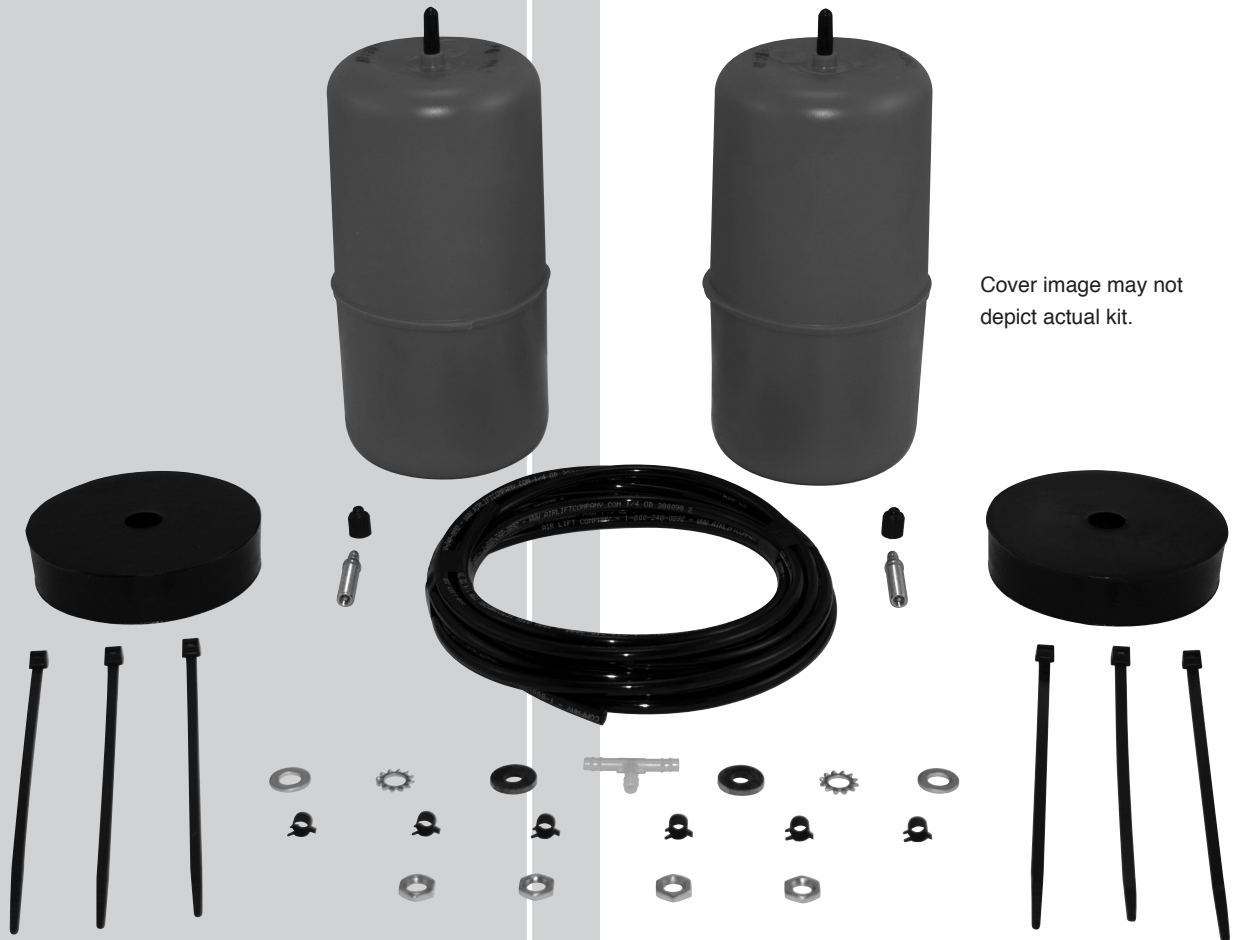


Air Lift 1000™

by AIR LIFT®

Kit 60739

91-96 Toyota Previa



Cover image 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.

