Owner Care and Instruction Manual

NOTE:
This manual is a reprint for pre-2016 Hi-Lo models. Hi-Lo Trailers Worldwide did not produce it and is not responsible for its content.

2010 Models
Hi-Lo Trailer Co., hereinafter called Hi-Lo, 500 South Main Street, Belleville, Ohio 44813, issues the following Limited Warranty, subject to the limitations and conditions hereinafter provided:

HI-LO WARRANTS THE TRAILER TO WHICH THIS WARRANTY APPLIES:
A. To be Merchantable and Fit for the Ordinary Purposes for which such trailers are ordinarily used; and
B. Hi-Lo or its dealer will repair or replace, at Hi-Lo’s option, any part, which has never been subject to another warranty, which is found to be defective.

(Note: The component parts of the trailer which are manufactured by others such as tires, running gear, battery, power converter, plumbing and electrical fixtures, compressors, pumps, air conditioners, furnaces, stereo, appliances and bedding are covered by their separate warranty. If any, a separate service policy will be included from the manufacturer of such components. THESE PARTS ARE NOT COVERED BY THE HI-LO LIMITED WARRANTY. Service on these components will be covered by such manufacturer’s warranty and service policy as delivered to the consumer-user at the time of the original purchase of the trailer. THESE COMPONENT PARTS ARE NOT COVERED IN ANY EXTENDED WARRANTY MADE AVAILABLE BY THE COMPANY.

THE WARRANTIES EXPRESSED IN A AND B, ABOVE ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED.

THE IMPLIED WARRANTIES CONTAINED IN A AND B ABOVE ARE SUBJECT TO THE FOLLOWING CONDITIONS AND LIMITATIONS:

1. All Hi-Lo warranties, express or implied, shall expire TWELVE (12) MONTHS from the date of purchase by the consumer user; proof of purchase date will be required with all warranty claims. (Note: Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you).

2. The Hi-Lo Trailer must have been used, operated and maintained in accordance with the printed instructions provided to the original consumer user in the Care and Use Manual.

3. The warranties A and B above are limited to and extended only to the first purchasing consumer-user.

4. These warranties, A and B above, shall not extend to any trailer or part thereof that has been subjected to abuse, misuse, alteration, accident or use or operation contrary to the Care and Use Manual.

5. These warranties, A and B above, shall not extend to a trailer or any part thereof which has been loaned, leased, rented, or used commercially.

6. These warranties, A and B above, do not extend to a trailer which is not properly matched to a tow vehicle as per the tow vehicle manufacturer’s specified limitations.

7. These warranties, A and B above, do not apply to damages to the trailer caused by road hazards nor to damages caused by off road towing or towing on unpaved roadways.

8. These warranties, A and B above, shall not extend to labor costs or repair costs other than costs or parts found to be defective except where required by applicable law, HI-LO SHALL IN NO EVENT BE LIABLE FOR SPECIAL OR CONSEQUENTIAL DAMAGES. Hi-Lo does not assume responsibility for loss of use of the trailer, loss of time, inconvenience, expense of gasoline, towing, telephone, travel, lodging, loss or damage to personal property or loss of revenues; Hi-Lo does not undertake responsibility to any purchaser of its product for any undertaking, representation or warranty made by dealers or representatives selling its product beyond these representations and warranties herein expressed. (Note: 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).

Hi-Lo may make changes in design and improvements in subsequent vehicles and models without including any obligations to make such changes or improvements to units previously manufactured.

WARRANTY PROCEDURES

To obtain warranty repairs, the trailer should be taken to the authorized franchised dealer who sold you the Hi-Lo. This warranty work is to be rendered in accordance with the dealer’s franchise service agreement.

A. Defects in the warranted trailer must be reported within 30 days of discovery to the franchised Hi-Lo dealer who sold you the trailer. (It is recommended they be reported immediately).

If the franchise dealer from whom the trailer was purchased is not available, contact Hi-Lo Trailer Co., 500 South Main Street, Belleville, Ohio 44813 (Telephone: 419-886-0066) for instructions as to the nearest franchise dealer for repairs or other arrangements. To contact our service department directly, you can reach them at 1-800-337-6490, at extension 109.

All warranty work shall be performed by an authorized franchised dealer during the time specified in the public day and hours of such dealer. Within reasonable limits, preference will be given to warranty work in accordance with the dealer’s franchise agreement.

The procedures herein outlined and the remedies hereinabove outlined, shall be exclusive remedy for any alleged defect or breach of any warranty.

Note: THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH MAY VARY FROM STATE TO STATE. HI-LO DOES NOT AUTHORIZE ANY PERSON TO CREATE FOR IT ANY OTHER OBLIGATION OR LIABILITY IN CONNEC TION WITH THESE TRAILERS. HI-LO does not authorize any person to create for it any other obligation or liability in connection with these vehicles, TO THE EXTENT ALLOWED BY LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE APPLICABLE TO THESE VEHICLES IS LIMITED IN DURATION TO THE DURATION OF THESE WRITTEN WARRANTIES. NEITHER HI-LO NOR THE SELLING DEALER SHALL BE LIABLE FOR LOSS OF TIME, INCONVENIENCE, COMMERCIAL LOSS OR CONSEQUENTIAL DAMAGES (Some states do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages, so the above may not apply to you).
INTRODUCTION

Congratulations, you have joined a growing group of satisfied travelers, who own a trailer carrying the Hi-Lo mark of quality and distinction. Being a Hi-Lo owner sets you apart as an individual who demands safe trailering comforts.

Hi-Lo designs its telescoping travel trailer to fit the needs of the traveler. Since 1955, our aerodynamically efficient low travel profile has provided safety, towability, and up to 77% savings in fuel consumption, while our well planned interiors provide all the roominess, beauty and comforts of home.

It is important that you read this owners manual carefully. This manual is designed to provide you operating instructions, maintenance information, and useful tips that make your travel and camping care-free and trouble-free. We also recommend you keep this manual at hand during your trips for easy reference.

Hi-Lo prides itself in the quality of each trailer’s construction and excellent workmanship. Your dealer will fill out a certified customer care registration card and mail it to Hi-Lo, where it is kept on file.

All of our employees thank you for choosing Hi-Lo as your recreational vehicle.
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Hi-Lo Warranty
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1. BEFORE YOU LEAVE
YOUR DEALER

1.1 Check Off List
Before leaving your dealer be sure you understand how to:

☐ Raise and lower your Hi-Lo properly
☐ Operate LP-gas system
  - Light pilots
  - Shut off LP-gas system
☐ Operate electrical system
  - Change fuses
  - Reset circuit breakers
  - Change bulbs
  - Check all vehicular lighting
☐ Understand usage of power cords (including optional A/C unit)
☐ Operate water system
  - Attach hose to city water
  - Fill potable water supply
  - Drain locations
  - Pump switch locations
☐ Operate drainage system
  - Toilet operation
  - Holding tank chemical addition
  - Sewer hose connection and storage
  - Holding tank evacuation procedures
☐ Connect your unit to tow vehicle
  - Hitch ball, coupler, and coupler latch
  - Equalizer bars
  - Safety chains
  - Automotive electrical connector (12-volts)
  - Break-away switch
  - Mirror adjustment
☐ Stabilize your unit
  - Leveling procedures
☐ Convert into sleeping quarters
  - Dinette
  - Twin beds
  - Sofa bed
  - Swing away bunk
  - Operate the ExpandA-Room (if equipped)

Be sure to fill out registration card and leave with your dealer.

NOTICE: Vehicles with overall body width greater than 96" are known as "wide bodies" and have the advantage of more spacious interiors and innovative floor plans. Wide body vehicles are restricted to use on main highways in certain states. A vast majority of states allow for 102" body width on all highways and 102" body width is now allowed on all federal highways in the United States. Your dealer may be able to furnish more specifics.

If you are concerned about trailer width, we invite you to consider other Hi-Lo trailers offered in the standard 94" width.
12. PREPARING FOR TRAVEL

2.1 Hitching Up
Note: The hitch ball diameter must be the correct size to mate with the coupler on the trailer. All 2006 Hi-Lo models require 2 5/16" ball size.

1. Move tow vehicle into place so ball on hitch is directly below the ball lock coupler on trailer.
2. Hook up breakaway switch cable. Be sure it is properly attached to tow vehicle. (See Fig. a)
3. Lower ball lock coupler over hitch ball and secure.
4. Install the stabilizer bars, completely retract jack and remove dolly wheel.
5. Plug in electrical connections and check to see that the turn signals, brake, and trailer marker lights are working properly (may be necessary to equip heavy duty flashers on tow vehicle.)
6. Hook up safety chains.
7. Pull out the breakaway switch-actuating pin. Test brakes by attempting to drive away. The breakaway switch is functioning properly if the trailer brakes are activated. Replace breakaway pin. (See Fig. b)

Note: Before you go, check inside to make sure all materials are stored securely. Then check to make sure the trailer is in the fully lowered position. We recommend you not tow the trailer in the upright position for any distance. When all is ready, close the doors firmly and lock the outer door. Be sure the LP-gas system is turned off. Check both bottles.

