



For maximum effectiveness and safety, please read these instructions completely before proceeding with installation.

Failure to read these instructions can result in an incorrect installation.

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## Introduction

The purpose of this publication is to assist with the installation, maintenance and troubleshooting of the LoadLifter 5000 air spring kit. LoadLifter 5000 utilizes sturdy, reinforced, commercial grade single or double, depending on the kit, convolute bellows. The bellows are manufactured like a tire with layers of rubber and cords that control growth. LoadLifter 5000 kits are recommended for most 3/4 and 1 ton pickups and SUVs with leaf springs and provide up to 5,000 lbs. of load-leveling support with air adjustability from 5-100 PSI. The kits are used in motor home rear applications and various front applications where leaf springs are used.

It is important to read and understand the entire installation guide before beginning installation or performing any maintenance, service or repair. The information here includes a hardware list, tool list, step-by-step installation information, maintenance guidelines and operating tips.

Air Lift Company reserves the right to make changes and improvements to its products and publications at any time. For the latest version of this manual, contact Air Lift Company at (800) 248-0892 or visit our website at www.airliftcompany.com.

## **IMPORTANT SAFETY NOTICE**

The installation of this kit does not alter the Gross Vehicle Weight Rating (GVWR) or payload of the vehicle. Check your vehicle's owner's manual and do not exceed the maximum load listed for your vehicle.

**Gross Vehicle Weight Rating:** The maximum allowable weight of the fully loaded vehicle (including passengers and cargo). This number — along with other weight limits, as well as tire, rim size and inflation pressure data — is shown on the vehicle's Safety Compliance Certification Label.

**Payload:** The combined, maximum allowable weight of cargo and passengers that the truck is designed to carry. Payload is GVWR minus the Base Curb Weight.

### NOTATION EXPLANATION

Hazard notations appear in various locations in this publication. Information which is highlighted by one of these notations must be observed to help minimize risk of personal injury or possible improper installation which may render the vehicle unsafe. Notes are used to help emphasize areas of procedural importance and provide helpful suggestions. The following definitions explain the use of these notations as they appear throughout this guide.

 INDICATES IMMEDIATE HAZARDS WHICH WILL RESULT IN SEVERE PERSONAL INJURY OR DEATH.

 INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN SEVERE PERSONAL INJURY OR DEATH.

 INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN SEVERE PERSONAL INJURY OR DEATH.

 INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN DAMAGE TO THE MACHINE OR MINOR PERSONAL INJURY.

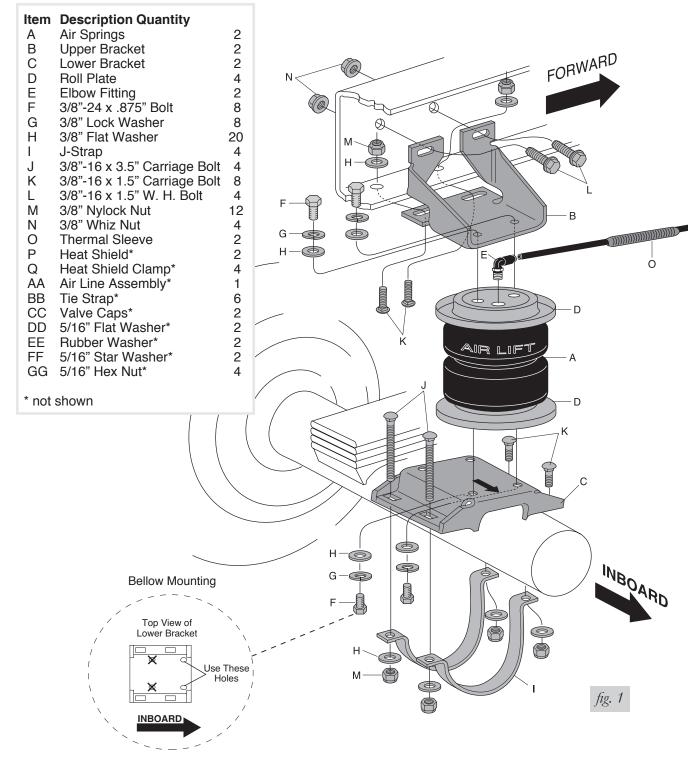
NOTE

Indicates a procedure, practice or hint which is important to highlight.



