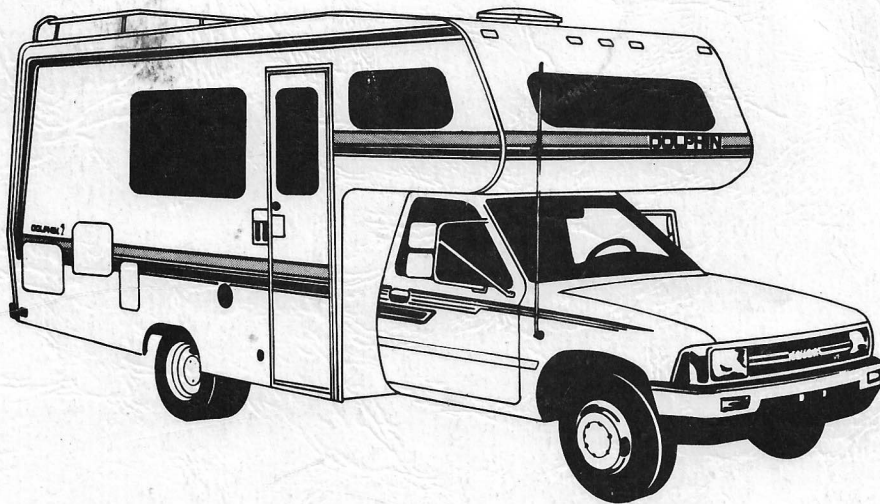

NATIONAL RV INC

OWNER'S MANUAL



DOLPHIN

MICRO-MINI MOTORHOME

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CONGRATULATIONS!... your purchase of a National R.V. Inc. recreational vehicle gives you the means to enjoy the pleasure and joy of camping and traveling. Your quality self-contained recreational vehicle has been designed and engineered to provide you with many of the comforts of home and the freedom to go as you please. It also contains provisions for connecting to available outside utilities when you desire to have an extended stay at some point in your travels.

This owner's manual was prepared to acquaint you with your new motor home, the use and operation of its systems, and to explain your warranty protection. If you are a newcomer to RV travel, you will especially appreciate the many tips, suggestions and "shop talk" information to be found throughout this manual that can help you learn how to obtain the most pleasure and trouble-free use of your vehicle.

Your RV has been provided with quality, time-tested materials and components, and if operated within recommended procedures it should provide you with many miles of virtually trouble-free travel. After the initial break-in period and usual minor adjustments to components and systems, only simple routine servicing is required.

We have made every effort to make this manual as accurate as possible in order to reflect information available at the time of publication. Products are constantly being improved, and we endeavor to upgrade our installations accordingly. If the equipment in your RV differs from some descriptions contained herein, disregard the owner's manual instructions and follow the separate manufacturer's instructions contained in the important papers packet. This owner's manual is a supplement to various instructions supplied by the manufacturers of separately warranted products, and is not intended to substitute for these publications. **Again, in the event of conflicting instructions, illustrations or other descriptions, the information furnished by the respective manufacturer's separate publications should be followed.**

Keep this owner's manual in your recreational vehicle for handy reference while you get to know your new vehicle and how it operates.

Your purchase of our product is a considerable investment. You can protect that investment and retain its value by a planned program of routine periodic maintenance, and attention to safety precautions. When questions arise that are not adequately covered by this manual or the manufacturer's instructions, consult your authorized dealer for assistance. If he cannot satisfactorily answer your question, he will refer you to our staff for assistance.

Every effort has been made to provide you with a safe, dependable product. Your vehicle complies with applicable requirements of Federal Motor Vehicle Safety Standards, state regulations and the requirements of NFPA 501C, the nationally recognized "standard for recreational vehicles, installation of plumbing, heating and electrical systems." The Recreational Vehicles Industries Association, whose seal you see affixed, periodically inspects our production line and assists us in maintaining system quality. Your follow-up with periodic safety inspections and a preventive maintenance program is important for the continuation of safe and virtually trouble-free operation.

Please leave this owner's manual in the motor home at the time of resale. The next owner will need this information also.

Read all warning and caution labels in this manual.

WARNINGS provide information about your personal safety.

CAUTIONS provide information to avoid possible damage to your motor home.

HAPPY TRAVELING!!!

I DELIVERY, WARRANTY & SERVICE INFORMATION

A. TAKING DELIVERY

You have made a sizable investment in the purchase of your motor home and are entitled to all the benefits and services contained in the warranty for our RV and separately warranted products. With your help, we intend to see that you fully receive those benefits and services. It is important that you become familiar with the proper procedures for obtaining service and parts, in and out of warranty. Your dealer is instructed to provide you with orientation in these matters at time of delivery as a supplement to these instructions.

Your RV is a product which has undergone a series of rigid inspections by highly qualified factory personnel throughout the manufacturing process. Our final factory check by quality control inspectors before shipment to the dealer is not the last one before you take delivery. Your dealer has been trained to perform additional pre-delivery inspections and systems checks, to condition and service your RV, and assist you in understanding and completing warranty forms.

B. LIST OF ITEMS FURNISHED LOOSE

- * 1. Owner's Manual
- * 2. Warranties for RV and separately warranted products
- * 3. Operation and installation manuals descriptive literature and parts list (where applicable) for separately warranted products.
- 4. Fire extinguisher
- 5. Jack and handle
- 6. Lug wrench
- 7. Spare tire
- 8. Privacy curtains
- 9. 3x3 drain hose adapter and 10' drain hose
- 10. Two sets of keys

C. CUSTOMER RELATIONS

We are particularly interested in maintaining the best of customer relations. Only by having your complete confidence and satisfaction with our product and its service can we assure our continued success as manufacturers of recreation vehicles. We have found that continuing a pleasant and effective relationship through our dealers is equally as important as maintaining the technical excellence of our product. Your authorized dealer and our service department will cordially assist you in providing service, maintenance, selections of options, and instructions concerning the operations of your vehicle.

Most problems are from misunderstandings concerning warranty and service, and can usually be solved at the dealer level. In case you cannot find satisfaction at the dealer level for any reason, we invite you to contact our factory service department. We will make every effort possible to take actions that meet with your approval. Please understand that in most instances we will eventually refer you back to the local dealer with our recommendations for servicing. In all your contacts with our factory, always refer to your vehicle model number, year, serial number and date of purchase.

National RV Inc.
3411 North Perris Boulevard
Perris, California 92370
(714) 943-6007
(800) 359-8147
FAX (714) 943-5204

D. DEALER RESPONSIBILITIES

1. Provide the customer with an adequate orientation in the general operation of the RV, use of its containment systems and components, and safety considerations concerning the use of those systems.
2. Insure that the customer receives a complete **IMPORTANT PAPERS** packet containing warranty cards and various registrations for the RV and separately warranted products.
3. Carefully review all warranty entitlements with the customer, pointing out the importance of mailing warranty cards and various registrations to manufacturers within thirty (30) days of taking delivery. Assist the customer in properly completing these forms if he desires. Request that the customer read all warranty information at his earliest convenience and contact the dealer to clear up any provisions which are not understood.
4. **Perform pre-delivery inspections as prescribed and provide the customer with a copy of the completed pre-delivery check list and optional equipment check-out form.**
5. Inform the customer concerning insurance considerations for his protection.
6. **Instruct the customer on how to obtain local and out-of-area service on the RV** and its separately warranted products during and after warranty periods.

E. WARRANTY EXPLANATION

This warranty does not extend to damage from neglect, accidents misuse or failure to follow service and operating instructions, lack of proper maintenance, normal wear and tear, unauthorized modifications, overloading, or defects in or from equipment not supplied by National RV Inc. We do not assume responsibility for loss of use of vehicle, loss of time, inconvenience or expense due to equipment failure.

WARRANTY AUTHORIZATION

If it is necessary to have warranty work performed on your motorhome by an agency other than the factory or the selling dealer, prior authorization from the factory or selling dealer will eliminate misunderstandings and will expedite payment.

Defects in items subject to severe wearing in the camping environment such as carpets, cushions, interior trims and paint, bumpers, etc.; should be reported within thirty (30) days, so that they may be properly repaired and not excluded as normal wear and tear.

F. SEPARATELY WARRANTED PRODUCTS

National RV makes every effort to select high quality equipment from reputable manufacturers; however, National RV assumes no responsibility or liability for defects in the workmanship or operation of separately warranted products. These products are usually backed by a nationwide factory authorized service systems. Use of other than factory authorized service agencies may void your warranty for their product. Some RV dealers, at the time of need, may not be authorized service centers for certain separately warranted products, so it will pay you to check with the dealer first to reduce delays. If the dealer is not an authorized service center for the product in question, he will assist you in obtaining authorized services.

Copies of individual product warranties and lists of factory authorized service centers have been included in your important papers packet.

It must be understood that in order to obtain repairs or replacement of these items, the individual manufacturer's **warranty cards must be submitted within thirty (30) days of date of purchase. If service or parts are required for these products**, refer to the furnished list of factory authorized service centers. If the list is not available for the particular products, write or call the manufacturer concerned to obtain the location of the nearest authorized service center.

CHASSIS WARRANTY

The manufacturer of the chassis or chassis cab and its related parts is responsible for the warranty of that portion of the vehicle. Additions and modifications to the chassis or chassis cab are the responsibility of National RV, Inc.

G. HOW TO OBTAIN SERVICE PARTS

Contact your selling dealer during normal business hours for any warranty service. If you are traveling or have moved from the area of purchase, or are having difficulties in obtaining warranty service, call our 800 number.

Please keep all operator's and owner's manuals, service center lists, warranty stubs, parts lists and other related documents in the RV for handy reference. All records for maintenance and service should be kept current and filed for ready access.

H. INSURANCE

As with your automobile, it is important that you protect yourself and others with insurance coverages for personal liability theft, collision, property damage, etc. Your dealer and/or auto insurance agent will assist you in obtaining appropriate insurance for your protection.

II. SPECIAL SAFETY INFORMATION

A. SAFETY IN USING LP GAS

You should check for leaks at the connections on the LP gas system soon after the initial filling of the LP gas tank. **Even though the manufacturer and dealer have already made tests for leakage, periodic checks are advisable because of vibration encountered during travel.** Your vehicle was manufactured to provide you with full access to all gas line connections. Leaks can be found easily with a soapy water solution applied to the outside of the gas piping connections. If bubbles form, a leak exists. Shut off the main gas valve at the LP gas tank if a leak is detected. LP gas is heavier than air. Leaking gas tends to flow to low places, same as water. Never light a match or allow any open flame if leaking gas is suspected.

WARNING: DO NOT use a detergent containing **AMMONIA OR CHLORINE** when testing gas lines for leaks, as they may cause a chemical reaction causing corrosion to the gas lines, resulting in dangerous leaks. Use a mild soapy water solution for testing connections.

Be sure to shut off the main LP gas supply when the vehicle is not in use.

This gas piping system is designed for use of liquefied petroleum gas only. Do not connect natural gas to this system.

WARNING: All pilot lights and appliances must be turned off during refueling of motor fuel tanks and/or LP gas containers.

D.O.T. tanks located in compartments above the floor have special valves which indicate when the tank has been filled to its proper level. Authorized LP gas dealers are trained in the proper filling of LP gas tanks. **DO NOT ASK THE DEALER TO OVERFILL YOUR TANK.**

If you suspect a problem with your L.P. gas system, have a qualified service center check your system thoroughly.

