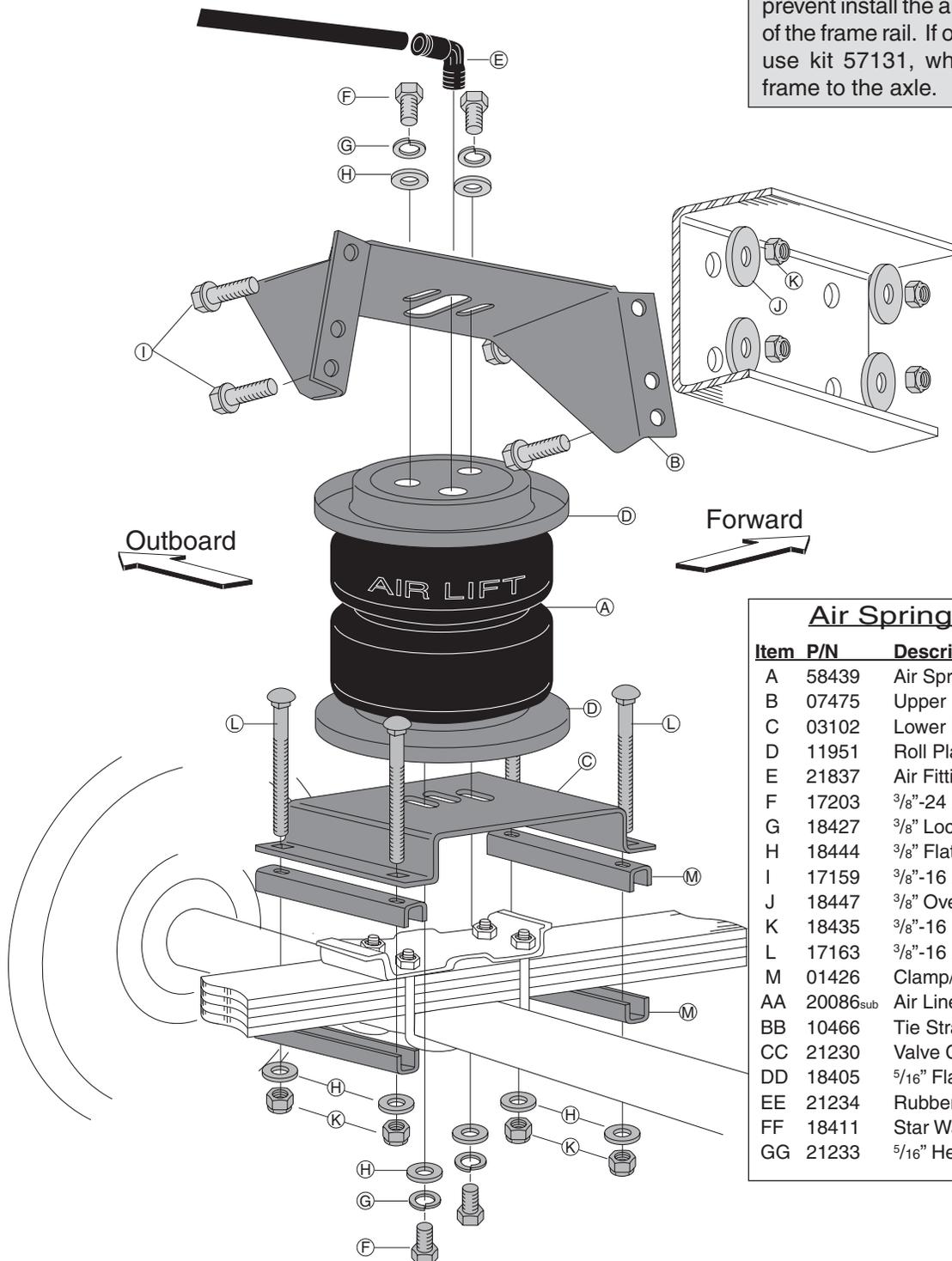


Please read these instructions completely before proceeding with installation

IMPORTANT: Check both sides of the frame rail for any interference or obstructions (specifically, propane lines) that may prevent install the air springs on the outside of the frame rail. If obstructions are present, use kit 57131, which mounts under the frame to the axle.



