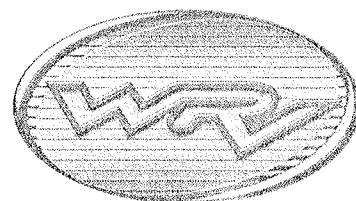




## 2004 Truck Camper Owners Manual

Western Recreational Vehicles, Inc.  
Yakima, WA  
REVISED: 6/5/03





## **WELCOME TO THE FAMILY OF ALPENLITE OWNERS**

Your new Alpenlite has been built with quality materials and components. We at Western Recreational Vehicles, Inc. believe that we have two major goals - to provide you with a quality product and service.

We have a commitment to quality. Every effort is made to purchase only quality component parts. Our Quality Assurance people check and double-check each coach. Your selling dealer is required by us to recheck our work and systems prior to delivery to you. If you operate your Alpenlite according to recommended directions and procedures you should enjoy many miles and years of pleasurable living of the RV LIFESTYLE.

This Owner's Manual is as timely as possible, using information available at the time of publication. Components are continually improved, and we continually upgrade our vehicles accordingly. If equipment in your Alpenlite is significantly different from what is described in this manual, disregard that section and follow the instructions provided by the component manufacturer.

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

If a question comes up that is not adequately answered by this manual, or the manufacturer's instructions, consult your dealer. If he cannot satisfactorily answer your questions, please contact us.

Your Alpenlite is in compliance with the various state and national regulations of applicable National Fire Protection code 1192 and ANSI A119.2. Our firm is inspected on a regular basis by the various code making states and by the Recreation Vehicle Industry Association (RVIA).

We at Western Recreational Vehicles wish to thank you for selecting our Alpenlite brand for your recreational vehicle.

Ron Doyle

President/CEO

## ALPENLITE TRAVEL CLUB

The Alpenlite Travel Club began in 1986 when Alpenlite owners formed a nonprofit organization for the purpose of promoting fun, friendship, and fellowship. Since that time hundreds of members have developed lifelong friendships while traveling with others that enjoy the life-style of RVing in an Alpenlite. In 1990 the Alpenlite Travel Club extended regular membership to owners of all products built by Western Recreational Vehicles, Inc., Yakima, Washington. Today member rigs include Alpine Coach, Alpenlite Fifth Wheels, Dreamer Fifth Wheels, Alpenlite Truck Campers, Western Wilderness Truck Campers, and Alpenlite Aspen Travel Trailers.

The Alpenlite Travel Club is about travel as well as fun and friendship. Each spring we travel to a Desert Southwest campout and in the Fall we plan a Fall Leaf Festival campout. Our Annual International Alpenfest attracts members from all over to attend interesting and educational seminars. The Homecoming campout is planned to bring us all back to the Yakima area and includes a factory tour. **Exciting and interesting locations are visited each year.** We've enjoyed the Calgary Stampede, caravans to Mexico and Alaska, a river barge trip on the Mississippi, and trips along the Oregon Coast, through Montana and to Branson, Missouri, to name a few. **We enjoy traveling. That's why we named ourselves the Alpenlite Travel Club.**

With membership in the Alpenlite Travel Club **you receive the Traveling ECHO**, our bimonthly newsletter. This newsletter is the communication link for all members whether they travel regularly with a chapter or simply attend one of the major ATC events held each year. Members wait with anticipation to receive each issue **packed with a list of events, helpful hints, care and repair**, and, of course, a full report on events and up-to-date news about chapter outings and their members. We publish interesting stories about where our chapters travel and who our members are. **The Traveling ECHO is a first class, professional publication produced BY our members FOR our members.** You, too, will enjoy reading every issue.

Chapters bring members, living in geographic areas, together month after month. They pack their calendar with different places to visit. **They also bring together groups with common interest** such as the Full-Timers chapter. Those members who have taken part in any of the many caravans planned by the Alpenlite Travel Club may also join the "caravan" chapter known as the On-the-Road-Again chapter. This is where members really get involved. They plan and design each event to fit their needs—traveling as far from home or as close to home as they wish.

**All Western RV product owners are eligible to join the Alpenlite Travel Club.** Dues provide for the ongoing services of the Club and include a membership directory, rig identification numbers, membership cards, ATC member patch, **and, of course, The Traveling ECHO mailed to you via first class mail every other month.** Savings are also available to members at many Western RV dealers who participate in a special program offering ATC members **a 10% discount on parts and labor.** Western RV also honors this discount for any work done at their Yakima facility. You also, of course, receive an invitation to each and every ATC event planned throughout the year.

We proudly and personally extend to you an invitation to become part of the Alpenlite Travel Club. For further information or to join the Travel Club, please contact us.

Alpenlite Travel Club  
AlpenliteC@aol.com  
P. O. Box 1726  
Clackamas, Oregon 97015  
PHONE (503) 698-4461 FAX (503) 698-5521

# WESTERN RECREATIONAL VEHICLES, INC.

Fifth-Wheel Trailer, Travel Trailer and Truck Camper

## MANUFACTURER'S 1 YEAR LIMITED WARRANTY (NONCOMMERCIAL USE)

### 1. General Terms of One (1) Year Limited Warranty

Western Recreational Vehicles, Inc. ("WRV") hereby warrants to the non-commercial consumer purchaser, for a period of one (1) year from the date of purchase of a new Alpenlite "Limited and Villa" Series Fifth-Wheel or Alpenlite "Aspen" Travel Trailer or Alpenlite "Truck Camper" (each of which is hereinafter referred to as the "Unit"), that the subject Unit shall be free of *substantial defects* in material and workmanship attributable to WRV, *provided however*, that WRV also provides a 5 year pro-rata limited warranty on defects in the structural integrity of the unit, as specifically set forth in Paragraph 2, below. *Components which are purchased by WRV for inclusion within the Unit normally carry the component manufacturer's own warranty; therefore, such items are not warranted by WRV in this Limited Warranty or any other express or implied warranty. It should be noted that some component parts might have a warranty period longer or shorter than one (1) year. WRV in no way is responsible for any warranty either written or expressed on these component parts.* **This Limited Warranty refers only to materials and component parts manufactured and/or adapted for use by WRV and WRV's workmanship related to the design or construction of the unit, including installation of component parts into the unit.**

A *substantial defect*, assuming it is otherwise covered under this Limited Warranty, occurs only when a part or system of the Unit fails to perform substantially within the design or manufacturing specifications for that part or system and which substantially limits the usage of the Unit.

In the event it is determined that there exists a *substantial defect* covered by this Limited Warranty, WRV agrees that it will repair the defect, pay reasonable parts and labor charges related to such repair. WRV reserves the right to deny payment or reimbursement therefore if it is not related to a *substantial defect*. WRV reserves the right to make, or permit the use of, new and/or remanufactured parts in making such repairs.

WRV anticipates that it will periodically change the parts and designs of its units. WRV has no obligation to make corresponding changes in, or "update", its units previously manufactured.

### 2. Terms of Pro-rata, Five (5) Year Limited Warranty

WRV also warrants to the non-commercial consumer purchaser, for a pro-rata term of five (5) years from the date of purchase of the Unit, that such Unit shall be free of defects in the structural integrity of the Unit. "Structural integrity" refers to fixed, or stationary components including the front, side and back walls, ceiling, and undercarriage of the Unit. This specific warranty provides benefits according to the following schedule, all time periods computed from the date of purchase:

Year one .....	100% of parts and labor
Year two.....	80% of parts and labor
Year three.....	60% of parts and labor
Year four.....	40% of parts and labor
Year five.....	20% of parts and labor

Except where this Five (5) Year Limited Warranty is specifically inconsistent with any other term(s) of the One (1) Year Limited Warranty, all terms of the One (1) Year Limited Warranty are equally applicable to the Five (5) Year Limited Warranty.

### 3. Transfer of Warranty upon Resale

This Limited Warranty starts from the date of purchase by the original owner; however, during the first twelve (12) months of ownership any unused portion of the warranty time may be transferred to another owner provided WRV is notified in writing and provided the full name, address, and date of ownership change prior to the event for which a request for warranty-covered work is made.

### 4. Warranty Recovery Limitations and Disclaimers

WRV shall not be liable for any consequential or incidental damages resulting from any defect, including *substantial defects*, in the Unit. WRV makes no warranty of any kind beyond that contained in this Limited Warranty. To the extent that implied warranties of merchantability and/or fitness for a particular purpose are found to exist by operation of

law or facts, such are limited in duration to the warranty period of one (1) year from purchase by the original consumer purchaser. All implied and express warranties on items not covered by this Limited Warranty are disclaimed, including any warranties of merchantability or fitness for a particular purpose. Component parts and systems not covered by this Limited Warranty are sold "as is", and WRV assumes no risk and makes no warranties as to the quality and performance of such parts and systems.

Some states do not allow limitations on the duration of warranties or the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you.

## 5. Mandatory and General Notice Requirements

As a condition to WRV granting the limited warranties set forth in this Limited Warranty, you, the non-commercial consumer purchaser must comply with the following mandatory and general notice requirements:

### A. Mandatory Notice

If there is a *substantial defect* which is in any way related to the Unit or life safety, you must notify WRV (rather than the Dealership from which the Unit was purchased or where service is generally provided) within two (2) days of the sooner of: (1) the actual discovery of such *substantial defect*; or (2) when such defect should have reasonably been discovered, and in no event shall the Unit be used in any manner after such discovery unless and until WRV has received notification of all pertinent facts related thereto and provided instruction in the manner in which such Unit may be used.

In the event there has occurred an unsuccessful attempt to repair a *substantial defect* covered by this Limited Warranty or if a repair has taken more than 15 days aggregate repair time related to a *substantial defect*, you must notify WRV in writing of the unsuccessful repair attempt or the more than 15 days aggregate repair time within five (5) days of the discovery thereof or when such discovery should have occurred, whichever sooner occurs.

Unless prohibited by the laws of the state, in which the Unit was purchased, failure to provide the Mandatory Notice voids this warranty. If a claimed defect is related to an appliance which is found to be covered by this warranty or any other warranty or law, any replacement rights, to the extent permitted by law, shall be limited to replacement of that appliance, nothing more.

### B. General Notice Requirement

If there is a *substantial defect* not otherwise covered by the Mandatory Notice Requirements set forth above, you, the non-commercial consumer purchaser, shall provide written notice of the *substantial defect* to WRV within ten (10) days of the discovery thereof. Arrangements will then be made by WRV to determine whether there has, in fact, occurred a *substantial defect* and, if so, where, when and the manner in which such *substantial defect* shall be repaired.

In the event there has occurred an unsuccessful attempt to repair a *substantial defect* covered under this General Notice Requirement or if a repair has taken more than 15 days aggregate repair time related to such a *substantial defect*, the non-commercial consumer purchaser must notify WRV in writing of the unsuccessful repair attempt or the more than 15 days aggregate repair time within five (5) of the discovery thereof or when such discovery should have occurred, whichever sooner occurs.

Unless prohibited by the laws of the state, in which the Unit was purchased, failure to provide the general notice voids this warranty. If a claimed defect is related to an appliance which is found to be covered by this warranty or any other warranty or law, any replacement rights, to the extent permitted by law, shall be limited to replacement of that appliance, nothing more.

## 6. Items and Events Specifically Not Covered

The items and events set forth below, plus other items and events not listed but which are equivalent of the items and events listed, are specifically not covered by this Limited Warranty:

- a) Items purchased, manufactured an/or installed other than at WRV's facility;
- b) Batteries, tires, axles and wheels;
- c) All domestic-type appliances, including, but not limited to, refrigerator, stove, oven, microwave, ice maker, water heater, furnace, television, stereo, radio, compact disc player, video cassette player/recorder, washer and dryer;
- d) Any activity related to the Unit which is rented, leased, or loaned for use by anyone other than

the original owner;

e) Damage or corrosion due to accidents, misuse or alterations, including, but not limited to, any damage caused by or due from off road use, collision, fire, theft, weather, airborne fallout (including chemicals, tree sap, etc.) stones, earthquake, water, acid rain, flooding, windstorm, lightning, road salt, road salt spray, blowing sand, road surface debris or other environmental factors, vandalism, riot, explosions, objects striking the Unit, driving over curbs, overloading, or alterations made to the Unit without the express written approval of WRV. Basic Instructions for proper use of this Unit are discussed in the Owner's Manual;

g) Any damage caused by improper maintenance as described in the Maintenance Schedule, or, improper maintenance with respect to any component part, as described in any applicable instructions from a systems or component part manufacturer or an instruction from a repair facility or as common sense would dictate. This includes, but is not limited to, such improper maintenance as failure to follow air pressure and torquing recommendations related to axles, wheel or tires, "etc.". It is recommended that all receipts confirming maintenance performed be retained to provide proof thereof. Maintenance expenses are not covered by this Limited Warranty, nor is damage caused by and through normal wear-and-tear.

## **7. Limitations in Usage**

This Limited Warranty does not cover damage caused by usage, in addition to that already described herein, which is beyond the reasonable design intentions of WRV for this Unit. The reasonable design intentions of WRV contemplate use of this Unit in a reasonable manner, recognizing its size, function, maneuverability limitations and weight. Improper use or use beyond the reasonable design intentions would include, but not be limited to, off-road use, unreasonable towing, what would be reasonably construed pursuant to motor vehicle statutes, regulations, ordinances and rules of the road as negligent or reckless driving, unreasonable use of appliances, improper and/or imbalanced loading and other equivalent uses. Damages caused by usage of this Unit in a manner inconsistent with directions set forth in the Owner's Manual are also not covered by this Limited Warranty.

This Limited Warranty is null and void with respect to any commercial use or use by any commercial purchaser. This Limited Warranty provides rights with respect to only the non-commercial consumer purchaser.

## **8. Expense Responsibilities of the Purchaser**

Unless prohibited by law, you, the non-commercial consumer purchaser, are responsible for expenses and costs related to delivering the Unit to WRV or an authorized repair facility for warranty service including, but not limited to, the costs of transporting the Unit to and from the location where such service is to occur and for associated lodging, meals and/or other related costs incurred for the benefit of those performing said transporting and waiting while such repairs are completed.

Regular maintenance, including, but not limited to, cleaning, polishing, lubricating, replacing worn brake linings and other normal maintenance services shall be at your expense. Please review the Maintenance Schedule and Owner's Manual for recommended maintenance procedures.

## **9. Dispute Resolution**

All disputes with WRV arising out of the terms and application of this Limited Warranty shall be resolved through Binding Arbitration under the rules of the American Arbitration Association, with any hearing pursuant thereto occurring in Yakima, Yakima County, Washington.

To the extent that the parties hereto agree to pursue resolution through other than Binding Arbitration, jurisdiction and venue shall lie with the Yakima County Superior Court, Yakima County, Washington.

In any dispute arising out of the terms and application of this Limited Warranty, which proceeds to the commencement of Binding Arbitration or civil litigation, the prevailing party shall be entitled to recover reasonable attorney fees and costs.

## **10. How to Obtain Warranty Service and Seek Reimbursement**

WRV provides a toll free telephone number (1-800-888-4133) so that you may be able to seek assistance under this Limited Warranty. The normal business hours of WRV are 8:00 AM - 5:00 PM, Pacific Standard (or Daylight) Time,

Monday through Friday. If you call outside of normal business hours a recording will be available for you to leave a detailed message.

Please review Paragraphs 1 and 4 of this Limited Warranty with respect to when WRV must be notified before incurring any expense for which you may seek reimbursement under the terms of this Limited Warranty.

To obtain Warranty Service, call the authorized repair facility nearest you for an appointment. If you need assistance in locating the nearest authorized repair facility, please contact WRV at the phone number listed above.

You must deliver the Unit to an authorized repair facility within a reasonable time after discovery of the *substantial defect* and in no event after the expiration of the appropriated warranty period. Warranty Service can be provided only at an authorized repair facility, provided however, that WRV may waive this condition if it determines that it would be in the best interests of WRV and you to do so.

You must insure that WRV is consulted before repair work related to a *substantial defect* commences to avoid possible delays and reduction of reimbursement request. You must present your owner identification card to the Service Manager.

All requests for reimbursement of costs and expenses for warranty service under the terms of this Limited Warranty shall be made in writing and must be received by WRV at the address noted below within sixty (60) days of the date the services were performed. Proof of the work actually performed and the charges applicable thereto (typically shown through receipts and/or invoices) must accompany each written request for reimbursement. If you are not happy with the warranty service received hereunder, or the *substantial defect* has not been reasonably repaired following the first repair attempt, you must immediately notify WRV in writing. Written notice to a dealer or authorized or unauthorized repair facility shall not constitute written notice to WRV of a continuing problem or unsatisfactory warranty service.

WRV can provide assistance in locating component parts manufacturers if and when there occurs a problem not covered by this Limited Warranty but which should be covered under express and/or implied warranties of such component parts manufacturers.

#### **11. No Authority To Enlarge Limited Warranty**

The terms and conditions of this Limited Warranty may not be enlarged, modified or amended by any person, dealer or repair agent. This Warranty gives only those legal rights specifically enumerated herein, or which are obligated to be provided under the laws of the state in which this Unit was purchased, assuming such legal rights are greater than what is provided herein.

To the extent that the laws of any state in which this Unit was purchased limit or modify the legal effect of any term or provision of this Limited Warranty, such limitation and/or modification shall not affect the remainder of this Limited Warranty.



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# GENERAL INFORMATION

## TAKING DELIVERY

Your Alpenlite has been inspected by factory personnel throughout each step of the manufacturing process. Our final check by Quality Assurance, before shipment, is not the last check. Your dealer also performs additional pre-delivery inspections, systems checks, and completes any necessary forms. Your dealer will also help you understand your Alpenlite's Limited Warranty.

### DEALER RESPONSIBILITIES INCLUDE:

1. Orientating you to the Alpenlite, its systems and components and their operation.
2. Insuring that you receive a complete Owner's Packet with warranty cards on separately warranted products, including their operating and maintenance instructions.

#### NOTE:

*Your Alpenlite is registered when the dealer returns the completed "Pre-delivery Inspection Form" to Western Recreational Vehicles.*

3. Reviewing the Alpenlite Warranty provisions, stressing the importance of mailing warranty cards and registration to the component manufacturers. If you need assistance completing these forms, ask your dealer. They will explain any provisions not clearly understood. Some dealers complete and mail these registrations as part of their service.
4. Instructing you on how to get local service and out-of-town service on your Alpenlite and its separately warranted components, either in or out of warranty.

### CUSTOMER RESPONSIBILITIES INCLUDE:

As an Alpenlite owner you have the responsibility for regular and proper maintenance. Following a maintenance schedule will help you avoid adverse conditions arising from neglect that are not covered by your Western Recreational Vehicle Alpenlite's Limited Warranty.

**AS THE OWNER, IT IS YOUR RESPONSIBILITY AND OBLIGATION TO RETURN YOUR ALPENLITE TO AN AUTHORIZED DEALER FOR REPAIRS AND SERVICE (SEE WARRANTY). IF YOU ARE NOT ABLE TO DO THIS DUE TO DISTANCE OR OTHER EXTENUATING CIRCUMSTANCES, CONTACT YOUR DEALER TO OBTAIN AUTHORIZATION FOR WORK TO BE DONE BY OTHERS.**

Since the authorized dealer from whom you purchased your Alpenlite is responsible for its proper servicing before delivery, and has an interest in your continued satisfaction, we recommend that INSPECTION, WARRANTY, AND MAINTENANCE SERVICES be performed by him. We at Western Recreational Vehicles pay an authorized Alpenlite dealer for warranty work. However, it is not unusual for a non-Alpenlite dealer to request payment from you at the completion of the job. If this request is made, pay the bill and submit it to your dealer for the completion of our required warranty forms. You will be reimbursed for Warrantable work by your selling Alpenlite dealer. Remember, work done by a non-Alpenlite dealer must be authorized before work is done.

**WE SUGGEST THAT YOU TAKE YOUR NEW ALPENLITE ON A WEEKEND "SHAKEDOWN" TRIP PRIOR TO AN EXTENDED TRIP SO THAT NEEDED ADJUSTMENTS CAN BE MADE.**

## CUSTOMER RELATIONS

Only by keeping your confidence in and satisfaction with the Alpenlite and our service can we insure our continued success. We know that maintaining a cordial and effective relationship with our customers is just as important as

improving the technical excellence of our products. Your authorized dealer is pleased to help you with service and instructions about your Alpenlite.

Most problems arise from misunderstandings about warranty or service and usually can be solved by the dealer. If the problem remains after you have consulted your dealer, or your dealer cannot provide satisfactory work, you may contact our Customer Service Department. They will work with the dealer and see that every attempt is made to resolve the matter.

Write: CUSTOMER SERVICE DEPARTMENT  
Western Recreational Vehicles, Inc.  
P. O. Box 9547  
Yakima, Washington 98909-0547

Or Call:

<b>Service Manager</b>		<b>Service Advisor</b>	
Phil Mattoon	- 1-866-567-4133 ext. 278	Dave Kamppi	- 1-866-567-4133 ext. 276

Please have ready or provide all pertinent information including the Alpenlite serial number (the last 5 digits of the 17 digit number starting with "1W5") and your Alpenlite model number when writing or calling us.

## OBTAINING SERVICE

### Appointment Scheduling

Customer Service - 1-866-567-4133

Give thought to the appointment time. Monday, Friday, and the day before holidays are busy days at most dealerships. Therefore, it makes sense to make a mid-week appointment whenever possible.

Prepare for the appointment... if you are having warranty work done, be sure to have your warranty card with you. All work to be performed may not be covered by the warranty. Discuss additional charges with the service manager. Keep a maintenance log of your vehicle's service history. This can often provide helpful background information for troubleshooting.

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

Be reasonable with your requests... don't leave a long list of items to be serviced and expect to have your Alpenlite back right away. If you list a number of items and you must have your unit by the end of the day, discuss the situation with the service manager and list your items in order of priority. Expect to make a second appointment for work not completed or for parts that may need to be ordered.

You usually cannot look over the technician's shoulder... don't be offended if you are told you cannot watch the work being done. Insurance requirements usually forbid the admission of customers into a service repair area.

Inspect the work promptly...check out the service or repair job when you pick up your Alpenlite and notify the service manager of any dissatisfaction. If circumstances prevent returning for immediate corrective work, make an appointment for as early a date as possible or practical.

## REPORTING SAFETY DEFECTS

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

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

To contact NHTSA, you may either call the Auto Safety Hot Line toll-free at 1-800-424-9393 (or 366-0123 in the Washington, DC area) or write to: NHTSA, U. S. Department of Transportation, Washington, DC 20590. You can also obtain other information about motor vehicle safety from the Hot Line.

## **IDENTIFICATION TAGS**

### **VEHICLE IDENTIFICATION LABEL:**

On the left front corner of your Alpenlite you will find the combined FEDERAL CERTIFICATION and VEHICLE IDENTIFICATION label. This tag gives the Vehicle Identification Number (VIN) which is your serial number. If you ever need to contact your selling dealer or Western Recreational Vehicles please be sure to have ready the entire serial number.

On this ID label you will also see the maximum unit weight with certain specified items. Options must be added to obtain the gross weight.

### **STATE DEPARTMENT OF HOUSING CODE INSIGNIA:**

Affixed near the entry door is a STATE DEPARTMENT OF HOUSING CODE INSIGNIA (not required in all states). This insignia indicates your Alpenlite was built to meet the standards of the state in which your unit was purchased.

### **(RVIA) SEAL OF COMPLIANCE:**

In the same area you will see the RECREATION VEHICLE INDUSTRY ASSOCIATION (RVIA) SEAL OF COMPLIANCE. This is your assurance that your Alpenlite meets or exceeds RVIA's rigid inspection standards.

### **INFORMATION LABELS:**

Located in the strategic areas, both inside and outside your Alpenlite, you will see PRECAUTIONARY, INFORMATIVE, AND WARNING labels. These labels are required by the National Fire Protection Association and the American National Standards Institute.

### **EQUIPMENT DATA SHEET:**

Included in your Alpenlite is an equipment data sheet. On this is the model and serial number of the various important components which have been installed at Western Recreational Vehicles. In the event you have the dealer install a major item such as an air conditioner, you may wish to add the model and serial number to the list provided.

Keep this list available in the event you must make a telephone call concerning any of the major components. You will be asked for the component model and serial number, as well as the date of purchase of your Alpenlite, or warranted part if purchased later. If you add or replace an appliance, please write and give us the new model and serial number. In the event of an appliance "recall" we need this information.

### **WARNING:**

Each and every label on your Alpenlite is very informative and should never be altered or removed.

## **CAMPER CENTER OF BALANCE**

The longitudinal center of gravity of your Alpenlite camper is shown on the next page. The inch figure shown is a measurement from the **POINT THAT CONTACTS THE REAR END OF YOUR TRUCK'S BED** forward. Since truck bed length can vary depending upon the make and model of pickup truck for longitudinal center of gravity purposes the "standard" Ford/Chevrolet pickup bed length of 96 1/2 inches is used. (The usable pickup bed

length is measured from the point that the front of the pickup camper would touch the top rolled front rail of the truck bed to the extreme rear end of the truck bed).

If you own a pickup truck which has a length longer than 96 1/2 inches, add the length over the 96 1/2 inches to the center of gravity figure given below to determine the distance from the **POINT THAT CONTACTS THE REAR END OF YOUR TRUCK'S BED** to the center of gravity. Conversely, if your pickup truck's bed is shorter than the 96 1/2 inches you must deduct this distance to determine the center of balance.

**THE LONGITUDINAL CENTER OF GRAVITY FOR YOUR CAMPER: AS STANDARD EQUIPPED (NO OPTIONS) IS \_\_\_\_\_ INCHES FORWARD FROM THE POINT THAT CONTACTS THE REAR END OF YOUR TRUCK'S BED.**

FIGURE 1: Center of gravity information.

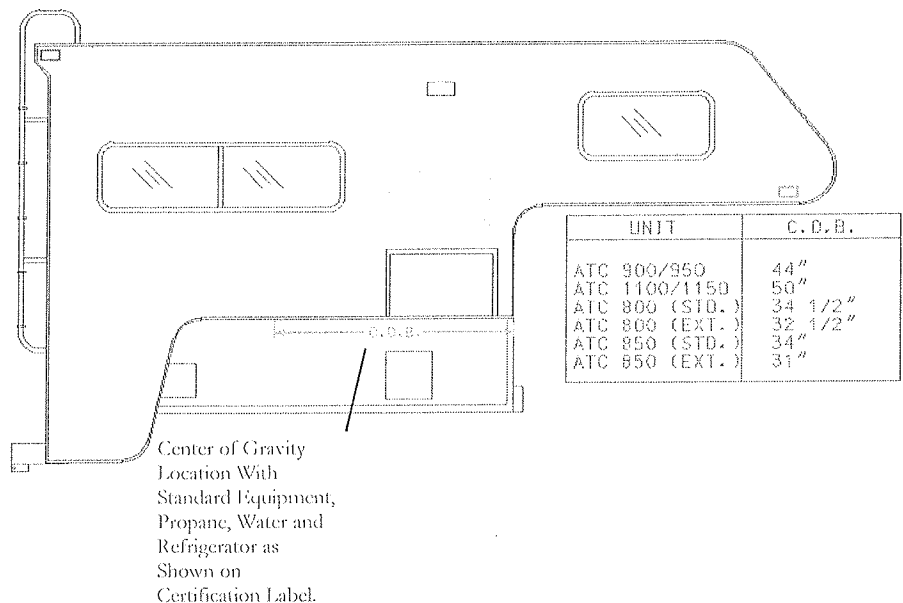
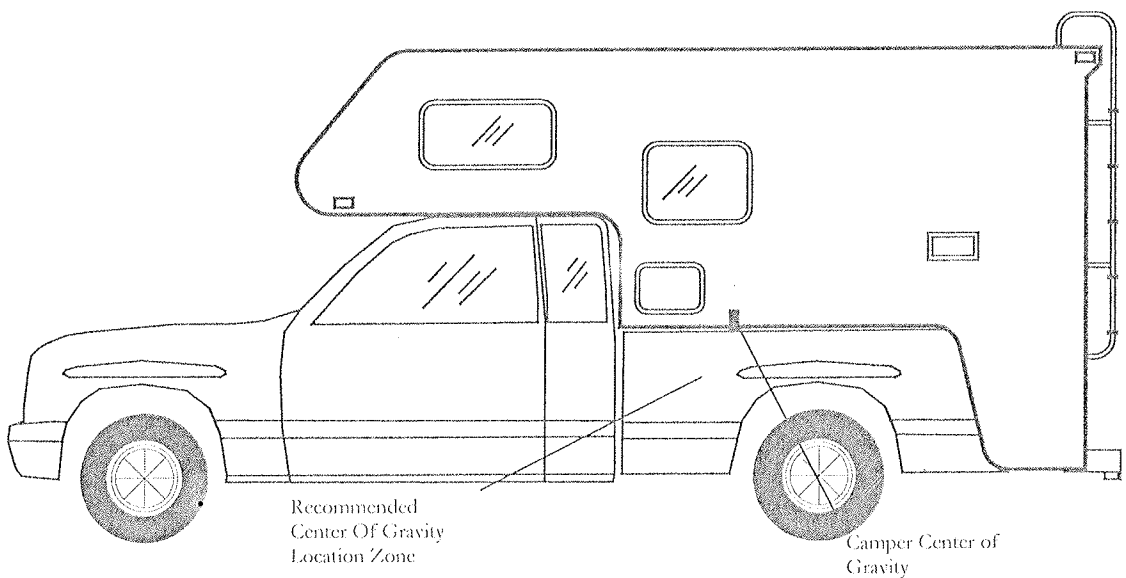


FIGURE 2: Truck and Camper Match.



# LOADING/UNLOADING THE CAMPER

## LOADING YOUR ALPENLITE CAMPER

Proper loading of your vehicle is important for safe operation. You should study this section carefully. A properly loaded vehicle will make your on-the-road time much safer and more enjoyable.

### WEIGHT-MATCHING CAMPER TO TRUCK:

This Alpenlite camper certification label is located on the rear exterior of your camper:

MANUFACTURED BY: WESTERN RECREATIONAL VEHICLES	DATE:
VEH I.D. NO.	
<p>THIS CAMPER CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURER SHOWN ABOVE. CAMPER WEIGHT IS</p> <p>*            KG (            *            LBS) MAXIMUM WHEN IT CONTAINS STANDARD EQUIPMENT.</p> <p>                 LTRS (            GAL) OF WATER,</p> <p>                 KG (            LBS) OF BOTTLED GAS, AND</p> <p>                 CUBIC METERS (            CUBIC FT) REFRIGERATOR (OR ICE BOX WITH            KG (            LBS) OF ICE AS APPLICABLE).</p> <p>CONSULT OWNER'S MANUAL (OR DATA SHEET AS APPLICABLE) FOR WEIGHTS OF ADDITIONAL OR OPTIONAL EQUIPMENT.</p> <p style="text-align: right;">CD-123</p>	

\* The weight of your camper with standard equipment is \_\_\_\_\_ lb. (Plus any options - see below)

**NOTE:** This weight is generally referred to as "Wet Weight."

Please refer to this certification label on the rear exterior of your camper for date of manufacture, Vehicle Identification Number, and plan approval number (if applicable) on all Alpenlite campers, the standard amount of water and LP gas carried and included in the camper's standard weight is 37 gallons and 40 pounds respectively. The 5 cubic foot refrigerator is standard. To the certification label weight add the weight of any options listed below:

Delete front window .....	-15 lb.
13,500 BTU High Efficiency air conditioner .....	110 lb.
Electric jacks (set of four) .....	29 1/2 lb.
Remote electric jacks .....	29 1/2 lb.
Swing out jack brackets .....	15 lb.
Patio awning (10 ft.) .....	53 lb.
Patio awning (8 ft.) .....	47 lb.
Rear entry door awning .....	16 lb.
Roll-Over lounge .....	45 lb.
Generator, 2500 watt (ATC 1100/1150) .....	155 lb.
Generator, 2500 watt (ATC 900/950) .....	140 lb.
Generator Ready, LPG (ATC 1100/1150) .....	43 lb.
Generator Ready, LPG (ATC 900/950) .....	28 lb.
Dual 7 1/2 gallon LPG Tanks .....	15 lb.
Extended Cabover .....	200 lb.
Satellite dish (Roof Mount) .....	8 lb.
T.V. Antenna .....	6 lb.
Microwave oven .....	31 lb.
Solar Panel .....	12 lb.
Fan-Tastic Fan W/ Thermostat .....	6 lb.
Removable Carpet Kit .....	11 lb.

This is your starting point towards determining whether or not your present truck (or a truck you intend to purchase) will have the capacity to carry a camper. Your final consideration in this area of concern should be based on the total weight to be carried.

To estimate the total cargo load which will be placed on a truck, add the weight of all passengers in the truck, the weight of supplies, tools, and all other cargo, the weight of installed additional or optional camper equipment, and the Alpenlite camper weight figure. Select a truck that has a cargo weight rating that is equal to or greater than the total cargo load of the camper and whose manufacturer recommends a cargo center of gravity zone that will contain the camper's center of gravity when it is installed.

#### **CORRECT LOADING PROCEDURE:**

When loading this camper, store heavy gear first, keeping it on or close to the camper floor. Place heavy things far enough forward to keep the loaded camper's center of gravity within the zone recommended by the truck manufacturer. Store only light objects on high shelves. Distribute weight to obtain even side-to-side balance of the loaded vehicle. Secure loose items to prevent weight shifts that could affect the balance of your vehicle. When the truck camper is loaded, drive to a scale and weigh the front and the rear wheels separately to determine axle loads. The load on an axle should not exceed its gross axle weight rating (GAWR). The total of the axle loads should not exceed the gross vehicle weight rating (GVWR). These weight ratings are given on the vehicle certification label that is located on the left side of the vehicle; normally the dash panel, high pillar, door latch post, or door edge next to the driver on trucks manufactured on or after January 1, 1972. If weight ratings are exceeded, move or remove items to bring all weights below the ratings.

#### **LOADING AND UNLOADING**

##### **TO CORRECTLY LOAD YOUR CAMPER DO THE FOLLOWING:**

Your Alpenlite camper comes standard with four (4) corner Atwood electric jacks. They operate as do all electric screw type jacks. Atwood remote electric jacks are offered as an option.

**1. Before backing your truck under your camper:**

- a.** Remove the tailgate from your truck; depending upon the camper model you may wish to remove the tailgate hardware too.
- b.** Using the four corner Atwood jacks slowly raise your camper to a level above the floor of your pickup truck. By "slowly" raising it is suggested that the back corners be raised (together if two people are available) a few inches first. Then go to the front jacks and raise both of them to a point where the camper appears to be somewhat level. Continue this back to front raising until the needed height is achieved.
- c.** If you have an extension bumper on your truck you may wish to extend it prior to loading. If you have a bumper on your pickup and the holding tanks on the camper will rest on this bumper, the bumper must be removed or spacers placed on top of the pickup bed floor.

**2. Slowly back your pickup under the raised camper.** The base of the camper will fit between the wheelwells of your pickup. If your camper is a 9-foot model be careful not to damage the waste water holding tank which is slung below the driver's side horizontal wing. On other campers with rear underslung holding tanks and a pickup without the bumper removed it may be necessary to place plywood or riser boards on the floor of your pickup so as to increase the distance between the top of the truck bumper and the holding tank bottoms.

**3. Once the camper is centered in the truck bed and the holding tanks will "clear" any obstacle, you may lower the camper.** (BEFORE THE CAMPER IS LOWERED COMPLETELY ATTACH THE TRUCK PORTION OF THE 12 VOLT PLUG TO THE CAMPER PORTION. CHECK YOUR LIGHTS PRIOR TO CONTINUING TO LOWER THE CAMPER.) It is suggested that you bring the camper down very slowly. Start with the two front jacks in order to "snug" the camper forward to the front of the truck's bed



box. Then slowly lower the rear jacks. Repeat this front to back until the camper is firmly resting on the truck bed or on the riser pieces you have placed on the truck bed floor.

4. The camper can now be tied-down to the pickup truck body. Since the dealer does the installation and since a number of different tie-down methods are available, instructions on this item must come from your dealer.

#### **TO CORRECTLY UNLOAD YOUR CAMPER DO THE FOLLOWING:**

1. Park in a place which has firm, fairly level ground. Be sure that you will have space to pull away from your camper after it is jacked-up.
2. If the ground is soft, place some type of spreader to make sure the camper jack(s) will not sink or slip when the camper is raised.
3. Release the camper-to-truck hold-downs.
4. Lower the Atwood jack legs.
5. Jack the camper up starting with the rear jacks first. Be careful not to jack the camper so high as to hit the cab of your truck.
6. After you are sure that the camper will clear the bed of the pickup, remove the 12 volt camper-to-pickup umbilical cord.
7. Slowly move the pickup forward until the truck is completely clear of the camper. Be very careful that you do not "hook" the bumper, if still on the truck, on one of the jack legs.
8. After the camper is clear of the pickup, slowly lower the camper to a down position lowering the rear jacks first. Go just a few inches at a time. Go from rear to front until the camper is "down." DO NOT LEAVE THE CAMPER STANDING FREE ON ITS FOUR JACKS. SUPPORT THE CAMPER AND PARTICULARLY THE FLOOR WITH BLOCKS LOCATED TOWARDS THE OUTSIDE (SO THE BOTTOM OF THE VERTICAL WINGS ARE SUPPORTED AS WELL AS THE FLOOR) OR BY USING SAWHORSES WHICH SPREAD THE LOAD FROM SIDE TO SIDE.

#### **CAUTION:**

The loading and unloading of a truck camper must be done carefully. Take your time.

#### **LEVELING YOUR CAMPER**

Often it is not possible to find a level parking pad on which to place your Alpenlite camper. Current refrigerator models will operate without harm at a slight off-level position. However, it is best to park your camper as level as possible.

Leveling may be accomplished by using blocks of wood or built-for-the-purpose leveling devices. You may need to level one set of your pickup tires or both. Your camper jacks may be used to assist in stabilizing your camper.

Once you are level be sure to block the truck tires so that you do not roll off the leveling device.

#### **CAUTION:**

Never use the camper jacks as your leveling device.

