



America's Easiest Towing
Travel Trailer

OWNER'S MANUAL



THE TRAVEL TRAILER THAT TOWS LIKE A POP-UP
SINCE 1983
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CHAPTER I

INTRODUCTION TO R.V. OWNERSHIP

WELCOME

Welcome to the world of recreation vehicle travel. Your purchase of a TrailManor allows you to enter this unique world of camping in the world's easiest towing travel trailer. Now you can visit those places you've always dreamed about and enjoy the comforts of home along the way.

This owner's manual was prepared to assist you in understanding the proper use and operation of various systems, to provide recommendations for servicing and maintaining component parts, and to explain your warranty protection.

We have made every effort to make this manual as accurate as possible to reflect information available at the time of publication. Components are constantly being improved and we endeavor to upgrade our installations accordingly. You should carefully read and understand this owner's manual and the various other instructions supplied by the manufacturers of separately warranted products. Each contains important operating, safety, and maintenance instructions. Keep this owner's manual in your recreational vehicle for handy reference.

Every effort has been made to provide you with a safe, dependable product. Your vehicle complies with applicable requirements of Federal Motor Vehicle Safety Standards, State Regulations, and complies with requirements of ANSI Standard A119.2, the nationally recognized *Standard for Recreational Vehicles - Installation of Plumbing, Heating, and Electrical Systems*. The Recreational Vehicle Industry Association (RVIA) periodically inspects our production line and assists us in maintaining strict compliance with installation and safety standards for those systems. Your follow-up with periodic safety inspections and a program of preventative maintenance is important for the continuation of safe and trouble-free operation.

SAFETY

SAFETY IN USING LP GAS

You should check for leaks at the connections on the LP Gas system soon after purchase and initial filling of the LP tanks. Continued periodic checks of the system are

recommended. The manufacturer and dealer have already checked for leaks, but the vibration encountered during travel can loosen connections or cause cracks. Your vehicle was manufactured to provide you with full access to all gas line connections. Leaks can be found easily with a soapy water solution applied to the outside of the gas piping connections: the soap will bubble at the leak. **Do NOT use flame or lighted matches to test for leaks.** Usually tightening the connections will close leaks. If not, ask your authorized dealer service department to make the necessary repairs.

LP gas is heavier than air. Leaking gas tends to flow to low places. It will sometimes pocket in a low area. LP gas can usually be detected by an identifiable odor similar to onions or garlic. Never light a match or allow any open flame in the presence of leaking gas.

It is very important to have the main LP gas valve shut off during refueling of tow vehicles.

Never allow gas containers to be filled above the liquid capacity indicated on the container. If a container is overfilled, liquid gas may flow through the regulator causing it to freeze and/or introduce a dangerous excessive gas pressure into the lines. In addition, an overfilled container placed in hot sunlight may expel excess gas through the relief valve and be susceptible to ignition by any nearby open flame.

CAUTION: TURN GAS BOTTLES OFF WHEN LOWERING TRAILER. The refrigerator should be switched to 12-volt operation while towing. Operation of gas appliances in the lowered trailer can cause fire or other serious damage.

ELECTRICAL SYSTEM SAFETY

Circuit breakers and fuses are installed to protect electrical circuits from overloading. Do not make unauthorized changes to circuitry or add fixed appliances yourself. Before you make any changes, consult your dealer.

An approved power supply cord has been supplied with the trailer. Always use this for hook-up to the 120-volt source. Note that the cord has a three-pin plug, which provides proper grounding through the third (round) pin. Grounding is your personal protection from electrical shock. Do not use any adaptor, cheater, or extension cord that will break the continuity of the grounding circuit connected to that third pin. NEVER remove the grounding pin for the convenience of being able to connect to non-grounded (only 2-prong) receptacle. Use a grounding adapter with two

prongs plus a "pig-tail" conductor, which should be externally grounded.

NEVER operate your RV with a "hot skin". If you can feel even a small shock from the RV while standing on the ground, you should immediately disconnect the RV from the power source and locate the trouble. The fault is usually from a break in the grounding circuit, which should be continuous from the skin or frame to the distribution panel board to the third pin on the power supply cord and then back to the park receptacle and earth ground.

EMERGENCY STOPPING SAFETY

Always carry road flares and/or reflective triangular highway warning devices to be displayed when necessary. Pull off the roadway as far as possible when changing a flat tire or for other emergency situations. Turn on your vehicular hazard warning flashers when parked alongside a roadway, even if parked for only few minutes.

ADDITIONAL SAFETY CONSIDERATIONS

The operator is ultimately responsible for the safe operation of the vehicle. Improper operating procedures can jeopardize the safety of the occupants and others. The following suggests some procedures to help the operator enjoy safe, trouble-free use.

- Sanitize the fresh water supply system periodically (see sanitizing instructions). Keep fresh water in the potable water supply tank. Make sure that only sanitary water suitable for drinking is used to fill tank. Do not contaminate tank with water of questionable quality.
- To reduce the chance of contamination, keep water connection fittings from coming in contact with the ground or drain hose.
- Latch bolts fastening beds to wall sections before getting on the bed.
- Never attempt to fix gas or electrical appliances yourself. Enlist services of a qualified technician.
- Observe the warning labels attached to your trailer concerning LP gas, water, electricity, and loading.
- Make sure the fire extinguisher provided with your trailer is in place and charged properly.

- Never store gasoline or diesel fuel in an area where fuel or fuel vapor may accumulate or may travel to an open spark.
- Disconnect television power cord and antenna lead-in during local thunderstorms and lightning activity.
- Don't overload your vehicle. Be careful not to cause an improper load distribution, which can adversely affect roadability and/or towing safety. Heaviest loads should be placed from the axle forward, if possible.
- Ensure that tires are in good condition and are properly inflated. Watch inflation especially closely: underinflated tires will overheat. Overheated tires are a potential hazard as they may throw rubber and cause a blowout.
- Check and tighten wheel lugs regularly (every 50 miles when new until 200 miles are reached and then check lugs every 500 miles).
- Check brakes in a safe area - not while traveling a busy highway.
- Always solidly block trailer wheels before unhitching.
- Before leaving a camp area with a trailer in tow, ensure that the locking lever is seated, break-away wire is attached to tow vehicle, the jacks are raised so that they cannot touch the ground, the dolly wheel removed, 120-volt electric cord properly stored, and safety chains and power cord to your tow vehicle are connected.
- Ensure that all hold-down latches are securely fastened before travel.
- Always test running lights, brake lights, and trailer brakes before travel.
- Tow vehicle brake controller should be set such that the trailer brakes provide nearly all of the stopping effort for the trailer.
- Obey speed limit restrictions when towing a trailer. Some states post speed limits specific to towing trailers.

INSURANCE

As with your automobile, it is important that you protect yourself and others with insurance coverage for personal liability, theft, collision, property damage, etc. Your dealer will assist you in obtaining appropriate insurance for your protection or you may check with the company that provides your automobile insurance.

CHAPTER II

WARRANTY & SERVICE

BASIC SERVICE

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

Should you have a problem, contact your local dealer's service department for an appointment.

FACTORY

A factory service department is operated at our Lake City, Tennessee, manufacturing facility. If your TrailManor requires repairs that your dealer feels could be best accomplished at the factory, you may bring it to our plant for repairs with the following stipulations:

- You must make an appointment prior to returning it to the factory.
- Freight costs are the responsibility of the owner.

OUT OF TOWN SERVICE

If you should need service while you are vacationing, contact your RV dealer for assistance or call the factory, Monday through Friday, at 423-426-7426. We will recommend a local service department and instruct them on correct service procedures.

CHAPTER III

USAGE OF YOUR R.V.

HITCHES

We recommend that you install a class III hitch on your tow vehicle for use with all TrailManor models. We also recommend load-equalizing hitches for front-wheel drive vehicles. See your authorized TrailManor dealer or hitch specialist for specific installation instructions. Also, refer to your tow vehicle owner's manual for specific towing recommendations and load ratings.

LOADING

A properly loaded vehicle will perform better and handle more safely. Store heavy gear first, keeping it on or as close to the floor as possible. Heavy items should be stored directly over or slightly ahead of the axle(s). Distribute weight to obtain even side-to-side balance of the loaded vehicle. Lighter items may be stored in cabinets, wardrobes, and drawers. Luggage, televisions, or similar cargo transported inside your RV should be secured to prevent damage in case of a sudden stop. The Federal Certification Sticker is located on the off-door side of the trailer, near the front. The sticker gives the maximum weight carrying capacity of the trailer and each axle.

The Gross Vehicle Weight Rating (GVWR) is the maximum the trailer should weigh with water and LP gas tanks full and with food, clothing, and all other supplies aboard. Each axle has a maximum load bearing capacity referred to as the Gross Axle Weight Rating (GAWR). Load equalizing hitch systems may increase the load at the trailer axle. Refer to the hitch installation instructions to ensure proper weight distribution.

SAFETY CHAINS

Several states have specific safety chain requirements. Please contact your state's Department of Transportation to ensure compliance. As delivered by your dealer, your vehicle is equipped with chains to meet SAE standard requirements for maximum gross trailer weight. Always have the safety chains attached when towing. Install the safety chains so that they do not restrict sharp turns of the tow vehicle-trailer combination, but tightly enough so they do not drag the road.

"PINCH POINTS"

When setting up or closing your TrailManor, there are a few places to watch to avoid pinching your fingers. Stay clear of the door when closing the trailer. Also, keep hands away from the lift arms, lift arm pockets, and the bed supports when opening or closing the trailer. Before lowering the trailer, always check both sides of the trailer to ensure that no one else is near any pinch points.

CAUTION: DO NOT ATTEMPT TO RAISE ROOF SECTIONS FROM SIDE OF TRAILER, FINGERS MAY GET CAUGHT IN LIFT ARM POCKETS CAUSING SERIOUS INJURY.

WHEEL LUGS

Because of the possibility that wheel lugs could work loose, it is important that you check your wheel lugs every 50 miles when new until 200 miles are reached and then check lugs every 500 miles. The wheel lugs should also be checked after winter storage, before starting a trip, or following extensive braking. Also check wheel lugs after changing a tire. Over-tightening can distort the wheel.

WHEEL BEARINGS

Proper maintenance is an important step in achieving maximum bearing life and reducing the risk of failure.

1. No disassembly is required. A zerted Sure Lube grease cap and relief hole in the spindle eliminate the need for disassembly.
2. Use a good quality lithium based wheel bearing grease with a standard hand grease gun.
3. 10 to 20 pumps every 2000/5000 miles (depending on use) will provide the proper lubrication to the inner and outer bearings.
4. 30 to 40 pumps (3 to 4 ounces) will provide for the complete recycling of grease through the hub.

TIRES

The tires on TrailManor trailers are high-pressure steel belted radials. Air pressure should be kept at 50 p.s.i. for 14" tires and at 65 p.s.i. for 15" tires. Always check the tires when they are cold, such as before traveling at the beginning of the day. Underinflated tires may cause slight swaying during towing. Also, underinflated tires will overheat, which may cause a blowout.

Tires tend to deteriorate with age. Tires should be inspected and replaced when the tread or sidewall is cracked. This may occur before the tread shows excessive wear. Tire warranty is covered by the manufacturer of the tires.

CHANGING A FLAT TIRE

Before you change a flat tire, pull well off the road, turn on your vehicular hazard warning flashers, and place a reflective triangular highway warning device a car's length behind your trailer for safety. Follow these steps to change the flat tire:

1. Open both tops and secure open with the corner latches.
2. Remove fender skirt by removing screws fastening skirt and raise the skirt several inches vertically.
3. Place a bottle jack just behind the wheel, under the frame member.
4. Jack the tire off the ground. Trailer stabilizer jacks should be lowered for additional safety.
CAUTION: Improper placement of jack may allow trailer to fall.
5. Remove all lug nuts from the wheel.
6. Remove flat tire.
7. Replace with new tire.
8. Tighten each nut by hand until the wheel is against the hub. Tighten wheel lug nuts firmly in a crisscross sequence. Be sure to tighten nuts evenly and to proper torque specifications (90 to 95 foot pounds).

BRAKES

The brakes on your new TrailManor are electric and are integrated into the brake system of your truck or car in such a way that equal braking power may be distributed to both trailer and towing vehicle. Explained below are several components that make up the brake system.

The battery of your tow vehicle is used as the primary source of power. No additional source of power is required. From the battery, the power is taken to the controller, which will be installed in your tow vehicle. With your tow vehicle brakes off, the controller opens the electrical circuit so no current reaches the trailer's brakes. When the controller is actuated (manually or automatically by your tow vehicle's braking system), the controller varies the amount of current through the circuit, which in turn varies the braking of your trailer. Refer to your brake controller manufacturer's instruction.

ENSURE YOUR TRAILER BRAKES ARE WORKING CORRECTLY. Pulling a TrailManor trailer should not significantly increase your car's stopping distance if the trailer's braking system is working properly.

CAUTION: TEST THE TRAILER BRAKES BEFORE EACH TRIP. Brakes should be tested before entering a main highway.