IF YOU SMELL GAS:

1. EXTINGUISH ANY OPEN FLAMES, PILOT LIGHTS AND ALL SMOKING MATERIALS.
2. DO NOT TOUCH ELECTRICAL SWITCHES.
3. SHUT OFF THE GAS SUPPLY AT THE TANK VALVE(S)
4. OPEN DOORS AND OTHER VENTILATING OPENINGS.
5. LEAVE THE AREA UNTIL ODOR CLEARS.
6. **IMMEDIATELY HAVE THE GAS SYSTEM CHECKED AND LEAKAGE SOURCE CORRECTED BEFORE USING AGAIN.**

LABEL IN GALLEY AREA

WARNING:

IT IS NOT SAFE TO USE COOKING APPLIANCES FOR COMFORT HEATING; COOKING APPLIANCES NEED FRESH AIR FOR SAFE OPERATION.

1. Open overhead vent or turn on exhaust fan and open window

LABEL AT STOVE

LPG

THIS GAS PIPING SYSTEM IS DESIGNED FOR USE OF LIQUEFIED PETROLEUM GAS ONLY.

DO NOT CONNECT NATURAL GAS TO THIS SYSTEM.

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 WHICH DOES NOT CONTAIN AMMONIA OR CHLORINE

WARNING: ALL PILOT LIGHTS AND APPLIANCES SHALL BE TURNED OFF DURING REFUELING OF MOTOR FUEL TANKS AND OR LP-GAS CONTAINERS.

DO NOT FILL LP-GAS CONTAINER(S) to more than 80% of capacity

LABEL AT LPG CONTAINER, AND AT FUEL FILL.

- WARNING:** Never allow the LPG tank to be filled above the 80% level. **Remove LP tank from compartment to refill.**
- WARNING:** When filling the motorhome tank with LPG, or gasoline, be sure all pilot lights are out.
- WARNING:** Because of the extreme flammability of LP gas, and its heavier than air qualities do not smoke or expose the tank to an open flame while near a refueling area. Never use an open flame to test for gas leaks. Replace all protective covers and caps on LP system after filling.
- WARNING:** LP gas containers are equipped with safety devices which relieve excessive pressure by discharging gas to the atmosphere.
- WARNING:** Do not bring or store LP Gas containers, gasoline or other flammable liquids inside the vehicle. Fire or explosion may result.
- WARNING:** Portable fuel-burning equipment, including wood and charcoal grills and stoves must not be used inside the recreational vehicle may cause fires or asphyxiation.

DO NOT FILL CONTAINER(S) TO MORE THAN 80% CAPACITY

B. ELECTRICAL SYSTEM SAFETY

As delivered, your RV electrical system has been engineered and checked for performance and safety. Circuit breakers and fuses are installed to protect electrical circuits from overloading. Any modifications to your electrical system could void your warranty. Consult your selling dealer before any alterations are attempted.

An approved 30 AMP power supply cord is attached to the vehicle for hook-up to a 120 volt source. Note the cord has a three-pin plug which provides proper grounding through the third (round) pin. Grounding is your personal protection from electrical shock. . . do not use any adapter or extension cord that will break the continuity of the grounding circuit connected to that third pin. **NEVER** remove the grounding pin or connect to a nongrounded (only two-prong) receptacle.

Never operate your RV's 120 volt systems with an inadequate ground. If you feel a shock, even a small one, from the RV while standing on the ground, you should immediately disconnect the RV and locate the trouble. Ground continuity should be continuous from any electrical appliance or the vehicle frame to the distribution panel board through the third pin on the power supply cord and then to the park receptacle and earth ground.

Label at electrical entrance

**THIS CONNECTION IS FOR 110-125 volt AC,
60-HZ 30 ampere supply**

C. PLUMBING SYSTEM SAFETY

1. Sanitize the fresh water supply system periodically (**see sanitizing instructions section III**)
2. Try to keep water connection fittings from coming in contact with the ground or drain hose to reduce chances of contamination.
3. Always rinse the sewer drain hose before storing.

D. SAFETY WHEN TRAVELING

Your motorhome was designed to be open and spacious. While this provides delightful aspects to traveling, it also requires additional safety awareness. All loose objects are potentially dangerous missiles in the event of sudden stops and maneuvers. To eliminate this hazard, all appliances are secured and closets, drawers, and cabinet doors are provided with latches. All seats are equipped with seat belts, **please use them. IT IS THE LAW.**

Child restraint systems are designed to be secured in accordance with the restraint system manufacturer instructions. Accident statistics have shown that children are safer when properly restrained in a rear seating position and in a forward position.

1. **Prior to each start, check all open areas to see that gear has been stowed.**
2. **Check all appliances, doors, and drawers for proper locking or latching.**
3. All passengers should take their seats. Fasten the seat belt by engaging the buckle and adjusting the belt (by pulling excess through clamping mechanism at the buckle) so that the belt is snug and buckle is located for your comfort and easy access.

E. SAFE VEHICLE LOADING

Your motorhome is labeled in accordance with federal regulations to indicate safe limits to which each axle and the total vehicle may be loaded. **It is recommended that you have your vehicle weighed at a public scale with full fuel, water and LP gas tanks, and any equipment, appliances and utensils normally carried. Subtract the indicated weight from the GVWR printed on the certification label to find the maximum additional load that can safely be carried.**

When loading your vehicle, always place heavy items low in the R.V. and lighter items in the overhead cabinets. avoid heavy loads in the extreme rear of the vehicle.

National's micro—mini Dolphin & Sea Breeze motor homes are not designed to tow trailers or other vehicles.

Air suspension: your motorhome is equipped with air suspension. the pressure should be kept at 20 to 30 lbs. with the vehicle empty. As the vehicle is loaded the pressure should be increased to maintain the vehicle at at level attitude side to side. **Do not** exceed 100 pound per sq. in. inflation pressure.

F. SAFE EMERGENCY STOPPING

Always carry road flares and/or reflective triangular highway warning devices available from your dealer or auto parts store that can be displayed when necessary. Pull off the roadway as far as possible when changing tires or for other emergency situations. Turn on your vehicle hazard warning flashers when parked alongside a roadway. Get passengers out of the RV and have them stand clear of the vehicle area when parked on the edge of a highway.

G. EMERGENCY EXIT

Selected doors and windows have been designated as exits in case of emergency. They are marked with an exit label and the latches on the windows are red. Learn where they are located so that in case of an emergency you can choose the shortest route to exit.



H. ADDITIONAL SAFETY CONSIDERATIONS

1. Never attempt to fix gas or electrical appliances yourself. Enlist the services of a qualified technician
2. Always have a serviceable fire extinguisher placed in an easily accessible location. This extinguisher should have a rating of a least 4 BC units.
3. Insure that tires are in good condition and properly inflated. Especially watch inflation of dual wheels: under inflated tires get hot and are more apt to fail.
NOTE: FOLLOW TIRE MANUFACTURER RECOMMENDATIONS ON SIDEWALL OF TIRE FOR CORRECT INFLATION.
4. **CHECK AND TIGHTEN WHEEL LUGS AFTER THE FIRST 500 miles and every 1,000 miles thereafter. Follow chassis manufacturers recommendations.**
5. Check brakes in a safe area: not while traveling a busy highway.
6. Have wheel bearings cleaned and packed as specified in your chassis owner's manual.
7. Observe the warning labels attached to your vehicle concerning LP Gas, water, electricity and heating.
8. On vehicles equipped with air suspension systems, do not overinflate and do not operate the vehicle without the recommended minimum pressure. (see warning on vehicle.)

I. REARVIEW MIRROR ADJUSTMENT

The Exterior mirrors can normally be adjusted by hand in the same manner as most automotive mirrors. If adjustment is not possible, the adjusting mount may be loosened with a 1/2" wrench. If the mirror will not hold its adjustment the adjusting bolt should be tightened.

III. FRESH WATER SYSTEM

Fresh water in your motorhome is supplied either through the on-board water tank system or directly from an outside water connection. Care should be exercised to assure that only fresh, potable water is used through both sources.

A. SANITIZING THE ON-BOARD WATER STORAGE

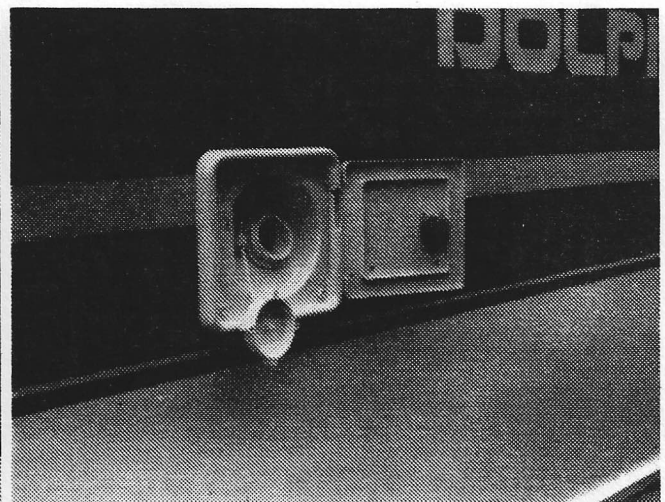
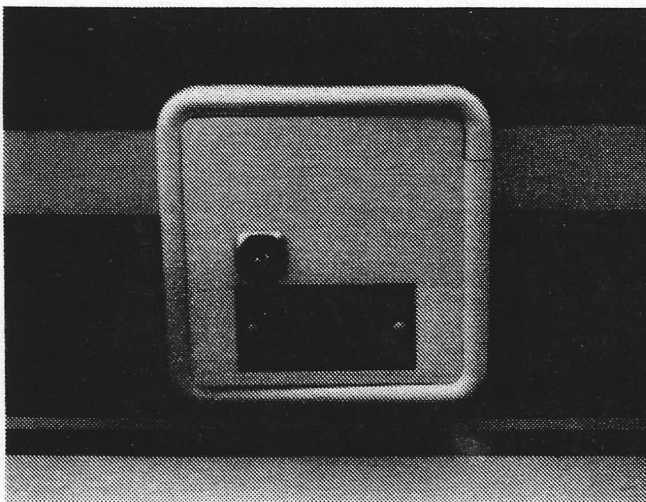
Sanitize the on-board water storage system upon first delivery, after long periods of non-use, and after any suspected contamination. These are various commercial solutions approved for RV use available to assist you in sanitizing the system.

One sanitizing procedure is as follows:

1. Prepare a chlorine solution using one gallon of water with 1/4 cup of household bleach (5% sodium hypochloride solution). With tank empty, pour one gallon of solution into tank for each 15 gallons of capacity.
2. Complete filling the tank with fresh water. Open faucets to release air. Pressurize system with pump until water flows. Turn off pump.
3. Allow to stand for three hours.
4. Drain the entire system including the water heater. (See instructions on "Water Drains")
5. Flush the system with fresh water and drain. All plumbing lines and the water heater may be flushed through the outside city water connection.
6. To remove excessive chlorine taste or odor which may remain, prepare a solution of one quart vinegar to five gallons of water and allow solution to agitate in tank by vehicle motion (several days if possible).
7. Drain tank and again flush with potable fresh water.

B. FILLING YOUR FRESH WATER

Fill your water tank only with fresh potable water. Wash down the area around the fill before removing the cap. When water spills out from the water tank vent the tank is filled.



