

Load**LIFTER** 5000™

ULTIMATE

ADJUSTABLE AIR HELPER SPRINGS

TOW AND HAUL WITH SAFETY AND COMFORT™



Kit Number
88131

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.

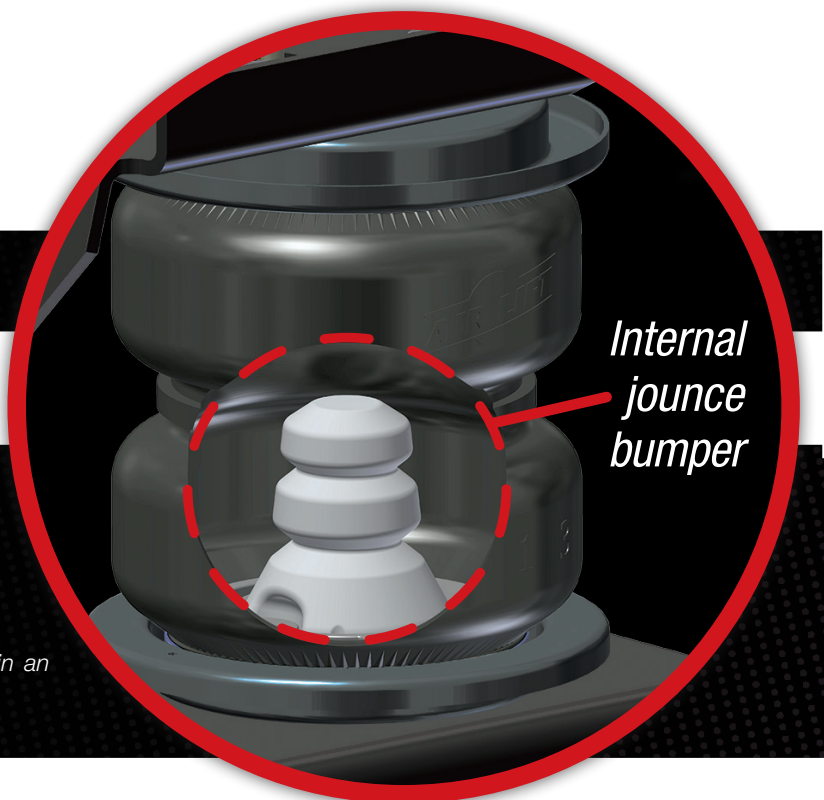


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Introduction

The purpose of this publication is to assist with the installation, maintenance and troubleshooting of the LoadLifter 5000 Ultimate air spring kit. LoadLifter 5000 Ultimate 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. An internal jounce bumper inside the spring absorbs shock and eliminates harsh jarring on rough roads. The internal jounce bumper replaces the factory bumper and allows the air springs to safely be run at zero air pressure. LoadLifter 5000 Ultimate 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 tips, safety information and a troubleshooting guide.

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 vehicle 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.