LEVELING YOUR TRAILER

The simplest way to level your TrailManor is using the two-point method. After opening your trailer, place a bubble level on the refrigerator. Using the tongue jack, level the trailer front-to-back. Use the rear scissor jack on the low side of the trailer to level the trailer side-to-side. To lower the scissor jacks, crank clockwise with the jack handle provided in the trunk. Once the trailer is level, you can mount a bubble level permanently on the tongue of your TrailManor to aid in future leveling. Then your trailer can be easily leveled before opening.

SET UP

After parking your TrailManor, level the trailer using the previously described procedure. Then lower the scissor jacks to stabilize your unit. Because of certain terrain conditions, you may need to place flat blocks of wood or flat rocks under the base plates of the corner jacks.

TO OPEN YOUR TRAILMANOR:

1. Release the four white draw latches located on each corner. (See Figure 1.)
2. Release the four black hold down latches located in the middle of your trailer, two on each side at the lower edge near the wheels. (See Figure 1.)
3. Standing near the tongue, grasp the lower edge of the front roof section. Lift the front roof up and out in a circular motion beginning with a straight-up motion and finishing with a pull. **Do not lift the roof by the front window stoneguard.** Slide the front bed out by grasping the bed strap, located on the center edge of the bed, and pull toward you.
4. Engage the two top corner latches (square aluminum tubes, Figure 1). **NOTE:** For front slide models, after lifting the roof section and securing in place with the corner latches; grasp handle above gas bottles and pull living room section out toward you.
5. Lift rear roof at center of rear wall. Slide rear bed out and latch rear top corner latches.
6. Unhook and open lower door. Swing out the left door jamb and press pin at top of door facing into spring clip located on upper left wall. Repeat on door hinged facing, pressing pin into spring clip located on right wall. Secure top of door to lower door with white turn button (door sections usually fit best when in fully opened position). Raise vinyl flaps and velcro in place. Slide entrance step out and lower second step, then enter unit.

7. Raise wardrobe to vertical position and slide it left onto the counter top. Swing front bathroom wall up and slide it back toward wall (about 3-4 inches). Latch walls together and latch the door together. Grasp the rear and side bathroom walls in the middle of the top edges and lift together toward rear of trailer. Swing side bath wall open and latch into place. (See Figure 2.) **IMPORTANT:** To lock tops open and prevent beds from tipping out, bolt rear bed to bathroom wall. Do NOT climb on bed before bed is securely latched in place.
8. **IMPORTANT:** Bolt front bed to side walls. Do NOT climb on bed until latched. Lower flap seals and secure.
9. On slide-out models, secure the two bolts on the slide-out sofa section at the floor.

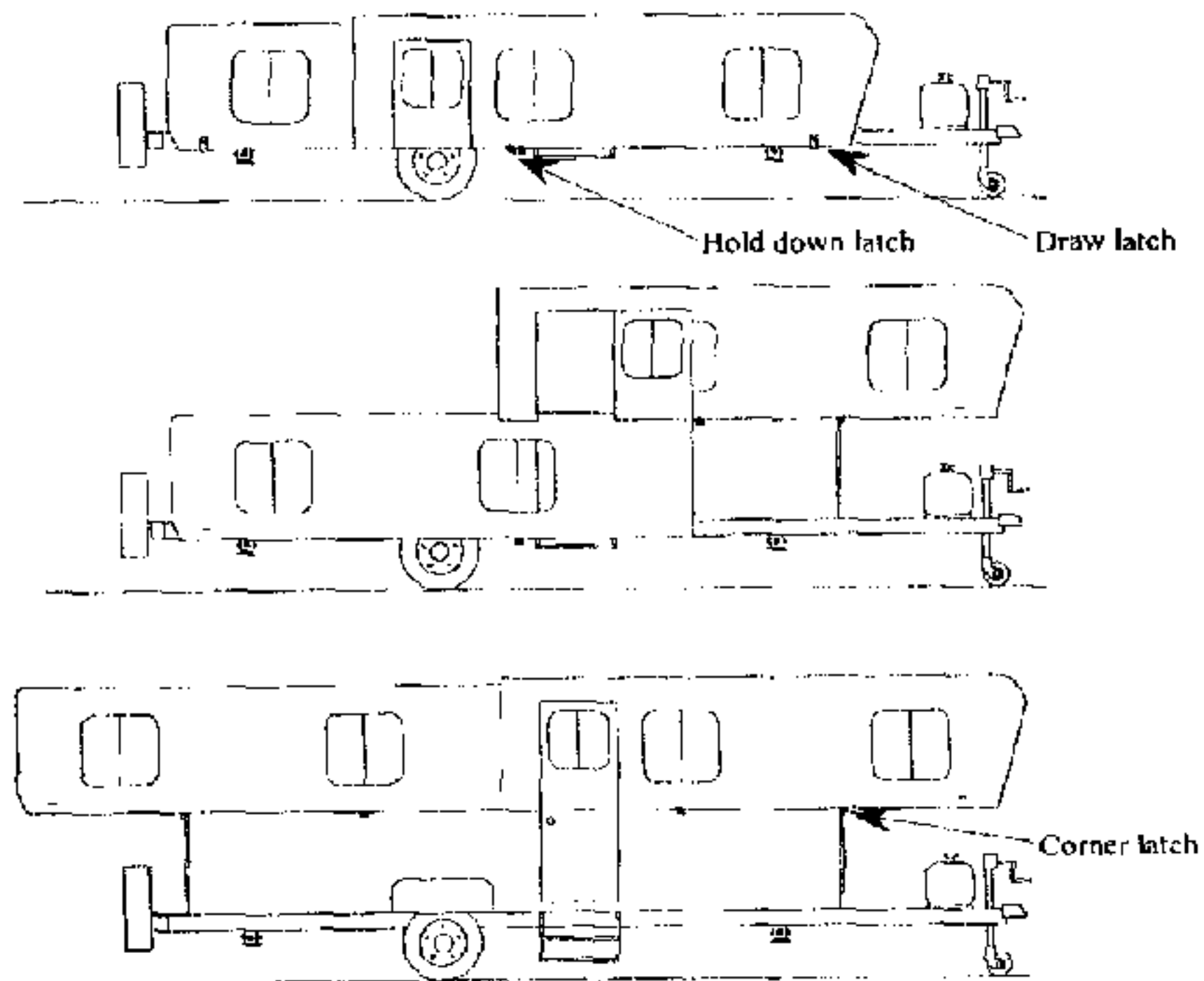


Figure 1. Trailer Operation

CLOSING YOUR TRAILMANOR

All lights must be switched off and cooled before closing your TrailManor. On the newer models, all rear roof lights turn off automatically when the bathroom wall is collapsed. Stow 120-volt power cord before closing; power cord hatch can catch on roof sidewall if not properly secured.

— WARNING —
CEILING LIGHT MUST BE
OFF AND COOLED BEFORE
LOWERING THE CEILING
AD-51

1. Switch refrigerator to 12 volt and latch refrigerator door closed. Switch on refrigerator vent fan.
2. Turn off water heater, furnace, and gas stove.
3. Close valves on gas bottles mounted on tongue of trailer.
4. Empty grey water and toilet holding tank. (See instructions in Toilet section of manual)
5. Remove hanging wall cabinet from wall and place on floor. Protect cabinets by padding large items on floor with bed pillows or blankets during travel.
6. Remove all items from counter tops and leave no item in the sink higher than the kitchen splash board.
7. Close windows, close roof vents, and lower TV antenna.
8. Raise flap seals and secure. Check that counter tops are clear and sofa backs are lowered.
9. Unbolt front bed (or slideout) from side walls. Slide bed into trailer. (Beds may be pushed in from outside if you prefer. Push slideout into the trailer from outside.)
10. Unplug roof air conditioner (for models with roof A/C).

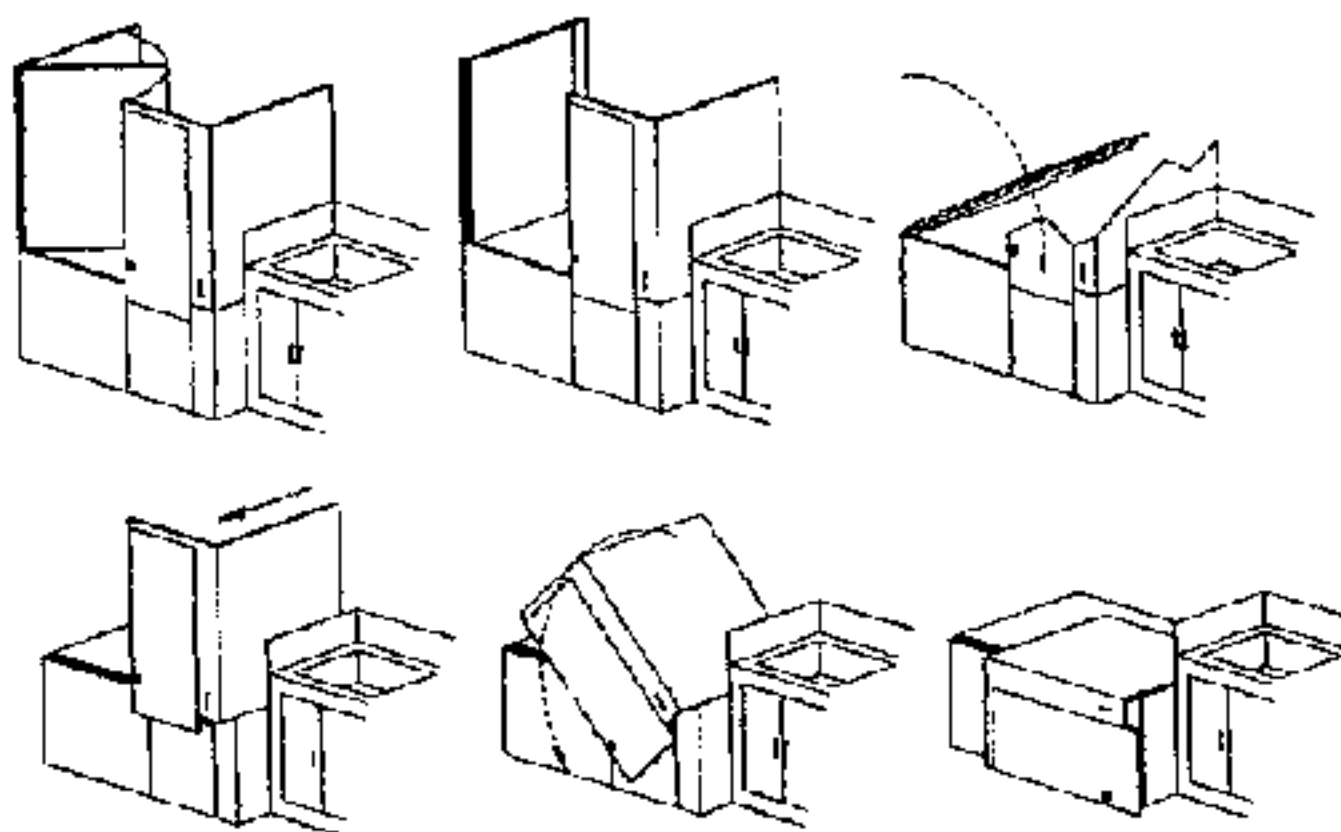


Figure 2. Bathroom Fold Down

11. Unbolt rear bed from bathroom wall. Unlatch bathroom wall and fold side wall against rear wall. (Illustrated in Figure 2) Grasp the top middle edges of both walls and slowly lower them **together** forward over the bathtub. Be sure to leave the lower door in closed position before lowering the front wall. Unlatch front bathroom latches, slide wall toward you, then slowly lower the wall section over rear half. Slightly lift and slide wardrobe to the right and slowly lower into aisle. Slide back bed into trailer over wardrobe.
12. Unfasten door latch to separate upper door from lower door. Release velcro flap covering left door facing. Dislodge pin from clip on right door wall and push door hinge into trailer. Swing lower door into trailer. Dislodge pin from left door facing and swing facing into trailer. Hook to secure lower door to facing. Flip lower step over top step and slide step assembly under the trailer.

