



Glacier
2500
BY CHINOOK

2004 Owners Manual

CHINOOK is a division of Trail Wagons, Inc., Yakima, Washington

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SERVICE

Service is important to you..., and it is equally important to us. When you buy a Chinook, you can expect years of carefree service with regular but minimal maintenance. Our reputation has been built on that premise.

DOUBLE SERVICE BACKUP

Your Chinook dealer's service department will promptly handle any operational difficulty you may have with your motorhome. If such a problem is not resolved to your complete satisfaction, please take these steps:

1. Discuss the problem with the general manager or owner of your dealership. Give him the opportunity to work with his service crew in solving it.
2. If the difficulty cannot be resolved to your satisfaction by your local dealer, contact the service manager at the Chinook factory for assistance by calling:
1-800-552-8886

This double service backup is your best assurance that you have made the right decision in choosing a Chinook.

YOUR DEALER'S RESPONSIBILITIES

Your Chinook dealer has thoroughly inspected your motorhome, resetting the lighting, plumbing, water and heating systems for any malfunctions that may have occurred during shipment from the factory. All appliances are checked by the dealer at the time of purchase. He is obligated to explain and demonstrate the operation of your equipment and accessories, answer questions and make minor adjustments. For further instructions on operation, maintenance and warranties please refer to the individual manuals or instruction sheets provided in your owner's packet.

If you should require service and replacement of defective equipment, make your request directly to the manufacturer of the appliance or accessory involved. In contacting any manufacturer, dealer or Chinook factory for service or information, be sure to include all the following:

1. Date of purchase along with stock or vehicle identification number.
2. Serial and model number and a complete description of the product.
3. Detailed explanation of the difficulty you are having.

Replacement parts should be purchased through the manufacturer or supplier or through your local dealer or supply store. If you have difficulty obtaining parts or service, contact the Chinook factory for assistance.

REGISTER YOUR WARRANTY TODAY!

Your first responsibility at the time of delivery is to register your warranty, so mail in your completed warranty registration card today. Only by filling out and submitting your registration card can you be assured of the guarantees it provides. This card is for your protection as a consumer; use **it now!**

SERVICE

Remember, warranties do not cover normal maintenance service or adjustments which may become necessary through normal extended use. That is why, after you have met your first obligation by submitting your warranty card, you must be prepared for an on-going responsibility: preventive maintenance.

You have just bought the finest mini-motorhome in the world, and we want you to enjoy every mile of it. All you have to do is rely on the tips and recommendations offered on the following pages.

SHELL WARRANTY:

Our unique fiberglass, one piece molded shell is covered by a lifetime warranty to the original owner. Loss of time, inconvenience, loss of use of motorhome, towing charges, rental cars or other consequential damages are not covered by this warranty.

WHAT IS COVERED:

FACTORY DEFECTS ONLY – Factory defects will be determined by the Chinook Engineering Department or an authorized representative of Chinook.

WHAT IS NOT COVERED:

1. **GEL COAT FRACTURES**
2. **GEL COAT DISCOLORATION**
3. **ROCK CHIPS**
4. **COLLISION DAMAGE**
5. **VANDALISM**
6. **NATURAL DISASTER DAMAGE**
7. **FASTENER POINT DAMAGE FROM NON-FACTORY INSTALLED COMPONENTS**

FLOOR PLANS & FEATURES

GENERAL

Your Chinook motorhome is a compact, yet versatile, recreational vehicle loaded with features designed for your comfort and convenience. To help you in locating and identifying these features see the drawing on pages 5-8. Note that, while only the dinette option is shown, all other components are identical among the three floor plan options (dinette, club and twin-bed). Also, many of the features shown are options and may or may not be in your motorhome.

SYSTEMS MONITOR PANEL

At the press of a button you can determine the fluid levels in the fresh water tank, waste water holding tanks, and LP gas tank from the systems monitor panel located above the closet door (refer to the chapter on the waste water system for false tank readings). This panel also includes the monitoring of the charge level of the coach batteries.

APPLIANCES

Your motorhome is loaded with top-of-the-line, name brand appliances. Operating instructions and specifications for these appliances can be found in your owner's packet. Appliance specifications are also listed on a label located on the inside of the closet door.

COACH BATTERY SYSTEM

All models of the Chinook motorhome come with a state-of-the-art battery system that includes a Low Voltage Disconnect (LVD) and a "Smart" solenoid. With the LVD, accidental drainage of your coach batteries will be minimized, if not eliminated entirely. With the "Smart" solenoid, you will be able to charge your coach batteries as well as your vehicle battery, while eliminating the possibility of accidentally draining your vehicle battery through the coach batteries or vice-versa. Refer to page 20 on the electrical system for more information.

TOWING PACKAGE

A towing package is included as a standard feature on the Chinook Motor home (Rated @ 5000 lbs. with a 500 lb. Tongue weight). This includes the trailer hitch as well as tail light electrical hook-ups. The tail light electrical hook-ups can be found on the extreme rear of the driver's side frame rail. Review the section "Loading and Towing" in the next chapter for safe towing procedures.

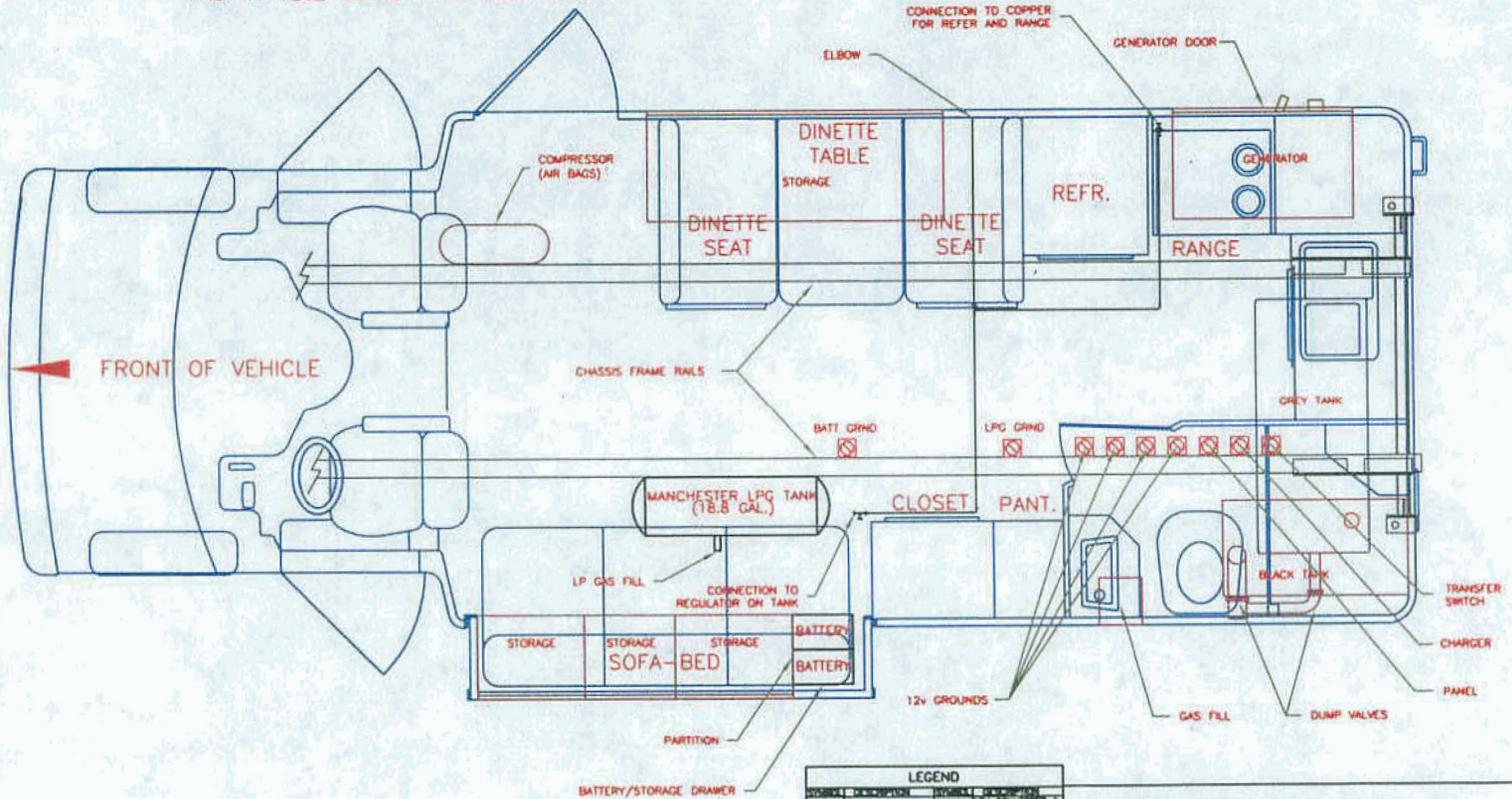
CLOCK

The clock in your motorhome is operated off a battery, which should last approximately one year. To reset the clock, first remove the clock from the cabinet by twisting it counter-clock-wise, and then turn adjustment knob on the back.

FLOOR PLANS & FEATURES

SUB FLOOR SYSTEMS

THIS MOTORHOME IS BUILT TO AND COMPLIES WITH
ANSI A119.2 2002 AND NEC 2002.



LEGEND	
○	12V LIGHT
□	110V RECEPT
⊖	12V RECEPT
⊕	12V PUMP
⊙	12V FAN
⊞	JUNCTION BOX
⊞	CO DETECTOR
⊞	12V CONVERTER & INVERTER PANEL
⊞	12V SWITCH
⊞	STATS
⊞	THERMOSTAT
⊞	SMOKE DETECTOR
⊞	FIRE EXT.
⊞	110V RECEPT SPD
⊞	LPG DETECTOR

LPG INSTALLED PER CHAPTER 5 ANSI A119.2 2002 EDITION
PLUMBING INSTALLED PER CHAPTER 7 ANSI A119.2 2002 EDITION
ELECTRICAL INSTALLED PER NEC 2002.

INTERIOR FINISH OF WALLS, PARTITIONS, CEILING, EXTERIOR PASS-
AGE DOORS, CABINETS, DOOR & DOOR FACES, HABITABLE AREAS,
HALLS, BATH & TOILET ROOMS, TUB/SHOWER WALLS & INTERIOR
TEXTILE MATERIALS, MAXIMUM 200 FLAME SPREAD RATING.

PCR #	UNIT #	REV. BY	DESCRIPTION	REVISION	DATE
			NEW DRAWING		

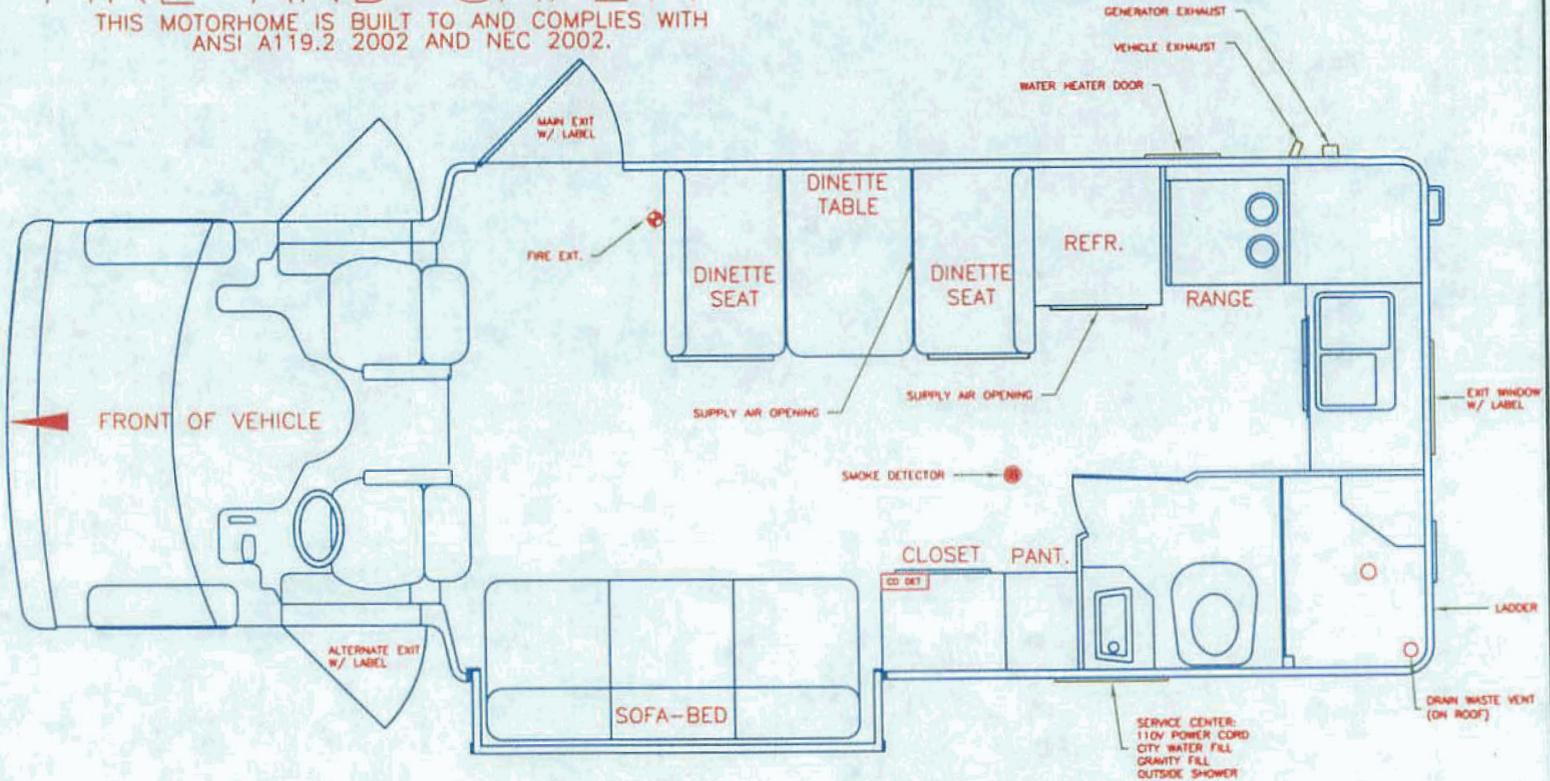
TITLE: FLOOR PLAN SUB-FLOOR SYSTEM	DRAWING #:
MODEL: GLACIER 2500	+/-:
CHINOOK	SCALE: NONE
PROPRIETARY INFORMATION	PART #:
NO PART OR INFORMATION OF THE INFORMATION DISCLOSED HEREIN, SHALL BE USED OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF CHINOOK OR ITS AFFILIATED COMPANIES.	VENDOR #:
	VENDOR:
	PHOTO #:
	DATE DRAWN: 09/30/02
	DRAWN BY: HSB
	09/30/02

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FLOOR PLANS & FEATURES

FIRE AND SAFETY

THIS MOTORHOME IS BUILT TO AND COMPLIES WITH
ANSI A119.2 2002 AND NEC 2002.



LEGEND			
○	12V LIGHT	⊕	12V CONNECTED AT WALL/LINE PANEL
⊖	110V RECEPT	⊕	12V SWITCH
⊖	12V RECEPT	⊕	THERMOSTAT
⊕	12V PUMP	⊕	SMOKE DETECTOR
⊕	12V FAN	⊕	FIRE EXT.
⊕	JUNCTION BOX	⊕	110V RECEPT (P/D)
⊕	CO DETECTOR	⊕	LPG GAS DETECTOR

LPG INSTALLED PER CHAPTER 5 ANSI A119.2 2002 EDITION
PLUMBING INSTALLED PER CHAPTER 7 ANSI A119.2 2002 EDITION
ELECTRICAL INSTALLED PER NEC 2002.

INTERIOR FINISH OF WALLS, PARTITIONS, CEILINGS, EXTERIOR PASSAGE DOORS, CABINETS, DOOR & DOOR FACES, HABITABLE AREAS, HALLS, BATH & TOILET ROOMS, TUB/SHOWER WALLS & INTERIOR TEXTILE MATERIALS, MAXIMUM 300 FLAME SPREAD RATING.

REV.	DATE	DESCRIPTION	BY	CHKD.

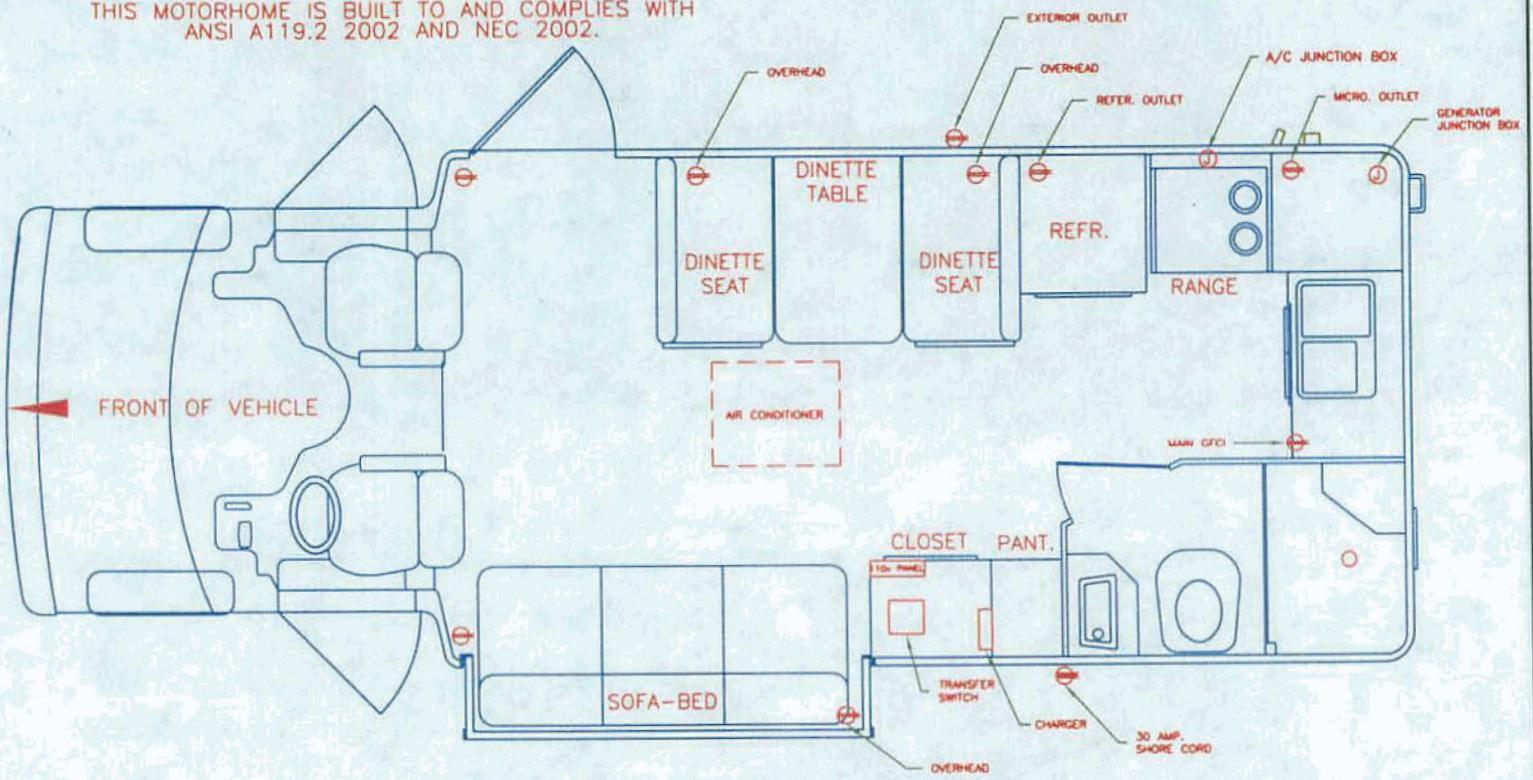
TITLE: SUB-FLOOR PLAN FIRE & SAFETY	DRAWING #:
MODEL: GLACIER 2500	SCALE: HOME
CHINDOOK PROPRIETARY INFORMATION:	VENDOR #:
	VENDOR:
DATE DRAWN: 10/1/02	PROTO #:
DRAWN BY: MB	DATE: 10/1/02
	10/1/02

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FLOOR PLANS & FEATURES

110v SYSTEM

THIS MOTORHOME IS BUILT TO AND COMPLIES WITH
ANSI A119.2 2002 AND NEC 2002.



