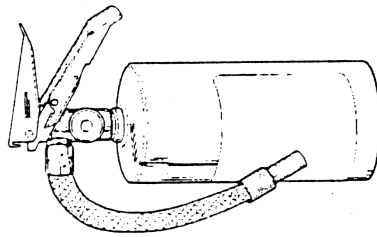
- Smoking in bed
- Leaving children unattended
- Cleaning with flammable fluids

Please, be safety conscious and avoid unnecessary risk!

FIRE EXTINGUISHER

The fire extinguisher in your unit is located near the main entrance door.

Please read the operating instructions that are printed on the fire extinguisher, if there is any doubt on the operation you and your family should practice, then replace or recharge the extinguisher.



SAFETY SEAT BELTS

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

NOTE: All occupants should be furnished with and use seat belts while the vehicle is in motion. Do not occupy the beds while traveling as safety protection is not provided.

Adjust your seat belt as follows:

- Pivot the buckle at right angles to the belt and pull to desired length.
- To fasten belt, be sure the belt is not twisted, then push the tongue into the buckle of the mating belt. Be sure it latches. Pull the loose end of the belt to tighten.
- To release the belt, depress the button in the center of the buckle and slide the tongue out of the buckle.

Adjust the belt as low on the abdomen and as snugly as comfort will allow, for greatest safety. Never use a belt for more than one person at a time.

INFANT AND CHILD RESTRAINTS

WARNING: For maximum protection in your unit children should not be transported unrestrained. Infants should be placed in infant carriers. Small children should be restrained in child safety seats. These seats should be placed in the vehicle in accordance with the instructions with the seat or infant carrier.

EMERGENCY EXIT WINDOW

The emergency exit window in your unit can be easily identified by the RED color of the handle. Operation of this window can be accomplished in the following manner.

Slider Windows

1. Pull forward on the RED handle to release the latching mechanism.
2. Slide the window open.
3. Slide screen open if present.

The window operation should be checked before each trip.

When at campsite make sure you have not parked in such a manner that blocks the exit window. Park away from trees, steep cliffs and other items that may prevent a safe escape.

EMERGENCY STOPPING

Always carry road flares or reflective warning signs to display, if necessary.

Pull off the roadway as far as possible for emergency stopping or tire changing. Turn on your vehicle hazard warning flashers when parked alongside traffic lanes. Set parking brake.

NOTES

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TOWING, LEVELING AND STABILIZING

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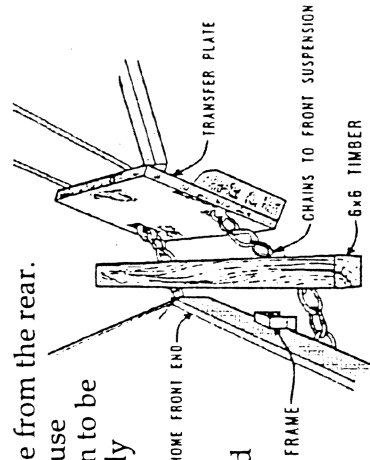
TOWING

If your motorhome ever needs to be towed, please follow these instructions:

- Secure any loose or protruding parts of the damaged vehicle.
- Inspect points of attachment to the disabled vehicle. If attachment points are damaged, select other attachment points at a substantial frame structural member.
- Never allow anyone to go under a vehicle while it is being lifted by towing equipment unless the disabled vehicle is also adequately supported by safety stands.

Do not tow the motorhome from the rear.

Towing from the rear will cause the front tires and suspension to be seriously overloaded, possibly resulting in tire or front suspension failure. The rear frame extensions are not designed to withstand the loads imposed by lifting from the rear.



If the rear wheels are disabled, place the motorhome on a flat bed trailer, or use a heavy duty dolly under the rear wheels and tow from the front.

Towing Procedure For Mini Homes

1. Attach "J" hooks to the inboard ends of the lower control arms.
2. Position a 4 x 4 length of wood across hitch chains just behind the bumper.
3. Attach safety chains which are completely independent of the primary lifting and towing attachment around the frame side rails.

4. Lift the vehicle until the wheels are a minimum of 4" off the ground. Be sure there is adequate ground clearance at the rear of the vehicle.

The vehicle may be towed on the rear wheels with the parking brake released and the transmission in neutral providing a speed of 35 mph and a distance of 50 miles is not exceeded. If this speed or distance must be exceeded, disconnect the drive shaft or place the rear wheels on a dolly.

IN ANY EVENT, DO NOT TOW ANY VEHICLE AT SPEEDS OVER 35 MPH.

The safety of the operator and all others in the vicinity of the wrecker and the towed vehicle must be considered at all times during a towing operation. **DO NOT ALLOW ANY PERSON TO RIDE IN THE TOWED VEHICLE.** Safe operating speeds depend on weather, road, traffic, visibility conditions, and the condition of the towed vehicle. Avoid panic stops. Obey all state and local laws regarding items such as warning signals, night illumination, speed, etc.

Towing 25WB Class A

Towing from the Front

If the vehicle is to be towed for an extended distance (more than 2 miles), you must disconnect the drive shaft. Failure to do so will result in damage to the transmission, due to lack of lubrication.

1. Unbolt the front bumper and remove.
2. Wrap chains around the front axle and pass them beneath the tow bar below the bumper.
3. Position a 6 x 6 timber between the ends of the main frame rails and tow vehicle transfer plate to maintain clearance to body parts.
4. Raise the wheels at least 4 inches off the ground.
5. **IMPORTANT:** Attach safety chains to the main frame rails, which are completely independent of the primary lifting device.

When vehicle is under tow, allow enough room between the front of the motorhome and the rear of the tow vehicle while turning corners.

Towing Chevy Class A

1. Remove the front bumper and spoiler by unbolting at the front and sides.
2. Wrap chains around both A-arms on each side. Pass chains completely around A-arm, not through the center.
3. Pass the chains beneath the tow bar below the bumper.
4. Position a 6 x 6 timber between the ends of the main frame rails and the tow vehicle transfer plate to maintain clearance to body parts.
5. **IMPORTANT:** Attach safety chains which are completely independent of the primary lifting device to the main frame rails.
6. When vehicle is under tow, allow enough room between the front of the motorhome and the rear of the tow vehicle while turning corners.

POWER LEVELING JACKS

The power leveling jacks help turn uneven sites into a pleasant camping area by allowing your camping vehicle to be adjusted. Your vehicle has jacks at all four corners. When parking on a slope, face the vehicle downhill if possible. Block the wheels before proceeding.

CAUTION: Do not use the vehicle's leveling system for changing tires or for working under the vehicle without blocking the frame. Keep everyone away from the mechanism, especially when it is operating.

To Extend

1. Turn the ignition switch to ACCESSORY or ON position.
2. Level the lowest corner first, then the next lowest corner. Leveling the vehicle may require only two or three of the jacks. When level, extend the remaining jack(s), just far enough to contact the ground to provide stability. On soft ground, place a wooden 2" x 6" pad beneath each jack for footing.
3. Turn off the ignition switch.

NOTE: The first movement of the control handle activates the pump; further movement opens the control valve to a jack. Do not hold the controls in this "pump only" position for too long. It will cause heat build up and draw too much current. Never extend all four jacks to their maximum position at the same time. This might raise the wheels from the ground and allow the vehicle to move dangerously to the front or rear.

To Retract

1. Slowly move one or more control levers forward. Hold there until the vehicle's entire weight is on the wheels again, then move the levers fully into the retract position.
2. Leave the controls in the retracted position while traveling.

JACKING INSTRUCTIONS MINI HOME & 25' CLASS A

1. Set the parking brake.
2. Block the wheels on the opposing side.
3. To raise front wheels, place jack in position from side of vehicle under axle arm 3 to 6 inches inboard of the radius arm attaching bolt.
4. To raise rear wheels, place jack in position under the rear axle between the U-bolts or under U-bolt bracket.

MOTORHOME JACKING PROCEDURE

WARNING: The jack is designed for use as a tool for changing tires only. Jack the vehicle on a level surface only. Never go under the motorhome while vehicle is jacked up.

1. Turn off the engine, place transmission in **PARK** and set the parking brake.
2. Block both the front and back of the opposing wheel to be removed.

WARNING: Soft ground will not support the vehicle when jacked.

Front Axle

1. Screw jack extension out to approximate ground-to-spring height.
2. Slide jack under axle and begin jacking until jack is loaded, but **DO NOT** jack tire off ground.
3. Loosen the wheel nuts with a lug wrench.
4. Resume jacking until the wheel is free of ground.

5. Remove the wheel nuts and wheel then put it spare wheel in place.
6. Install the wheel nut and tighten as much as possible with the wheel and tire off ground.

7. Lower jack until tire contacts the ground. Tighten nuts with lug wrench in recommended sequence.
8. Finish lowering and remove jack and blocks.

NOTE: Stop at the nearest service facility and have torque on wheel nuts checked.

Rear Wheel

1. Screw the jack extension out to approximate ground-to-axle housing tube height.

2. Place jack under axle housing. Center the jack on the housing so that the vehicle will not slide off the jack. Place the jack far enough inboard on the axle housing so that when the handle is inserted, the jack may be operated from either in front of or behind the tire without your getting under the vehicle.

3. Start jacking but do not lift wheel and tire off the ground.

4. Loosen wheel nuts with lug wrench.

5. Resume jacking until wheel and tires are free of the ground. **DO NOT CRAWL UNDER VEHICLE!**

6. Remove wheel nuts and wheel, put spare wheel in place.

7. Replace wheel nuts and torque in recommended sequence.

NOTE: Full torque must be applied to dual rear wheel nuts with both wheels off the ground.

8. Lower jack, then remove jack and blocks.

NOTES

ELECTRICAL

Electrical System	22
General Information	22
Battery	22
Battery Disconnect Switch	23
Front and Rear A/C Switch	23
Ground Fault Interrupter	23
Monitor Panel	25
Instrument Panel 25' Class A	25
Instrument Panel Class A	26
Instrument Panel F-53 Chassis	26

ELECTRICAL SYSTEM

Your vehicle is equipped with both 120V AC and 12V DC electrical systems.

120V Outside Power:

Pull out the 30 AMP grounded power cord and plug into the power source. Switch the main breaker to ON and the 120V system will energize all 120V circuits and receptacles. The power converter automatically supplies 12V DC power where needed inside.

12V Battery Power:

When a 120V power source is not available, the camping vehicle batteries provide 12V current to the same points as the converter. The changeover is completed automatically.

ELECTRICAL

Circuit breakers and fuses are installed to protect the circuits from overloading. Do not change the circuitry or add appliances yourself. See an authorized dealer.

Always use the vehicle's built-in power supply cord to connect with a 120V source. Note the three pin plug which provides the proper grounding for your protection from electrical shock. Do not use any adapter "cheater" or extension cord that breaks the continuity of the ground circuit to the round pin. NEVER remove the round pin to connect with a two prong, ungrounded receptacle.

NEVER operate the camping vehicle with a "hot skin". If you feel any shock, even a small one, disconnect from the 120V power and locate the fault. Usually it is a break in the grounding circuit. The grounding circuit must be continuous from the frame to the distribution panel, to the power cord, to earth ground.

COACH BATTERY for CLASS A

The coach battery for a Class A motorhome, supplied by Holiday Rambler Corporation is located behind the front wheel on the roadside. The coach battery for a mini-motorhome is located under the hood, on the driver's side.

The coach battery provides 12V current to the system when needed. It also operates the electronic ignition water heater, refrigerator (while in transit), leveling jacks and the power step. In-line thermal breakers protecting these circuits are found near the battery for Class A's and near the driver's side door on mini-motorhomes.

The battery is recharged in transit by the vehicle's electrical system. When your vehicle is plugged into a 110V source, the power converter should automatically begin to recharge the battery, bringing it back to full charge.

When the vehicle is not in transit, the chassis battery is isolated from the camping vehicle battery. This prevents the chassis battery from being drained by interior 12V equipment and avoids a "no start" situation.

The AUXILIARY START SWITCH on the instrument panel allows the "borrowing" of power from the camping vehicle battery to start the engine, when the chassis battery can't. Ask your dealer to check the chassis battery and vehicle charging system if you find yourself using the auxiliary start often.

CAUTION: Do not store anything near battery that might touch the terminals. This could cause an electrical short circuit, drain battery power or even start a fire.

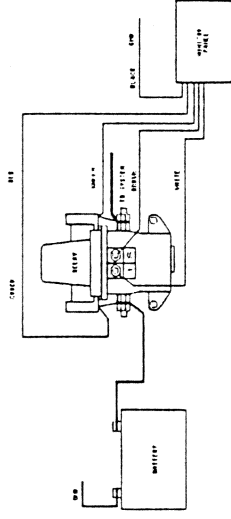
NOTE: If you won't be using your motorized unit for an extended time, remove the battery and store it in a warm place. Mark the positive and negative cables for easy identification. Do not store the battery on a concrete floor. Charge the battery periodically during storage.

NOTE: Deep cycle RV/ Marine batteries consume water which must be filled periodically. *Use distilled water only!*

BATTERY DISCONNECT

The battery disconnect feature provides a simple and safe means of disconnecting the coach and chassis batteries of your unit. With a touch of a switch on the monitor panel, located above the entrance door, the batteries will be disconnected. Advantages of using the battery disconnect switch include:

- Preventing unwanted discharging of batteries during extended periods of storage
- Preventing shorts or fire hazard while working on the 12-Volt electrical system.



A manual disconnect switch is provided for the chassis battery system. The switch is located under the front hood on the firewall.

How & When to Use Battery Disconnect

Your battery disconnect has a "STORE/USE" switch. The switch unit controls the coach or "house" battery.

TO USE RV - Press the "STORE/USE" switch to the "USE" position momentarily. The indicator light(s) for the battery will glow indicating the presence of 12 Volt current on the system. Repeat this step for the second "STORE/USE" switch.

TO STORE RV - To prevent the discharge of your batteries press the "STORE/USE" switch to the "STORE" position momentarily. If no external power (shore power or generator) is applied to the system the indicator light(s) should be extinguished.

NOTE: If you are plugged into any 120 V A/C source the "IN USE" indicator light will remain lighted.

NOTE: When coach batteries are disconnected with the battery disconnect the security system, alarm clock, trip computer clock, and the dash stereo memory are still connected and draw approximately 300 milliamps. For extended storage, disconnect the battery cables on the coach batteries.

AIR CONDITIONER SWITCH

Units with 2 Roof Air Conditioners Only

The air conditioner selector switch is located next to the AC circuit breaker panel. Use the selector switch to select which air conditioner operates from shore power.

RE: When set to front A/C the front roof A/C operates on shore power. Anytime the generator is running both air conditioners may be operated regardless of switch selection.

GFCI BREAKER

When properly installed the Ground Fault Circuit Interrupter (GFCI) and every standard receptacle downstream on the same branch circuit provides overload and short circuit protection, plus protection from ground faults between a "hot" wire and ground. The GFCI circuit includes the bathroom, kitchen and outside receptacles.

IMPORTANT: The GFCI will *NOT* reduce shock hazard if the short is between a "hot" and a neutral wire or two "hot" load wires.

Testing Instructions

- At the circuit breaker, turn the power ON to the circuit.
- Depress the "TEST" button, the RESET button should now be extended.
- To reset, depress the "RESET" button firmly into the GFCI unit until an audible click is heard. If the reset is done properly, the "RESET" button will be flush with the surface of the "TEST" button.

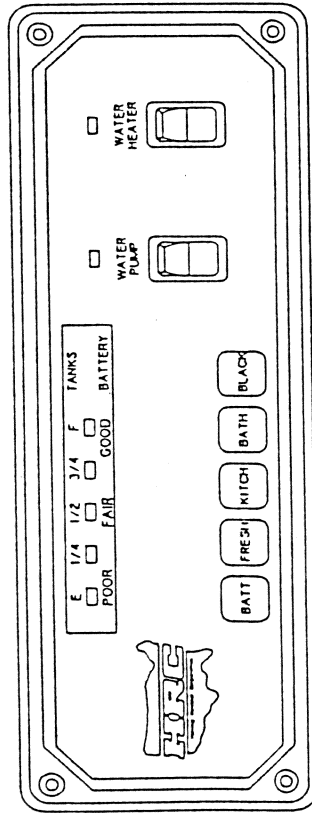
IMPORTANT: If the "RESET" button does not extend, the GFCI will *NOT* protect against electrical shock. Notify your dealer immediately.

Test the GFCI monthly and record the results on the chart supplied in your Owner's Packet.

WARNING: The GFCI protects *ONLY* the circuit to which it is connected. It does not protect any other circuit.

MONITOR PANEL

SYSTEM 102 with Electronic Water Heater - Standard



1. Water Heater Indicator
2. Water Pump Indicator
3. Battery & Tank Indicator
4. Water Heater Switch
5. Water Pump Switch

6. Black Water Test Button
7. Grey Water Test Button
8. Fresh Water Test Button
9. Battery Test Button

Monitor Panel Functions

Water Heater Indicator: When the water heater switch is turned on the indicator light should flash red for a few seconds, then turn green. If the flame goes out the indicator will flash red.

Fresh, Grey & Black water test: A momentary on switch will give a read-out of holding tank levels. The tanks will read empty, low (1/4), medium (1/2), near full (3/4) or full at the time of the test. For further explanation of the black & grey water systems, please refer to the Water Systems section in this manual.

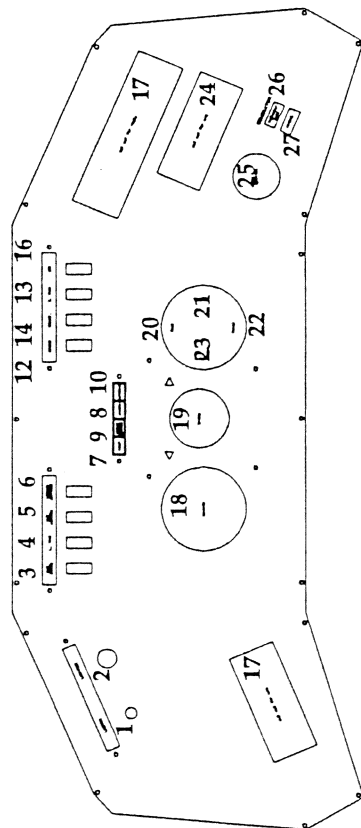
Water Pump indicator: This switches activates the water pump and the PUMP light. The pump & light may also be activated by a switch located in the bathroom.

ALUMA-LITE 25' CLASS A INSTRUMENT PANEL

The illustration for this Instrument Panel is not available at this time.

