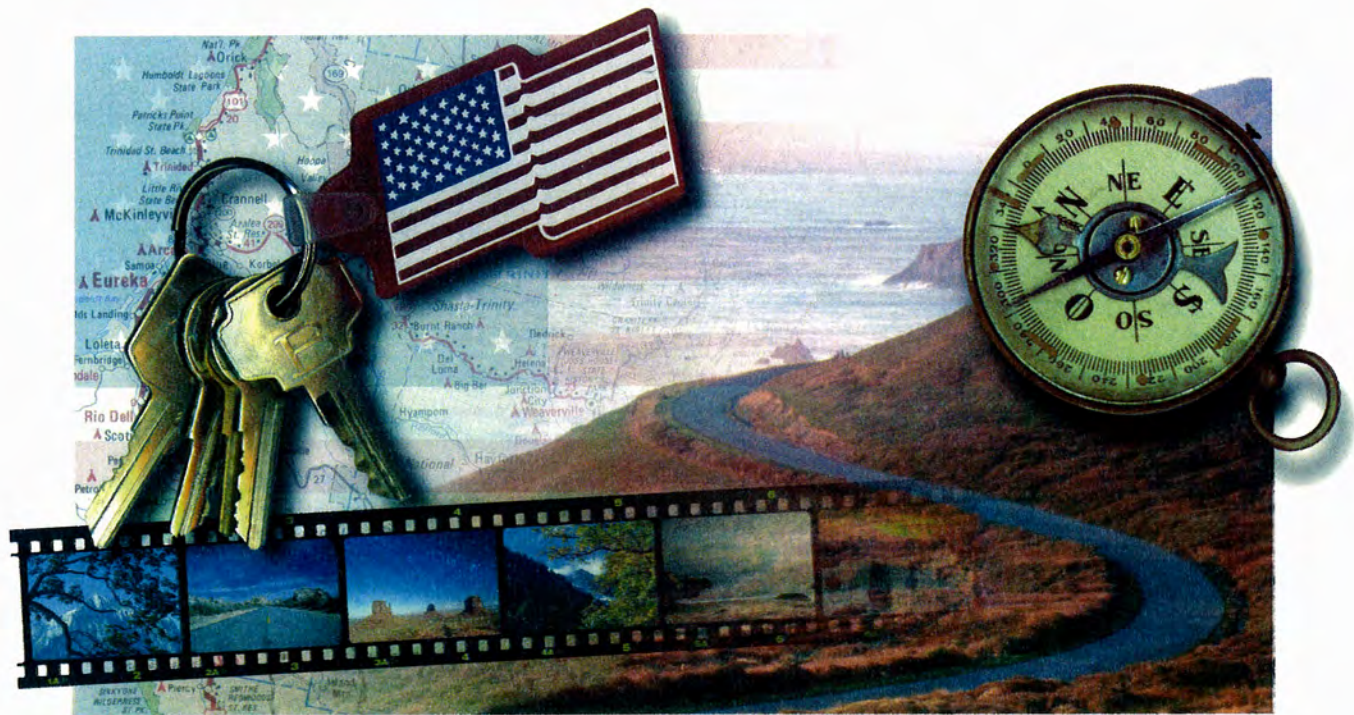


NEW MAR



OWNER'S GUIDE

1998 Mountain Aire

CLASS A MOTORHOME

NEWMAR CORPORATION

OWNER'S GUIDE

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Welcome to the exciting world of RV traveling and the growing family of recreational vehicle owners.

Congratulations on your purchase of a Newmar product. We sincerely thank you for choosing Newmar as your recreational vehicle. We trust this guide will help you to better understand and enjoy your new RV. We hope that you will enjoy many miles of traveling. Your new vehicle was built with care using today's technology and old world craftsmanship. We, at Newmar, strive to build vehicles that are safe, dependable, and comfortable to provide years of carefree, pleasant traveling.

This Owner's Guide, along with the Video Guide, should be kept in your vehicle for quick reference. Take time to get acquainted with your unit and how it operates. Carefully read both the instructions in this guide and the booklets supplied by the component manufacturers for important operation, safety, and maintenance information. Your dealer should be consulted should you have any questions. If your dealer is unable to answer the questions to your satisfaction, he will refer you to our staff for help. Our customers are extremely important to us, and we will make every effort necessary to ensure your satisfaction.

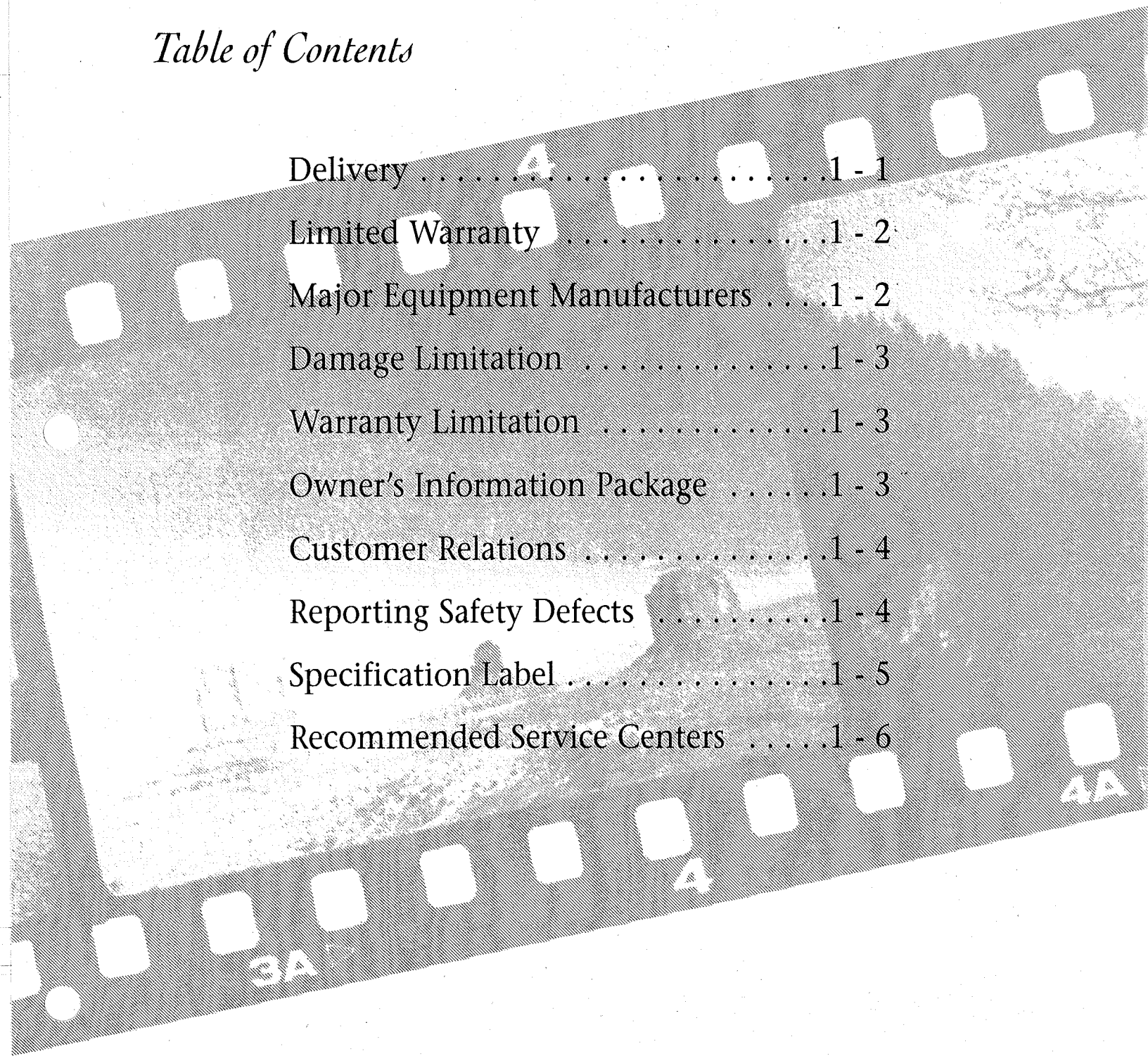
Again, thank you and welcome to our Newmar family.

Newmar Corporation

CHAPTER 1

GENERAL INFORMATION

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DELIVERY

Throughout the manufacturing process your vehicle has been inspected by our qualified technicians. However, our final inspection at the factory is not to be the last one. The pre-delivery inspection and systems check your dealer performs are the final inspections done to the unit prior to your receiving your new coach. Your dealer is also available to assist you in understanding the limited warranties and completing any necessary forms to activate the warranties for the various appliances and accessories installed in your unit.

Dealer Responsibilities

1. A pre-delivery inspection and systems check. Thoroughly inspecting the vehicle and the operation of the factory installed components.
2. A customer walk-through. This is done to familiarize the customer with the vehicle, its systems and components, and their operation.
3. Delivery of the Owner's Information Package. This package contains the warranty cards and registrations for the vehicle and factory installed components that carry a separate warranty. The detailed operating and maintenance instructions on these components are also included in this package.
4. Assisting the customer in completing the component registration forms, at the customer's request. To avoid loss of warranty coverage, the dealer should review the limited warranty provisions with the customer stressing the importance of filing warranty cards and registrations to the component's manufacturers within the prescribed time limit.
5. Providing the customer with information regarding warranty and non-warranty work on the vehicle and its separately warranted components whether the customer is in or out of the area.

Customer Responsibilities

The customer is responsible for regular and proper maintenance of the vehicle. Properly maintaining your vehicle will prevent conditions arising from neglect that are not covered by your Newmar limited warranty. The maintenance guidelines in this manual and any other applicable manual should be followed. It is your responsibility and obligation to return the vehicle to an authorized dealer for repairs and service.

To assist you in avoiding problems with your vehicle, we recommend you do the following:

- a. Read the warranty. Go over it thoroughly with your dealer.
- b. Inspect the vehicle. Do not accept delivery until you have gone through the unit with the dealer. Newmar has provided a check list to be used during retail delivery. Check each item on the list and make sure he does the same. Do not sign this checklist until you have done this.
- c. Ask questions about anything that you do not understand concerning your recreational vehicle.
- d. When taking delivery, set an appointment for adjustments. This appointment should be approximately two (2) weeks after you accept delivery.

DAMAGE LIMITATION

Newmar Corporation will not be responsible for any incidental or consequential damages, including (but not limited to) loss of vehicle use, loss of time, inconvenience, expenses for travel, lodging, transportation charges, loss or damage to personal property or loss of income.

Please note, however, that some states do not allow the exclusion or the limitation of incidental or consequential damages, so the above limitation may not apply to you.

Oral and Implied Warranty Limitation

Implied warranties such as any warranty of merchantability or fitness for a particular purpose cover only the original purchaser. Coverage terminates 365 days from the date of purchase or on the date the original purchaser sells or transfers his interest in the recreational vehicle to a subsequent owner.

It is the intent of Newmar Corporation to comply with the Magnuson-Moss Warranty Act and the Federal Trade Commission's prescribed rulings. Newmar Corporation is not liable for, and will not recognize, any warranty other than the implied warranties under state law and the written warranty contained in this document. In other words, no other warranty, written or oral, is given by Newmar Corporation.

Please note, however, some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Transfer Limitation

This warranty is not assignable or transferable.

Legal Rights

This warranty gives you specific legal rights, and you may also have other rights that may vary from state to state.

Reserved Right to Change

Newmar Corporation reserves the right to make changes or improvements in vehicles it produces in the future, without imposing on itself any duty to install the same improvements in vehicles it has previously manufactured.

Owner's Information Package

Included in this package are valuable documents about your vehicle and its components and systems. The Newmar Owner's Guide does not cover every possible detail of equipment, standard and/or option, installed on or in your vehicle. Consulting the booklets and instruction manuals in this package will help you safely operate, maintain, and troubleshoot these items.

SPECIFICATION LABEL

There are two main numbers used to identify the vehicle. The Vehicle Identification Number (VIN) is the legal identification of the completed vehicle. The VIN is the number used by the state for vehicle registration. The Newmar Serial Number (1) is a five digit number that is needed whenever making an appointment for service or ordering parts through your Newmar Dealer or Service Center. This number can be found on the placard in the kitchen overhead and on the Customer Care Card received from Newmar. Below is a sample of the placard located in the kitchen.

1. The Newmar Serial Number
2. Last five digits Vehicle Identification Number (VIN)
3. Model Number of the Unit
4. Model Year of the Unit
5. Manufacturer, Model Number, and Serial Number of factory installed appliances

SPECIFICATION LABEL					
SERIAL #	xxxxxxx	VIN #	xxxxxxxxxxxxxxxxxxxx	MODEL #	xxxxxxx
DECOR #	xxxxxxx	WOODCOLOR	xxxxxxx	MODEL YEAR	xxx
HEIGHT	xxxxxxxxxx	DRY WEIGHT	xxxxxxx	LENGTH	xxxxxxxxxx
APPLIANCE INFORMATION					
	MODEL #	SERIAL #		MODEL #	SERIAL #
FRONT A/C	620315.421	xxxxxxx	REAR A/C	620315.421	xxxxxxx
FRONT TV	XR1901	xxxxxxx	REAR TV		
FRONT FURN.	SF42	xxxxxxx	DASH A/C		xxxxxxx
WATER HEATER	SW100E	xxxxxxx	RANGE	C37BP	xxxxxxxxxx
GENERATOR 3.5NHEFA26100N		xxxxxxx	AUX.HEATER		
FRONT RADIO	EXCD-21	xxxxxxx	REAR RADIO		
WASHER			DRYER		
CB RADIO			VCR		
CONVERTER	TODD	xxxxxxx	MICROWAVE	R1850	xxxxxx
REFRIGERATOR	RM3862	xxxxxxx	BLENDER		
MONITOR	CJ750E	xxxxx	FREEZER		
ICE MAKER			DISHWASHER		
SAFE			CD PLAYER		

Notes

INDY RV CENTER INC.

State Rd. 37, S. Smith Valley Rd., P.O. Box 447
Greenwood, IN 46142
(317)881-0300 Fax (317)881-0431

PREMIER RV INC.

1400 Leisure Way
Clarksville, IN 47129
(812)284-1400 Fax (812)283-3465

THE RV CENTER INC.

3360 E. Lincolnway
Columbia City, IN 46725
(219)244-3898 Fax (219)244-3414

TOM STINNETT HOLIDAY RV CTR. INC.

520 Marriott Drive
Clarksville, IN 47129
(812)282-7718 Fax (812)288-9424

WETNIGHT RV SALES & SERVICE INC.

4401 U.S. 41 N., P.O. Box 5197
Terre Haute, IN 47805
(812)466-3961 Fax (812)466-6851

IOWA**HEROLD TRAILER SALES**

1806 W. 2nd Avenue, Highway 92 W.
Indianola, IA 50125
(515)961-7405 Fax (515)961-3674

WALKER TRAILER SALES, INC.

Highway 18 W., Box 633
Nora Springs, IA 50458
(515)749-2321 Fax (515)749-2321

KANSAS**HARPER CAMPERLAND INC.**

1200 E. 10th, P.O. Box 1993
Great Bend, KS 67530
(316)792-5170 Fax (316)792-8466

HARPER CAMPERLAND INC.

117 W. 14th
Harper, KS 67058
(316)896-2862 Fax (316)896-2858

JAYHAWK CAMPER SALES

24105 W. 43rd
Shawnee, KS 66226
(913)422-5677 Fax (913)422-7147

WILCOX HOMES & RV CENTER

835 N.E. Highway 24
Topeka, KS 66608
(913)357-5111 Fax (913)232-1574

KENTUCKY**HALL ENTERPRISES**

975 Beasley Street, P.O. Box 55038
Lexington, KY 40555
(606)233-1777 Fax (606)231-9369

YOUNGBLOOD RV CENTER INC.

2132 St. Rt. 45N
Mayfield, KY 42066
(502)247-8591 Fax (502)247-0604

LOUISIANA**JACKIE EDGAR RV CENTER INC.**

3008 Cameron Street
Lafayette, LA 70506
(318)232-1941 Fax (318)233-1147

MILLER RV

12912 Florida Boulevard
Baton Rouge, LA 70815
(504)275-2940 Fax (504)275-6807

PREMIERE RV OUTLET INC.

1001 Capitan Cade
New Iberia, LA 70560
(318)365-0729

MAINE**MOUNTAIN ROAD RV**

R.F.D. #1, Box 2620
Sabattus, ME 04280
(207)375-4091 Fax (207)375-4014

MARYLAND**BECKLEYS CAMPING CENTER**

11109 Angleberger Road
Thurmont, MD 21788
(301)898-3300 Fax (301)898-7093

MICHIGAN**BEACH GROVE TRAILER SALES**

51439 M40 North
Marcellus, MI 49067
(616)646-7845 Fax (616)646-2012

GAYLORD RV SALES & SERVICE

271 W. Johnson Road
Gaylord, MI 49735
(517)732-6141 Fax (517)731-2735

GENERAL TRAILER SALES-WATERFORD

5300 Highland Road
Waterford, MI 48327
(810)674-0346 Fax (810)674-3809

GENERAL TRAILER SALES-WIXOM

48500 12 Mile Road
Wixom, MI 48393
(810)349-0900 Fax (810)348-4150

HILLTOP RV & MARINE

2905 N. Lincoln Road
Escanaba, MI 49829
(906)786-7986 Fax (906)786-3421

MIDWAY MOTORHOMES INC.

5590 S. Division Avenue
Grand Rapids, MI 49548
(616)534-9641 Fax (616)534-6869

MODERN TRAILER SALES, INC.

3449 S. Division Avenue
Wyoming, MI 49548-2110
(616)241-2925 Fax (616)241-5451

MINNESOTA**HILLTOP TRAILER SALES**

4560 Center Avenue N.E.
Minneapolis, MN 55418
(612)571-9103 Fax (612)571-2536

LANDEY'S RV INC.

6220 Highway 101 S.
Shakopee, MN 55379
(612)445-7081 Fax (612)445-4701

SHOREWOOD RV CENTER

7405 Highway 10 N.W.
Anoka, MN 55303
(612)421-2505 Fax (612)421-6076

MISSISSIPPI**RV REPAIR & SALES, INC.**

4749 Highway 80 W.
Jackson, MS 39209
(601)922-9425 Fax (601)922-5153

MISSOURI**BILL THOMAS CAMPER SALES INC.**

5217 N. Lindbergh
St Louis, MO 63044
(314)731-2217 Fax (314)731-0269

CAPTOWN RV SALES

I-55 & Airport Road, P.O. Box 1985
Cape Girardeau, MO 63702
(314)334-7152 Fax (314)334-9059

COACHLIGHT RV SALES INC.