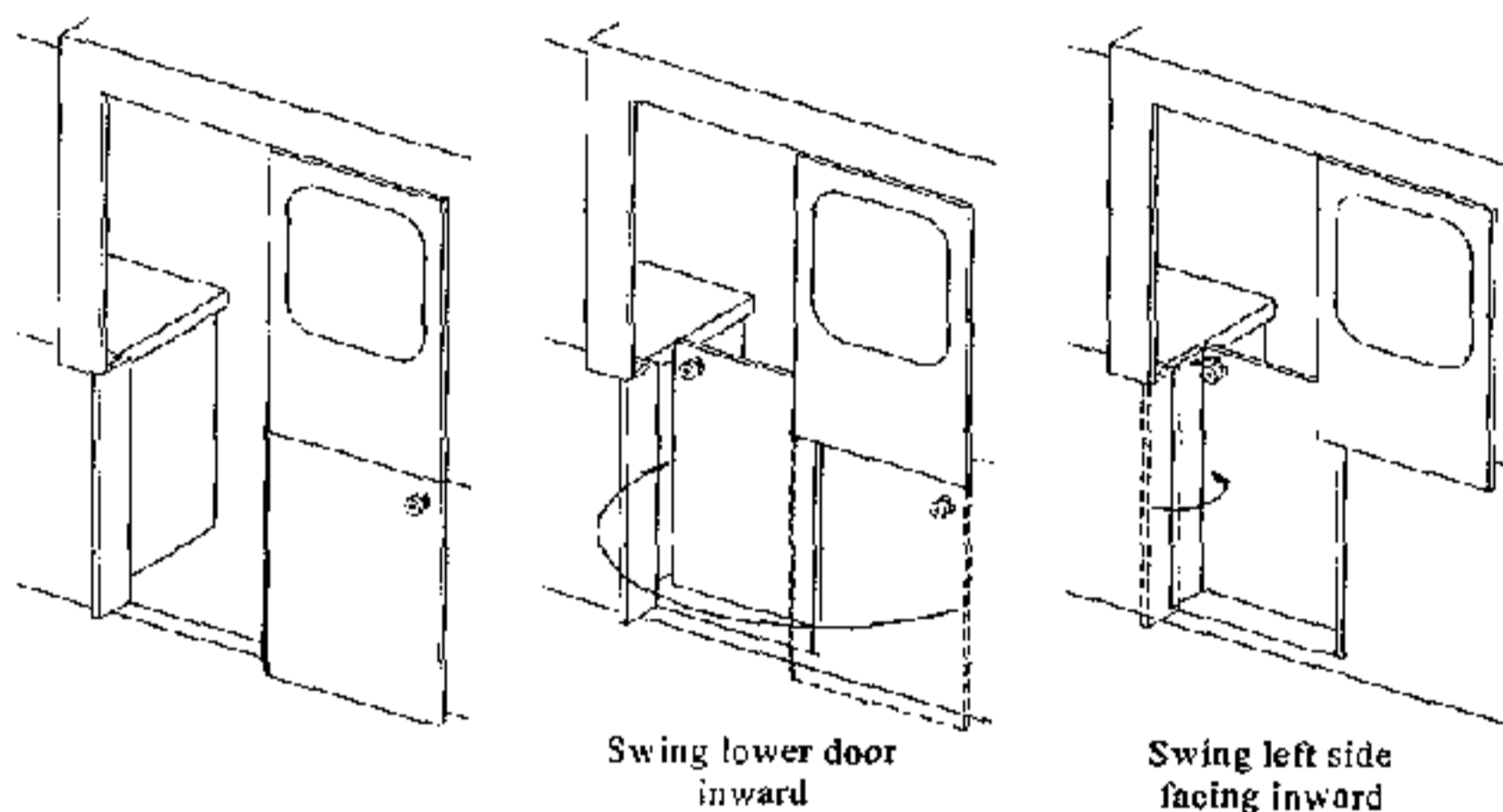


Figure 3. Entrance Door Operation

13. Unlatch the two rear top corner latches (square aluminum tubes, see Figure 1). Be sure to slide rear bed in completely. Ensure that all draw latches are oriented with the hook facing outward (to prevent latches from being captured between the lift arm and the wall during closing). Close rear roof by pushing at the center of the rear wall. If necessary, pull down on the roof until the rear wall contacts both of the rubber bumpers on the frame. (The roof may spring back up slightly. This should not affect latching.) During latching, you may need to push the walls in for proper latch alignment.
Note: Your trailer should always be latched first on the door side and then the off-door side. Reach through open

upper door and push down on roof until it latches. The U-bolt foot stirrups may be used to assist in latching the tops down. Close upper door and secure with turn button. Latch other side of rear roof by pushing down on off-door side until it latches, using foot stirrup as needed.

Important: Before proceeding with the next steps of the close down, stand inside the front section for a final inspection to ensure all items have been removed from the counter tops. Tops will not close down if items are above cabinet level.

14. Unlatch the two front corner latches. Make sure the front bed or front living room section is slid completely into the trailer, then close front top by pushing at the center of the front wall. (Do not push against the stone guard.) Pull down on roof until the front wall contacts both of the rubber bumpers on the frame. (Again, the roof may spring up slightly.) Standing behind the axle on the door side, push down on roof until it latches, using the foot stirrup as needed. Repeat on other side of trailer to latch.
15. Secure the four draw latches located at each corner. The draw latches are equipped with loops through which padlocks may be placed to secure the trailer. (Only one lock is necessary.)
16. To stow corner jacks, crank handle counter-clockwise until jacks are raised completely.
17. Raise tongue jack by turning handle counter-clockwise and stow tongue jack wheel. Position tongue coupler onto car hitch ball and latch into place. Never use an equalizing hitch to raise the rear of your tow vehicle above its normal ride height. This will add stress to your trailer's axle and tires.
18. If using a load equalizing hitch system, install spring bars of equalizing hitch into place according to manufacturer's instructions.
19. Attach safety chains and the electrical connector to your tow vehicle.
20. Check to see that all outside marker lights, brake lights, and turn signals on the trailer are functioning properly. Test the trailer brakes as you pull away.

CHAPTER IV

THE SYSTEMS

PLUMBING

SANITIZING WATER SYSTEM

We recommend that you completely sanitize the water system after delivery, after long periods of nonuse, and after any suspected contamination. Various commercial solutions approved for RV use are available to assist you in sanitizing the system or you can use the following:

Prepare a chlorine solution using one gallon of water and 1/4 cup of household bleach (5% sodium hypochlorite solution). With water tank empty, pour one gallon of solution into tank for each 15 gallons of tank capacity. Complete filling of tank with fresh water. Open faucets to release air. Pressurize system with pump until water flows, then turn off pump and faucets. Allow to stand for three hours. Drain and flush with potable fresh water.

To remove excessive chlorine taste or odor that may remain, prepare a solution of one quart of vinegar to five gallons of water and allow solution to agitate in water tank by vehicle motion (several days if possible). Drain tank and again flush with potable fresh water.

FRESH WATER SYSTEM

Fresh water may be supplied to trailer by two different methods:

1. A 20 gallon fresh water tank is located under the sofa, dinette seat, or in a cabinet. The 2720 Slideout model is equipped with an 11 gallon fresh water tank.
2. A "city water" or direct hook-up from external water supply may be attached to the pressure water inlet located on the off-door side of the trailer.

You may wish to add a water regulator to the line systems, as some campgrounds may have water pressure in excess of 100 psi. A regulator rated at 35 psi is suggested. (Removable type regulators are available.) If a water hose taste is encountered, flush the hose by running water through the hose for a few minutes, then fill the 20-gallon tank as needed.

WATER PUMP

When using the onboard water supply, the water pump must be activated. A switch located on the cabinet below the kitchen sink activates the pump. This will maintain water pressure

while using the water from the fresh water tank. See water pump manufacturer owner's manual for more information.

TOILET

Your TrailManor has a recirculating Thetford Electra Magic toilet. It is a 100% self contained sanitation system which requires no pressure water connection or separate holding tank. An indicator gauge, located on the top back of the toilet, shows the charge level and when to empty the toilet. To prepare initial flush charge, using the bathtub hand shower, pour approximately three gallons of water into the bowl (until water reaches the charge level (C) on indicator lens). Add toilet chemicals according to manufacturer's instruction.

To empty, attach discharge hose to outside outlet located under rear corner of the trailer below toilet. Close grey water tank valve and open toilet valve below trailer. From inside the trailer, open termination valve on the bottom of the toilet. On your final day of vacation, you may want to rinse the toilet before returning home. To rinse, refill water in toilet and release termination valve again. If you use a dump station to empty your toilet, you can do this without opening your TrailManor at the station by doing the following: Close grey water tank valve below trailer. Open termination valve on the bottom of toilet. Close trailer and once at dump station, connect sewer hose and open toilet valve below trailer.

For additional information, see toilet manufacturer's manual.

DRAINAGE SYSTEM

The grey water (sink and shower water) tank drains through the 1 1/2" drain line to the small dump valve to the sewer outlet. To dump, connect sewer hose and pull the small valve. The toilet dumps through the larger 3" valve and out the sewer outlet.

A 10 gallon portable tank with wheels, such as a Blue Boy, may be used to transport grey water to a dump station if sewer hook-ups are not available at your camp site.

WINTERIZING

Following is a list of steps to winterize your trailer.

1. Open the tub and sink faucets.
2. Drain the freshwater tank (valve under trailer near tank).
3. Open the high pressure cold water drain valve (valve under trailer near freshwater tank).

4. Open the two drain valves located underneath the trailer and aft of the bathtub (hot and cold high-pressure lines to the bathtub).
5. If trailer is equipped with exterior shower, either pump potable water system antifreeze through system and out exterior shower head or remove and store shower head and drain as much water as possible from hose.
6. Disconnect both lines to the water pump.
7. Open drain valve on water heater (access to water heater is outside trailer).
8. Drain the toilet (pull inside valve at lower front of toilet and valve outside at left side of sewer hose connection).
9. Drain grey water tank (valve outside at right side of sewer hose connection).
10. Disconnect battery. Freezing temperatures may damage your battery if charge is low. The LP gas monitor will continue to draw current while battery is connected.
11. Antifreeze may be added to the sink and tub drains to keep the drains in working condition, but freezing will not damage the traps.

LP GAS SYSTEM

The liquid propane (LP) gas tanks mounted on your vehicle contains LP fuel under pressure. As fuel is used, vapor (propane gas) passes from the top of the tank through a dual-stage regulator which reduces the pressure to about 6 1/2 ounces per square inch. Vapor at the low pressure is then transferred through the gas distribution lines for appliance use. You must keep the regulator clean and dry. Its cover should remain in place and its vent placed according to the regulator manufacturer's instructions (diaphragm vent facing downward).

WARNING: LP gas containers should never be placed or stored inside the vehicle. LP gas containers are equipped with safety devices which relieve excessive pressure by discharging gas to the atmosphere.

<p style="text-align: center;">WARNING</p> <p style="text-align: center;">IT IS NOT SAFE TO USE COOKING APPLIANCES FOR COMFORT HEATING!</p> <p style="text-align: center;">Cooking Appliances need fresh air for safe operation.</p> <p style="text-align: center;">BEFORE OPERATION:</p> <ol style="list-style-type: none">1. Open overhead vent or turn on exhaust fan, and2. Open window. <p style="text-align: right;"><small>DD-26W</small></p>
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The warning label located in the cooking area is intended to remind you to provide an adequate supply of fresh air. Unlike homes, the amount of oxygen supply is limited due to

the size of the recreational vehicle, and proper ventilation when using the cooking appliance(s) will avoid dangers of asphyxiation. It is especially important that cooking appliances not be used for comfort heating as the danger of asphyxiation is greater when the appliance is used for long periods of time.

A warning label located near the LP gas containers reads: **DO NOT FILL CONTAINERS TO MORE THAN 80 PERCENT OF CAPACITY.** Overfilling the LP gas container can result in uncontrolled gas flow that can cause a fire or explosion. A properly filled container will contain approximately 80 percent of its volume as liquid LP-Gas.

Portable fuel-burning equipment, including wood and charcoal grills and stoves, should never be used inside the recreational vehicle. The use of this equipment inside the trailer may cause fires or asphyxiation.

DO NOT bring or store LP gas containers, gasoline, or other flammable liquids inside the vehicle because a fire or explosion may result.

The following label is located in the trailer near the range area:

IF YOU SMELL GAS

1. Extinguish any open flames, pilot lights and all smoking materials.
2. Do not touch electrical switches.
3. Shut off the gas supply at the tank valve(s) or gas supply connection.
4. Open doors and other ventilating openings.
5. Leave the area until odor clears.
6. Have the gas system checked and leakage source corrected before using again.

DD-90

SERVICING AND FILLING LP CONTAINERS

WARNING: Your vehicle has exterior combustion air inlets. Appliance pilot lights should be turned off during gasoline or LP gas refueling.

Local regulations sometimes require cylinders be removed

from the RV for refilling. A relief valve is incorporated on all tanks for safety. This valve is normally opened during fillings and will indicate when the tank is filled to the proper limit by appearance of liquid replacing vapor. At all other times, the overflow valve should be tightly closed by hand only.

The main valve on the LP gas container 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.

A safety check valve is built into the tank to prevent sudden release of large quantities of gas. The gas valve should be turned on slowly to avoid activating the safety valve. If gas flow to the trailer is less than normal, it may be necessary to turn off the gas bottle valve. Turn off all gas appliances in the trailer. Then wait for a minute and turn on gas bottle valve slowly.

When LP gas containers are filled to the proper level, sufficient space remains for safe expansion of the vaporized liquid. If your tank becomes overfilled and is not allowed to "bleed off" before installation with the RV system, it may release pressure from the relief valve. This can be detected by the strong odor around tanks. Keep open flames away from this area. It is best to remove the bottle, take it to a safe area, and "bleed off" the excess pressure by opening the valve and closing it when discharge has been sufficient.