# ELECTRICAL SYSTEMS

## ELECTRICAL SYSTEMS

All Alpenlites have both a 110 volt (city power) system and a 12 volt system. This section concerns both types of power. **THE SECTION ON 110 VOLT POWER IS A MATTER OF LIFE AND SAFETY. READ AND UNDERSTAND THE IMPORTANCE OF PROPERLY HANDLING 110 VOLT POWER.**

You have two (2) types of power for your Alpenlite, 110 volt and 12 volt. 110 volt is only available when plugged into "city" power unless you have a portable or on-board 110 volt generator or inverter. Your 12 volt system operates from any one of four (4) sources: a battery carried on your Alpenlite; the tow vehicle's batteries; when plugged into city power; or operating your on-board generator (optional on all units). Each source of power is addressed below.

## 110 VOLT CITY POWER

Whether you obtain your 110 volt power from an outside (city) power source or from a generator, other than the method of plug in, this section applies to both sources. The usual source is from city power which is brought into your Alpenlite through a 30 amp power cord accessed through a trap door located on the forward end of the left side horizontal offset, near the truck cab. This cord is stored inside this door and is connected directly to the distribution (breaker) panel. The distribution panel is found at different locations on the various Alpenlite models.

Your electrical system has been designed and installed in accordance with the safety requirements of American National Standards Institute, Standard A119.2 and the National Electrical Code. Any changes, additions, and/or modifications made after delivery to you must be made as prescribed by these same standards. Be sure to consult a qualified electrician prior to making any changes and for any repairs deemed necessary.

**THE "THIRD" PIN ON ELECTRICAL PLUG CAPS IS CRITICAL IN PREVENTING POSSIBLE DEATH DEALING ELECTRICAL SHOCKS.** Since electrical equipment, including the recreational vehicle, seems to work satisfactorily without it, some consider the third pin a nuisance and some even break it off so they can plug into obsolete receptacles.

Why is the third pin important? This pin is a means of connecting the exposed metal parts of an appliance or recreational vehicle to earth ground so there can be no voltage difference between them to cause a shock. With everything connected properly in this grounding circuit the vehicle is shock safe - but it could become very unsafe if the continuity described above is not maintained. The continuity from the power source, be it a trailer park or your own home, must be the same as that on your Alpenlite.

## **NEVER USE AN UNGROUNDED POWER CORD OR CORD EXTENSION.**

Alpenlites have one 30 amp power cord. This is an ANSI C73.13 approved 30 amp cord with plug cap, 2 pole, 3 wire grounding type. You should always plug into only a 30 amp power supply source. However, this is not always possible as many RV trailer parks and homes still have only 15 amp outlets. If more than 15 amps are drawn from the trailer park or home outlet the contacts will get hot and may eventually burn out and so will the wire feeding it if it is also rated at 15 amps (14 gauge wire). Usually the 15 amp breaker protecting the power outlet will "trip." This is a sign that you are asking for more power than can be supplied.

## 12 VOLT POWER

Your Alpenlite gives you two (2) primary sources of 12 volt power - the batteries and 110 volt power changed to 12 volts by way of the CONVERTER. All interior lights, your water pump, stereo, furnace, and vent fans operate on 12 volt power. Exterior running and taillights and brake lights operate off the tow vehicles power system.

### NOTE:

*On all campers that have the Electric Jack option, the power for this particular option will not operate with 12 volt converted power. Power can only be supplied through 12-volt battery power.*

### BATTERY POWER:

A space for one or two batteries are available on all Alpenlite models. THE BATTERY IS A DEALER INSTALLED ITEM AND NOT STANDARD EQUIPMENT ON YOUR ALPENLITE. The battery should be 70 amp or larger and of a recreational type. Within the battery compartment one will find a taped (prior to battery installation) 8 gauge black wire and an 8 gauge white wire. The black wire is the "hot" wire and must be placed on the POSITIVE side of the battery; the white wire goes on the NEGATIVE terminal. A battery tie-down is provided.

### CAUTION:

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

### CHARGING THE BATTERY:

Charging is done automatically when the unit is connected to 110 volt power or when a generator is operating as the converter system places a charge of whatever is not required to operate the 12 volt lights, motors, fans, etc., into the battery up to the maximum a battery will hold.

It is suggested that if your Alpenlite has been "in storage" for some time that several days prior to taking a trip you hook the unit up to 110-volt power in order to fully charge the on-board battery through the converter. Be sure to check your battery liquid level periodically.

### NOTE:

*If you won't be using your Alpenlite for a long time, remove the battery and store it in a warm place. Mark positive and negative cables for identification. Do not store the battery on a concrete floor. Charge periodically.*

### NOTE:

*A Deep Cycle RV/Marine battery consumes water which must be refilled periodically.*

### FUSES:

All 12-volt circuits are fused in a separate panel. (See the 12-volt electrical diagram for location of fuse panel and fuse chart for fuse sizes.) The circuit fuse to be used is clearly indicated on this panel. Never over-fuse a circuit.

### CONVERTER:

Both 110 volt and 12 volt battery power enters the converter. The converter used in your Alpenlite is specially designed to give constant 12-volt power, even under low voltage output conditions. Also, it has built-in surge protection to prevent damage due to voltage "spikes." The converter is a separate "appliance" on your Alpenlite.

Although you still have 12-volt power in the event of a converter failure your 12-volt power will be from your battery and it will not be recharged by the converter. Therefore, you may experience battery drain.

The converter used is a converter which uses what is known as “Ferro-resonant” transformer technology. It puts out a constant 12 volt DC output even if input varies from 95 to 130 volts AC. There are three important characteristics of Ferro-resonant converters:

1. They normally generate quite a bit of heat - even under no-load conditions; therefore are quite warm to touch when in operation.
2. The physics involved in the Ferro-resonant principle are such that a slight “hum” will be produced by the transformer.
3. Ferro-resonant converters are input frequency sensitive and should only be operated with incoming AC electricity at 60 Hz. An on-board generator should be set to operate at 60 to 63 Hz.

#### **WARNING:**

The diode in the converter can be destroyed by even a quick accidental touching of the wrong 12-volt battery wire to the wrong battery terminal. This is NOT covered by warranty. Repairs must usually be made at the converter factory.

#### **BULB CHART**

<u>LOCATION</u>	<u>BULB NUMBER</u>
CEILING LIGHTS (Incandescent).....	#1141
CEILING LIGHTS F15T8-WW GE (Fluorescent).....	#15 watt
READING LIGHTS .....	#1141
TAIL-STOP & DIRECTION LIGHTS.....	#1157
LICENSE PLATE LIGHT.....	#67
CLEARANCE LIGHTS.....	#1895
BACK-UP LIGHTS.....	#67
PORCH / AWNING / SECURITY LIGHT.....	#S-1003
MONITOR RANGE HOOD LIGHT.....	TYPE 912

#### **FUSE CHART**

<u>LOCATION</u>	<u>FUSE SIZE</u>
AM-FM CASSETTE.....	3 amp AGC
REFRIGERATOR .....	3 amp AGC
INTERIOR LIGHTS.....	15 amp Blade
TURN LIGHTS .....	7.5 amp Blade
BACK-UP LIGHTS.....	7.5 amp Blade
CLEARANCE.....	7.5 amp Blade
MAIN FUSE.....	30 amp Blade

# LP GAS SYSTEM

## LP GAS SYSTEM

Your Alpenlite has two (2) ON-BOARD LP (LIQUEFIED PETROLEUM) CONTAINERS. LP GAS IS A MATERIAL COMPOSED OF VARIOUS HYDROCARBONS such as propane, propylene, butanes, butylene, or a mixture of them. LPG is stored as a liquid under high pressure, and vaporized into a gaseous fuel under the control of a pressure regulator, which reduces pressure to about 11 column inches of water pressure. This low-pressure LP vapor is then transferred through the gas distribution lines for the use of heat producing appliances such as the furnace, range, oven, water heater, and refrigerator.

The two (2) LP containers are located in a non-locking vented compartment. This compartment is vapor-tight to the interior of your Alpenlite. **NEVER MAKE THE EXTERIOR DOOR LOCKABLE, AS ACCESS TO THE LP TANK VALVES IS CRITICAL IN THE EVENT OF AN EMERGENCY.**

LP gas burns readily and yields a great deal of heat energy. Under proper conditions and careful handling it is safe, economical, and ideally suited for use where conventional fuels are not easily utilized. **A strong odor has been added to the gas for safety.**

Your Alpenlite is equipped to operate best on this type of fuel. Make sure your LP gas tanks are **NOT FILLED WITH STRAIGHT BUTANE**, which has a higher boiling point than propane. Butane will convert to a gas only at temperatures above 32 degrees F and will not function as a fuel below that. On the other hand, propane can be used as a fuel at temperatures down to minus 44 degrees F.

Both butane and propane gases are heavier than air. When released they flow downhill like water and will tend to fill depressions. Both diffuse readily and will dissipate quickly into the atmosphere if adequate ventilation is provided to allow a downward flow.

### CAUTION:

LP gas is highly flammable and is potentially explosive if improperly handled. It is not poisonous, but will induce drowsiness and may cause suffocation. Under ordinary circumstances, breathing small amounts should not be harmful. Use extreme caution — and see that others do — when filling the tank(s). There must be no flame or spark or anything which might induce a spark within at least 25 feet of the filling operation. **NO SMOKING.**

### FOR THE SAFE USE OF YOUR ALPENLITE AND ITS APPLIANCES FAMILIARIZE YOURSELF WITH THESE POINTS:

1. **BE SAFE AT ALL TIMES.** Know the distinctive odor of LP gas. If a leak is suspected, turn off the tank valves immediately. Follow the recommended procedures to locate the leak. Ask the LP dealer to check the system. Turn off gas bottles when traveling, if not being used.
2. Upon delivery and periodically thereafter, check your gas system for possible leaks. The entire distribution system and its attached appliances have undergone extensive factory testing for leaks. Your dealer's pre-delivery inspection includes additional checks to this system. Leaks are noted by the strong odor of garlic or onions. If you do encounter this odor, turn off all open flames immediately. Contact your Dealer or an LP gas service center for needed repairs. Only if absolutely necessary should you start a systematic search for leaks throughout the gas system. If you do, use a non-ammonia bubble solution or soapy water - **NEVER A MATCH OR FLAME** - on connections.

### **CAUTION:**

When tightening flare nuts be sure to use two (2) wrenches with opposing torque to prevent twisting of the copper tubing.

3. Do not tamper with the LP gas piping system, pressure regulator, or appliances. Please exercise caution when drilling holes or attaching objects on walls. Gas lines and electrical wiring can be seriously damaged and would present an extreme safety hazard.
4. When gas containers are not in use for some time, or are empty, it is advisable to keep the service outlet valve closed to minimize entry of moisture inside the containers or the regulator. Moisture can cause freeze-up damage to the regulator. To minimize the chance of a freeze-up, have your dealer add a half-cup of dry methyl alcohol into each LPG tank. It is also advisable to do this at the first filling of the tank.
5. Make sure that appliances, plumbing, and outside vents are open and free from obstructions such as ice and snow. Be sure the breather on the LP regulator is clean and clear of obstructions.
6. Never place either a filled or empty LPG tank inside your Alpenlite.
7. When a LPG tank is removed for transporting to a fill station, be sure to plug the POL outlet with the supplied plastic plug.
8. If it becomes necessary to replace one or both LPG tank(s) be sure the replacement tank is the same type: i.e., vertical replaced with vertical tank; horizontal with horizontal.

### **FILLING LPG CONTAINERS**

Filling should be done according to the procedure on the decal of the tank. To remove your LP gas bottles for filling, close the bottle valve tightly, then by hand, loosen the nut that secures the tank to its flexible hosing. Remove the tank(s) for filling. It is advisable to take the tanks about 25 feet away from your Alpenlite for filling.

### **WARNING:**

LP Gas bottles equipped with an OPD (Overfill Protection Device) valve must be filled slowly. Filling an OPD equipped bottle rapidly will cause the float to close the OPD valve prematurely.

### **WARNING:**

All pilot lights, appliances, and their igniters shall be turned off during refueling of motor fuel and/ or LP Gas containers.

Alpenlites come with either vertical LP tanks or horizontal tanks. Filling should be done according to the procedure on the decal of the tank. **THIS IS CRITICAL.**

To replace the tank(s) simply reverse the process.

Local regulations sometimes require that cylinders be removed for filling. Caution the tank fill station attendant not to overfill your tank.

**WARNING:**

Do not fill containers too more than 80% capacity.

The service valve on the LPG tank should be tightened by hand only using caution not to over-tighten. The valve is designed to satisfactorily close with only a reasonable amount of tightening. Continual over-tightening will eventually damage the valve and will require its replacement (not covered by warranty). If a valve is replaced, always replace it with the RV type that incorporates a relief valve as some local regulations prohibit filling tanks that don't have one.

When LP tanks are filled to the proper level there is available space for safe expansion of the vaporized liquid. If your tank(s) is overfilled and exposed to direct sunlight, its pressure will rise causing a pressure "bleed-off" through the safety valve. This pressure bleeding will produce a faint "hissing" sound and a strong odor. Keep all open flames away from this area. It is best to remove the tank(s), take it to a safe area, and bleed off the excess pressure by opening the valve and closing it when discharge has been sufficient.

**WARNING:**

Your vehicle has exterior combustion air inlets. Appliance pilot lights should be turned off during gasoline or LPG refueling on both your Alpenlite and pickup truck. (Some states require this by law.)

**LPG REGULATOR**

Your Alpenlite is equipped with an automatic changeover regulator. This regulator is adjusted to the proper pressure. Your selling dealer rechecks it as part of the pre-delivery inspection. You operate your tanks with this type regulator with both tanks turned to open. The cylinder to which the arrow points is the "service" cylinder. As long as there is fuel in the service cylinder, an indicator on the top of the regulator will show green. When the service cylinder is empty, the regulator will automatically change to the reserve cylinder and the indicator will change to red.

At this point you should turn off the valve of the service cylinder and turn the changeover knob so that the arrow points to the reserve cylinder, thereby making it the "service cylinder". The red indicator will change back to white as soon as you turn the knob. You may now disconnect the empty cylinder and have it refilled.

**CAUTION:**

Open the valve on the LPG tanks very slowly. The rubber flex hose has a built-in excess flow valve which will reduce the LP flow if hit by a larger LPG volume all at once. The result will be low LPG pressure, which will cause appliances not to operate correctly. This is NOT a regulator problem. If the LPG tank is overfilled at the time of a quick turn-on, the regulator can be damaged. Replacement caused by quick turn-ons and/or overfilled LPG bottles are not covered under any warranty.

# WATER DISTRIBUTION SYSTEMS

## FRESHWATER SYSTEMS

Your Alpenlite features a demand delivery water system. Components of this system include a freshwater storage tank, a 12-volt DC self-priming, automatic water pump, and a city water inlet. The pump is located as close as possible to the freshwater tank. The pump automatically turns on and off as faucets are opened and closed and a water pressure drop occurs.

## FRESHWATER TANK

A freshwater tank is used on all Alpenlites to provide a source of non-toxic, non-metallic, and pleasant tasting drinking water when no city water is available. Keep this water supply pure by observing the following steps:

1. The water tank should always be drained during long periods of non-use. When in use, drain and clean tank every month or so. A drain valve is located on the side of the entry step (pull handle to open the valve).
2. The water tank should be flushed thoroughly prior to filling. With the drain wide open, flush the tank.
3. If the tank has developed an odor or contains impure water, follow step 2 above, after washing the tank out with a solution of baking soda and water. If a plastic taste is noted at the time of initial filling, you may wish to add products available from an RV supply store or follow these sanitation steps:
  - a. Prepare a solution of ¼-cup household liquid chlorine bleach (5% bleach solution) to one gallon of water for each 15 gallons of tank capacity.
  - b. Close the drain valve and faucets, put chlorine solution into the freshwater storage tank filler spout, then complete filling the storage tank with plain freshwater.
  - c. Turn the water pump switch "on".
  - d. Open all faucets individually until water flows steadily, then shut off the faucet. This will purge any air from the lines.
  - e. Top off the water tank with freshwater and wait three hours.
  - f. Drain and flush the entire system with potable water (drinking water) by opening the freshwater tank drain outlet after first running water through each faucet individually (including the shower faucet).
  - g. Remove any lingering chlorine taste or odor by preparing a solution of one-quart vinegar and five gallons of water and pouring it into the freshwater storage tank filler spout, after closing the drain outlet and faucets. The solution should be allowed to agitate in the tank for several days by normal motion. One can use the city water pressure system while this step is being taken.
  - h. Drain the storage tank again, flush the potable water with all faucets open, and then close the tank drain outlet and faucets and refill. The system is now sanitized and ready for use.

## CITY WATER CONNECTION

The city water connection may be used any time your Alpenlite is parked near a water source suitable for drinking. When connected to an outside water source, the water pump switch should be in the "OFF" position. Open the locking outside access door marked "water" and remove the plug cap. Let clean water run through the hose for a few moments.

### NOTE:

*Avoid the cheaper, plastic hoses for this purpose, as they will cause the water to have a peculiar taste. Your RV dealer can supply you with the proper hose for drinking water transfer.*



Connect the transfer hose to the connection marked for city water entry into your Alpenlite. Because water pressure can vary greatly region to region a pressure regulator set at 45 psi. should be used at all times. It is recommended this regulator be attached directly to the spigot, so the transfer supply hose is also regulated.

#### **WARNING:**

More than 45 psi, could damage the Water Supply System. All damage caused by regulating your pressure above 45 psi will not be covered under warranty.

#### **NOTE:**

*The 12-volt demand water pump has a built-in check valve to prevent city water from flowing into the storage tank when you are hooked up to city water.*

### **FRESHWATER FILL**

At the same location as the city water entry is the gravity fill spout for the potable water storage tank. To fill simply insert the city water-type supply hose into the fill spout. Turn on the freshwater source faucet. The freshwater storage tank has a built-in air relief hose, which allows air to be expelled as water fills the tank. Your tank is full when water comes out the supply inlet spout. Your monitor system will register that the tank is full.

#### **WARNING:**

Do not overfill the water tank. Overfilling water tank may result in damage to the tank and/ or mounting brackets.

### **AUTOMATIC WATER PUMP**

The self-priming pressure pump automatically turns on and off as the faucets are opened and closed. Starting and stopping of the pump depends upon predetermined settings in the pressure control switch built into the pump. Do not attempt to adjust this pressure switch, as it was preset at the factory and changing adjustment will void warranty of the pump. The initial starting of the pump - or if the pump has not been used for some time - will require the following procedures to be performed:

1. Fill the tank with water.
2. Turn on the water pump switch (located on the monitor panel, and in the restroom), and open all hot and cold faucets.
3. Allow time for the water heater tank to fill. Shut off each faucet, as the flow becomes steady and free of air.
4. With the water heater tank filled and all the air expelled from the system, closing off the last faucet should cause the pump to shut off.
5. The system is now ready for use.

#### **WATER PUMP TROUBLESHOOTING:**

1. If the motor does not operate, check the following: Is the switch in the "ON" position? Is the water pump fuse in the 12-volt panel good? Is the battery charge too low? Are the wires disconnected or terminals corroded? Is the pump head frozen? (If so, thaw with a hair dryer.)
2. If the pump runs but water does not appear: Is there water in the tank? Is air leaking in at the inlet fittings? Is the inlet line plugged? Is the suction tube to the storage tank sucking air? (If so, remove the output line and try again.) If water appears, the problem is further into the system.

3. If the motor runs but water sputters, the water tank could be low or air may be getting into the lines. Check and add clamps, if needed, then bleed air from the water heater, toilet, and faucets.
4. Pump cycling, a rapid on and off condition. Normal, and not harmful to the pump. The pump has been set to allow water to flow just like at home. However, many times water conservation is important and faucets are opened only slightly. Under these conditions (high pump output and low faucet flow) the pump will cycle on and off at a rhythmic interval. This is normal and will not harm the pump.
5. Abnormal cycling: If the pump cycles on and off when all faucets are closed something is wrong. Most likely there is a leak somewhere so check faucets for dripping, especially the toilet valve. Correct any leak no matter how small. Should a leak develop, the pump may run continually and flood the unit. If no leak can be detected, shut the pump "OFF". Remove the output hose where it joins the system (not at the pump). Insert a plug from a barb fitting, 3/8" (1/2" on some models) size with a cap tightly screwed on the threads, making certain it does not leak. Turn the pump switch "ON". The pump should come on, run a few seconds, and then shut off. If it remains off, the problem is not the pump; the problem is in the system. If however, the pump goes on and off, there may be a problem with the pump. There may be an internal pump leak, which allows water to escape from the high-pressure side back into the low-pressure inlet area. Look for a valve held open or crack in the casting. Although this can happen, it is not common.
6. If the pump does not shut off, the monitor "OFF" - "ON" switch may be used for temporary control until the problem is solved.

#### **WARNING:**

It is suggested that the switch, which supplies power to the water pump, be turned off when you plan to be away from your Alpenlite for any period of time or while traveling. When the water supply reaches a low level, the pump will continue to run unless the switch is turned off or water is added to the tank. Also, a faucet may come open while traveling and pump water that is unwanted. Refer to the instruction manual furnished with the Shurflo pump for additional operating and maintenance information.

#### **TOILET**

Alpenlite campers use the Thetford toilet. This is a water flush toilet operating off the city water or potable water system. Separate information sheets are found in your Owner's Information packet.

The toilets have an in-line water shut-off valve so that the toilet may be isolated from the other water system during repairs or during cold weather operation.

#### **SHOWER**

The fiberglass shower has a gel-coated, color coordinated inside surface similar to residential fiberglass tubs. Cleaning should be done with a quality non-abrasive tub and tile cleaner. While traveling, be sure to keep the drain plug locked in place.

If you use your shower infrequently be sure to add water periodically to the drain "P" trap and keep the drain plug in place. This will lessen the chance of holding tank odor from entering your unit.

#### **SHOWER FAUCET AND HEAD:**

Alpenlites use a double handle, vanity sink mixing valve for the hot and cold water. A shower diverter is built into this mixer valve. After mixing the water to the desired temperature, the water flow may be turned off at the shower head in order to maintain the same faucet-mixed temperature.

Do not use the shower head shut off for anything but a temporary water valve. When shower is complete, turn off all water at the mixing valve.

## WASTE DISPOSAL SYSTEM

Every Alpenlite is equipped for full self-contained and "dry camping." As part of the self-containment each unit has a waste holding tank system which consists of at least two (2) separate waste holding tanks and a termination outlet.

## WATER HEATER BY-PASS

All Alpenlites have available as a standard feature, a hot water heater by-pass. The operation of the water heater by-pass consists of three (3) steps.

1. On the exterior of the water heater there is an on/off switch for the pilot light, make sure that this is in the off position.
2. On the backside of the water heater there will be located the cold water supply line. To turn the water supply off to the water heater, simply turn the valve so that it is pointing straight up.
3. Also located on the backside of the water heater, there will be the hot water line. The handle on this valve will need to be turned so that it is pointing straight down, this will then allow the water from the cold water line to flow into the hot water lines.

To return water flow to the water heater, simply reverse the above procedure.

## TERMINATION SYSTEM

Your termination system is located on the left side (driver's side) of your Alpenlite. The system consists of the quick-opening valves for dumping the waste holding tanks, a flexible hose adapter, a coupling seal cap, and two dealer supplied items: a flexible sewer hose and a screw clamp to secure the hose to the supplied hose adapter.

The DRAIN SLIDE VALVE is a quick opening knife-type slide valve that controls the discharge of sewage from the holding tank. Usually installed next to the tank, it is easily opened by pulling the handle away from the valve assembly. To keep these valves in smooth operating condition it is suggested that one use a valve lubricant available for this purpose. It can be purchased at most trailer supply stores.

The COUPLING SEAL CAP is essentially a dust cover to protect the coupling from dirt and rocks. Be sure it is clean before placing over the coupling. The cap must be secured in place when the unit is in motion.

A 3" FLEX HOSE AND HOSE CLAMP are dealer furnished items. The ADAPTER furnished with your Alpenlite is attached to the flex hose. A number of types and lengths of flex hose are available. Check with your dealer if you wish to specify the flex hose supplied.

## HOLDING TANKS

Two (2) holding tanks are standard equipment on all Alpenlites. The "gray water" holding tank holds only waste water from your kitchen, vanity sink, and the shower (Exception — ATC 800/950, shower drains into "black water" holding tank). The "black water" tank holds only toilet waste.

Both tanks are made of hi-density polyethylene and offer years of maintenance-free use.

### CAUTION:

Certain items should not be put into the toilet or gray water tanks as they could cause problems:

1. Facial tissues and colored toilet paper: Facial tissues are usually treated to give them wet strength and it is almost impossible to dissolve them in the tank. Use the inexpensive white toilet tissue as it dissolves easily. Biodegradable tissue is recommended. It is available at trailer supply stores.

2. Petroleum products, ammonia, alcohol, or acetone: While liquids such as these will not harm the tank, they may cause damage to valve parts, tank fittings, or drain hose.

To control odors which occur, prime the tank with one (1) gallon of water at the start of each trip and flush one (1) package of chemicals or liquid tank deodorizer into the tank through the toilet bowl. Vehicle movement helps liquefy the solids for easier dumping.

The sinks and shower drain are equipped with "P" traps. When water is in these traps odor cannot pass through and into your Alpenlite. Therefore, be sure water is always in these traps. Evaporation, particularly in a little used shower or tub/shower can make the "P" trap ineffective and odor will enter the unit.

#### **USAGE WITH SEWAGE CONNECTION:**

Full hook-up trailer parks offer sewage connections. When you are using such facilities it is suggested that you do the following:

1. Remove your 3" flex hose with the adapter from the sewer hose carrier. At the other end of the hose, attach the proper fitting (if required) to mate to the park's sewer line connection. With the waste holding tank drain slide valve closed, remove the coupling seal cap. Insert the adapter into the coupling and twist the adapter to hold the sewer hose in position.
2. Keep the black water holding tank drain valve closed. Empty this tank every few days. The idea is to send a large volume of sewage through the tank and drain hose at the same time, which floats toilet paper and other solids completely away. This practice also prevents undesirable odors from entering the unit through the drain hose.

Although the "gray water" holding tank valve may be kept in the open position in order to drain into the sewage system at all times, it is recommended that this tank too be kept closed and opened after dumping of the "black water" tank. By doing this, one can clean out the flex hose making it more odor free.

#### **USAGE WITHOUT SEWAGE CONNECTION:**

When "dry camped" or parked without being able to connect the system to any sewage facilities, it is important to conserve the capacity of the waste holding tanks. This means using as little water for flushing as possible while still maintaining cleanliness. Under these conditions, it is suggested that you do the following:

1. Make certain the waste holding tank drain slide valve is closed, keeping the coupling seal cap tightly secured.
2. The drainage system is designed to collect all waste directly into the holding tanks. Check each tank level daily. An overflowing waste holding tank can be an unpleasant experience.
3. Refer to the numerous publications available that list the dumping stations located throughout the United States. Most state and commercial campgrounds (as well as service stations) contain dumping stations.
4. Never empty your holding tanks directly onto the ground.

#### **MAINTENANCE:**

Clean the tanks out at the end of every trip. If you are not able to flush the holding tanks with a city water hose, it is suggested that you fill the tanks with clean water and drive the vehicle for a few miles to dissolve any solids. Then drain the tank completely.

#### **REPAIRS:**

Should your holding tanks or plumbing lines sustain damage, take your Alpenlite to the nearest reputable service center, as there are methods of repairing the tanks or lines without removal from the unit.

Keep the slide-valves clean of debris to eliminate leakage. You may also wish to use one of the valve lubricants available, which are applied by adding the chemical and water to a recently emptied and clean holding tank. Drive for a while prior to using the holding tank.

## **WINTERIZING**

### **WINTERIZING THE WATER SYSTEM:**

Your Alpenlite is similar to a home. The water lines will freeze if heat is not provided or if the water lines are not drained or "winterized." Winterizing calls for draining the entire system completely. Built-in check valves make it impossible to empty the pump and tank by blowing the lines. Instead do this:

1. Open the drain valve for the water tank. Also, open the drain lines for the hot and cold water lines. The hot water tank must be drained separately by opening the drain valve in the lower exterior part of the hot water tank.
2. Remove the output hose at the water pump. Turn the pump "on" to expel what water remains after the water tank is drained. You should get a cup-full or so and can use a towel or rag to soak up the water expelled.
3. If you have an air compressor you can attach the compressor outlet hose to the disconnected end of the water line. Leaving the faucets closed blow what water you can out of the drain outlets. Then cap the drain outlet and open each faucet one at a time until no more water blows out. Again remove the drain caps and continue to blow the system.

OR you may use the alternate system of using potable antifreeze solutions available from trailer supply stores. Use as per the direction on the solutions label.

### **WARNING:**

Be sure to use only antifreeze made specifically for potable water systems. Automotive antifreeze, if ingested, can cause blindness, deafness, or death.

## **WINTER STORAGE**

The following is a suggested checklist to follow when putting your Alpenlite up for the winter:

1. Drain freshwater lines as per previous instructions.
2. Disconnect the shower hose and drain fully. Leave disconnected for the winter.
3. The toilet can be drained by depressing the pedal until all water is out or unless RV antifreeze is evident.
4. Clean and oil hinges and locks. Clean and wax the exterior of your Alpenlite. Check the roof seams and around vents, reseal as necessary. If you have large amounts of snowfall during the winter it is advisable to remove the accumulation with a push broom.
5. If you remove your camper from the pickup, be sure to rest the floor on a solid blocking of saw horses or similar items. Never store using only four carrier jacks.
6. Mask the windows with newspapers.
7. Remove and clean the drapes if needed.

8. Be sure the holding tanks are drained and clean. Keep valves closed.
9. Pour some RV antifreeze into each "P" trap.
10. Add water and recharge your battery if needed. Disconnect the battery cables. Remove the batteries and store in a cool, dry place, NEVER directly on the concrete floor. Check and recharge as necessary. The longer a battery is discharged the more harm is done to the battery.
11. Clean the refrigerator and leave the door to the freezer and the main door open.
12. Remove and clean filters in your air conditioner. Cover the shroud.
13. Cover the exterior range hood vent outlet.
14. It is advisable to cover the entire unit with a tarp if the winters are severe.

### **WELD-A-FLUSH**

All Alpenlite models come Standard with a Weld-A-Flush® wasteholding tank flushing system. Do not use the same hose that you would use for your potable (fresh) water.

#### *NOTE:*

*Always use the same procedures used at most campground dump station.*

#### **WARNING:**

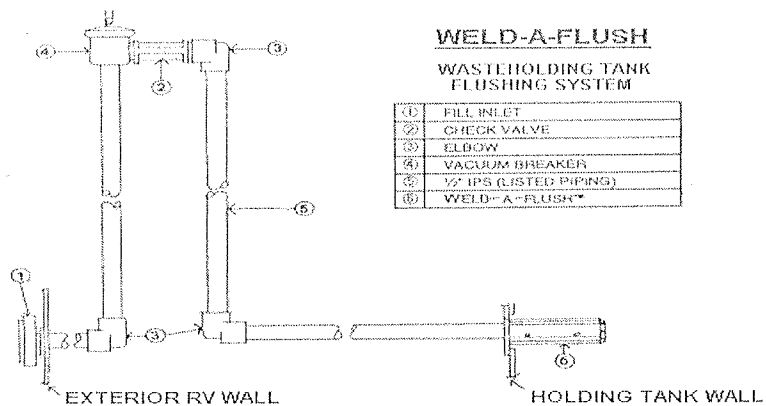
Do not leave your Weld-A-Flush cleaning system unattended while in operation.

#### **TO OPERATE:**

1. Connect sewer hose.
2. Open drain valve; let tank empty.
3. Attach garden hose to water inlet labeled "Sewer Valve Must Be Open When Using This Inlet" and flush for about 2 minutes or until water runs clear from discharge hose.
4. Disconnect garden hose from faucet and lay on ground to allow water to drain from the system before detaching from water inlet.

#### **WARNING:**

Do not leave hose connected to this system when not in use. Dump valve must be open any time there is a hose connected to the system.



**Figure 1** This picture illustrates the Weld-A-Flush system architecture.

**WARNING:**

Do not alter this system in any way, such as by adding check valves, etc.

For more detailed information on the Weld-A-Flush® wasteholding tank flushing system contact:

Lakeview RV Supply, Inc.  
Phone (512) 261-8000 • Fax (512) 261-7722

# APPLIANCES

## APPLIANCES

Alpenlite products use the best available RV appliances. Selection of appliances is determined by both quality and functional performance of the item. Strong consideration is also given to available service centers, approach to warranty and service in keeping you on the road enjoying the RV lifestyle.

## REFRIGERATOR

The Dometic refrigerator is used in the Alpenlite. This is a 3-way (LP gas, 12V, 110V) refrigerator.

Leveling of your Alpenlite is more important for your comfort than for proper operation of the refrigerator. This was not the case in earlier refrigerator models. However, do not operate your refrigerator in a profound off-level condition for a period of time. The reason for this is the nature of absorption refrigeration.

In the "boiler" of the refrigerator, ammonia vapor is distilled from an ammonia-water mixture and is carried to the finned condenser, where it liquefies. The liquid flows to the evaporator, where it creates cold by evaporating into a circulating flow of hydrogen gas. If the evaporator coil is not level, the liquid readily accumulates, forming pockets, which can impair the gas circulation or even block it. In that case, of course, the cooling will stop. With today's Dometic refrigerator the off-level condition must be pronounced and for a rather long duration.

Dometic provides an extensive instruction book of operating instructions. They also include a detailed parts book on your refrigerator. Please read the Dometic information for proper and continual enjoyment of this major appliance.

An additional cleaning hint not given in the Dometic instruction is that if you have a very strong, lingering odor, such as spoiled fish, in the refrigerator or freezer compartment clean the box with pure vanilla extract. This is what the professional uses to clean sour milk smell from dairy cases.

## RANGE/OVEN

All Alpenlite models use the Wedgewood 3-burner range/oven combination featuring the new Hi-Intensity burner. Complete operating and cleaning instructions are contained in the literature from Wedgewood found in your Owner's Packet. Please read it carefully.

This is an LP gas appliance. Thus, all of the safety rules related to the use of LP gas apply. Of specific importance on the oven is the pilot. If you have the oven pilot "on" you must have the pilot flame lit; otherwise, LP gas will be allowed to flow through this pilot tube. Complete instructions of the operation and adjustment of the pilot flame are found in the Wedgewood Manual.

The range top of your Wedgewood has been specifically ordered for Alpenlites in porcelain enamel for ease of cleaning. Take care to clean the entire range using the helpful cleaning tips found in the Wedgewood manual.

## FURNACE

All Alpenlites have a central furnace. In the 800/850 this is an 18,000 BTU, direct vent, furnace. In the 900/950 and 1100/1150 this is a 25,000 BTU furnace which is ducted to various parts of the unit.

The Hydro Flame Owner's Manual (in Owner's Packet) is very detailed and is a must to read. Questions do arise as to the sequence in the firing-off of the furnace particularly about cold air blowing prior to the furnace lighting. The sequence of operation is fully explained in the Hydro Flame manual.

Several specific warnings are given in the Hydro Flame manual and are repeated here since they are extremely important reminders:



1. INSPECT THE APPLIANCE BEFORE STARTING A NEW HEATING SEASON, PAYING SPECIAL ATTENTION TO COMBUSTION AIR FUEL GAS PASSAGEWAYS AND FUEL LINE. Spiders are attracted to LP gas and sometimes make homes in the valve and LP lines thus causing a malfunction in the system.
2. NEVER SHORT ACROSS OR BY-PASS THE LIMIT CONTROL EVEN FOR TEMPORARY OPERATION.
3. SHOULD OVERHEATING OCCUR, OR THE GAS SUPPLY FAIL TO SHUT OFF... SHUT OFF THE GAS SUPPLY TO THE FURNACE BEFORE SHUTTING OFF THE ELECTRICAL SUPPLY.
4. DO NOT USE THIS APPLIANCE IF ANY PART HAS BEEN SUBMERGED UNDER WATER. IMMEDIATELY CALL A QUALIFIED SERVICE TECHNICIAN TO INSPECT THE APPLIANCE AND TO REPLACE ANY PART OF THE CONTROL SYSTEM AND ANY GAS CONTROL THAT HAS BEEN SUBMERGED UNDER WATER.
5. DO NOT APPLY POWER TO CONTROL MODULE UNLESS WIRING CONNECTIONS ARE COMPLETE AND ELECTRODE IS PROPERLY GROUNDED. USE EXTRA CAUTION IN AREA WHERE HIGH VOLTAGE IS PRESENT.

### **HOT WATER HEATER**

Your Alpenlite is equipped with a Suburban LP gas water heater with 12-volt auto re-light. A direct spark ignition (DSI) water heater is optional.

### **IT IS CRITICAL THAT THE WATER HEATER BE FILLED WITH WATER PRIOR TO THE START OF OPERATIONS.**

In your Owner's Packet is the Suburban operating manual. Read it carefully in order to fully understand the many features of this heater.

### **MICROWAVE**

The microwave is an optional appliance on all models. All models are pre-wired for the microwave and has a specific cabinet location in the kitchen area designed for the microwave.

In the Owner's Packet is the very detailed "Care and Use Manual" for the microwave. Any microwave must be used safely. Be sure to read all of the safety information given in the manual.

## OTHER EQUIPMENT

### OTHER EQUIPMENT

This section covers several items, which may or may not be "optional" equipment on your Alpenlite.

#### TV ANTENNA

The TV antenna is an optional item on the Alpenlite. For best use of the outside TV antenna please read the Winegard RV Antenna manual found in your Owner's Packet. This manual lists a few "DO'S" and "DON'TS."

##### DO'S:

1. Do check parking location for obstructions before raising antenna.
2. Do carefully raise, lower, and rotate - if difficult, check for cause.
3. Do rotate slowly when selecting station and check fine tuning on TV set to make sure it is properly adjusted.
4. Do lower antenna before moving vehicle.

##### DON'TS:

1. Don't force elevating crank up or down, check for cause of trouble.
2. Don't rotate directional handle hard against stops.
3. Don't travel with lift in up position.
4. Don't leave lift part way up or down.
5. Don't apply sealing compound or paint over top base plate or anywhere on lift.