Route 4, Box 515
Carthage, MO 64836
(417)358-7444 Fax (417)358-0856

KC TRAILER SALES, INC.

11530 S. 71 Highway
Kansas City, MO 64137
(816)761-3322 Fax (816)761-7722

MONTANA**BRETZ RV & MARINE**

2045 Mullan Road
Missoula, MT 59802
(406)721-4010 Fax (406)549-8078

NEBRASKA**RICH & SON'S CAMPER SALES**

5112 S. Antelope Drive
Grand Island, NE 68803
(308)384-2040 Fax (308)384-2043

NEVADA**WHEELERS LAS VEGAS RV**

13175 Las Vegas Boulevard S.
Las Vegas, NV 89124
(702)896-9000 Fax (702)896-9001

WINKEL PONTIAC GMC RV CENTER

900 Kietzke Lane
Reno, NV 89502
(702)329-0831

NEW HAMPSHIRE**C. H. DANA RV SALES & SERVICE**

628 Woodsville Road
Monroe, NH 03771-3328
(603)638-2200 Fax (603)638-2066

CAMP AMERICA INC.

222 Plaistow Rd., Rte. 125
Plaistow, NH 03865
(603)382-9296 Fax (603)382-1060

CAMPERS INN OF KINGSTON

146 Route 125
Kingston, NH 03848
(603)642-5555 Fax (603)642-9931

TEXAS

ATHENS RV SALES

Route 7, Box 7285A
Athens, TX 75751
(903)675-9092 Fax (903)675-9332

CAMPER COACHES, INC.

1701 S. Loop 289
Lubbock, TX 79423
(806)748-7274 Fax (806)748-7277

CUSTOM RV

10400 I-40 E., P.O. Box 9352
Amarillo, TX 79112
(806)335-2336 Fax (806)335-2338

EAST TEXAS RV SALES

Drawer J, Highway 965
Kirbyville, TX 75956
(409)423-4032 Fax (409)423-5824

HILLTOP TRAVEL TRAILERS

850 W. Red Oak Rd., P.O. Box 732
Red Oak, TX 75154
(972)299-5074 Fax (972)617-7065

RON HOOVER CO. OF BOERNE INC.

29277 Interstate Highway 10 W.
Boerne, TX 78006
(210)755-2252 Fax (210)755-8644

RON HOOVER CO. OF CORPUS CHRISTI INC.

5029 Columbia Street
Corpus Christi, TX 78416
(512)854-5383 Fax (512)851-9578

RON HOOVER CO. OF HOUSTON INC.

5715 N. Freeway (I-45)
Houston, TX 77076-4504
(713)695-2244 Fax (713)695-2288

RON HOOVER CO. OF ROCKPORT INC.

1510 W. Market Street, P.O. Box 747
Rockport, TX 78382
(512)729-9695 Fax (512)729-9698

VOGT MOTOR HOMES

5624 Airport Freeway
Fort Worth, TX 76117
(817)831-4222 Fax (817)831-8234

UTAH

BLAINE JENSEN & SONS RV CENTERS

220 N. 650 W.
Kaysville, UT 84037
(801)544-4298 Fax (801)544-6536

VERMONT

PETE'S RV CENTER

4016 Williston Road
S. Burlington, VT 05403
(802)864-9350 Fax (902)862-4806

VIRGINIA

KOOGLER SALES & SERVICE, INC.

Route 2, Box 193
Fishersville, VA 22939
(703)942-5556 Fax (703)943-0853

RAINBOW ACRES CAMPING RESORT INC.

Route 2, Box 16
King & Queen Courthouse, VA 23085
(804)785-9441 Fax (804)785-2608

WASHINGTON

FAMILY FUN RV

7833 S. Tacoma Way
Tacoma, WA 98409
(206)472-5040 Fax (206)926-6375

RAY'S RVs

E 4808 Sprague Avenue
Spokane, WA 99212
(509)535-6727 Fax (509)535-8768

RUSS DEAN'S AUTOMOTIVE FAMILY

1225 N. 32nd Place
Pasco, WA 99301
(509)545-9500 Fax (509)547-0016

TVETEN RV COMPANY

7700 Pacific Highway E.
Milton, WA 98354
(206)922-7770 Fax (206)922-8742

WEST VIRGINIA

BRAND TRAILER SALES

2045 Fairmont Avenue
Fairmont, WV 26554
(304)366-7104 Fax (304)363-9345

SETZER'S WORLD OF CAMPING

5840 Davis Creek Road
Barboursville, WV 25504
(304)736-5287 Fax (304)736-5992

WISCONSIN

HORN'S SALES & SERVICE INC.

(dba) Horn's RV Center
8120 S. Frontage Rd.
Sheboygan, WI 53081
(414)564-2381 Fax (414)564-2385

ALBERTA

MAJESTIC RV SERVICE

2612 26th Street N.E.
Calgary, AB T1Y 1A5
(403)291-1203 Fax (403)291-9561

VELLNER LEISURE PRODUCTS LTD.

1890 - 49 Ave.
Red Deer, AB T4R 2N7
(403)343-1464 Fax (403)340-8135

BRITISH COLUMBIA

MIDTOWN RV LTD.

64 Industrial Avenue W.
Penticton, BC V2A 6M2
(250)492-5705 Fax (250)492-0430

TRAVELAND LEISURE VEHICLES LTD.

20529 Langley Bypass
Langley, BC V3A 5E8
(604)530-8141 Fax (604)530-9576

TRIANGLE HOMES LTD.

10299 McDonald Park Rd., P.O. Box 2518
Sidney, BC V8L 4B9
(250)656-1122 Fax (250)656-2161

MANITOBA

WALT'S TRAILER SALES LTD.

5195 Portage Avenue, P.O. Box 70
Headingley, MB R0H 0J0
(204)837-8388 Fax (204)831-8674

NEW BRUNSWICK

CAMPERS ALLEY LTD.

P.O. Box 929, Rue Bourque
Bouctouche, NB E0A 1G0
(506)743-8404 Fax (506)743-8495

NOVA SCOTIA

BLUENOSE HOMES CO. LTD.

RR #4, Box 549
Bridgewater, NS B4V 2X6
(902)543-2519 Fax (902)543-2209

ONTARIO

WILLIAM PATTERSON RV SALES LTD.

R.R. # 1
Dutton, ON N0L 1J0
(519)762-2125 Fax (519)762-3386

QUEBEC

RAYMOND LE BLANC INC.

1275 Des Laurentides Boulevard
Vimont Laval, PQ H7M 2Y2
(514)663-7941 Fax (514)663-2213

SASKATCHEWAN

DJ'S RV CENTRE LTD.

Thatcher Dr. E. & #1 Highway, P.O. Box 308
Moose Jaw, SK S6H 4N9
(306)694-6048 Fax (306)694-1221

CHAPTER 2

DRIVING AND SAFETY PRECAUTIONS

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SAFETY PRECAUTIONS

WARNING

Prior to driving your vehicle, be sure you have read this entire owner's guide and that you understand your vehicle's equipment completely and how to use the equipment safely.

Read and understand all of the instructions and precautions in this owner's guide and the chassis manufacturer owner's manual before operating your new motor home. Listed below are some safety precautions that must be adhered to while your motor home is in motion. These precautions, as well as others that involve possible damage to equipment, are also listed in the appropriate areas in this manual.

General Warning

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.

- Seats equipped with seat belts are the only ones to be used while the vehicle is in motion.
- While the vehicle is in motion, all seats should be locked in the forward facing position.
- Passengers should never be allowed to stand or kneel on seats in a moving vehicle.
- All passengers must have seat belts fastened in a low and snug position so that the force exerted by the belt in a collision will be spread across the hip area. Pregnant women should wear the lap-shoulder belt, with the lap belt portion worn low and snug.
- The fire extinguisher should be inspected monthly for proper charge and operating condition. The smoke alarm should also be tested on a regular basis. The label on the detector should be removed when preparing the unit for the first trip. In addition to the recommended inspection, these should also be checked prior to a vacation or extended trip.
- Sleeping facilities are not to be used while the vehicle is in motion.
- Become familiar with the operation of the escape window, but use this window strictly as an emergency exit.

LP Gas & Fuel

WARNING

LP gas containers, gasoline or other flammable liquids shall not be placed or stored inside the vehicle because fire or explosion may result. LP gas containers are equipped with safety valves that relieve excessive pressure by discharging gas into the atmosphere.

- While refilling the fuel or LP tank, the engine must be off, all pilot lights must be extinguished, and appliances turned off. Smoking is also prohibited at this time.
- Exhaust gases contain carbon monoxide (an odorless, colorless, and poisonous gas). These gases are produced by burned gasoline, diesel, or LP gas. Items such as the range, furnace, water heater, refrigerator, chassis engine, or generator engine can produce these gases. These fumes should not be inhaled. Inhaling carbon monoxide may produce headaches, dizziness, nausea, or even death.
- An open flame is never to be used to test for LP gas leaks.
- All protective covers and caps must be replaced after filling the LP system.
- Once the valve is closed, securely latch the LP door.
- LP gas and natural gas are not interchangeable. Never connect natural gas to the LP gas system.
- The use of equipment such as wood and charcoal grills and stoves inside this recreational vehicle may cause fires or asphyxiation.

LP GAS SYSTEM

General Information

A warning label has been located near the LP gas container. This label reads:

WARNING

DO NOT FILL CONTAINER(S) TO MORE THAN 80 PERCENT 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.

The LP gas system components in your unit have been approved for use in camping vehicles by a nationally recognized testing laboratory. LP gas is a clean-burning dependable fuel when properly handled. The LP gas tank mounted on your unit contains liquid propane gas under high pressure. The liquid gas vaporizes as the fuel is used and passes through the tank valve

Precautions and Recommendations

- Inspect the LP fill valve for foreign materials before refueling.
- Shut the pilot lights off prior to refueling LP gas tanks.
- Never check for gas leaks with an open flame (match, etc.).
- Gas lines should be visually inspected periodically.
- Have the gas system inspected yearly and before and after extended trips.
- The gas system should be inspected and repaired by qualified technicians only.

WARNING

The LP system in your recreational vehicle is designed for liquefied petroleum gas only. Never attempt to connect natural gas or butane gas in this system.

FIRE SAFETY

The possibility of fire exists in all areas of life, and the recreational life-style is no exception. Recreational vehicles are complex machines. They are made up of many materials, some of which are flammable. Like most hazards, the possibility of fire can be minimized, if not totally eliminated. This is done by recognizing the danger and practicing common sense safety and maintenance habits. For safety reasons, your unit is furnished with both a fire extinguisher and a smoke alarm.

Fire Extinguisher

The fire extinguisher is rated for Class B (grease, gasoline, diesel fuel, flammable liquids) and Class C (electrical) fires. These are the most common types of fires in vehicles. Read the operator's manual and the instructions on the fire extinguisher. Be sure to know how and when to use the extinguisher and where it is located.

Fire extinguishers are mechanical pressurized devices. Care must be exercised when they are handled. They must be maintained as the operator's manual instructs for proper and safe operation. The extinguisher should be inspected at least once a month. More frequent inspections may be required if the extinguisher is exposed to the weather or to possible tampering. Do not test the extinguisher by partially discharging. Doing this will cause a loss of pressure.

If a fire occurs in the vehicle, evacuate the vehicle as quickly and as safely as possible. Consider the cause and the severity of the fire and the risk involved before trying to extinguish it. If the fire is major or fuel fed, move away from and stand clear of the vehicle and wait for emergency assistance to arrive.

Weighing the Unit

The following definitions are given to help in communications of issues of weight and your unit.

GAWR: Gross Axle Weight Rating means the maximum permissible weight for an axle. This takes into consideration the weakest link in the tire, wheel, brakes, hubs, axle, springs, and attaching parts. For example, if the axle is rated at 15,000 pounds and the tires are rated at 3,415 pounds each as a dual, the maximum GAWR would be 13,660 pounds with four tires.

GCWR: Gross Combined Weight Rating means the value specified by the manufacturer of the vehicle as the maximum allowable loaded weight of the vehicle with its towed trailer or towed vehicle.

GVWR: Gross Vehicle Weight Rating means the maximum permissible weight of this motorhome. The GVWR is equal to or greater than the sum of the Unloaded Vehicle Weight plus the Net Carrying Capacity.

UVW: Unloaded Vehicle Weight means the weight of the motorhome as built at the factory, with full fuel, engine oil, and coolants. The UVW does not include cargo, fresh water, LP gas, or dealer installed accessories.

NCC: Net Carrying Capacity means the maximum weight of all occupants, including the driver, personal belongings, food, fresh water, waste water, LP gas, tools, tongue weight of towed vehicle, dealer installed accessories, etc., that can be carried by the motorhome. NCC is equal to or less than the GVWR minus the UVW.

GVW: Gross Vehicle Weight is the weight of the unit with all items and supplies that are loaded into the unit at any point in time.

To assure the accuracy of your weights be sure the unit is always level during weighing.

The unit has been built to comply with the component suppliers recommended limits and give you a realistic NCC. When loading the unit, distribute the items so that not all of the weight is added to one area of the unit. If you have questions as to what the weight of the unit is after it has been loaded, take the unit to a drive-on scale or use individual wheel scales and verify that the weights are within the limits of those specified for the unit. When weighing the unit follow these instructions. Failure to follow these instructions may give an erroneous weight reading.

Notes

CAUTION

Do not lift the wheels of the unit off the ground at any time during this process. The unit can roll forward or backward when the weight of the unit is on the jacks.

Car Towing Hitch

The motor home is equipped with a 4,000 pound hitch and wire connector. Your unit is designed for use as a recreational vehicle and is intended for towing light loads. The instructions for towing are listed in the chassis manufacturer owner's manual provided with your unit. The total weight of the motor home and any vehicle towed by it must not exceed the GCWR. When weighing the motor home, be sure to take passenger locations into consideration. The towed vehicles must have adequate brakes. The wire connector installed is the standard seven-pin connector. Chapter 7 of this guide will have more information regarding this connector.

Notes

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CHAPTER 3

AIR CONDITIONING & HEATING

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AIR CONDITIONER(S)

The air conditioner(s) installed on your coach will operate only when the unit is supplied with 120 volt AC power from the power cord or the generator. The air conditioner circuit breaker must be in the ON position to work.

To assist the air conditioner in cooling the coach, park in the shade and keep the drapes or blinds closed. Set the thermostat to the desired temperature.

Air conditioners can use a large portion of the available electric power. RV parks may experience low voltage on days with high heat or humidity. This is commonly referred to as a "brown out." A "brown out" may trip the air conditioner circuit breaker. The circuit breaker protects your air conditioner from damage and is necessary during low voltage conditions. The tripped breaker is not a fault in your electrical system.

The cool air from the air conditioner is ducted throughout the coach through ceiling air ducts. Below is the thermostat that controls the air conditioner. It also controls the furnace. Simply select the desired temperature. The blower will cycle automatically, or you may choose low, medium, or high fan settings.

If the coach is equipped with two air conditioners, both units must be in the same mode. Please consult the air conditioner manufacturer's Owner's Manual for further assistance.

Step One: Move power switch to ON.

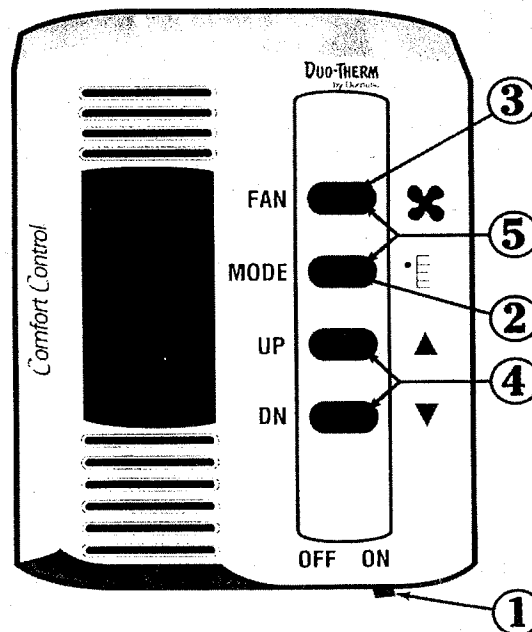
Step Two: Press MODE button to select function. (COOL*, FURNACE, FAN ONLY, etc.)

* There is an approximate 2-minute time delay after selecting cooling function for refrigerant compressor to start.

Step Three: Press FAN button to select fan speed or automatic operation.

Step Four: Press UP or DN button to set your desired temperature for the zone.

Step Five: If your vehicle contains more than one zone, depress FAN and MODE simultaneously to select zone 2, and repeat procedures from step 2 above. Repeat entire procedure for each additional zone.



Shutdown: If you turn the Comfort Control off or if there is a power interruption for any reason, the system will resume operation on the last settings when power returns.

WARNING

Portable fuel burning appliances are not safe for heating inside the recreational vehicle. Asphyxiation or carbon monoxide poisoning can occur.

LP TANK

This unit is equipped with a 32 gallon ASME (American Society of Mechanical Engineers) approved LP tank. This tank is controlled with an automatic pressure regulator. The LP tank contains liquid petroleum gas under high pressure. As the fuel is used, the liquid gas vaporizes and passes through the tank valve to a regulator that automatically reduces the pressure. The low-pressure gas is then distributed to the appliances throughout the pipe manifold system. Improperly adjusted regulators are the major cause of appliance lighting problems. Never attempt to reset the regulator. This is to be done by a qualified service technician. While in high altitudes or extreme cold weather a gas shortage may be experienced. Running one appliance at a time can help adjust to this problem.

It is recommended to have the LP system inspected by an authorized service technician at least once a year and after every extended trip. This system is tested by both the manufacturer and the dealer. Leaks can be caused by travel vibrations; therefore routine inspections are recommended.