TABLE OF CONTENTS

Introduction	2
Important Safety Notice	2
Notation Explanation	2
Installing the Air Lift 1000 System	3
Getting Started	3
Tee Air Line Routing	4
Dual Air Line Routing	5
Installing the Heat Shield	7
Checking for Leaks	7
Fixing Leaks	7
Before Operating	8
Installation Checklist	8
Post-Installation Checklist	8
Product Use, Maintenance and Servicing	9
Suggested Driving and Maximum Pressure	9
Maintenance Guidelines	9
Operating Tips	9
Troubleshooting Guide	9
Frequently Asked Questions	10
Tuning the Air Pressure	10
Guidelines for Adding Air	11
Replacement Information	11
Contact Information	11
Warranty and Return Policy	12
T-12795 Template	13

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**

 **WARNING**

 **CAUTION**

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

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

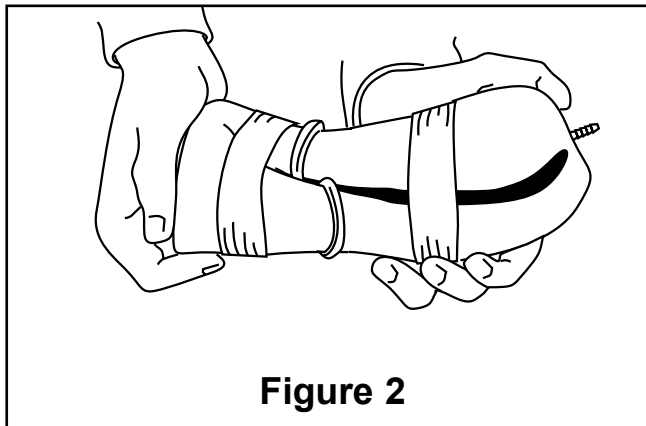
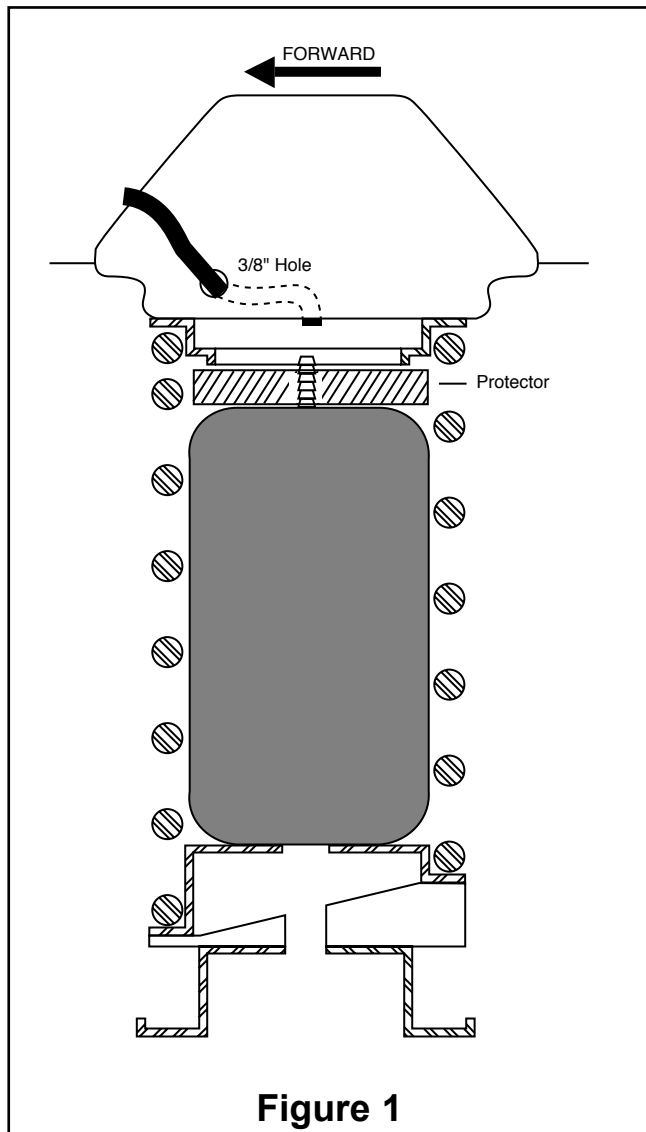
INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN DAMAGE TO THE MACHINE OR MINOR PERSONAL INJURY.

