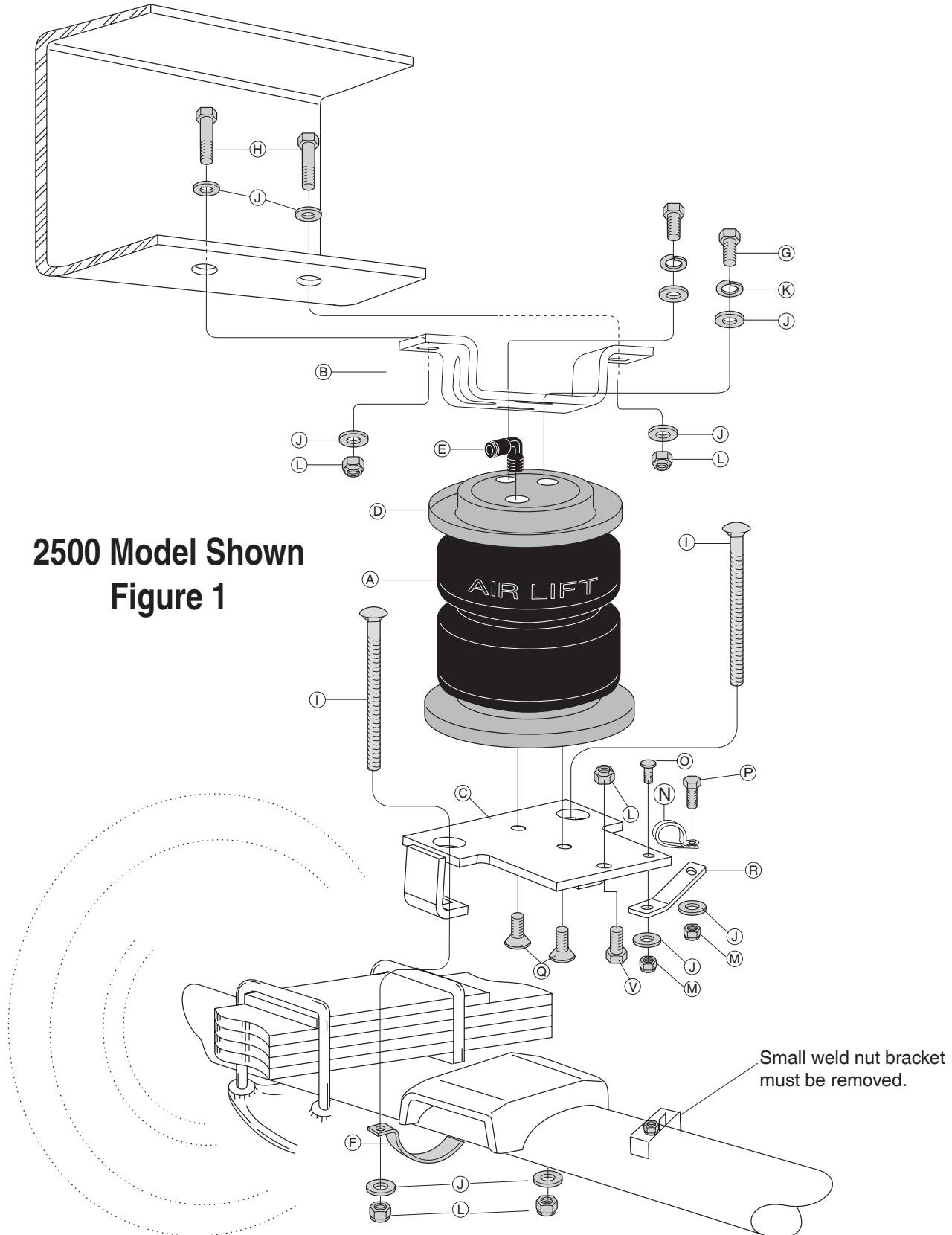


Please read these instructions completely before proceeding with installation



Parts List

Item	P/N	Description	Quantity	Item	P/N	Description	Quantity
A	58437*	Air Spring	2	P	17103	5/16"-18 x 1" Bolt	1
B	07634	Upper Bracket	2	Q	17215	3/8"-24 x 3/4" Flat Head Screw	4
C	03633	Lower Bracket	2	R	10421	Lower Brake Bracket	1
D	11951	Roll Plate	4	S	10613	Heat Shield	1
E	21848	Elbow Fitting	2	T	09484	Thermal Sleeve	1
F	10451	Axle Strap	2	U	10741	Heat Shield Clamp	2
G	17203	3/8"-24 x 7/8" Bolt	4	V	17101	3/8"-16 x 3/4" Bolt	2
H	17108	3/8"-16 x 1.5" Bolt	4	AA	20086 _{sub}	Air Line Assembly	1
I	17141	3/8"-16 x 2.5" Bolt	4	BB	10466	Tie Strap	6
J	18444	3/8" Flat Washer	23	CC	21230	Valve Cap	2