 **DANGER**

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

 **WARNING**

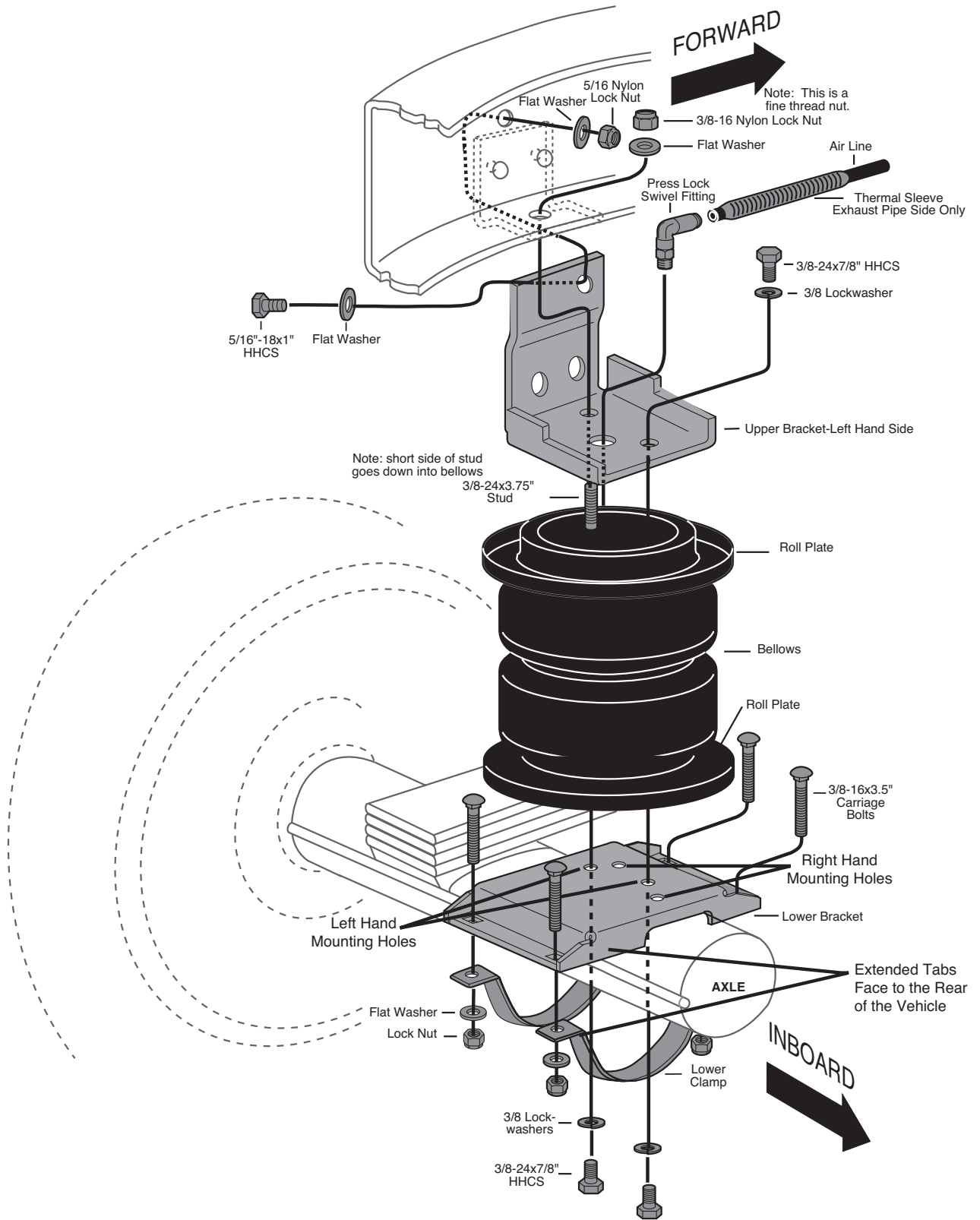
INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN DAMAGE TO THE MACHINE OR MINOR PERSONAL INJURY.

 **CAUTION**

NOTE

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

Installation Diagram



LEFT SIDE UNIT

fig. 1

Installing the LoadLifter 5000 Ultimate System

WARNING

DO NOT INFLATE BELLOWS WHEN IT IS UNRESTRICTED OR NOT INSTALLED. BELLOWS MUST BE CONTAINED BY SUSPENSION OR OTHER ADEQUATE STRUCTURE. DO NOT INFLATE BEYOND 100 PSI IMPROPER USE OR OVER INFLATION MAY CAUSE ASSEMBLY TO BURST CAUSING PROPERTY DAMAGE OR SEVERE PERSONAL INJURY.

NOTE

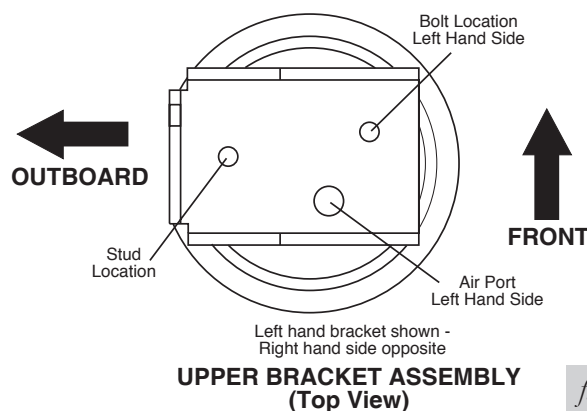
NORMAL RIDE HEIGHT: (no load) - This is defined as the distance between the bottom of the bumper and a flat road surface with the vehicle in an "as delivered condition" (without a load, i.e. tool box, camper, etc.). Measurements should be taken before beginning the installation. The distance from the fender well to the center point of the hub should be recorded. All of our kits are designed to be installed and operate at normal ride height.

