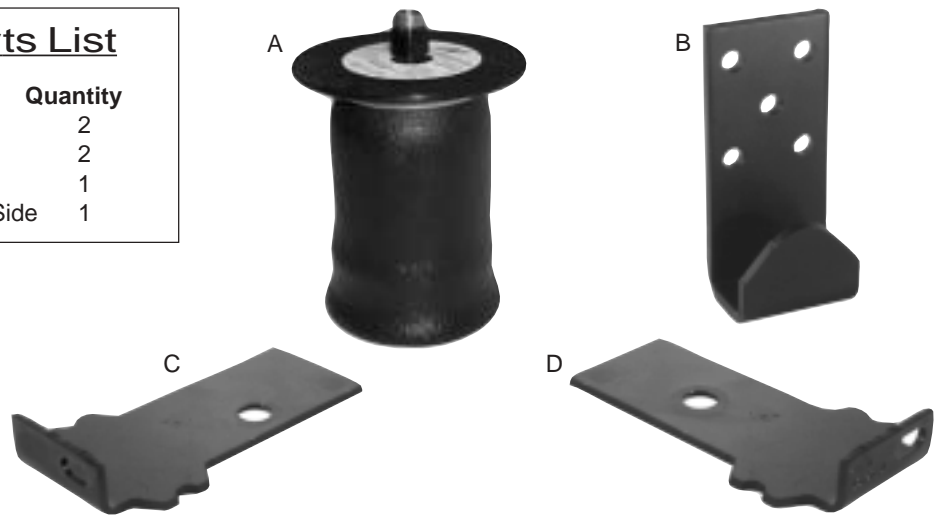


Please read these instructions completely before proceeding with installation

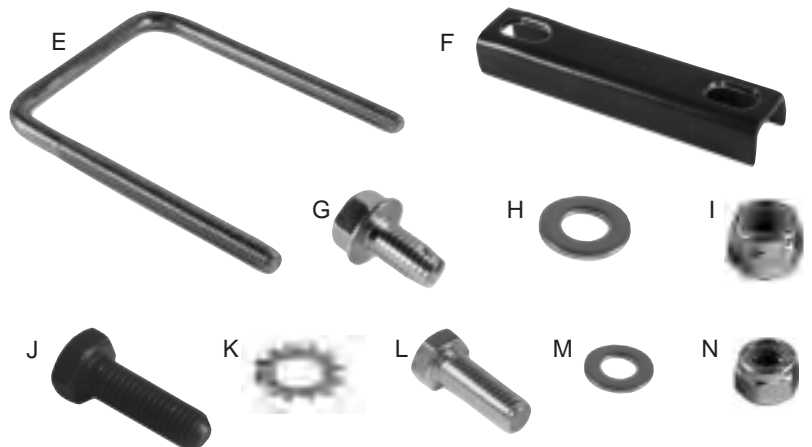
## Air Spring Kit Parts List

Item	Description	Quantity
A	Air Sleeve	2
B	Upper Bracket	2
C	Lower Bracket-Driver Side	1
D	Lower Bracket-Passenger Side	1



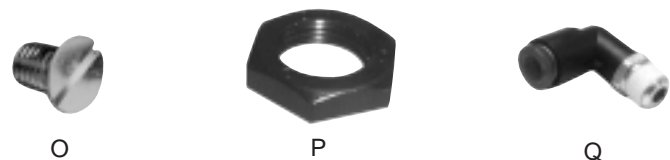
## Bracket Attaching Hardware

Item	Description	Quantity
E	U-Bolt	2
F	Lower Clamp Bar	2
G	3/8" x 1" Self Tapping Bolts	6
H	3/8" Flat Washers	4
I	3/8" Nylock Nuts	4
J	8mm x 25mm Bolt (Explorer, Sport)	2
K	5/16" Star Washers (Explorer, Sport)	2
L	1/4" x 1" HHCS (Sport Trac)	2
M	1/4" Flat Washers (Sport Trac)	4
N	1/4" Nylock Nuts (Sport Trac)	2



## Air Spring Attaching Hardware

Item	Description	Quantity
O	1/2" x 7/8" Flat Head Screw	2
P	1/2" Nylon Nut	2
Q	90° Air Fitting	2



## Air Line Assembly Parts List

Item	Description	Quantity
AA	Air Line Assembly	1
BB	Tie Strap	6
CC	Valve Caps	2
DD	5/16" Flat Washer	2
EE	Rubber Washer	2
FF	Small Star Washer	2
GG	5/16" Hex Nut	4