NOTE

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

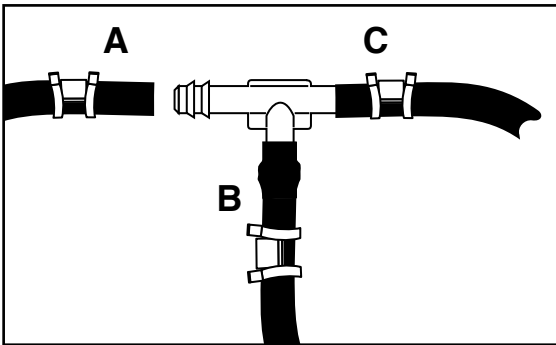
Installing the Air Lift 1000 System

GETTING STARTED

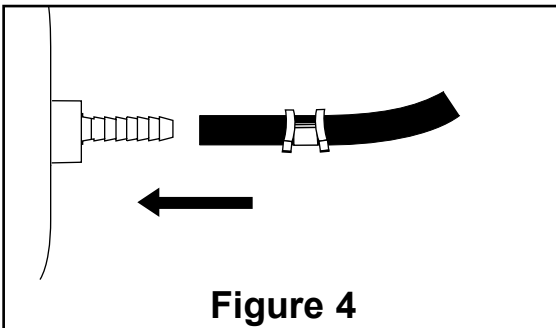
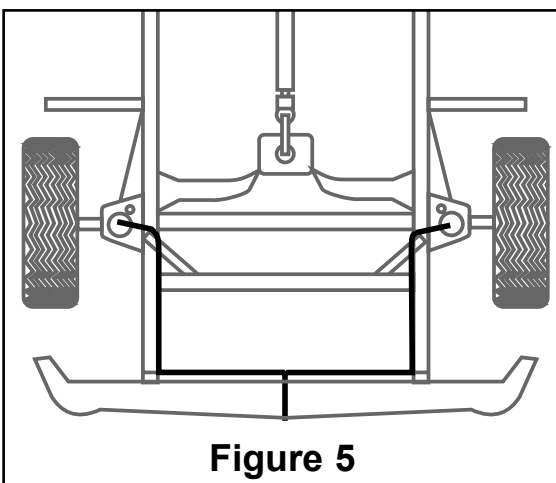


- Carefully lower axle or raise body of car until suspension is fully extended.
- Remove plastic cap and flatten the Air Lift air cylinder by hand, then replace the plastic cap.
- Insert the air cylinder into the coil with the valve stem at the top. Fold the bag into a "hot dog bun" shape for ease of installation (Figure 2).
- Push the air cylinder up within the coil. A blunt instrument, such as a tire iron may be used to help guide the cylinder to the top of the coil. **DO NOT USE A SCREWDRIVER. DO NOT INFLATE AIR CYLINDER.**
- When the cylinder is completely within the coil, remove the plastic cap and allow the cylinder to assume its "as molded" shape.
- Set template against side of spring seat bracket, and center punch then drill hole. Be sure that hole is drilled slightly under frame so air line can be routed through to inside upper spring seat hole (Figure 1).
- Insert protector between air cylinder and upper spring seat with barbed stem going through hole.
- Install air line as detailed on pages 2 and 3. A tee air line installation is recommended unless weight in vehicle varies from one side to the other and unequal pressures are needed to level load (or compensate for axle torque transfer in racing application). Dual air lines are used in this case. Proceed with TEE AIR LINE ROUTING or DUAL AIR LINE ROUTING
- Inflate cylinders to 25 lbs. air pressure. Test for air leaks by applying a liquid soap and water solution to all valve cores, fittings and connections.
- Lower vehicle to the ground. Read Maintenance & Operation Tips for proper care of your air cylinders. Recheck air pressure after 24 hours. A 2-4 p.s.i. loss after initial installation is normal. If pressure has dropped more than 5 lbs. re-test for leaks with soapy water solution.

