Air Lift1000™
by AIR LIFT®

Kits 60824 & 60825

2011- Dodge Durango (AWD)*
2011- Jeep Grand Cherokee (2WD/4WD)**

AIR LIFT™

INSTALLATION GUIDE

* DOES NOT FIT DURANGO HEAT AND R/T APPLICATIONS

** DOES NOT FIT JEEP QUADRA-LIFT EQUIPPED AND SRT-8 VEHICLES

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-762 • (021710) • ECR 8919

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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, 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.

⚠ 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 and Tool List

HARDWARE LIST

Item	Part #	Description	Qty
A1	46161	Air Spring (Kit #60824)	2
A2	46129	Air Spring (Kit #60825)	2
B	09447	Protector (spacer)	2
C	20937	Air Line	15’
D	10466	Zip Tie	6
E	10638	Uni Clamp	6
F	18501	M8 Flat Washer	2
G	18411	Star Washer	2
H	21230	Valve Cap	2
I	21233	5/16” Hex Nut	4
J	21234	Rubber Washer	2
K	21236	Tee	1
L	21455	Valve	2

TOOLS LIST

Description	Qty
Hoist or Floor Jack	1
Safety Stands	2
Tire Spoon	1
Safety Glasses	1
Air Compressor or Compressed Air Source	1
Spray Bottle with Dish Soap/Water Solution	1
Box Cutter or Knife	1
Hack Saw Blade or Equivalent	1
Rat Tail File	1

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

Installing the Air Lift 1000 System

1. Jack up the rear of the vehicle or raise on a hoist. Support the frame with safety stands (Fig. 1).

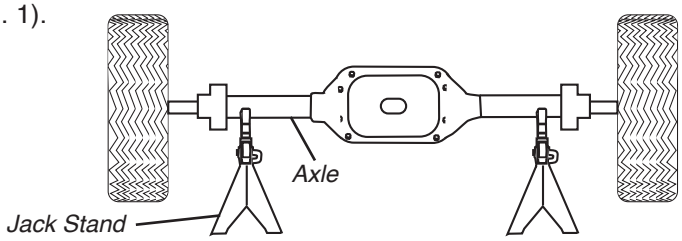


fig. 1

2. Lower the axle or raise the body until the springs are completely extended (wheels hanging).

⚠ CAUTION

OBSERVE TENSION ON BRAKE LINE. DO NOT STRAIN.

3. Since there is no access to route a hose through the top spring seat, the hose will need to be routed down through the bottom spring seat. In order to do this, the rubber diaphragm (cover) on the lower spring seat will have to be trimmed using a box cutter or knife (Fig. 2). Cut just enough to create a one inch hole in the center of the rubber diaphragm.

Rubber diaphragm covering lower spring seat hole. Cut a one inch hole in the center.

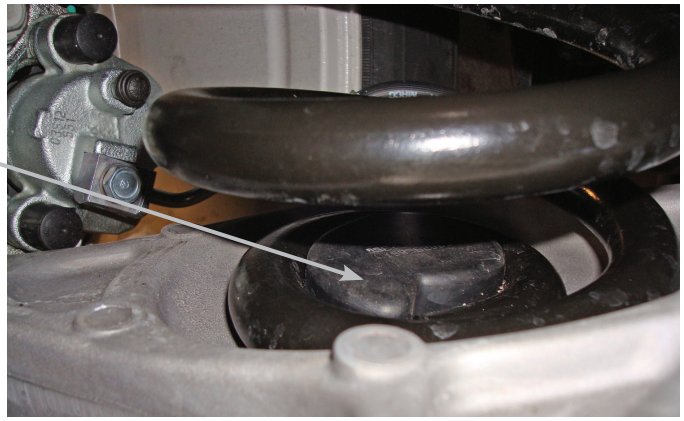


fig. 2

4. Once the hole is created; in order to make access to the barb on the cylinder it will be necessary to remove the cross ribs from the lower spring retainer (Fig. 3).