C. ON BOARD WATER SYSTEM OPERATION

After the water tank has been filled, water to all the plumbing fixtures is fed by an electric water pump. Once the water pump switch at the monitor panel is turned on, and air purged from the system, the water pump is totally automatic and self-priming, operation on demand when any fixture is turned on. **Be sure to purge system of trapped air before lighting the water heater.** After the system has been purged, turn off all fixtures. The water pump should automatically switch off when all fixtures are turned off. **If the pump switches on and off when you are not using any water, inspect your water system for possible leaks.**

Turn switch off when the system is not in use or the vehicle is unattended. Do not permit the pump to operate when the water tank is empty; **damage to the water pump can occur.**

D. CITY WATER SUPPLY

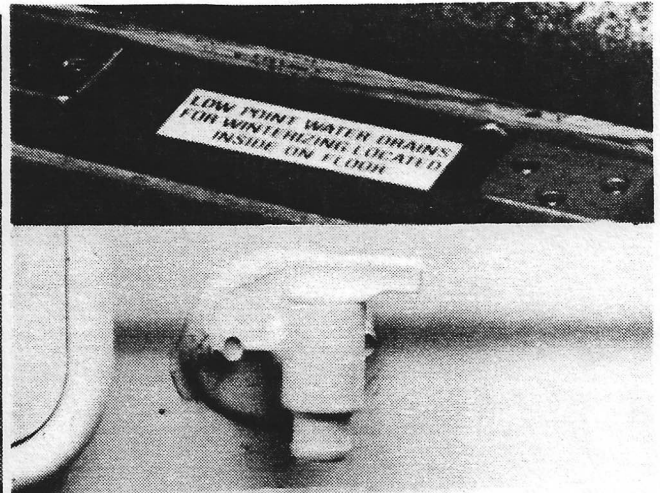
Connect a flexible hose with 3/4" fittings to the city water service and the RV water inlet fitting. Turn on the city water and you will receive pressure to the vehicle's water system.

CAUTION:

Excessive pressure from water supply systems may be encountered in some parks especially in mountain regions. Water pressure regulators are available to protect your system against high pressure. The recommended operating pressure is 35 P.S.I. **Be sure to use a water pressure regulator if water pressure is not known. Damage to the water system can occur.**



City Water Hook Up



Drain Systems

E. WATER DRAINS

Water system drains are located at the floor of the motor home (various locations for different models) so that water lines may be drained of water for sanitizing, storage, or winterizing. The water heater has a separate drain see (manufacturer's instructions).

When it becomes necessary to drain the system, the following instructions are recommended:

1. Level your motorhome.
2. Make certain that the LP Gas system has been turned off (water heater).
3. Turn on all faucets inside the motor home.
4. Open the low point drains for the hot and cold water lines. Remove drain plug in hot water heater.
5. Open the drain for the water tank found near the tank and outside the motorhome. Be sure the vent and fill for the water tanks are clear, and faucets are open so the system is properly vented for faster draining.
6. After the system has completely drained, check all interior fixtures including the toilet flush valve for trapped water. Turn on the water pump for a few seconds to clear the pump of water.
7. Turn off all drain valves and plumbing fixtures when the system is completely drained.
8. Do not use the water pump for draining the system. Damage to the water pump can occur.

NOTE: FOR WINTERIZATION SEE CHAPTER VIII

F. PHYSICAL PROTECTION OF INTERIOR WATER LINES

Be careful not to store heavy items such as canned goods, tools, etc. in areas where they may come in contact with water piping and cause damage due to road vibration and shifting of the load.

IV. WASTE DRAINAGE SYSTEM

Your waste drainage system is designed to provide adequate safe storage and disposal for liquid wastes. Two waste holding tanks are provided. The solid or black waste tank, located directly beneath the toilet, holds the toilet waste. The liquid waste or grey water tank holds waste from your sink, lavatory and shower.

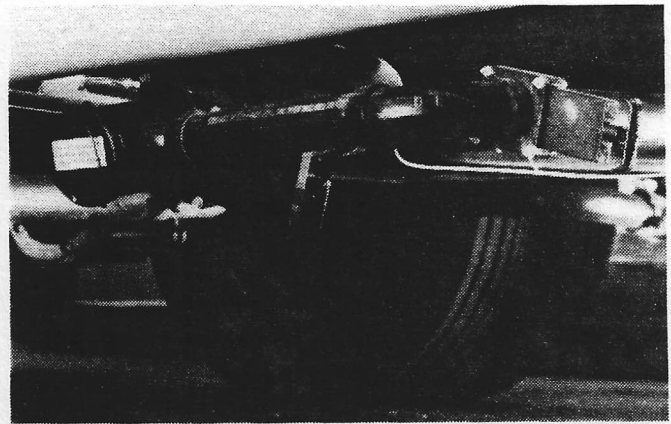
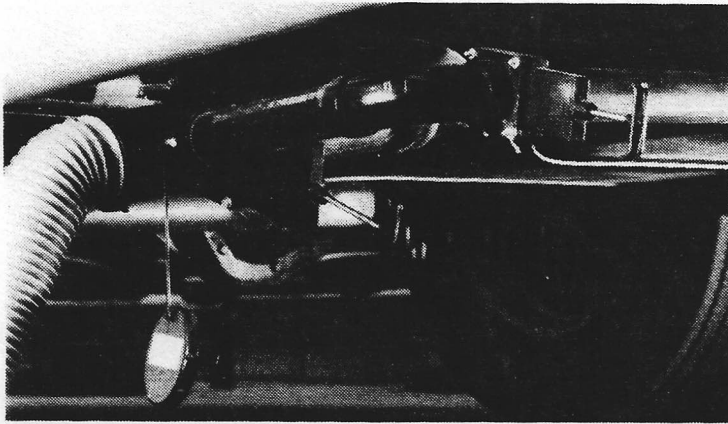
Waste holding tanks should only be dumped at a waste disposal station, or sanitary sewer connection.

NOTE: Some models have the lavatory drain into the black waste tank.

A. DUMPING PROCEDURE

To drain the holding tanks, the following procedures are suggested:

1. Be certain that both termination valves are closed.
2. Remove the sewer drain cap.
3. Securely attach sewer adaptor and drain hose to the drain outlet. Be sure the hose is securely attached to the adapter.
4. Insert hose outlet into sewer inlet.
5. Open the solid waste termination valve in a slow continuous motion. A sudden jerk could cause the liquid to gush through and pull the hose out of the disposal inlet.
6. Close the solid waste termination valve after draining.
7. Open the gray water tank termination valve. After dumping, follow up with a fresh water rinse. Add several gallons through sink and toilet. Open valves to drain as above to complete draining.
8. Close both termination valves.
9. Remove drain hose, clean and stow.
10. Replace sewer drain cap.
11. When staying in a park with on-site sewer connections, do not leave the valve on the solid waste tank open. Dump as necessary.



B. CLEANING HOLDING TANKS

There are many waste tank chemicals on the market. These chemicals assist in breaking down the solids and have components that mask waste odors.

Unwanted solids can build-up in waste tanks due to using too little water and not flushing the tank out properly after each use. If you wish to dump a partially full tank, it is better to fill the remaining space with water first to provide the volume necessary for complete flushing.

C. DISPOSAL STATIONS

THE DUMPING OF RAW SEWAGE FROM TOILET WASTE INTO OTHER THAN REGULAR DISPOSAL FACILITIES OR SEWER SYSTEMS IS UNIVERSALLY PROHIBITED.

Most government and privately-owned parks have either a central dump facility or offer campsite hook-ups for sewage. By referring to various camping publications you will find lists of many dump facilities throughout the U.S. Some major oil companies offer dump facilities at selected service stations. (Get their dump station list.) Plan ahead and you will have very little inconvenience in proper disposal of waste.

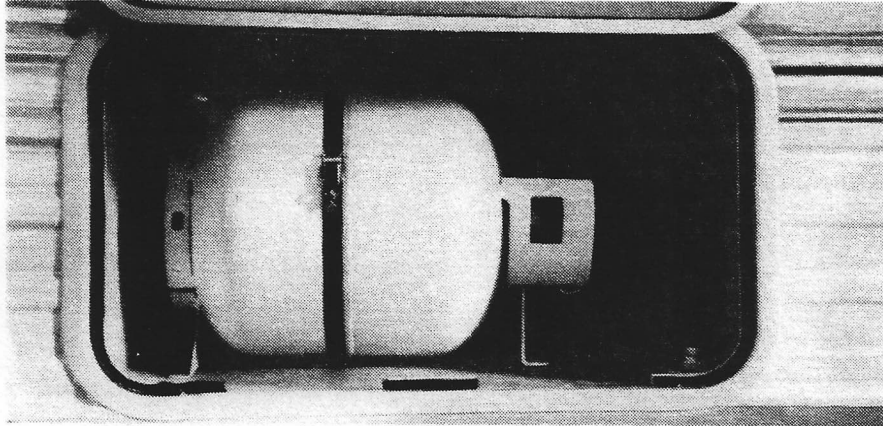
V. LIQUIFIED PETROLEUM GAS SYSTEM (LPG)

Your motor home is equipped LP-GAS system to provide energy for comfort heating, cooking, hot water and refrigeration. LP Gas is a colorless highly flammable fuel. Propane is the most common type of LP Gas. It works well in your RV.

To determine how long a gallon of LP gas will last, total up the BTU inputs from all your LP GAS appliance name plate. The total inputs divided into 92,000 will tell you how many hours a gallon of LP Gas will last. Allowances must be made for the actual time various appliances will be used.

A. LP GAS TANKS

1. Above floor mounted LP Gas tanks are built to Department of Transportation standards, for pressure vessels. All valves, gauges, hoses and fittings are inspected, tested and listed by a nationally recognized listing agency. The tank, valves and gauges are located in an enclosure on the outside of the vehicle which is vapor proof to the vehicles interior.



B. FILLING LP GAS TANK

Before filling your LP Gas tank, turn off all pilot lights and close the main tank valve. Filling should be done only by an authorized LP Gas dealer.

A safety relief valve found on all tanks will discharge liquid LP Gas if the pressure in the tank exceeds safe limits. Keep all open flames and cigarettes away from this area.

When LP Gas tanks are filled to the proper level, a safe expansion space remains for the LP Gas. This assures vapor LP Gas withdrawal through the gas piping system. **Over-filled tanks are unsafe.**

C. CHECKING FOR LEAKS

Upon delivery and periodically thereafter check your gas system for possible leaks. Although the entire distribution system and its attached appliances have undergone extensive factory testing for leaks, connections and fittings can develop leaks due to road vibrations. Usually you can detect these leaks by their strong garlic-like odor. If you do encounter this odor, turn off all open flames immediately and commence a systematic search for leaks throughout the gas system. Use a solution of soapy water-**NEVER A MATCH**. Use two wrenches on connections and fittings with opposing torque to prevent twisting of copper tubing. If the leak does not show up in the manifold or copper tubing distribution system, then check the appliance. If at this time the odor still persists turn off the main valve at the LP Gas tank and all appliance pilots. Check with your LP Gas dealer or your authorized National R.V. dealer for professional help.

WARNING: Do not use a detergent containing ammonia or chlorine when testing gas lines for leaks, as they may cause a chemical reaction causing corrosion to the gas lines, resulting in dangerous leaks. Never use an open flame to test for gas leaks. Use a mild soapy water for testing lines.

