# Scamp

## Owner's Manual


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## LIMITED ONE-YEAR WARRANTY

Eveland's Inc. d/b/a SCAMP (hereafter referred to as "SCAMP") warrants to the original purchaser of its products that the products manufactured by it will be free from defects in material and workmanship under normal use for a period of one (1) year after date of sale, whether or not use begins on this date. This limited warranty is only applicable to products which have not been altered or misused.

If any products do not meet the above limited warranty, SCAMP will either (at SCAMP's option) repair or replace the defective product. In such case, purchaser will be required to deliver the defective product at his own cost to either (at SCAMP's option) SCAMP's authorized dealer or SCAMP's main factory at Backus, MN 56435. SCAMP will complete the repair or replacement as soon as possible but in no event later than sixty (60) days after its receipt of the product.

Notice of any alleged defect should be addressed to Warranty Department, Scamp/Eveland's, Inc., Box 2, Backus, MN 56435 and telephone can be made by calling 218-947-4932.

The warranty is valid only if the purchaser submits a signed registration form or invoice to Scamp Warranty Department, Box 2, Backus, MN 56435 within 10 days of purchase of product.

Products or components not manufactured by SCAMP but merely resold by SCAMP are not covered by this limited warranty. These products carry their own warranties through their original manufacturers. However, SCAMP will extend to purchasers any warranties provided to SCAMP by the original manufacturer.

SCAMP SHALL IN NO EVENT BE RESPONSIBLE FOR ANY INCIDENTAL, CONSEQUENTIAL, INDIRECT, OR SPECIAL DAMAGES RESULTING FROM A DEFECT IN ITS PRODUCTS. (Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.)

THIS LIMITED WARRANTY IS GIVEN IN LIEU OF ALL OTHER EXPRESS WARRANTIES. AFTER THE LIMITED ONE-YEAR WARRANTY HAS EXPIRED, SCAMP SHALL NOT BE RESPONSIBLE FOR ANY IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ( Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.)

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

Kent Eveland

Kent Eveland, President

## WARRANTY PROCEDURE

1. For warranty service the owner should contact the Scamp warranty department, or the warranty dept. of the item not covered by the Scamp warranty but merely resold. If there is any question on who to call, contact Scamp and the owner will be instructed on the correct procedure. Follow the instructions given either by the Scamp warranty dept., the instructions listed in the service manual for the specific product, or the instructions given by the authorized service center over the phone. DO NOT IGNORE THE INSTRUCTIONS AS IT MAY MEAN REJECTION OF THE WARRANTY CLAIM OR ONLY PARTIAL REIMBURSEMENT.

2. To receive reimbursement for warranty repairs a Warranty Authorization number will be given either verbally over the phone or in written form which will be mailed when necessary. Reimbursement will not be given without Warranty Authorization. A quote, verbal or written, will be required prior to warranty payment.

3. Generally, products covered by their own warranty resold by Scamp also need a Warranty Authorization to initiate repairs or receive reimbursement. These authorizations can be obtained by calling the specific customer service numbers listed below in the customer service number section. Usually, if the warranty card has been filled out instructions are given on where to have the defective product repaired and generally the customer is not billed. The bill is sent directly to the original product manufacturer and paid by them. Otherwise the owner often must pay the bill which is then submitted to either to the original product manufacturer or Scamp. If sent to Scamp and is covered by warranty by the original manufacturer, Scamp will forward the bill on to the

manufacturer.

4. Transportation of the trailer or parts needing warranty to the Scamp factory or an authorized service center is the responsibility of the owner. Scamp does not pay for house calls or travel time for repair personal.

5. Any defective parts must be kept and returned to Scamp (unless otherwise instructed) to receive warranty reimbursement. DO NOT THROW DEFECTIVE PARTS AWAY UNLESS INSTRUCTED TO DO SO.

6. If the customer has any questions or problems obtaining warranty service the Scamp warranty dept. will assist the customer in resolving his problem.

## SCAMP WILL NOT BE HELD RESPONSIBLE FOR:

1. Normal maintenance as outlined in the Scamp brochure and individual appliance brochures.
2. Any charges for checking out the trailer or appliances which indicate that the trailer or appliance is working correctly.
3. Normal adjustments that occur from over the road use, such as cabinet latches etc..
4. Blown fuses, electrical problems caused by incorrect use, or electrical problems caused by corrosion.
5. Problems resulting from faulty propane.
6. Reimbursement for repairs in which the owner or operator refused or did not follow the correct warranty procedure.
7. Any special additions added by Scamp at the customers request that are not normally installed or sold by Scamp.
8. Damage or repairs needed as a consequence of any misapplication, abuse, unreasonable use, unauthorized alteration, improper service, improper operation or failure to provide reasonable and necessary maintenance.
9. Damage as a result of floods, winds, lightning, accidents, corrosive atmosphere or other conditions beyond the control of Scamp.
10. Any special, indirect or consequential property, economic or commercial damage of any nature whatsoever. Some states do not allow the exclusion of incidental or consequential damages, so this limitation may not apply to you.

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

## CUSTOMER SERVICE NUMBERS

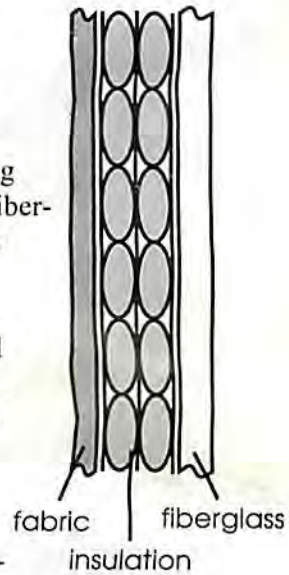
Air conditioner: Roof mount Coleman 1-800-227-5693
Air conditioner: Side mount White Westinghouse 1-800-245-0600
Awning: A&E/Dometic Corp. 1-800-544-4881
Axle: Dexter 1-612-654-1972
Converter: Magnatek 1-800-541-9997
Furnace: Suburban 1-423-775-2131
Microwave: Sharp Corporating 1-800-237-4277
Oven: Wedgewood/Attwood Vaccume 1-219-262-2655
Refrigerator: Dometic Corp. 1-800-544-4881
Toilet: Sea Land Technology 1-800-321-9886
Stove Top (drop in unit): Wedgewood/Attwood Vaccume 1-219-262-2655
Tire: Dico 1-800-251-9354
TV Antenna: Barker Industries 1-800-537-9940
Water Heater: Attwood Vaccume 1-219-262-2655

## General Information -

**General construction:** The Scamp trailer is built with a fiberglass body which is fastened onto a steel frame. On the standard trailers the interior cabinets are also made of fiberglass. Deluxe trailers have interior cabinets made out of wood. These interior cabinets do help support the body of the trailer, and they should not be removed for a long period without some support put in their place. The closet by the door or wood panel on deluxe trailers is especially important in supporting that side of the door opening.

**Frame:** The frame is constructed of 3 inch x 1 1/2 inch 11 gauge pre-primed tubing. Cross members are welded angle irons. Formed steel is also welded on and the floor is screwed down to it. The frame is not designed to have a hitch installed in the back to pull boats or other trailers. It also is not designed to have a tool storage box or other heavy items attached to the rear. Any damage which occurs as a result of such use is not covered under the warranty.

