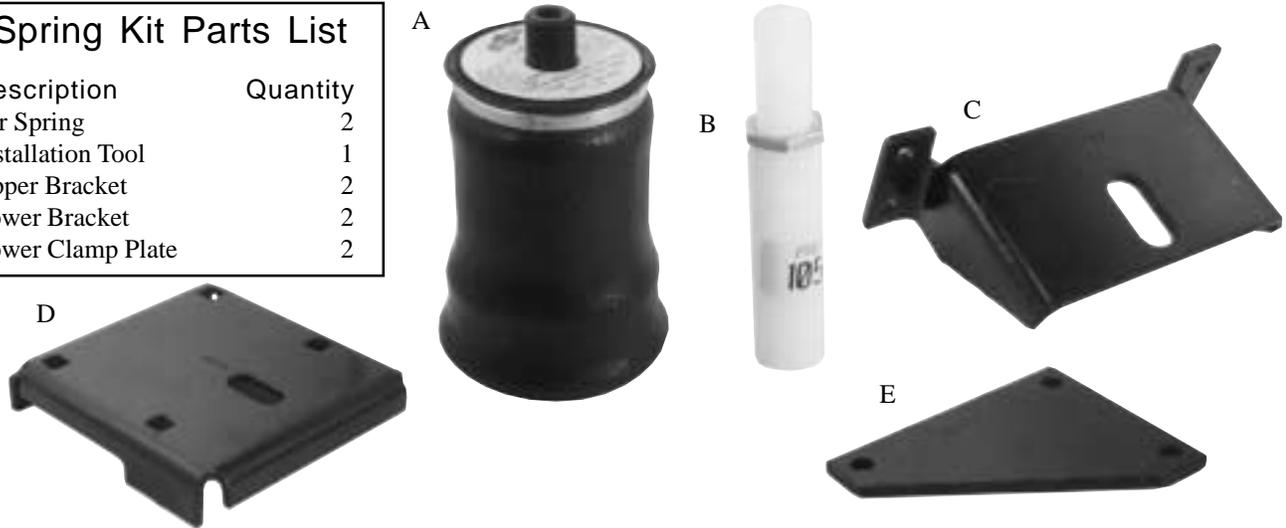


Kit No. 59520

Please read these instructions completely before proceeding with installation

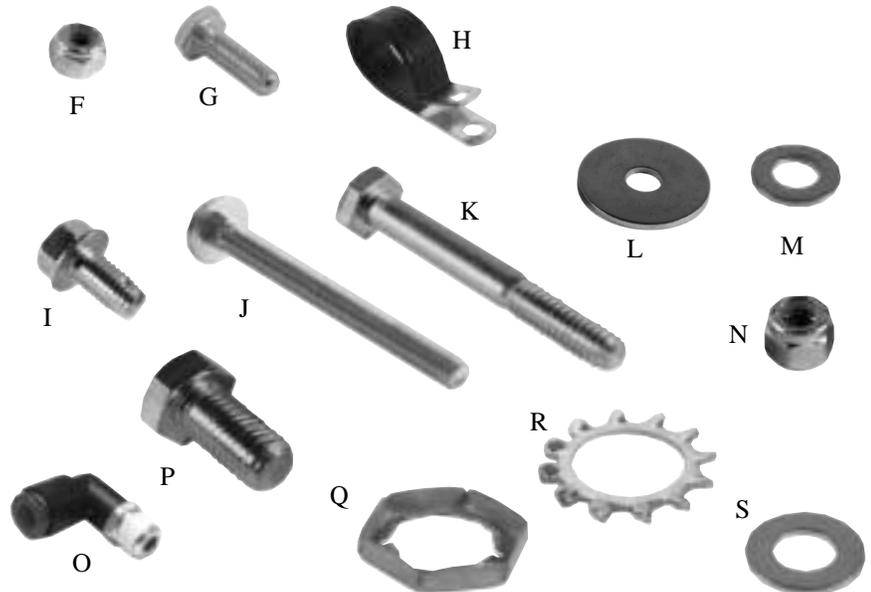
Air Spring Kit Parts List

Item	Description	Quantity
A	Air Spring	2
B	Installation Tool	1
C	Upper Bracket	2
D	Lower Bracket	2
E	Lower Clamp Plate	2



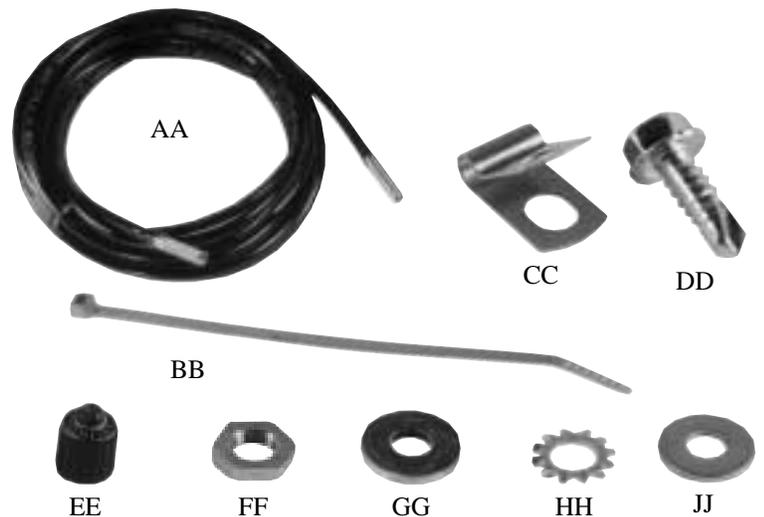
Attaching Hardware Parts List

Item	Description	Quantity
F	1/4" Lock Nut	1
G	1/4" Hex Head Cap Screw 3/4"	1
H	Emergency Brake Cable Clamp	1
I	Self Tapping Frame Bolt	6
J	3/8" Carriage Bolt 3.5"	6
K	3/8" Hex Head Cap Screw 3.5"	2
L	3/8" Oversized Flat Washer	2
M	3/8" Flat Washer	8
N	3/8" Lock Nut	8
O	Swivel Air Fitting	2
P	1/2" Hex Head Cap Screw 7/8"	2
Q	Pal Nut	2
R	Star Washer	2
S	1/2" Flat Washer	2



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



Tools Needed

1/2", 3/4", 9/16", and 1-1/16" open-end or box wrenches
Ratchet with 3/8", 9/16" and 1/2" deep well sockets
3/8" and 5/16" drill bits (very sharp)
3/8" Nut 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

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:

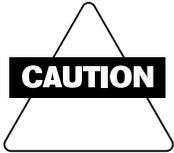
NORMAL
RIDE HEIGHT: _____ inches



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**.



