SUPER DUTY
ADJUSTABLE AIR SPRING SUSPENSION

by AIR LIFT

MN-381
(05002)
ECN 2842

Kits No. 57216 and 57128

Please read these instructions completely before proceeding with installation.
AIR SPRINGS WILL VARY DEPENDING ON WHICH KIT YOU HAVE.

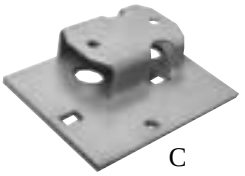
Air Spring Kit Parts List

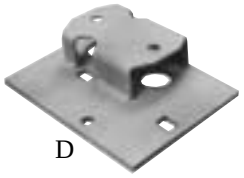
Item	Description	Quantity
A	Air Springs	2
B	Upper Brackets	2
C	Lower Bracket - Left	1
D	Lower Bracket - Right	1
E	Frame Brace	2
F	Heat Shield Kit	1
G	Roll Plates	4


A

Kit # 57216
Double Convolute

Kit # 57128
Single Convolute


C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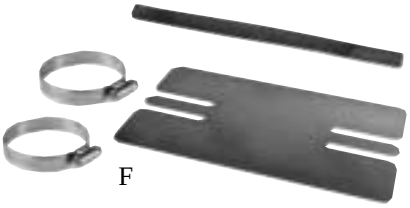
B

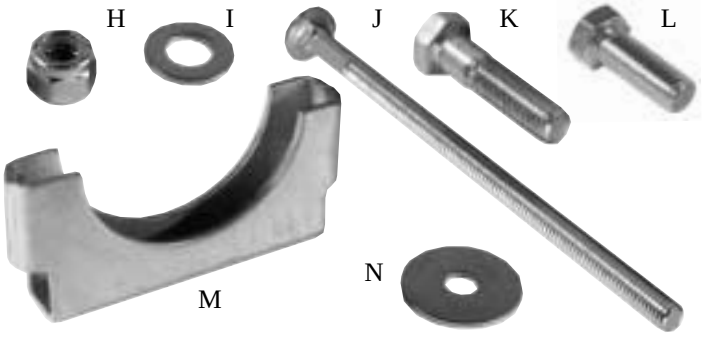

E


F


G

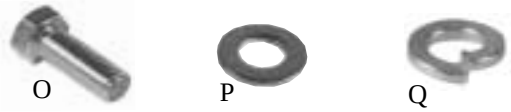
Bracket Attaching Hardware

Item	Description	Quantity
H	3/8” Lock Nuts	12
I	3/8” Flat Washers	16
J	3/8” Carriage Bolts 6”	4
K	3/8” Hex Head Cap Screws 1.5”	8
L	3/8” Hex Head 3/4” Bolts	2
M	Axle Clamps	2
N	3/8” Oversized Flat Washers	6



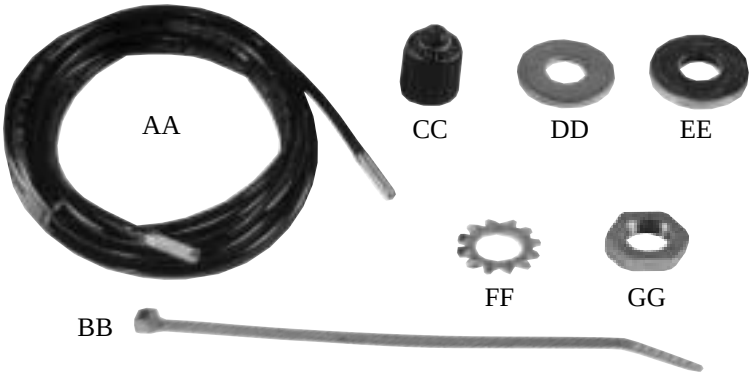
Air Spring Attaching Hardware

Item	Description	Quantity
O	3/8” Hex Head 7/8” Bolts	8
P	3/8” Flat Washers	8
Q	Lock Washers	8



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	Star Washer	2
GG	5/16” Hex Nut	4



Tools Needed

1/2”, 9/16” open-end or box wrenches
Ratchet with 9/16” and 1/2” deep well sockets
3/8” and 5/16” 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

NOTE: This Instruction Manual is for kits 57216 and 57128. The only difference between the two kits is the bellows. The pictures depict a Double Convolute bellow (see page 1), found in kit #57216. But all instructions, vehicle shots and graphics apply to kit #57128 as well, which uses a Single Convolute bellow (see page 1).

Before You Start

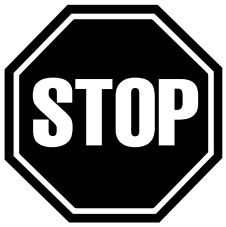
The 57216 kit requires a minimum of 7.25” from the top of the axle to the bottom of the frame rail. Before you begin this installation check to be sure that there is sufficient clearance. If this measurement is less than 7.25”, use kit #57128.

You need to determine Normal Ride Height. 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.

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.

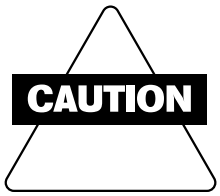
Measure the distance between the center of the hub and the bottom edge of the wheel well. This is the Normal Ride Height. Enter the measurement below:

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 components 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.