LEGEND			
○	12V LIGHT	○	12V CONVERTER
⊕	110V RECEPT	⊕	12V SWITCH
⊖	12V RECEPT	⊖	THERMIST
⊙	12V PUMP	⊙	SMOKE DETECTOR
⊕	12V FAN	⊕	FIRE EXT.
⊕	JUNCTION BOX	⊕	110V RECEPT GFCI
⊕	NO CO DETECTOR	⊕	LPG SHUT OFF GAS DETECTOR

LPG INSTALLED PER CHAPTER 5 ANSI A119.2 2002 EDITION
PLUMBING INSTALLED PER CHAPTER 7 ANSI A119.2 2002 EDITION
ELECTRICAL INSTALLED PER NEC 2002.

INTERIOR FINISH OF WALLS, PARTITIONS, CEILINGS, EXTERIOR PASS-
ASAGE DOORS, CABINETS, DOOR & DOOR FACES, HABITABLE AREAS,
HALLS, BATH & TOILET ROOMS, TUB/SHOWER WALLS & INTERIOR
TEXTILE MATERIALS, MINIMUM 200 FLAME SPREAD RATING.

TITLE: FLOOR PLAN 110v SYSTEM		DRAWING #:
MODEL: GLACIER 3500		SCALE: NONE
CHINOOK PROPRIETARY INFORMATION		PART #:
		VENDOR #:
DATE DRAWN: 10/1/02		PROTO #:
DRAWN BY: (initials)		DATE: 10/1/02

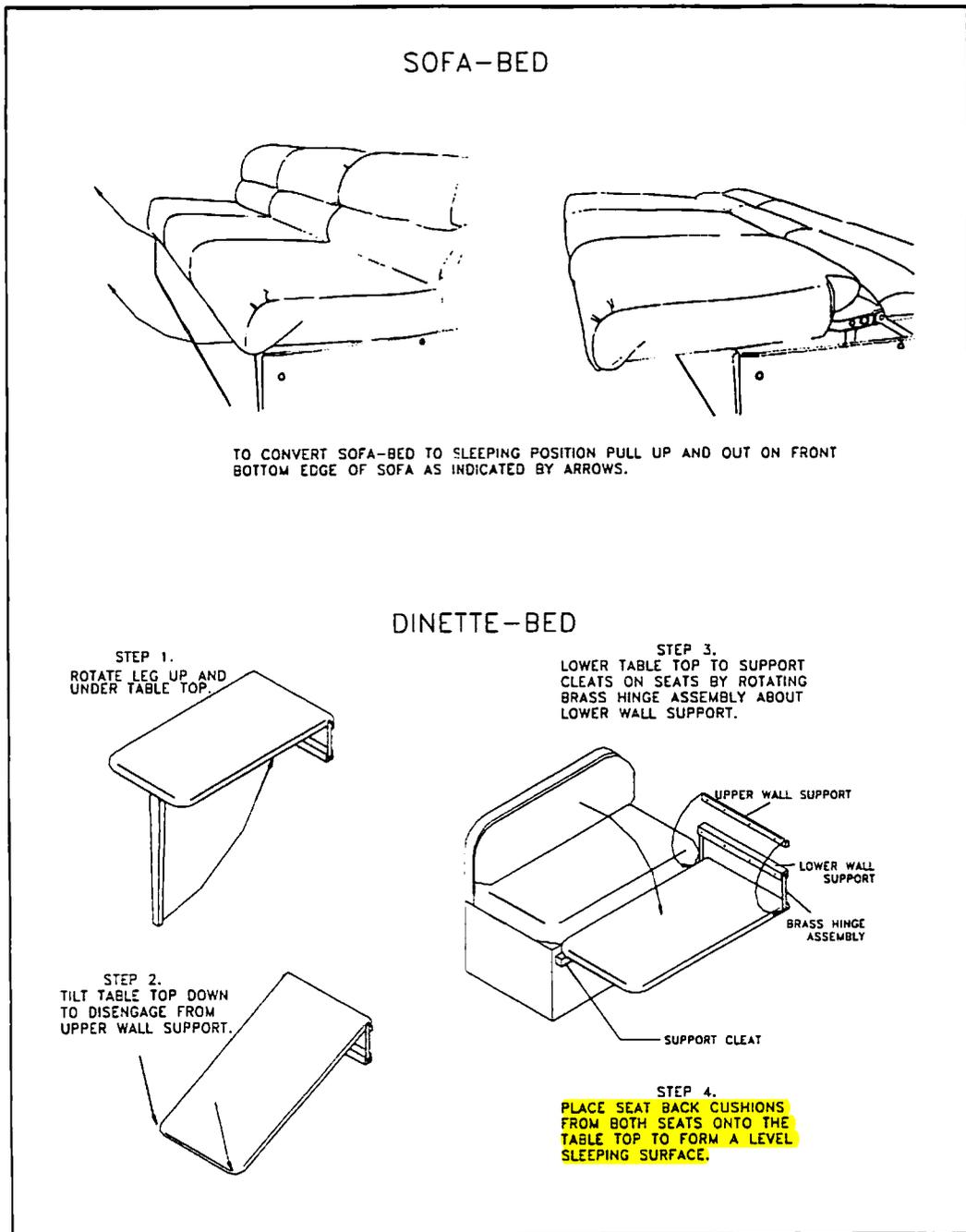
PCR #	UNIT #	REV. BY	DESCRIPTION	REVISION	DATE
			NEW DRAWING		

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FLOOR PLANS & FEATURES

SLEEPING ACCOMMODATIONS

Sleeping accommodations vary from model type and floor plan and may even be unique to your motorhome, if you ordered it with special options. The sofa-bed, offered in the Club and Dinette floor plans, is folded out to the sleeping position as shown below. On Dinette floor plans, the sofa-bed forms a larger bed with the dinette seats when they are configured with the dinette table lowered as shown below.



VEHICLE OPERATION

PLANNING YOUR TRIP, BEING PREPARED

Planning your trip is an exciting time - and a time when you are likely to forget something important in your last minute rush to get ready.

Being properly prepared is the key to getting the most enjoyment from your motorhome, and that's why we are offering the following suggestions as a guide. Review them before starting out, refer to them when you are on the road, and then note the items you have forgotten so your next trip will be even more fun. Plan your trip carefully. Consult maps and guide books so you will be familiar with road conditions, roadside parks, rest areas and campsites. Be sure that all your equipment is serviced and ready for travel.

Check all of the following:

1. All fluids, including motorhome engine crankcase oil, transmission fluid, power steering fluid, radiator reservoir level, master cylinder brake fluid, electrolyte level of batteries, windshield water reservoir level.
2. Inspect wheel lugs for tightness.
3. Examine all tires for road damage. Inflate to the pressure recommended by the chassis manufacturer and note that this pressure is for cold tires (see chassis operator's manual).
4. Check oil level in the generator power plant (if installed). Refer to the instructions and the maintenance manual provided by the generator manufacturer for pre-use service requirements. Make sure extra oil and other supplies are provided if the motorhome is to be used for extended periods.
5. Make certain your jack handle and lug wrench are properly stowed and in good working order.
6. Check to see that your 110-volt power cord is stowed in its compartment.
7. Be sure your fire extinguisher is secured and easily accessible.
8. Check to see that such accessories as the plastic sewer hose with fittings and a water supply hose (a garden hose approved for 125 psi service is adequate) are on board.
9. Fill water tank, if required (see section on Chinook water system).
10. Make sure drain line cap and holding tank knife valves are closed and secured.
11. Check all stop lights, running lights and other safety items.
12. Put your Chinook motorhome items in "travel" condition. This means following such common-sense procedures as securing any loose items that could shift while you are traveling. For example, secure refrigerator contents- place lids on containers of liquids - and secure locking latch on refrigerator door. Be sure cabinet contents are secured and doors are tightly closed. Close and lock all exterior doors and windows.
13. Always carry spare fuses of every size used in your vehicle.
14. Adjust side view mirrors for maximum visibility.
15. Fill the fuel tank, using only the fuel recommended in the chassis operator's manual.
16. Fill the LP-gas tank if required.
17. Ensure that the antenna and/or satellite dish is retracted to the travel position.

WARNING! ALWAYS EXTINGUISH PILOT LIGHTS AND OPEN FLAMES ON APPLIANCES BEFORE FILLING YOUR GASOLINE OR LPG TANK.

WARNING DO NOT ATTEMPT TO MOVE VEHICLE WITHOUT RETRACTING SLIDE (S) AND AUTO LEVELERS

VEHICLE OPERATION

LOADING AND TOWING

When loading up your motorhome it is important to observe its various weight limitations to ensure that it handles safely on the road. This includes not only the cargo in the motorhome itself but also any vehicle or trailer that is towed. Dealer installed equipment and towed vehicle tongue weight will reduce Cargo Carrying Capacity of your Chinook.

MOTORHOME WEIGHT INFORMATION

VIN OR SERIAL NUMBER _____

GVWR (GROSS VEHICLE WEIGHT RATING) IS THE MAXIMUM PERMISSIBLE WEIGHT OF THIS FULLY LOADED MOTORHOME.

UVW (UNLOADED VEHICLE WEIGHT) IS THE WEIGHT OF THIS MOTORHOME AS MANUFACTURED AT THE FACTORY WITH FULL FUEL, ENGINE OIL, AND COOLANTS.

SCWR (SLEEPING CAPACITY WEIGHT RATING) IS THE MANUFACTURER'S DESIGNATED NUMBER OF SLEEPING POSITIONS MULTIPLIED BY 154 POUNDS (70 KILOGRAMS).

CCC (CARGO CARRYING CAPACITY) IS EQUAL TO GVWR MINUS EACH OF THE FOLLOWING UVW, FULL FRESH (POTABLE) WATER WEIGHT (INCLUDING WATER HEATER), FULL LP GAS WEIGHT AND SCWR.

CARGO CARRYING CAPACITY (CCC) COMPUTATION

	POUNDS	KILOGRAMS
GVWR		
MINUS UVW		
MINUS FRESH WATER WEIGHT OF ____ GALLONS @ 8.3 LB/GAL		
MINUS LP GAS WEIGHT OF ____ GALLONS @ 4.5 LB/GAL		
MINUS SCWR OF ____ PERSONS @ 154 LB/PERSON		
= CCC FOR THIS MOTORHOME*		

*DEALER INSTALLED EQUIPMENT AND TOWED VEHICLE TONGUE WEIGHT WILL REDUCE CCC
CONSULT OWNER MANUAL(S) FOR SPECIFIC WEIGHING INSTRUCTIONS AND TOWING GUIDELINES. C-D-126

3.938"

5.000"

WARNING: Exceeding the cargo weight capacities of your motorhome can cause undesirable handling characteristics and may create a safety hazard. If you modify your motorhome by adding racks not supplied by the manufacturer your warranty may become invalid.

Just as care should be taken to prevent unsafe loading of the motorhome itself, care should be taken to prevent unsafe towing of trailers. The vehicle owner's manual provided by Ford should be consulted for guidelines on safe towing.

WARNING: Exceeding the tongue weight capacity of the trailer hitch can cause undesirable handling characteristics and may create a safety hazard.

VEHICLE OPERATION

STARTING UP AND READY TO LEAVE

With your preparation and final checkouts completed, you're ready to leave. However, note the following before leaving:

MAKE DOUBLE SURE SLIDES ARE RETRACTED AND LEVELING JACKS ARE UP!!

1. When starting, warming up and operating your engine, you'll get the best results and the performance you want by following the instructions in your chassis operator's manual.
2. Seat belts are a vital safety feature in your Chinook motorhome. All seat belts should be fastened while your motorhome is in motion. **Seats not equipped with belts should not be occupied while the vehicle is in motion.**

AT LAST, YOU'RE ON THE ROAD!

Once you've become accustomed to the feel of the controls and can accurately gauge distances and the length and width of the vehicle, your Chinook motorhome is like driving your family car. It's easy to handle, maneuver and park. However, be cautious when maneuvering so you allow for the extra length and width of the motorhome. Check your side view mirrors frequently for approaching traffic from the rear.

When on the road, remember that higher speeds may result in a sharp increase in fuel consumption. **Always allow for the extra height of your Chinook. It's approximately 10' without roof air conditioning and 10½' with it.** Avoid low overhead clearance areas such as low roofs at service stations. This is especially important as you drive with the overhead vent open or if you have a roof storage pod or air conditioner. When parking, remember that the rear wheels are wider than the motorhome. Also, when parking on an incline, your front wheels should be turned into the curb in the direction of the roll as an aid to your parking brake.

Changing a Tire

See your chassis operator's manual for tire changing instructions. Your fully loaded motorhome is very heavy, and the lug nuts usually are set with a power torque wrench which makes them extremely difficult to remove. Obtain road service (see Ford's service number below) whenever possible, and **only attempt to change tires yourself when it is an emergency situation.**

FORD MOTOR HOME OWNERS SERVICE LOCATOR HOTLINE NUMBER

1-800-444-3311

This service provides 24-hour, 7-day-a-week assistance in contacting a dealership, arranging a service appointment and providing a dealership contact person name. This service can also assist in locating towing service, if needed.

VEHICLE OPERATION

WARNING: Loosening the rear lug nuts may release both outside and inside wheels. Do not attempt to remove lugs without having your jack in position to absorb the full weight of the motorhome.

Fire and Life Safety

Your motorhome is equipped with the following pieces of safety equipment that should be checked prior to your departure:

1. A properly rated fire extinguisher located just inside next to the coach door. Check your extinguisher on a regular basis for proper charge and make sure it is operable.
2. A CO (carbon monoxide) monitor located above the closet door.
3. An LP gas detector located at the bottom of the galley cabinet.
4. A smoke detector located on the ceiling near the bath/toilet cabinet.

Emergency Exits

The main coach entrance door is designated as the main emergency exit. The passenger door is designated for use as an alternate emergency exit. These exits should be kept unobstructed and free to open completely.

Emergency Start



In the event that the vehicle (chassis) battery is drained, you can tap into the coach batteries with the "Vehicle Boost Start" switch, located above the driver's seat to start the engine. Note that this switch needs to be depressed while simultaneously turning the ignition key on.

Auxiliary Lights (Optional)

Turning on driving lights is accomplished as follows:

1. To turn on driving lights, the switch should be in the "Driving Lights" position; this switch operates independently from the headlamps (Located in the overhead switch cluster).

CAUTION: Traffic rules in many states require that fog lights only be used when the headlamps are set in the low beam position and that driving lights only be used with the headlamps set in the high-beam position.

CHINOOK CUBE™ SLIDE ROOM

Slide-out Operation

Slide Room Extend

1. Set Emergency Brake.
2. Insert key in slide panel and turn to the on position.
3. Wait until the amber light is on constantly (It flashes while the air seal is deflating)
4. When the amber light is on constantly press and hold the button in the extend position (This will retract the travel locks and extend the room)
5. Continue holding the button in the extend position until the room is fully extended (NOTE: DO NOT RUN THE ROOM PART OF THE WAY OUT AND ATTEMPT TO RETRACT IT, THIS MAY CAUSE THE SYSTEM TO FAIL)
6. Release the button and turn off the key (This will re-inflate the air seal)

Slide Room Retract

1. Set Emergency Brake.
2. Insert key in slide panel and turn to the on position.
3. Wait until the amber light is on constantly (It flashes while the air seal is deflating)
4. When the amber light is on constantly press and hold the button in the retract position.
5. Continue holding the button in the retract position until the room is fully retracted and the travel locks have fully extended **and the red pump indicator light turns off.** (NOTE: DO NOT RUN THE ROOM PART OF THE WAY IN AND ATTEMPT TO EXTEND IT BACK OUT, THIS MAY CAUSE THE SYSTEM TO FAIL)
6. Turn the key to the off position (This will re-inflate the air seal)

Slide-out Manual Retraction

If for any reason the slide or auto levelers will not retract, **DO NOT ATTEMPT TO FIX THEM YOURSELF.** Immediately call the Chinook Service Department at 1-800-552-8886. They will walk you through the Manual Retraction Procedure.