If for any reason it becomes necessary to return a part, please use the provided Product Return Form included with your literature pack (Form #AD-240).



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.

Raising the Vehicle

Raise the vehicle and remove the wheels. Check the distance between the center of the hub and the bottom edge of the wheel well to ensure it is at the normal ride height recorded on page 2. If not, raise the frame or lower the axle as necessary to restore the original distance.



If the vehicle is raised with an axle contact hoist, place stands under the frame and lower the axle as needed . . .

or . . .



If the vehicle is raised with a frame contact hoist, place stands under the axle and lower the frame as needed . . .

or . . .

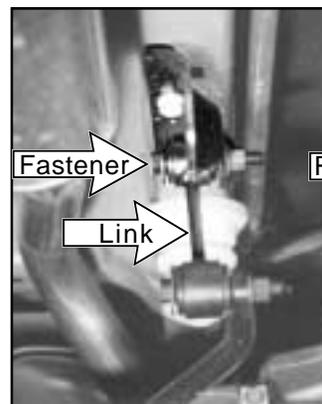


If the vehicle was raised with a jack and supported with stands on the frame, use a floor jack to raise the axle.

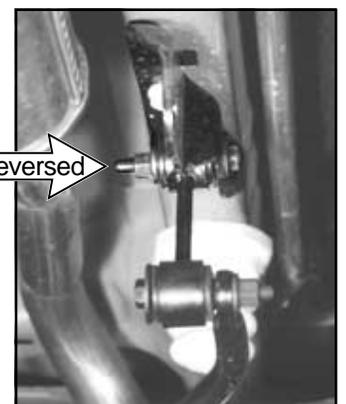


Your air springs will last much longer if they are not the suspension limiter in either compression or extension. The air spring compresses to 2.2" and extends to 7.1". Regardless of load, the air pressure should always be adjusted so that the Normal Ride Height is maintained at all times. The shock absorber is usually the limiter on extension. If this is not the case, you should consider the use of limiting straps; especially if the vehicle is used off-road.

IMPORTANT: If your vehicle is equipped with a rear anti-sway bar, it will be necessary to reverse the fastener holding the anti-sway bar link to the frame on the passenger side only. This is required for sufficient clearance for the air spring assembly.

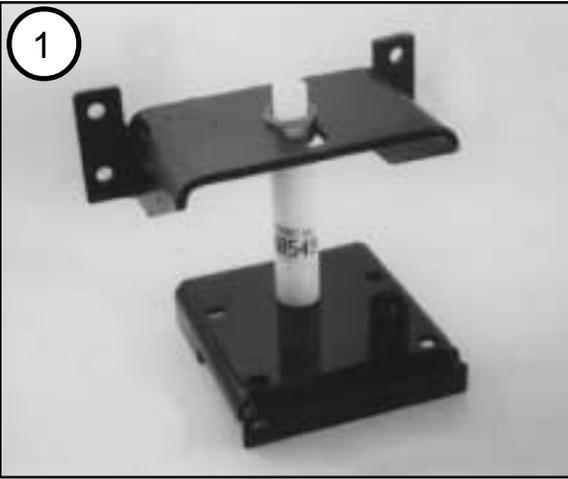


BEFORE



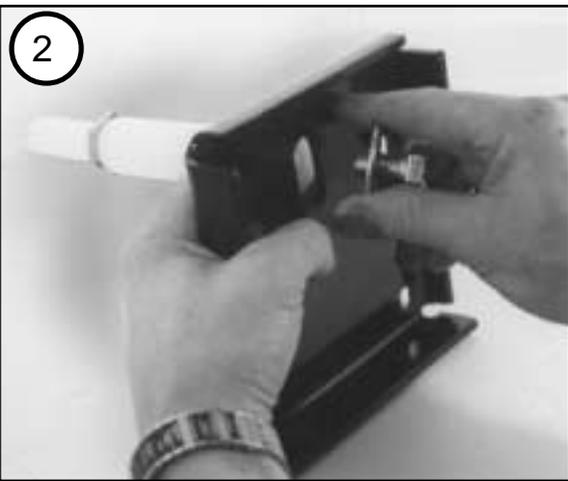
AFTER

Assembling the Installation Tool



Installation Tool

The tool provided with your kit will help you properly align the air spring and position the upper bracket for drilling the bolt holes. The tool attaches to the upper and lower bracket. The tool is rigid so that it will self-align the upper bracket. The threaded section of the upper part of the tool ensures that the air spring can only be mounted at the correct height. **Air spring can be installed anywhere within the threaded range.**

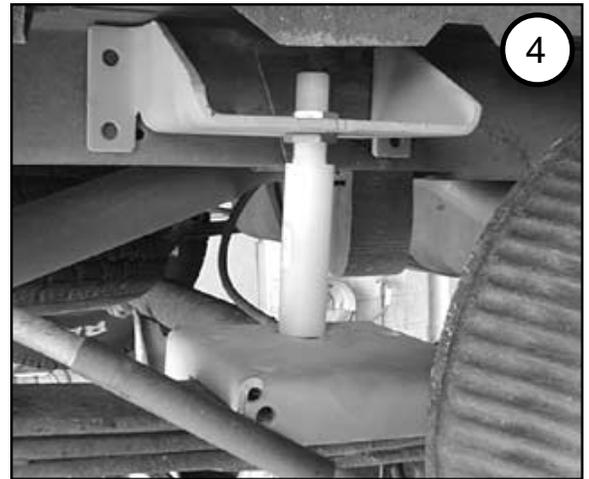
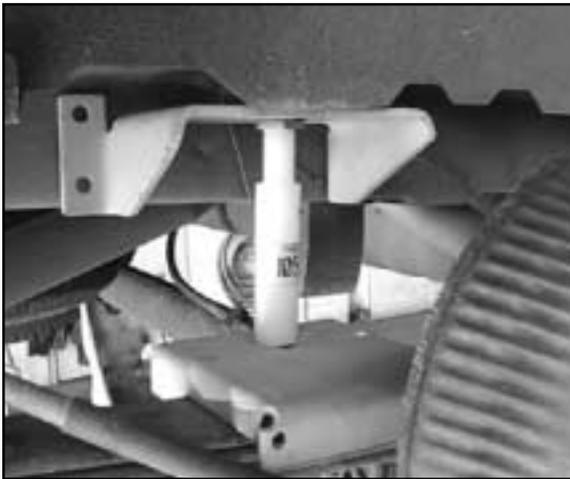


Attach lower bracket (D) **loosely** to installation tool (B) using 1/2" flat washer (S) and 1/2" hex head cap screw 7/8" (P).