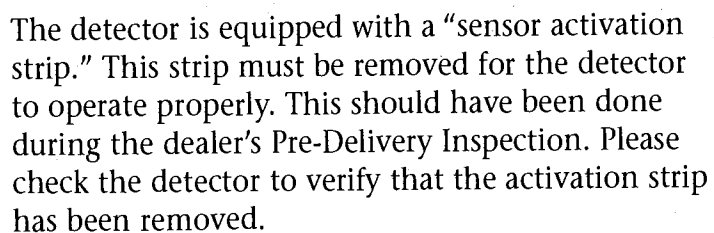
The primary gas supply manifold is a black steel pipe running the length of the unit. Most secondary lines leading to the gas appliances are made of copper tubing with flare fittings. If any of these lines rupture, do not attempt to splice them. Always have a new line run. Gas distribution work must be performed by an authorized service technician. When removing or servicing any gas appliance, close the main gas valve at the LP tank. This will prevent dangerous gas leakage that could result in an explosion and possible serious injury. If a gas leak is suspected, have the system inspected and repaired by a qualified service technician as soon as possible.

WARNING

The main gas valve must be shut when the vehicle is not in use. Shut the valve off when refueling to avoid potential danger from pilot lights igniting fuel fumes. Gas valves on appliances with direct spark ignition (DSI) should also be in the off position. Do not store LP, gasoline, diesel, or other flammable liquids inside the vehicle. Fire or an explosion could be the result of ignoring this warning.

LP Tank Filling

Do not fill the tank to more than 80 percent of capacity. The unit must be level when filling the LP tank. If unlevel, overfilling may occur. Fire or explosion may be the result of uncontrolled gas flow from an overfilled tank.



Notes

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CHAPTER 4

APPLIANCES & ACCESSORIES

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MAJOR APPLIANCES

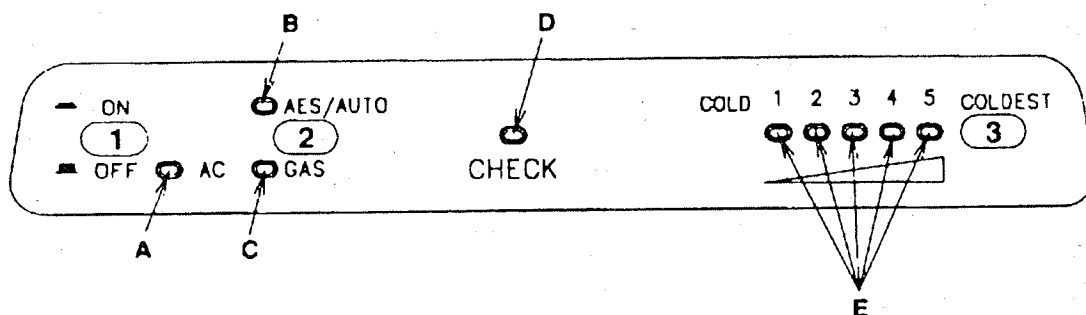
Refrigerator

Before starting the refrigerator, verify that the main LP gas valve is in the on position. The refrigerator is equipped with a semi-automatic energy selector (AES) control system. It can be set to select either 120 volt or LP gas operation, automatically, if desired.

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 the burner flame causing a fire or explosion. Use caution when refueling.

A 12 volt power supply must be available for the electronic control panel to function. The shore line must be plugged in, or the optional generator running, to operate in the 120 volt mode. The main LP gas valve must be open for operation in the LP mode. To start the refrigerator, press the main power ON/OFF button to the ON position.



LEGEND 2-WAY AES Model

- 1. Main Power Button ON/OFF
- 2. AES/AUTO/GAS Mode Selector Button
- 3. Temperature Selector Button

- A. AC Mode Indicator Lamp
- B. AES/AUTO Mode Indicator Lamp
- C. GAS Mode Indicator Lamp
- D. CHECK Indicator Lamp
- E. Temperature Indicator Lamps

To use the 2-way Auto Mode, push the AUTO/GAS mode selector into the ON position. If 120 volt is available, the AC mode indicator light will be illuminated designating AC operation. If 120 volt is not available, the gas mode indicator light will be illuminated. The control system will automatically switch to gas operation. To operate on gas only, push the AUTO/GAS mode selector until the gas indicator light has lit. After 45 seconds the burner should be ignited and operating normally. The initial start up may take longer than 45 seconds in order to allow the air to be purged from the gas line. If the gas does not ignite within 45 seconds, the check indicator light will illuminate and the gas mode light will go off. If the check indicator light illuminates and the gas mode indicator light is off, then the controls have failed to ignite the burner in the gas mode. When the check indicator light is on, press the main power ON/OFF button to the off position to reset. Do not continue to reset the gas operation if the check indicator light continues to illuminate after several tries.

The thermostat on the refrigerator controls the gas and electric operation. This eliminates the necessity of resetting the temperature each time a different energy source is used. Press the

Unlike homes, the amount of oxygen supply is limited due to the size of the recreational vehicle. Proper ventilation when using the cooking appliance(s) 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.

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 supply connection.
4. Open doors and other ventilating openings.
5. Leave the area until the odor clears.
6. Have the gas system checked and leakage source corrected before using again.

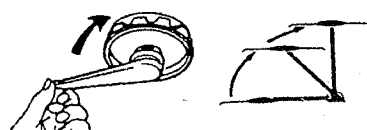
TELEVISION OPERATION

Winegard Television Antenna

The TV antenna in your coach is designed for reception of all color and black-and-white channels. If the reception is poor, you should verify that the power switch is in the "ON" position and that all of the connectors are tight. If poor reception still occurs, consult your authorized dealer.

To raise the antenna into the operating position, turn the elevating crank (clockwise) in the "UP" direction, about 13 turns, or until some resistance to turning is noticed. On the power booster, turn the switch to "ON" in order to amplify the signal being received. Once in the "UP" position, rotate the antenna to receive the best picture. This is done by pulling down on the directional handle with both hands until it disengages from the ceiling plate and then rotating it until reception has improved. The antenna must be lowered before moving the vehicle. To lower, rotate the directional handle until the pointer is aligned with the pointer on the ceiling plate. Turn the elevating crank (counter-clockwise) in the "DOWN" direction, about 13 turns, or until some resistance to turning is noticed. The antenna is now locked and in the travel position.

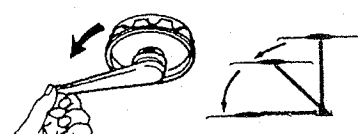
RAISING ANTENNA TO OPERATING POSITION



ROTATING ANTENNA FOR BEST PICTURE

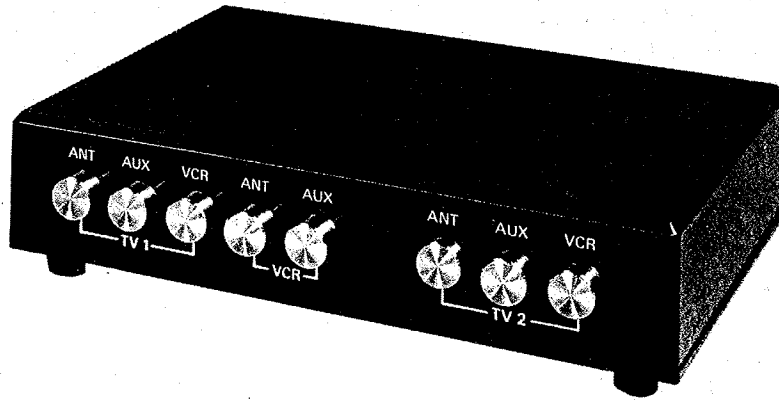


LOWERING ANTENNA TO TRAVEL POSITION



CAUTION

Under no circumstances should you lower the antenna in any position except the travel position.



Video Cassette Recorder (Optional)

The video cassette recorder (VCR) may be installed as optional equipment on this coach. If installed, it would be in the living room entertainment center. The controls are on the face of the VCR and on the remote control. For more detailed information regarding the VCR functions consult the VCR Operator's Manual in the Owner's Package. The video switch described above will assist you in directing the VCR signal to the television of your choice.

Cable and Telephone Jack

The exterior cable jack and receptacle are optional features on this coach and may be installed in the compartment beside the entrance door. A standard feature on this coach is the telephone hook up. This will allow the user to connect the coach to a telephone cable if the park is so equipped. This feature includes the connector for the incoming telephone line and one telephone outlet inside the coach.

Stereo

The standard dash stereo installed in your coach is an AM/FM Cassette player. The operation of this stereo is similar to that of many car stereos. The stereo operates on 12 volt electricity from the coach batteries. There are speakers located throughout the coach for listening pleasure. For further information on the operation of the stereo, consult the stereo manufacturer Owner's Manual in the Owner's Package.

Pressure Relief Valve

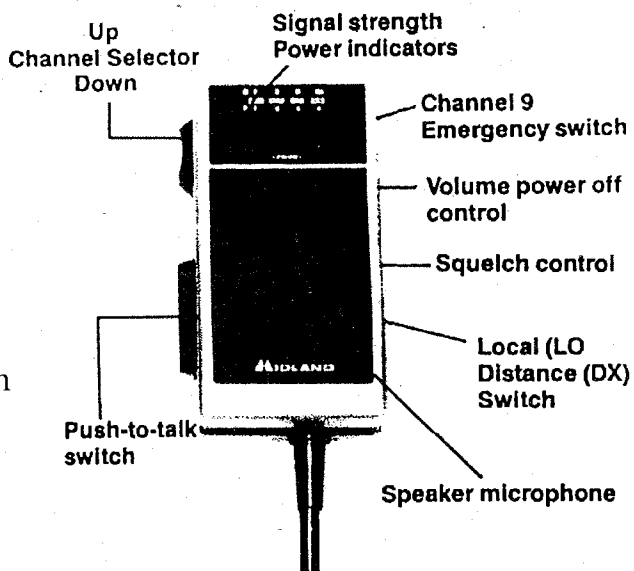
The temperature and pressure relief valve is located on the exterior of the water heater. It is designed to open if the temperature of the water within the heater reaches 210° F, or if the water pressure in the heater reaches 150 pounds. Recreational vehicle water systems are closed systems, and during the water heating cycle the pressure build-up in the water system may reach 150 pounds. When this 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.

WARNING

Do not plug the relief valve under any circumstances.

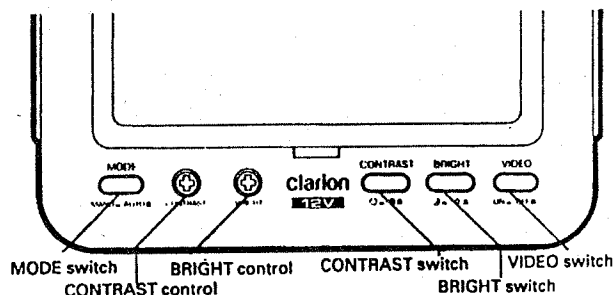
CB Radio (Optional)

This coach may be equipped with the optional citizens band (CB) radio. This radio can be used to communicate with other travelers on the road. The model installed is a remote type. The hand held microphone/speaker contains the power, volume, and channel controls. Simply turn on using the power/volume control. Then select the channel you wish to monitor. Press the "Push-to-Talk-Switch" to transmit and release to receive. For more information regarding the operation of this CB radio, please consult the radio manufacturer's Owner's Manual.



Rear View Monitor System

The rear view monitor system is used to assist the driver in the backing and parking of the vehicle. This system consists of a camera mounted on the rear cap and a monitor located on the dash. With the MODE switch in the "MANU" position, the monitor will be on when the ignition is turned on. With the MODE Switch in the "AUTO" position, the monitor will display the picture from the camera when the vehicle transmission is placed in reverse (R). For detailed instructions on this and all procedures regarding the monitor system, refer to the monitor Operating Instructions in the Owner's Package supplied with this coach.



Washer/Dryer (Optional)

The plumbing and other preparations for the installation of a washer and dryer are optional on this coach. To have the washer and dryer factory installed is also an option. The washers and dryers used by Newmar function as those in a home, operating on 120 volt electricity. For more detailed information on the operating instructions, read the appliance Owner's Manual in the Owner's Package.

Carbon Monoxide Detector

Carbon monoxide is a colorless, tasteless, odorless gas. It is a by-product of the burning of fossil fuels (gasoline, LP gas, diesel fuel, etc.). The chassis and generator engines, furnaces, water heater, LP gas refrigerator, and range produce carbon monoxide constantly while they are operating. Carbon monoxide is **DEADLY**. Please read and understand the following precautions to protect yourself and others from the effects of carbon monoxide poisoning.

WARNING

Exhaust gases are deadly. Do not block the tailpipes or exhaust ports. Do not situate the vehicle in a place where the exhaust gases have any possibility of accumulating either outside, underneath, or inside your vehicle or any nearby vehicles. Outside air movements can carry exhaust gases inside the vehicle through windows or other openings remote from the exhaust outlet. Operate engines, carbon monoxide-producing systems, or components only when safe dispersion of exhaust gases can be assured. Monitor outside conditions to be sure that exhaust continues to be dispersed safely.

If you, or anyone else, experience any carbon monoxide symptoms (dizziness, nausea, vomiting, muscular twitching, throbbing in the temples, inability to think coherently, weakness and sleepiness, or intense headaches) exit the coach immediately. Seek medical attention if symptoms persist. Shut down the unit and do not operate it until it has been thoroughly inspected and repaired.

WARNING

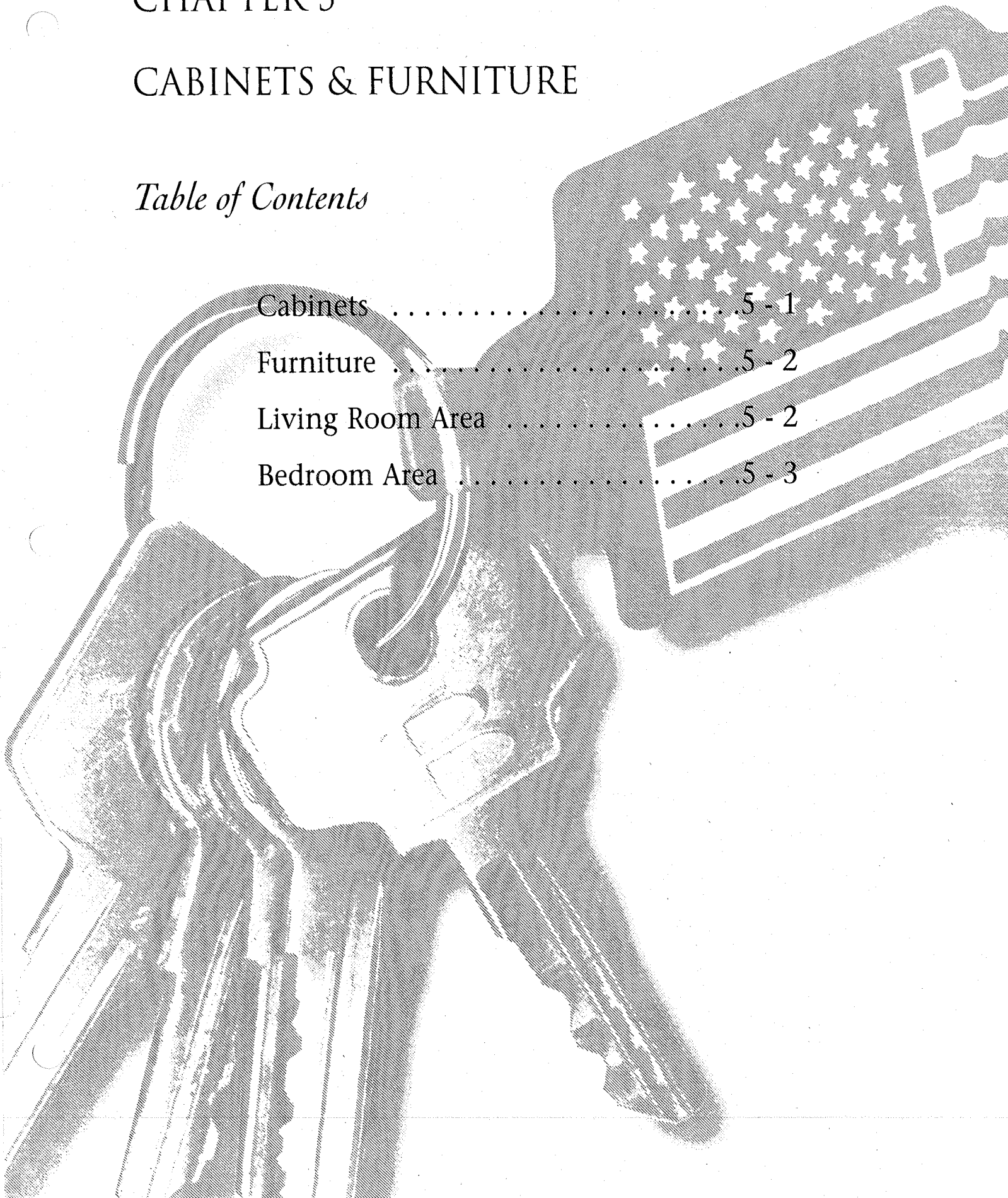
UNDER NO CIRCUMSTANCE SHOULD YOU OPERATE ANY ENGINE WHILE SLEEPING. When you are sleeping you will not be able to monitor outside conditions to assure that engine exhaust does not enter into the coach. Check the exhaust system frequently for damage. If damage is found, do not operate the system. Never modify the exhaust system(s) in any way.

CHAPTER 5

CABINETS & FURNITURE

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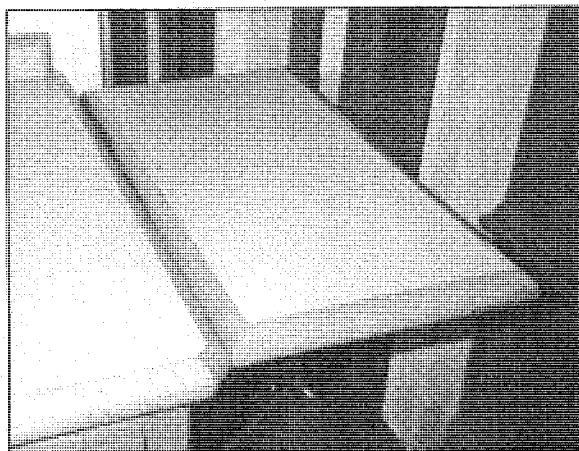
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CABINETS

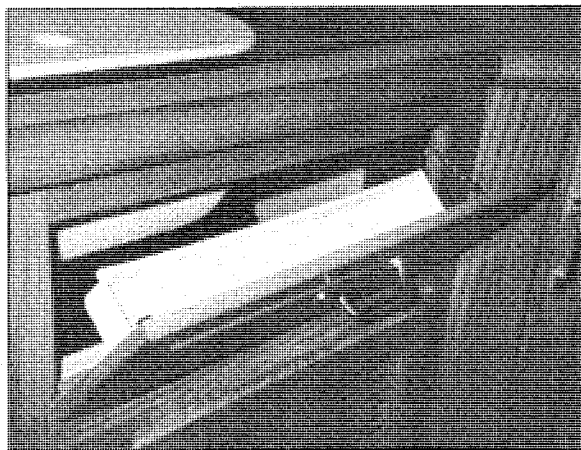
The cabinets in this unit are constructed on site at the Newmar production facility. Oak frame doors with cathedral style raised panels are standard throughout the unit. A decor option available is frosted maple. All decors have brass door and drawer handles. These give the interior an added touch of class.