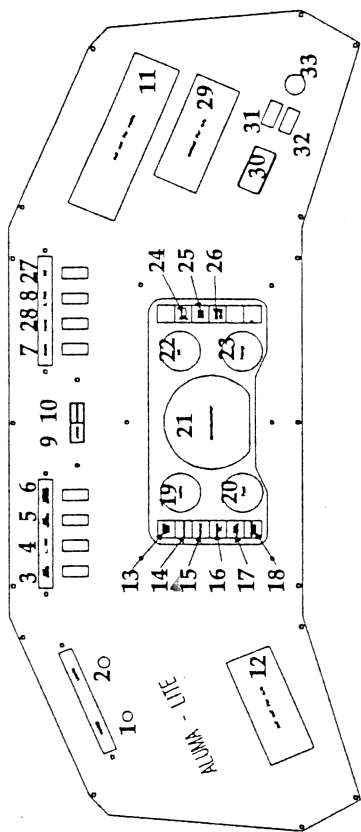
- | | |
|-------------------------------|---------------------------------------|
| 1. Windshield Wiper Switch | 17. Engine Indicator |
| 2. Headlight Switch | 18. Check Oil Indicator |
| 3. Aux. Start Switch | 19. Fuel Filter |
| 4. Left Defrost Fan Switch | 20. Check Windshield Washer Fluid |
| 5. Auxiliary Heater Switch | 21. Chassis Battery Voltage Indicator |
| 6. Mirror Defrost Switch | 22. Fuel Gauge |
| 7. Check Engine Indicator | 23. Speedometer |
| 8. 3-Way Radio Switch | 24. Oil Pressure Gauge |
| 9. Right Defrost Fan Switch | 25. Engine Temperature Indicator |
| 10. Jacks Down Indicator | 26. Hi-Beam Indicator |
| 11. Antenna Warning Indicator | 27. Seat Belt Indicator |
| 12. Radio | 28. Emergency Brake Indicator |
| 13. ICC Switch | 29. A/C Vent Louver |
| 14. A/C Vent Louver | 30. Gear Shift |
| 15. Service Engine Soon | 31. 3-way Courtesy Light |
| 16. Battery Indicator | 32. Generator Indicator Light |
| | 33. Generator Switch |

ALJMA-LITE CLASS A INSTRUMENT PANEL



1. Headlight Switch
2. Cigarette Lighter
3. Auxiliary Start Switch
4. Left Defrost Fan Switch
5. Auxiliary Heater Switch
6. Mirror Defrost
7. Engine Temperature Indicator
8. Choke Indicator
9. Check Engine Indicator
10. Antenna Warning Indicator
11. Accessory Switch
12. 3-Way Radio Switch
13. Right Defrost Fan Switch
14. 3-way Courtesy Light Switch
15. Radio
16. ICC Switch
17. A/C Vent Louver
18. Speedometer
19. Emergency Brake Indicator
20. Fuel Gauge
21. Oil Pressure Gauge
22. Engine Temperature Gauge
23. Chassis Battery Voltage
24. A/C Vent Louver
25. Ignition
26. Generator Indicator Light
27. Generator Switch

ALUMA-LITE CLASS A w/FC .D CHASSIS (F-53) INSTRUMENT PANEL



1. Windshield Wiper Switch
2. Headlight Switch
3. Aux. Start Switch
4. Left Defrost Fan Switch
5. Auxiliary Heater Switch
6. Mirror Defrost Switch
7. 3-Way Radio Switch
8. Right Defrost Fan Switch
9. Auxiliary Horn Switch
10. Antenna Warning Indicator
11. 3-way Radio Switch
12. A/C Vent Louver
13. Service Engine Soon Battery Indicator
14. Engine Indicator
16. Check Oil Indicator
17. Fuel Filter
18. Check Windshield Washer Fluid
19. Chassis Battery Voltage Indicator
20. Fuel Gauge
21. Speedometer
22. Oil Pressure Gauge
23. Engine Temperature Indicator
24. Hi-Beam Indicator
25. Seat Belt Indicator
26. Emergency Brake Indicator
27. ICC Switch
28. 3-way Courtesy Lt. Switch
29. A/C Vent Louver
30. Transmission Overdrive
31. Generator Indicator
32. Generator Switch
33. Ignition

NOTES

L.P. GAS

General Information	28
Filling the Tank	28
L.P. Gas Consumption	29
L.P. Gas Distribution Lines	29
Precautions/Recommendations	29
L.P. Bottle Warning	29
Liquid Propane Gas Sensor	30

L.P. GAS

We recommend that you have the LP gas system checked by your authorized dealer at least once a year, and after every extended trip. Although the manufacturer and dealer test carefully for leakage, travel vibrations could loosen fittings and cause leaks. Leaks can be found easily by applying soapy water at the connections. Tightening the fitting usually stops leaks. If not, shut off main gas valve at tank and see your authorized dealer for repairs immediately.

Because LP gas is heavier than air, leaking gas tends to collect in low areas. The identifying odor is similar to onions or garlic. **NEVER LIGHT A MATCH OR ALLOW AN OPEN FLAME WHERE YOU SUSPECT LEAKING GAS.**

SHUT OFF THE MAIN GAS VALVE AT THE TANKS WHEN THE CAMPING VEHICLE IS NOT IN USE. ALSO, SHUT THE VALVE WHEN REFUELING THE TOW VEHICLE TO AVOID POTENTIAL DANGER FROM PILOT LIGHTS IGNITING FUEL FUMES.

WARNING: Do not bring or store LP Gas containers, gasoline, or other flammable liquids inside the vehicle. If this warning is ignored, a fire or an explosion could result.

LP Gas containers are equipped with safety devices which relieve pressure by discharging gas into the atmosphere. LP Gas regulators are installed with the diaphragm vent facing downward. Regulators that are not in compartments have been equipped with a protective cover.

NOTE: Make sure that the protective cover is kept in place to minimize vent blockage that could result in a build-up of gas pressure causing fire or explosion.

Filling the LP Gas Tank

Woodall's *Camp ground and Trailer Guide* and other publications list refueling stations. Many travel parks also sell LP Gas.

Caution the supplier not to overfill your tank. A relief valve is built into most tanks, and needs to be opened during refilling. The tank is full when the valve allows a small amount of liquid to escape. At all other times, the valve should be tightly closed by hand.

NOTE: Over-tightening the valve could ruin the seal on the valve

When the tank is filled to the proper level there is space available for expansion of the liquid into gas. If a tank is overfilled, it may vent pressure from the relief valve. When this happens you can detect a strong garlic odor near the tank and you may be able to hear a hissing noise.

WARNING: Keep open flame and spark producing materials away from the LP area. It is best to move the vehicle to a safe place and bleed off excess pressure by opening the relief valve. Be sure to turn off all appliances while venting the LP gas.

Turn off the main valve on the LP tank while traveling or when the camping vehicle is between trips. Hand tighten the valve. Over-tightening may permanently damage the valve seat.

General Information

Like the other systems in your camping vehicle, components for the LP Gas system are approved for use in camping vehicles by a nationally recognized testing laboratory. When properly handled, LP Gas is a clean burning, dependable fuel for your heat producing appliances.

The LP Gas tank mounted on your camping vehicle contains liquid under high pressure. As fuel is used, the liquid vaporizes into gas and passes through the tank valve to a regulator which automatically reduces the pressure. The low-pressure gas is then distributed to the appliances.

The most common cause of appliance lighting problems is an improperly adjusted gas regulator. Never attempt to reset

the regulator yourself. Even a little excessive pressure can result in damage to the appliance regulators. Have your dealer or an authorized service person make the adjustments required for high altitudes or temperature extremes.

LP Gas Consumption

Each gallon of LP Gas produces about 91,000 BTU's of heat. Total consumption depends on the usage rate for each appliance and its operating time. The oven and the heating system use the most gas. With sub-freezing temperatures and high winds, furnace consumption can be very high. Check tank levels often in cold weather.

For additional information regarding the usage rate(s) for the appliances in your vehicle, see the charts in the Vehicle Maintenance section of this manual.

Gas Distribution Lines

The primary manifold is a black steel pipe running the length of your R.V. All secondary lines leading to gas appliances are copper tubing with flare fittings. If any of these lines rupture, do not attempt to splice it. Always run a new line. We recommend any gas distribution work be performed by a dealer or authorized service person.

When removing or servicing any gas appliance, close the main valve at the LP tank. This will prevent dangerous gas leakage which could result in an explosion causing serious injury.

If you suspect a leak, get the system inspected and repaired by a qualified service technician as soon as possible.

Precautions and Recommendations

- Visually inspect LP fill valve for contaminants before refueling.
- Never use an open flame while checking for gas leaks.
- Shut off pilot lights while refueling.
- Visually inspect gas line hangers periodically.

- Have your LP Gas system checked annually by your dealer and before and after long trips.
- Only a qualified technician should make repairs to the gas system and appliances.

THE FOLLOWING LABEL HAS BEEN LOCATED NEAR THE LP GAS CONTAINER:

THIS GAS PIPING SYSTEM IS DESIGNED FOR USE OF LIQUEFIED PETROLEUM GAS ONLY. DO NOT CONNECT NATURAL GAS TO THIS SYSTEM. DO NOT FILL CONTAINER(S) TO MORE THAN 80 PERCENT OF CAPACITY. Securely cap inlet(s) when not connected for use. After turning on gas, except after normal container replacement, test gas piping and connections to appliances for leakage with soapy water or bubble solution. Do not use products that contain ammonia or chlorine.

WARNING

ALL PILOT LIGHTS & APPLIANCES SHALL BE TURNED OFF DURING REFUELING OF MOTOR FUEL TANKS AND/OR LP GAS CONTAINERS

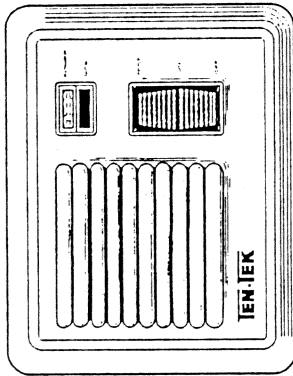
NOTE: The above label is not shown actual size.

CAUTION: Periodically check the L.P. Manifold pipe for a gel-like substance. This substance is derived from bad L.P. Gas and a buildup of this substance can inhibit gas pressure which affects all the gas appliances.

LIQUID PROPANE GAS SENSOR

Introduction

The Ten-Tek model 800T Gas Sensor is a technologically advanced device specifically engineered for use in recreational vehicles. The unit is designed to detect propane gas at a concentration in excess of 25% of the Lower Explosive Limit.



Please read the following carefully to ensure that you and your family receive maximum benefit from the Ten-Tek model 800T gas detector.

Specifications

Operating Voltage	12 Volts DC
Acceptable Voltage Range	10.5V to 18.0 V DC (FWR)
Standby current	NOMINAL 12 VDS detector 200 MA Avg.
Gas Detection Level	25% of the Lower Explosive Limit of Propane Gas
Audible Alarm Level	85DB at 10 feet
Warm-up Period	2.5 minutes (approximate)

What you should know about your LP gas sensor

The Ten-Tek model 800T is designed to detect liquid propane gas at a concentration in excess of 25% of the Lower Explosive Limit (LEL). The Lower Explosive Limit (LEL) is the level of gas in the air at which the gas-air mixture becomes explosive. Propane has an LEL of 2.1%. If the 2.1% level is reached the air-gas mixture is explosive. The Ten-Tek 800T is designed to detect levels of propane in excess of 0.52%. If the concentration of gas is less than these levels the gas may be unable to trigger an alarm. The Ten-Tek 800T is designed to detect

the propane leaks before the gas concentrations at the detector reach explosive levels.

NOTE: Liquid propane gas is heavier than air and will settle to the lowest point. Your gas detector is installed near the floor of your vehicle.

How to Operate

When Propane Supply is Required:

1. Turn the gas detector ON by moving the ON/OFF/TEST switch to the ON position. The green 'POWER' LED should come on immediately. Wait for 2.5 minutes (approximately) to allow the sensor to warm up before testing the gas detector or using the gas detector or using your gas appliances.
2. Open the main gas valve.
3. LIGHT ALL PILOT LIGHTS according to the manufacturer's instructions.
4. Use gas as required.

NOTE:If the unit gives a brief "beep" every 30-60 seconds refer to the "TROUBLE-SHOOTING" GUIDE BELOW.

WARNING: The gas alarm will draw an average current of 0.2 amperes during normal operation. To avoid battery drain when propane is not required, CLOSE THE MAIN GAS VALVE ON THE PROPANE TANK, and place the ON/OFF/TEST switch in the OFF position to turn off the gas detector. The "POWER" LED should go out immediately.

How to Reset

1. Turn the ON/OFF/TEST switch to the OFF position; then
2. Turn the ON/OFF/TEST switch to the ON position and wait 2.5 minutes (approximately).

Alarm

If the gas detector senses gas concentrations in excess of its calibrated operating threshold:

1. An audible pulsating alarm should sound, and
2. The red "ALARM" LED should light.

What to Do When an Alarm Sounds

If your gas alarm sounds and the red "ALARM" LED is on:

1. Extinguish all open flames, pilot lights, and smoking materials, etc.
2. DO NOT touch the electrical switches.
3. Shut off the gas supply at the propane tank (main gas valve).
4. Open doors and windows for ventilation.
5. Leave your Recreational Vehicle until the audible alarm stops and all odor clears.
6. Have your gas system checked and the leakage source corrected before using your gas supply again.

NOTE: Pilot lights may burn for several minutes after the tank valve has been closed as they will be depleting gas still present in the gas supply lines.

The pulsating alarm is designed to stop sounding when the gas concentration at the detector goes below the calibrated level. The "ALARM" LED is designed to remain lit until the gas system is manually reset. Do not reset your gas detector until you have corrected the gas leak situation or a qualified gas dealer or RV service center has made necessary repairs at the source of the leak.

To reset, follow the instructions in the "HOW TO OPERATE" section of this manual.

Testing - Test Switch

The gas detector is proved with a TEST switch which, when activated, is designed to provide a rapid check of the circuitry is functioning.

Turn the gas detector on as described in "HOW TO RESET". The green "POWER" LED and the unit silent. Wait for approximately 2.5 minutes.

Press and hold the TEST switch in the TEST position for 5 seconds. The audible alarm should cycle on and off and the red "ALARM" LED should light.

Release the TEST switch to return the switch to the ON position. The pulsating alarm should stop. The red "ALARM" LED should remain lit to indicate that the unit had gone into alarm.

Turn the TEST switch to the OFF position and reset as described in the "HOW TO RESET" paragraph of this manual. *Repeat this test weekly.*

The test switch provides an internal electrical sensitivity check only. It does NOT indicate such problems as back-drafts, or a plugged sensor. It is highly recommended that an additional test be performed using a butane lighter.

Turn the gas detector OFF and reset as described in "HOW TO OPERATE" section of this manual.

Should the detector fail to perform as described during either of the above test procedures, turn off the gas detector, turn off the main gas valve and consult a qualified RV service representative for repair or replacement. Do not use your propane gas supply until your detector has been repaired.

Maintenance

The gas detector is factory calibrated and sealed for your protection. Because the detector is located near the floor, care must be taken to avoid damage from kicking.

DO NOT BLOCK THE DETECTOR IN ANY WAY BY STORING LUGGAGE OR OTHER ITEMS IN FRONT OR BACK OF IT.

Testing should be performed as described in the "Testing" section of this manual to determine that the detector responds to gas, the solenoid valve operates as intended and interconnect wiring is intact.

Should the detector fail to perform during testing consult a qualified RV representative for repair or replacement. Do not use your propane gas supply until all necessary repairs have been made.

Every month vacuum the detector with a soft brush attachment in the area of the gas sensor to remove any loose lint that may accumulate.

Trouble-shooting

Trouble Signal:

An audible trouble "beep" once every 30 to 60 seconds may indicate one or more of the following problems:

1. Battery voltage is lower than that required to operate the unit properly.
2. Gas sensing device has failed.

If the cause of trouble indication is (1) above, recharging the battery and then resetting the alarm as described in "HOW TO OPERATE" should restore the detector to operation. If (2) is the cause, resetting will not restore operation. In this instance, turn OFF the gas detector, turn OFF the main gas valve at the propane tank and see a qualified service representative for repair. Do not use your propane gas until your detector has been repaired.

"ALARM" LED Turns On During Operation

If the red "ALARM" LED is on during operation, but the audible alarm and/or trouble signal are not sounding the cause may be:

1. The unit went into alarm earlier, but the level gas concentration has since dropped below the calibrated operating threshold, causing the alarm to stop sounding.
2. The audible alarm signal is not operational.

ALWAYS TREAT THIS AS AN ALARM SITUATION and follow the instructions in the ALARM section of this manual. Once a gas leak or other problem has been located and repaired, reset the detector.

"POWER" LED Off

If the green "POWER" LED is off during operation or after resetting, the cause may be:

1. The detector is not receiving power.
2. The "POWER" LED has failed.

Turn the detector off. Restore power to the detector and reset as described in the "HOW TO RESET" section. If the green "POWER" LED does not light immediately after resetting, check the fuse for the detector and replace if necessary and reset.

If the green "POWER" LED still does not turn on, turn off the main gas valve at the propane tank, turn off the gas detector and call a qualified RV service representative for repair or replacement. Do not use your propane supply until all necessary repairs have been made.

False Alarms

Your LP gas detector is also sensitive to fumes such as those from alcohol, hairspray, perfume, liquor, deodorants, some cleaning agents, etc. As most fumes from these chemicals are lighter than air, they will not be detected by the gas detector, unless sprayed or exposed directly into the sensor.

If, however, a strong cleaning agent or any of the above compounds are to be used on or near the floor, turn off your gas detector and turn off the gas at the main tank. Air out the vehicle and reset the detector.

Limitations of Gas Detectors

Quality gas detectors are designed to give the earliest possible warning of gas leaks at reasonable cost. Early warning may mean the difference between a safe escape and no escape at all. While gas detectors may provide valuable protection for you and your family, it must be recognized that detectors have limitations.

Gas detectors cannot work without power. A gas detector will not work on low or dead battery, or if its power is cut off by an electrical fire, an open fuse, a tripped circuit breaker, or any other reason.

Gas detectors are incapable of triggering an alarm until gas reaches the sensing chamber. Anything preventing gas from reaching the device may delay or prevent an alarm. Turbulent air currents from air currents from fans, open doors, open windows, etc. may prevent gas from entering the detector. Avoid such conditions. If in doubt as to the best location, consult your local gas authority. A gas detector cannot detect gas in the walls, ground or roof unless and until a significant quantity of gas reaches the detector. A closed door may prevent gas from reaching a detector on the other side of the door.

Gas detectors have other obvious limitations. For example, gas detectors are calibrated for specific gasses. The Ten-Tek 800T is designed to detect propane only. It should not be relied upon to detect any other gasses.

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APPLICATIONS

35

REFRIGERATORS

RM3604 and RM3804

This refrigerator is equipped with an Automatic Energy Selector (AES) control system, which automatically selects the most suitable energy source available. Each energy source is prioritized in this order: first, 120 volts; second, 12 volts; and third, L.P. Gas. If you choose to select the 'manual' mode you can select your own preference by pressing the appropriate switch.

Before starting the refrigerator check that all the manual gas shutoff valves are in the ON position. DO NOT forget the manual shutoff valve on the rear of the refrigerator.

Operation Instructions

Leveling

In an absorption refrigerator system, ammonia is liquified in the finned condenser coil at the top rear of the refrigerator. The liquid ammonia then flows into the evaporator (inside the freezer section) and is exposed to a circulating flow of hydrogen gas, which causes the ammonia to evaporate, creating cold conditions in the freezer.

The tubing in the evaporator section is precisely sloped to provide a continuous downward movement of liquid ammonia. If the refrigerator is operated when it is not level and the vehicle is not moving, liquid ammonia will accumulate in some sections of the evaporator tubing. This accumulation slows or stops, in severe cases of blockage, the circulation of hydrogen and ammonia gas resulting in a loss of cooling.

Any time the vehicle will be parked for several hours with the refrigerator operating the vehicle should be leveled to prevent this loss of cooling. The vehicle needs to be leveled only so it is comfortable to live in (no noticeable sloping walls or floors).

When the vehicle is moving, the leveling is not critical as the rolling and pitching motion of the vehicle will keep the liquid ammonia from accumulating in the evaporator tubing.

Control Panel

A. Green push-button indicator: Indicates full AES operation

B. Green push button indicator: Indicates LP Gas operation only

C. Green push button indicator: Indicates limited AES operation, 120V or LP Gas

D. Main ON/OFF switch

E. Yellow indicator: Indicates 12 Volt DC operation mode

F. Yellow indicator: Indicates 120 Volt AC operation mode

G. Yellow indicator: Indicate the LP Gas Delay mode

H. Yellow indicator: Indicates LP Gas operation

J. Push button: Press to light up indicator E, F, G or H

K. Red flame failure indicator: Indicates flame failure on LP Gas operation

Basic Operation

A. To start the refrigerator, move switch (D) to the ON position. The lamp above push button "A" will turn green.

B. Turn the thermostat knob to a normal (mid-range) setting.

C. To shut off the refrigerator, move switch (D) to the OFF position.

CAUTION: DO NOT store any combustible materials, gasoline or other flammable vapors or liquids in the refrigerator area.