3 The upper bracket (C) can be attached to the tool (B) either "legs down" or "legs up", whichever correctly positions the upper bracket on the frame rail, using a pal nut (Q). Go to Step II to determine the upper bracket position.

Determine Upper Bracket Position



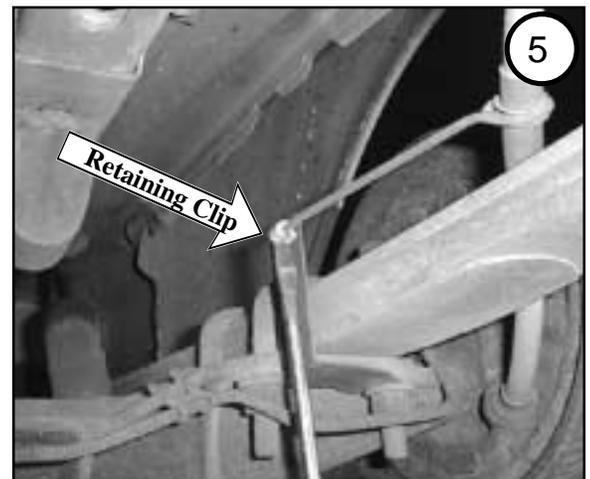
With the vehicle at Normal Ride Height (see page 2), set the assembly on the leaf spring **behind the axle**. Use the Pal nuts on the threaded portion of the installation tool to adjust the upper bracket up and down so that all four mounting holes are on the middle section of the frame rail. The mounting holes must not fall on the rounded edges of the frame rail and **there must be 1 1/2” above the upper bracket to allow clearance for the elbow fitting**. On some models it may be necessary to invert the upper bracket in a “legs up” position to achieve the correct mounting position.



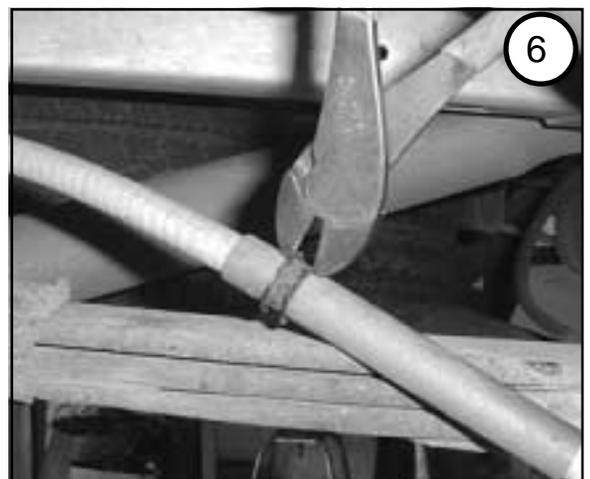
Relocating Emergency Brake Cable

ALL 1984 - 1995 MODELS: It will be necessary to relocate the emergency brake cable to provide clearance for the air spring.

Using a screw driver, push/pry up the plastic retaining clip holding the emergency brake cable in the guide. Remove the silver cable guide from the black metal bracket.

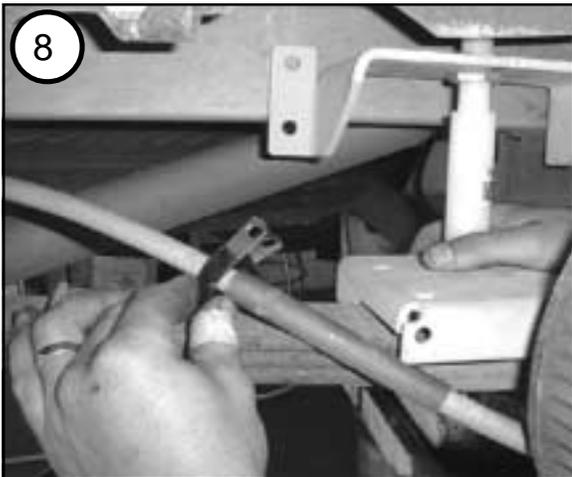


Using a pair of side cutters or tin snips, cut and remove the metal ring around the emergency brake cable where it was attaching to the guide. Be careful not to cut through the cable housing.

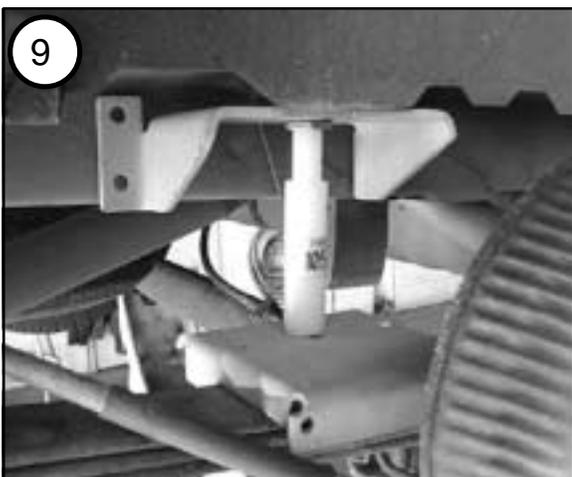




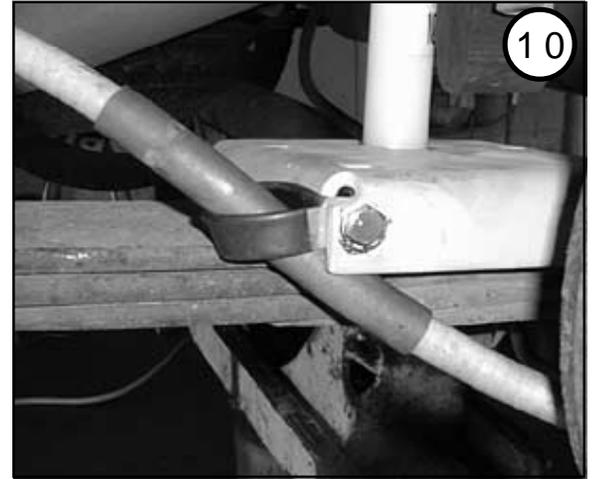
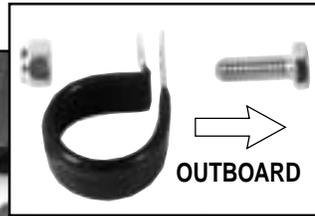
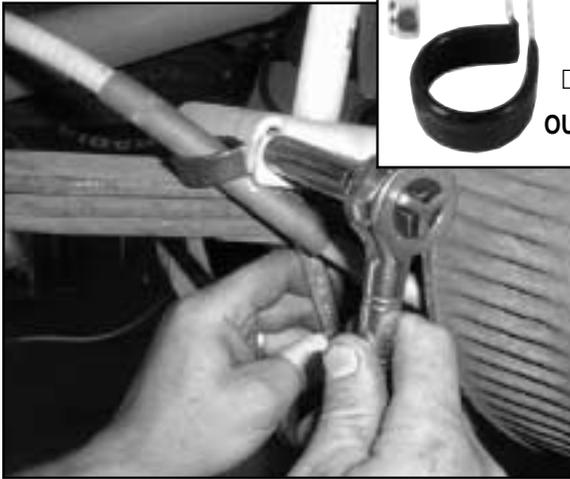
Bend the black metal emergency brake cable bracket away from the leaf spring to provide clearance for the lower bracket.