## Tools Needed

$\frac{7}{16}$ " ,  $\frac{1}{2}$ " ,  $\frac{3}{4}$ " ,  $\frac{9}{16}$ " open-end or box wrenches

Ratchet with  $\frac{9}{16}$ " , 10mm, and 13mm deep well sockets

$\frac{5}{16}$ " drill bits (very sharp)

Regular Screw Driver

Heavy Duty Drill

Torque Wrench

Hose Cutter, Razor Blade, or Sharp Knife

Hoist or Floor Jacks

Safety Stands

Safety Glasses

Air Compressor, or Compressed Air Source

Spray Bottle with Dish Soap/Water Solution



**IMPORTANT:** Your vehicle may be equipped with a rear brake proportioning valve. Any type of load assist product could affect brake performance. We recommend that you check with your dealer before installing this type of product. If your vehicle DOES NOT have a rear brake proportioning valve or is equipped with an anti-lock type brake system, installation of a load assist product will have NO EFFECT ON BRAKE SYSTEM PERFORMANCE.

**IMPORTANT:** Failure to maintain correct minimum pressure (or pressure proportional to load), bottoming out, overextension, or rubbing against another component will void the warranty.

**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.



Figure 1

## I. Getting Started

1. Determine the Normal Ride Height. The Normal Ride Height is the distance between the bottom edge of the wheel-well and the center of the hub with the vehicle in the "as delivered" condition. In some cases, Normal Ride Height is not perfectly level.
  - a. Remove unusual loads and examine your vehicle from the side to ensure it is on a level surface (Figure 1).
  - b. If necessary (in cases where your leaf springs are sagging badly), use a jack to raise the rear end so that the vehicle achieves the original "as delivered" ride height.
2. Measure the distance between the center of the hub and the bottom edge of the wheel well (Figure 2). This is the Normal Ride Height. Enter the measurement below:

NORMAL  
RIDE HEIGHT: \_\_\_\_\_ inches



Figure 2

## II. Assembling the Air Spring Unit

1. Install 90 degree air swivel fitting (Q) to the top of the air sleeve (A). Use a  $\frac{7}{16}$ " open end wrench being careful to tighten on the metal hex nut only. Tighten 1 and  $\frac{1}{2}$  turns (Figure 3). Do not over tighten.

*NOTE: This fitting is precoated with sealant.*

2. Set upper bracket (B) over the fitting and thread post (Figure 4). Position the elbow towards the front of the vehicle to allow for easier access for the air line.
3. Thread nylon nut (P) onto the thread post, making sure that the flat side is up (Figure 5).
4. Tighten the nylon nut. Hand tight is sufficient.

*IMPORTANT: Ensure that the bracket is tight and flat to the roll plate on both sides.*

5. Loosely attach the lower bracket (C and D) to the bottom of the air spring with  $\frac{1}{2}$ " flat head screw (O). The lower brackets are designated right (Passenger) and left (Driver) side. This can be determined by the "R" or "L" stamp on the turned up flange of the lower brackets. See Figure 7.