## **Installation Diagram**

#### HARDWARE LIST





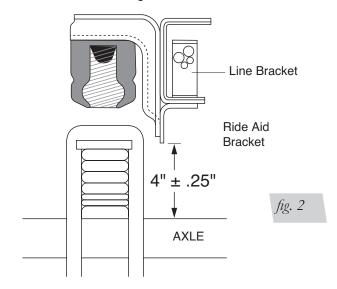
Missing or damaged parts? Call Air Lift customer service at (800) 248-0892 for a replacement part.



## Installing the LoadLifter5000 System

## ASSEMBLING THE AIR SPRINGS

 Jack up rear of vehicle or raise on hoist. Place safety jack stands under axle and adjust so that the axle to ride aid bracket distance is 4" ± .25". See Figure 2. This distance will place the vehicle at normal ride height.



Normal Ride Height is the distance between the bottom edge of the wheel well to the center point of the hub with the vehicle in an "as delivered condition" (without a load, i.e. tool box, camper, etc.). Measurements should be taken before beginning the installation. The distance from the bottom edge of the wheel well to the center point of the hub should be recorded. This kit is designed to be installed and operated at normal ride height.

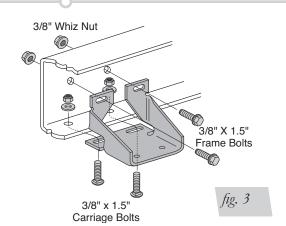
- 2. Install the roll plates (D) to the top and bottom of the bellow (A).
- 3. In the forward holes on the lower bracket, insert two 3/8" x 1.5" carriage bolts (K). In the rearward holes on the lower bracket, insert two 3/8" x 3.5" carriage bolts (J). NOTE: Be sure the rounded head of the carriage bolts faces the bellow (Fig. 1).
- Attach the lower bracket (C) to the bottom of bellows using two 3/8" x .875" bolts (F), two 3/8" lock washers (G), and two 3/8" flat washers (H). See Figures 1 & 4.
- 5. Install the swivel elbow fitting on the top side of bellows. Tighten finger tight plus 1 1/2 turns. Use an open end wrench being careful to tighten on the metal hex nut only. Do not over tighten. This fitting is precoated with thread sealant.
- 6. Attach the upper bracket (B) to the top of the bellows with two 3/8" x .875" bolts (F), two 3/8" lock washers (G), and two 3/8" flat washers (H). See Fig. 1.

## ATTACHING THE ASSEMBLY

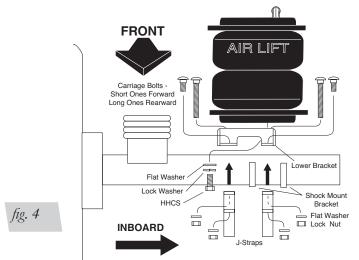
- 1. Remove and discard the two nuts and bolts holding the line bracket on the bottom of the flange.
- 2. This upper bracket is designed to fit BEHIND any and all lines that run along the inside of the frame rail. After removing and discarding the bolts and nuts holding the line bracket to the flange, gently pull the lines out just far enough to slide the upper mounting bracket up behind them, flat to the rail.
- Loosely attach upper bracket to the frame rail by using the 3/8" x 1.5" washerhead frame bolts (L) and whiz nuts (N) through the side of the rail and the two 3/8" x 1.5" carriage bolts (K) through the flange (Fig. 3).

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4. Secure the lower bracket with the two J-straps (I) and corresponding nuts, bolts, and washers (Figs. 1 & 4).