Install the emergency brake cable clamp (H) around the emergency cable with the loop toward the leaf, **flat side toward the tire**.



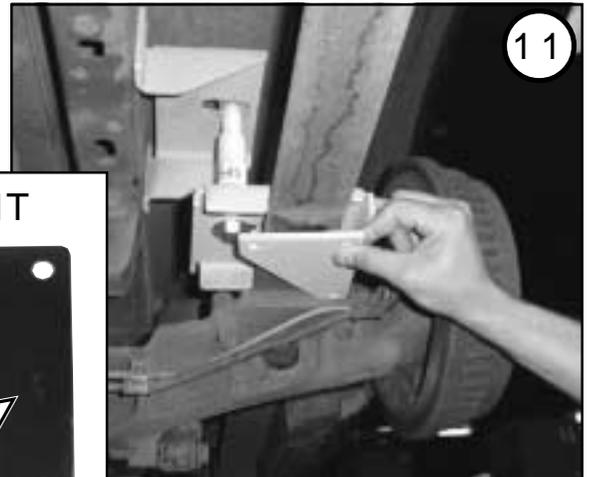
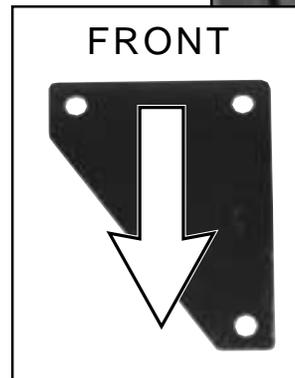
Set the tool/bracket assembly onto the leaf spring.



Slide the clamp inside of the edge of the bracket. Secure the clamp (H) to the lower bracket (D) using the 1/4" hex head cap screw (G) and 1/4" lock nut (F). THE HEAD OF THE BOLT MUST BE OUTBOARD.

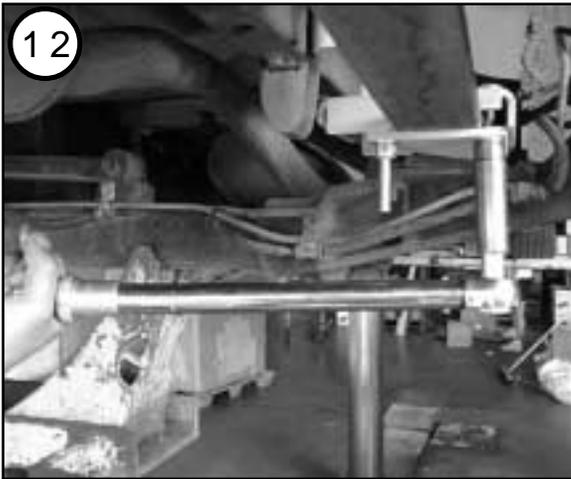
Attaching the Lower Bracket/Clamp Plate

Insert the clamp plate (E) under the leaf spring with the one hole towards the front of the vehicle, the two holes to the rear.



BE SURE THE FRONT EDGE OF THE CLAMP PLATE IS AGAINST THE AXLE and attach with carriage bolts (J), flat washers (M) and lock nuts (N).

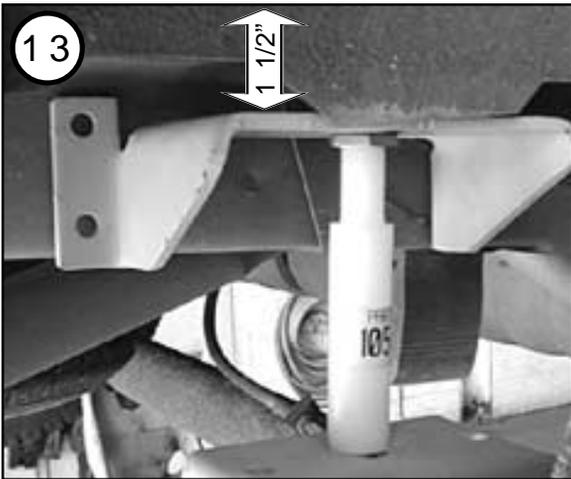




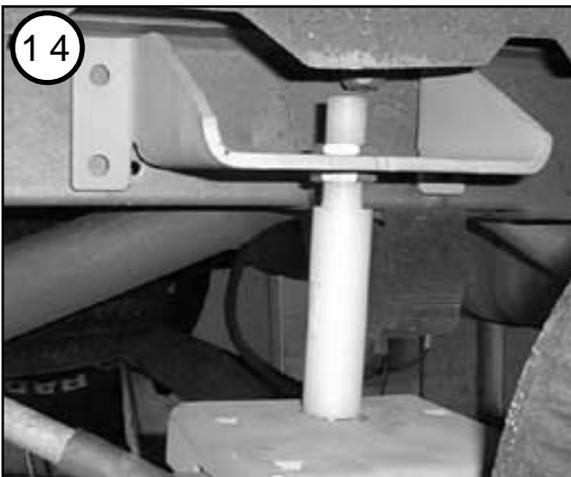
IMPORTANT

Torque lock nuts to 20 ft. lbs.