GETTING STARTED

1. Jack up rear of vehicle or raise on hoist. Place safety jack stands under axle and adjust so that the axle to frame distance is the same as design or normal ride height.

ASSEMBLING THE AIR SPRING UNIT

2. Position the bellows with the air port up, to insert air fitting. Insert air fitting into air port and tighten finger tight plus 2 turns. **Use a 9/16" open end wrench being careful to tighten on the metal hex nut only.** Do not over tighten. This fitting is precoated with thread sealant.
3. Assemble upper section of left hand unit (NOTE - Upper brackets are stamped "R" and "L"). Set roll plate on bellows. Slip the upper bracket over the air fitting and line up the mounting holes (Figure 2). Install the 3/8"-24 x 3.75" stud in the outboard tapped hole (use the short threaded end of the stud on the bellows side, refer to Figure 1) and turn in carefully until it bottoms out in the tapped hole. Install the 3/8" lockwashers and 3/8"-24x7/8" hex head cap screw (HHCS) a couple of turns to loosely assemble for installation. Assemble right hand unit also.

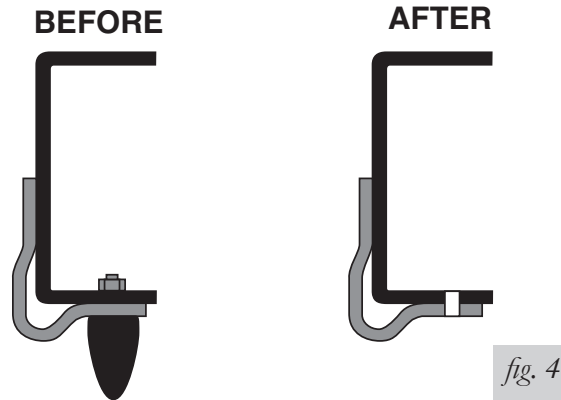
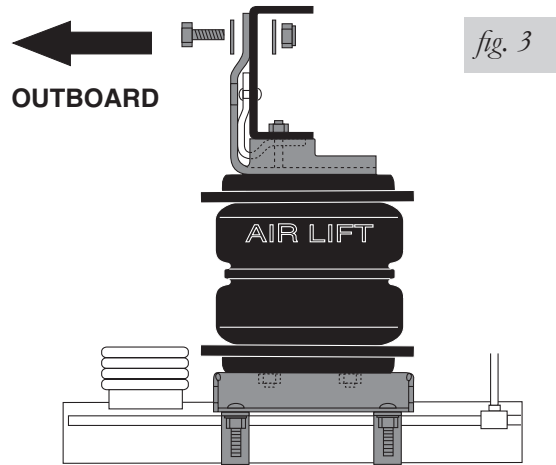


4. Set roll plate on bottom of bellows. Attach lower bracket to bottom of bellows on both units using the holes as shown (Fig. 1). The extended tabs should face rearward. Use the 3/8" lockwashers and 3/8"-24x7/8" HHCS torque to 15-20 lb.-ft. Be sure that lower bracket and upper bracket are parallel to each other as shown in Figure 2.

5. Unbolt and remove both rear rubber axle jounce bumpers and discard. It is not necessary to remove the metal jounce bumper bracket (Fig. 4).
6. Set the air spring assembly on the axle inboard of leaf spring (Fig. 3). Squeeze the bellows down and align the stud with the original jounce bumper mounting hole. Insert the stud through the hole and fasten with flat washer and 3/8"-24 lock nut. Fasten the side of the bracket to the frame rail as shown in figures 1 and 3, using 5/16"-18 x 1" HHCS bolt, flat washers and 5/16" lock nut. Torque all three fasteners to 15 lb.-ft.

NOTE

On some models the hole may have a plastic stud for a wiring harness hanger protruding through it. Push the plastic stud back through the frame and use the existing hole to mount the upper bracket to the side of the frame rail.