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 axle stands under the frame and lower the axle as needed . . .

or . . .

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

or . . .

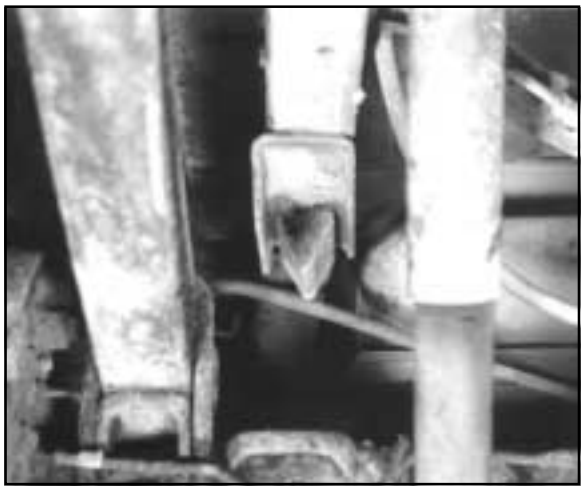
If the vehicle was raised with a jack and supported with axle stands on the frame, use a floor jack to raise the axle.

Your air springs will last much longer if they are not the suspension limiter in either compression or extension. The air spring compresses to 2.8" and extends to 9.1". 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.

Remove Jounce Bumper

1 The jounce bumper and bracket must be removed from the frame rail. It may be bolted or riveted.

JOUNCE BUMPER BRACKET - BOLTED



JOUNCE BUMPER BRACKET - RIVETED

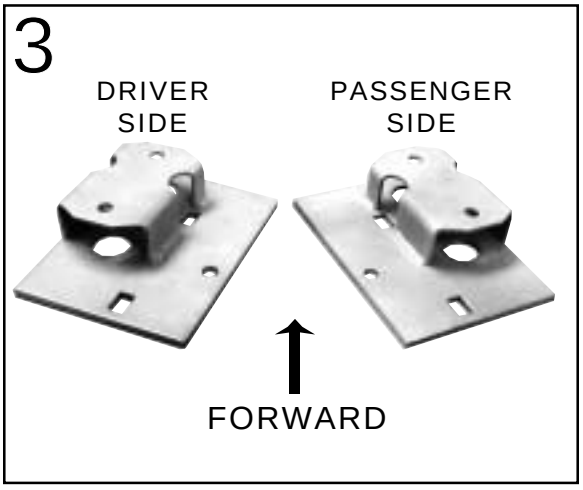
2 If the bracket is riveted to the frame rail, it can be removed by any of the following methods.

Center punch/drill out the rivets

Chisel or grind off

Cut off with a torch

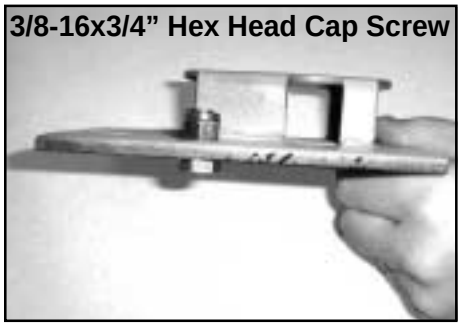
Assembling Air Spring Unit



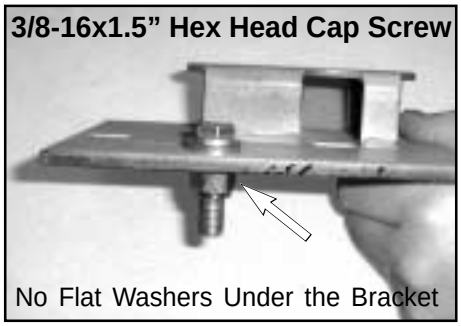
The lower brackets are designated “Left” and “Right” indicated by “L” or “R” on the bracket. “L” for the driver side (C) and “R” for the passenger side (D).

It will be necessary to use the provided 3/4” hex head cap screw (L) or 1.5” hex head cap screw (K), three flat washers (N) and a 3/8” lock nut (H) as a spacer so the lower bracket will sit flat on the axle housing/jounce bumper pad. Use one of the following stack ups depending on the height of the jounce bumper pad off the axle housing.

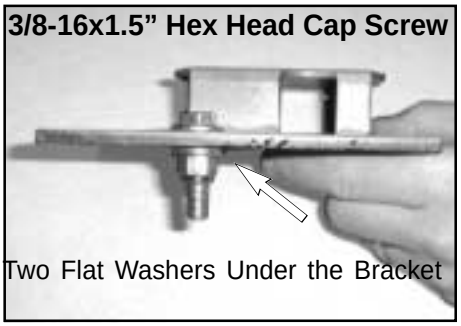
4



1/2 and 3/4 Ton Trucks and Some 1 Ton with Single Rear Wheels



Most 1 Ton Single Rear Wheel and some Dual Rear Wheel 1 Ton Trucks.



Most Dual Rear Wheel 1 Ton Trucks.

