

Air Lift1000™
by AIR LIFT®

Multiple Applications



Cover illustration may not depict actual kit.



INSTALLATION GUIDE

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 Air Lift 1000 air spring kit.

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, tools 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. Contact Air Lift Company at (800) 248-0892 or go online at www.airliftcompany.com for the latest version of this manual.

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.

 DANGER

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

 WARNING

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

 CAUTION

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.

HARDWARE LIST

Item	Part #	Description.....Qty
A	*	Air spring..... 2
B	*	Upper & lower protectors 2
C	20086	Air line assembly..... 1
D	10466	Tie strap 6
E	21230	Valve cap 2
F	21233	5/16" Hex nut 4
G	21234	Rubber washer..... 2
H	18411	Star washer..... 2
I	18501	M8 Flat washer 2
J	21236	Tee..... 1
K	21455	Valve 2
L	34363	Heat shield kit 1
M	10638	Clamp..... 6

TOOLS LIST

Description.....	Qty
Hoist or floor jacks.....	2
Safety stands.....	1
Safety glasses.....	1
Air compressor or compressed air source.....	1
Spray bottle with dish soap/water solution.....	1

*Part number varies by kit #.



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

Installing the Air Lift 1000 System

KIT NUMBERS

NOTE

This manual is used in reference to the following kit numbers:

60714	60744	60769	60786
60733	60755	60779	60810

IMPORTANT NOTES

If your vehicle is equipped with vibration dampers between the turns of the coil, it is necessary that these be removed before installing the air springs. Their function will be replaced by the air spring.

Some mid-size GM vehicles have a solid cup located on the lower spring seat which will not allow the air line to exit the coil. It is necessary to remove this cup before installing the air spring.

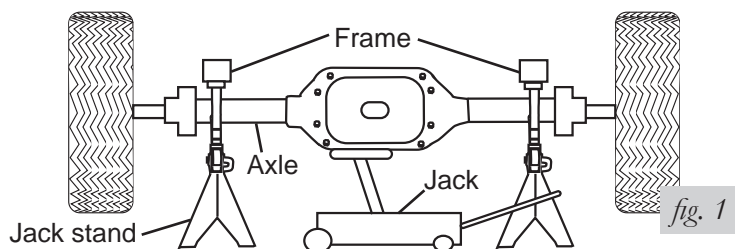
For Suburbans, Tahoes, Yukons, TrailBlazers, Envoyos, Bravadas, Avalanches, Hummer H2s, Pathfinders and Escalades it will be necessary to trim the rubber isolator at the top of the coil spring to ensure adequate valve stem clearance. Also, some models have a plastic vibration damper snapped around the coil of the coil spring (blue in color). This must be removed before inserting the spring.

GETTING STARTED

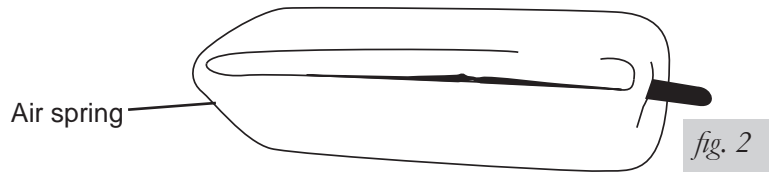
NOTE

Before beginning the installation, check the clearance from coil spring to exhaust. It is common in your application for the exhaust to be very close to the coil. If there is less than 2" of clearance, you will need to install a heat shield (if supplied).

1. Jack up the rear of the vehicle or raise on a hoist. Support the frame with safety stands. Lower the axle or raise the body of the vehicle until the suspension is fully extended (fig. 1).



2. Install heat shield kits, if supplied. Separate instructions are included in the heat shield package.
3. Remove the plastic cap from the barbed stem on the end of the air spring. Exhaust the air from the air spring by rolling it up toward the barbed stem. Replace the cap on the stem to hold the flat shape (fig. 2).



4. If necessary, additional clearance between the coil turns may be obtained by removing the shock absorbers from the lower shock mountings and lowering the suspension an additional one to two inches.