DO NOT INFLATE AIR CYLINDERS BEFORE READING MAINTENANCE/OPERATION TIPS.



Use this procedure for all air line connections:
A. Slide 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.

Figure 3

Figure 4

Figure 5

Tee air line installation recommended unless weight in vehicle varies from one side to the other and unequal pressures are needed to level the load. Dual air lines are used in this case.

TEE AIR LINE ROUTING
CAUTION

TO PREVENT AIR LINE FROM MELTING, KEEP IT AT LEAST EIGHT INCHES FROM EXHAUST SYSTEM.

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

CAUTION

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

- C. Slide air line clamp onto the air line. Push the air line over one side of the tee until all the barbs are covered. Repeat procedure for other leg of tee (Figure 3).
- D. With pliers slide the air line clamp forward until it fully covers the barbed section. Repeat for other leg of tee (Figure 3).
- E. Route along cross member and either lower control arm or upper spring seat to air cylinder.
- F. Insert air line through hole previously drilled, then slide on air line clamp.
- G. Push the air line onto the stem, covering all the barbs. With pliers slide the air line clamp upward until it fully covers the barbed section (Figure 4).
- H. Push the remaining air line over the last fitting on tee and route along frame to desired inflation valve location (Figure 5). Attach with plastic straps or wire.
- I. Select a location for inflation valve in the gas cap well, the trunk, rear bumper, fender flange or behind the license plate, assuring that the valve will be protected and accessible with an air hose (Figure 5).
- J. Drill a 5/16" hole for inflation valve and mount as in illustration (Figure 5). Rubber washer is for outside weather seal.
- K. Slide air line clamp over the air line. Push air line onto fitting covering all barbs, with pliers slide the air line clamp forward until it fully covers the barbed section (Figure 6).
- L. Raise axle or lower body until air cylinders lightly touch lower spring seat and upper protectors.
- M. Check TAILPIPE clearance and insure that it is at least 2-3 inches from air cylinder. If necessary, loosen clamps and rotate or move to obtain additional clearance. If heat shield is provided, install it.

NOTE Attach shock absorbers if removed earlier in the installation.