CHINOOK CUBE™ SLIDE ROOM

Chinook Cube™ Components/Troubleshooting

The following is a list of the major components of the hydraulic system in your Chinook motorhome. This list should give you a better understanding of how your Chinook Cube™ works. (See page 16) If your motorhome exhibits any malfunction in these components please call the Chinook Service Department immediately at 1-800-552-8886, or if it is after business hours call Jason Schmidt at 509-949-0173 or Mike Underwood at 509-930-2072



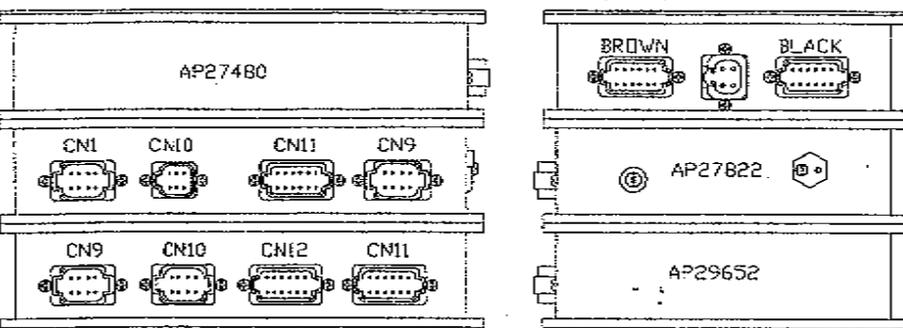
- **CAN (Controlled Area Network).** System of computer operated switches and relays. Connects all components of Auto Leveling Jacks, User Controls, and Slide operating system. Located under the motorhome (in the drivers side front storage bin)
- **Air Seal.** Fills area between Chinook Cube™ and the main fiberglass body. Inflates any time the key to the room slide system is in the off position, sealing out weather or water. Deflates to allow the room to slide in or out.
- **Air Compressor and Tank.** Inflates the Air Seal and provides air for the Automatic Ride Leveling Airbag System.
- **Hydraulic Pump and Reservoir.** Provides the power (oil pressure) to move the Chinook Cube™ in and out, as well as level the jacks. Located under the motorhome (in the drivers side front storage bin)
- **User Interface.** Allows the user (you) to operate the Chinook Cube™ system, and monitor the status of the system. Located on the front drivers side overhead panel, (just above the drivers seat.)
- **Room Locks.** Locks the Chinook Cube™ in the "in" position while not in use, automatically retract to allow the slide out procedure. Located on the top side of the room. Mounts to the motorhome.
- **Hall Effect Sensor.** Determines the position of the Room Locks to determine whether or not they are deployed (locked) or retracted (unlocked). Located next to Room Locks on the upper side of the Chinook Cube™ Slide Room.
- **Room In Sensor.** Located on the Room Locks, detects the room in the "In" position.
- **Room Out Sensor.** Located on the hydraulic ram (under slide room) detects the room in full out position.

TRAIL WAGONS
2 Rooms

FEB-13-2006 15:44

HWH CORP

AP29645
CENTRAL CONTROL MODULE



AP27480 (BROWN)
PIN

- 1 BLK(W5050) EXTEND ROOM 1
- 2 BLK(W5150) RETRACT ROOM 1
- 3 BLK(W5200) LOCK ROOM 1
- 4 BLK(W5300) UNLOCK ROOM 1
- 5 BLK(W5051) EXTEND ROOM 2
- 6 BLK(W5151) RETRACT ROOM 2
- 7 BLK(W5600) AIR SEAL
- 8 BLK(W5650) VACUUM
- 9 BLK(W5301) UNLOCK ROOM 2
- 10 BLK(W5201) LOCK ROOM 2
- 11 N/C
- 12 N/C

AP27480 (GRAY)
PIN

- 1 BLK(W6800) SW BATT
- 2 BLK(W6800) SW BATT
- 3 WHT(W6230) GROUND
- 4 WHT(W6230) GROUND

AP27480 (BLACK)
PIN

- 1 BLK(W7600) CRX1
- 2 BLK(W1400) LEFT FRONT JACK
- 3 BLK(W2400) RIGHT FRONT JACK
- 4 N/C
- 5 BLK(W3400) RIGHT REAR JACK
- 6 BLK(W7601) CRX2
- 7 BLK(W4400) LEFT REAR JACK
- 8 N/C
- 9 N/C
- 10 N/C
- 11 N/C
- 12 N/C

X

AP27822 CN1 (BLACK)
PIN

- 1 N/C
- 2 N/C
- 3 RED SW BATT
- 4 WHT GROUND
- 5 CAN SHIELD
- 6 N/C
- 7 GRN CAN LDW
- 8 YEL CAN HI

AP27822 CN10 (GRAY)
PIN

- 1 BLK(W7599) SWITCH LIGHT CONTROL
- 2 RED(W6100) RESET OUT
- 3 BLK(W7550) RESET IN
- 4 RED(W6121) WARN LIGHT SUPPLY
- 5 WHT(W6230) SWITCH LIGHT SUPPLY
- 6 BLK(W7699) WARN LIGHT/BUZZER CONTROL

AP27822 CN11 (GRAY)
PIN

- 1 RED(W6110) IGNITION
- 2 N/C
- 3 N/C
- 4 N/C
- 5 RED(W6120) ACCESSORY
- 6 RED(W6100) COACH BATTERY
- 7 WHT(W6230) GROUND
- 8 N/C
- 9 N/C
- 10 N/C
- 11 BLK(W9000) PARK BRAKE SWITCH
- 12 RED(W6101) ENGINE BATTERY

AP27822 CN9 (GREEN)
PIN

- 1 BLK(W8500) MASTER RELAY CNTRL
- 2 BLK(W8100) 3000 LB PSW.
- 3 BLK(W8101) 50 LB PSW
- 4 BLK(W8600) PMP RELAY CNTRL
- 5 N/C
- 6 BLK(W9901) SW BATT FROM PUMP RELAY
- 7 N/C
- 8 N/C

AP29652 CN1 (BLACK)
PIN

- 1 N/C
- 2 N/C
- 3 RED SW BATT
- 4 WHT GROUND
- 5 CAN SHIELD
- 6 N/C
- 7 GRN CAN LDW
- 8 YEL CAN HI

AP29652 CN10 (GRAY)
PIN

- 1 N/C
- 2 BLK(W7510) READY TO OPERATE
- 3 BLK(W7530) PUMP
- 4 BLK(W7501) EXTEND
- 5 BLK(W7502) RETRACT
- 6 RED(W6805) SW BATTERY
- 7 BLK(W7631) SYSTEM WAKE UP
- 8 WHT(W6230) GROUND

AP29652 CN12 (GRAY)
PIN

- 1 BLK(W1000) LEFT FRONT WARNING SW.
- 2 BLK(W2000) RIGHT FRONT WARNING SW.
- 3 BLK(W3000) RIGHT REAR WARNING SW.
- 4 BLK(W4000) LEFT REAR WARNING SW.
- 5 N/C
- 6 WHT(W6235) GROUND
- 7 N/C
- 8 N/C
- 9 BLK(W4200) LEFT REAR PRESSURE SW.
- 10 BLK(W3200) RIGHT REAR PRESSURE SW.
- 11 BLK(W2200) RIGHT FRONT PRESSURE SW.
- 12 BLK(W1200) LEFT FRONT PRESSURE SW.

AP26125 CN 11 (GREEN)
PIN

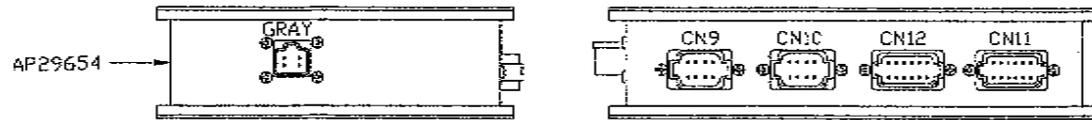
- 1 BLK(W5704) UPPER FRONT UNLOCK
- 2 BLK(W5700) REAR ROOM OUT
- 3 BLK(W5703) UPPER FRONT ROOM IN
- 4 N/C
- 5 N/C
- 6 WHT(W6230) GROUND
- 7 RED(W6120) SW BATTERY
- 8 N/C
- 9 BLK(W5709) UPPER REAR LOCK
- 10 BLK(W5702) UPPER REAR ROOM IN
- 11 BLK(W5708) UPPER FRONT LOCK
- 12 BLK(W5705) UPPER REAR UNLOCK

		HWH		1-80 EXIT 267 SOUTH RT 1 MDSOOW, IOWA 52760	
		SCALE 1:3	DATE 06 JAN 03	DRAWN BY	
NO.	DATE	REVISION			
SYSTEM SCHEMATIC ELEC				DRAWING NUMBER MP89007	
THE INFORMATION DISCLOSED ON THIS DRAWING IS CONFIDENTIAL AND MUST NOT BE DISCLOSED OR USED IN ANY MANNER WHICH WILL BE DETRIMENTAL TO THE HWH CORPORATION					

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AP29646
ROOM 2 MODULE



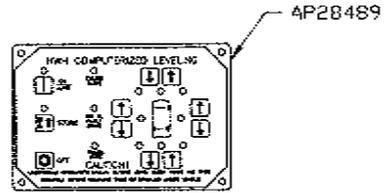
AP29654 (GRAY)
PIN
1 BLK(W5600) AIR SEAL
2 WHT(W6230) GROUND
3 BLK(W5550) VACUUM
4 N/C

AP29654 CN9 (BLACK)
PIN
1 N/C
2 N/C
3 RED SW BATTERY
4 WHT GROUND
5 CAN SHIELD
6 N/C
7 GRN CAN LOW
8 YEL CAN HI

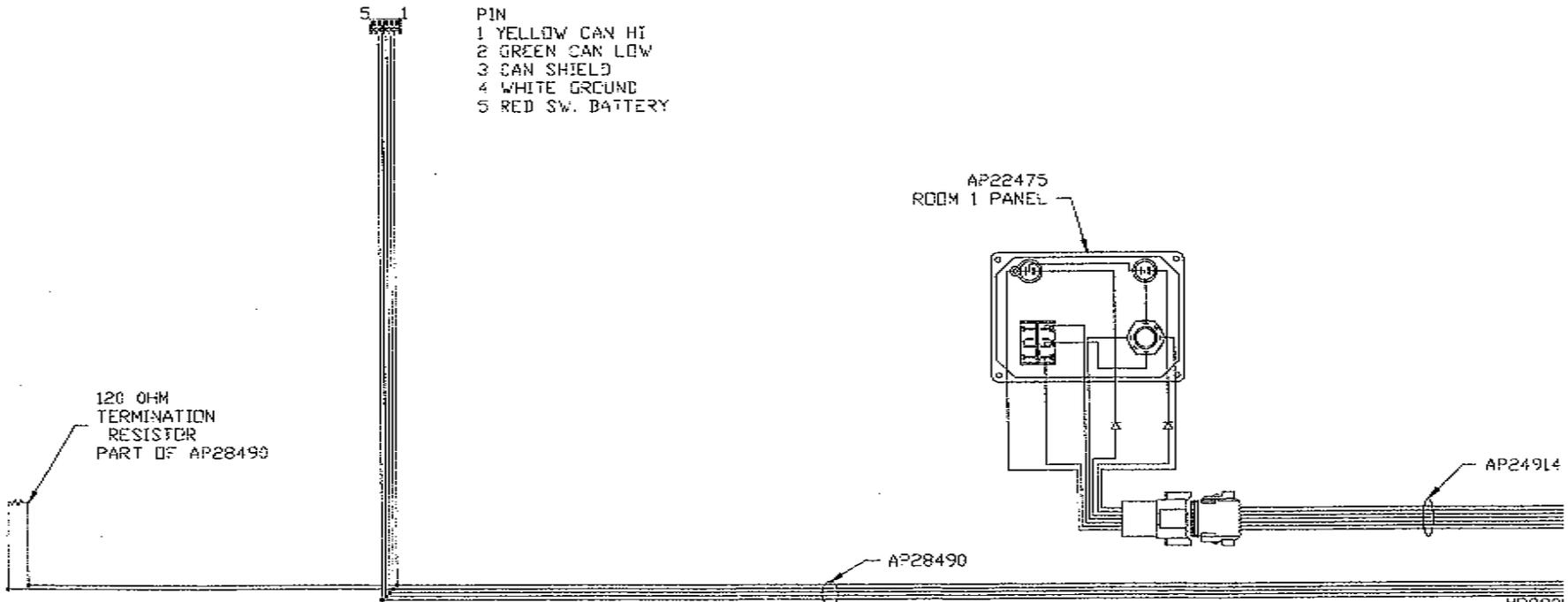
AP29654 CN10 (GRAY)
PIN
1 N/C
2 BLK(W7510) READY TO OPERATE
3 BLK(W7530) PUMP
4 BLK(W7501) EXTEND
5 BLK(W7502) RETRACT
6 RED(W6805) SW BATTERY
7 BLK(W7631) SYSTEM WAKE UP
8 WHT(W6230) GROUND

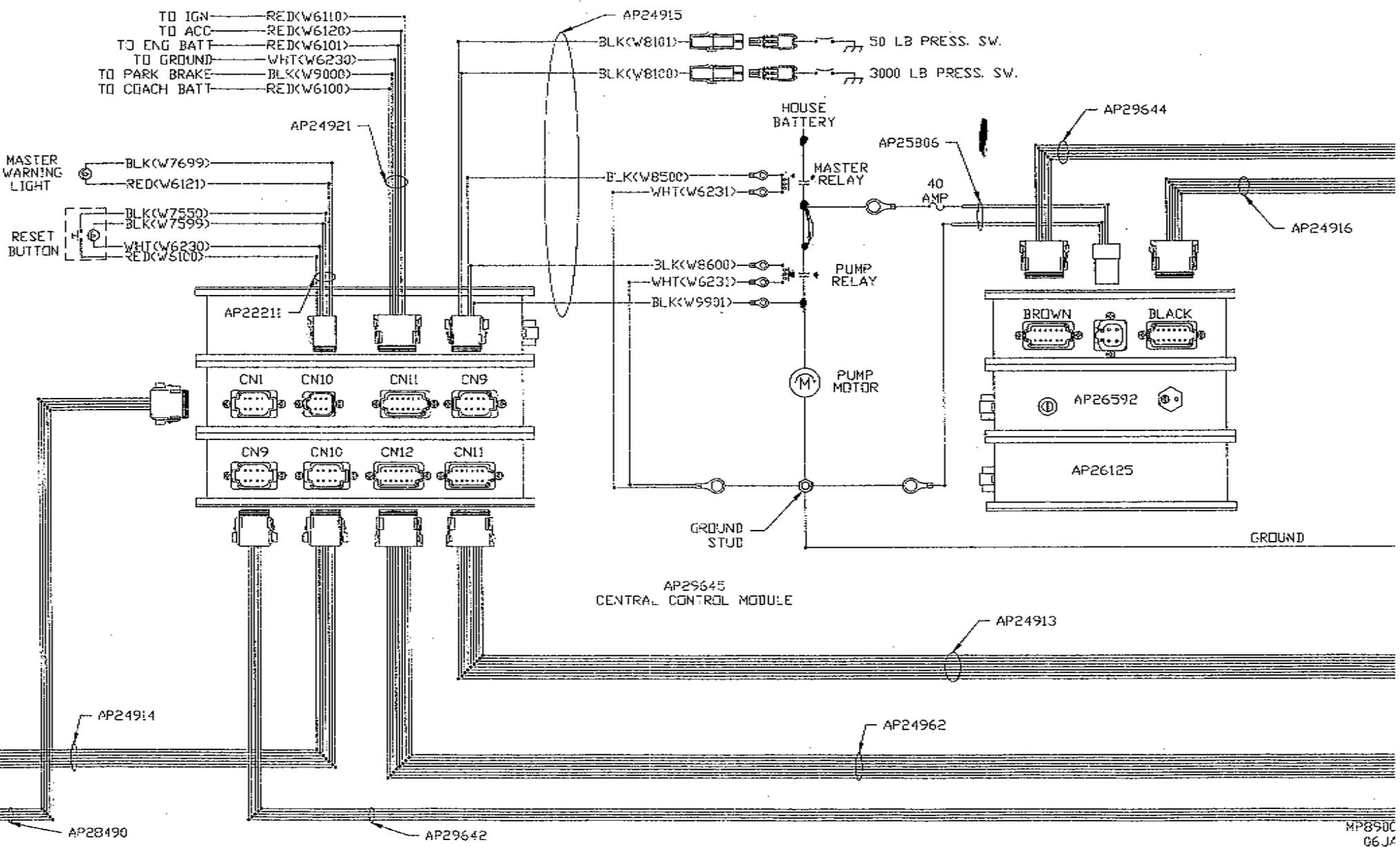
AP29654 CN12 (GRAY)
PIN
1 N/C
2 N/C
3 N/C
4 N/C
5 N/C
6 N/C
7 N/C
8 N/C
9 N/C
10 N/C
11 N/C
12 N/C

AP29654 CN11 (GREEN)
PIN
1 BLK(W5704) UPPER FRONT UNLOCK
2 BLK(W5700) REAR ROOM OUT
3 BLK(W5703) UPPER FRONT ROOM IN
4 N/C
5 N/C
6 WHT(W6230) GROUND
7 RED(W6120) SW BATTERY
8 N/C
9 BLK(W5709) UPPER REAR LOCK
10 BLK(W5702) UPPER REAR ROOM IN
11 BLK(W5708) UPPER FRONT LOCK
12 BLK(W5705) UPPER REAR UNLOCK