Thermostat

The refrigerator is equipped with an adjustable thermostat. Turn the knob clockwise toward MAX for a lower (cooler) temperature and for a warmer temperature turn the knob counter-clockwise toward MIN. Set the thermostat approximately mid-range and adjust it toward MIN or MAX to

achieve the desired cabinet temperatures. Remember, at the MAX setting the heating element/burner is running continuously and the lowest cabinet temperatures is achieved.

Mode Indicator Lamps

The control panel is equipped with mode indicator lights that will show the user which energy source the refrigerator is using when button J (question mark) is pressed. The four yellow indicator lights represent 12V DC, 120V AC, L.P. Gas and delay. If the 12V lamp (D) lights when button J is pressed, the refrigerator is operating off the 12V DC engine alternator power. If the AC lamp is (F) lights when J is pressed, the refrigerator is operating on 120V AC. If lamp H lights, the refrigerator is running on LP Gas. If button G lights the AES system is operating on a preset delay cycle.

If the far right hand indicator on the AES control panel is lighted, there has been a flame failure during LP Gas operation. For more complete information please refer to the Operating Instructions provided in your Owner's Packet.

AES Mode (Fully Automatic)

Turn switch "D" to the ON position. The indicator light above button A will light up green, indicating the full automatic mode has been selected. In this mode each energy source is prioritized in this order: first, 120 volts; second, 12 volts; and third, L.P. Gas. For a more detailed description of the AES control please refer to the complete Operating Instructions for the refrigerator included in your Owner's Packet.

NOTE: The AES controls default to the fully automatic mode each time switch D is turned on.

L.P. Gas Only

Turn switch "D" to the ON position and press button B. The green indicator above button B will illuminate and the refrigerator will operate only on LP Gas even if 120V power is available. When the vehicle engine is turned OFF, the AES system initiates a 25 minute delay, preventing the refrigerator from operating on LP Gas. For more detailed information please see the complete Operating Instructions included with your Owner's Packet.

120 Volt AC and L.P. Gas Only

Turn switch 'D' to the ON position and press C. The green indicator above button C will light and the AES system will select between 120V and L.P. Gas.

12 Volt DC Operation

This refrigerator contains an additional heating element for use with a 12V DC power source. Unless the battery is constantly being recharged the refrigerator can only operate for a short time on the 12V DC power source. This operation mode can only be selected through the AES (fully automatic) mode. If the green light is on above buttons B or C, 12V operation is not possible. The AES control receives a signal from the vehicle engine through the IGN Lock.

The thermostat also controls the temperature inside the food compartment by turning the 12 Volt heating element ON and OFF.

120 Volts AC Operation

Since 120 Volt is usually the most economical source for operation of the refrigerator, the AES control system is designed to select this mode whenever it is available. The only exception is when button B (LP only) is selected. The 120 volt heating element attached to the boiler provides the heat necessary to operate the cooling system. The thermostat controls the power ON and OFF to the element and maintains the desired temperature.

L.P. Gas Operation

L.P. Gas Operation of the refrigerator will start if the 120 Volt or the 12 Volt power sources are disabled or if button B has been pressed. When the thermostat calls for cooling, the following sequence takes place:

A. A high voltage spark is created above the burner.

B. Power is sent to the solenoid which opens the gas control, allowing LP gas to flow to the burner. The spark ignites the LP gas and the small flame provides heat for the boiler.

C. The electrode mounted above the burner tube monitors the flame continuously. If the flame should fail for any reason, the high voltage spark will start immediately and relight the flame.

When the thermostat reaches the desired temperature, it will remain on standby until cooling is again required.

L.P. Gas Delay Mode

When the vehicle engine is turned off the AES system initiates a delay cycle which prevents the refrigerator from operating on L.P. Gas for 25 minutes. The delay is meant to avoid having a gas flame burning while refueling at a gas station (*see WARNING*).

If the vehicle engine is restarted during this delay period, the L.P. Gas operation will not start until the delay period is over. This means each time the vehicle engine is stopped, the 25 minute delay cycle will restart. If 120V AC power becomes available during the delay cycle the AES system will begin operating in the 120 Volt mode, unless button B (L.P. Gas only) has been pressed.

WARNING: Most LP gas appliances used in recreational vehicles are vented to the outside of the vehicle. When parked close to a gasoline pump, it is possible that the gasoline fumes could enter this type of appliance and ignite from the burner flame, CAUSING A FIRE OR AN EXPLOSION.

FOR YOUR SAFETY it is recommended that all LP gas appliances which are vented to the outside should be shut off when refueling.

The AES system is designed to turn off the flame during refueling stops by using the previously mentioned delay cycle. However, you must remember that the delay cycle will be activated only if the refrigerator is properly connected to the vehicle engine electrical circuit.

If the refrigerator is not connected to the engine by the ignition lock wiring, the refrigerator must be shut off during refueling. To do this, turn the main system switch D to the OFF position. Only after the vehicle has been moved away from the refueling area should the main system be switched back on.

Flame Failure During LP Gas Operation

If the LP Gas flame fails to ignite when the burner cycle begins, or if the flame fails at any time during the cycle, the high voltage spark will continue arcing for up to three minutes. At the end of the three minutes the gas control will stop and the red indicator lamp K will light up. L.P. Gas operation will not be possible as long as this indicator is on.

To restart the LP Gas operation, turn the main system switch D to OFF for five seconds and then back ON. This will initiate another cycle for gas ignition.

If the refrigerator has not been used for a long time or if the LP tanks have just been refilled, air may be trapped in the supply lines. To purge the air from the lines press the ON/OFF switch (D) three or four times.

If repeated attempts to start the LP gas operation fail, check to make sure the LP supply tanks are not empty and all manual shutoff valves are open. If the problem still persists contact a service center for assistance.

NOTE: If you are in the AES mode or the AC/Gas mode when the flame failure light (K) comes on, the mode indicator lamps will go out.

20V or 12V power (AES mode only) becomes available during this period, the mode indicator lamp will light showing the refrigerator is operating on another energy source. The red lamp K will remain lighted until the AES system is reset with an OFF/ON operation. If button B (LP Gas only) has been pressed and flame failure occurs, the AES controls cannot switch to another power source and all cooling will be lost.

General Use Guidelines

Storing Food

The food storage compartment is completely closed and unventilated which is necessary to maintain the required low temperatures for food storage. Foods with a strong odor or odor absorbing foods should be stored in airtight containers. Vegetables, salads, etc. should be covered to retain their crispness. The coolest portions of the refrigerator are under the cooling fins and at the bottom of the refrigerator. The warmest areas are on the upper door shelves. Please consider these factors when storing different types of food.

When the refrigerator is heavily loaded, it will take longer to lower the temperatures; therefore, to gain maximum efficiency the refrigerator and food items should be pre-cooled prior to loading. The shelves should not be covered with paper or plastic and food should be arranged so air can circulate freely.

One half of the lower door shelf is equipped with plastic 'fingers'. These 'fingers' are designed to prevent large containers (ex. 1/2 gallon milk or juice) from shifting or spilling while travelling.

Frozen Food Storage

Quick frozen soft fruits and ice cream should be placed just below the freezer shelf, which is the coldest part of the freezer. Frozen vegetables may be stored in any portion of the freezer compartment.

This compartment is not designed for deep or quick freezing of food. Meat or fish, whether raw or prepared, can be stored in the frozen food storage compartment provided they have been pre-cooled in the refrigerator. They can be stored about three times longer in the frozen food compartment compared to the fresh food compartment. To prevent food from drying out, keep it in covered dishes, covered containers, plastic bags or foil.

Ice Making

Ice cubes can be made in the ice tray placed in the freezer compartment. The trays should be filled to within 1/4" (5mm) from the top. For faster ice making, the trays should be placed in direct contact with the freezer shelf.

To release the ice cube trays, seize the tray with both hands and twist the tray. Replace the unused cubes in the tray and refill the tray with water.

Icemaking is accelerated if the thermostat knob is turned fully clockwise to MAX. It is a good idea to do this a few hours before the anticipated need for ice, but be sure to turn the thermostat back to the normal setting when the ice has formed. Food in the lower compartment can become frozen if the thermostat is left in the MAX position.

Defrosting

Shut off the refrigerator by setting switch D to the OFF position. Empty the refrigerator, leaving the drip tray under the finned evaporator, and the cabinet and freezer doors open. Defrosting time can be reduced by filling the ice trays with hot water and placing them on the freezer shelf.

CAUTION: DO NOT use a hot air blower. Permanent damage could result from warping the metal or plastic parts. **DO NOT** use a knife, ice pick or other sharp tools to remove the frost from the freezer shelf, this could create a leak in the ammonia system.

When all the frost has melted, empty the drip tray and dry the interior of the refrigerator with a clean cloth. Replace the drip tray and ice trays. Replace all the food and set the thermostat to MAX for a few hours, then reset the thermostat to its normal position.

NOTE: On the RM3804 the drip tray/cup is located on the rear of the refrigerator. It can be reached through the outside lower access door.

Cleaning

Cleaning of the refrigerator is usually done after it is defrosted or put into storage. To clean the interior liner of the refrigerator, use a lukewarm weak soda solution. Use only warm water to clean the finned evaporator, ice trays and shelves. NEVER use strong chemicals or abrasives to clean these parts as the protective surfaces will be damaged. It is important to always keep the refrigerator clean.

Storage Procedure

If the refrigerator will not be in operation for a period of weeks, it should be emptied, defrosted, cleaned and the doors left ajar.

The handle of the travel latch is designed to keep the refrigerator doors open slightly allowing air to circulate, preventing mildew and odors. The doors can be secured in the vented position by pushing the square button until the notch seizes the catch. Release the door by pulling on the handle.

Maintenance and Service

Periodic inspections (once or twice a year) of the following items is recommended for safe, efficient operation of your Dometic refrigerator.

A. It is important to keep the area at the back of the refrigerator clean. Check the lower vent, upper vent and the area between these openings for any obstructions such as bird/insect nests, spider webs, etc. Clean the coils on the back of the refrigerator. Use a soft bristled brush for dusting off the coils.

It is important to keep the refrigerator area free from combustible material, gasoline and other flammable vapors and liquids.

NOTE: AVOID SPRAYING WATER THROUGH THE REFRIGERATOR VENTS WHILE WASHING YOUR RV.

B. Check all the LP gas system connections for gas leaks. The connections can be found at the rear of the refrigerator. The LP gas supply must be turned on. Apply a non-corrosive bubble solution to all LP gas connections. The appearance of bubbles indicates a leak and should be repaired immediately by a QUALIFIED SERVICE MAN WHO IS FAMILIAR WITH LP GAS SYSTEMS AND REFRIGERATORS.

WARNING: Do not use a flame to check for gas leaks.

C. Check the AES control system by connecting/disconnecting the 120V AC power, start/stop the engine, etc. Compare the operation with the operation described in the complete Operating Instructions.

NOTE: The following maintenance is required once or twice a year, but it should be done by a qualified serviceman who is familiar with LP gas systems and refrigerators.

D. The LP gas pressure should be checked and the main regulator re-adjusted if the pressure is incorrect. The correct operating pressure is 11 inches of water column. The correct place to take the LP gas pressure is at the test port just ahead of the burner jet.

E. Inspect the flue baffle. It should be reasonably clean and free of soot. Heavy soot formation indicates improper functioning of the burner. The flue and burner both require cleaning in the following manner:

1. Unplug the refrigerator power cord from the 120 Volt AC outlet.

2. Disconnect or shut off the 12 Volt power to the refrigerator.
3. Turn the manual shutoff valve to OFF.
4. Remove the cover from the burner housing.
5. Disconnect the wire from the high voltage electrode.
6. Remove the burner mounting screws and remove the burner assembly.
7. Remove the flue cap from top of the flue tube and lift out the wire and spiral baffle. Clean the flue from the top using a flue brush. Blowing compressed air into the flue will not properly clean the soot and scale out of the flue tube. Replace the spiral baffle and flue cap.
8. Clean the burner tube with a brush. Blow out the burner with compressed air.
9. Before removing the burner jet, clean the burner area of soot and scale that fell out of the flue tube. Remove the burner jet. Soak the jet in wood alcohol and blow it out with compressed air. Reinstall and tighten the burner jet.

CAUTION: DO NOT use a wire or pin when cleaning the burner jet or damage may occur to the precision opening. This can cause damage to the refrigerator or create a fire hazard.

10. Reinstall burner, being careful that the end of the burner fits in the slot on the burner bracket. Check to make sure the burner slots are centered under the flue tube and the thermocouple is positioned properly, so the tip of the thermocouple extends over two slots of the burner.
11. Be sure to reconnect the wire to the high voltage electrode. Check the electrode for proper location and gap.
12. Turn on the manual gas shutoff valve and check all fittings for leaks.
13. Connect 120 Volt power cord to the outlet and reconnect the power to the outlet and reconnect or turn on the 12 volt DC power.

14. Check LP gas safety shutoff. For complete instructions see the Operation instructions included in your Owner's Packet.

Troubleshooting

PROBLEM: Refrigerator does not cool properly

- a. Burner jet clogged.

Clean the burner jet. Instructions are in your Operating Instructions included in the Owner's Packet.

- b. Check level of refrigeration.

- c. Venting problem.

Air flow across the cooling unit is restricted.

- d. Heavy Frost buildup on evaporator fins.

Defrost

- e. Flue baffles not inserted properly in flue tube.
- f. Improperly set thermostat.

- g. Burner is dirty.

Clean.

- h. LP Gas pressure low at burner.

Set the main regulator so pressure does not drop below 11 inches water column at pressure tap.

- i. Burner not located properly under flue tube.

Relocate burner.

- j. Burner Damaged

Replace the burner.

- k. Odors and fumes

1. Dislocated burner
2. Damaged burner
3. Dirty flue tube

Contact an authorized service center for parts and repairs as needed.

RANGE

Operating Instructions

This range is equipped with a standby pilot for the top burners and the oven.

CAUTION: Before operating the range, always light both the top pilot and oven standby pilot. Both pilots receive gas through the oven thermostat control. If only one pilot is lit, gas will escape from the pilot which is not lit.

Lighting the Top Pilot and Oven Standby Pilot

1. Press in the oven thermostat knob and turn to OFF position.
2. Wait 4-10 seconds for air to clear from gas line.
3. Place a burning match over top pilot and oven standby pilot until the pilots ignite.

NOTE: Pilots will remain on until oven thermostat is pressed and turned to the PILOT OFF position.

To Light the Top Burner

CAUTION: Be sure pilots are burning. If not, follow lighting instructions for lighting pilots.

Press in burner knob and turn knob counter-clockwise until burner ignites. Continue to turn the knob until desired flame is established.

To Light Oven Burner

CAUTION: Be sure oven standby pilot is burning. If not, follow lighting instructions for lighting pilots.

1. Turn thermostat knob to desired temperature. There should be approximately a 30-second delay before oven burner ignites.

2. The oven standby pilot increases to a larger flame and begins heating the heat sensing bulb of the oven safety valve.

3. When the heat sensing bulb is heated, the oven safety valve opens and lets gas into the main burner.

4. The pilot ignites the oven burner.

5. Burner heats oven to temperature setting of thermostat.

6. Thermostat stops calling for heat.

7. Pilot flame subsides.

8. Burner remains on until heat sensing bulb on oven safety valve cools.

9. Oven safety valve closes and burner goes off.

10. Oven is ready for another cycle.

NOTE: Please see manufacturer's operating instructions contained in the Owner's Packet.

Care and Cleaning

1. For ease of cleaning, the oven has a Vestar finish. The oven should be cleaned regularly using hot water, mild detergent and a soft cloth. Do not use commercial oven cleaners, cleaners with abrasive compounds or abrasive pads. If the finish is accidentally removed, it will not impair operation of the oven.

2. To clean the area under the top burners, either raise or remove the main top.

3. If the top burner heads are cleaned with any cleaning compound, care should be taken to see that all ports are opened up with a toothpick to insure proper operation. It is especially important that the lighter ports on the side of the burner head are kept clear.

WARNING: Portable fuel burning equipment including wood and charcoal grills and stoves, should not be used inside the recreational vehicle. The use of this equipment inside the vehicle may cause fire or asphyxiation.

CAUTION: Before operating the range always make sure the oven pilot is lit.

RANGE HOOD

Release damper lock and the *exterior vent lock* before using. See the decal on the hood. Clean range hood after each use and protect the surface with a light coating of baby oil.

FURNACE

Operating Instructions

WARNING: Never attempt to modify this furnace!. Fire, explosion, asphyxiation or carbon monoxide poisoning may result. If a malfunction occurs call your serviceman.

1. To light the furnace, turn the thermostat to the lowest setting or "OFF" and wait 5 minutes.
2. Set thermostat to desired temperature setting.

NOTE: Some thermostats have a manual "OFF" . Switch to "ON" position.

3. Allow 15 to 30 seconds for blower operation and for the burner to light.
4. If burner does not light set the thermostat to "OFF" or lower setting and repeat steps 1 through 3.
5. If after 3 tries you have no ignition - shut down.

To Shut Down

1. Turn thermostat to the "OFF" position.

Preventive Maintenance

1. Clean complete furnace and air tube passageways periodically as needed to remove dust, lint, etc.
2. Check gas system for leaks at least once a year.
3. Check and clean blower wheel annually.

WARNING: If coach is equipped with a dual AC/DC electrical system or a generator, make sure thermostat is turned to the "OFF" position before switching from one power source to another.

Maintenance

FOR YOUR SAFETY: Do not use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

CAUTION: Care should be taken when washing your vehicle so water is not aimed directly into the furnace vent. If water is forced past the rain baffles in the furnace vent, rusting of the furnace and improper combustion could occur.

The control compartment of the furnace must be kept clean. Failure to do so could result in operational or fire hazards.

Electrical power to the furnace should be turned off while cleaning control compartment to avoid shock or damage to the furnace.

Seasonal Cleaning

Before each heating season starts the furnace should be thoroughly cleaned of wasp and spider nests, lint accumulations and other debris. Debris will restrict air flow for combustion or bind up the combustion air impeller and not let the blower motor run. Check the burner and pilot orifices for debris also. Lint accumulations will cause the blower to become unbalanced and vibrate, restrict the ability of the blower to move air, and if blown onto the heat exchanger will cause odor and fire hazard. Contact your authorized dealer serviceman for annual cleaning.

See the manufacturer's operating instructions contained in your Owner's Packet.

WARNING: Do not store combustible or any other material in this area. Storage of any materials may restrict the air flow and affect the efficiency of your furnace or result in a fire.

Auxiliary Heater

The switch for the auxiliary heater is located on the dash. When the engine has reached the proper temperature and the auxiliary heater switch is turned on, the fan for the heater runs and forces warm air into the unit. The auxiliary heater is located in the rear of the unit.

WATER HEATER

CAUTION: Before lighting water heater, be sure fresh water system is filled. Purge air from water heater by opening all faucets until water flows steadily from each.

Electronic Ignition

To ignite the burner, turn switch to ON position. The switch is located inside the vehicle, in the system monitor panel. If no flame is established within a 10 to 15 second period, the system automatically shuts down and goes into lockout. To reactivate the system, reset by simply turning the switch to OFF, then back to ON.

Motor Aid System

The motor aid system runs whenever you are running the engine of your motorhome. The heat from the engine is used by a heat exchanger in the water heater to begin heating the water.

Draining and Storage Instruction

If RV is to be stored during winter months, the water heater must be drained to prevent damage from freezing.

1. Turn off power & gas
2. Turn off pressure pump on water system.
3. Open both hot & cold water faucets.

4. Open drain on water heater.
5. Follow instructions for draining entire water system.

NOTE: Be certain to refill water heater with water before re-lighting.

Temperature and Pressure Relief Valve

The temperature and pressure relief valve is designed to open if the temperature of the water within the heater reaches 210° F, or if the water pressure in the heater reaches 150 pounds. Recreational vehicle water systems are closed systems and during the water heating cycle, the pressure build-up in the water system may reach 150 pounds. When the pressure is reached, the pressure relief valve will open and water will drip from the valve. This dripping will continue until the pressure is reduced to below 150 pounds, and the valve closes. This condition is normal and does not indicate a defective relief valve.