D. START-UP OPERATION OF LPG APPLIANCES

Check to be sure all appliance control valves are in the off position. Familiarize yourself with the operation of each gas-fired appliances by reading the instruction manuals provided. When all appliances are turned off including their pilots, the LP Gas system is ready for use. Turn the main valve to full open to supply gas to all appliance. Each appliance can now be lit. For initial lighting of the LP Gas appliance, air in the lines must first be purged before any gas will flow through the burners. Hold a flame near the range burner while the air is being purged. After a few seconds all the air will have been cleared and gas will ignite and burn. The other appliances can now be lit following the operational instructions found on each appliance.

VI ELECTRICAL SYSTEMS

Your motorhome is equipped with (3) basic electrical power systems to meet your RV electrical needs.

1. A 12-volt DC automotive system; battery supplied
2. A 12-volt DC House system; battery and/or converter supplied.
3. A 110-volt AC system; supplied from an external source.

A. AUTOMOTIVE ELECTRICAL SYSTEM

THE FOLLOWING EQUIPMENT IS POWERED FROM THE AUTOMOTIVE ELECTRICAL SYSTEM:

- | | |
|--|-----------------------------------|
| 1. HEADLAMPS | 10. ELECTRICAL DASH GAUGES |
| 2. TURN INDICATORS/HAZARD WARNING LIGHTS | 11. STARTER MOTOR |
| 3. INSTRUMENT PANEL LIGHTS | 12. CAB LIGHTING |
| 4. WINDSHIELD WIPERS AND WASHERS | 13. HORN |
| 5. ENGINE IGNITION SYSTEM | 14. IN DASH RADIO-OPTIONAL |
| 6. CIGARETTE LIGHTER | 15. DASH AIR CONDITIONER-OPTIONAL |
| 7. AUTOMOTIVE HEATER FANS | 16. CRUISE CONTROL-OPTIONAL |
| 8. CLEARANCE LAMPS | |
| 9. LICENSE AND BACK-UP LIGHTS | |

B. AUXILIARY RV BATTERY (12-VOLT D.C.)

All interior lights, furnace motor exhaust fans, water pump and optional electrical equipment, operate on 12-volt DC provided by your auxiliary storage battery and the power converter when connected to 110v power. Battery power makes possible the independent operation of your motorhome but is limited by the power reserves stored in the battery.

Battery charging is done automatically through the vehicle's alternator when traveling. The auxiliary battery is also charged through a power converter when connected to 110v power.

Charging the battery produces hydrogen which is explosive when mixed with air. Do not disconnect the battery cables or produce a spark by any means close to the battery while it is charging. Be sure to check the liquid level regularly and when adding water, use distilled water to promote longer battery life.

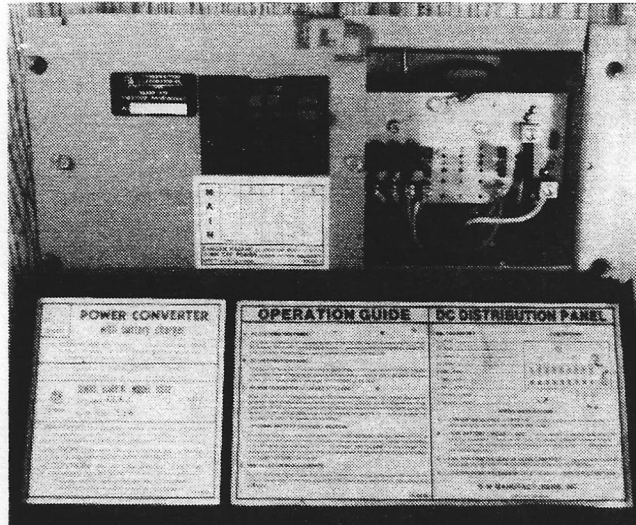
The batteries in motor homes connected to 110v park receptacles for long periods of time should be checked once a week.

C. ALTERNATOR

Your vehicle alternator is connected to a battery solenoid which enables both the vehicle and the RV auxiliary batteries to be charged and yet isolates the main vehicle battery to be used only for automotive purposes.

D. 12 V.D.C. FUSES AND BREAKERS

Your motor home is fused to protect all 12-volt DC circuits. The line from the auxiliary battery to the power converter and 12-volt fuse panel is protected by a 40 amp circuit breaker. A 15 amp inline fuse feeds the monitor panel, and is located at the 12v house battery. The fuse panel located in the power converter protects all interior lighting, and equipment circuits. If any fuse blows, replace with the same size fuse. The circuit breakers are automatic and will reset themselves.



E. POWER CONVERTER

When your motorhome is connected to an outside 110-volt AC power source, the converter provides energy to all interior lights, fans, motors, and water pump. The converter housing itself will become warm from use, therefore avoid storing any flammables near the converter housing and allow space for air circulation. This device contains a thermostatically controlled fan to cool the electronics.

F. 110 V.A.C. BREAKERS

Circuit breakers are installed to protect the 110-volt AC wiring in your motorhome. The breakers are located in the distribution panel which is a part of the power converter. Become familiar with its location. If a circuit breaker should open a circuit, locate and remove the cause for overload and then reset the breaker.

Ground fault circuit interrupters (GFCI) designed to protect people from shock hazards are used in motorhomes with 110-volt receptacles. This device is not a substitute for proper grounding of your vehicle. Test the device regularly as described on the receptacle.

G. 110-VOLT A.C. ELECTRICAL SYSTEM

110-volt AC power is available in your motorhome when you are plugged into a 110-volt receptacle. Your motorhome is equipped with a three-prong power supply cord which is stored in the electrical compartment. Do not disconnect or remove this cable. When connected to a 110 volt power source both the 110-volt AC outlets and all interior 12-volt light and equipment circuits become energized. The auxiliary RV battery is automatically recharged from the 12-volt power converter.

H. INTERIOR LIGHTING

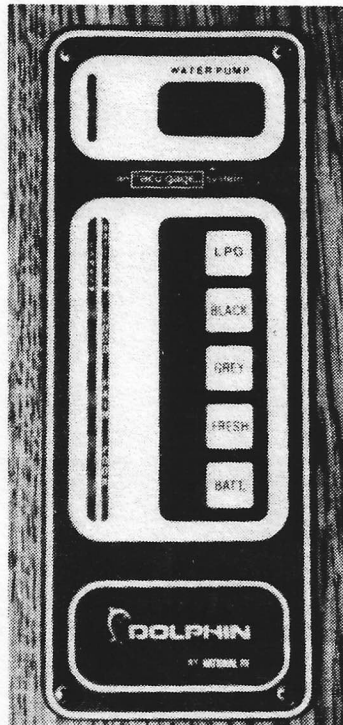
All interior lights operate only on 12-volt DC. When the light bulbs burn out, replace them with the same bulb. Each bulb is identified by a number on the base and are automotive type bayonet socket bulbs or slim line fluorescent tubes. Automotive Bulbs may be purchased from service stations or auto supply stores but the fluorescent tubes will have to be purchased from an RV dealer or supply store.

I. MONITOR/CONTROL PANEL

Your monitor control panel is designed to give you instant systems information at your fingertips. It monitors your fresh water supply, your gray and solid waste holding tank fill level, the condition of the RV battery, and houses the on/off switch to your water pump. **This is not a 100% correct reading.**

MAKING A MEASUREMENT

1. The top switch is to turn the water pump on and off.
2. Pressing the 'BLACK' pad will indicate the liquid level in the septic waste holding tank.
3. Pressing the 'GRAY' pad will indicate the liquid level in the sink and shower water holding tank.
4. Pressing the 'FRESH' pad will indicate the liquid level in the potable water tank.
5. Pressing the 'BATT' pad will indicate the charge condition of house battery.



CALIBRATION

To calibrate your monitoring panel, simply fill all of your tanks with tap water. Press the pad for the tank selected to be calibrated and, using a small flat bladed screwdriver, rotate the adjustment located behind the small hole on the face of the panel and identified by the small black letter above (F-fresh, G-gray, B-black). As the adjustment is turned, the lights will turn on and off in sequence. When the last light (marked F) is fully lit, the tank is properly calibrated.

VII SERVICING AND MAINTAINING YOUR R.V.

A. CHASSIS MAINTENANCE

1. Your motorhome chassis like all fine vehicles requires regular maintenance for long and trouble-free service. Study your chassis owner's manual for suggested maintenance intervals and for detailed instructions.

Day-to-day care starts with the use of factory recommended fuel. Using the proper grade of fuel will provide satisfactory engine performance. Check the coolant level at least once a month when the engine is cool. Should coolant be necessary add water and anti-freeze as recommended. Check oil level frequently. Avoid operating the engine with the oil level below the "add" mark on the dip stick. Use only factory specified oil.

Other day-to-day care includes checking and maintaining the chassis and RV batteries. Check the fluid level in the battery cells monthly. Remove corrosion around terminals by rinsing with baking soda. After cleaning, coat terminals with grease to retard corrosion.

Keep windshield washer reservoir filled with water and factory recommended windshield washer solution. Check your brake fluid level. Add only factory recommended brake fluid. Satisfactory operation of your automatic transmission requires the use of automatic transmission fluid meeting factory specifications. Visually inspect the tires daily and have the air pressure checked regularly. Tire pressure lower than recommended will reduce tire life. Higher pressures will tend to give a harsher ride. Always keep tires inflated as recommended.

B. RV BODY

1. **Fiberglass:** Your motor home has an exterior that is both rugged and functionally beautiful. Its smooth aerodynamic finish is resistant to dents and scratches. By keeping the motor home cleaned and waxed, the fiberglass exterior will maintain its original lustre indefinitely. Do not use abrasives on the motorhome decals.
NOTE: (Damaged surfaces should be repaired by professionals. Your dealer or our factory will often be able to repair the damage. If not check with your local automotive body shops.)
2. **Roof:** Coat all seams and around roof vents once a year with a good quality roof sealer. These are available from your dealer or RV supply store. **(VISUALLY CHECK EVERY 6 MOS.)**
3. **Windows and doors:** Vibration occurs through normal use of your motorhome. Screws may need tightening periodically. Use a weather proof sealer around all window and door frames as needed. Lubricate all locks with graphite. Clean all windows.
4. **Draperies and Upholstery:** The fabrics used in your motorhome are not washable and should be dry cleaned only. Seat covers may be cleaned with a foam type spot remover. If overall cleaning becomes necessary have them dry cleaned by professionals.
5. **Table and Counter Tops:** High pressure laminate counter surfaces have been selected for their durability and good looks. Regular cleaning with mild detergent will keep the surface like new. Do not use scouring pads to clean. Do not use place hot pots and pans directly on the surface.
6. **Lavatory and shower cleaning:** Wash with mild soap and water. **Do not use** abrasive cleaners, scouring pads or solvents as they can damage and dull the finish.

D. TOWING DISABLED VEHICLE

Toyota Type motor homes may be towed from the front end by any reliable towing service. If the motor home has an automatic transmission the drive shaft should be disconnected if the motorhome is to be towed more than 5 miles. Follow the chassis manufacturers towing procedures.

VIII WINTERIZATION

A. COLD WEATHER OPERATION

Special precautions must be taken if you wish to camp when temperatures are below freezing and additional winterizing equipment may be needed.

