LoadLIFTER 5000™ ULTIMATE

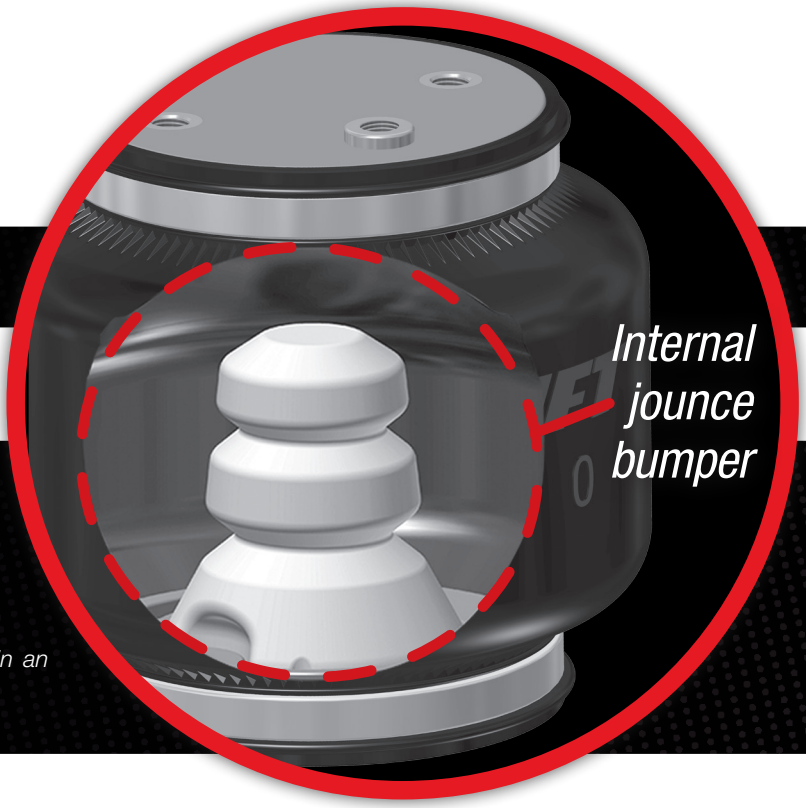
ADJUSTABLE AIR HELPER SPRINGS

TOW AND HAUL WITH SAFETY AND COMFORT™

AIR LIFT™ Since 1949

Kit Number

88203



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.

