SuperDuty

by AIR LIFT

www.airliftcompany.com

MN-505
(01201)
NPR 3733

Kit No. 57154

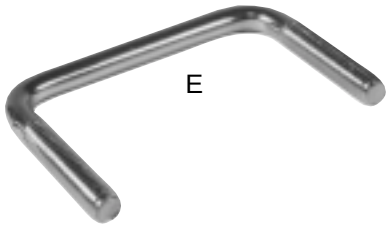
Please read these instructions completely before proceeding with installation

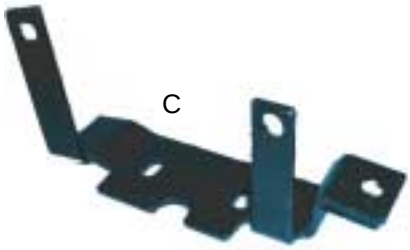
Parts List

Item	P/N	Description	Quantity
A	58407	Air Spring	2
B	07465	Upper Bracket L.H.	1
C	07466	Upper Bracket R.H.	1
D	03430	Lower Bracket	2
E	10594	U-Bolt	2
F	01475	Clamp Bar	2
G	17108	3/8"-16 x 1.5 Bolt	4
H	18435	Nylock nut	4
I	18447	3/8" Flat Washer	4
J	18444	3/8" SAE Flat Washer	12
K	17203	3/8"-24 x 7/8" Bolt	8
L	18427	3/8" Lock Washer	8
M	21839	Straight Fitting	2
AA	20086sub	Air Line Assembly	1
BB	10466	Tie Strap	6
CC	21230	Valve Cap	2
DD	18405	5/16" Flat Washer	2
EE	21234	Rubber Washer	2
FF	18411	Star Washer	2
GG	21233	5/16" Hex Nut	4


A


D


E

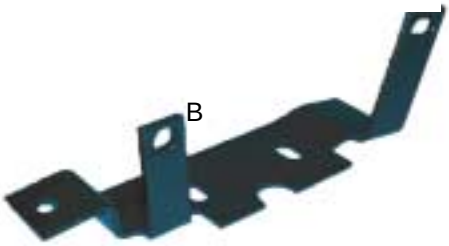

C


G


J


I


F


B


K


L

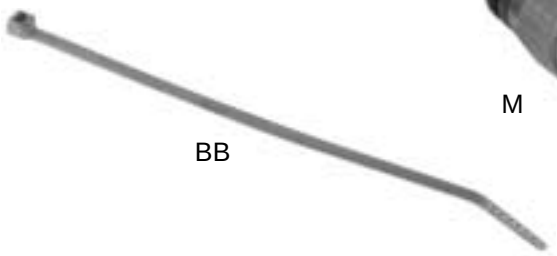

H


M


CC

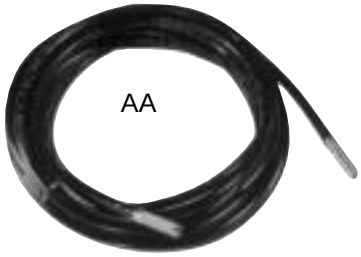

FF


DD


BB


GG


EE


AA

Tools Needed

1/2", 9/16" open-end or box wrenches
Crescent Wrench
Ratchet with 9/16" and 1/2" deep well sockets
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

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

Figure 2

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 2). This is the Normal Ride Height. Enter the measurement below:

   NORMAL
   RIDE HEIGHT: _____ inches

II.Assembling the Air Spring

1. Loosely attach the driver side upper bracket (B) to the air spring with two 3/8"-24 x 7/8" bolts (K), lockwashers (L), and flat washers(J). (Figure 4)

2. There are driver and passenger side units. Attach the air spring to the inboard holes of the lower bracket with the vertical flange of the upper bracket outboard. (Figure 3)

3. With the “hook” of the lower bracket forward, the vertical legs of the upper bracket outboard, attach the lower bracket to the air spring in the inboard holes. The vertical legs of the upper bracket must be oppsite the lower bracket attaching holes. (Figure 4)

4. Secure the lower bracket (D) to the air spring with two 3/8"-24 x 7/8" hex head bolts (K), lockwahsers (L) and flat washers (J). Torque to 20 ft. lbs.

III. Installing the Assembly

1. Remove the rear jounce bumper bracket bolt. This bolt will be reused to attach the upper bracket.

2. Loosen the front jounce bumper bracket bolt. Do not remove this bolt.

3. Set the air spring assembly on the leaf spring behind the axle, with the “hook” of the lower bracket around the rear u-bolt. Using the slots in the upper bracket adjust the upper bracket to the frame rail and tighten the front bolt. Remove the assembly and tighten the rear bolt. Torque to 10 ft. lbs. (Figure 5)

4. Set the assembly back in place on the leaf spring. Place the forward tab of the upper bracket between the frame rail and the jounce bumper bracket. Loosely attach the brackets using the original jounce bumper bracket hardware.

5. Attach the upper bracket to the outside of the frame rail. Loosely install two 1.5” hex head bolts (G), 3/8" flat washers (J), oversized flat washers (I) and 3/8" lock nuts (H) through exisiting holes in the frame. Be sure the oversized flat washers are on the inside of the frame rail. Tighten all mounting hardware secuerly.