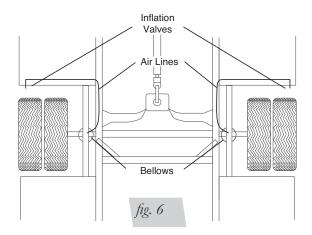


- 5. On the shock absorber side of the lower bracket, the J-strap will fit between the installed shock and the axle housing. It is not necessary to remove the shock absorber. Loosely assemble the lower straps. Use the short carriage bolts on the shock side (Fig. 4).
- 6. The upper bracket is slotted for adjustment. Inspect the assembly and make sure the bellows is mounted straight up and down, the lower bracket is centered, and the fasteners are in the proper positions.
- 7. Now tighten all nuts to the carriage bolts. Torque setting for all fasteners is 15 to 20 lb.-ft. Do not over tighten
- 8. Repeat procedures 2 through 11 for other side.
- 9. IMPORTANT: Installation of this kit requires two exhaust heat shields (Fig. 5). The shields (P) are attached with the stainless steel clamps (Q) to the exhaust pipe, with the flanges being bent inward. Shields may be trimmed or bent to attain component clearance. Bend tabs to provide 1/2" dead air space between exhaust pipes and heat shield and maximum clearance with bellows.

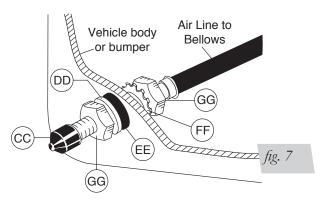


## **INSTALLING THE AIR LINES**

 Select locations on the vehicle for the air inflation valve (Fig. 6). The location chosen should provide protection so the valve will not be damaged but be accessible for the air inflation chuck. Recommended location is in the wheel well or lower body ahead of rear wheel. One on each side provides ease of filling, checking and measuring body height to compensate for side to side lean and front to rear sag.



- 2. Measure from selected location inboard along frame rail. Measure this same distance from each pre-installed inflation valve on the air line and cut air line off squarely. Use a standard tube cutter, a razor blade, or very sharp knife to cut the air line. A clean square cut will ensure against leaks.
- 3. Slide a thermal sleeve (O) onto air line (AA) from the cut end on the tail pipe side.
- Push the air line into the swivel elbow fitting as far as it will go. A definite "click" (approximately 9/16") can be heard/felt. This is a self locking fitting and the air line is now installed.
- 5. Slide the thermal sleeve down to the air fitting.
- 6. Route the air line from the bellows to the pre-determined inflation valve location. Insure that it is protected from the direct heat of the exhaust system and kept away from sharp edges. Caution should be taken not to kink or bend the air line. Secure along frame with the nylon ties supplied with this kit (Fig. 6).
- 7. Drill two 5/16" holes, and install inflation valves, nuts, and washers as shown in Figure 7.



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### **CHECKING FOR LEAKS**

- 1. Inflate the bellows and check the fittings for air leaks with a solution of soap and water.
- 2. Raise vehicle and remove safety jack stands. Lower vehicle to ground.
- 3. This now completes the installation. Before proceeding, check once again to be sure you have proper clearance around the bellows. With a load on the vehicle and the helper springs inflated, there must be at least 1/2" clearance all around the bellows.
- 4. Recheck air pressure after 24 hours. A 5-7 PSI loss after initial installation is normal. If pressure has dropped more than 7 PSI retest for leaks with a soapy water solution.
- 5. For best ride use only enough air pressure in the air springs to level the vehicle when viewed from the side (front to rear). Inflate/deflate the air springs to maintain this height under various conditions of load. NOTE: Too much air pressure in the air springs will result in a stiffer ride, while too little air pressure will allow the vehicle to bottom out. Too little air pressure will also not provide the improvement in handling that is possible.