**Exterior fiberglass:** Scamp trailers are built using an FRP open mold process. FRP stands for fiberglass reinforced resin. The exterior paint is called Gelcoat. It is a resin with pigment added. The Gelcoat bonds chemically to the FRP structure and becomes part of the supporting structure of the trailer. The pigments in the Gelcoat can be gradually broken down by sunlight. Over the course of time sun causes the Gelcoat to change, either yellowing or oxidizing. Waxing the trailer, covering it, or storing it inside greatly reduces this process. Wax that work well on fiberglass products can be purchased at any boat dealer or many auto part stores. If gelcoat becomes chalky looking over time buff the chalkiness out using fine rubbing compound.



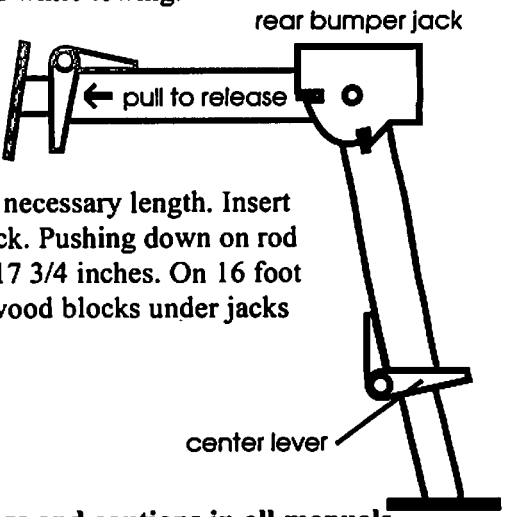

**Insulation and wall headliner:** Double bubble foil sided insulation is used. Insulation is glued onto the roof and walls of the trailer with a nonflammable adhesive. R value rating is about 15. The headliner is glued unto the insulation using the same adhesive. The wall and headliner is a marine fabric which should be cleaned by using Woolite or upholstery cleaner.

**Flooring:** The floor is constructed of OSB sheeting which is undercoated with fiberglass resin. The OSB sheeting soaks up the resin making the underside of the trailer extremely water-proof. The frame is caulked, then the sheeting is screwed down to the frame. Paint covers the floor in cabinet areas. Carpet is on the main floor.

**Windows & Plexiglas:** The solid front and rear windows are Plexiglas. Sliding or crankout windows are standard RV windows. All windows should be closed while traveling, especially on gravel or dirt roads, which prevent dust from entering the trailer interior. All windows can be cleaned with water or window cleaner. If the Plexiglas gradually becomes scratched by road debris or improper cleaning, polish can be purchased to buff out the scratches. If a window pane is broken in a slider or crankout the window can be removed and the pane replaced. Procedure is as follows: **1. Square crankouts**: Crank the window all the way out. Remove the two screws from each end. The entire frame then will come loose. **2. The radius-corner crankout and normal sliding windows**: The procedure needs two people: one inside the trailer, one on the outside. Inside man needs a drill with a *number two square drive bit. Outside* man keeps window from falling as it becomes loose. The window is held in place by the interior lockring, which is fastened in place by square drive screws. As the screws are removed the lockring will come loose from the window allowing the window to be removed from the exterior of the trailer.

**Hitches:** 1) 13 foot trailers use an A frame 1 7/8 inch coupler with a 2000 pound rating. The coupler is adjustable by loosening or tightening the nut on the locking mechanism. A 1 7/8 inch ball is required for use with this coupler. 2) 16 foot trailers use an A frame 2 inch coupler with a 5000 pound rating. This coupler is also adjustable with a nut on the locking mechanism. 2 inch balls are required with this coupler. 3) Fifth wheel trailers use a gooseneck type of hitch also with a 5000 pound 2 inch coupler. This Atwood coupler is not adjustable, but locks in place with its own system. The vehicle hitch consists of two L shaped brackets bolted through the bed of the truck and the sidewalls of the wheel wells with 3/8 inch bolts. The cross member is constructed of 3 inch ship and car channel, bolted on with 4 1/2 by 1/2 inch bolts. This hitch also uses a 2 inch ball. Sometimes the trailer is to far forward or rearward for the hitch to release correctly. If so, move the vehicle slightly to release the hitch. Do not raise the tow vehicle with the trailer landing gear (jacks) as damage may result.

**Jacks and landing gears:** 1) Front swivel jack, used on 13 foot trailers (and 16 foot trailers before 1994). 1000 pound rating. To operate, pull out spring loaded locking bracket, jack will release and snap downward manually, and lock in place. Care should be taken not to jackknife the trailer damaging the jack and the bumper of the tow vehicle. 2) Front center mount jack, used on 16 foot trailers. 2000 pound rating. Mounts in the center of the 5000 pound 2 inch coupler. To use turn crank clockwise to go up, counterclockwise to go down. Since this jack protrudes lower than normal often a raised ball or a receiver hitch with a raise is needed to keep the jack from dragging over curbs or uneven ground. 3) Landing gears used on fifth wheel models. 4000 pound capacity. It is not necessary to extend jacks all the way up or down by cranking. When unhitching from the vehicle remove the extension pins and let the legs down to the ground (level ground should be chosen). Put the pins back in, locking the legs in place. Extend legs further by cranking the remaining distance. To extend legs crank counter-clockwise, to retract crank clockwise. Do not force gears when end of leg extension is reached as this can damage the gears. Make sure that all pins on the landing gears are in place before travel, otherwise landing gear legs or landing gear feet may be damaged while towing.




**Rear bumper jacks:** 1000 pound capacity per jack. Mounted with two 3/8 by 1 inch hex head bolts. This jack is spring loaded. Use requires pulling the jack toward the center of the trailer which releases the spring. The jack manually swings down and locks into place at about a 15 degree angle off vertical. Push center lever down to release leg which will drop down to full or necessary length. Insert 1/2 inch zinc coated rod through desired front hole of jack and back hole of jack. Pushing down on rod will force the jack down farther. Total drop fully extended on 13 ft. trailers is 17 3/4 inches. On 16 foot trailers the drop is 21 3/4 inches. Do not over extend. Also, soft soil requires wood blocks under jacks for good stabilization.

## Appliances -

**Read all appliance manuals before use. Pay special attention to all warnings and cautions in all manuals.** Fill out any and all warranty cards within 10 days of trailer purchase.

**WARNING: If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life. Do not store or use gasoline or other flammable vapors and liquids in the vicinity of these or any other appliances.**

**What to do if you smell gas:**

Extinguish any open flame.
Evacuate all persons from the trailer.
Leave door open to ventilate trailer.
Shut off the gas supply at the gas container or source.
Do not touch any electrical switch, or use any phone or radio in the trailer.
Contact the nearest gas supplier or qualified service technician for repairs.
If you cannot reach a gas supplier or qualified service technician, contact the nearest fire department.
Do not turn on the gas supply until the gas leak(s) has been repaired.
Installation and service must be performed by a qualified installer, service agency or the gas supplier.

**Ice box:** Standard item on trailer. Deleted if a refrigerator is installed. To use place ice on the top shelf, as it melts it will drain out the bottom of the trailer. Always close ice box door when traveling to insure your food items stay cool and remain in the ice box.