(Warranty - two (2) years from date of original purchase).

#### STEREO SYSTEM

Alpenlites have as standard equipment an AM/FM compact disc player. Information on the operation of the stereo is contained in the Owner's Packet.

(Warranty - one (1) year from date of original purchase.)

#### AIR CONDITIONER

All Alpenlite models are pre-wired for the optional air conditioner. If you order a factory installed roof mount air conditioner it will be a 13,500 BTU High Efficiency

An air conditioner Owner's Manual is included in your Owner's Packet if you ordered a factory installed unit.

(Warranty - one (1) year from date of original purchase).

#### SYSTEMS MONITOR

The Alpenlite has a systems monitor panel. This monitor gives holding tank and water levels, has the water pump "on/off" switch, and a battery test indicator.

Information on the operation of this monitor is contained in the Owner's Packet.

## SLIDEOUT OPERATION

All Alpenlite slideout models feature an electrically operated room slideout. Operation of the slideout is easy, just follow the steps listed below:

### CAUTION:

Always make sure that the slideout room path is clear of people and objects before and during operation of the slideout room.

### NOTE:

*An Interior power kill switch is located inside the galley cabinet door. Pulling this switch "on" allows one to operate the slide mechanism..*

### EXTENDING THE ROOM:

1. Level the unit.
2. Verify the battery is fully charged and hooked-up to the electrical system.
3. Press and hold the IN/OUT switch in the OUT position until the room is fully extended and stops moving.
4. Release the switch, which will lock the room into position.

### NOTE:

*If the slideout switch is held after the room is fully extended, the control will sense that the room has stopped and will shut off the motor after a few seconds.*

### RETRACTING THE ROOM:

1. Verify the battery is fully charged and hooked-up to the electrical system.
2. Press and hold the IN/OUT switch in the IN position until the room is fully retracted and stops moving.
3. Release the switch, which will lock the room into position.

### MANUALLY OVERRIDING YOUR SLIDEOUT SYSTEM:

Your Power Gear slideout system is equipped with a manual override that allows you to extend or retract the room in the event of a loss of power.

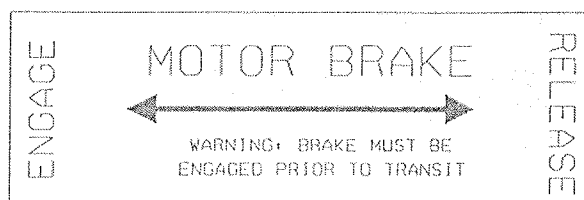
**NOTE:** If the room does not move when the switch is pressed, check the following:

- Make sure the slideout system is turned on
- Battery is fully charged and connected

After the previous items have been checked and the room still does not move when the slideout switch is pressed, follow these simple steps to manually override your slideout room.

1. Turn 'OFF' the on/off Interior power kill switch. **NOTE:** The override will not work if the switch is turned on.
2. Locate the slideout electrical controller (refer to your dealer for location). Unplug the (6) pin wiring harness from the controller.
3. Locate the slideout motor.
4. Rotate the brake lever, on the backside of the motor, counter-clockwise (looking from the rear of the motor) about 1/8 of a turn to the released position. This will release the brake that holds the room in place (see fig. 1).

5. Locate the manual override for the slideout system.
6. The room is now free to move. Using a 3/4" wrench or socket, crank the room either in or out completely (depending on your needs).
7. When the room is fully in (or out) apply pressure to the wrench/ratchet and return the brake lever to its engaged position. This will ensure the room is locked into a sealed position.



**Fig.1**

#### **PREVENTIVE MAINTENANCE:**

Your Power Gear slideout system has been designed to require very little maintenance. To ensure the long life of your slideout system, read and follow these few simple procedures.

#### **CAUTION:**

Do not work on your slideout system unless the battery is disconnected.

1. Visually inspect the inner slide rail assemblies. Check for excess build-up of dirt or other foreign material; remove any debris that may be present.
2. If the system squeaks or makes any noises, it is permissible to apply a coat of light weight oil to the drive shaft and roller areas, but remove any excess oil so dirt and debris do not build up. DO NOT use grease.

IF YOU HAVE ANY PROBLEMS OR QUESTIONS CONSULT YOUR LOCAL AUTHORIZED DEALER.

#### **WARNING:**

Anyone other than an Authorized service technician attempting repairs will void your Power Gear warranty.

(Warranty - one (1) year from date of original purchase.)

#### **SATELLITE DISH**

All Alpenlite's are pre-wired for the installation of a roof mount satellite dish.

## SAFETY EQUIPMENT

### SAFETY EQUIPMENT

Your Alpenlite is equipped with certain safety equipment. This section covers the equipment.

#### SMOKE DETECTOR

A smoke detector is required to be installed in each recreational vehicle. In the Alpenlite the smoke detector is located so as to be in the best possible location to serve its purpose. It is there for your safety. The detector monitors the air; when it senses smoke it sounds its built-in alarm horn.

1. Test the detector weekly. Also test the detector after storage or before each trip. Replace the battery once a year or immediately when the low battery "beep" signal sounds once a minute. The low battery "beep" should last at least 30 days.

NOTE:

*This detector uses standard nine-volt batteries. The detector will work properly with only certain types of batteries. Refer to the smoke detectors Owner's Manual for specific battery types required.*

2. Open the cover and vacuum dust off the detector's sensing chamber at least once a year. You can also clean when you open the chamber to change the battery. Remove the battery before cleaning. To clean, use a soft brush attachment to your vacuum. To clean the cover use a cloth dampened with clean water. Dry with a lint-free cloth. DO NOT GET ANY WATER ON THE DETECTOR COMPONENTS.

(Warranty - five (5) year; see literature in Owner's Packet.)

#### FIRE EXTINGUISHER

By code, each Alpenlite must have a fire extinguisher installed in the unit. This is normally located as close to the entry door as possible just off the floor.

Please read the operating instructions on the label attached to the extinguisher. It is advisable to check as part of your pre-trip routine that the extinguisher shows the proper "charge." Also, periodically remove the extinguisher from its holder and hit it with your hand in order to make sure the extinguisher's fire fighting powder is in the proper condition and has not "caked-up."

#### EGRESS VENT

Each Alpenlite camper has an emergency egress roof vent located above the bed. It is located in such a position as to add an extra escape means in the event of need. Check this vent periodically to be certain it will operate correctly in an emergency. It is clearly marked with the word "exit."

#### LP GAS LEAK DETECTOR

Alpenlites can be optioned to include an LP gas detector, which senses the presence of gas; usually propane but will detect other gases. If gas is detected an alarm will sound. The detector used does not automatically shut off your LP gas system.

Since propane fumes are slightly heavier than air the detector is located near the floor. The detector is wired into the RV 12-volt electrical system and is activated and deactivated by the main battery power switch located next to the breaker panel. Each time the unit is turned "on" it will take about 30 seconds for the unit to "power-up", while the sensor stabilizes to the ambient atmosphere. During this state the unit will not be detecting the presence of gas. The unit may however sound the alarm and light up.

*NOTE:*

*If the alarm is still sounding with the flashing light longer than one minute, then gas is being detected at unacceptable levels.*

**WHEN THE ALARM SOUNDS:**

1. Extinguish all cigarettes and other open flames.
2. Evacuate the area if possible.
3. Turn off gas at tank.
4. Open all available windows and doors to "fresh air". The alarm will stop when a safe level of fumes is reached.
5. Have a proper fire extinguisher ready.
6. Call professional help if required to find the source of the gas leak.

**CAUTION:**

1. Painting or spraying the unit with chemicals such as cleaners, air fresheners, hair sprays, insecticides, etc., will render the very sensitive sensor useless, requiring replacement.
2. Keep flames or other intense heat sources well away from the unit housing.
3. If the DC battery source will be off automatic charge for more than 7 days, it is advisable to turn the unit "off". The detector does not have its own "off" switch.

**CARBON MONOXIDE DETECTOR**

All models will have a carbon monoxide (CO) detector mounted inside the unit. This detector senses the presence of harmful carbon monoxide gas that is a result of carbon based fuel combustion (generator/truck exhaust).

*NOTE:*

*Carbon monoxide is an odorless and colorless gas and in large amounts can cause brain damage or even death.*

**TESTING PROCEDURE:**

1. Press the test/reset button.
2. After pressing the test/reset button, the green indicator light will change to a red color.
3. The alarm should sound. If it does not, repeat this test procedure.
4. Press and release the test/reset button to silence the alarm.

Test detector operation after vehicle has been in storage, before each trip, and at least once per week during use.

# PREVENTATIVE MAINTENANCE

## EXTERIOR CARE

The exterior panels on your Alpenlite are made of "Mende Fiber-Span" gel coat recreational vehicle panels. This panel carries its own (2) year limited warranty. Specific information on this warranty and a warranty registration card are enclosed in your Owner's Packet. According to the "Mende Fiber-Span" Care and Maintenance information sheet please follow guide lines below:

1. Wash your RV with liquid detergents.
2. If you wish to wax the vehicle, use automotive waxes or cleaner/polishes developed for use on fiberglass boats, showers, and tubs. Automotive waxes do not contain ultra-violet inhibitors and will not protect the "Mende Fiber-Span" or fiberglass from yellowing. Products such as Protect All contain ultra-violet inhibitors and will reduce the effect of UV rays on the exterior surfaces.
3. Don't use abrasive cleaners.
4. Don't use rubbing compounds.

In general, whether it is "Mende Fiber-Span" panels or a Western Recreational Vehicles manufactured front and rear cap, the care and maintenance of fiberglass is the same. The great enemy of almost all exterior exposed parts is the ultra-violet rays of the sun. From the day your Alpenlite left our factory door, it was exposed to these rays. Your unit also started to oxidize right away. If one lets this oxidation continue without a cover to hinder the growth of oxidation your Alpenlite will turn dull. If it does turn dull before you are able to seal the exterior we recommend the use of material especially formulated to remove oxidation on fiberglass. In order to hinder the spread of oxidation it is suggested that you periodically place a coat of wax on your Alpenlite. An excellent, very common sealer is "Carnauba" paste wax. A power buffer using 100% twist wool pad also works the fastest. You may select either of rotating or orbital buffer. Of course, some hand buffing will be necessary in those hard to reach places. There are some very good Polymer waxes/polishes available also. You may have to experiment in order to find out what is best and easiest for you to use.

Weatherable Polymer parts require nearly no maintenance. For best results in maintaining surface and durability here are a few tips:

1. Wash the surface with mild liquid detergents such as Dove, Ivory, or Palmolive.
2. If you wish to wax the surface, use automotive waxes or cleaner/polishes developed for use with acrylic showers and tubs. Make sure to follow the directions on the package
3. Don't use abrasive cleaners.
4. Don't use gasoline or solvents.
5. Don't use harsh chemicals or pine based cleaners.

## ROOF:

The care and maintenance of your EPDM rubber roof is simple and requires no special materials. The inspection and cleaning procedures need to be done at least once a year, preferably in the fall.

1. Check the rubber roof for possible damage and check the sealant used in all termination areas, around accessories and fasteners.

2. **KEEP THE ROOF CLEAN.** For normal cleaning, standard household products such as 409, Fantastic, or a mild detergent is sufficient. Do not use harsh abrasives or products containing Acetone. For stubborn stains mineral spirits are recommended.
3. When cleaning, rinse thoroughly with clean water to avoid residue build-up on the roof or side walls.
4. Parking in areas where fruit or tree sap may stay on the roof for extended periods may result in unremovable stains.

**USE CAUTION WHEN WALKING OR PLACING ARTICLES ON THE ROOF. SHARP OBJECTS CAN CUT OR PUNCTURE THE ROOF.**

## **CARPET CARE**

Your Alpenlite has residential grade stain resistant carpet. Although most stains can be wiped up with little effort, it is not stain-proof. We suggest you attend to staining spills right away.

Stain resistant carpet fiber is built to resist stains and soils and take heavy wear. But heavy cleaning chemicals, spot-removers, and topical sprays like Teflon or Scotchguard, and water above 150 degrees, can destroy the stain-resistance and actually make the fibers sticky or "soil-attracting".

The Carpet Cleaners Institute of the Northwest offers these hints for cleaning the carpet:

1. Dry-cleaning, using a powdered chemical compound that is agitated into the carpet and then vacuumed up, is always safe, but it must be thoroughly vacuumed up or the residue will build up at the carpet base and attract soil.
2. Professional or do-it-yourself hot-water extraction cleaning (commonly known as steam cleaning) is fine as long as you do not over-wet the carpet. Use a mild, low pH (less than 10) shampoo and make sure the carpet is thoroughly rinsed.
3. Be very wary of all chemical treatments or stain-removers (including grocery-store spray-on removers), which can ruin the stain-resisting qualities of your carpet. Make sure they state on the label that they are compatible with fifth and sixth generation carpets.

## **UPHOLSTERY CLEANING**

The upholstery fabric is made of synthetic fibers. It is recommended that soap and water be used to remove food stains. For grease, oil, and paint stains use the cleaner "K2R". Hair spray is best for removing ink stains.

"K2R" is dry and will not loosen the fabric nap. A solvent cleaner such as "Tenergine" - which is advertised as a cleaner for acrylic fabrics - tends to loosen backing and allow the nap to be scrubbed out.

## **INTERIOR SURFACES**

The wall material on your Alpenlite, including the feature panel, is vinyl covered and is easily cleaned using soap and water. Do not use any product (such as solvents) which would dissolve vinyl.

### **PANEL:**

Extreme care should be taken in cleaning this panel. Do not scrub hard on this panel. Although it is protected by a thin clear vinyl, hard scrubbing can affect the panel finish.

Cabinet doors are constructed with alder and may be cleaned using a quality grade furniture polish. NEVER APPLY ANY TYPE OF ADHESIVE PRODUCT (SUCH AS SCOTCH TAPE) WHICH IS TO BE REMOVED AS THE CABINET PANEL FINISH MAY ALSO BE REMOVED.



**WATER BASED STAINS:**

Some common stains that could be removed with the following method are milk, soft drinks, fruit juices, coffee, tea, egg, catsup, and mustard.

A solution of one (1) tablespoon of dry powder detergent in one (1) pint of lukewarm water is effective on most water-borne stains. First blot or scrape up the excess, working from the edge to the center so that the stain does not become any larger. Next sponge the stain with the detergent solution, blot with a paper towel, sponge with water, then blot again with a paper towel.

If the stain persists it may be necessary to sponge with a bleach solution (for mustard), a white vinegar solution (for tea), or a dry cleaning solution (for ice cream).

**WATER STAINS:**

To remove water stains follow these steps:

1. Cover the sofa, carpet, and chair with a plastic water proof cover. If you are going to be working above the bay window valance, the valance must be protected.
2. Open the vents and windows for ventilation.
3. Fill spray bottles, one with un-cut Clorox bleach and one with un-cut white vinegar. Adjust both spray bottles for "mist or spray" application, rather than a stream.
4. Using the bleach, spray or mist only the areas where water stains are visibly apparent. Water stains will dissipate almost immediately after the application of the bleach. Do not spray more bleach than is absolutely necessary.
5. Immediately following the removal of the water stains, lightly mist with un-cut white vinegar, only the areas treated with bleach. (Clorox bleach if not neutralized with white vinegar will breakdown the fabric fibers and greatly reduces the life of the fabric.) Next, with a clean white shop towel, gently daub or blot dries excess moisture.
6. Place a box or oscillating fan in such a manner as to gently dry moist sections of the ceiling fabric and to ventilate the fumes from the coach.

**OIL BASED STAINS:**

Some common stains that can be removed with this method are grease, make-up, shoe polish, lipstick, and greasy foods.

To begin, either scrape or blot up excess, then sponge with any commercially available dry cleaning solvent. When using a dry cleaning solvent it is important to "feather" the solvent from the center to the outside of the stain to avoid leaving a ring around the cleaned area.

**SINK**

All Alpenlite models use a stainless steel kitchen & vanity sink. (800/850 is molded into the shower) In order to keep these sinks in "as new" condition follow these recommended cleaning tips:

1. Rinse sink after use and wipe dry.
2. Never use steel wool. Steel particles left in the sink can rust and become unsightly.
3. When using a mild cleanser, rub gently with the grain.
4. DO NOT use rubber mats in sink bowls. Material trapped under mats can complicate cleaning.

## COUNTER TOP CARE

All Alpenlite models use a KARADON™ solid surface counter top. In order to keep this counter top in as beautiful condition as the day it was installed follow these recommended cleaning tips:

### ROUTINE CLEANING:

Wipe spills with a damp cloth and one of the recommended cleaners.

1. Household dishwashing detergents.
2. Soft Scrub or other nonabrasive cleaners.
3. Mild bleach solutions.
4. Ammonia based window cleaners.

Scratches: Repairs to polished surfaces must be sanded out using progressively finer grades of abrasive to finish up at #1000 or 15 micron. The finish is then buffed using a medium to fine grade industrial polishing compound and a hand glaze swirl remover. This procedure is recommended for trained solid surface fabricators. For further information call 1-800-KARADON.

### PROTECTING YOUR INVESTMENT

Do not expose KARADON™ to household or industrial chemicals such as paint strippers, drain cleaners or solvents. These may damage the surface and should be immediately wiped from the surface if an accident should occur.

KARADON™ is designed to be thermal-formed at 280°F therefore do not subject the surface to heat emitting appliances or place hot items directly on the surface. Always use a hot pad or trivet. When cooking ensure that utensils do not overhang the stove and reflect heat to the countertops. This could create a hot spot and damage the countertop. Sudden changes from hot to cold should be avoided as well. Although KARADON™ does withstand heat better than ordinary countertops, damage caused by excessive heat is not covered by the warranty.

KARADON™ will last a lifetime but does need protection from heat, sudden temperature changes, cutting, chemical spills. Burns, impact marks or deep scratches can be repaired, contact your dealer or customer service @ 1-800-KARADON.

## VENDOR LIST

### Air Conditioner

The Dometic Corp. .... 1-800-544-4881

### Awnings

Carefree of Colorado.....1-800-621-2617

### CO Detector

Marine Tech.....1-612-477-4551

### Converter

IOTA .....1-800-866-4682

### Decals/Stripes

Vomela.....1-800-645-1012

### Entry Door

Phillips .....1-800-694-4078

### Faucets

Huntington brass.....1-800-888-6604

### Florescent Light

Thin-Lite Corp. ....1-805-987-5021

### Furnace

Hydroflame .....1-800-825-4328

### Furniture

Flexsteel.....1-909-354-2440

### Generator

Onan .....1-800-888-6626

### Jacks

Camper Jacks .....1-800-825-4328

### LP Leak Detector

Atwood.....1-800-825-4328

### LPG Tank

Manchester.....1-800-877-8265

### Mattress

Mattress Factory.....1-800-955-8288

### Microwave

Samsung.....1-800-726-7864

### Monitor

Jrv .....1-714-259-9772

### Range

Amana.....1-800-688-9900

### Refrigerator

The Dometic Corp.....1-800-544-4881

### Roof Material (TPO)

Dicor.....1-800-837-2059

### Satellite/ TV Antenna

Winegard .....1-800-288-8094

### Blinds

Homestyle Ind.....1-800-574-0574

### Skylight

Weiss Company.....1-800-678-8002

### Slide-out

Power gear .....1-800-334-4712

### Solar Panel

Applied Power.....1-800-777-7075

### Stereo

Kenwood.....1-800-536-9663

### Toilet

Thetford .....1-800-521-3032

### Fans

Fan-Tastic Fan.....1-800-521-0298

Elixer.....1-503-981-0781

### Water Heater

Suburban .....1-423-775-2131

### Water Pump

Shurflo .....1-800-762-8094

### Windows

Hehr.....1-208-466-7833

### Int. Doors

DMH.....1-503-357-5613

## CHANGE OF ADDRESS/ OWNER

SERIAL NO. \_\_\_\_\_

☐ CHANGE OF ADDRESS:      ☐ CHANGE OF OWNER:

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PHONE (\_\_\_\_) \_\_\_\_\_ E-MAIL \_\_\_\_\_

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

Western Recreational Vehicles, Inc.  
PO Box 9547  
Yakima, WA 98909-0547

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

## CHANGE OF ADDRESS/ OWNER

SERIAL NO. \_\_\_\_\_

☐ CHANGE OF ADDRESS:      ☐ CHANGE OF OWNER:

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PHONE (\_\_\_\_) \_\_\_\_\_ E-MAIL \_\_\_\_\_

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

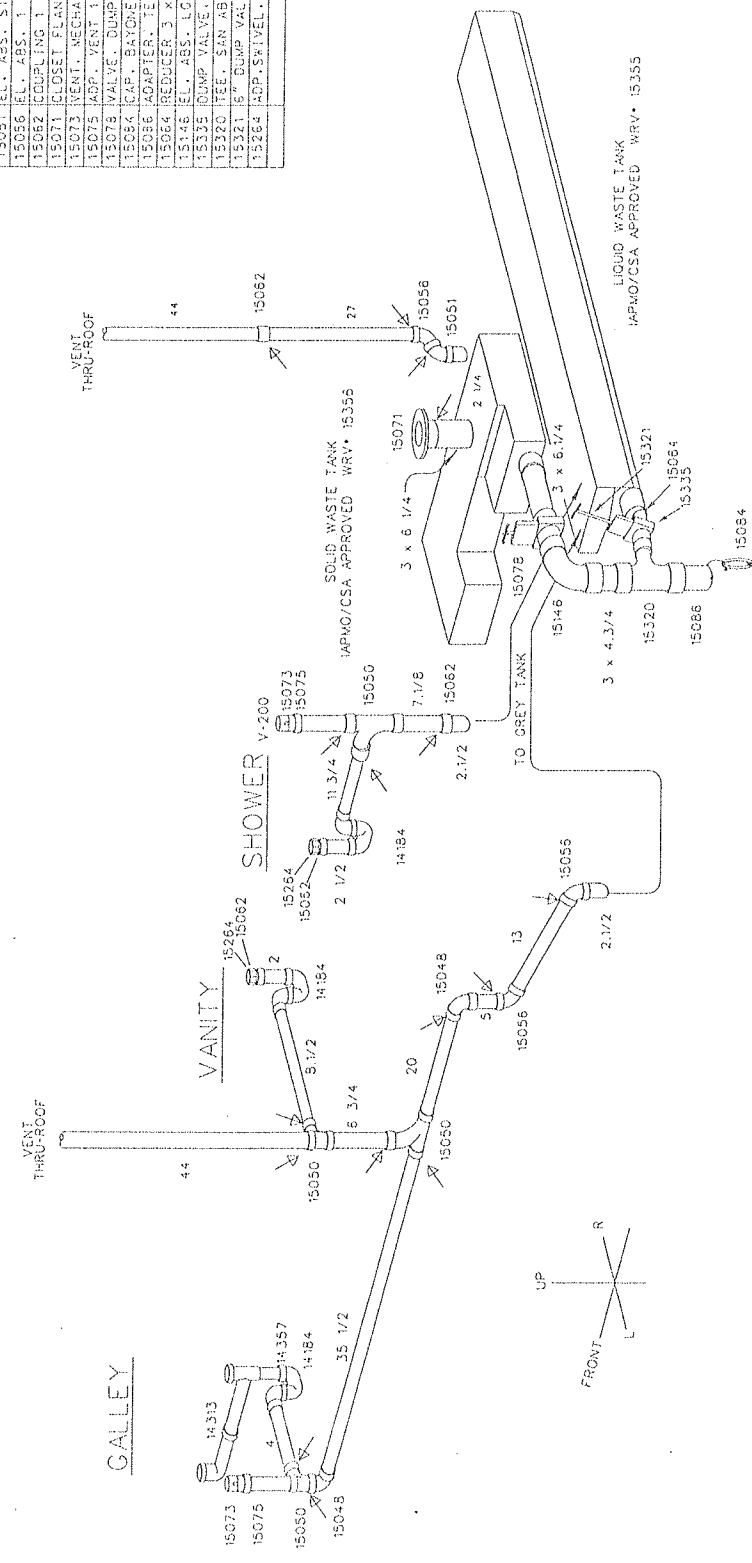
Western Recreational Vehicles, Inc.  
PO Box 9547  
Yakima, WA 98909-0547

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





MRV PART #	DESCRIPTION	QTY
14164	1 1/2" P-TRAP	2
14357	1 1/4" TRAP ADAPTER X 1 1/4" SIGHT	1
14313	CONTINUOUS WASTE, 1 1/2"	1
15048	EL. ABS. LG. SW. 1 1/2 X 1 1/4 BEND	2
15050	TEE. SAN. ABS. 1 1/2	4
15051	EL. ABS. ST. 1 1/2 X 1 1/8 BEND	1
15056	EL. ABS. 1 1/2 X 1 1/8 BEND	1
15062	COUPLING 1 1/2" ABS FITTING	4
15071	CLOSET FLANGE 4 X 3 HUB ABS FITT	1
15073	VENT. MECHANICAL (V200) ABS	2
15075	ADP. VENT 1 1/2 ABS	2
15078	VALVE. DUMP ASSEMBLY #40	1
15084	SCAP. BAYONET 3" 11020 ABS	1
15086	REDUCER 3 X 1 1/2 ABS FITTING	1
15146	EL. ABS. LG SW. 3" X 1 1/4 BEND	1
15335	DUMP VALVE 1 1/2 SPOOL X 1 1/2 SPOOL	1
15320	TEE. SAN ABS. 3" X 3" X 1 1/2"	1
15321	16" DUMP VALVE EXTENSION HANDLE	1
15264	ADP. SWIVEL 1 1/2 X 1 1/2 FIC X F	2

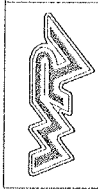


- NOTES:**
1. ALL PLUMBING TO COMPLY WITH ANS/ASTM 12021
  2. ALL PIPE AND FITTINGS TO BE SYSTEMATIC APPROVED FOR DWV
  3. ALL PIPE AND FITTINGS ARE 1/2" O.D. UNLESS NOTED
  4. ALL SUPPORTS AND ANCHORS TO BE PER SECTION 7-4.3.2 USING BLOCK & STAP METHOD
  5. ALL 1/2" PIPE SLOPE IS PER ANS/ASTM 12021 SEC. 7-6.3 & 7-6.7.1

**SYMBOLS**

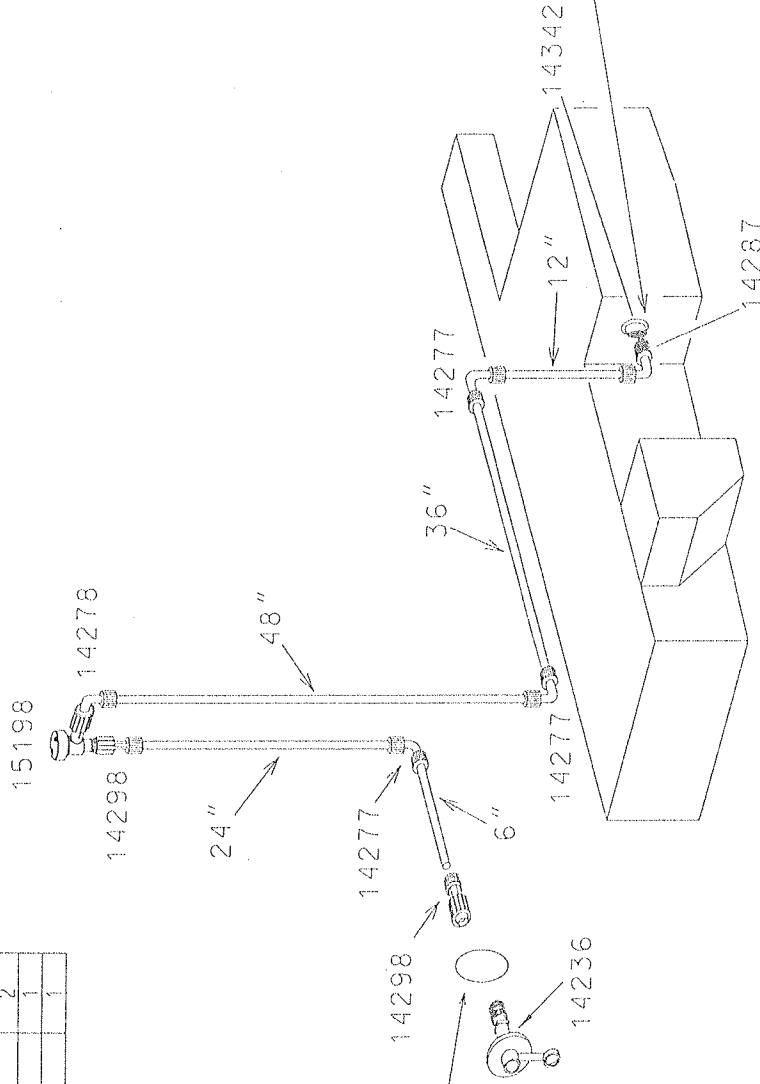
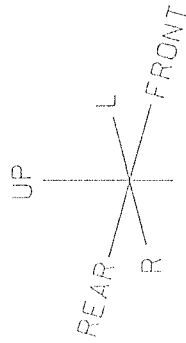
• 1 1/4" O.D. PIPE  
→ GLUE ON ASSEMBLY

**ATC 800  
DRAINLINES**



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PART#	DESCRIPTION	QTY
14236	INLET, HOSE CONN., BLACK TANK FLUSH	1
14277	ELBOW, 1/2" PIPE, FLARE-IT	3
14287	ELBOW, 1/2" PIPE X 1/2" NPT, FLARE-IT	1
14278	ELBOW, 1/2" X 1/2" FBSP SW, FLARE-IT	1
14298	COUPLING, 1/2" X 1/2" FPT SWVL, BSP	2
14342	FLUSH, HOLDING TANK, SPIN-IN	1
15198	BRKR, ANTI-SIPHON, VAC., TANK FLUSH	1



#### SYMBOLS

→ ATTACH ON ASSEMBLY LINE.

#### NOTES

- 1.) ENTIRE SYSTEM IS CONSTRUCTED w/ 1/2" I.D. APPROVED WATER HOSE AND FLARE-IT FITTINGS UNLESS SPECIFIED OTHERWISE.
- 2.) BLACK TANK FLUSH DOES NOT CONNECT TO FRESH WATER SYSTEM IN ANY WAY.
- 3.) MODEL: WELD-A-FLUSH UPC/T-2124

## ATC 850 BLACK TANK FLUSH



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WRV PART#	DESCRIPTION	QTY
1223	NIPPLE, GALVANIZED, 1/2" X 2"	1
1224	PUMP WATER 1/2" PIP 3.0 TO PSI	1
1225	ADAPTER POLY 1/2" PIP X 1/2" BARB	1
1226	VALVE, POLY DRAIN COCK 1/2" BARB	1
1227	FILTER, IN-LINE P/P RV	1
1228	CLAMP, HOSE, 1/4" - 25/32"	2
1229	CLAMP, HOSE, 1/2" - 1/2" 5824	2
1230	ELBOW, 1/2" PIPE, FLARE-IT	11
1231	ELBOW, 1/2" PIP X 1/2" BSP SR. FLARE-IT	14
1232	VALV STRATCH STOP, 1/2" FLARE-IT	11
1233	COUPLING, DRAIN, 1/2" P, FLARE-IT	2
1234	COUPLING, 1/2" P X 1/2" P FPI SWVL, BSP	1
1235	VALVE, 3-WAY, 1/2" FLARE-IT	1
1236	VALVE, CHECK, 1/2" BRASS, WATER HEATER	1
1237	ELBOW, 1/4" OPI X 1/4" BARB	1
1238	ELBOW, 1/4" OPI X 1/4" BARB	1
1239	SUPPORT, 1/2" PEX BEND, 90 DEG	1

#### NOTES

- 1.1 ENTIRE SYSTEM IS CONSTRUCTED BY 1/2" I.D. FITTINGS UNLESS SPECIFIED OTHERWISE.
- 2.1 ALL JOINTS CONNECTED WITH FLARE-IT
- 3.1 ANCHORS AND SUPPORTS TO BE PER SECTION 7-3.1.2, ANS. A119.2 12002. ALL PEX LINES SHALL BE SECURED WITH A LODG CLAMP AND SICK METHOD.
- 4.1 WATER HEATER TO BE STANDARD W/TEMPERATURE (120°F) AND PRESSURE (150 PSI) RELIEF VALVE DISCHARGING TO AN AREA SEALED OFF FROM THE OUTSIDE
- 5.1 WATER DISTRIBUTION LINES ARE ROUTED ANY FROM MAIN SUPPLIES TO BE PER SECTION 7-3.1.3, ANS. A119.2 12002.

POLY FITTINGS SYMBOLS	
1/4" FL-IT TEE	WRV# 14276
1/4" FL-IT ELBOW	14277
1/4" FL-IT CONNECTOR	14298
1/4" FL-IT FEMALE	14278
1/4" SWIVEL ELBOW	

ALL OTHER FITTINGS SPECIFIED INDIVIDUALLY

#### SYMBOLS

- ① - WATER PUMP W/CHECK VALVE.
- ② - WATER FILTER.
- ③ - 3/4" SWIVEL FEMALE HOSE WATER SERVICE CONNECTION W/CHECK VALVE.
- - ATTACH ON ASSEMBLY LINE.

#### VANITY

HOT COLD

#### TOILET

#### OUTSIDE SHOWER

#### WATER HEATER

#### GALLEY

#### FRESH WATER TANK DRAIN

#### TANK FILL & VENT

1 1/4" FILL TUBE 14224 - 40"  
1/2" REINFORCED HOSE 14025 - 40"

FRESH WATER TANK INCA 1011  
14290/CSA APPROVED WRV# 15354



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## ATC 850 WATER SUPPLY LINES



Low voltage conductors are approved stranded copper wire with 90 C minimum temperature rated insulation.

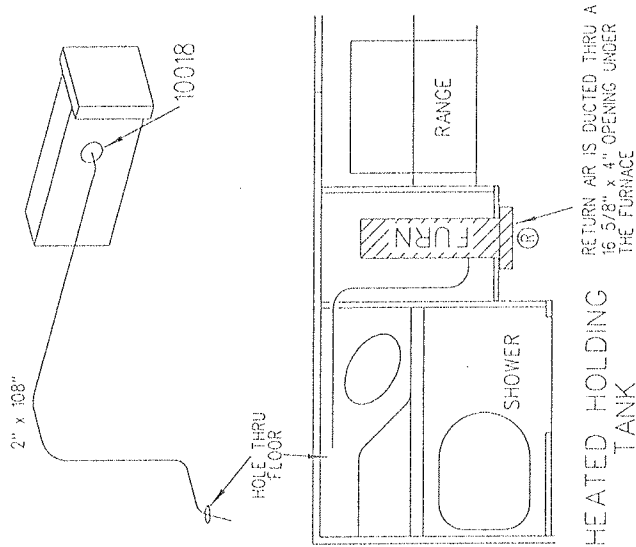
Converter complies with UL Std. 458 and is installed per manufacturer's instructions.

Electrical tests are outlined in the Quality Assurance Manual.

