

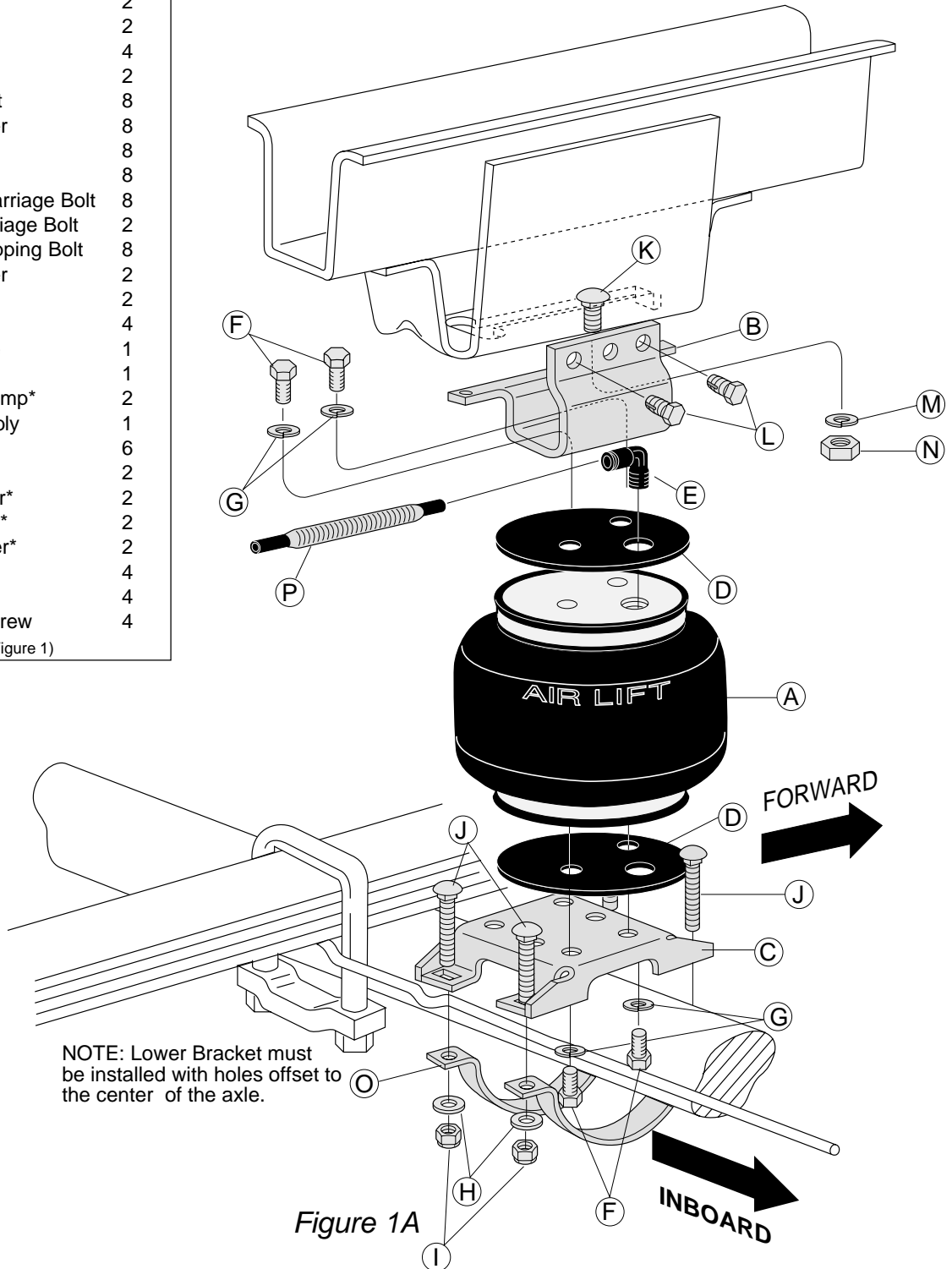
Please read these instructions completely before proceeding with installation