2.2 Load Capacity
Located on the left exterior wall of your trailer, near the front, is the Federal Certification Label, which gives the maximum weight-carrying capacities of your trailer and each axle, designated by the letters 'GVWR' and 'GAWR', respectively.

The Gross Vehicle Weight Rating (GVWR) is the maximum your trailer should weigh with water and LP-gas tanks full, and with food, clothing and all other supplies aboard.

Each axle also has a maximum load bearing capacity referred to as the Gross Axle Weight Rating (GAWR). (See pg. 6)

2.3 Weight Distribution
When loading your trailer, 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 axles. Store only light objects on high shelves. Distribute weight to obtain even side-to-side balance of the loaded vehicle. Secure loose items to prevent weight shifts that could affect the balance of the trailer.

With the trailer fully loaded, drive to a scale, unhitch the trailer from the tow vehicle, and weigh separately the load on the hitch coupler and the load on the axles. The load on each axle should not exceed its GAWR. The total of the axle loads and hitch load should not exceed the GVWR. For best towing stability, the load at the hitch coupler should be between 12% and 15% of the fully loaded trailer weight. If a weight distributing hitch is employed; the load on the axles should also be weighted with the trailer hitched to the tow vehicle to make certain the load on the axle does not exceed its GVWR. If weight ratings are exceeded, move or remove items to bring all weights below the ratings.
2008 Hi-Lo Weight Specifications

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<tr>
<td>Coupler Height</td>
<td>26&quot;</td>
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Note: All weights above are estimates, and may vary from trailer to trailer.

2.3 Weight Distribution (continued)
Weight of optional equipment
- Swing away bed 50 lbs.
- Onan Generator 112 lbs.
- LP Gas Oven 40 lbs.
- 30# LP Gas Bottle 10 lbs.
- Microwave 40 lbs.
- Extra O.H. Cabinets 47 lbs

2.4 Packing and Inspecting Trailer
Part of the fun of trailer travel and camping is the ability to take along recreational equipment such as a boat, motor, fishing gear and sports equipment. Comfort items such as awnings, folding tables, and chairs add to your camping pleasure. And, you will certainly want to include some of the foodstuffs from your own kitchen. Also, be sure to fill your water tank.

Although your Hi-Lo trailer is sturdily built with margins of safety, too much extra weight can damage the undercarriage and cause excessive tire wear. Check label GW on the left front corner for maximum Gross Vehicle Weight.

Your Hi-Lo trailer is designed and balanced for easier and safer towing so that just the right tongue weight rests on the car hitch. In packing extra equipment, it is important to maintain that balance as near as possible fore and aft. It is also recommended that the heaviest item to be positioned as near as possible to directly over the wheels. In stowing loose equipment, pack it in such a way as to avoid shifting during acceleration or braking. Pad heavy and sharp items to avoid damaging interiors and equipment. A little extra care and a few minutes spent in getting your trailer ready for travel assures a pleasant trip.

2.5 Vehicle Inspection
Your vehicle should be in good running order. Also tires, lights, and brakes should be checked before travel.

2.6 Be sure waste holding tanks are empty. (See 8.9)

Steps for Determining Correct Load Limit—

1. Locate the statement “The weight of cargo should never exceed XXX kg or XXX lbs.” On your vehicle’s placard.
2. This figure equals the available amount of cargo and luggage load capacity.
3. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity.

The above weights are approximate weights of standard models. Add for optional items if applicable:

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

UVW (Dry or Unloaded Vehicle Weight) means the weight of this trailer as built at the factory. If applicable, it includes full generator fuel, engine oil, and coolants. The UVW does not include cargo, fresh water, LP gas, or dealer installed accessories.

CCC (Cargo Carrying Capacity) means the maximum weight of all personal belongings, food, fresh water, LP gas, tools, dealer installed accessories, etc, that can be carried by this trailer. (NCC is equal to or less than GVWR minus UVW).

This trailer is capable of carrying up to 36 gallons of fresh water (including water heater) for a total of 300 pounds. Reference: Weight of fresh water is 8.33 lbs/gal; Weight of propane is 4.5 lbs/gal (average).
3. TRAVEL

3.1 Towing Speed
Probably the greatest factor in safe, pleasant towing is maintaining reasonable vehicle speed. Reducing speed increases trailer-towing stability and reduces required emergency stopping distances. If you are new to travel trailer, reduce your driving speed while towing. As you gain experience you will be able to determine the maximum safe driving in speeds for all towing conditions. Slower speeds will also decrease fuel consumption.

3.2 Towing Stability
The three main principal factors affecting trailer-towing stability are traveling speed, wind conditions and weight distribution. Poor trailer towing stability can be recognized by the trailer having the tendency to sway from side to side after quick course changes, while being passed by large trucks or buses, or in cross winds.

If the trailer begins to sway strongly from side to side, make as little steering corrections as possible. Using the hand lever on the brake controller, firmly apply the trailer brakes to pull the trailer straight behind the tow vehicle and reduce speed. (Note: Electronic and brake mounted controls may not allow for independent operation.) Do not attempt to stop the trailer swaying by making quick steering changes or by forcefully applying the tow vehicle brakes.

Since cargo weight in the rear of the trailer can reduce towing stability avoid storing heavy objects in the rear of the trailer or on the rear bumper. Empty the waste holding tanks before traveling whenever possible.

Weight distributing hitches improves towing stability and should be used on all Hi-Lo trailer models. In addition, most hitch manufacturers offer sway control devices. These will help reduce swaying, and will improve trailer handling during emergencies or in crosswinds. Be sure to follow hitch and sway control manufacturer’s instructions. Correct use of these devices will increase stability, but should not be considered a substitute for prudent speed, proper cargo loading, safe weather conditions, and towing experience.

Small but sudden course changes can occur when a vehicle towing a trailer is passed from the rear by a large flat-fronted vehicle such as a truck or bus. These course changes happen when the wind from the flat front blows against the side of the trailer. As the truck front passes the rear of the trailer, the tow vehicle will tend to turn away from the truck, and as the truck front passes the trailer wheels, the tow vehicle will turn back toward the truck.

If a large flat-fronted vehicle Passes from behind causing your vehicle to change course, make as little steering correction as possible, remembering that the tow vehicle will be turned back to its original course as soon as the truck front passes the trailer wheels. Avoid quick steering corrections that can inadvertently magnify these course changes and start trailer swaying.
3.3 Passing
When passing another vehicle, remember that your tow vehicle will accelerate more slowly than usual because of the added weight of the trailer. Allow ample passing time and distance. Once past the other vehicle, allow for clearance of the trailer before returning to the original lane. Use your outside rear view mirrors and proper turn signals to assure safe maneuvering.

3.4 Stopping
The increased weight of the car-trailer combination requires greater stopping distances. Maintain at least twice the normal stopping distance while towing your trailer.

3.5 Backing Up
Here is an easy way for new trailerists to remember the way to turn the steering wheel when backing a trailer. Place your hand at the bottom of the steering wheel, To turn the trailer to the left, move your hand to the left (turn steering wheel clockwise), To turn the trailer to the right, move your hand to the right (turn the steering wheel counter clockwise). Your car should go the opposite way that you want the trailer to turn. In time, and with a little practice, backing will be accomplished with little effort. Always be aware that you have poor visibility to the rear. Someone standing outside at the rear of the trailer guiding your actions will assure safe backing.

3.6 Mirrors
There are many types of outside mirrors that can be used on your tow vehicle. Some may prefer a non-permanent installation that can be removed between trips. Most states require mirrors extending on both the right and left sides of the towing vehicle to provide the driver a clear view when passing or being passed.

Install mirrors as close to the driver as possible to provide the maximum field of view.

Check for specific requirements in the states where you will travel.

3.7 Towing With Diesel Powered Vehicle
Improper maintenance and driving at low RPM under load conditions can cause excessive diesel smoke, which could enter the trailer while traveling.

It may be necessary to use extension pipes to divert diesel exhaust into the airflow.

3.8 Selecting Proper Tow Vehicle
Engine sizes, axle ratios, and gross vehicle weight rating (GVWR) are important criteria when choosing a tow vehicle. To make your selection of the proper tow vehicle, consult your tow vehicle dealer. They should also be able to tell you what information you need on your present vehicle.

3.9 Hitch Ball Height
This measurement should be the height of the trailer coupler (top of ball socket) to the ground when trailer is level. (See page 6)
4. PARKING & SETUP

4.1 Selecting Campsite

Many commercial parks and campsites are available for the modern traveler and camper. It is recommended for reasons of convenience and security that you take advantage of these facilities when parking. However, in the case no facilities are available, school, church, motel or other parking lots are sometimes used with consent of the caretakers. In such an event, it is wise to notify local police of your location.