ATC 850  
1/2 VOLT SERVICE



REV	DESCRIPTION
PART #	
10018	12" x 4" FURNACE DUCT ADAPTER
10019	12" FURNACE DUCTING



**SYMBOLS**  
 (R) - REGISTER

- NOTES**
- 1.) SUPPLY SYSTEM DUCT MATERIAL AND CONNECTORS ARE U.L. LISTED 181, CLASS 1.
  - 2.) REGISTERS & GRILLS ARE U.L. LISTED 9410.
  - 3.) FURNACE IS INSTALLED AND PROTECTED SO AS TO COMPLY WITH SECTION 5-6.8.1, ANSI A119.2 (2002)

ATC 800-850  
 FURNACE DUCTING



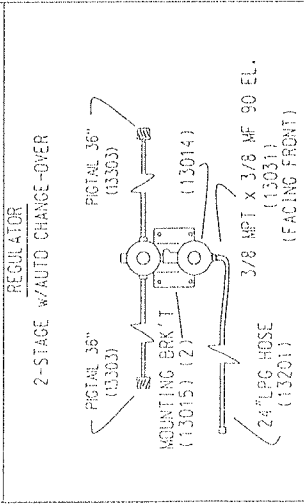
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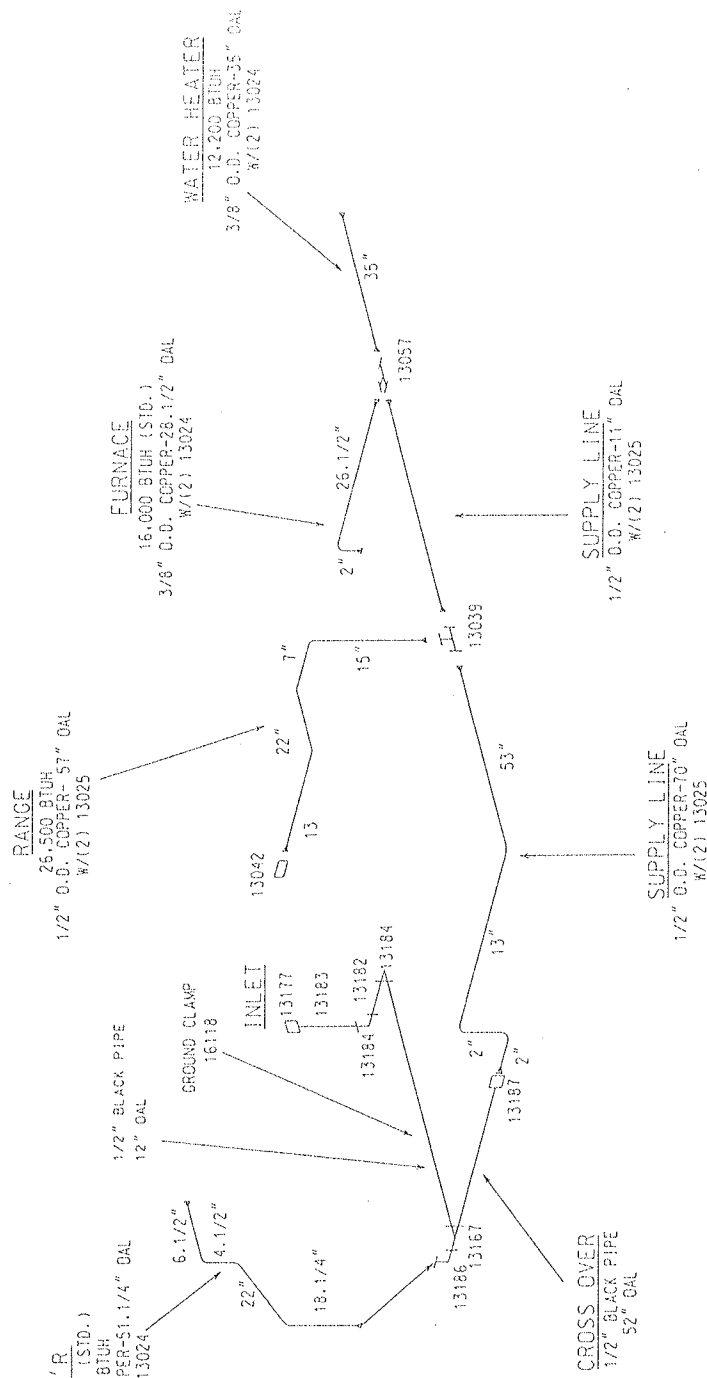
REV	DESCRIPTION	QTY
13015	13015 GALV. "7" BRACKET LPG REGULATOR MOUNT	1 SET
13024	13024 INUL. FLARE 3/8 FORGED BRASS	6
13025	13025 INUL. FLARE 1/2 FORGED BRASS	6
13031	13031 24" LPG HOSE	1
13039	13039 TEL. BRASS 1/2"	1
13042	13042 BRASS UNION, FLARE, 3/8 FF. x 1/2 WF	1
13167	13167 "1", BLACK 1/2"	1
13177	13177 ADP. BRASS, 1/2EPT X 3/8WF	1
13182	13182 INPLEE, BLACK 1/2" X 1"	1
13183	13183 INPLEE, BLACK 1/2" X 3"	1
13184	13184 ELBOR, BLACK 1/2"	2
13186	13186 TEL. BRASS, 1/2EPT X 3/8WF	1
13187	13187 ADP. BRASS, 1/2EPT X 1/2WF	1
13201	13201 HOSE, LPG, 3/8 x 24 x 3/8 F	1
13207	13207 TEL. BRASS, 1/2E x 3/8 x 3/8	1
13303	13303 24" W/ALNE CONNECTOR	2
13309	13309 CLAMP, GROUND, #1309	1
13014	13014 LPG REGULATOR	1

NOTES
1.1 MAX. TOTAL INPUT: 55,780
2.1 TOTAL DEVELOPED LENGTH: 112.55
3.1 LPG CONTAINER IS MANUFACTURED BY WAGNER TANK & IS O.D.T. APPROVED.
4.1 COPPER TUBING USED IS ANNEALED TYPE #88-16 OR SPECIFIED AS PER ASTM
5.1 TEE'S & PIPE SUPPORTS ON 48" SPACING OR SUPPLY & TUBING CONNECTIONS
6.1 GAS PIPE DESIGN & SIZING TO MEET OR EXCEED SEC 5-4.3/4.4 (ANSI A119.2 (2002))
7.1 GAS PIPE TO INCLUDE JOINTS THAT ARE NOT LOCATED IN CONCEALED CONSTRUCTION SPACES PER SECTION 2-4.9, (ANSI A119.2 (1999))
8.1 MIN. VERTICAL CLEARANCE ABOVE RANGE TO MEET OR EXCEED THE REQUIREMENTS OF NFPA 58-4.8.3; INSTRUCTIONS OF 24" AND PER SEC. 5-6.8.3; ANSI A119.2 (2002)

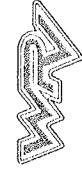
2-5 GALLON LPG TANKS IN A BLACK PLASTIC BOX. BOX MEASURES 14 1/2" H x 25 7/8" W x 25" D AND HAS 6.14 SQUARE INCHES OF VENTILATION OR MORE THRU LOWERED COMPARTMENT DOOR. COMPARTMENT IS SEALED WITH A BUTYL CAULKING.



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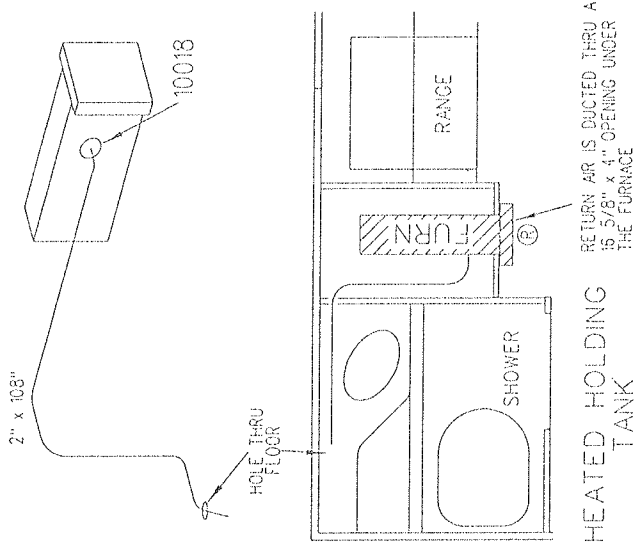
ATC 800,850  
LPG DIAGRAM



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RVV PART#	DESCRIPTION
10018	2" X 4" FURNACE DUCT ADAPTER
10019	2" FURNACE DUCTING



#### SYMBOLS

② - REGISTER

#### NOTES

- 1.) SUPPLY SYSTEM DUCT MATERIAL AND CONNECTORS ARE U.L. LISTED 161, CLASS 1.
- 2.) REGISTERS & GRILLS ARE U.L. LISTED 94 VO.
- 3.) FURNACE IS INSTALLED AND PROTECTED SO AS TO COMPLY WITH SECTION 5-6.8.1, ANSI A119.2 (2002)

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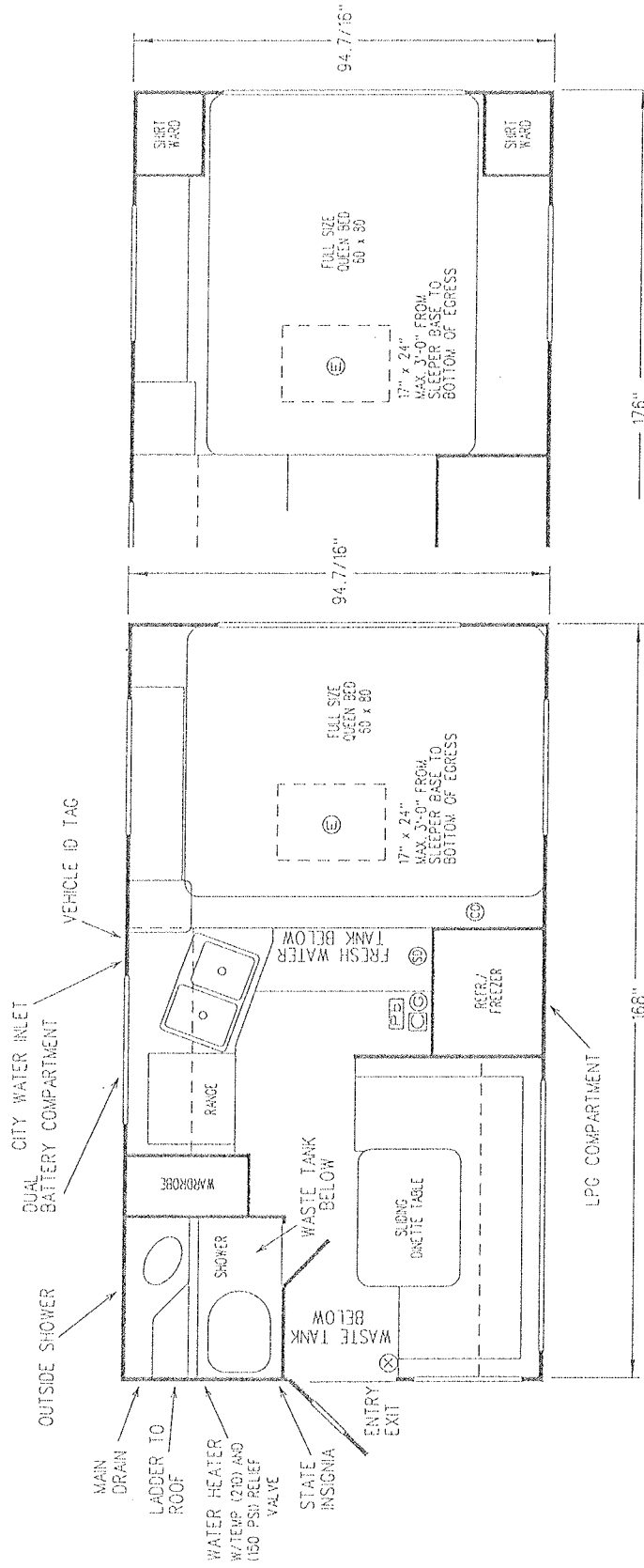
ATC 800-850  
FURNACE DUCTING



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STANDARD CAB

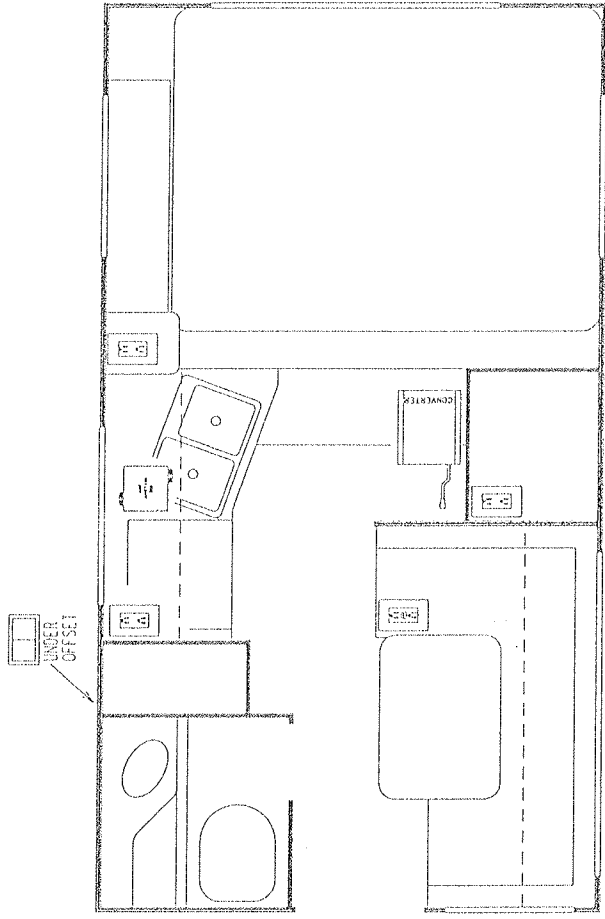
EXTENDED CAB OPT.

# ATC 800,850 FLOOR PLAN








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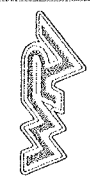




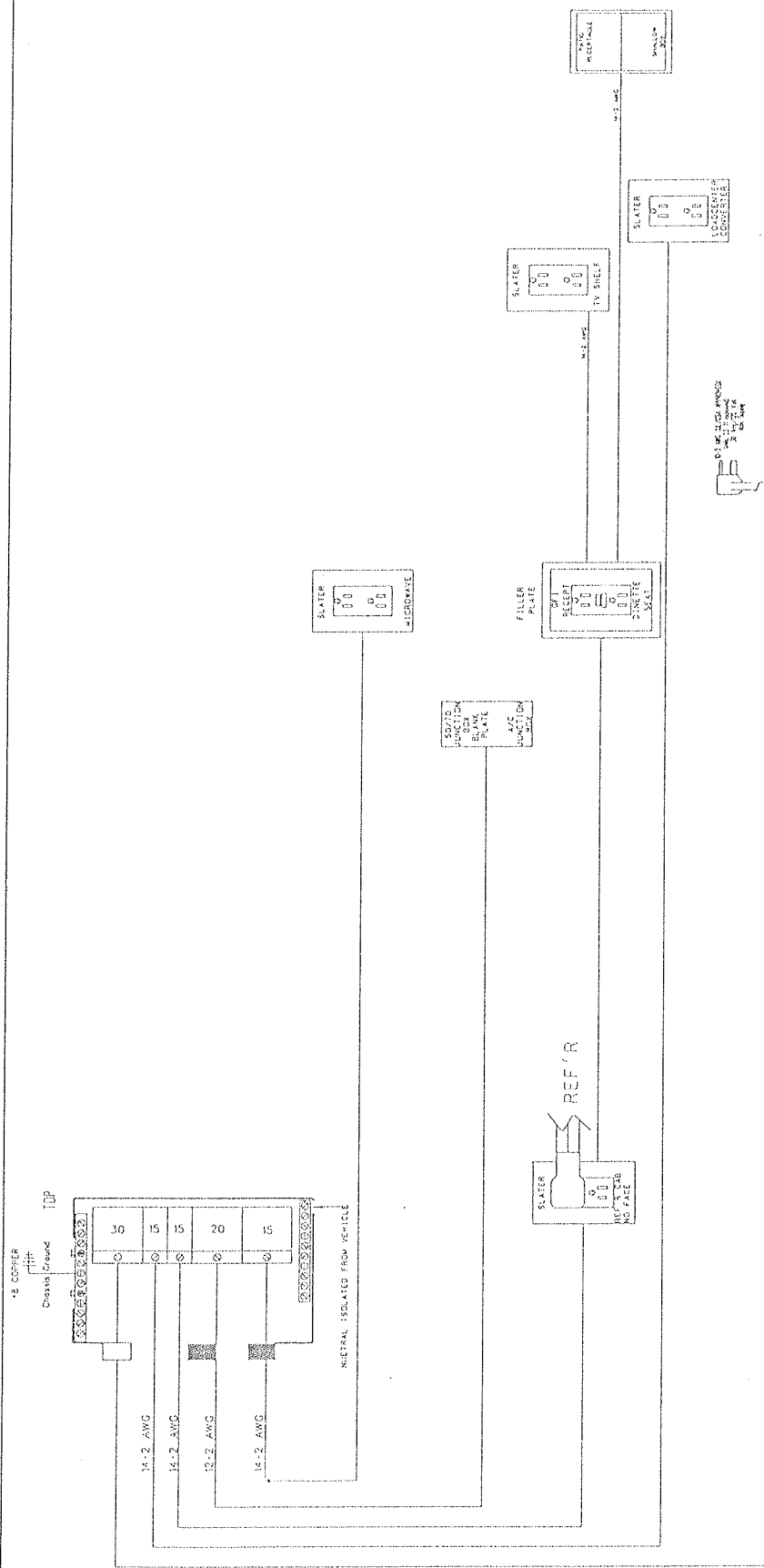
**SYMBOL LEGEND**

-  WEATHER PROOF OUTDOOR OUTLET
-  15 AMP SLATER RECEPTACLE
-  GFI RECEPTACLE
-  4" X 4" JUNCTION BOX METAL
-  110V. TO 12V. POWER CONVERTER

ATC 800,850  
110V FLOORPLAN



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## STANDARDS


Electrical materials and equipment are approved installed, and tested per: ANSI A19.2 (2002)  
NEC 551 (2002)  
CSA-2240 RV Series (1999)


Converter complies with UL Std. 458 and is installed per manufacturer's instructions.


Electrical tests are outlined in the Quality Assurance Manual.

1) ALL CONNECTIONS ARE TO BE MADE WITH APPROPRIATE WIRE NUTS. NO CRIMP CONNECTORS SHOULD BE USED FOR HIGH VOLTAGE.

2)  - 3/4" METAL TYPE ROMEX STRAIN RELIEF. 16111

3)  - 1/2" PLASTIC PUSH IN TYPE ROMEX STRAIN RELIEF. 16110

4)  - 1" METAL TYPE ROMEX STRAIN RELIEF. 16126

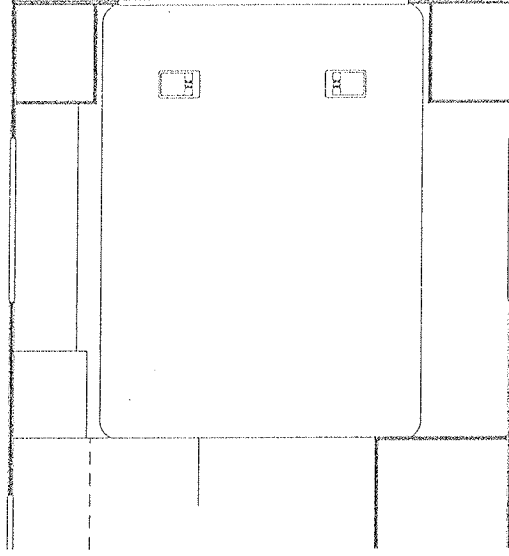
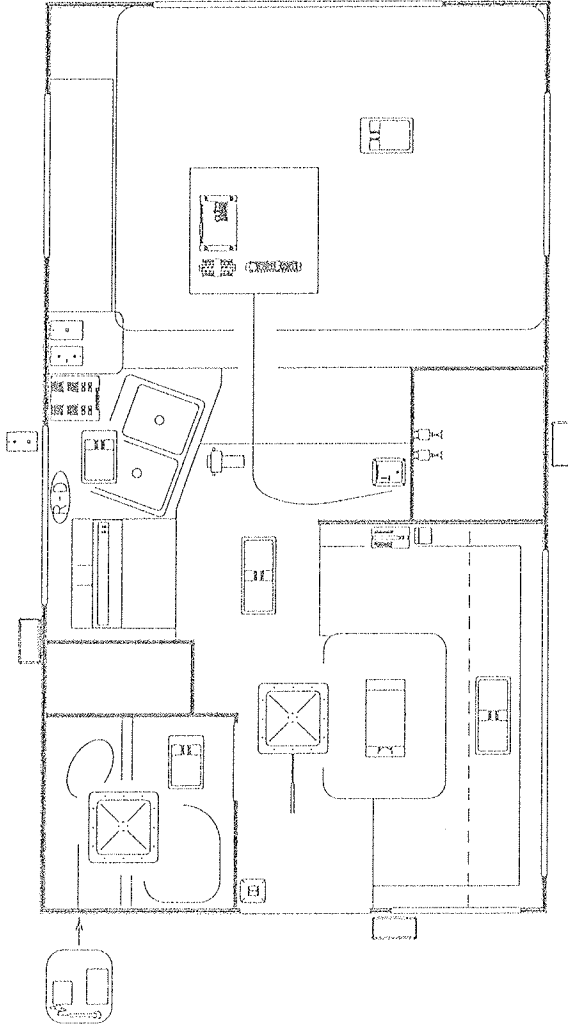
5)  - 1 1/4" METAL TYPE ROMEX STRAIN RELIEF. 16804

ATC 800  
ATC 850  
VOLT FLOW



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EXT. CAB OPTION

# SYMBOL LEGEND

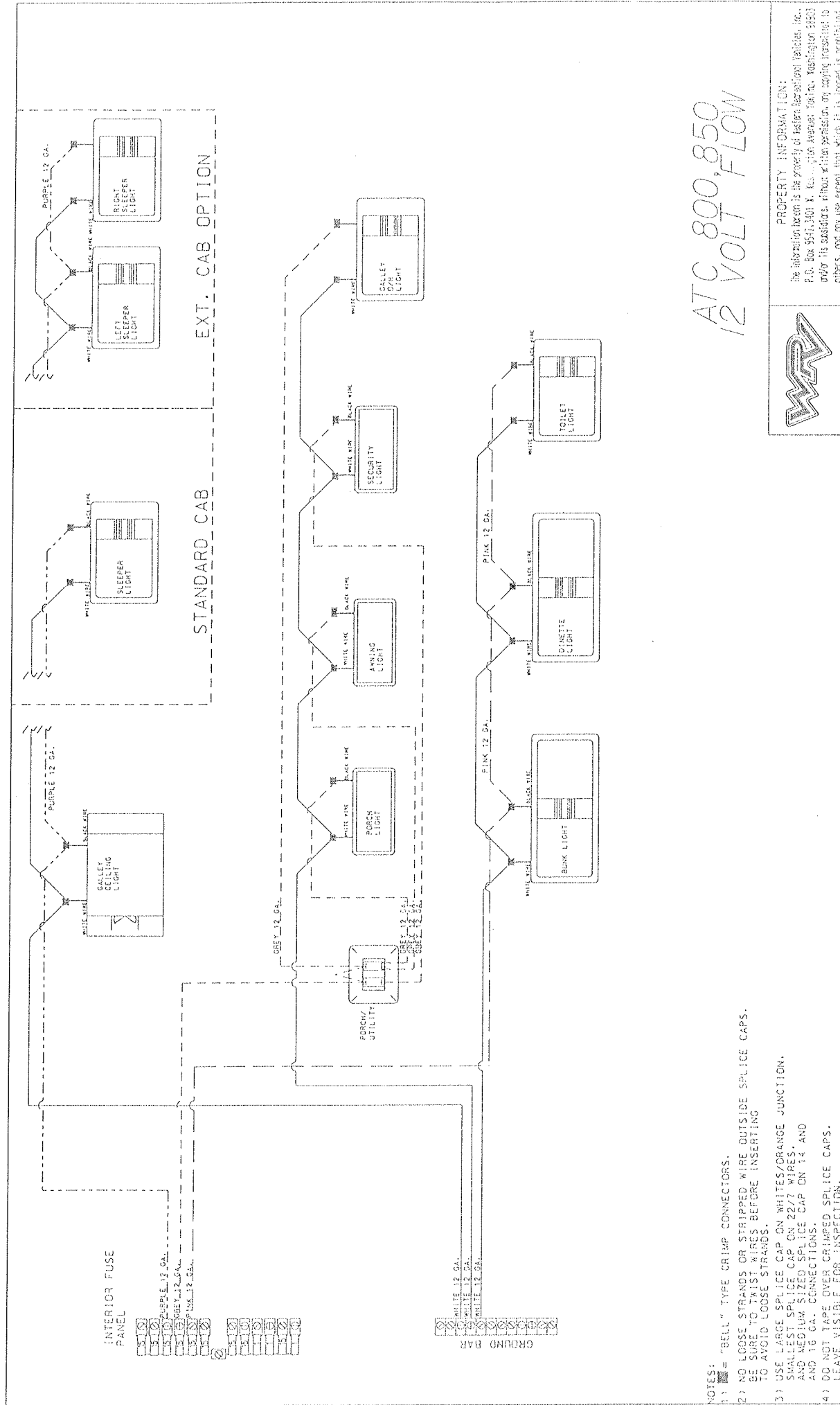
	POWER VENT		DUAL CO-AX PLATE		EXTERIOR FUSE PANEL		MONITOR
	FANTASTIC FAN		TV ANT. BOOSTER/CABLE PLATE		INTERIOR FUSE PANEL		SOLAR REGULATOR (OPT.)
	EXTERIOR INCAN. LIGHT		PHONE/CABLE PLATE		STEREO/COMPACT DISK PLAYER		SLIDE OUT CONTROL BOARD
	SINGLE INCAN. LIGHT		PHONE PLATE		SPEAKER		HOOD FAN
	DOUBLE INCAN. LIGHT		THERMOSTAT		ATWOOD REMOTE JACK CONTROLLER		WATER PUMP
	12 VOLT FLO. LIGHT		DOUBLE 12VOLT SWITCH		75 AMP "PUSH/PULL" KILL SWITCH		
			SLIDE CONTROL SWITCH				
			CO DETECTOR				
			LPG DETECTOR				

ATC 800,850  
12 VOLT FLOORPLAN



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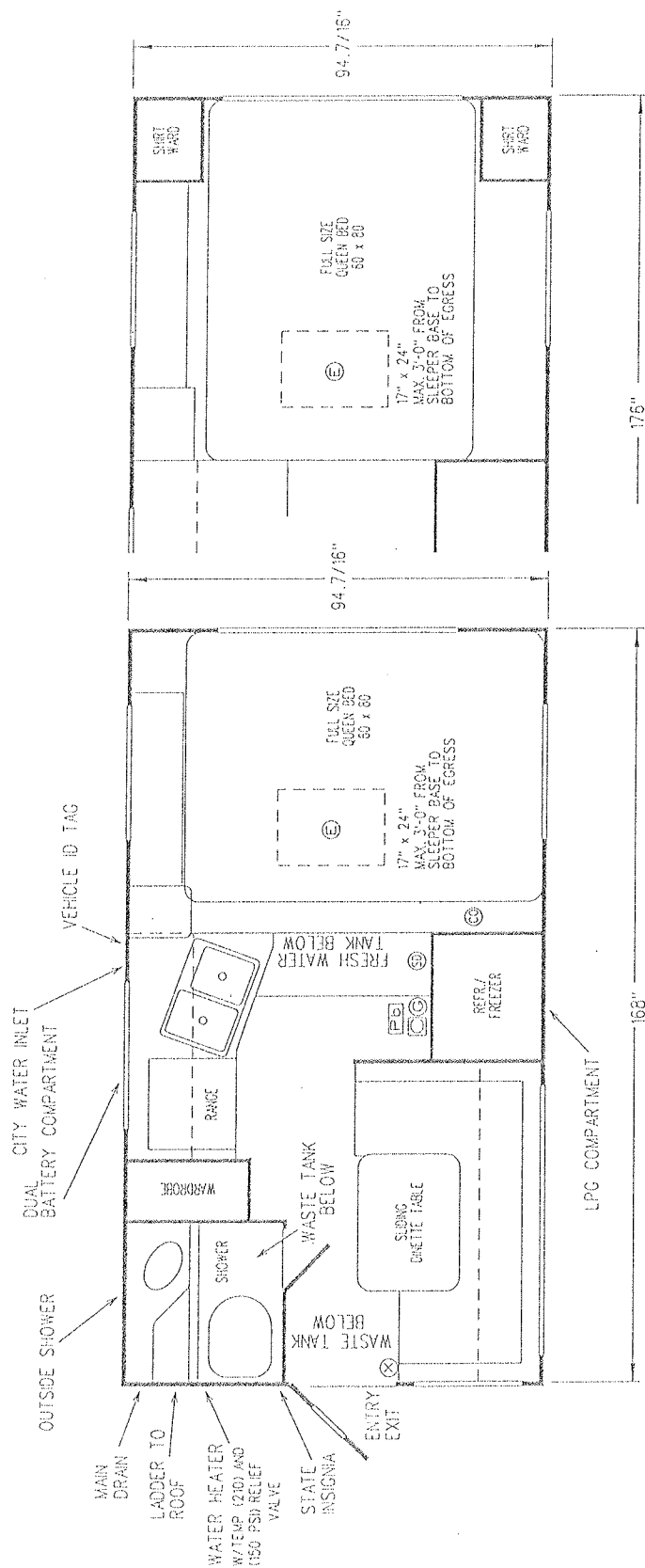


ATC 800,850  
12 VOLT FLOW



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- NOTES:
- 1) "BELL" TYPE CRIMP CONNECTORS.
  - 2) NO LOOSE STRANDS OR STRIPPED WIRE OUTSIDE SPLICE CAPS.  
BE SURE TO TRIM WIRES BEFORE INSERTING  
TO AVOID LOOSE STRANDS.
  - 3) USE LARGE SPLICE CAP ON WHITES/DRANGE JUNCTION.  
SMALLEST SPLICE CAP ON 22/7 WIRES.  
AND MEDIUM SIZED SPLICE CAP ON 14 AND  
AND 16 GA. CONNECTIONS.
  - 4) DO NOT TAPE OVER CRIMPED SPLICE CAPS.  
LEAVE VISIBLE FOR INSPECTION.



EXTENDED CAB OPT.

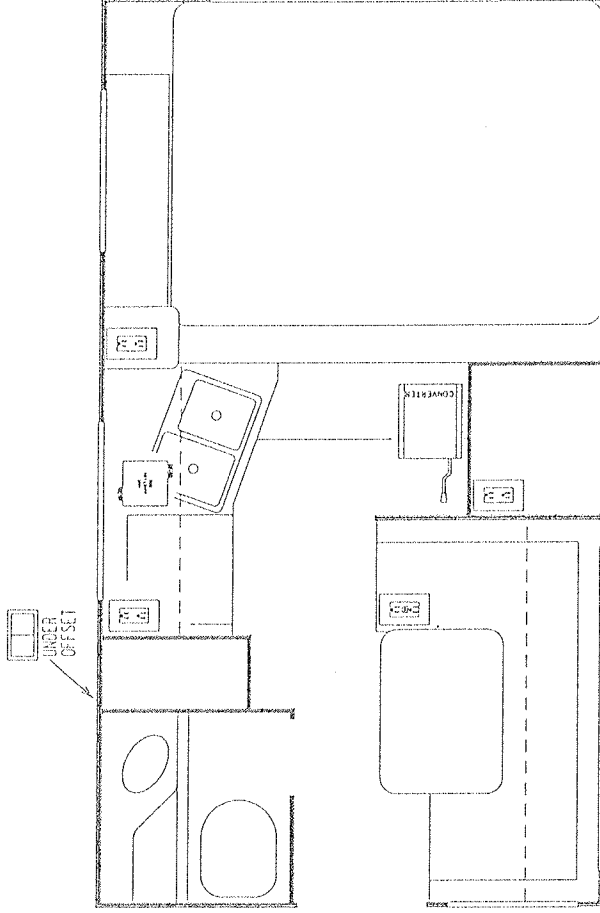
STANDARD CAB

# ATC 800,850 FLOOR PLAN

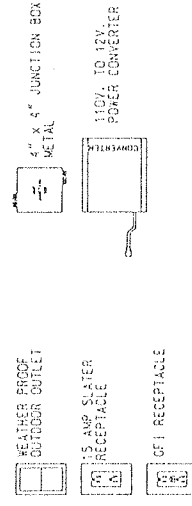


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# SYMBOL LEGEND

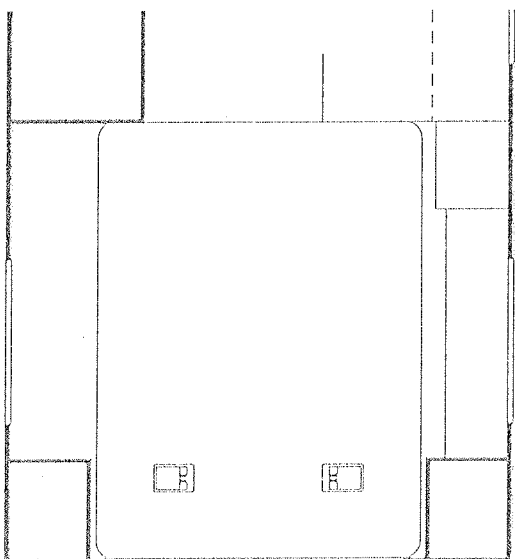
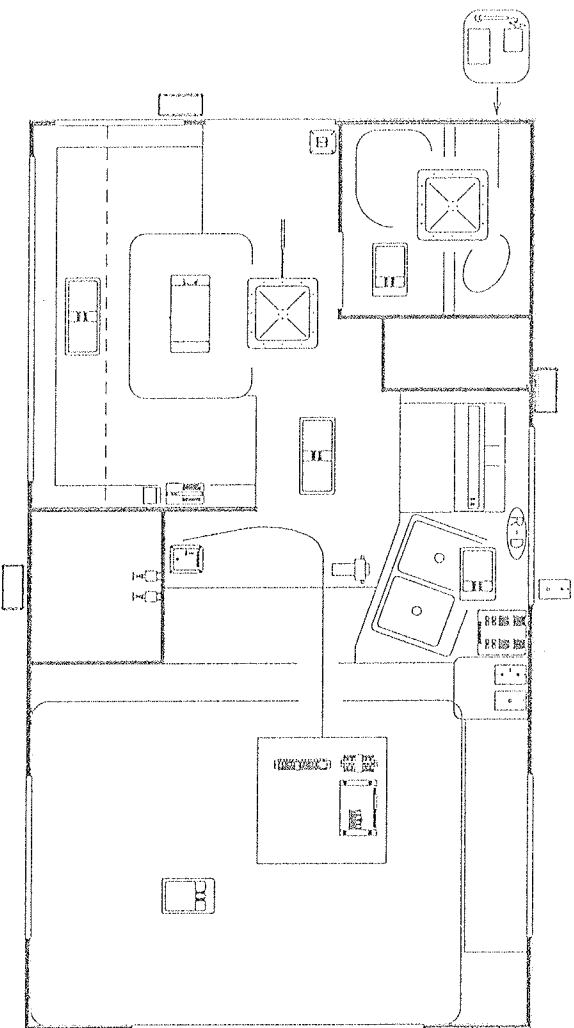


ATC 800.850  
110V FLOORPLAN



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EXT. CAB OPTION

# SYMBOL LEGEND

	POWER VENT		DUAL CD-RX PLATE		EXTERIOR FUSE PANEL		MONITOR
	FANTASTIC FAN		TV ANT. BOOSTER/CABLE PLATE		INTERIOR FUSE PANEL		SOLAR REGULATOR (OPT.)
	EXTERIOR INCAN. LIGHT		PHONE/CABLE PLATE		STEREO/COMPACT DISK PLAYER		SLIDE OUT CONTROL BOARD
	SINGLE INCAN. LIGHT		PHONE PLATE		SPEAKER		HOOD FAN
	DOUBLE INCAN. LIGHT		THERMOSTAT		ATWOOD REMOTE JACK CONTROLLER		WATER PUMP
	12 VOLT FLOOD LIGHT		DOUBLE 12-VOLT SWITCH		75 AMP "PUSH/PULL" KILL SWITCH		
			SLIDE CONTROL SWITCH				
			CO DETECTOR				
			LPG DETECTOR				



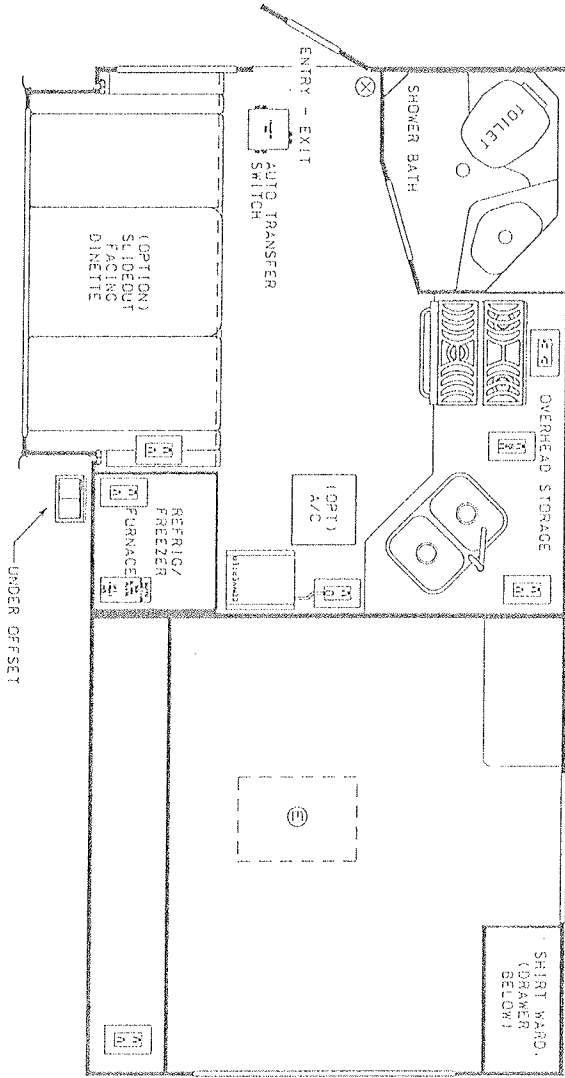
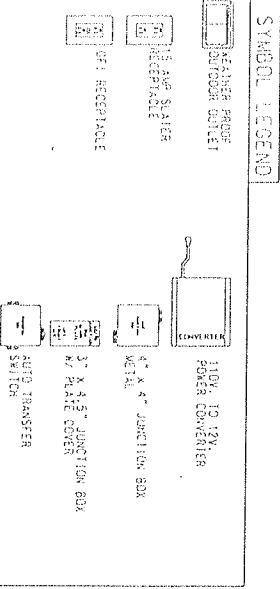
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ATC 800,850  
12 VOLT FLOOR PLAN





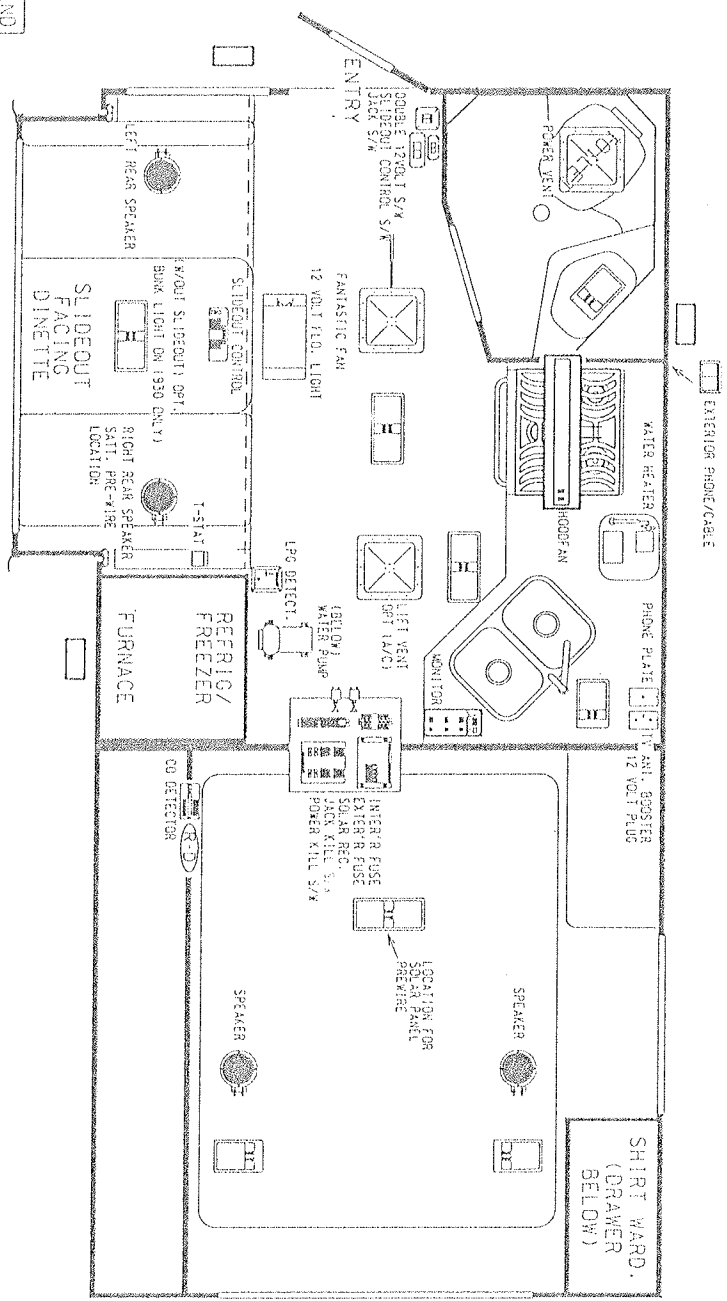
2004\_aic\_930\_935\_110locations\_08/26/03 01:34:56 PM



