

# Air Lift 1000

by AIR LIFT®

## Kit 60739 91-96 Toyota Previa



Cover  
illustration  
may not depict  
actual kit.



## INSTALLATION GUIDE

For maximum effectiveness and safety, please read these instructions completely before proceeding with installation.

*Failure to read these instructions can result in an incorrect installation.*

# 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.

## 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.

---

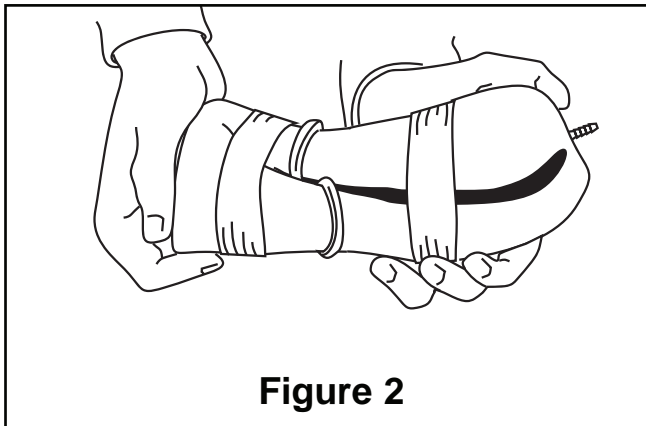
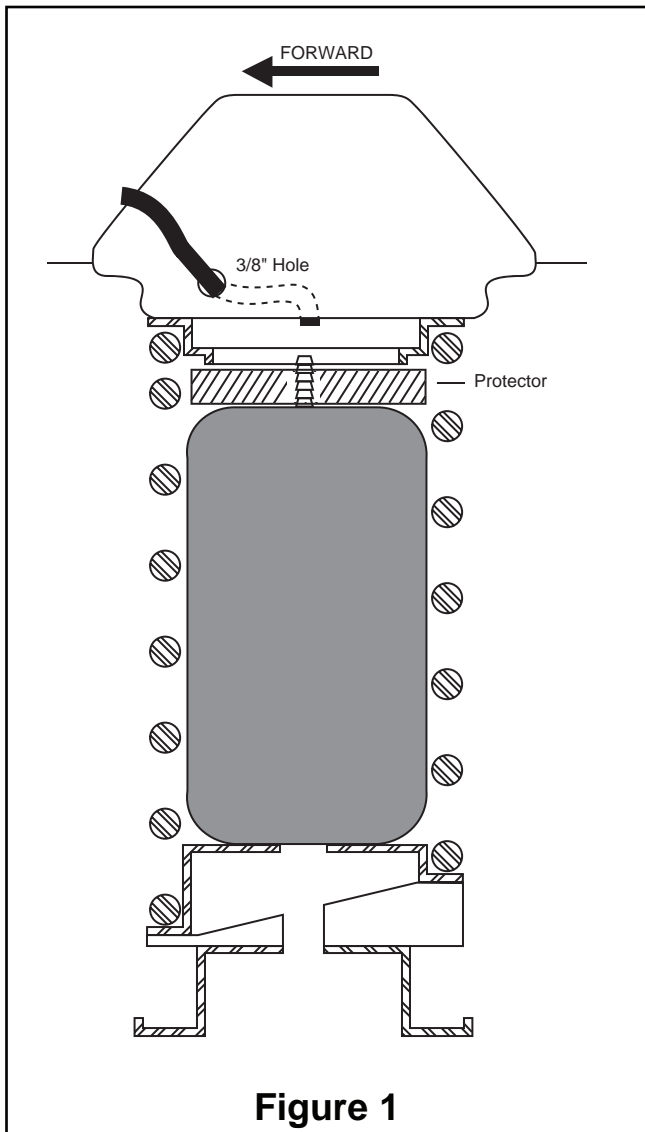
**NOTE**