4.2 Leveling Trailer

Once the site is selected, several factors need to be considered as the site is approached. Location of utility outlets if any and the levelness of the parking area will determine your position. If it is a pull through site, it is best to approach from the 'high' end and stop to a point where electric, water and sewer connections can be made. Once this position is reached, level your wheels from side to side. Small pieces of the planking and boards may be carried for this purpose. Once leveled from side to side, block wheels to stop trailer from rolling, then adjust leveling jack on your trailer hitch to level front to back. Having parked with hitch on low end allows you to easily disconnect tow vehicle or leave attached as you so desire. It is especially important that your trailer be level for most efficient operation of your refrigerator. See Figure 1 for location of leveling jacks.

4.3 Raising Your Hi-Lo

With your Hi-Lo positioned on your campsite and leveled, you are ready to raise it from the low traveling profile to the normal living position.

1. Open the top door and fasten it to the door holder.
2. Hold bottom door at an angle of 90 degrees, so it will NOT interfere with top door when raising.
3. Refer to figure 2. Lift the telescoping switch (left) and hold in this position until the trailer's top section has reached its full height at which time you should hear a 'squeal' and the safety lock engages automatically. To make sure safety bar is locked, depress switch to down position. If the top section does not lower, this indicates that the safety bar is in locked position. Once you have ascertained that the safety bar is locked, lift telescoping switch to pressurize hydraulic cylinder. If the safety bar does not lock, refer to (section 7.9.3).

Your trailer now is ready for entry and connecting up your utilities, electric, water and sewer when available. Turn on LP gas valve at tank. Before lighting water heater, be sure water system and water heater tank are filled with water. Also light oven pilot if so equipped (See section 10.2). The refrigerator may be switched to 110-volt electric or LP gas. Note: Instruction booklets are enclosed for further details on hot water heater, refrigerator, furnace and other components included in your trailer. To get the most from your trailer, it is best to read and study each manual.

4.4 Outside Utility Hook Ups

1. Electric Supply - The 110-volt supply cord is located in a compartment on the lower roadside of the trailer. Your trailer is equipped with a 25' heavy-duty power cord designed to carry 110-125-volts AC, 60Hz, 30 Amp electric service. Pull out cord and take one complete wrap around electric supply post, then up to receptacle. Be sure power source is 110-125-volt with standard 3 wire connector, positive, neutral and ground. (See section 6.13).
2. **Sewer Hook up** - Remove sewer hose from capped bumper storage tube. Place container under capped drain outlet located under left side of trailer to catch any water in the drain, then remove protective cap by turning counter clockwise. Connect sewer hose to terminal fitting. Place opposite end of the sewer hose into a ground sewer or dump station inlet.

The use of a tapered collar or adapter, available from your dealer or trailer supply stores to put around hose before placing it into the sewer outlet is recommended. This will help prevent the escape of unpleasant odors about your campsite. Arrange hose so it slopes as evenly as possible from terminal to outlet. Always ensure that tank is emptied into an acceptable sewer outlet or dump station.

3. **Draining Holding Tanks.**
All Hi-Lo trailers have dual holding tanks, one for sewage and the other for gray water. To dump sewage, open the large slide valve by unlocking valve and sliding valve open with a quick steady pull. After completely drained, rinse and flush tank. When tank is empty, close and re-lock valve. If trailer is equipped with gray water holding tank, repeat same procedure using the smaller of the two slide valves. If staying at campsite, keep hose connected and both slide valves closed, draining and flushing periodically if needed. **Towing your trailer with the holding tanks full is not recommended.**

4. **Fresh Water Connection**
**Caution** - Check supply pressures before connecting - your system is tested at 100 psi. Pressures above this should be controlled by an in line regulator.

Connection for city water supply is located on lower left front portion of the trailer and marked "city water connection." Water hose should make connection directly from the supply hydrant to the trailer connection. Note: It is important to use the proper type of hose for this purpose, as some will give an offensive taste and odor to your water supply. Flush hose before connecting to trailer. Once connection is made, the water pressure may be turned on and different spigots within trailer opened slightly to release trapped air.

The on board water tank is protected from city water pressure by a check valve in the line. To fill this tank, unlock the water fill door marked "potable water." The water storage tank then may be filled with a container or with an approved water supply hose. Water is pumped from the tank by a 12-volt demand pump. A switch for this pump will be found within the trailer. **Caution** - this switch should be off when the tank is empty or when traveling.

Never put contaminated water into your system. Procedures for sanitizing your system may be found under the plumbing section (8.4). Sanitizing is recommended even for a new trailer.

This completes your outside utility hook ups. It is ready for normal use providing all interior connections are in order.

4.5 **Awning and Windows**
Awnings may be extended if trailer is equipped; being sure they are securely fastened in case of wind or storms. Pockets for collecting water should be avoided. Upon leaving trailer for long periods, awnings and roof vents should be returned to normal position. When trailer is in use, windows or the roof vent should be opened at least a small amount for ventilation and as an aid to prevent condensation.
4.6 Preparing To Leave Camp and Lowering Your Hi-Lo

2. Fill water tank if supply desired for travel.
3. Remove, flush and replace sewer hose into storage.
4. Remove water line and electric cord and store.
5. Replace caps on sewer and water lines on trailer and site.
6. Shut off LP gas at tank and turn oven pilot to “oven off” position (if equipped).
7. Shut off the water pump switch.
8. Change refrigerator to 12-volt while trailer is in transit (see section 10.1).
9. Close all windows, awnings, vents, access doors, exterior utility doors, front sunshade, ExpandA-Room and cover.
10. Secure all loose items in trailer.
11. Be sure there is nothing on the counters and other areas that will interfere with the trailers telescoping operation.
12. Place swing away bunk into stored position and close all cabinet doors.
13. Turn off all heating appliances.
14. Set entrance doors in operational position for raising and lowering (see section 4.3).
15. Check for obstructions both inside and out. Make sure no one is inside or near the trailer before lowering.
16. Release safety bar by pulling the release cable (see Figure 2 on Page 9) located near the telescoping switch. If the safety bar will not release, raise the top section enough to accomplish this, then depress telescoping switch to the down position.
17. Depress telescoping switch until the top section lowers to the travel position.
18. Remove and store leveling lacks.
19. Close and lock doors securely.
20. Put the step in “stow away” position.
22. Trailer is now ready to hitch to tow vehicle (see section 2.1).
23. Never tow your Hi-Lo in a raised position.
5. LP-GAS SYSTEM

5.1 General Information
As with other systems in your Hi-Lo all components have been nationally recognized testing laboratory. When properly handled, LP gas will provide you with trouble-free operation of your heat producing appliances.

LP-gas (liquid petroleum) is a material composed of various hydrocarbons such as propane, propylene, butanes, butylenes, or a mixture of them. In its gaseous form (vaporized), it is colorless and carries an added garlic-like odor for detection. Besides being flammable, it is potentially lethal to inhale. LP-gas is compressed into liquid form for storage and transportation. It is also known as bottled gas. Propane gas will vaporize during extreme cold (above -44°F), while butane will not vaporize below 30°F. Most LP-gas fueling stations sell only propane for recreational vehicle use.

The LP-gas tank mounted on your vehicle contains LP-fuel in liquid form under high pressure. As fuel is used, vapor (LP-gas) passes from the top of the tank through a 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 line for appliance use.

5.2 Checking For Leaks
Upon delivery and periodically thereafter, check your gas system for possible leaks. Although the entire distribution system and its attached appliances have undergone extensive factory testing for leaks, with normal use being subject to road vibration, connections and fittings can develop leaks. Usually you can detect these leaks by the strong odor of garlic or unions. If you encounter this odor, turn off all open flames immediately and commence a systematic search for leaks throughout the gas system. Use a bubble solution of non-ammoniated soapy water -NEVER A MATCH- on connections and fittings. Bubbles will appear at the leaky points, 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 system, then check the appliances.

5.3 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 6 1/2 ounce per square inch can cause damage to appliance regulators.

5.4 Using The Automatic Changeover Regulator (optional)
Your Hi-Lo may incorporate an automatic changeover regulator. This apparatus 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 in service becomes empty, changeover is automatically accomplished to commence draining fuel from the other bottle. At this point, the plastic window will display a red signal or flag to indicate the condition, whereupon first notice you should then flip the lever over to indicate service on the other bottle. The first bottle, which was depleted, can then be turned off, uncoupled and taken to be refilled without disturbing the LP-gas supply. After Refilling, it can be remounted and again to the “on” position. When the other bottle is depleted, the LP-gas supply will again be automatically changed over.
5.5 Gas Containers - Using Alcohol
When gas containers are not in use for some time, or are empty, it is advisable to keep the service outlet valve closed to minimize entry of moisture inside containers or the regulator. Moisture can cause freeze-up damage to regulators. To minimize chance of freeze-up, have your dealer add a half-cup of dry methyl alcohol into each container.

5.6 Filling Propane Containers

Warning - your vehicle has exterior combustion air inlets. Appliance pilot lights should be turned off during gasoline or Propane refueling on the unit. (Required by law in some states.)

Propane is available throughout the country. When one bottle is depleted, it is best to have it filled without delay. Most campground directories have listings of propane stations. Many travel parks have propane available.