**Two burner drop-in stove top** (Three burners available by special request on some units): Standard item on trailer. To use, make sure gas tank is turned on. Do not turn gas on at stove, make sure it is off. First, light match, holding it close to desired burner, then turn burner on, lighting burner with match. Before using stove top the specific Wedgewood Drop-In manual should be read.

**Roof vent/escape hatch:** Vent opens by cranking handle clockwise, closes counter-clockwise. Pulling red latch backward releases screen and allows for escape through roof. Escape screen often does not close easily, open only

when necessary. If possible, escape should be attempted through the door.

**Furnace:** Before operating the furnace, first read the Suburban owner's information manual. In the instruction manual there is one error, the valve has been deleted from the furnace construction.
The front grill does not need to be removed. This model furnace does not have a pilot light: do not attempt to light it. The easiest way to start the furnace is: 1) Make sure that the gas is turned on at the tank. 2) On the thermostat, turn the switch on the bottom to the 'on' position. 3) Set the thermostat to desired setting. The furnace should react by first having the fan come on, second the furnace should try to light. A small click will be heard when the furnace tries to light. When first starting the furnace sometimes this cycle needs to be repeated several times to get ignition. If the furnace does not initially light make sure the lines are well bled. Air trapped in the lines will stop the furnace from lighting properly. A good way to remove air from lines is to light the stove top and leave it on several minutes. After furnace ignition, look in the lower left hand corner of the furnace: the flame should be visible. Shortly after ignition the furnace should begin to blow heated air.

**Awning:** 13 foot trailers use 2.5 meter awning (about 8 ft.). 16 foot trailers use a 3 meter awning (about ten ft.). Read the instruction manual before use. Awnings should not be used in very windy conditions. If there is moderate wind the awning should be tied down with the stakes provided. Operation is as follows: Take the wand, (the long aluminum metal piece with a hook on one end usually stored in the closet), insert it into either the right or left center hole and pull toward the end of the awning compressing the spring and releasing the leg from the slot. The leg now is free to swing down. Set the black knob at desired height. Repeat process with the other leg. Once both legs are down take the wand, using the hook end, hook the loop strap in the center of the awning, and pull outward. The whole fabric of the awning should pull out. It is best to pull the awning out to the full seven feet of length. At this point the middle rafters should lock in place. Move the legs to the desired spot and adjust for height. The manufacturer's instruction manual includes instructions for use with the brackets, which can be mounted on the trailer. Scamp has had several awnings damaged through use of these brackets so has discontinued installing them. They are included in the customer's trailer if the customer desires to install them. If done take great care to use them correctly as damage will result if misused. Such damage is not covered under Scamp's warranty or A&E Dometic's warranty. To close awning, remove stakes or any ties attached to awning. Loosen rafter lock knobs. Set legs closer to trailer. Pull strap outward, again using the wand, releasing pressure on rafter locks. Push rafter locks up to release rafters. Slowly let awning roll up, keeping the canvas even on both sides, until canvas is rolled completely into case. Legs often have to be lifted slightly on each end. Take the wand and re-lock the awning leg into the slot in the center of the awning case. Re-tighten the knob on the leg to keep the leg from jiggling loose. Check the ends of the awning legs to make sure that they are fastened in correctly. They should lock in place in the awning lid lip. For instructions with diagrams read your awning manual.

**Air conditioner-roof mount:** 120 volt only. Must be plugged in to 120 power to operate. There are two knobs on back of air conditioner. Left knob controls on/off and high/low fan and conditioner. Right knob controls temperature. Heat strips can be installed. The whole lower unit needs to be replaced to do so. Any Scamp trailer with a roof air conditioner has had extra support built into the roof structure. Roof air conditioners should not be installed in existing trailers without doing so. For additional information read the Coleman owner's manual.

**Air conditioner-wall mount:** 120 volt only. Must be plugged into 120 volt power to operate. Upper left hand corner has two knobs. Left knob controls fan and cool, each with three settings, high, medium, and low. Right knob controls temperature, settings one through eleven. This air conditioner does create condensation when in use. For this reason there is a condensation drain line which exits out the bottom of the trailer. For additional information read the White-Westinghouse instruction manual.

**Water heater-gas:** Before use read the Atwood Gas Water Heater manual. **Before use make sure that the hot water heater is filled with water.** To fill simply hook up to city water and turn on the hot water at the faucet, when water begins to come out of the faucet the water heater is full. Or, the fresh water tank can be filled, then turn on the demand pump. Open the hot water side of the faucet, leaving open until water comes out. This will also fill the heater with water. Usually water heaters installed in the Scamp trailer use the White Rodgers control. To light 1) Turn lighting control dial to "PILOT" position and hold against stop while lighting pilot burner. 2) Allow pilot to burn approximately one half minute before releasing dial. 3) Turn control knob to "ON" position. 4) If pilot does not remain lit, repeat operation allowing longer period before releasing button or knob. 5) Set the lever at the mark between the warm and hot position. 6) Close access door. For additional information read the Water Heater owners manual.

**Water heater-electric:** Available by special order only on certain models. Must have 120 volt power to operate. Before use make sure that the water heater is filled with water, **DO NOT TURN ON CIRCUIT BREAKER WITHOUT WATER IN TANK AS THIS WILL RUIN THE ELECTRIC HEAT COIL.** To fill with water follow the same instructions detailed in the gas hot water heater instructions. After 120 power is applied and the water heater is filled with water flip up the circuit breaker to "ON." For additional information read the electric hot water heater manual.

**Oven:** Only installed in 16 foot, 5th wheel, and deluxe trailers. Read Wedgewood Range manual before operation of oven. The top burners on the oven operate like a normal two burner stove top. See two burner stove top instructions for lighting of stove top. Most ovens require lighting of an oven pilot to operate oven. To light oven pilot 1) Verify gas supply is sufficient (lighting the stove top usually will do this). 2) Push in oven control knob and rotate counterclockwise to PILOT ON. 3) Light oven pilot located at back of oven to the left of the oven burner. Oven is now ready for use.

**Refrigerator:** The Dometic RM2202 is the standard size used. This model operates on 12 volt, 120 volt, and LP gas. Read the owners manual before attempting to operate. To operate it is best to follow instructions as given in Dometic's owners manual, paying explicit attention to all warnings. Usually if 120 volt power is available use it, and save your propane. When 120 volt power is not available use propane. Only use the 12 volt power while traveling as it is the least efficient. Pre-cool your refrigerator before going on trips to better preserve food.

**Power Range Hood:** Operates only on 12 volt. Switch has three positions 1) Light, 2) Fan, 3) Light and fan. Read the warning sheet included with the range hood.

**Two speed roof fan:** Operates only on 12 volt. Crank the black handle clockwise to open. Counter clockwise to close. The first switch is the intake/exhaust switch. Second, is the temperature switch with settings of low, medium, and high. A thermostat is included in this switch that will stop the fan from turning on at all if the temperature is too cold. Third switch is the high, off, low switch. The middle setting is off. The other two run the fan at low or high speed. To use, set temperature setting, fan speed, and direction of air flow. Read the owner's sheet included in trailer literature.

**TV antenna:** Read owners manual before operation. Operates on 12 volt power. Arms must be extended to operate, turn crank handle counter-clockwise to extend arms. Clockwise to retrack arms, (arrows on handle also show direction of arm travel). Dial stem swivels 180 degrees to adjust antenna. Signal power booster is usually mounted in the end of the upper three hole cabinet by the rear dinette area. Booster includes 12 volt plug-in for 12 volt TV and TV antenna hookup. Switch in upper right hand corner turns booster on, indicated by green light.