Kit Parts List

Item	Description	Quantity
A	Air Springs	2
B	Upper Bracket	2
C	Lower Bracket	2
D	Backer Plate	4
E	Elbow Fitting	2
F	3/8"-24 x 7/8" Bolt	8
G	3/8" Lock Washer	8
H	3/8" Flat Washer	8
I	3/8" Nylock Nut	8
J	3/8"-16 x 2.5" Carriage Bolt	8
K	1/2"-13 x 1" Carriage Bolt	2
L	3/8" x 1" Self Tapping Bolt	8
M	1/2" Lock Washer	2
N	1/2" Hex Nut	2
O	Axle Strap	4
P	Thermal Sleeve	1
Q	Heat Shield*	1
R	Heat Shield Clamp*	2
AA	Air Line Assembly	1
BB	Tie Strap*	6
CC	Valve Cap*	2
DD	5/16" Flat Washer*	2
EE	Rubber Washer*	2
FF	5/16" Star Washer*	2
GG	5/16" Hex Nut*	4
HH	Hose Clip	4
II	Self Tapping Screw	4

* (not shown in Figure 1)

This drawing represents the kit layout for **Late model GMC/Chevy** applications. If this kit is for Early model GMC/Chevys or Dodges, refer to Figure 1B on page 2.



This drawing represents the kit layout for **Early model GMC/Chevy and all Dodge** applications. If this kit is for Late model GMC/Chevy applications, refer to Figure 1A on page 1.