### **FIXING LEAKS**

- 1. If there is a problem with the swivel fitting:
  - a. Check the air line connection by deflating the spring and removing the line by pulling the collar against the fitting and pulling firmly on the air line. Trim 1" off the end of the air line. Be sure the cut is clean and square (see Fig. 8). Reinsert the air line into the push-to-connect fitting.



- b. Check the threaded connection by tightening the swivel fitting another 1/2 turn. If it still leaks, deflate the air spring, remove the fitting, and re-coat the threads with thread sealant. Reinstall by hand tightening as much as possible and then use a wrench for an additional two turns.
- 2. If there is a problem with the inflation valve:
  - a. Check the valve core by tightening it with a valve core tool.
  - b. Check the air line by removing the air line from the barbed type fitting. Cut the air line off a few inches in front of the fitting and use a pair of pliers or vice grips to pull/ twist the air line off of the fitting.



DO NOT CUT OFF THE AIR LINE COMPLETELY AS THIS WILL USUALLY NICK THE BARB AND RENDER THE FITTING USELESS.

3. If the preceding steps have not resolved the problem, call Air Lift customer service at (800) 248-0892.

## **Before Operating**

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### **INSTALLATION CHECKLIST** (To be completed by installer)

- □ Clearance test Inflate the air springs to 60 PSI and ensure there is at least 1/2" clearance around each bellow, away from anything that might rub against them. Be sure to check the tire, brake drum, frame, shock absorbers and brake cables.
- ❑ Leak test before road test Inflate the air springs to 60 PSI, check all connections for leaks with a soapy water solution. See page 7 for tips on how to spot leaks. All leaks must be eliminated before the vehicle is road tested.
- ❑ Heat test Be sure there is sufficient clearance from any heat sources at least 6" for air springs and air lines. If a heat shield was included in the kit, install it. If there is no heat shield, but one is required, call (800) 248-0892.
- □ Fastener test Recheck all bolts for proper torque. Axle straps, carriage bolts and lock nuts should be torqued to 16 ft/lbs. Re-torque after 100 miles.
- Road test The vehicle should be road tested after the preceding tests. Inflate the air springs to 25 PSI (50 PSI if the vehicle is loaded). Drive the vehicle 10 miles and recheck for clearance, loose fasteners and air leaks.
- Operating instructions If professionally installed, the installer should review the Product Use, Maintenance and Servicing section on page 9 with the owner. Be sure to provide the owner with all of the paperwork which came with the kit.

### Technician's Signature\_\_\_

#### Date

## **POST-INSTALLATION CHECKLIST**

- Overnight leak down test Recheck air pressure after the vehicle has been used for 24 hours. If the pressure has dropped more than 5 PSI, then there is a leak that must be fixed. Either fix the leak yourself or return to the installer for service.
- Air pressure requirements I understand the air pressure requirements of my air spring system. Regardless of load, the air pressure should always be adjusted to maintain ride height at all times.
- ❑ Thirty day or 500 mile test I understand that I must recheck the air spring system after 30 days or 500 miles, whichever comes first. If any part shows signs of rubbing or abrasion, the source should be identified and moved, if possible. If it is not possible to relocate the cause of the abrasion, the air spring may need to be remounted. If professionally installed, the installer should be consulted. Check all fasteners for tightness.

## **Product Use, Maintenance and Servicing**

**Minimum Recommended Pressure** 

Maximum Air Pressure

20 PSI

100 PSI

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### MAINTENANCE GUIDELINES

NOTE

By following the steps below, vehicle owners will obtain the longest life and best results from their air springs.

- 1. Check the air pressure weekly.
- 2. Always maintain normal ride height. Never inflate beyond 100 PSI.
- 3. If you develop an air leak in the system, use a soapy water solution (1/5 liquid dish soap and 4/5 water) to check all air line connections and the inflation valve core before deflating and removing the air spring.