N. Continue with step 8 on page 1.

NOTE

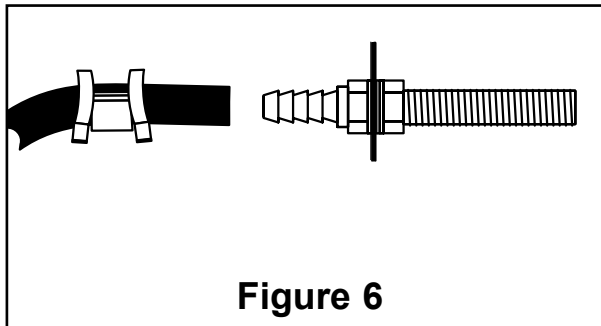


Figure 6

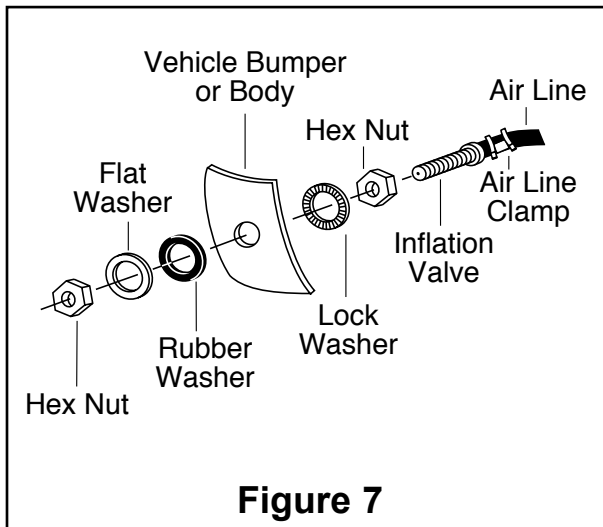


Figure 7

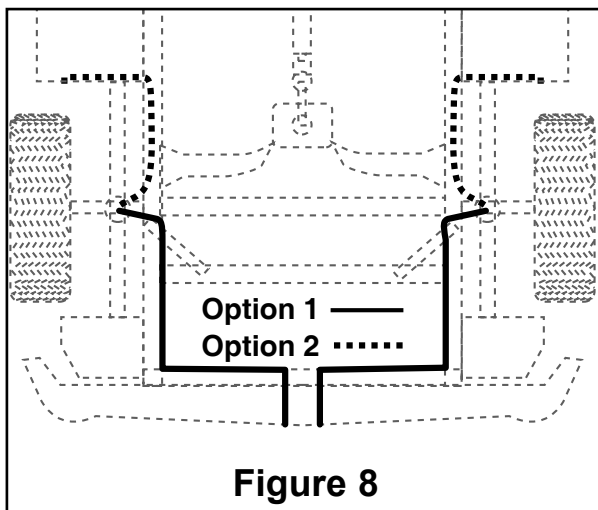


Figure 8

DO NOT INFLATE AIR CYLINDERS BEFORE READING MAINTENANCE/OPERATION TIPS.

DUAL AIR LINE ROUTING

CAUTION

TO PREVENT AIR LINE FROM MELTING, KEEP IT AT LEAST EIGHT INCHES FROM EXHAUST SYSTEM.

- A. 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 (Figure 8).
- B. Determine and cut adequate length of air line to reach from valve location to left side air cylinder.

CAUTION

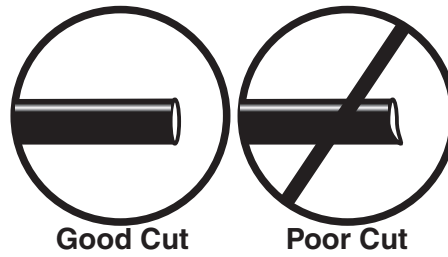
LEAVE SUFFICIENT AIR LINE SLACK TO PREVENT ANY STRAIN ON VALVE STEM DURING NORMAL AXLE MOTIONS.

- C. Insert the air line through hole previously drilled.
- D. Slide air line clamp onto the cut air line. 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 (Figure 4).
- E. Repeat process for right side.
- F. Drill 5/16" hole for inflating valves and mount as illustrated. Rubber washer is for outside weather seal (Figure 7).
- G. Route air line along control arm and frame to inflation valve location and cut off excess air line.
- H. Slide air line 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.
- I. Raise axle or lower body until air cylinders lightly touch lower spring seat and upper protectors.
- J. Check TAILPIPE clearance and insure that it is at least 2-3 inches from air cylinders. If necessary, loosen clamps and rotate or move to obtain additional clearance. If heat shields are supplied, install them.

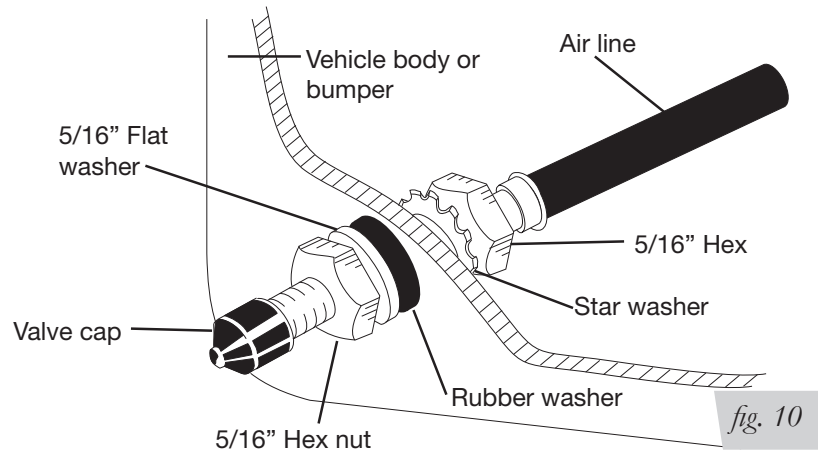
NOTE Attach shock absorbers if removed earlier in the installation.