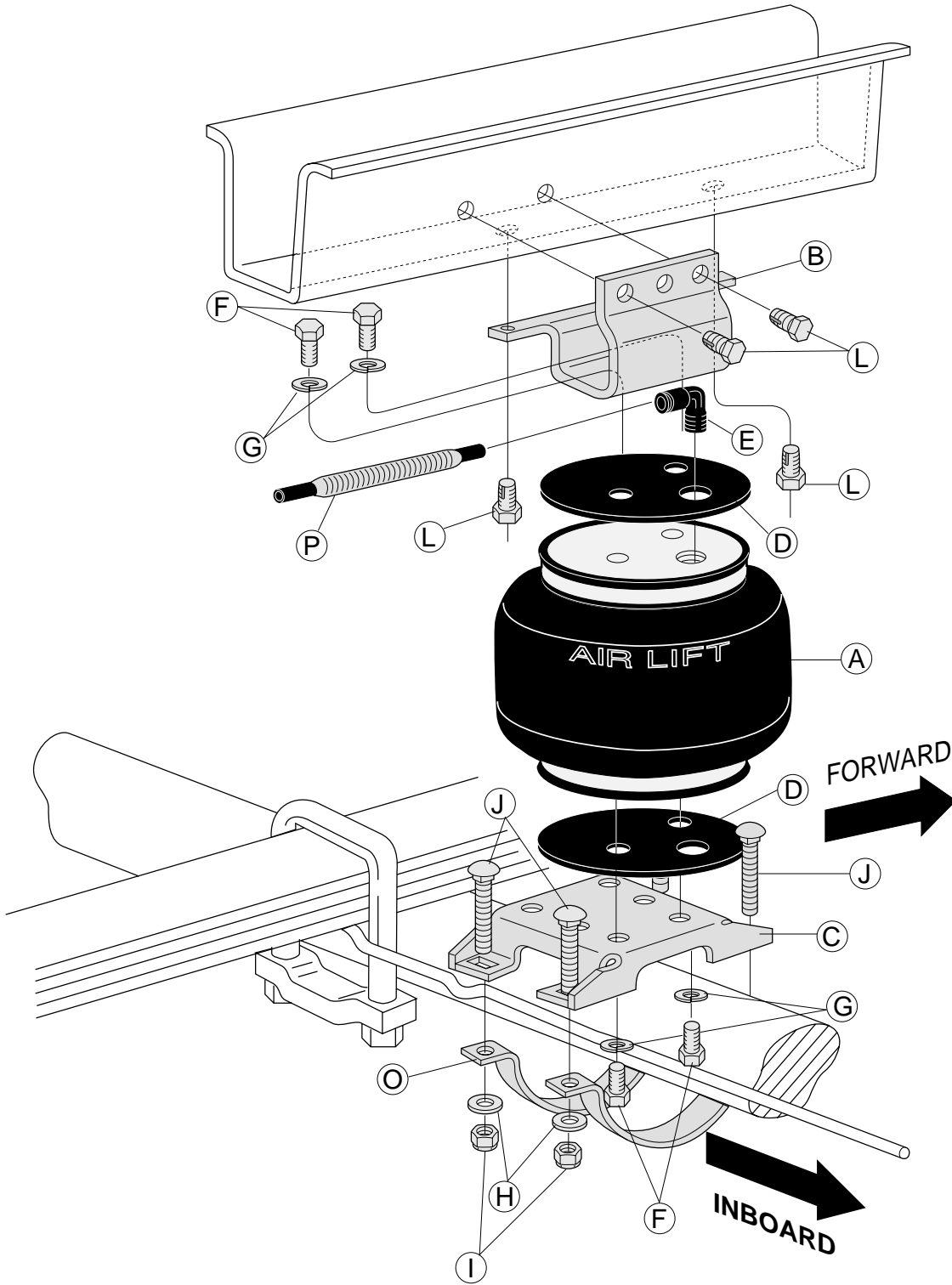


Figure 1B

Tools Needed

$\frac{7}{16}$ " and $\frac{9}{16}$ " open-end or box wrenches
Crescent Wrench
Ratchet with $\frac{3}{8}$ ", $\frac{9}{16}$ ", and $\frac{1}{2}$ " deep well sockets
 $\frac{3}{8}$ " and $\frac{5}{16}$ " drill bits (very sharp)
 $\frac{3}{8}$ " 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

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.

I. Assembling the Air Spring Assembly

1. Place backer plate (D) on the top of the air spring (A).
2. Install 90° elbow fitting (E) to the top of the air spring. Tighten finger tight plus 1 and $\frac{1}{2}$ turns. Be careful to only tighten on the metal hex nut. Do not over tighten.
3. Set the upper bracket (B) onto the air spring (A). Make sure that the air fitting port is on the same side as the vertical leg. Attach the bellow-bracket assembly using $\frac{3}{8}$ " bolt (F) and $\frac{3}{8}$ " lock washer (G). Tighten to 20 ft-lbs (Figure 3).
4. Place the lower bracket onto the air spring assembly in an offset position (Figure 2).

NOTE: The bellows assembly will offset (over hang) the lower bracket. Make sure that the offset is on the air fitting side of the assembly

5. Use the template provided on page 11 to determine the correct holes for mounting. Use the holes marked by an "A" for bellow mounting.
6. Use a $\frac{3}{8}$ " bolt (F) and a $\frac{3}{8}$ " lock washer (G) through the holes marked with an "A" to attach the lower bracket and backer plate to the assembly. Again, be sure that the bellow is offset to the fitting side. Tighten hardware to 20 ft-lbs (Figure 2).

