RideCONTROL™

MN-435
(021108)
ECR 7136

Kit No. 59531

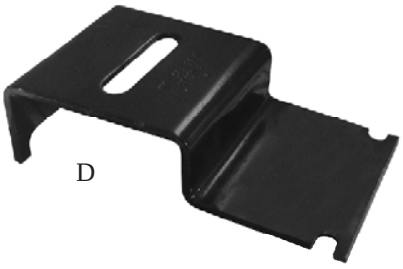
Please read these instructions completely before proceeding with installation

Air Spring Unit Parts List

Item	Description	Quantity
A	Air Spring	2
B	Upper Bracket	2
C	Nylon Nut	2
D	Lower Bracket	2
E	Swivel Air Fitting	2


A


B

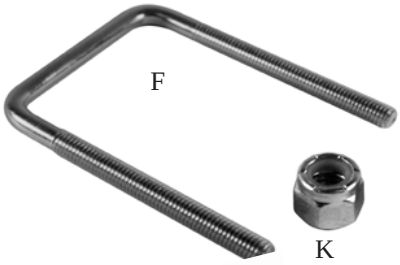

D


C


E

Mounting Hardware Parts List

Item	Description	Quantity
F	U-Bolt	2
G	Lower Clamp Bar	2
H	Self Tapping Frame Bolt	6
J	1/2” Hex Head Cap Screw 7/8”	2
K	3/8” Lock Nut	4
L	3/8” Flat Washer	4
M	1/2” Flat Washer	2


F


G

K


L


H


J


M

Air Line Assembly Parts List

Item	Description	Quantity
AA	Air Line	16’
BB	Tie Strap	6
CC	Air Line Clips	4
DD	1/4” Self Tapping Screw	4
EE	Valve Cap	2
FF	5/16” Hex Nut	4
GG	Rubber Washer	2
HH	Star Washer	2
JJ	5/16” Flat Washer	2


AA


CC


DD


BB


EE


FF


GG

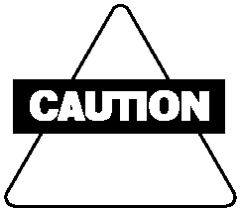

HH


JJ

Tools Needed

Standard and metric open-end or box wrenches
Ratchet with 3/8”, 9/16” and 1/2” deep well sockets
5/16” drill bit (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.



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 sleeves until they have been properly secured to the vehicle.

Before You Start

You need to determine Normal Ride Height. Normal Ride Height is the distance between the bottom edge of the wheelwell and the center of the hub with the vehicle in the “as delivered” condition. In some cases, Normal Ride Height is not perfectly level.

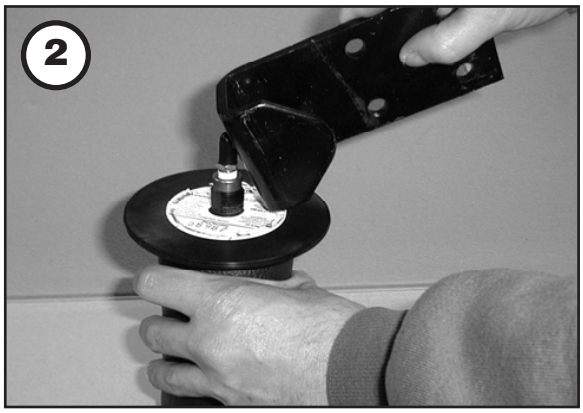
Remove unusual loads and examine your vehicle from the side to ensure it is on a level surface. If necessary (in cases where your leaf springs are sagging badly), use a jack to raise the rear end so that the vehicle achieves the original “as delivered” ride height.