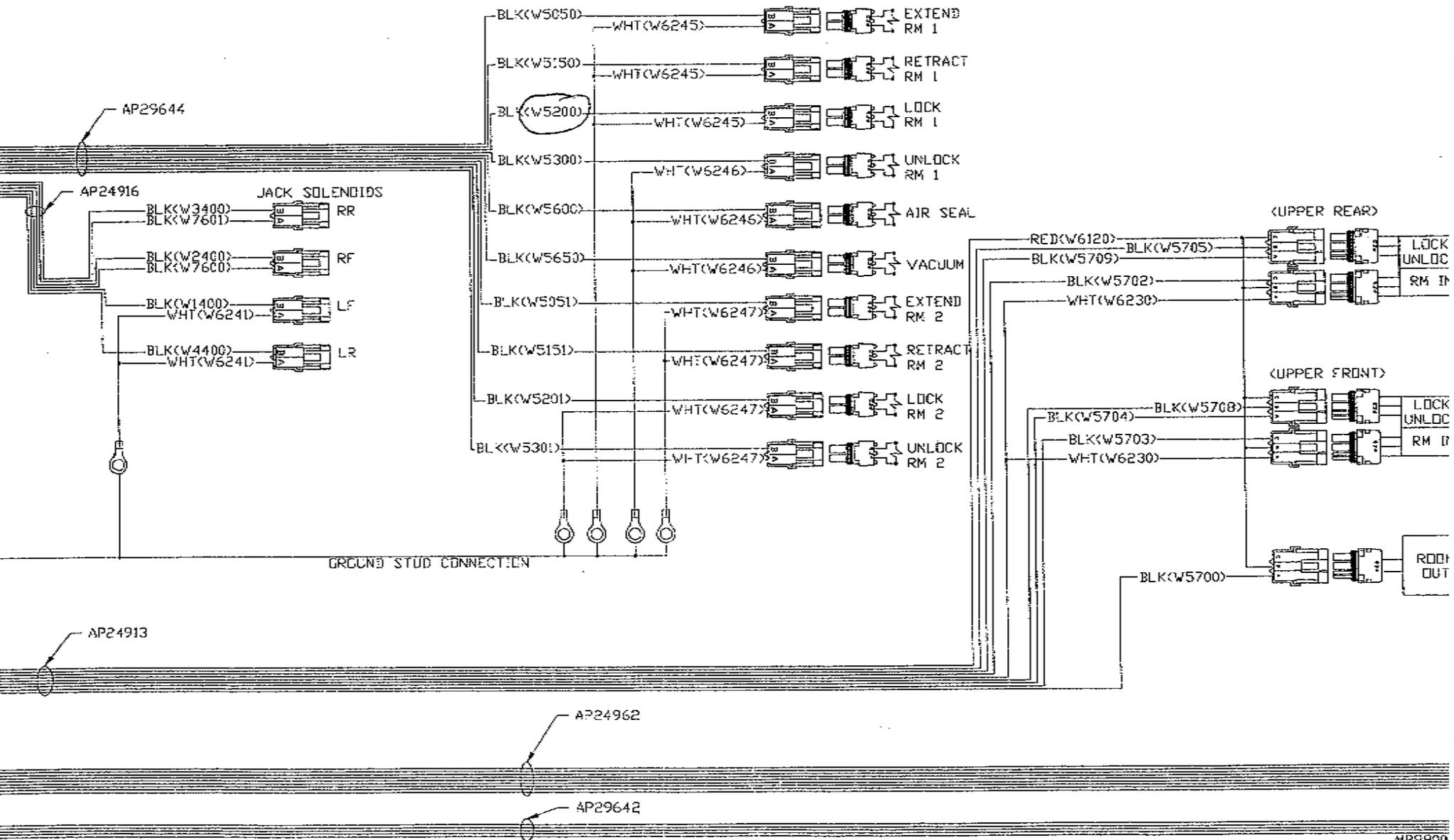


- PIN
- 1 YELLOW CAN HI
 - 2 GREEN CAN LOW
 - 3 CAN SHIELD
 - 4 WHITE GROUND
 - 5 RED SW. BATTERY

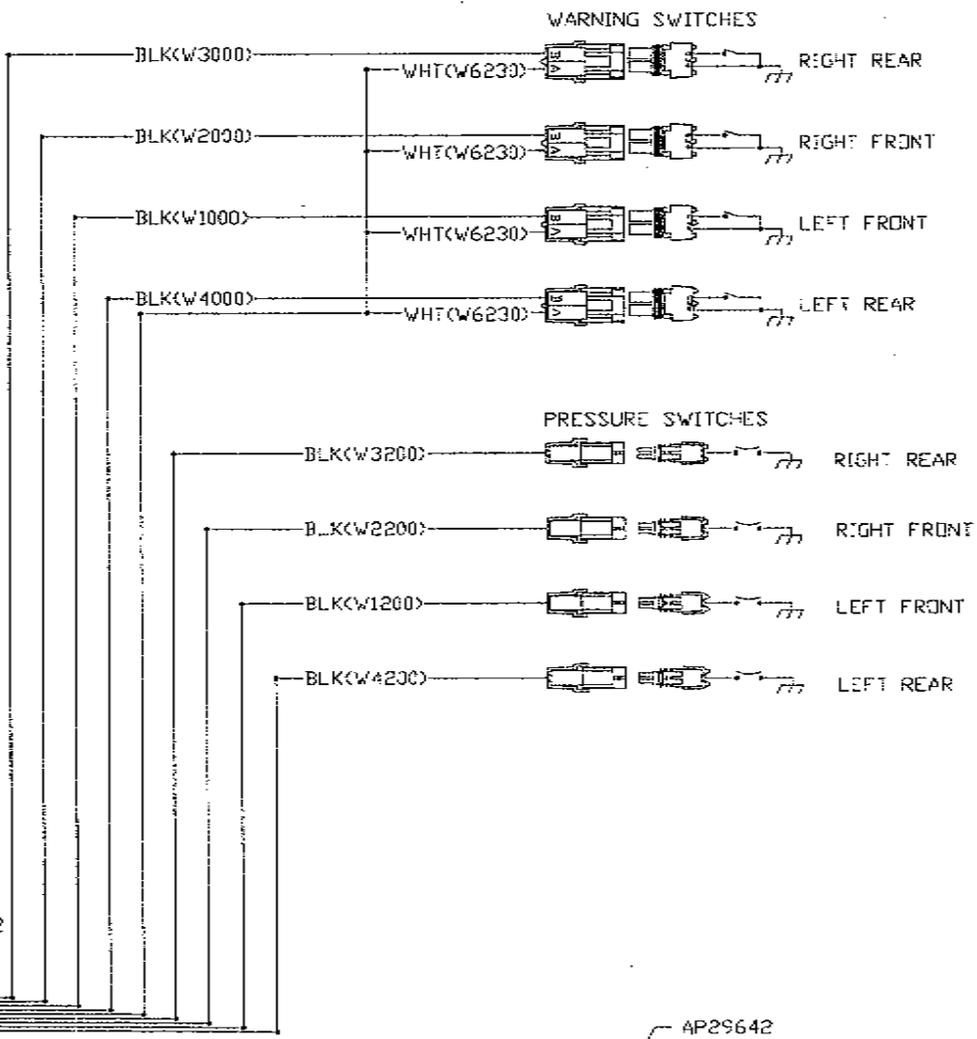


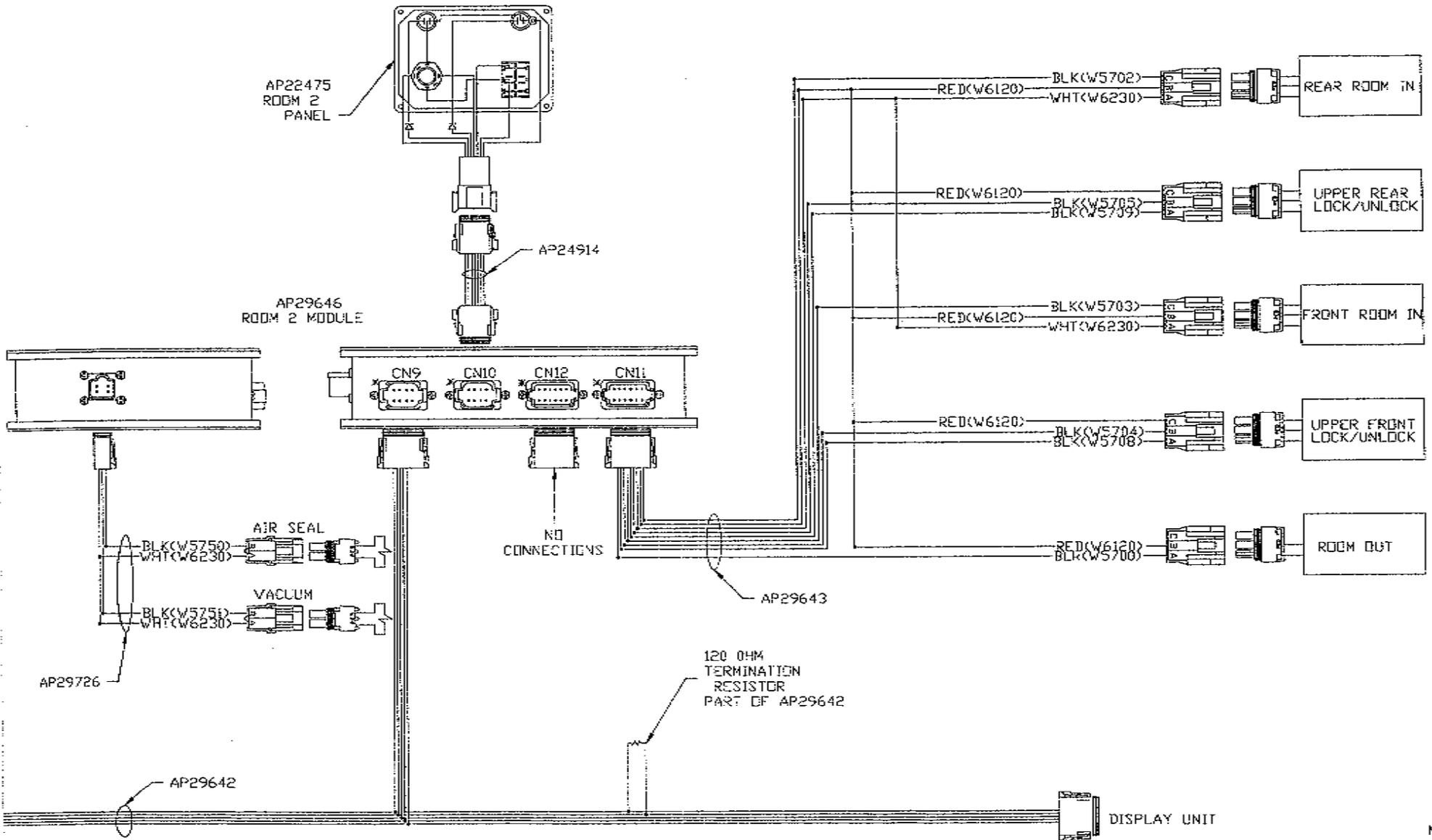


switch



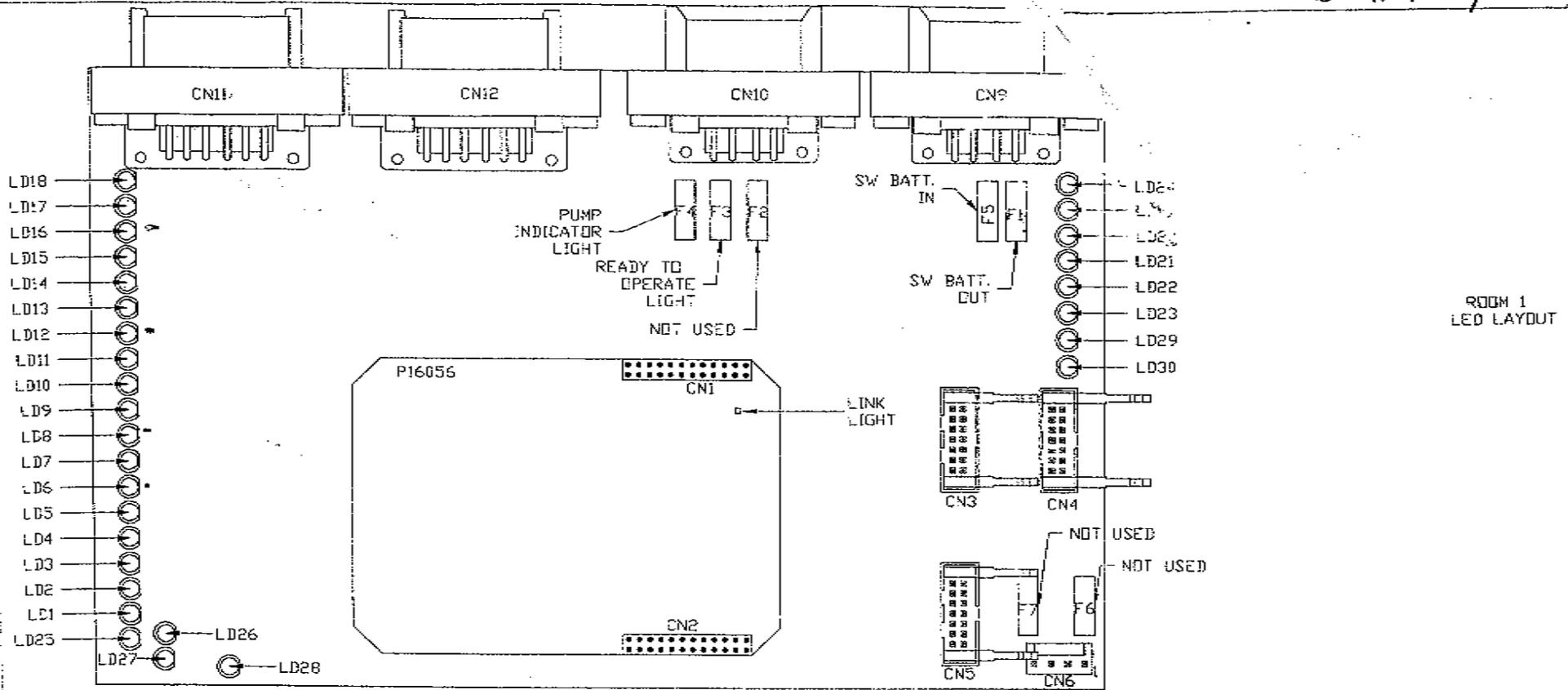
AP 19920





CTOA
C10B

Black - 3 pin



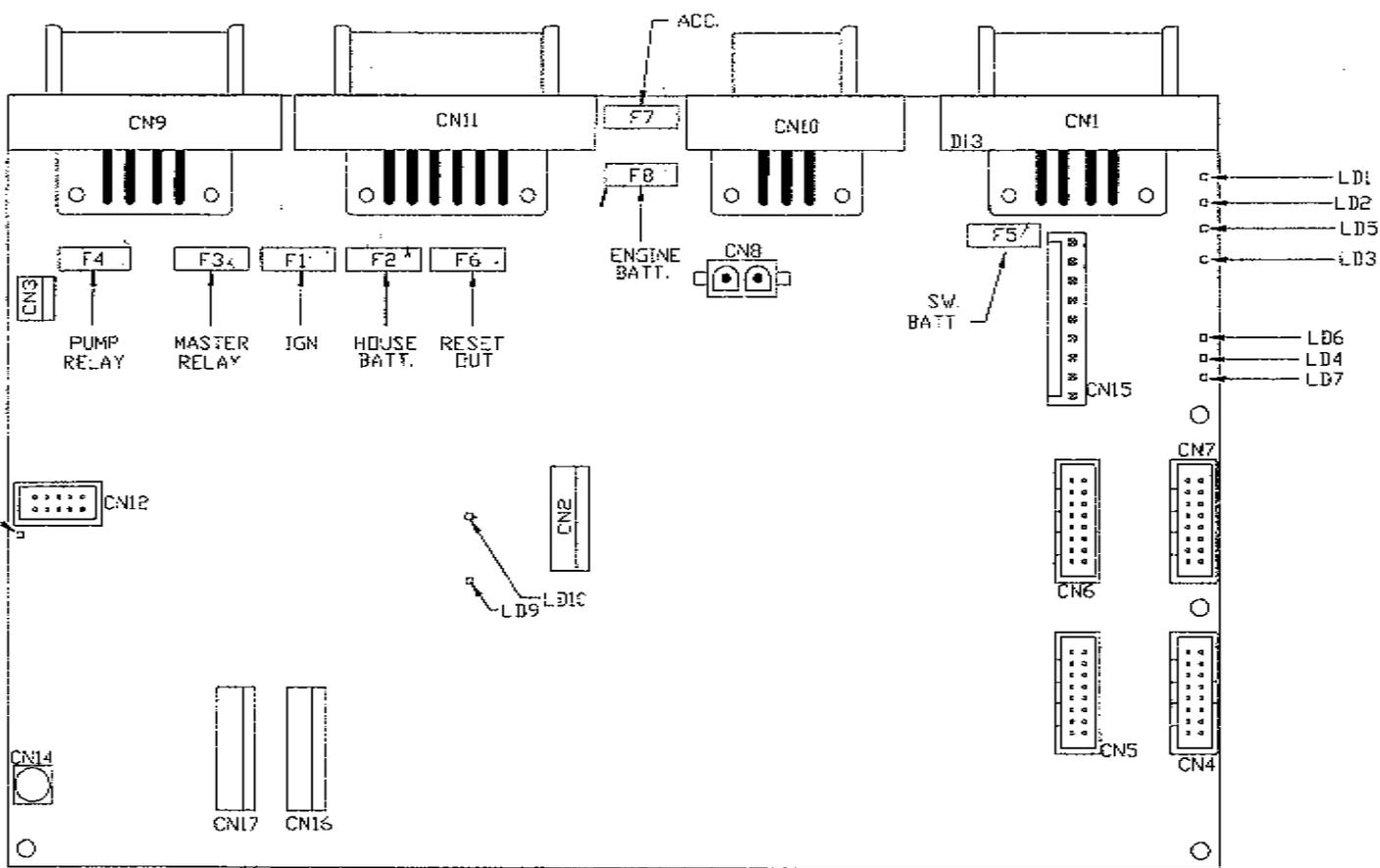
LED #	CONNECTOR	COLOR	DESCRIPTION	LED #	CONNECTOR	COLOR	DESCRIPTION
LED 1	CN 10 PIN 4	RED	EXTEND	LED 16	CN 12 PIN 4	GREEN	LR WARNING SW
LED 2	CN 10 PIN 5	RED	RETRACT	LED 17	CN 11 PIN 9	GREEN	UR LOCK
LED 3	NOT USED	GREEN	NOT USED	LED 18	CN 12 PIN 9	GREEN	LR PRESSURE SW
LED 4	NOT USED	YELLOW	NOT USED	LED 19	CN11/CN12 PIN 7	RED	SW 12V (OUT)
LED 5	CN11 PIN 2	YELLOW	ROOM OUT	LED 20	CN9 PIN 3	RED	SW BATT
LED 6	CN 12 PIN 2	YELLOW	RF WARNING SW	LED 21	CN10 PIN 3	RED	PUMP INDICATOR
LED 7	CN11 PIN 3	GREEN	UF ROOM IN	LED 22	CN10 PIN 2	RED	READY TO OPERATE
LED 8	CN 12 PIN 3	GREEN	RR WARNING SW	LED 23	NOT USED	RED	NOT USED
LED 9	CN 11 PIN 10	GREEN	UR ROOM IN	LED 24	CN 10 PIN 7	RED	SYSTEM WAKE UP
LED 10	CN 12 PIN 10	GREEN	RR PRESSURE SW	LED 25	---	---	---
LED 11	CN 11 PIN 1	YELLOW	UF UNLOCK	LED 26	CN11 PIN 11	GREEN	UF LOCK
LED 12	CN 12 PIN 1	YELLOW	LF WARNING SW	LED 27	---	---	---
LED 13	CN11 PIN 12	YELLOW	UR UNLOCK	LED 28	CN 12 PIN 11	RED	RF PRESSURE SW
LED 14	CN 12 PIN 12	YELLOW	LF PRESSURE SW	LED 29	---	---	---
LED 15	NOT USED	GREEN	NOT USED	LED 30	---	---	---