Depending upon the floor plan, this unit may be equipped with a counter top extension. If installed, the extension will provide additional counter space while cooking and fold out of the way while entertaining. The silverware drawer contains a molded silverware divider tray for added storage.



Storage is an important factor to all RV owners. Keeping this in mind, the cabinetry is structured to provide as much storage as possible. Some models have pantry style cabinets in the kitchen for storage ease. In the bedroom on all models, the bed platform lifts for convenient storage. This platform is held open by pressurized struts to allow hands-free access.

The counter top in the kitchen and bath is made of a decor matching laminate. On most floorplans, the "drawer" directly in front of the kitchen and lavatory sink does not pull out, but rather flips down. This provides a storage tray for dish cloths, scouring pads, wash cloths, etc.



Drawer guides are standard on all of the drawers. These guides provide a smooth opening and closing of the drawers. To open a drawer, lift up slightly and pull open. The way this mechanism works will prevent the drawers from unintended opening while traveling. The drawers are constructed with maple panel bottoms for added strength.

All of the cabinetry can be easily cleaned with any commercial furniture cleaner or polish. As with any wood product, do not saturate these cabinets with water or any other liquid. Be sure to wipe up spills as they occur to avoid staining.

Bedroom Area

As previously stated, the bed platform lifts for added storage. The decor coordinating bedspread is included as part of the this unit's standard package. On each side of the bed you will find wardrobe closets and drawers.

Notes

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CHAPTER 6

CHASSIS FEATURES

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CHASSIS FEATURES

The chassis that this motor home was built on is warranted by the original chassis manufacturer. The operating instructions are included in the Chassis Owner's Manual provided with this unit. Please read the Chassis Owner's Manual before driving the unit. If you have any questions about the chassis, please refer to the chassis manufacturer.

TAG AXLE

This unit may be equipped with a tag axle, depending upon the model. In general, the air suspension works by maintaining a constant ride height by adjusting the amount of air pressure in the air springs. This allows the vehicle to remain level, regardless of loading. The steel spring suspension is usually designed for heavily loaded conditions and thus yields a harsh ride in lightly loaded conditions. In addition, the steel spring suspension does not maintain a constant ride height under varying load conditions.

ALIGNMENT

The motor home you have purchased has been aligned prior to shipment. During the first 10,000 miles, due to your loading of the vehicle, the chassis suspension will 'settle in.' Re-alignment prior to the first 10,000 miles is usually not necessary. However, it is recommended to have the alignment checked after the first loading of the vehicle. If you feel a serious steering concern exists, please contact your chassis manufacturer or call Customer Service at 800-731-8300.

Notes

CHAPTER 7

ELECTRICAL FEATURES

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ELECTRICAL SYSTEMS

General Information

There are two electrical systems in your coach. They are the 12 volt DC system and the 120 volt AC system. Most standard appliances require 120 volt electricity while the majority of the lighting used in recreation vehicles is powered by 12 volt electricity. The power for the 12 volt system is supplied by the coach batteries, which are charged by the 75 amp power converter. The power for the 120 volt systems is supplied by the power cord when the unit is connected to an outside power source or by the generator. If installed, the optional inverter can also supply 120 volt power. It will transform 12 volt electricity from the batteries into 120 volt power for basic appliances.

CAUTION

Failure to turn off the 120 volt appliances when starting or stopping the generator may damage the transfer switch and/or electrical appliances.

To connect the unit to 120 volt shore power, first make sure all of the breakers are in the off position. This is done to avoid a power surge. Unwind the power cord from the electrical compartment. The standard electrical service in this unit is 50 amps. Check to make sure the pins in the outlet are oriented correctly, that they match the power cable, and that they are in good condition. If there is a circuit breaker switch at the plug, it should be turned OFF before making the connection. Insert the plug completely into the outlet and turn the circuit breaker on. Close and lock the electrical compartment door to keep the contents clean, dry, and secure. Close the cover on the power box, if equipped, to avoid an unintended disconnection and to keep contents clean. Switch the main breaker to the ON position. The 120 volt system will energize all 120 volt circuits and outlets when the main breaker is turned on.

Breaker Boxes

The 120 volt and 12 volt breaker boxes are generally located in the overhead cabinet on the rear bedroom wall. Circuit breakers and fuses are installed to protect the electrical system from overloading. Do not attempt to change the circuitry or add appliances yourself. Please consult an authorized Newmar Service Center.

Electrical Diagrams

In Chapter 15, you will find typical 12 volt and 120 volt electrical diagrams.

cover and case. Check the vent plugs and replace them if they are cracked or broken. Keep the battery clean. Accumulations of acid film and dirt may permit current flow between the terminals, which could drain the battery.

To clean, wash the batteries with a diluted solution of baking soda and water to neutralize any acid present. Rinse thoroughly with clean water. Foaming around the terminals or on top of the battery is a sign that acid is being neutralized. Avoid getting the baking soda solution in the battery. Secure all vent caps. Dry the battery cables and terminals to prevent corrosion. Do not use grease on the bare metal inside the cable terminals. Grease can act as an insulator, and electricity will not flow through it. A plastic ignition spray will protect the terminals after they have been cleaned.

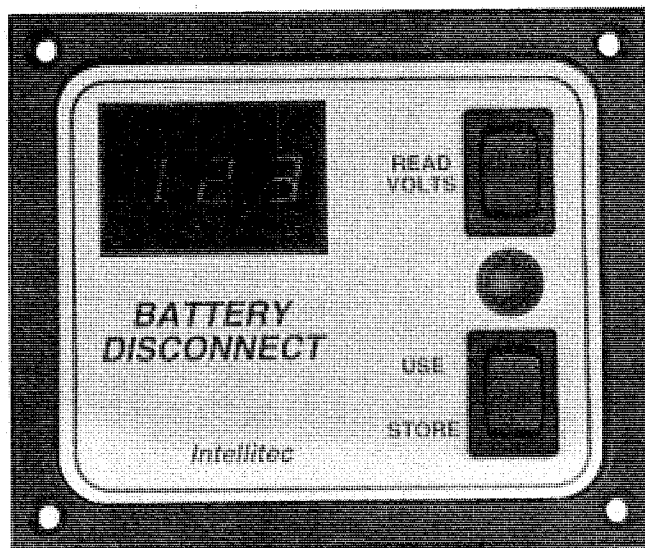
WARNING

Do not allow the battery fluid to contact your skin, eyes, fabric, or painted surfaces. The fluid could cause serious personal injury or property damage. Wear eye protection when working with any battery.

The batteries should be removed and stored in a warm place when not using your motor home for an extended period of time. Mark the cables, positive and negative, for easy identification. Batteries are not to be stored on concrete floors. The batteries require periodic charging during storage. If the motor home is to be stored for a long period of time, it is recommended that all of the batteries inside the unit be removed from clocks, radios, smoke alarms, etc. This will prevent unnecessary drain and corrosion of the batteries. The coach batteries are 6 volt RV/Marine deep cycle batteries. This type of battery consumes water and must be filled periodically. Consult the owner's manual supplied by the battery manufacturer. This can be found in the Owner Information Package received with this unit.

Battery Disconnect Panel

The battery disconnect panel is located above or near the entrance door. There are two switches on the panel. The top switch is used to measure the battery voltage. The lower switch is used to disconnect the battery when the unit is stored for any period of time. Pressing downward disconnects the coach batteries, not the chassis batteries. This is done to prevent the coach batteries from being drained during storage. It disconnects all of the 12 volt circuitry from the batteries, with the exception of the CO and LP detectors. For information regarding the disconnection of the power to the two detectors, see DETECTORS. When taking the unit out of storage, press upward to re-connect the batteries. This will make the 12 volt system ready for use.



Ground Fault Circuit Interrupt Receptacles

The 120 volt electrical outlets in the kitchen and bath area are ground fault circuit interrupt (GFCI) receptacles. The GFCI outlets provide an overload and short circuit protection. The electrical outlets located in the slide out are wired through the kitchen GFCI. The exterior electrical outlets are wired through the bathroom GFCI. If an item plugged into a slide out or outside receptacle is not working, check for a tripped GFCI in the kitchen or bathroom. In addition, these outlets protect the user from ground faults between a hot wire and ground. The GFCI will not reduce the shock hazard if the short is between a neutral and hot wire, or two hot load wires.

The GFCI should be tested at least once a month. The 120 volt electrical system must be on in order to test the GFCI. The reset button needs to be pushed in all of the way before starting the test. Push the test button. This will cause the reset button to pop out which means that the protected circuits have been disconnected. Push the reset button back in until a click is heard. This will reactivate the protected circuit. If the GFCI is working properly, the reset button will remain in the "IN" position.

Daytime Running Lights

This unit is equipped with the daytime headlight system. This feature will cause the headlights to activate automatically when the ignition is on. The headlights are on, but dimmer than normal. At dusk, the driver is required to turn the headlights on by using the headlight switch. This will allow the driver to control the bright or dim capabilities of the headlights.

Spotlight (Optional)

The optional spotlight may be installed on the roof of this unit and is controlled by the toggle switch on the dash. The light can be turned on or off and can be moved in various directions.

ICC Flasher

On the dash you will find a switch labeled "ICC Flasher." This switch is a momentary type of switch. This means it is only active while the switch is being pressed. It enables the driver to communicate with other traffic by flashing the clearance and side lights of the coach. If the lights are on, it will turn them off. If the lights are off, it will turn them on.

Generator

The generator is located in a compartment in an exterior compartment behind the rear axle of the motor home. It is mounted on slides for easy access. The slides for the generator must be unlocked before free movement is allowed. Prior to starting or stopping the generator, make

RESETTABLE BREAKERS

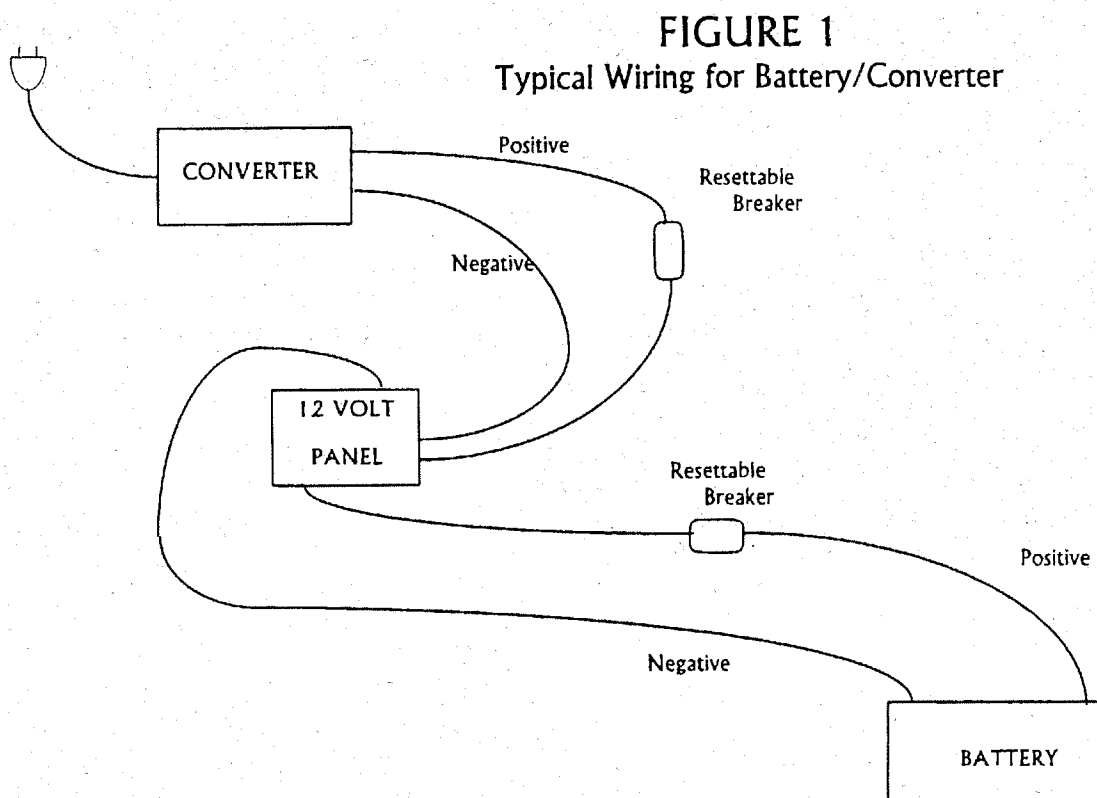
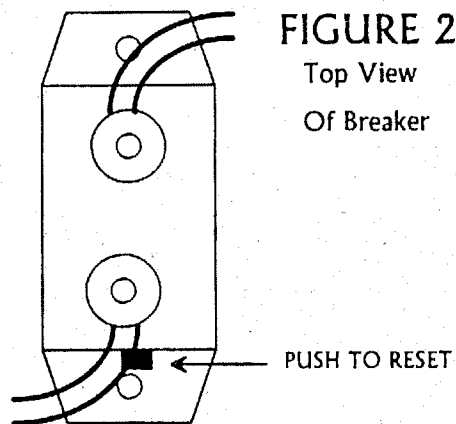
The resettable breakers are located within 18 inches of the source of power. This is the converter and the battery. (Figure 1)

When either of the breakers are shut down they must be manually reset.

To find the breakers, follow the line from the battery or converter approximately 18 inches.

This may lead to a junction box or to a cabinet inside the unit or similar location.

Manually reset the breaker as shown at right in Figure 2.

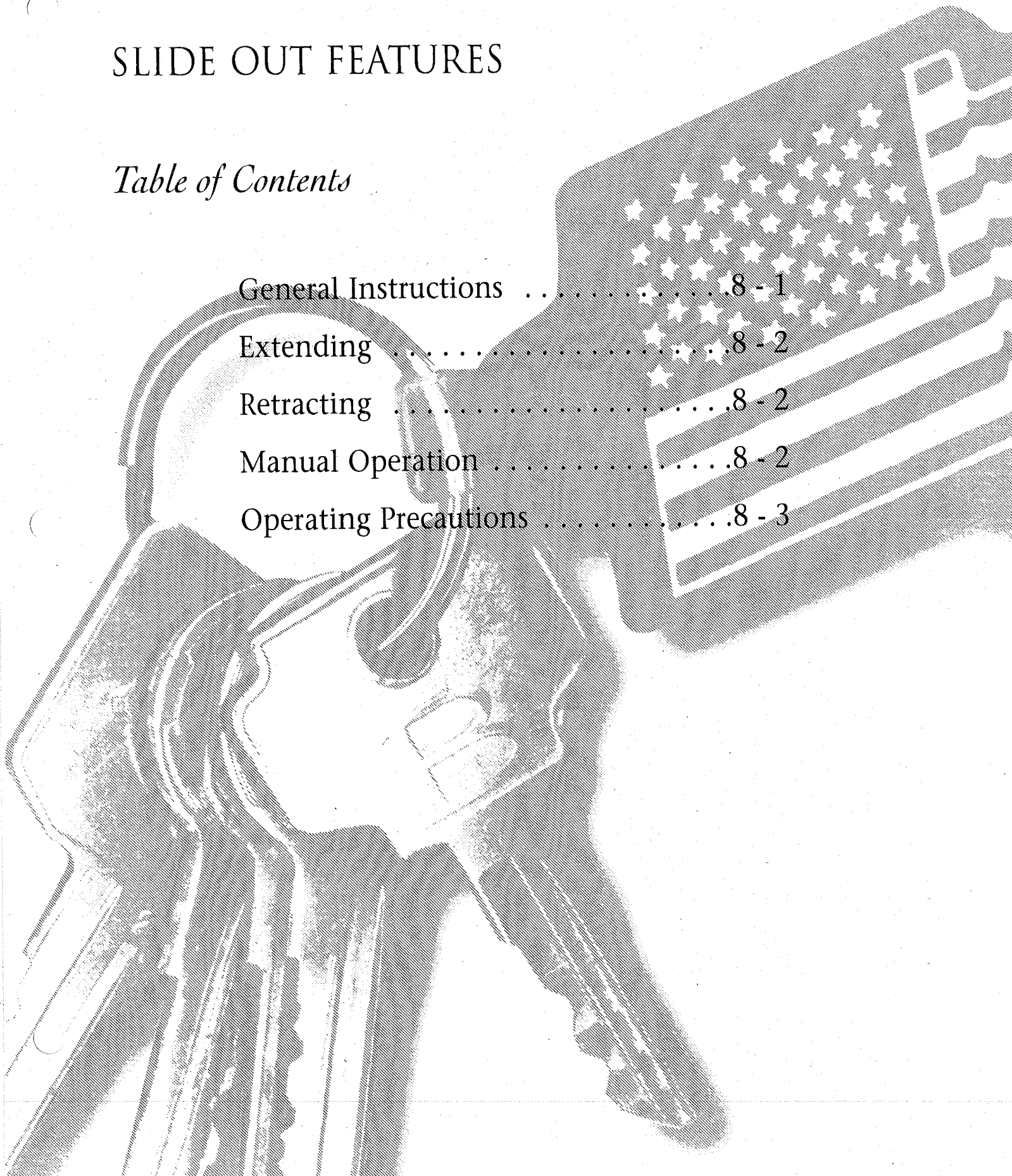


CHAPTER 8

SLIDE OUT FEATURES

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WARNING

READ THE FOLLOWING SLIDE OUT ROOM INSTRUCTIONS BEFORE ACTIVATING THE SWITCH.

CAUTION

The leveling jacks must be extended and the unit level before operating the slide out.