Measure the distance between the center of the hub and the bottom edge of the wheel well. This is the Normal Ride Height. Enter the measurement below:

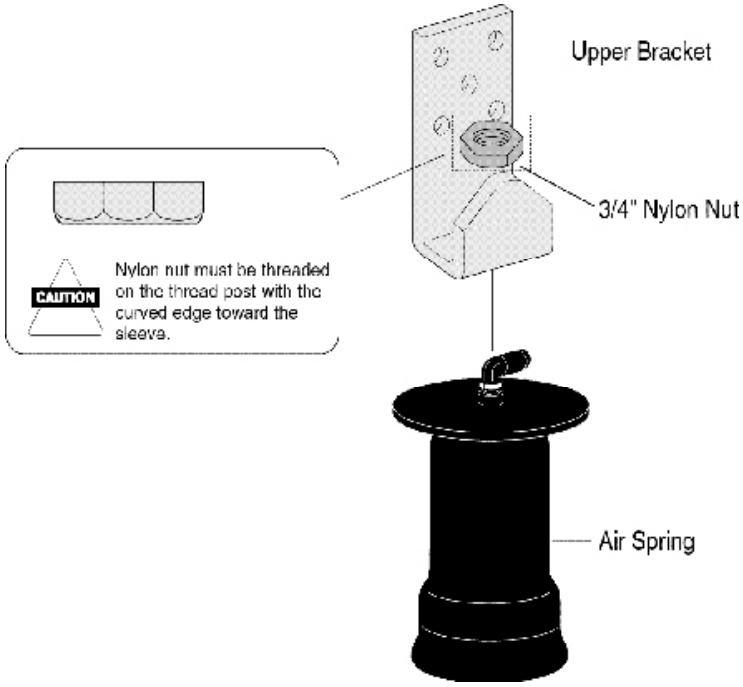
NORMAL RIDE HEIGHT: _____ inches

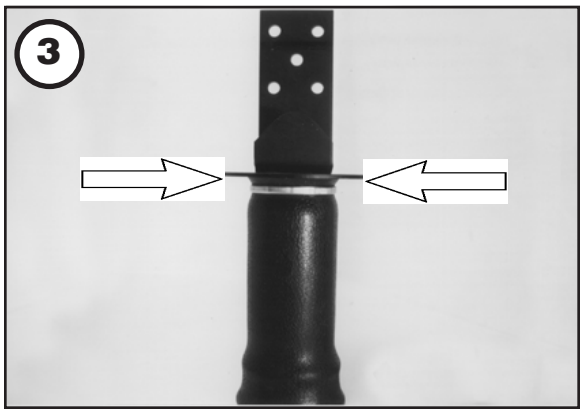
I. Assemble the Air Spring

Install the swivel air fitting (E) and tighten finger tight plus one and one half turns. USE AN OPEN END WRENCH BEING CAREFUL TO TIGHTEN ON THE METAL HEX NUT ONLY. DO NOT OVERTIGHTEN. This fitting is pre-coated with sealant.

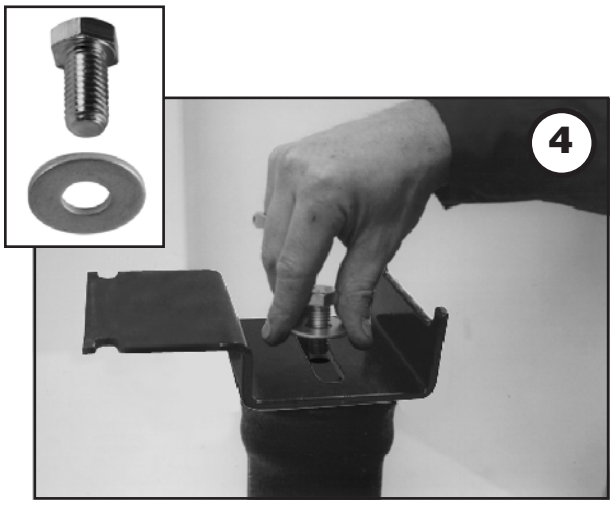


Position the elbow towards the front of the vehicle. Thread nylon nut onto the thread post, making sure the flat side is up. See drawing.





The bracket must be tight and flat to the roll plate on both sides. Hand tight is sufficient.



LOOSELY attach the lower bracket (D) to the bottom of the air spring with 1/2” flat washer (M) and 1/2” hex head cap screw (J).