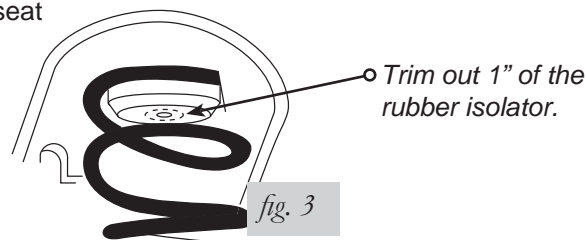
CAUTION

OBSERVE TENSION ON BRAKE AIR LINE. DO NOT STRAIN.

INSTALLING THE AIR SPRING
NOTE

For Suburbans, Tahoes, Yukons, Trailblazers, Envoys, Bravadas, Avalanches, H2 Hummers and Escalades it will be necessary to trim the rubber isolator at the top for the valve stem for additional clearance (fig. 3).

Top of spring seat

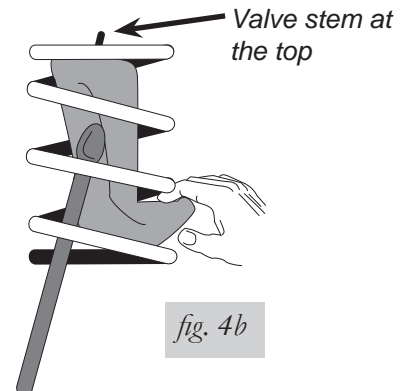
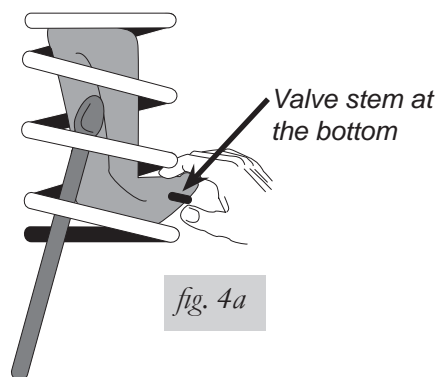


1. Insert the flattened air spring into the coil spring through the lowest opening with the stem at the bottom (fig. 4a).

NOTE

For installing the air spring in 1991 and up Crown Victorias, Mercury Grand Marquis, Suburbans, 4DR-4WD Tahoes–Yukons, Trailblazers, Envoys, Bravadas, Avalanches, Kia Sorentos, Hummer H2s, Pathfinders and Escalades insert the flattened air spring into the coil spring through the lowest opening with the stem at the TOP (fig. 4b).

2. Push the air spring up or down within the coil by hand or with a blunt instrument such as a spoon-type tire iron.
3. When the air spring is completely within the coil, remove the cap and allow the air spring to assume its “as molded” shape.



4. Insert the protector (see vehicle specific application below):

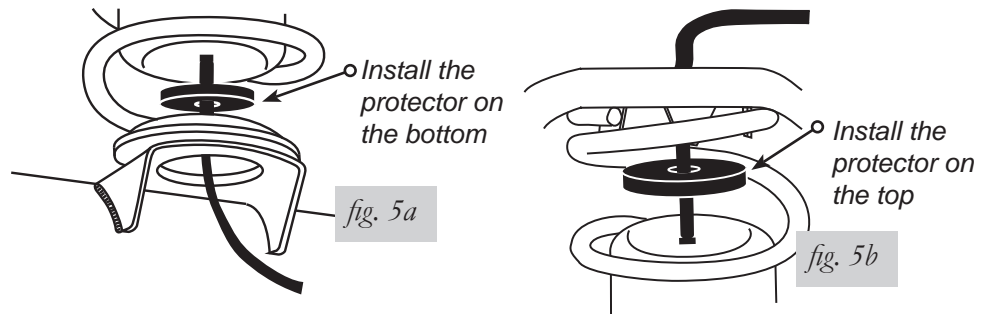
NOTE

The protector always goes on the stem side of the air spring (figs. 5a and 5b).

- a. **1962 and up GM vehicles and 1966–1990 Ford vehicles:** Push the air spring to the top of the coil and insert protector on top of lower spring seat (fig. 5a).
- b. **1991 and up Crown Victorias, Mercury Grand Marquis, 2000 Suburbans, 4DR-4WD Tahoes and Yukons, Trailblazers, Envoys, Bravadas, Avalanches, Kia Sorentos, Hummer H2s, Pathfinders and Escalades:** Push air spring to the bottom of the coil and insert protector at the top (fig. 5b).