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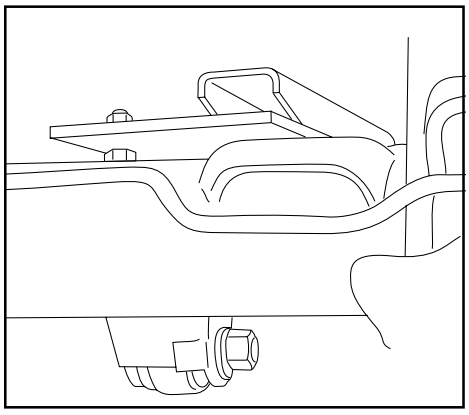
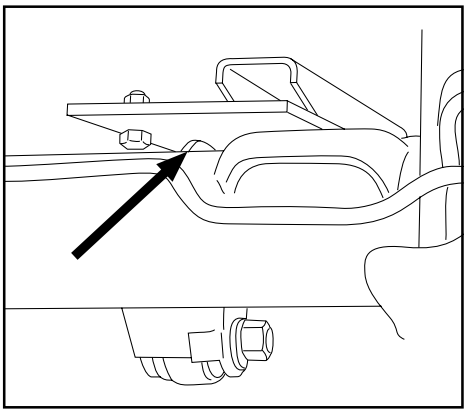
Set the lower bracket on the axle housing and determine the appropriate spacer stack up.

5

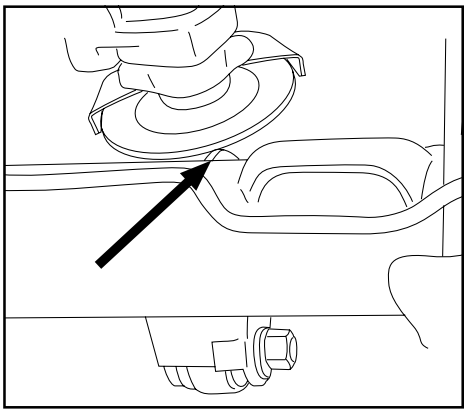
Due to manufacturing tolerances the shock mounting bracket may stop the lower bracket from sitting completely flat on the axle housing/jounce bumper pad. This may only occur on one side of the vehicle.



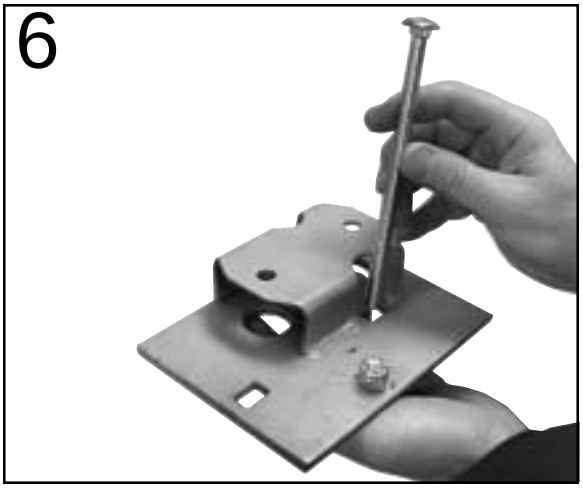
The spacer must sit flat on the axle.



If the spacer does not touch the axle housing, it will be necessary to trim the shock mount bracket.

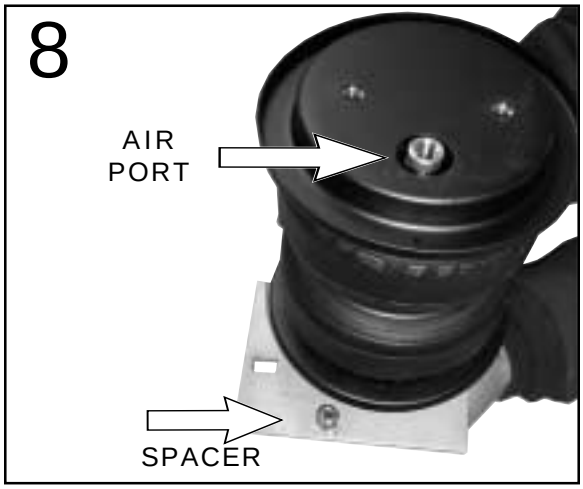


Use a grinder to trim the shock bracket until it is flat with the top of the axle housing.

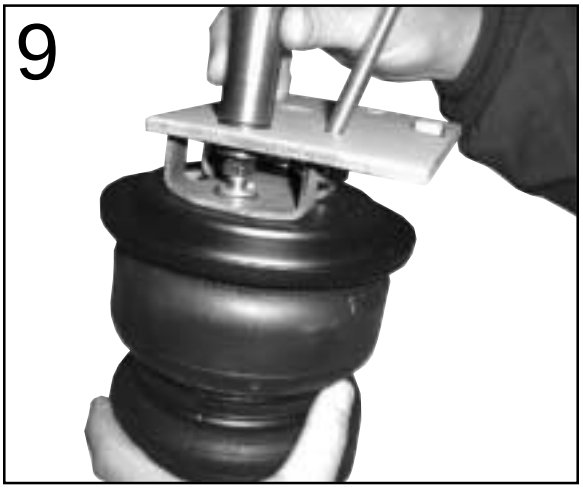


Insert one carriage bolt (J) into the forward hole of the lower bracket (C).