WARNING: NEVER USE THE RANGE OVEN FOR SUPPLEMENTARY COMFORT HEATING. All other gas appliances in the RV are vented to the outside and are safe to use continuously but the cooking appliances should be used only while cooking and when in use one or more vents or windows should be open. **DO NOT BE CAUGHT DEAD WITH YOUR GAS RANGE OR OVEN BURNING.**

B. WINTER FREEZE PROTECTION

If the motorhome is to be stored in temperatures below freezing the following precautions should be taken:

1. Drain the fresh water system including the water heater.
2. Clean out your holding tanks.
3. Check your automotive radiator solution to insure that the antifreeze mix is as recommended for the anticipated temperature.
4. Check water levels and make sure that batteries are fully charged. Batteries will self discharge if not used for a period of time. A partially charged battery will freeze at low temperatures.
5. Batteries should be removed from vehicles being stored where they can be periodically charged.

DOLPHIN WINTERIZING PROCEDURE

1. Position RV to elevate rear wheels slightly.
2. Drain and bypass water heater. This may be done in several ways. The easiest is to install a permanent bypass valve available at any RV service center. A less expensive way is to disconnect both the inlet and outlet connections to the water heater each time and plug these with short galvanized nipples terminated on one end with a threaded cap (leave these until next spring). Nipples and caps are available from plumbing stores.
3. Using procedures described in A-III of this manual and on video tape open the two RV low point drain valves. Also open the drain valve on the fresh water tank. After draining close all three.
4. Add 2 gallons of polypropylene base RV antifreeze (potable type) to the fresh water tank. An extra half gallon may be needed in the larger units (see step 6)
5. Close faucet valves and turn on water pump at wall switch.
6. Pull toilet valve and hold open until the red color of the antifreeze shows. If the pump fails to draw fluid through the system add more antifreeze until it pumps.
7. Turn on cold water knob at the kitchen sink (slowly) until the red fluid shows, then turn off. Repeat the procedure with the bathroom cold water faucet.
8. With both cold water knobs in the "off" position open both hot water knobs. At this point no fluid will come through. Press your hand (or rubber glove) tightly onto the end of the kitchen spout and, while holding, turn on the adjacent cold water knob (slowly). Shut off as soon as you hear fluid coming out of the bathroom faucet. Now repeat the procedure with the bathroom faucet until you hear red fluid coming out in the kitchen; at this time you will have already turned off both cold water knobs. Now turn off the water pump at the wall switch.
9. As a final step pour one cupful of the antifreeze into the shower drain and both sinks to protect the traps. You're now ready for a safe winter!!.

C. STORAGE DURING NON-FREEZING WEATHER

Battery protection should be the same as for freezing weather as unused batteries will shortly discharge themselves. For prolonged storage drain and flush out all systems. Leave ventilators open as much as possible without admitting rain. Remove perishables and empty refrigerator/freezer leaving it clean with door ajar. Put a cap or screen over the roof vent of the refrigerator.

D. GENERAL STORAGE NOTES

Drawing drapes will reduce fade of rugs and upholstery. Leaving an air freshener agent will minimize odors from plastics and other materials. Slight openings of vents will allow air circulation without worry of water entering.

For prolonged storage it is advisable to go over all roof seams and vent flashing seams with a good roof coating material. Spraying silicone on mechanisms will minimize effects of corrosion. Covering wheels to eliminate direct rays of the sun on tires will reduce the sidewall cracking.

E. CHASSIS

See your Chassis Owners manual for storage recommendations.

IX FOR YOUR OWN SAFETY

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

WARNING:

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

COOKING APPLIANCES NEED FRESH AIR FOR SAFE OPERATION:

OPEN OVERHEAD VENT OR TURN ON EXHAUST FAN AND OPEN WINDOW.

This warning label has been located in the cooking area to remind you to provide an adequate supply of fresh air for combustion. Unlike homes the amount of oxygen is limited due to the size of the recreational vehicle and proper ventilation when using the cooking appliances will avoid dangers of asphyxiation. It is especially important that cooking appliances not be used for comfort heating as the danger of asphyxiation is greater when the appliance is used for long periods of time.

1. A warning label has been located near the LP-Gas container. This label reads: DO NOT FILL CONTAINER(S) TO MORE THAN 80 PER CENT OF CAPACITY.
Overfilling the LP Gas container can result in uncontrolled gas flow which can cause fire or explosion. A properly filled container will contain approximately 80 percent of its volume as liquid LP Gas.
2. **WARNING:** Portable fuel—burning equipment, including wood and charcoal grills and stoves, shall not be used inside the recreational vehicle. The use of this equipment inside the recreational vehicle may cause fires or asphyxiation.
3. **WARNING:** Do not bring or store LP GAS containers, gasoline, or other flammable liquids inside the vehicle because a fire or explosion may result.

THE FOLLOWING LABEL HAS BEEN PLACED IN THE VEHICLE NEAR THE RANGE AREA:

IF YOU SMELL GAS

1. EXTINGUISH ANY OPEN FLAMES, PILOT LIGHTS AND ALL SMOKING MATERIALS.
 2. DO NOT TOUCH ELECTRICAL SWITCHES.
 3. SHUT OFF THE GAS SUPPLY AT THE TANK VALVE(S) OR GAS CONNECTION.
 4. OPEN DOORS AND OTHER VENTILATING OPENINGS.
 5. LEAVE THE AREA UNTIL ODOR CLEARS.
 6. HAVE THE GAS SYSTEM CHECKED AND LEAKAGE SOURCE CORRECTED BEFORE USING AGAIN.
 7. LP Gas regulators must always be installed with the diaphragm vent facing downward. Make sure that regulator vent faces downward to minimize vent blockage which could result in excessive gas pressure causing fire or explosion.
- * THE FOLLOWING IS A LIST OF WARNINGS AND CAUTIONS WHICH SHOULD BE ADHERED TO WHEN OPERATING YOUR MOTORHOME.

WARNING: Know how your recreational vehicle handles before driving at high speed or in the wind. Windy conditions affect the large body. Avoid driving in strong winds.

WARNING: Avoid inhaling exhaust gases as they contain carbon monoxide which by itself is colorless, odorless, and poisonous.

WARNING: Hydraulic brake fluids not conforming to the vehicle manufacturer specifications should never be used. A fluid with a lower boiling point or one that is unidentified may result in sudden brake failure under hard braking conditions.

WARNING: Driving through water deep enough to wet the brakes can effect braking performance and cause the vehicle to pull to either side when the brakes are applied.

WARNING: If brake failure is indicated immediate repair service is necessary. Continued operation of the vehicle in this condition is dangerous.

WARNING: Never drive the vehicle with the parking brake set. Overheating or damage to the rear brakes could occur.

WARNING: Never add coolant to the radiator when the engine is overheated. Do not loosen or remove the cap to cool an overheated engine.

WARNING: DO NOT USE PARKING LIGHTS WHEN VEHICLE IS IN MOTION. Parking lights denote a parked vehicle.

WARNING: Operating the hazard flasher system while moving on the highway is prohibited by law.

WARNING: Inspection and service should be performed anytime a malfunction is observed or suspected.

WARNING: Use your seat belt and insist that all passengers do the same. Snug and low seat belt positions are essential. This will ensure that the force exerted by the lap belt in a collision is spread over the strong hip area and not across the abdomen, which could result in serious injury.

WARNING: Small children should be properly restrained in approved systems whenever the vehicle is in motion.

WARNING: Do not adjust driver's seat belt while vehicle is in motion.

WARNING: Only seats equipped with seat belts are to be occupied while the vehicle is in motion.

WARNING: Before beginning a vacation or trip of any extended travel in your R.V., it is recommended that the fire extinguisher be checked for proper charge and inspected to assure proper operating condition.

WARNING: When performing maintenance on any gas fired appliance shut off gas at the tank. Perform a gas leak test on tank valves and check connections before relighting.

CAUTION: The starter should not be operated longer than 10 seconds at a time. If the engine fails to start, always wait a few seconds before trying again to protect the starter from overheating.

CAUTION: When driving in summer heat or long up grades observe the engine temperature gauge more frequently than normal. In the event an overheating condition occurs pull off to the side of the road and allow the engine to thoroughly cool before refilling the radiator and restarting the engine.

WARNING: The radiator cap should be removed only when checking coolant freeze point or for complete replacement with antifreeze coolant. **DO NOT** remove radiator cap until the radiator has cooled completely. Use caution with a hot coolant system. Place a cloth over the cap, turn left to first stop on the cap, pause to allow any pressure to release through overflow tube, then press down and turn left to remove cap.

CAUTION: Always check for sufficient overhead clearance before entering an area with low overhead clearance such as garages, drive-ins, car washes, etc.

CAUTION: It is recommended that the window and door seams and joint sealants be checked every 6 months and resealed if necessary.

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

If NHTSA received 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 National RV, Inc.**

To contact NHTSA, you may either call the Auto Safety hotline toll-free at 1-800-424-9393 (or 366-0123 in Washington, D.C. area) or write to:

**NHTSA,
US DEPARTMENT OF TRANSPORTATION
WASHINGTON, D.C. 20590**

XII WIRING DIAGRAMS

The following diagrams are included to assist in making repairs to your vehicle's electrical systems. Work of this type should only be done by qualified technicians.

ALL WIRING DIAGRAMS ARE SCHEMATICS AND DO NOT SHOW EXACT LOCATIONS OF DEVICES OR ROUTING OR WIRES.

Wiring pertaining to the engine and related chassis functions is covered by the chassis owners manual.

XI IMPORTANT SERIAL NUMBERS

For future reference, listed below are standard and optional items. At this time fill in the serial number and model numbers on the items that pertain to your unit.

Your vehicle Make and Model _____

Year _____ Run# _____

Vehicle Identification Number _____

Date of Purchase _____ Dealer _____

Appliances:

Range _____ Model# _____ Ser.# _____

Refrigerator _____ Model# _____ Ser.# _____

Water Heater _____ Model# _____ Ser.# _____

Furnace _____ Model# _____ Ser.# _____

Power Converter _____ Model# _____ Ser.# _____

AM/FM Cassette _____ Model# _____ Ser.# _____

Generator _____ Model# _____ Ser.# _____

Air Conditioner(s) _____ Model# _____ Ser.# _____

_____ Model# _____ Ser.# _____

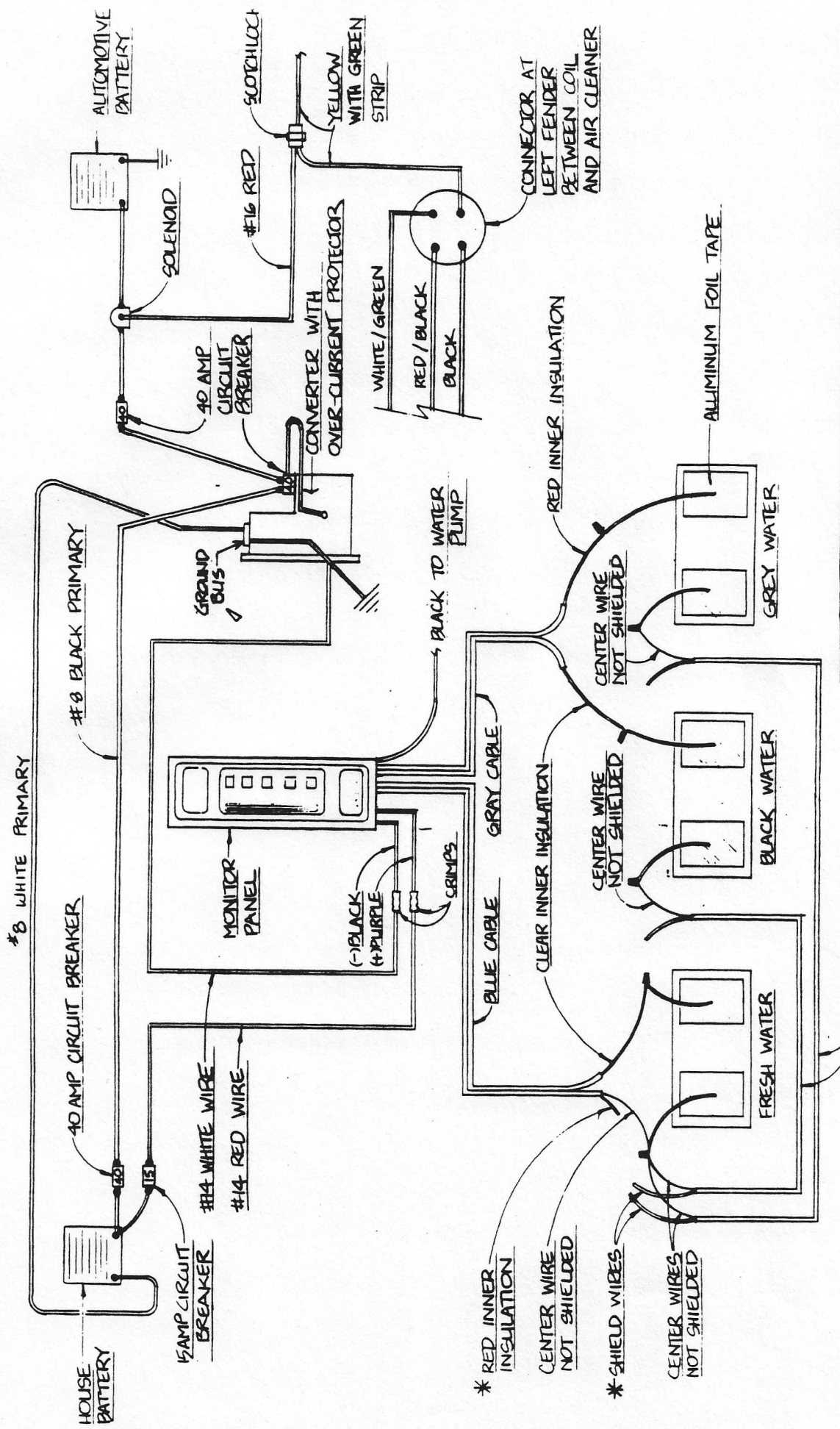
TV.(s) _____ Model# _____ Ser.# _____

_____ Model# _____ Ser.# _____

Micro/oven _____ Model# _____ Ser.# _____

Rear View T.V. _____ Model# _____ Ser.# _____

Tire Serial Numbers _____ Make _____



NO. 1	DATE	BY	REVISIONS
C	1/15/68	W. J. H.	REVISIONS
B	1/15/68	W. J. H.	REVISED WIRING
A	1/15/68	W. J. H.	RE-DRAWN FOR DETAILS

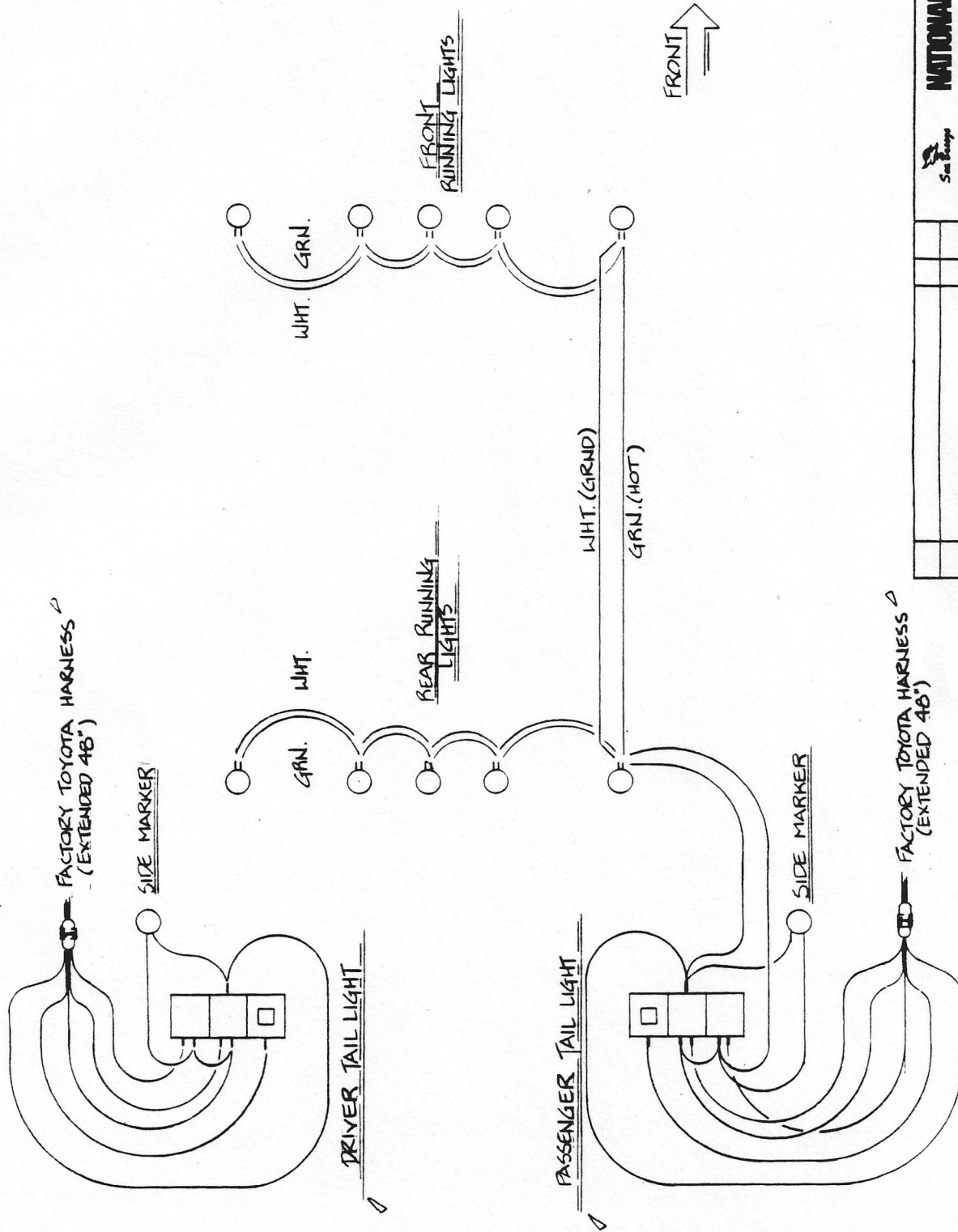
NATIONAL RV Producers

MONITOR WIRING
MODEL: ALL MODELS

1" x 1" Scale 016-002

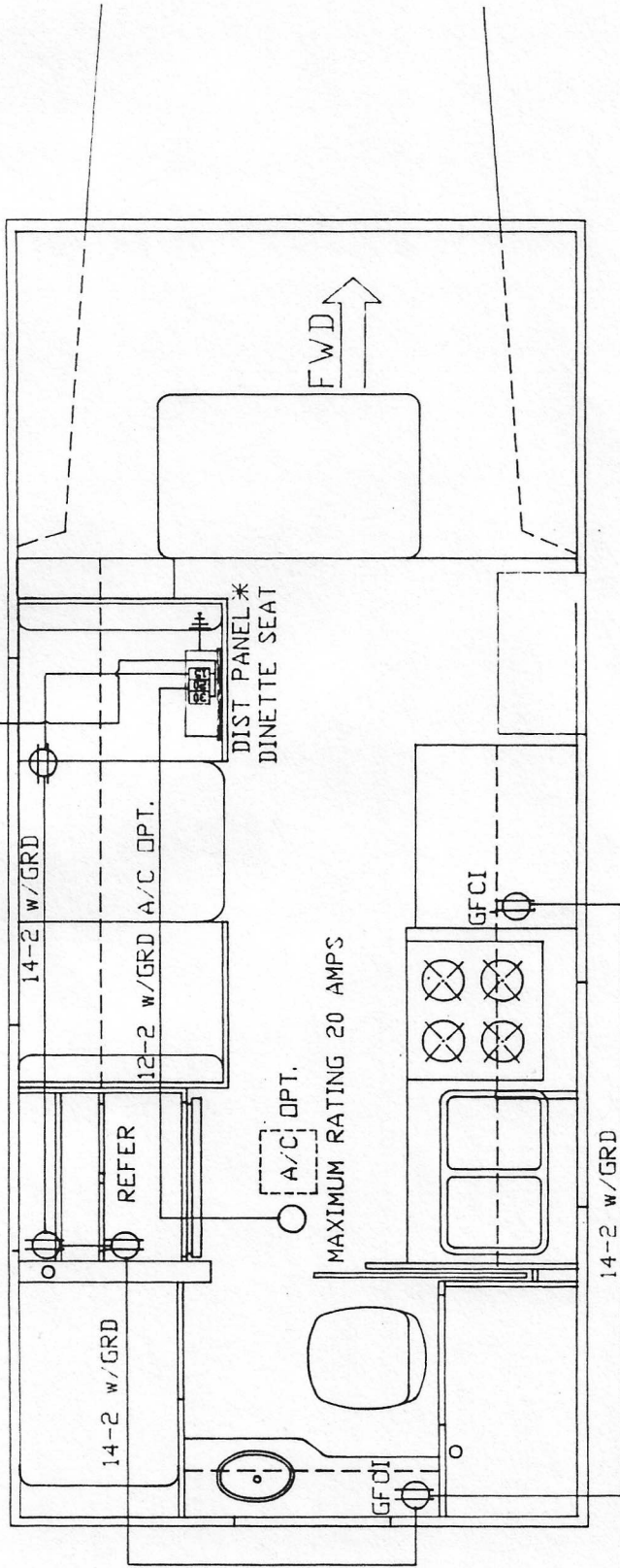
DATE: 1/15/68

* LEAVE THESE WIRES LOOSE
DO NOT SPLICE TOGETHER.



