

# LoadLIFTER5000

Kit No. 57132, 2WD Excursion



MN-302  
(02105)  
ECN 3534

Please read these instructions completely before proceeding with installation

## AIR SPRING KIT PARTS LIST

Item	Description	Quantity
A	Air Springs	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
F	3/8" x 7/8" Bolt	8
G	3/8" x 1.5 Bolt	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
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

## Driver's Side Installation:

Upper Bracket installation on Passenger Side differs. Refer to Figure 7 for details.

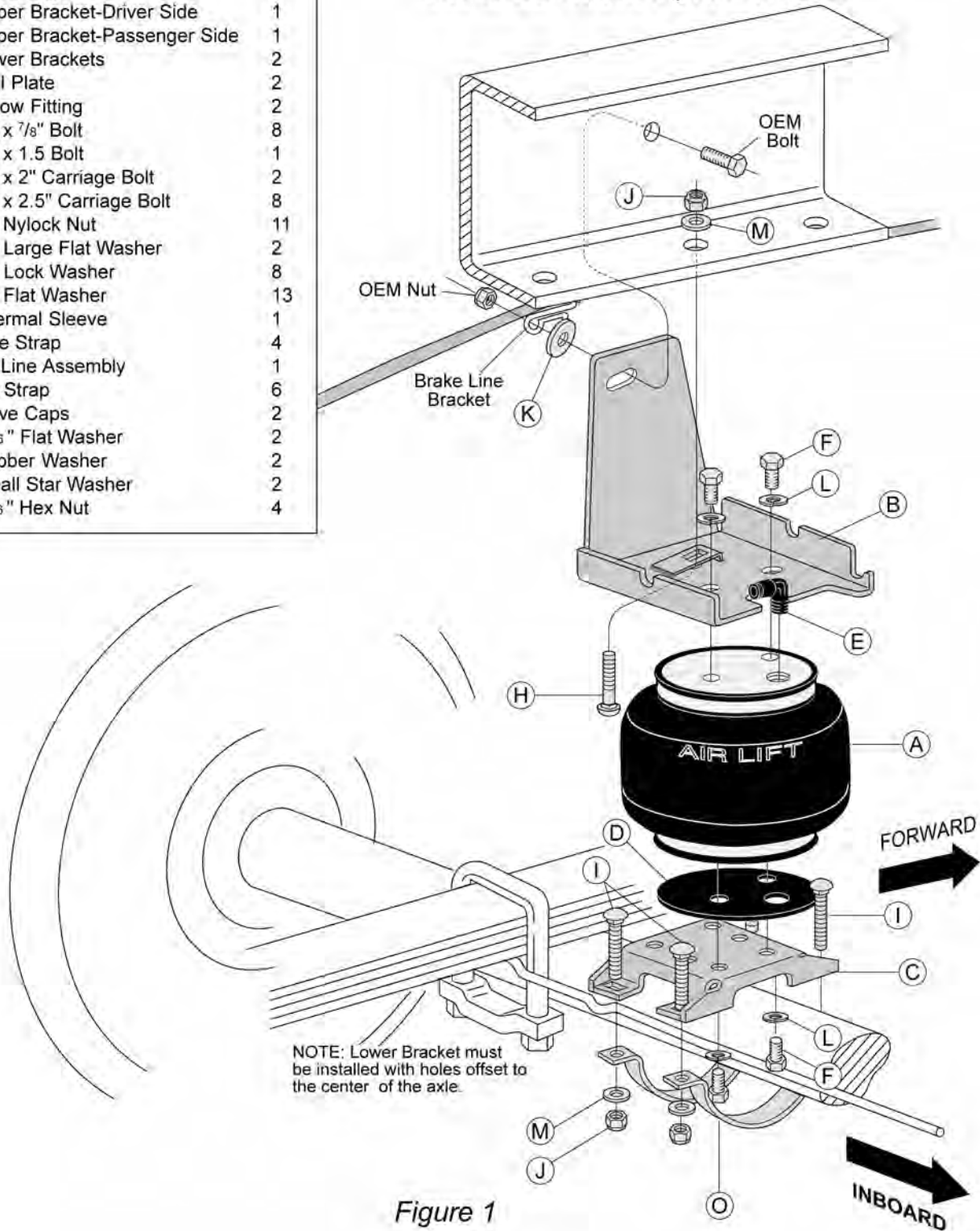


Figure 1

## TOOLS NEEDED

$\frac{5}{16}$ " ,  $\frac{7}{16}$ " ,  $\frac{9}{16}$ " open-end or box wrenches

Crescent Wrench

Ratchet with  $\frac{9}{16}$ " , metrics, and  $\frac{1}{2}$ " deep well sockets

$\frac{3}{8}$ " and  $\frac{5}{16}$ " 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:** 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.