MN-849 • (011301) • ERN 7508

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Installation Diagram

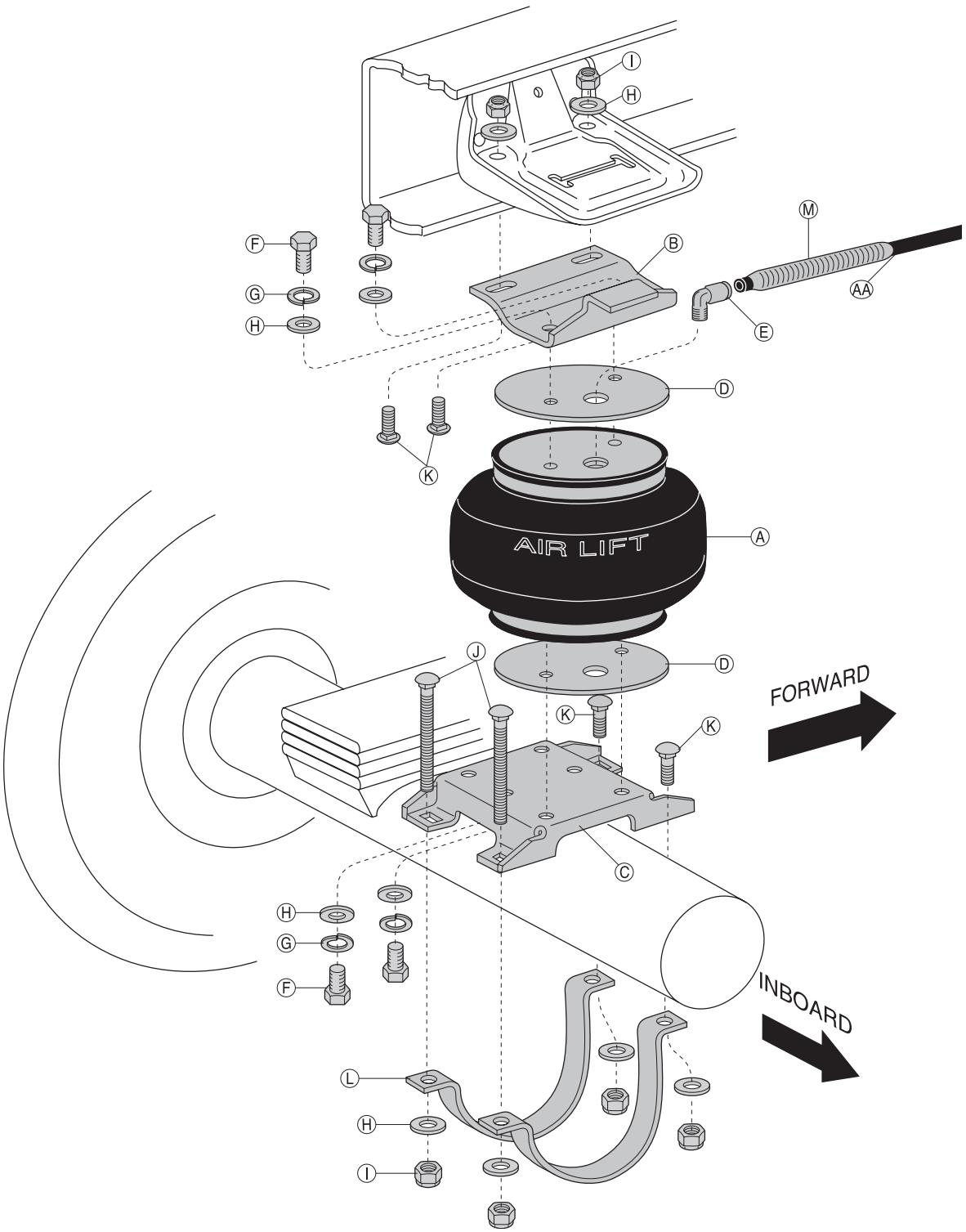


fig. 1

Hardware and Tools Lists

HARDWARE LIST

Item	Description	Qty
A	Air spring	2
B	Upper bracket	2
C	Lower bracket	2
D	Backer plate	4
E	Elbow fitting	2
F	3/8”-24 x 7/8” Bolt	8
G	3/8” Lock washer	8
H	3/8” Flat washer	20
I	3/8” Nylon lock nut	12
J	3/8”-16 x 3.5” Carriage bolt	4
K	3/8”-16 x 1.5” Carriage bolt	8
L	J-strap	4

Item	Description	Qty
M	Thermal sleeve	2
N	Heat shield*	2
O	Heat shield clamp*	4
AA	Air line assembly	1
BB	Tie strap*	6
CC	Valve cap*	2
DD	5/16” Flat washer*	2
EE	Rubber washer*	2
FF	5/16” Star washer*	2
GG	5/16” Hex nut*	4

(* not shown in Fig. 1)

TOOL LIST

Description	Qty
7/16” and 9/16” open-end or box wrenches	1
Crescent wrench	1
Ratchet with 3/8”, 9/16”, and 1/2” deep well sockets	1
3/8” and 5/16” drill bits (very sharp)	1
3/8” Nut driver	1
Heavy duty drill	1
Torque wrench	1
Hose cutter, razor blade, or sharp knife	1
Hoist or floor jacks	1
Safety stands	1
Safety glasses	1
Air compressor, or compressed air source	1
Spray bottle with dish soap/water solution	1

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

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. 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 pounds of load-leveling support with air adjustability from 5-100 PSI.

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 **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.

⚠ 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.*

Installing the LoadLifter 5000 Ultimate System

DANGER

COMPRESSED AIR CAN CAUSE INJURY AND DAMAGE TO THE VEHICLE AND PARTS IF IT IS NOT HANDLED PROPERLY. FOR YOUR SAFETY, DO NOT TRY TO INFLATE THE AIR SPRINGS UNTIL THEY HAVE BEEN PROPERLY SECURED TO THE VEHICLE.