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110 AIC 930 935  
DRAWING LOCATIONS

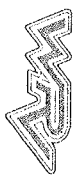




SYMBOL LEGEND

- POWER VENT
- FANTASTIC FAN
- EXTERIOR INCAN. LIGHT
- SINGLE INCAN. LIGHT
- DOUBLE INCAN. LIGHT
- 12 VOLT FLD. LIGHT
- DUAL CU-AX PLATE
- TV ANT. BOOSTER/12 VOLT PLUG
- PHONE/CABLE PLATE
- PHONE PLATE
- EXTERIOR PHONE/CABLE
- THERMOSTAT
- DOUBLE 12VOLT SWITCH
- JACK CONTROL SWITCH
- SLIDE CONTROL SWITCH
- CO DETECTOR
- LPG DETECTOR
- EXTERIOR FUSE PANEL
- INTERIOR FUSE PANEL
- STEREO/COMPACT DISK PLAYER
- SPEAKER
- AT WOOD REMOTE JACK CONTROLLER
- 75 AMP "PUSH/PULL" KILL SWITCH
- MONITOR
- SOLAR REGULATOR (OPT.)
- SLIDE OUT CONTROL BOARD
- HOOD FAN
- WATER PUMP

MODEL: ATC 930. 935	SC
TITLE: 12 VOLT LOCATION	SPOT OF SHIT
DATE: 6/12/03	SCALE: 1
DRAWN: 6/12/03	1



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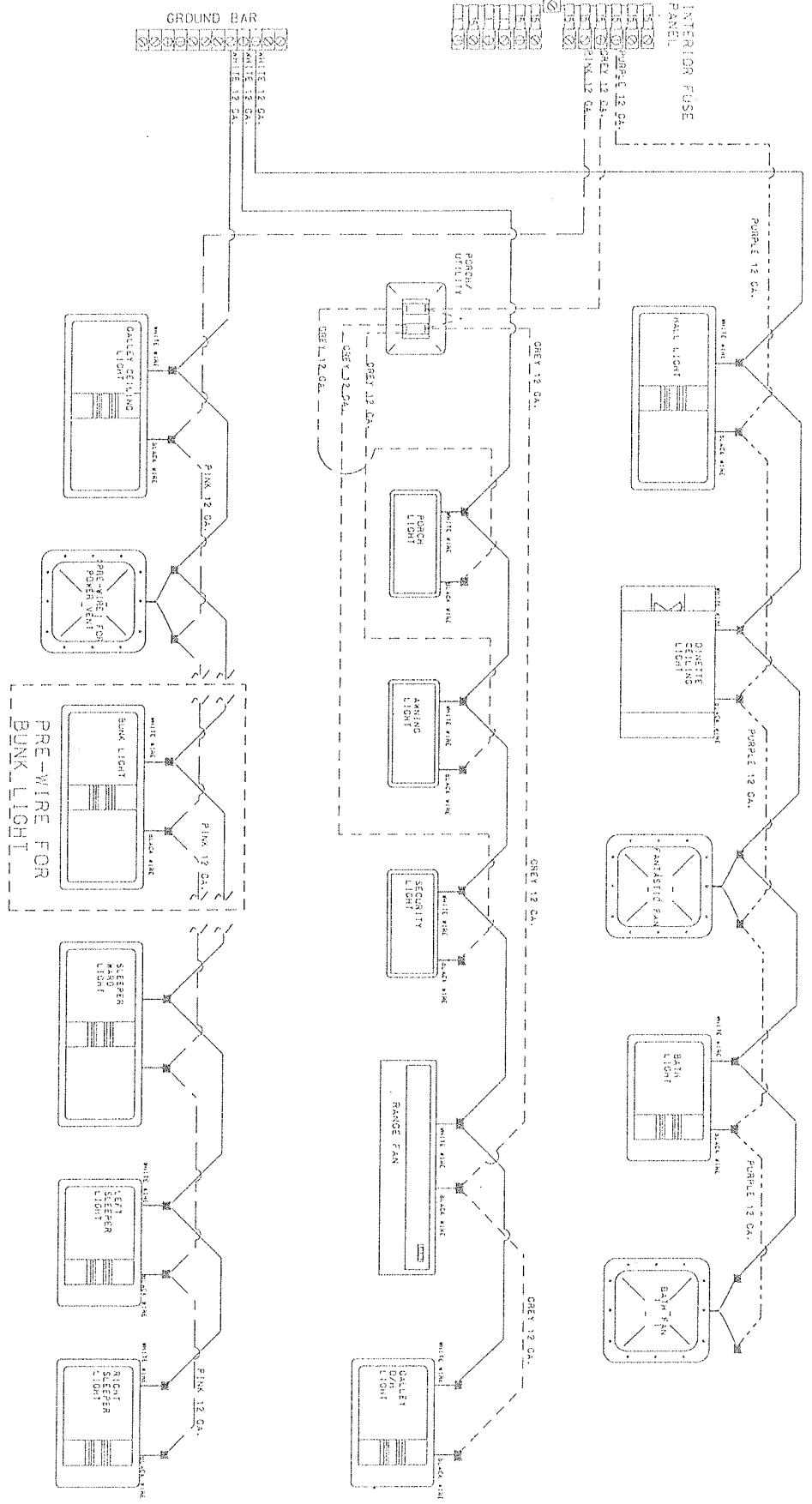
ATC 930.935  
 12 VOLT FLOOR PLAN

12004\_atc\_930\_935\_12vlocations. 08/26/03 01:36:43 PM

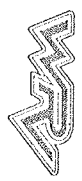


- NOTES:
- 1) "BELL" TYPE CRIMP CONNECTORS.
  - 2) NO LOOSE STRANDS OR STRIPPED WIRE OUTSIDE SPLICE CAPS. BE SURE TO TWIST WIRES BEFORE INSERTING TO AVOID LOOSE STRANDS.
  - 3) USE LARGE SPLICE CAP ON WHITE/ORANGE JUNCTION. SMALLEST SPLICE CAP ON 22/7 WIRES. AND MEDIUM SIZED SPLICE CAP ON 14 AND 16 GA. CONNECTIONS.
  - 4) DO NOT TAPE OVER CRIMPED SPLICE CAPS. LEAVE VISIBLE FOR INSPECTION.

NEW\_aic\_930\_935\_12vflow.dgn 08/26/03 01:37:20 PM

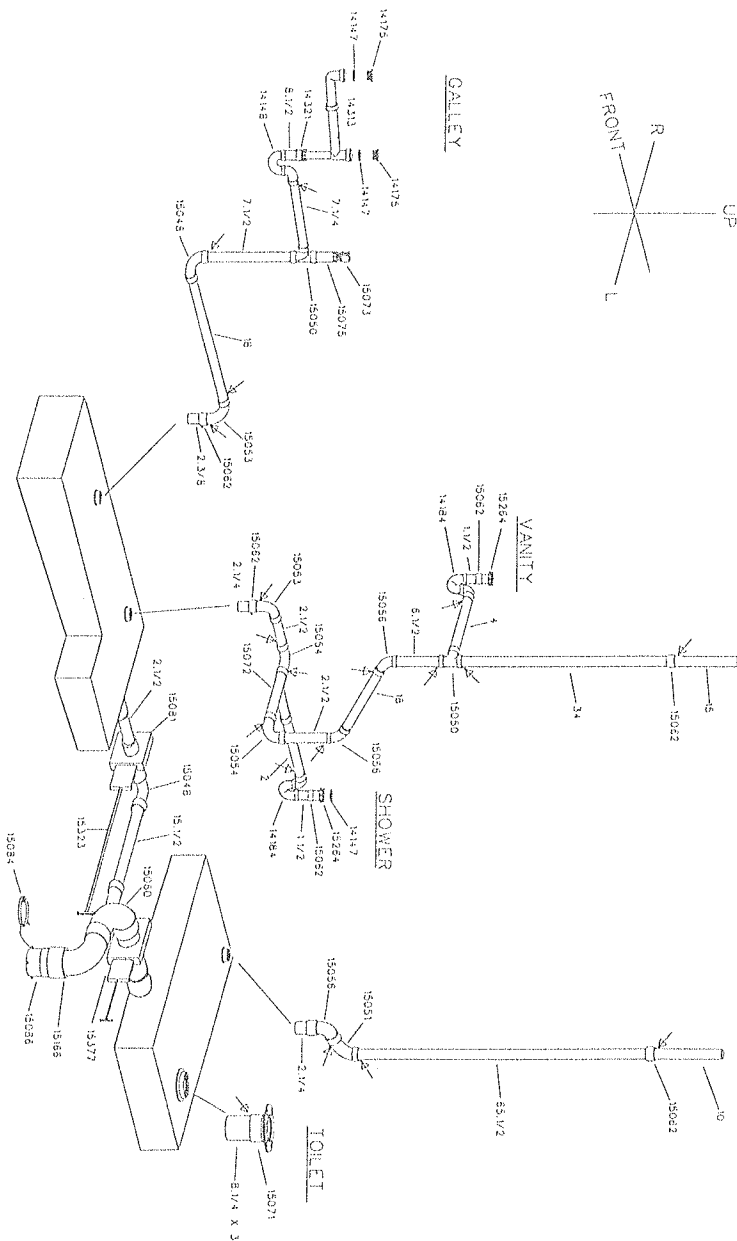


ATC 930, 935  
12 VOLT FLOW



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## GALLERY



NOTE: ENTIRE DUMP SYSTEM TO BE ASSEMBLED ON ASSEMBLY LINE

VANITY/SHOWER/TOILET	TOILET
LIQUID WASTE PANK	LIQUID WASTE PANK
MVW-15316	MVW-15316
IMPADCSA APPROVED	IMPADCSA APPROVED

NOTES

- 1) ALL PLUMBING TO COMPLY WITH  
ASIA-192 (2002)
- 2) ALL PRE AND FITTINGS TO BE  
EPA PLASTIC APPROVED FOR DRINKING  
SYSTEMS
- 3) ALL PRE AND FITTINGS ARE  
1/2" DO UNLESS NOTED  
OTHERWISE
- 4) ALL WELDS ON GRAN PRE TO  
HAVE 1/8" SLOPE PER FOOT  
PER SECTION 7.6.3. ANCHOR 2
- 5) ALL SUPPORTS AND ANCHORS  
TO BE PER SECTION 7.3.4.2.  
ANCHOR 2 (MIN. 4" SPACING)  
ANCHOR 2 (MIN. 4" SPACING)

## SYMBOLS

- 1 1/4" Dia. Pipe  
↓  
CUT ON ASSEMBLY



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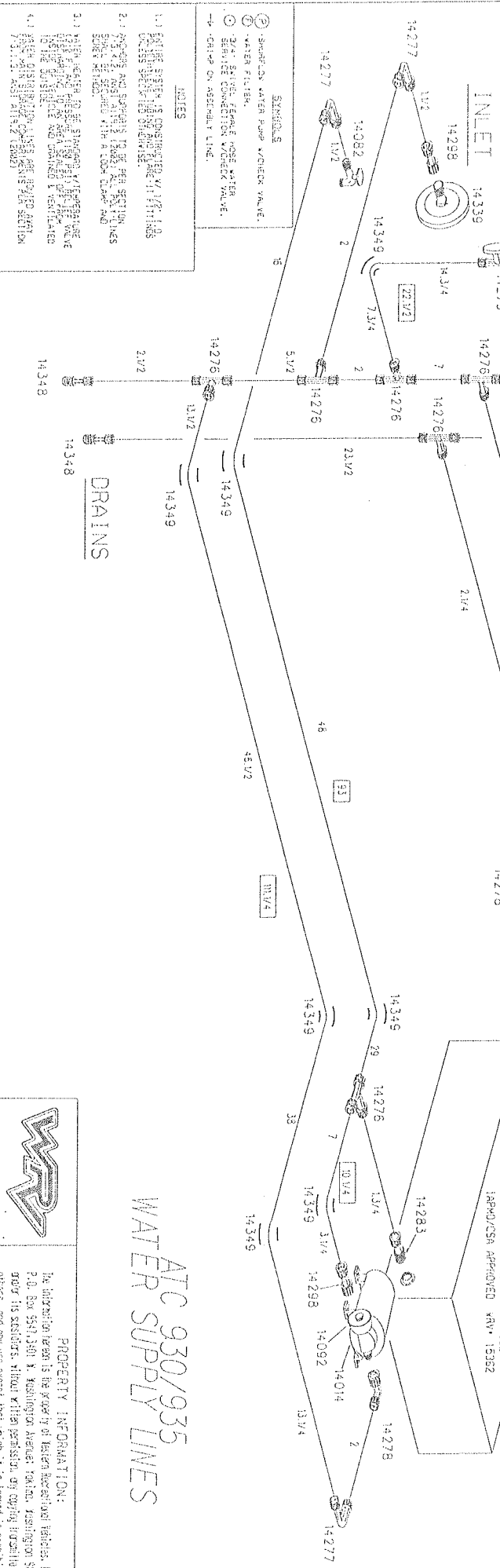
ATC 930.935  
DRA MLINES

[illegible]

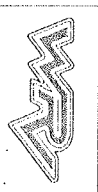
ITEM	DESCRIPTION	QTY
1	1/2" P.V.C. PIPE	1
2	1/2" P.V.C. ELBOW	1
3	1/2" P.V.C. TEE	1
4	1/2" P.V.C. CAP	1
5	1/2" P.V.C. JOINT	1
6	1/2" P.V.C. FLANGE	1
7	1/2" P.V.C. GROMMET	1
8	1/2" P.V.C. WAD	1
9	1/2" P.V.C. RING	1
10	1/2" P.V.C. BAND	1
11	1/2" P.V.C. HOSE	1
12	1/2" P.V.C. FITTING	1
13	1/2" P.V.C. ADAPTER	1
14	1/2" P.V.C. REDUCER	1
15	1/2" P.V.C. EXPANSION	1
16	1/2" P.V.C. SPLIT	1
17	1/2" P.V.C. UNION	1
18	1/2" P.V.C. COUPLER	1
19	1/2" P.V.C. END CAP	1
20	1/2" P.V.C. PLUG	1
21	1/2" P.V.C. VALVE	1
22	1/2" P.V.C. CHECK VALVE	1
23	1/2" P.V.C. BACKFLOW PREVENTER	1
24	1/2" P.V.C. AIR RELEASE VALVE	1
25	1/2" P.V.C. SUMP PUMP	1
26	1/2" P.V.C. WATER PUMP	1
27	1/2" P.V.C. WATER FILTER	1
28	1/2" P.V.C. SERVICE CONNECTION	1
29	1/2" P.V.C. ASSEMBLY LINE	1

**POLY FILLINGS SYMBOLS**

FL-11 TEE 14276  
 FL-11 ELBOW 14277  
 FL-11 CONNECTOR 14298  
 FL-11 END CAP 14278  
 FL-11 JOINT 14279  
 FL-11 FLANGE 14279  
 FL-11 GROMMET 14349  
 FL-11 WAD 14276  
 FL-11 RING 14276  
 FL-11 BAND 14276  
 FL-11 HOSE 14276  
 FL-11 FITTING 14276  
 FL-11 ADAPTER 14276  
 FL-11 REDUCER 14276  
 FL-11 EXPANSION 14276  
 FL-11 SPLIT 14276  
 FL-11 UNION 14276  
 FL-11 COUPLER 14276  
 FL-11 END CAP 14276  
 FL-11 PLUG 14276  
 FL-11 VALVE 14276  
 FL-11 CHECK VALVE 14276  
 FL-11 BACKFLOW PREVENTER 14276  
 FL-11 AIR RELEASE VALVE 14276  
 FL-11 SUMP PUMP 14276  
 FL-11 WATER PUMP 14276  
 FL-11 WATER FILTER 14276  
 FL-11 SERVICE CONNECTION 14276  
 FL-11 ASSEMBLY LINE 14276



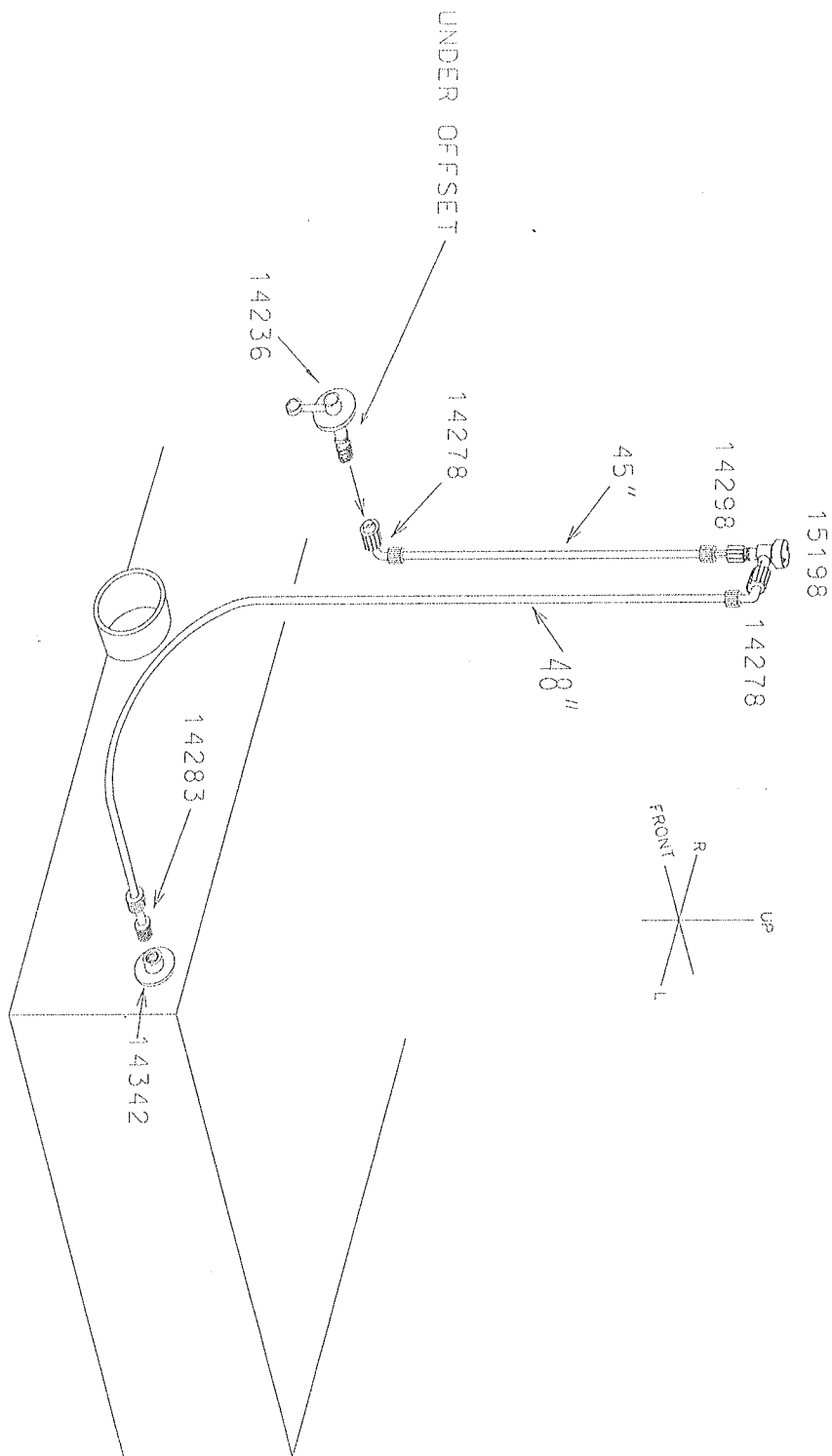
12004\_atc\_930\_935\_water\_lines.d 08/26/03 01:51:24 PM



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ATC 930/935  
 WATER SUPPLY LINES





15198

14298

14278

45"

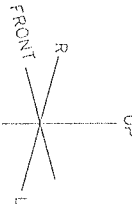
48"

14236

14278

14283

14342



PART	DESCRIPTION	QTY
14298	1/2" HOSE CONN. BLACK TANK FLUSH	1
14278	1/2" BSW 1/2" P x 1/2" FIP SW F. AD-1	1
14283	ADAPTER 1/2" P x 1/2" FIP F. AD-1	1
14342	FLUSH HOLDING TANK SPIN IN	1
14342	BLACK TANK FLUSH	1
14298	1/2" BSW 1/2" P x 1/2" FIP SW F. AD-1	1

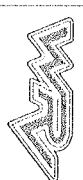
# NOTES

- 1) ENTIRE SYSTEM IS CONSTRUCTED 1/2" ID, APPROVED WATER HOSE AND FLARE-FIT FITTINGS UNLESS SPECIFIED OTHERWISE.
- 2) ALL JOINTS THREADED WITH FLARE-FIT AND/OR HOSE CLAMPS.
- 3) BLACK TANK FLUSH DOES NOT CONNECT TO FRESH WATER SYSTEM IN ANY WAY.
- 4) MODEL WELD-A-FLUSH (WCF-2124).

# SYMBOLS

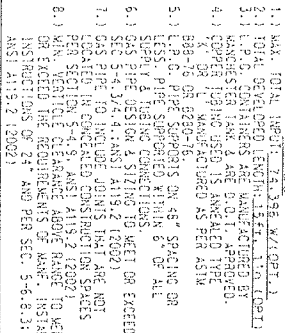
→ ATTACH ON ASSEMBLY LINE

ATC 930/ATC 935  
BLACK TANK FLUSH



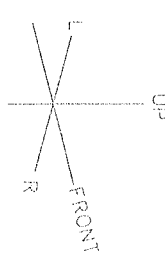
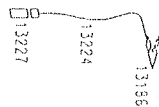
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GENERATOR READY/COMPLETE

DEL. WITH GEN. COMPLETE  
GENERATOR (OPT)  
8,536 STU



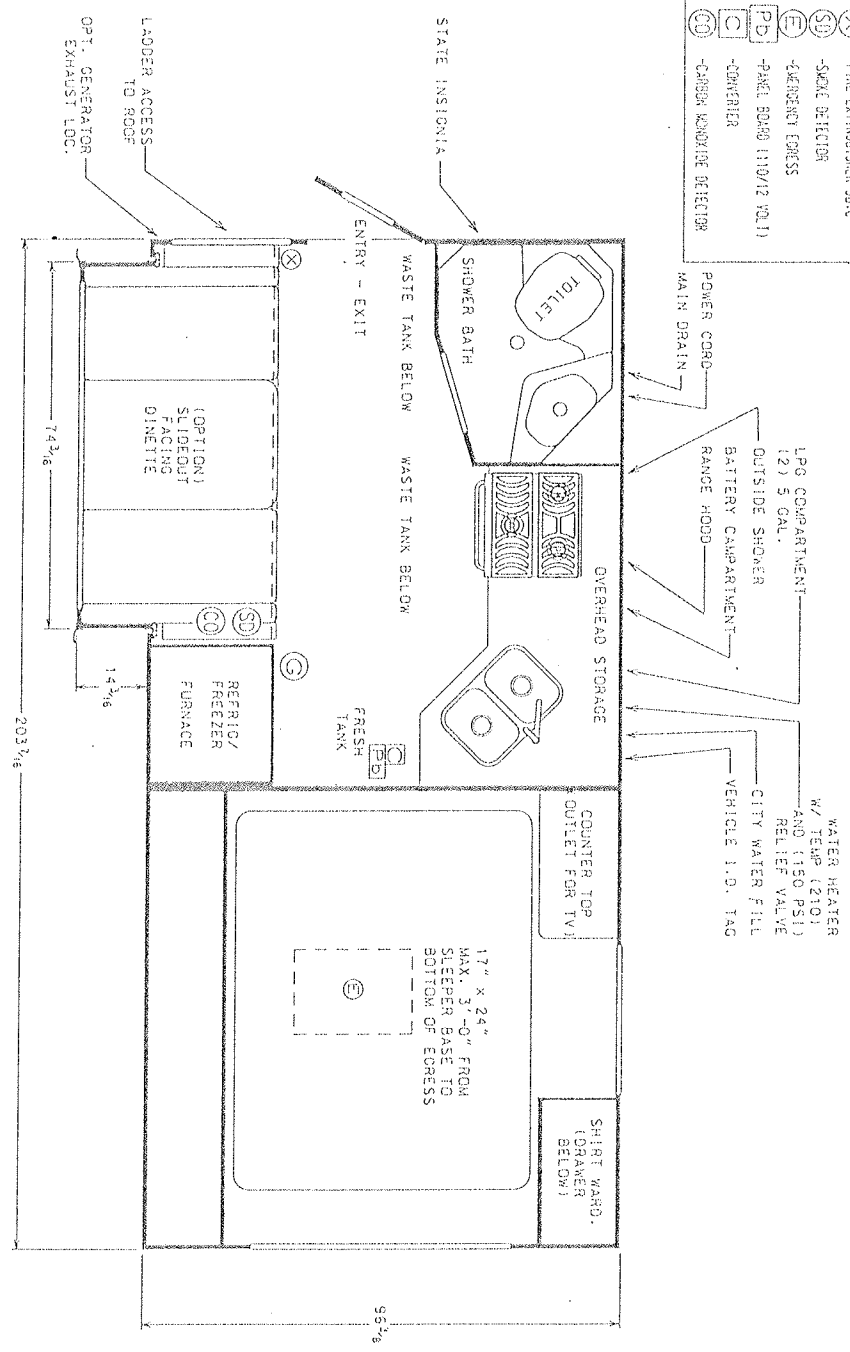
ATC 930.935  
EPG SYSTEM  
MECHANICAL



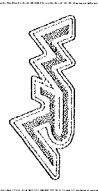
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- NOTES**
- 1.1 ALL MATERIALS AND EQUIPMENT ARE APPROVED, INSTALLED AND TESTED PER: ANSI A119.2 (2002)
  - 2.1 ALL TESTING OF EQUIPMENT SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE MANUAL.
  - 3.1 INSULATION MATERIAL FLAME SPREAD CLASSIFICATION SHALL NOT EXCEED 200, INSTALLED AS STANDARD EQUIPMENT PER: ANSI A119.2 (2002)
  - 4.1 ALL ATTACHED DUCTS ARE SIZED PER SECTION 6-2.5, ANSI A119.2 (2002)
  - 5.1 CO DETECTION IS INSTALLED PER: SECTION 6-4.6, ANSI A119.2 (2002)

- SYMBOLS**
- (G) GAS DETECTION
  - (X) FIRE EXTINGUISHER 5B:C
  - (SD) -SINK DETECTION
  - (E) -EMERGENCY EGRESS
  - (PD) -PANEL BOARD (110/12 VOL.)
  - (C) -CONVERTER
  - (CO) -CARBON MONOXIDE DETECTOR



ATC 935  
FLOORPLAN



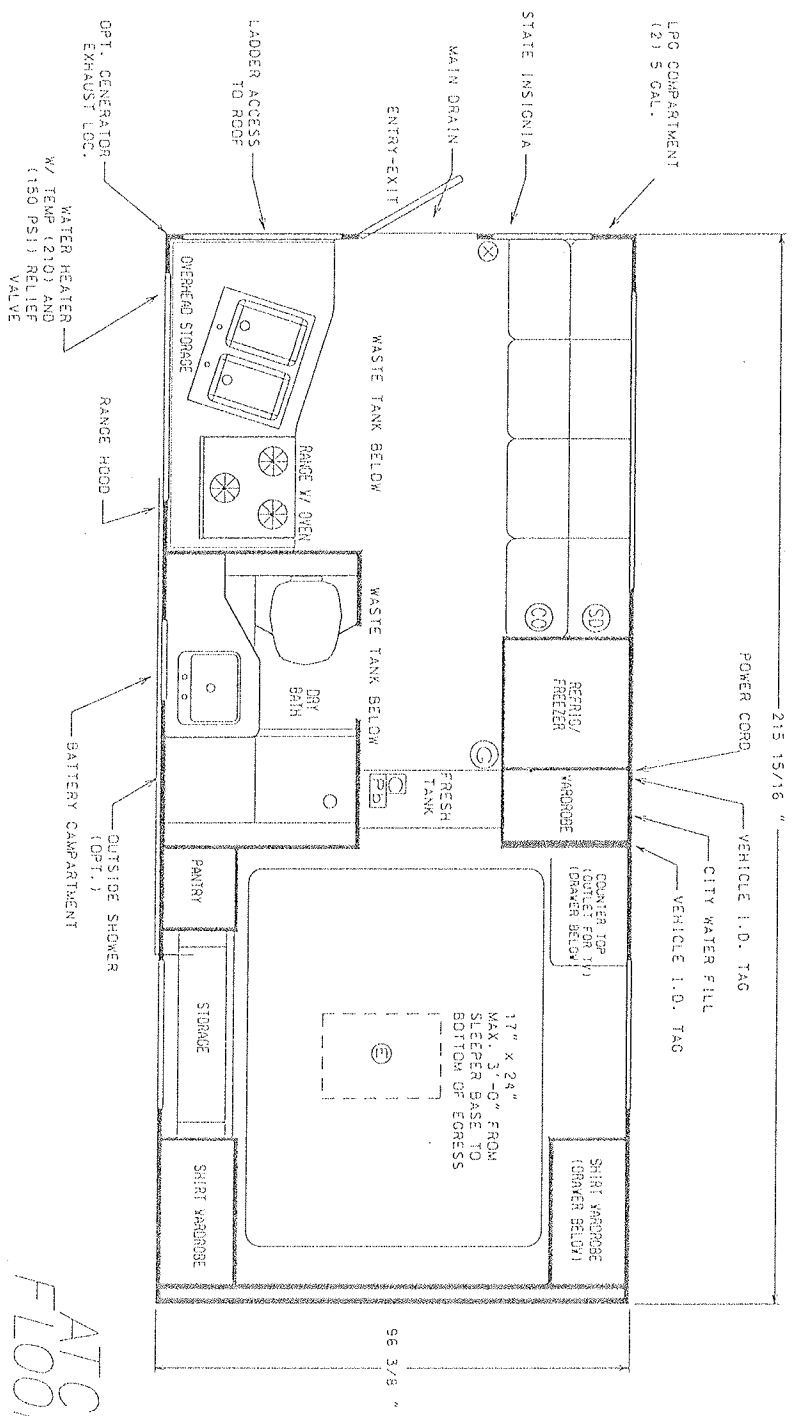
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    - 1.2 NFPA 1002 (2002)
    - 1.3 NFPA 1003 (2002)
    - 1.4 NFPA 1004 (2002)
    - 1.5 NFPA 1005 (2002)
    - 1.6 NFPA 1006 (2002)
    - 1.7 NFPA 1007 (2002)
    - 1.8 NFPA 1008 (2002)
    - 1.9 NFPA 1009 (2002)
    - 1.10 NFPA 1010 (2002)
    - 1.11 NFPA 1011 (2002)
    - 1.12 NFPA 1012 (2002)
    - 1.13 NFPA 1013 (2002)
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    - 1.101 NFPA 1101 (2002)
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    - 1.198 NFPA 1198 (2002)
    - 1.199 NFPA 1199 (2002)
    - 1.200 NFPA 1200 (2002)
  2. ALL TESTING OF EQUIPMENT SYSTEMS AND MANUFACTURING MATERIALS ARE CONDUCTED IN THE QUALITY ASSURANCE DEPARTMENT.
  3. INTERIOR MATERIAL FLAME SPREAD CLASSIFICATION SHALL NOT EXCEED 200.
  4. ROOF LADDER IS INSTALLED AS STANDARD EQUIPMENT PER:
    - 4.1 NFPA 1001 (2002)
    - 4.2 NFPA 1002 (2002)
    - 4.3 NFPA 1003 (2002)
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    - 5.1 ALL MATERIALS AND EQUIPMENT ARE APPROVED, INSTALLED AND TESTED PER:
      - 5.1.1 NFPA 1001 (2002)
      - 5.1.2 NFPA 1002 (2002)
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      - 6.1 ALL MATERIALS AND EQUIPMENT ARE APPROVED, INSTALLED AND TESTED PER:
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**SYMBOLS**

(C)	CO-2 DETECTOR
(X)	7-1/2" EXT. INCHES 58-10
(SD)	SMOKE DETECTOR
(E)	EXHAUST DETECTOR
(Pb)	PANEL BOARD (110/12 VOL.)
(C)	CONVERTER
(CO)	CARBON MONOXIDE DETECTOR

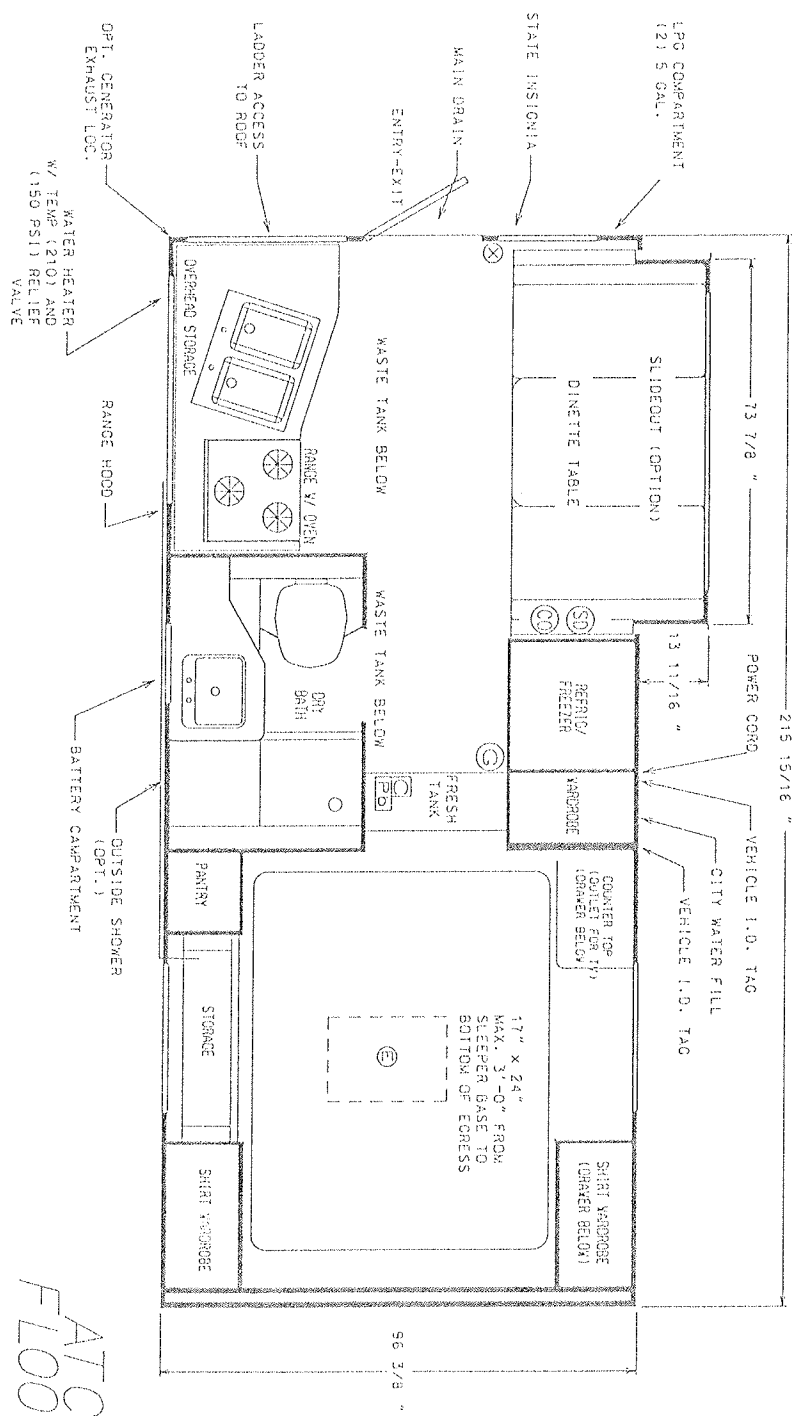
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- NOTES
- 1.1 ALL MATERIALS AND EQUIPMENT ARE APPROVED, INSTALLED AND TESTED PER: ANSI A119.2 (2002)
  - 2.1 ALL TESTING OF EQUIPMENT SYSTEMS SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE MANUAL.
  - 3.1 INSPECTED MATERIAL FLAME SPREAD CLASSIFICATION SHALL BE: 1.0
  - 4.1 ALL EQUIPMENT SHALL BE INSTALLED AS STANDARD EQUIPMENT PER: ANSI A119.2 (2002)
  - 5.1 ALL EQUIPMENT SHALL BE SIZED PER SECTION 6-4.5, ANSI A119.2 (2002)
  - 6.1 CO DETECTOR IS INSTALLED PER: SECTION 6-4.6, ANSI A119.2 (2002)

SYMBOLS

(C)	CO DETECTOR
(X)	7-1/2" EXTINGUISHER 5B-C
(SD)	SMOKE DETECTOR
(E)	EMERGENCY EGRESS
(Pd)	PANEL BOARD (110/12 WIRE)
(C)	CONVERTER
(CD)	CARBON MONOXIDE DETECTOR