Mounting the Upper Bracket

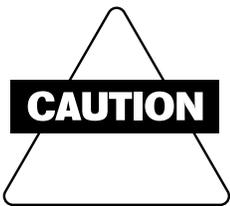
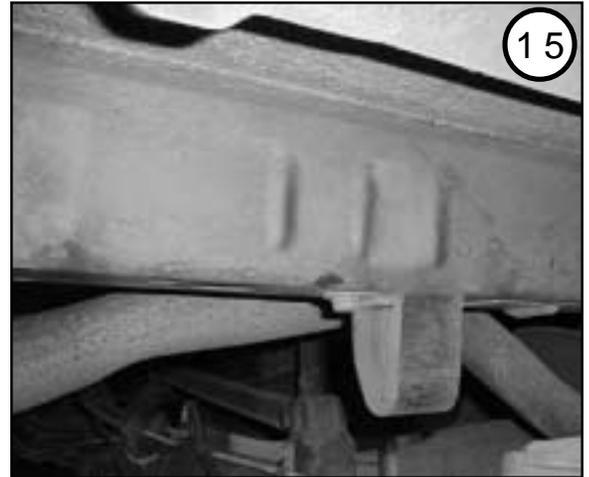


“LEGS DOWN” MOUNTING - Use the Pal nuts (Q) on the threaded portion of the installation tool (B) to adjust the upper bracket (C) so it just touches the third seat bolt. **Be sure that there is at least 1 1/2” of clearance above the upper bracket to allow room for the elbow fitting.**



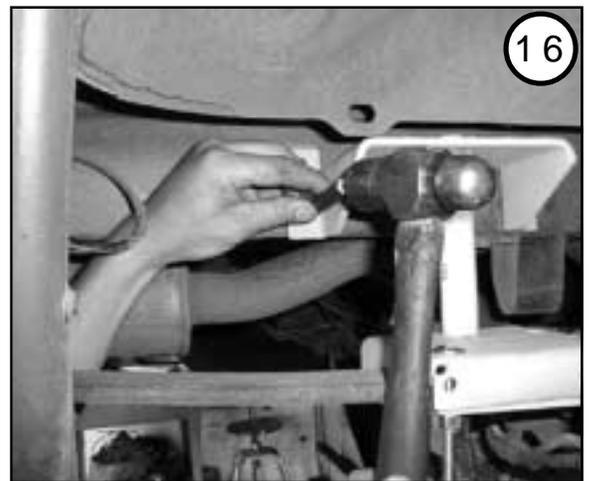
“LEGS UP” MOUNTING - Use the Pal nuts (Q) on the threaded portion of the installation tool (B) to adjust the upper bracket (C) so that the legs of the upper bracket are flat against the frame rail and all four mounting holes are on the middle section of the frame rail. The mounting holes must not fall on the rounded edges of the frame rail.

1996 and NEWER MODELS - These vehicles may have ribs protruding from the frame rail. The mounting holes may fall on these ribs. This is acceptable, drill mounting holes through the ribs.

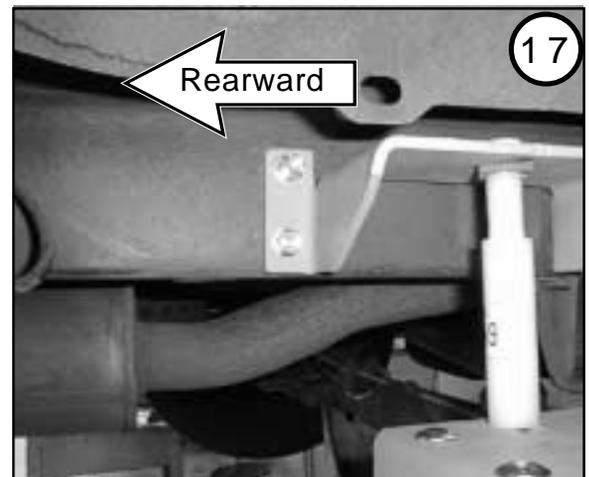


Before drilling, check the back side of the frame to see if brake lines, gas lines, or other features will have to be moved before you drill the upper bracket holes. Always check the back side of any surface to be drilled.

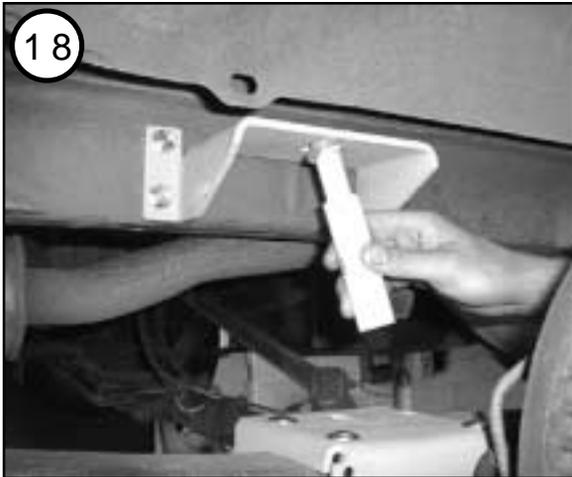
Using the upper bracket as a template, centerpunch and drill **5/16" holes (no larger)** through the frame in the **TWO REAR FACING** holes. It may be necessary to trim the body flange to access the top holes.



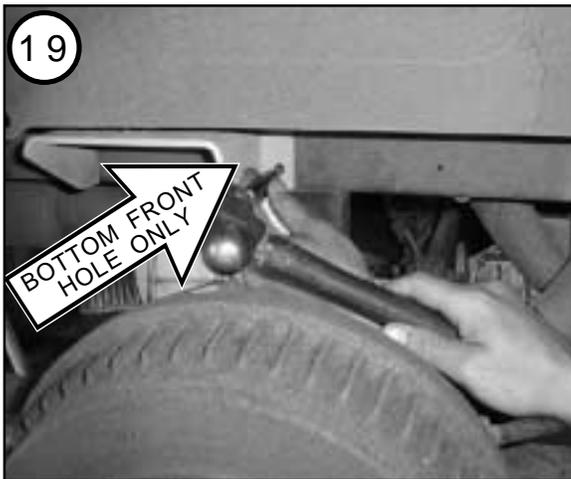
Install the two **REARWARD** self tapping frame bolts (I). Tighten to 15 ft-lbs.



Remove Installation Tool

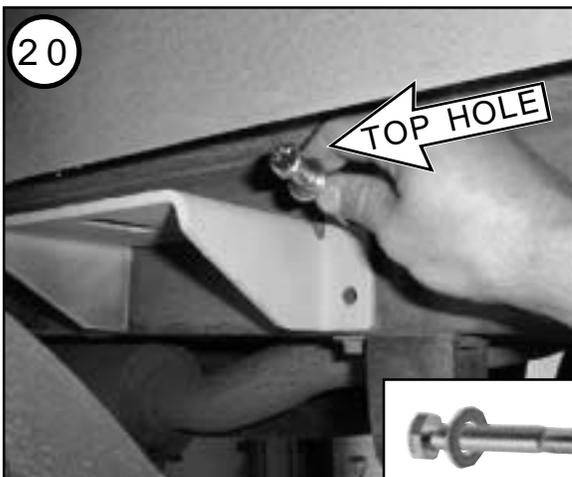


Remove the 1/2" hex head bolt (P) and flat washer (S) from the bottom of the tool. Holding the top pal nut (Q), turn the tool to remove it from the brackets. It may be necessary to lower the axle to provide clearance to remove the tool.