Air Spring Kit Parts List			
Item	P/N	Description	Quantity
A	58439	Air Spring	2
B	07475	Upper Bracket	2
C	03102	Lower Bracket	2
D	11951	Roll Plate	4
E	21837	Air Fitting	2
F	17203	3/8"-24 x 7/8" Bolt	8
G	18427	3/8" Lock Washer	8
H	18444	3/8" Flat Washer, SAE	16
I	17159	3/8"-16 x 1.5" Frame Bolt	8
J	18447	3/8" Oversized Flat Washer	8
K	18435	3/8"-16 Nylock Nut	16
L	17163	3/8"-16 x 7" Carriage Bolt	8
M	01426	Clamp/Spacer Bar	8
AA	20086 _{sub}	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

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: The 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 the 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: Check both sides of the frame rail for any interference or obstructions (specifically, propane lines) that may prevent install the air springs on the outside of the frame rail. If obstructions are present, use kit 57131, which mounts under the frame to the axle.

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.

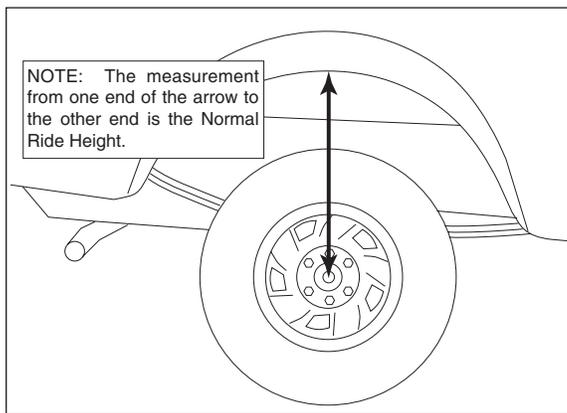


Figure 2

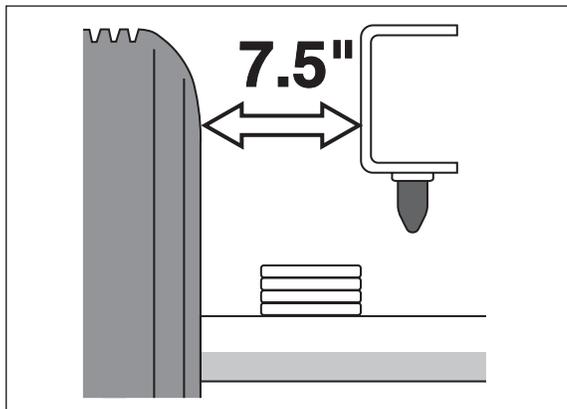


Figure 3

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 the 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
3. Measure the distance between the frame and the tire. This kit requires a minimum of 7.5" of clearance for a fully inflated air spring (Figure 3).

II. Raising the Vehicle

1. Raise the vehicle and remove the wheels.
2. Check the distance between the center of the hub and the bottom edge of the wheel to ensure that it is at the normal ride height recorded above. If not, raise the frame or lower the axle as necessary to restore the original distance.
 - 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 lower the frame as needed.
 - c. If the vehicle is raised with a jack and supported with axle stands on the frame, then use a floor jack to lower the axle.

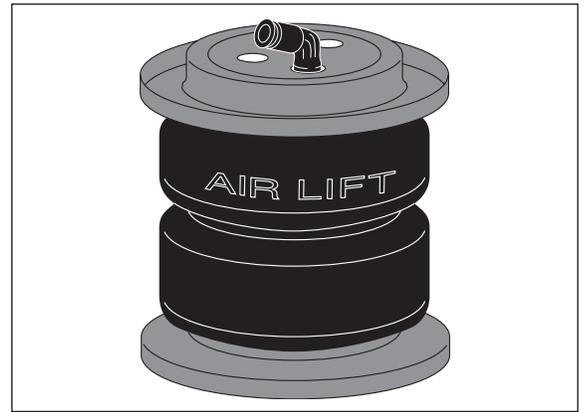


Figure 4

III. Assembling the Air Spring Unit

1. Place a roll plate (D) on the top and bottom of the air spring (A) so that the air spring is seated within the roll plates (Figure 4).
2. Install the air fitting (E) finger tight plus 1 1/2 turns (Figure 4). Use a 7/16" open end wrench, being careful to tighten on the metal hex nut only. *Do not overtighten.* This fitting is precoated with sealant.
3. Attach the upper bracket (B) with the legs down using two flat washers (H), two lock washers (G), and two bolts (F). Refer to Figure 1. Leave loose for adjustment.
4. Place the lower bracket (C) on to the bottom of the air spring and roll plate so that the flat edge of the lower bracket mounts towards the legs of the upper bracket (inboard). Refer to Figure 1.
5. Attach the lower bracket to the air spring assembly using two flat washers (H), two lock washers (G), and two bolts (F). Refer to Figure 1. Leave loose for adjustment.