7. Position the lower bracket so that it sits square on the axle. Install all four of the 3/8"-16 x 3.5" carriage bolts through the outer holes of the lower bracket. Slide the axle straps up onto the carriage bolts. The extended end of the strap will face the rear; this will provide clearance for the carriage bolt to the brake line. **Important** - Brake line sits under the bracket between the bolts and the axle, be careful not to pinch the brake line. Hold assembly loosely in place using lower straps, flat washers and lock nuts.
8. Adjust the lower bracket assembly on the axle so that the bellows is square. While holding the bracket, tighten all four locknuts securely. Be careful not to bend the straps to the point that they come in contact with the brake line.

9. Repeat procedure 6, 7 and 8 for other side.
10. Installation of this kit requires an exhaust heat shield (Fig. 6). The shield is attached to the exhaust pipe, with the flanges bent for component clearance. **Bend tabs to provide 1/2" dead air space between exhaust pipes and heat shield and maximum clearance with bellows.**

NOTE

A slight adjustment MAY be required to gain enough clearance to install the heat shield (Fig. 5). Loosen the exhaust clamp between the muffler and the catalytic converter. Push the muffler and tailpipe to the rear of the vehicle, retain a minimum of 3/4" between tail pipe and frame crossmember and retighten clamp.

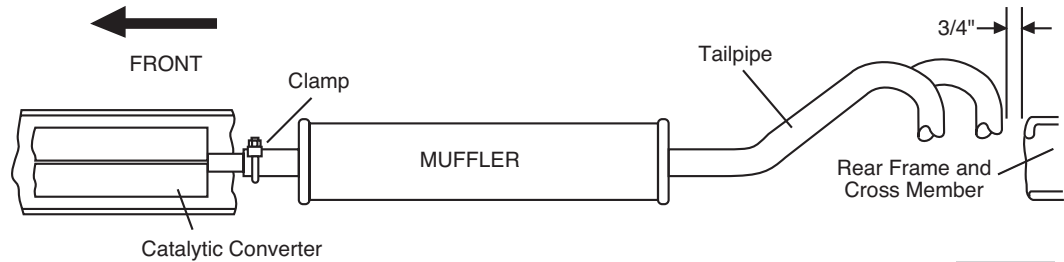


fig. 5

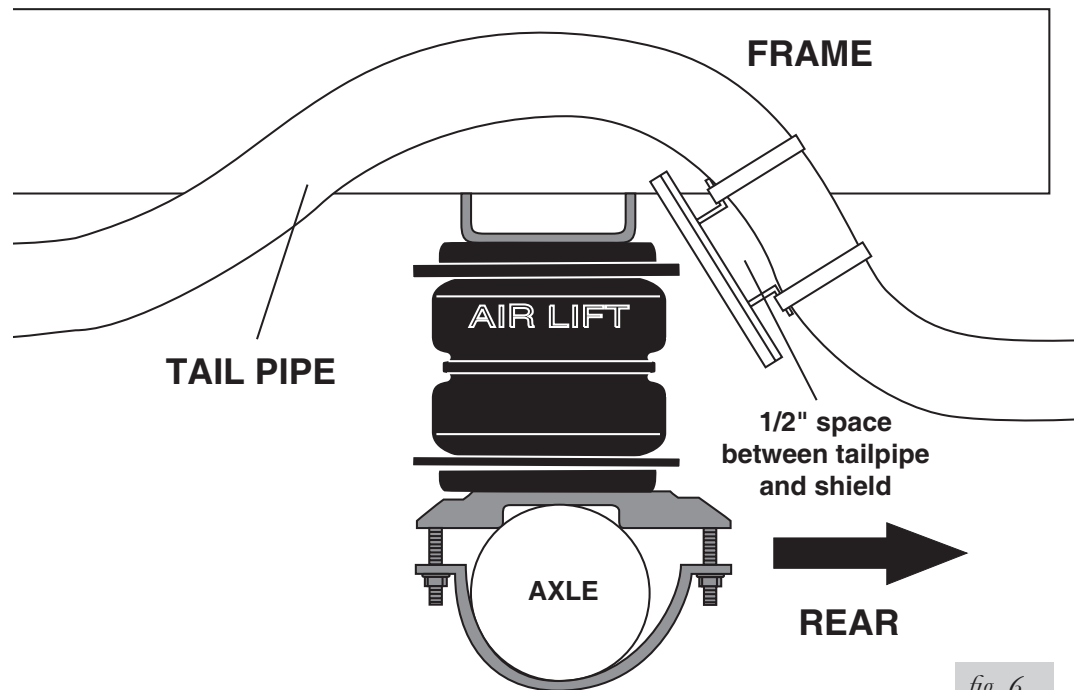
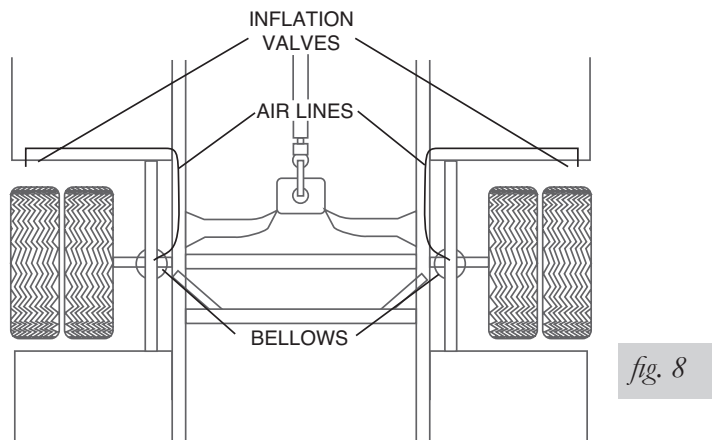
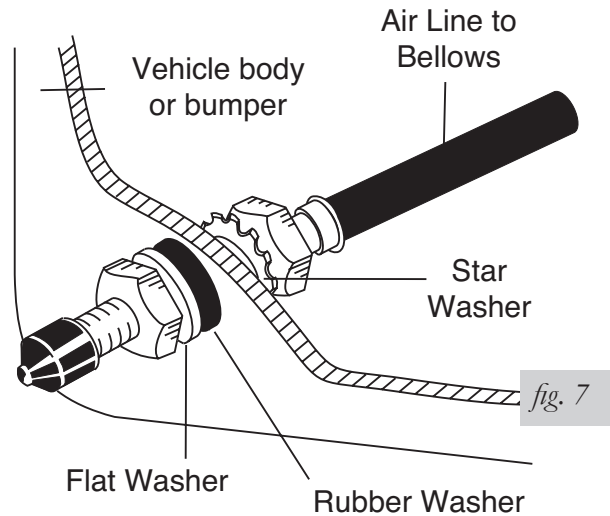


fig. 6

11. Proceed with air line installation instructions.

AIR LINE INSTALLATION