FRONT FACING BOTTOM HOLE -

Using the upper bracket as a template, centerpunch and drill a **5/16"** hole (**no larger**) through the frame in the **BOTTOM FRONT FACING** hole. **It may be necessary to lower the hub/axle to provide room to drill.** Install a self tapping frame bolts (I). Tighten to 15 ft-lbs.

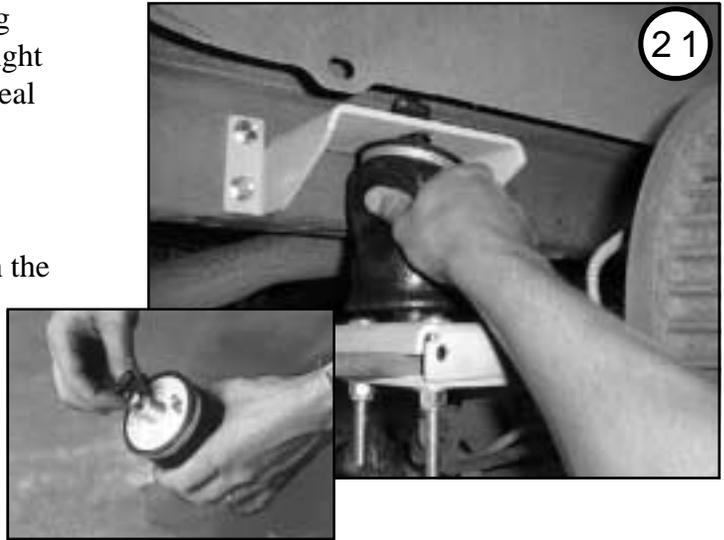


FRONT FACING TOP HOLE - Using the upper bracket as a template, centerpunch and drill a 3/8" hole through the frame. Once again, it may be necessary to trim the body flange to access the top holes. Install 3 1/2" hex head bolt (K), flat washers (L) & (M) and 3/8" lock nut (N). Torque to 20 ft. lbs.

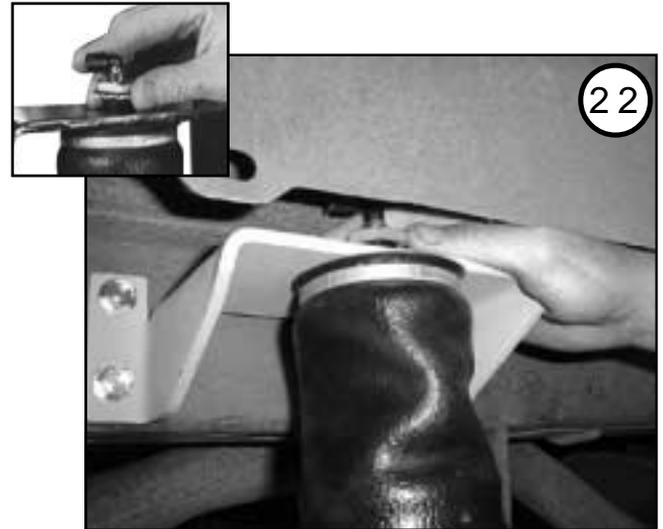


Install the air fitting (O) into the top of the air spring (A). This fitting is pre-coated with sealant. Finger-tight plus two 360° turns with an open-end wrench will seal the fitting. **Use a 7/16" open end wrench being careful to tighten on the metal hex nut only. DO NOT OVERTIGHTEN.**

Collapse the air spring and guide upper end through the center mounting hole in the upper bracket.



Now install the star washer (R) and the Pal Nut (Q) - flange up - onto the upper threadpost of the air spring. **LEAVE LOOSE** for final adjustment.



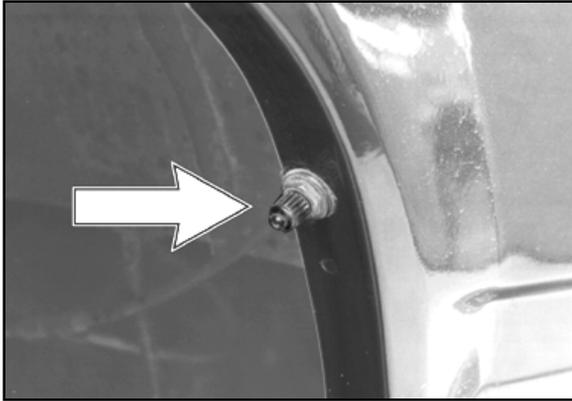
Install the flat washer (S) and 1/2" hex head bolt (P) into the bottom of the air spring.



Installing the Air Lines

- 25 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.

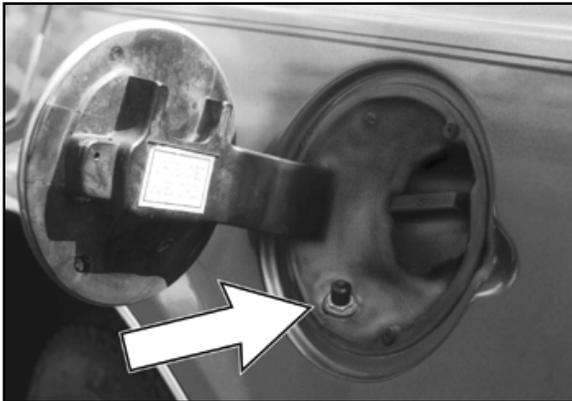
Popular locations for the valve are:



- The wheel well flanges



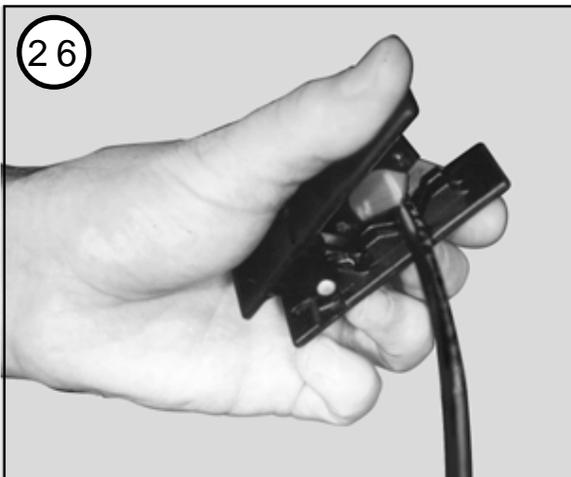
- Licence plate recess in the bumper



- Under the gas cap access door



- Through the licence plate itself.