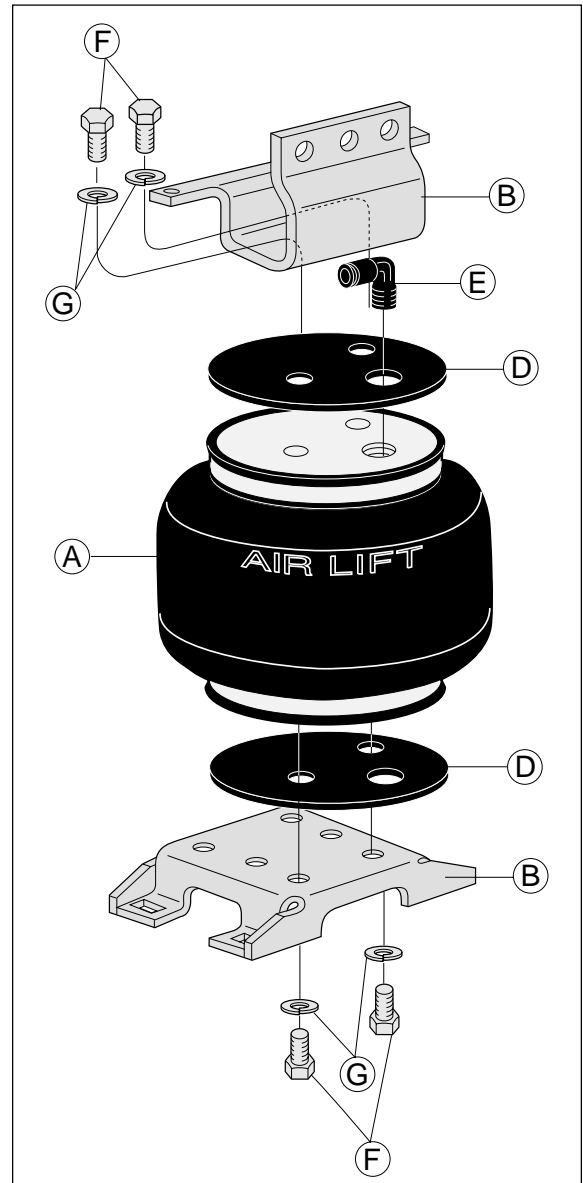


Figure 2

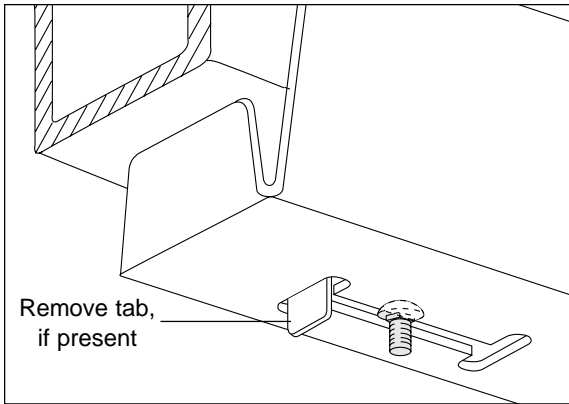


Figure 3

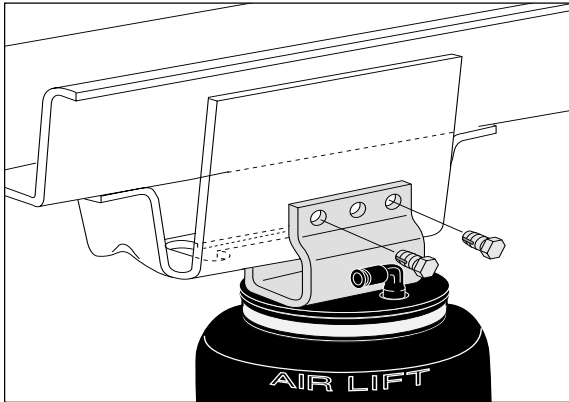


Figure 4

II. Removing the Jounce Bumper

1. Late Model GMC/Chevy
 - a. Use a screwdriver to remove/pry the rubber jounce bumper from the metal bracket on the frame rail.
 - b. Insert a $\frac{1}{2}$ " carriage bolt (K) into the jounce bumper track with the carriage head inside the track (Figure 3).
 - c. Some models may have a small tab at the end of the slot that will interfere with upper bracket mounting (Figure 3). This tab will need to be removed. Either bend it back with a hammer or grind it off.

2. All Dodge and early model GMC/Chevy
 - a. Some early GMC/Chevy models have the jounce bumper on the side of the frame rail. The entire jounce bumper and bracket assembly must be removed in order to mount the upper bracket. Unbolt, chisel, or grind off so that the bottom of the frame rail is smooth (Figure 1B).
 - b. On all Dodge, remove the two bolts holding the jounce bumper to the frame rail and remove the jounce bumper and bracket (Figure 1B). Be sure that the bottom of the frame rail is smooth.

III. Attaching the Upper Bracket

1. Late Model GMC/Chevy:
 - a. Set the air spring assembly on the axle housing and guide the carriage bolt through the large center hole in the upper bracket.
 - b. Loosely attach with a $\frac{1}{2}$ " lock washer (M) and $\frac{1}{2}$ " hex nut (N). See Figure 1A. The mounting holes on the end of the extended tabs on the upper bracket are not used on the late model GM applications.
 - c. Adjust the assembly in the slot of the upper bracket so that the top is aligned with the lower bracket. Tighten the $\frac{1}{2}$ " hex nut with an open end wrench.
 - d. Using the upper bracket as a template, center punch and drill two of the three holes on the inside of the frame rail. Use a $\frac{5}{16}$ " bit, no larger.
 - e. Install two $\frac{3}{8}$ " self tapping frame bolts (L) and tighten to 15 ft-lbs (Figures 1A and 4). The upper bracket is now attached.