**Toilet:** Read Sea Land owners manual before use. RV tissue should be used to prevent the black water tank clogging. Follow operating instructions in Sea Land manual for correct use. Do not let toilet freeze without winterizing.

## Running Gear -

**Axle:** The suspension system is a torsion arm type suspension, with the torsion bar completely self contained in the axle tube, surrounded by four rubber cords. When compressed, the rubber cords push back on the arm, creating suspension. The spindle is attached to the torsion arm at about a 22 1/2 degree angle down. The 13 foot trailer uses a 2000 pound axle with a idler hub, the 16 foot and 5th wheel use a 3000 pound axle with 10 inch electric breaks. This type of configuration allows each spindle to operate independently of the other. Each spindle is set at 1/4 degree toe in, and 1/4 degree camber. Toe in and camber can eventually go out of adjustment, especially on the curb side of the vehicle (this is the side most likely to hit some obstacle). If unusual tire wear is noticed on one side of the tire this is usually the problem. Have axle checked at an alignment shop and corrected if necessary.

2000 pound 13 foot trailer axle: Standard with idler hubs, 7 1/4 inch electric breaks optional.
- Spindle: Standard BTR 1 1/16"
- Inner & Outer bearing: L44649
- Grease seal: 10-9 (1.987" OD, 1.5" ID)
- Race: L44610
- Stud: 1/2 inch diameter.
- Bolt pattern: 5 bolt pattern, with 4.5 inch bolt circle.

3000 pound axle, used on 16 foot and 5th wheel, standard with 10" electric breaks.

Spindle: TTH # 84 Spindle
Inner bearing: L68149
Outer bearing: L44649
Grease seal: 58846 (2.565" OD, 1.719" ID)
Inner race: L68111
Outer race: L44610
Stud: 1/2 inch diameter
Bolt pattern: 5 bolt pattern, with 4.5 inch bolt circle.

**Bearings:** After initial purchase the bearings should be checked after the first 200 miles, and every year or 5000 miles thereafter. Initial check can be done by listening for unusual noise and by checking the hub for unusual high temperature (hub should not get so hot that it can not be touched). To inspect, remove grease cap and visually inspect bearing for grease content. Every 12,000 miles bearings should be cleaned and checked for pitting or flat spots. If good repack and reinstall, otherwise replace.

**Brake systems:** All brakes installed on Scamp trailers are electric brake systems, requiring a brake control and 12 volt power from the tow vehicle. 13 foot trailers use a Dexter 7 inch brake. 16 foot trailers and fifth wheels use a Dexter 10 inch brake. Two areas on the hub need periodic inspection. One, the drum surface where the brake shoes make contact, and two, the armature surface where the magnet contacts. The brake shoes need to be inspected for wear and the magnets need to be inspected for correct wear. These items should be checked yearly or every 12,000 miles. The most common brake problem is low or no electric power at the brakes.

7 inch brake: Dexter part # Left hand 23-47, Right hand 23-48.
10 inch brake: Dexter part # Left hand 23-26, Right hand 23-27.

**Brake control:** Read the Tekonsha operation manual before use. The brake control will not work without 12 volt power. Four colored wires connect to the brake control black, white, red, and blue. Black connects to the positive side of the car battery (this is the power supply side), white to the negative or grounded side. If wired at Scamp there will be a fuse off the battery on the positive side. Blue connects to the trailer connector and red connects to the switched side of the brake light switch. There are three switches and one light on the brake control. Left switch allows leveling of the internal mechanism (level according to the instructions in the Tekonsha manual). Right switch allows adjustment of braking lighter or heavier. Front switch allows manual operation of brakes. When the car end connector is connected to the trailer connector the indicator light should come on green. This indicates that the circuit to trailer brakes is complete. As brakes are applied lightly green should turn into yellow /orange, finally as brakes are applied full power indicator light should be red.

**Tires:** Standard tires on 13 foot trailers are 13 inch bias ply with a B load rating. Sixteen foot trailers and fifth wheels use 13 inch bias ply tires with a C load rating. Matching tires should always be used. Tire inflation is the most important factor in tire life. Inflation pressure should always be as recommended by tire manufacturer (as indicated on tire). Over-inflating or under-inflating may result in excessive tire wear, poor handling characteristics or poor gas economy. Don't forget to check spare tire pressure. When tire replacement is needed any 13 inch bias ply tire with the proper load rating may be used. A radial tire may be used, but should be a radial manufactured for trailer use. Many standard radials have less rigid sidewalls and will cause the trailer to sway.

## Service and Maintenance -

**Jacking up the trailer:** On the trailer there are two main beams made out of 3 inch x 1 1/2 inch tubing, one on each side. Either of these can be used as a point to jack up the trailer. Jack should be placed close to the axle or toward the rear of the trailer, so that the whole weight of the trailer is not on one point. The rear bumper jacks are not intended to be used as a jack for changing tires. A scissor jack, hydraulic jack, or floor jack should be used. A jack is not supplied with the trailer.

**Changing a tire:** 1) Jack up the trailer. 2) Remove the wheel using a 3/4 inch wrench; (the lugs and the spare tire nuts are half inch nuts). Often the lugs will need to be loosened before the trailer is jacked up. 3) Remove the spare tire, again using a 3/4 inch wrench, and mount it on the trailer. Wheel should be tightened on by using a alternate pattern on the lug nuts. Tighten one, skip one, tighten the next one, etc.. Until all lugs are tight. 4) Lower trailer to ground. Again, check lugs and tighten if necessary. Lugs should be rechecked after 200 miles of travel.

**Hitches:** Bumper or receiver type hitches can be used with the Scamp trailer. Consult the tow vehicle's owners manual for information on towing capacities for the tow vehicle. Dry weights of the Scamp trailers are 13 foot 950 pounds, 16 foot 1550 pounds, 5th wheel 2000 pounds. These weights do not include optional items, water (fresh or waste), and any personal items added by the owner/opperator. Generally, after additions many trailers will weigh several hundred pounds more, just water (with all possible tanks filled) can add over 400 pounds to trailer weight.

**Hitch ball height:** Ball heights are relative. Suspension of tow vehicle, storage of personal belongings in trailer, water kept in trailer, etc., will affect the necessary ball height.

13 foot trailer- 18 inches to top of ball.
16 foot trailer- 21 inches to top of ball.
5th wheel trailer- 40 inches to top of ball. If the sides of the truck are higher than 48" a raised axle may be needed

**Installing 5th wheel hitch:** The most critical measurement is that the center of the ball on the hitch cannot be more than 60" from the corner of the bumper, otherwise the bumper may hit the trailer when turning corners. Hitch consists of two "L" brackets installed beside the wheel wells. Two 3/8" bolts are used to fasten the bracket to the wheel well. Some trucks have wheel wells which are not vertical so that spacers need to be placed between wheel well and "L" bracket. Then mark the bottom leg of the bracket (look underneath truck to make sure that marked holes will not damage any lines or be drilled through an inconvenient spot). Drill four holes through the bracket and the bed of the truck. Fasten legs to truck with 3/8" x 1 1/2" bolts (different trucks may need various sizes). After legs are fastened to truck, measure for cross member: cross members are usually cut to fit specific trucks. Cut cross member to correct length and drill 9/16" holes in each end, making sure they will align correctly with the holes in the "L" brackets. Then fasten cross member in place with 1/2" x 4 1/2" bolts. Two inch ball should be used mounted in center of cross member.