ASSEMBLING THE AIR SPRING ASSEMBLY

1. Place backer plate (D) on the top of the air spring (A).
2. Install 90˚ elbow fitting (E) to the top of the air spring. Tighten finger tight plus 1 and 1/2 turns. Be careful to only tighten on the metal hex nut. Do not over tighten.
3. Set the upper bracket (B) onto the air spring (A). Make sure that the air fitting port is on the same side as the tab. Attach the air spring-bracket assembly using 3/8” bolt (F), 3/8 “ lock washer (G), and 3/8 “ flat washer (H). Tighten to 20 lb.-ft. (27Nm) (Fig. 2).
4. Set a backer plate (D) onto the bottom of the air spring assembly.
5. Place the lower bracket onto the air spring assembly in an offset position (Fig. 2).

NOTE

The air spring assembly will offset (over hang) the lower bracket. Make sure that the offset is on the air fitting side of the assembly.

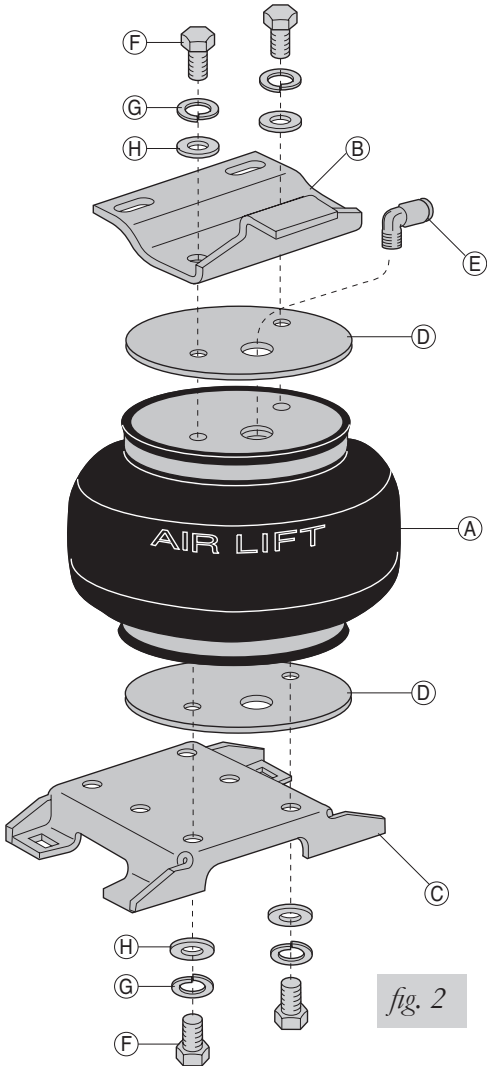


fig. 2

6. Use the template provided in the back of the manual to determine the correct holes for mounting. Use the holes marked by an “A” for air spring mounting.
7. Use a 3/8” bolt (F), a 3/8” lock washer (G), and a 3/8” flat washer (H) through the holes marked with an “A” to attach the lower bracket and backer plate to the assembly. Again, be sure that the air spring is offset to the fitting side. Tighten hardware to 20 lb.-ft. (27Nm) (Fig. 2).

ATTACHING THE UPPER BRACKET

1. Use a screwdriver to remove or pry the rubber jounce bumper from the metal bracket on the frame rail (Fig. 3). This will not be reused.

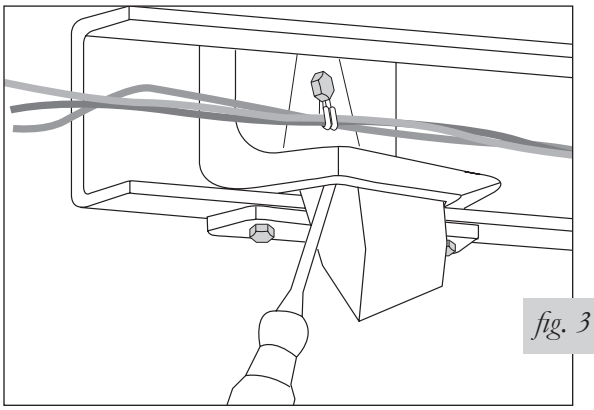


fig. 3

2. Remove the two nuts and bolts holding the metal-to-metal stop to the frame (Fig. 4). Discard these parts. Replacement nuts and carriage bolts are provided.
3. It may be necessary to remove the clip holding the lines on the inside of the frame rail to provide access to the existing bolts (Fig. 5).