- A. Select locations on the vehicle for the air inflation valves (Fig. 8). The location can be on the bumper or on the body of the vehicle, but be sure that it is protected so that the valve will not be damaged and will still be accessible for the air chuck. Use a standard tube cutter, a razor blade, or very sharp knife to cut the airline assembly into two equal parts. A clean square cut will ensure against leaks. Drill a 5/16" hole and install the air inflation valve, as shown in Figure 7. Install inflation pressure decal near inflation valve.



- B. Run the air line from the inflation valve to the bellows, routing it so that it will be protected from the direct heat from the muffler or tailpipe and kept away from sharp edges. **Slide the thermal sleeve protector onto the air line on the exhaust pipe side.** The air line should not be bent or curved sharply. Cut off excess air line. Push cut end of air line into the air fitting as far as it will go. This is a self locking fitting on the air line. You will hear or feel a definite "click." Secure the air line in place with the nylon ties provided (Fig. 1).
- C. Inflate the bellows and check the fittings, bellows, all connections, and valve cores for air leaks with a solution of dish soap and water.
- D. Raise vehicle and remove safety jack stands. Lower vehicle to ground.
- E. This now completes the installation. Before proceeding, check once again to be sure you have proper clearance around the bellows. With a load on your vehicle and the air springs inflated, you must have clearance all around the bellows at the maximum diameter (7.0").
- F. Lower vehicle to the ground. Inflate the air springs until Normal Ride Height measurement is restored. Regardless of load, the air pressure should always be adjusted so that the Normal Ride Height is maintained at all times.