GENERAL INSTRUCTIONS

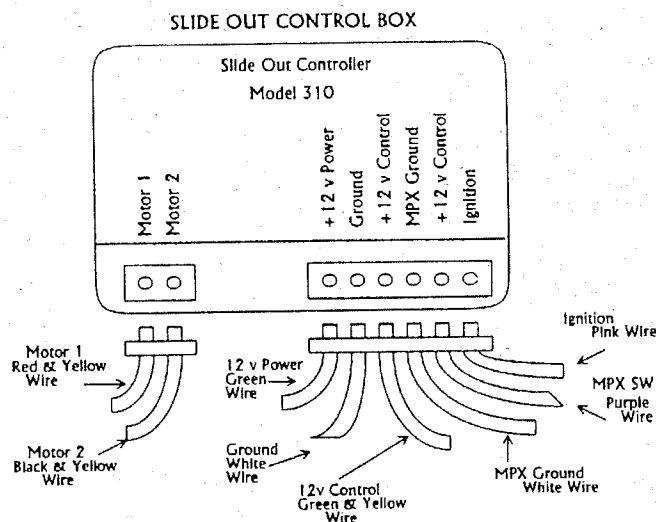
IMPORTANT

The slide out room should be inspected for alignment every six (6) months. If alignment is necessary, have the room adjusted.

1. The slide out room can be stopped at any time by activating the slide out switch. The room will reverse directions each time the switch is activated.
2. If the slide out room stops before reaching the full "OUT" or "IN" position, the slide out controller may need adjustment.
3. To adjust the slide out controller, turn the adjustment screw clockwise to increase the power and counter-clockwise to decrease the power.

CAUTION

Move the adjustment screw in small increments. Try moving the slide out room again. Use caution. There is a potential for component or structural damage if the screw is adjusted too high.



IMPORTANT

This screw does not adjust the slide out room speed. It sets the amount of power required to move the room against the mechanical stops.

1. Access must be gained to the slide out motor located in the center of the slide out room.
2. The manual extension or retraction requires only a $\frac{3}{8}$ " socket and ratchet wrench. By placing the socket on the $\frac{3}{8}$ " hex nut located on the gear box of the K-900 motor, the slide out can be moved in either direction by turning the hex nut.
3. If the slide out does not move by using the hex nut, the room can also be extended or retracted by using the procedure described for the SHAFT END-MOUNTED MOTORS. If the room is moved using this method, the correct torque on the 1 $\frac{1}{2}$ " TRANS-TORQUE nut is 125 foot pounds MAXIMUM.

The Slide Out Room May Be Moved By Two Methods

1. With the proper amount of help, two people minimum, the slide out room can be pushed the full length of its travel in either direction.
2. The 1 $\frac{1}{2}$ " wrench and the $\frac{1}{2}$ " drive ratchet wrench can be used on the short 1 $\frac{1}{2}$ " square section of the cross shaft. One person is capable of moving the slide out room using this method.

IMPORTANT

The TRANS-TORQUE bushing must be re-tightened to re-couple the slide out gear motor before moving the coach. This will hold the slide out room in place. The correct torque on the 1 $\frac{1}{2}$ " TRANS-TORQUE bushing is 110 foot pounds maximum. The correct torque on the 1 $\frac{1}{2}$ " TRANS-TORQUE bushing of the K-900 motor (center shaft motor) is 125 foot pounds maximum.

Operating Precautions

WARNING

Before extending the slide out, make certain that there is a minimum of five (5) feet of clear space on the slide out side of the unit. Prior to extending the room, be sure to unlock the slide out locking arms.

Before extending the slide out, make sure that the unit is level and that the stabilizing jacks, if available, have been set. Make sure there are no obstructions either inside or outside the unit that may interfere with the slide out extension. Tree branches, bushes, or telephone poles can cause extensive damage to the exterior of the unit.

Notes

CHAPTER 9

EXTERIOR FEATURES

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EXTERIOR FEATURES

Hitch

On the rear of this unit you will find a 4,000 pound car towing hitch. This is installed for towing passenger cars to be used when the vehicle is parked. The wire connector installed with this hitch is a standard seven-pin connector. For more information on the connector, please see Chapter 7 of this guide.

Exterior Sides

The sides of this unit are constructed of gel-coated fiberglass. To add to this feature, the front and rear end caps are also gel-coated fiberglass. Clean the fiberglass material with a mild cleanser and warm water. Use only soft cloths. Using stiff bristle brushes may cause scratches in the fiberglass surface.

Roof

The standard unit is manufactured with a rubber roof. An option is to have the roof and radius top wrap gel-coated fiberglass. This option would complement the sides and front and rear end caps. On this model, the roof rack and ladder are standard features.

Jacks

WARNING

If the vehicle is equipped with a slide out, do NOT operate any room extension until the leveling and stabilizing procedure is complete. Do NOT retract the leveling system until the slide out room has been retracted. NEVER operate the leveling system when the slide out is extended.

This unit is equipped with touch control hydraulic leveling jacks. The jacks work in pairs: front, right side, left side, and rear. Before extending, the engine must be off, the ignition switch must be in the "ACC" position, and the transmission must be in park. The parking brake needs to be set and the tires blocked securely.

CAUTION

Do not lift the wheels off the ground when leveling. The unit can roll forward or backward when supported only by the jacks.

IMPORTANT

If the hand/auto park brake is not set, the "NOT IN PARK/BRAKE" light will come on when the "ON" button is pushed. The panel will turn on, but the system will not operate.

Electric Steps

This unit is equipped with electric entrance door steps. When the power switch for the steps is in the on position, simply open the door and the steps will open. Detailed operation for the electrical entrance door steps is as follows:

1. Turn the step power switch on.
2. Close the door. The step should retract and lock into the up position.
3. Open the door. The step should extend and lock into the down position with the understep light on.
4. Turn the step power switch off. The step should remain in the extended position with the understep light off when the door is closed. Turning off the power with the step retracted will hold the step in a retracted position as well.
5. With the step extended, turn the step power switch off and close the entrance door. Turn the vehicle ignition on. The ignition override system will go into effect, and the step will automatically retract.

CAUTION

If the vehicle is driven with the step in the extended position, there is the possibility of causing major damage to both the step and the vehicle.

6. Turn the vehicle ignition off and open the door. The step will extend and lock in the down position.

CAUTION

If the door is opened and closed without allowing the step to fully extend and lock in the 'DOWN' position, the step will retract and lock in the 'UP' position. When the door is reopened, the step will not extend. The power switch must be turned on for the step to extend.

7. This feature is only operative the first time that door is opened after the vehicle ignition is turned off. When the ignition is on, the step will always activate with the door movement, regardless of the step power switch position.

Notes

CHAPTER 10

INTERIOR FEATURES

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INTERIOR FEATURES

Bedspread

All units have a decor matching fitted bedspread enclosed as part of the standard package. The recommended cleaning instructions for this spread are Dry Clean Only. The materials that make up the spread may have been treated, and dry cleaning will preserve this treatment.

Flooring

The floor covering throughout the unit, except the kitchen, is carpet. In the Owner's Package you will find literature supplied by the carpet manufacturer. This information will be helpful in maintaining and extending the life of the carpet. Please refer to this information for the carpet care and cleaning instructions. The standard floor covering in the kitchen is the Wilson Art 15" floor tile. An optional floor covering for the kitchen is the Wilson Art simulated plank. For everyday cleaning on this flooring, simply vacuum to remove loose dirt and debris. Mop occasionally, using a minimal amount of water. For more thorough cleaning, mop with a mixture of soap-free household cleaner and water (vinegar and ammonia both work well). Be careful not to saturate the floor with water; this could damage the flooring. Abrasive cleansers and scouring pads can scratch and damage the surface also. There are two options for the floor covering in the bath area. One option would be vinyl linoleum. The other option would be ceramic tile. The cleaning procedures for these floorings are the same as with most linoleums. Use a mild soap with warm water and a soft cloth or mop.

Ceiling

The ceiling in this unit is covered with a woven soft touch ceiling covering. The recommended cleaning instructions are to have the ceiling professionally dry cleaned.

Window Treatment

The window treatment throughout this unit, except in the kitchen, is pleated day/night soft shades. These shades have two sections. The first section visible when closing the shade is the "DAY" section. This material is translucent. Sunlight passes easily through the material into the unit. The second visible section is the "NIGHT" section. This material is a heavier, more opaque material. Very little to no light passes through it. It is generally used in the evening or when more privacy is desired. The kitchen window is equipped with a mini-blind.

Convenience Station

This unit is equipped with a passenger pull-out convenience tray located in the dash. To operate, first pull the dash panel toward you. Then gently push the panel into the dash. Pull the brake release knob. This will release the movement of the tray. Slide the tray to the

CHAPTER 11

PLUMBING & BATH FEATURES

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FRESH WATER SYSTEM

Kitchen Sink

The kitchen sink installed is a double bowl stainless steel sink. The unit has two sink covers to provide additional counter space when the sink is not in use. Stainless sinks do not rust or chip. Cleaning care consists of washing with mild detergents and a soft cloth. Avoid using "S.O.S." type cleaning pads because they may scratch the stainless steel surface. The faucet in the kitchen is an 8" chrome single handle faucet.

Bath Sink, Shower, & Accessories

The sink in the bathroom is vacuum formed durable white plastic. Use care when cleaning to prevent scratching the surface. The bathroom accessories include a towel bar, a towel ring, a tissue holder, and a robe hook. These accessories are shipped loose in order for the dealer to install according to the dealer or customer's specification. The faucet in the bathroom is decor matching with a white handle faucet. The shower installed is a combination tub and shower surround with enclosure. The white tub faucet with shower head, hose, and bracket, are decor coordinates with the sink faucet.

Monitor Panel

The monitor panel allows you to check the approximate levels in the fresh, gray, and black water holding tanks, as well as the battery condition. The monitor panel is generally located above or near the entrance door. Simply press the button of the item to check its status. The empty indicator light will always light when the button is pressed. If the tank is full, all of the lights will be on. Lights are sequential and indicate the level in approximately $\frac{1}{4}$ tank increments. For example: If the tank selected is approximately $\frac{1}{2}$ -full, then the indicator lights E, $\frac{1}{4}$, and $\frac{1}{2}$ will be lit. On the right hand side of the monitor panel is the water pump switch. This switch controls the power going to the water pump, turning it either on or off.

Monitor Panel Calibration

The monitor panel comes to you factory calibrated for accuracy and should not need to be adjusted. In the event that the system does not read accurately, then re-calibration may be necessary. The procedure for re-calibration is simple: First, fill the tank to be re-calibrated. Second, using the adjustment tool enclosed in the Owner's Package (or any small flat-bladed screw driver), simultaneously push the button for that tank and rotate the adjustment screw located above the button and behind the face plate counter-clockwise until some of the lights turn off in sequence. Then slowly rotate the adjustment screw clockwise until the full light is completely on. Repeat this procedure as necessary for the remaining tanks. The system is now calibrated properly.

Turn the city water supply on for a few seconds in order to clear the line. Once the hose has been flushed, turn the supply off. Connect the other end of the hose to the city water connections. Turn on the water supply and open all of the faucets to clear the air from the lines in the unit. Once air pockets have been purged from the water lines and water flows freely, close all of the faucets. The city water supply is under pressure, therefore the water pump is not necessary when connected to city water. Once the city water fill valve is opened, water is supplied to the fresh water system including the hot water heater, faucets, and stool. To disconnect from the city water supply, close the valve and remove the hose from the city water supply. Disconnect the hose from the city water connection and store the hose in the water compartment.

Fresh Water Tank Fill

The fresh water tank is filled from the city water hook-up. The valve located in the service compartment near the water hook-up determines whether the city water is going through the water system or into the fresh water tank. An additional way to fill the fresh water tank is with the winterizing intake hose placed in a bucket of water (See Chapter 14). Since there is not an automatic shut-off for the fresh water tank fill, check the level from the monitor panel while filling the unit. The excess water will be vented from an overflow vent pipe onto the ground when the tank capacity has been reached. This pipe is installed in the fresh water tank to prevent tank rupture from overfilling. All of the water should be drained from the fresh water system when the unit is not in use for more than one week. Whenever possible, drain the fresh water tank before traveling. Water in the tank will reduce the carrying capacity of the unit.

SANITIZING

To assure complete disinfecting of your fresh water system, it is recommended that the following procedure be followed on a new system, on one that has not been used for a length of time, or one that may have become contaminated. This procedure is also recommended before long periods of storage, such as over the winter months:

1. Drain the fresh water tank by opening the drain valves. There is one valve per water tank. All of the faucets should be in the closed or off position.
2. Prepare a chlorine solution using one gallon of water and $\frac{1}{4}$ cup of chlorine bleach (5% sodium hypo-chlorite solution). Prepare enough of the chlorine solution to administer one gallon of solution for every 15 gallons of tank capacity. For sanitizing this unit, prepare $4\frac{1}{2}$ gallons of the chlorine solution. This mixture puts a 50 PPM (parts per million) residual chlorine concentration in the water system that will act as a quick kill dosage for harmful bacteria, viruses and slime forming organisms. Concentrations higher than 50 PPM may damage the water lines and/or tank.
3. Once the fresh water tank is empty, close the drain valves on the water tank.
4. Pump the chlorine solution into the tank. This is done by placing the winterizing hose into the chlorine solution. Close the valve from the fresh water tank to the pump and open the valve from the solution to the pump. Turn the tank fill valve from city water to tank fill. Turn on the water pump until all of the solution is pumped into the fresh water tank.

Fresh Water Lines

Vibration and flexing during traveling can cause pipes and fittings to work loose. Check all of the plumbing connections for leaks on a yearly basis. If the water pump runs when all faucets are turned off, check for a leak. Be sure the drain valves are closed. Connections at the kitchen and bathroom faucets normally seal with hand tightening and a half turn with a wrench. If a fitting leak persists, disconnect it completely and check for mineral deposits or foreign material on the sealing surfaces. Clean the surfaces thoroughly and reinstall the fitting. Take the coach to an authorized service center for repairs if the system continues to leak. Follow the winterizing instructions given in Chapter 14 to reduce the risk of leaks caused by cracks from freezing pipes. Freezing damage can be extensive and expensive.

WASTE WATER SYSTEM

General Information

The waste drainage system was designed to provide adequate and safe storage and/or disposal of waste materials. All of the materials used in the making of this system are tested by a nationally recognized testing laboratory. The drainage system uses plastic piping and fittings connected to the sinks, toilet, and holding tanks. This provides for their drainage to an outside termination. The unit should be reasonably level for best operation of the system. There are two separate waste systems. The gray water system is for waste water from the sinks and shower. The black water system is generally for sewage waste from the stool. Each tank has its own control valve, and both tanks drain through the sewer drain hose.

Toilet

The stool operates with water from either the fresh water tank with the water pump on or the city water supply. Before using the stool, add water to the bottom of the tank. Refer to the 'BLACK WATER TANK' instructions in this chapter. The stool flushes waste directly into the black water holding tank. The stool uses high velocity water injection to produce a swirl effect in the bowl. The greatest problem that causes stool solids to build up in the holding tank is lack of liquids. When using your stool, it is wise to fill the stool 3/4 full of water. This will help to wash the solids away from directly below the stool and to ensure complete dumping of the holding tank. To add water to the stool bowl, lift up on the lever. To flush the stool, push down on the lever until the water swirls.

The stool requires little maintenance. Use an approved non-abrasive cleaner to clean the bowl. Spraying the bowl sealing blade with a silicone spray will retain the original smooth operating condition.

Check the complete instruction and trouble shooting guide in the stool manufacturer's Owner's Manual provided in the Owner's Package.

WARNING

Holding tanks are an enclosed sewer system and must be drained into an approved dump station. Both black and gray water holding tanks must be drained and rinsed thoroughly on a regular basis in order to prevent the accumulation of harmful or toxic materials.

Whenever possible, drain the holding tanks prior to traveling. The carrying capacity of your unit will be reduced if water is left in the black or gray tanks.

The holding tanks should only be drained when they are at least $\frac{3}{4}$ full. Doing this will provide sufficient water to allow the complete flushing of waste materials in the drain lines and hose. If the tanks are not $\frac{3}{4}$ full, add enough water to allow for sufficient flushing.

To empty the waste water tanks, connect the adapter to the drain hose. Use the adapter supplied with your unit. If the adapter is lost or broken, one can be purchased from any RV supply store. Once you have placed the adapter on the drain hose, it can remain there for the life of the hose. One end of the hose threads up through the hole in the bottom of the service compartment, and the other end of the hose feeds into the sewer at the dump station. Unscrew the cap off the drain. Connect the hose with the adapter in place to the drain fitting. Open the gate valve all the way by pulling on the T-handle. The tank will start to drain as soon as the T-handle is pulled. After you have drained the black water tank, immediately drain the gray water tank. Doing this helps to flush the black water from the sewage hose.

When both of the tanks are empty, flush them with a fresh water rinse before you close the valves. The gray tanks are easily flushed by pouring a couple of gallons of water into a sink drain. The drain outlet is engineered for quick release of the drain hose adapter. Always close the gate valves and secure the end cap to prevent leakage while in transit. After draining the black water tank, it is recommended to add a holding tank deodorant (such as Thetford Aqua-Kem) to help control the odor and break down the solids. Follow the instructions given on the holding tank deodorant package.

When using dump stations for draining the holding tanks, keep other travelers in mind. Practice good housekeeping. Leave the dump stations in good order. Above all, do not pollute.