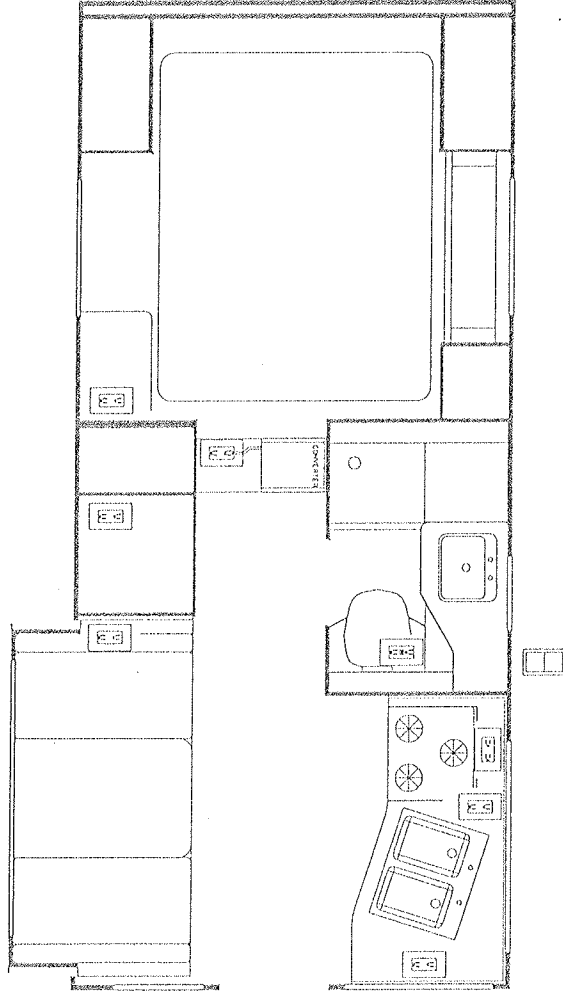


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ATC 950  
FLOORPLAN








ATC 900-950  
110V FLOORPLAN



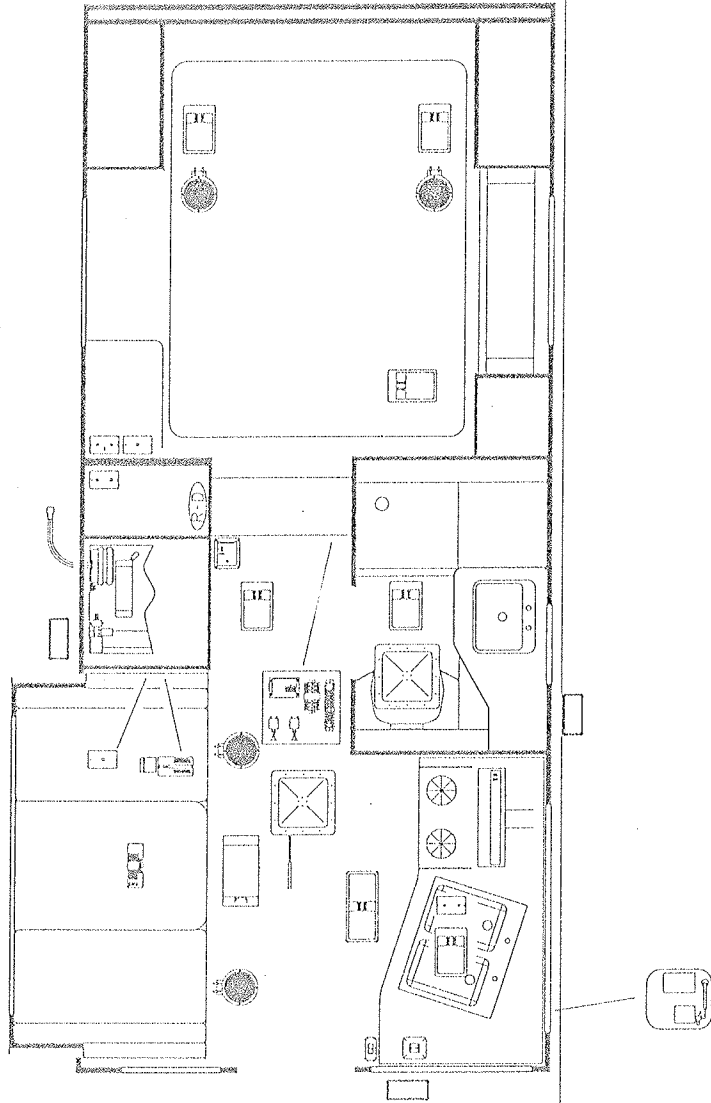
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SYMBOL LEGEND

-  WEATHER PROOF  
OUTDOOR OUTLET
-  15 AMP BREAKER
-  15 AMP RECEPTACLE
-  110V TO 12V  
POWER CONVERTER
-  15 AMP RECEPTACLE







# SYMBOL LEGEND

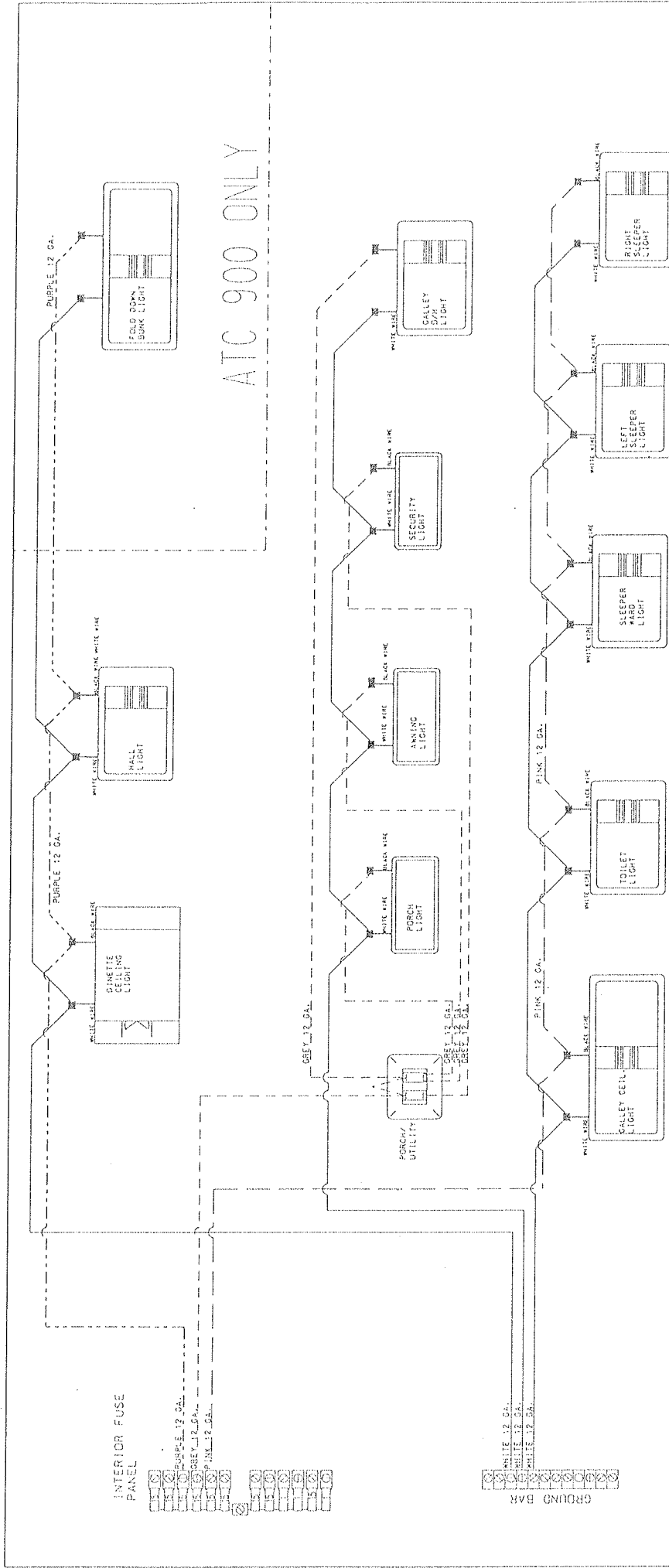
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	FANTASTIC FAN		TV ANT-BOOSTER/CABLE PLATE		INTERIOR FUSE PANEL		SOLAR REGULATOR (OPT.)
	EXTERIOR INCAN. LIGHT		PHONE/CABLE PLATE		STEREO/COMPACT DISK PLAYER		SLIDE OUT CONTROL BOARD
	SINGLE INCAN. LIGHT		PHONE PLATE		SPEAKER		HOOD FAN
	DOUBLE INCAN. LIGHT		THERMOSTAT		ATWOOD REMOTE JACK CONTROLLER		WATER PUMP
	12 VOLT FLO. LIGHT		DOUBLE 12VOLT SWITCH		75 AMP "PUSH/PULL" KILL SWITCH		
			SLIDE CONTROL SWITCH				
			CO DETECTOR				
			LPG DETECTOR				

ATC 900-950  
12 VOLT  
LOCATIONS DRAWING

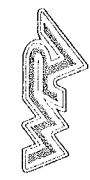


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# ATC 900, 950 12 VOLT FLOW



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- NOTES:
- 1) "BELL" TYPE CRIMP CONNECTORS.
  - 2) NO LOOSE STRANDS OR STRIPPED WIRE OUTSIDE SPLICE CAPS. BE SURE TO TWIST WIRES BEFORE INSERTING TO AVOID LOOSE STRANDS.
  - 3) USE LARGE SPLICE CAP ON WHITES/ORANGE JUNCTION. SMALLEST SPLICE CAP ON 22/7 WIRES. AND MEDIUM SIZED SPLICE CAP ON 14 AND 16 GA. CONNECTIONS.
  - 4) DO NOT TAPE OVER CRIMPED SPLICE CAPS. LEAVE VISIBLE FOR INSPECTION.



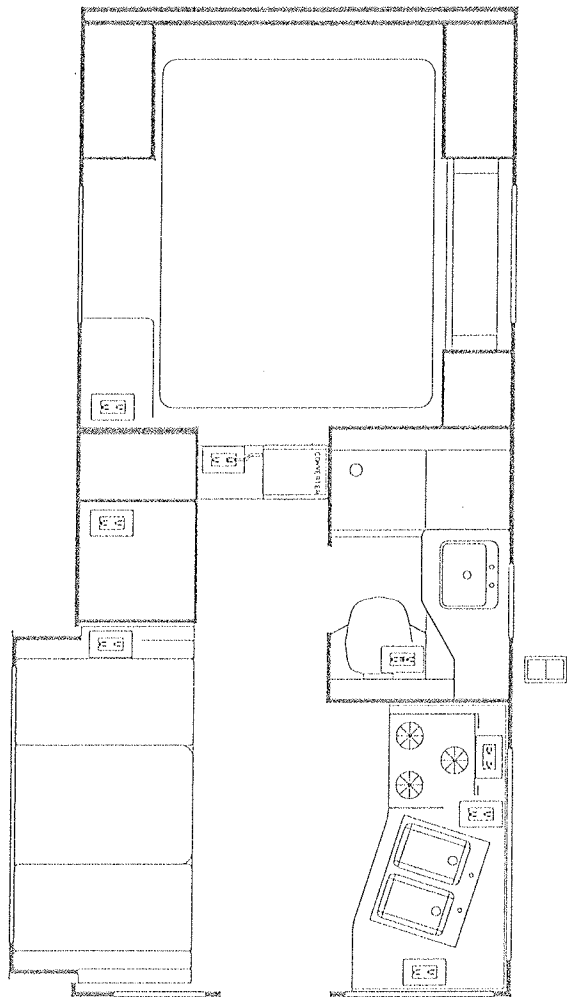
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WVU PART#	DESCRIPTION	QTY
00013	4" FURNACE DUCT ADAPT.	2
00015	NON-ADJ. ROTAIR 4"	1
00017	NON-ADJ. ROTAIR 2"	3
00048	2" x 4" FURNACE DUCT ADAPTER	5
00340	ADJ. FURN. DUCT. ROTAIR 4" W/2" AD	1
01011	25 MBTU AUTO LIGNI FURNACE	1
01014	2X2X4 PLENUM BOX	1

## SECTION

- 1.) SUPPLY SYSTEM DUCT MATERIAL AND CONNECTORS ARE U.L. LISTED 181.
- 2.) REGISTERS & GRILLS ARE U.L. LISTED 181.
- 3.) FURNACE IS INSTALLED AND PROTECTED SO AS TO COMPLY WITH SECTION 5-6.8.1, ASL 1A119.2 (2002)



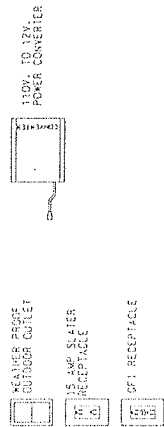


ATC 900-950  
110V FLOORPLAN

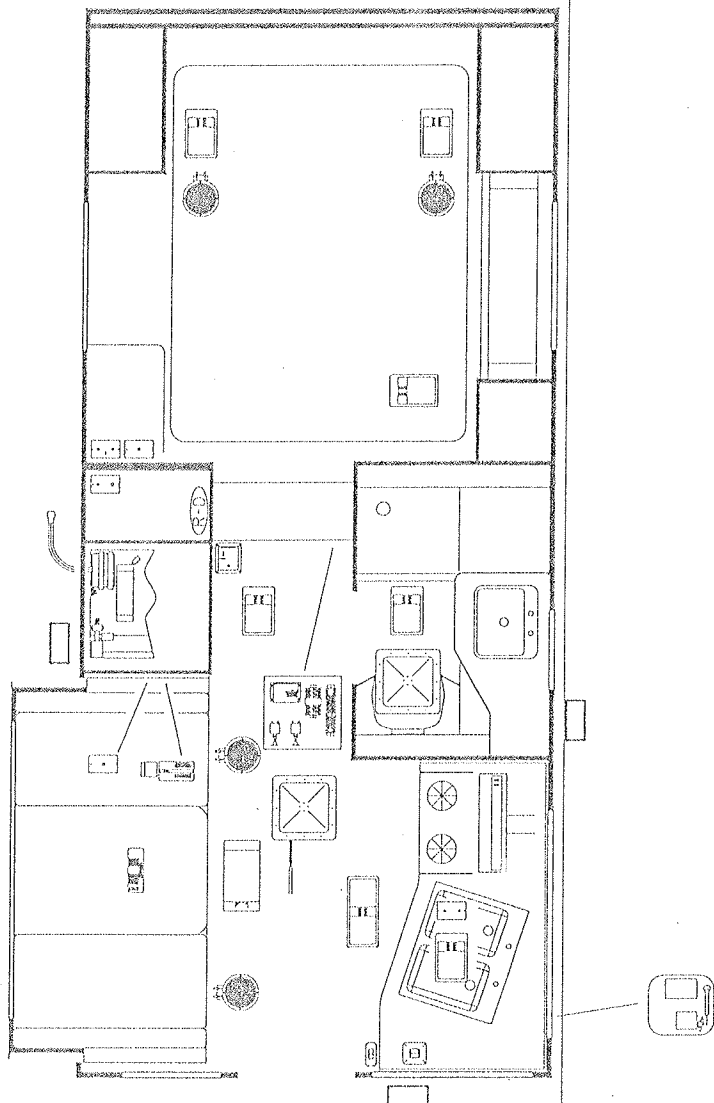


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SYMBOL LEGEND







# SYMBOL LEGEND

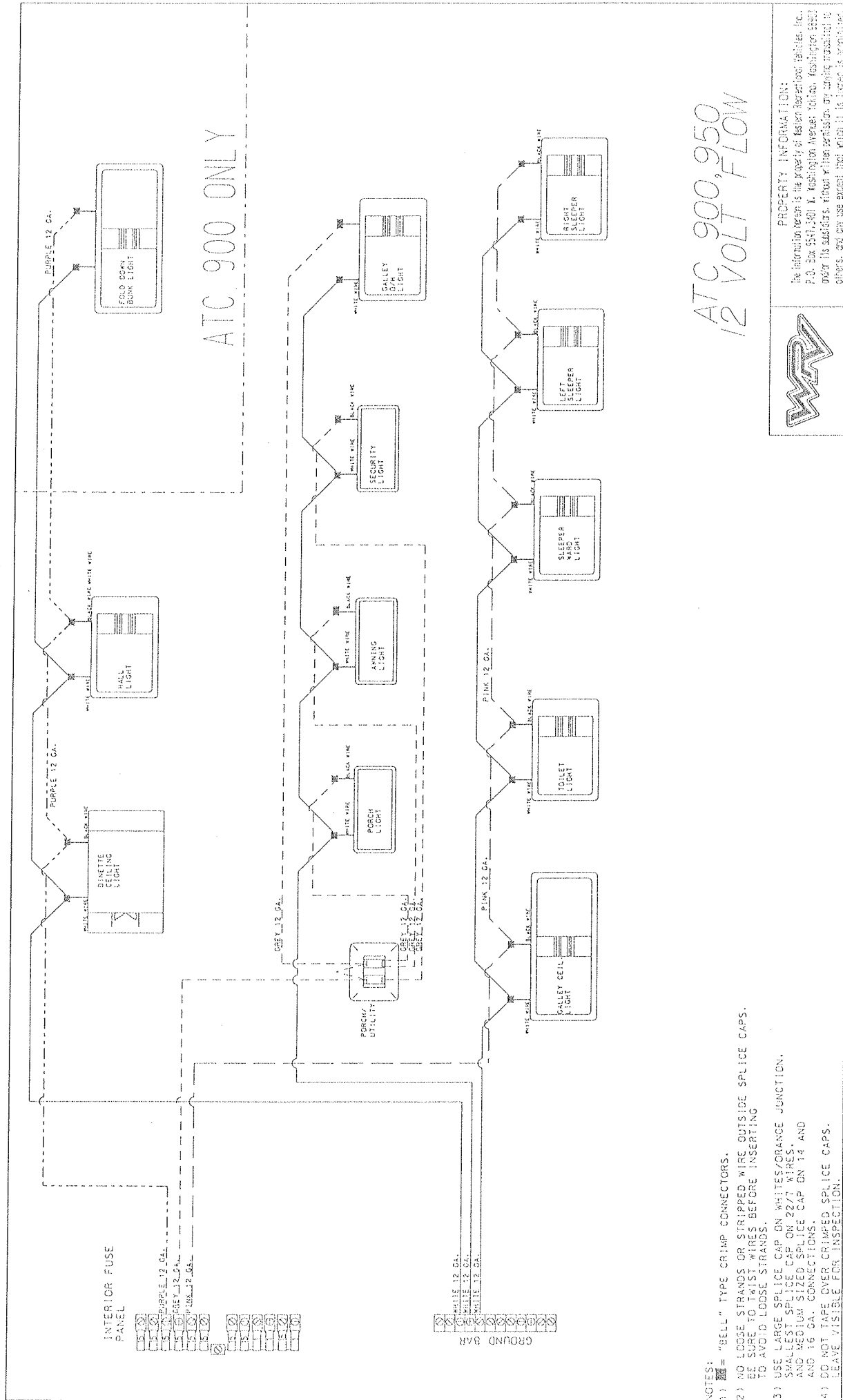
	POWER VENT		DUAL CO-AX PLATE		EXTERIOR FUSE PANEL		MONITOR
	FANTASTIC FAN		TV ANT-BOOSTER/CABLE PLATE		INTERIOR FUSE PANEL		SOLAR REGULATOR (OPT.)
	EXTERIOR INCAN. LIGHT		PHONE/CABLE PLATE		STEREO/COMPACT DISK PLAYER		SLIDE OUT CONTROL BOARD
	SINGLE INCAN. LIGHT		PHONE PLATE		SPEAKER		HOOD FAN
	DOUBLE INCAN. LIGHT		THERMOSTAT		ATWOOD REMOTE JACK CONTROLLER		WATER PUMP
	12 VOLT FLO. LIGHT		DOUBLE 12VOLT SWITCH		75 AMP "PUSH/PULL" KILL SWITCH		
			SLIDE CONTROL SWITCH				
			CO DETECTOR				
			LPG DETECTOR				

## ATC 900-950 12 VOLT LOCATIONS DRAWING



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ATC 900,950  
12 VOLT FLOW

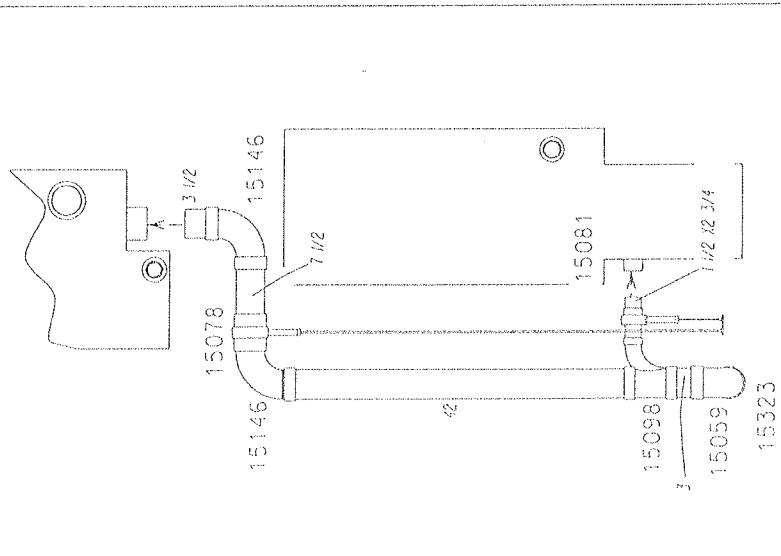
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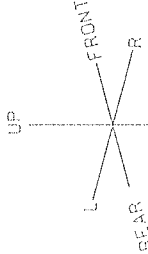
- NOTES:
- 1) "BELL" TYPE CRIMP CONNECTORS.
  - 2) NO LOOSE STRANDS OR STRIPPED WIRE OUTSIDE SPLICE CAPS.  
BE SURE TO TWIST WIRES BEFORE INSERTING  
TO AVOID LOOSE STRANDS.
  - 3) USE LARGE SPLICE CAP ON WHITES/ORANGE JUNCTION.  
SMALLEST SPLICE CAP ON 22/7 WIRES.  
AND MEDIUM SIZED SPLICE CAP ON 14 AND  
AND 16 GA. CONNECTIONS.
  - 4) DO NOT TAPE OVER CRIMPED SPLICE CAPS.  
LEAVE VISIBLE FOR INSPECTION.



TOP VIEW DETAIL: ALL PIPE 3" UNLESS OTHERWISE NOTED.



SEE TOP VIEW DETAIL.



LIQUID WASTE TANK H-389  
IAPMO/CSA APPROVED WRV# 15347

SOLID WASTE TANK H-388  
IAPMO/CSA APPROVED WRV# 15348

WRV PART #	DESCRIPTION	QTY
15044	TEE-CL-OUT, 1 1/2 X 1 1/2 X 1 1/2	1
15045	PLUG-C-O, 1 1/2 ABS	1
14184	1 1/2" P-TRAP	3
62580	1 1/4" TRAP ADAPTER	1
14115	1 1/4" CONT. WASTE	1
15047	EL. ABS 1 1/2 X 1/4 BEND	2
15048	EL. ABS. LG. SW. 1 1/2 X 1/4 BEND	2
15050	TEE. SAN. ABS. 1 1/2	3
15053	EL. ABS. ST. 1 1/2 X 1/8 BEND	2
15059	EL. ABS. 3 X 1/4 BEND	1
15062	COUPLER 1 1/2" ABS FITTING	5
15071	CLOSET FLANGE, 4 X 3 HUB ABS FLIT	1
15073	ADP. VENT 1 1/4 ABS	1
15075	ADP. VENT 1 1/2 ABS	1
15078	VALVE. DUMP. 3" HUB X 3" SPIGOT	1
15098	TEE-Y 3" HUB X 3" HUB X 1 1/2" HUB	1
15081	VALVE. DUMP ASSEM 1 1/2" #11001	1
15084	CAP. BAYONET 3" T1020 ABS	1
15086	ADAPTER, TERM 3" T1029-1 ABS	1
15146	EL. ABS. ST. LG. SW. 3 X 1/4	2
15323	DUMP HANDLE EXT. 48"	1
15068	ADP-SKIVEL 1 1/4 X 1 1/2 SPOKEPT	2

NOTES

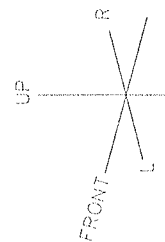
- 1.1 ALL PLUMBING TO COMPLY WITH ANSI A-11.1 (2002)
- 2.1 ALL PIPE AND FITTINGS TO BE ABS PLASTIC APPROVED FOR DWV
- 3.1 ALL PIPE AND FITTINGS ARE 1 1/2" DIA. UNLESS NOTED OTHERWISE.
- 4.1 ALL SUPPORTS AND ANCHORS ARE 1/2" DIA. UNLESS NOTED OTHERWISE.
- 5.1 ALL ABS JOINTS TO BE MADE USING BULK & STAP METHOD
- 6.1 ALL ABS JOINTS TO BE MADE USING BULK & STAP METHOD
- 7.1 ALL ABS JOINTS TO BE MADE USING BULK & STAP METHOD
- 8.1 ALL ABS JOINTS TO BE MADE USING BULK & STAP METHOD
- 9.1 ALL ABS JOINTS TO BE MADE USING BULK & STAP METHOD

- 1 1/4" DIA. PIPE
- GLUE ON ASSEMBLY

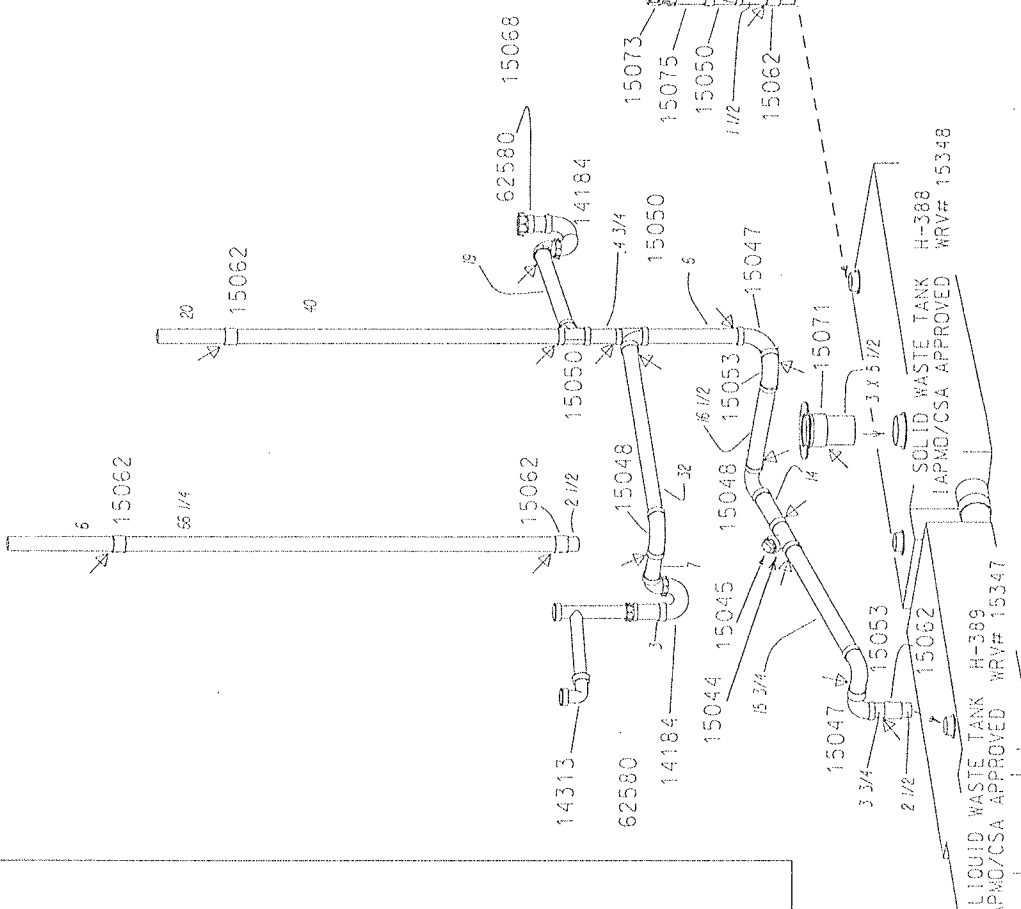
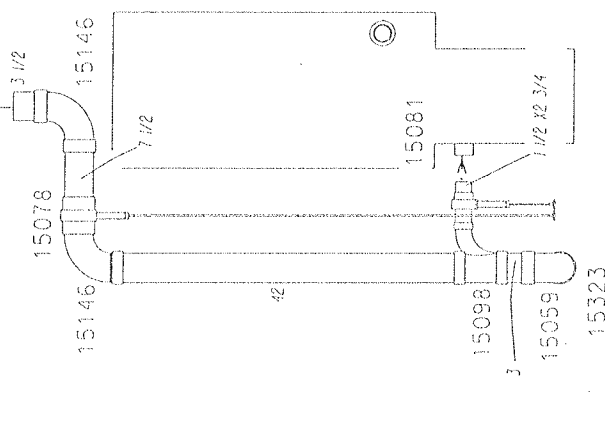
ATC 900,950  
DRAINLINES



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QTY	PART #	DESCRIPTION
1	15044	TEE, CL-OUT, 1 1/2 X 1 1/2 X 1 1/2
1	15045	FLUG.C.O. 1 1/2 ABS
3	14184	1 1/2" P-TRAP
1	62580	1 1/4" TRAP ADAPTER
1	14313	CONTINUOUS WASTE, 1 1/2"
2	15047	EL. ABS 1 1/2 X 1 1/4 BEND
2	15046	EL. ABS. LG. SW. 1 1/2 X 1 1/4 BEND
2	15050	TEE, SAN. ABS. 1 1/2
3	15053	EL. ABS. ST. 1 1/2 X 1 1/8 BEND
1	15052	EL. ABS. 3 X 1 1/4 BEND
3	15062	COUPLING 1 1/2" ABS FITTING
1	15071	CLOSET FLANGE, 4 X 3 HUB ABS.FIT
1	15073	ADP. VENT 1 1/4 ABS
1	15075	ADP. VENT 1 1/2 ABS
1	15078	VALVE, DUMP, 3" HUB X 3" SPIGOT
1	15090	TEE-Y 3" HUB X 3" HUB X 1 1/2" HUB
1	15061	VALVE DUMP ASSEM 1 1/2" #1001
1	15084	CAP. DAYNET 3" #1020 ABS
1	15086	ADAPTER, TERM 3" #1020-1 ABS
2	15146	EL. ABS. ST. LG SW. 3 X 1 1/4
1	15223	DUMP HANDLE EXT. 48"
2	15668	ADP. SWIVEL 1 1/4 X 1 1/2 SPKXFTI

- 1.) ALL RUNNING TO COMPLY WITH  
AND A117.2, 2003.
- 2.) ALL ONE AND FITTINGS TO BE  
USE 1/2" NPT APPROVED FOR DRV
- 3.) ALL ONE AND FITTINGS ARE  
OTHER UNLESS NOTED
- 4.) ALL ONE AND FITTINGS  
TO BE USED AND APPROVED  
FOR A117.2, 2003.
- 5.) ALL ABOVE STAP METHOD  
AND A117.2, 2003.
- 6.) ALL ABOVE SLOPE IS PER  
AND A117.2, SEC. 7.6.3 - 7.7.1

W. J. D. 212  
CLUB OF ASSOCIATES

# ATC 900.950 DRAINLINES



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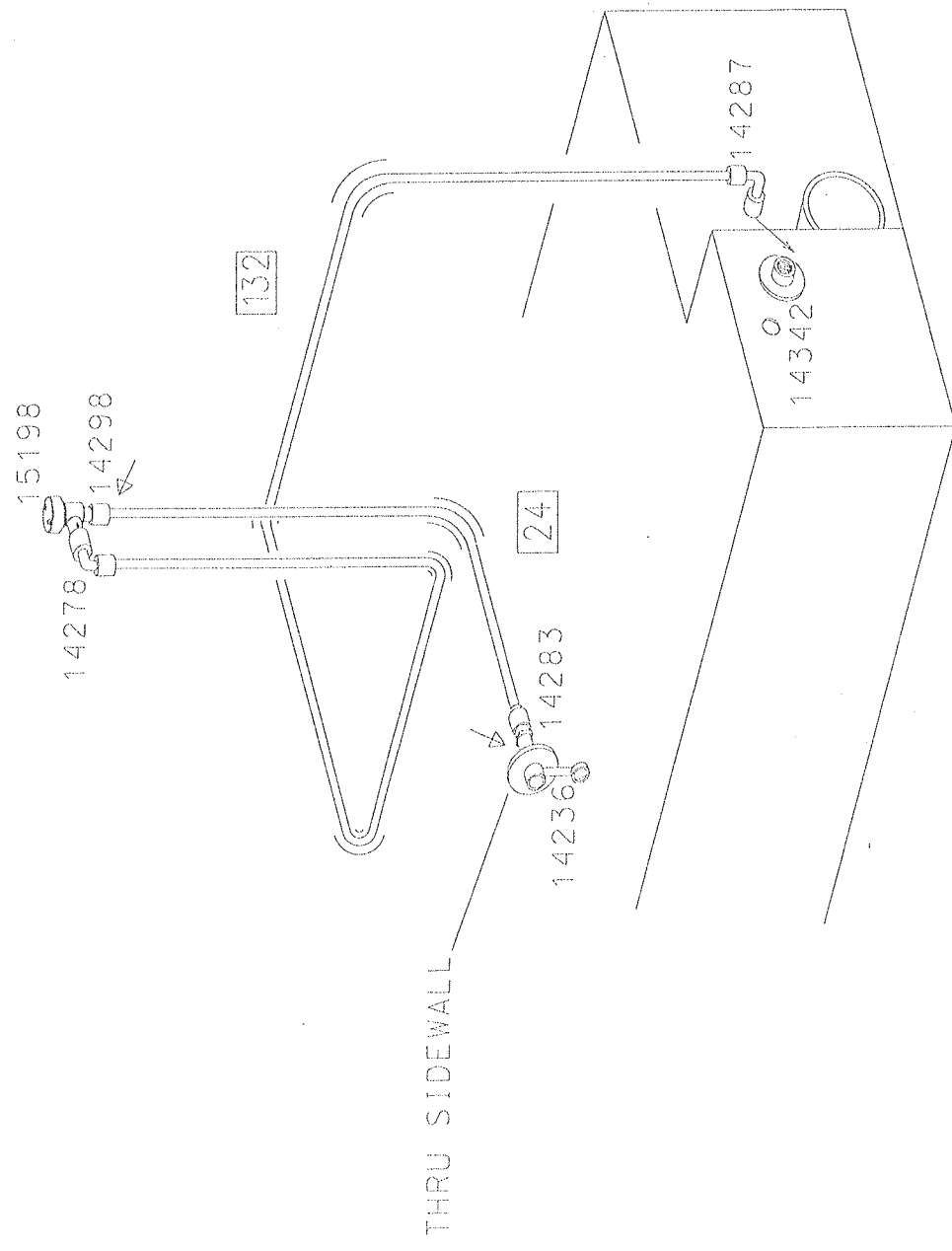
PART	DESCRIPTION
14246	INLET HOSE CONN. BLACK TANK FLUSH
14267	FLOW 1/2" PIPE X 1/2" MPT FLARE-IT
14278	FLOW 1/2" P. X 1/2" BSP SW FLARE-IT
14283	ADAPTER 1/2" P. X 1/2" MPT FLARE-IT
14342	FLUSH HOLDING TANK SPIN N
14349	90 DEGREE PLASTIC BEND SUPPORT
15198	80KR INLET SYDRON VAC TANK FLUSH
14296	COUPLING 1/2" P X 1/2" FPT SWVL BSP

NOTES

- 1.) ENTIRE SYSTEM IS CONSTRUCTED w/ 1/2" I.D. APPROVED WATER HOSE AND FLARE-IT FITTINGS UNLESS SPECIFIED OTHERWISE.
- 2.) ALL JOINTS THREADED WITH FLARE-IT AND/OR HOSE CLAMPS.
- 3.) BLACK TANK FLUSH DOES NOT CONNECT TO FRESH WATER SYSTEM IN ANY WAY.
- 4.) MODEL: WELD-A-FLUSH UPC/T-2124.