Before Operating

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 the *Checking for Leaks* section for tips on how to spot leaks. All leaks must be eliminated before the vehicle is road tested.
- Fastener test — Recheck all bolts for proper torque. Retorque 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 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 — Regardless of load, the air pressure should always be adjusted to maintain ride height at all times.
- Thirty day or 500 mile test — 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

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.
7. Should it become necessary to raise the vehicle by the frame, make sure the system is at minimum pressure (20 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.
 2. 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.
- 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

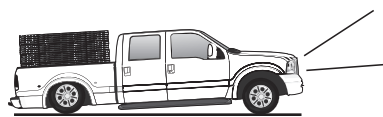
If the vehicle's headlights are shining into the trees or the vehicle is leaning to one side, then it is not level (Fig. 2.1). Raise the air pressure to correct either of these problems and level the vehicle.

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.



Bad headlight aim *fig. 2.1*



Rough ride *fig. 2.2*



Sway and body roll *fig. 2.3*

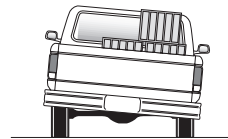
GUIDELINES FOR ADDING AIR

1. Start with the vehicle level or slightly above.
2. When in doubt, always add air.
3. If the front of the vehicle dives while braking, increase the pressure in the front air bags, if equipped.
4. If it is ever suspected that the air bags have bottomed out, increase the pressure (Fig. 2.4).
5. Adjust the pressure up and down to find the best ride.
6. If the vehicle rocks and rolls, adjust the air pressure to reduce movement.
7. 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. 2.5). As much as a 50 PSI difference is not uncommon.

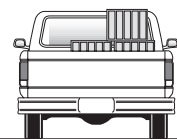


Bottoming out

fig. 2.4



Unlevel



Level

fig. 2.5

Choosing the Right On-Board Air Compressor System

60 DAY NO QUESTIONS ASKED, MONEY-BACK GUARANTEE

TWO-YEAR COMPRESSOR SYSTEM WARRANTY

Add an on-board air compressor system to inflate and deflate your air springs automatically or with the touch of a button — from inside or outside of the vehicle.

- For convenient, on-the-go control of your air springs, add an Air Lift on-board air compressor system.
- Air Lift on-board air compressor systems eliminate the search for gas stations that have a working compressor, saving you time, energy and money.
- All systems include a compressor, controller and all parts needed for easy installation.

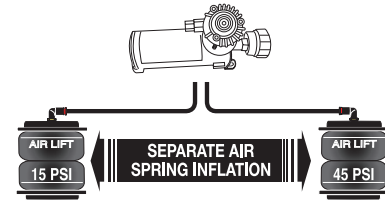
1. Choose single or dual path inflation (see illustrations at right)

2. Choose wireless, analog control or automatic

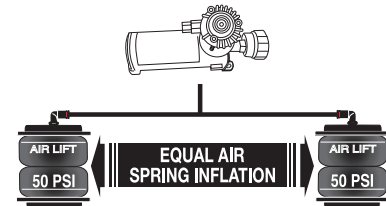
- **Wireless:** Control your air springs from inside or outside the vehicle. Easiest installation — no wires to the cab.
- **Analog:** In-cab control of your air springs. Economically priced.
- **Automatic:** Self-leveling system, keeps the vehicle level no matter what.

3. Choose heavy or standard duty compressor

- **Standard duty:** A standard duty compressor will work well for most customers who use their system on an intermittent basis.
- **Heavy duty:** For daily use, consider the heavy-duty compressor — it inflates faster and more quietly than the standard compressor.



Dual path systems Air springs are controlled separately to allow for different air pressure from side-to-side. Perfect for uneven or top-heavy loads.



Single path systems Two springs will inflate at the same time. Good for loads that are evenly distributed from left-to-right or front-to-back.

WIRELESS

ANALOG

AUTOMATIC

WirelessAIR™

OUR PREMIUM SYSTEM!

- Easy installation
- Includes heavy-duty compressor



P/N 72000

LoadCONTROLLER™

Dual

Compact, economically priced control.

P/N Standard Duty Compressor 25850; P/N Heavy Duty Compressor 25854



WirelessONE™

- Easy installation
- Includes standard-duty compressor



P/N 25870

LoadCONTROLLER™

Single

Compact, economically priced control.

P/N Standard Duty Compressor 25852; P/N Heavy Duty Compressor 25856



SmartAIR™ II

- Easy installation
- Automatic self-leveling system
- No in-cab controls required



Single Path P/N 25490, Dual Path P/N 25491