## Winterizing -

**1. Water system:** The entire system needs to be drained in order to prevent freezing. Two items are needed, a 7/8" wrench or socket and a gallon of RV antifreeze.

A. Open all faucets including any bathroom shower or sink faucets.
B. On water tank, front left corner is a pet cock valve, turn it 90 degrees toward center of trailer. This opens valve and drains tank. This should also drain water out of cold water lines. Close pet cock when tank is completely drained.
C. Open service access to gas hot water heater. Take 7/8" wrench and remove white drain plug from lower left of water heater tank. Water will drain out of tank, and also drain hot water lines. Replace plug.
D. Pour RV antifreeze into fresh water tank. Close faucets. If trailer has hand pump, pump until RV antifreeze comes out faucet, pump antifreeze down drain until sink trap is full. If automatic Shurflo pump is used, turn pump on. Open cold water faucets only until antifreeze comes out, again filling sink trap. Repeat process in shower. Also fill floor trap in shower. Hot water lines should already be drained except between pump and tank. Turn on hot water side of sink for several seconds. This will pump antifreeze through the hot water line and into water heater. Amount in tank will be insufficient to cause damage.
E. Pour RV antifreeze down the trap in the bathroom and turn on the pump that transfers grey water to the grey water tank. Flush the toilet several times until RV antifreeze appears in the toilet.
F. Drain the grey and black water tanks completely.

**2. Battery:** To prevent battery from discharging over the winter, disconnect the battery. If in freezing climate, removing battery from trailer and storing indoors can prevent battery from freezing and breaking if discharged. If battery is not disconnected or removed from trailer make sure all twelve volt lights and appliances are turned off.
**3. Running gear:** Jack up the axle and block it up to take the weight off the suspension. Leaving the weight of the trailer on the suspension for extended periods while stored is extremely hard on the torsion axle. The rubber tends to compress and not relax as fully as before. Relieve tire pressure to 10 or 15 pounds while stored. This extends tire life.
**4. Propane:** Make sure the propane is off at the tank. It is also wise to make sure all appliances are off.
**5. Door and Windows:** If the trailer is stored outside, check all windows, service doors, roof vents, and entry door making sure they are properly closed.

## Towing Instructions -

1. Have the appropriate hitch installed with the correct hitch ball size.
2. Hook trailer on to tow vehicle. Fasten hitch down and check to make sure hitch is securely in place. Fasten safety chains to tow vehicle. Don't move trailer until jacks are up.
3. Connect trailer end electrical connector to car end connector. Check running lights, turn signals, and stop lights.
4. Check tire pressure, including spare. Also check for abnormal tire wear.
5. Make sure propane tank is off. Turn off all appliances and water valves.
6. Keep windows and vents closed while traveling.
7. While packing the trailer weight distribution should always be kept in mind. Improper distribution may cause the trailer to sway while traveling. Pack items so that in travel they will not migrate. Breakable items should be packed securely to withstand bouncing around. When possible use non-breakable plates and glasses.
8. When trailer is new check the axle after the first 200 miles. Check lug nuts making sure they are not loosening and hub for excessive heat. Otherwise bearings should be checked once a year or every 5000 miles. If the trailer is equipped with brakes examine at the same time as the bearings.
9. Excessive swaying. Swaying can be the result of several things.
   A. Improper tire pressure.
   B. Being improperly loaded, causing weight imbalance.
   C. Some vehicles may not interact well with the trailer while traveling. Sway bars may be required to operate normally.
   D. A loose hitch may also cause sway.
   E. Using radial tires not intended for trailer use may also cause trailer sway. Radial tires have soft sidewalls, trailers require more rigid sidewalls to prevent sway. Several tire manufacturers make radial tires expressly for tow vehicles with more rigid sidewalls.

## Electrical System -

The electrical system is actually two systems: a 120 volt system and a 12 volt system. The 120 volt system works exactly like the 120 volt system in a home. It has a 60 amp box holding one to four 15 amp breakers. These must be turned on for the system to operate. The 30 amp power cord must also be plugged in to a 120 volt power source. Most campgrounds have both 30 and 15 amp power supply sources. If there is only a 15 amp power supply source use the 30 to 15 amp adapter supplied with the trailer to connect to 120 volt power. Twelve volt power is supplied by the tow vehicle battery, a battery pack, or the converter. The dome lights, and the bullet lights all operate on 12 volt. The 18 inch florescent under-cabinet light is the only 120 volt standard light in the trailer.

**Twenty amp converter:** The converter converts 120 volt power to 12 volt recharging the battery while converting. This allows the user to fully use the 12 volt system without fear of running out of battery power. The trailer must have access to 120 volt power to implement this option. This option is fully automatic when installed. There are nine circuits, all of which are fused, the three to the right being filtered to use with TV, radio, stereo etc.. The other appliances refrigerator, furnace, demand pump are all run off separate circuits as shown on electrical diagram.

**Battery pack:** 12 volt power is essential for several of the optional appliances and some of the lights. Once the

battery pack is installed it is fully automatic and has no on/off switches. Type of battery used is a marine starting battery with wing nut attachments for easy removal when needed.

To understand the circuitry, study the schematic diagram on the last page of this manual. Notice that 120 volt circuits are dotted lines and 12 volt lines are shown solid. Any trailer without all the appliances will have some of the associated wiring deleted from that trailer.

## Gas System -

Several of the appliances use propane gas to operate: the drop in stove top, furnace, gas hot water heater, and refrigerator. Gas is supplied through the use of a 20# propane tank (a double tank option is available). Gas flow is measured by an adjustable regulator mounted just off the gas tank itself. A gas hose connects the regulator to the trailer after which the gas flow is through 1/4 type L soft copper tubing. This tubing is fastened down with metal clamps. All fittings are flared. If an appliance is to be removed, repaired, or added, take special care to tighten all fittings carefully, using only flared fittings if adding an appliance. **Do not use any gas appliance after repairing or changing the system without checking for gas leaks. Do not smoke, use lights, or matches until this has been done.**

To use the propane gas system the gas must first be turned on at the tank. Initially the gas lines will be filled with air which must be cleared for most of the appliances to operate correctly. Light the drop-in stove top first as this is the best way to clear air out of the lines. Then light the refrigerator, furnace, and last the gas hot water heater.

Annually, and anytime any repairs or changes are made to the gas system where gas fittings are loosened, the system should be thoroughly checked for leaks.

## Water System -

Water systems can vary greatly in the Scamp trailer depending upon which unit is used. Every trailer has a 12 gallon fresh water tank located underneath the right side rear bunk. To fill, open the fresh water fill cap at the right rear of the trailer and use either a bucket or a hose to fill the tank. The tank has an overflow which will emit water underneath the trailer when the tank is completely filled. A 3/8" clear tubing connects the water tank to the sink faucet. The sink faucet will be either a hand pump or, if the trailer has a 12 volt demand pump, it will be a pressurized system. The hand pump operates by pumping the handle up and down. This pump will occasionally not work if the seals become dry. If this occurs remove the bottom of the pump by unscrewing it (the clear water supply tube will need to be disconnected). When the bottom of the pump is pulled off, two seals will be visible. It is the lower seal that usually will cause the problem. Lubricate this seal with mineral oil. Also, in the lower part of the pump a marble will be visible. This marble seals up the supply hole in the lower part of the pump. If there is a foreign object interfering with this marble the pump will not be able to hold its prime.