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

---

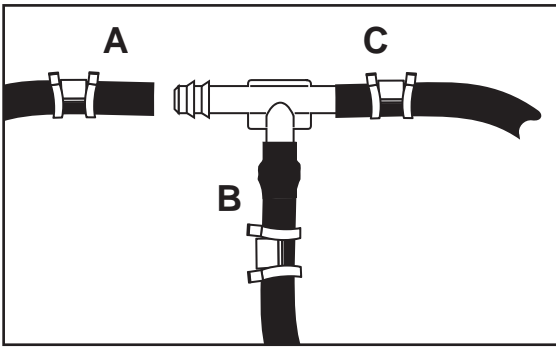
# Installing the Air Lift 1000 System

## GETTING STARTED

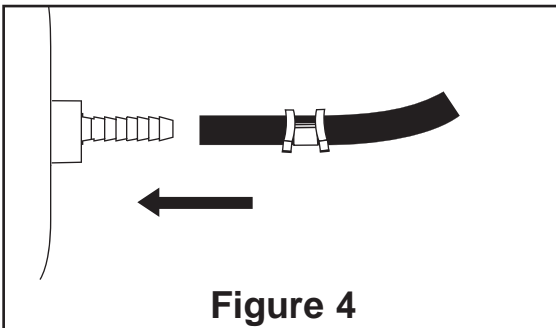
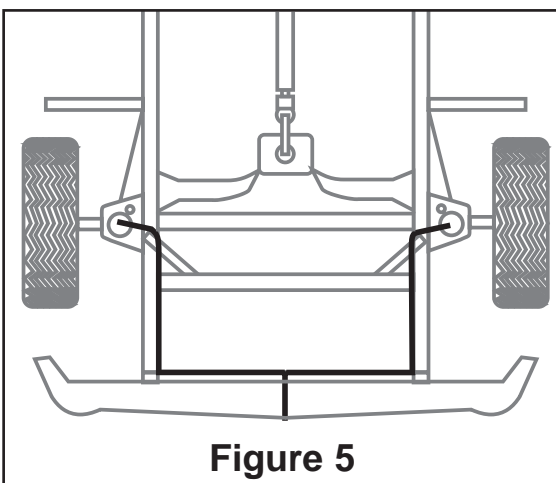


1. Carefully lower axle or raise body of car until suspension is fully extended.
2. Remove plastic cap and flatten the Air Lift air cylinder by hand, then replace the plastic cap.
3. Insert the air cylinder into the coil with the valve stem at the top. Fold the bag into a "hot dog bun" shape for ease of installation (Figure 2).
4. 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.**
5. When the cylinder is completely within the coil, remove the plastic cap and allow the cylinder to assume its "as molded" shape.
6. 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).
7. Insert protector between air cylinder and upper spring seat with barbed stem going through hole.
8. 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
9. 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.
10. 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.**

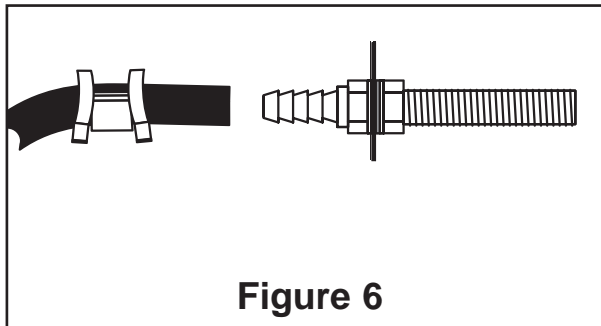
- C. Slide air line clamp onto the air line. Push the air line over one side of the tee until all the barbs are covered. Repeat procedure for other leg of tee (Figure 3).
- D. With pliers slide the air line clamp forward until it fully covers the barbed section. Repeat for other leg of tee (Figure 3).
- 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.

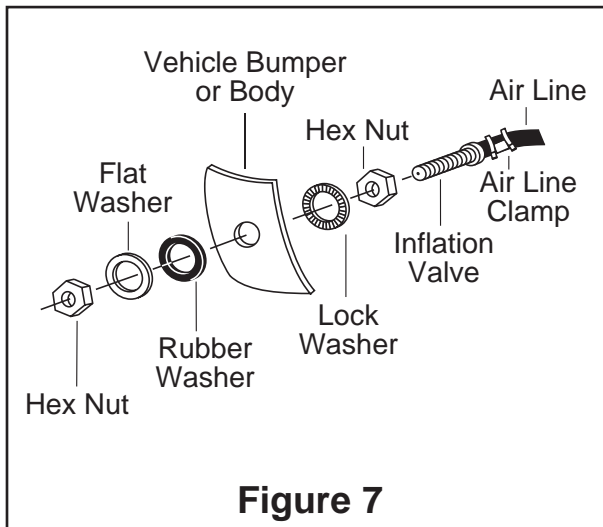
N. Continue with step 8 on page 1.