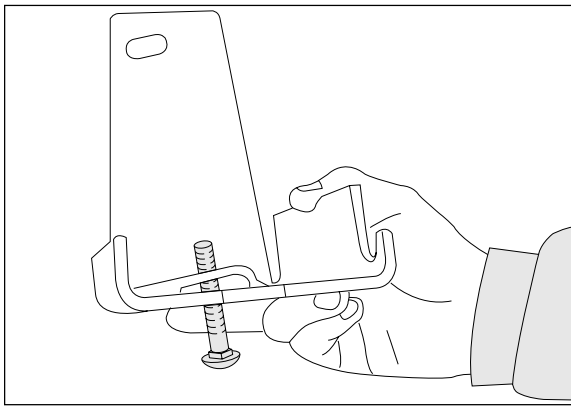


Figure 2

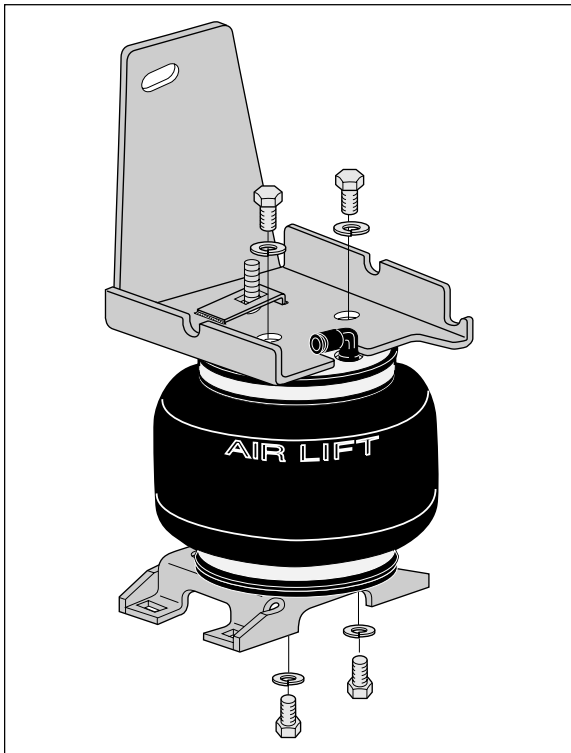


Figure 3

## I. ASSEMBLING THE AIR SPRING UNIT

1. Install 90 degree air swivel fitting (E) to the top of the bellow. This fitting is precoated with sealant. Using an open-end wrench, tighten 1 and  $\frac{1}{2}$  turns (Figures 1 and 3).

**IMPORTANT:** Tighten on the metal hex nut only. Do not over tighten.

2. Insert a carriage bolt (H) up through the driver side upper bracket (B1). Refer to Figure 2.
3. Set bracket and carriage bolt assembly on top of the bellow. Attach with two bolts (F) and lock washers (L).
4. Set backer plate (D) on the bottom of the bellow (Figure 1).
5. Use the lower bracket template provided on page 9 to determine the proper mounting location for the bellow. Use the holes marked "C" for mounting. Attach lower bracket (C) and backer plate to the bottom of the bellow. Attach so that the bracket offsets to the outside of the axle. Use two bolts (F) and lock washers (L). See Figure 3.
6. Tighten both the upper and lower brackets to the bellow to 15 ft-lbs.

## II. LOWERING THE SUSPENSION

1. Remove the jounce bumper (Figure 4). 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 5). 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 raised with a jack and supported with axle stands on the frame, then use a floor jack to lower the axle.

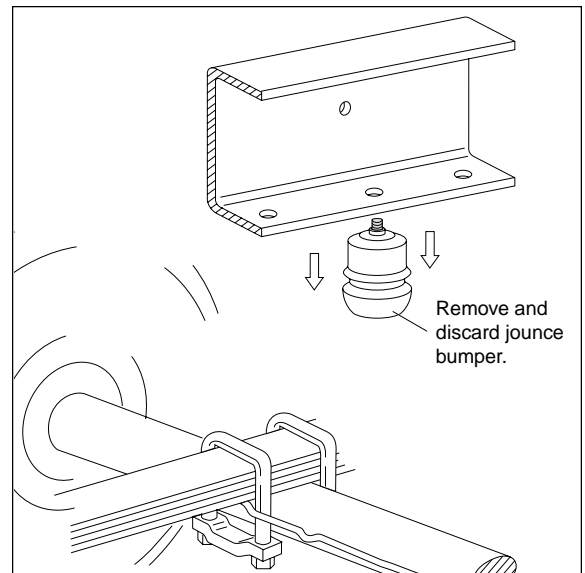


Figure 4

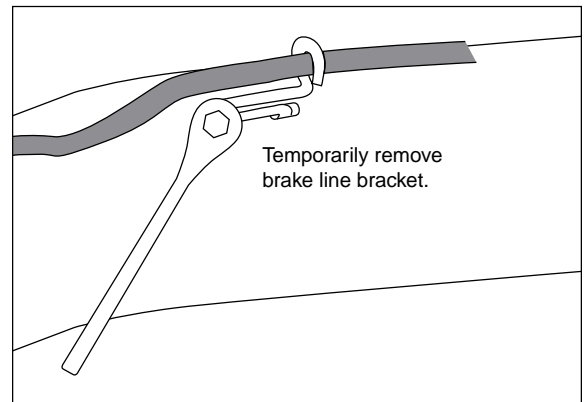


Figure 5

## III. 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 (Figure 1). 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.*