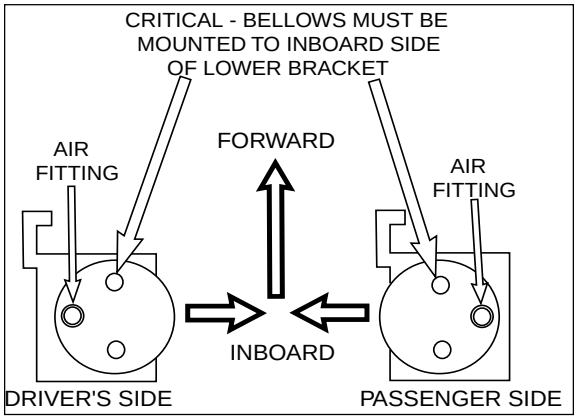


Figure 3

Figure 4

Figure 5

Figure 7

Figure 8

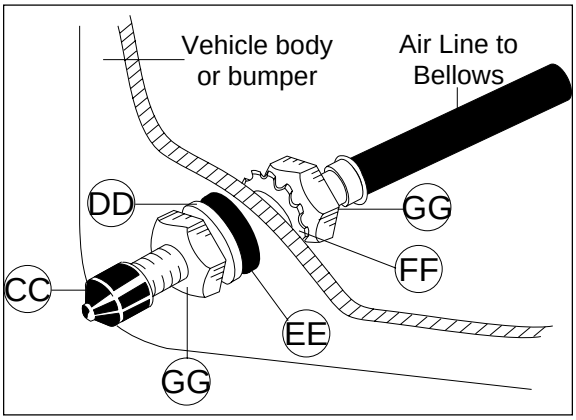


Figure 9

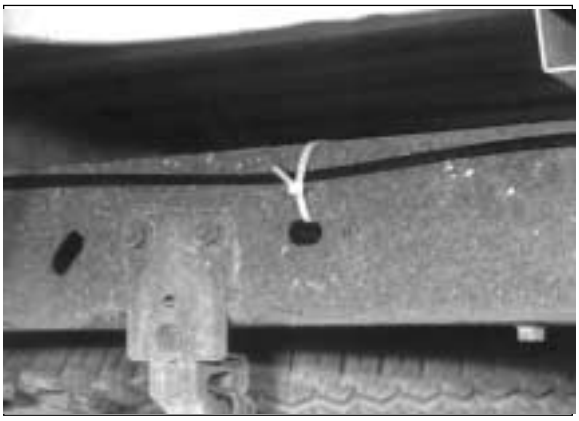


Figure 10

6. Insert u-bolt (E) down through the holes in the bracket. Slide the clamp bar (F) over u-bolt. Install two $^{3}/_{8}$" nylocks nuts (H). Torque to 16ft.lbs. (Figure 7)

7. Install air fitting (M) into bellows. Finger tight plus $1^{1}/_{2}$" turns.

IV. Installing the Air Lines

1. Choose a convenient location for mounting the inflation valves. Popular locations for the inflation valve are: the wheel well flanges, the license plate recess in bumper, under the gas cap access door, or through license plate itself.

   NOTE: What ever the chosen location is, make sure there is enough clearance around the inflation valves for an air chuck.

2. Drill a $^{5}/_{16}$" hole to install the inflation valves.

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

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

4. 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 (Figure 9).

5. Push the inflation valve through the hole and use the rubber washer (EE), flat washer (DD), and another $^{5}/_{16}$" nut (GG) to secure it in place. Tighten the nuts to secure the assembly in place (Figure 9).

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.

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 straight fitting until it bottoms out ($^{9}/_{16}$" of air line should be in the fitting).

V. 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 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. (Figure 11)

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 11

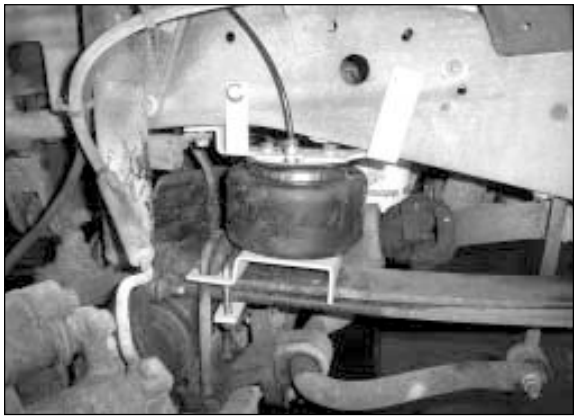


Figure 12

VI. 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 1/2 turn. If it still leaks, deflate the air spring, remove the fitting, and re-coat the threads with thread sealant. Reinstall by hand tightening as much as possible, then use a wrench for an additional two turns.

2. If there is a problem with the inflation valve, then:

   a. Check the valve core by tightening it with a valve core tool.

   b. Check the air line connection 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.

Figure 13

VII. 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 VI to repair.

2. Leak test the inflation valve for leaks at the air line connection or dirt or debris in the valve core. See Section VI to 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.

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

5. A kink or fold in the air line. 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.

VIII. 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 5 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	20 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 8 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 5) 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 2 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.

IX. Maintenance and Operations

Minimum Air Pressure	Maximum Air Pressure
5 p.s.i.	100 p.s.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.	

By following these steps, vehicle owners will obtain the longest life and best results from their air springs.

1. Check the air pressure weekly.

2. Always maintain Normal Ride Height. Never inflate beyond 100 p.s.i.

3. If you develop an air leak in the system, use a soapy water solution to check all air line connections and the inflation valve core before deflating and removing the air spring (see page 5).

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 (5 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

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

Street Address:
AIR LIFT COMPANY
2727 Snow Rd.
Lansing, MI 48917

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

For Technical Assistance call 1-800-248-0892

"The Choice of the Professional Installer"

Printed in the USA