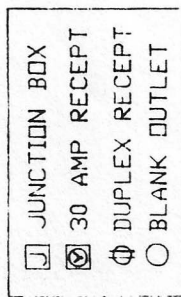
		NATIONAL RV PRODUCTION	
		TOYOTA RUNNING LIGHT WIRING	
		MODELS ALL MICROS	
		DRAWN BY: DJ	
		BY DATE: 1 OF 1	
		DWG. NO. 016-CO3	
		DATE: 8-1-80	
		REVISIONS	
		NO.	
		A REVISED WIRING	
		B REVISED HOOK-UP	

110V POWER CORD 10-2 w/GRD
(UNDER DIN SEAT)

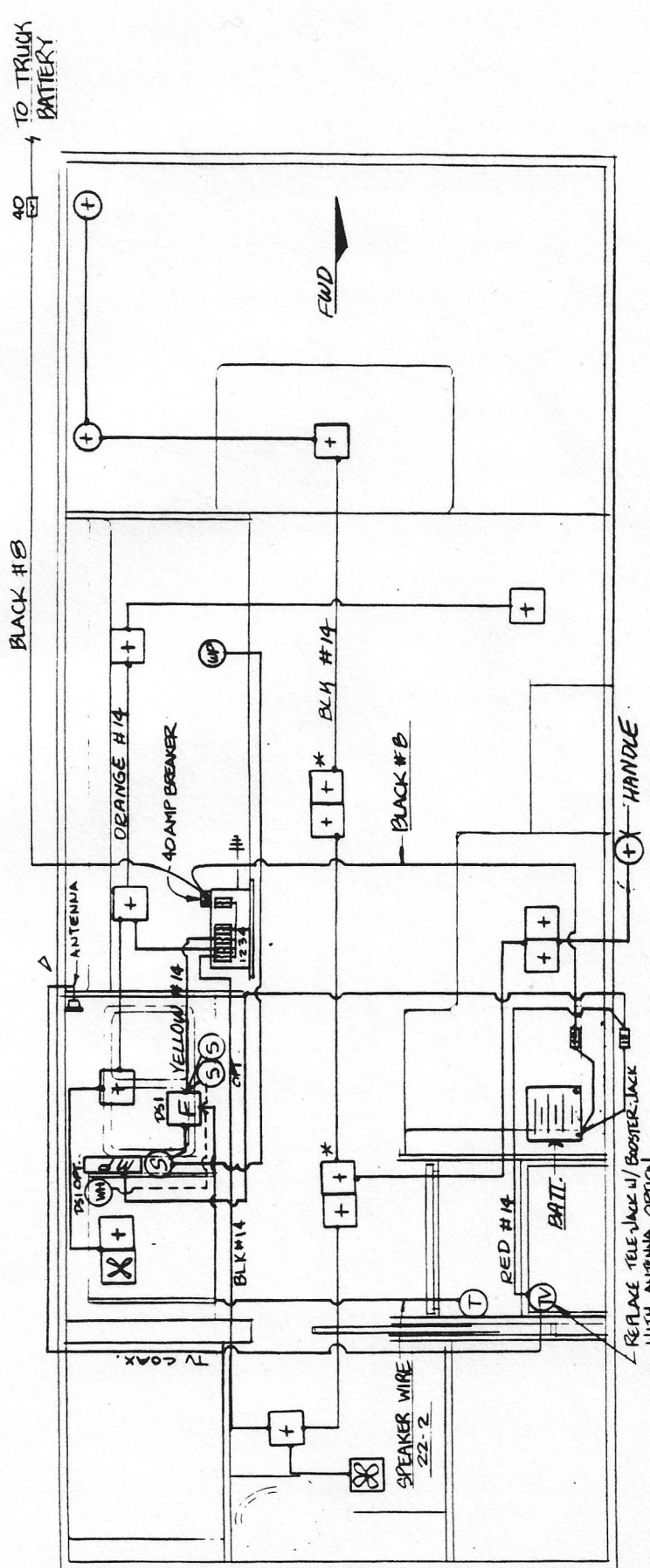


* NOTE:

- 1) DISTRIBUTION PANEL RATED 30AMPS, COMPLIES WITH ANSI A119.2
NFPA 501C 1987
- 2) DISTRIBUTION PANEL HAS ISOLATED NEUTRAL & SEPARATE GROUND BUSS
- 3) SEE PANELBOARD DRWG FOR OPTIONAL WIRING



		110V HOUSE SCHEMATIC		SCALE
				DATE
A	NEW DRWG	Trac	9-14-90	MODEL: 200
NO.	REVISIONS	BY	DATE	DWG. NO. 018-001
		1	OF 4	



* REPLACE THE CEILING MOUNT DOUBLE INCANDESCENT LIGHTS WITH FLUORESCENT LIGHTS ON SEABREEZE ONLY.

NOTE: COMPAREABLE SIZE WHITE GROUND WITH EACH CIRCUIT

LOAD CALCULATION	AMPS
1ST 20AMP @ 100%	20.0
2ND 20AMP @ 50%	5.7
BALANCE @ 25%	-0-
CALCULATED LOAD	25.7
CONV. RATING	30.0

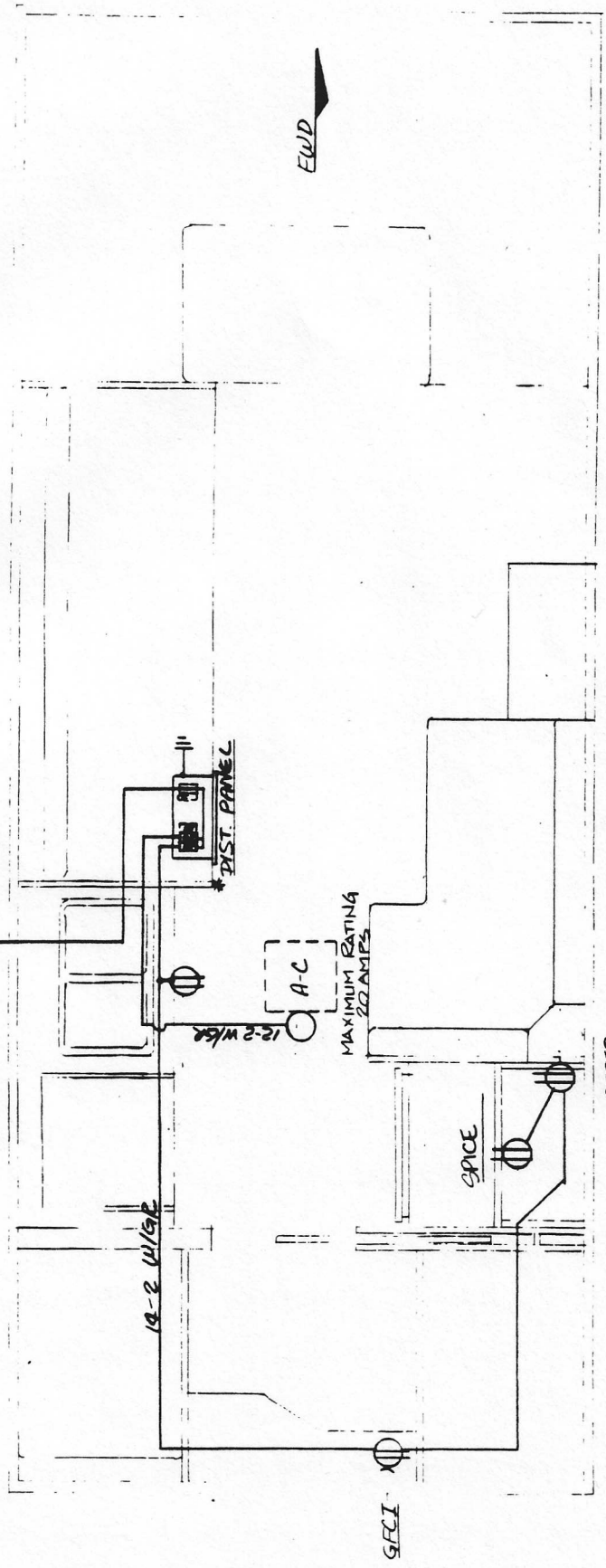
CIR.	WIRE	LOAD	BREAKER
1	BLK #14	14.0	15 A
2	ORG #14	9.2	15 A
3	YEL #14	8.2	15 A
4	N.A.	-0-	15 A
AUX.	RED #14	-0-	15 A
BATT.	BLK #10	-0-	30A
TOTAL		31.4	CONV.

LEGEND	AMPS.
(S) SWITCH	-0-
(TV) TV JACK	-0-
(T) THERMOSTAT	-0-
(W) WATER PUMP	7.0
(+) INCANDESCENT LITE	.6
(X+) LIGHTED VENT HOOD	9.6
(F) FURNACE	1.2
(+)	1.0
(+)	1.4
(+)	2.8
(F) FOUNTAIN PANEL	1.0
(WH) OPT. DSI. WATER HTR.	-0-

NO.	REVISIONS	DATE	BY
D	MADE BILL SHEET #2	11-24	DH
G	TURK ANTENNA MAKE-UP	11-24	DH
F	AID NOTES	11-24	DH
E	REVISED SWITCH WIRING	11-24	DH

NATIONAL RV PRODUCTION
 12V. HOUSE SCHEMATIC
 MODEL: MAGO
 DWG. NO. CH-006
 1 OF 2

110V. POWER CORD 10-2 W/GC
(UNDER GALVEY)



* NOTES: 1) DISTRIBUTION PANEL RATED 30 AMPS
COMPLIES WITH SEC. 4-7.3.2. NEAR
SOLIC 1977 AMP NEAR TO 1284 SE.
SSI-8(C).

2) DISTRIBUTION PANEL HAS ISOLATE!
NEUTRAL & SEPARATE GROUND
WIRES.

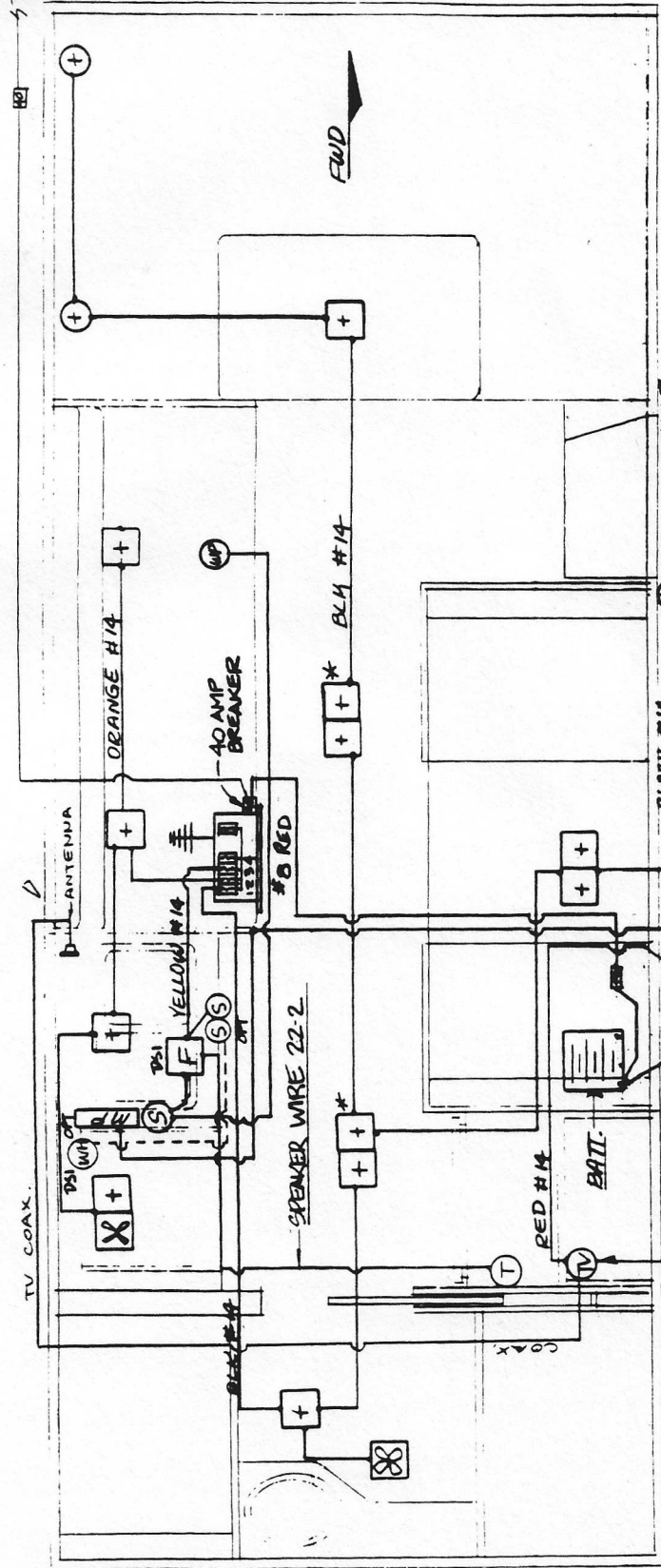
- J JUNCTION BOX
- R 30 AMP. RECEPT
- D DUPLEX RECEPT
- B BLANK OUTLET

NO.	REVISIONS	BY	DATE
E	ADD SHEET #2	7-35	
H	ADD SHEET 3	6-6	
G	MOVED POWER CORD (ADD NOTE)	3-6	
F	ADD AC RATING	8-75	
NO.			