NOTE

The protector can be inserted into the coil facing either direction.



INSTALLING THE AIR LINE

A tee air line installation is recommended unless the weight in the vehicle varies from one side to the other and unequal pressures are needed to level the load or compensate for axle torque transfer in racing application. Dual air lines are used in this case.

TEE AIR LINE ROUTING



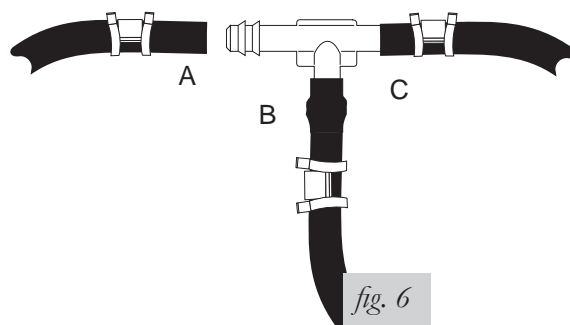
TO PREVENT THE AIR LINE FROM MELTING, MAINTAIN AT LEAST 8" FROM THE EXHAUST SYSTEM TO THE AIR LINE.

1. Locate the desired tee location on the frame rail or cross member. Determine and cut adequate length of air line to reach from tee to the left and right side air springs.



LEAVE SUFFICIENT AIR LINE SLACK TO PREVENT ANY STRAIN ON THE FITTING DURING AXLE MOTIONS.

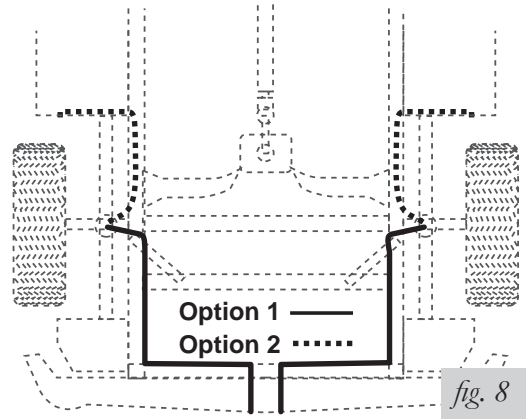
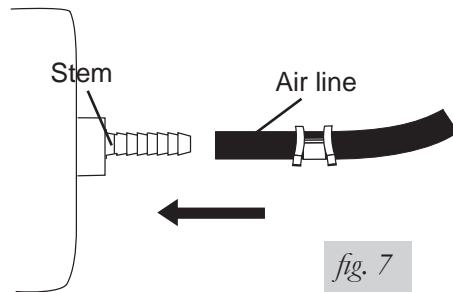
2. Slide an air line clamp onto the air line.
3. Push the air line over one side of the tee until all the barbs are covered. With a pair of pliers, slide the air line clamp forward until it fully covers the barbed section. Repeat entire procedure for other leg of the tee (fig. 6).
4. Route the air line along the cross member and either the lower control arm or the upper spring seat to the air spring.
5. Insert the air line through the spring seat and spacers.



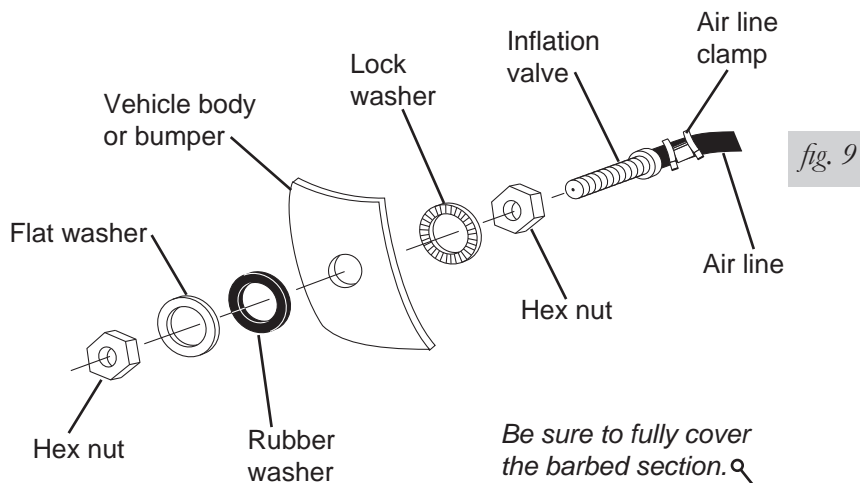
Use this procedure for all air line connections:

- a. Slide the air line clamp onto the air line.
- b. Push the air line over the barbed stem.
- c. Compress the ears on the air line clamp with pliers and slide it forward to fully cover the barbed section.