**CAUTION** FOR YOUR SAFETY AND TO PREVENT POSSIBLE DAMAGE TO YOUR VEHICLE, DO NOT EXCEED MAXIMUM GROSS VEHICLE WEIGHT RATING (GVWR), AS INDICATED BY THE VEHICLE MANUFACTURER. ALTHOUGH YOUR AIR SPRINGS ARE RATED AT A MAXIMUM INFLATION PRESSURE OF 100 P.S.I., THE AIR PRESSURE ACTUALLY NEEDED IS DEPENDANT ON YOUR LOAD AND GVWR.

- 4. Loaded vehicles require at least 25 PSI or more. A "loaded vehicle" refers to a vehicle with a heavy bed load, a trailer, or both. As discussed above, never exceed GVWR, regardless of air spring, air pressure, or other load assist. The springs in this kit will support approximately 40 lbs. of load (combined on both springs) for each 1 PSI of pressure. The required air pressure will vary depending on the state of the original suspension. Operating the vehicle below the minimum air spring pressure will void the Air Lift warranty.
- 5. When increasing load, always adjust the air pressure to maintain the normal ride height. Increase or decrease pressure from the system as necessary to attain normal ride height for optimal ride and handling. Remember that loads carried behind the axle (including tongue loads) require more leveling force (pressure) than those carried directly over the axle.
- 6. Always add air to springs in small quantities, checking the pressure frequently.
- Should it become necessary to raise the vehicle by the frame, make sure the system is at minimum pressure (5 PSI) to reduce the tension on the suspension/brake components. Use of on board leveling systems do not require deflation or disconnection.
- 8. Periodically check the air spring system fasteners for tightness. Also, check the air springs for any signs of rubbing. Realign if necessary.
- 9. On occasion, give the air springs a hard spray with a garden hose in order to remove mud, sand, gravel or other abrasive debris.

### **TROUBLESHOOTING GUIDE**

- 1. Leak test the air line connections, the threaded connection into the air spring, and all fittings in the control system.
- Inspect the air lines to be sure none are pinched. Tie straps may be too tight. Loosen or replace the strap and replace leaking components.
- 3. Inspect the air line for holes and cracks. Replace as needed.
- 4. Look for a kink or fold in the air line. Reroute as needed.

If the preceding steps do not solve the problem, it is possibly caused by a failed air spring — either a factory defect or an operating problem. Please call Air Lift at (800) 248-0892 for assistance.

### FREQUENTLY ASKED QUESTIONS

#### Q. Will installing air springs increase the weight ratings of a vehicle?

No. Adding air springs will not change the weight ratings (GAWR, GCWR and/or GVWR) of a vehicle. Exceeding the GVWR is dangerous and voids the Air Lift warranty.

Q. Is it necessary to keep air in the air springs at all times and how much pressure will they need?

For LoadLifter 5000 Ultimate, the recommended minimum air pressure is 5 PSI, but it can safely be run at zero air pressure.

#### Q. Is it necessary to add a compressor system to the air springs?

No. Air pressure can be adjusted with any type of compressor as long as it can produce sufficient pressure to service the springs. Even a bicycle tire pump can be used, but it's a lot of work.

#### Q. How long should air springs last?

If the air springs are properly installed and maintained they can last indefinitely.

#### Q. Will raising the vehicle on a hoist for service work damage the air springs?

No. The vehicle can be lifted on a hoist for short-term service work such as tire rotation or oil changes. However, if the vehicle will be on the hoist for a prolonged period of time, support the axle with jack stands in order to take the tension off of the air springs.

## **TUNING THE AIR PRESSURE**

Pressure determination comes down to three things — level vehicle, ride comfort, and stability.

#### 1. Level vehicle

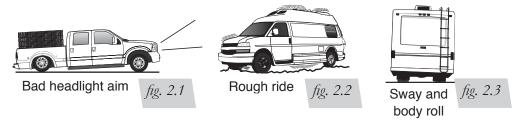
If the vehicle's headlights are shining into the trees or the vehicle is leaning to one side, then it is not level (Fig. 2.1). Raise the air pressure to correct either of these problems and level the vehicle.