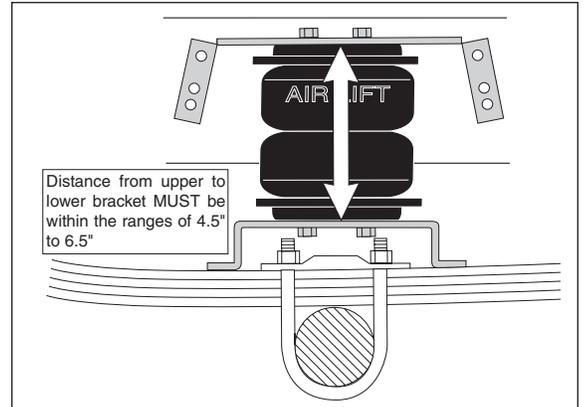


Figure 5

IV. Attaching the Air Spring Assembly

1. Set the assembly on the leaf spring over the axle. The upper and lower brackets must be positioned with 4.5" to 6.5" between the brackets at normal ride height (Figure 5).

NOTE: If the measurement is not within the specified parameters or if the stock u-bolts hit on the lower bracket, use two spacer bars (M) provided under the lower bracket to achieve the distance of 4.5" to 6.5" (Figure 1).
2. Position the upper bracket so that at least four bolt holes (two on each side) are on the flat section of the frame rail. Use the widest spacing possible to achieve the required distance of 4.5" to 6.5" making sure that the holes do not fall on the radiused edges of the frame rail.
3. Attach the lower bracket using two clamp bars (M), four carriage bolts (L), four flat washers (H), and four nylock nuts (K). Refer to Figure 1. Tighten securely.

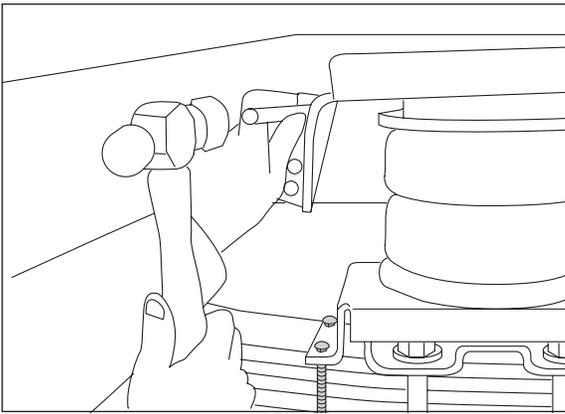


Figure 6

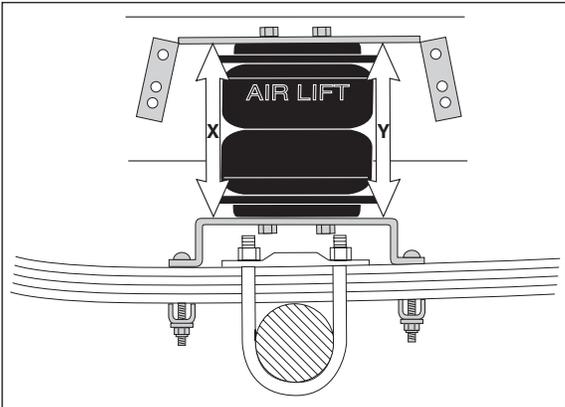


Figure 7

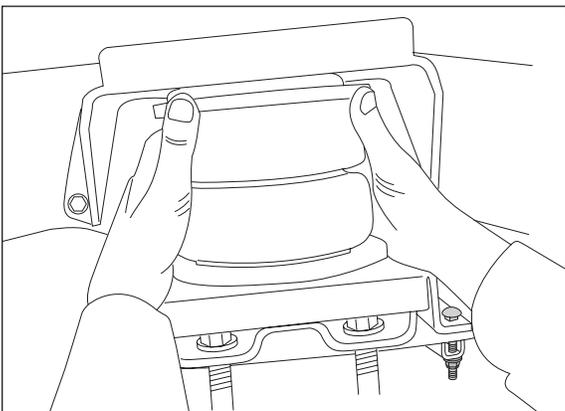


Figure 8

4. Position the upper bracket as high on the frame as possible and so that it is parallel with the lower bracket. If the correct mounting height can not be achieved with the top hole and one of the two lower holes, then position the top holes above the frame and use the two sets of lower holes for mounting. Align the assembly both vertically and horizontally. Be sure that there is sufficient clearance between the air spring, the frame, the tire and brake drum at the maximum inflated diameter (6.5").