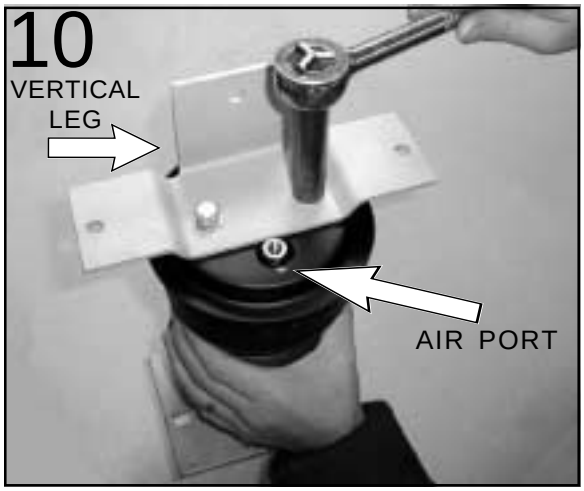
Set a roll plate (G) on both ends of the air spring (A). **NOTE: 57128 does not require roll plates.**



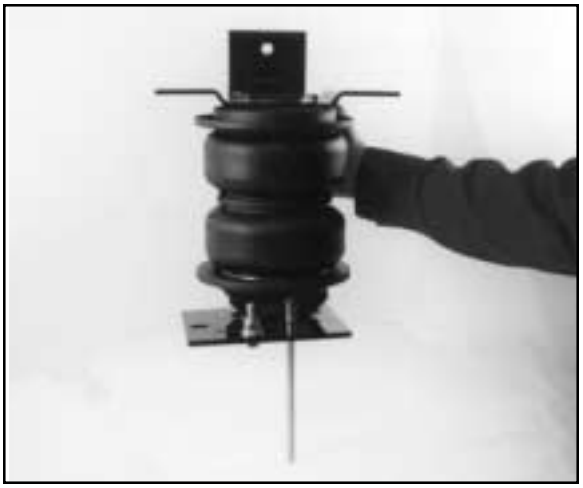
The spacer assembly on the lower bracket must be positioned on the same side as the air port on the top of the air springs.



Attach the lower bracket (C) to the air spring (A) with 3/8” hex head cap screws 7/8” (O), lock washers (Q) and 3/8” flat washers (P).



Attach the upper bracket (B) to air spring (A) with 3/8” hex head cap screws 7/8” (O), lock washers (Q) and 3/8” flat washers (P). Be sure that the tall, vertical leg of the upper bracket is opposite the air fitting port.



This is a completed Driver Side assembly. Assemble the Passenger Side in the same manner.

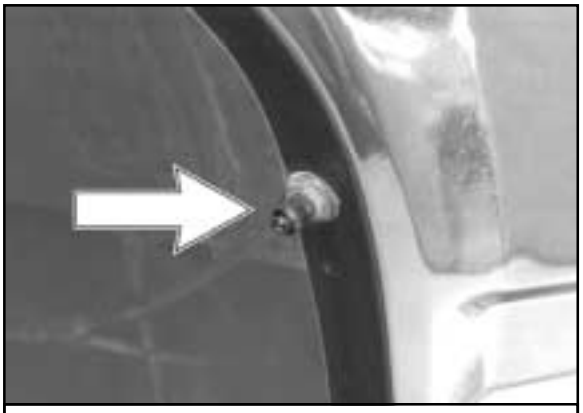
Installing the Air Lines

THE AIR LINE MUST BE INSERTED INTO THE AIR SPRING AIR FITTING OR "T"

11

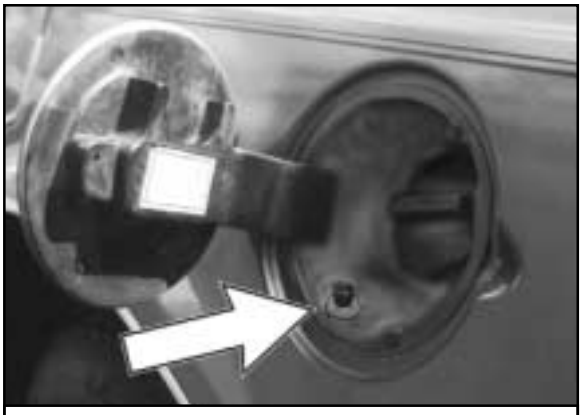
Choose a convenient location for mounting the inflation valves. Make sure there is enough clearance around the inflation valves for an air chuck. Drill a 5/16" hole to install the inflation valves.

Popular locations for the inflation valve are:



- The wheel well flanges

- License plate recess in the bumper



- Under the gas cap access door

- Through the license plate itself.