2. All Dodge and Early Model GMC/Chevy:
 - a. Set the assembly on the axle housing and align the lower bracket to the upper bracket.
 - b. Using the upper bracket as a template, center punch and drill two of the three holes on the inside of the frame rail. Use a $\frac{5}{16}$ " bit, no larger.
 - c. Install two $\frac{3}{8}$ " self tapping frame bolts (L) and tighten to 15 ft-lbs (Figure 5).
 - d. Again, use the upper bracket as a template and drill two $\frac{5}{16}$ " holes, no larger, in the frame rail using the two bottom holes in the bracket.
 - e. Install two $\frac{3}{8}$ " self tapping frame bolts (L) and tighten to 15 ft-lbs (Figure 1B). The upper bracket is now attached.

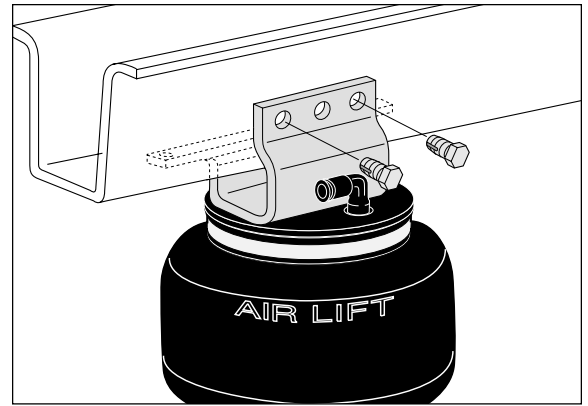


Figure 5

IV. Attaching the Lower Bracket

1. Insert four $\frac{3}{8}$ " carriage bolts (J) into the holes in the lower bracket (Figure 1A or 1B).

NOTE: Late model Dodge will have a tapered axle. The outboard edge of the lower bracket will rest on the tapered end of the axle. The inboard edge will rest on the non-tapered part of the axle. This will put the lower bracket in a slightly tilted position, but will not effect the function of the kit.
2. Secure the lower bracket to the axle using the axle straps (O), flat washers (H), and lock nuts (I). Refer to Figure 1A or 1B.

CAUTION: Do not pinch the brake line under the axle clamp. In some cases the axle clamp will go behind the brake line. It may be necessary to tighten the strap on the opposite side of the axle first so that the strap will be below the brake line.
3. Tighten lock nuts to 20 ft-lbs, being sure to cross tighten.

V. Installing other Air spring

1. Installation for one air spring is now complete. Continue by repeating steps II–III for the other side.
2. Return to step V when second air spring is installed.

VI. Installing the Air Lines

1. Choose a convenient location for mounting the inflation valves. Popular locations for the inflation valve are in the wheel well flanges, in the stowage area, under the body flange.

NOTE: What ever 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.