K. Continue with step 8 on page 1.

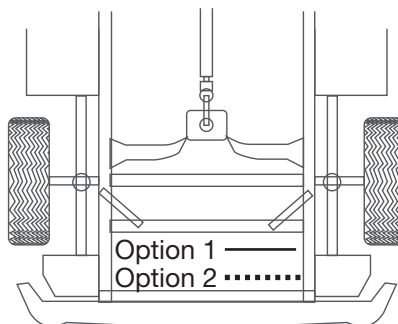
DO NOT INFLATE AIR CYLINDERS BEFORE READING MAINTENANCE/OPERATION TIPS.


fig. 9
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 (FIG. 9).


fig. 10

1. Place a 5/16" nut and star washer on the air valve. Leave enough of the inflation valve in front of the nut to extend through the hole and have room for the rubber washer, flat washer, and 5/16" nut and cap. There should be enough valve exposed after installation—approximately 1/2"—to easily apply a pressure gauge or an air chuck (fig. 10).
2. Push the inflation valve through the hole and use the rubber washer, flat washer, and
3. 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 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 (fig. 11).


fig. 11

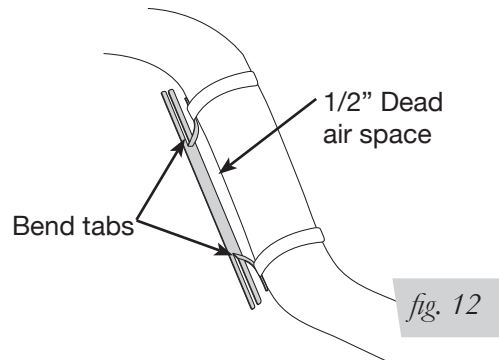
4. Cut off the air line, leaving approximately 12" of extra air line. A clean square cut will ensure against leaks. Insert the air line into the air fitting. This is a push-to-connect

fitting. Simply push the air line into the 90° swivel fitting until it bottoms out (9/16" of air line should be in the fitting).

5. Install the minimum/maximum air pressure decal in a highly visible location. We suggest placing the decal on the driver-side window, just above the door handle.

INSTALLING THE HEAT SHIELD

1. Bend tabs to provide a 1/2" dead air space between exhaust pipe and heat shield (fig. 12).
2. Attach the heat shield to the exhaust pipe using the clamps. Bend the heat shield for maximum clearance to the air spring (fig. 12).



CHECKING FOR LEAKS

1. Inflate the air spring to 30 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 lbs.

FIXING LEAKS

1. If there is a problem with the swivel fitting:
 - a. Check the air line connection by deflating the spring and removing the line by pulling the collar against the fitting and pulling firmly on the air line. Trim 1" off the end of the air line. Be sure the cut is clean and square (see fig. 9). Reinsert the air line into the push-to-connect fitting.
 - b. Check the threaded connection by tightening the swivel fitting another 1/2 turn. If it still leaks, deflate the air spring, remove the fitting, and re-coat the threads with thread sealant. Reinstall by hand tightening as much as possible and then use a wrench for an additional two turns.
2. If there is a problem with the inflation valve:
 - a. Check the valve core by tightening it with a valve core tool.
 - b. Check the air line by removing the air line from the barbed type fitting. Cut the air line off a few inches in front of the fitting and use a pair of pliers or vice grips to pull/twist the air line off of the fitting.

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.

Before Operating

INSTALLATION CHECKLIST

- Clearance test — Inflate the air springs to 25 PSI and make sure there is at least ½” clearance from anything that might rub against each sleeve. Be sure to check the tire, brake drum, frame, shock absorbers and brake cables.
- Leak test before road test — Inflate the air springs to 25 PSI and check all connections for leaks. Refer to “Checking for Leaks” on page 7. 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 25 PSI. 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.

Technician's Signature _____

Date _____

POST-INSTALLATION CHECKLIST

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

Product Use, Maintenance and Servicing

Suggested Driving Pressure	Maximum Air Pressure
5 PSI	25 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

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 25 PSI.
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 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 PSI, THE AIR PRESSURE ACTUALLY NEEDED IS DEPENDENT ON YOUR LOAD AND GVWR.

5. Always add air to the springs in small quantities, checking the pressure frequently. Sleeves 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) to reduce tension on the suspension/brake components. Use of on-board leveling systems do not require deflation or disconnection.