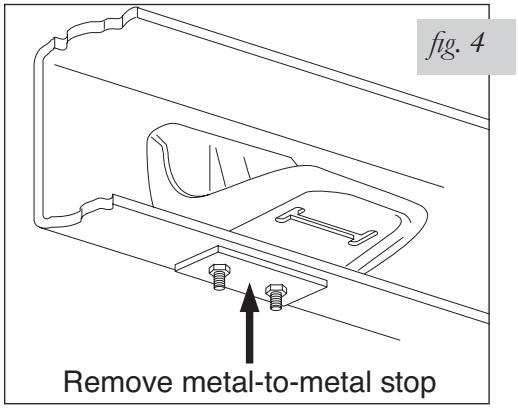


fig. 4

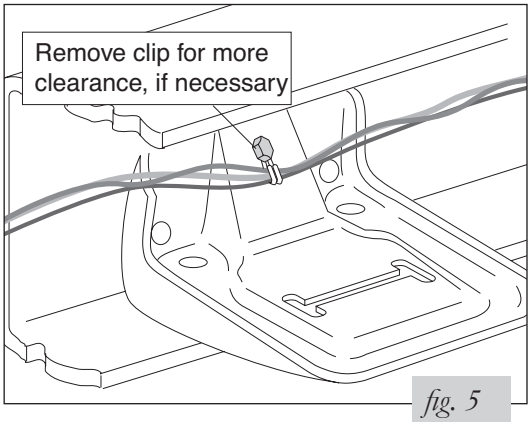


fig. 5

4. Insert two short carriage bolts (K) into the upper bracket (Fig. 1).
5. Set the assembly onto the the axle and insert the carriage bolts through the existing holes where the metal-to-metal stop was mounted.

NOTE

The tab of the upper bracket rests against the jounce bumper bracket. It does not go into the slot (Fig. 6).

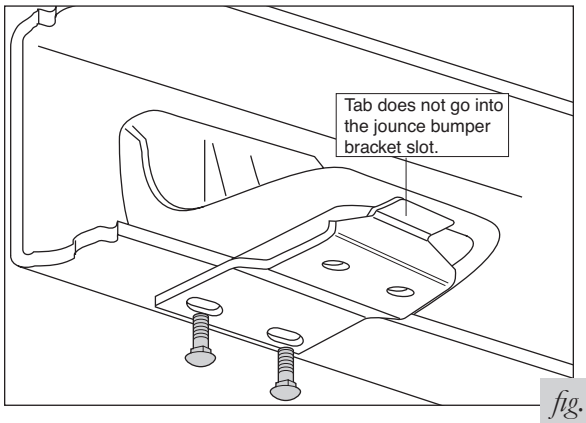


fig. 6

6. Secure the upper bracket to the frame and jounce bumper bracket using a flat washer (H) and nylon lock nut (I) on each carriage bolt (Fig. 1).

ATTACHING THE LOWER BRACKET

1. Install two 3/8” x 1.5” carriage bolts (K) in the two forward-facing holes of the lower bracket (Fig. 1).
2. Install two 3/8” x 3.5” carriage bolts (J) in the rear-ward facing holes of the lower bracket (Fig. 1).
3. Install the J-straps (L) with the long leg to the front of the vehicle. Loosely attach the straps using flat washers (H) and 3/8” lock nuts (I). Refer to Figures 1 and 7.