#### 2. Ride comfort

If the vehicle has a rough or harsh ride it may be due to either too much pressure or not enough (Fig. 2.2). Try different pressures to determine the best ride comfort.

#### 3. Stability

Stability translates into safety and should be the priority, meaning the driver may need to sacrifice a perfectly level and comfortable ride. Stability issues include roll control, bounce, dive during braking and sponginess (Fig. 2.3). Tuning out these problems usually requires an increase in pressure.

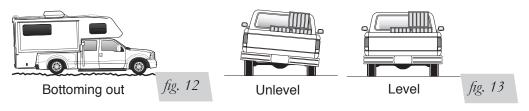


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## **GUIDELINES FOR ADDING AIR**

- 1. Start with the vehicle level or slightly above.
- 2. When in doubt, always add air.
- 3. For motorhomes, start with 50-100 PSI in the rear because it can be safely assumed that it is heavily loaded.
- 4. If the front of the vehicle dives while braking, increase the pressure in the front air bags, if equipped.
- 5. If it is ever suspected that the air bags have bottomed out, increase the pressure (Fig. 12).
- 6. Adjust the pressure up and down to find the best ride.
- 7. If the vehicle rocks and rolls, adjust the air pressure to reduce movement.
- 8. It may be necessary to maintain different pressures on each side of the vehicle. Loads such as water, fuel, and appliances will cause the vehicle to be heavier on one side (Fig. 13). As much as a 50 PSI difference is not uncommon.







## WHAT THIS WARRANTY COVERS

Air Lift Company provides a warranty to the original purchaser of its Load Support Products, for the periods of time listed below, by product line, from the date of original purchase, that the products will be free from defects in workmanship and materials when used on cars and trucks as specified by Air Lift Company and under normal operating conditions, subject to the requirements and exclusions set forth below.

## WHAT THIS WARRANTY DOES NOT COVER

The warranty does not apply to products that have been improperly applied, improperly installed, or which have not been maintained in accordance with installation instructions furnished with all products. This warranty does not apply and is void if damage or failure is caused by: accident, abuse, misuse (including but not limited to racing or off-road activities or commercial use), abnormal use, faulty installation, liquid contact, fire, earthquake or other external cause; operating the product outside Air Lift Company's instructions, specifications or guidelines; or service, alteration, maintenance or repairs performed by anyone other than Air Lift Company to the product from its purchased condition. This warranty also does not apply to: consumable parts, such as batteries; cosmetic damage, including but not limited to scratches or dents; defects caused by normal wear and tear or otherwise due to the normal aging of the product, or if any serial or identification number has been removed or defaced from the product. Air Lift Company reserves the right to change the design of any product without assuming any obligation to modify any product previously manufactured.

## LIMITATION OF LIABILITY

To the extent permitted by law, this warranty and the remedies set forth herein are exclusive and in lieu of all other warranties, remedies and conditions, whether oral, written, statutory, express or implied. AIR LIFT COMPANY DISCLAIMS ALL STATUTORY AND IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND WARRANTIES AGAINST HIDDEN OR LATENT DEFECTS TO THE EXTENT PERMITTED BY LAW. To the extent such warranties cannot be disclaimed, such implied warranties shall apply only for the warranty period specified above. Please note that some states do not allow limitation on how long an implied warranty (or condition) lasts. So the above limitation may not apply to you. Except as provided in this warranty and to the extent permitted by law, Air Lift Company shall not be liable for any direct, special, incidental

or consequential damages resulting from any breach of warranty or condition, or arising in connection with the sale, use or repair of air lift products, or under any other legal theory, including but not limited to loss of use, loss of revenue, loss of actual or anticipated profits, loss of the use of money, loss of business, loss of opportunity, loss of goodwill, and loss of reputation. Air Lift Company's maximum liability shall not in any case exceed the purchase price paid by you for the Air Lift product. Please note that 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.