Local regulations sometimes require that I.C.C. removable cylinders be removed from the RV for filling. Caution the supplier not to overfill your tank. A 20% or 10% relief valve is incorporated on some tanks for safety. This valve is normally opened during filling and will indicate when the tank is filled to the proper limit by appearance of liquid replacing vapor. At all times, the overfill valve should be tightly closed by hand only.

The main valve on propane containers 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. If a valve is replaced, always replace it with the RV type that incorporates a check valve as some local regulations prohibit filling tanks that don't have one.

When propane containers are filled to the proper level, there is available space for safe expansion of the vaporized liquid. If your tank becomes over-filled and is not allowed to bleed off before installation with the RV system, it may gain pressure due to exposure to hot sun rays and will begin blowing off pressure from the relief valve. This can be detected by strong odor around tanks and can be heard close up. Keep all open flames away from this area. It is best to remove the bottle, take it to a safe area and bleed off the excessive pressure by opening the valve and closing it when discharge has been sufficient.

Warning: Handle your propane tanks with care.

5.7 Propane Consumption
Most gas appliances are only intermittently operated. Unless there is a heavy use of hot water, water heater consumption is not too great. Operating under winter conditions, requiring heavy use of the furnace, or doing a lot of oven baking for hours at a time is what really consumes the gas rapidly. During freezing weather and high wind conditions, furnace consumption can be extremely heavy.

Propane consumption depends upon individual use of appliances and the length of time operated. Each gallon of LP-gas produces about 91,500 BTU's of heat energy. A typical seven-gallon container will provide about 640,500 BTU's of heat energy.
5.8 Safety in Using Propane

You should check for leaks at the connections on the propane system soon after purchase and initial filling of propane tanks. Continued periodic checks of the system are recommended. Even though the manufacturer and dealer have already made tests for leakage, this check is advisable because of the vibration encountered during travel. Your vehicle was manufactured to provide you with full access to the gas line connections. Leaks can be found easily with a soapy water solution applied to the outside of the gas piping connections. Usually tightening of connections will close leaks. If not, ask your authorized dealer service to make the necessary repairs.

Propane is heavier than air. Leaking gas tends to flow to low places much as will water. It will sometimes pocket in a low area. Propane can usually be detected by an identifiable odor similar to onions or garlic. Warning NEVER LIGHT A MATCH OR ALLOW ANY OPEN FLAME IN THE PRESENCE OF LEAKING GAS.

Be sure to shut off main propane supply valve when the vehicle is not in use. This rule should also apply while the vehicle is moving to prevent any accidental ignition of gasoline fumes while refueling by the pilot lights in the water heater, furnace, or refrigerator.

Never allow gas containers to be filled above the liquid capacity indicated on 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 lines. In addition, an over filled container placed in hot sunlight may expel excess gas through the relief valve and be susceptible to ignition by a nearby open flame.

Propane Detection

Whenever the measured concentration of propane exceeds 2,000 ppm the detector will provide a visual and audible alarm by sounding the buzzer and flashing the red LED two times per second. When alarming the buzzer may be temporarily silenced by pressing the test button. However, until the measured concentration is reduced to a safe level the alarm will sound again within 4 minutes.

Detector Test

Press the test button for 5 to 6 seconds until the alarm sounds then release the test button. The LED should flash red and sound alarm for approximately four minutes. This causes the microprocessor to carry out an extensive check of the overall circuit to verify that the system is working properly. This test must be carried out not less than once a week to assure proper operation of the detector. To interrupt the test, press the test button until the alarm is silent and the LED is green.

Clean Air

As long as the detector does not measure a concentration of LP gas greater than 2000 ppm or a very high concentration of solvents or similar fumes there will be no visual or audible indication and the unit will show that it is working properly by displaying a green LED.
5.8 Safety in Using LP-Gas (continued)

Fume Detection
The Microprocessor system of the detector is capable of distinguishing between propane and fumes of those solvents often found in the living environment. The unit will not alarm when exposed to these fumes but will indicate their presence by flashing the green LED 1 red every 8 seconds. If the concentration increases, the green LED will flash red 2 times every 8 seconds. Extremely high concentration may result in an alarm. If this condition is indicated, fumes pollute the environment and you will want to ventilate the premises by opening a door or window until the visual indication stops.

Trouble shooting
Any failure in the detector will result in a clear indication of malfunction.

Power Failure
If no power is applied to the unit there is a failure of the power circuit, there will be no light from the LED, but the audible alarm sounds when the test button is pressed, then the LED is defective.

Low Voltage
If the supply voltage falls below 10 VDC the detector will continue to operate, but will blink alternately green and orange. Below 8 VDC the unit will behave erratically and eventually will shut off. To ensure reliable operation do not operate the unit below 10 VDC.

Component Failure
The failure of my circuit component will cause the detector to display a continuous orange light on the LED and a short beep indicating failure. A failure of the microprocessor device will result in obvious indications such as a continuous red LED display, a continuous buzzer sound or both. If the unit indicates a failure mode please contact your Atwood Service Center immediately.

Warning
TEST DETECTOR OPERATION AFTER VEHICLE HAS BEEN IN STORAGE, BEFORE EACH TRIP, AND AT LEAST ONCE PER WEEK DURING USE.

IMPORTANT
THIS DETECTOR WILL ONLY INDICATE THE PRESENCE OF LP GAS AT THE SENSOR. LP GAS MAY BE PRESENT IN OTHER AREAS.

IMPORTANT
NOT SUITABLE AS A SMOKE AND FIRE DETECTOR. NOT SUITABLE FOR INSTALLATION IN HAZARDOUS AS DEFINED IN THE NATIONAL ELECTRICAL CODE.
Protechtor
LP & CO DETECTORS

We would like to address some concerns that have been expressed about the Atwood Protechtor LP & CO detector.

Our detectors operate at peak performance when the battery or filtered side of the converter is between 10 VDC and 12 VDC. This minimum voltage range must be met for our detector to provide its fullest level of protection to the consumer.

Anything less than these voltage ranges causes the detector to go into various warning or alarm states. These alarm states and their corrective actions have been often misunderstood.

Below you will find a diagnostic chart that displays symptoms and corrections under various low voltage ranges.

<table>
<thead>
<tr>
<th>VOLTS</th>
<th>ALARM</th>
<th>LED</th>
<th>SENSING CAPABILITY</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>10V - 12V</td>
<td>Sonic</td>
<td>Flashing Red</td>
<td>Yes</td>
<td>Dangerous levels of gas. Take corrective action.</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>Green</td>
<td>Yes</td>
<td>See User's Manual for complete instructions.</td>
</tr>
<tr>
<td>8V - 10V</td>
<td>None</td>
<td>Blinking green/yellow</td>
<td>Yes</td>
<td>None</td>
</tr>
<tr>
<td>6V - 8V</td>
<td>Chirp every 90 seconds</td>
<td>Solid yellow</td>
<td>No</td>
<td>Increase supply power to 10 VDC minimum.</td>
</tr>
<tr>
<td>Below 6V</td>
<td>May alarm full time or chirp</td>
<td>Will show solid yellow or red</td>
<td>No</td>
<td>Must shut off power to detector, i.e. battery disconnected. Re-establish voltage above 10 VDC.</td>
</tr>
</tbody>
</table>

Note: Anytime the power to the detector falls below 8V the user must shut off power to the detector i.e. battery disconnected and re-establish voltage above 10 VDC.

Gases other than carbon monoxide or LP can occasionally cause our detectors to alarm even though they exceed UL standards for resisting interfering gases by five-fold. However, in extreme cases ... (new coaches sealed tight and stored in the sun or exposure to heavy concentrations of alcohol based cleaning fluids) ... our detector can alarm.

IMPORTANT PREVENTATIVE ACTIONS

- Leave the "sensor activation strip" in place as long as possible. Wait until pre-delivery inspection to remove it.
- Ventilate a newly manufactured RV before putting detector into service.
- Keep the RV well ventilated when using cleaning solvents.
6. ELECTRICAL SYSTEM

6.1 General Information
Your Hi-Lo trailer is equipped with a combination 110/125-volt AC and 12-volt DC electrical system. This is provided so you may use outside 110-volt service where available or when this is not the case, you may be self-contained and operate off your car and trailer batteries for limited periods. This versatility is a big advantage when traveling as situations may arise where utilities are not available. Many state and federal parks, primitive camps, overflow areas, etc., provide only the campsite itself with few or no facilities. You are prepared for most any eventuality.

6.2 110-125 Volt AC
Commonly referred to as the 110-volt AC system with 30-amp capacity at 60hz cycles. It is recommended that you always check outside power sources to make certain they are within the compatible voltage rating of your trailer. As a reminder of this circuit capacity, an instruction plate similar to Figure 2 is attached to your trailer near your 110-volt entrance.

Your Hi-Lo is equipped with a heavy duty 30-amp power cord stored in the electric power cord compartment located on the lower left front side of your trailer. The cord's weatherproof construction permits it to be extended to the power source. The cable assembly should not be cut or altered in any manner so as to safeguard its water tightness.

