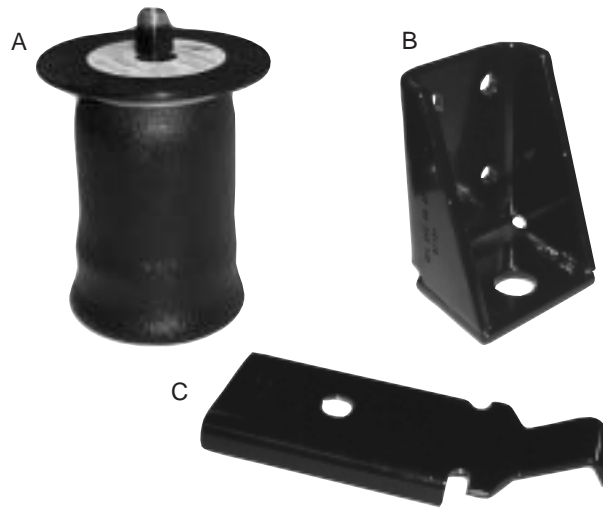


Please read these instructions completely before proceeding with installation

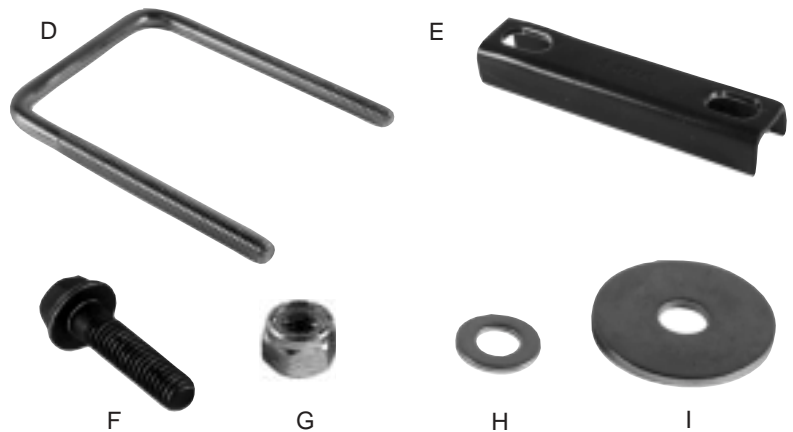
Air Spring Kit Parts List

Item	Description	Quantity
A	Air Sleeve	2
B	Upper Bracket	2
C	Lower Bracket	2



Bracket Attaching Hardware

Item	Description	Quantity
D	U-Bolt	2
E	Lower Clamp Bar	2
F	3/8" x 1.5" Frame Bolt	6
G	3/8" Nylock Nut	10
H	3/8" Flat Washer	4
I	3/8" Large Flat Washer	6



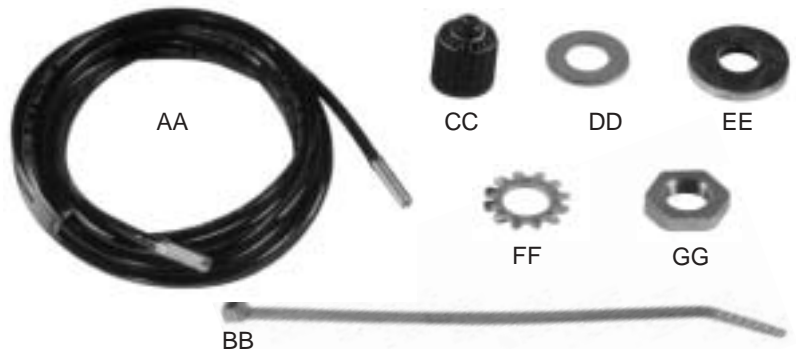
Air Spring Attaching Hardware

Item	Description	Quantity
J	1/2" x 3/4" Flat Head Screw	2
K	1/2" Hex Jam Nut	2
L	1/8" Straight 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

$\frac{1}{2}$ " , $\frac{9}{16}$ " , and $\frac{3}{4}$ " open-end or box wrenches
Crescent Wrench
Ratchet with $\frac{3}{8}$ " , $\frac{9}{16}$ " and $\frac{1}{2}$ " deep well sockets
 $\frac{5}{16}$ " and $\frac{3}{8}$ " drill bits (very sharp)
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 the air fitting (L) to the top of the air sleeve (A). Tighten 1 and 1/2 turns (Figure 3).
2. Attach the lower bracket (C) to the bottom of the air sleeve (A) using the small flat head screw (J). Tighten securely (Figure 4).
3. Install the upper bracket (B) onto the top of the air sleeve, being sure to thread the air fitting through the hole on the bracket (Figure 5).
4. Install the nylon nut (K) to the top of the upper bracket by feeding it through the swivel fitting. Leave loose at this time for later adjustment (Figure 5).
5. See Figure 6 for finished sleeve assembly.
6. Repeat assembly for other sleeve.