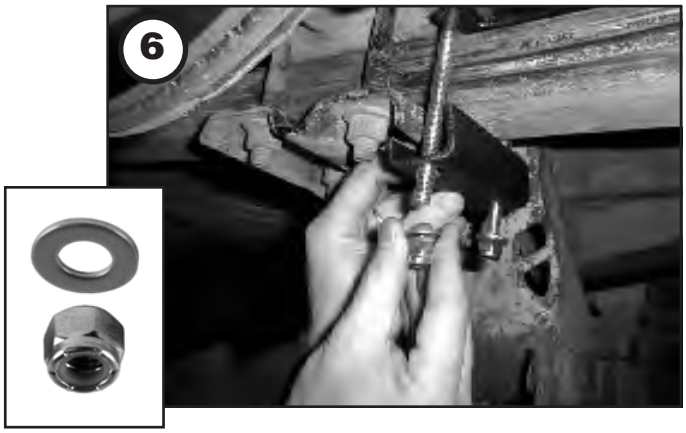
II. Mounting the Lower Bracket

Passenger side mounts forward of the axle and over emergency brake cable (see Figure 5). Driver side mounts behind axle.

Set assembly on leaf spring. Push lower bracket against axle perch or jounce bumper bracket.

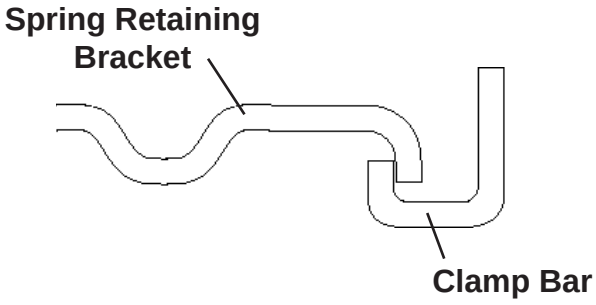
Secure the lower bracket to the leaf spring with u-bolt

(F), 3/8" flat washer (L), and nylon lock nut (K). See Figure 6.



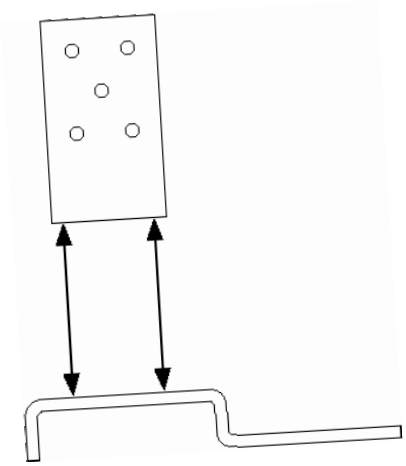
Be sure to hook short end of clamp bar over spring retaining bracket (see Figure 7 and illustration).

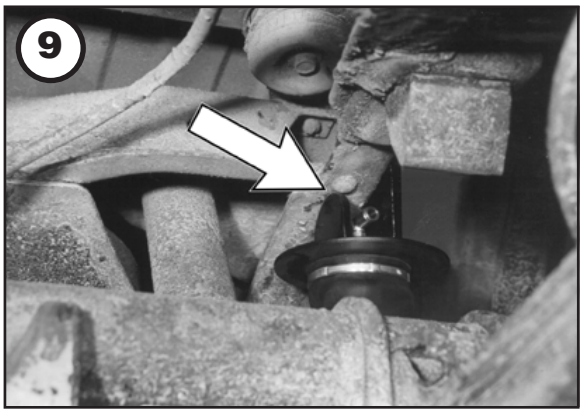
Tighten to 16 ft-lbs.