Lower spring retainer showing cross ribs

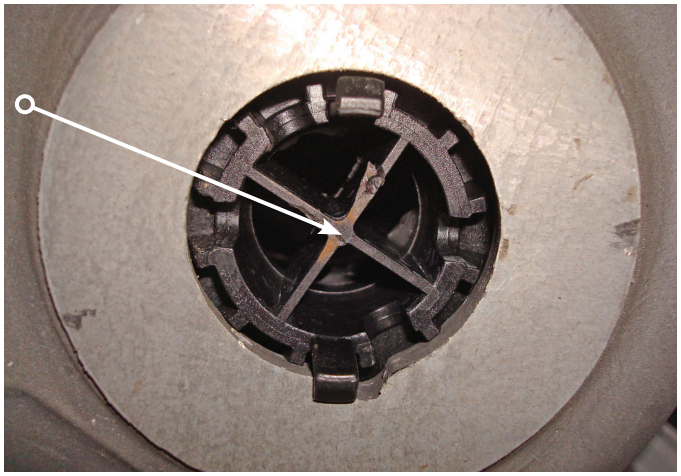


fig. 3

5. To do this you can use a hack saw blade (or anything comparable) and cut each rib out creating access in the center of the lower spring seat, to the cylinder that will be installed (Fig. 4). Try to smooth any sharp edges with a rat tail file or Dremel tool.

Lower spring retainer showing the ribs cut out. Smooth any sharp edges with a file.

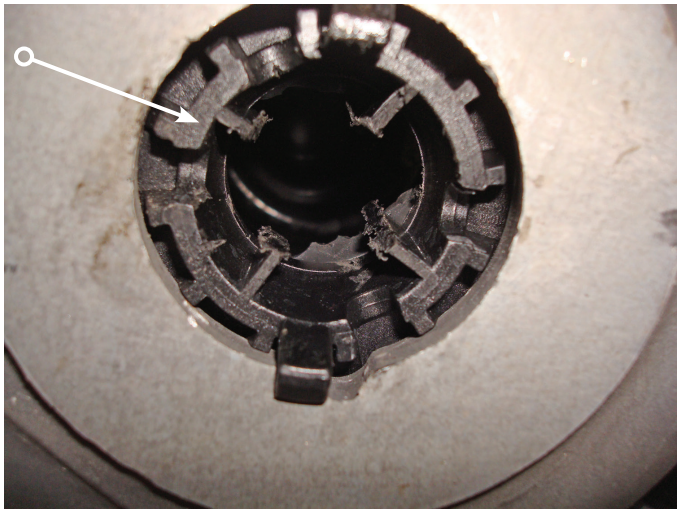


fig. 4

6. 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. 5). Fold the spring into a “hot dog bun shape.”

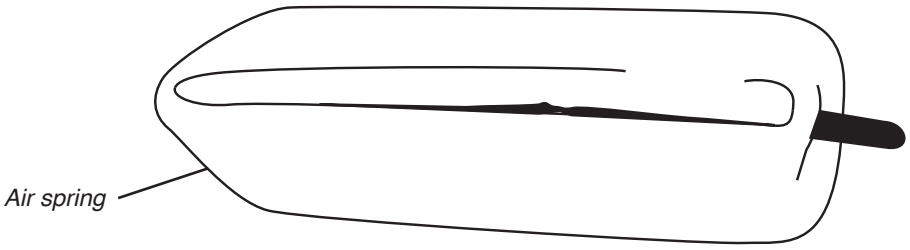


fig. 5

7. Insert the flattened end of the air spring into the coil spring through the lowest opening in the coil spring with the stem at the bottom (Fig. 6). Push the spring up into the cylinder by hand or with a blunt instrument such as a spoon-type tire iron.