## HOW TO GET SERVICE

If a defect in workmanship or materials causes your Air Lift product to become inoperable within the warranty period, before returning any defective product, call Air Lift Company at (800) 248-0892 in the U.S. and Canada (elsewhere, (517) 322-2144) to obtain a Returned Materials Authorization (RMA) number. The consumer shall be responsible for removing (labor charges) the defective product from the vehicle and returning it, shipping costs prepaid, to Air Lift Company for verification. Returns to Air Lift Company must be postage prepaid and sent to: Air Lift Company • 2727 Snow Road • Lansing, MI • 48917. You must prove to the satisfaction of Air Lift Company the date of original purchase of your Air Lift product. You must also enclose the RMA number and a return address. A minimum \$10 shipping and handling charge will apply to all warranty claims. You must also pack the product to minimize the risk of it being damaged in transit. If we receive a product in damaged condition as the result of shipping, we will notify you and you must seek a claim with the shipper.

## WHAT AIR LIFT COMPANY WILL DO

If you submit a valid claim to Air Lift Company during the warranty period, Air Lift Company will, at its option, repair your Air Lift product or furnish you with a new or rebuilt product. Air Lift Company will not reimburse you for repairs or replacement parts provided by other parties. Your repaired or replacement Air Lift product will be returned to you (subject to payment of the required warranty claim shipping and handling charge) and it will be covered under the warranty for the balance of the warranty period, if any. When a product or part is replaced, any replacement item becomes your property and the replaced item becomes property of Air Lift Company. You are responsible for installation/ reinstallation (labor charges) of the product.

## HOW THE LAW RELATES TO THIS WARRANTY

This warranty gives you specific legal rights and you may also have other rights which vary from state to state. By this warranty, Air Lift Company does not limit or exclude your rights except as allowed by law. To fully understand your rights, you should consult the laws of your state.

## SPECIFIC LOAD SUPPORT WARRANTY PERIODS BY PRODUCT LINE

LoadLifter 5000™ Ultimate	Lifetime Limited
LoadLifter 5000™	Lifetime Limited
RideControl <sup>™</sup>	Lifetime Limited
Air Lift 1000™	Lifetime Limited
AirCell™	Lifetime Limited
SlamAir™	Lifetime Limited

WirelessAIR™	2 Year Limited
WirelessONE™	2 Year Limited
LoadController™ Single and Dual	2 Year Limited
LoadController™ I and II	2 Year Limited
SmartAir™ II	2 Year Limited
Other Accessories	2 Year Limited

## **Replacement Information**

If you need replacement parts, contact the local dealer or call Air Lift customer service at (800) 248-0892. Most parts are immediately available and can be shipped the same day.

#### Contact Air Lift Company customer service at (800) 248-0892, first if:

- · Parts are missing from the kit.
- · Need technical assistance on installation or operation.
- · Broken or defective parts in the kit.
- · Wrong parts in the kit.
- · Have a warranty claim or question.

#### Contact the retailer where the kit was purchased:

- If it is necessary to return or exchange the kit for any reason.
- If there is a problem with shipping if shipped from the retailer.
- If there is a problem with the price.

## **Contact Information**

If you have any questions, comments or need technical assistance, contact our customer service department by calling (800) 248-0892, Monday through Friday. For calls from outside the USA or Canada, our local number is (517) 322-2144.

For inquiries by mail, our address is PO Box 80167, Lansing, MI 48908-0167. Our shipping address for returns is 2727 Snow Road, Lansing, MI 48917.

You may also contact us anytime by e-mail at sales@airliftcompany.com or on the web at www.airliftcompany.com.



## **Need Help?**

Contact our customer service department by calling (800) 248-0892, Monday through Friday. For calls from outside the USA or Canada, our local number is (517) 322-2144.

Register your warranty online at www.airliftcompany.com/warranty



Thank you for purchasing Air Lift products – the professional installer's choice!

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