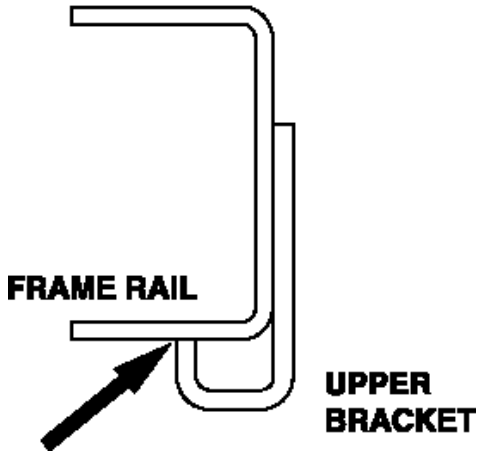
III. Locating the Upper Bracket

The upper bracket must be parallel and perpendicular to the lower bracket (see illustration below).





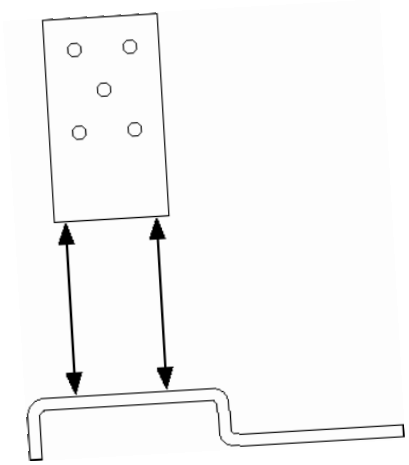
The short leg of the upper bracket must touch the bottom of the frame rail.



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 you drill the upper bracket holes. Always check the back side of any surface to be drilled.

It is necessary to use at least three of the five pre-drilled holes in the upper bracket. Any combination of the three is permissible. Using the bracket as a template, center punch one hole.

Drill ONE 5/16” hole. Install one self tapping bolt (H). Tighten to 15 ft-lbs. but do not over-tighten.
Check again to make sure upper and lower brackets are parallel and perpendicular to each other.



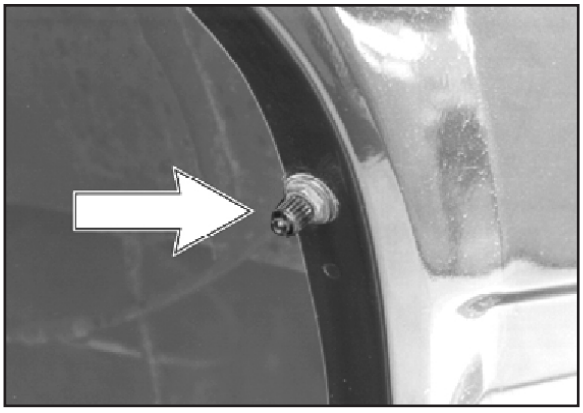
Center punch and drill remaining two holes and install the Self-Tapping Frame Bolts (H). Torque to 15 ft.lbs. DO NOT OVER-TIGHTEN.

Repeat for other side.

A. Installing the Air Lines

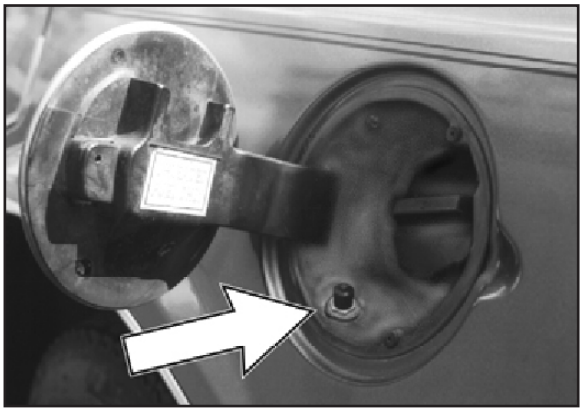
Choose a convenient location for mounting the inflation valves. Make sure there is enough clearance around the valves for an air chuck. Drill a 5/16” hole to install the valves.