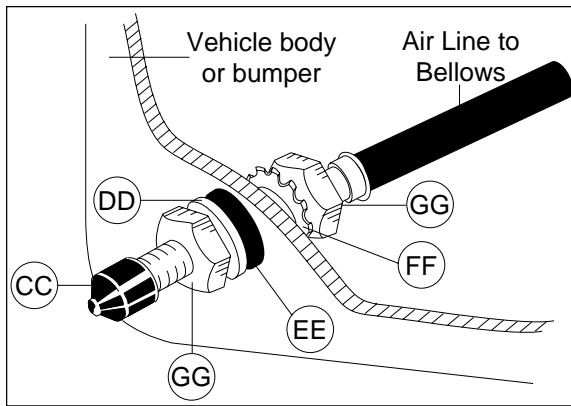


Figure 6

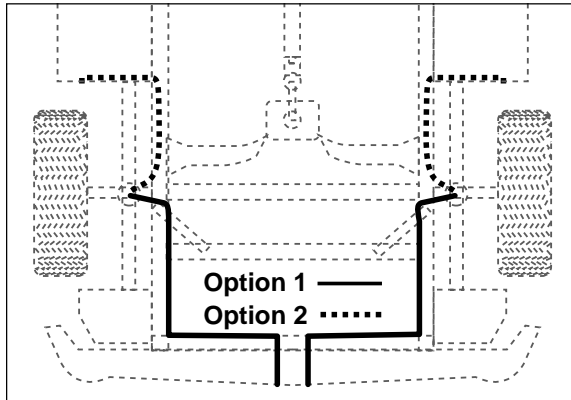


Figure 7

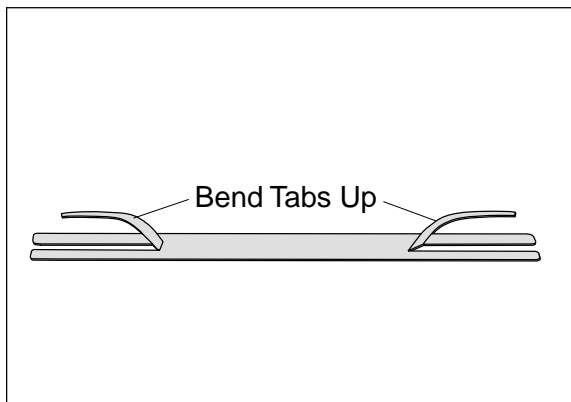


Figure 8

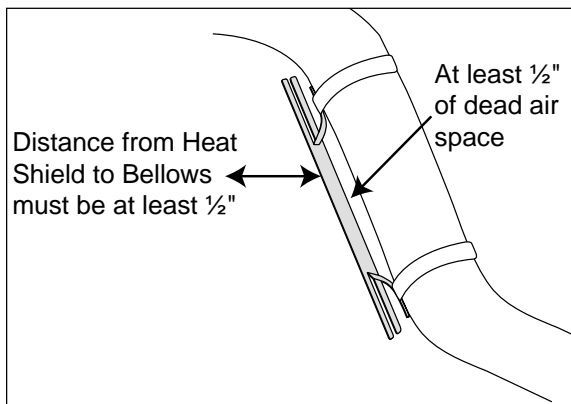


Figure 9

- 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, which causes leakage around the O-ring seal inside the elbow fitting.

- Place a $\frac{5}{16}$ " nut (GG) and a star washer (FF) on the air valve. Leave enough of the 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 approximately $\frac{1}{2}$ " of the valve exposed after installation to easily apply a pressure gauge or an air chuck (Figure 6).
- 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 6).
- Route the air line along the frame to the air fitting on the air spring (Figure 7). 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. Where there are no holes to secure straps to, use the hose clips (HH) and the self tapping screw (II) to secure air line to frame. Leave at least 2" of slack to allow for any movement that might pull on the air line.
- On the exhaust side only, place the provided thermal sleeve (P) on the air line near the exhaust.
- 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 push-to-connect air 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).

VII. Installing the Heat Shield

- Bend tabs to provide a $\frac{1}{2}$ " dead air space between exhaust pipe and heat shield (Figure 8).
- Attach the heat shield (Q) to the exhaust pipe using the provided clamps (R). See Figure 9. Bend the heat shield for maximum clearance to the air spring.

VIII. Checking for Leaks

1. Inflate the air spring to 60 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 20 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.

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 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 did not resolve the problem, call Air Lift Technical Support at 1-800-248-0892 for assistance.

X. Troubleshooting Guide

Problems maintaining air pressure, without on-board compressor.

1. Leak test air line connections and threaded connection of the elbow into the air spring. See Section VIII 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 VIII for repair.
3. Inspect air lines to be sure it is not pinched at the tie straps. 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.

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 $1\frac{1}{2}$ " 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 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.