Handle your LP tanks with care. Vertical tanks must be filled and used in an upright position. Horizontal tanks used on the slideout models must be filled and used in a horizontal position.

If you travel alternately on wet roads and in freezing weather, be sure your LP gas regulator is protected from road spray. If water enters the vent in the regulator, it may freeze the pressure controlling diaphragm in the open position so that the container pressure is applied to the appliances - a hazardous condition. Follow the instructions given by the regulator manufacturer.

CAUTION: Never smoke while filling LP tanks. Keep the RV away from immediate filling area when possible or extinguish all gas pilot lights. When an LP tank gets low, sometimes there is a concentration of garlic-like odor which may be mistaken for a gas leak. After changeover to a full tank, the odor usually will soon disappear.

CHECKING FOR LEAKS

Upon delivery and periodically thereafter, check your gas system for possible leaks. The entire distribution system and its attached appliances have undergone factory testing for leaks. However, because trailers are subject to road vibrations, connections and fittings can develop leaks. If you do encounter a gas-leak odor, turn off all open flames immediately and begin a systematic search for leaks throughout the gas system. Use a bubble solution of soapy water to check for leaks on connections and fittings. Bubbles will appear at the leaky points. **Never use a match to check for leaks.** When tightening connections, use two wrenches with opposing torque to prevent twisting of copper tubing. If the leak doesn't show up in the manifold or copper tubing distribution systems, then check the appliances. See appliance manufacturer's instruction.

LP GAS REGULATOR SETTING

Never attempt to reset the gas regulator yourself. Have an authorized service agency make any regulator adjustments. Even a little amount of pressure over the recommended setting can cause damage to appliances and regulators.

Your trailer is equipped with an "excess flow" valve that is intended to restrict the flow of escaping gas in the event of a break in the gas supply line. The "Dual-stage" regulator reduces the gas pressure to eleven inches of water column. It is important to turn your gas bottle valve slowly to eliminate a chance of a fast rush of gas from the tank. This would possibly "freeze" the excess flow valve and shut off your gas supply. Should this happen, turn off your gas valve at the tank. Wait about 15 minutes and try again.

USING THE AUTOMATIC CHANGEOVER REGULATOR

All TrailManor trailers are equipped with an automatic changeover regulator. This accessory allows both gas bottles to be turned on simultaneously. The arrow on the regulator handle indicates which bottle is in service. When the indicated bottle is emptied, the regulator automatically begins drawing fuel from the other bottle. At this point, the plastic window will display a red signal or flag to indicate the condition. You should then flip the lever over to indicate service on the other bottle. The first depleted bottle can then be turned off, uncoupled, and refilled without disturbing the RV gas supply. After refilling, it should be remounted and again turned to the "On" position. This allows both bottles to be utilized once more.

PROPANE GAS LEAK DETECTOR

Your TrailManor is equipped with a gas leak detector for safety. The gas leak detector is located near floor level beside the sink cabinet door. When the detector is powered, the green operating LED will light. If a gas leak occurs that results in significant vapor concentration, your detector will produce a pulsating alarm sound and the red LED will light. The alarm sound will continue until you press the mute button. **When the alarm sounds, immediately extinguish ignition sources and open the door and windows to air out your trailer. If the alarm sounds a second time after the gas is turned back on, shut off the gas supply and have a qualified gas dealer or RV service center make the necessary repairs to the source of the gas leak.**

If the battery in the gas detector is weak, the gas detector will beep about once per minute. Replace the battery as necessary. (Refer to your Propane Gas Leak Detector Manual for complete operating and safety instructions.)

ELECTRICAL SYSTEM & OPERATION

Your electrical system of 120 volts AC and 12 volts DC has been designed and installed in accordance with the safety requirements of ANSI Standard A119.2 and The National Electrical Code.

Your new TrailManor is equipped with a 30-amp heavy duty power cord to connect from the campground outlet to your camper. The power cord is prewired into the distribution panel with a 30-amp overcurrent protection breaker that supplies 120 volt AC to the 12 volt DC power converter.

To prevent accidental electrical shock, ensure that the ground pin on the attachment plug cap is in good contact with the RV park receptacle. When plugged into a receptacle with no provision for the third pin, use an adapter with a pigtail that can be connected from the plug's third pin to the RV park receptacle box. To avoid the risk of electrical shock or damage to appliances, you should be certain that the polarity of the RV Park power supply is not reversed. Polarity indicators may be purchased in many electrical and hardware stores.

CHANGES, MODIFICATIONS, AND ADDITIONS

Any electrical system modification made after delivery may pose a hazard. Be sure to consult your local authorized dealer. Only qualified electrical technicians should attempt to make changes or additions to your electrical system.

Extension cords should always be a heavy gauge of wire equal to the power cord. Air conditioned models require extra heavy duty (10 gauge) extension cords. Use of too small a cord will result in the cord overheating and possibly burning.

Wall receptacles are powered by 120-volt electrical current, and are rated at 15 amps, maximum.

CONVERTER AND G.F.C.I. BREAKERS

A converter uses 120-volt power and transforms this energy into 12-volt DC power. Your TrailManor has a 30-amp converter. This converter automatically switches from 120-volt source to battery when the power cord to the external source is disconnected. It automatically charges your trailer battery while connected to 120-volt power.

WARNING: Do not replace circuit breakers or fuses with those of a higher current rating than those supplied with the new trailer. Over-fusing can cause a fire hazard by overheating electrical wires above temperature ratings.

All trailer receptacles are protected by a G.F.C.I. (Ground Fault Current Interrupter) to reduce the risk of injury caused by an electrical shock. An example of ground fault current is the current which would flow through a person who is using or touching an appliance with faulty insulation and, at the same time, is in contact with an electrical ground such as a plumbing fixture, wet floor, or earth. The G.F.C.I. should be tested periodically to ensure that it continues to provide protection from ground fault conditions.

12 VOLT DC SYSTEM

EXTERIOR

All exterior vehicle lights are 12 volt and wired in accordance with the standard accepted color code:

White---Ground
Green---Running lights
Red-----Left turn, stop
Brown---Right turn, stop
Yellow--Back-up lights

The connector between tow vehicle and trailer may build up corrosion over a period of time caused by weather elements, and should be cleaned occasionally to ensure good electrical contact.

INTERIOR

The small switch located in the overhead vent controls the brass wall lamps, positioned on the end wall of the front top, and any ceiling lamps forward of the overhead vent.

CAUTION: Be sure to turn off all interior lights before folding the camper for transit as the bulbs may cause a fire hazard in the folded position.

BATTERY

All TrailManor travel trailers are engineered to accept an auxiliary battery. Batteries mounted within the trailer must be sealed to the interior and vented to the exterior. The battery must be hooked up directly to black (positive) and white and bare copper ground (negative) on converter using nothing less than 14 gauge wire. The black wire should be protected with a 30-amp in-line fuse. The 30-amp converter has an automatic transfer switch, which designates the energy source. When connected to a 120-volt power supply, the converter will charge the battery. The trailer's battery will be charged also by your tow vehicle's battery/charging system when connected.

CAUTION: When drawing current from the tow vehicle battery, be sure to avoid draining battery to such a low point that the tow vehicle will not start.

BATTERY ISOLATOR (Optional)

Since the converter draws energy from the strongest source, you may want a battery isolator installed in your car. It protects the car's battery from draining while the tow vehicle is not running. Contact your dealer for more information.

CHAPTER V

APPLIANCES

STOVE AND/OR OVEN

Two types of stoves are available in TrailManor trailers. The 2518 model has a 3 burner stove and the others have a 3 burner stove with oven or microwave.

To operate top burners:

1. Push knob inward and turn to "on" position.
2. Hold gas match beside burner until burner lights.
3. After burner is lit, extinguish match and adjust burner to position desired.

To operate oven:

1. Push oven control knob inward and rotate counterclockwise to "pilot on".
2. Light oven pilot, located at back of oven under the burner cover, with a gas match.
3. Turn oven control knob to desired setting.
4. To extinguish oven pilot, push oven control knob inward and turn clockwise to "off".

See stove/oven manufacturer owner's manual for additional information.

FURNACE

The furnace features a sealed combustion system. The combustion chamber is completely sealed from the inner atmosphere of the RV. Combustion air is drawn in from the outside and combustion products are expelled outside through the vent. The system is very stable and even under the most severe wind conditions, it is almost impossible for the flame to blow out. All models come equipped with an automatic ignition gas furnace with blower.

USING THE FURNACE

The furnace is equipped with an ignition device that automatically lights the burner. Do not try to light the burner by hand. See furnace manual for precautions and detailed lighting procedures.

1. Set the thermostat to lowest setting.
2. Turn the switch on the bottom of the thermostat to "off" and wait five minutes (to allow accumulated gas to escape).
3. Turn on all electric power to the furnace and turn switch to "on".
4. Set thermostat to desired temperature.

To turn off gas to furnace, set the thermostat to lowest setting. Turn switch to "off" position.

For further information, see furnace manufacturer's manual.

WATER HEATER

Before lighting the water heater, make certain that the fresh water system is filled with water and the air is purged from the water heater by opening all faucets until water flows steadily from each.

CAUTION: Damage may result from operating water heater when system is not filled with water.

Read the safety information provided by the water heater manufacturer in the installation and operation manual.

Water Heater (Pilot Type)

To light, turn the gas valve dial knob to "off" position. Wait 5 minutes to allow gas, which may have accumulated in the burner compartment, to escape. Turn gas valve dial to "pilot" position. Depress and hold reset button while lighting pilot flame. Allow pilot to burn for about 30 seconds before releasing the reset button. If pilot does not remain lighted, repeat operation allowing longer period before releasing reset button. Turn gas valve dial to "on" position.

Water Heater (Automatic Ignition Type)

This appliance does not have a pilot. It is equipped with an ignition device that automatically lights the burner.

Turn off all electric power to the water heater at the switch located under the sink. The red light on the switch will light briefly. Turn off gas supply. Wait five minutes to allow gas, which may have accumulated in the burner compartment to escape. **If you smell gas, STOP and follow instructions in safety information in water heater manual.** Turn on gas supply. Turn on electrical power to the water heater. Turn switch to "on" position. If burner does not light on first try, the system will lockout. If lockout occurs before main burner lights, turn switch to "off", and wait five seconds before turning switch to "on" position. The first start-up of the heater may require several ignition cycles before all air is purged from the gas lines.

Water Heater (Automatic Ignition Gas/ Electric)

This water heater may be operated by propane gas or electrical power. It is equipped with an ignition device that automatically lights the burner.

To operate by gas, follow the instructions given in the section entitled, *Water Heater (Automatic Ignition Type)*. To operate electrically, you must go outside the trailer to change power supply. Inside the water heater storage compartment is an on/off switch. Pull the cotter pin out of the switch and press the "on" switch. To revert to gas, return switch to "off" position and replace cotter pin.

To Turn Water Heater Off

Turn switch to "off" position. Turn off electrical power to the water heater. Turn off gas supply. If trailer is to be stored while subject to freezing temperature, drain water heater.

See water heater manufacturer owner's manual for more information.

REFRIGERATOR:

The Dometic refrigerator is a 3-way design, which uses LP gas, 120 volt AC, or 12-volt DC electricity for power. The control panel is located at the bottom front of the refrigerator.

For LP gas operation, turn the knob A to position "gas". Turn the thermostat knob B a quarter of a turn from position "off". Push the button C to stop and push the button D of the piezo igniter. The pushing has to be repeated until the gas is lit at the burner. This can be observed through the reflector E. After the gas is lit, keep the button C pushed for 10 seconds. Release the button and check through the reflector that the burner flame remains lit. If not, repeat the lighting procedure. To shut off the refrigerator turn the knob A to "off" position.

For electrical operation when 120-volt AC power cord is connected, turn the knob A to "elec" position. Turn the thermostat B a quarter of a turn from position "off". To shut off the refrigerator turn the knob A to "off" position.

For 12 volt DC electric operation, switch the refrigerator knob A to the 12 V setting. Power is now furnished by the RV battery or the car battery while traveling. Turn the Thermostat B a quarter of a turn from position "off".

Additional information will be found in the refrigerator manufacturer owner's manual.

REFRIGERATOR FAN

Your TrailManor is equipped with a 12-volt exhaust fan to remove excess heat from the back of the refrigerator when operating with the trailer closed down. This permits proper operation of the refrigerator, on 12 volts, while towing. The switch is located to the left of the refrigerator below the kitchen sink. The fan may also be used to improve the refrigerator performance during very hot weather even when the trailer is set up.

For proper operation, the fan should be wired to force air down through the exhaust tube. Air flow upward through the tube would indicate reversed polarity of the power leads to the fan motor.

Excessive noise from the fan may result from improper positioning of the fan in the vent tube. Access to the fan is through the lower refrigerator vent outside the trailer.