Figure 3



Figure 4



Figure 5



Figure 6

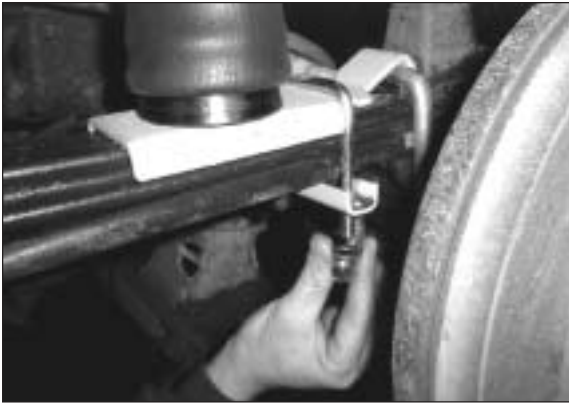


Figure 7



Figure 8

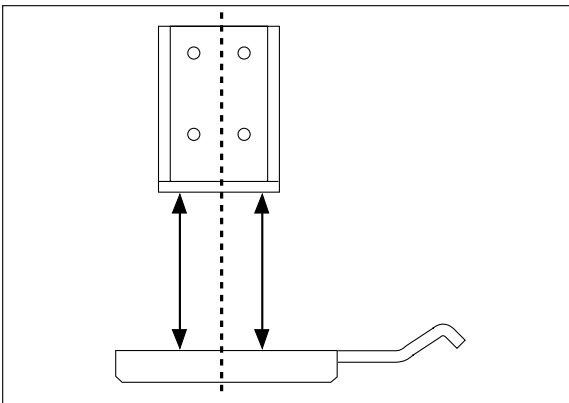


Figure 9



Figure 10

III. Installing the Sleeve Assembly

1. Remove the tires. This kit should be mounted at normal ride height recorded on page 2.
2. Set the assembly on the leaf spring, forward of the axle. The tab on the lower bracket should hook over the forward leaf spring U-Bolt (Figure 7).
3. Attach the lower bracket to the leaf spring using U-Bolt (D) and clamp bar (E). Secure with flat washers (H) and lock nuts (G). Refer to Figure 7. Torque to 16 ft-lbs.
4. Ensure that there is at least $\frac{1}{4}$ " clearance between the roll plate and the closest part of the frame (Figure 8). The closer space will be forward of the sleeve assembly.
5. Align the upper bracket so that it is parallel and perpendicular with the lower bracket (Figure 9).
6. Using the upper bracket as a template, mark one of the holes on the upper bracket (Figure 10).
7. CAUTION: Before drilling, check the back side of the frame to see if the brake lines, gas lines, or any other lines or wires need to be moved before drilling the upper bracket holes.
8. Flip the air spring down away from the frame. Center punch the previously marked upper hole.

9. With the air spring still flipped down, drill the center punched hole location with a $\frac{3}{8}$ " drill bit (Figure 11).
10. Attach the upper bracket to the frame with the frame bolt (F), oversized flat washer (I), and nylock nut (G). See Figure 12.
11. *IMPORTANT: Be sure to cover the air fitting with piece of tape to prevent metal shavings from getting into the fitting or sleeve.*
12. Check alignment, adjust if needed, then center punch and drill the two lower holes in the upper bracket.
13. Torque upper bracket mounting bolts to 20 ft-lbs (Figure 13).
14. Continue the installation by following the air line installation instructions.