Demand pumps are installed in any trailer with a toilet or shower and by special order. Hand pumps are deleted on trailers with demand pumps. All demand pumps work off the 12 volt electrical system, and are filtered. To operate the demand pump the black switch on the side of the sink cabinet must be on. The sink faucet, toilet, and shower are supplied from this pump.

Water supply for the shower and toilet follows the contour of the trailer where the floor meets the wall. Since the Scamp trailer has very little drop from front to rear the grey water drains slowly out of the shower area. A 12 volt grey water pump has been installed to remove grey water from the shower area. There will be a black switch to the right of the toilet in a side bath model, and to the left of the shower controls in the front bath model that controls the pump. This pump should only be operated while showering, not left on continually. There is a swinging gate valve installed in-line which prevents grey water from coming forward while traveling. The shower operates by turning water on at the shower valve, left control hot, right control cold. Volume control is on the shower handle itself.

Black water tanks are located under the toilet and hold six gallons. Grey water tanks are located under the rear dinette or sleeping area, and hold 26 gallons. Both black and grey water tanks have venting for water displacement and odor. When waste water holding tanks are used they must be periodically emptied. A 10 foot 3" sewer hose is supplied in the

hose carrier on the front of the trailer to facilitate this operation. The hose carrier is the white cylinder mounted on the front of the trailer. Remove the sewer hose by unscrewing the cap on either end. Both black and grey water tanks have a termination fitting.

## Storage Compartments -

Scamp trailers have various storage facilities, none of which are accessible from the outside. Trailers with a front bunkbed have three storage areas under it. One in the center accessible from the front, this is where the sani-potti is best stored. Two are accessible from the top underneath the cushion. The rear dinette bunks each have an access on top underneath the cushion. The door side or left bunk contains the fresh water tank so storage room is limited. Converters, when purchased, are installed under the right rear bunk. Much storage area is left in this area. Care should be taken to not cover the converter when using this storage area as overheating will damage it. The converter is air cooled and must have some access to air. These front and rear storage areas are best used for clothing, bedding, or other lighter items.

Heavy items should be stored as near to the center of the trailer as possible retaining the trailers balance of weight. Heavy foodstuffs (canned foods), should be stored in the center cabinets of the trailer.

Upper cabinets, some of which are optional items, should also not be overloaded with heavy items. The upper cabinets over the center counter tops are usually better supported than the cabinets mounted at the trailer ends and may support more weight.

In deluxe trailers, depending on configuration, storage areas vary greatly according to the placement of appliances.

## Campground Setup -

After choosing a camping spot, which may be a drive-through or a back-in spot, park the trailer. At first this may require a little maneuvering around until backup skills are improved. Second, if 120 volt is available plug in the 30 amp cord, if the trailer has a refrigerator turn it to 120 volt power. If propane gas use is desired turn gas on at tank and start the refrigerator following the instructions on the back of the refrigerator or in the refrigerator manual. Third, level the trailer. Usually the tongue jack and the two rear leveling jacks are sufficient. If ground is too uneven, blocks may be needed under one tire or the other, or under front or rear. If rear jacks are not purchased another method will be needed to support and level the rear of trailer, and to prevent tipping when people are seated at dinette. Fourth, water and sewer lines may be hooked up. Fifth, once water lines are hooked up and gas hot water heater contains water, it may be lit.

**Considerations:**
1. When choosing a camping spot look for areas where water does not pool when it rains.
2. Consider trees for shade.
3. Decide how far you wish to walk to the rest rooms.
4. If children are along note how accessible the play areas are, and if they are clearly visible from the camping spot.
5. If pets need to be tied up or staked out, see that they have an area with shade that interferes with no other campsites.
6. If poison ivy or other such plants are local to the area beware of campsites where these plants border the site.
7. If the campground is scenic all above considerations may be deleted for a great view.
8. There are almost no perfect camping spots. Usually a site is what you make it.

## Troubleshooting and Repair -

**Water Leaks:** The first step when any leak occurs is isolating the leak, that is, find out where and what exactly is leaking. Leaks may often occur in one spot, and the water travels underneath the insulation and appears in another spot. Always dry any wet areas that occur as a result of a leak as soon as possible. Sometimes this requires a fan or extra ventilation. Leaks should be repaired as soon as possible.

1. **Window leaks:** A window may leak in two different ways A) around the seal of the window, which is repaired by

removing the window and installing new seal or by caulking with silicone sealant. B) Windows may leak through the unit itself which is usually caused by the weep holes being plugged. This is repaired by cleaning out the weep holes. Sometimes a drill is required to successfully accomplish this.

**2. Other exterior leaks.**

A. Roof vents: If the lid is cracked causing a leak it should be replaced. Leaking through the frame of the vent requires caulking.

B. Rivet leaks: May be repaired by recaulking with silicone caulk. If leak persists may require replacing.

C. Belly band: Caulk the whole band as leaks tend to travel.

D. Other appliance leaks: Usually caulking will repair.

**3. Appliance leaks.** Usually recaulking solves these problems. In very heavy weather with much rain and straight-line winds, the vents on the refrigerator may let water through into the refrigerator cabinet. These vents are mandatory for warranty purposes. This should not be a common reoccurring problem.

**4. Interior leaks.**

A. Fitting leaks: Tighten the hose clamps or replace if necessary. If fitting is bad replace.

B. Water line leaks: Usually indicates damaged hose. Replace.

C. Interior appliance or pump leaks. Usually means appliance is damaged, often as a result of not being properly winterized. Generally requires replacement.

D. Toilet leaks: 1) Around base of toilet. May have a poor seal or the tank may have been damaged in some manner. 2) Flush Valve. Usually means valve has frozen and broke. When this valve leaks usually requires replacement.

E. Sink or shower trap leaks: Normally indicates that trap has been damaged requiring replacement.

**Electrical problems:** result of poor contact, poor ground, bad contacts on connectors, blown fuses, or defective power supply. Often a test light is required to locate problem. Always separate trailer from tow vehicle when diagnosing 12 volt wiring problems, to determine whether problem exists in trailer or tow vehicle.

**120 volt problems:**

1. Check power supply.
2. Make sure breakers are "ON" in breaker box in trailer.
3. Check power cord for conductivity and good connection to breaker box.
4. Check ground.
5. Check for direct short.