K	18427	3/8" Lock Washer	4	DD	18405	5/16" Flat Washer	2
L	18435	3/8" Nylock Nut	10	EE	21234	Rubber Washer	2
M	18438	5/16" Nylock Nut	2	FF	18411	Star Washer	2
N	10465	5/8" Clip	1	GG	21233	5/16" Hex Nut	4
O	17190	5/16"-18 x 7/8" Clinch Bolt	1				

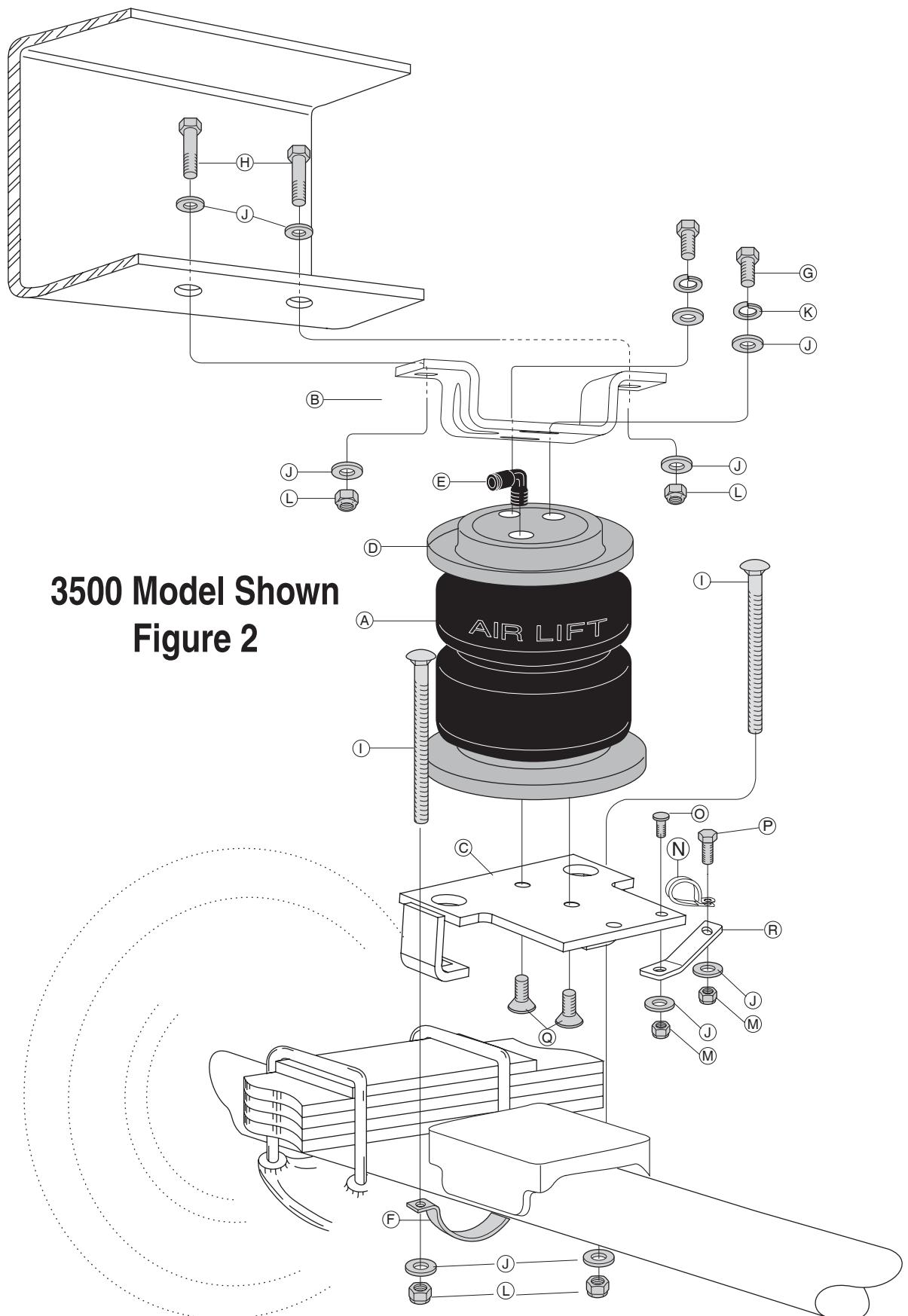
Tools Needed

5/16", 7/16", 9/16" open-end or box wrenches	Hose Cutter, Razor Blade, or Sharp Knife
Crescent Wrench	Hoist or Floor Jacks
Ratchet with 9/16", metrics, and 1/2" deep well sockets	Safety Stands
3/8" and 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: The 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 the 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, the use of limiting straps should be considered, in particular for vehicles that are used off-road.