Bathroom Exhaust Fan

The bathroom 12-volt exhaust fan is mounted beneath the bathtub. The fan switch is located on the bathroom sink cabinet.

CHAPTER VI

CARE OF BODY COMPONENTS

EXTERIOR, INTERIOR, SEALS

The "Krystal Kote" aluminum exterior of your new TrailManor can be easily cleaned with a mild abrasive detergent such as Soft Scrub with bleach. Also, the interior aluminum and the seals can be cleaned the same way. You may spray the seals with a lubricant such as silicone if they appear to provide excessive drag during opening or closing.

WINDOWS AND VENTS

Inspect annually all caulking around window, vents, clearance lights, and TV antenna base. Recaulk as needed to prevent leaks.

BED SUPPORT TRACKS

To keep your beds sliding easily, spray tracks with a lubricant such as WD-40 periodically.

DRAPES

For best results, drapes should be dry cleaned. If you clean them yourself, use cold water and hang damp to dry to avoid shrinking.

CUSHIONS

If the mattresses are dry cleaned, the vinyl on the reverse side will shrink, become hard, and crack. If covers are removed from cushions, it may be difficult to reinstall due to possible shrinking.

To clean your cushions and bed mattress covers, we recommend that you frequently vacuum or lightly brush to remove dust and grime.

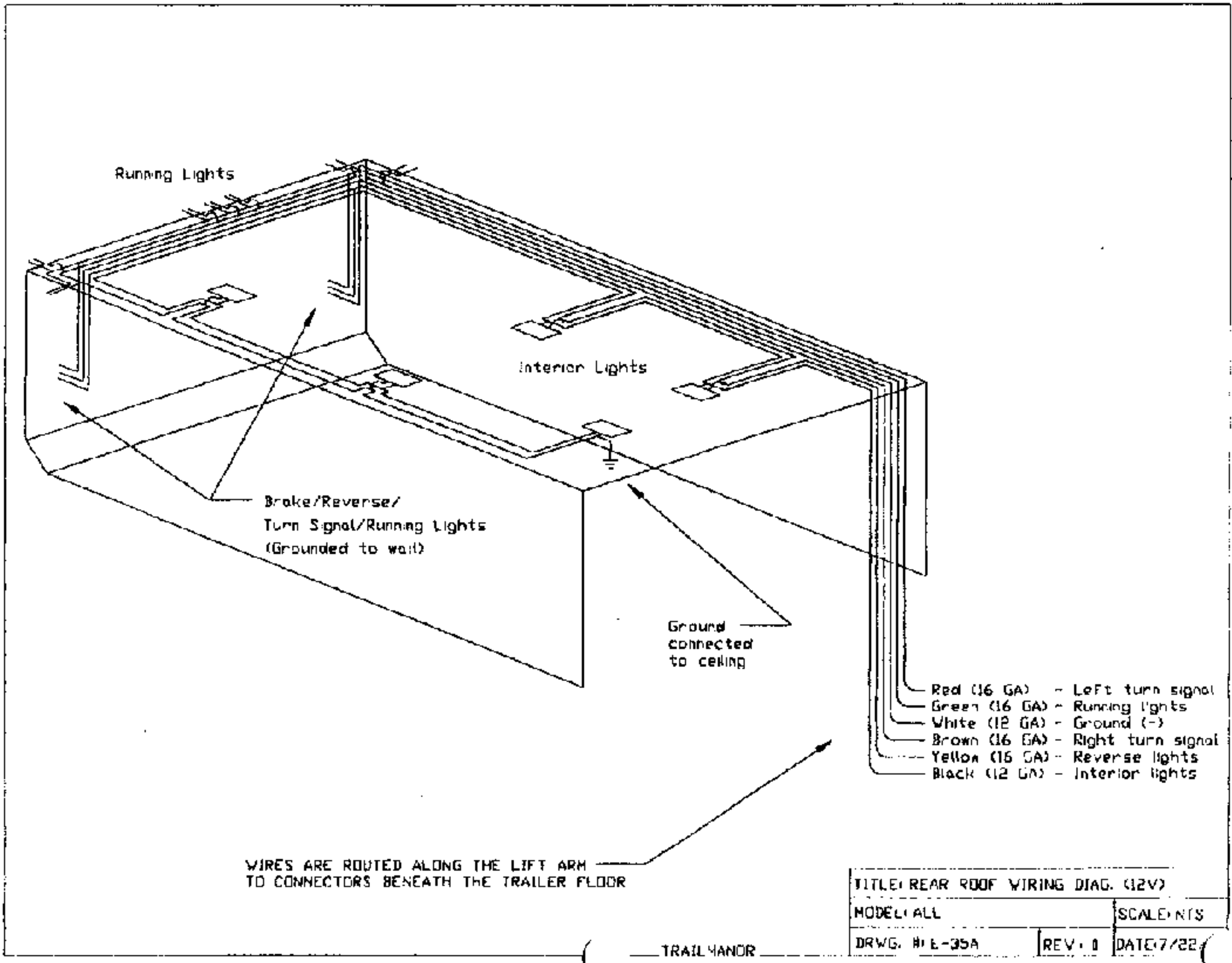
Spot clean using the foam only from a water based cleaning agent such as a mild detergent. Apply foam with a soft brush in a circular motion. Vacuum when dry. Pretest a small area for color fastness before proceeding.

Vehicle Safety

If you believe that your 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 TrailManor, Inc.

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 TrailManor, Inc.

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



Running Lights

Interior Lights

Brake/Reverse/
Turn Signal/Running Lights
(Grounded to wall)

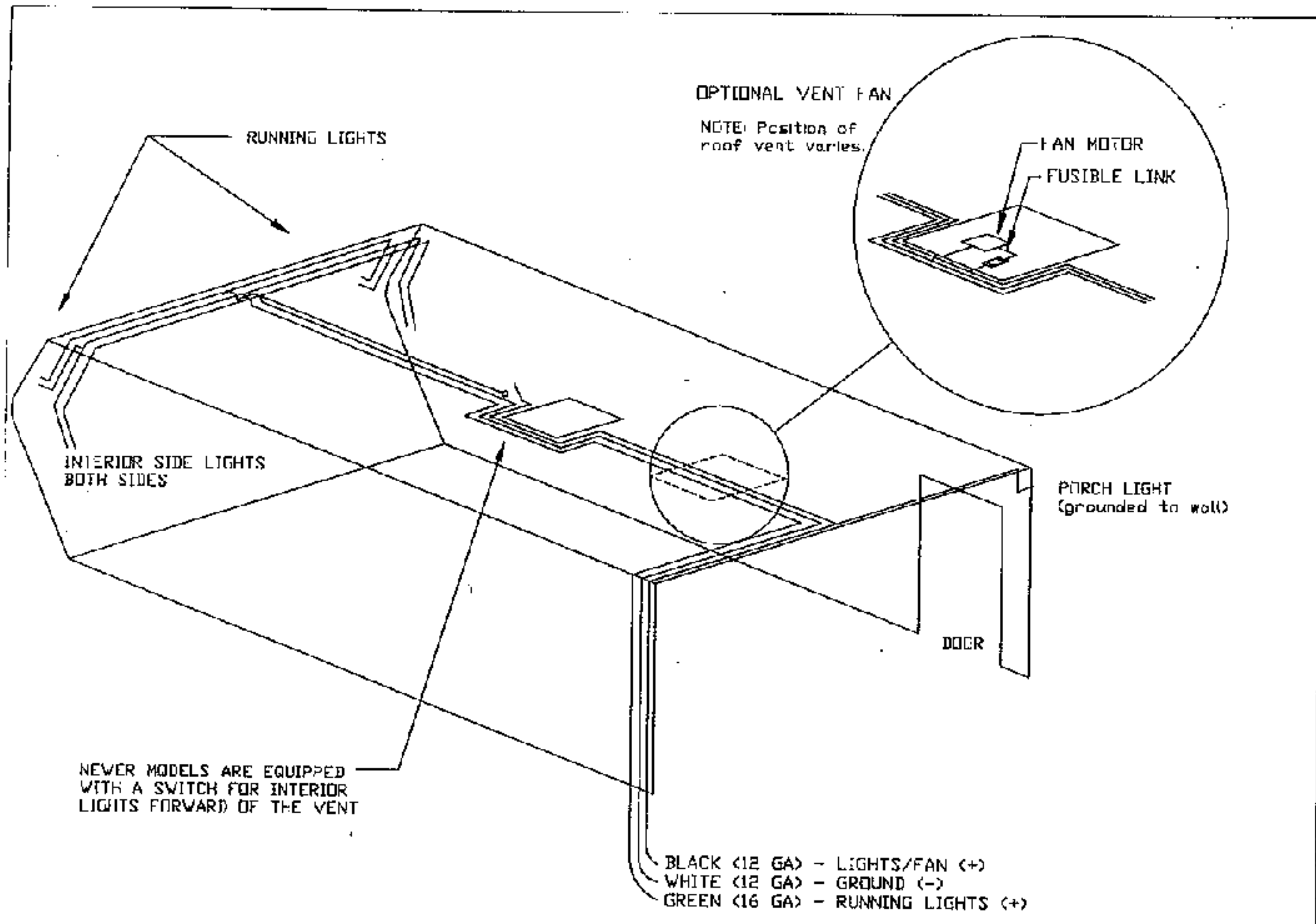
Ground
connected
to ceiling

- Red (16 GA) - Left turn signal
- Green (16 GA) - Running lights
- White (12 GA) - Ground (-)
- Brown (16 GA) - Right turn signal
- Yellow (16 GA) - Reverse lights
- Black (12 GA) - Interior lights

WIRES ARE ROUTED ALONG THE LIFT ARM
TO CONNECTORS BENEATH THE TRAILER FLOOR

TITLE: REAR ROOF WIRING DIAG. (12V)		
MODEL: ALL	SCALE: NTS	
DRWG. #: E-35A	REV: 0	DATE: 7/22

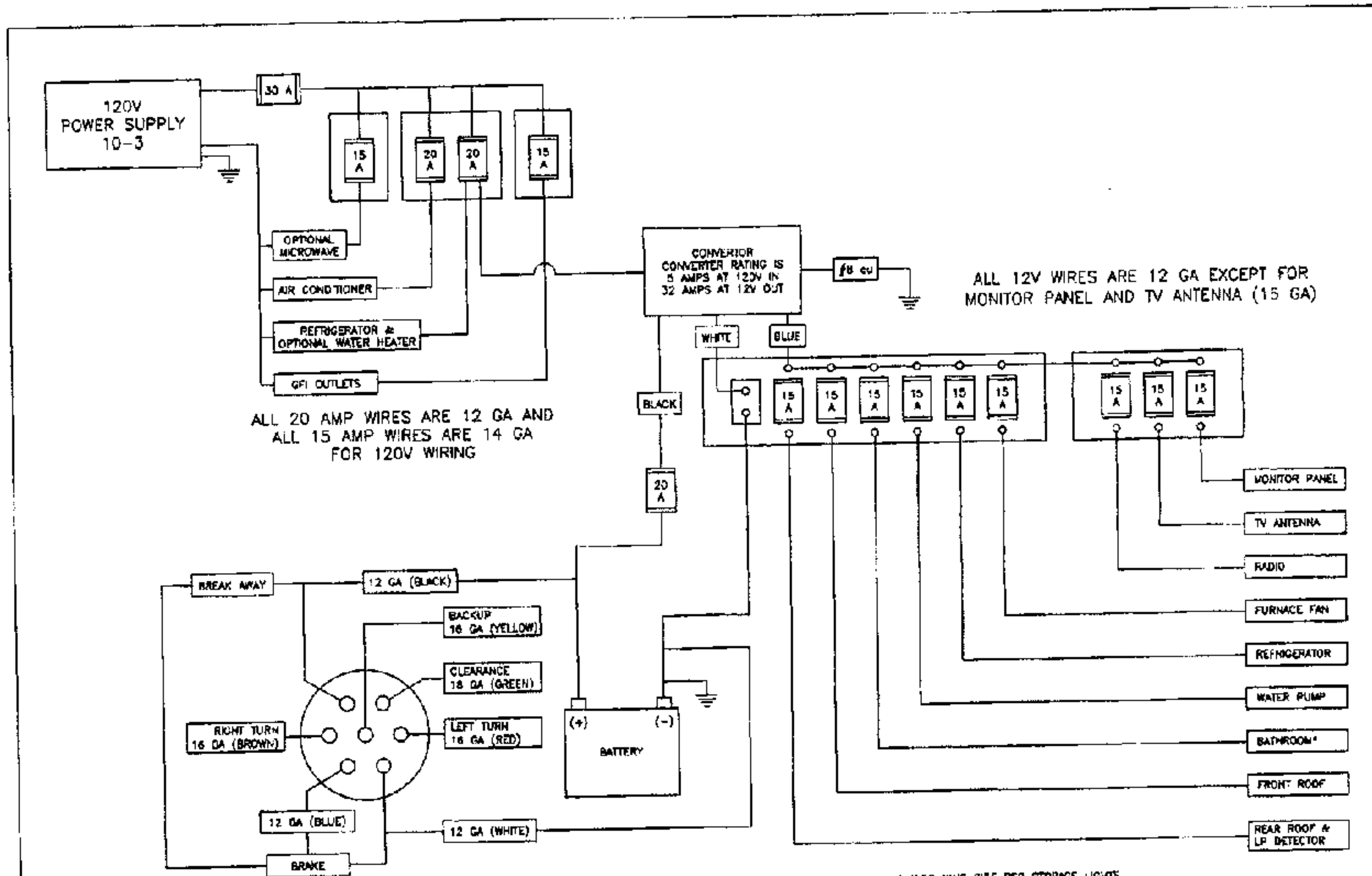
TRAILMANOR



33

TITLE: FRONT ROOF WIRING DIAG. (12V)	
MODEL: ALL	SCALE: NTS
DRWG. #: E-30A	REV: 0 DATE: 7/18/96

TRAILMANOR



ALL 20 AMP WIRES ARE 12 GA AND
ALL 15 AMP WIRES ARE 14 GA
FOR 120V WIRING

ALL 12V WIRES ARE 12 GA EXCEPT FOR
MONITOR PANEL AND TV ANTENNA (15 GA)