Figure 3



Figure 4

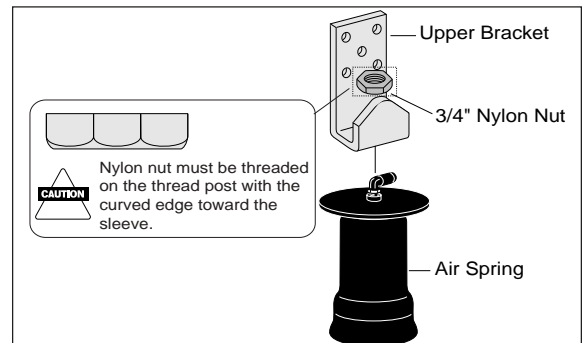


Figure 5



Figure 6

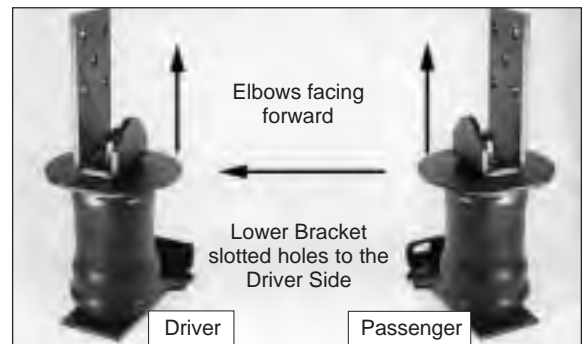


Figure 7

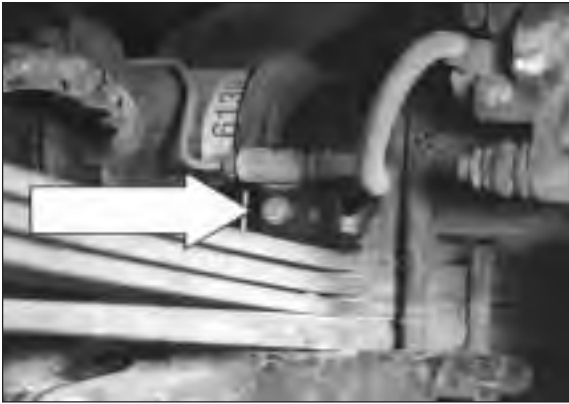


Figure 8

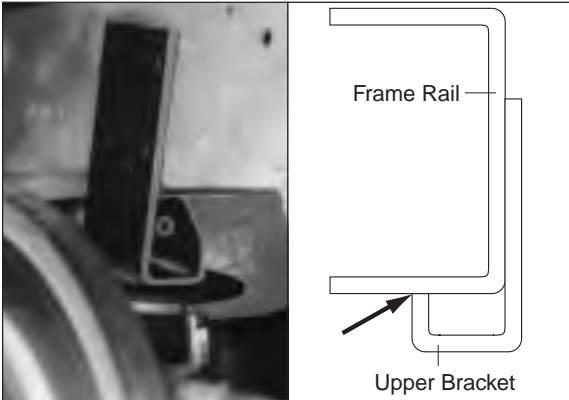


Figure 9



Figure 10



Figure 11

### III. Locating the Lower Bracket

1. Remove the tires. This kit should be mounted at normal ride height recorded on page 2. Install one side at a time.
2. Remove the bolt holding the brake block and line to the spring perch. A replacement bolt is provided to hold the lower bracket of the kit and also the brake line and block to the spring perch (Figure 8).

*NOTE: Some Sport Trac models do not have the bolt or brake block.*

3. Set the assembly on the leaf spring behind the axle
  - a. On the Passenger Side, the bottom edge of the upper bracket must be tight to the bottom of the frame rail (Figure 9). If it is not touching, then you will need to extend the sleeve by squeezing it and rolling it up off the lower piston (Figure 10).
  - b. On the Driver Side, the space between the spring and frame is slightly shorter than the passenger side. The air spring will need to be compressed, as shown in Figure 11, to set the assembly on the leaf spring. Otherwise, lower the axle or raise the frame to allow for room of the assembly.
4. Align the assembly so that the upper bracket is parallel and perpendicular with the lower bracket and on the same angle as the leaf spring (Figure 12). The upper bracket can be tilted to achieve the proper alignment (Figure 12 inset).

5. With the assembly in place, mark the position of the air spring on the lower bracket for final tightening (Figure 13).
6. Remove the assembly from the leaf spring and tighten the flat head screw (O) while holding the air spring to the lower bracket in the marked position (Figure 14).
7. Replace the assembly on the leaf spring and loosely attach the lower bracket to the brake block with the provided 8mm bolt (J) and star washer (K). Leave loose for final adjustment (Figure 15).

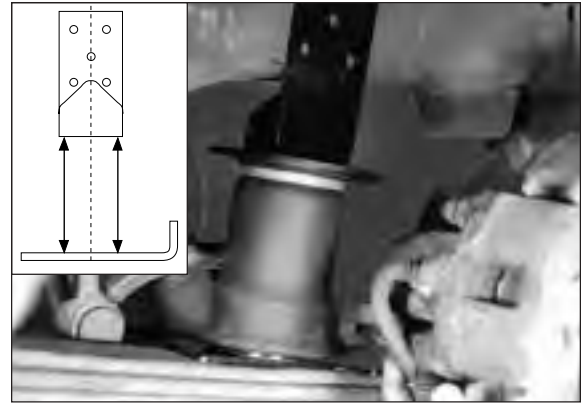


Figure 12

*Sport Trac models without the brake block, use one 1/4" HHCS (L) and two flat washers (M), and 1/4" nylock nut (N) to hold the bracket on the spring perch (Figure 16). Use the hole on the spring perch that lines up with the slot in the lower bracket. It may be necessary to use needle nose pliers to insert the bolt into the spring perch (Figure 17). Leave loose.*

8. Adjust the lower bracket so that the upper bracket is flat against the frame rail using the slotted hole in the lower bracket (Figure 18).