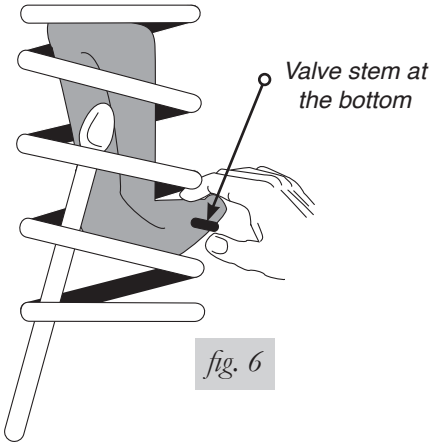


fig. 6

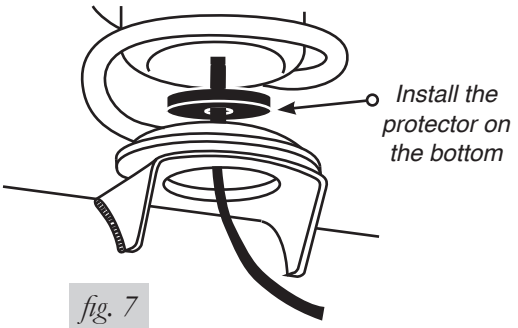
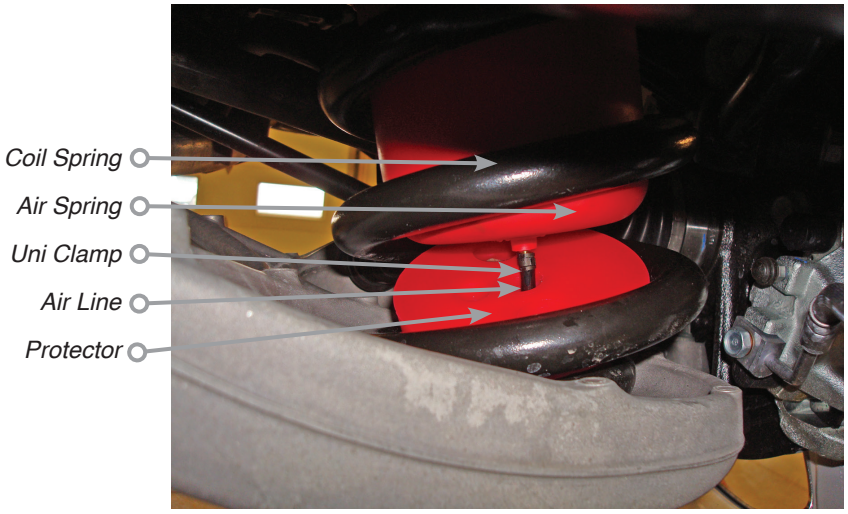


fig. 7

8. When the air spring is completely within the coil, remove the cap and allow the air spring to assume it's "as molded" shape.
9. Push the air spring to the top of the coil spring and insert the protector on the bottom between the lower spring seat and air spring (Figs. 7 & 8).



Push air spring to the top and insert protector between the air spring and lower spring seat. Attach hose and uni clamp over barbed stem of air spring.

fig. 8

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.

CUTTING AIR LINES

⚠ **CAUTION**

When cutting air lines, use a sharp knife or a hose cutter and make clean, square cuts (Fig. 9). Do not use scissors or wire cutters because these tools will deform the air line, causing it to leak around fittings. Do not cut the lines at an angle.

fig. 9

⚠ **CAUTION**

The minimum bend radius for 1/4” air line is 25mm (1”). The minimum bend radius for 3/8” air line is 38mm (1 1/2”). Do not bend the air line less than the minimum bend radius or side load the fitting connections. Air lines are to be installed straight into fittings.

Inspect the air line for scratches that run lengthwise prior to installation. Contact Air Lift customer service at **(800) 248-0892** if the air line is damaged.

To watch a video demonstrating proper air line cutting, go to **air-lift.co/cuttingairline**

TEE AIR LINE ROUTING

TO PREVENT THE AIR LINE FROM MELTING, MAINTAIN AT LEAST 8” (200MM) 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. 10).
4. Route the air line along the crossmember and either the lower control arm or the upper spring seat to the air spring.

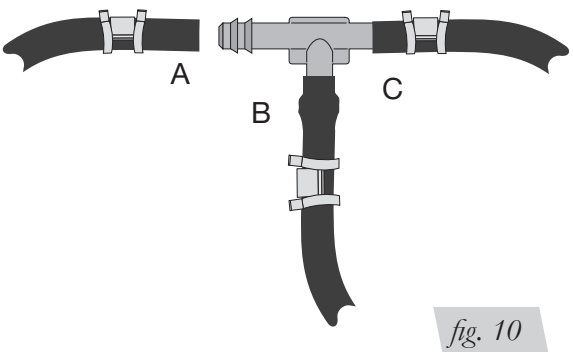


fig. 10

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.

5. Push the air line onto the stem, covering all the barbs (Fig. 11). With the pliers, slide the air line clamp upward until it fully covers the barbed section.

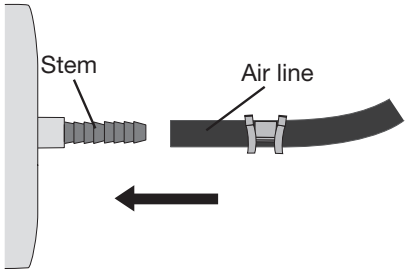


fig. 11

6. 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.
7. Select a location for the inflation valve in the gas cap well, the trunk, rear bumper, fender flange or license plate, ensuring that the valve will be protected and accessible with an air hose (Fig. 12).

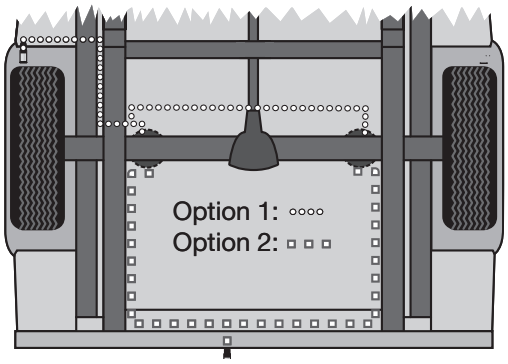


fig. 12

8. Drill a 5/16” hole for the inflation valve and mount as shown (Fig. 13). The rubber washer serves as an outside weather seal.