Camping with Sewer Hook-Up

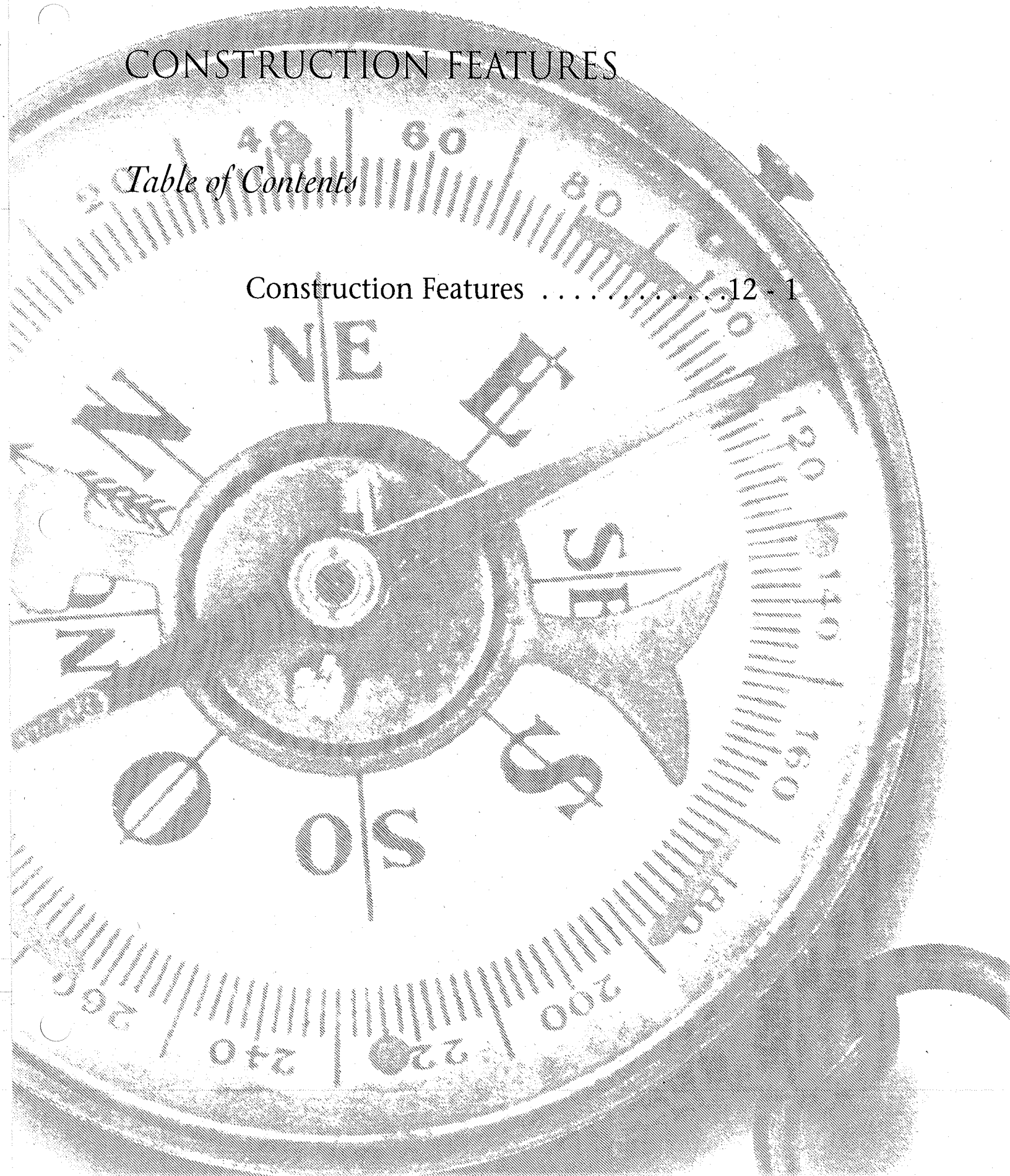
When camping at parks with sewer hook-up, it is important to keep the black water holding tank gate valve closed at all times, except when dumping. The gray tank can be kept open while hooked to a sewer connection but again, the black water tank must be kept closed. This is done so that an ample supply of liquid remains in the tank to provide a smooth flow through the gate and drain valve when dumping. Sufficient liquid in the tank causes a swirling action that should take any accumulated solid wastes with it. Accumulation of solid wastes in the black water tank can be avoided by keeping the gate valve closed when connected to the sewer hook-up. If the valve is left open, solid wastes may accumulate in the tank. This may eventually result in costly repairs. The gray tank valve needs to be in the open position when operating the optional washing machine.

CHAPTER 12

CONSTRUCTION FEATURES

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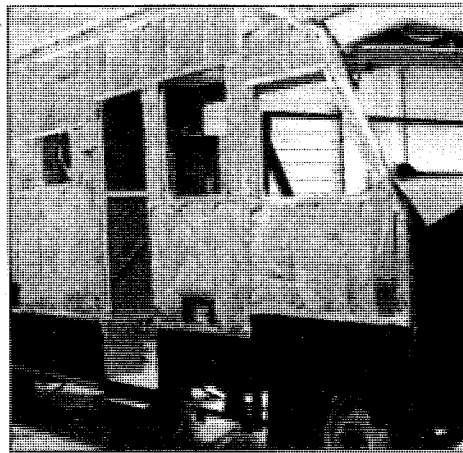
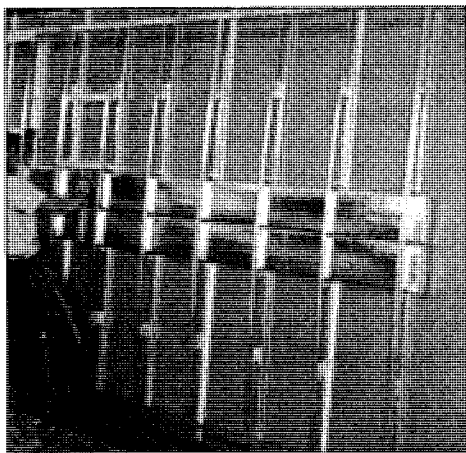
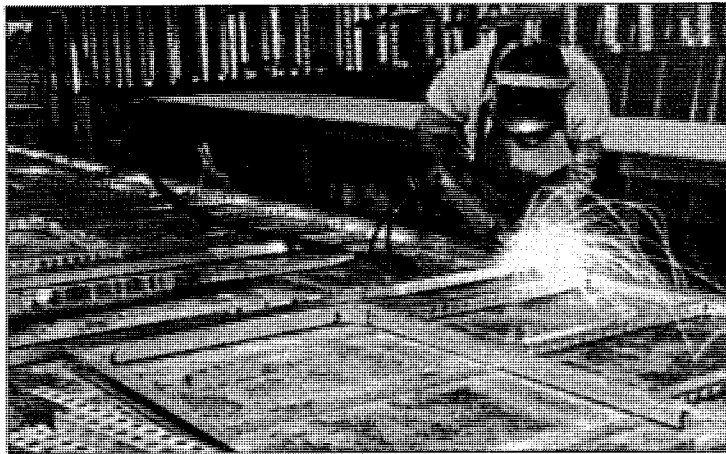
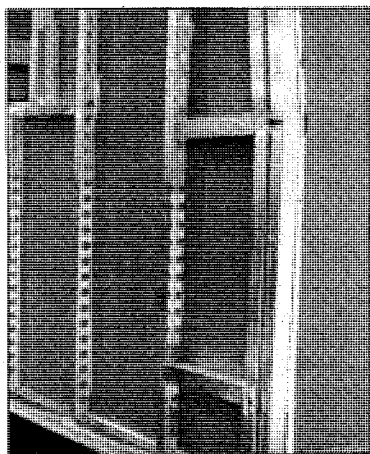


CONSTRUCTION FEATURES

The floor decking is constructed of durable $\frac{1}{32}$ " structure wood. The fiberglass insulation in the floor and sidewall is rated at R7, while the roof is rated R11. The rear bumper pulls out with a slide out tray for the spare tire.

On this model, each sidewall is constructed for strength and is well insulated for comfort. Welded for added strength, the extruded aluminum sidewalls and roof are built with 16" on center framing to provide a strong and durable construction. The inside consists of $\frac{3}{8}$ " beaded foam that is laminated to kraft paper and covered by the interior paneling. A blanket of rolled insulation is added to the sidewalls, roof, and slide out to provide a greater efficiency and consistency of climate control. This will assist the furnace in the winter by keeping the warm in and the cold out. In the summer months, it will assist the air conditioning by keeping the cool air in and the hot air out.

Below are examples of the framing and insulation similar to that in your unit.



CHAPTER 13

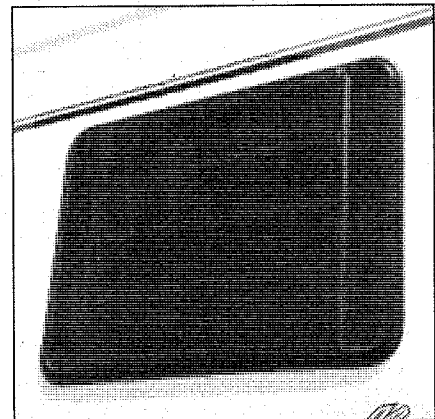
WINDOWS, AWNINGS, VENTS & DOORS

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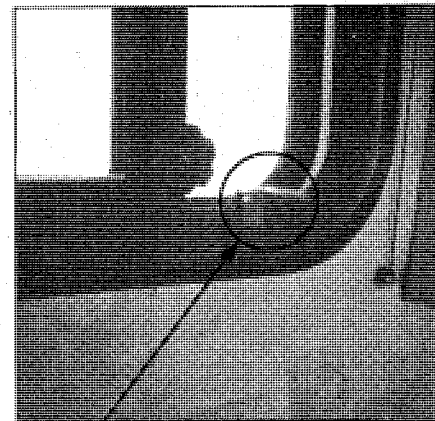
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WINDOWS

The windows installed in the living area of this unit are the sliding style. To open, simply slide the movable section. The windows in the bedroom are the radius torque style. These windows are also referred to as jalousie windows. They open with the simple turn of a crank. All of the windows have radius corners with dark tinted safety glass. On this unit the only window option is the installation of thermopane windows.



In the bedroom of the unit, one window will be marked "EXIT." This window is an emergency escape, or egress window. To open in case of an emergency, lift the red handles at the bottom of the window and push out.



Red Handle

Notes

Window Awning (Optional)

Also optional for this unit are the matching A & E window awnings. To operate, follow these instructions.

EXTENDING

1. Grasp the loop on the pull strap and pull down to extend the awning. Then hook the loop onto the window strap hanger.

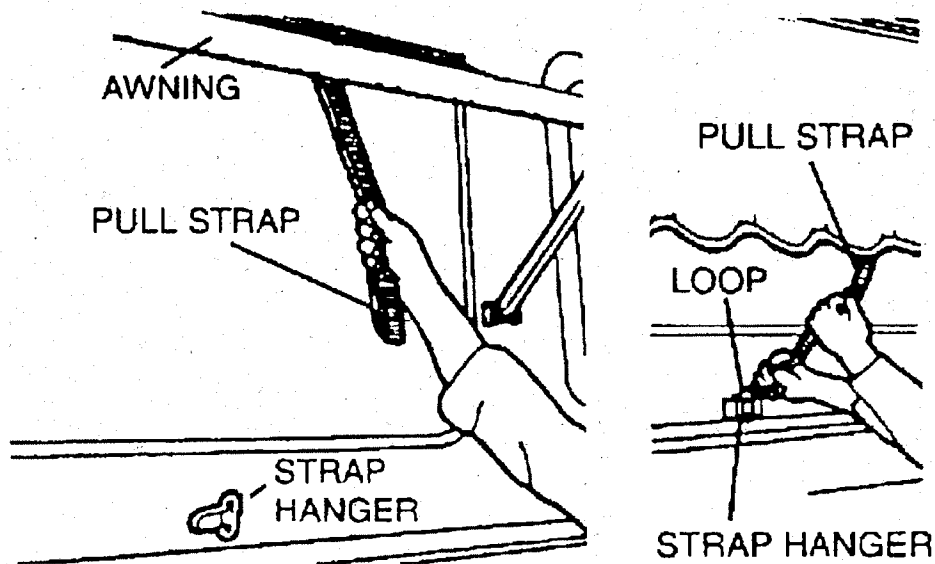
RETRACTING

1. Remove loop on the pull strap from the window strap hanger.

CAUTION

Do not release the strap as the window awning is under tension and may snap back against the vehicle.

2. Slowly allow the awning to roll back to the closed position by feeding the pull strap upwards and diagonally. This prevents the strap from building up and creating a bulge in the fabric.
3. The window awning is now ready for travel with no further locking required.



Doors

The entrance door is a radius door with a dead bolt lock for added security. The door can be held open with the door stop. With the door open, simply lift the "T" section on the door and place it in the holder on the exterior sidewall of the unit. Next to the entrance door you will find the exterior lighted grab handle. This handle may be used to assist anyone entering the unit. Next to the exterior handle, you will find the door bell button for the door bell. This door bell operates on four C cell batteries.



Optional on this unit is the installation of the driver's door. The driver's door is equipped with a power window for driver convenience.

Notes

CHAPTER 14

ROUTINE MAINTENANCE

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EXTERIOR CARE

Washing

The exterior of your new camping vehicle is made of pre-finished aluminum and fiberglass. Frequent washings and thorough cleanings are recommended to prevent damage to the vehicle finish after exposure due to damaging salts, calcium chloride, road tar, tree sap, insects, and other foreign material. Never wash the vehicle in direct sunlight, while the vehicle is hot, or with hot water. Build up of mud and dirt under the body can cause damaging rust on steel parts and can add needless weight to the vehicle. Corrosive materials, such as those used for ice and snow removal and dust control, also accumulate on the underside of the vehicle. These materials should be removed by flushing the underbelly regularly with water, especially areas where mud and other foreign materials collect. The chance of corrosion can be minimized by frequent washings of the vehicle. When washing the vehicle, make certain that the undercarriage and the wheel wells are cleaned, as well as the exterior of the coach. Do not use strong soaps or detergents for washing the vehicle. Always use a mild soap in warm water, a commercially prepared product for automotive finishes, or your local car wash. Be careful when using a pressure-type washer to avoid loosening any exterior decals or sealants, etc. After washing, carefully inspect the caulking around window frames and vents and any other joints that may have separated. Recaulking, if necessary, is relatively simple.

IMPORTANT

Never use a strong solvent, such as lacquer thinner, or harsh abrasives, on any of the exterior painted surfaces.

Waxing

The exterior finish will require a routine waxing. When water will not bead and roll off a freshly washed vehicle, a new coat of wax is needed. Wax not only improves the appearance of the vehicle, but it also protects the finish against oxidation and corrosive materials. The recommended type of wax is one that is compatible with painted and gel-coated fiberglass finishes. Cleaning with a polishing compound will improve a dull or discolored finish.

IMPORTANT

When using a polishing compound that does not contain a wax preservative, reapplying a coat of hard wax after polishing is recommended.

Seals

The seals around doors, windows, vents, and external seams should also be checked at least twice a year. Check the roof seams once a year for cracking or peeling. If deterioration is noted, reseal the seams or seals with an approved sealant to prevent leaks. Your dealer can perform the resealing inspections and work for you. Your dealer is also able to inform you of the appropriate sealants to be used, if you prefer to do the job yourself. Sealants can be purchased from your Newmar Dealer.

Simulator Care

The care and maintenance of your Dicor stainless steel wheel product is simple and requires no special material or products. All Dicor products are constructed of highly polished 304L stainless steel. Timely care and cleaning will keep them looking great for many years. We suggest the following care:

1. Clean your Dicor wheel cover/liner on a regular basis to keep road dirt from building up.
 - A. Rinse with clean water to remove loose dust and dirt.
 - B. Clean with a mild soap and water solution. (Any non-abrasive household detergent works fine.) Apply with cloth, sponge, or soft bristled brush. Use solution liberally to avoid surface scratching due to trapped dirt on the applicator.

IMPORTANT

Do not use harsh detergents, acids, or abrasives which may scratch or dull the surface. The applicator cloth, sponge, or soft bristled brush should be non-metallic and non-abrasive.

- C. Rinse thoroughly with clean water to remove excess soap and dirt.
 - D. Repeat above steps as required.
 - E. If stubborn stains persist, such as road tar, brake dust, oil, etc., use only a product compatible with stainless steel. An over-the-counter window cleaner (like Windex) will often remove foreign material. If a harsher cleaner is needed, we recommend "NEVR-DULL," available at many general hardware or automotive stores.
2. Surface rust: From time to time, surface "spin out" rust may appear on the stainless steel. Normally the "spin out" rust comes from the wheel, lug nuts, locator pins, etc. In many cases, regular normal cleaning of your decorative wheel product, as indicated above, will remove any surface rust. If, however, a stubborn rust spot remains, utilize "NEVR-DULL" (a wadding polish), applying constant pressure to remove any surface blemish. You may have to repeat this process on hard to remove spots. After cleaning with "NEVR-DULL," you may want to re-shine your wheel products using Windex or a similar product.
3. Petroleum based tire conditioners: While the use of these products (Armor-All, Son-of-a-Gun, etc.) may improve the appearance of your tires, these types of products will form a film on your stainless steel wheel cover product. To remove, use a mild cleanser, like Windex, to restore the shine.

IMPORTANT

Remember to periodically check the tightness of your wheel cover product.

Rubber Roof Care and Maintenance

Proper care and maintenance of your recreational vehicle, including your rubber roof, is important for trouble free performance. Normal maintenance is simple and easy and does not require special materials.

unit. Most water-based household cleaning products are not formulated for use on these fabrics and may cause excessive shrinkage or fading. Always test any cleaning product on a hidden area of fabric before using on visible areas. For best results, the fabrics in this unit should be cleaned by a professional carpet and upholstery cleaner.

Spills, spots, or stains should be treated as soon as possible to avoid permanent damage. If a spill occurs, blot the fluid with a dry towel. Do not rub the spill. Rubbing may cause the liquid to "set" in the fabric. When attempting to clean a spot or stain, always start from the outside and work inward to avoid spreading it further. Some stains or soils are extremely difficult or impossible to be removed completely. These should receive immediate professional attention.

WARNING

When cleaning the upholstery and fabric in the unit, do not use lacquer thinner, nail polish remover, laundry soaps, or bleach. Never use carbon tetrachloride or gasoline for cleaning purposes. These items may cause damage to the materials being cleaned and most are highly flammable.

The vinyl material used in creating the interior of this unit should be cleaned with a soft damp cloth and mild detergent. Do not use solvents of any kind. Solvents may damage the surface of the vinyl.

IMPORTANT

The fading of upholstery, carpet, and other interior fabrics is generally caused by excessive sunlight. The drapes, blinds, or shades should be kept closed when the vehicle is parked for an extended period of time to minimize the fading.

Walls and Ceiling

The wall and ceiling coverings should be cleaned periodically to maintain a new appearance. Use a non-abrasive cleaner with a soft cloth on the walls. The ceiling panels should be steam cleaned by a professional carpet cleaner.