Duplex receptacles are located and wired within the trailer to furnish convenient outlets for AC power. Circuit breakers have been installed to protect electrical circuits from overloading. Do not make unauthorized changes to circuits from overloading. Do not make any unauthorized changes to circuitry or add on fixed appliances. Should you wish to make such changes, consult your dealer who will assist you in obtaining a safe installation.

Circuit Breakers
The circuit breaker box is located in the lower left inside cabinets of your trailer as pictured. Location will vary slightly with trailer models. If a circuit breaker trips, locate and remove the cause of the overload before resetting the circuit breaker.

6.3 Ground Fault Interrupter
The bathroom, kitchen, and outside outlets are protected by a ground fault interrupter (G.F.I.). This device is provided in compliance with ANSI A119.2/NFPA 501C requirements, and is intended to protect you against electrical shock possible when using electrical appliances in the bathroom or damp areas. Should an appliance develop a shock hazard or if your trailer grounding is faulty, the G.F.I. device will disconnect the outlet, protecting you from serious shock.

Your owner’s information kit contains instructional material about the G.F.I. These should be read and the test procedures carefully followed.

6.4 12-Volt DC
Your Hi-Lo is equipped with a 12-Volt DC electrical system. This system supplies voltage to operate the 12-Volt hydraulic lift motor, interior lights, fans, radio, water pump, furnace, monitor system, and other 12-Volt appliances. The 12-Volt battery is charged through the tow vehicle alternating system (drawing 6.15). The battery is located in A-frame tongue section on the front of your trailer. (12-volt wire location, PG 18a,)

#1-30A.MAIN #4-20A.BATH/KIT
#2-20A.A/C #5-15A.REFRIG.
#3-20A.OVEN #6-15A.OPT.WATER HTR
6.5 110-Volt to 12-Volt DC Converter
The converter will supply 12-volt requirements when your trailer is connected to a 110-volt supply source. This not only saves the power in on-board battery, but the converter will automatically sense the condition of the RV battery. If it is below full charge, the charger section of the converter will start charging the battery. The battery will automatically be charged at a high or low amperage rate, depending on the need. The rate of charge will decline, as the battery reaches 'full charge' and the charger will drop back to 'maintenance' level. Anytime a storage battery cannot be charged as described, it is possible the battery is defective.

Battery usage without 110-volt supply should be very limited, for furnaces, motors, refrigerators on DC can run down a battery in a matter of a few hours. Careful usage of lights and limited use of appliances can extend the time between charges.

6.6 DC Distribution Panel (12-Volt Fuses)
A DC distribution panel is located with the 110-volt breaker panel. This panel contains circuits with replaceable fuses for protection of RV 12-volt light and motor lines. Do not put in larger fuse than indicated. Clearance lights, turn signals, stoplights and electronic brakes are controlled and fused by the tow vehicle.

**Warning** Disconnect the 110-volt cord and the positive battery terminal before working on either electrical system.

6.7 12-Volt to Electric/Hydraulic Power Lifting Unit
A heavy-duty battery cable that runs directly from the battery to the motor supplies the power for your lift unit motor.

Instruction pamphlets covering the converter, ground fault interrupter, and other components of your trailer are enclosed with your manual or available at your Hi-Lo dealer.

6.8 Electric Brakes
Electric brakes require little or no special care or Service other than keeping connections and wiring free of dirt and other foreign matter. Brake adjustment, relining and repair are similar to those of your car and can be serviced by any qualified service station.

6.9 Break Away Switch
Your trailer is equipped with an emergency break away switch. In the event you would come unhitched on the road, the break away pin will be pulled, setting your trailer brakes. This device should be checked periodically by pulling pin and attempting to pull forward. If the brakes 'lock up', the system is in good order. Never leave pin out or attempt to use for parking brake, as this will run the battery down. Loss of emergency braking is usually due to defective wiring, defective breakaway switch, or low battery.
6.10 7 Wire Plug
A chart of the 7-wire plug is shown in Figure 6.11. This will assist you in matching up the tow vehicle wiring to that of the trailer. It is very important to keep plug terminals clean and free from corrosion at all times.

6.11 Schematics of Electrical Systems
Schematic for the 12-volt lower section is shown on Page 20 (Hi-Lo Manual). Also the 12-volt schematic car trailer connection showing various hook ups on the tow vehicle and trailer.

6.12 Understand the use of power cord (including air conditioner circuit cord).
The long cord with the three prongs is used to supply 110-volts to your trailer from the campsite power supply outlet.

Inside trailer the short cord with female outlet is used to supply power to topside outlet to run your air conditioner if so equipped.
12-Volt Wire Location - Upper Side

1. Right Front Running Lights
2. Left Front Running Lights
3. Right Wall Light
4. Left Wall Lg. 11
5. Front Wall Light
6. Front Wall Light
7. Right Tail Light
8. Left Tail & Stop
9. License Plate
10. Third Brake Light
11. Rear Running Light
12. Rear Running Light
13. Rear Cubby
14. Outside Light
15. Roof Air Conditioner Wire
16. Roof Vent

12-volt Wire Location - Lower Side

Blue - Breaks
Black - Charge Line
Ground
Brake Away Cable
7. HYDRAULIC LIFTING SYSTEM

7.1 Electric/Hydraulic Power Lifting Unit
This unit is located in the A-frame compartment. It consists of the following elements: 1. Electric Motor, 2. Solenoid start switch, 3. Filler breather port, 4. Reservoir, 5. Relief valve, 6. Manual release knob, 7. 3/8 NPTF pressure port, 8. Electric release valve. This complete unit is factory adjusted and preset for smooth and efficient operation. It should require no further adjustment. However, for your information, here are some facts about the unit, which may prove useful in the future.

7.2 Electric Motor
A standard DC Prestolite starter motor operates the hydraulic pump. While it should seldom need servicing or replacement, an automotive supply house can supply a replacement in an emergency.

7.3 Raising Solenoid
Engaged by raising control switch, the solenoid completes the circuit to supply power to the pump.

7.4 Hydraulic Pump
The hydraulic pump is close-coupled to the electric motor. It is capable of producing up to 3,000 PSI; however, the raising mechanism of your Hi-Lo trailer requires much less for efficient operation. This unit includes a by-pass valve that operates when the hydraulic lifting cylinder has reached its maximum thrust. The by-pass is a built-in safety device to prevent damage. A harmless "squeal" will be detected when it is activated to indicate the top section is fully raised into position.
7.5 Lowering Solenoid Valve
The valve is engaged by depressing the up/down lift control switch at the entrance door or by turning manual lowering knob counter clockwise on the lowering valve (see figure 3). This valve has been preset at the factory for a lowering time of 12 seconds.

7.6 Safety Bar
When raising the top section to the raised position, make sure safety bar engages. This can be accomplished by moving the telescoping switch to the down position. If the top section does not lower, then the safety bar is latched. Lift telescoping switch to pressurize hydraulic cylinder.

7.7 Hydraulic Cylinder
The cylinder that raises your Hi-Lo is located in a transverse position and mounted in the center of the frame assembly. The unit is readily accessible from the trailer underside. As with the pump and other elements of the lifting system, it is rated well beyond maximum requirements to insure dependable performance.

7.8 Cable Lifting Assembly
Aircraft type cables operate from the hydraulic cylinder and perform the actual raising of the upper section.

The upper section of your Hi-Lo is also equipped with nylon guide assemblies and the bottom section with matching trunnion guides to keep the upper and lower sections in proper alignment at all times.

7.9 Trouble Shooting Hi-Lo Lift Mechanism
1. Top Will Not Raise - Lift Motor Will Not Run
   A. Low or Dead Battery - Attach jumper cable from a charged battery to the trailer battery. (Positive post to positive post - Negative post to chassis ground). If the motor now runs, check to be sure you are getting ample charge from the connector system and to the tow vehicle charge line.
   B. Blown Fuse - Replace blown fuse located in the circuit panel of the converter system. Check for short in wire between fuse and motor solenoid.
   C. Loose Wire Connection - Tighten all connections at the battery and motor terminals. Check to be sure that the wire and the terminal connection is crimped properly.
   D. Defective Toggle Switch - Remove the panel housing of the toggle switch, lift the toggle switch to the raising position and with a 12 volt test lamp test for 12 volt current supply between the yellow wire and the ground. If the light does not light and you have voltage at the black wire, replace the toggle switch.
   E. Defective Motor Solenoid - Using a jumper wire, jump between the battery terminal of the solenoid and the switch control terminal. The solenoid should click indicating a response from the magnet. If it does not click be sure that the solenoid is properly grounded to the motor chassis. Next, with a heavier jumper wire, jump between the two larger terminals of the solenoid. If the motor runs, the solenoid is defective, replace it.
   F. Worn Motor Brushes - Remove end cap from motor and inspect the brush assemblies. Clean and lubricate brushes and if necessary replace brushes.
2. Top Will Not Raise - Lift Motor Runs
   A. Low On ATF Fluid - Check to be sure fluid level is within one inch from the top of the reservoir with the trailer in the lowered position.
   B. Lowering Valve Stuck In Open Position Or Needs Adjusting (see 7.5) Check to be sure that the manual lowering valve knob is turned clockwise and is not on a partially open position. Lift the toggle switch to run the motor and simultaneously turning manual lowering knob counter clockwise in an attempt to raise and lower the trailer at the same time. This will force the fluid through the lowering valve at high pressure and clean out any debris that may have lodged in the valve.
   C. Air In Pump Chamber - Air in the pump chamber will result when running the pump when the fluid level is not at its filled position as the trailer is lowered. This will result in a gravelly sound when the pump is running. Lower the trailer and keep the switch in the lowering position for 60 seconds so that the air can bubble out of the pump into the reservoir, then acid fluid to the proper level.
   D. Pressure Relief Settings Too Low - To adjust pressure, a pressure gauge with a reading of up to 3000 lbs. should be used. Remove 1/4" pipe plug from tee on top of pump and install gauge. Proper settings should be approx. 15000 lbs. maximum. To adjust pressure, loosen lock nut on lower rear of pump. To increase pressure turn Alan screw 1/4 turn clockwise for each 200 lbs.