**NOTE**

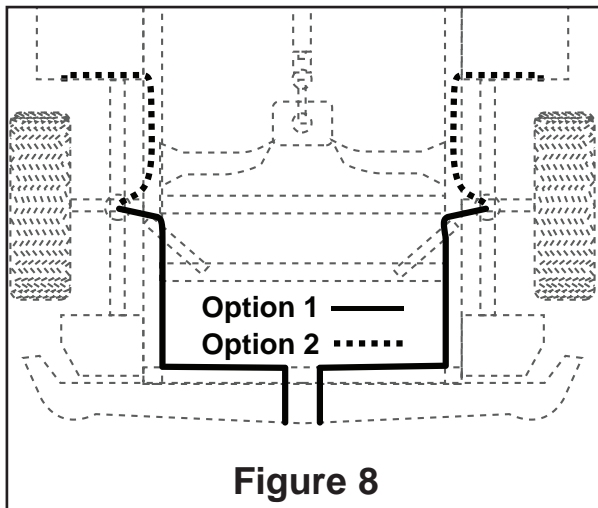
**DO NOT INFLATE AIR CYLINDERS BEFORE READING MAINTENANCE/OPERATION TIPS.**



**Figure 6**



**Figure 7**



**Figure 8**

**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.**

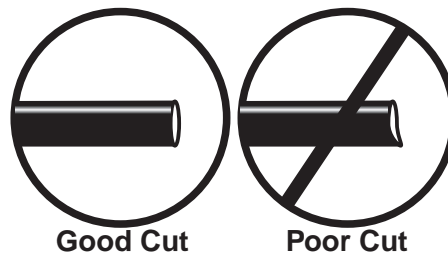


fig. 9

**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).

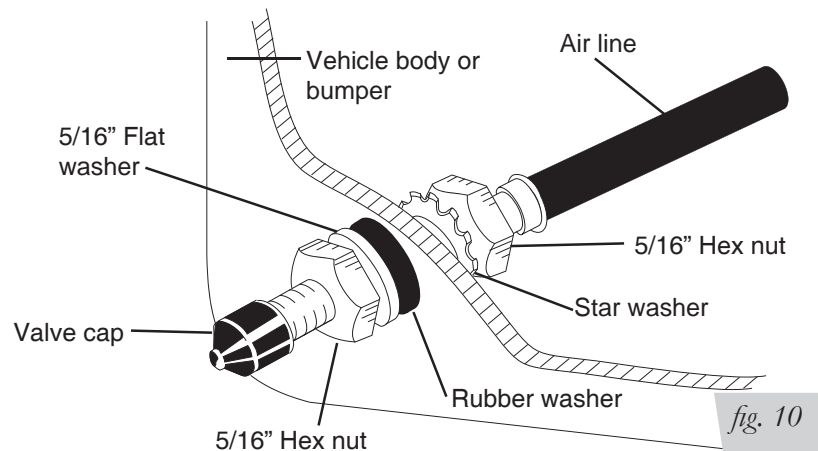


fig. 10

4. 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).
5. Push the inflation valve through the hole and use the rubber washer, flat washer, and another 5/16" nut to secure it in place. Tighten the nuts to secure the assembly.
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 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).

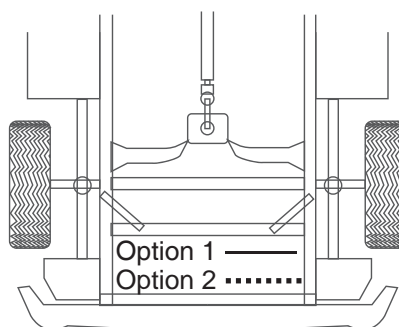


fig. 11

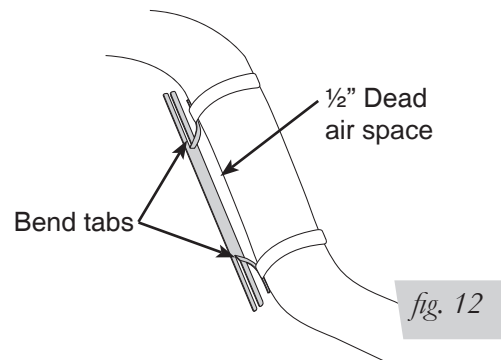
7. Cut off the air line, leaving approximately 12" of extra air line. A clean square cut will ensure against leaks. Insert the air line into the air fitting. This is a push-to-connect

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).

8. 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 ½" 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 ½ 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.



**DO NOT CUT OFF THE AIR LINE COMPLETELY AS THIS WILL USUALLY NICK THE BARB AND RENDER THE FITTING USELESS.**

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

# 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.



# 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 control, bounce, dive during braking and sponginess (fig. 15). Tuning out these problems usually requires an increase in pressure.

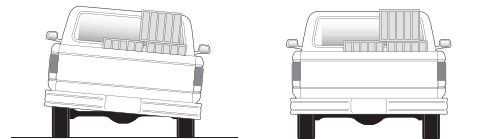


# Guidelines for Adding Air

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

# T-12795 Template

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