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.

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.



3500 Model Shown
Figure 2

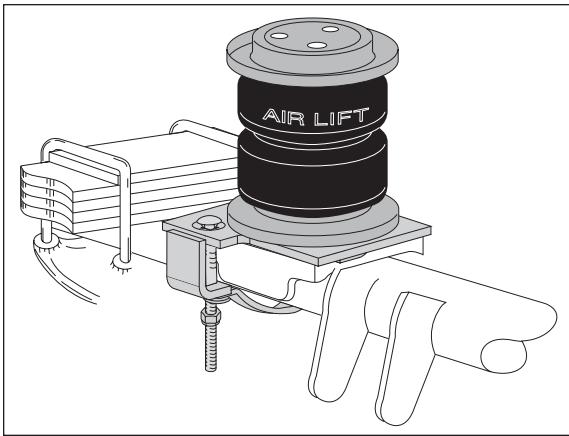


Figure 3

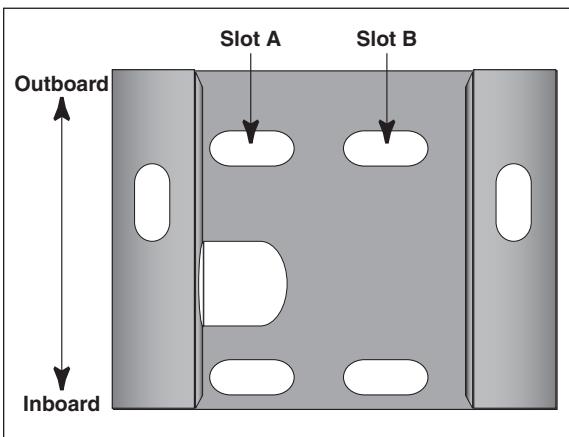


Figure 4

I. Assembling the Air Spring Assembly

1. Set a roll plate (D) on both ends of the air spring (A). The radiused (rounded) edge of the roll plate will be towards the air spring, so that the air spring is seated in both roll plates (Figures 1 and 2).
2. Install 90° elbow fitting (E) to the top of the air spring. Tighten finger tight plus 1 and 1/2 turns. Be careful to only tighten on the metal hex nut. Do not over tighten.
3. Install the upper bracket (B) onto the bellow assembly. Use slot "A" when installing on the driver's side and use slot "B" when installing on the passenger's side. Attach using two 3/8" bolts (G), lock washers (K), and flat washers (J). Leave these bolts loose at this time (Figures 1 and 4).
4. **Driver's Side Only:** Insert a 5/16" clinch bolt (O) into the small hole of the lower bracket (C) before attaching the lower bracket to the air spring assembly (Figures 1 and 2).
NOTE: Supporting the lower bracket with a bench vice will ease installation of the clinch bolt. Use a hammer to drive the bolt into the hole on the lower bracket.
5. **2500 Models Only:** Install a 3/8" bolt (V) and lock nut (L) through the hole in the lower bracket (Figure 1) with the head of the bolt facing down. Tighten securely.

6. Insert two 3/8" carriage bolts (I) through the large holes and into the square holes of the legs in the lower bracket (Figures 1 and 2).
7. Attach the lower bracket (C) to the bottom of the bellow assembly using two 3/8" flat head screws (Q). Tighten securely.

IMPORTANT NOTE: The holes on the base of the bracket are offset towards the inside of the vehicle (Figure 4).

II. Removing the Jounce Bumper

1. Jack up the rear of the vehicle.
2. Support the frame with jack stands and drop the axle to gain clearance to install the assembly.
3. Remove both jounce bumpers under the frame rail and discard.