Figure 13



Figure 14



Figure 15



Figure 16



Figure 17





Figure 18

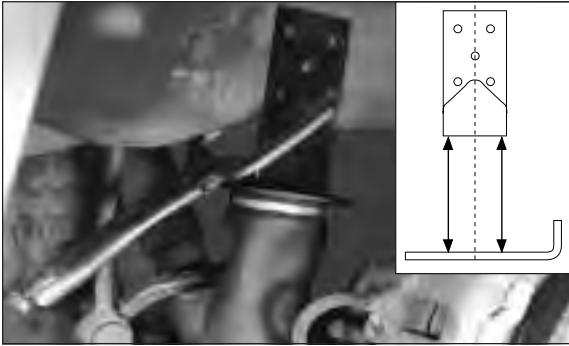


Figure 19



Figure 20



Figure 21



Figure 22

#### IV. Attaching the Upper Bracket

1. Once again, align the assembly so that the upper bracket is parallel and perpendicular to the lower bracket, and on the same angle as the leaf spring (Figure 19 inset). Clamp the upper bracket to the frame rail (Figure 19).
2. It is necessary to use at least three of the five predrilled holes in the upper bracket. Any combination of the three is permissible. Using the upper bracket as a template, center punch one hole.
3. **CAUTION:** Before drilling, check the back side of the frame rail to see if brake lines, gas lines, or electrical lines will have to be moved before drilling the upper bracket holes. Always check the back side of any surface to be drilled.
4. Drill one  $\frac{5}{16}$ " hole. The hole must be no larger than  $\frac{5}{16}$ " (Figure 20).
5. Install one self tapping frame bolt (G). Tighten to 15 ft-lbs, being sure not to overtighten. Remove the clamp (Figure 21).
6. Center punch and drill the two remaining holes and install the self tapping frame bolts (G). Tighten each to 15 ft-lbs (Figure 22). Do not overtighten.

#### V. Finishing the Assembly Installation

1. Repeat entire installation for the remaining side.
2. Upon completing the installation of both air spring assemblies, continue by following section VI, Installing the Air Lines.

## VI. Installing the Air Lines

1. Choose a convenient location for mounting the inflation valves. Popular locations for the inflation valve are:
  - a. The wheel well flanges.
  - b. License plate recess in bumper.
  - c. Under the gas cap access door.
  - d. Through license plate itself.

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



Figure 23

2. Drill a  $\frac{5}{16}$ " hole to install the inflation valves.
3. Cut the air line assembly (AA) in two equal lengths (Figure 23).

*CAUTION: When cutting or trimming the air line, use a hose cutter (Air Lift P/N 10530), a razor blade or a sharp knife. A clean, square cut will ensure against leaks. (Figure 24). 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 (Figure 24).*

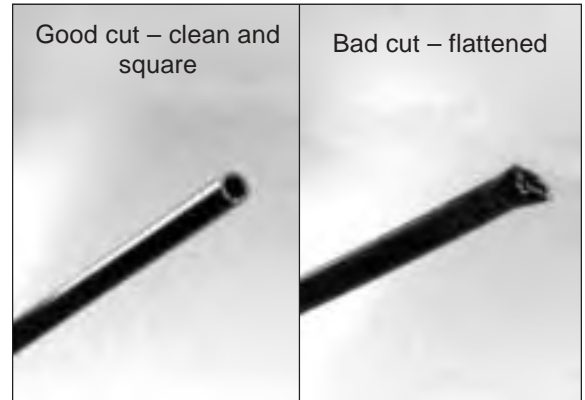


Figure 24

4. Place a  $\frac{5}{16}$ " nut (GG) and a star washer (FF) 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 (EE), flat washer (DD), and  $\frac{5}{16}$ " nut (GG) and cap (CC). There should be enough valve exposed after installation - approximately  $\frac{1}{2}$ " - to easily apply a pressure gauge or an air chuck (Figure 25).
5. Push the inflation valve through the hole and use the rubber washer (EE), flat washer (DD), and another  $\frac{5}{16}$ " nut (GG) to secure it in place. Tighten the nuts to secure the assembly in place (Figure 26).