Dash

The dash installed in your motor home is made from ABS plastic that has been laminated with a KORAD acrylic film. In order to keep the dash in like-new condition, follow these guidelines:

DO—

- Dust and clean the dash with a soft, damp cloth, or chamois, wiping the surface gently.
- Use pure soap and lukewarm water. Other cleaning agents that can be used are: 409, Mr. Clean, Top Job w/Ammonia, Spic & Span, Johnson's Pledge, Fantastik, Cascade, Janitor in a Drum, Handy Andy, Joy Detergent, Swish Detergent, Calgonite, All Detergent (powder), Isopropanl (45%) rubbing alcohol.
- Dry the surface, after washing and rinsing, by blotting with a damp cloth or chamois.

Accessories

The brass light fixtures, bath accessories, and faucets can be cleaned by wiping with a soft damp cloth. Washing with warm water will remove dry water spots. Do not use cleaners that contain harsh or abrasive chemicals. Alcohol or similar solvents should never be used.

Detectors

The CO and LP detectors are self-contained and DO NOT require any maintenance other than normal cleaning and dusting. The CO and smoke detectors installed in this coach are operated by a 9-volt battery in each detector. The detectors need to be tested periodically, and the batteries replaced when necessary. When cleaning the case on any of the detectors use a damp cloth or paper towel. Do not spray cleaners or wax directly into the case as it may cause false alarms.

Windows

The glass in the windows may develop water spots, especially if water containing salts or other matter is not properly removed. The spotting effect is magnified when the glass has a reflective finish. Using a squeegee immediately after washing will help reduce water spotting.

Condensation

The following information is to make the retail owner of this unit aware of the potential problem with condensation in a recreational vehicle. Damage may occur to your unit if excessive condensation exists.

Accumulation of condensation on surfaces within your unit occurs when warm moist air contacts a cool surface. It is most evident on the inside of windows not protected by storm windows during the winter season. This problem can be controlled by the occupants of the recreational vehicle by:

1. Opening a window or roof vent slightly to allow the moisture to escape from the unit.
 2. Using a small dehumidifier to remove moisture from the air.
- Condensation levels are highest during times when a person is cooking or taking a shower in the unit, but these are not the only times condensation is present.
 - Condensation may cause many problems with your new unit. It can migrate through ceiling panels and saturate the fiberglass insulation in your ceiling cavity. This condition often causes the occupants to believe the recreational vehicle has a roof leak when it drips back into the interior of the coach. Walls and ceiling panels may also become wet when the moisture accumulates on these surfaces.
 - Since surface condensation within the coach cannot be controlled by the manufacturer, damage caused by condensation is not covered by your warranty agreement.
 - Although condensation can be a serious problem, it can be easily controlled by the occupants of a recreational vehicle. By following the above guidelines your new coach can be used in cool climates without condensation problems.
 - Newmar Corporation does not recommend the use of any catalytic heaters. If catalytic heaters are used, the customer must use a dehumidifier in conjunction with the catalytic heater.

- Check gas appliances for proper operation
- Clean window and door seals with a mild soap and spray with silicone lubricant
- Lubricate the moveable parts on the entrance step
- Check the wheels and nuts for cracks and the tightness of the lug nuts
- Check the antifreeze level
- Have the LP system checked by a qualified technician

Annually

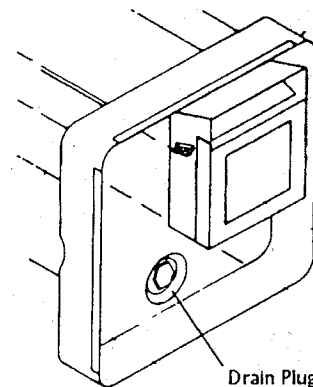
- Inspect roof seams and joints, reseal when necessary or consult your dealer
- Sanitize the fresh water system
- Check the front end alignment
- Have the axle bearings re-packed

WINTERIZING

To store your unit for the winter months, it is necessary to winterize the water system to help prevent freezing. To do this, follow these instructions:

1. The water heater must remain off during this process. Shut off the water pump and make sure the water supply valves are closed.
2. To drain the fresh water tank, open the drain valves.
3. Open the low point drain valves. There is one drain valve for each water line, one cold and one hot. This is done to drain all of the water out of the system.

4. After the water heater has cooled off, remove the drain plug to drain the water from the water heater. In the exterior compartment beside the water heater there are two water heater shut-off valves and a by-pass valve. The shut-off valves must be closed and the by-pass valve must be open, prior to winterizing, to prevent the antifreeze solution from entering the water heater.



5. Close the low point drains to prevent the antifreeze from draining through the lines onto the ground.
6. Remove the water filter. See Chapter 11 for more information.
7. Close the water supply valve that flows from the pump to the tank.
8. Use only non-toxic antifreeze that has been approved for use in drinking/potable water systems. Place the in-take hose into the antifreeze supply. Open the antifreeze valve to allow the solution to flow freely. Once the water pump is turned on, proceed to the kitchen faucet, bath faucet, inside and outside shower, turning on the hot and cold water and flushing the stool until the antifreeze solution flows freely. If the unit is equipped with a washer, be certain to purge the air from it also. This forces the antifreeze through all of the water lines and faucets. It also allows the antifreeze solution

CHAPTER 15

CHARTS & DIAGRAMS

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IMPORTANT INFORMATION FOR YOUR NEWMAR MOTORHOME

Coach: Year _____ Model _____ Serial _____
 Chassis: Make _____ VIN _____

Appliance	Brand	Model	Serial
Refrigerator	_____	_____	_____
Freezer	_____	_____	_____
Water Heater	_____	_____	_____
Range	_____	_____	_____
Converter	_____	_____	_____
Washer	_____	_____	_____
Dryer	_____	_____	_____
Microwave	_____	_____	_____
Icemaker	_____	_____	_____
Television, front	_____	_____	_____
Television, rear	_____	_____	_____
Radio	_____	_____	_____
CD Player	_____	_____	_____
CB Radio	_____	_____	_____
Generator	_____	_____	_____
Air Conditioner, front	_____	_____	_____
Air Conditioner, rear	_____	_____	_____
Video Cassette Recorder (VCR)	_____	_____	_____
Rear View Monitor	_____	_____	_____
Furnace, front	_____	_____	_____
Furnace, rear	_____	_____	_____

Maintenance Record

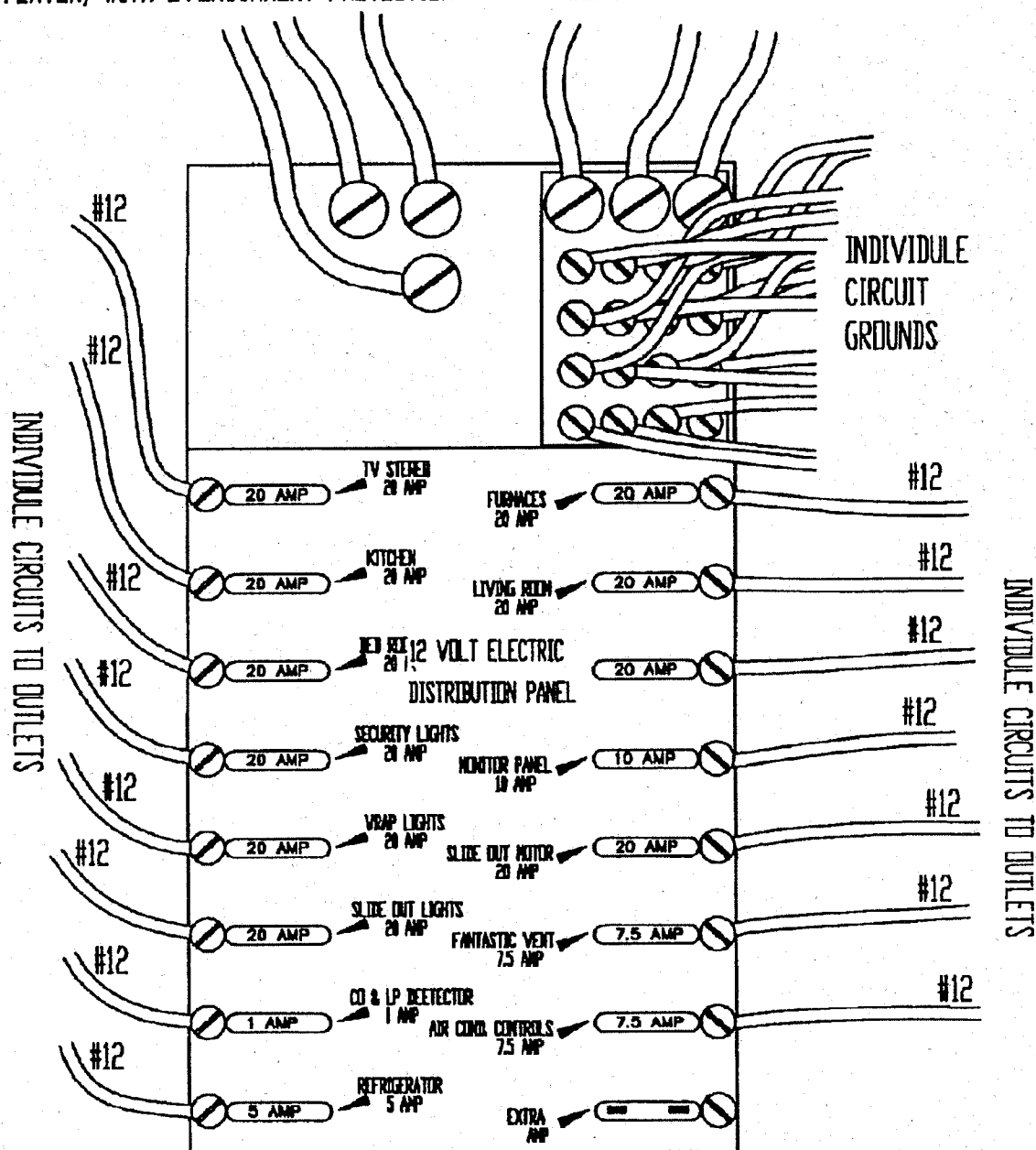
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Fuel, Oil & MPG Record

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HOT FEED LINES FROM BATTERIES AND
CONVERTER, WITH OVERCURRENT PROTECTION

GROUND TO CHASSIS, CONVERTER
AND BATTERIES MINIMUM SIZE #8



WIRE OVER CURRENT PROTECTION IS PER THIS CHART

WIRE SIZE	AMPACITY	WIRE SIZE	AMPACITY
# 6	55	# 8	40
#10	30	#12	20
#14	15	#16	8
#18	6		

12 VOLT ELECTRIC
DISTRIBUTION PANEL

load	protection
30 AMP MAIN	
AIR CONDITIONER	# 1
	20 AMP
MICROWAVE	# 2
	15 AMP
CONVERTER	# 3
& 8 RECEPTS	15 AMP
REFRIGERATOR	# 4
& 8 RECEPTS	15 AMP
WATER HEATER	# 5
	15 AMP

30 AMP 110 SERVICE

30 Amp lead in cord & wire = 10/2 w/ground
 20 Amp circuit wire = 12/2 w/ground
 15 Amp circuit wire = 14/2 w/ground

Maximum of 10 outlets (lights and recepts) on any 15 amp circuit with no other appliance on that line. Circuits 3 and 4 may have recepts as noted at left. NOTE: A duplex recept is counted as 1 recept.

Not all units will get all of these items

load		protection	50 AMP MAIN		protection	load
1st	# 1	20 AMP			# 13	MAY HAVE 10 RECEPTS
AIR COND.					15 AMP	
MICROWAVE	# 2	15 AMP				
CONVERTER & 5 RECEPTS	# 3	15 AMP			# 14	MAY HAVE 10 RECEPTS
					15 AMP	
REFRIGERATOR	# 4	15 AMP				
FOOD CENTER & 5 RECEPTS						
WATER HEATER	# 5	15 AMP			# 15	MAY HAVE 10 RECEPTS
					15 AMP	
DRYER	# 6	15 AMP				
WASHER	# 8	15 AMP			# 16	DISHWASHER & 2 RECEPTS
					15 AMP	
2nd	# 8	20 AMP				
AIR COND.						

This is a 50 Amp 220 service

50 Amp lead in cord to box = 6/3 w/ground
 20 Amp circuit wire = 12/2 w/ground
 15 Amp circuit wire = 14/2 w/ground

Maximum of 10 outlets (lights and recepts) on any 15 amp circuit with no other appliance on that line. Circuits 3, 4, and 16 may have recepts as noted at left. NOTE: A duplex recept is counted as 1 recept.

This is a fully loaded system for which there has been a calculation done. Not all units will get all of these items.

Wiring Color Scheme

8 gauge

Grounds	White
Battery	Red
Converter	Black
Solar Prep	Green

10 gauge

Grounds	White
Living Room Entry Lights (hot feed)	Red
Bedroom Lights (hot feed)	Orange
Kitchen Lights (hot feed)	Green
Bathroom Lights (hot feed)	Brown
Power Rear Awning & Freezer	Purple w/Yellow
Power Step (hot feed)	Green w/Black
Power Jacks	Yellow
Electric Brakes (tri-axle)	Blue
100 Watt Inverter	Red w/White

16 gauge

Larson Monitor Panel Tank Harness	Fresh Water Tank	White* Grey w/Black (replaces Red tank lead) * Black w/Yellow (replaces Blue tank lead) *
	Grey Water Tank	White* Green w/White (replaces Red tank lead) * Blue w/Black (replaces Blue tank lead) *
	Black Water Tank	White* Red w/White (replaces Red tank lead) * Blue w/White (replaces Blue tank lead) *

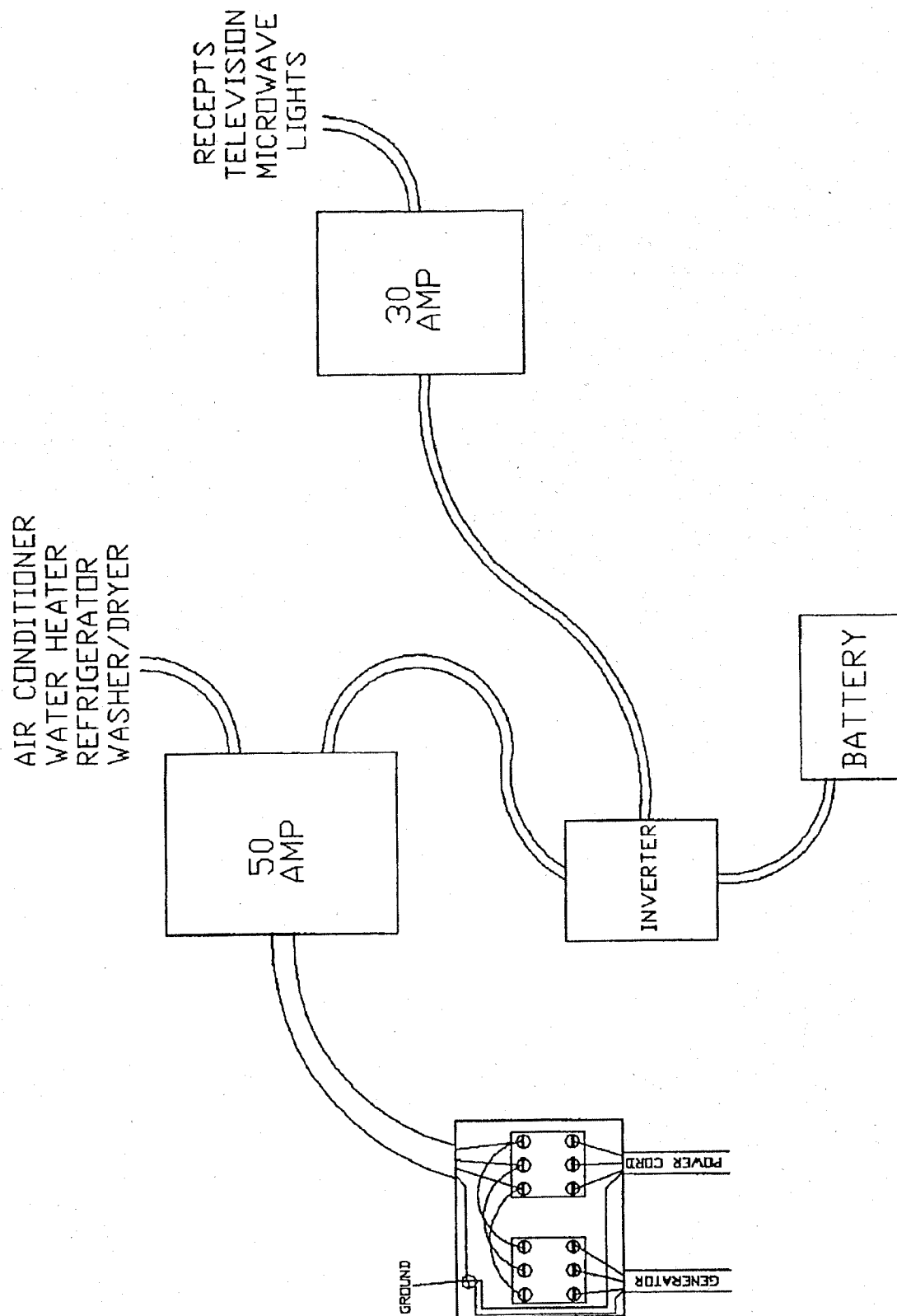
* - multiple applications for this color