This one

17

26

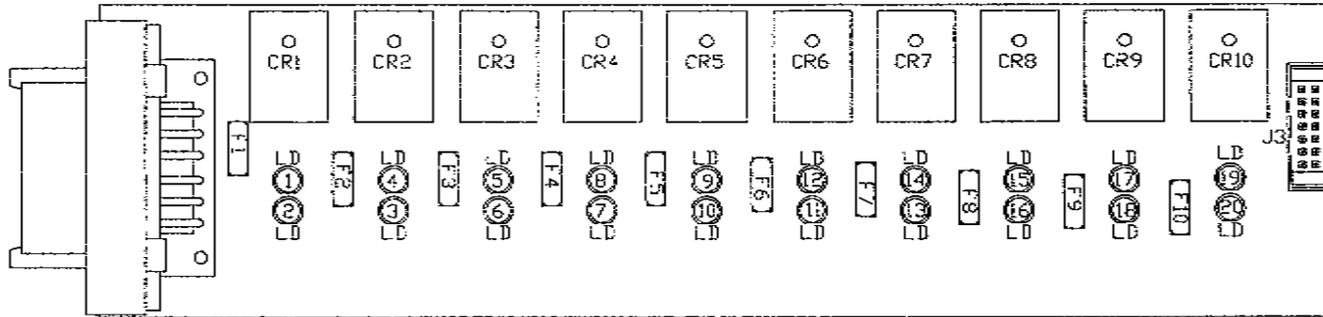
13-
11-
7-
9-
19- 20-22



CENTRAL CONTROL MODULE LED LAYOUT

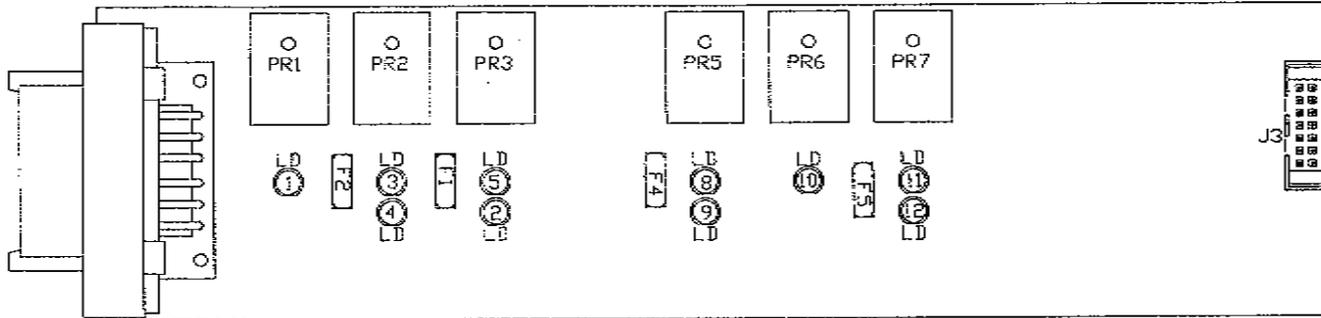
LED #	CONNECTOR	COLOR	DESCRIPTION
LED 1	CN 9 PIN 1	RED	MASTER RELAY
LED 2	CN 9 PIN 4	RED	PUMP RELAY
LED 3	CN 1 PIN 3	RED	SW 12V
LED 4	CN 11 PIN 12	RED	ENGINE BATT
LED 5	NOT USED	NOT USED	NOT USED
LED 6	CN 11 PIN 6	RED	COACH BATT
LED 7	CN 1 PIN 7 & 8	RED	LINK LIGHT
LED 8	NOT USED	NOT USED	NOT USED
LED 9	CN9 PIN3	RED	50 LBS PSW
LED 10	CN9 PIN 2	RED	3000 LBS. PSW

→ This one



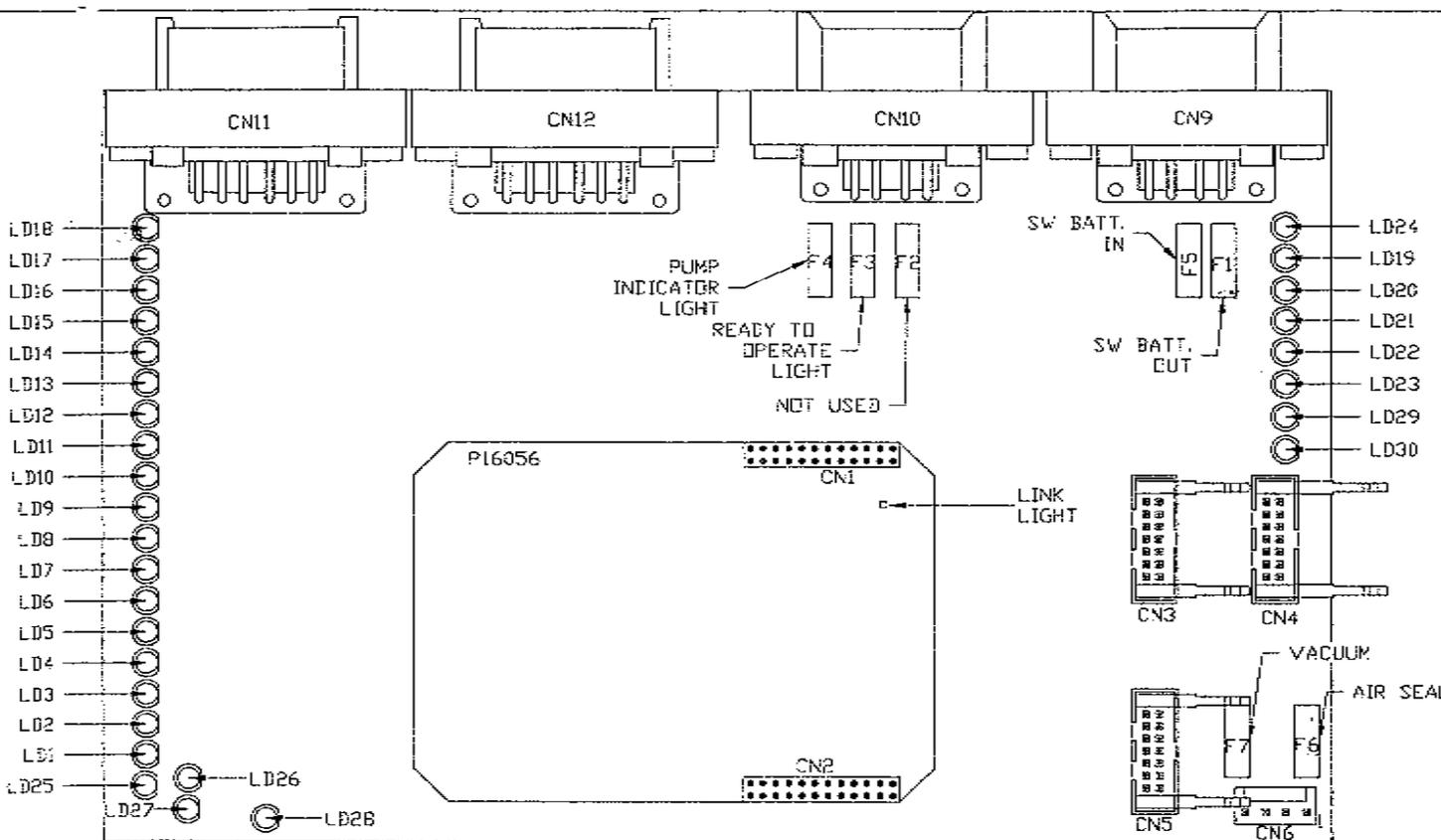
ROOM 1/ROOM 2
LED LAYOUT

LED #	COLOR	INPUT J3	FUSE #	OUTPUT	RELAY #	DESCRIPTION
LED1	YELLOW	PIN 13	---	---	CR1	CYL EXTEND 1 (COIL)
LED2	RED	---	FUSE 1	PIN 1	CR1	CYL EXTEND 1 (CONTACT)
LED3	RED	---	FUSE 2	PIN 2	CR2	CYL RETRACT 1 (CONTACT)
LED4	YELLOW	PIN 12	---	---	CR2	CYL RETRACT RM 1 (COIL)
LED5	YELLOW	PIN 11	---	---	CR3	LOCK RM 1 (COIL)
LED6	RED	---	FUSE 3	PIN 3	CR3	LOCK RM 1 (CONTACT)
LED7	RED	---	FUSE 4	PIN 4	CR4	UNLOCK RM 1 (CONTACT)
LED8	YELLOW	PIN 10	---	---	CR4	UNLOCK RM 1 (COIL)
LED9	YELLOW	PIN 9	---	---	CR5	CYL EXTEND 2 (COIL)
LED10	RED	---	FUSE 5	PIN 5	CR5	CYL EXTEND 2 (CONTACT)
LED11	RED	---	FUSE 6	PIN 6	CR6	CYL RETRACT 2 (CONTACT)
LED12	YELLOW	PIN 8	---	---	CR6	CYL RETRACT 2 (COIL)
LED13	RED	---	FUSE 7	PIN 10	CR7	LOCK RM 2 (COIL)
LED14	YELLOW	PIN 7	---	---	CR7	LOCK RM 2 (CONTACT)
LED15	YELLOW	PIN 6	---	---	CR8	UNLOCK RM 2 (CONTACT)
LED16	RED	---	FUSE 8	PIN 9	CR8	UNLOCK RM 2 (COIL)
LED17	YELLOW	PIN 5	---	---	CR9	AIR SEAL (COIL)
LED18	RED	---	FUSE 9	PIN 7	CR9	AIR SEAL (CONTACT)
LED19	YELLOW	PIN 4	---	---	CR10	VACUUM (COIL)
LED20	RED	---	FUSE 10	PIN 8	CR10	VACUUM (CONTACT)



LEVELING
LED LAYOUT

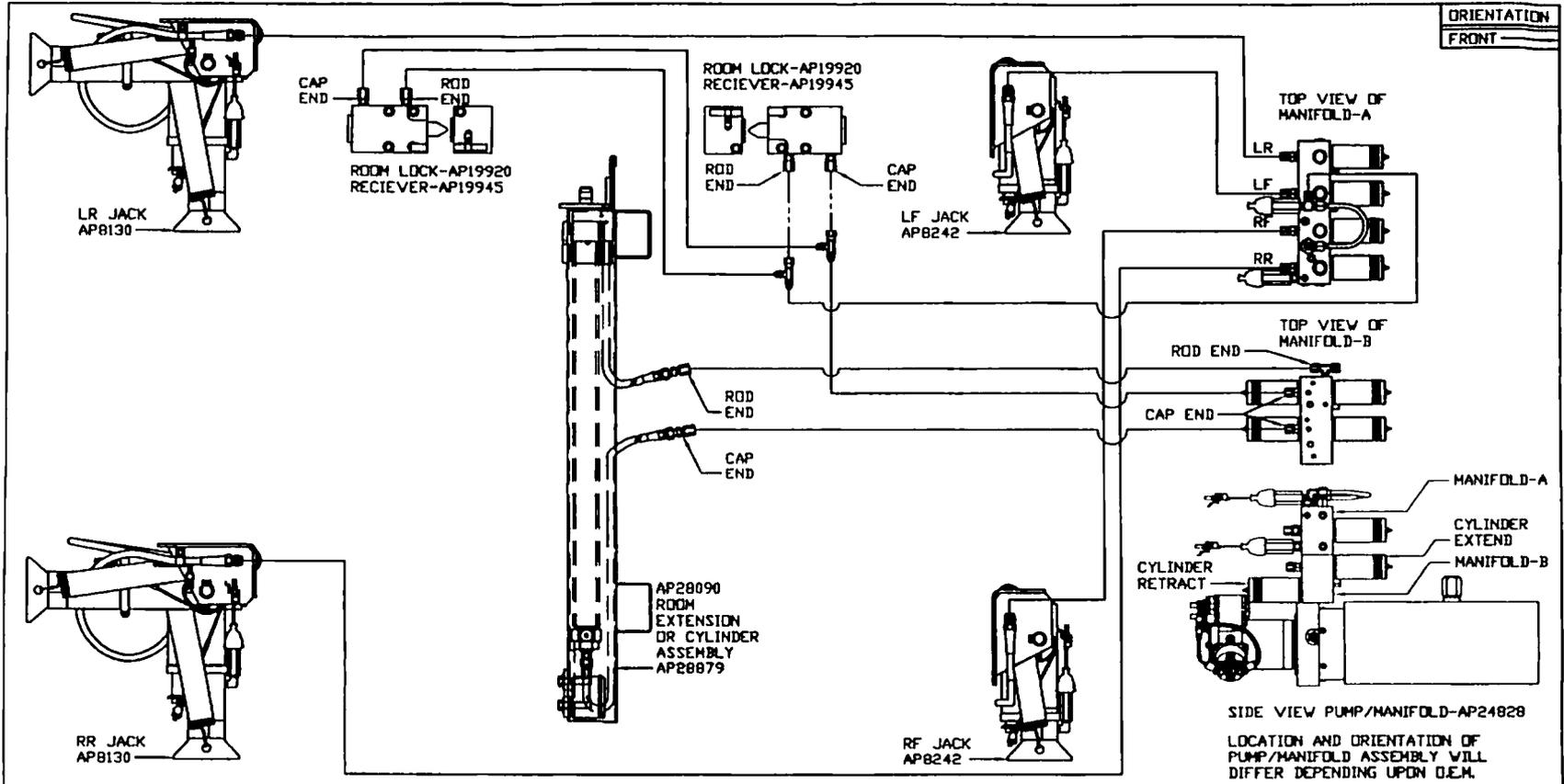
LED #	COLOR	INPUT J3	FUSE #	OUTPUT	RELAY #	DESCRIPTION
LED1	YELLOW	PIN 13	---	PIN 1	PR1	CRX1 (COIL)
LED2	RED	PIN 11	FUSE 1	PIN 3	PR3	RF JACK (CONTACT)
LED3	YELLOW	PIN 12	---	---	PR2	LF JACK (COIL)
LED4	RED	---	FUSE 2	PIN 2	PR2	LF JACK (CONTACT)
LED5	YELLOW	PIN 11	---	---	PR3	RF JACK (COIL)
LED6	---	---	---	---	---	---
LED7	---	---	---	---	---	---
LED8	YELLOW	PIN 9	---	---	PR5	RR JACK (COIL)
LED9	RED	---	FUSE 4	PIN 5	PR5	RR JACK (CONTACT)
LED10	YELLOW	PIN 8	---	PIN 6	PR6	CRX2 (COIL)
LED11	YELLOW	PIN 7	---	---	PR7	LR JACK (COIL)
LED12	RED	---	F5	PIN 7	PR7	LR JACK (CONTACT)
LED13	---	---	---	---	---	---
LED14	---	---	---	---	---	---
LED15	---	---	---	---	---	---
LED16	---	---	---	---	---	---
LED17	---	---	---	---	---	---
LED18	---	---	---	---	---	---



ROOM 2 LED LAYOUT

LED #	CONNECTOR	COLOR	DESCRIPTION	LED #	CONNECTOR	COLOR	DESCRIPTION
LED 1	CN 10 PIN 4	RED	EXTEND	LED 16	NOT USED	GREEN	NOT USED
LED 2	CN 10 PIN 5	RED	RETRACT	LED 17	CN 11 PIN 9	GREEN	UR LOCK
LED 3	NOT USED	GREEN	NOT USED	LED 18	NOT USED	GREEN	NOT USED
LED 4	NOT USED	YELLOW	NOT USED	LED 19	CN11/CN12 PIN 7	RED	SW 12V (OUT)
LED 5	CN11 PIN 2	YELLOW	ROOM OUT	LED 20	CN9 PIN 3	RED	SW BATT
LED 6	NOT USED	YELLOW	NOT USED	LED 21	CN10 PIN 3	RED	PUMP INDICATOR
LED 7	CN11 PIN 3	GREEN	UF ROOM IN	LED 22	CN10 PIN 2	RED	READY TO OPERATE
LED 8	NOT USED	GREEN	NOT USED	LED 23	NOT USED	RED	NOT USED
LED 9	CN 11 PIN 10	GREEN	UR ROOM IN	LED 24	CN 10 PIN 7	RED	SYSTEM WAKE UP
LED 10	NOT USED	GREEN	NOT USED	LED 25	NOT USED	RED	NOT USED
LED 11	CN 11 PIN 1	YELLOW	UF UNLOCK	LED 26	CN11 PIN 11	GREEN	UF LOCK
LED 12	NOT USED	YELLOW	NOT USED	LED 27	NOT USED	RED	NOT USED
LED 13	CN11 PIN 12	YELLOW	UR UNLOCK	LED 28	NOT USED	RED	NOT USED
LED 14	NOT USED	YELLOW	NOT USED	LED 29	CN6 PIN 1	RED	AIR SEAL
LED 15	NOT USED	GREEN	NOT USED	LED 30	CN6 PIN 3	RED	VACUUM

CHINOOK CUBE™ SLIDE ROOM



ORIENTATION
FRONT

SIDE VIEW PUMP/MANIFOLD-AP24828
LOCATION AND ORIENTATION OF PUMP/MANIFOLD ASSEMBLY WILL DIFFER DEPENDING UPON O.E.M.

		HWH		I-80 EXIT 267 SOUTH RT 1 HDSCOW, IOWA 52760	
		SCALE	DATE 06SEP02	DRAWN BY	
		HYD CONN DIAGRAM			
		TRAIL WAGONS		DRAWING NUMBER MP69199	
NO.	DATE	REVISION			
THE INFORMATION DISCLOSED ON THIS DRAWING IS CONFIDENTIAL AND MUST NOT BE DISCLOSED OR USED IN ANY MANNER WHICH WILL BE DETRIMENTAL TO THE HWH CORPORATION					

AUTOMATIC LEVELING JACKS/AIRBAGS

Leveling Components

Your Chinook motorhome comes standard with two leveling systems. One works when the vehicle is in motion, one when it is parked.