* ALSO KING SIZE BED STORAGE LIGHTS
SEE DRAWING E-20A.TAB FOR RATING AND LISTING AGENCIES
PREVIOUSLY TITLED E-20A.SCH

3	ECJ
2	ECJ
1	ECJ 20000920-01
REVISION HISTORY	

TrailManor

REV: 1	NOT TO SCALE	CONVERTER/BREAKER BOX DETAIL SCHEMATIC
DATE: JULY 5, 1996	MODELS: ALL	DWG #: E1CONV_SCHEM

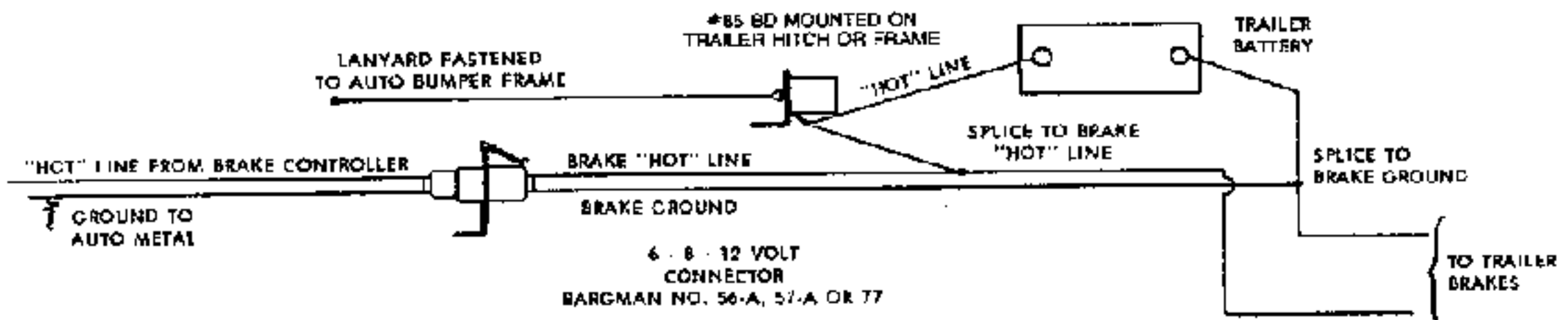
IMPORTANT!

FILE WITH YOUR VEHICLE'S OWNER'S MANUAL

Your recreational vehicle is equipped with a #85 BD breakaway device. It is intended for emergency use ONLY! The only time you need a breakaway device is if the towed vehicle separates from the towing vehicle. In such a case, the breakaway device will complete the circuit and put on the brakes.

To insure proper function of this device, you must comply with the following INSTALLATION INSTRUCTIONS:

Mount #85 BD on hitch of trailer with one screw in mounting bracket. Position bracket so there is no strain on lanyard between trailer and tow car. Device must be mounted on horizontal plane as close as possible to center line of hitch. Connect wires as shown in schematic wiring diagram.



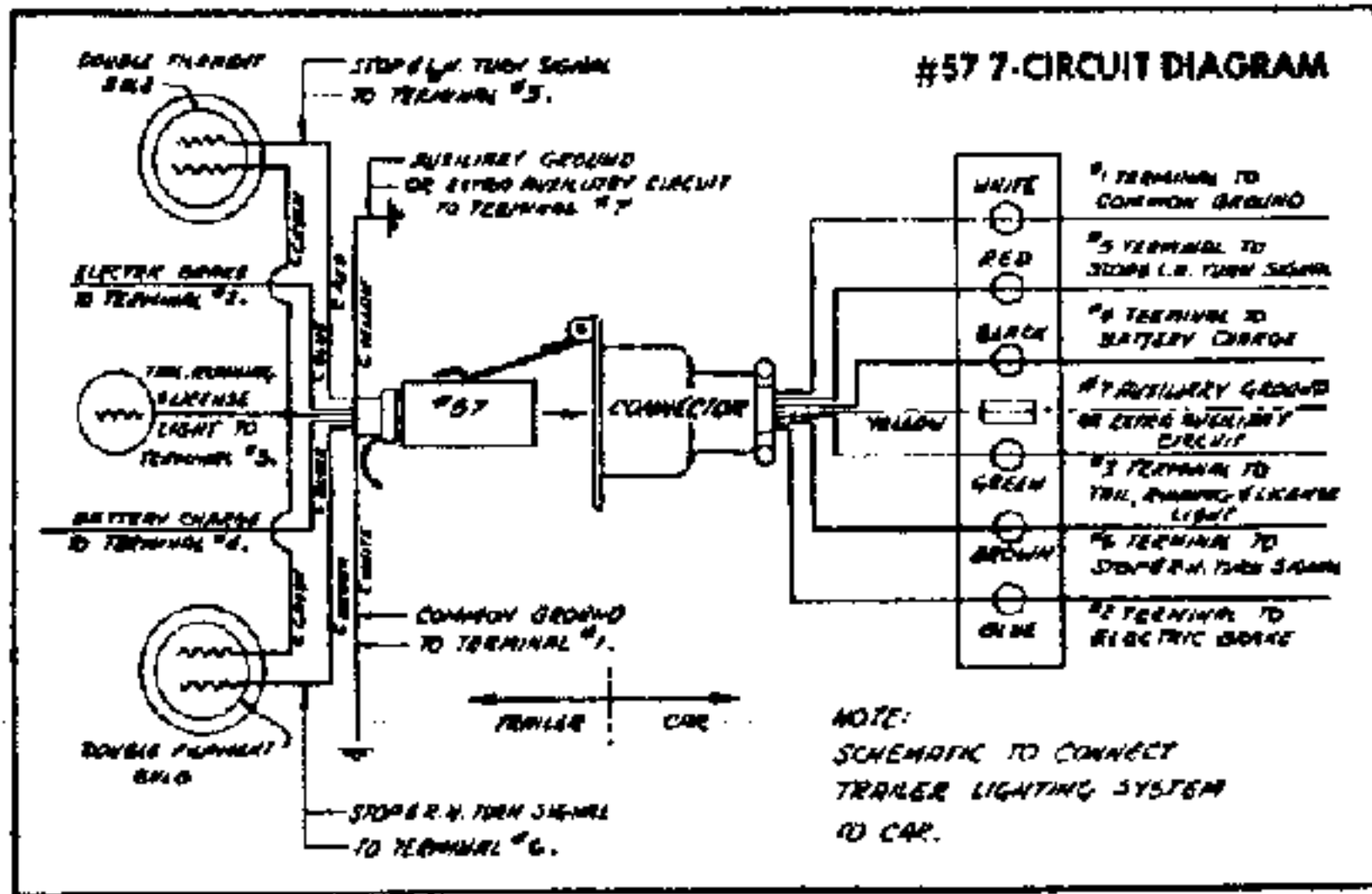
Keep trailer battery charged at all times to insure safe operation.

NOTE: Make sure pin is securely in place each time before using trailer.

THEODORE BARGMAN CO. COLDWATER, MICH. 49036

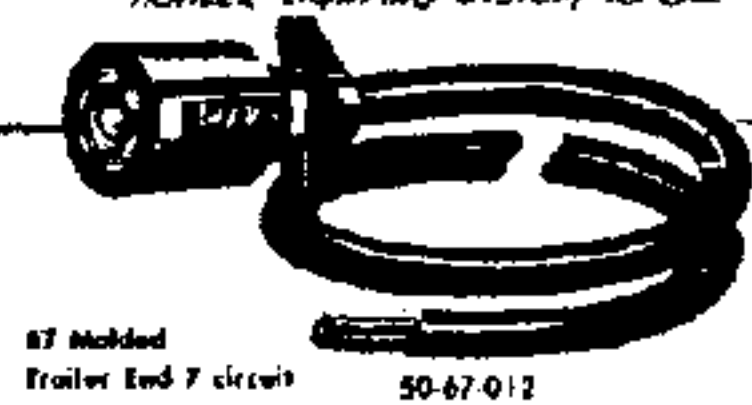
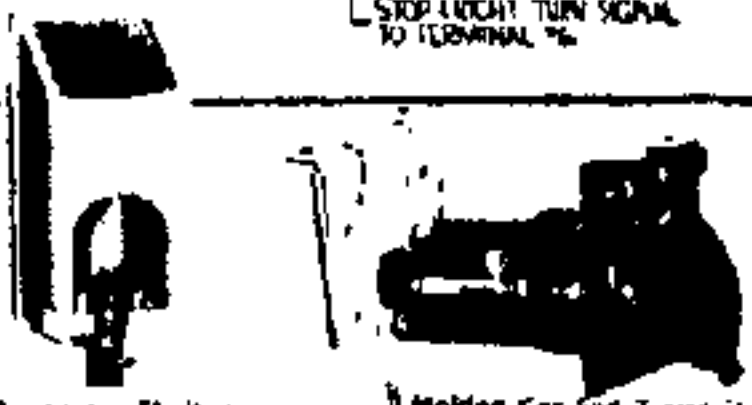
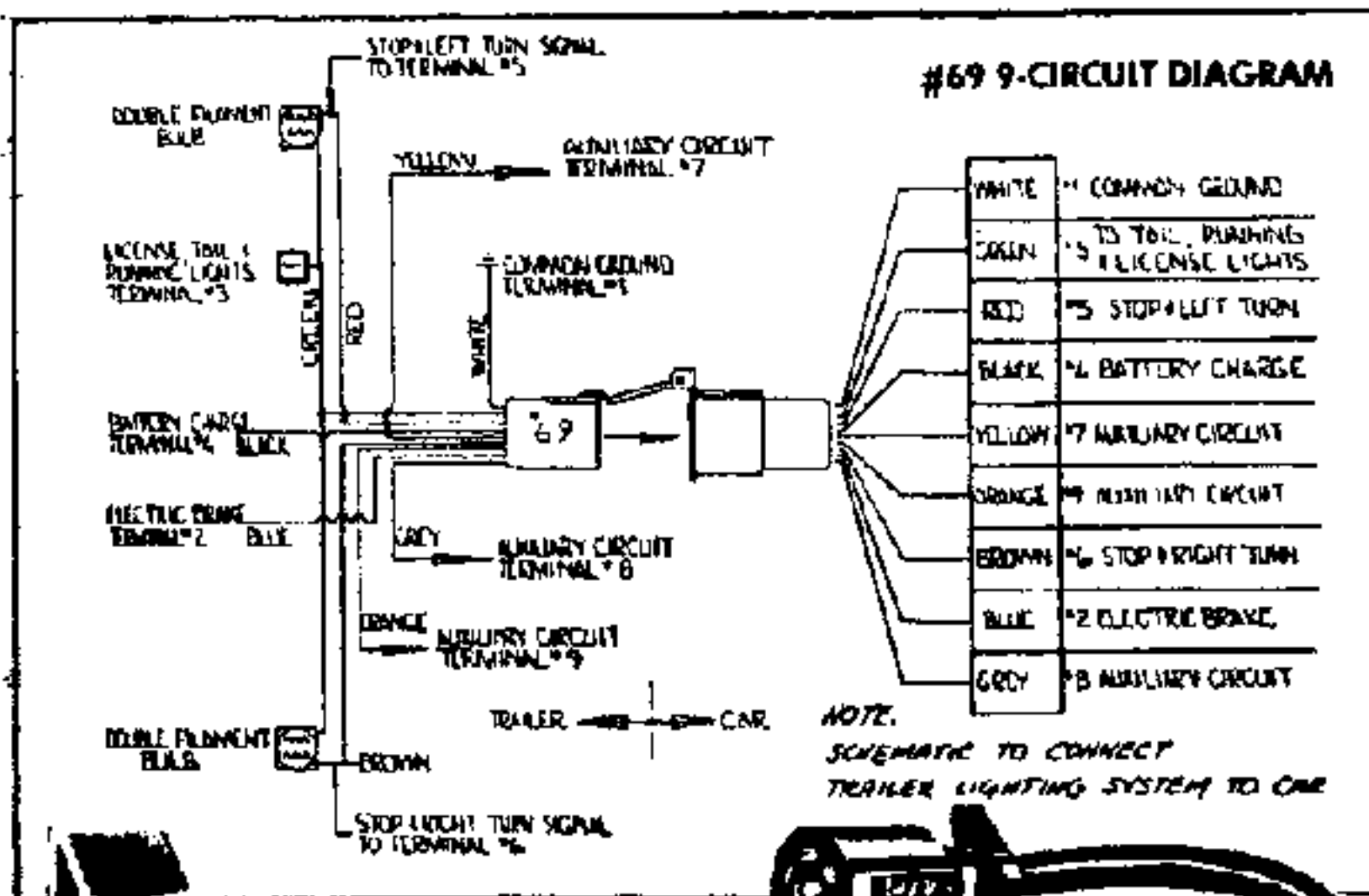
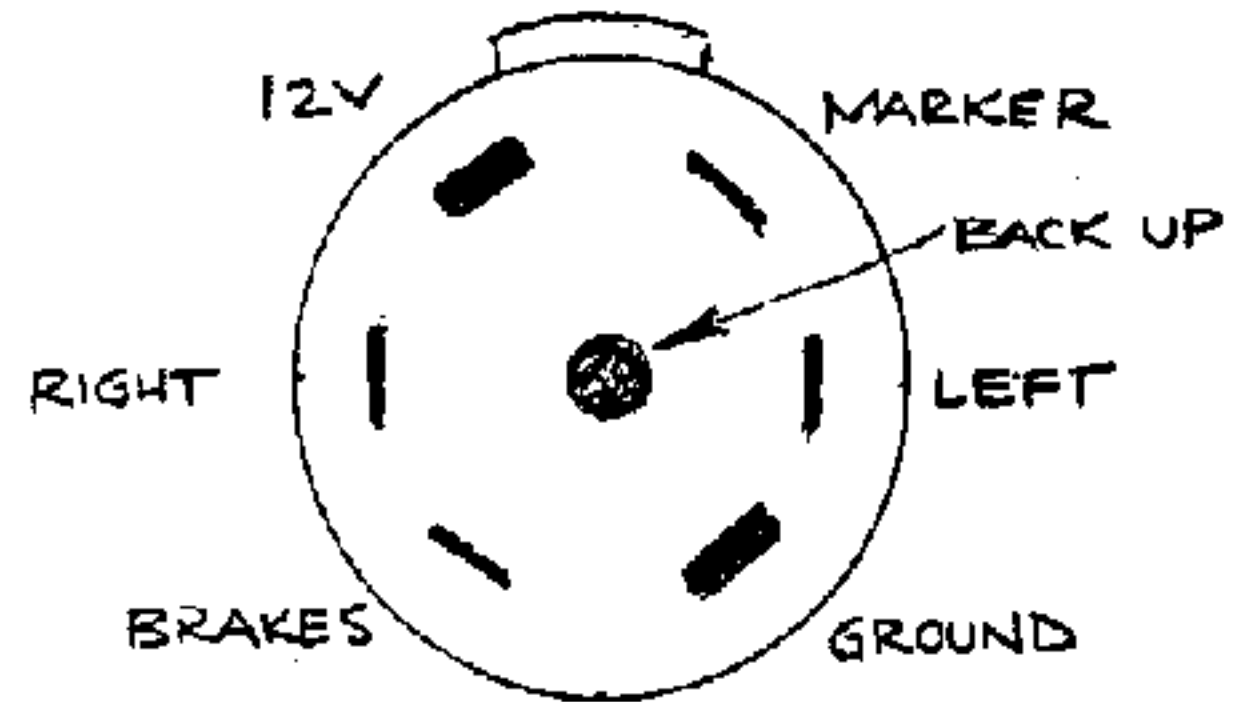
50-64-012