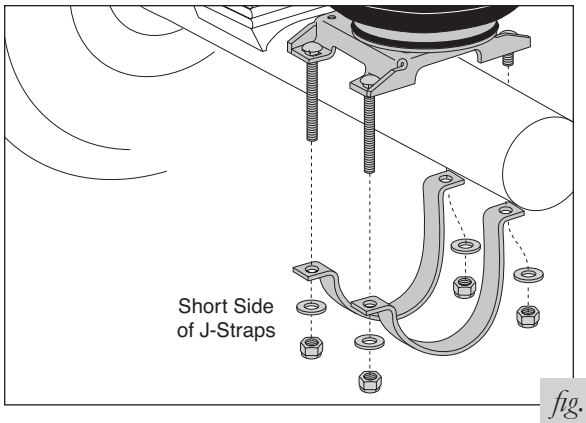


fig. 7

4. On the shock absorber side of the lower bracket, fit the J-strap between the shock bracket and the axle housing. It is not necessary to remove the shock absorber.

NOTE

Disconnecting the lower shock attachment may simplify the installation, although this is not necessary.

5. Inspect the assembly and make sure that the air spring is mounted straight up and down and that the lower bracket is centered on the axle housing. The upper bracket is slotted for adjustment.
6. Cross tighten the nuts on the shorter carriage bolts first and then the long bolts. Tighten the J-strap nuts to 16 lb.-ft. (22Nm).
7. Secure the upper bracket to the frame/jounce bumper bracket assembly. Tighten to 20 lb.-ft. (27Nm).
8. Reattach the clip on the lines on the inside of the frame rail using the original hardware.

INSTALLING OTHER AIR SPRING

1. Installation for one air spring is now complete. Continue by repeating steps ***Attaching the Upper Bracket*** and ***Attaching the Lower Bracket*** for the other side.
2. Return to ***Installing the Heat Shield*** when second air spring is installed.

INSTALLING THE HEAT SHIELD

1. Bend tabs to provide a 1/2” dead air space between exhaust pipe and heat shield (Fig. 8).
2. Attach the heat shield (N) to the exhaust pipe using the provided clamps (O). See Figure 9. Bend the heat shield for maximum clearance to the air spring.

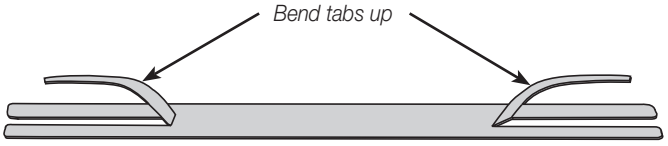


fig. 8

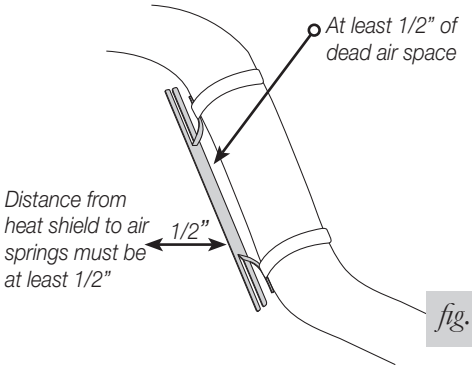


fig. 9

INSTALLING THE AIR LINES

1. Choose a convenient location for mounting the inflation valves. Popular locations for the inflation valve are in the wheel well flanges, in the stowage area, under the body flange.

NOTE

What ever the chosen location is, make sure there is enough clearance around the inflation valves for an air chuck.

2. Drill a 5/16” hole to install the inflation valves.
3. Cut the air line assembly (AA) in two equal lengths.

⚠ CAUTION

WHEN CUTTING OR TRIMMING THE AIR LINE, USE A HOSE CUTTER, A RAZOR BLADE OR A SHARP KNIFE. A CLEAN, SQUARE CUT WILL ENSURE AGAINST LEAKS. DO NOT USE WIRE CUTTERS OR SCISSORS TO CUT THE AIR LINE. THESE TOOLS MAY FLATTEN OR CRIMP THE AIR LINE, CAUSING IT TO LEAK AROUND THE O-RING SEAL INSIDE THE ELBOW FITTING.