Burner Compartment Maintenance

Periodically check control compartment and screen in door to see that no foreign material has accumulated to prevent flow of combustion and ventilating air.

WARNING: Do not store or use combustible materials or liquids near or adjacent to this heater. The appliance shall not be installed in any location where flammable liquids or vapors are likely to be present.

IMPORTANT: Read water heater operating instructions before using. Reset automatic safety lock-out by turning switch to OFF, Then ON.

NOTES

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NOTES

EQUIPMENT

Generator	48
Roof Air Conditioner	48
Cab Air Conditioner	49
Kool-O-Matic Ventilator	49
TV Antenna	50
Cruise Control	50
Swivel Seat Procedure	51
Kwikie Electric Step	52
Sony Watch Cam	53
Aluminum Wheels	53

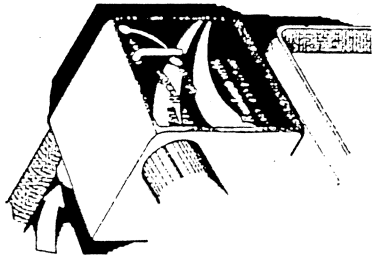
GENERATOR

Starting/Stopping Procedure

Press the generator switch and hold until the engine is running, then release. Normally, the engine will start running within 5 seconds; however, if it fails to start after cranking for 10 seconds, release the switch and wait a few seconds before cranking again. Whenever possible, allow a brief cooling period by running the set at LOW-LOAD or NO-LOAD for a few minutes just before shutting down. To stop, press the in dash generator switch and release, the set will stop. If the set shuts down automatically, press the safety reset button on the generator (Located inside the generator compartment) before attempting to restart.

IMPORTANT: Read the generator operating instructions before using.

Be sure to set the air inlet to the proper setting (Summer / Winter).



CAUTION: Check breather tube assembly (air vent) periodically for obstructions (dirt, insect nest & webs, etc).

Auto Transfer Switch

The auto transfer switch switches automatically from shore power to generator power when the generator is turned on. There is a 45 second delay after the generator is started before the coach electrical load is connected. This delay allows the generator to reach normal operating speed with no load.

ROOF AIR CONDITIONER

The Coleman roof-mounted air conditioner filters, circulates, cools and dehumidifies the air inside your vehicle. It operates only on 120V AC current from an outside source or onboard auxiliary generator. The small amount of water from dehumidification collects at the shroud plenum and is expelled outside the vehicle.

Air Circulation

Set selector control to CIRCULATE, fan switch anywhere from LOW to HIGH. The unit circulates and filters inside air without cooling or dehumidifying.

Cooling Operation

Set selector control to COOL, fan switch anywhere from LOW to HIGH. Turn temperature control clockwise until compressor goes on. Adjust to your personal comfort level after initial cool-down.

Routine Service

Change or clean the filter every two weeks when the unit is in daily operation. Wash in hot, soapy water; rinse clean. The sealed compressor unit does not require lubrication. The blower motor may require oiling on some models.

CAB AIR CONDITIONING

Your vehicle's air conditioning system was installed by the chassis manufacturer on most models and is warranted by the manufacturer as described in their Owner's Manual. Refer to it for operating instructions.

Some Suggestions

When parking your motorized vehicle for long periods on very hot days, open the driver's window about half and inch and open a roof vent to prevent heat build-up.

When the interior is overheated, run the unit for a few minutes with the windows open. This permits the hotter air to escape and allows a quicker cool down.

For quickest cooling, set the A/C controls on RECIRCULATE or MAXIMUM.

Low engine speed, direct sunlight and high humidity slow down the cooling rate.

Operate the A/C for a few minutes each week during the winter to lubricate the compressor shaft seal.

NOTE: Cab air conditioning on Class A's is NOT factory (GM) installed and is warranted separately by the manufacturer - refer to the cab air Owner's Manual and Warranties. If you should have a problem with your Class A cab air, the toll free number for Frigi-Cool is 1-800-527-0839.

KOOL-O-MATIC® VENTILATOR

Operating the Model RV-12

Be sure the dampers are open when operating the Kool-O-Matic® Ventilator to prevent overheating the controls.

Windows or other air intakes should be open during ventilator operation to permit proper air flow ventilation and control cooling.

Thermostat Control

The thermostat control panel has a 3 position switch. Use this switch to select the desired fan speed, HIGH, OFF and LOW. The thermostat dial is operated in a similar fashion to your air conditioner at home. If it is too warm, turn the dial so it points to a lower temperature.

Example: The thermostat is set at 75° F. The fan will operate while the temperature remains above 75° F or higher. The fan will shut off if the temperature drops more than 2 degrees below the temperature set on the dial.

To turn off the ventilator, you need to press the switch to the middle position. This provides a power cut-off to prevent accidental operation.

Cold Weather Use

A plastic grille cover has been provided for use on the interior vent area. This cover is used for preventing back-drafts during fall or winter use of your recreational vehicle.

Simply close the dampers place the cover over the grille assembly. The cover is held in place by the magnetic strips attached inside the cover.

Winter Storage

During long-term storage of your recreational vehicle, the cover should be removed and the dampers opened for ventilation to help control condensation inside the recreational vehicle.

T.V. ANTENNA

The Winegard T.V. antenna is designed for all channel color and black-and-white reception. If reception is poor, make sure the power supply switch is on and the connectors are tight. Should reception remain poor, check with your authorized dealer.

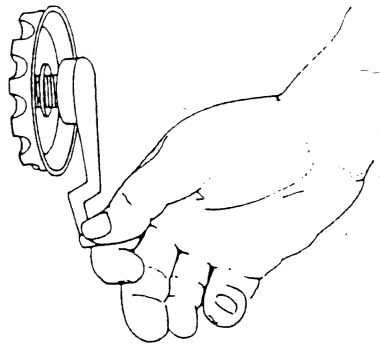
Operating Instructions

Before raising antenna, check for clearance above the vehicle.

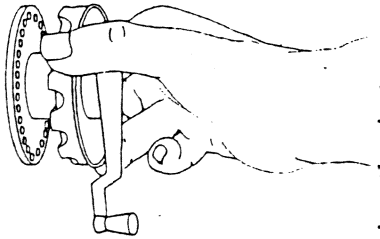
1. To raise the antenna to operating position, turn crank toward UP until you feel resistance. Switch the power to ON.
2. To rotate antenna, pull down on rotating knob with both hands until it disengages the ceiling plate. Turn the antenna for the best picture and sound. Do not rotate antenna except in the full UP position.
3. To lower the antenna, first align the pointer on the ceiling plate. Then turn the crank toward the down position with the pointer on the ceiling plate. Never lower antenna to any position without first aligning pointer.

DO NOT FORCE!!

WARNING: Do not raise antenna near overhead electric wires as contact may cause serious injury.



Raising the Antenna



Rotating the Antenna

CRUISE CONTROL (Chevy only)

Operating Instructions

The controls on the smart switch are used to operate the wipers, turn signals and headlight dimmer

Cruise Control

In the regulator of your Speed Control is a safety switch which will not let the system operate until your vehicle is moving above a pre-selected low speed. At the factory this Low-Speed Switch is set to close at approximately 20 mph. It should however, be checked during the road test.

SET SPEED - Move the slide button on the control switch to the ON position and drive at any speed above 20 mph at which you want automatic control. Hold that speed with your foot while you press and release the Set/Coast button. One second after release, remove your foot from accelerator pedal. You can increase your speed at any time with the accelerator pedal. When you release the pedal you will return to the set speed.

ACCELERATION - Hold the slide button in the Resume/Accel position and your vehicle will accelerate until you release it, then your vehicle will slow to your set speed and again control there. If you want to make the higher speed your new set speed, release the slide button when you reach the speed you want, and as you do quickly press and release the Set/Coast button.

COAST - When you press and hold the Set/Coast button you erase the set speed from the regulator's memory and allow the vehicle to coast. Just before you reach the lower speed you want release the button and it will control there providing it is above the low speed setting.

DISENGAGE - Depress the brake pedal and you are in control of the vehicle's speed. You can also disengage the Speed Control by pushing the slide button to OFF but, this erases the set speed from the regulator's memory.

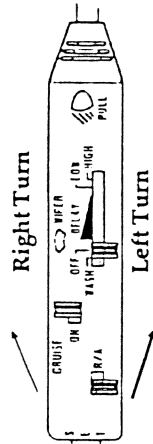
RESUME - When you disengage the system with the brake you do not erase the set speed from the memory even if you come to a complete stop. To

return to your chosen speed, drive to a speed above 20 mph then move the slide button to the Resume/Accel position and release it. The Speed Control will take you back to your set speed and control there.

If the rate of acceleration is faster or slower than you like, use the accelerator to obtain a speed close to the set speed then slide button to Resume/Accel position and release it.

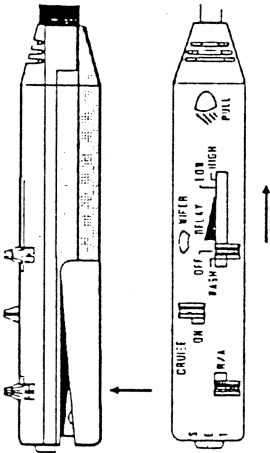
CAUTION: Do not use your speed control on slippery roads or in heavy traffic.

There is no drain on the battery when the ignition switch is off, even if the cruise control switch is left on.



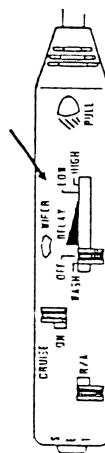
Wiper-Washer Operation

Move the slide button to the WASH position and release, wash solution is delivered with an approximate 5 second wipe cycle to follow. A demand wash & wipe is performed as long as the WASH button is *activated*.



Headlight Beam Change and Turn Signals

Move the multi-function lever upward for a right-hand turn signal and downward for a left-hand turn signal.



Compress the handle to switch from low to high beam, or high to low beam.

Windshield Wipers and Wiper Delay

Move the slide button from OFF to DELAY, you will get a wipe and a delay between wipes (rang-

ing from 45 seconds to 2 seconds) as the slide is moved further to the right.

A continuous LOW speed or HI speed wipe can be obtained by moving the slide button to the appropriate position.

Moving the slide to the OFF position stops the wipers and puts the wiper motor in PARK position.

SWIVEL SEAT OPERATION

1. Be sure the seat is moved completely forward.

Note: Lever (A) is omitted with the power seat option.

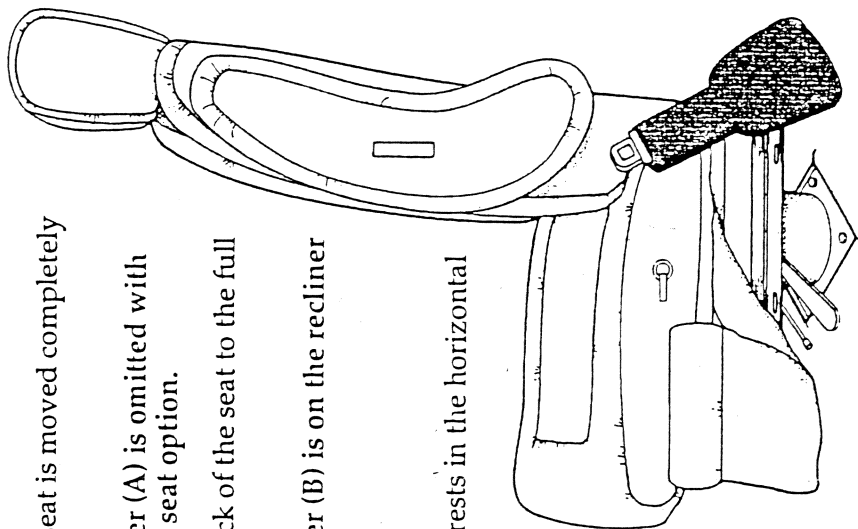
2. Bring the back of the seat to the full upright position.

Note: Lever (B) is on the recliner seat only.

3. Put the arm rests in the horizontal position.

4. Slide the swivel lever (C) back to allow the seat to swivel.

Note: The seat may have to be adjusted



KWIKEE ELECTRIC STEP

Operating Instructions:

1. After the installation is complete and with the entrance door open, turn the power switch ON.
2. Close the door. The step should retract and lock in the up position.
3. Open the door. The step should extend and lock in the down position with the understep light on.
4. Turn the power switch OFF. The step should remain in the extended position with the understep light off when the door is closed. This procedure can also hold the step in the retracted position.
5. With the power switch OFF, the step extended and the entrance door closed, turn ON the vehicle ignition. The ignition safety system will go into effect and the step will automatically retract.

NOTE: If the step fails to automatically retract, turn the power switch ON, then open and close the entrance door to manually retract the steps. If you drive with the steps in the extended position there is a possibility of causing major damage to both the step and your vehicle.

6. Turn the vehicle ignition OFF and open the door. The step will extend and lock in the out position. This is known as the "last out feature".

WARNING: If the door is opened and closed without allowing the step to fully extend and lock in the out position, the step will retract and lock in the up position. When the door is re-opened, the step will *not* extend. The power switch must be turned "off", the door closed then re-opened for the step to extend.

The "last out feature" is operative only the first time the door is opened after the vehicle ignition is turned off.

7. When the vehicle ignition is ON, the step will always activate with the door movement, regardless of the power switch position.

Lubrication and Maintenance

Clean all mud, salt, and road grime from the step before lubricating. Lubricate all moving parts (bearings, pivot points, slides, clevis pin, and drive linkage ball) every thirty (30) days with a good quality moisture and heat resistant penetrating grease. Kwik-Lube Spray Grease is specially formulated to lubricate KwikEE electric steps and is recommended for lubricating all moving parts.

Power to the spot light is supplied from the fuse panel located behind the instrument cluster.

Bulb Replacement

Loosen screw and remove bulb retaining ring. Disconnect wires from the faulty bulb. Connect wires to the new bulb. Install bulb and fasten with bulb retaining ring.

Use bulb #GE-4700 Marine 13 Volt

SONY WatchCam

The WatchCam monitor has been installed for automatic activation when you set the gear lever in the reverse (R) position. The power for the system is supplied from the chassis battery.

Operation

When the ignition key is turned to the accessory ON position, the power will be supplied and the monitor will be in the standby condition, if the power button has been left in the standby position.

While the rear-view monitor is on standby the power does not turn itself off until the ignition key is set to the OFF position.

When you select reverse (R) gear, while in standby mode, the monitor will automatically be turned on and the picture will be automatically be displayed.

Set the Day/Night selector switch in the appropriate position for existing conditions. Under normal daylight conditions the switch should be set in the released position. If it is dark when you are viewing with the WatchCam depress the select switch, making the picture less bright and easier to view.

Adjust the bright and contrast controls for your personal viewing preference.

To turn on the monitor (for constant use) depress the power (on) switch. The picture should now be displayed on the monitor.

NOTE: Turn volume off while traveling to avoid outside noise distraction.

Cleaning & General Care

If your vehicle has been parked in direct sunlight resulting in a considerable rise in internal temperature, allow the unit to cool off before operating.

When the casing becomes soiled, clean it with a soft cloth dampened with a mild detergent solution. Never use abrasive cleansers or chemical solvents, as they may mar the casing.

ALUMINUM WHEELS

If your unit is equipped with aluminum wheels, be sure to clean and wax them on a regular basis, since these wheels are subject to corrosion without proper care.

NOTES

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NOTES

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This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. On the right side of the page, there is a vertical margin line, creating a narrow right margin. The paper appears to be from a notebook or a standard ruled document. There is no handwriting or other markings on the page.

City Water Hook-Up		56
Water Tank Fill		56
Water Pump		56
Condensation		56
Disinfecting System		57
Water Heater By-Pass		57
Hydro-Life Water Filter		58
Waste Drainage System		59
What Not To Do		60
Toilet Operation		60
Winterizing		61
No-Fuss Flush System		61

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FRESH WATER SYSTEM

It's hard to imagine how much water you use every day when you are at home. Newcomers to self-contained camping vehicles soon discover that water doesn't last very long unless consumption is reduced drastically. For instance, you can use much less water for showering if you wet down; turn off the water for soaping; then turn on the water to rinse. This way a good shower takes a gallon or less. There's plenty of water to meet your needs once you adjust your habits.

City Water Hook-up

Simply connect the hose to the source, open the valve and you have pressurized the faucets, toilet, and water heater. Open the faucets to purge the trapped air from the water system before lighting the water heater.

CAUTION: Some water sources develop excessive pressure, particularly in mountain regions.

Water pressure regulators are available to protect your camping vehicle system against high pressure. See your dealer for more information.

Water Pump

The water pump is totally automatic and self-priming, operating on demand when water is used. To start the pump follow these steps:

1. Check water level in tank; refill if necessary.
2. Open all valves and faucets (except drain valves).
3. Switch on power to pump and wait for water lines and hot water tank to fill.
4. Close each faucet when it delivers a steady stream of water (cold water faucets first).
5. Check pump to see if it stops when all faucets are off.
6. Pump is now ready for automatic operation. It will start when a faucet is opened and stop when the faucet is

closed. (Sometimes there is a brief delay, especially when an "air cushion" accumulator is used).

7. Do not allow pump to run when water supply tank is empty. Continued operation with dry tank may blow a circuit, fuse and/or damage the pump.

CONDENSATION

Condensation is a natural phenomenon. The amount of condensation will vary with the climate conditions, particularly the relative humidity. Condensation occurs because there is water vapor present in the air, which each of us adds by breathing, bathing & cooking, etc. The water vapor collects wherever there is available air space, and when the temperature reaches the 'dew point' the water vapor in the air condenses and changes to liquid form. Most people have experienced a similar phenomenon when moisture forms on kitchen windows, bathroom mirrors, etc. during the cooler weather.

Proper ventilation and, if needed, the use of a dehumidifier in your unit will assist in controlling the condensation. Condensation causes dampness, mildew, staining and if allowed to continue at high levels, may cause damage to the panelling, ceilings and floor structures.

Crank open vent or window to assist ventilation, when the furnace is use.

As condensation is not the result of a defect, damages incurred from condensation are not covered by the Holiday Rambler Corporation Limited Warranty.

DISINFECTING THE FRESH WATER SYSTEM

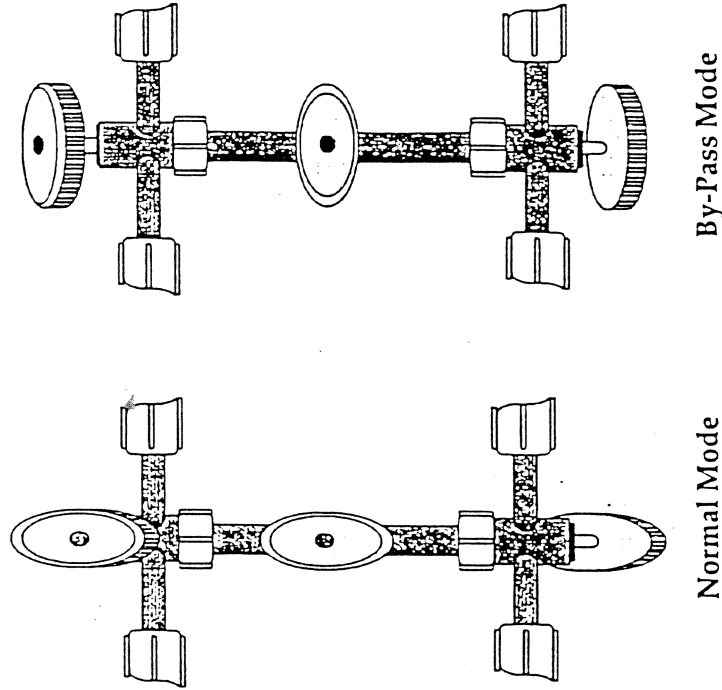
Follow this procedure if the system is new, has not been used for some time or may have been exposed to contamination.