Torque Guide:

$\frac{3}{8}$ " Hex Head Bolts	20 ft-lbs
Carriage Bolt Lock Nuts	20 ft-lbs
Self Tapping Frame Bolts	15 ft-lbs

- 5. Road Test – The vehicle should be road tested after the preceding tests. Inflate the springs to 10 p.s.i. for a van, 40 p.s.i. for a motorhome or until the 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 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 page 7) 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 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

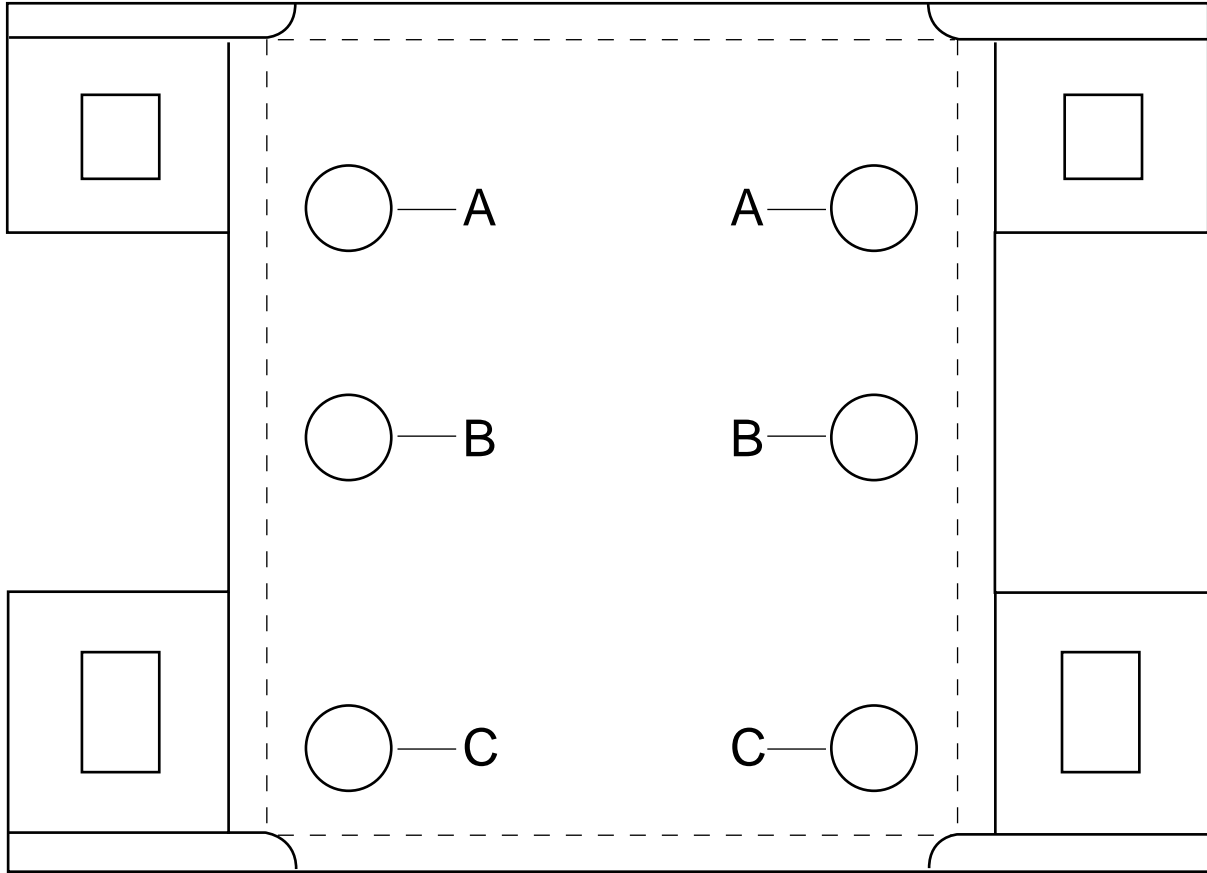
Motorhome and Commercial Chassis	
Minimum Air Pressure	Maximum Air Pressure
40 p.s.i.	100 p.s.i.
Passenger Vans	
Minimum Air Pressure	Maximum Air Pressure
5 p.s.i.	100 p.s.i.

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 8.)
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., 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.
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 to reduce the tension on the suspension/brake components. Use of on-board leveling systems do not require deflation or disconnection.*

Lower Bracket Template





Thank you for purchasing Air Lift Products

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