SYMBOLS

→ ATTACH ON ASSEMBLY LINE



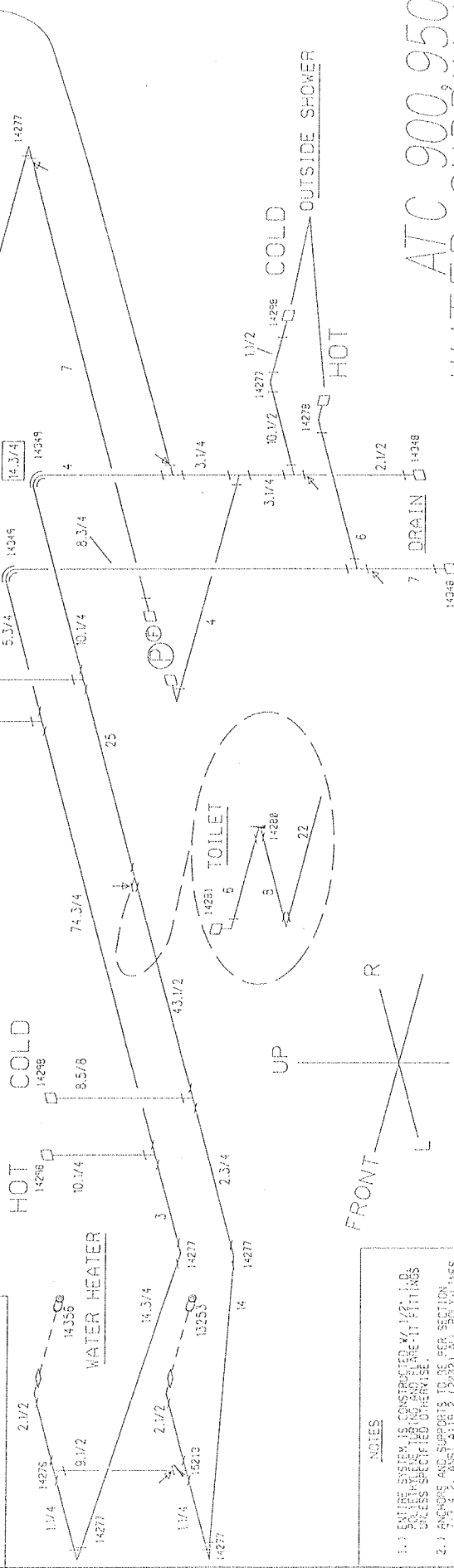
# ATC 900/ATC 950 BLACK TANK FLUSH



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others can

REV.	DESCRIPTION	QTY
14200	ADAPTER, 1/2" MPT X 1/2" BSP	1
14202	CLAMP, HOSE, 1/4" - 25/32"	2
14207	CLAMP, HOSE, S.S. 1 1/2" - 60/24"	2
14208	TEE, 1/2" PIPE, FLARE-IT	1
14210	TEE, 1/2" PIPE, FLARE-IT	1
14211	ELBOW, 1/2" PIPE, FLARE-IT	7
14212	ELBOW, 1/2" P X 1/2" FSP, S.S. FLARE-IT	4
14213	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14214	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14215	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14216	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14217	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14218	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14219	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14220	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14221	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14222	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14223	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14224	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14225	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14226	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14227	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14228	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14229	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14230	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14231	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14232	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14233	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14234	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14235	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14236	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14237	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14238	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14239	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14240	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14241	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14242	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14243	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14244	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14245	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14246	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14247	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14248	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14249	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14250	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14251	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14252	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14253	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14254	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14255	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14256	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14257	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14258	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14259	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14260	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14261	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14262	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14263	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14264	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14265	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14266	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14267	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14268	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14269	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14270	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14271	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14272	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14273	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14274	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14275	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14276	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14277	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14278	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14279	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14280	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14281	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14282	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14283	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14284	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14285	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14286	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14287	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14288	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14289	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14290	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14291	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14292	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14293	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14294	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14295	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14296	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14297	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14298	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14299	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2
14300	COUPLING, 1/2" P X 1/2" P, FLARE-IT	2

- SYMBOLS**
- ① SHURFLO WATER PUMP W/CHECK VALVE
  - ② WATER FILTER
  - ③ 3/4" SHIRREL FEMALE HOSE WATER SERVICE CONNECTION W/CHECK VALVE
  - DRIMP ON ASSEMBLY LINE



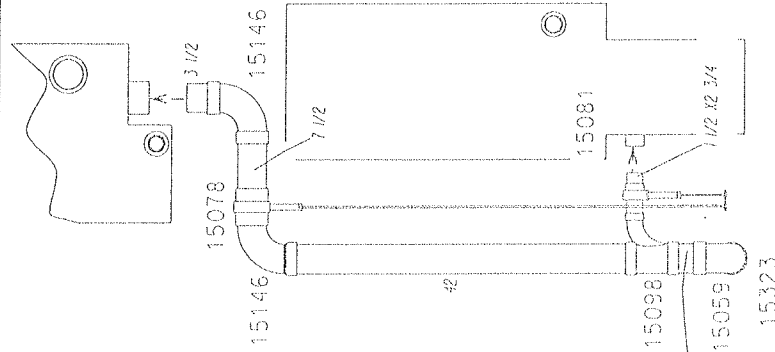
- NOTES**
- 1.) ENTIRE SYSTEM IS CONSTRUCTED W/ 1/2" I.D. POLYETHYLENE TEREPHTHALATE (PET) FITTINGS UNLESS SPECIFIED OTHERWISE.
  - 2.) ANCHORS AND SUPPORTS TO BE PER SECTION 7-3.4.1 AND 7-3.4.2 (2002) ALL POLYETHYLENE TEREPHTHALATE (PET) FITTINGS TO BE SECURED WITH A LOCK CLAMP AND SPLIT WEDGE.
  - 3.) WATER HEATER TO BE STANDING W/TEMPERATURE 120°F AND PRESSURE 150 PSI. TO BE VALVE TO BE OUTSIDE AND DRAINAGE TO BE VENTILATED TO THE OUTSIDE.
  - 4.) WATER DISTRIBUTION LINES ARE ROUTED AWAY FROM MAIN STORAGE COMPARTMENTS PER SECTION 7-3.1.3.1 AND 7-3.1.3.2 (2002)



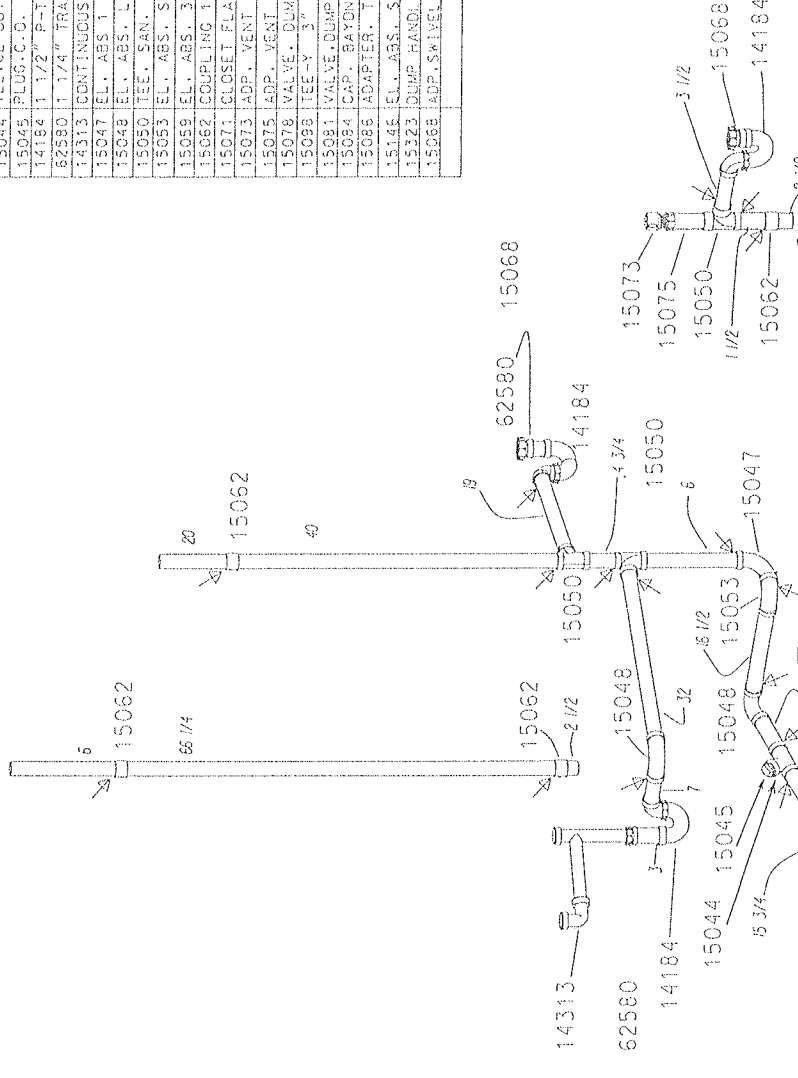
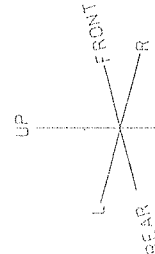
ATC 900 950  
WATER SUPPLY LINES

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TOP VIEW DETAIL. ALL PIPE 3" UNLESS OTHERWISE NOTED.



SEE TOP VIEW DETAIL.



LIQUID WASTE TANK H-389 IAPMO/CSA APPROVED WRV# 15347

SOLID WASTE TANK H-388 IAPMO/CSA APPROVED WRV# 15348

ATC 900 950  
DRAINLINES



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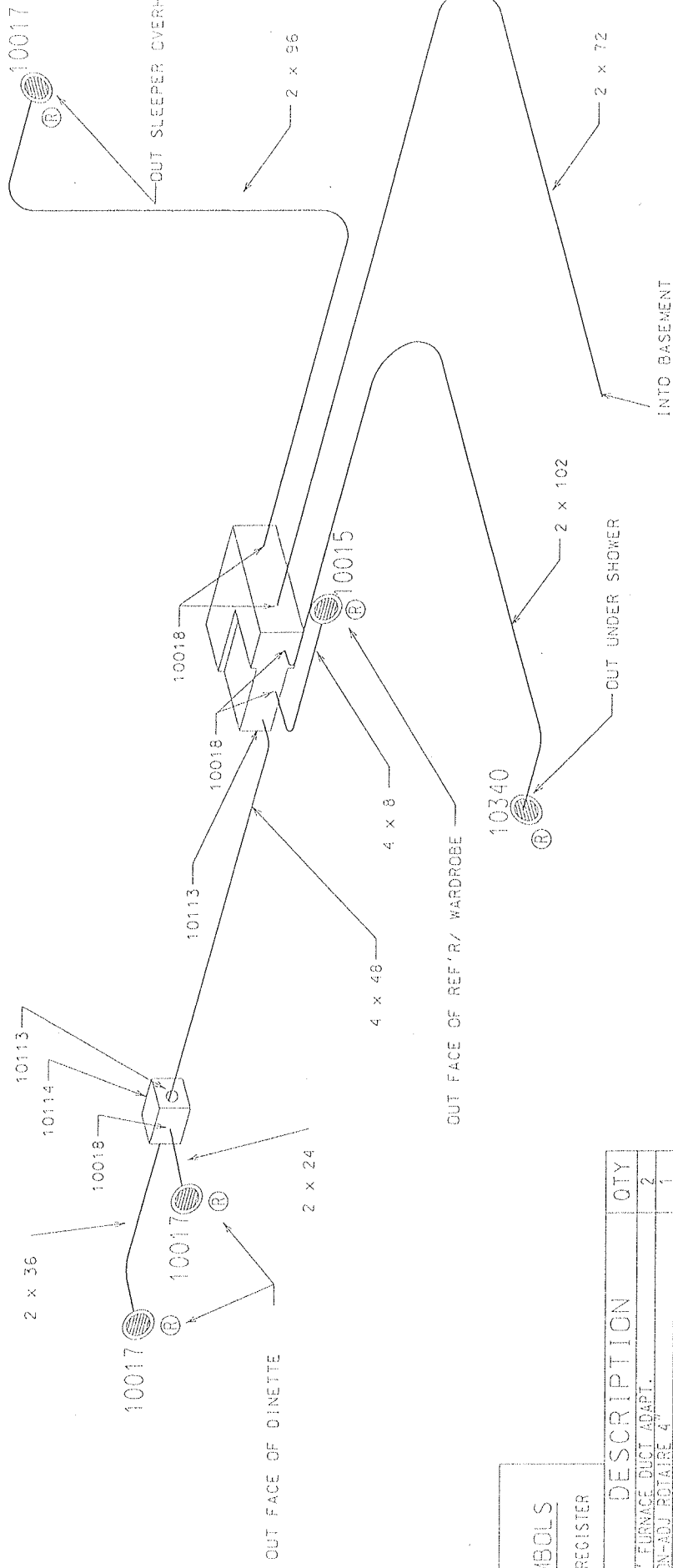
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WRV	DESCRIPTION	QTY
15044	TEE-CL-OUT, 1 1/2 X 1 1/2 X 1 1/2	1
15045	PLUG-C.O., 1 1/2 ABS	1
14184	1 1/2" P-TRAP	3
62580	1 1/4" TRAP ADAPTER	1
14313	CONTINUOUS WASTE, 1 1/2"	1
15047	EL. ABS 1 1/2 X 1 1/4 BEND	2
15048	EL. ABS, LQ. SW. 1 1/2 X 1 1/4 BEND	2
15030	TEE, SAN. ABS, 1 1/2	3
15053	EL. ABS, ST. 1 1/2 X 1 1/2 BEND	2
15089	EL. ABS, 3 X 1 1/4 BEND	1
15082	COUPLING 1 1/2" ABS FITTING	5
15071	CLOSET FLANGE, 4 X 3 HUB ABS FITT.	1
15073	ADP. VENT 1 1/4 ABS	1
15075	ADP. VENT 1 1/2 ABS	1
15078	VALVE, DUMP, 3" HUB X 3" SPIGOT	1
15098	TEE-Y, 3" HUB X 3" HUB X 1 1/2" HUB	1
15081	VALVE, DUMP ASSEM 1 1/2" #11001	1
15084	CAP, BAYONET 3" #1020 ABS	1
15086	ADAPTER, TERM 3" #1028-1 ABS	1
15146	EL. ABS, ST. LQ SW. 3 X 1 1/4	2
15323	DUMP HANDLE EXT. 38"	1
15088	ADP. SWIVEL 1 1/4 X 1 1/2 SPOCKET	2

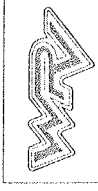
NOTES:

1. ALL PLUMBING TO COMPLY WITH
2. ALL PIPE AND FITTINGS TO BE ABS PLASTIC APPROVED FOR DWV SYSTEMS.
3. ALL PIPE AND FITTINGS ARE GRADE-DEPENDENT. UNLESS NOTED OTHERWISE.
4. ALL SUPPORTS AND ANCHORS TO BE PER SECTION 7-4.3.2. (SEE DRAWING 7-4.3.2-1-1)
5. ALL ABS PIPE SLOPE IS PER ANSI A119.2 SEC. 7-6.3 & 7-8.1.1

1 1/4" DIA. PIPE  
CLUE ON ASSEMBLY



# ATC 900,950 FURNACE DUCTING



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P.O. Box 9541, 3001 N. Washington Avenue, Tacoma, Washington 98403  
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## SYMBOLS ® - REGISTER

WV PART#	DESCRIPTION	QTY
10013	4" FURNACE DUCT ADAPT.	2
10015	NON-ADJ. ROTAIR 4"	1
10017	NON-ADJ. ROTAIR 2"	3
10018	2" x 4" FURNACE DUCT ADAPTER	5
10340	ADJ. FURN. DUCT ROTAIR 4" W/2" AD	1
10101	25 WATU AUTO LIGHT FURNACE	1
10114	12X24 PLENUM BOX	1

## NOTES

- 1.) SUPPLY SYSTEM DUCT MATERIAL AND CONNECTORS ARE U.L. LISTED 181, CLASS 1.
- 2.) REGISTERS & GRILLS ARE U.L. LISTED 94 VO.
- 3.) FURNACE IS INSTALLED AND PROTECTED SO AS TO COMPLY WITH SECTION 5-6.8.1, ANSI A119.2 (2002)





NOTES

1.1 ALL MATERIALS AND EQUIPMENT ARE APPROVED, INSTALLED AND TESTED PER: NFPA 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

SYMBOLS

⊙ - GAS DETECTOR

⊗ - FIRE EXTINGUISHER 5B-C

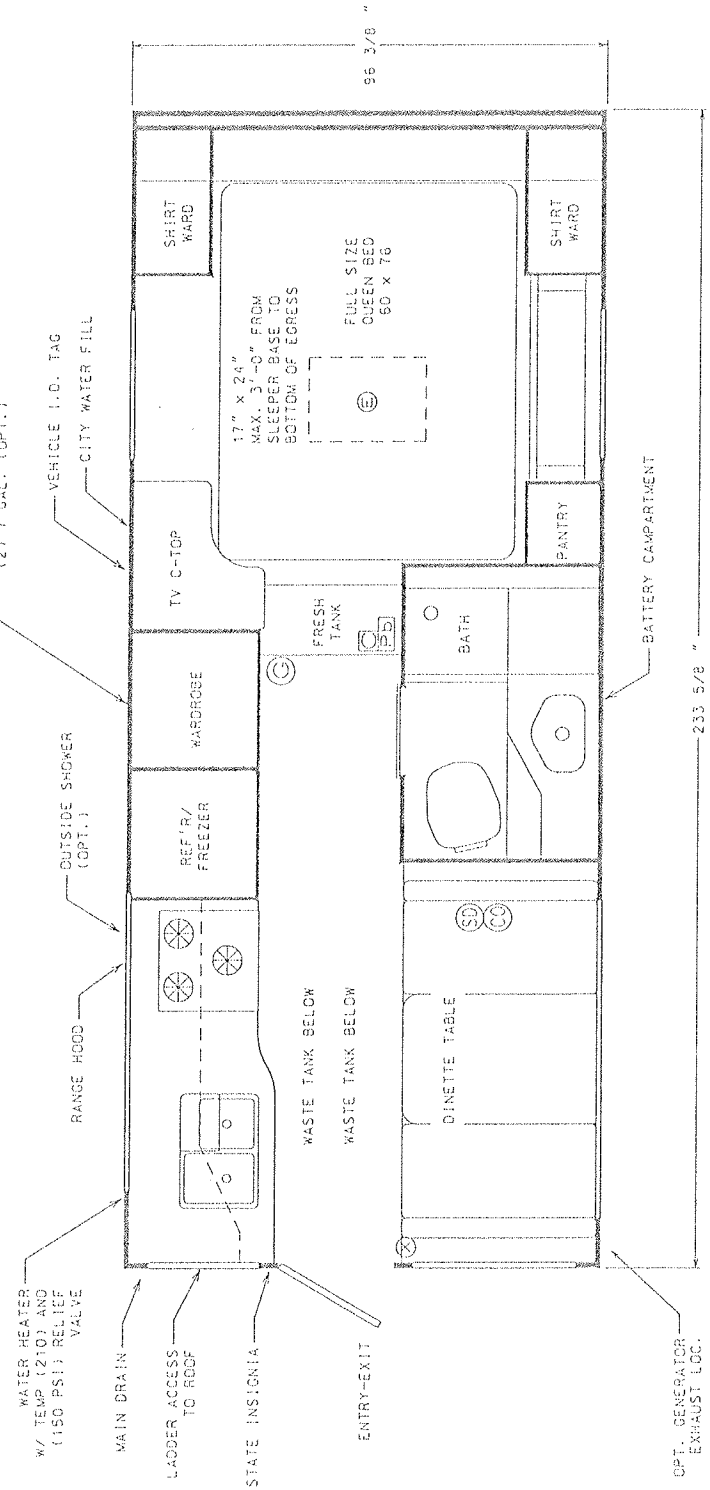
⊙ - SMOKE DETECTOR

⊙ - EMERGENCY EGRESS

⊙ - PANEL BOARD (110/12 VOLT)

⊙ - CONVERTER

⊙ - CARBON MONOXIDE DETECTOR



# ATC 1100 FLOOR PLAN

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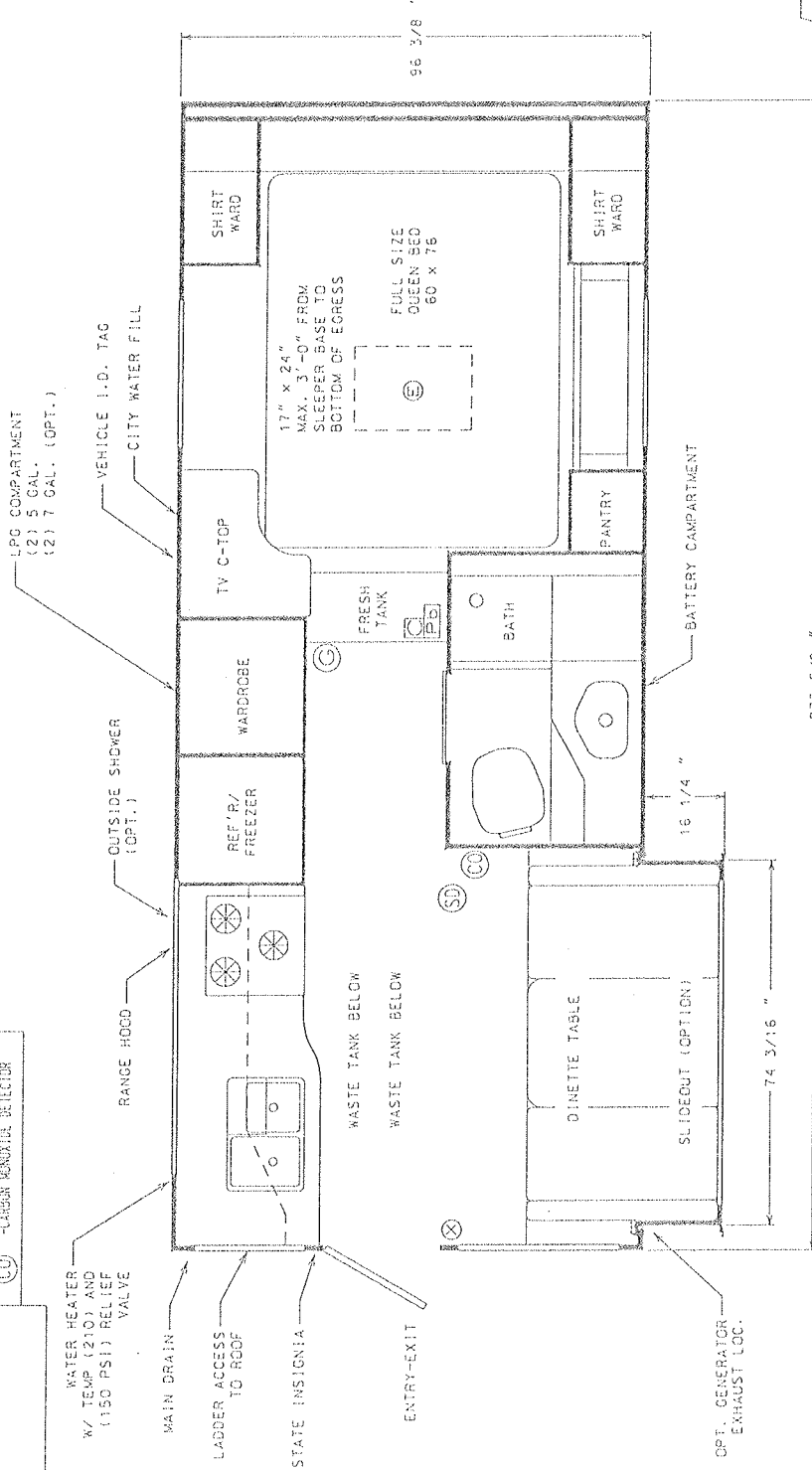


# NOTES

- 1.1 ALL MATERIALS AND EQUIPMENT ARE APPROVED, INSTALLED AND TESTED PER:
  - ANSI A119.1 (2002)
  - ANSI A119.2 (2002)
  - CSA-2240 (1999)
- 2.1 ALL TESTING OF EQUIPMENT SYSTEMS AND MANUFACTURING PROCESSES ARE OBTAINED IN THE QUALITY ASSURANCE DEPARTMENT.
- 3.1 INTERIOR MATERIAL FLAME SPREAD CLASSIFICATION SHALL NOT EXCEED 200.
- 4.1 ROOF LADDER IS INSTALLED AS STANDARD EQUIPMENT PER:
  - ANSI A119.2 (2002)
- 5.1 ALTERNATE EXITS ARE SIZED PER SECTION 8-4.5.4.5.4.5.
- 6.1 CO-2 DETECTOR IS INSTALLED PER: SECTION 8-4.6.1.

# SYMBOLS

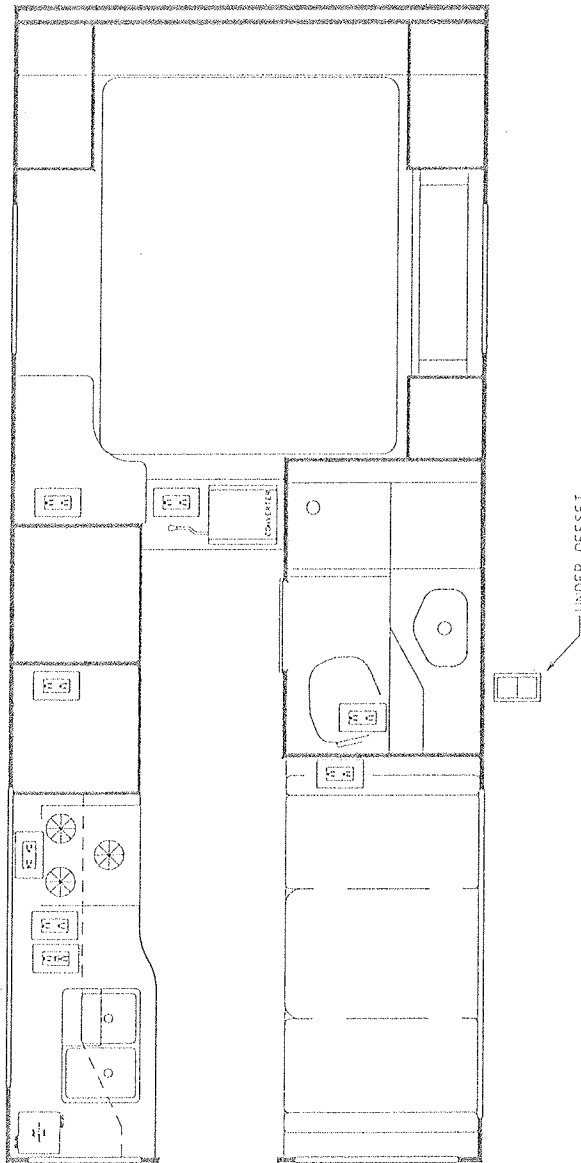
- (G) - GAS DETECTOR
- (X) - FIRE EXTINGUISHER 5B-C
- (SD) - SMOKE DETECTOR
- (E) - EMERGENCY EGRESS
- (PB) - PANEL BOARD (110/12 VOL)
- (C) - CONVERTER
- (CO) - CARBON MONOXIDE DETECTOR



ATC 1150  
FLOORPLAN



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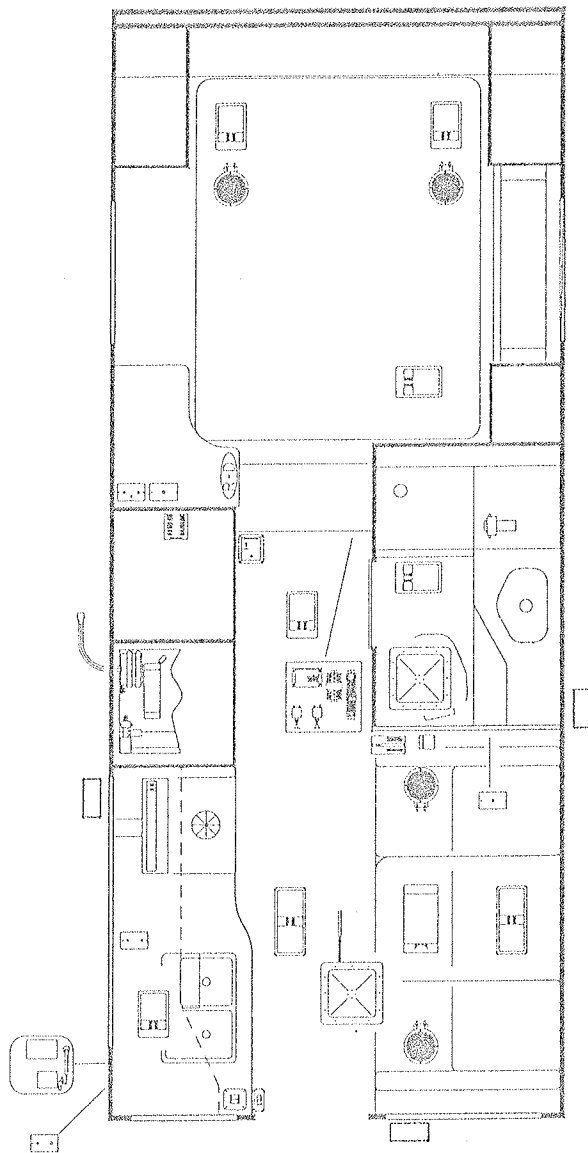
ATC 1100/1150  
110V FLOORPLAN



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SYMBOL LEGEND

- WEATHER PROOF OUTDOOR OUTLET
- 15 AMP WATER RECEPTACLE
- OFF RECEPTACLE
- 4" x 4" JUNCTION BOX METAL
- 110V TO 12V POWER CONVERTER



# ATC 1100/1150 12V FLOORPLAN

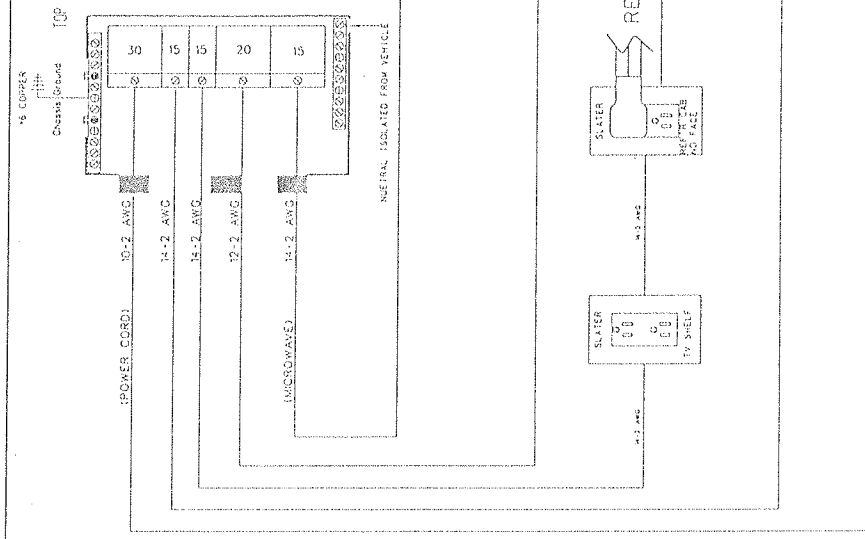


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## SYMBOL LEGEND

	POWER VENT		DUAL CO-AX PLATE		EXTERIOR FUSE PANEL		MONITOR
	FANTASTIC FAN		TV ANT. BOOSTER/CABLE PLATE		INTERIOR FUSE PANEL		SOLAR REGULATOR (OPT.)
	EXTERIOR INCAN. LIGHT		PHONE/CABLE PLATE		STEREOS/COMPACT DISK PLAYER		SLIDE OUT CONTROL BOARD
	SINGLE INCAN. LIGHT		PHONE PLATE		SPEAKER		HOOD FAN
	DOUBLE INCAN. LIGHT		THERMOSTAT		AT HOOD REMOTE JACK CONTROLLER		WATER PUMP
	12 VOLT FLD. LIGHT		DOUBLE 12-VOLT SWITCH		75 AMP "PUSH/PULL" KILL SWITCH		
			SLIDE CONTROL SWITCH				
			CO DETECTOR				
			LPG DETECTOR				

...12004\_atc\_1100\_1150\_12volt\_loca 06/18/03 08:27:17 AM



# STANDARDS

Electrical materials and equipment are approved installed and tested per: ANSI A19.2 (2002)  
 NEC 551 (2002)  
 CSA-2240 RV Series (1999)  
 Low voltage conductors are approved stranded copper wire with 90 C minimum temperature rated insulation.  
 Converter complies with UL Std. 455 and is installed per manufacturer's instructions.  
 Electrical tests are outlined in the Quality Assurance Manual.

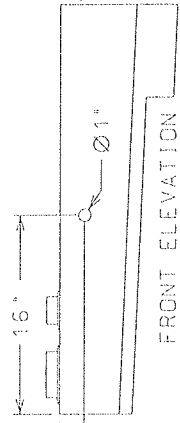
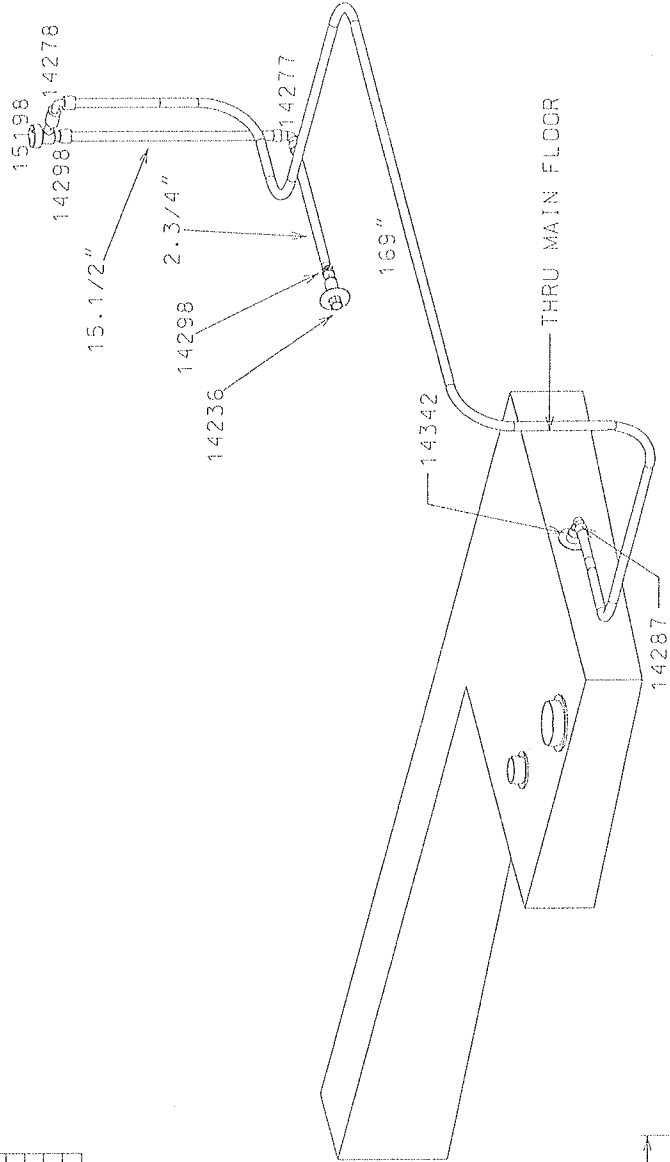
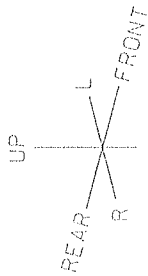
- 1) ALL CONNECTIONS ARE TO BE MADE WITH APPROPRIATE WIRE NUTS. NO CRIMP CONNECTORS SHOULD BE USED FOR HIGH VOLTAGE.
- 2) 1/4" - 3/4" METAL TYPE ROMEX STRAIN RELIEF. 16111
- 3) 1/2" PLASTIC PUSH IN TYPE ROMEX STRAIN RELIEF. 16110
- 4) 1" METAL TYPE ROMEX STRAIN RELIEF. 16105
- 5) 1 1/4" METAL TYPE ROMEX STRAIN RELIEF. 16104

ATC 1100  
 ATC 1150  
 110 VOLT FLOW



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PART	DESCRIPTION	QTY
14226	INLET HOSE CORN. BLACK TANK FLUSH	1
14227	FLOR. 1/2" PIPE, FLARE-IT	1
14228	FLOR. 1/2" PIPE X 1/2" MPT. FLARE-IT	1
14229	ADAPTER 1/2" P X 1/2" MPT. FLARE-IT	1
14230	FLOR. 1/2" P X 1/2" FBSP. SK. FLARE-IT	1
14231	COUPLING 1/2" X 1/2" FBSP. SK. FLARE-IT	1
14232	FLOR. 1/2" PIPE, SPIN-IN	1
15198	BKR. ANTI-SIPHON. VAC. TANK FLUSH	1



SYMBOLS  
→ ATTACH ON ASSEMBLY LINE.

- NOTES
- 1.1 ENTIRE SYSTEM IS CONSTRUCTED W/ 1/2" I.P. APPROVED WATER ROSE AND FLARE-IT FITTINGS UNLESS SPECIFIED OTHERWISE.
  - 2.1 BLACK TANK FLUSH DOES NOT CONNECT TO FRESH WATER SYSTEM IN ANY WAY.
  - 3.1 MODEL: WELD-A-FLUSH UPEC7-2124

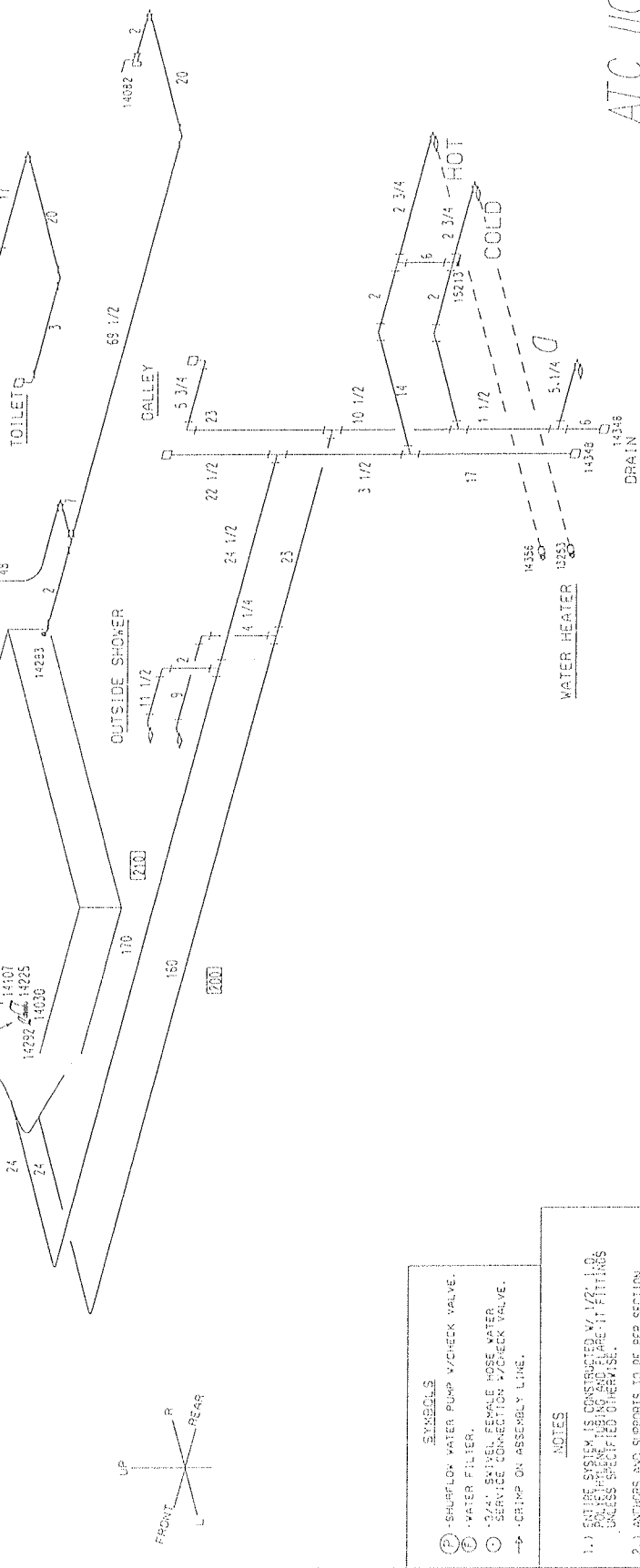
# ATC 1100, 1150 BLACK TANK FLUSH



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REV.	DESCRIPTION	QTY
14200	ADAPTER, 1/2" NPT X 1/2" BARB	1
14202	CLAMP, HOSE, 1/4" - 25/32"	1
14204	CLAMP, HOSE, S.S., 1 1/2" - 6824	2
14206	FLARE, 1/2" PIPE, FLARE-11	1
14208	FLARE, 1/2" PIPE, FLARE-11	1
14210	FLARE, 1/2" P X 1/2" FBS, SW. FLARE-11	1
14212	FLARE, 1/2" P X 1/2" FBS, SW. FLARE-11	1
14214	COPPLNG. DRNIN, 1/2" P, FLARE-11	2
14216	COPPLNG. 1/2" P X 1/2" P, FPI SWVL, BSP	4
14218	VALVE, POLY DRAIN COCK 1/2" BARB	1
14220	VALVE, STRAIGHT STOP, 1/2" FLARE-11	1
14222	VALVE, 3-WAY, 1/2" FLARE-11	1
14224	ELBOW, 1 1/4" NPT X 1 1/4" BARB	1
14226	VALVE, CHECK, 1/2" BRASS, WATER HEATER	1
14228	SUPPORT, 1/2" B.S. BEND, 90 DEG	1
14230	STRAINING, FLUSH, 2 X 1 1/2" FIB X P	1

1/2" REINFORCED HOSE #14025-48"  
1 1/4" FILL TUBE #14224 - 48"



- SYMBOLS**
- SHURFLOW WATER PUMP W/CHECK VALVE.
  - WATER FILTER.
  - 3/4" SWIVEL FEMALE HOSE WATER.
  - SERVICE CONNECTION W/CHECK VALVE.
  - CRIMP ON ASSEMBLY LINE.