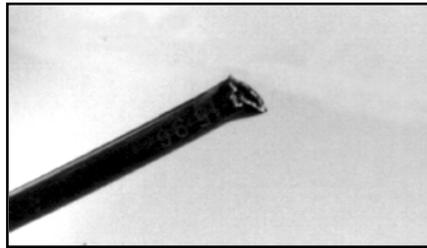


Cut the air line in two equal lengths.

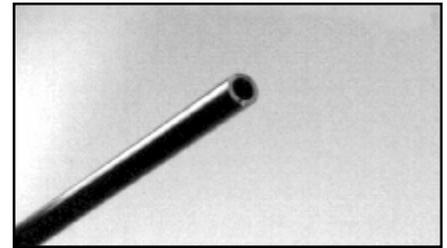


When cutting or trimming the air line, use a hose cutter (Air Lift P/N 10530), a razor blade or a sharp knife. Do not use wire cutters or scissors to cut the air line. These tools may flatten or crimp the air line, causing it to leak around the O-ring seal inside the swivel fitting.

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.

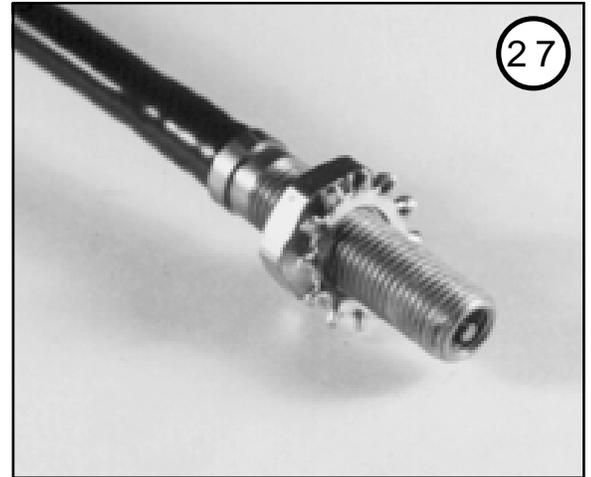


Bad cut - flattened

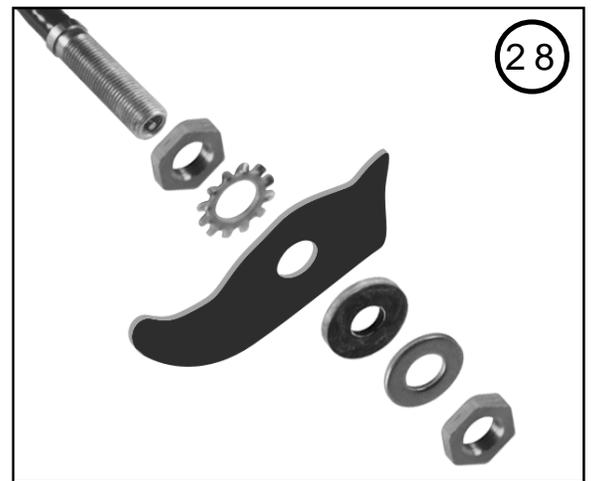


Good cut - clean and square

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.

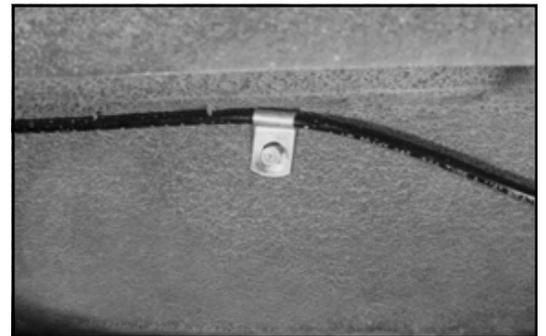
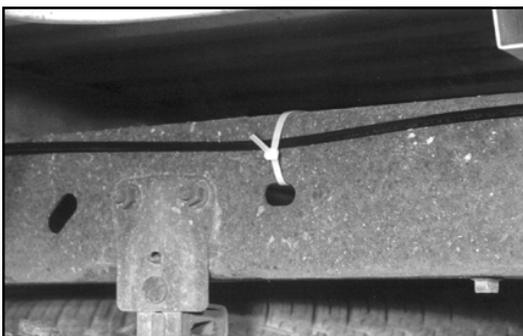


Push the air valve through the hole and use the rubber washer (GG), flat washer (JJ) and another 5/16" (FF) nut to secure it in place. Tighten the nuts to secure the assembly in place.

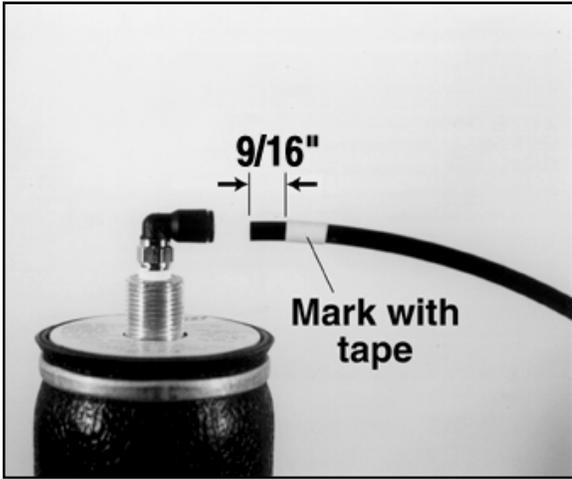


Route the air line along the frame to the swivel fitting. Keep at least 6" of clearance between the air line and heat sources, such as the exhaust pipes. Avoid sharp bends and edges. Use the plastic tie straps (BB) to secure the air line to fixed, non-moving points along the chassis. Be sure that the 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 bolts (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.

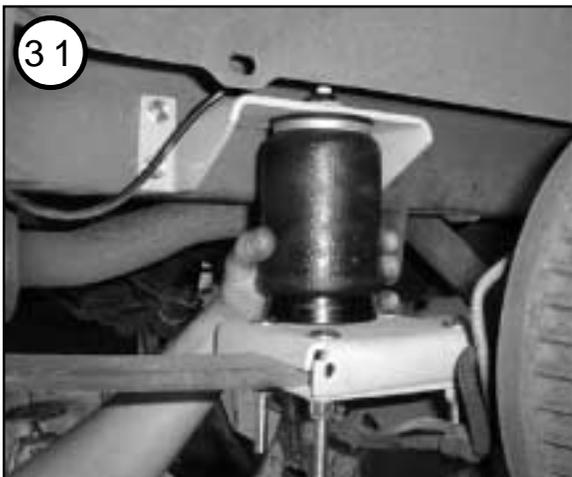
29



- 30 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.