**12 volt problems.**

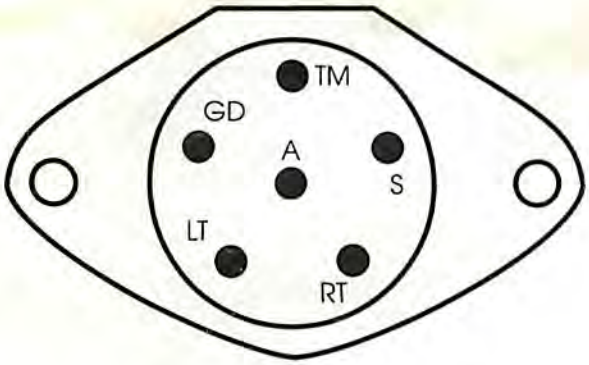
1. No power from 12 volt battery.
   A. Fuse under the front bunk or at the battery box is bad.
   B. Battery is low on charge, defective, or not being correctly charged.
   C. Ground is defective.
2. No power from tow vehicle.
   A. Check battery fuse on tow vehicle.
   B. Determine if car or trailer connector is corroded and non-conductive. (Spray with WD-40 to prevent corrosion.)
   C. If brake lights to not work check brake light switch.
3. 12 volt running and signal light problems.
   A. Check bulbs.
   B. Check ground.
   C. Check car and trailer end connectors.
   D. Check wire connectors.
4. Converter problems.
   A. Check 120 power supply to converter.
   B. Check ground.
   C. Check fuses located in front of converter. (See schematic)
   D. Check individual lines with test light if individual appliances do not work.
5. Appliance electrical problems.
   A. Check power to appliance.
   B. Check ground.
   C. Check wire connections.
   D. If all above check out properly then appliance may have interior problems that will require repair.

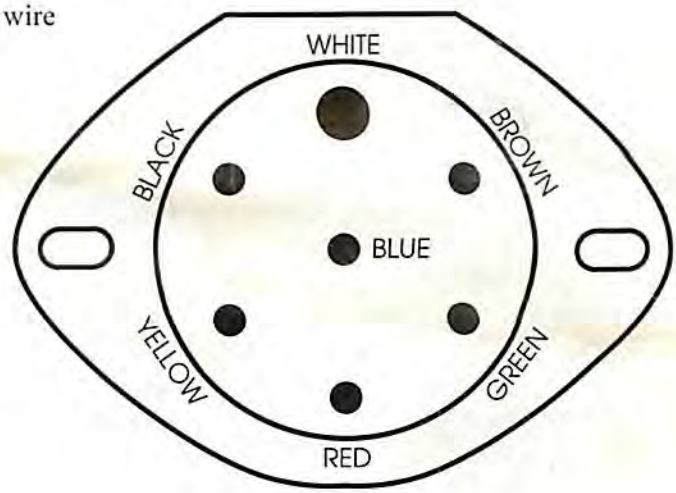
**Fiberglass problems:** Fiberglass is easily repairable. Fiberglass boat repair facilities and auto body shops all can do fiberglass work. Most auto parts stores carry fiberglass repair kits. To repair: 1) prepare surface to be repaired. 2) repair with strips or patch as required. 3) let fiberglass set up completely. 4) sand smooth as needed for painting. 5) paint. 6) buff out paint after it completely sets up. Stress cracks (small hairline cracks in paint), may appear in Gelcoat eventually but do not cause structural damage. They are a result of stress on the body usually occurring after some years of use.

**Appliance problems:** Consult specific appliance manuals.

## Electrical Connectors -

The towing vehicle will need to be outfitted with the proper electrical connector to operate the trailer lights, interior 12 volt lights, and trailer brakes (if so equiped). The 6-prong jack is for trailers without brakes, and the 7-prong jack is for trailer equiped with electric brakes. The wire color legend below indicates the wire colors used for the Scamp wiring harness.

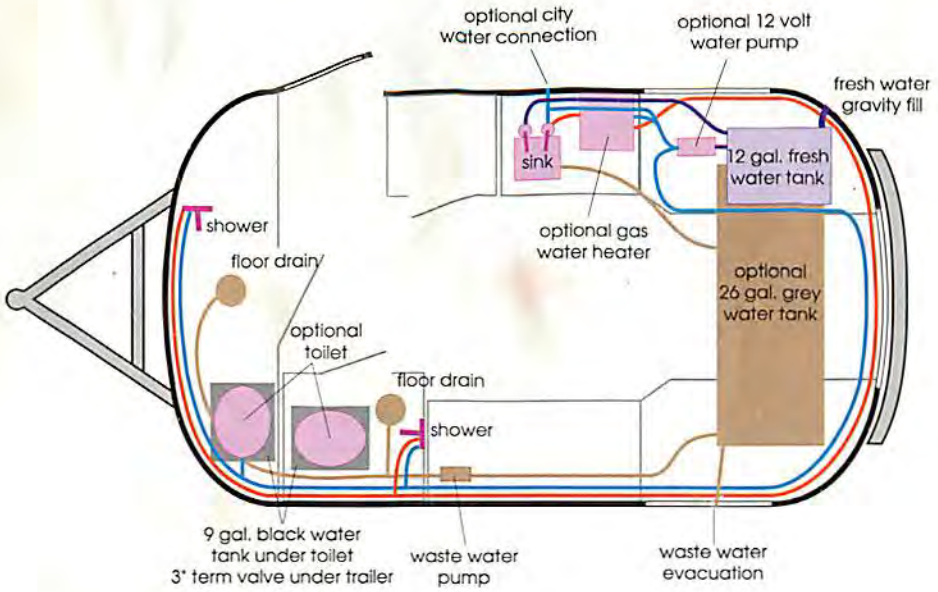


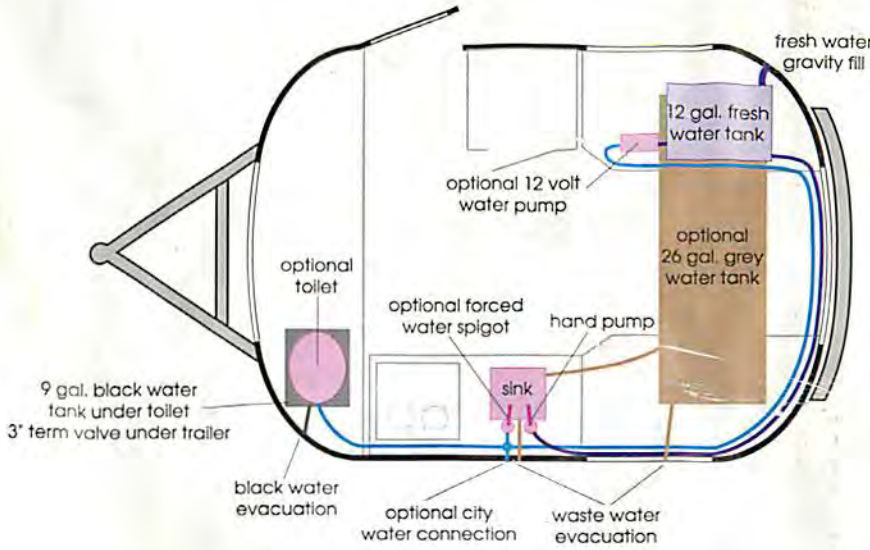

Green (TM) . . . . . .Tail Lights and Marker Lights
Red (LT) . . . . . Left Turn and Brake Light
Brown (RT) . . . . . Right Turn and Brake Light
Black (S) . . . . . Interior 12 volt Lights and Accessories
White (GD) . . . . . Ground
Yellow (A) . . . . . Brake Lights (Foreign Stop)
Blue (Large Connector Only) . . . . . Electric Brakes