OPERATING TIPS

1. Inflate your air springs to 25 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.

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.
4. Look for a kink or fold in the air line. Reroute as needed.

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

Frequently Asked Questions

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

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

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

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. 13). 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. 14). 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



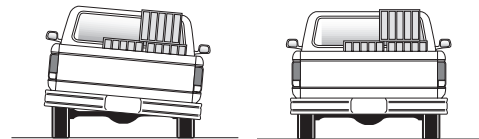
Sway and body roll

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



Bottoming out

fig. 16

Unlevel

fig. 17

Level

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:

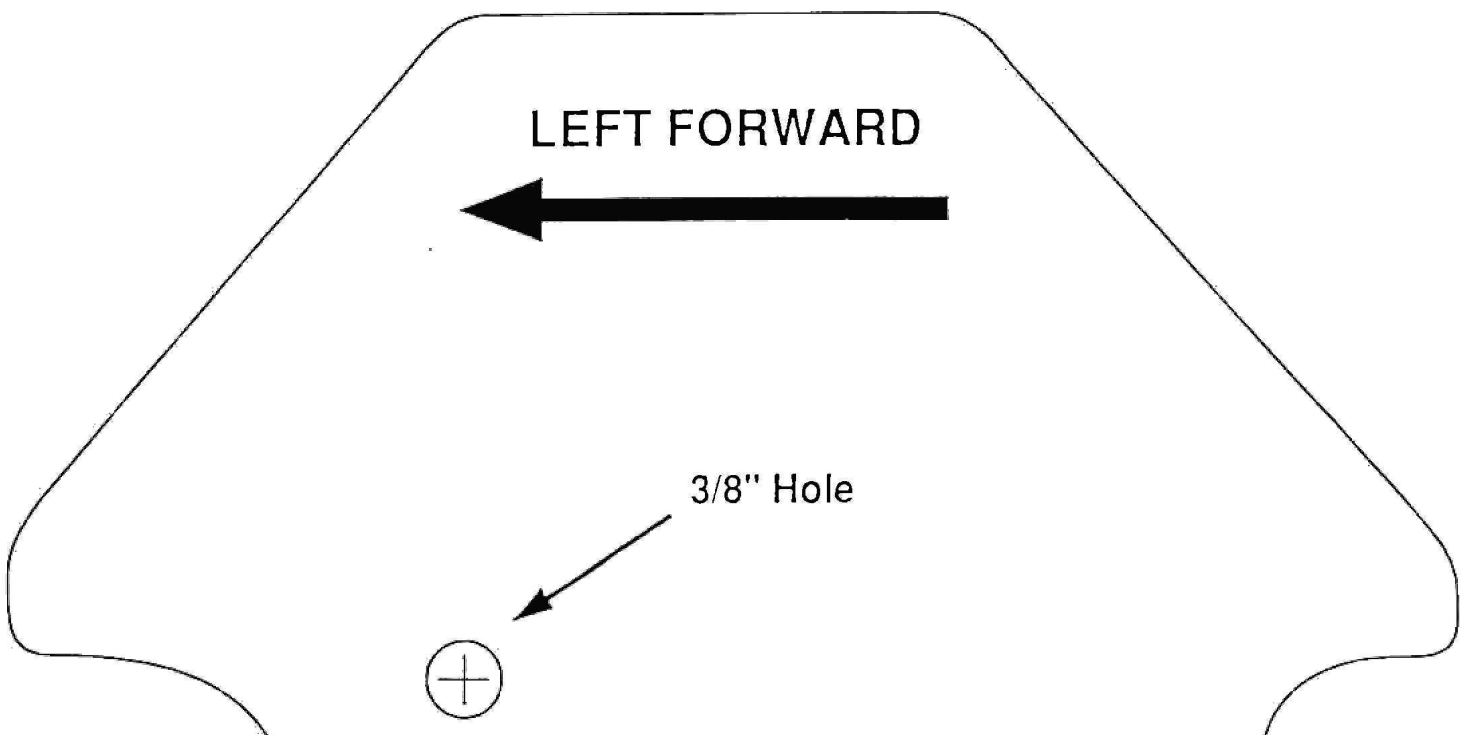
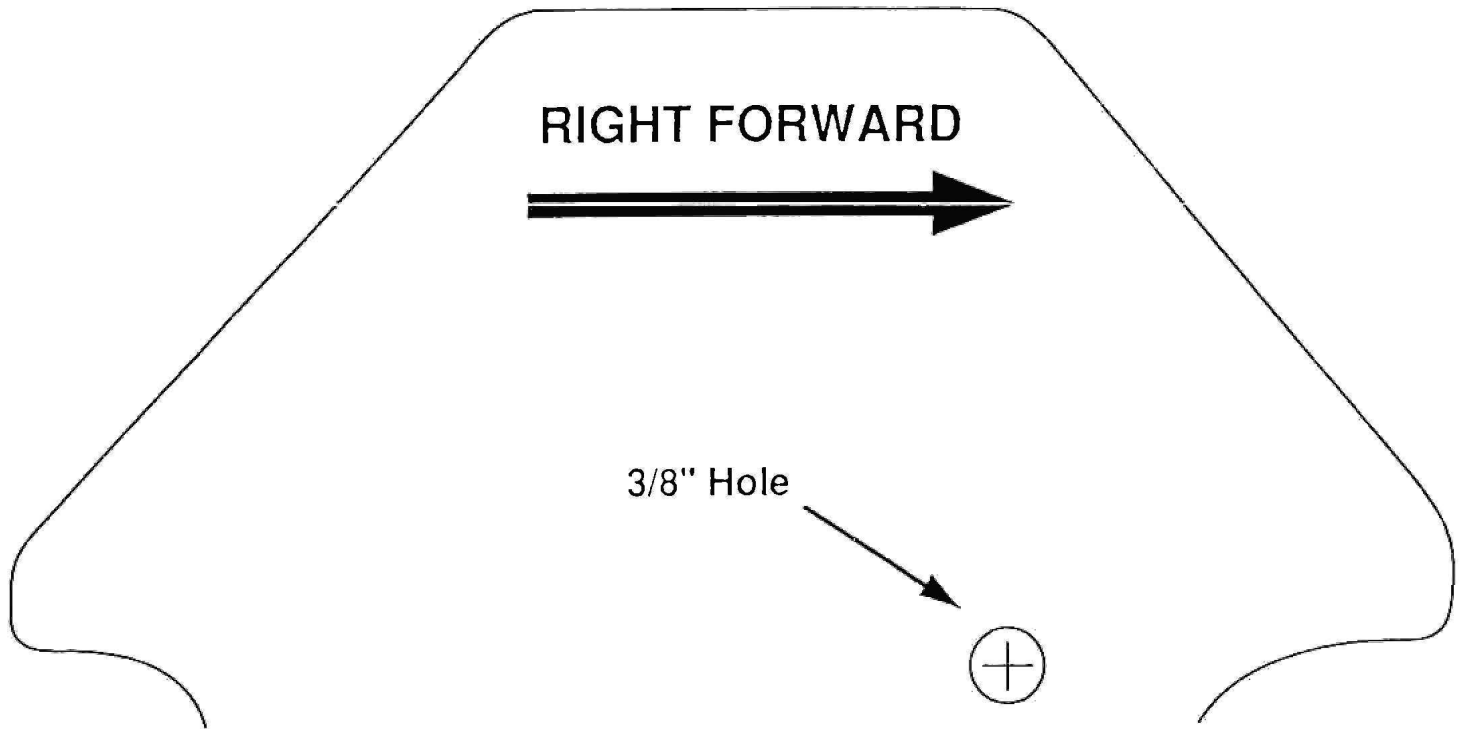
- If it is necessary to return or exchange the kit for any reason.
- If there is a problem with shipping if shipped from the retailer.
- If there is a problem with the price.

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

T-12795 Template

Cut this template out and place over upper spring seat on outside of frame rail.



Notes



Notes

Notes

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!

Air Lift Company • 2727 Snow Road • Lansing, MI 48917 or P.O. 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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