3. Safety Bar Will Not Release
   A. Locked in Safety Position - To remove pressure off of safety bar, lift toggle switch to raise the top section. Pull on safety release cable and depress lift switch. If trailer top does not rise to release safety bar, then follow steps under trouble-shooting "Top Will Not Raise."
   B. Dirt on Top of Safety Bar - From the underside of the trailer, inspect the safety release bar, which lies on top of the cylinder rod assembly. Remove any dirt, which may have been lodged on top of the safety bar.
   C. Broken Release Cable - A replacement cable will have to be strung through the safety bar housing and attached to the safety release bar.

4. Lowering Valve Inoperative
   A. Low or Dead Battery - Follow instructions for item 1.A.
   B. Blown Fuse - Follow instruction for item 1.B.
   C. Loose Wire Connection - Follow instruction for item 1.C.
   D. Defective Toggle Switch - Follow instructions for item 1.D except test the red wire to ground.
   E. Dirt in Lowering Valve - Follow instructions for item 2.B.

7.10 Servicing Hydraulic Lifting System
   The hydraulic lifting system had been tested by Hi-Lo and proven in over 35 years of actual use. Here are a few helpful hints in the unlikely event you encounter a problem with your Hi-Lo trailer.
   1. If top section will not raise, first check the steps in raising procedure.
   2. If the pump motor will not run, check the battery connections for tightness. (Be sure there is a good ground to motor mechanism.) Turn on trailer lights to see if you have power. If the lights go out when you operate the toggle for the switch for the motor, the battery is low and is in need of a charge, also check to be sure the raising solenoid is operating properly.
3. If motor runs, but pump does not raise trailer, check the fluid level in the pump reservoir. Fluid level should be approximately 1 inch from the top when trailer is in the "down" position. If low, add necessary amount. Use only type A or DEXRON 11 automatic transmission fluid. Be sure it is clean and avoid over filling. If fluid level is extremely low, check for leaks around the pump, at lifting cylinder, and the connecting hose.

4. If top section appears to be out of level when raised, check by measuring from the bottom edge of the trailer body. Distance should be the same on all four corners. If it is uneven, it is probably due to normal stretch of the cables and should be corrected as follows:

Check the leveling adjustment points for simple front and back realignment, adjust the proper adjusting nut located on the underside of the trailer. All front to back adjustments should be made with the trailer upper section supported so that tension is removed from the cables - accomplished by lowering the upper section onto four 2"x4" boards of the same length to brace between the section and frame member.

For example, if the front section is lower than the rear, you will correct this condition as follows:

A. Lower the top section onto 2"x4" boards. Refer to Fig. 4
B. Loosen the locking nut.
C. Turn the front adjusting nut until all slack in cable is taken up.
D. Tighten the locking nut.
E. Raise trailer; remove 2x4 boards and check for proper alignment.

If one corner of the trailer is low, it may be corrected as follows:

A. Lower the top section onto the 2"x4" boards.
B. Loosen the locking nut on the appropriate cable.
C. Adjust nut to take up slack in cable.
D. Tighten locking nut on cable.
E. Raise trailer; remove 2"x4" boards, and check for proper alignment.

5. If the upper section will not lower, release safety bar. (Follow lowering procedure). If safety bar does not release and lift motor runs and makes a squeal, the unit may be low on hydraulic fluid.

6. If the safety bar does not release and lift motor runs and does not make a squeal, the lowering valve is blocked in open position.

A. Dirt in Valve: Run lift motor for 10 sec. (At 1 min. intervals), 4 times to dislodge any dirt that may be in the lowering valve
B. Manual Release Valve Open: Be sure manual release knob is clockwise and not in partially open position.
C. Check Toggle Switch: With switch in center (off) position or in raising (up) position there should be no 12-volt supplied to the terminal to which the yellow wire is attached. Twelve volt should be supplied to this terminal only when switch is in lowering (down) position. (Drawing "A" 12-volt schematic lower section 6.12). If toggle switch does not follow this pattern - replace switch. For temporary operation: To raise trailer off of safety release, use a screwdriver to short between black and white wire. To lower, short between black and yellow wire.
7. If safety bar releases and trailer will not lower:

A. Check all cables to be sure that the cable is in pulley grooves.
B. Lower trailer with manual valve. Turn manual lowering knob counter clockwise until trailer lowers. Then release knob to original position. Then raise trailer half way and try toggle switch. This releases high pressure that may have generated in lowering valve.
C. Check ground wire from lowering valve to motor bracket. Be sure terminals are tight.
D. With 12-volt test light, check center terminal (Black wire) of toggle switch to ground. If no light, check fuse 3 or check for broken wire between toggle switch and fuse block.
E. Using screwdriver, short between black and yellow wire of toggle switch. If valve operates - replace toggle switch.
F. Check connection at black lead wire of lowering valve to red wire of toggle switch for broken wire or loose terminal.
G. Replace lowering valve.
8. PLUMBING

8.1 Fresh Water Tank
Fresh water is provided from one of two sources:

1. City water, provided under pressure when trailer is hooked up to a park or city water supply.
2. Water stored in an on-board water tank supplied by a pump operating automatically from your 12-volt electrical system.

A tank for your water supply is standard equipment. This tank is located at the front end and is filled through your city water connection.

8.2 External Water Supply
When camped in a park or near a city water supply, connect your trailer as follows:

1. Turn water pump off.
2. Remove protective cap over city water inlet (Figure A).
3. Connect water hose to your trailer inlet and to the city water supply line (Figure A).
4. Turn external water supply source valve on.
5. Let the water run few minutes with your supply line attached to clean the lines.

Note: Both the on-board pump and on-board fresh water tank are now isolated from the water pressure in the system. Do not turn pump on until line is disconnected to avoid damaging the water pump.

Use the following procedure to disconnect the city water supply:

1. Turn external water supply source valve off.
2. Disconnect the water supply hose from your trailer inlet connection and replace inlet protective cap. If the on-board tank is to be filled, go to step (3). If not, store the supply hose.
3. Fill the fresh water on-board tank from the city water source then remove and store the hose.

8.3 Filling Fresh Water Supply
The on-board fresh water supply in your trailer provides fresh water automatically to all systems whenever a faucet is opened. A 12-volt automatic self-priming water pump provides water. This pump functions any time battery power is available and the pump switch is on. Fill the water tank by placing your water supply hose in the city water fill inlet (Figure B). Once the water tank is filled, turn the water pump on to pressurize the water system.

Avoid leaving water in tank when it is not in use. Turn the water pump off before draining water tank. For prolonged storage and during the winter months, this tank should be drained completely by opening valves at tank.

Note: The water system should be sanitized, flushed and drained before using.

8.4 Sanitizing Potable Water System
To assure complete sanitation of your potable water system it is recommended that the following procedures be followed on a new system, one that has not been used for a period of time, or one that may have become contaminated:

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Note: If your trailer is equipped with an outside shower, care must be taken to be sure it is turned off and stowed properly when not in use, or it may leak and may cause damage to your trailer.
1. Prepare a chlorine solution using one gallon of water and ¼ cup of Clorox or Purex household bleach (5% sodium hypo chlorite solution). Pour one gallon of solution into tank for each 15 gallons of tank capacity.

2. Complete filling of tank with fresh water. Open each faucet and drain cock until all air has been released from the pipes and entire system is filled.

3. Allow the solution to stand for three hours.

4. Drain and Flush with potable fresh water.

5. To remove any excess chlorine taste or odor, which may remain, prepare a solution of one-quart vinegar to five gallons water and allow this solution to agitate in tank for several days by vehicle motion.

6. Drain the tank and again flush it with potable water.

8.5 Winterizing Water System

1. Open all interim valves, sink, shower, etc.

2. Drain supply tank by opening valve at front of tank.

3. Lower front of trailer by cranking down with jack.

4. Your Hi-Lo is equipped with a manual by-pass system shown at left.

5. See figure A for normal operation. Valves 1 and 2 open.

6. See figure B for winterizing. Valve 1 and 2 closed.

7. To winterize be sure valves are in the Figure B position. Pour about two gallons of RV antifreeze in the fresh water tank. Using your 12-volt pump, draw the antifreeze through the entire water system, opening each outlet until antifreeze (red solution) appears.