Figure 25

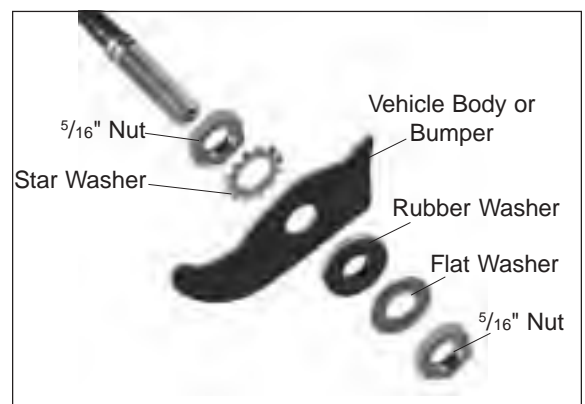


Figure 26



Figure 27



Figure 28



Figure 29



Figure 30

6. Route the air line along the frame to the air fitting on the air spring. 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 (Figure 27).

7. Cut off air line leaving approximately 12" of extra air line. A clean square cut will ensure against leaks.

8. To properly install the air line, measure  $\frac{9}{16}$ " from the cut end and mark with tape (Figure 28). Lubricate (i.e. soap solution, silicone spray, saliva) the end of the air line and insert it into the fitting. This is a push to connect fitting. A click can be heard/felt when the air line is seated, also, the front edge of the tape band should be flush with the fitting. The air line is now installed.

## VII. Aligning the Air Spring

1. **VERY IMPORTANT:** Inflate the air spring to approximately 10 p.s.i.

2. Use the lower bracket to correctly align the air spring between the upper and lower bracket. This can be accomplished by tapping it inboard or outboard for proper alignment. There should be a symmetrical cushion of air around the base of the air spring when correctly positioned (Figure 29).

3. Tighten the brake block bolt on the lower bracket to 6 ft-lbs (Figure 30).

*NOTE: For Explorer Sport Tracs without the brake block, tighten the bolt (L) and nylon nut (N) to 6 ft-lbs (Refer back to Figure 16).*

4. Secure the lower bracket to the leaf spring using U-bolts (E), clamp bar (F), flat washers (H), and nylock nuts (I). Torque to 16 ft-lbs (Figure 31).



## VIII. Checking for Leaks

1. Inflate the air spring to 30 p.s.i.
2. Spray all connections and the inflation valves with a solution of  $\frac{1}{5}$  liquid dish soap and  $\frac{4}{5}$  water to check for leaks (Figure 32). You should be able to 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 Normal Ride Height, but not less than 10 p.s.i.
4. **IMPORTANT:** Check the air pressure again after 24 hours. A 2 to 4 p.s.i. loss after initial installation is normal. Retest for leaks if the loss is more than 5 lbs.



Figure 31



Figure 32

## IX. Fixing Leaks

1. If there is a problem with the swivel fitting, then:
  - 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  $\frac{1}{2}$  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, then use a wrench for an additional  $1 \frac{1}{2}$  turns.
2. If there is a problem with the inflation valve, then:
  - a. Check the valve core by tightening it with a valve core tool.
  - b. Check the air line connection (Figure 33) by removing the air line from the barbed type fitting. **CAUTION: Do not cut it off. As this will usually nick the barb and render the fitting useless.** Cut air line off a few inches in front of the fitting and use a pair of pliers or vise-grips to pull/twist the air line off the fitting.
3. If the preceding steps have not resolved the problem, call Air Lift Technical Service at 1-800-248-0892 for assistance.