**NOTES**

- 1.) ENTIRE SYSTEM IS CONSTRUCTED W/ 1/2" - 1.0" POLY-BUTYLENE ADHESION GLUE CLAMP FITTINGS UNLESS SPECIFIED OTHERWISE.
- 2.) ANCHORS AND SUPPORTS TO BE PER SECTION 7-3.4.2. ANST. RITE, 2 (2005) ALL POLY-LINES SHALL BE SECURED WITH A LOCK CLAMP AND SCREW METHOD.
- 3.) WATER HEATER TO BE STANDARD W/TEMPERATURE (120°F) AND PRESSURE (150 PSI) RELIEF VALVE DISCHARGING TO AN AREA SEALED OFF FROM THE OUTSIDE.
- 4.) WATER DISTRIBUTION LINES ARE ROLLED JAWT 7-3.11.2. ANST. RITE, 2 (2005)

**POLY FITTINGS SYMBOLS**

H	FL-IT TEE	14276
E	FL-IT ELBOW	14277
C	FL-IT CONNECTOR	14298
P	FL-IT FEMALE	14278
H	FL-IT 1/2" EL	14279
S	STOP FOR ORCHER	
B	BEND SUPPORT	14349
A	ALL OTHER FITTINGS	

ALL OTHER FITTINGS SPECIFIED INDIVIDUALLY



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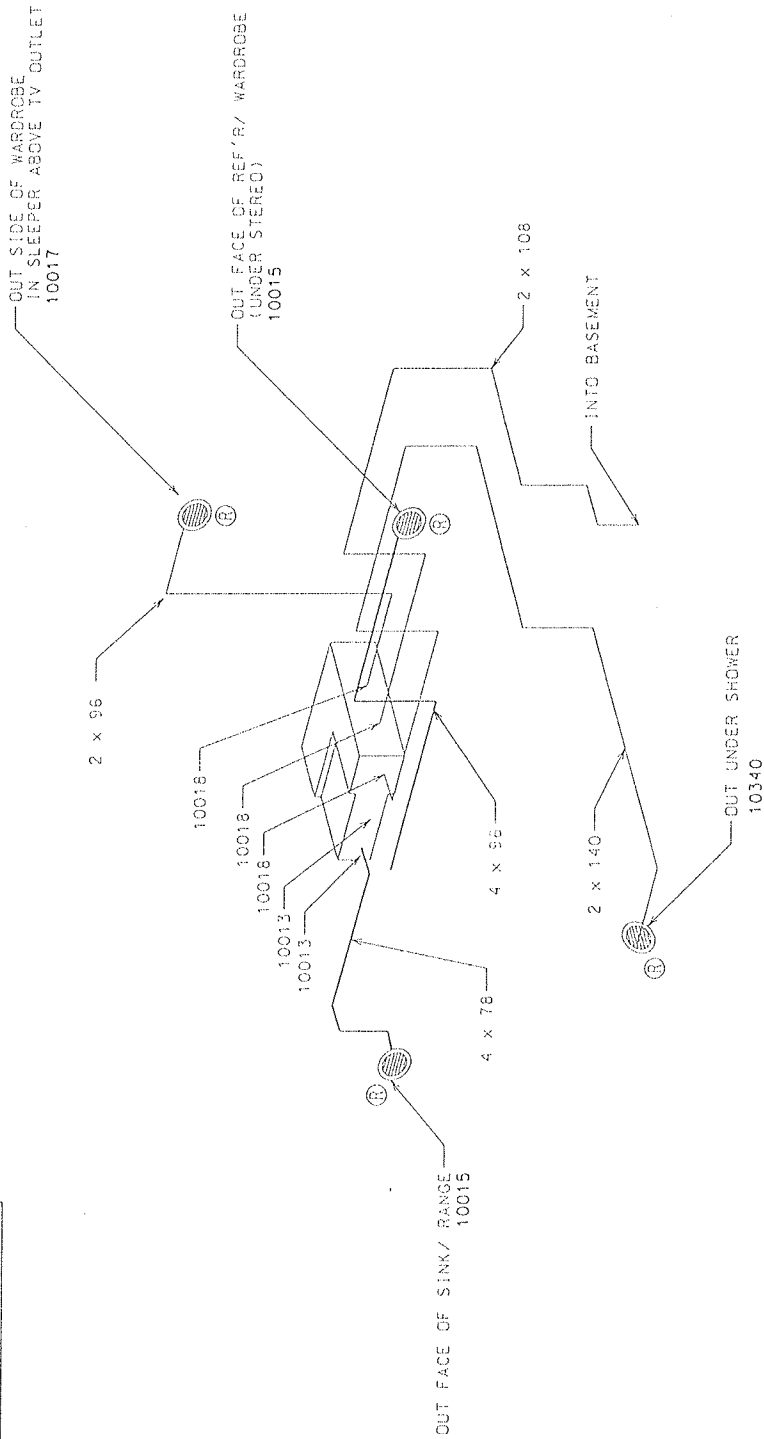
ATC 1100.1150  
WATER SUPPLY LINES





REV	DESCRIPTION
PART#	
10015	NON-ADM ROTARE 4"
10340	ROTARE, WHITE, W/2" ADPT NON-ADM
10013	4" FURNACE DUCTING ADAPTER
10018	4" X 2" FURNACE DUCTING ADAPTER

Ⓡ - REGISTER



ATC 1100, 1150  
FURNACE DUCTING



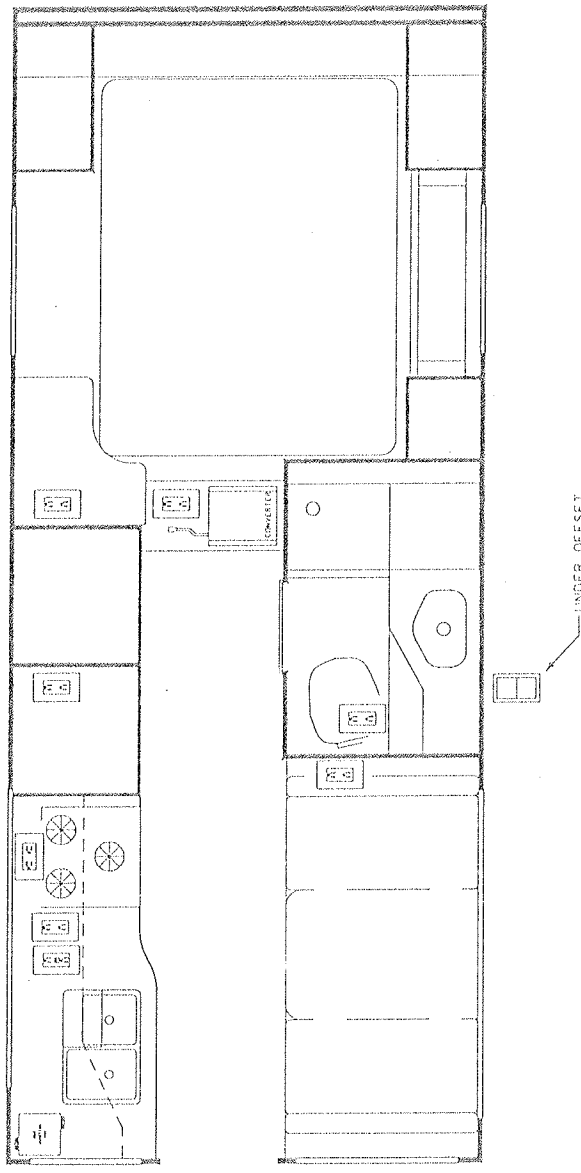
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# NOTES

- 1.) SUPPLY SYSTEM DUCT MATERIAL AND CONNECTORS ARE U.L. LISTED 181, CLASS 1.
- 2.) REGISTERS & GRILLS ARE U.L. LISTED 94 VO.
- 3.) FURNACE IS INSTALLED AND PROTECTED SO AS TO COMPLY WITH SECTION 5-6.8.1, ANSI A119.2 (2002)

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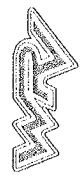
ATC 1100/1150  
110V FLOORPLAN

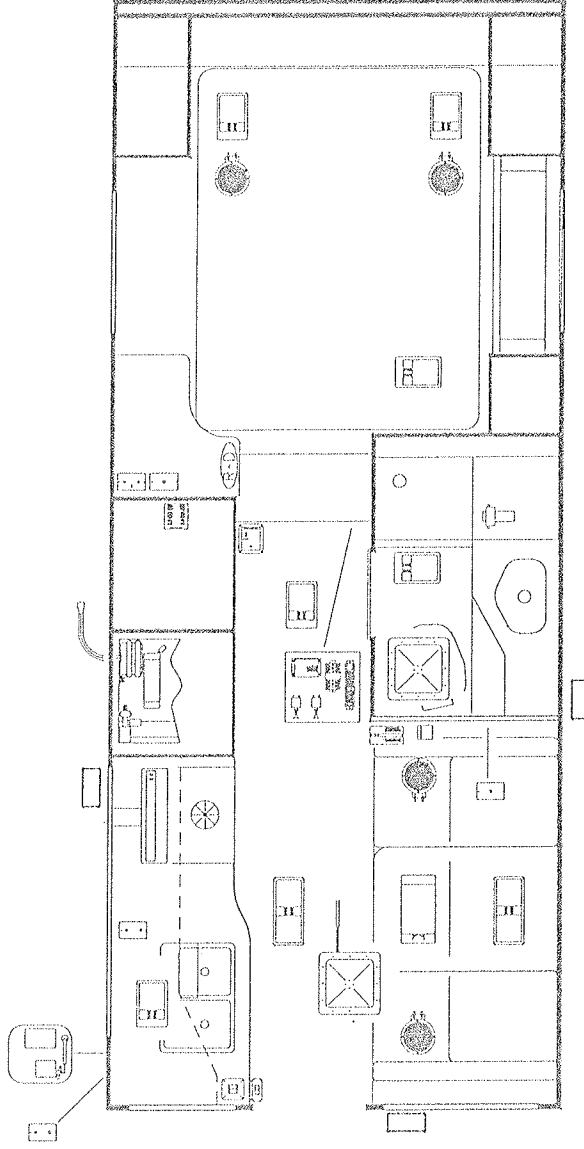
SYMBOL LEGEND

- WEATHER PROOF OUTDOOR OUTLET
- 15 AMP SLIDER RECEPTACLE
- GFI RECEPTACLE
- 4" x 4" JUNCTION BOX METAL
- 110V TO 12V POWER CONVERTER

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# SYMBOL LEGEND

	POWER VENT		DUAL CO-AX PLATE		EXTERIOR FUSE PANEL		MONITOR
	FANTASTIC FAN		TV ANT. BOOSTER/CABLE PLATE		INTERIOR FUSE PANEL		SOLAR REGULATOR (OPT.)
	EXTERIOR INCAN. LIGHT		PHONE/CABLE PLATE		STEREO/COMPACT DISK PLAYER		SLIDE OUT CONTROL BOARD
	SINGLE INCAN. LIGHT		PHONE PLATE		SPEAKER		HOOD FAN
	DOUBLE INCAN. LIGHT		THERMOSTAT		ATWOOD REMOTE JACK CONTROLLER		WATER PUMP
	12 VOLT FLO. LIGHT		DOUBLE 12VOLT SWITCH		75 AMP "PUSH/PULL" KILL SWITCH		
			SLIDE CONTROL SWITCH				
			CO DETECTOR				
			LP GAS DETECTOR				

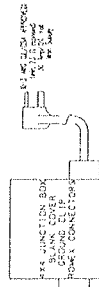
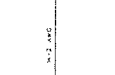
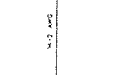
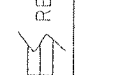
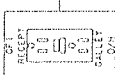
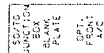
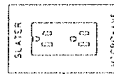
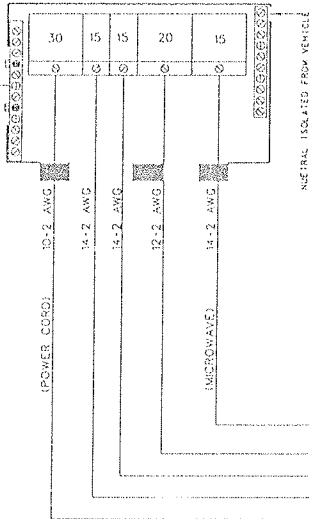
ATC 1100/1150  
12V FLOORPLAN



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16 CIRCLES

Chassis Ground TOP



# STANDARDS

Electrical materials and equipment are approved installed and tested per: ANSI A19.2 (2002)  
 NEC 551 (2002)  
 CSA-2240 RV Series (1999)  
 Low voltage conductors are approved stranded copper wire with 90 C minimum temperature rated insulation.  
 Converter complies with UL Std. 458 and is installed per manufacturer's instructions.  
 Electrical tests are outlined in the Quality Assurance Manual.

1) ALL CONNECTIONS ARE TO BE MADE WITH APPROPRIATE WIRE NUTS. NO CRIMP CONNECTORS SHOULD BE USED FOR HIGH VOLTAGE.

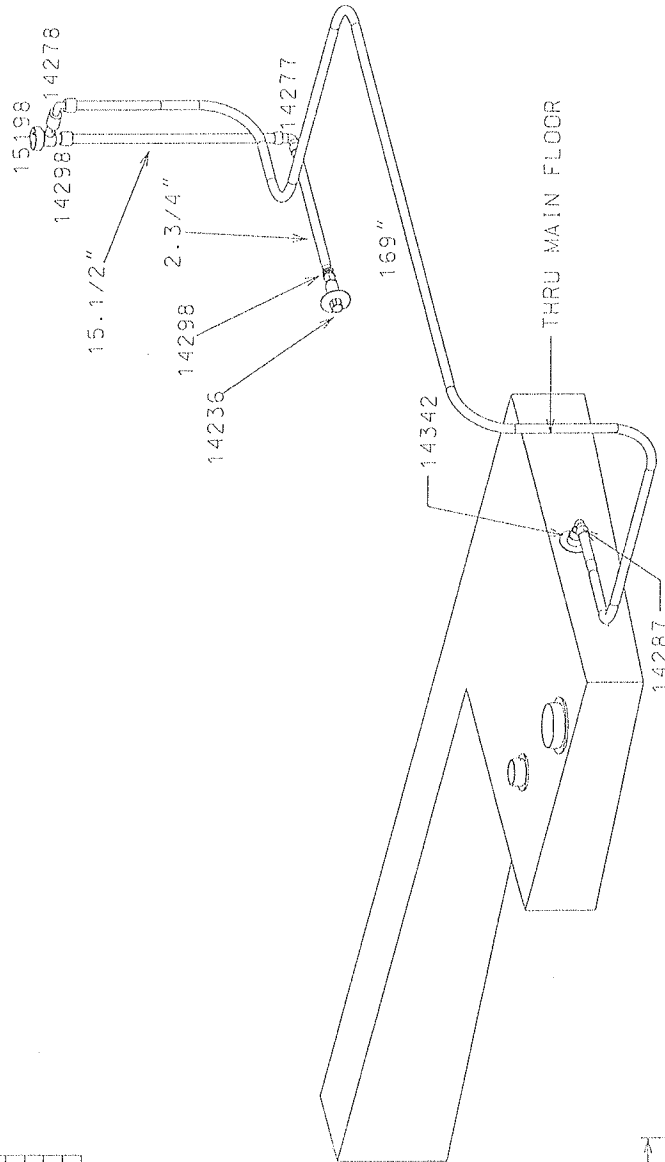
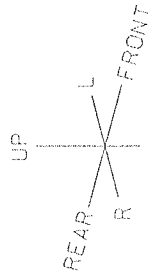
- 2) 3/4" METAL TYPE ROMEX STRAIN RELIEF. 16111
- 3) 1/2" PLASTIC PUSH IN TYPE ROMEX STRAIN RELIEF. 16110
- 4) 1" METAL TYPE ROMEX STRAIN RELIEF. 16128
- 5) 1 1/4" METAL TYPE ROMEX STRAIN RELIEF. 16604

ATC 1100  
 ATC 1150  
 110 VOLT FLOW



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PART #	DESCRIPTION	QTY
14236	INLET HOSE CONN., BLACK TANK FLUSH	1
14237	1/2" HOSE, 1/2" PIPE, FLARE-IT	1
14287	1/2" PIPE X 1/2" MP, FLARE-IT	1
14288	ADAPTER, 1/2" P X 1/2" MP, FLARE-IT	1
14276	FLRK 1/2" P X 1/2" BSP SW, FLARE-IT	1
14298	COUPLING, 1/2" P X 1/2" BSP	1
14342	FLUSH, HOLDING TANK, SPR-IN	1
15198	BRKR, ANTI-SIPHON, VAC. LNK FLUSH	1



#### SYMBOLS

→ ATTACH ON ASSEMBLY LINE.

#### NOTES

1. ENTIRE SYSTEM IS CONSTRUCTED W/ 1/2" I.D. APPROVED WATER HOSE AND FLARE-IT FITTINGS UNLESS SPECIFIED OTHERWISE.
2. BLACK TANK FLUSH DOES NOT CONNECT TO FRESH WATER SYSTEM IN ANY WAY.
3. MODEL: WELD-FLUSH UP-7-2124



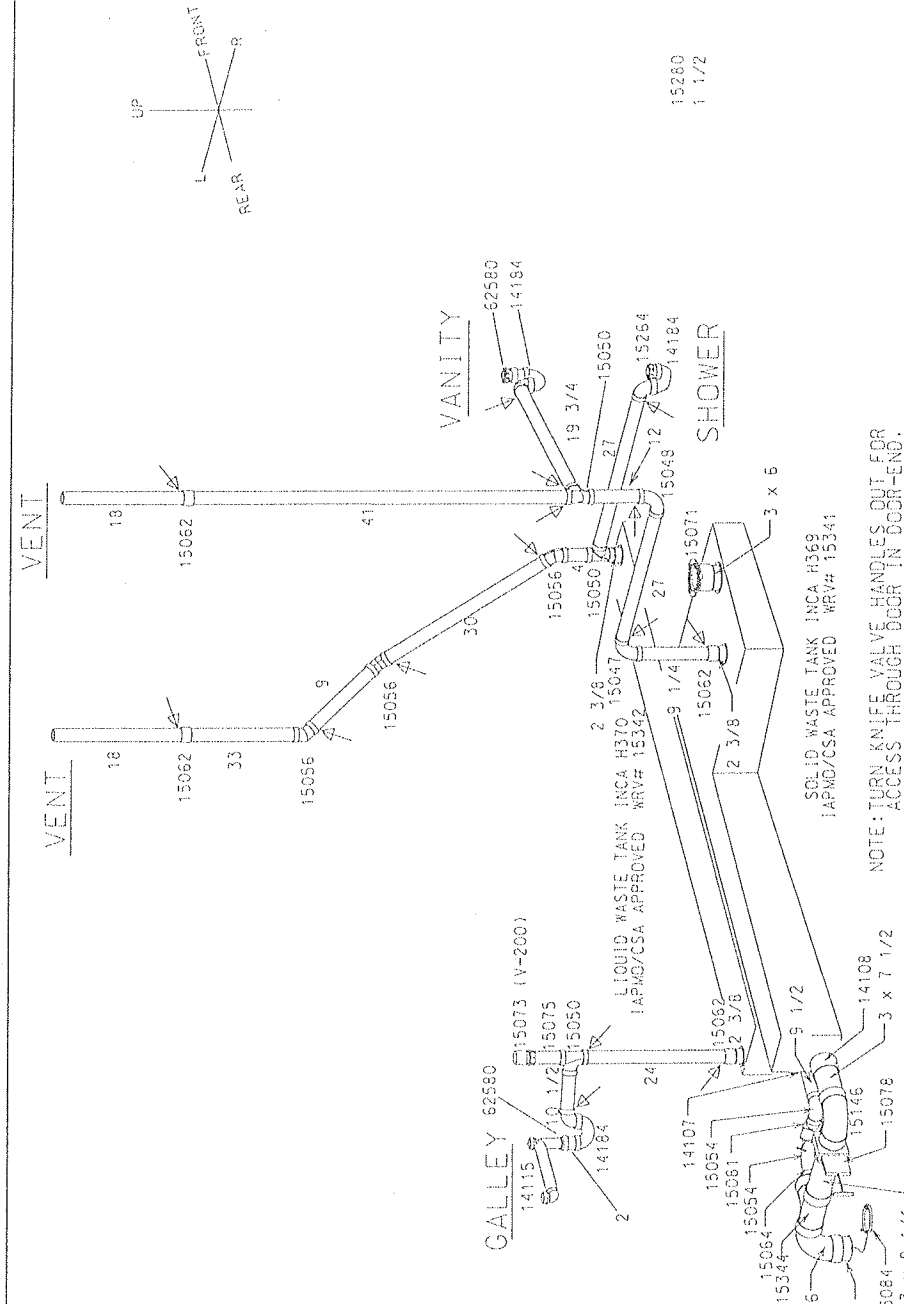
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## ATC 1100, 1150 BLACK TANK FLUSH





MRV PART #	DESCRIPTION	QTY
14184	1 1/2" P-TRAP	3
14107	CLAMP, HOSE, S.S., 1 1/2"	1
14108	CLAMP, HOSE, 4"	1
14115	1 1/4" CONT. WASTE	1
15047	EL. ABS. 1 1/2 x 1/4 BEND	1
15048	EL. ABS. LG. SW. 1 1/2 x 1/4 BEND	2
15050	TEE, SAN. ABS. 1 1/2	3
15054	EL. ST. 3/8"-2" 1 1/2 x 1/4 8D LCTR	2
15056	EL. ABS. 1 1/2 x 1/8 BEND	3
15062	COUPLING 1 1/2" ABS FITTING	4
15064	REDUCER 3 x 1 1/2 ABS FITTING	1
15071	CLOSET FLANGE, 4 x 3 HUB ABS FIT	1
15073	ADP. VENT 1 1/4 ABS	1
15075	ADP. VENT 1 1/2 ABS	1
15076	VALVE, DUMP, 3" HUB X 3" SP160T	1
15081	VALVE, DUMP ASSEM 1 1/2" #T1001	1
15084	CAP, BAYONET 3" T1020 ABS	1
15086	ADAPTER, TERN 3" T1029-1 ABS	1
15146	EL. ABS. LG SW. 3" x 1/4 BEND	1
15166	EL. ABS. ST. LG SW. 3 x 1/4	1
15264	ADP. SWIVEL 1 1/2 x 1 1/2 FTG X F	1
15344	TEE, SANITARY ABS. 3" x 3" x 3"	1
62580	ADAPT. TRAP, 1 1/2 HUB X 1 1/4 SPG MPT	2



- NOTES
1. ALL PLUMBING TO COMPLY WITH ANSI A-119.2 (2002).
  2. ALL PIPE AND FITTINGS TO BE ABS PLASTIC APPROVED FOR DWV SYSTEMS AND FITTINGS ARE OTHER USE.
  3. ALL 1 1/2" DIA. UNLESS NOTED OTHERWISE.
  4. ALL SUPPORTS AND ANCHORS TO BE 1/2" DIA. 1-6.3.2.1. (MINIMUM 48" SPACING) USING BLOCK & STAP METHOD.
  5. ALL ABS PIPE SLOPE IS PER ANSI A-119.2 SEC. 1-6.3 & 1-6.7.1.

• 1 1/4" O.D. PIPE  
→ BLUE ON ASSEMBLY

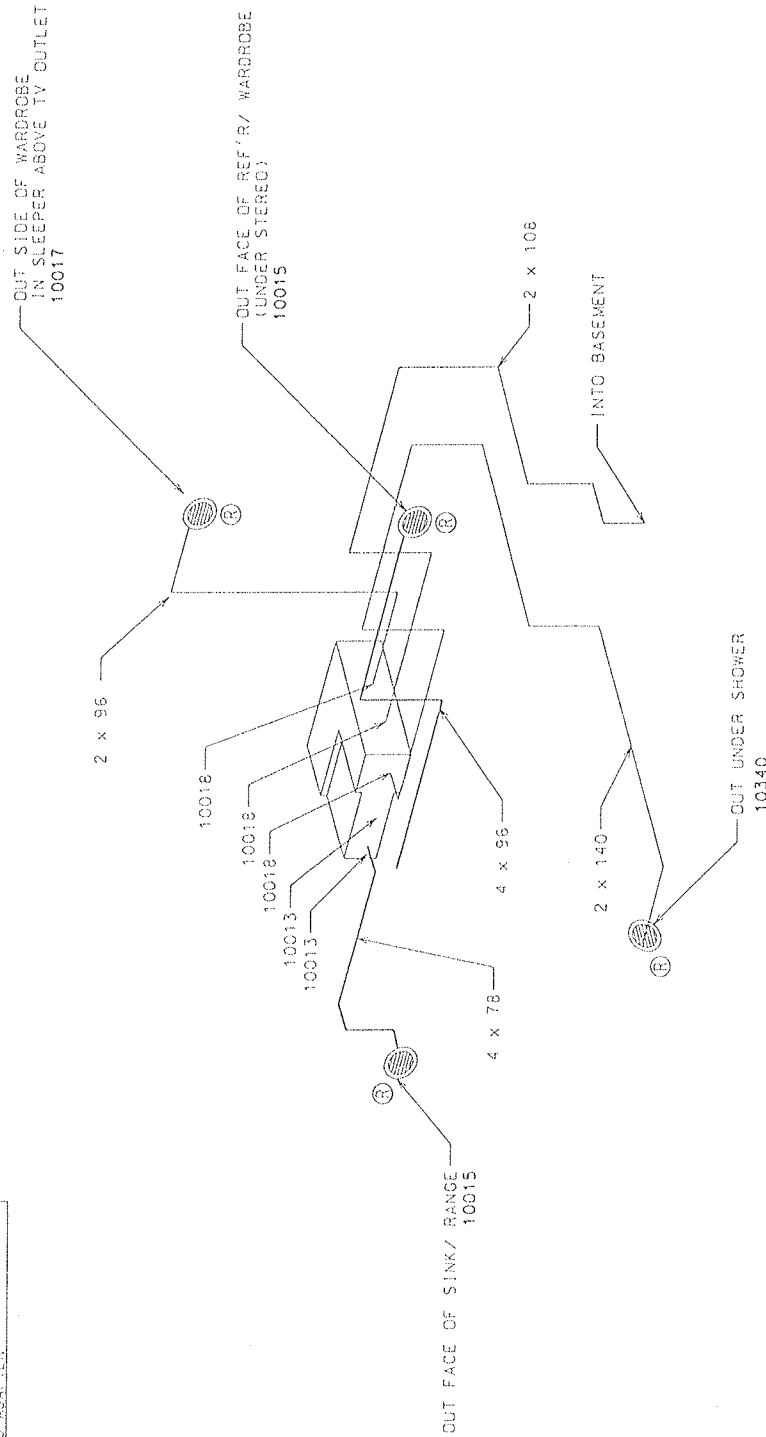
ATC 1100/1150  
DRAW LINES



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WV#	DESCRIPTION
10015	NON-ADJ. BOILER, 2"
10346	BOILER, WHITE, W/2" ADJ. NON-ADJ.
10013	4" FURNACE DUCTING ADAPTER
10018	4" X 2" FURNACE DUCTING ADAPTER

Ⓡ - REGISTER



- NOTES**
- 1.) SUPPLY SYSTEM DUCT MATERIAL AND CONNECTORS ARE U.L. LISTED 181, CLASS 1.
  - 2.) REGISTERS & GRILLS ARE U.L. LISTED 94 YD.
  - 3.) FURNACE IS INSTALLED AND PROTECTED SO AS TO COMPLY WITH SECTION 5-6.8.1, ANSI A119.2 (2002)

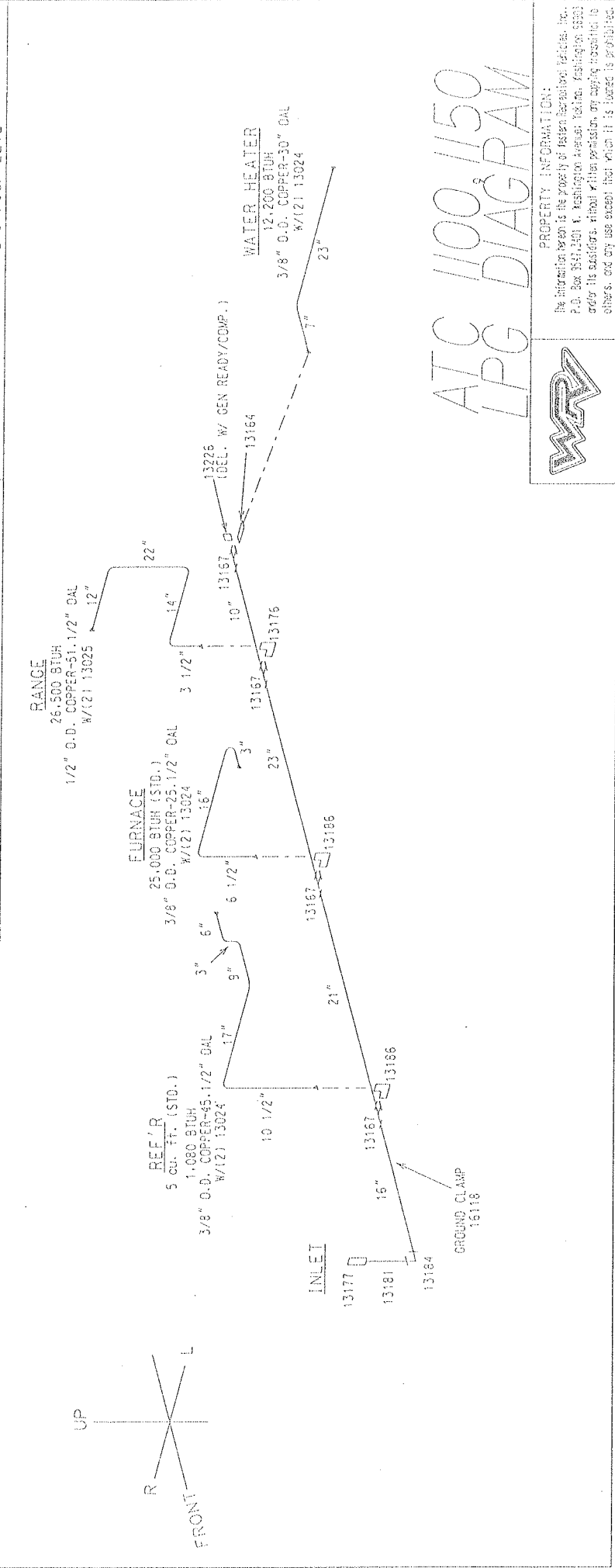
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FURNACE DUCTING

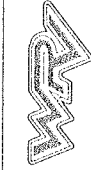


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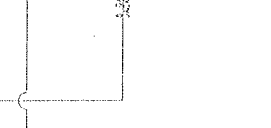
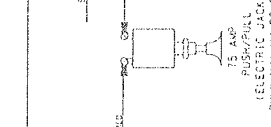
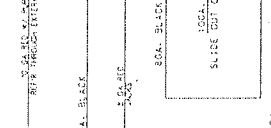
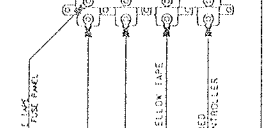
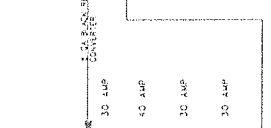
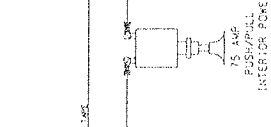
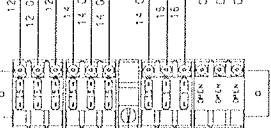
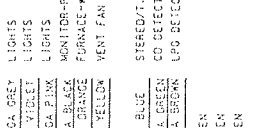
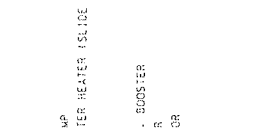
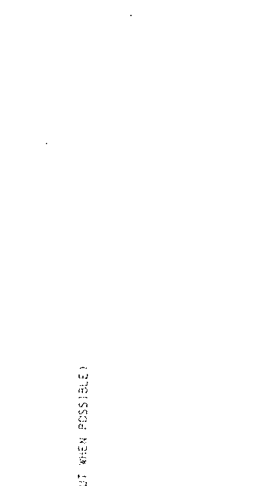
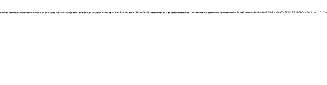
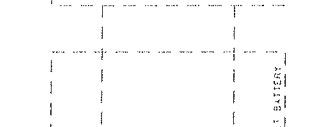
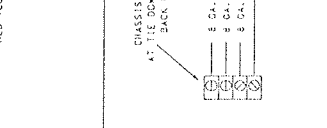
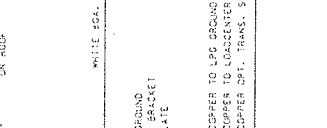
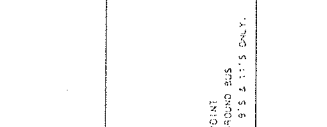
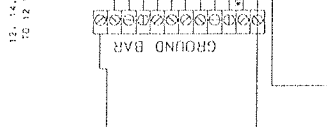
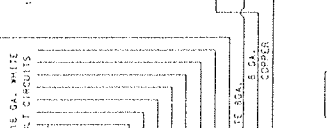
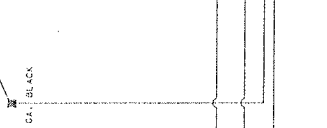
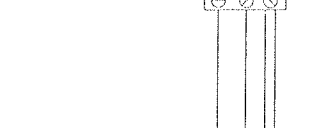
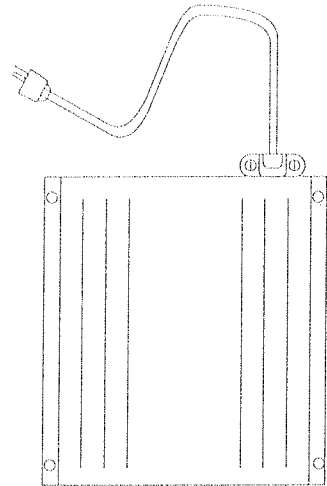
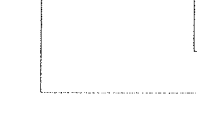
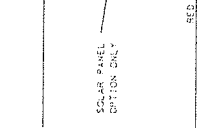
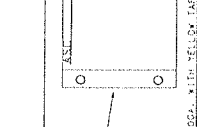
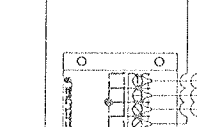
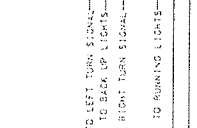
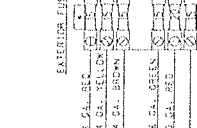
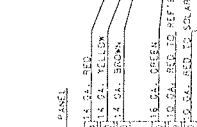
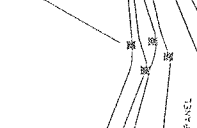
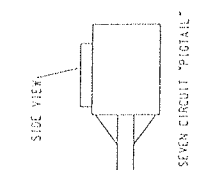
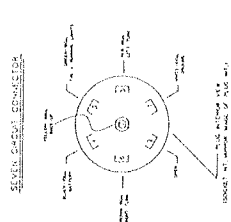
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13290		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	
13291		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	
13292		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	
13293		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	
13294		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	
13295		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	
13296		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	
13297		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	
13298		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	
13299		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	
13300		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	
13301		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	
13302		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	
13303		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	
13304		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	
13305		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	
13306		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	
13307		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	
13308		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	
13309		REGULATOR, LPG 2-STAGE-AUTO-CHG	1		2	



ATC 1100/1150  
LPG DIAGRAM

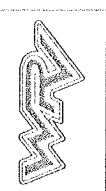


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ALL ATC EXCEPT 850  
12 VOLT SERVICE

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Electrical materials and equipment are approved installed, and tested per: ANSI A92 (2002) NEC 551 (2002) CSA-2240 RV Series (1999)

Low voltage conductors are approved stranded copper wire with 90 C minimum temperature rated insulation.

Converter complies with UL Std. 458 and is installed per manufacturer's instructions.

Electrical tests are outlined in the Quality Assurance Manual.