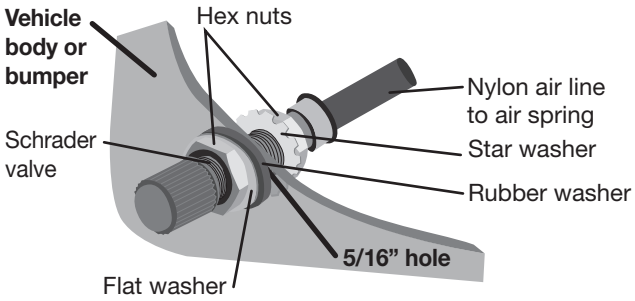


fig. 13

9. 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.

⚠ CAUTION

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

DUAL AIR LINE ROUTING

⚠ CAUTION

TO PREVENT AIR LINE FROM MELTING, KEEP IT AT LEAST 8” (200MM) 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 (Fig. 14).
2. Cut adequate length of air line to reach from valve location to left side air spring.

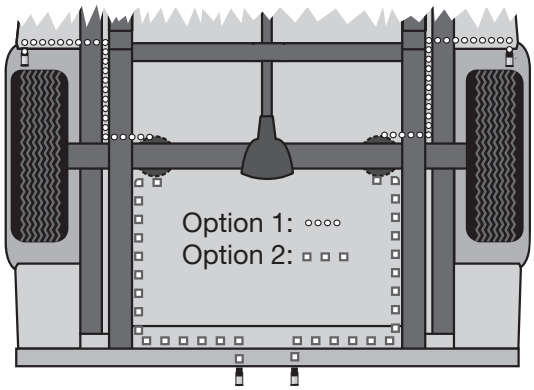


fig. 14

⚠ CAUTION

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

3. Slide air clamp onto the cut air line.
4. Push the air line onto the stem, covering all the barbed section. With pliers slide the air line clamp forward until it fully covers barbed section.
5. Repeat process for right side.
6. Drill 5/16” hole for inflating valves and mount as illustrated. Rubber washer is for outside weather seal.
7. Route air line along control arm and frame to inflation valve location and cut off excess.