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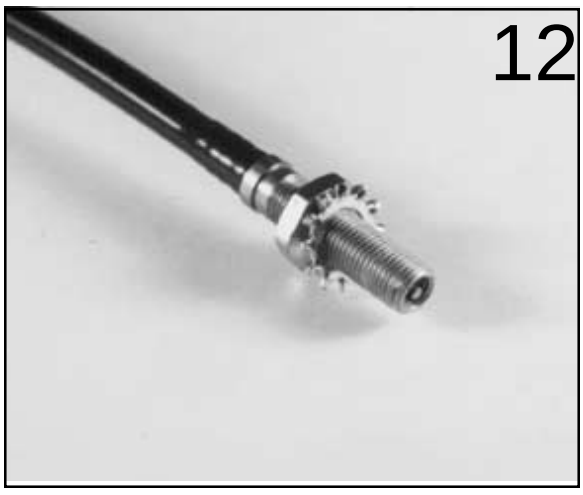
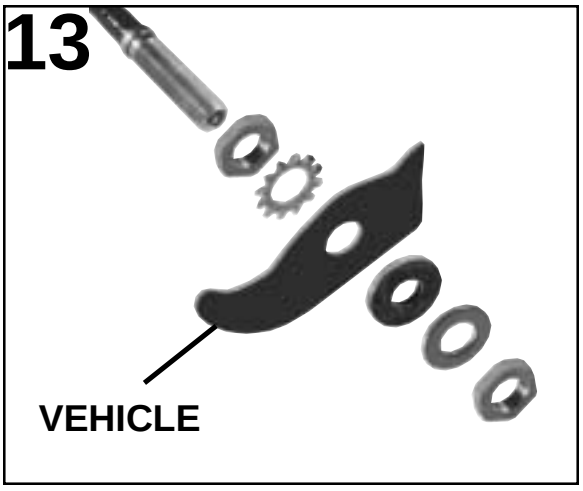
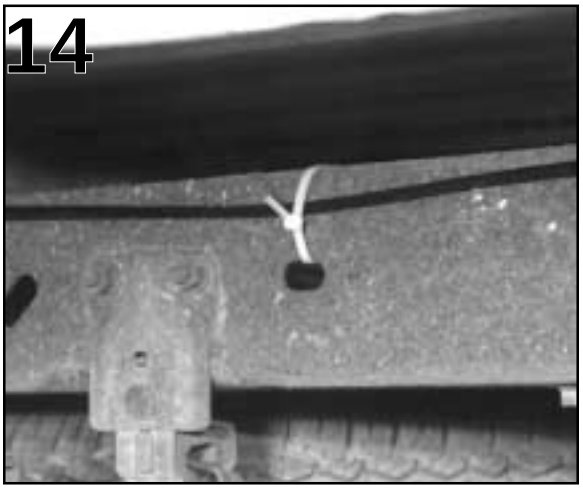
Place a 5/16" nut (GG) and a star washer (FF) on the air valve. Leave enough of the inflation valve in front of the nut to extend through the hole and have room for the rubber washer (EE), flat washer (DD), and 5/16" nut (GG) and cap (CC). There should be enough valve exposed after installation - approximately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

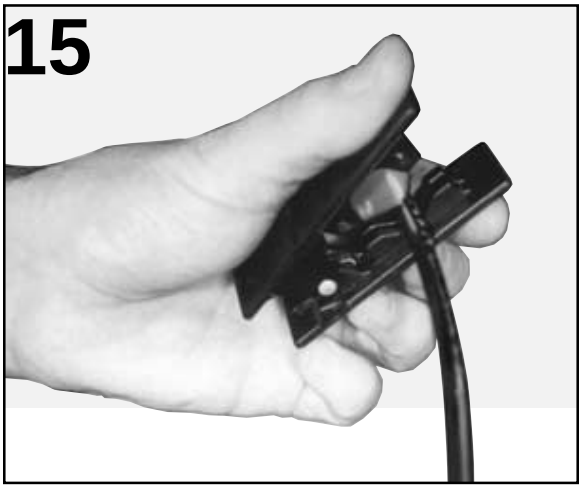




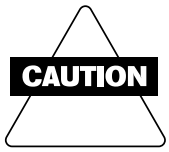
Push the INFLATION valve through the hole and use the rubber washer (EE), flat washer (DD) and another 5/16” (GG) nut to secure it in place. Tighten the nuts to secure the assembly in place.



Route the air line along the frame to 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. Trim the excess air line before inserting it into the elbow fitting.



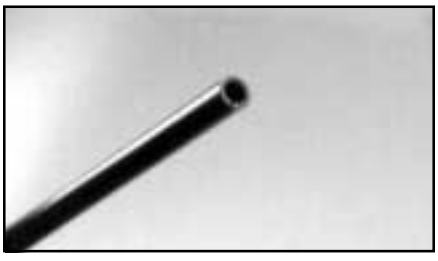
Cut the air line assembly (AA) in two equal lengths.



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

Do not use wire cutters or scissors to cut the air line. These tools may flatten or crimp the air line, causing it to leak around the O-ring seal inside the elbow fitting.

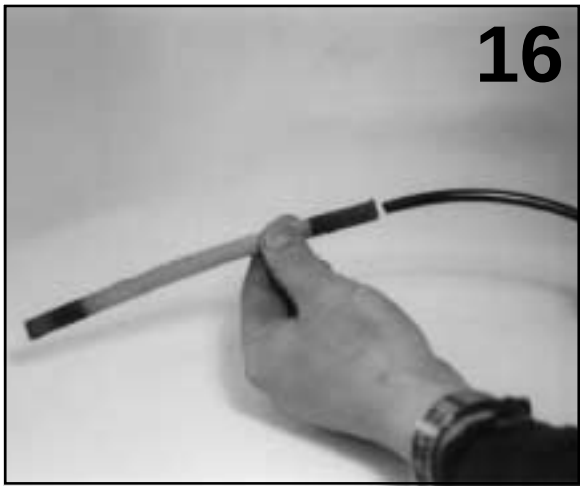
Bad cut - flattened



Good cut - clean and square

Using a standard tube cutter, a razor blade, or very sharp knife to cut the air line. Cut off air line leaving approximately 12 inches of extra air line. A clean square cut will ensure against leaks.