8. To winterize the hot water tank, open drain valve and pressure relief valve at front of tank. This is located back of cover at front of trailer under pilot light. Open drain plug in on the outside portion of the water heater and allow it to drain before re-inserting the plug.

8.6 Waste Water System

Your Hi-Lo trailer has a self-contained drainage system in which waste water and sewage go directly to separate holding and sewage tanks. All of the plumbing fixtures in the trailer are usable even when the drain is capped.

Wastewater and sewage enter the holding tanks to be retained until the tanks can be emptied into a disposal area.

8.7 Toilet

Your Hi-Lo is equipped with a mechanical seal type toilet. The instruction booklet accompanying these units should be reviewed carefully before use.

8.8 Waste Water Draining

If your campsite is equipped with drain facilities or dumping station, drain your body waste holding tank and wastewater tank as follows:

1. Pull the flexible hose from its storage compartment.

2. Remove the termination cap.

3. Install the drain hose on the termination fitting and place the other end well into dumping station fitting.

4. Pull out the large slide valve lever.

5. Allow body waste tank sufficient time to completely drain.

6. Pull out the small slide valve lever.

7. Allow wastewater tank sufficient time to completely drain, also this will help rinse sewage that might collect to flexible
hose when the body waste tank was drained.
8. Flush both tanks with clean water and allow them to drain.
9. Push in both large and small slide valve levers to the closed position.
10. Remove flexible hose from termination fitting and rinse out hose with fresh water, then remove hose from dumping station.
11. Replace termination cap to trailer and dumping station cover.
12. Stow sewer flexible hose to rear bumper storage.
Note: All drain caps must be in place while in transit.
Note: Do not pull either slide valve levers open when the termination cap is in the secured position.

8.9 Deodorizing Waste Tank
Keep your holding tanks clean using any cleaner approved for recreational vehicle sanitation systems.

Add a special deodorizer or chemical additive approved for recreational vehicle systems to sanitize and improve the tank action.

8.10 Winterizing Waste Water System
Toilet - Drain, and depress pedal until antifreeze appears in bowl.
Holding Tanks - Drain and rinse. Close valves.
Slide Valves - Examine the shaft of the slide valve and apply metal lubricant if needed.

8.11 Shower
For your protection the shower faucet is equipped with a vacuum breaker (back flow preventer) to prevent contamination of your potable water supply. The water in the hand held shower hose will drain through this vacuum breaker when the faucet is turned off. **THIS IS NOT A LEAK.** This drainage is inherent in the design of the vacuum breaker, and is evidence that it is functioning properly.
9. APPLIANCE OPERATION AND CARE

9.1 3-Way/Electric Refrigerator
Your Hi-Lo is equipped with a 3-way refrigerator and there is an instruction booklet inside trailer. We recommend you read and follow the instructions for most efficient operation of this unit.

Before starting a trip, plug in the utility cord at your home about six hours before leaving. Switch the refrigerator to 110V. This will insure that the refrigerator is cold before you start your journey. Be sure the trailer is in the raised position. Do not operate refrigerator over one hour while trailer is in lowered position unless the vehicle is in motion. Once on the highway, switch to 12-volt operation until you get to your destination. When you arrive, switch to LP Gas or 110-volt operation.

Note: If the refrigerator voltage selector is accidentally left on 12-volt, it will result in a discharged battery.

9.2 Microwave/Range Combination
If your Hi-Lo includes a microwave/range unit, you will find an operating guidebook in your owner's kit. Be sure to read it carefully and follow directions step by step.

9.3 Range Exhaust Hood
If your Hi-Lo is equipped with a range exhaust hood, a simple on and off switch operates it. The hood has a grease filter screen protecting the fan, which will require periodic cleaning. To clean, remove the screen and wash-in soapy water. Rinse with water and let the screen drain dry. Replace the clean filter in the exhaust hood. To operate exhaust fan you must first unlatch exterior vent cover.

9.4 Automatic Gas Hot Water Heater
Units equipped with a propane fueled water heater will include an instruction manual in the owner's kit. This unit should be turned off while in transit or whenever the trailer is in the lowered position.

Note: An additional plate concerning the Hi-Lo unit's gas piping is located on the front of the trailer adjacent to the mounting for the gas bottles.

9.5 Furnace
Your Hi-Lo is equipped with forced air furnace, which operates on propane. It is equipped with a sealed combustion chamber and has an automatic ignition system that is designed for safety and efficiency. You will find an operating manual in your owner's kit. Be sure to read it carefully and follow its instructions. Also be sure the gas is shut off during transit. The furnace requires 12-volt DC current to operate blower and automatic ignition. If the furnace is operating in absence of 115-volt power source, it will discharge 12-volt storage battery.

Note: To operate furnace, the on/off switch under the thermostat should be on. Switch should be in the off position when not in use.
10. EXPANDA-ROOM 
OPERATION

10.1 Opening The ExpandA-Room
If your Hi-Lo is equipped with an ExpandA-Room it is important that you read and follow these instructions for safe operation of this unit. Failure to follow these instructions may result in damage to the ExpandA-Room and/or cause injury to the operator or those around the trailer.

1. Open your ExpandA-Room cover by carefully releasing the strap latches at each side of the cover. (See figure 1)
   Note: Use caution, as the cover is under pressure, and will swing open when the latches are released.
2. Raise your Hi-Lo in the normal manner.
3. Press the “UP” button located near the entry door of your Hi-Lo, raising the ExpandA-Room until the motor stops running. (See figure 2)
4. Manually push the ExpandA-Room outward until the cable becomes taut.
5. Press the “DOWN” button on the switch until the ExpandA-Room is fully extended. (See figure 2)
6. Set the brass locks (if equipped) to secure the ExpandA-Room in place. (See figure 3)

10.2 Closing The ExpandA-Room
1. Clear the area in front of the ExpandA-Room to be sure nothing will be in the way as the ExpandA-Room is closed.
2. Release the brass lock (if equipped) to allow the ExpandA-Room to swing upward. (See figure 3)
3. Ensure that the top section is not resting on the ExpandA-Room by pressing the “UP” button as you would to put the top of your Hi-Lo UP.
4. Press the “Raise” button located near the entry door of your Hi-Lo, raise the ExpandA-Room until the motor stops running. (See figure 2)
5. Pull the ExpandA-Room inward until the cable becomes taut.
6. Press the “DOWN” button on the switch until the ExpandA-Room is fully lowered onto the floor. (See figure 2)
7. Close your ExpandA-Room cover by holding it closed and securing the strap latches at each side of the cover. (See figure 1)
11. MAINTENANCE

11.1 Electric Brakes
Electric brakes need no special care or service other than keeping connections and wiring free of dirt and other foreign matter. Brake adjustment, relining, and repair are similar to those on your car. Any qualified service station can do this job. Caution: Do not pull breakaway pin for parking brake, as this will result in a constant drain on the battery and run it down.

11.2 Wheel Bearing Lubrication
Repack the wheel bearings with a good grade of grease every 6,000 miles or before any major trip. Check tightness of wheel lugs every 1,000 miles.

11.3 Tires Inspection
Your Hi-Lo trailer is equipped with first line quality tires, which are designed to provide many miles of service.

Inspect all tires for wear and damage. If general tread wear indicates 1/16" (1.6mm) between any two adjacent tread ribs, the tires should be replaced. Look for abnormal wear patterns such as cupping or feathering of the tread or rapid wear on either the inside or outside of the tread surface. Replace the tire if cuts, bulges, peeling tread or other signs of damage or failure are evident. Remove stones and other objects lodged in tread.

Maintain proper tire pressure. The most common cause of tire failure is improper inflation. Keep an accurate tire gauge in your tool kit. Check tire-pressure cold. A cold tire is one that has been run less than 1 mile (1.6 km).

Note: Do not bleed air out of warm tires.

11.4 Exterior Care
Almost the entire outside surface of your Hi-Lo consists of fiberglass or aluminum that will keep its finish indefinitely if given proper care. Mild soap and water will help retain the natural gloss. Clean top section first in lower position, then raise and clean the bottom section.

Abrasive cleaners should not be used on the exterior.

The warranty requires that the owner perform minimum maintenance, which includes washing and waxing the RV siding at least 3 times a year at regular intervals. Check caulking around all windows, vents and roof seams. If caulking is cracked and dried out, clean and replace.

11.5 Interior Care
Counter top and table: The hard finish surfaces of your counter tops and tables are the same as those in your kitchen at home. While being highly resistant to heat, staining, and abrasion, the same good care will keep them like new for years to come. Simply wipe clean with warm soap and water. Check for any signs of water leaks. Report any suspected leaks to your Hi-Lo dealer immediately. Failure to report leaks in a timely manner may void your warranty.
Wall paneling - The paneling and ceiling of your Hi-Lo trailer may be of several finishes and textures. Never use detergents or abrasive cleaners on walls or ceilings. Most surfaces will clean with a soft cloth, which has been dampened with furniture polish or wax; avoid the use of large amount of water.