AIRBAGS

While in motion your Chinook motorhome is kept level and rigid on the road by an Automatic Airbag System. This system consists of the onboard air compressor, connective tubing, sensors, controls and independent air bladders. These components work together to compensate for uneven loads, heavy towing, and uneven road surfaces. (See page 18)

LEVELING JACKS

After you arrive at your destination there is a second leveling system, the Automatic Leveling Jack System is comprised of four Hydraulic Self- Deploying Jacks each attached to the underside of your Chinook frame. They work with the following components of the Chinook Cube™ slide system. (See page 16)

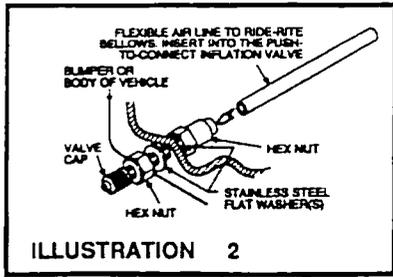
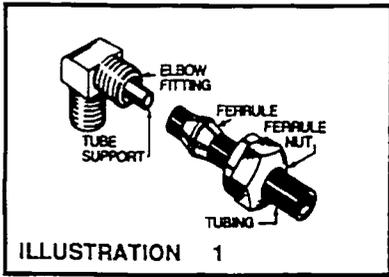
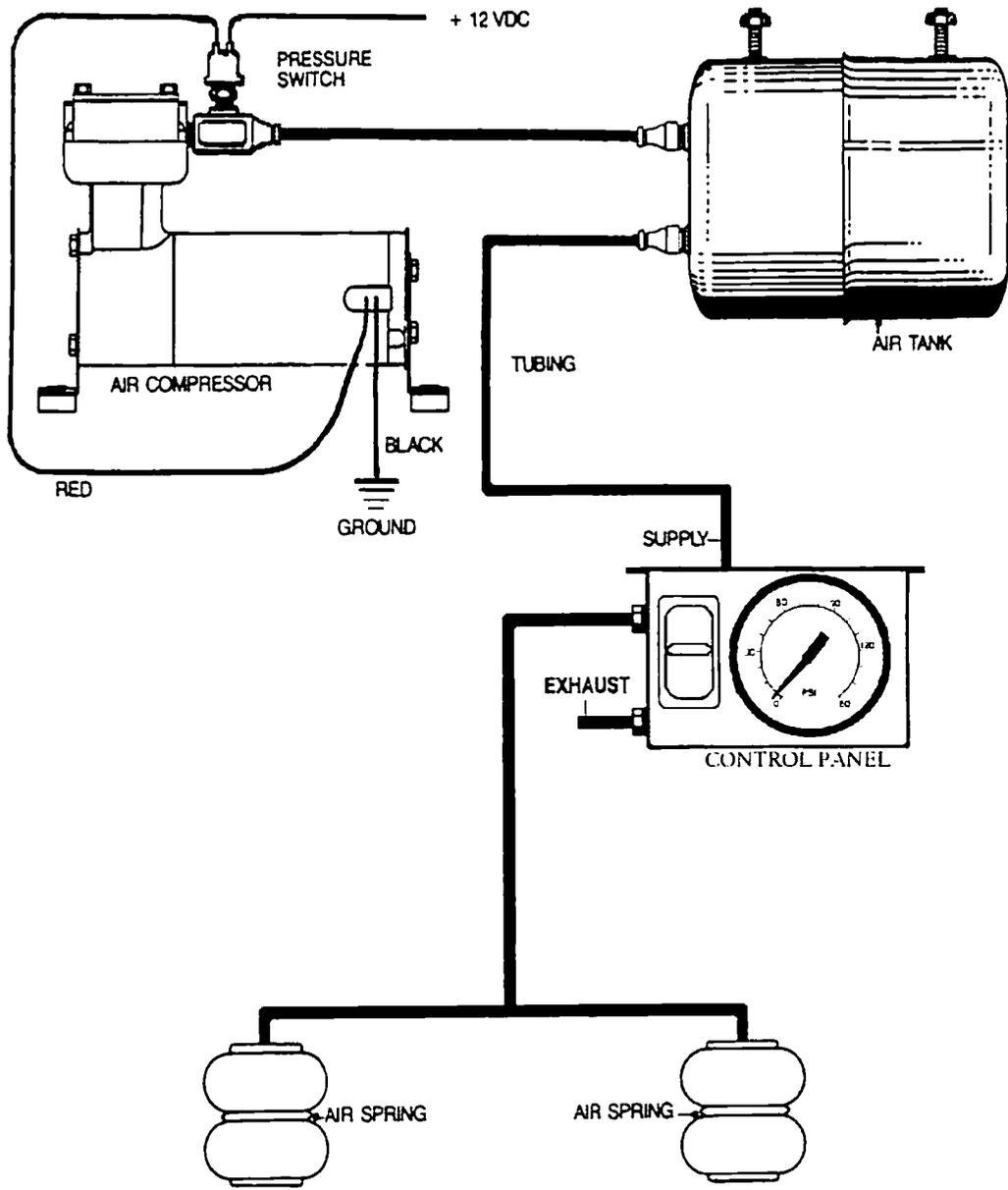
- **CAN (Controlled Area Network).** System of computer operated switches and relays. Connects all components of Auto Leveling Jacks, User Controls, and Slide operating system. Located under the motorhome (in the drivers side front storage bin)
- **Hydraulic Pump and Reservoir.** Provides the power (oil pressure) to move the Chinook Cube™ in and out, as well as level the jacks. Located under the motorhome (in the drivers side front storage bin)
- **User Interface.** Allows the user (you) to operate the Chinook Cube™ system, and monitor the status of the system. Located on the front drivers side overhead panel, (just above the drivers seat.)

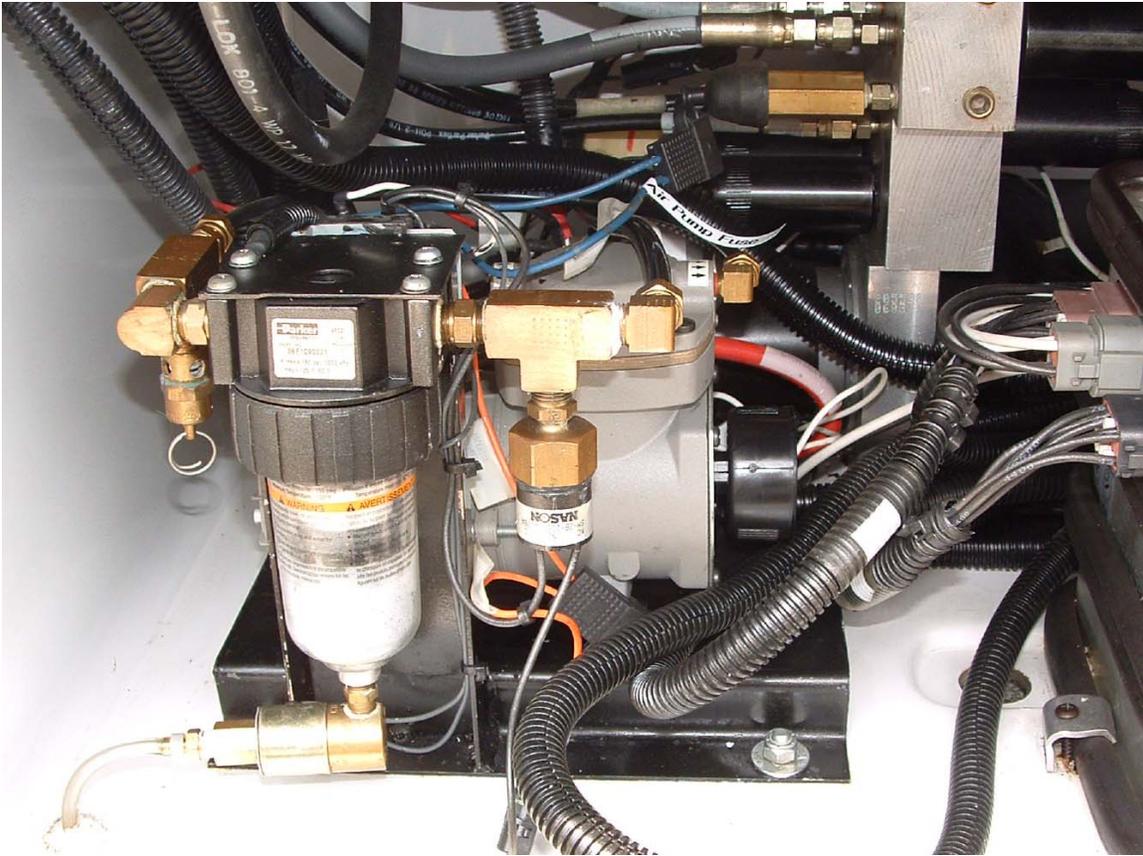
When used in the proper manner this system will detect the list of the motorhome of as little as 1/8 inch from corner to corner and with a push of a button, brace and level the Chinook.

Leveling Jack Operation

1. Turn on ignition
2. Set emergency brake
3. Press the on/auto button on leveling jack panel (This turns the system on)
4. Press the on/auto button on the leveling jack panel a second time (This kicks the jacks to the down position)
5. Press the on/auto button a third time to auto level the coach or press the up/down, left/right arrows to manually level the coach.
6. To store the jacks press the off button and then press the store button.
7. NOTE: BE SURE TO STORE THE JACKS BEFORE ATTEMPTING TO DRIVE THE COACH.

AUTOMATIC LEVELING JACKS/AIRBAGS





Air Pump – Chinook Glacier (2004)

Note blue wires above pump. These terminate in a fuse holder containing a 15 amp fuse. This is a power circuit.

Note canister to the right of the air/water separator. (This is the item with the large brass nut on top, with wires coming out the bottom.) This is the pressure switch for the air compressor.

Note that the orange wires terminate in another fuse holder. This one is a 5 amp fuse that appears to be the control circuit (part of the pressure switch loop).

ELECTRICAL SYSTEM

GENERAL

The electrical system consists of 110V AC and 12V DC appliances supplied by power through a 100 amp converter and distribution panel. 110V power is available either through a 110V receptacle provided at an RV park or campsite ("shore power") or through the optional generator set as well as a 1000 watt inverter. 12V power is available through the converter when plugged into shore power or from two coach batteries. A schematic of the coach power system is shown at the end of this chapter.

110V SYSTEM

Shore Power

The connection to 110V shore power is made through a power cord located in the "service center" on the driver's side towards the rear. To remove the cord, simply open the cover and pull the cord out to the required length (26' is available). When leaving a campsite, be sure that the cord is removed from the receptacle and stowed in its compartment. Failure to store it properly could result in extensive damage.

Note: Shore power connections are rated for 30 amps Service.



CAUTION: Cord cap adapters should not be used, because this could result in connecting the motorhome to an improperly rated source.

Generator Set

The optional generator set is located at the rear passenger side of the motorhome. The manufacturer of this generator has provided complete operating instructions for the unit installed by Chinook. These instructions, contained in the owner information and warranty package, should be read completely before attempting to operate the generator. In addition to the switch provided on the front panel of the Genset, all models have a generator start switch above the wardrobe door and some models have a second optional generator start switch above the driver's seat. The generator provides 4000 watts of power to charge your batteries as well as power your 110v and 12v appliances.

Breaker Panel

The 110V distribution panel is located at the bottom of the wardrobe on Glacier models. Breakers are used to protect the 110V electrical system. These circuit breakers do not reset automatically and must be turned off, then returned to the "On" position. Continued tripping of the breakers indicates an electrical problem that should be checked by a service technician. All duplex outlets are GFCI protected by the GFCI outlet located just inside the side entry door. There are dual buss panels, one for shore power, and the other for the inverter.

Automatic Transfer Switch

An automatic transfer switch, located in the wardrobe, senses which source of 110V power is in use (shore power or generator) and will switch to that source. However, if both the generator and shore power happen to be on at the same time, the generator will take priority. The owner's manual for the generator should be reviewed for further information.

ELECTRICAL SYSTEM

Appliances

110V power is used to run the following appliances and components (see 110V system at the end of this section)

1. Converter
2. Microwave (run with inverter)
3. Refrigerator
4. Air Conditioner
5. GFI protected 110V Receptacles for portable appliances
6. Digital Satellite System (DSS) receiver (optional)
7. "Nu-Heat" floor heating pad (optional)
8. Television (s) (run with inverter)
9. Coach stereo system (run with inverter)

NOTE: The microwave and air conditioner (and optional DSS) will only operate on 110V, while the refrigerator will operate on 110V, 12V or LPG.

12V SYSTEM (COACH)

Most of the appliances in the Chinook motorhome run off of 12V power. As noted in the previous section, the two exceptions are the microwave and air conditioner, which will only run off of 110V power. 12V power is supplied through the 100 amp power converter (running off of 110V shore power or the generator) or through two coach batteries. Some auxiliary 12V power is also supplied from the roof mounted solar panel.

2000 Watt Prosine Inverter/Converter



The inverter allows you to run some 110v AC appliances without being connected to shore power. Inverters work by producing a 60 hertz sine wave able to safely power any 110V appliance. Prosine inverters come with a monitor which will shut down the inverter when battery voltage reaches 12V DC, or when it detects shore power. Using the inverter can be a very power intensive process and should be used with discretion. The built-in power converter is required to convert 110V power to 12V power. When shore power is available or the generator is turned on, 12V power is supplied through the power converter to all appliances including power to charge the coach batteries. As noted earlier, the power converter is located in the bottom of the wardrobe. The converter supplies 100 amps to the 12V system. It has 4 stages, and automatically switches between bulk, absorption, float, and quick charging stages, as needed

Fuse Panel

All 12V circuits are protected with properly rated fuses or automatic reset circuit breakers. There are three exterior circuit breakers. One breaker is a 200 amp panel for the slide pump, one 100 amp panel for the generator, and one 100 amp panel for the main power network. If the breaker continues to trip, however, the system should be checked by a service technician to determine the cause.

The main 12V converter circuits are protected by fuses located inside the converter.

ELECTRICAL SYSTEM

Coach Batteries



When no shore power is available, 12V power is supplied through **two** 6-volt deep cycle coach batteries. To activate the system (whether or not the engine is running), the “Coach Batteries” switch must be in the “On” position. This switch is located in the switch cluster above the driver’s seat.

The coach batteries can be charged through shore power, the optional generator, or through the vehicle alternator, when the engine is running. In order to run the 12V system off of the coach batteries or charge the batteries from 110V power, the “COACH BATTERIES” switch must be in the “ON” position. **The green light labeled “IN USE/CHARGING” will be lit when the coach batteries are in use or being charged.**

To ensure that no battery power is lost over a long storage period the “COACH BATTERIES” switch should be in the “STORE” position.

When the vehicle engine is running, the coach batteries will be charged through the alternator, regardless of whether the “COACH BATTERIES” switch is in the “ON” or “STORE” positions. Note, that the “Smart” solenoid (located under the hood) prevents the vehicle battery from being drained by the coach 12V DC system. However, should the vehicle battery become drained for some other reason, the vehicle can be started using power from the coach batteries by activating the “VEHICLE BOOST START” switch while simultaneously turning the ignition key on.

NOTE: If the “COACH BATTERIES” switch is in the “STORE” position when shore power is plugged in, an alarm will be activated and the red light labeled “SWITCH TO ON IF LIT” will be illuminated. In this situation, turn the switch to the “ON” position; the alarm will stop and the red light will turn off. Following this procedure will ensure that the coach batteries are charged when 110V AC power is available.

Low Voltage Disconnect

An important feature of the 12V system is the Low Voltage Disconnect (LVD) module. The LVD module, which is located inside the coach on the bottom of the wardrobe cabinet, serves the following two functions:

- 1) Warns occupants when the coach batteries are low.
- 2) Prevents the batteries from being completely drained, when they have accidentally been left on and no one is in the motorhome.

As the coach batteries are being discharged, the LVD module senses the voltage level. When the voltage level reaches a preset value of 11.5 volts, the LVD activates an audible alarm. This alarm is a signal to the occupant that the LVD module will disconnect the coach batteries from the distribution panel within 60 seconds. The occupant has the choice of letting the LVD disconnect the batteries, or overriding the disconnect procedure by depressing the “COACH BATTERIES” switch momentarily to the “ON” position.

ELECTRICAL SYSTEM

NOTE: Overriding the LVD will only provide an additional 60 seconds of 12V power, after which the LVD will again disconnect the coach batteries.

The coach batteries are located in a separate compartment below the water heater and just behind the driver's door. Because these batteries produce hydrogen gas when under a charge, the battery compartment has a vent at the top of the back wall. The compartment also has vent at the bottom in order to drain any liquid leaking from the batteries. Note that this compartment is for the storage of the coach batteries only; storage of other items in this compartment may block the vents or short out the batteries.

Hours of use between charging depends on the current draw (amps) of the appliances in use and the length of time they are used.

12V (AUTOMOTIVE)

The following optional 12V appliances are powered off of the vehicle electrical system:

1. Rear-view mirror
2. Power side mirrors
3. Driving lights or combination driving & fog lights.

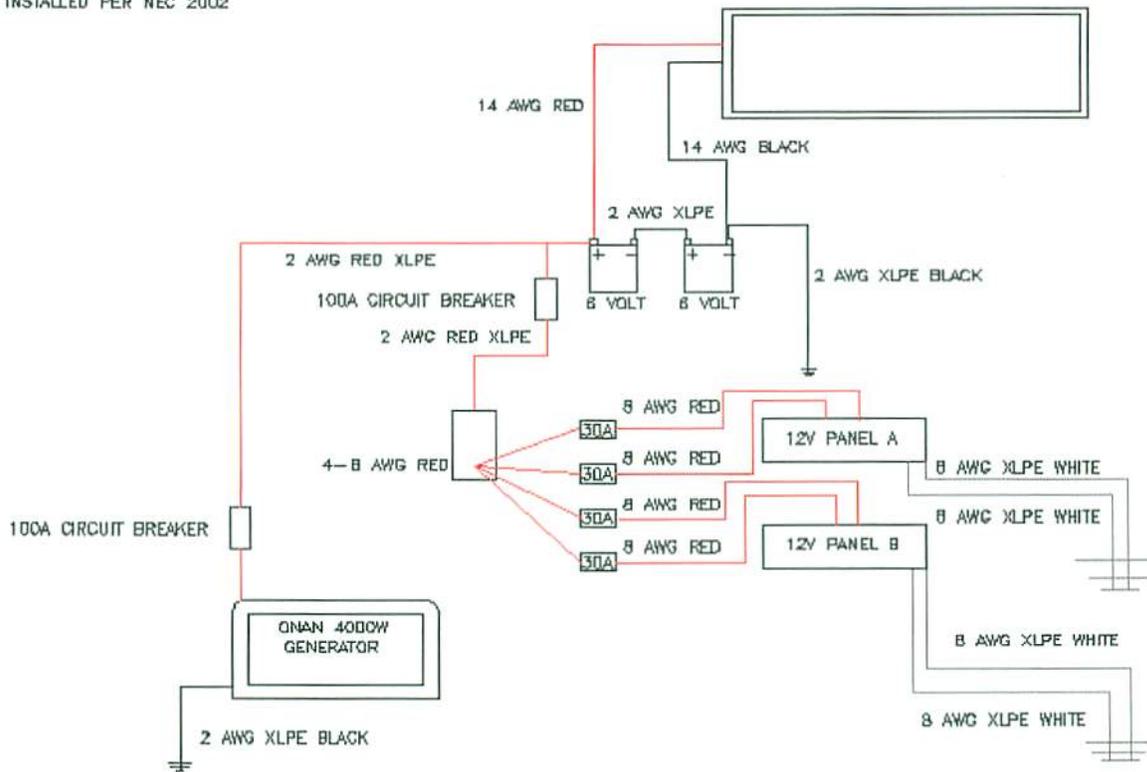
The fuses for these items are located in a fuse block under the driver's side dash. Note that pre-wired ignition hot and constant hot taps are available in the Glacier depending on installed options.