DATE	1 OF 4	DWG. NO. 018-006
PROJECT		
SCALE		
DESIGNED BY		
CHECKED BY		
DATE		

NATIONAL IN PROJECTS
110V. HOUSE SCHEMATIC
MODEL: 1000
1 OF 4

TO TRUCK BATTERY



PARREL CHAIRS OPTION ASSIST HANDLE
 NOTE: COMPARABLE SIZE WHITE GROUND WITH EACH CIRCUIT

LEGEND	AMPS
(S) SWITCH	0-
(N) TV JACK	0-
(T) THERMOSTAT	0-
(W) WATER PUMP	7.0
(+) INCANDESCENT LITE	.6
(R+) LIGHTED VENT ADD	9.6
(F) FURNACE	1.2
(W) TOWER VENT	1.0
(+) SINGLE BULB INCANDES	1.4
(+) DOUBLE "	2.8
(M) MONITOR PANEL	1.0
(W) OPT. DSI WATER HTR.	0-

CIR.	WIRE	LOAD	BREAKER
1	BLK #14	14.0	15 A
2	ORG #14	7.8	15 A
3	YEL #14	8.2	15 A
4	N.A.	0-	15 A
AUX	RED #14	0-	15 A
BATL	BLK #10	0-	30A
TOTAL		30.0	CONV.

LOAD CALCULATION	AMPS
1ST 20 AMP @ 100%	20.0
2ND 20 AMP @ 50%	5.0
BALANCE @ 25%	0-
CALC. CONV. LOAD	25.0
CONV. RATING	30.0

* REPLACE THE CEILING MOUNT DOUBLE INKANDESCENT LIGHTS WITH FLUORESCENT LIGHTS ON SEPARATE CIRCUIT

REPLACE TELE JACK w/ BOOSTER JACK WITH ANTENNA OPTION

NO.	REVISIONS	BY DATE
1		
2		

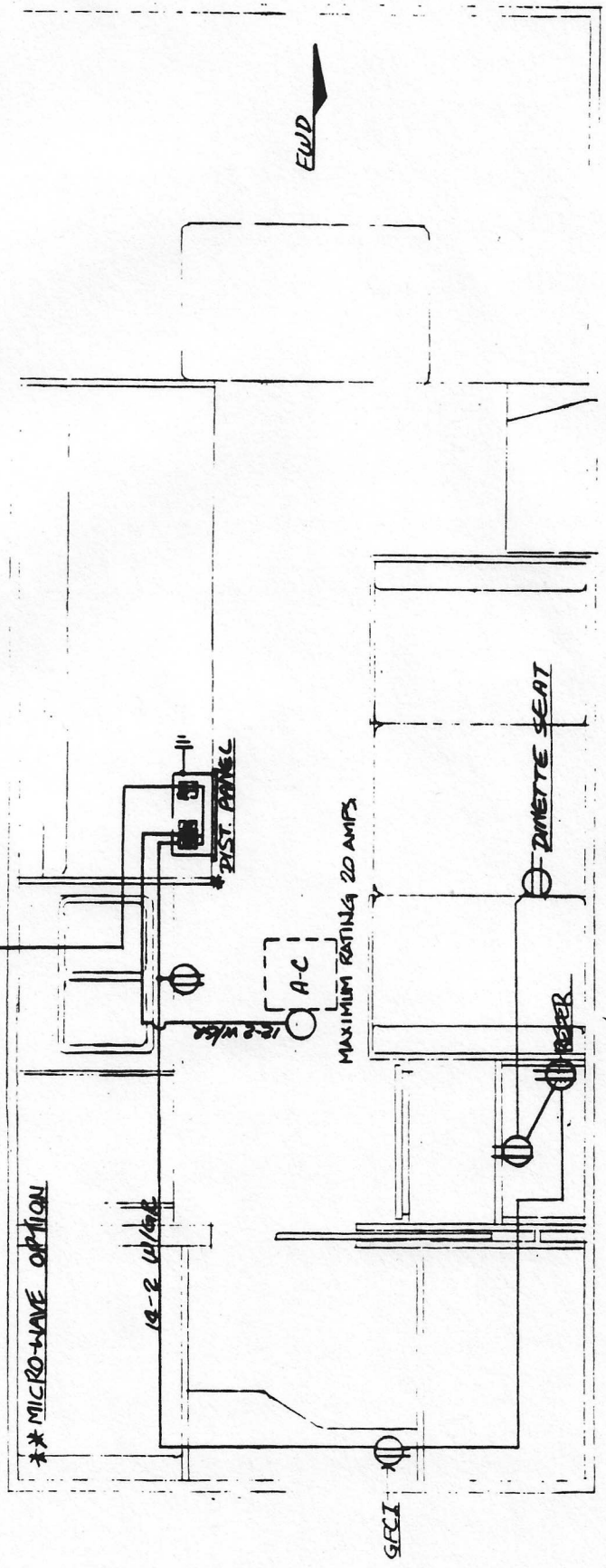
ADD NOTES
 H ADD NOTES
 G ADD GROUND SYMBOL TO CONCERT.
 F REVISED SWITCH WIRING
 I TURN ANTENNA W/ BOOSTER UP

NO. 11-22
 5-9
 3-3
 3-4

BY DATE

NATIONAL RV
 12 V. HOUSE SCHEMATIC
 MODEL: M900
 1 OF 2 PAGES NO. 017-011

110V. POWER CORD 10-2 W/GR
(UNDER GAULEY)

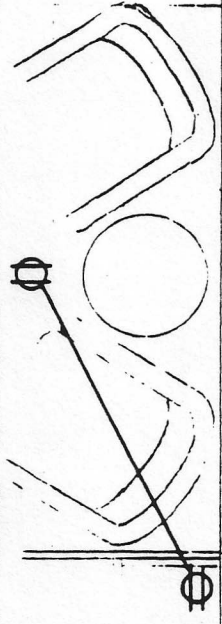


*NOTE: 1) DISTRIBUTION PANEL RATED 30AMPS
COMPLIES WITH SEC. 4-1.4.2. AFTER
EOLC 1977 AMP RATED TO 1984 SEC.
551-B(2)

2) DISTRIBUTION PANEL HAS SEPARATE
NEUTRAL & SEPARATE GROUND
WIRING.

NO.	DESCRIPTION	REV.	DATE
D	ADD NEW SHEET #2	1	
G	ADD SHEET #3	1	
F	MOVE POWER CORD & ADD NOTE	1	
E	ADD AC RECEPT	1	

OPTIONAL BARREL CHAIRS



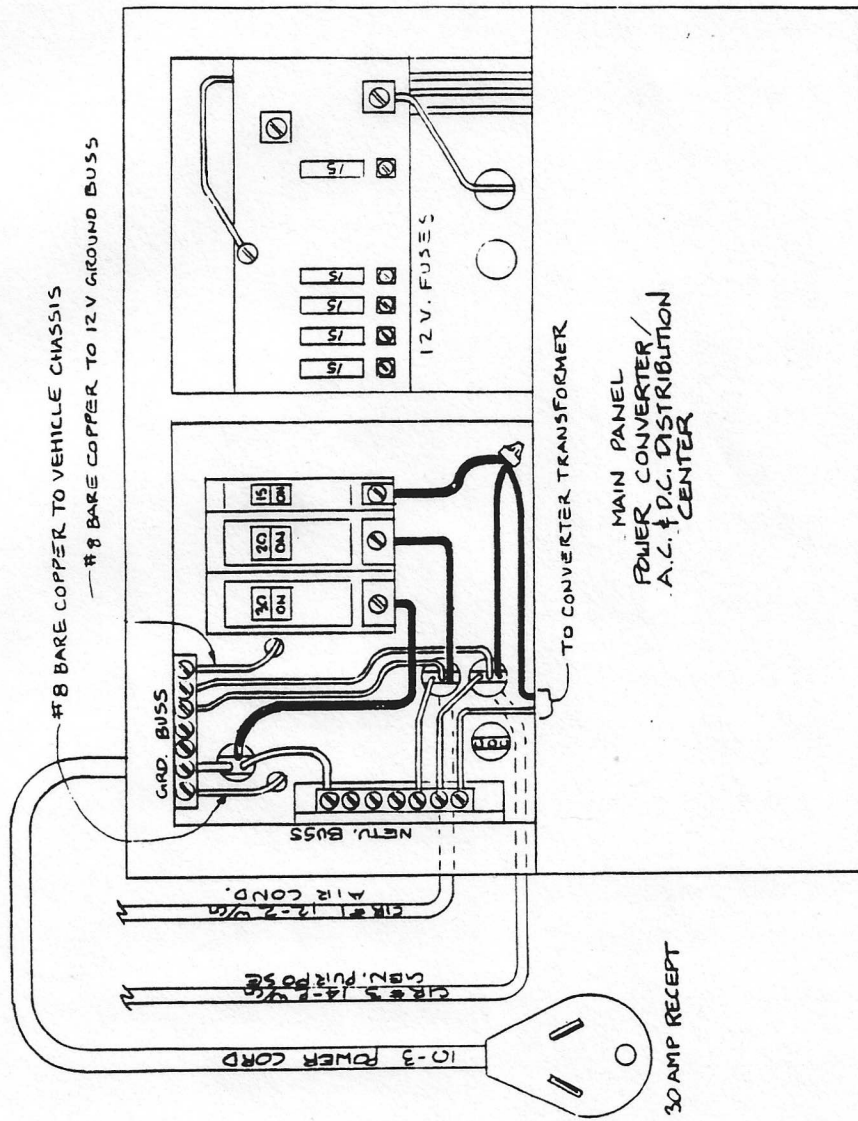
JUNCTION BOX

20 AMP RECEPT

DUPLEX RECEPT

BLANK OUTLET

NATIONAL IN (P) (S) (M)
110 V. HOUSE SCHEMATIC
REV. 3/10/80



NO.		REVISIONS		BY DATE	3 OF 4	DWG. NO. 018-011	DATE 6-5-81
A		NEW DRAWING		DK	6-5		
						110 V.A.C. PANEL	SCALE: 4"
						MODEL: 900	DRAWN DAD
							DATE 6-5-81

NATIONAL RV PRODUCTION