Drapes - Hand wash, line dry.

Floors - Same as your kitchen floor at home. Waxing before extended trip will make floor care easier enroute. A rubber or fiber mat placed outside the door will do wonders in keeping sand and dirt outside. For units equipped with carpet, use mild soap and water to clean soiled spots and a regular vacuum cleaner to pick up sand and dirt.

Appliances - Same as your appliances at home.

11.6 Hitch Inspection and Lubrication
Periodically inspect your ball and hitch assembly for cracked welds and metal fitting. Also check for loose nuts and bolts.

Occasionally lubricate the hitch ball with universal bearing grease, or hitch ball lubricant.

11.7 Battery
Add water and recharge if needed. Disconnect cables; remove battery and store in a cool, dry place. Check monthly and recharge as needed.

11.8 Hydraulic Cylinder
Periodically check your hydraulic cylinder for leaks. If EXCESSIVE leaking occurs, take your trailer to your dealer for repairs. Keep the cylinder support shaft (guide rod) cleaned and well greased.

11.9 Periodic Maintenance Checklist

<table>
<thead>
<tr>
<th>Check</th>
<th>Function Required</th>
<th>Daily</th>
<th>Weekly</th>
<th>Every 3000 Miles or 6 Months</th>
<th>Every 6000 Miles or 12 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trailer Brakes</td>
<td>Test that they are functioning properly</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Pressure</td>
<td>Inflate tires to manufacturer's</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>specifications</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lug Nuts*</td>
<td>Tighten to proper torque specifications</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Break-Away Switch</td>
<td>Test switch operation, inspect connections</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Battery</td>
<td>Maintain charge, inspect connections</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Wheel Rims</td>
<td>Inspect for dents, damage, or out of round</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Brake Shoes**</td>
<td>Test brake drag and adjust if required</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Brake Magnets</td>
<td>Inspect for uneven wear</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Wheel Bearings and Cups</td>
<td>Inspect for wear or damage and lubricate</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Hub/Drum</td>
<td>Inspect for heavy scoring or wear</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Seals</td>
<td>Inspect for damage or wear</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

** Tighten lug nuts every 50 miles for the first 200 miles and after every change in wheel mounting.

** Adjust brakes after first 200 miles, then at above intervals.
11. Maintenance (continued)

11.10 Extended Storage Considerations
When storing your trailer for extended times it is advisable to do so with the trailer in the lowered position. Be sure to inspect the interior of the trailer for any signs of water leaks, rodents or insect infestation at least every three months. Inspect the exterior of the trailer, paying special attention to the caulking. Reseal any seams, which show signs of pulling away or shrinking. Failure to inspect the trailer may allow a condition to exist, which may void your warranty.

11.11 Lubrication of the Lift System
Periodically inspect cables, your cable pulleys and the guide rod for your lift system. Lubricate the cables and pulleys at least every six months with WD-40 lubricant or similar. Inspect the steel guide rod for corrosion. Clean and lubricate with axle grease at least every six months.
12. Instructions for operating the DVD player and TV monitor using DVDs, TV antenna and cable (if so equipped)

12.1 Turn on the DVD player using the supplied remote (see figures 2 and 8), or by using the button on the top left corner of the faceplate on the DVD player (see figure 1).

12.2 Turn on the TV monitor using the supplied remote (see figure 4) or with the button on the lower left panel of the flip-down monitor (see figure 3). Note: The on/off button on some models is found in a different location, and TV Monitor remote styles may vary in appearance. Two Examples are pictured in figure 4.

12.3 Select the type of playback you wish to use (DVD, TV Antenna or Cable).

Figure 1 (DVD Player - TV Tuner)  Figure 2 (DVD Remote)

Figure 3 (TV Monitor Power Button)  Figure 4 (TV Monitor Remote Examples)
I. For **TV Antenna** operation (if so equipped):

12.4 Raise the TV antenna with the crank on the ceiling of the trailer (see figure 5).

12.5 Be sure the red light on the booster is illuminated. It can be turned on and off by pressing the red button on the TV antenna booster outlet (see figure 6).

12.6 Select TV antenna as the “Source” using the supplied DVD player remote (see figures 2 and 8) or on the faceplate of the DVD player (see figure 1). This is done by pressing the source button until “TV” appears on the faceplate of the DVD player (see figure 7).

12.7 You can now select the desired channel by pressing the appropriate numbers on the DVD remote (see figure 8).

12.8 You may need to fine tune the TV antenna reception by turning, raising or lowering it until you get the best picture. See the TV antenna instructions if you need help with this step (see figure 5).

12.9 It is possible, but not required, to have the TV tuner search through all available channels and program them in. You must remember to do this each time you change the input selection. For example, if you move from one location to another, and different TV stations are broadcast, you will need to have the tuner search for new stations. In order to program the stations press the PBC/AST button on the DVD remote (see figure 8). Wait until the scan is complete. You can now scroll through the programmed channels by pressing the up or down arrow buttons on the DVD remote.
II. For **DVD** operation:

12.1.0 Open the faceplate on the DVD player by pressing the extended button on the upper right hand corner of the DVD faceplate (see figure 9). The faceplate will swing down, revealing the DVD/CD insertion slot (see figure 10).

12.1.1 Insert a DVD by sliding it gently into the slot with the label side up (see figure 10). Close the faceplate to continue operation.

12.1.2 The DVD should begin playing automatically. Use the faceplate or the DVD remote to scroll through the menu options (if so programmed) on the DVD (see figure 11).
III. For **CABLE** operation**:

12.13 Attach the cable to the cable input jack on the road-side bottom of the Hi-Lo Trailer (see figure 12). Note: The input jack may look different on different models.

12.14 Attach a cable jumper from any CATV jack on the bottom section of your Hi-Lo (see figure 13), to the input jack on your TV.

**Note: The DVD Player/TV Tuner is not cable ready. To watch cable stations you must supply your own cable-ready television.**
13. SAFETY CONSIDERATIONS

13.1 Additional Safety Considerations

1. Sanitize the fresh water system periodically (see sanitizing instructions).
2. Prevent water connection fittings from coming in contact with the ground or drain hose to reduce chance of contamination.
3. Never attempt to repair gas or electrical appliances. Enlist services of a qualified technician.
4. Always have a serviceable fire extinguisher located in an easily accessible location. This extinguisher should have a rating of at least 2 BC units.
5. Never overload your vehicle (see limits 2.3).
6. Avoid improper load distribution, which can adversely affect roadability and towing safety (2.3).
7. Insure that tires are in good condition and properly inflated. Watch inflation especially close for tandem wheel models -under-inflated tires get hot. Hot tires are more apt to blow out.
8. Check and tighten wheel lugs regularly. (Torque to 85 lbs.)
9. Test brakes in a safe area, not while traveling on a busy highway.
10. Disconnect television power cord and antenna lead-in during local thunderstorm and lightening activity.
11. Always block trailer wheels before unhitching.
12. Before leaving camp area with a trailer in tow, insure that the safety pin or locking lever is seated, breakaway wire is attached to tow vehicle, and the electrical cord and safety chains are connected.
13. Have wheel bearings cleaned and packed at regular intervals.
14. Check condition of trailer brake magnets and linings periodically.
15. Observe warning labels attached to your vehicle concerning LP-Gas, water, electricity, and loading.
16. All heat producing appliances should be turned off before the trailer is lowered. Also turn off valve at LP-Gas cylinder.
17. Read appliance manufacturer's instructions before attempting to light or operate appliances.
18. Normally store trailer in the lowered position. If stored in the raised position, (for an extended period of time), grease the exposed thrust rod of the hydraulic cylinder.
19. This warning label (figure 1), has been located in the cooking area to remind you to provide an adequate supply of fresh air for combustion. 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 danger for 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.
20. This warning label (figure 2), has been placed in the vehicle near the range area,
21. Warning: Portable fuel burning equipment including wood and charcoal grills and stoves shall not be used inside recreational vehicles.
22. Warning: Do not bring or store LP gas containers, gasoline or other flammable liquids inside the vehicle because a fire or explosion may result.
23. **Warning** Propane containers shall not be placed or stored inside the vehicle. Propane containers are equipped with safety devices, which relieve excessive pressure by discharging gas to the atmosphere.

24. A warning label has been located near propane container. This label reads:

*Do not fill container(s) to more than 80 percent of capacity.*

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

### 13.2 Safety When Emergency Stopping

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 flats or for emergency situations. Turn on your vehicular hazard warning flashers when parked alongside a roadway, if only for a few minutes. Get members of your family out of the RV and have them stand clear of the vehicle area when parked on the edge of a highway.

### 13.3 Reporting Safety Defects

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 HI-LO TRAILER CO.

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 HI-LO TRAILER CO.

To contact NHTSA, you may either call the Auto Safety Hotline toll free at 1-888-327-4236 or write to NHTSA, 400 Seventh St., S.W., Washington D.C. 20590. You can also obtain other information about motor vehicle safety from the Hotline.