

SUPER DUTY

ADJUSTABLE AIR SPRING SUSPENSION

by
AIR LIFT

MN-302
(01010)
NPR 3286

Kit No. 57132, 2WD Excursion

Please read these instructions completely before proceeding with installation

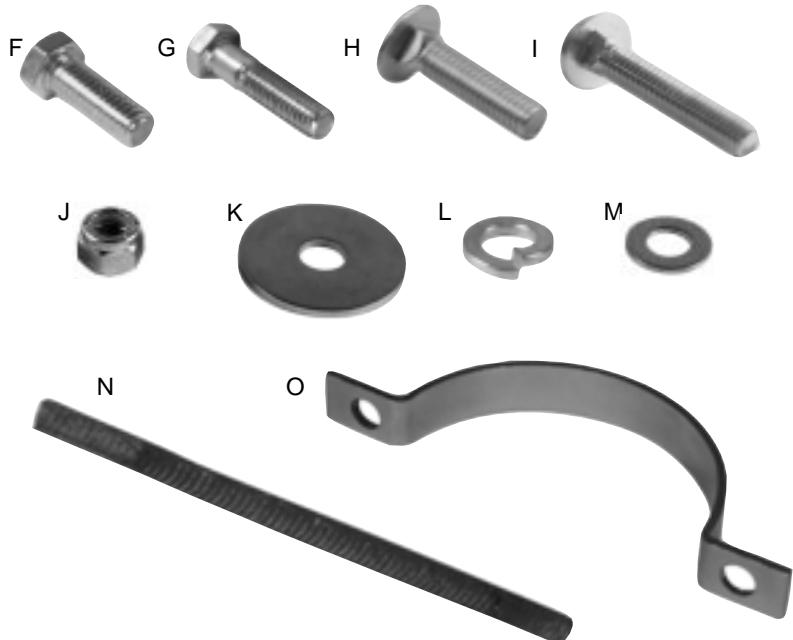
AIR SPRING KIT PARTS LIST

Item	Description	Quantity
A	Air Sleeves	2
B1	Upper Bracket-Driver Side	1
B2	Upper Bracket-Passenger Side	1
C	Lower Brackets	2
D	Roll Plate	2
E	Elbow Fitting	2



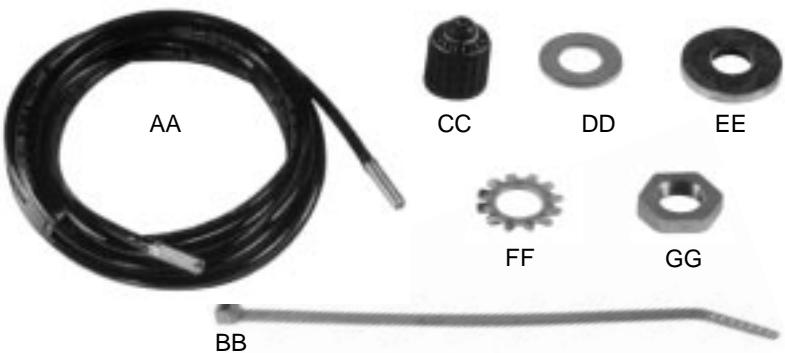
ATTACHING HARDWARE

Item	Description	Quantity
F	3/8" x 7/8" HHCS	8
G	3/8" x 1.5 HHCS	1
H	3/8" x 2" Carriage Bolt	2
I	3/8" x 2.5" Carriage Bolt	8
J	3/8" Nylock Nut	11
K	3/8" Large Flat Washer	2
L	3/8" Lock Washer	8
M	3/8" Flat Washer	13
N	Thermal Sleeve	1
O	Axle Strap	4



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

$\frac{5}{16}$ ", $\frac{7}{16}$ ", $\frac{9}{16}$ " open-end or box wrenches	Hose Cutter, Razor Blade, or Sharp Knife
Crescent Wrench	Hoist or Floor Jacks
Ratchet with $\frac{9}{16}$ ", metrics, and $\frac{1}{2}$ " deep well sockets	Safety Stands
$\frac{3}{8}$ " and $\frac{5}{16}$ " drill bits (very sharp)	Safety Glasses
Heavy Duty Drill	Air Compressor, or Compressed Air Source
Torque Wrench	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.
 - 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 (see Figure 1). This is the Normal Ride Height. Enter the measurement below:

NORMAL
RIDE HEIGHT: _____ inches



Figure 2



Figure 3



Figure 4

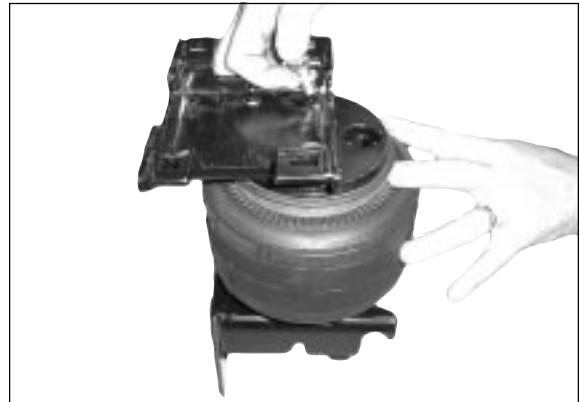


Figure 5

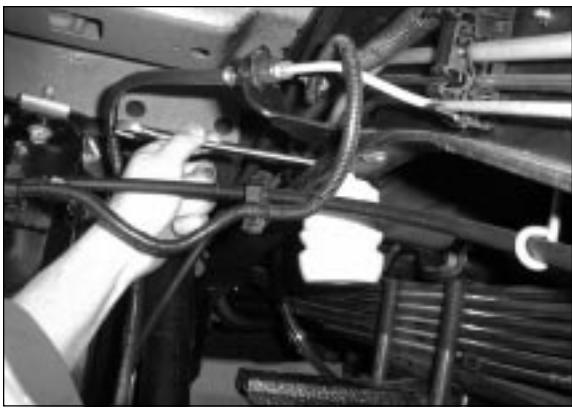


Figure 6



Figure 7



Figure 8

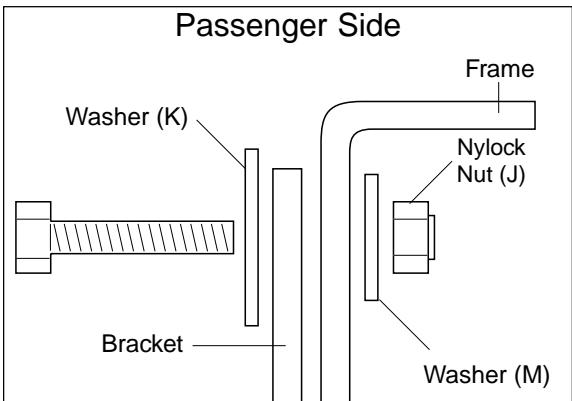


Figure 9

III. LOWERING THE SUSPENSION

1. Remove the jounce bumper (Figure 6). The bellows will mount in place of the jounce bumper.
2. On the Driver Side only, unbolt the emergency brake cable. Remove the Nut and cable bracket and pull the cable loose from the frame (Figure 7). Hold onto fasteners so that the cable bracket can be reattached later.
3. Lower the suspension so that clearance is provided to install the air spring unit. Do this by lowering the axle or raising the frame.
 - a. If the vehicle is raised with an axle contact hoist, then place axle stands under the frame and lower the axle as needed.
 - b. If the vehicle is raised with a frame contact hoist, then place axle stands under the axle and raise the frame as needed.
 - c. If the vehicle is raise with a jack and supported with axle stands on the frame, then use a floor jack to lower the axle.

IV. ATTACHING THE UPPER BRACKET

NOTE: The unit previously assembled will be installed on the driver side of the vehicle.

1. Set the assembly in place by inserting the carriage bolt up through the jounce bumper hole. The bracket fits flush against the outside of the frame.

CAUTION: Make sure that the emergency brake cable is not caught between the upper bracket and frame.

2. Insert the existing emergency brake cable bolt through the frame and slot in the upper bracket (Figure 8). Install a large washer (K) over the bolt and push it against the upper bracket (Figure 8). Install the emergency brake line bracket back in place and finish by installing the OEM nut to the outside. Leave loose at this time.

NOTE: The Passenger Side will use bolt (G), large washer (K) on the outside of the frame, washer (M) on the inside of the frame, and nut (J) to attach the upper bracket to the existing hole on the side of the frame (Figure 9).

4. Install nut (J) and washer (M) on to the carriage bolt that was inserted through the jounce bumper bracket hole (Figure 10).
5. Raise the axle or drop the body to the normal ride height recorded on page three.
6. Align the upper bracket forward or back, ensuring that the upper and lower brackets are lined up evenly with the bellow (Figure 11).
7. Tighten the upper bracket mounting hardware to 15 ft-lbs.