1. Prepare a chlorine solution using one gallon of water and 1/4 cup of chlorine bleach (sodium hypochlorite solution). Pour the chlorine solution into the empty tank using 1 gallon of solution for every 15 gallons of tank capacity. This mixture gives a 50ppm (parts per million) residual chlorine concentration in the vehicle's water system.
2. Fill tank with drinking water. Open each faucet in turn and run the water until you smell a distinct chlorine odor. Do not forget the hot water taps or the tub/shower faucets. Be sure the water heater bypass is in the normal mode.
3. Allow the system to stand at least four hours when disinfecting with the 50ppm solution. To speed up the process, use the 100ppm concentration and let stand at least an hour.
4. Drain system and flush with drinking water. Repeat if necessary to clear strong chlorine taste or odor from the system.

CAUTION: Chlorine solution concentrations exceeding recommended levels may damage the water system.

WATER HEATER BY-PASS

The top and bottom valves on the by-pass should be closed and the center valve should be open to by-pass the water heater.



HYDRO-LIFE WATER FILTER

The Hydro-Life (Model HL-170) water filter is located under the kitchen sink.

Super-chlorination of Your Fresh Water Tank

Ordinary household laundry bleach (sodium hypochlorite) can be used for super-chlorination. This familiar product (Clorox, Purex, Sun-Brite, etc.) is not often thought of as a water disinfectant but it is a common form of sodium hypochlorate (chlorine). Thousands of people with wells depend on it for protection from harmful water-borne organisms.

A traveler can easily add chlorine to a water tank when adding water. It's easiest to add the bleach to the "fill" hose before filling the tank. Use 1 teaspoonful of chlorine bleach to each 10 gallons of water filled. This doses the water with 6 ppm (parts per million) chlorine, the recommended dosage for the quick-kill of harmful bacteria, viruses and slime-forming organisms. Perform the super-chlorination procedure 2 to 3 times each camping season.

Winterizing Procedure

Before winterizing you must remove the in-line filter. After the filter has been removed place the length of hose, with fittings already attached, and connect to both ends of the water line. Replace the filter when ready to use the filter again.

The filter is warranted for one season or up to 12 continuous months. The Hydro-Life water filtration system was designed with a camper in mind. The KDF/Granular Activated Carbon is the most effective filter media known for keeping bacteria, algae and fungi from growing & reproducing. The filter works by removing chlorine, bad tastes, odors, reducing THM's, certain other volatile organic contaminants, pesticides, fungicides and inorganics.

Storing the filter

Never leave your filter hooked up when you winterize your unit. Your filter will become unusable if the filter is left in

place for winterization. If this occurs you will need to replace the filter before using the filter.

To properly store the filter, fill an adequately sized plastic container & lid or zip-lock bag with water and place the cartridge in the container and seal. The KDF filter must be kept moist for the electro-chemical ionization process to protect the inside media from bacteria growth.

Recommendations

If you notice a slow-down in water flow, it could be caused by unusual amounts of sand, silt or other debris coming from the water source. The HL-170 is not a sediment filter. The filter manufacturer suggests installation of a sediment filter to catch the debris before it enters the R.V. There are several such units available for installation between the fresh water source and the R.V.'s exterior water fill.

Operating pressure is 125 psi (8.4 Bar).

WASTE DRAINAGE SYSTEM

General Information

Your waste drainage system was designed to provide adequate and safe storage and/or discharge of waste materials. All the materials used in the fabrication of the system, appliances and fixtures connected there are tested by a nationally recognized testing laboratory. Installation of these materials is accomplished by approved methods. The entire fabricated waste system is factory tested in accordance with the American National Standards Code A119.2

The drainage system uses properly sized ABS plastic piping and fittings connected to the sinks, toilet and holding tanks and provides for their drainage to an outside termination. All fixtures incorporate the use of "P" traps to provide a water seal against entry of sewer gases from outside connections. The RV should be reasonably level for best operation of the system.

There are two separate systems, one for waste water ("gray" water) and one for sewage wastes (black water). Each has its own control valve; both empty through the same drain outlet.

SEWAGE WASTE SYSTEM

Sewage Holding Tanks

The sewage or "black water" holding tank is located directly beneath the toilet. Before using, treat the tank with a gallon of water containing an odor control chemical in the toilet. Be careful not to spill the chemical on your hands, clothing or carpet since it may cause a permanent stain. Depress the toilet pedal to allow mixing with the toilet water. Continue to depress the pedal until about a gallon of water has entered the waste tank. Release the pedal and the waste tank is ready for use.

To empty the tank connect your drain hose (supplied by the owner) to the drain fitting. Pull the gate valve with a continuous motion. When the tank is empty, follow with a fresh

water rinse and close the valve. Prime with an odor control chemical.

Waste Water System

The drain outlet is engineered for quick-release attachment of the drain hose adapter fitting or the end cap. Always push the gate valve in and secure the end cap in transit to prevent leakage (required in some states).

Proper Waste Disposal

Most states and parks have strict regulations about discharging wastes except into authorized disposal systems. Dumping raw sewage from toilet holding tanks except at authorized dumping stations is universally prohibited. Illegal dumping along road sides by a minority of recreational vehicle users has resulted in tough laws, and has unfairly labeled all camping vehicle travelers as unwelcome visitors in some areas.

Most state, national and private parks have either a central dump facility or campsite hook-up for sewage. You'll find lists of dump stations form coast to coast in *Woodall's Campground Directory*, *Trailer Life's RV Campground and Services Directory*, *Rand McNally's Campground and Trailer Park Guide*, *Good Sam/Park Directory* (Good Sam Club) and other publications. Some major oil companies offer dump facilities at selected stations. Plan ahead, and you'll find little inconvenience in the proper, legal disposal of holding tank wastes.

When Connected to the Sewer Hook-up

Keep the holding tank gate valves closed at all times, except when dumping. Before emptying, be sure there is enough liquid in the tank to provide a smooth flow through the gate valve and drain valve. Sufficient liquid in the tank causes a swirling action that should take with it accumulated solid wastes.

Avoid accumulation of solid wastes in either tank. Do not leave gate valves open or partly open when connected to sewer. RV flush toilets use very little water. If the valve is left open, solid wastes accumulate in the tank. Eventually, this will result in an unpleasant cleaning job or costly repairs.

WHAT NOT TO PUT IN HOLDING TANKS

- Do not flush facial tissues, they are treated chemically to give them wet strength and they will not dissolve like toilet paper. Special "holding tank tissues" are available at most R.V. supply stores. Also, white toilet paper dissolves faster than colored papers.
- Do not use strong detergents or full strength bleaches to deodorize and disinfect, use an odor control chemical made especially for holding tanks.
- Do not put automotive antifreeze, ammonia, alcohol or acetone in holding tanks. Some chemicals will dissolve plastic.
- Do not put large table scraps in the tanks. They could get stuck in or damage the gate valve seals.

NOTE: In subfreezing weather use a recommended amount of holding tank antifreeze.

NOTE: When traveling, we recommend not to have the holding tanks more than 1/2 full.

COLD WEATHER USE

Your unit was not designed for extended use in below freezing (32° F or 0° C) weather. However, you may get along satisfactorily if the temperature does not drop too low. The interior water lines, fixtures, water storage tank and pump are normally protected from moderate to freezing temperatures as long as the furnace operates. Exposed drain lines may freeze quickly.

If in doubt, winterize with a potable anti-freeze.

TOILET OPERATING INSTRUCTIONS

The toilet in your unit is a fresh-water flush type, using high velocity water injection to produce a "swirl effect" in the bowl. To add water to the bowl, step on the small pedal. To flush, step on the large pedal until the water swirls. If toilet is the lever type, see the manufacturer's operating instructions in your Owner's Packet.

Toilet Maintenance

To clean the toilet, use any good quality, non-abrasive cleanser. Avoid highly concentrated or acidic household cleaners which might damage the rubber seals.

If the sealing blade operates less freely after extended use, apply a light film of silicone spray. This does not apply to the knob-type toilet.

Trouble-shooting

Water running - the blade is not closing completely, so the water control valve is partially open. Probably the sealing groove is clogged. Use a coat hanger hook, or a similar device to clear the sealing groove. Be careful not to damage the rubber seal. For knob-type toilet, check the ball valve.

Pedal sticking - Apply a light silicone spray to the blade.

NOTE: It is a good idea to place a few sheets of tissue at the bottom of the bowl each time before using.

V. WINTERIZING A WATER SYSTEM

Winterizing calls for draining the entire water system completely. Built-in check valves make it impossible to empty the pump and tank by blowing the lines. Instead do the following:

1. Open the drain valves for the water tank, hot and cold water lines and hot water heater.
2. Remove the output hose at the pump. Turn on the pump to expel the remaining water, approximately a cupful. A towel or a rag should be sufficient to absorb the water. Now the lines can be blown out by applying compressed air at the pump outlet hose.
3. The system is winterized. Re-attach the output hose before refilling system.

Alternate method: Use a potable antifreeze solution. Simply follow the directions on the label.

WARNING: Use only antifreeze made specifically for potable water systems. Automotive antifreeze, if ingested, can cause blindness, deafness or death.

NOTE: Add a capful of non-toxic RV Antifreeze to all drain P-traps. These drains include the lav., kitchen sink, tub and/or shower, etc.)

NO-FUSS FLUSH SYSTEM

Waste Holding Tank Flushing System, (Optional)

1. Connect sewer hose.
2. Open drain valve; let the tank empty.
3. Attach garden hose* to the water inlet labeled "Sewer Valve must be open when using this water inlet" and flush for about 2 minutes or until the water runs clear from the discharge hose.
4. Disconnect the garden hose from the faucet and lay on the ground to allow water to drain from the system before detaching from the water inlet.

DO NOT ALTER THIS SYSTEM IN ANY WAY, SUCH AS BY ADDING CHECK VALVES, etc.

***Do's and Don'ts for the No-Fuss Flush**

DO use the same procedures used at most campground dump stations.

DO NOT use the same hose to fill your potable (fresh) water tank that is used for the No-Fuss Flush.

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Exterior Care	64
Fiberglass Care	64
Outside Storage	64
Windows	64
Entrance Door Adjustment	64
Interior Care	
Upholstery	65
Draperies & Sheers	65
Bedspreads	65
Countertop	65
Doors & Drawer Fronts	65
Tub & Lavatory	65

EXTERIOR CARE

The exterior of your camping vehicle is pre-finished aluminum used for its durability and beauty. Wash it frequently with a mild soap in lukewarm water. If you travel roads that have been salted for ice removal, wash your vehicle as soon as possible. A good automotive cleaner/wax should be used occasionally to remove tree sap, road tar, insects and industrial fall-out that may damage the surface. **DO NOT** use Naptha or Turpentine!

We recommend your unit be washed about every four weeks and waxed in the spring and fall. To make sure your new unit is protected with wax have your dealer wax it just prior to delivery.

NOTE: Aerosol cans of spray enamel are available from your dealer, for use on the steel chassis parts. **DO NOT** use them on the exterior aluminum or fiberglass.

We suggest you check the seals around the doors, windows and external seams frequently. If a seal is cracked or dried out it should be replaced with new material to prevent leakage. Sealants can be purchased from your Holiday Rambler® dealer.

OUTSIDE STORAGE COMPARTMENTS

The outside storage compartments are not waterproof. Please store items accordingly.

WINDOWS

The all season windows in your motorhome normally open and close easily. If the tracks become clogged with dirt, clean

ENTRANCE DOOR ADJUSTMENT

The entrance door has a built-in camber adjustment on the latch side. A rod anchored at the inside top of the door has a threaded end at the bottom. The adjusting hex nut is reached at the bottom edge on the latch side.

If the door does not close tightly at both the top and bottom corners, tighten the hex nut. Most doors need no adjustment. Do not adjust the door except when necessary.

NOTE: If the door can not be adjusted by the door rod, take your unit to your authorized dealer for service. Continued use may damage the door, and such damage is not covered by the warranty.

Periodic maintenance of the door is needed. The door jamb corners should be inspected and resealed if necessary. We recommend inspection and resealing at least once every six months.

FIBERGLASS CARE

Crazing (minute cracks in the fiberglass) is a normal characteristic for fiberglass. It can be repaired by using a filler, sanding and repainting with gel-coat (a fiberglass repair kit can be ordered through any Holiday Rambler dealer, use part #12 001 555).

INTERIOR CARE INSTRUCTIONS

Fabrics: Upholstery for sofa & pillows, Dinette cushions, Living area chairs, Driver/Passenger seating, and window treatments.

All of your upholstery has been treated with SCOTCHGARD® to prevent overall water spots and soiling. Please use common sense and treat your furniture as you would at home. Remember, your vehicle is a small living area, so soiling may occur more frequently and will probably need more attention than your furniture at home. Please follow these guidelines for cleaning your upholstery fabrics.

Water base cleaners are not recommended. If a spill does occur, blot up the spot, but do not rub it in. Some solvents are not recommended since they may have an adverse reaction to the specific backings of your upholstery fabric. To prevent overall soil, frequent vacuuming or light brushing to remove dust and grime is recommended. Spot clean, using a mild water-free solvent or dry-cleaning product. Clean only in a well ventilated area and *avoid* any product containing carbon tetrachloride or other toxic materials. Pre-test a small area before proceeding. Use a professional furniture cleaning service for an overall cleaning.

A reminder: Your upholstery fabrics have been manufactured with the highest quality as you would expect to find in furniture stores. However, if abused, it is not completely resistant to possible damage. Again, common sense is needed when your unit is exposed to a very humid climate for an extended period of time, or if your unit is closed up in a very hot climate for an extended period of time. However, if you know you are going to be away for a long period of time, cover the upholstery and make sure the window covering are down to protect from any damage. The same covering should be used if you are planning to be gone and the climate is exceptionally humid. This will protect the fabric from any unnecessary exposure to moisture.

Bedspread / Draperies / Valance Fabric / Headboards

We recommend dry cleaning of your comforter and draperies just as you would your draperies or comforter at home. Although this is more expensive, proper care of the material will help insure a longer life. The care of the headboard and bedroom valance fabric should be followed with the same instructions as the Upholstery fabrics. Laundering and improper cleaning may result in the fabric shrinking or deteriorating prematurely.

Linoleum

Use mild cleaners and warm water for routine cleaning. Waxing is not necessary, since this is a no-wax vinyl product.

Ceiling Material

When cleaning the vinyl ceiling a mild, non-abrasive cleaner and soft cloth is recommended.

Wall Coverings

Your decorative wall coverings are not much different than the vinyl wall-paper which you may have in your own home. It should be cleaned with a non-abrasive cleaner. It is made of vinyl and it can be easily maintained with proper care.

Solid Wood Cabinetry/ Refrigerator Panels/Walls/Doors/Counter-top Wood Edge

These products should be cared for as you would for any fine piece of wood furniture. Apply a furniture polish when you clean your vehicle to maintain the natural beauty and luster of the wood. This will keep your cabinetry looking new and from drying out.

Carpet

Your carpet is constructed of Allied Fibers Anso V Worried Free®. It inherently resists stains & abrasions, provides optimum insulation qualities & reduces static electricity shock.

It's continuous heat set yarn enhances performance for years to come. Dry chemical or dry cleaning is recommended for major cleaning. Frequent vacuuming is recommended for daily accumulations. For specific stain cleaning instructions, please refer to your Carpet Care Guide, provided in your Owner's Packet.

Counter-tops

Made of high pressure laminate, the counter-tops are quite easy to keep clean. Waxing is not necessary. Glass rings, food spills, water spots and smudges usually wipe off with a damp cloth or sponge. Stubborn stains can be removed with a spray cleaner.

The laminated surface resists alcohol, fruit acids, cosmetics and most household chemicals. It is better to avoid contact with dyes, strong laundry bleaches and bluing. Indelible inks used on food packages may stain so take care when unpacking groceries on a damp countertop.

Sharp knives can damage the finish so confine slicing to a good cutting board.

The countertop resists heat and even boiling water. Pots and pans straight from the oven or broiler should go on hot pads. Keep irons on the ironing board and lighted cigarettes in an ashtray.

For lasting beauty avoid using harsh abrasives, scouring powders, peroxide or bleaches. These can dull the surface and make it more likely to stain the next time.

Bath Fixtures

Clean your tub/shower, sinks and toilets as you would at home. A non-abrasive cleaner is recommended. When cleaning mirrors or shower doors, vinegar and water works very well to remove hard water spots and stains.

Appliances

Care for these as you would at home by using a kitchen cleaner.

Day/Night Shades

Vacuum the shades regularly. Clean the blinds in a similar manner to your upholstery.

Venetian Blinds (Kitchen & Bath)

Your blinds will stay new looking by just using a soft cloth and cleaner.

Hardware/Accessories/Clocks/Light Fixtures

Wipe clean as you would for daily cleaning. Use a non-abrasive cleaner to avoid damaging the finish.

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NOTES

VEHICLE MAINTENANCE

Important Warranty Information	69
Lubrication and Maintenance Schedule	70
Winter Storage Checklist	71
Serial Numbers	72
Exterior Bulb Chart	73
Interior Bulb Chart	73
B.T.U. Ratings	73
Holding Capacities	73
Class A Chassis Information	75
Mini-Motorhome Chassis	76
Serial Number Formula	78

IMPORTANT WARRANTY INFORMATION

Please review your Holiday Rambler Limited Warranty and all owner's manuals and any separate warranties before you require service.

Often there is confusion over what equipment is installed by Ford or Chevrolet and what is installed by Holiday Rambler. This handy reference sheet will explain the components most frequently confused with Chevrolet's equipment. All equipment listed below (except the A/C Compressor and condenser, which are GM) is installed by Holiday Rambler or their suppliers and is NOT covered under your Ford or Chevrolet Warranty.

Cruise Control- Perfect Circle/Dana 800-GET DANA

Alternator - Reference your Chassis Owner's Manual

Cab Air Conditioner Frigi-Cool - except compressor and condenser which are GM. For help or nearest service center, call 800-527-0839.

Mor-ryde Suspension

Tag Axle and Brake Booster (33' only)

Shocks-Front 4-way (Std. on 31, 33, 34, 35 only-others have Chevrolet shocks.)

Shocks Tag Axle - Mor-ryde coil shocks

NOTE: Drive axle shocks are Chevrolet equipment

Isolator Relay Delay

Wipers, Exhaust Extensions

Radio Antenna

Except Frigi-Cool® cab air conditioners, all of the components listed will be serviced by your authorized Holiday Rambler® dealer. When optional equipment is not ordered,

standard Chevrolet equipment is used. When optional equipment is not ordered, standard Chevrolet equipment is used. Most dealers work by appointment only to provide owner's with the most efficient service. Please call the service manager in advance to schedule your appointment. While any authorized dealer will perform warranty service, we recommend that you return to the dealership that sold you your unit because of their continued and personal interest in you. If you are touring or have moved, contact any authorized dealer.

If assistance is needed in locating a dealer or obtaining technical advice, contact the Consumer Affairs office at 219/862-7278 (7:30 - 4:00 EST Monday through Friday).

FUEL STABILIZER

Any fuel is made up of many different organic compounds. These organic compounds are constantly changing and over time become new compounds that change the characteristics of fuel. These organic compounds change and can form gummy residues or varnish-like films that can clog up passages in fuel lines, and injectors. We recommend that a fuel stabilizer be added to your unit if the unit will be stored for more than three months.

CAUTION: Do not overfill the fuel tank. When the automatic pump fill kicks off, do not continue to hand pump fuel into the tank. Overfilling the fuel tank uses up the air space needed for expansion of the fuel and proper venting and can result in fuel fumes inside the vehicle, excess pressure build-up in the tank or overflowing of fuel.

CAUTION: Fuel line deterioration can occur with a long periods of storage. Be sure to inspect the fuel lines regularly after long periods of storage and/or at least once per year.

LUBRICATION AND MAINTENANCE SCHEDULE

Every Week

- Check coach battery water level. Add distilled water, if necessary.