Popular locations for the valve are:



- The wheel well flanges

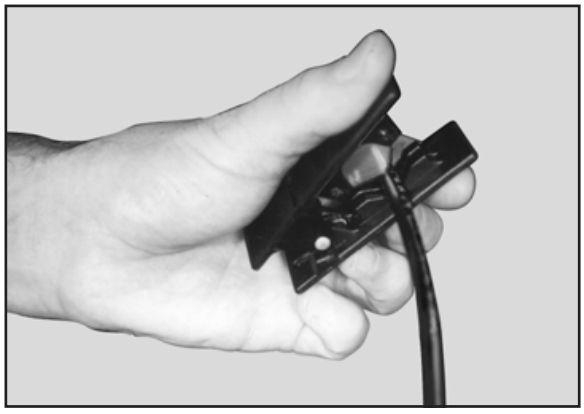
- Licence plate recess in the bumper



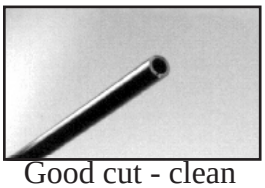
- Under the gas cap access door

- Through the licence plate itself.

Cut the air line in two equal lengths.



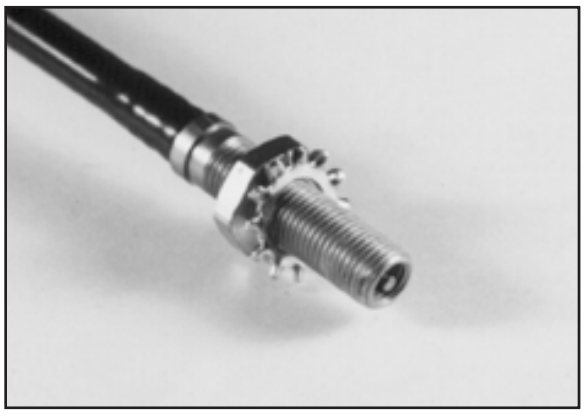
Bad cut - flattened



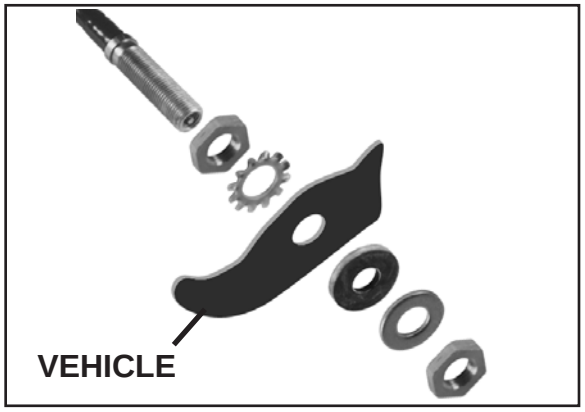
Good cut - clean and square

When cutting or trimming the air line, use a hose cutter (Air Lift P/N 10530), a razor blade or a sharp knife. 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 fitting.

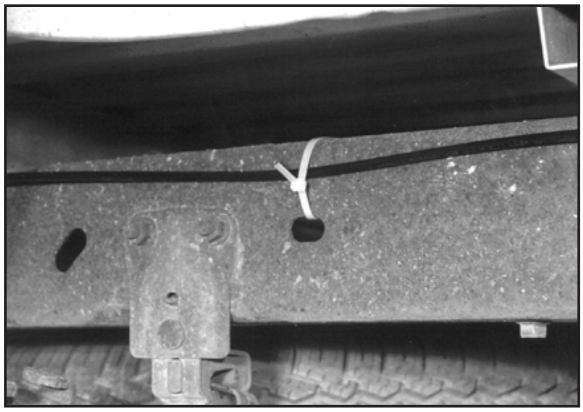
Place a 5/16” nut (FF) and a star washer (HH) on the air valve. Leave enough of the inflation valve in front of the nut to extend through the hole and have room for the rubber washer (GG), flat washer (JJ), 5/16” nut (FF) and cap (EE). There should be enough valve exposed after installation - approximately 1/2” - to easily apply a pressure gauge or an air chuck.