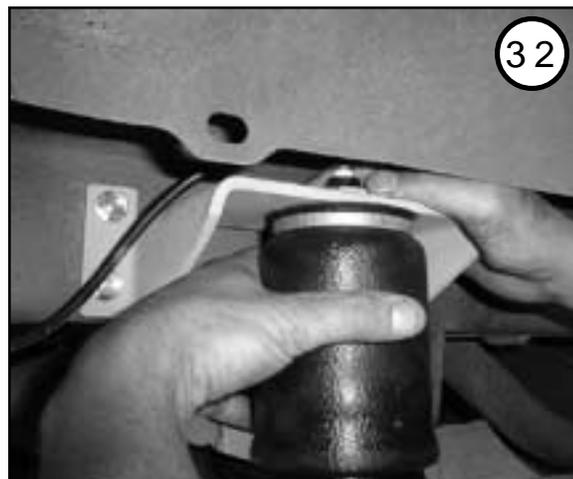


Aligning the Air Spring



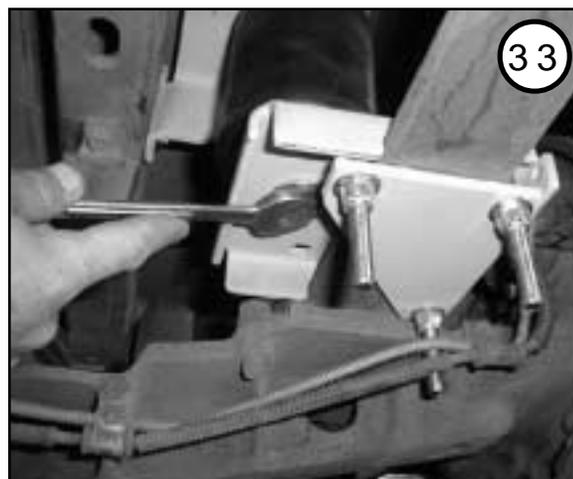
VERY IMPORTANT - With the top and bottom of the air springs still loose, inflate to approximately 10 p.s.i.. Use the slots in the brackets to correctly align the air spring between the upper and lower bracket. This can be accomplished by tapping it inboard or outboard for proper alignment. There should be a symmetrical cushion of air around the base of the air spring when correctly positioned.

Tighten the upper end by holding the pal nut (1-1/6") and turning the air spring by hand. Turn the air spring - not the pal nut. Hand tight is sufficient and will prevent stripping the threads. Do not attempt to hold the air spring with any type of tool.



Tighten the lower mounting bolt (3/4"). Do not attempt to hold the air spring with any type of tool.

**Torque both fasteners to 10 ft. lbs.
DO NOT OVER-TIGHTEN**



Install Other Air Spring

You have now completed the installation for one air spring. Complete steps 1-33 for the other side.

Inflation Decal

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

Checking for Leaks

Inflate the air spring to 60 p.s.i. Spray all connections, fittings and the inflation valves with a solution of 1/3 liquid dish soap and 2/3 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 maintain Normal Ride Height, but never 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 p.s.i.



Fixing Leaks

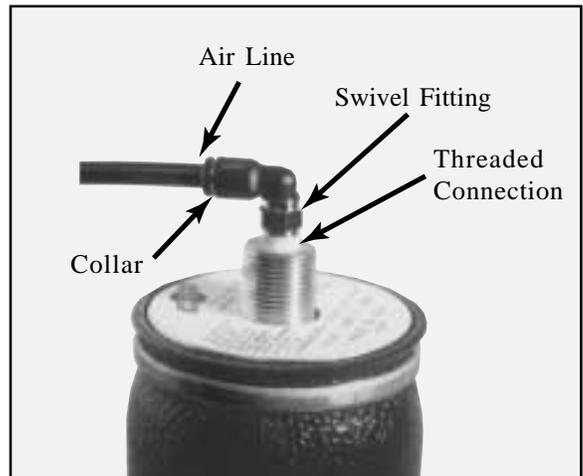
Swivel Fitting

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.

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 two turns.



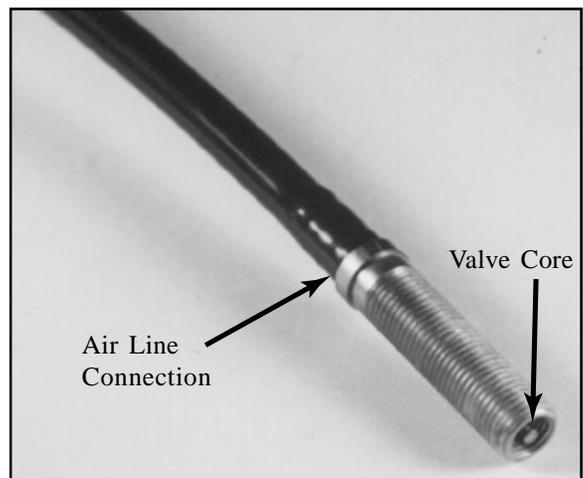
Inflation Valve

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.

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 19 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 was no heat shield, but one is required, call 1-800-248-0892.
- _____ 4. Fastener Test - Recheck all bolts for proper torque.

Torque Guide:

3/8" Frame Bolts 20 ft.-lbs.

U-bolt Lock Nuts 20 ft.-lbs.

Upper and lower mounting Pal Nut/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 18 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 16) 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 adjusted/remounted. If professionally installed, the installer should be consulted. Check all fasteners for tightness.

Maintenance and Operations

MINIMUM AIR PRESSURE

10 psi

MAXIMUM AIR PRESSURE

100 psi

Failure to maintain correct minimum pressure (or pressure proportional to load), bottoming out, overextension, 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 19.)
4. 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., 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



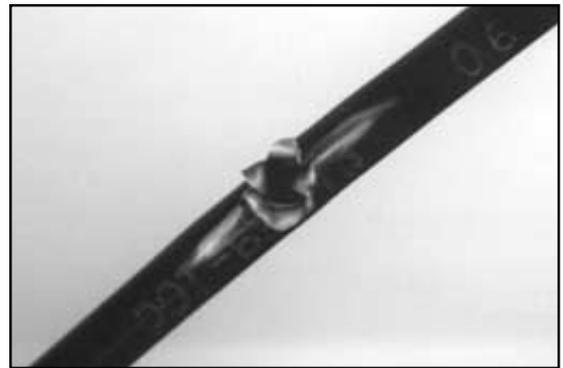
Leak test the air line connections and threaded connection of the elbow into the air spring. See page 16 to repair.



Leak test the inflation valve for leaks at the air line connection or dirt or debris in the valve core. See page 16 for repair.



Inspect air lines to be sure it is not pinched. Tie straps may be too tight. Loosen or replace strap. Replace leaking components.



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



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

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FOR TECHNICAL ASSISTANCE CALL 1-800-248-0892