Every Month

- Clean exhaust fan filter and blades.
- Check gas lines for leaks with soap solution, or with leak detector.
- Check tire pressure, and wear.
- Test smoke alarm
- Check operation of windows, latches & hinges.

Every 50 Hours

- Clean air conditioner filter

After Every 2000 Miles

- Adjust brakes. Check lines.
- Check steering for noise or play
- Change oil and filter (initial 2,000 miles only)
- Check radiator and hoses for leaks
- Check belts for tension and/or cracks.
- Check all fluid levels
- Check, clean, tighten battery cables.
- Lube all steering joints/fittings
- Check exhaust system for leaks.
- Check seals on transmission, differential, and wheels

Every 5000 Miles or 6 Months

- Lubricate ext. door locks with silicone.
- Rotate tires.
- Clean window and door seals with a mild soap; spray with silicone lubricant.
- Reseal seam around bath tub if needed
- Check gas appliances for proper operation, check gas lines for leaks with soap solution or leak detector
- Inspect and reseal entrance door jamb corners
- Lubricate movable parts on entrance step

- Change oil and filter
- Drain air tanks and check complete system
- Check parking brake function
- Check fuel tank mounts and fuel line.
- Check exhaust hangers & clamps
- Check tightness/wear on engine, transmission, and radiator mounts.
- Check tightness of lug nuts inside and out.
- Check wheels and nuts for cracks
- Check wheel bearing adjustment
- Have LP system checked by authorized dealer.

Every 10,000 Miles or 1 Year

- Flush the fresh water system
- Check roof seams for any cracks in tape and replace if needed.
- Check brake lining
- Check front end alignment

Normal use of the camping vehicle may cause certain fittings and fasteners to loosen due to road vibrations and excessive use. Periodic inspection and maintenance should be performed on these items.

If your camping vehicle is placed in extended storage, check it periodically. Batteries must be charged periodically even if they are not used.

Refer to the chassis owners's manual concerning lubrication and maintenance of the chassis system.

VINTER STORAGE CHECKLIST

Fresh Water System

PLUMBING LINES

Drain and protect by filling with approved RV antifreeze.

WATER HEATER

Drain.

TOILET

Drain and depress pedal until antifreeze appears in bowl.

WATER TANK

Drain & add RV Antifreeze

WATER FILTER

(If equipped) Remove filter & install winterizing plug. If you have the Hydro-life model, store the filter in a bag partially filled with water for re-use.

Body and Tires

BODY

Clean and wax. Oil the locks and hinges. Repair roof seams as needed. After each snowfall, remove heavy, wet snow accumulation with a push-broom.

TIRES

Block up the RV with wooden blocks or manufactured jack-stands on a hard, level surface. Partially deflate the tires. Cover to protect from sunlight.

Interior Care

COUNTER-TOPS & CABINETS

Wash with a mild soap and water.

CURTAINS

Remove and clean - according to care specifications.

WINDOWS

Mask with newspapers

Drainage System

HOLDING TANK

Drain and rinse. Close valves. Add a small amount of anti-freeze to keep valves & gaskets lubricated.

DRAIN TRAPS

Pour a cup of R.V. antifreeze down all drains.

L.P Gas system

REGULATOR

Cover to keep moisture out.

CYLINDERS

Consult your L.P. service center for winterization of L.P. system. Wash and touch up the paint.

Electrical Systems

BATTERIES

Add distilled water and recharge if needed. Disconnect the cables. Remove batteries and store in a cool, dry place. Check and recharge as needed.

Appliances

REFRIGERATOR

Clean. Leave both doors propped open. Cover exterior panels and roof vents.

AIR CONDITIONER

Remove air filters and clean or replace them. Cover the shroud.

OVEN\ RANGE

Close the latch on the exterior range hood vent.

CAUTION: Roof must be kept clear of snow accumulation or damage may occur.

PERSONAL PROPERTY

Motorhome Serial Number

Door Key

Range Model & Serial Number

Refrigerator Model & Serial Number

Water Heater Model & Serial Number

Generator Model & Serial Number

Model & Serial Number of Optional Equipment

CONSUMER AFFAIRS DEPARTMENT
HOLIDAY RAMBLER CORPORATION

65528 State Road 19
Wakarusa, Indiana 46573
219/862•7278 or 219/862•7211

Company

Policy No.

Agent's Name & Address

Business Phone

Emergency Phone

EXTERIOR BULB CHART

Location	Bulb No.
Tail Stop & Direction	1157
License Plate Light	1895
Clearance Light	194
Step Light	57
Back-Up Lights	1156
Off Door Patio Light & Under the Alcove	1003
Grab Handle	1141
Turn Signal Light	1157

INTERIOR BULB CHART

Location	Bulb No.
Wardrobe Light	5114
Dinette Light	1141
Cosmetic Light	20-99
Slide-out	P1-9
Fluorescent - 20"	20-75
Table Lamp	100A

B.T.U. RATINGS

Appliance	B.T.U.	Models
Furnace	25,000	Std. 22SBRL. 24RB. 24SBMinihomes
Furnace	31,000	Std. 26SB, 27WBLK, 27WB, 28CB Minihome Std. 25WB, 27WBXSB, 29WBXS, 31CBXS, 31WBXS, 33CSXS Class A
Furnace	35,000	34CS, 35CSXS Class A
Range - Magic Chef	—	Standard
Air Conditioner	13,500	Optional Mini & Class A
Water Heater	9,500	Std All Mini & Class A

HOLDING CAPACITIES

Appliance	Capacity	Models
Water Heater		
Electronic Ignition	6 Gal.	Std. Class A & Mini
Electronic Ignition w/motor-aid	6 Gal.	Optional Class A

HOLDING TANK CAPACITIES

Fresh Water Tank

27 Gal.	22SBRK, 24RB, 26SB Mini
31 Gal	27WB Mini
35 Gal.	24SB, 28CB, 27WBLK Mini
50 Gal	27WBXS, 29WBXS Class A
55 Gal	25WB, 34CS, Class A
70 Gal	31CBXS, 31WBXS, 33CSXS Class A
84Gal	35CSXS Class A

Gray Water Tank

22 Gal	22SBRK, 24RB, 27WB Mini
27 Gal	25WB, 34CS Class A 24SB, 26SB Mini-home
35 Gal.	27WBXS, 29WBXS Class A 27WBLK, 28CB Mini-home
56 Gal	31WBXS, 33CSXS, 35CSXS Class A
60 Gal.	31CBXS

Waste Water Tank

20 Gal.	22SBRK
22 Gal	25WB Class A; 24SB, 26SB, 27WB, 27WBLK, 28CB Mini
27 Gal	24RB Mini
35 Gal.	27WBXS, 29WBXS, 31WBXS, 31CBXS Class A
38 Gal	33CSXS, 34CS, 35CSXS Class A

NOTE: Approximate Capacities

1991 CLASS "A" MOTORHOME CHASSIS

STANDARD EQUIPMENT:		ENGINE: V-8, EFI ELECTRIC FUEL PUMP TINTED WINDSHIELD		AUTOMATIC TRANS. TILT STEERING WHEEL AIR CONDITIONING			POWER BRAKES DUAL REAR WHEELS		POWER STEERING CRUISE CONTROL		
		25WB	29WBXS	31CBXS	33CSXS 33CS 35CSXS	37CBXS 37SAXS	27WBXS	31WBXS	29WBXS	33CSXS 34CS 35CSXS	31CBXS
REFERENCE		A-F158	A-F178	A-F190	A-F178T	A-F208T	A-C158.5	A-C158.5T	A-C178	A-C178T	A-C190
MAKE		FORD	FORD	FORD	FORD	FORD	CHEVY	CHEVY	CHEVY	CHEVY	CHEVY
MODEL		E-350 (E-33)	F-53	F-53	F-53	F-53	P-30	P-30	P-30	P-30	P-30
WHEELBASE		158"	178"	190" ¹	178"	208"	158.5"	158.5"	178"	178"	190" ²
GVWR		11,500	17,000	17,000	18,000	19,400	14,500	17,200	14,500	17,200	16,000
GAWR-FRONT		4,200	6,000	6,000	6,000	6,000	5,000	5,000	5,000	5,000	5,500
GAWR-REAR		7,800	11,000	11,000	11,000	11,000	9,840	9,840	9,840	9,840	10,500
GAWR-TAG		N/A	N/A	N/A	5,800	5,800	N/A	5,560	N/A	5,560	N/A
GCWR		18,500	25,000	25,000	25,000	25,000	19,000	19,000	19,000	19,000	19,000
ENGINE DISPLACEMENT		7.5L(460 CID)	—————→			—————→	7.4L(454CID)	—————	—————	—————→	—————→
HORSEPOWER		230@3600 RPM	—————→			—————→	230@3600 RPM	—————	—————	—————→	—————→
TORQUE		390@2200 RPM	—————→			—————→	385@1600 RPM	—————	—————	—————→	—————→
TRANSMISSION		A40D	A40D	A40D	A40D	A40D	AL80-E	AL80-E	AL80-E	AL80-E	AL80-E
REAR AXLE RATIO		4.1	5.13	5.13	5.13	5.13	4.56	4.56	4.56	4.56	4.63
FUEL TANK CAPACITY		36 GAL.	75 GAL.	75 GAL.	75 GAL.	75 GAL.	60 GAL.	60 GAL.	80 GAL.	80 GAL.	80 GAL.
TIRES	LT215/85R16D	LT235/85R16E	—————→			—————→	8R19.5D GOODYEAR	—————→	8R19.5D MICHELIN	—————→	8R19.5D MICHELIN
BRAKES-FRONT		DISC	DISC	DISC	DISC	DISC	DISC	DISC	DISC	DISC	DISC
BRAKES-REAR		DRUM	DISC	DISC	DISC	DISC	DISC	DISC	DISC	DISC	DISC
BRAKES-TAG		N/A	N/A	N/A	DRUM	DRUM	N/A	DRUM	N/A	DRUM	N/A
ALTERNATOR		100AMP	100AMP	100AMP	100AMP	100AMP	105AMP	105AMP	105AMP	105AMP	105AMP
BATTERY		535CCA	535CCA	535CCA	535CCA	535CCA	630 CCA	630 CCA	630 CCA	630 CCA	630 CCA

1 NOTE: Modified by lengthening 178" in w.b. or shortening 208" in w.b.

2 NOTE: Modified by lengthening 178" in w.b. or shortening 208" in w.b.

1991 MINI-MOTORHOME CHASSIS

STANDARD EQUIPMENT:

ENGINE: V-8, EFI
ELECTRIC FUEL PUMP
TINTED WINDSHIELD

AUTOMATIC TRANS.
TILT STEERING WHEEL
AIR CONDITIONING

POWER BRAKES
DUAL REAR WHEELS

POWER STEERING
CRUISE CONTROL

WHERE USED	22SBRK 24RB 24SB	27WB 27SB 28CB	26SB	27WBLK
REFERENCE	C-F158	C-F158T	C-F176Std	C-F176Hvy
MAKE	FORD	FORD	FORD	FORD
MODEL	E-350 (E30)	E-350 (E30)	E-350 (E30)	E-350 (E30)
WHEELBASE	158"	176"	176"	176"
GVWR	11,500	14,000	11,500	11,800
GAWR-FRONT	4,200	4,200	4,200	4,200
GAWR-REAR	7,780	7,780	7,780	7,780
GAWR-TAG	N/A	4,000	N/A	N/A
GCWR	18,500	18,500	18,500	18,500
ENGINE DISPL.	7.5I (450 CID)	7.5I (450 CID)	7.5I (450 CID)	7.5I (450 CID)
HORSEPOWER	230 @3600 RPM	230 @3600 RPM	230 @3600 RPM	230 @3600 RPM
TORQUE	390 @ 2200 RPM	390 @ 2200 RPM	390 @ 2200 RPM	390 @ 2200 RPM
TRANSMISSION	A40D	A40D	A40D	A40D
REAR AXLE RATIO	4.10	4.10	4.10	4.10
FUEL TANK CAPACITY	36 GAL.	36 GAL.	36 GAL.	36 GAL.
TIRES	LT215/85R16D	LT215/85R16D	LT215/85R16D	LT215/85R16D
BRAKES-FRT.	DISC	DISC	DISC	DISC
BRAKES-REAR	DRUM	DRUM	DRUM	DRUM
BRAKES	N/A	DRUM	N/A	N/A
ALTERNATOR	100 AMP	100 AMP	100 AMP	100 AMP
BATTERY	535 CCA, 71AH	535 CCA, 71AH	535 CCA, 71AH	535 CCA, 71AH

SERIAL NUMBER FORMULA

I. Product Serial Number Key Field (Standard)

91011955356215

01. Model Year - 1991

02. Corporate Division Code

- 1 - Holiday Rambler
- 7 - Monitor

03. Product Type for R.V.

- 10 - Travel Trailer
- 12 - Fifth Estate / Fifth Wheel
- 16 - Mini Motorhome
- 19 - Motorhome

04. Series

- 00 - Monitor or none
- 54 - Imperial (1989)
- 55 - Crown Imperial
- 66 - Limited
- 80 - Alumina-Lite XL

05. Lengths

- 20 - 20' 35 - 35'
- 24 - 24' 40 - 40', etc.

Note: The lengths shown are just samples, remember there are additional lengths.

06. Bath Location for R.V.

- 1 - FB; Front Bath
- 2 - CB; Center Bath
- 3 - RB; Rear Bath
- 4 - SB; Side Bath
- 5 - CL; Center Bath, L-Kitchen
- 6 - CS; Center bath, Straight Kitchen
- 7 - WB; Walk-Through Bath
- 8 - SA; Side Aisle

07. Chassis for R.V.

- 0 - No Chassis 4 - GMC
- 1 - Ford 5 - Gillig
- 2 - Chevy 6 - John Deere

08. Additional Description

- 00 - No Additional description
- 01 - Special
- 03 - Caterpillar Diesel, 250HP
- 04 - Caterpillar Diesel, 300HP
- 10 - Front Kitchen
- 11 - Rear kitchen
- 13 - L-Shaped Kitchen
- 15 - XS
- 25 - Rear Kitchen XS

Example:

01	02	03	04	05	06	07	08	Key Field
91	01	10	54	35	2	0	00	Serial No.

II. Sample Key Fields

Samples:

	Year	Model	Corp.	Prod.	Series	Length	Bath	Chassis		Addit.
								Type	Desc.	
a.	91	01	01	10	54	32	2	0	10	
defined	1991	HRC	TT	IMP	32'	CB	NONE	FRONT KIT.		
b.	91	07	12	00	29	4	0	11		
defined	1991	MON	FW	NONE	29'	SB	NONE	REAR KIT		
c.	91	01	19	66	40	2	5	04		
defined	1991	HRC	CLA	LTD	40'	CB	GILLIG	CAT. DIE. (250 HP)		

Samples are as follows:

- a. Travel Trailer
- b. Fifth Estate
- c. Class A

Please note: Sometimes there is an "S" in front of the serial number. The "S" indicates that the number is the serial number.

MAINTENANCE RECORD

[illegible]

HOLIDAY RAMBLER RECREATIONAL VEHICLE CLUB, INC.

400 Indiana Avenue P.O. Box 587, Wakarusa, Indiana 46573
Phone: 219/862-7330

Dear Owner:

Membership in the Holiday Rambler Recreational Vehicle Club is limited to the owners of Holiday Rambler Corporation produced family camping units. The owners of Holiday Rambler, Holiday Ramblette, Monitor, Monitor-Lite, Alumalite, Trailseeker, Free Spirit, and Wide World RV units are invited to join our club.

The Holiday Rambler Recreational Vehicle Club is one of the fastest growing camping vehicle clubs in this country. Our active members represent all 50 states, Canada and Mexico. We have over 300 active chapters throughout the country - one in your area, most likely - planning local camp-outs and get-togethers and helping to make family camping even more enjoyable. Club members camp and travel together much like a large family.

In addition to the local chapter activities, the HRRVC provides state and region rallies along with a program of national activities. Each year we provide our members with a program of vacation rallies and caravans within the USA and to Mexico and Canada and of course our big International Rally.

The idea behind Holiday Rambler Recreational Vehicle Club, a non-profit organization, is to provide year-round opportunities for members to enjoy good fellowship and pleasant use of their camping vehicles. Club members are called Holiday Ramblers® and by their very nature they help give recreation vehicle camping a good name. Goals of the club are "to foster friendship among camping vehicle owners; to set an example of courtesy on the highway and of model conduct at meeting sites and in public campgrounds; to encourage the growth of family camping vehicle facilities in the United States; to disseminate advisory and education information to its members and the public; and to encourage county, state and federal agencies to provide more and improve existing family camping vehicle parking areas at reasonable rates."

Our informative newspaper, The Holiday RamblingsSM, is published by the club office. News of national, regional, and state activities, along with articles by local chapter members, help keep all members up to date on special events and travel tips.

Join today! The Holiday Ramblers await the pleasure of your company. If a membership application card did not come with your R.V., please write or call us at the above address and we will send you our current brochure. After processing your application, we will forward your identification numbers, club decals, club patches, and membership roster.

We await the opportunity of sharing our many activities with you and the chance to enjoy your fellowship.

Respectfully,

HRRVC Executive Director

VENDOR ADDRESSES

Trail-A-Matic, Inc.

5054 Industrial Street
Maple Plain, MN 55359

Theodore Bargman Company

129 Industrial Ave.
Coldwater, MI 49036

Phillips Industries, Inc.