**Notes on Electrical Diagram on Page 16:**

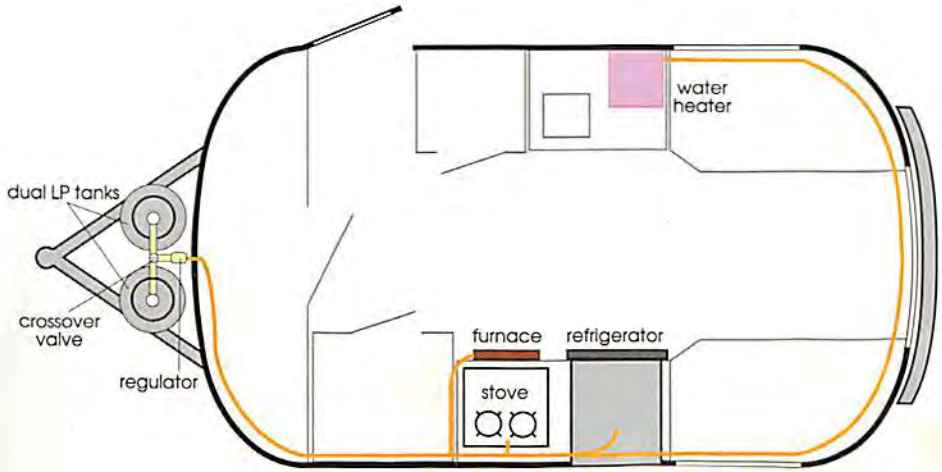
1. Because Scamp builds trailers to meet the desires of the customer, very few trailers are constructed the same way. Thus, the wiring diagram may not specifically represent your trailer. It shows how appliances are connected, which lines are fused, and how the lights are connected to the power supply. Use this diagram only as a reference.
2. Each 12 volt water pump, whether for fresh or grey water, will have an on/off switch inline.
3. Only two 12 volt lights are shown. Some trailers may have up to eight. All lights would be wired into the 12 volt system as shown, but in different locations.
4. The 120 volt breaker box contains one to four 15 amp breakers, as needed for the appliances in the individual trailer.
5. On the power converter the first six circuits starting from the right are general circuits used for appliances. The next three are filtered circuits used for radios, TVs, etc. Each filtered circuit is rated at 3 amps.



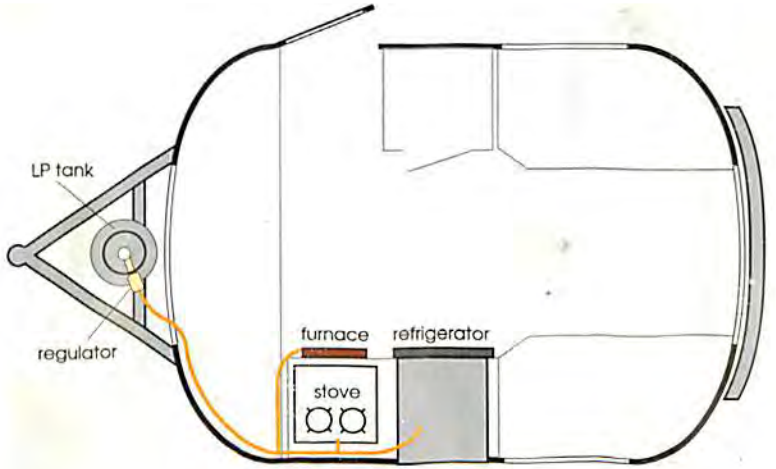

16′ water layout



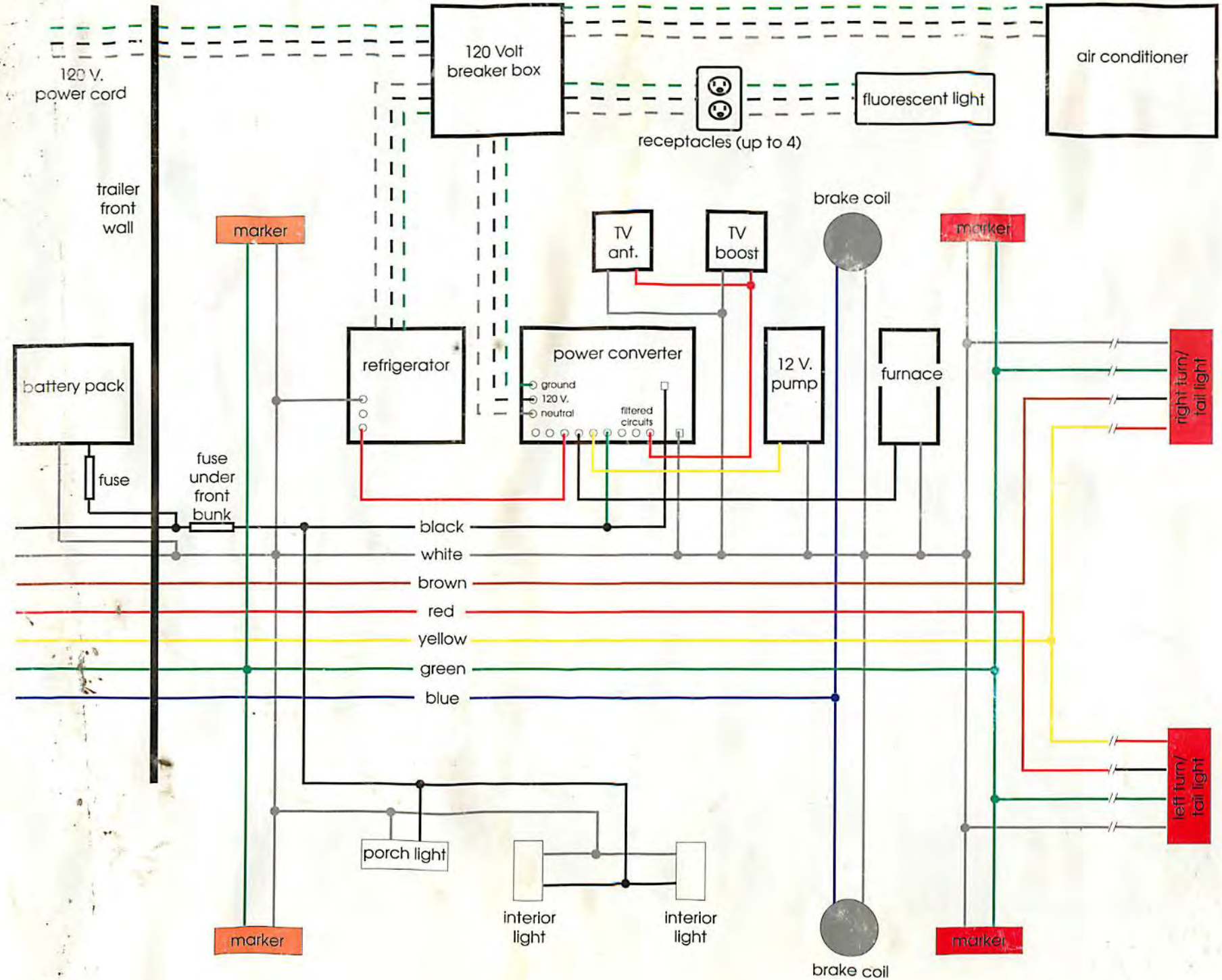

13′ water layout




16′ gas layout




13′ gas layout




**Electrical Diagram** - See notes for Electrical Diagram on page 13.