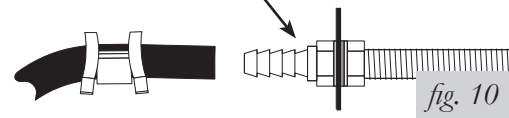
6. Push the air line onto the stem, covering all the barbs (fig. 7). With the pliers, slide the air line clamp upward until it fully covers the barbed section.
7. Push the remaining air line over the last fitting on the tee and route it along the frame to the desired inflation valve location. Attach the air line with plastic straps or wire.
8. Select a location for the inflation valve in the gas cap well, the trunk, rear bumper, fender flange or behind license plate, insuring that the valve will be protected and accessible with an air hose (fig. 8).



9. Drill a 5/16" hole for the inflation valve and mount as shown (fig. 9). The rubber washer serves as an outside weather seal.
10. Slide the air line clamp over the air line. Push the air line onto the fitting covering all barbs. Using pliers, slide the air line clamp forward until it fully covers the barbed section (fig. 10).



Be sure to fully cover the barbed section.



11. Raise the axle or lower the vehicle body until the air springs lightly touch the upper spring seat and lower spacers.
12. Check tail pipe clearance and insure that it is at least 2-3 inches from air spring. If necessary, loosen clamps and rotate or move to obtain additional clearance. If heat shield is provided, install. Attach shock absorbers if removed earlier in the installation.



CAUTION

DO NOT INFLATE AIR SPRINGS BEFORE READING THE MAINTENANCE AND OPERATION SECTION.

13. Continue to "Completing the Installation."

DUAL AIR LINE ROUTING

 **CAUTION**

TO PREVENT AIR LINE FROM MELTING, KEEP IT AT LEAST 8" FROM EXHAUST SYSTEM.

1. Select a location for the inflation valves in the rocker panel flange, or rear bumper, assuring that each valve will be protected and accessible with an air hose.
2. Determine and cut adequate length of air line to reach from valve location to left side air spring.

 **CAUTION**

LEAVE SUFFICIENT AIR LINE SLACK TO PREVENT ANY STRAIN ON FITTING DURING AXLE MOTIONS.

3. Insert the air line through the spring seat and spacer.
4. Slide air clamp onto the cut air line.
5. Push the air line onto the stem, covering all the barbed section (see fig. 7). With pliers slide the air line clamp forward until it fully covers barbed section.
6. Repeat process for right side.
7. Drill 5/16 " hole for inflating valves and mount as illustrated. Rubber washer is for outside weather seal (see fig. 9).
8. Route air line along control arm and frame to inflation valve location and cut off excess.
9. Slide a clamp onto the air line and push the air line over the fitting, covering all the barbs. With pliers slide the air line clamp forward until it fully covers the barbed section (see fig. 10).
10. Raise axle or lower body until air springs lightly touch upper spring seat and lower spacers.
11. Check tail pipe clearance and insure that it is at least 2-3 inches from air springs. If necessary, loosen clamps and rotate or move to obtain additional clearance. If heat shields are supplied, install them. Attach shock absorbers if removed earlier in the installation.

 **CAUTION**

DO NOT INFLATE AIR SPRINGS BEFORE READING THE MAINTENANCE AND OPERATION SECTION.

COMPLETING THE INSTALLATION

1. Inflate the air springs to 35 PSI. Test for air leaks by applying a liquid solution of $\frac{1}{5}$ dish soap to $\frac{4}{5}$ water to all valve cores, fittings and connections.
2. Lower vehicle to the ground. Read Maintenance/Operation Tips for proper care of your air springs.
3. Recheck air pressure after 24 hours. A 2-4 PSI loss after initial installation is normal. If pressure has dropped more than 5 lbs retest for leaks.