CAUTION: FUSES FOR THE PRE-WIRED IGNITION HOT AND CONSTANT HOT TAPS SHOULD BE SIZED AS INDICATED.

ELECTRICAL SYSTEM

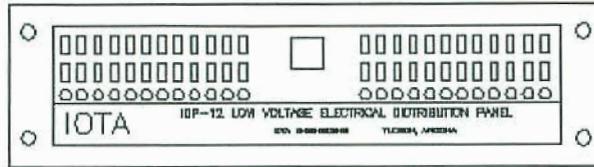
INSTALLED PER NEC 2002



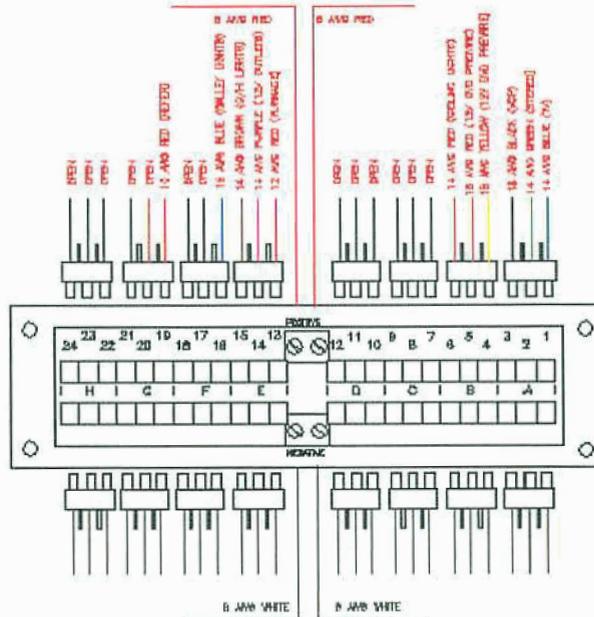
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						MODEL: GLACIER & SUMMIT <td>SCALE:</td>	SCALE:
						CHINOOK	PART #:
						PROPRIETARY INFORMATION	VD-00R #:
						ALL COPY OR REPRODUCTION OF THIS INFORMATION WITHOUT WRITTEN CONSENT OF CHINOOK IS STRICTLY PROHIBITED. VIOLATION WILL BE PROSECUTED TO THE FULL EXTENT OF THE LAW.	VENDOR #:
							PROTO #:
							DRAWN: 9/15
							DRAWN BY: M.

ELECTRICAL SYSTEM

FRONT VIEW



REAR VIEW



PKT #	UNIT #	REV. BY	DESCRIPTION	REVISION	DATE	TITLE	DRAWING #
			12V PANEL A			12V PANEL LAYOUT	+/- :
						GLACIER & SUNWIT	SCALE:
						CHINOOK™	PART #
						PROPRIETARY INFORMATION:	VENDOR #
						ALL PARTS OR SUBSTITUTES OF THE MANUFACTURER'S ORIGINAL DESIGN MUST BE USED	PROTO #
						OR EQUIVALENTS AS APPROVED BY THE ORIGINAL DESIGNER. THIS DRAWING IS THE PROPERTY OF CHINOOK™ AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.	DRAWN
							DRAWN BY: NAJ

FRESH WATER SYSTEM

GENERAL

Fresh water is supplied either from the on-board fresh water tank or through a hook-up to municipal water when available at a campsite.

FRESH WATER TANK

The fresh water tank is located under the sofa-bed (or twin bed) on the driver's side. In order to draw water from the fresh water tank, the water pump switch must be turned on. The water pump switch is on the monitor panel on the wardrobe cabinet. Once the switch is turned on, the water pump will cycle whenever a faucet is turned on or the toilet is flushed.

NOTE: The water pump cycles by sensing a drop in water pressure. Normally this occurs only when a faucet is opened or the toilet is flushed. If the water pump cycles at any other time, this may be an indication of a leak in the water lines, which should be checked immediately.

The fresh water tank is filled through the water tank fill port located on the lower right corner of the Chinook Cube™ slide room. The water pump switch should be turned off when the water system is not in use or hooked up to city water.

CITY WATER

A direct connection may be made to a city water pressure system through an inlet fitting in the "service center" on the driver's side of the motorhome. When using the city water hookup, it is not necessary to operate the water pump. The city water inlet fitting contains a pressure regulator limiting the system pressure to 125 psi. This prevents damage to the piping caused by excessively high supply pressures such as those encountered at some campsites.

WATER HEATER

All models are provided with a hot water heater located under the range cabinet. As a standard, the water heater on Chinook motorhomes runs off of LP gas only (with electric ignition). The specifications of the water heater in your motorhome can be found in the operating instructions in your owner's packet.

If desired, water to the water heater can be by-passed by changing the positions of the two valves located in front of the water heater. The valve positions for flow through the water heater and for by-passing the water heater are available from the Chinook Service Department at 1-800-552-8886.

OUTSIDE SHOWER

The outside shower is located in the "service center" on the driver's side. The shower head with flexible hose can be removed by opening the access panel located just above the left rear wheel well.

FRESH WATER SYSTEM

DRAINING THE FRESH WATER SYSTEM

Periodically it is necessary to drain the fresh water system. This is done by opening the water tank drain petcock valve and the hot and cold line petcock valves located inside the coach, under the sofa, or twin bed, on the drivers side. Pump must be on to drain coach.

If your motorhome is used frequently, you can leave water in the tank. Keep it sweet by adding a teaspoonful of soda to every fourth or fifth tank of water. For long periods of time between use, drain the tank completely except for a teaspoonful of soda and two gallons of water. When you are ready to use the unit again, refill the tank and drain completely, then refill with fresh water.

WINTERIZING

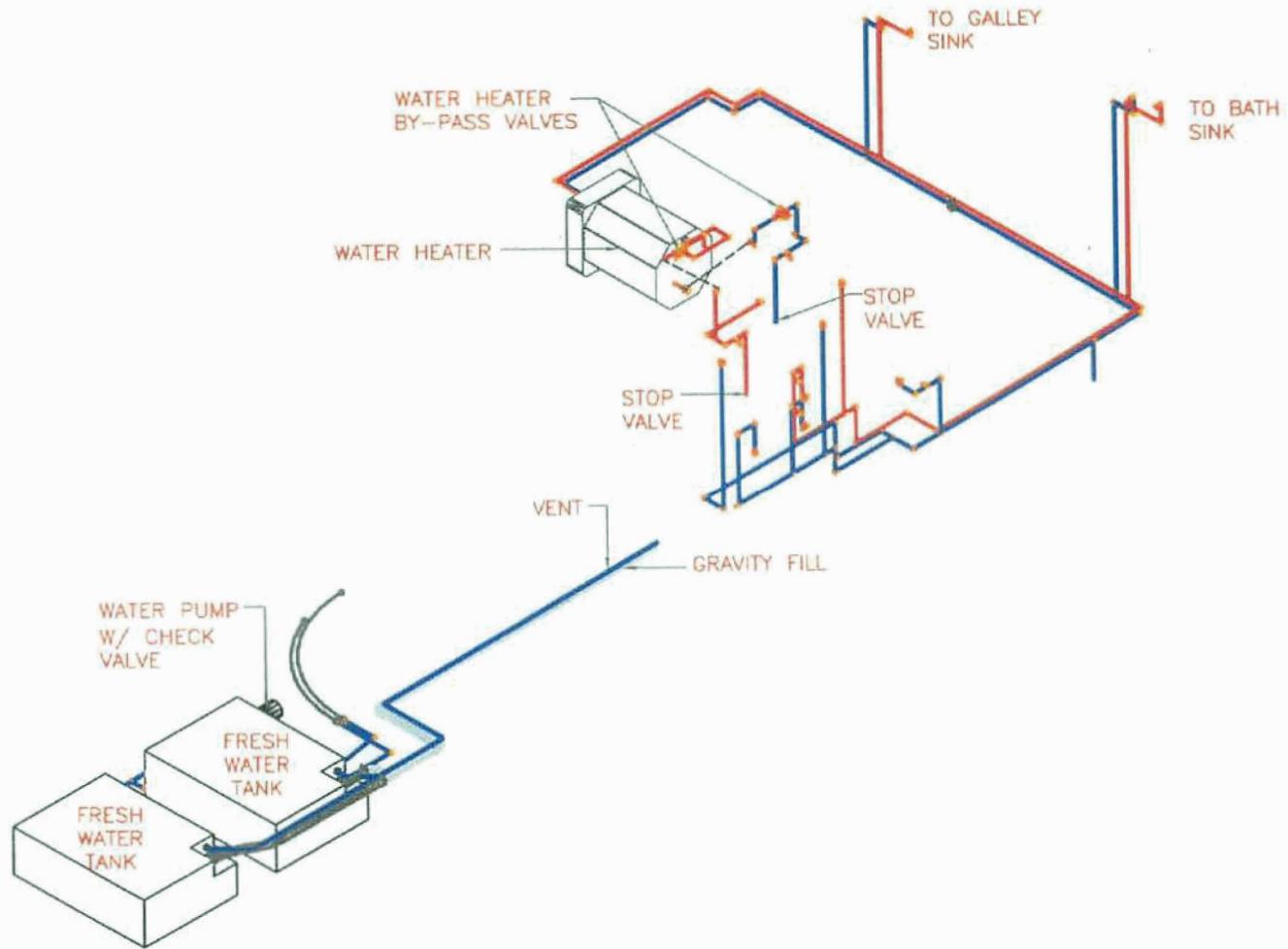
To winterize the fresh water system, first drain the fresh water lines and tank. Next, add a recommended solution to prevent freezing in traps and other water filled cavities in the drainage system only.

WARNING: Do not use antifreezes other than those recommended for plastic pipe and recreational vehicles.

WATER PUMP SERVICING

If the water pump needs to be serviced or replaced, there is a three-way valve located between the water tank and the pump that should be shut off. This allows the removal of the water pump without having to drain the water tank.

FRESH WATER SYSTEM

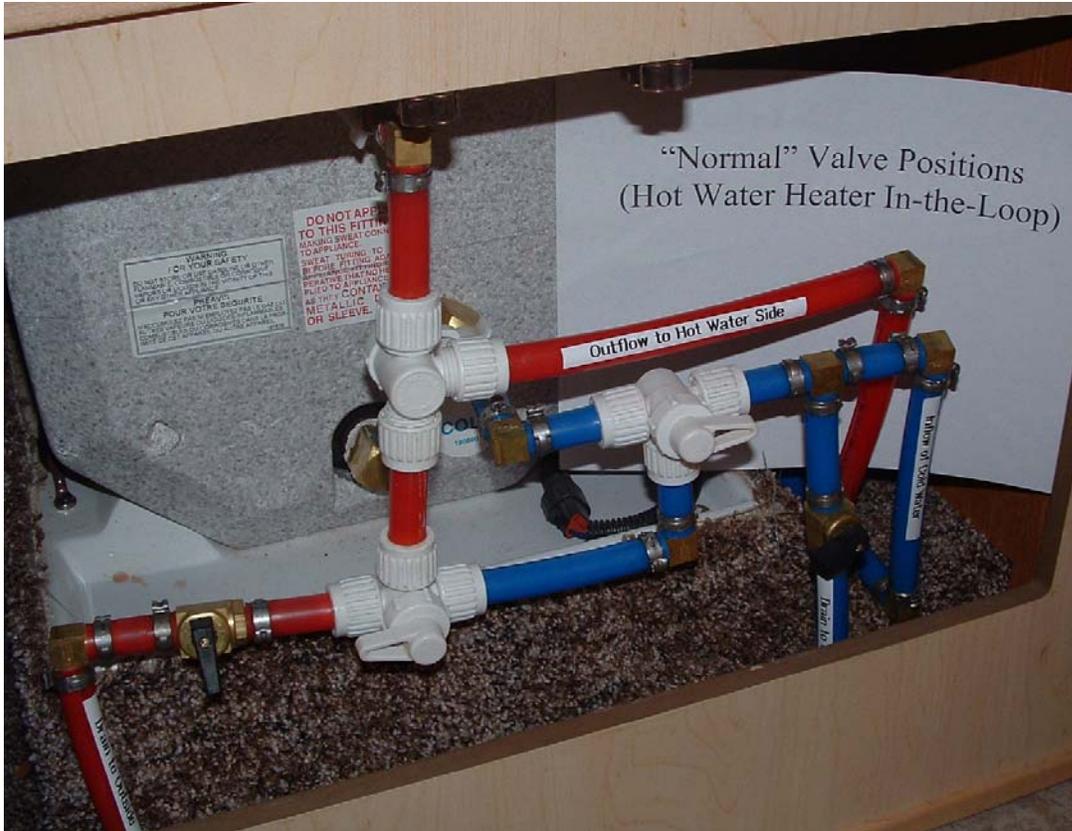


NOTE:

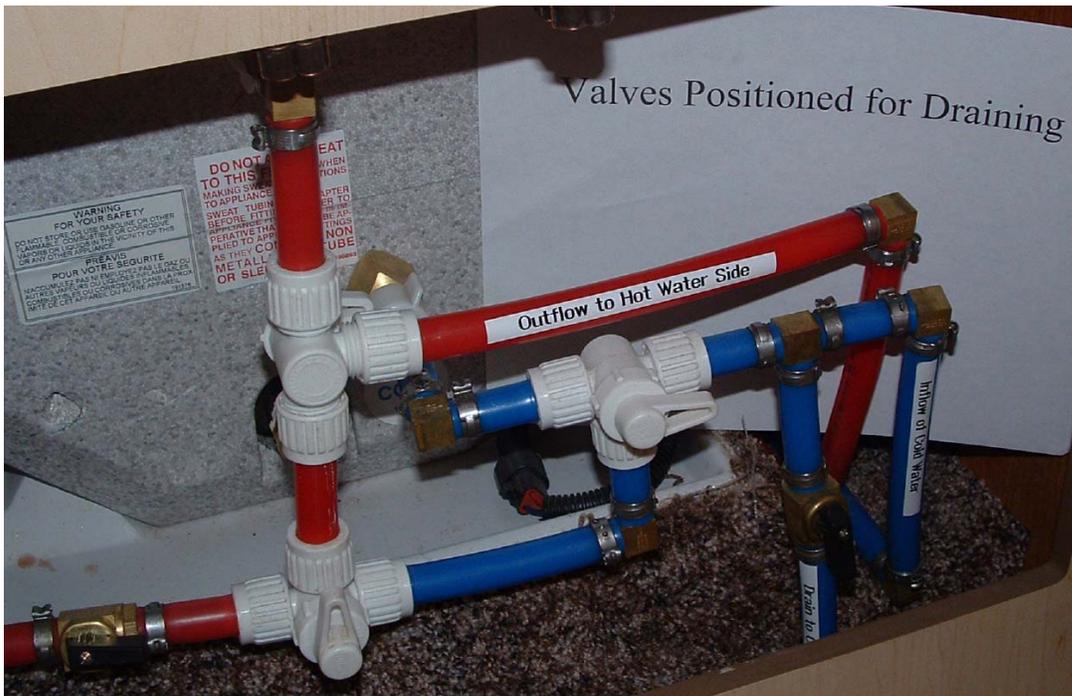
- 1.) WATER LINES ARE PEX 1/2" I.D. AND 5/8" O.D.
- 2.) INSTALLED PER CHAPTER 5 ANSI A119.2 2002. EDITION

PCB #	UNIT #	REV. BY	DESCRIPTION	REVISION	DATE	TITLE: FRESH WATER SYSTEM ASSEMBLY	MODEL: GLACIER 2500	DRAWING #:
								+/- 1
								SCALE:
								PART #:
								VENDOR #:
								VENDOR:
								PROTO #:
								DATE DRAWN: 06/16/02
								DRAWN BY: KIS
								10/04/02

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Hot Water Heater – Glacier (2004)



WASTE WATER SYSTEM

GENERAL

Two waste water holding tanks are installed on your motorhome. They are located under the coach to the rear of the driver's side as shown in the Technical Drawing section. The "gray" water tank holds waste water from the galley sink, shower sink and shower. The "black" water tank holds waste from the toilet.

DRAINING THE WASTE HOLDING TANKS

When your holding tanks require emptying, follow these steps:

1. Locate an outlet where they may be drained. This may be a gas station which has septic tank pumping facilities, a trailer park or a supply and service facility. Guidebooks contain these locations.
2. Park next to the inlet where you will dump the waste.
3. Remove the flexible hose from its storage compartment. Make sure the drain valves are closed, (T handles all the way in), remove the drainage cap, insert the hose connector and tighten.
4. Insert the opposite end of the hose into the pump tank inlet.
5. Open the valves by pulling the T handles all the way out.
6. When the tanks are empty, close the valves and secure them. The system is now completely drained and ready for use.
7. Utilize black tank flush each time tanks are emptied. (Located at left rear)
8. Return the flexible sewer hose to its storage tube and secure the cap.

NOTE: A false reading from the monitor panel indicating that a holding tank is full even after it has been drained can occur (especially on the "black" water tank). This is usually caused by debris such as tissue paper lying across two or more probes inside the tank resulting in a short. This problem can be remedied by flushing the tank until all debris is cleared from the probes.