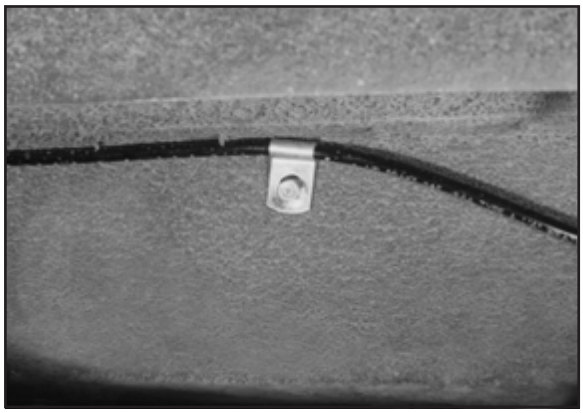


Push the air valve through the hole and use the rubber washer (GG), flat washer (JJ) and another 5/16” (FF) nut to secure it in place. Tighten the nuts to secure the assembly in place.

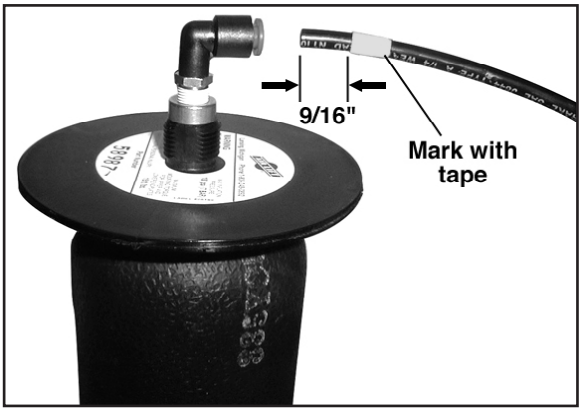


Route the air line along the frame to the swivel fitting. Keep at least 6” of clearance between the air line and heat sources, such as the exhaust pipes. Avoid sharp bends and edges. Use the plastic tie straps (BB) to secure the air line to fixed, non-moving points along the chassis. Be sure that the tie straps are tight, but do not pinch the air line. Where there are no holes to secure tie straps to, use the air line clips (CC) and 1/4” self tapping screws (DD) to secure the air line to the frame (no drilled holes required). Leave at least 2” of slack to allow for any movement that might pull on the air line. Trim the excess air line before inserting it into the swivel fitting.



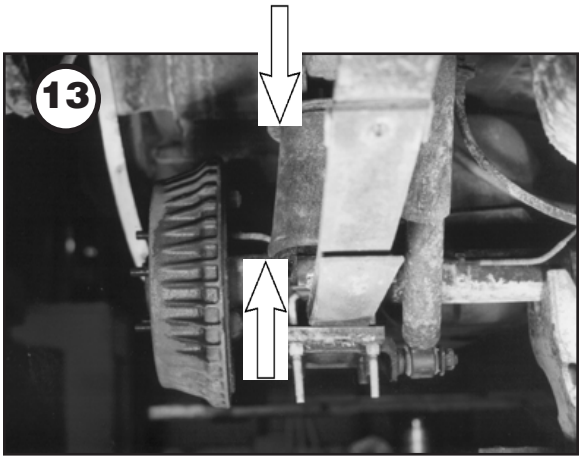


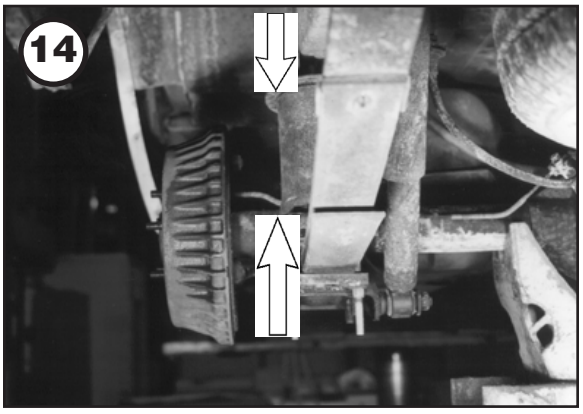
To properly install the air line measure 9/16” from the cut end and mark with tape. Lubricate (i.e. soap solution, silicone spray, saliva) the end of the air line and insert it into the fitting. Push and slightly turn the air line until you hear/feel it “click” into place. The front edge of the tape band should be flush with the fitting. The air line is now installed.