Wiring Diagrams for BARGMAN 7 and 9 Circuit 12V Electrical Connectors



BARGMAN 7-CIRCUIT TRAILER END

LOOKING AT TRAILER PLUG:



87 Molded Trailer End 7 circuit

50-67-012

HELPFUL HINTS

ABOUT LP-GAS (PROPANE) AND LP-GAS (PROPANE) CONTAINERS



SO YOU MAY ENJOY USING THE WORLD'S MOST VERSATILE FUEL - ALWAYS FOLLOW ALL SAFETY WARNINGS AND PRODUCT INSTRUCTIONS.

LP-gas is a highly flammable fuel contained under pressure and may cause fires and/or explosions if improperly used.

LP-gas (liquid petroleum gas) is a true gas compressed into liquid form for easy transportation and storage. It is also known as propane or bottled gas. It is safe and economical and, because of its portability, it provides modern living convenience no matter where you travel.

LP-gas is flammable, is always contained under pressure and the liquid can freeze skin. Therefore, in the interest of safety, it is important to understand the basic facts about LP-gas and LP-gas containers.

Federal DOT regulations require periodic inspections and requalifications of cylinders (see NPGA Pamphlet 118). **DO NOT USE** damaged or rusted tanks.

MANCHESTER TANK & EQUIPMENT CO.

2680 Norton Ave., Lynwood, CA 90262
2738 Lithonia Industrial Blvd., Lithonia, GA 30058
1201 No. Gary Ave., Lubbock, TX 79415
29389 Lexington Park Dr., Elkhart, IN 46514
P.O. Box 511, Tilsonburg, Ont., N4G4J1, Canada
P.O. Box 953, Hannibal, MO 63401
23209 Airpark Dr., Petersburg, VA 23803

CAUTION USE LP-GAS TANKS AND CYLINDERS IN PROPER POSITION

Use vapor only. All LP-gas appliances for cooking, heating, lighting, water heating and refrigeration are designed to operate on LP-gas vapor only. Therefore, all LP-gas tanks and cylinders designed for vapor service must be transported, installed and used in the proper position. Do not transport, install or use a vertical cylinder (see Fig. No. 3) in a horizontal or upside down position. Never use a horizontal cylinder or tank (see Fig. No. 4) on its improper side. Liquid LP-gas could enter the system designed for vapor only, creating a hazardous condition.

Always use a POL plug when transporting or storing disconnected cylinders or tanks (full or empty)

Manchester LP-gas containers are permanently marked with "top" stamped on a tab welded to the tank or "arrows must point up" stamped in the guard or bracket to identify the proper position.

All LP-gas tanks and cylinders must be securely attached in the proper position for intended use. Use all brackets provided to ensure proper support and positioning.

FILLING YOUR LP-GAS CONTAINER

Caution! Overfilling is hazardous! Do not overfill your LP-gas container. Stop filling when liquid appears at the fixed liquid level gauge. Most LP-gas containers equipped with a fixed liquid level gauge which contacts liquid level at 80% of container capacity allowing 20% expansion. LP-gas containers not equipped with a fixed liquid level gauge can only be filled by weight.

LP-gas containers must not be filled over 80% of total capacity. Propane expands approximately 1.5% for each 10° F temperature rise. Only qualified personnel should fill your container. Pumps do not stop filling "automatically." Pumps "by-pass" when tanks are dangerously filled to total capacity. If overfilled, excessive pressure could develop within the container causing the relief valve to open, relieving pressure to a safe level at which time it will automatically close. However, LP-gas released through the safety relief valve is flammable; thus it could cause a fire.

The fixed liquid level gauge is used only to determine safe fill levels and does not indicate lower levels. LP-gas containers are available with visible gauges that monitor the amount of gas in the container at all times, reading from full to empty. If your container is not equipped with a gauge, replacement cylinders with sight gauges are available from your dealer for an additional cost. Do not use visible gauges for filling.

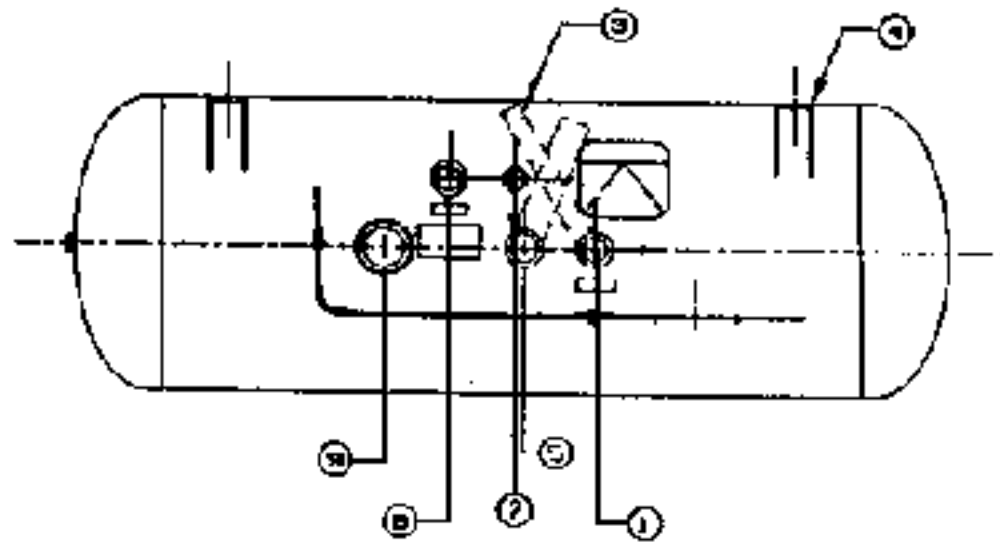


FIG. NO. 1
ASME Horizontal Motor home tank

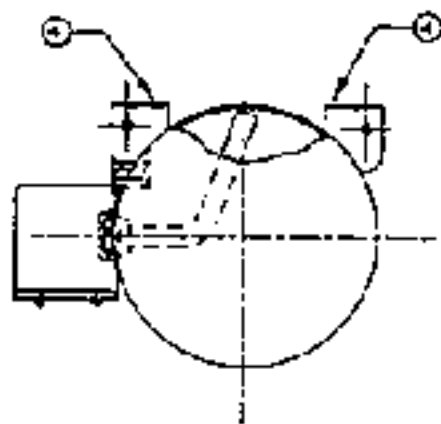


FIG. NO. 2
Side View FIG. NO. 1

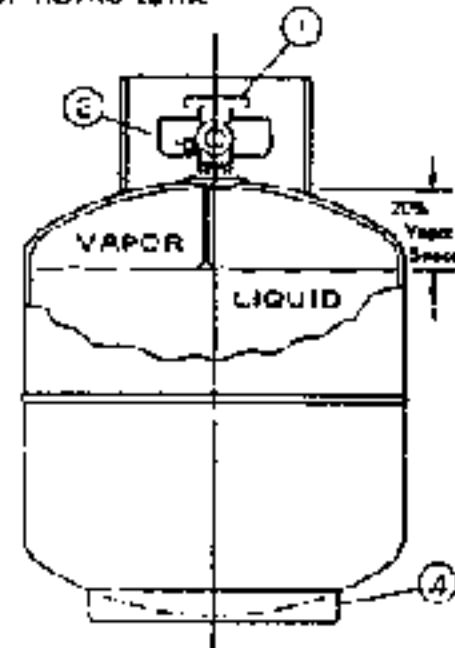


FIG. NO. 3 Standard vertical
20 lb. DOT cylinder.

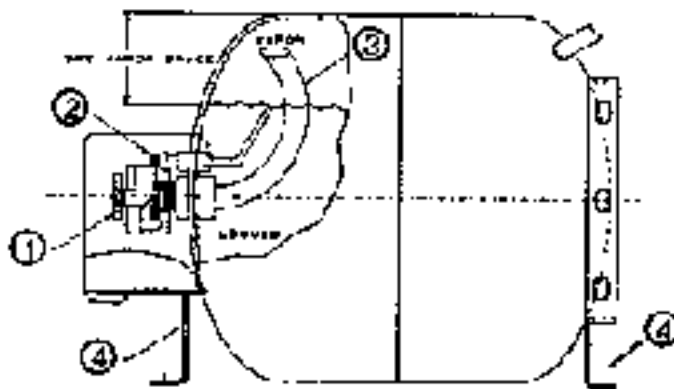


FIG. NO. 4 DOT 20 lb. cylinder
designed for horizontal use.

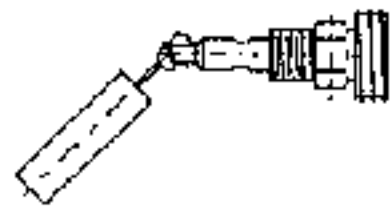


FIG. NO. 5 Automatic
stop fill valves required
on any permanently
mounted tanks.

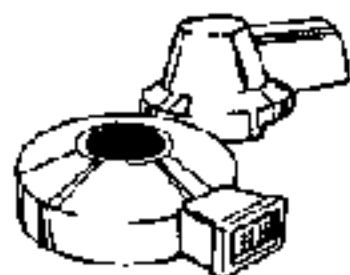


FIG. NO. 6 Regulator
cover required on all
exposed regulators.