PASSENGER SIDE ONLY - Place the provided thermal sleeve on the air line near the exhaust.



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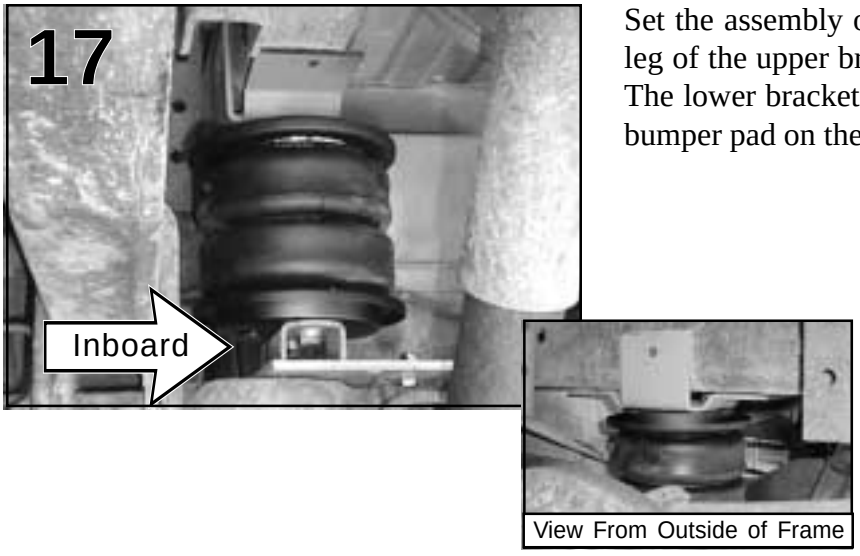
Attaching Lower Bracket



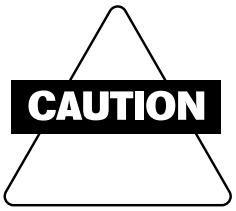
Set the assembly on the axle with the tall, wide vertical leg of the upper bracket on the outside of the frame rail. The lower bracket spacer sets just inboard of the jounce bumper pad on the axle housing.

On some models it may be necessary to pry the brake line slightly away from the axle so the axle clamp does not pinch the brake line.

Insert the rear carriage bolt (J) and attach the lower bracket to the axle housing with the axle clamp (M), flat washers (I) and lock nuts (H).

Attaching Upper Bracket

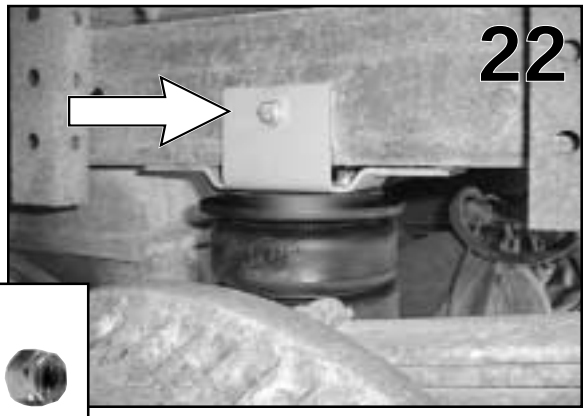
Align the air spring vertically and horizontally and clamp the upper bracket to the frame rail using a pair of vise grips or a C-clamp.

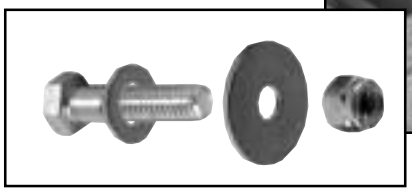


Before drilling, check both sides of the frame to see if brake lines, gas lines, or other features will have to be moved before you drill the upper bracket holes. Always check the back side of any surface to be drilled.

Using the bracket as a template, center punch and drill a 3/8” hole through the outboard side of the frame rail and upper bracket.

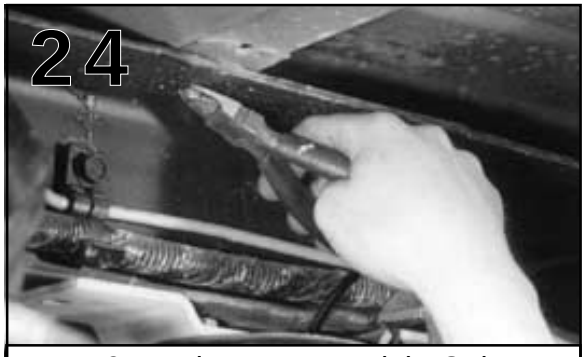
Now install one 1.5” hex head cap screw (K), one flat washers (I), one oversized flat washer (M) and lock nut (H). Torque to 20 ft. lbs. LEAVE CLAMP IN PLACE.





DO NOT USE THE EXISTING JOUNCE BUMPER HOLES IN THE FRAME RAIL Use the holes in the upper bracket as a template along the bottom of the frame rail and center punch and drill two 3/8” holes through the holes in the upper bracket. DO NOT ATTACH TO THE FRAME RAIL AT THIS TIME, Remove the clamp or vise grips.