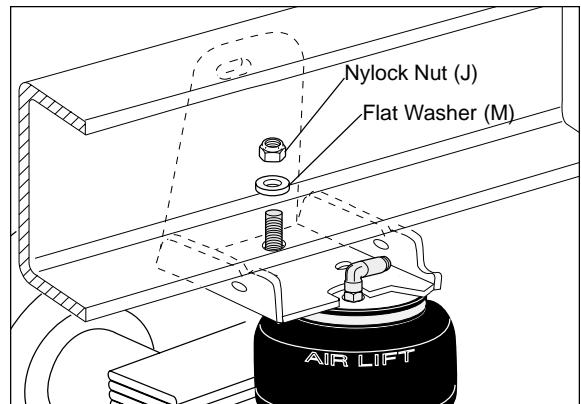


Figure 10

V. ATTACHING THE LOWER BRACKET

1. In a similar fashion to the upper bracket alignment, carefully move the bottom bracket inward and outward so as to align it to the bellows and upper bracket.
2. Attach the axle straps (O) to the lower brackets using washers (M) and nylock nuts (J). Refer to Figure 12.
CAUTION: It may be necessary to slightly bend the brake lines so that they do no rub on the carriage bolts (Figure 13).
3. Tighten the nuts evenly. Torque to 16 ft-lbs.

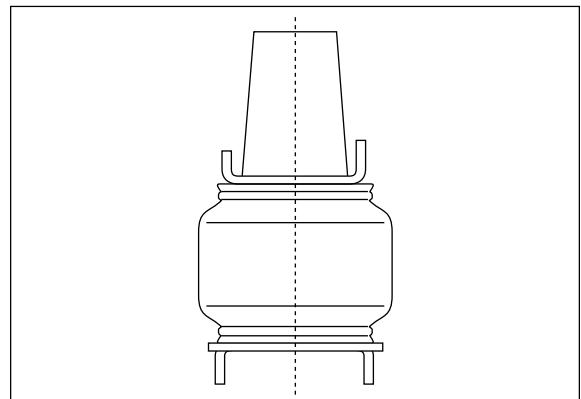


Figure 11

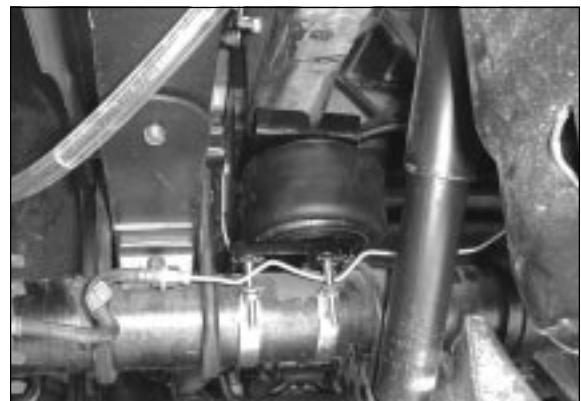


Figure 12



Figure 13

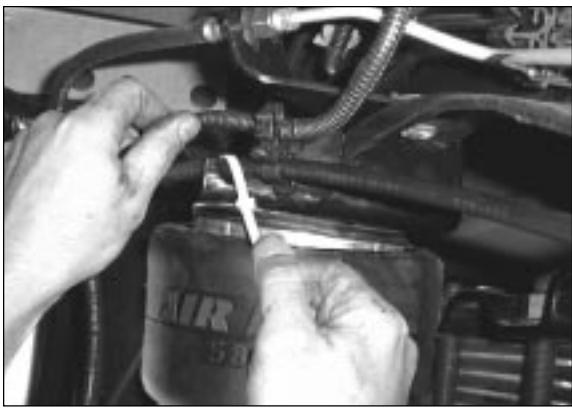


Figure 14



Figure 15



Figure 16

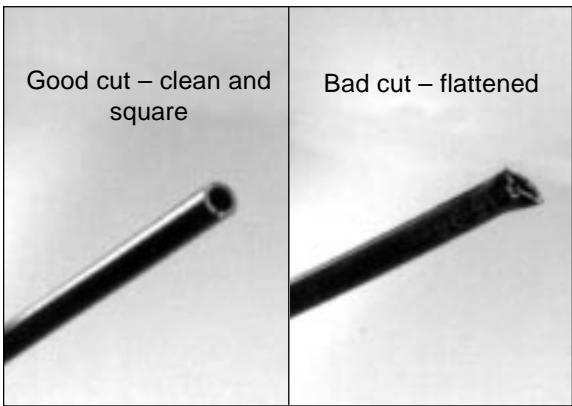


Figure 17a

Figure 17b

VI. FINISHING THE ASSEMBLY INSTALLATION

1. For the Driver Side emergency brake cable only:

Set the emergency brake cable into the hook on the driver side and install a cable tie to keep the cable from chaffing on the bellows (Figure 14). See Figure 15 for finished installation photo.

2. Return to section II, step 1 and repeat entire installation procedures for the passenger side. It will be unnecessary to lower the suspension for the passenger side installation, as it should already be lowered.

3. After both sides are installed, continue by installing the air lines.

VII. 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: Whatever 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 16).

CAUTION: When cutting or trimming the air line, use a hose cutter, a razor blade or a sharp knife. A clean, square cut will ensure against leaks. (Figure 17a). 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 17b).