Figure 11



Figure 12



Figure 13



Figure 14

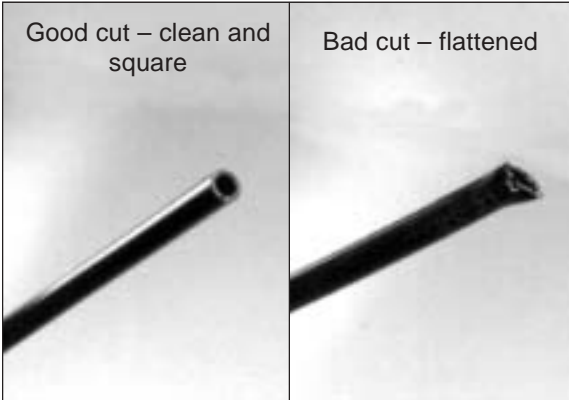


Figure 15



Figure 16

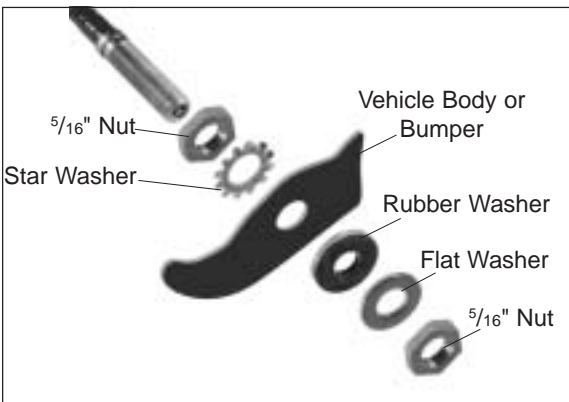


Figure 17

IV. 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.

2. Drill a $\frac{5}{16}$ " hole to install the inflation valves.
3. Cut the air line assembly (AA) in two equal lengths (Figure 14).

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 15). 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 15).

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 16).
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 17).

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 18).



Figure 18

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

8. To properly instal the airline, measure $\frac{9}{16}$ " from the cut end and mark with tape. 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.



Figure 19

V. Finishing the Installation

1. With the air line in the fitting, inflate to 10 p.s.i., adjust the sleeve in or out for alignment, and secure air sleeve to upper bracket by tightening the nylon nut to 4 ft-lbs (Figure 19). Do not overtighten.
2. Repeat entire installation procedures for the remaining side.
3. After both sides are complete, continue by reading Sections VI through X.



Figure 20

VI. 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 20). 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.

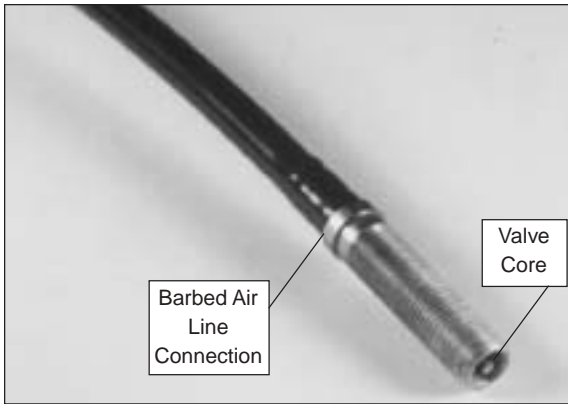


Figure 21

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.

VII. 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 two 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 21) 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.

VIII. 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 22). See Section VII to repair.
2. Leak test the inflation valve for leaks at the air line connection or dirt or debris in the valve core (Figure 23). See Section VII 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 24).
4. Inspect air line for holes and cracks (Figure 25). Replace as needed.
5. A kink or fold in the air line (Figure 26). 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.



Figure 22



Figure 23

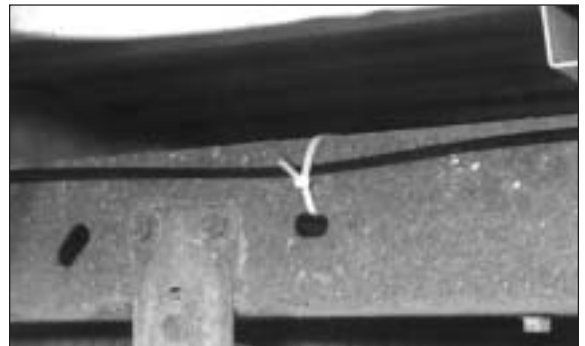


Figure 24



Figure 25



Figure 26

IX. 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 8 and 9 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:

Frame Bolts	20 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 11 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 8 and 9) 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.

X. Maintenance and Operations

Minimum Air Pressure	Maximum Air Pressure
10 p.s.i.	100 p.s.i.
<i>Failure to maintain correct minimum pressure (or pressure proportional to load), bottoming out, over-extension, 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 8.)
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 (10 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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