Dexter Axle Division
P.O. Box 250
Elkhart, IN 46515
(219) 295-1900

Manchester Tank

29039 Lexington Park Drive.
Elkhart, IN 46514

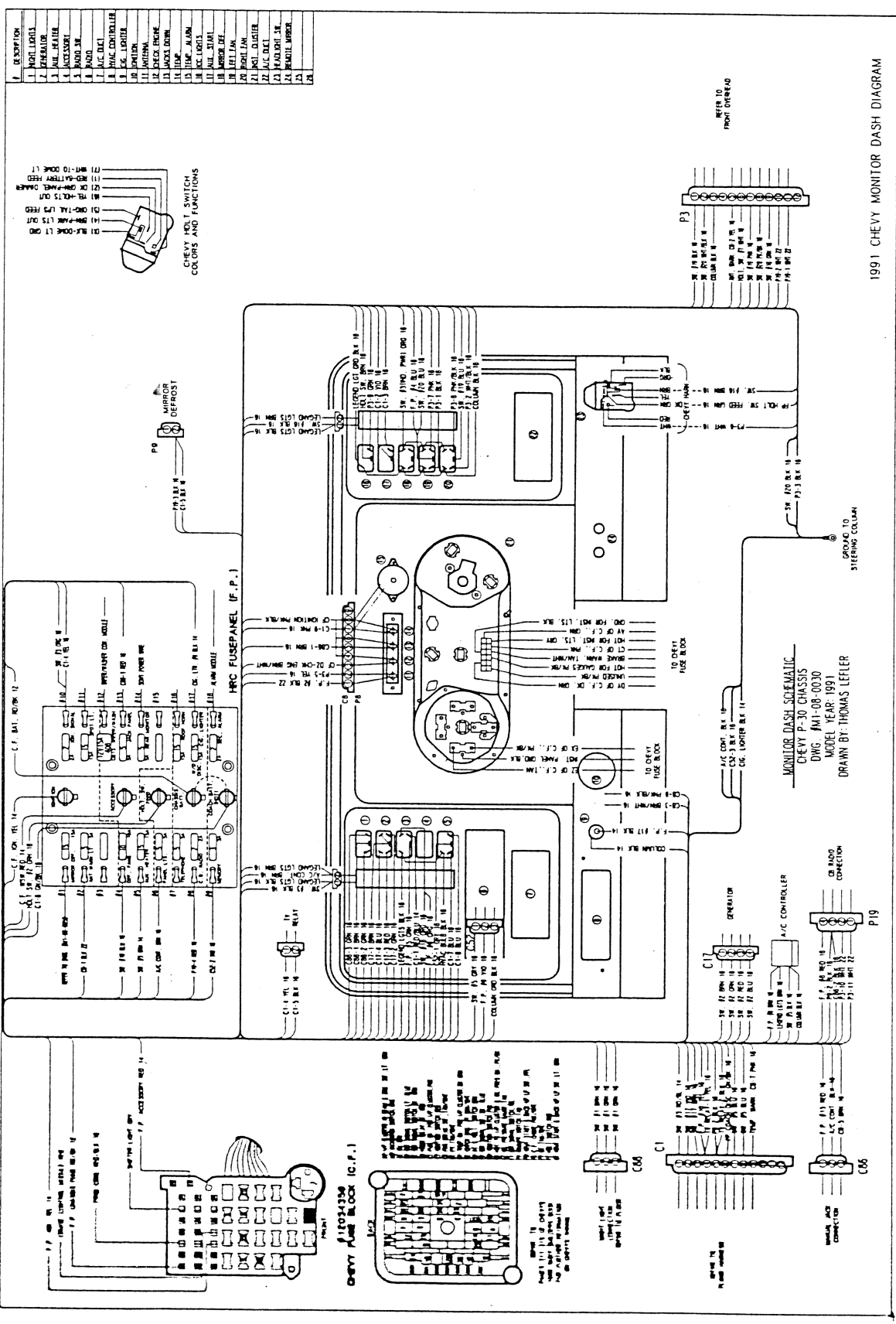
Dometic Sales Corporation

2320 Industrial Parkway
Elkhart, IN 46515
(219) 294-2511

Norcold

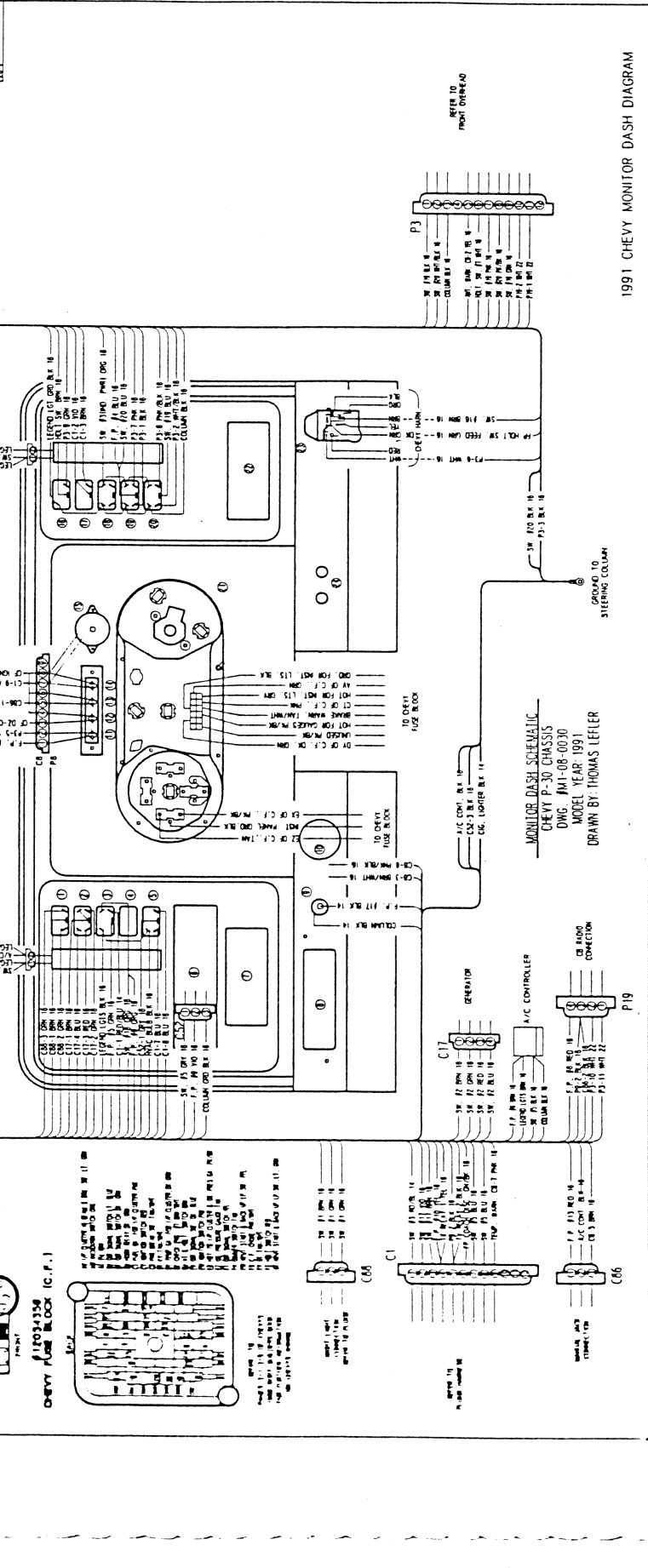
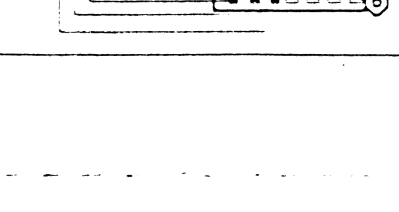
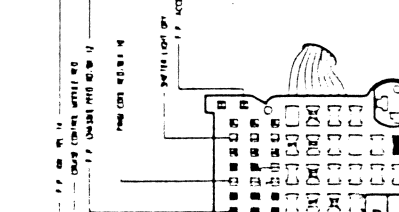
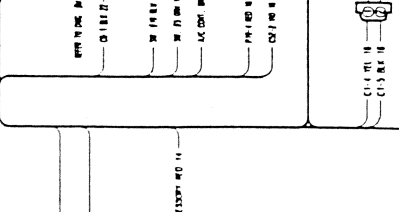
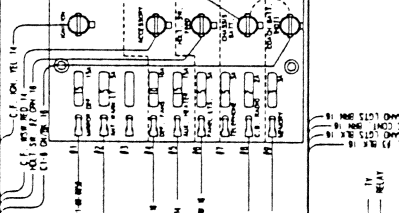
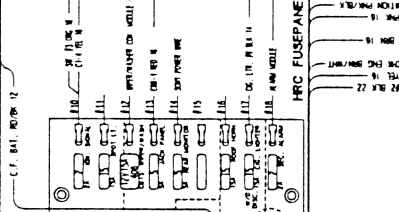
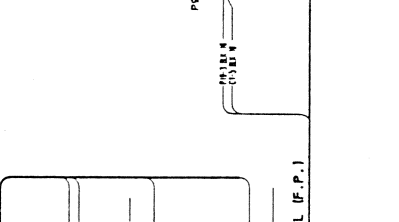
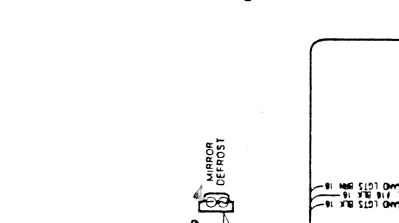
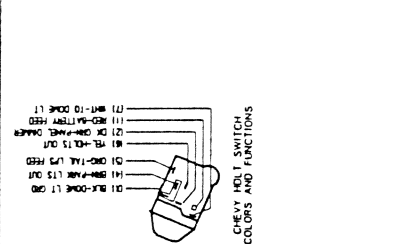
Service Information
1-800-543-1219
In Ohio call collect (513) 498-4034



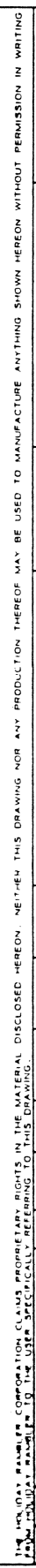


1991 CHEVY MONITOR DASH DIAGRAM

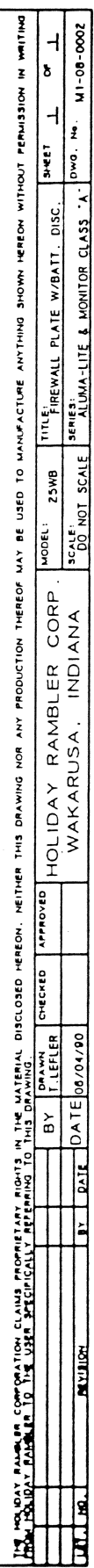
1	DESCRIPTION
1	IGNITION
2	IGNITION
3	AUX. HEATER
4	ACCESSORY
5	PAUSE SW
6	PAUSE SW
7	A/C DELT
8	A/C CONTROLLER
9	ECU LOCKER
10	IGNITION
11	IGNITION
12	IGNITION
13	IGNITION
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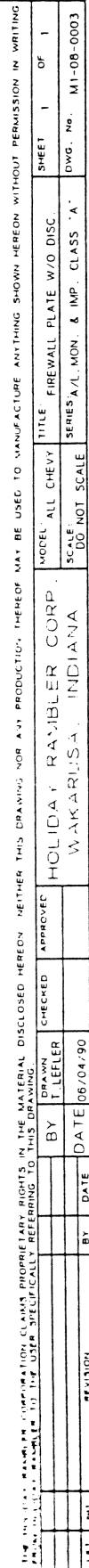


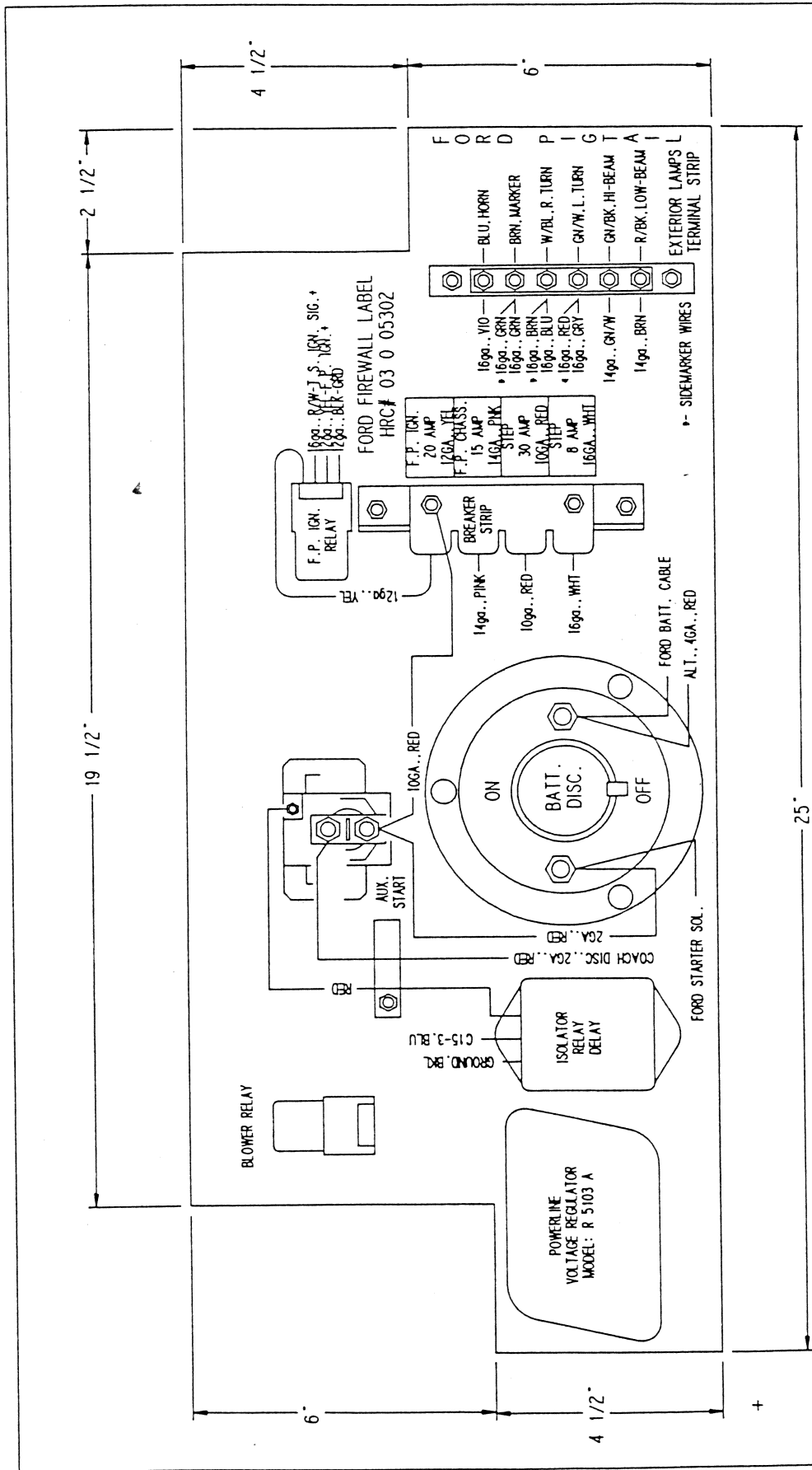
1991 CHEVY MONITOR DASH DIAGRAM



DATE	BY	CHECKED	APPROVED	HOLIDAY RAMBLER CORP. WAKARUSA, INDIANA	SCALE DO NOT SCALE	SERIES ALUMA-LITE & MONITOR CLASS 'A'	DWG No	SHEET 1 OF 1
DATE	DATE	DATE	DATE					
2/13/04		06/04/90						





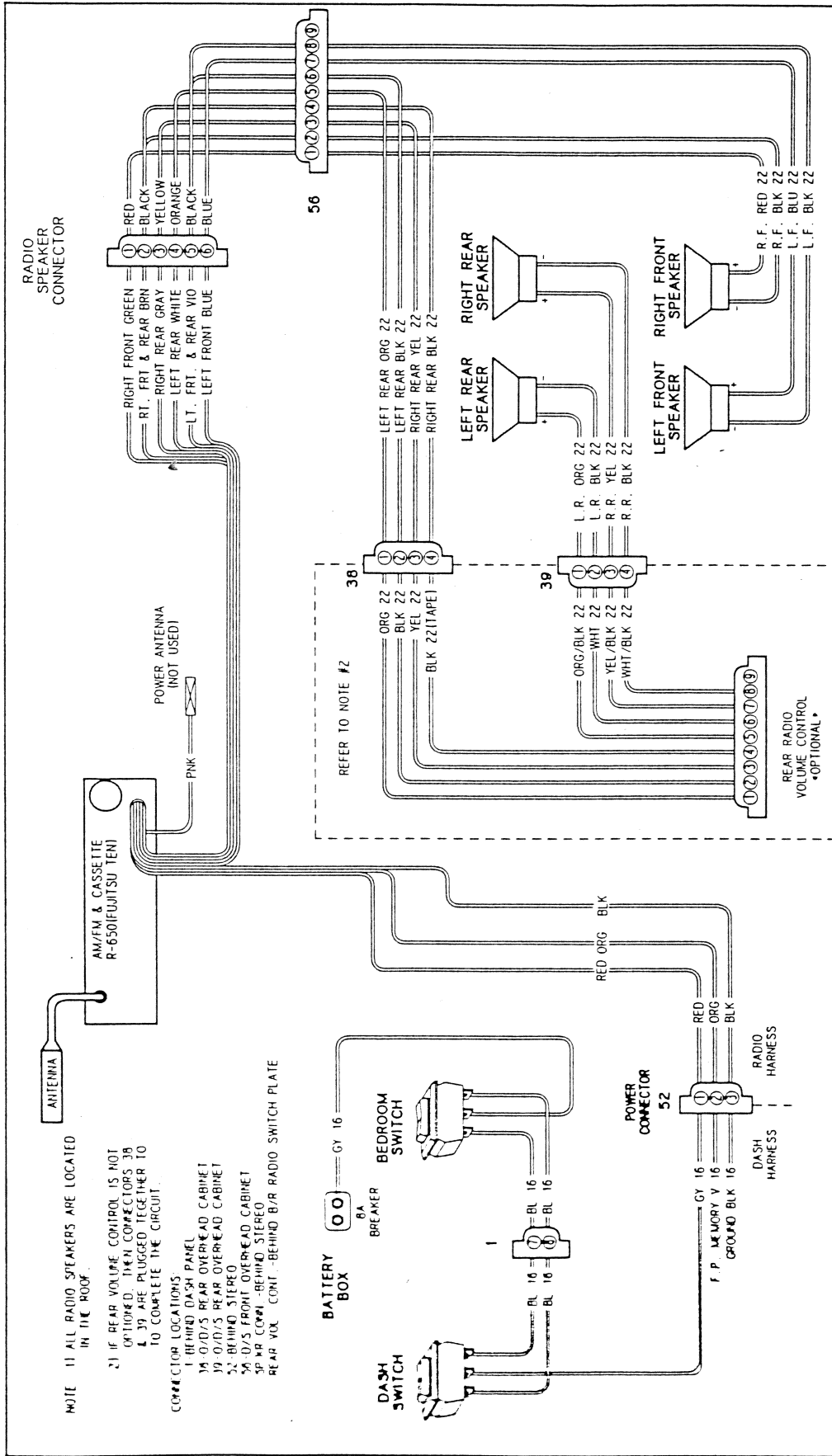


THE HOLIDAY RAMBLER CORPORATION CLAIMS PROPRIETARY RIGHTS IN THE MATERIAL DISCLOSED HEREON. NEITHER THIS DRAWING NOR ANY PRODUCTION THEREOF MAY BE USED TO MANUFACTURE ANYTHING SHOWN HEREON WITHOUT PERMISSION IN WRITING FROM HOLIDAY RAMBLER TO THE USER SPECIFICALLY REFERRING TO THIS DRAWING.									
BY	DATE	CHECKED	APPROVED	HOLIDAY RAMBLER CORP.			MODEL: ALL FORD	TITLE: F.W. COMPONENT LAYOUT	SHEET 1 OF 1
BY	DATE	CHECKED	APPROVED	WAKARUSA, INDIANA			SCALE: 10:1	SERIES: A/L MOH. & IMP. CLASS "A"	DWG. NO. M1-08-0006
REVISION	BY	DATE	DATE						

[illegible]

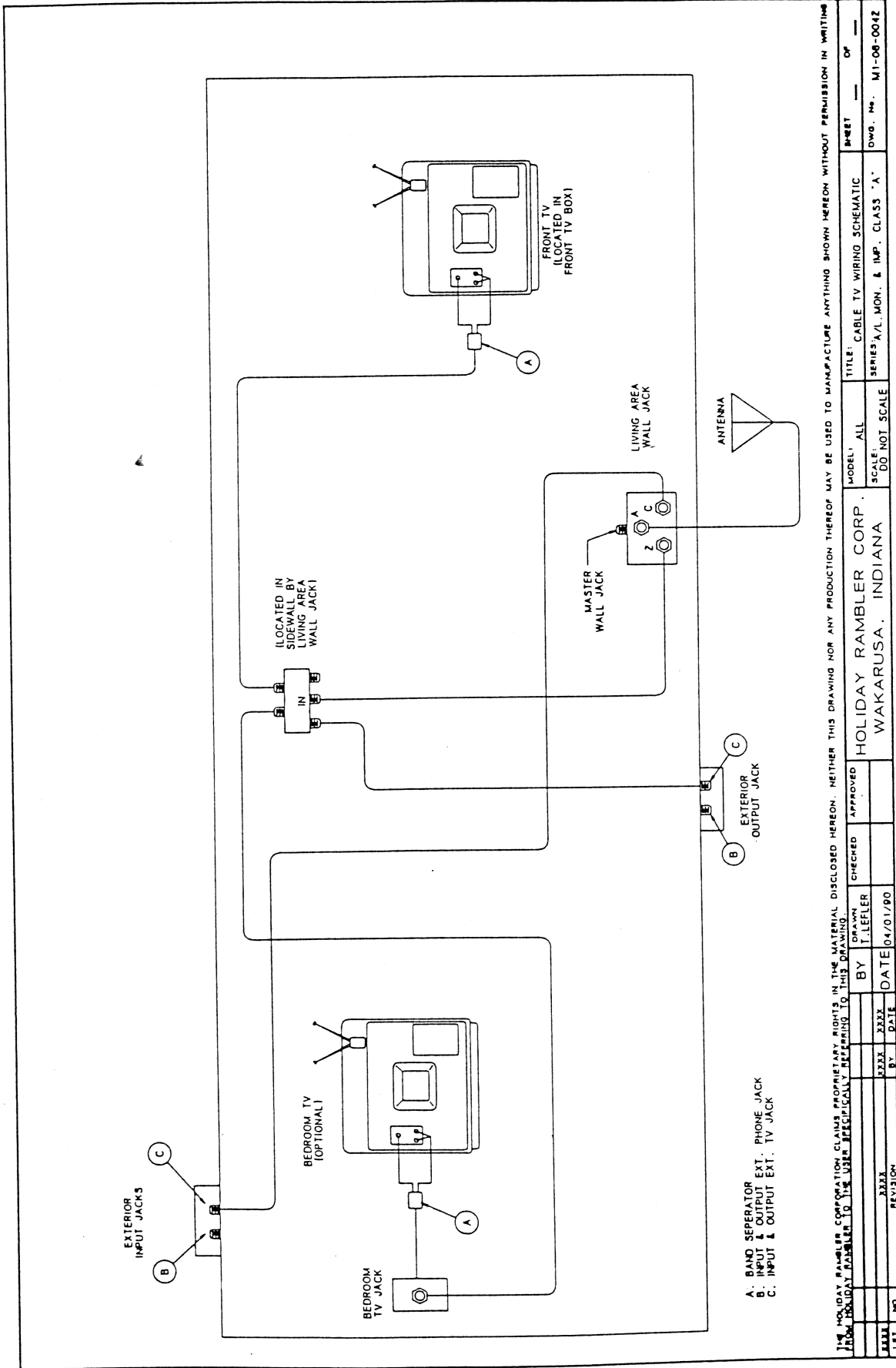
THE HOLIDAY RAMBLER CORPORATION CLAIMS PROPRIETARY RIGHTS IN THE MATERIAL DISCLOSED HEREON, NEITHER THIS DRAWING NOR ANY PRODUCTION THEREOF MAY BE USED TO MANUFACTURE ANYTHING SHOWN HEREON WITHOUT PERMISSION IN WRITING FROM THE HOLIDAY RAMBLER CORPORATION. NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM THE HOLIDAY RAMBLER CORPORATION.