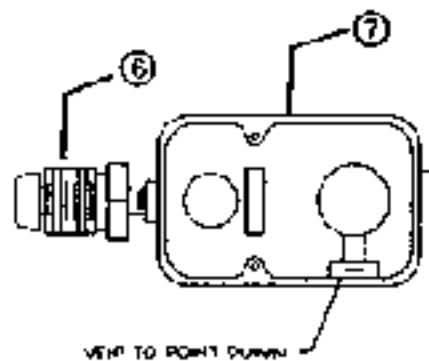


FIG. NO. 8
Two-stage regulator
required on all RV's.

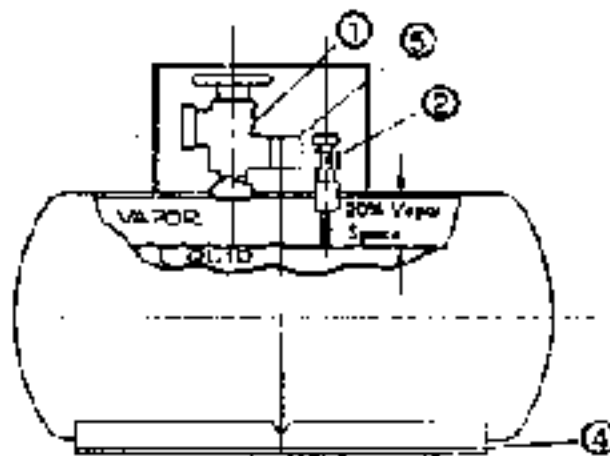


FIG. NO. 7
ASME standard
horizontal tank.

PURGING OF AIR FROM LP-GAS CONTAINERS

Air in LP-gas containers must be removed during the initial filling with LP-gas. If the container is not properly purged, air in the container dilutes the LP-gas vapor. Failure to purge may cause excessive tank pressure, slow filling and poor operation of Automatic Stop Fill valve. Appliances then require constant adjustment and pilot lights won't stay lit. This condition would exist until all air is depleted, leaving pure LP-gas vapor.

Have your LP-gas container purged, using LP-gas vapor to ensure satisfactory appliance performance. It only takes a few minutes and your LP-gas dealer is equipped to perform this service.

COMMON TERMS OF LP-GAS TANKS

1. POL-Vapor withdrawal service valve.
2. 20% Fixed Liquid Level Gauge. (Sometimes inaccurately called a 10% valve).
3. Vapor withdrawal tube. (Used on tanks where POL Valve is not located on top of tank.)
4. Bottom ring, stand legs, or mounting brackets.
5. Safety relief valve. Do not tamper.
6. Spud & nut with excess flow required on all RV's.
7. Two-stage pressure regulator.
8. Automatic Stop Fill Valve with 1-3/4" ACME.
9. Visible sight gauge. Available with remote sender.

DOT AND ASME TANKS

- Generally speaking, LP-gas tanks are built to the specifications of either the ASME or DOT pressure safety codes which are used extensively. Basically, the difference between the two codes is that valves, fittings and brackets may be located on the ends only on DOT cylinders, while on the ASME tanks they may be located on ends as well as sides. These tanks are required to be rated in gallons (ASME) or pounds (DOT) water capacity. Manchester production and testing methods are the most modern available to assure top quality.
- All valves and fittings on Manchester cylinders are listed by UL.

LP-GAS REGULATORS

LP-gas regulators reduce the pressure of LP-gas vapor from tank pressure to 6 1/4 oz. or 11" W.C. for use at the appliances. The regulator is the heart of the LP-gas system and although it seldom requires service, care should be taken to protect it from the elements which could cause it to malfunction. In addition, your LP-gas system should be kept free of moisture which could cause regulator freeze-up. Installation of a good regulator enclosure will protect your regulator and anhydrous methanol injected into your LP-gas container will help to prevent freeze-ups (1 pint per 100 gallons capacity).

CAUTION - ALWAYS BE SURE THAT THE REGULATOR VENT IS POINTING DOWN WITHIN 45°.

ADVANTAGES OF TWO-STAGE REGULATION

Reduced Freeze-Up Problems - A two-stage regulator must be used on RV's. A two-stage regulator greatly reduces the possibility of freeze-ups because (1) larger orifice sizes can be used in the regulators and (2) heat can be transferred through the walls of two regulators instead of just one.

Improved Regulation - The second stage regulator receives a relatively uniform pressure from the first stage regulator. This helps the second stage regulator to maintain appliance pressure at a nearly constant 11" W.C. because it does not have to adjust to varying inlet pressures.

*BASIC FACTS ABOUT LP-GAS

	PROPANE
Pounds per gallon	4.20
Specific gravity of gas	1.50
Specific gravity of liquid	0.51
Cu. ft. gas per gallon liquid	36.38
Cu. ft. gas per pound	8.66
BTU per gallon	91,502
BTU per pound	21,548
Dew point in degrees F	-44
Vapor pressure at 0° F	31
Vapor pressure at 70° F	127
Vapor pressure at 100° F	196
Vapor pressure at 110° F	230

Butane is not readily available in the U.S. or Canada. Low pressures in cold climates are more likely to cause vaporization problems. Keep fuel levels above 50%.

Average LP-gas capacities (PROPANE)
(allow 20% for vapor space)

	Lbs. of gas	BTU's
1 - 1.0 gal. DOT cylinder	5	107,740
1 - 2.5 gal. DOT cylinder	11	237,028
1 - 4.8 gal. DOT cylinder	20	430,960
1 - 7.2 gal. DOT cylinder	30	646,440
1 - 9.2 gal. DOT cylinder	40	861,920

Conversions:

Gallons to Liters (1 gallon = 3.785 liters)

F° to C° (F° = 9/5 C° + 32°)

11" Water Column = 6 1/2 ozs. per sq. in. pressure

27.7" Water Column = 1 pound per sq. in. pressure

To find out how long your LP-gas supply will last, simply total the BTU demand of all your gas appliances and the BTU capacity of your containers at 80% full. Divide container BTU capacity by total appliance demand.

*Data From NFPA Pamphlet #58-1989

NOTE: This pamphlet is not meant to be a complete guide to the use of propane cylinders and appliances.

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SOME BASIC PRACTICES TO ENSURE SAFETY AND TROUBLE-FREE USE

1. **Never** allow your LP-gas tank or cylinder to be filled above the maximum safe level as indicated by the fixed liquid level gauge (outage). Do not use the visible gauge for filling.
2. Do not use a wrench or pliers to close the POL service valve or fixed liquid level gauge on your tank. These valves are designed to be closed leak-tight by hand or screwdriver as appropriate. If wrenches are necessary to stop a leak, the valve needs repair or replacement.
3. When tightening the POL Nut (lefthand thread) on the service valve, draw it up snug with a proper wrench—don't jam it. This is a machined male brass fitting which seats securely against a female seat in the POL valve—no pipe dope is necessary. Check for leaks after connecting. Apply soapy water to connection, turn off all burners and pilots and open service valve. Leaks will be detected by the appearance of bubbles. If bubbles appear, tighten POL connector and repeat leak test.
4. When using tank, slowly open POL service valve all the way. Listen to the regulator. A hiss means a leak.
5. Check all tank and line connections periodically to be sure they are tight. When testing for leaks use soapy water—**not** matches.
6. Make certain your cylinder is properly fastened in place.
7. On dual tank installation, turn tanks with open part of tank guard towards trailer (travel trailer installation). This protects valves and regulator against flying rocks and mud which may be thrown to the rear on gravel or dirt roads.
8. If you take your LP-gas tank to an LP-gas dealer for filling, transport it in the proper position in which it is used, with the valves closed and **POL plug inserted**. Secure the tank against falling or rolling.
9. Since LP-gas is non-corrosive, you need not worry about the inside of your tank. However, the outside should be kept from rusting by a periodic coat of paint in a light reflective color.
10. Practice safety at all times. If you have questions about the operation of your appliance or LP-gas systems, contact your local LP-gas dealer.
11. Do not store LP-gas tanks or cylinders indoors or in enclosed areas. Do not expose LP-gas container to heat. Always store with service valve closed and plugged.
12. Do not attempt to repair LP-gas containers, valves or regulators.
13. Valve information supplied by appropriate manufacturer.

**ADDITIONAL COPIES OF HELPFUL HINTS
AVAILABLE AT NO CHARGE.**

Trailer Weight and Towing Guidelines

Following are definitions of weight terms used in the RV industry, a sample weight sticker, instructions for weighing your trailer, and guidelines for safe towing.

Gross Vehicle Weight Rating (GVWR) is the maximum permissible weight of the trailer when fully loaded. It includes all weight at the trailer axle(s) and tongue.

Unloaded Vehicle Weight (UVW) is the approximate weight of the trailer as manufactured at the factory. It includes all weight at the trailer axle (s) and tongue.

Cargo Carrying Capacity (CCC) is equal to the GVWR minus each of the following: UVW, full fresh (potable) water weight (including water heater), and full LP-gas weight.

Gross Axle Weight Rating (GAWR) is the maximum permissible weight on the trailer axle(s). This includes the weight of the axle, wheels, tires, and associated hardware and assumes that the axle is loaded equally on both sides.

TRAILER WEIGHT INFORMATION

VIN OR SERIAL NUMBER

GVWR (GROSS VEHICLE WEIGHT RATING) IS THE MAXIMUM PERMISSIBLE WEIGHT OF THIS TRAILER WHEN FULLY LOADED. IT INCLUDES ALL WEIGHT AT THE TRAILER AXLE(S) AND TONGUE OR PIN.

UVW (UNLOADED VEHICLE WEIGHT) IS THE WEIGHT OF THIS TRAILER AS MANUFACTURED AT THE FACTORY. IT INCLUDES ALL WEIGHT AT THE TRAILER AXLE(S) AND TONGUE OR PIN. IF APPLICABLE, IT ALSO INCLUDES FULL GENERATOR FLUIDS, INCLUDING FUEL, ENGINE OIL AND COOLANTS.

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

CARGO CARRYING CAPACITY (CCC) COMPUTATION	POUNDS	KILOGRAMS
GVWR	4075	
MINUS UVW.....	2990	
MINUS FRESH WATER WEIGHT OF GALLONS @ 8.3 LB/GAL 166	166	
MINUS LP-GAS WEIGHT OF GALLONS @ 4.5 LB/GAL..... 45	45	
= CCC FOR THIS TRAILER*	874	

*DEALER INSTALLED EQUIPMENT WILL REDUCE CCC

CONSULT OWNER MANUAL(S) FOR SPECIFIC WEIGHING INSTRUCTIONS AND TOWING GUIDELINES. CD-132

Weighing Your Trailer

Studies have shown that RV owners quite often load their RVs beyond allowable limits. To ensure that your trailer is not overloaded, we strongly recommend that you periodically weigh your trailer at a truck weigh station that will allow you to weigh your trailer one wheel at a time.

With this information, you can determine if any single component (e.g., tire or axle) is overloaded. If you find an overload condition, you should redistribute or eliminate cargo to help ensure safe travel.

Towing Guidelines

TrailManor developed a system, unique in the industry, to evaluate weight distribution and position the trailer's axles to eliminate sway and ensure excellent tracking. Loading heavy cargo too far to the rear of your trailer could offset this balance and cause sway conditions. We recommend that you load the heaviest cargo over the axle or forward of the axle to minimize the effects on your trailer's handling. If you experience sway, gently apply your trailer's brakes and, if possible, slightly accelerate to straighten the trailer. Slowing down suddenly by using your tow vehicle's brakes could make the problem worse. Drivers overcompensating their steering can also magnify sway. If you experience sway, evaluate the cargo placement and redistribute it as necessary.

Excessive load behind a tow vehicle's rear wheels, caused by the weight of the trailer's tongue or cargo in the tow vehicle, may make the tow vehicle unstable and cause sway. A load-equalizing hitch may be used to distribute the trailer's tongue weight more evenly on the tow vehicle. Particularly with front-wheel-drive tow vehicles, traction and handling characteristics may also be improved through use of a load-equalizing hitch. An improperly adjusted load-equalizing hitch may put undue stress on your trailer and tow vehicle and may worsen handling, so please refer to hitch manufacturer's instructions when adjusting such a system.

Always consider the effects of extra cargo weight when adjusting your brake controller (if adjustable) and leave extra following distance to ensure safe stopping.

TrailManor trailers have a low profile, which minimizes aerodynamic effects during travel and helps make TrailManor trailers the safest travel trailers available. However, be aware of the added surface area your trailer presents to strong winds and turbulence from large trucks.

TrailManor trailers are light weight and have a low center of gravity. However, when towing any trailer, you should reduce cornering speeds and minimize abrupt maneuvers. We recommend that you practice maneuvering your trailer in an unpopulated area to get a feel for its handling characteristics before venturing into highly trafficked areas.

Please discuss with your dealer and research other towing considerations such as brake controller operation and adjustment, tire care (particularly inflation), hitch operation, safety chain use, and trailer maintenance before towing your trailer.