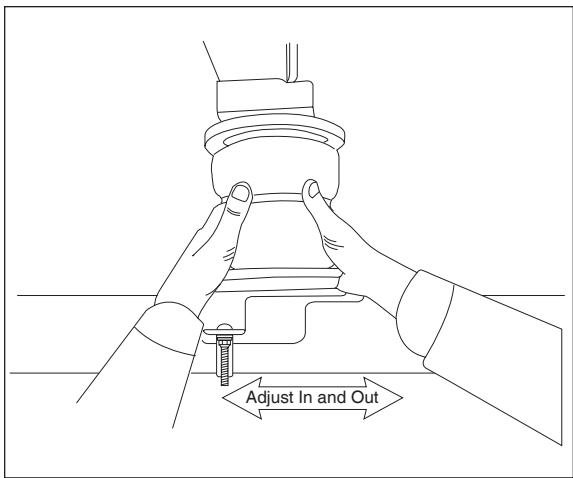


Figure 5

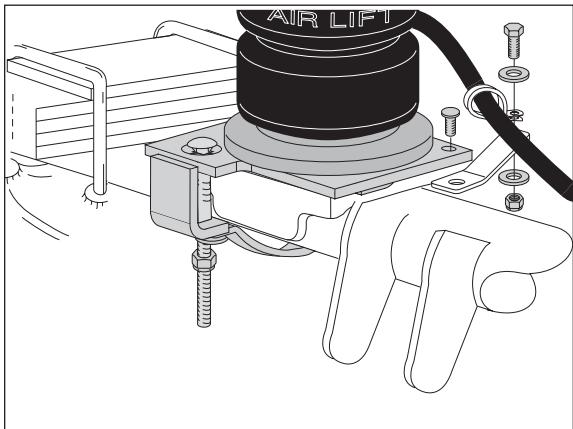


Figure 6

III. Positioning the Assembly on the Axle

NOTE: On the 2500 models only, the driver side axle may have a small bracket with a nut that has nothing attached to it. This bracket must be trimmed off of the axle in order to install the assembly (Figure 1).

2500 Models:

1. Set the assembly that has the cinch bolt onto the driver's side.

NOTE: It will be necessary to index the lower legs under the jounce bumper strike plate.

2. Start one leg under and "turn" the assembly to get the other leg under the strike plate (Figure 1).
3. Once the legs are under the strike plate, proceed with the upper bracket instructions.

3500 Models:

1. Set the assembly on the strike plate so that the legs of the lower bracket are forward and behind (Figure 2).
2. Proceed with the upper bracket attachment instructions.

IV. Attaching the Upper Bracket

1. The fitting points towards the rear on the driver's side and towards the front on the passenger's side.
2. Insert two $\frac{3}{8}$ " bolts (H) and flat washers (J) through the existing jounce bumper holes and through the slotted holes in the upper bracket (Figures 1 and 2).

NOTE: It may be helpful to raise the axle at this point so that the upper bracket touches the frame.

3. Attach the upper bracket using two flat washers (J) and nylock nuts (L) on each previously installed bolt (Figures 1 and 2).
4. Push the bracket inboard and tighten both upper bolts.

NOTE: Keep a thumbs width between the bellows roll plate (D) and the leaf spring U-bolt.

V. Aligning and Attaching the Assembly and Lower Bracket

1. Bring the axle all the way up at this point.
2. The upper bracket is slotted for forward and backward adjustment.

NOTE: The bottom adjusts by moving the bracket on the axle in or out (Figure 5).

3. Adjust the assembly so that the air spring is perpendicular to the bottom and top mounting brackets.
4. Tighten the top mounting bolts to 20 ft/lbs.
5. Attach the axle strap (F) to both lower bracket carriage bolts using two flat washers (J) and two nylock nuts (L). Torque evenly to 16 ft/lbs.

VI. Installing the Emergency Brake Line Bracket and Clip (Driver's Side Only)

1. Attach the brake line bracket (R) to the lower bracket using the previously installed clinch bolt with one flat washer (J) and a nylock nut (M) (Figures 1 and 2).
2. Attach the brake line clip (N) onto the emergency brake line bracket (Figure 6).
3. Attach the clip assembly to the brake line bracket using a 5/16" bolt (P), two flat washers (J), and a nylock nut (M) (Figures 1 and 2).
4. Align the brake line bracket and clip assembly so that the two do not bind to the cable. Tighten all mounting hardware in this assembly securely.

NOTE: Be sure the cable does not rub against the bellows when it is fully inflated. If it does, adjust the assembly accordingly.

5. Installation is now complete for the driver's side. Return to section I, *Assembling the Air Spring Assembly*. When both sides of the vehicle are complete, return to section VII, *Installing the Heat Shield*.

VII. Installing the Heat Shield

1. Bend tabs to provide a $\frac{1}{2}$ " dead air space between exhaust pipe and heat shield (Figure 7).
2. Attach the heat shield (S) to the exhaust pipe using the clamps (U) (Figure 8). Bend the heat shield for maximum clearance to the air spring.