Finished Installation

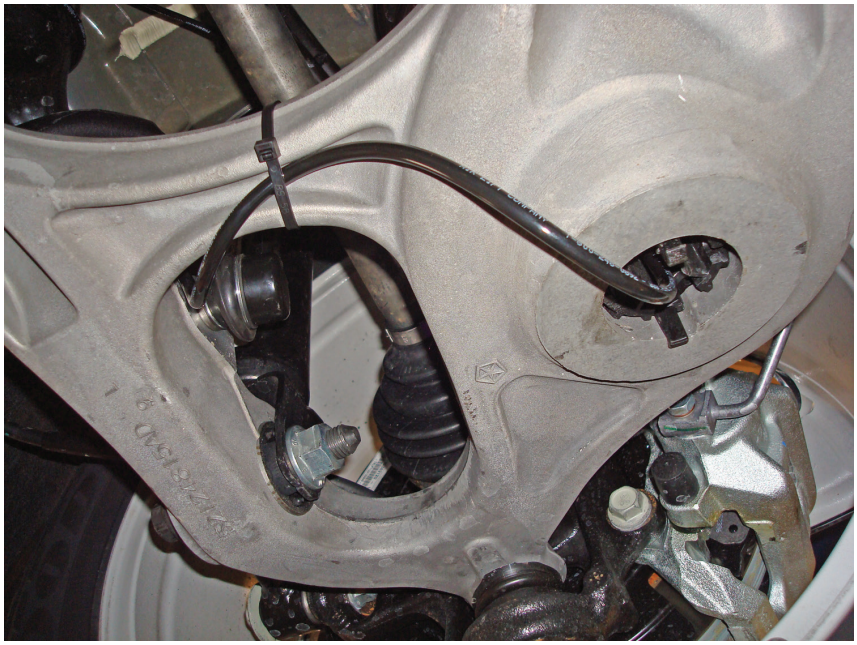


fig.15

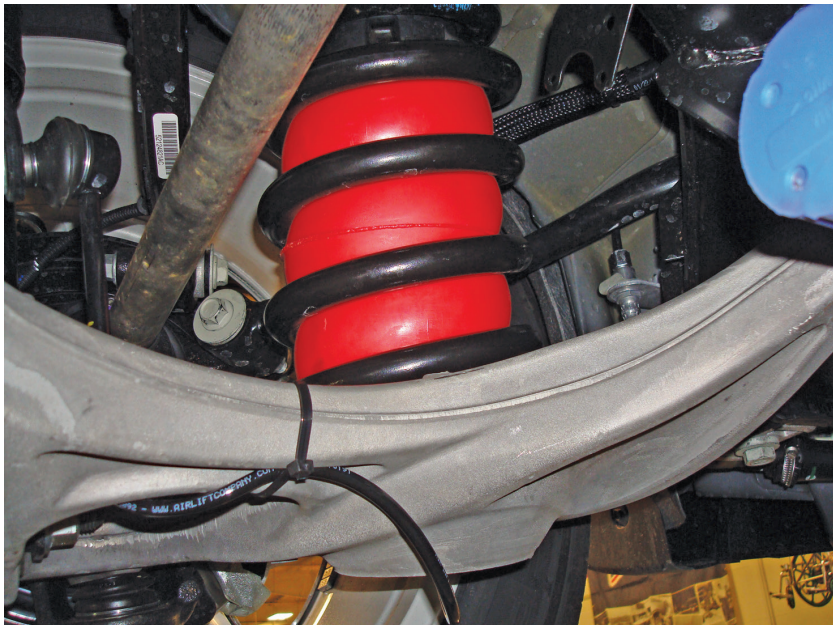


fig. 16

Before Operating

CHECKING FOR LEAKS

1. Inflate the air spring to 30 PSI (2BAR).
2. Spray all connections and the inflation valves with a solution of liquid dish soap and 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 (.34BAR).
4. Check the air pressure again after 24 hours. A 2-4 PSI (.14-.28BAR) loss after initial installation is normal. Retest for leaks if the loss is more than 5 PSI (.34BAR).

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" (25mm) off the end of the air line. Be sure the cut is clean and square (see Fig. 9). 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 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 30PSI (2BAR) and make sure there is at least 1/2" (13mm) 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 30PSI (2BAR) 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" (152mm) 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 (16km) 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 (.34BAR), 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 (800km) test** —Recheck the air spring system after 30 days or 500 miles (800km), 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 Air Pressure	Maximum Air Pressure
5 PSI (.34BAR)	35 PSI (2.4BAR)
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

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

1. Check the air pressure weekly.
2. Always maintain normal ride height. Never inflate beyond 35 PSI (2.4BAR).
3. If you develop an air leak in the system, use a soapy water solution to check all air line connections and the inflation valve core, before deflating and removing the spring.
4. When increasing load, always adjust the 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.

⚠ CAUTION FOR YOUR SAFETY AND TO PREVENT DAMAGE TO THE VEHICLE, DO NOT THE 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 35 PSI (2.4BAR), THE AIR PRESSURE ACTUALLY NEEDED IS DEPENDENT ON LOAD AND GVWR.

5. Always add air to the springs in small quantities, checking the pressure frequently. Cylinders require less air volume than a tire and inflate quickly.
6. Should it become necessary to raise the vehicle by the frame, make sure the system is at a minimum pressure (5 PSI [.34BAR]) to reduce tension on the suspension/ brake components. Use of on-board leveling systems do not require deflation or disconnection.

OPERATING TIPS

1. Inflate the air springs to 30 PSI (2BAR) before adding the payload. This will allow the air cylinder to properly mesh with the coil spring. After the vehicle is loaded, adjust the 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. Air Lift recommends a 2 PSI (.14BAR) increase above normal for each 100 pounds (45kg) additional load on the axle.

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 Air Lift 1000, the recommended minimum air pressure is 5 PSI (2.4BAR).

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

2. **Ride comfort**

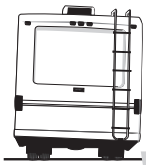
   If the vehicle has a rough or harsh ride it may be due to either too much pressure or not enough (Fig. 18). Try different pressures to determine the best ride comfort.

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

Bad headlight aim *fig. 17*

Rough ride *fig. 18*

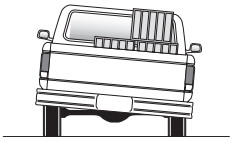


Sway and body roll *fig. 19*

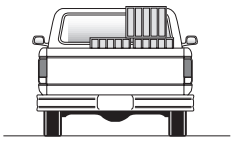
GUIDELINES FOR ADDING AIR

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. 20).
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. 21). As much as a 50 PSI (3.5BAR) difference is not uncommon.

Bottoming out *fig. 20*



Unlevel



Level *fig. 21*

Notes

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 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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