4. Place a 5/16” nut (GG) and a star washer (FF) on the air valve. Leave enough of the valve in front of the nut to extend through the hole and have room for the rubber washer (EE), flat washer (DD), and 5/16” nut (GG) and cap (CC). There should be enough valve exposed after installation - approximately 1/2” - to easily apply a pressure gauge or an air chuck (Fig. 10).
5. Push the inflation valve through the hole and use the rubber washer (EE), flat washer (DD), and another 5/16” nut (GG) to secure it in place. Tighten the nuts to secure the assembly in place (Fig. 10).
6. Route the air line along the frame to the air fitting on the air spring (Fig. 11). Keep at least 6” of clearance between the air line and heat sources, such as the exhaust pipes, muffler, or catalytic converter. Avoid sharp bends and edges. Use the plastic tie straps (BB) to secure the air line to fixed, non-moving points along the chassis. Be sure that the tie straps are tight, but do not pinch the air line. Leave at least 2” of slack to allow for any movement that might pull on the air line.
7. On both sides, place the provided thermal sleeve (M) on the air line near the exhaust.
8. Cut off air line leaving approximately 12” of extra air line. A clean square cut will ensure against leaks. Insert the air line into the air fitting. This is a push to connect fitting. Simply push the air line into the 90 degree swivel fitting until it bottoms out (9/16” of air line should be in the fitting).

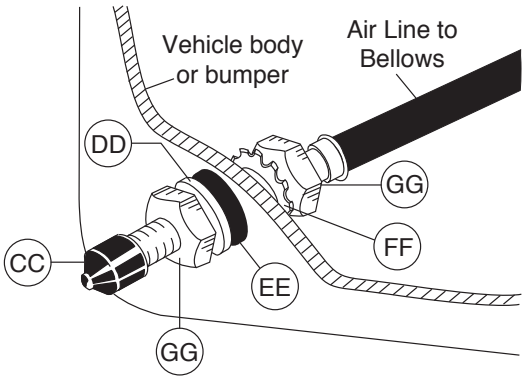


fig. 10

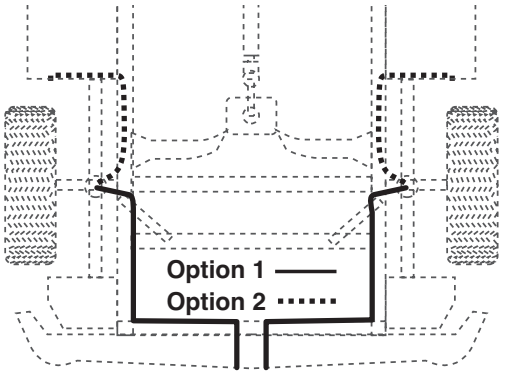


fig. 11

Before Operating

CHECKING FOR LEAKS

1. Inflate the air spring to 60 PSI.
2. Spray all connections and the inflation valves with a solution of 1/5 liquid dish soap and 4/5 water. Spot leaks easily by looking for bubbles in the soapy water.
3. After the test, deflate the springs to the minimum pressure required to restore the system to normal ride height. Do not deflate to lower than 5 PSI.
4. Check the air pressure again after 24 hours. A 2-4 PSI loss after initial installation is normal. Retest for leaks if the loss is more than 5 PSI.

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. Reinsert the air line into the push-to-connect fitting.
   b. Check the threaded connection by tightening the swivel fitting another half 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.

⚠ CAUTION

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**.

INSTALLATION CHECKLIST

☐ **Clearance test** — Inflate the air springs to 60 PSI and make sure there is at least 1/2" clearance from anything that might rub against each sleeve. Be sure to check the tire, brakes, frame, shock absorbers and brake cables.

☐ **Leak test before road test** — Inflate the air springs to 60 PSI and check all connections for leaks. All leaks must be eliminated before the vehicle is road tested.

☐ **Heat test** — Be sure there is sufficient clearance from 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 Air Lift customer service at **(800) 248-0892**.

☐ **Fastener test** — Recheck all bolts for proper torque.

☐ **Road test** — The vehicle should be road tested after the preceding tests. Inflate the springs to recommended driving pressures. Drive the vehicle 10 miles and recheck for clearance, loose fasteners and air leaks.

☐ **Operating instructions** — If professionally installed, the installer should review the operating instructions with the owner. Be sure to provide the owner with all of the paperwork that came with the kit.