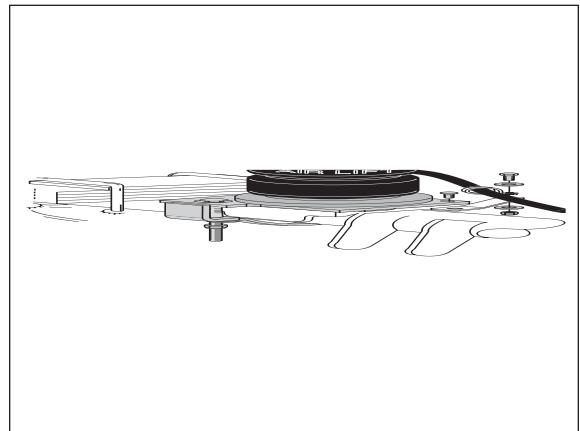


Figure 7

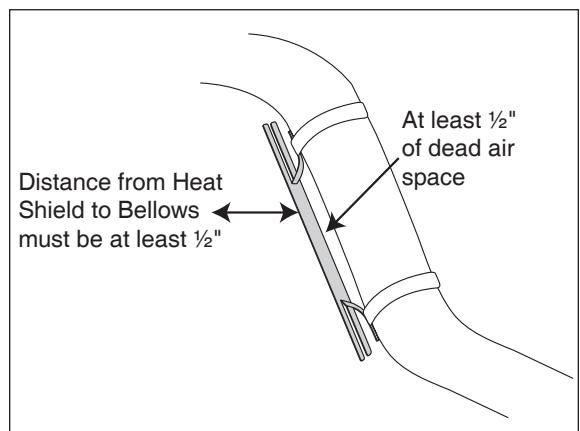


Figure 8

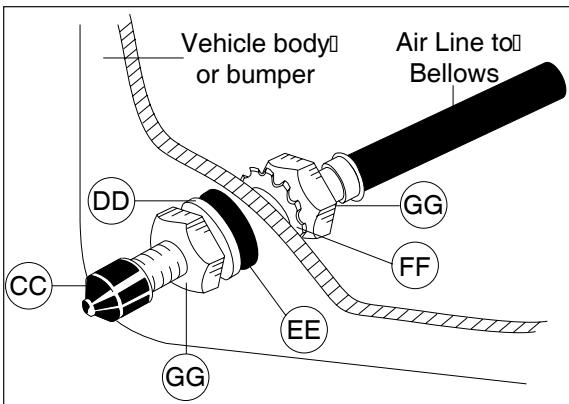


Figure 9

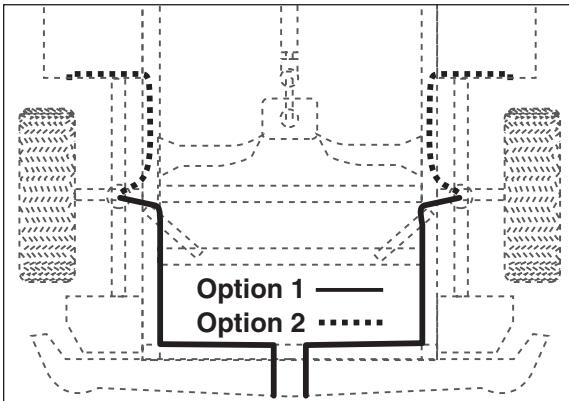


Figure 10

VIII. 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 (Figure 10).

2. Drill a $\frac{5}{16}$ " 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, 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 $\frac{5}{16}$ " 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 9).
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 9).
6. Route the air line along the frame to the air fitting on the air spring (Figure 10). 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. On the Passenger side only, place the provided thermal sleeve (T) on the air line near the exhaust.
8. 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).

IX. Checking for Leaks

1. Inflate the air spring to 30 p.s.i. and 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. Leaks will be spotted easily by looking for bubbles in the soapy water.
2. After the test, deflate the springs to the minimum pressure required to restore the Normal Ride Height, but not less than 5 p.s.i.
3. *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.

X. 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 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 Support at 1-800-248-0892 for assistance.

XI. 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 X 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 X for repair.
3. Inspect air lines to be sure it is not pinched. Tie straps may be too tight. Loosen or replace strap and 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.

XII. 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 30 p.s.i., check all connections for leaks with a soapy water solution. See pages 6-7 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.
- 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 9 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 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 _____

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.

XIII. 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 (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
<http://www.airliftcompany.com>

For Technical Assistance call 1-800-248-0892

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