Maintenance and Servicing

Minimum Air Pressure	Maximum Air Pressure
5 PSI	35 PSI
FAILURE TO MAINTAIN CORRECT MINIMUM PRESSURE (OR PRESSURE PROPORTIONAL TO LOAD), BOTTOMING OUT, OVER-EXTENSION OR RUBBING AGAINST ANOTHER COMPONENT WILL VOID THE WARRANTY.	

MAINTENANCE GUIDELINES

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

1. Check the air pressure weekly.
2. Always maintain at least the recommended minimum air pressure to prevent the air spring from being pinched. Never inflate beyond the maximum air pressure.
4. If you develop an air leak in the system, use a soapy water solution of 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.
5. Always add air to springs in small quantities, checking the pressure frequently. Sleeves require less air volume than a tire and inflate quickly.

OPERATING TIPS

1. Inflate your air springs to 35 PSI before adding the payload. This will allow the air cylinder to properly mesh with the coil spring. After the vehicle is loaded, adjust your air pressure down to level the vehicle and for ride comfort.
2. When carrying a payload it will be helpful to increase the tire inflation pressure in proportion to any overload condition. We recommend a 2 PSI increase above normal for each 100 lbs additional load on the axle.

CAUTION

DO NOT EXCEED THE VEHICLE MANUFACTURERS' MAXIMUM GROSS VEHICLE WEIGHT RATING.

Product Use

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?

The minimum air pressure should be maintained at all times. The minimum air pressure keeps the air spring in shape, ensuring that it will move throughout its travel without rubbing or wearing on itself.

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. 19). Raise the air pressure to correct either of these problems and level the vehicle.

2. Ride comfort

If the vehicle has a rough and harsh ride it may be due to either too much pressure or not enough (fig. 20). 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. 21). Tuning out these problems usually requires an increase in pressure.



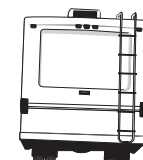
Bad headlight aim

fig. 19



Rough ride

fig. 20

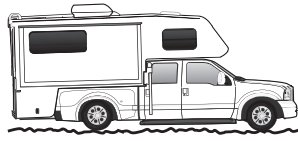


Sway and body roll

fig. 21

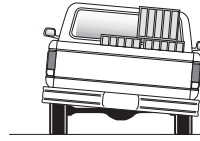
GUIDELINES FOR ADDING AIR

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. 22).
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. 23). As much as a 50 PSI difference is not uncommon.

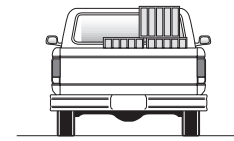


Bottoming out

fig. 22



Unlevel



Level

fig. 23

Notes

Limited Warranty and Return Policy

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	WirelessAIR™.....	2 Year Limited
LoadLifter 5000™.....	Lifetime Limited	WirelessONE™.....	2 Year Limited
RideControl™.....	Lifetime Limited	LoadController™ Single and Dual.....	2 Year Limited
Air Lift 1000™.....	Lifetime Limited	LoadController™ I and II.....	2 Year Limited
AirCell™.....	Lifetime Limited	SmartAir™ II.....	2 Year Limited
SlamAir™.....	Lifetime Limited	Other Accessories.....	2 Year Limited

Replacement Part Information

If replacement parts are needed, 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

Mailing address	P.O. Box 80167 Lansing, MI 48908-0167
Shipping address for returns	2727 Snow Road Lansing, MI 48917
Phone	Toll free: (800) 248-0892 International: (517) 322-2144
Email	service@airliftcompany.com
Web address	www.airliftcompany.com

Need Help?

Contact our customer service department by calling (800) 248-0892, Monday through Friday, 8 a.m. to 8 p.m. Eastern Time. 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!

Air Lift Company • 2727 Snow Road • Lansing, MI 48917 or PO Box 80167 • Lansing, MI 48908-0167
Toll Free (800) 248-0892 • Local (517) 322-2144 • Fax (517) 322-0240 • www.airliftcompany.com

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