CLEANING

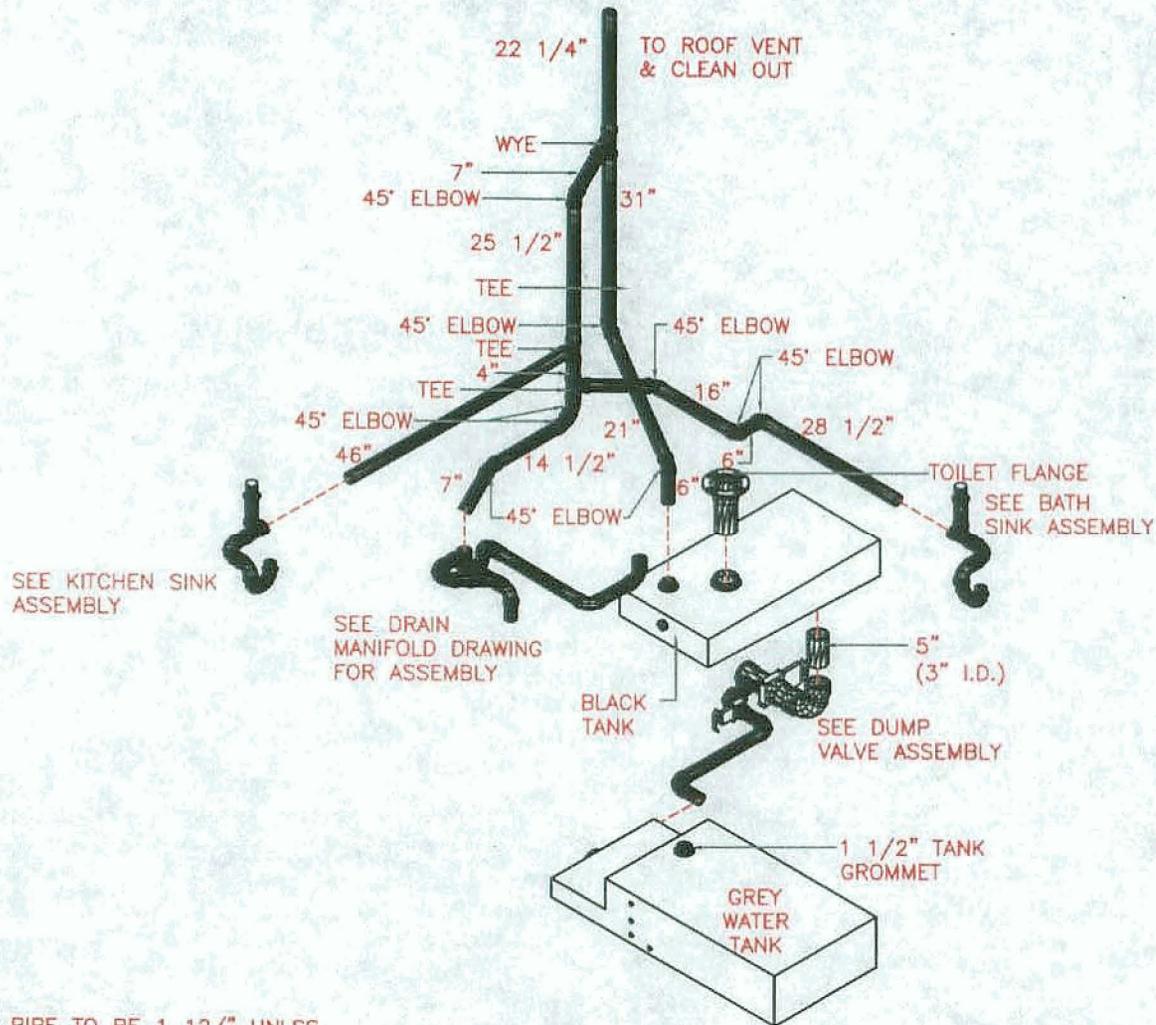
From time to time add a gallon or two of water containing liquid detergent into the holding tanks. The movement of the water and detergent when the vehicle is in motion will clean the tanks. Use of a holding tank deodorant prevents excessive odor from the tanks. Several products are generally available for this purpose.

WINTERIZING

After draining the waste water tanks, add a recommended solution to prevent freezing in traps and other water filled cavities in the drainage system only.

WARNING: Do not use antifreezes other than those recommended for plastic pipe and recreational vehicles.

WASTE WATER SYSTEM



NOTE:

- 1.) ALL ABS PIPE TO BE 1 1/2" UNLESS OTHERWISE NOTED.
- 2.) PIPE IS SECURED WITH BLOCK AND PLUMBERS STRAP.
- 3.) INSTALLED PER CHAPTER 7 ANSI A119.2 2002 EDITION.

PCR #	UNIT #	REV. BY	DESCRIPTION	REVISION	DATE	TITLE: WASTE WATER SYSTEM	DRAWING #:
						MODEL: GLACIER 2800	4/- 1
						CHINOOK	SCALE:
							PART #:
						PROPRIETARY INFORMATION:	VENDOR #:
						SEE NOTE ON REVISIONS OF THE SPECIFICATIONS. CHINOOK ASSUMES NO LIABILITY FOR ERRORS OR OMISSIONS IN THESE SPECIFICATIONS. CHINOOK ASSUMES NO LIABILITY FOR ERRORS OR OMISSIONS IN THESE SPECIFICATIONS.	PROTO #:
							DATE DYNAL: 09/20/02
							DRAWN BY: KJB
							12/18/02

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LP GAS SYSTEM

GENERAL

LP-gas is supplied to your appliances from a storage tank located under the motorhome around the center of the couch. The high pressure of the storage tank is reduced to appliance operating pressure by a two-stage regulator attached to the main supply valve. LP vapor passes through this regulator to a steel pipe manifold and is then distributed to LP appliances. **IN ORDER TO USE THE PROPANE SYSTEM THE ELECTRIC SWITCH LOCATED ON THE PROPANE TANK (ACCESS TO THE TANK IS AVAILABLE UNDER THE DRIVERS SIDE OF THE COACH BEHIND THE SMALLEST DOOR) MUST BE IN THE "ON" POSITION. ALSO, IT IS IMPORTANT WHEN NOT IN USE TO TURN THE PROPANE SWITCH BACK TO THE "OFF" POSITION.**

The following appliances operate on LP-gas:

1. Furnace
2. Water Heater
3. Range/Oven
4. Refrigerator (LP gas is an optional fuel source for the refrigerator, which can also run on 12V or 110V power).
5. Generator as supplied on Diesel models.

To assure safe, trouble-free operation, read the manufacturer operating instructions for each appliance completely before use. Each appliance manual can be found in the owner's packet provided with your motorhome.

SAFETY

To ensure safe operation of your LP appliances, you should be aware of the following warnings and warning labels:



WARNING: LP-Gas containers shall not be placed or stored inside the vehicle. LP-Gas containers are equipped with safety devices that relieve excessive pressure by discharging gas to the atmosphere. FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY.

The following warning label has been located in the cooking area to remind the user to provide an adequate supply of fresh air for combustion:



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

Cooking appliances need fresh air for safe operation. Before operation:

- 1 Open the overhead vent or turn on the exhaust fan, and
2. Open a window.

LP GAS SYSTEM

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

 **WARNING: THE GAS PIPING SYSTEM IS DESIGNED FOR USE WITH LP-GAS ONLY. DO NOT CONNECT NATURAL GAS TO THE SYSTEM.**

Unlike natural gas used in homes, **LP-gas is heavier than air.** This means that if a leak should occur in the system the escaping gas will seek the lowest level in a contained area. Simply opening windows will not lessen the danger of explosion. If a leak is suspected, be sure to open all windows, doors, cupboards and drawers to allow any accumulated gas to flow to the exterior.

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 FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY.**

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.

 **WARNING: Do not use fuel-burning equipment, including wood and charcoal grills and stoves inside the motorhome. The use of this equipment inside the motorhome may cause fires or asphyxiation.**

 **WARNING: Do not bring or store LP-Gas containers, gasoline, or other flammable liquids inside the vehicle because a fire or explosion may result.**

The following label has been placed in the vehicle near the range area:

 **WARNING 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 odor clears.
6. Have the gas systems checked and leakage source corrected before using again.

LP GAS SYSTEM

LP-Gas regulators must always be installed with the diaphragm vent facing downward. Regulators that are not in compartments have been equipped with a protective cover. Make sure that the regulator vent faces downward and that the cover is kept in place to minimize vent blockage that could result in excessive gas pressure causing fire or explosion.

OPERATION AND MAINTENANCE

Below are some additional procedures you should follow in the operation and maintenance of the LPG system:

1. Familiarize yourself with the distinctive odor of LP-gas.
2. Check the entire system for possible leaks and missing or damaged parts before and after each trip, when filling the storage tank and any time you suspect trouble. Your Chinook motorhome is designed so all joints and connections in its LP-gas system are accessible for inspection. You should check these connections periodically by brushing a solution of water and liquid detergent on the fittings under pressure and watching for bubbles - an indication of escaping gas.

 **WARNING: Do not use a lighted match or similar device to detect LP-gas leaks.**

 3. If a leak is suspected, immediately turn off the main service valve on the tank and ask your LP-gas dealer to check the system.

4. In an emergency, the tank service valve must be readily accessible. Never attach a lock or device requiring a key, special tools or knowledge to open or close this valve.
5. When the LP-gas system is not in use, turn off the gas supply at the tank.
6. Never use a wrench to tighten the tank service valve. It is designed to be closed leak tight by hand. If a wrench is required to close or open the valve, it must be repaired or replaced.
7. Read and observe the tank manufacturer's instructions. They will explain the operation of all tank controls.
8. Do not tamper with LP-gas piping system, pressure regulator or appliances. Exercise caution when drilling holes or attaching objects to walls or floor area.
9. Be sure appliance, plumbing and outside vents are free of obstructions when operating any LP-gas appliance.

10. The LP-gas tank should be filled only by qualified personnel at an LP-gas dealer service station. Note that the LP-gas tanks are initially pressurized with air which must be bled off before the tank can be filled.

MAINTENANCE

GENERAL MAINTENANCE

Exterior Care

Care for the exterior of your motorhome as you would for an automobile or boat finish. The Chinook surface may be cleaned using car shampoo, mild detergents or household cleaners - but be sure to check the list which follows. Strong soaps and abrasive cleaners should not be used. Dirt or grime that has been ground into surfaces is easily removed with a good quality rubbing or polishing compound. Rinse well after washing.

CAUTION: DO NOT USE GASOLINE OR PAINT THINNERS TO REMOVE TAR - THEY SOFTEN PAINT. USE A SPECIAL TAR REMOVER AND RINSE WELL WITH CLEAR WATER.

The fiberglass and enamel surfaces may be waxed at any time, require no special methods, and do not rust or corrode. You do not have to wax before traveling to the ocean. Only metal surfaces are subject to salt air corrosion, so waxing them before driving to the seashore will improve their resistance. Wash the surface before waxing with automotive or household waxes. A paste wax provides the best protection from abrasion and minor scratches because dirt slides readily from a well-waxed surface. The fiberglass becomes slightly dull or faded after long exposure to weather. You can easily restore it to its original luster and gloss by cleaning with a good rubbing compound and then waxing. The exterior color key trim should be cared for as described above. Do not use gasoline or solvents. Clean with mild detergents and then wax to restore luster.

Agents not recommended for cleaning the fiberglass include the following:
(Contact manufacturer before using any solution that is not listed)

1. Gasoline
2. Carbon tetrachloride
3. Lestoil
4. Pine-sol
5. Lysol
6. Abrasives (cleaners)
7. Paint thinners or solvents containing aromatic and halogenated hydro-carbons (ketones, benzene, toluene, perchlorethylene).

Interior Care

For wood surfaces the same care and cleaning methods used in your home should be used in your motorhome. Strong soaps and abrasives should not be used, but cleaners containing small amounts of ammonia may be suitable. Cabinet fronts need very little care. Treat them as you would any fine piece of furniture in your home. The shower stall of your unit is constructed of rugged fiberglass. The finish will not chip or crack, but it can be cut or scratched. In the event that it is cut or scratched, use a good grade of rubbing or polishing compound. The color is cast into the fiberglass and will not fade. Never use steel wool or abrasive cleaners on your fiberglass - you simply add serious scratches by doing so. Your floor is covered with top-grade carpeting. Maintain it exactly as you maintain your carpets at home. The upholstery in your Chinook motorhome is a fine quality material and should be treated accordingly.

MAINTENANCE

PREVENTIVE MAINTENANCE

Some Things to Check

Your privacy blinds will retain their color and beauty with occasional cleaning. You may order extra sets from your dealer. You should make a general maintenance inspection of your motorhome periodically. Non-drying caulking compounds, available in tubes, may be used to seal around moldings and seams. These compounds are compatible with fiberglass and aluminum surfaces. Epoxy-resin patch kits, also available in tube form, may be used to fill any small cracks or holes in the fiberglass. Patch and fiberglass care kits are available at most boat shops and marinas. It is recommended that all chassis bolts be checked once a year for tightness to prevent rattles resulting from vibration. If the exterior of your motorhome is punctured, immediately cover the puncture with a piece of waterproof material and tape. This will prevent moisture from getting through and damaging the interior. Keep the puncture patched in this manner until your dealer can repair it or refer you to a qualified service facility.

Roof Inspection

Take care of your roof. Sealing around stacks and vents should be accomplished using non-drying caulking compounds. Hot summer sun can dry out caulking, and pronounced temperature changes can cause varying degrees of expansion and contraction with various materials used in your roof and its components. These conditions may cause leaks, which is why you should inspect the sealants around the vents and other components regularly. By catching a problem in its early stages you can avoid serious repairs in the future.

TECHNICAL SPECIFICATIONS

Specification	GLACIER 25'	SUMMIT 27'
Length	25'	27'
Exterior Width	8' 6"	8' 6"
Exterior Height	10' 3" (with AC)	10' 3" (with AC)
Interior Height	6' 5"	6' 5"
Wheel Base	176"	176"
ECW ¹	11,500lb.	13,000 lb.
GVWR ²	14,050 lb.	14,050 lb.
GCWR ³	20,000lb.	20,000lb.

1. ECW (Estimated Curb Weight) - The weight of this motorhome as built at the factory with full fuel, engine oil, and coolants. The UVW does not include cargo, fresh water, LP gas, occupants, or dealer installed accessories.
2. GVWR (Gross Vehicle Weight Rating) - The maximum permissible weight of the motorhome. The GVWR is equal to or greater than the sum of the Unloaded Vehicle Weight plus the Net Carrying Capacity.
3. GCWR (Gross Combination Weight Rating) means the value specified by the motorhome manufacturer as the maximum allowable loaded weight of this motorhome with its towed trailer or towed vehicle.

Specification	GLACIER 25'	SUMMIT 27'
SLIDEOUT	(1) 79"x66"x14"	(2) 79" x66" x14", 66" x66" x24
GAS TANK	55 GAL	55 GAL
FRESH WATER TANK	40 GAL	40 GAL
WATER HEATER	6 GAL	6 GAL
GRAY WATER TANK	40 GAL	40 GAL
BLACK WATER TANK	20 GAL	20 GAL
REFRIGERATOR	6 CU FT	6 CU FT
FURNACE	16,000 BTU/HR	19,000 BTU/HR
RANGE	2-BURNER COOKTOP	2-BURNER COOKTOP
LIGHTING	12/110V SYSTEMS	12/110V SYSTEMS
INVERTER/CONVERTER	2000WATT / 100AMP	2000WATT / 100AMP
TWIN BED	72"x32"	72"x32"
SOFA SLEEPER	76"x56"	76"x56"
DINETTE	72"x36"	76"x36"

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

FREQUENTLY ASKED QUESTIONS

Problem: If at a campground, what kind of Amp Service is used – 15, 30 or 50?

Suggestion: Our Motor Home shore power cords are designed for 30 Amp service.

Problem: Batteries will not hold charge

Suggestion: Check the water levels. Deep Cycle Batteries need a slow charge if they go dead; a 3 Amp trickle for 2 or 3 days. A higher Amp charging rate will only give the battery a surface charge that will not hold.

Problem: The house battery goes dead.

Suggestion: The battery may not be charging from the engine alternator. Check the fuse in the power distribution panel (See Ford Owners Manual). Check the water levels in the batteries.

Problem: Furnace does not run overnight.

Suggestion: The batteries are low. The Furnace and Refrigerator are the two biggest draws on the battery system.

Problem: The furnace is inoperable.

Suggestion: 1) Low batteries. 2) The furnace fan has to run at a pre-set RPM before the gas valve will open and allow the furnace to light. 3) Check the heat vents to make sure the "butterflies" are open. Closed vents can cause low RPM's.

Problem: The furnace blows cold air.

Suggestion: 1) Check the LP bottle to make sure that it is on. 2) Check the thermostat for the temperature setting. 3) Check the butterflies in the heat vents to make sure that they are open all the way.

Problem: Will not switch from generator to shore power.

Suggestion: There is a built-in transfer switch on the converter that performs this function. This would need to be checked by a Service Center.

Problem: The Generator will not start.

Suggestion: The Generator is wired to the house batteries. The batteries may be low enough that the Generator will not start. Start the motorhome and try starting the Generator. Check the 80 Amp Breaker located on the passenger side of the firewall (not on all models).

Problem: The Generator rattles when running.

Suggestion: 1) Check the exhaust pipe to see if it is loose. 2) The fuel line may be sucking air.

FREQUENTLY ASKED QUESTIONS

Problem: The propane gauge reads incorrectly.

Suggestion: Float in the tank may be stuck – take to an Authorized Propane Dealer for repair. The tank has an 80% shut-off valve in it which is required by law. This means your tank, when filled, will only read about ¾ full.

Problem: The propane gauge is inoperable.

Suggestion: There are two gauges on the propane system. There is a sight gauge at the tank itself, and an indicator on the Monitor Panel. If the Monitor Panel is not working, check the wire connections at the sight gauge. Note that the gauges are in different increments – one gauge in ¼'s and the other reads in 1/3's.

Problem: The LP Detector keeps going off.

Suggestion: This device has two functions – it will indicate a low battery as well as an LP leak. If your LP Detector goes off, do not assume that it is a low battery condition. CHECK FOR LP LEAKS.

Problem: No power at the outlets in Coach.

Suggestion: Check the GFCI outlet located on the shower wall just inside the back door. 

Problem: The TV has no reception except when on cable.

Suggestion: 1) Check the A/B switch to make sure it is on TV setting. This switch is located in the front overhead storage. This switch has 2 functions: the "A" side (which is the upper button) controls the antenna & VCP; the "B" side (lower button) is for cable hook-up and may also be used for a DSS antenna. 2) Check the TV menu screen for setting TV in Antenna Mode. 3) Check the TV antenna booster to make sure it is turned on.

Problem: The Roof Vent leaks air, rattles and/or will not close all the way.

Suggestion: There is an adjustment that can be made. We do have a flyer showing how to do this; however, it is best done at a Service Center.

Problem: How do you drain the fresh water tank?

Suggestion: You can open the tank drain valve or open both line drains and turn the water pump on and pump the water out. Be careful not to let the water pump run for an extended amount of time without water in it.

Problem: How do you drain the black water tank?

Suggestion: Connect the drain hose to the 3" black plastic fitting. Open the 3" dump valve manually.

Problem: The water heater is inoperable.

Suggestion: Make sure that there is water in the water heater. Check the bypass valves to ensure they are in the proper position.

Problem: Where is the phone jack located?

Suggestion: It is located in the front overhead compartment behind the VCR.

FREQUENTLY ASKED QUESTIONS

Problem: What is the recommended tire pressure?

Suggestion: 70 PSI for front tires and 65 PSI in the back. You can adjust as necessary; some suggest around 75 all around.