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** — It is important to understand the air pressure requirements of the air spring system. Regardless of load, the air pressure should always be adjusted to maintain adequate ride height at all times while driving.

☐ **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
Minimum Recommended Pressure for Motorhomes/Commercial Vehicles	
50 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 air pressure weekly.
2. Always maintain normal ride height. Never inflate beyond 100 PSI.
3. If the system develops an air leak, 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 SAFETY AND TO PREVENT POSSIBLE DAMAGE TO THE VEHICLE, DO NOT EXCEED MAXIMUM GROSS VEHICLE WEIGHT RATING (GVWR), AS INDICATED BY THE VEHICLE MANUFACTURER. ALTHOUGH THE AIR SPRINGS ARE RATED AT A MAXIMUM INFLATION PRESSURE OF 100 PSI, THE AIR PRESSURE ACTUALLY NEEDED IS DEPENDENT ON LOAD AND GVWR.

4. Loaded vehicles require at least 25 PSI. A “loaded vehicle” refers to a vehicle with a heavy bed load, a trailer or both. Never exceed GVWR, regardless of air spring, air pressure or other load assist. The springs in this kit will support approximately 40 pounds 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 air pressure to maintain 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 to remove mud, sand, gravel or other debris.

TUNING THE AIR PRESSURE

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

1. **Level vehicle**

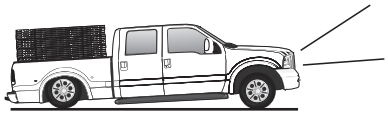
   If the vehicle's headlights are shining into the trees or the vehicle is leaning to one side, then it is not level (Fig. 12). Raise the air pressure to correct either of these problems and level the vehicle.

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. 13). 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. 14). Tuning out these problems usually requires an increase in pressure.

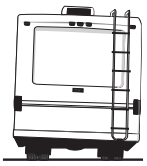


Bad headlight aim

fig. 12

Rough ride

fig. 13



Sway and body roll

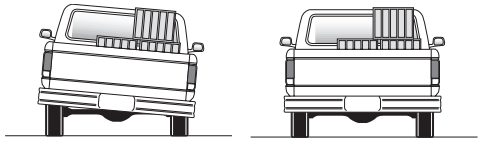
fig. 14

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. 15).
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. 16). As much as a 50 PSI difference is not uncommon.

Bottoming out

fig. 15



Unlevel Level

fig. 16

Troubleshooting Guide

PROBLEM	CAUSE	SOLUTION
System won't maintain pressure overnight.	Improperly installed air line, air line has holes or cracks.	Leak test the air line connections, the threaded connection into the air spring, and all fittings in the control system.
Air spring or air line leak.	Fitting seal or air line is compromised.	Check to make sure air lines are seated in connectors. Inspect fittings with soapy water. Trim hose or re-seal fitting. Ensure lines are cut straight.
Corner won't raise or air leak develops.	Look for a kink or fold in the air line.	Replace any air line that has been kinked.

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 unladen (no load).

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.

Template

DRILLING TEMPLATE VERIFICATION

⚠ CAUTION

IMPORTANT: PRINT THIS MANUAL AT 100% SCALE. THIS MANUAL CONTAINS A DRILLING TEMPLATE, WHICH WOULD BE RENDERED INCORRECT IN DIMENSION IF PRINTED WITH ANY SCALING. USING AN INCORRECT TEMPLATE TO DRILL HOLES MAY CAUSE DAMAGE TO THE VEHICLE!

PLEASE REFER TO THE ONE-INCH SCALE (FIG. 17) AND USE A MEASURING TOOL TO CONFIRM THAT THE PRINTED SCALE MEASURES 1" TO VERIFY THAT THE TEMPLATE HAS BEEN PRINTED AT 100% SCALE. IF IT IS PRINTED AT ANY SCALE OTHER THAN 100%, YOU COULD END UP DRILLING IN THE WRONG LOCATIONS ON THE VEHICLE.