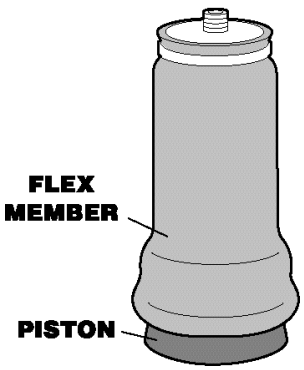


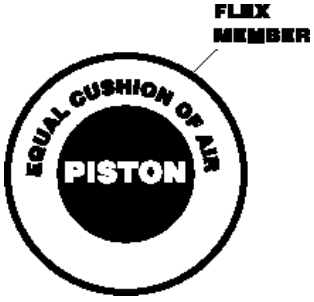
B. Aligning the Air Spring

VERY IMPORTANT - With the bottom of the air spring still loose, inflate the air spring to approximately 10 p.s.i.. Use the slotted adjustment in 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.









Tighten the lower end by turning the bolt with a 3/4" open end wrench. Snug (10 ft-lbs.) is sufficient and will prevent stripping the threads. Do not attempt to hold the air spring with any type of tool.

C. Inflation Decal

Install the minimum/maximum air pressure decal in a highly visible location.

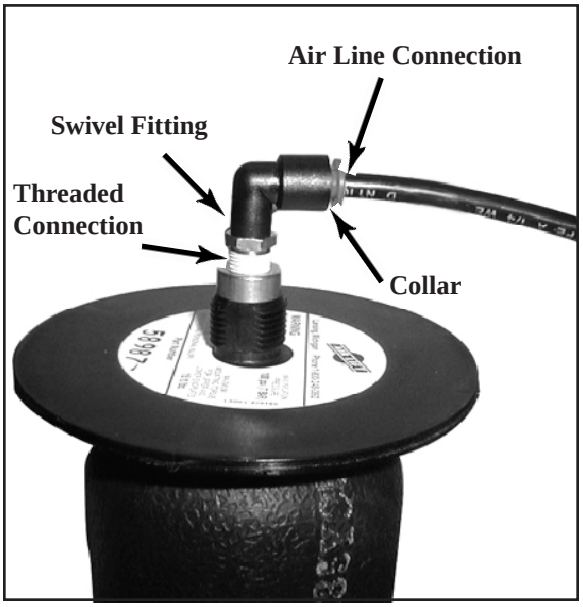
D. Checking for Leaks

Inflate the air spring to 60 p.s.i. Spray all connections and the inflation valves with a solution of 1/5 liquid dish soap and 4/5 water to check for leaks. You should be able to spot leaks easily by looking for bubbles in the soapy water. 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.

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.

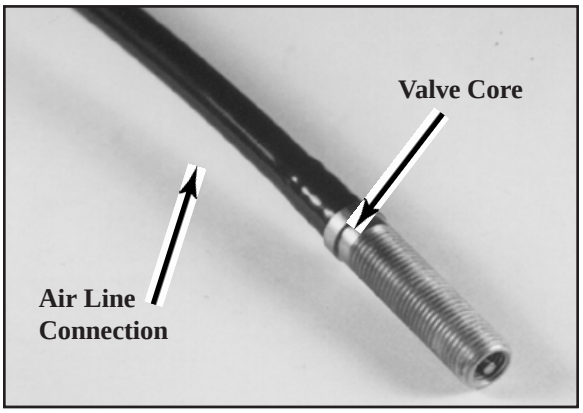
E. Fixing Leaks

Swivel Fitting



1. **Air Line Connection**
   Deflate the spring and remove the line by pulling the collar against the fitting and pulling firmly on the air line. Trim 1/2" 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 (page 9).
2. **Threaded Connection**
   Tighten 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, then use a wrench for an additional one and one half turns.

Inflation Valve



1. **Valve Core**
   Tighten the valve core with a valve core tool.
2. **Air Line Connection**
   When removing air line from a barbed type fitting, 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.

If the preceding steps have not resolved the problem, call Air Lift Technical Service at 1-800-248-0892 for assistance.