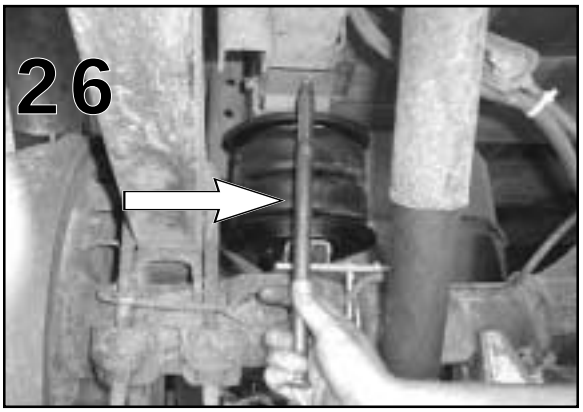
Installing Frame Brace



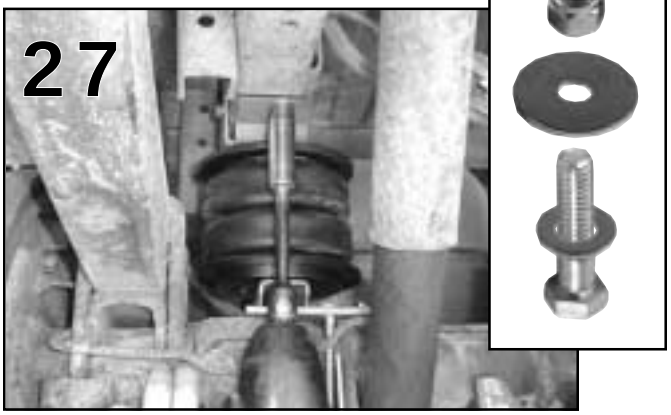
‘97 and Newer Models Only

It may be necessary to cut/trim off the plastic locator studs (on ‘’97 and newer models) before installing the frame brace.

Install the frame brace (E) with the access holes toward the bottom of the frame rail. This is a tight fit and may require tapping with a hammer or mallet.



Align the access holes with holes already drilled in the bottom of the frame. Using a large screw driver or punch through the already drilled hole, push the frame brace forward or backwards until the holes are aligned.

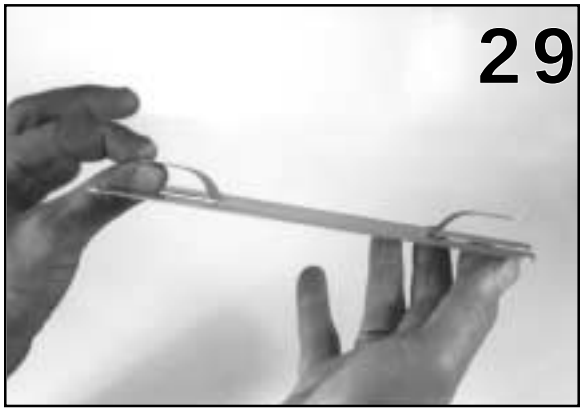


Install two 1.5” hex head cap screw (K) , flat washer (I), one oversized flat washer (N) and lock nuts (H). Hold the lock nut with a 9/16 open end wrench through the access holes and tighten the hex head cap screw. Torque to 20 ft. lbs.

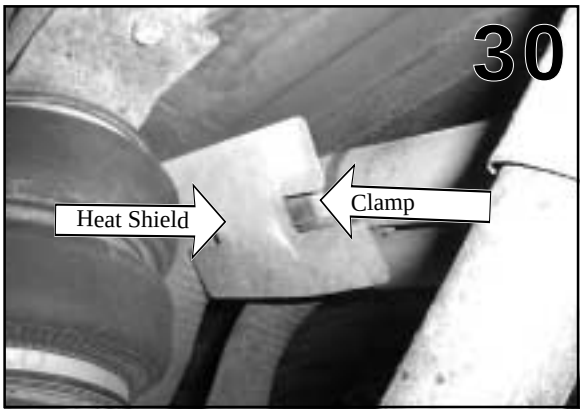
Install the air fitting into the bellows. The threads are precoated with sealant. Install finger tight plus two turns. Do not over tighten. Insert the air line into the air fitting. This is a push to connect fitting. Simply push the air line into the fitting until it bottoms out **(5/8” of air line should be in the fitting)**. Maintain a smooth bend from the air spring. **Do not kink the air line.**

Installing Heat Shield

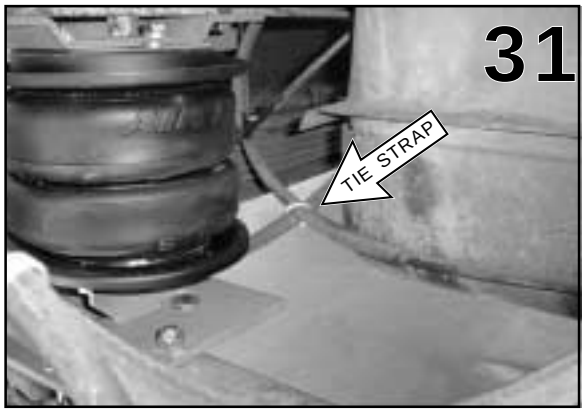
Bend tabs to provide a 1/2” dead air space between exhaust pipe and heat shield .