NOTE: The kit will be mounted on the same angle as the leaf springs.

5. Clamp the upper bracket to the frame rail with a C-clamp or welding clamp and center punch one mounting hole (Figure 6).

IMPORTANT: Do not drill any holes into the frame without first checking for interference such as hydraulic lines, gas lines, and/or electrical wires. If there are any such interferences, move them aside to proceed with the installation.

6. Check the upper to lower bracket measurement to ensure that it is still between 4.5" to 6.5" on the side of the center punched hole (in Figure 7, measurement X must equal measurements Y, as well as between 4.5" to 6.5").

7. Drill one $\frac{3}{8}$ " hole in the previously marked location and loosely install a frame bolt (I), an oversized flat washer (J), and a nylock nut (K).

8. Measure the upper to lower bracket clearance on the other side of the upper bracket. This measurement should be equal to the measurement of the other side of the upper bracket (in Figure 7, measurements X must equal measurement Y, as well as be between 4.5" to 6.5").

9. Center punch and drill a hole on the other side of the upper bracket and install a frame bolt (I), an oversized flat washer (J), and a nylock nut (K). Refer to Figure 1.

10. Remove the clamps and drill the remaining two holes and install a frame bolt (I), an oversized flat washer (J), and a nylock nut. Tighten all upper bracket hardware to 44 ft-lbs.

V. Checking Air Spring Alignment

1. With the air spring hardware still loose, align the air spring inboard and outboard using the slotted holes for adjustment so that it is uniformly positioned between the brackets (Figure 8). NOTE: Maintain at least a thumb's width of clearance between the air spring and frame when uninflated.
2. When fully aligned, secure the air spring to the upper and lower brackets by tightening the mounting hardware with a $\frac{9}{16}$ " wrench. Tighten securely.

VI. Installing the Air Lines

1. Choose a convenient location for mounting the inflation valves. Popular locations for the inflation valve include: wheel well flanges, 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 $\frac{5}{16}$ " 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 (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 $\frac{5}{16}$ " 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. 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 (Figure 10).

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 air fitting until it bottoms out ($\frac{9}{16}$ " of air line should be in the fitting).

8. Install the minimum/maximum air pressure decal in a highly visible location, such as the driver's side window just above the door handle.

9. Return to the beginning of the manual and install the remaining air spring on the other side.

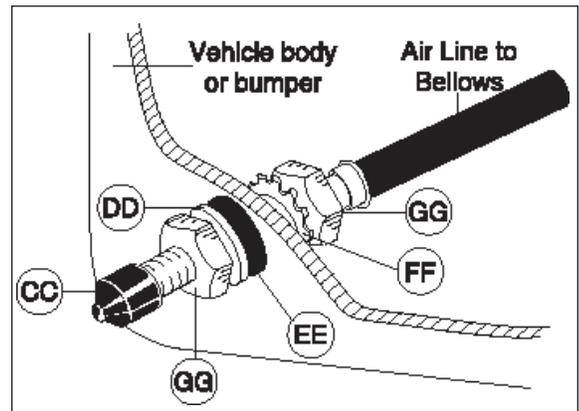


Figure 9

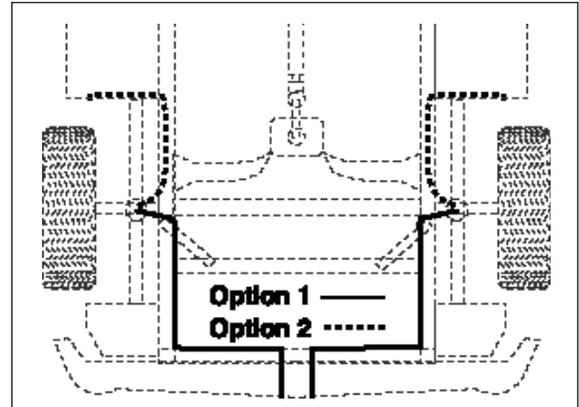


Figure 10

VII. Checking for Leaks

1. Inflate the air spring to 60 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.

VIII. 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 Service at 1-800-248-0892 for assistance.

IX. 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 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 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.

X. Checklist

The warranty on this product can be protected 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 page 6 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	44 ft–lbs
Carriage 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 page 6) 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

XI. Maintenance and Operations

Minimum Air Pressure	Maximum Air Pressure
20 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. (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. 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 (20 p.s.i.) to reduce the tension on the suspension/brake components. Use of on-board leveling systems do not require deflation or disconnection.*



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