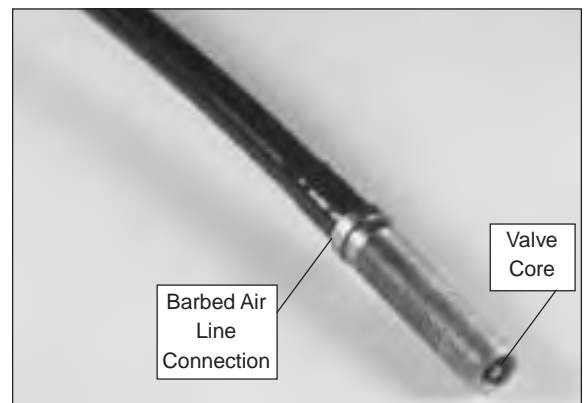


Figure 33



Figure 34



Figure 35



Figure 36



Figure 37



Figure 38

## X. Troubleshooting Guide

*Problems maintaining air pressure, without on-board compressor.*

1. Leak test the air line connections and threaded connection of the elbow into the air spring (Figure 34). See Section IX to repair.
2. Leak test the inflation valve for leaks at the air line connection or dirt or debris in the valve core (Figure 35). See Section IX for repair.
3. Inspect air lines to be sure it is not pinched. Tie straps may be too tight. Loosen or replace strap. Replace leaking components (Figure 36).
4. Inspect air line for holes and cracks (Figure 37). Replace as needed.
5. A kink or fold in the air line (Figure 38). Reroute as needed.

*You have now tested for all of the most probable leak conditions that can be easily fixed. At this point the problem is most likely a failed air spring - either a factory defect or an operating problem. Please call Air Lift at 1-800-248-0892 for assistance or a replacement air spring.*

## XI. Checklist

You can protect your warranty on this product and prevent unnecessary wear by ensuring the following checks have been made:

### Section I – Installation (To be completed by the installer):

- 1. Clearance Test - Inflate the air springs to 60 p.s.i. and ensure there is at least 1/2 " clearance around each sleeve from anything that might rub against them. Be sure to check the tire, brake drum, frame, shock absorbers and brake cables.
- 2. Leak Test Before Road Test – Inflate the air springs to 60 p.s.i., check all connections for leaks with a soapy water solution. See pages 9 and 10 of the manual for tips on how to spot leaks. All leaks must be eliminated before the vehicle is road tested.
- 3. 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 1-800-248-0892.
- 4. Fastener Test – Recheck all bolts for proper torque.  

Torque Guide:

Self Tapping Frame Bolts	15 ft-lbs
U-bolt Lock Nuts	16 ft-lbs
Lower Mounting Bolt on Air Sleeve	10 ft-lbs
- 5. Road Test – The vehicle should be road tested after the preceding tests. Inflate the springs to 25 p.s.i. (50 p.s.i. if vehicle is loaded). Drive the vehicle 10 miles and recheck for clearance, loose fasteners and/or air leaks.
- 6. Operating Instructions – If professionally installed, the installer should review the operating instructions on page 12 with the owner. Be sure to provide the owner with all of the paperwork that came with the kit.

### Section II - Post Installation Checklist (To be completed by the owner):

- 1. Overnight Leakdown Test – Recheck air pressure after vehicle has been used for 24 hours. If pressure has dropped more than 5 p.s.i. then, you have a leak that must be fixed. Either fix the leak yourself (see pages 9 and 10) or return to the installer for service.
- 2. Air Pressure Requirements – I understand that the air pressure requirements of my air spring system are as follows:

Minimum \_\_\_\_\_ Maximum \_\_\_\_\_

I also understand that I must inflate the air springs until the Ride Height measurement that was recorded on page 3 has been restored. Regardless of load, the air pressure should always be adjusted so that the Ride Height is maintained at all times.

- 3. 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.

## XII. Maintenance and Operations

Minimum Air Pressure	Maximum Air Pressure
5 p.s.i.	100 p.s.i.
<i>Failure to maintain correct minimum pressure (or pressure proportional to load), bottoming out, overextension, or rubbing against another component will void the warranty.</i>	

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

1. Check the air pressure weekly.
2. Always maintain Normal Ride Height. Never inflate beyond 100 p.s.i.
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 air spring. (See page 9.)
4. When increasing load, always adjust the air pressure to maintain the Normal Ride Height. Increase or decrease pressure from the system as necessary to attain Normal Ride Height for optimal ride and handling. Remember that loads carried behind the axle (including tongue loads) require more leveling force (pressure) than those carried directly over the axle.
5. **IMPORTANT:** For your safety and to prevent possible damage to your vehicle, *do not exceed maximum Gross Vehicle Weight Rating (GVWR), as indicated by the vehicle manufacturer.* Although your air springs are rated at a maximum inflation pressure of 100 p.s.i. The air pressure actually needed is dependant on your load and GVWR, which may be less than 100 p.s.i. Check your vehicle owners manual and do not exceed the maximum load listed for your vehicle.
6. Always add air to springs in small quantities, checking the pressure frequently. Sleeves require less air volume than a tire and inflate quickly.
7. *Should it become necessary to raise the vehicle by the frame, make sure the system is at minimum pressure (5 p.s.i.) to reduce the tension on the suspension/brake components. Use of on-board leveling systems do not require deflation or disconnection.*



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# Product Use Information

## 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 time 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**

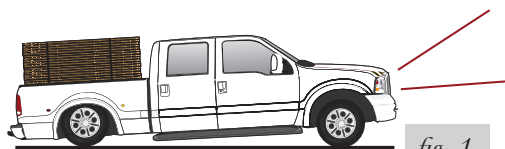
If the vehicle's headlights are shining into the trees or the vehicle is leaning to one side, then it is not level (fig. 1). Raise the air pressure to correct either of these problems and level the vehicle.