16 gauge

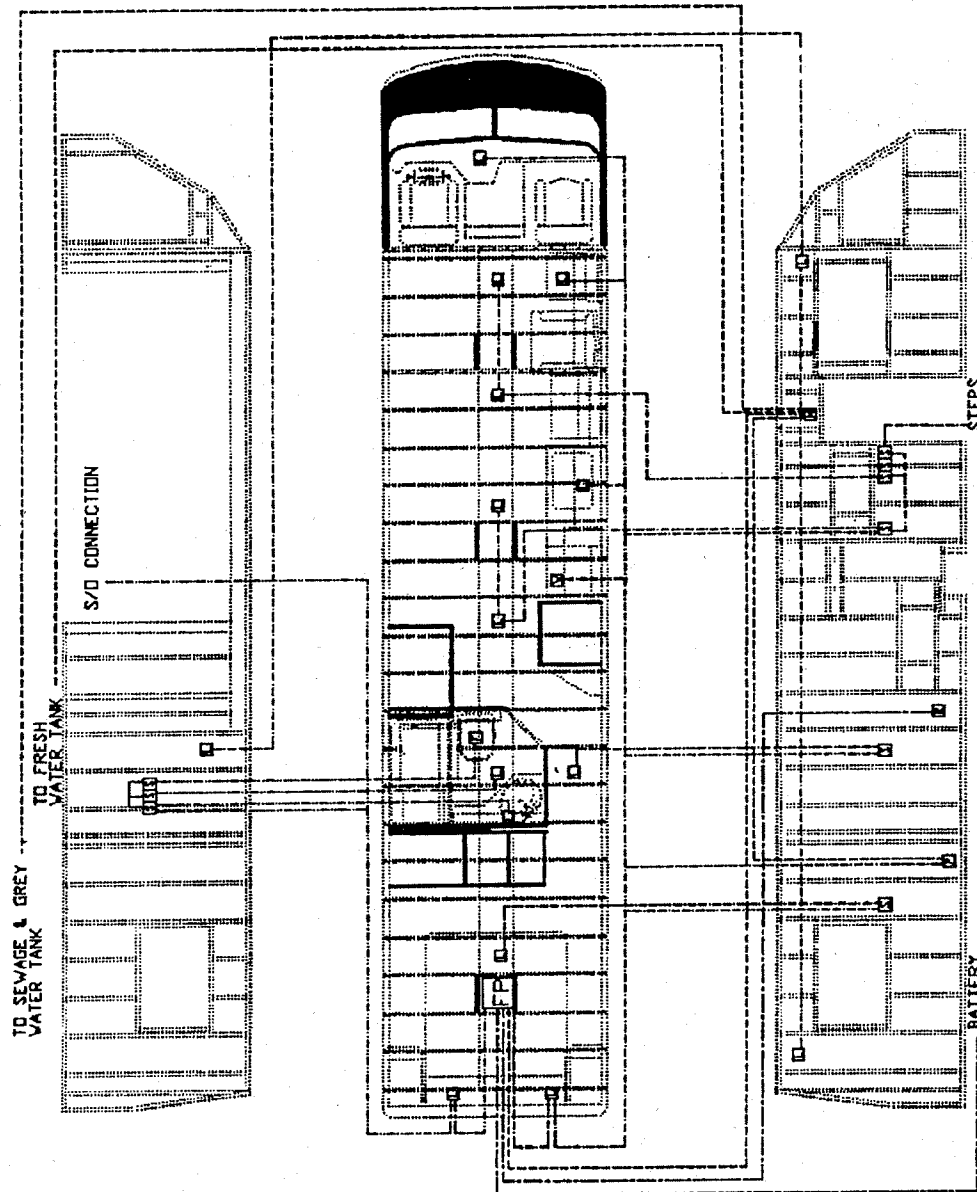
Grounds	White
Back-up Lights	Yellow
Ignition to Power Step	Pink
Clearance & Running Lights	Green
Right Turn Lights	Brown
Left Turn Lights	Red
Ignition to Slide Out Motor	Pink w/Green
Class A Blower Fan (in holding tank area)	Orange
Slide Out Switch	Purple
Courtesy Lights (hot to switch)	Grey
Courtesy Lights (switched)	Grey w/White
Detectors, CO & LP	Red w/Black
Rear Center Brake Light	Blue
LP Fuel Gauge	Red w/Yellow
Air Conditioner Controls	Pink w/Black
Monoplex Water Pump Switch	Yellow w/Black
Refrigerator Controls	Purple w/White
Vent Thermostats	Black
Water Heater DSI Switch Harness	Red w/White*
	Green w/White*
	Blue w/White*
	Red w/White*
	Green w/White*
Diesel Generator	Blue w/White*
Gas Generator	Grey w/Black*
Start/Stop Switch	Black w/Yellow*
Harness	White*

* - multiple applications for this color

TYPICAL WIRING DIAGRAM FOR INVERTERS



TYPICAL 12 VOLT WIRING DIAGRAM – MOTOR HOME

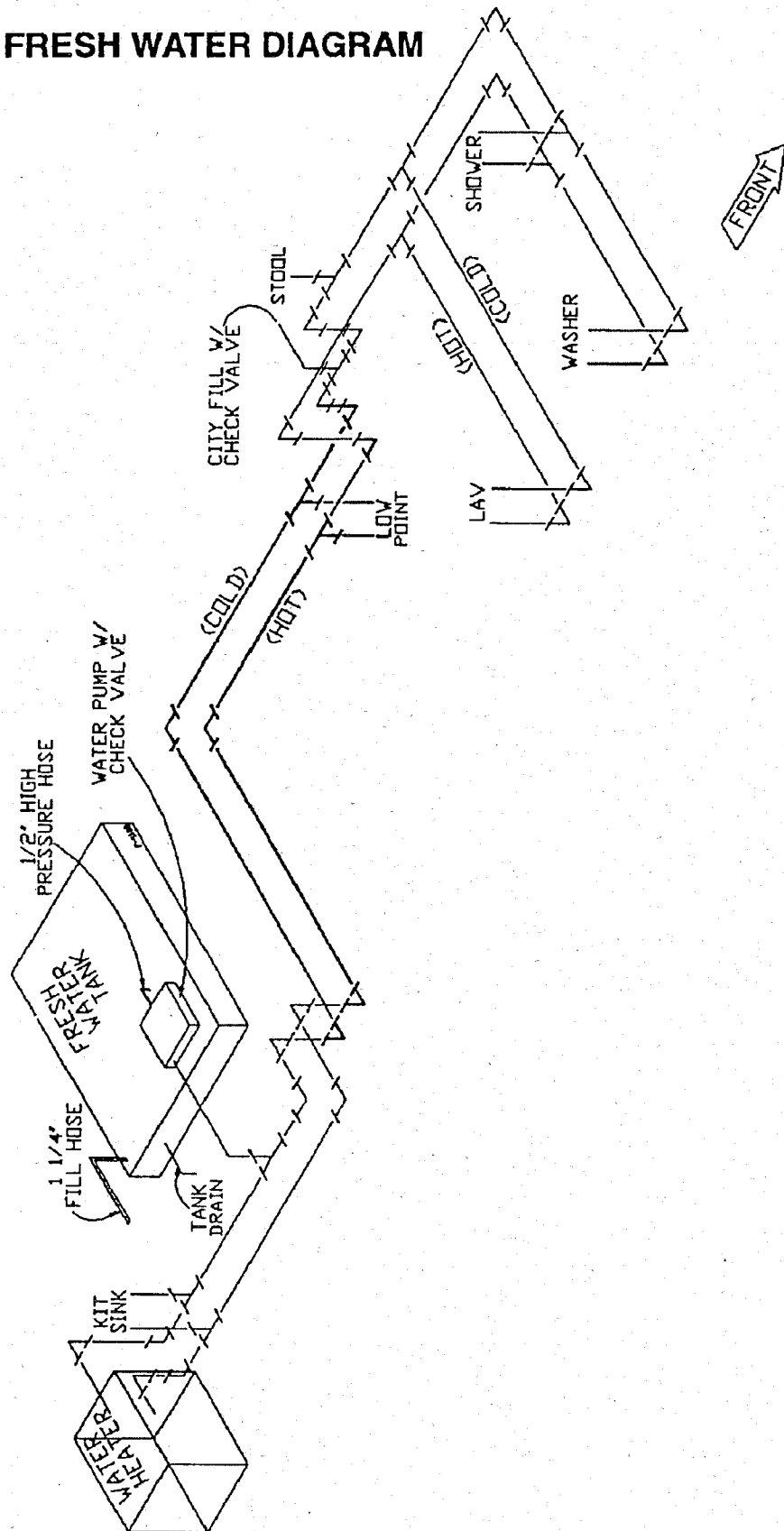


- MONITOR LINE
- - - - - DOOR SIDE
- OFF DOOR SIDE
- _____ INDIVIDUAL LINE
- L - LIGHT
- S - SWITCH
- T - TV JACK
- V - RANGE VENT FAN
- R - REFRIGERATOR
- W - WHEATER (REIGNITOR OPT.)
- M - MONITOR PANEL
- F - BATH VENT FAN
- FP - FUSE PANEL
- P - WATER PUMP

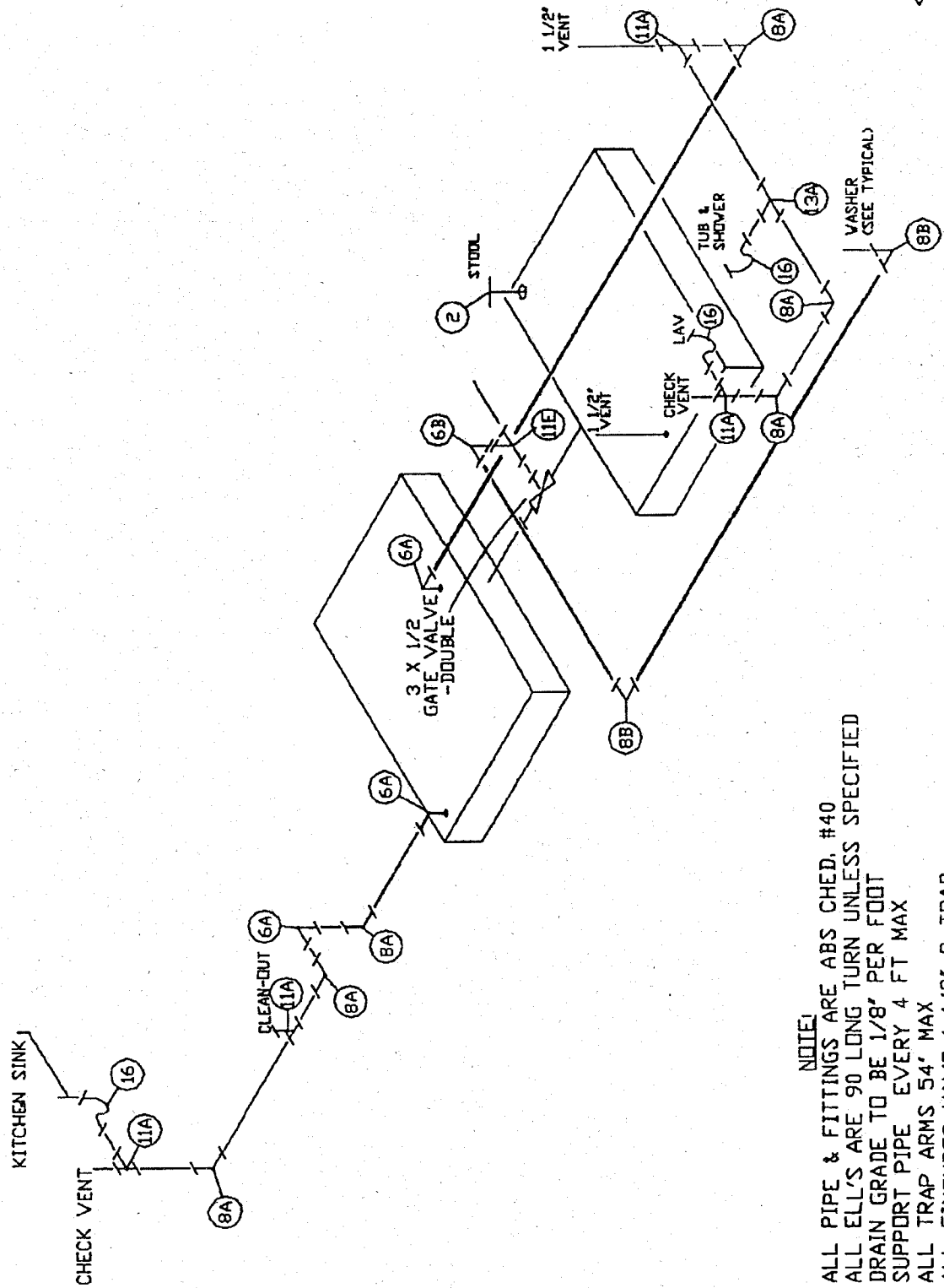
NOTE:

ALL WIRES SHOWN DO NOT NECESSARILY RUN THROUGH A SPECIFIC STUD. THIS PRINT SHOWS GENERAL LOCATIONS OF WIRES ONLY.

TYPICAL FRESH WATER DIAGRAM



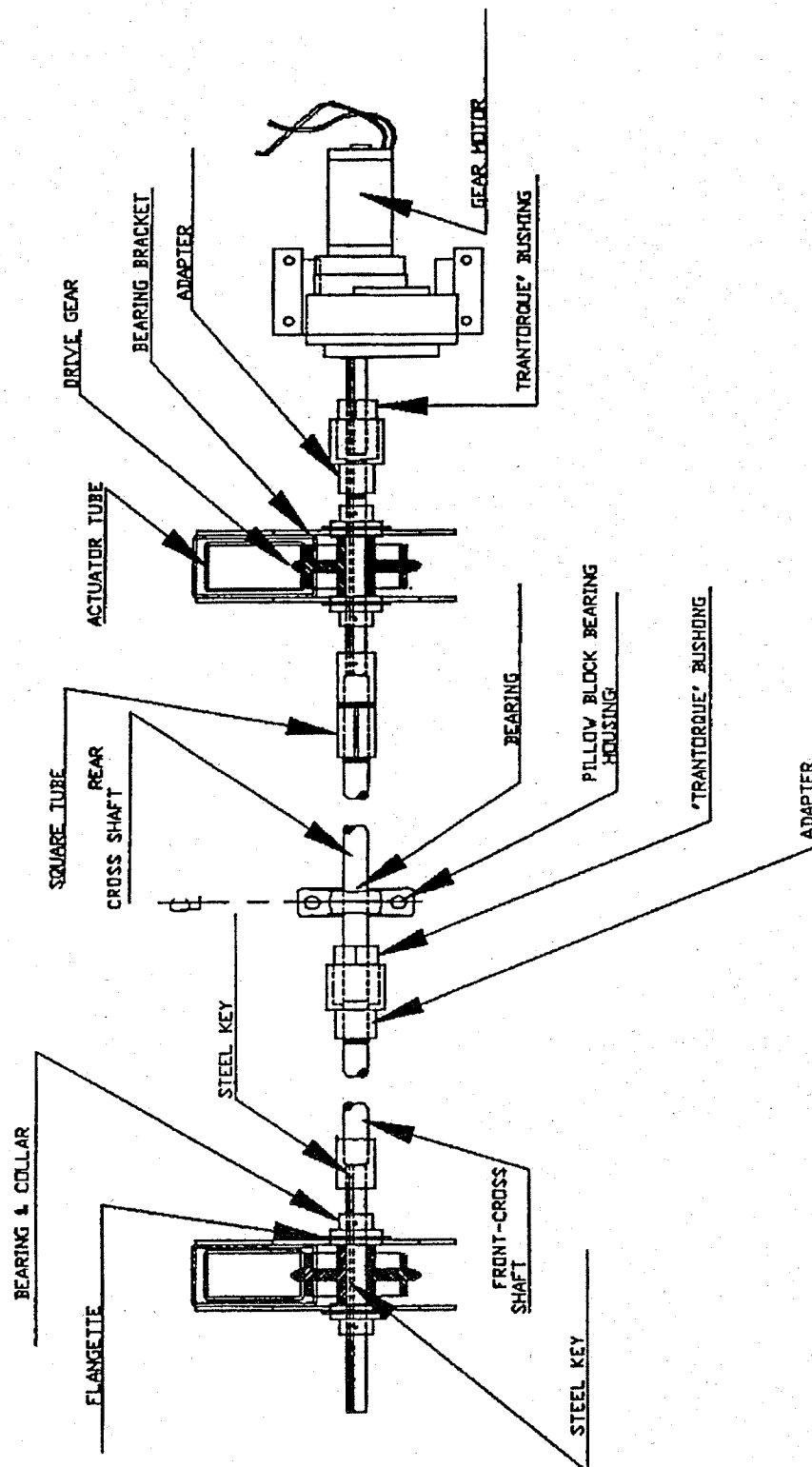
TYPICAL DRAIN LINE DIAGRAM



NOTE:

ALL PIPE & FITTINGS ARE ABS CHED. #40
 ALL ELL'S ARE 90 LONG TURN UNLESS SPECIFIED
 DRAIN GRADE TO BE 1/8" PER FOOT
 SUPPORT PIPE EVERY 4 FT MAX
 ALL TRAP ARMS 54" MAX
 ALL FIXTURES HAVE 1 1/2" P-TRAP
 ALL TANK HOOK-UPS ARE A DOUBLE LTTY UNLESS SPECIFIED OTHERWISE
 BELOW FLOOR PLUMBING

SLIDE-OUT MECHANISM



Mountain Aire Class A	
Description	Item #
Antenna, CB	QD 11569
Antenna, Cellular Phone	QD 29642
Antenna, Radio	QD 15654
Antenna, TV	QD 18380
A/C	QA 20097
Bumper, Front, Center	GG 29170
Bumper, Rear	GG 25334
Door, Entrance	ID 30416
Door, Furnace	QC 21868
Door, Refer Vent	QF 31736
Door, Water Heater	QG 17131
Faucet, Kitchen, Sgl Hdl	CM 29207
Faucet, Lav	CM 22540
Faucet, Shower	CM 22541
Grab Handle, Acrylic, Door	NA 16229
Grab Handle Ends, Chrome, Door	NA 12316
Grill	GG 29355
Hood	NK 29169
Horn, Trumpet, Electric	GG 15941
Ladder	NA 17187
Light, Clearance, Amber	EH 18684
Light, Clearance, Amber Side	EH 10676
Light, Clearance, Red	EH 20619
Light, Docking	EH 13851
Light, Fog	EH 29330

Mountain Aire Class A	
Description	Item #
Light, Head, Right Side	EH 22031
Light, Head, Left Side	EH 22032
Light, Scare	EH 10674
Light, Spot	EH 12300
Light, Tail, Back Up	EH 17075
Light, Tail, Wrap Around	EH 17073
Mirror, Rear View	NB 27356
Recept, 12 Volt, Brown	EB 22281
Recept, 12 Volt, White	EB 10641
Recept, 120 Volt	EB 10551
Register, Floor	QC 22580
Roof Rack	NA 11820
Sink Cover	NA 26470
Skylight	IS 14607
Step, Bumper, Fold-A-Way	NK 16169
Step, Kwikkee	ID 27342
Switch, 12 Volt, Double	EB 24810
Switch, 12 Volt, Single	EB 24809
Switch, 12 Volt, Triple	EB 24811
Switch, 120 Volt	EB 10543
T-Stat, Dometic	QA 27782
T-Stat, FanTastic Vent	IS 01513
Windshield Gasket	PE 24776
Windshield, Left Side	IO 26316
Windshield, Right Side	IO 26315