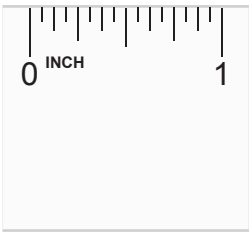
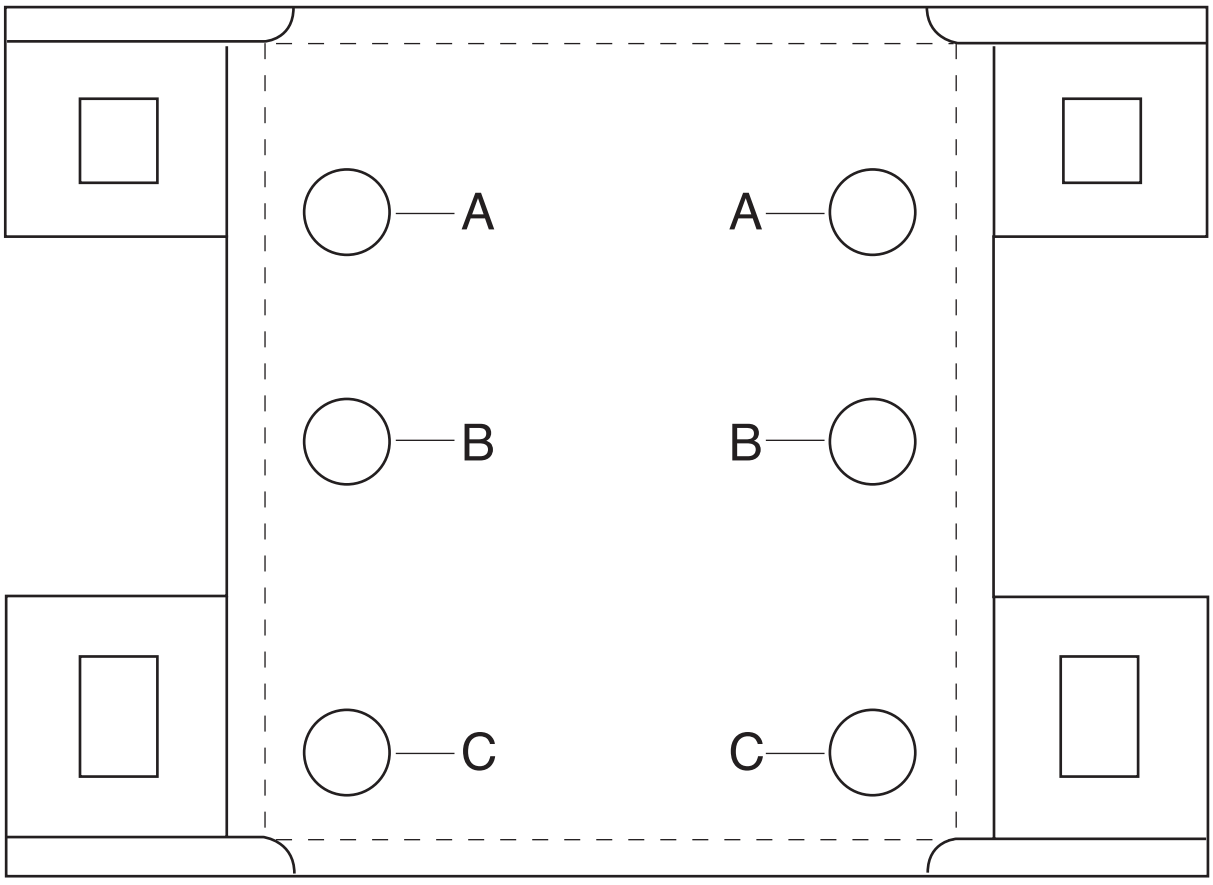


fig. 17

LOWER BRACKET TEMPLATE



Notes

Limited Warranty and Return Policy

Air Lift Company provides a limited lifetime warranty to the original purchaser of its Load Support products, 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 in the full Limited Warranty and Return Policy that is available online at www.airliftcompany.com/warranty.

For additional warranty information contact Air Lift Company customer service.

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 Air Lift Company customer service department by calling (800) 248-0892.
For calls from outside the USA or Canada, dial (517) 322-2144.

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

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Printed in the USA
JJC-0417