**2. Ride comfort**

If the vehicle has a rough and harsh ride it may be due to either too much pressure or not enough (fig. 2). Try different pressures to determine the best ride comfort.

**3. Stability**

Stability translates into safety and should be the priority, meaning the driver may need to sacrifice a perfectly level and comfortable ride. Stability issues include roll control, bounce, dive during braking and sponginess (fig. 3). Tuning out these problems usually requires an increase in pressure.



Bad headlight aim

fig. 1



Sway and body roll

fig. 2

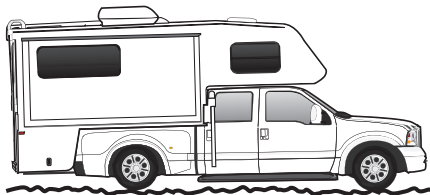


Rough ride

fig. 3

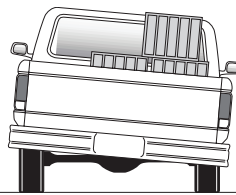
### Guidelines for adding air:

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. 4).
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. 5). As much as a 50 PSI difference is not uncommon.

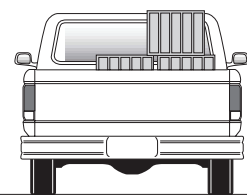


Bottoming out

fig. 4



Unlevel



Level

fig. 5

## Warranty and Returns Policy

Air Lift Company warrants its products, for the time periods listed below, to the original retail purchaser against manufacturing defects when used on catalog-listed applications on cars, vans, light trucks and motorhomes under normal operating conditions for as long as Air Lift manufactures the product. The warranty does not apply to products that have been improperly applied, improperly installed, used in racing or off-road applications, used for commercial purposes, or which have not been maintained in accordance with installation instructions furnished with all products. The consumer will be responsible for removing (labor charges) the defective product from the vehicle and returning it, transportation costs prepaid, to the dealer from which it was purchased or to Air Lift Company for verification.

Air Lift will repair or replace, at its option, defective products or components. A minimum \$10.00 shipping and handling charge will apply to all warranty claims. Before returning any defective product, you must call Air Lift at (800) 248-0892 in the U.S. and Canada (elsewhere, (517) 322-2144) for a Returned Materials Authorization (RMA) number. Returns to Air Lift can be sent to: Air Lift Company • 2727 Snow Road • Lansing, MI • 48917.

Product failures resulting from abnormal use or misuse are excluded from this warranty. The loss of use of the product, loss of time, inconvenience, commercial loss or consequential damages is not covered. The consumer is responsible for installation/reinstallation (labor charges) of the product. Air Lift Company reserves the right to change the design of any product without assuming any obligation to modify any product previously manufactured.

This warranty gives you specific legal rights and you may also have other rights that vary from state-to-state. Some states do not allow limitations on how long an implied warranty lasts or allow the exclusion or limitation of incidental or consequential damages. The above limitation or exclusion may not apply to you. There are no warranties, expressed or implied including any implied warranties of merchantability and fitness, which extend beyond this warranty period. There are no warranties that extend beyond the description on the face hereof. Seller disclaims the implied warranty of merchantability. (Dated proof of purchase required.)

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**RideControl** ..... Lifetime Limited  
**SlamAir** ..... Lifetime Limited  
**LoadLifter 5000\*** ..... Lifetime Limited  
**EasyStreet Systems** ..... 1 Year Limited

**Load Controller (I)** ..... 2 Year Limited  
**Load Controller (II)** ..... 2 Year Limited  
**SmartAir** ..... 2 Year Limited  
**Wireless AIR**..... 2 Year Limited  
**Other Accessories**..... 2 Year Limited

*\*formerly SuperDuty*

**Thank you for purchasing Air Lift products! For technical support, please call (800) 248-0892.**  
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