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 18).



Figure 18

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 19).

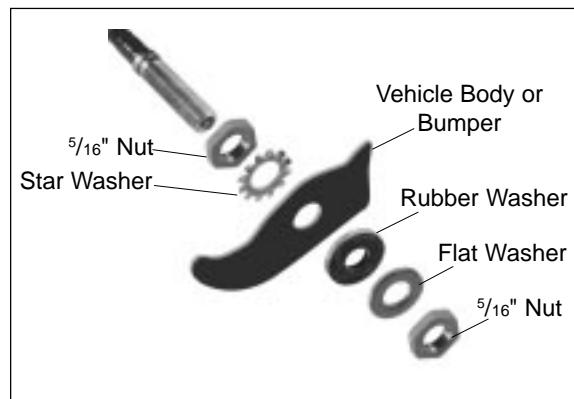


Figure 19

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 20).

7. Cut off air line leaving approximately 12" of extra air line. A clean square cut will ensure against leaks. Insert the air line into the air fitting. This is a push to connect fitting. Simply push the air line into the 90° swivel fitting until it bottoms out ($\frac{9}{16}$ " of air line should be in the fitting).



Figure 20

VIII. CHECKING FOR LEAKS

1. Inflate the air spring to 30 p.s.i.
2. Spray all connections and the inflation valves with a solution of $\frac{1}{5}$ liquid dish soap and $\frac{4}{5}$ water to check for leaks. You should be able to spot leaks easily by looking for bubbles in the soapy water.
3. After the test, deflate the springs to the minimum pressure required to restore the Normal Ride Height, but not less than 10 p.s.i.
4. **IMPORTANT:** Check the air pressure again after 24 hours. A 2 to 4 p.s.i. loss after initial installation is normal. Retest for leaks if the loss is more than 5 lbs.

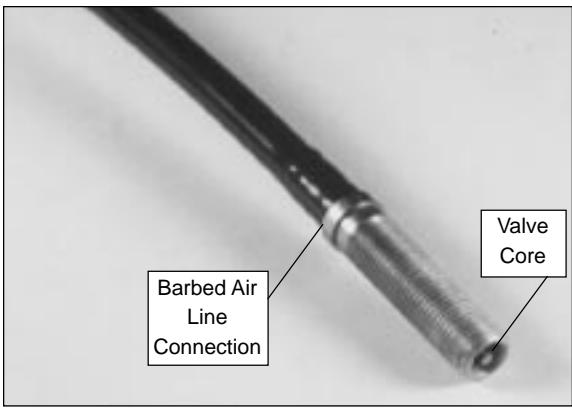


Figure 21

IX. FIXING LEAKS

1. If there is a problem with the swivel fitting, then:
 - a. Check the air line connection by deflating the spring and removing the line by pulling the collar against the fitting and pulling firmly on the air line. Trim 1" off the end of the air line. Be sure the cut is clean and square. Reinsert the air line into the push-to-connect fitting.
 - b. Check the threaded connection by tightening the swivel fitting another $\frac{1}{2}$ turn. If it still leaks, deflate the air spring, remove the fitting, and re-coat the threads with thread sealant. Reinstall by hand tightening as much as possible, then use a wrench for an additional two turns.
2. If there is a problem with the inflation valve, then:
 - a. Check the valve core by tightening the 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.

X. TROUBLESHOOTING GUIDE

Problems maintaining air pressure, without on-board compressor.

1. Leak test the air line connections and threaded connection of the elbow into the air spring. See Section IX to repair.
2. Leak test the inflation valve for leaks at the air line connection or dirt or debris in the valve core (Figure 22). See Section IX for repair.
3. Inspect air lines to be sure it is not pinched. Tie straps may be too tight. Loosen or replace strap. Replace leaking components (Figure 23).
4. Inspect air line for holes and cracks (Figure 24). Replace as needed.
5. A kink or fold in the air line (Figure 25). 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

XI. CHECKLIST

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

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

- 1. Clearance Test - Inflate the air springs to 60 p.s.i. and ensure there is at least 1/2 " clearance around each sleeve from anything that might rub against them. Be sure to check the tire, brake drum, frame, shock absorbers and brake cables.
- 2. Leak Test Before Road Test – Inflate the air springs to 60 p.s.i., check all connections for leaks with a soapy water solution. See pages 7-9 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:

3/8 " Frame Bolts	16 ft-lbs
U-bolt Lock Nuts	16 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 8-9) 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.

XII. MAINTENANCE AND OPERATIONS

Minimum Air Pressure	Maximum Air Pressure
5 p.s.i.	100 p.s.i.
<i>Failure to maintain correct minimum pressure (or pressure proportional to load), bottoming out, 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.
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.*



Thank you for purchasing Air Lift Products

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