F. 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 page 18 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:

U-bolt Lock Nuts	16 ft.-lbs.
Self-Tapping Frame Bolts	15 ft.-lbs.
Lower mounting bolt for air spring	10 ft.-lbs.

_____ 5. Road Test - The vehicle should be road tested after the preceding tests. Inflate the springs to 10 p.s.i. or until vehicle is level. 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 17 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 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., you have a leak that must be fixed. Either fix the leak yourself (see page 13) 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 Normal Ride Height measurement that was recorded on page 2 has been restored. Regardless of load, the air pressure should always be adjusted so that the Normal 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.

Maintenance and Operations

MINIMUM AIR PRESSURE	MAXIMUM AIR PRESSURE
10 psi	100 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.

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 sleeve. (See page 15.)

4. When increasing load, always adjust the air pressure to maintain the Normal Ride Height.

5. It will be helpful to increase the tire inflation when you load your vehicle beyond its normal operating weight. We recommend a 2 p.s.i. increase above normal (not to exceed tire manufacturer maximum) for each 100 lbs. of added load on the axle.

6. **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., this pressure may represent too great a load on some vehicles. Check your vehicle owners manual and do not exceed the maximum load listed for your vehicle.

7. Always add air to springs in small quantities, checking the pressure frequently. Sleeves require less air volume than a tire and inflate quickly.

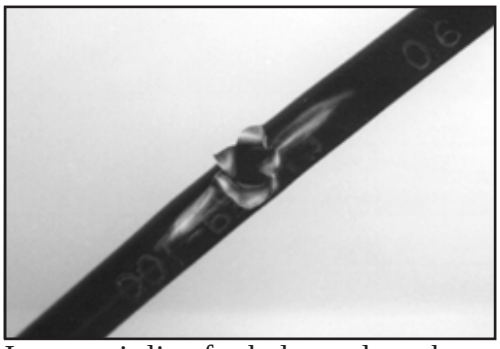
8. **Should it become necessary to raise the vehicle by the frame, make sure the system is at minimum pressure (10 p.s.i.) to reduce the tension on the suspension/brake components. Check to see that the sleeve rolls back down over the bottom piston after the vehicle is lowered. If the sleeve fails to roll back down over the piston, add air pressure until the sleeve 'pops' back over the piston (do not exceed 100 p.s.i.)**

Troubleshooting Guide

1. Problems maintaining air pressure

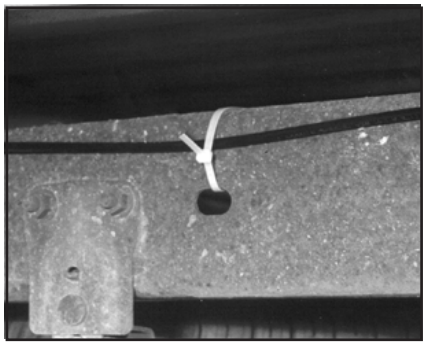
WITHOUT ON-BOARD COMPRESSOR

Leak test the air line connections and threaded connection of the elbow into the air spring. See page 11 to repair.



Inspect air line for holes and cracks. Replace as needed.

Leak test the inflation valve for leaks at the air line connection or debris in the valve core. See page 11 for repair.



Inspect air lines to be sure it is not pinched. Tie straps may be too tight. Replace strap.

A kink or fold in the air line. Re-route 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 probably a damaged air spring - either a factory defect or an operating problem. We suggest that you return the vehicle to your installer. If self-installed or you are the professional installer, please call Air Lift at 1-800-248-0892 for assistance or a replacement air spring.

Thank you for purchasing Air Lift Products

Mailing Address:
AIR LIFT COMPANY
P.O. Box 80167
Lansing, MI 48908-0167

Street Address:
AIR LIFT COMPANY
2710 Snow Rd.
Lansing, MI 48917

Local Phone: (517) 322-2144
Fax: (517) 322-0240

FOR TECHNICAL ASSISTANCE CALL 1-800-248-0892