PHOTO NOT TO BE HANDLED BY THE USER SPECIFICALLY FOR THIS PURPOSE		BY		DATE		05/22/90		CHECKED		APPROVED		HOLIDAY RAMBLER CORP.		MODEL: 29-37 FORD		TITLE: WIPER DIAGRAM FOR SINGLE MOTOR		SHEET — OF —	
BY		DATE		REVISION								WAKARUSA, INDIANA		SCALE: NONE		SERIES A/L MOH & IMP CLASS 'A'		DWG. No. MI-08-0017	

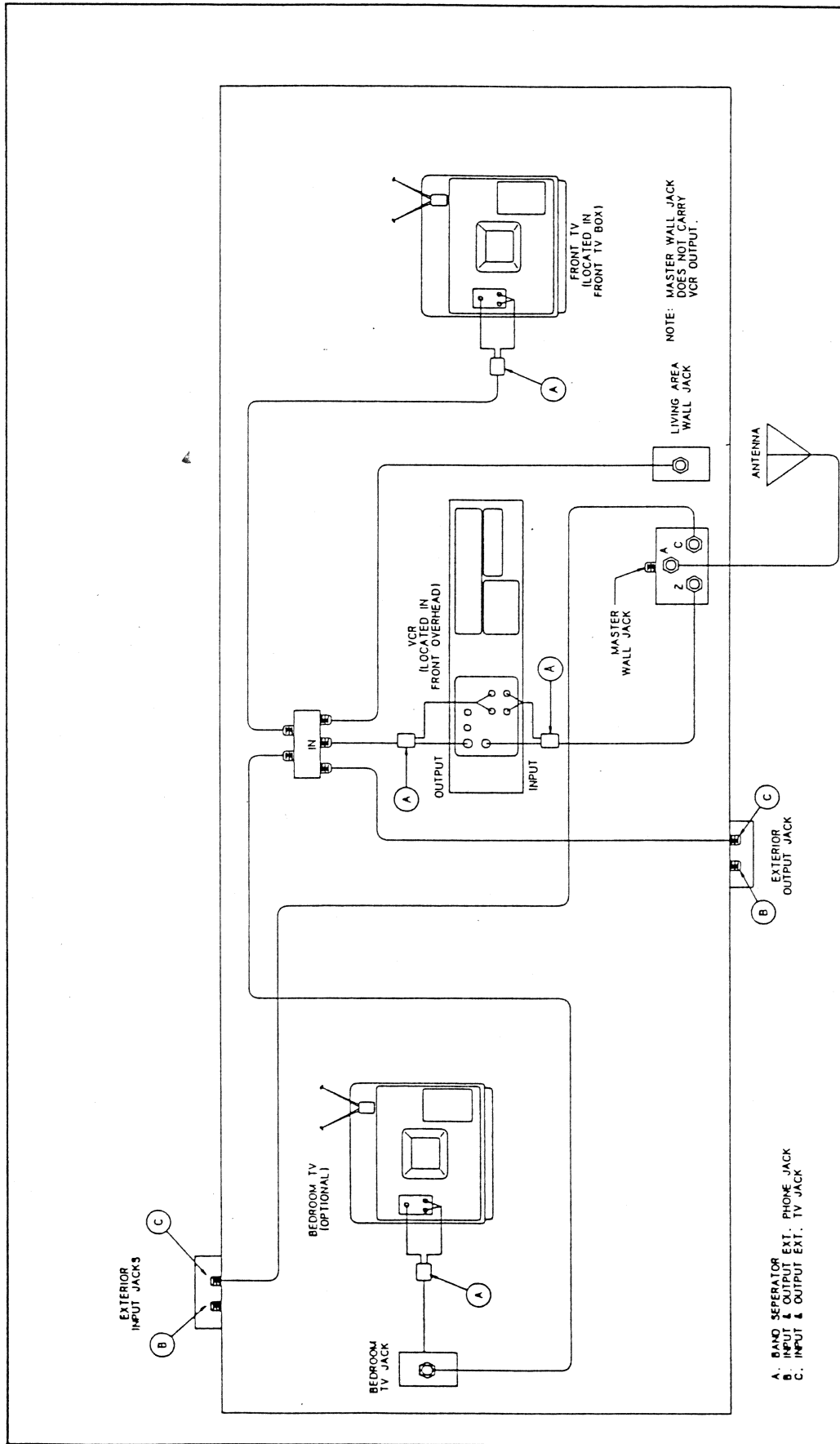


1991

THE HOLIDAY RAMBLER CORPORATION CLAIMS PROPRIETARY RIGHTS IN THE MATERIAL DISCLOSED HEREON. NEITHER THIS DRAWING NOR ANY PRODUCTION THEREOF MAY BE USED TO MANUFACTURE ANYTHING SHOWN HEREON WITHOUT PERMISSION IN WRITING FROM HOLIDAY RAMBLER CORP.				DRAWN BY: []				CHECKED BY: []				APPROVED BY: []			
FROM HOLIDAY RAMBLER CORP. TO THE USER SPECIFICALLY REFERRING TO THIS DRAWING				DATE: 04/01/90				DATE: []				DATE: []			
REVISION				BY: []				BY: []				BY: []			
TITLE: RADIO SOUND DKO-90050				MODEL: 25-35				MODEL: 25-35				MODEL: 25-35			
RADIO WIRING DIAGRAM				SCALE: DO NOT SCALE				SCALE: DO NOT SCALE				SCALE: DO NOT SCALE			
SERIES: MONITOR CLASS 'A'				DWG. No. M1-08-0036				DWG. No. M1-08-0036				DWG. No. M1-08-0036			



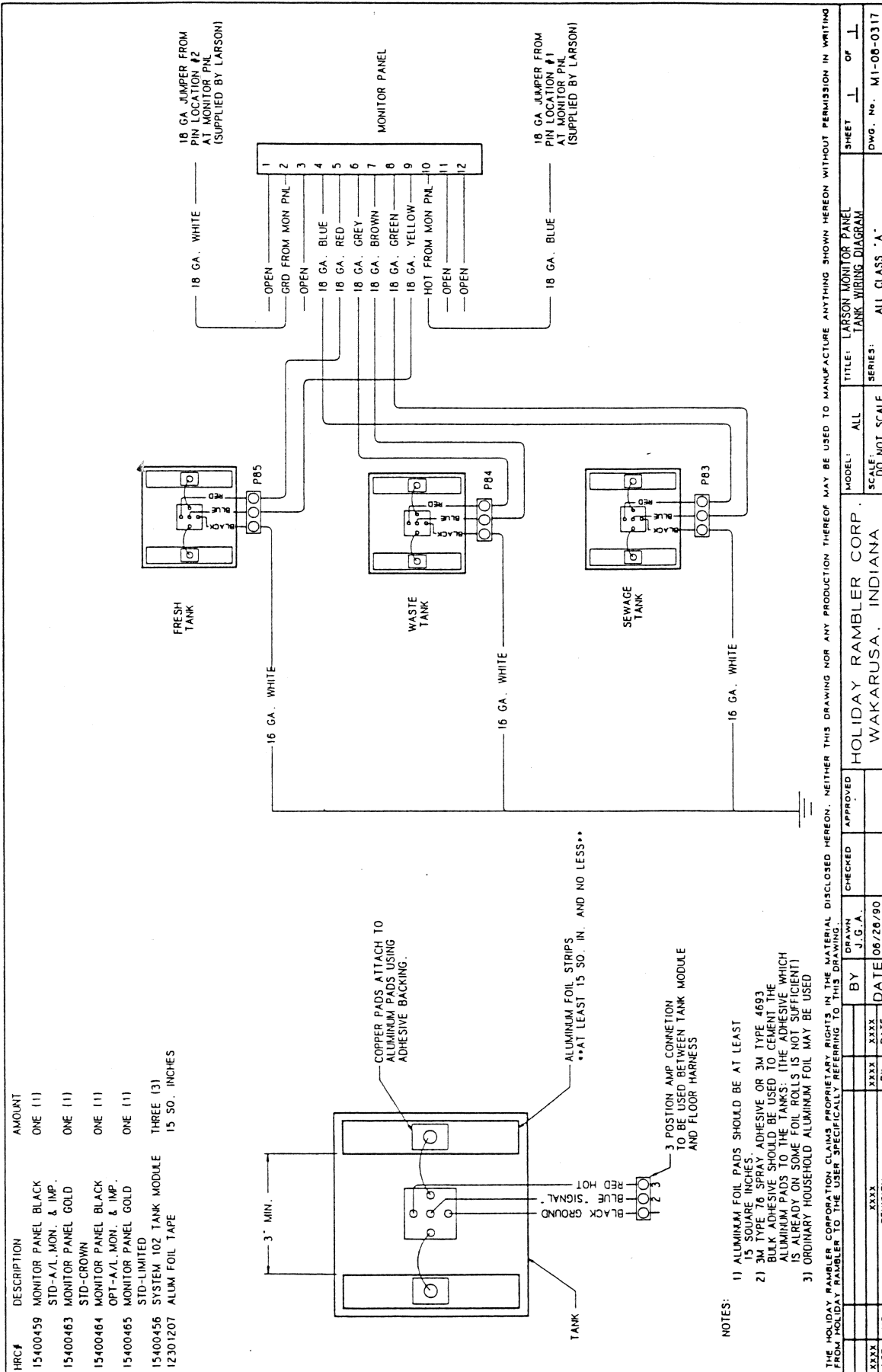
THE HOLIDAY RAMBLER CORPORATION CLAIMS PROPRIETARY RIGHTS IN THE MATERIAL DISCLOSED HEREON. NEITHER THIS DRAWING NOR ANY PRODUCTION THEREOF MAY BE USED TO MANUFACTURE ANYTHING SHOWN HEREON WITHOUT PERMISSION IN WRITING FROM HOLIDAY RAMBLER.									
REV.	BY	DATE	CHECKED	APPROVED	HOLIDAY RAMBLER CORP.		MODEL	TITLE	SHEET
1	2	3	4	5	WAKARUSA, INDIANA		DO NOT SCALE	CABLE TV WIRING SCHEMATIC	OF
1	2	3	4	5	WAKARUSA, INDIANA		DO NOT SCALE	SERIES A/L MON. & IMP. CLASS 'A'	OWB. No. M1-06-0042



THE HOLIDAY RAMBLER CORPORATION CLAIMS PROPRIETARY RIGHTS IN THE MATERIAL DISCLOSED HEREON. NEITHER THIS DRAWING NOR ANY PRODUCTION THEREOF MAY BE USED TO MANUFACTURE ANYTHING SHOWN HEREON WITHOUT PERMISSION IN WRITING FROM THE RIGHT OWNER. IN THE EVENT SUCH PERMISSION IS OBTAINED, THIS DRAWING IS TO BE REPRODUCED IN THE SAME SCALE AND FORM AS THE ORIGINAL.			
DATE	BY	DATE	BY
04/01/90	I. LEFLER		
CHECKED	APPROVED		
HOLIDAY RAMBLER CORP. WAKARUSA, INDIANA			
MODEL: ALL	TITLE: CABLE TV/VCR WIRING SCHEM.	SHEET	OF
SCALE: DO NOT SCALE	SERIES: A/L MON. INF & CRN CLASS 'A'	DRG. NO. M1-08-0043	
REV. NO.	REVISION		

CROWN		A/L, MON. & IMPERIAL		A/L, MON. & IMPERIAL		A/L, MON. & IMPERIAL																																	
<table><tr><td>POWERSEAT 30 AMP 10GA..BRN</td><td>POWERSEAT 30 AMP 10GA..BRN</td><td>CONVERTER 40 AMP 8GA..RED/BK</td><td>REFRIG. 30 AMP 8GA..RED</td><td>MON.PANEL 15 AMP 12GA..YEL</td><td>TV JACK 15 AMP 12GA..RED</td><td>STEREO.GRY AUX.ST..BRN 8 AMP</td><td>GAS DET..RED</td></tr></table>		POWERSEAT 30 AMP 10GA..BRN	POWERSEAT 30 AMP 10GA..BRN	CONVERTER 40 AMP 8GA..RED/BK	REFRIG. 30 AMP 8GA..RED	MON.PANEL 15 AMP 12GA..YEL	TV JACK 15 AMP 12GA..RED	STEREO.GRY AUX.ST..BRN 8 AMP	GAS DET..RED	<table><tr><td>POWERSEAT 30 AMP 10GA..BRN</td><td>POWERSEAT 30 AMP 10GA..BRN</td><td>CONVERTER 40 AMP 8GA..RED/BK</td><td>REFRIG. 30 AMP 8GA..RED</td><td>MON.PANEL 15 AMP 12GA..YEL</td><td>TV JACK 15 AMP 12GA..RED</td><td>STEREO.GRY AUX.ST..BRN 8 AMP</td><td>GAS DET..RED</td></tr></table>		POWERSEAT 30 AMP 10GA..BRN	POWERSEAT 30 AMP 10GA..BRN	CONVERTER 40 AMP 8GA..RED/BK	REFRIG. 30 AMP 8GA..RED	MON.PANEL 15 AMP 12GA..YEL	TV JACK 15 AMP 12GA..RED	STEREO.GRY AUX.ST..BRN 8 AMP	GAS DET..RED	<table><tr><td>POWERSEAT 30 AMP 10GA..BRN</td><td>POWERSEAT 30 AMP 10GA..BRN</td><td>CONVERTER 40 AMP 8GA..RED/BK</td><td>REFRIG. 30 AMP 8GA..RED</td><td>MON.PANEL 15 AMP 12GA..YEL</td><td>TV JACK 15 AMP 12GA..RED</td><td>STEREO.GRY AUX.ST..BRN 8 AMP</td><td>GAS DET..RED</td></tr></table>		POWERSEAT 30 AMP 10GA..BRN	POWERSEAT 30 AMP 10GA..BRN	CONVERTER 40 AMP 8GA..RED/BK	REFRIG. 30 AMP 8GA..RED	MON.PANEL 15 AMP 12GA..YEL	TV JACK 15 AMP 12GA..RED	STEREO.GRY AUX.ST..BRN 8 AMP	GAS DET..RED	<table><tr><td>POWERSEAT 30 AMP 10GA..BRN</td><td>POWERSEAT 30 AMP 10GA..BRN</td><td>CONVERTER 40 AMP 8GA..RED/BK</td><td>REFRIG. 30 AMP 8GA..RED</td><td>MON.PANEL 15 AMP 12GA..YEL</td><td>TV JACK 15 AMP 12GA..RED</td><td>STEREO.GRY AUX.ST..BRN 8 AMP</td><td>GAS DET..RED</td></tr></table>		POWERSEAT 30 AMP 10GA..BRN	POWERSEAT 30 AMP 10GA..BRN	CONVERTER 40 AMP 8GA..RED/BK	REFRIG. 30 AMP 8GA..RED	MON.PANEL 15 AMP 12GA..YEL	TV JACK 15 AMP 12GA..RED	STEREO.GRY AUX.ST..BRN 8 AMP	GAS DET..RED
POWERSEAT 30 AMP 10GA..BRN	POWERSEAT 30 AMP 10GA..BRN	CONVERTER 40 AMP 8GA..RED/BK	REFRIG. 30 AMP 8GA..RED	MON.PANEL 15 AMP 12GA..YEL	TV JACK 15 AMP 12GA..RED	STEREO.GRY AUX.ST..BRN 8 AMP	GAS DET..RED																																
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POWERSEAT 30 AMP 10GA..BRN	POWERSEAT 30 AMP 10GA..BRN	CONVERTER 40 AMP 8GA..RED/BK	REFRIG. 30 AMP 8GA..RED	MON.PANEL 15 AMP 12GA..YEL	TV JACK 15 AMP 12GA..RED	STEREO.GRY AUX.ST..BRN 8 AMP	GAS DET..RED																																
HRC# 03 0 05194		HRC# 03 0 05191		HRC# 03 0 05192		HRC# 03 0 05243																																	
CLASS "A"		CLASS "A"		CLASS "A"		CLASS "A"																																	
A/L, MON. & IMPERIAL		A/L, MON. & IMPERIAL		A/L, MON. & IMPERIAL		A/L, MON. & IMPERIAL																																	
C L A S S		C L A S S		C L A S S		C L A S S																																	
HRC# 03 0 05245		HRC# 03 0 05244		HRC# 03 0 05243		HRC# 03 0 05245																																	

THE HOLIDAY RAMBLER CORPORATION CLAIMS PROPRIETARY RIGHTS IN THE MATERIAL DISCLOSED HEREON. NEITHER THIS DRAWING NOR ANY PRODUCTION THEREOF MAY BE USED TO MANUFACTURE ANYTHING SHOWN HEREON WITHOUT PERMISSION IN WRITING FROM HOLIDAY RAMBLER TO THE USER SPECIFICALLY REFERRING TO THIS DRAWING.		MODEL: ALL		TITLE: BATTERY BOX LABELS		SHEET 1 OF 1	
BY: T. LEFFLER		CHECKED: APPROVED:		SCALE: DO NOT SCALE		DWG. NO. M1-08-0080	
DATE: 04/02/90		DATE: 04/02/90		DATE: 04/02/90		DATE: 04/02/90	
BY: DATE		BY: DATE		BY: DATE		BY: DATE	



CHANGE OF OWNER/ADDRESS

Serial No. _____

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

☐ CHANGE OF OWNER ☐ CHANGE OF ADDRESS

If your address changes or you sell your unit, please complete the above information and mail it to:

Holiday Rambler Corporation
65528 State Road 19
Wakarusa, IN 46573
Attn: Consumer Dept.

NOTE: We cannot change records without the serial number of the unit.

CHANGE OF OWNER/ADDRESS

Serial No. _____

NAME _____

ADDRESS _____

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