Attach the heat shield (F) to the exhaust pipe using the provided clamps. Bend the heat shield for maximum clearance to the air spring.



Driver Side - It will be necessary to secure the emergency brake cable away from the air spring to prevent it from rubbing. Use the provided tie straps (BB).



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.

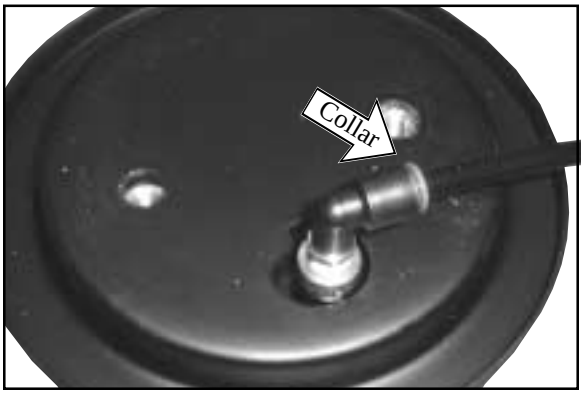
Checking for Leaks

Inflate the air spring to 60 p.s.i. Spray all connections and the inflation valves with a solution of 1/3 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 tests, deflate the springs to the minimum pressure required to restore the Normal Ride Height, but never less than 5 p.s.i.

IMPORTANT

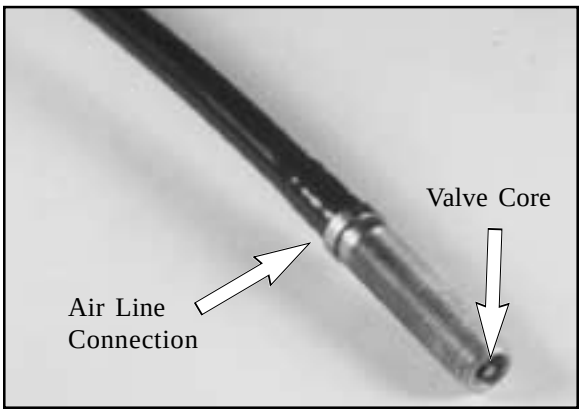
Check the air pressure again after 24 hours. A 2 to 4 p.s.i. loss after initial installation is normal. Retest for leaks if the loss is more than 5 lbs.

Fixing Leaks



Air Line Connection

Deflate the spring and remove the line by pushing the collar against the fitting and pulling the air line straight out. Trim 1” off the end of the air line. Be sure the cut is clean and square. Reinsert the air line into the push-lock fitting.



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 air spring 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 14 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.

_____ 4. Fastener Test - Recheck all bolts for proper torque.

Torque Guide:

3/8" Frame Bolts	20 ft.-lbs.
Carriage Bolt Lock Nuts	20 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 the 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 16 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 14) 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 or remounted. If professionally installed, the installer should be consulted. Check all fasteners for tightness.

Maintenance and Operation

MINIMUM AIR PRESSURE	MAXIMUM AIR PRESSURE
5 psi	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 should obtain the longest life and best results from their air springs.

1. Check the air pressure in the air springs 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 14)

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 or the manufacturers specification plate usually found on the inside door jamb, and do not exceed the maximum load listed for your vehicle.

6. Always add air to springs in small quantities, checking the pressure frequently. Air springs 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.**

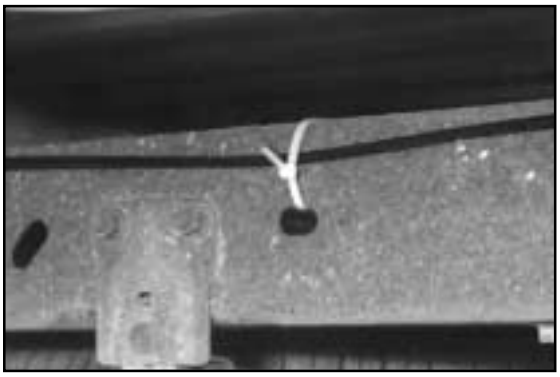
Troubleshooting Guide

1. Problems maintaining air pressure

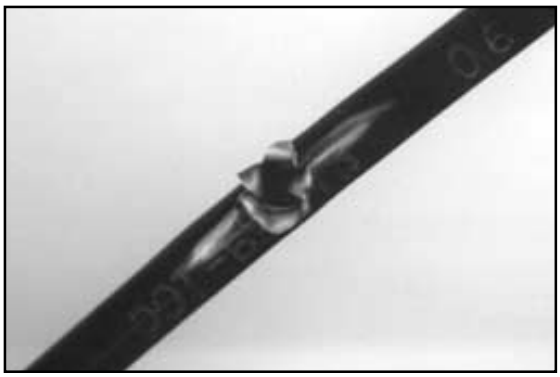
WITHOUT ON-BOARD COMPRESSOR

Leak test the air line connections and threaded connection of the elbow into the air spring. See page 14 to repair.

Leak test the inflation valve for leaks at the air line connection or dirt or debris in the valve core. See page 14 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 most likely a failed 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.

Notes

You may find this space useful for recording information about your system (i.e. weekly pressure readings). Also record any information from your installer or Air Lift technical assistance personnel.

Thank you for purchasing Air Lift Products

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