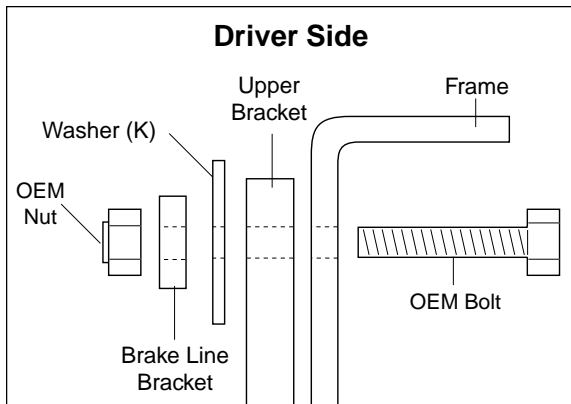


Figure 6

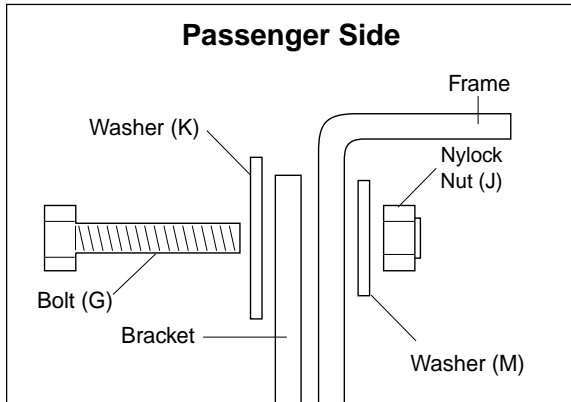


Figure 7

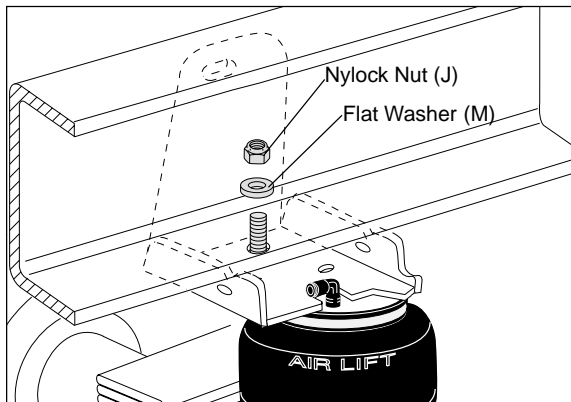


Figure 8

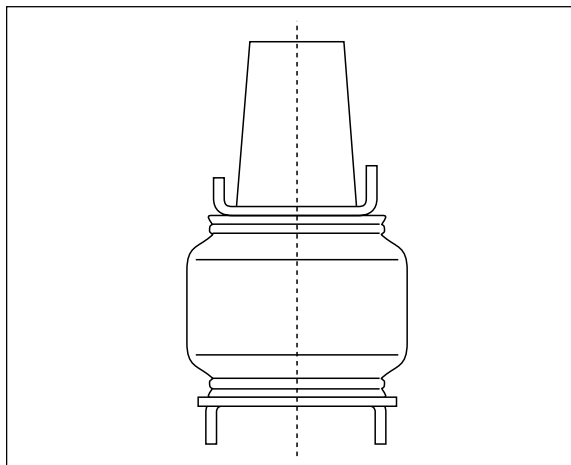


Figure 9

2. Insert the existing emergency brake cable bolt through the frame and slot in the upper bracket. Install a large washer (K) over the bolt and push it against the upper bracket. Install the emergency brake line bracket back in place and finish by installing the OEM nut to the outside (Figure 6). 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 7).*

4. Install nut (J) and washer (M) on to the carriage bolt that was inserted through the jounce bumper bracket hole (Figure 8).
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 bellows (Figure 9).
7. Tighten the upper bracket mounting hardware to 16 ft-lbs.

#### IV. 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 (Figure 10).
2. Attach the axle straps (O) to the lower bracket using washers (M) and nylock nuts (J). Refer to Figure 1.

*CAUTION: It may be necessary to slightly bend the brake lines so that they do no rub on the carriage bolts.*

3. Tighten the nuts evenly. Torque to 16 ft-lbs.

## V. 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.
2. Return to section I, 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.

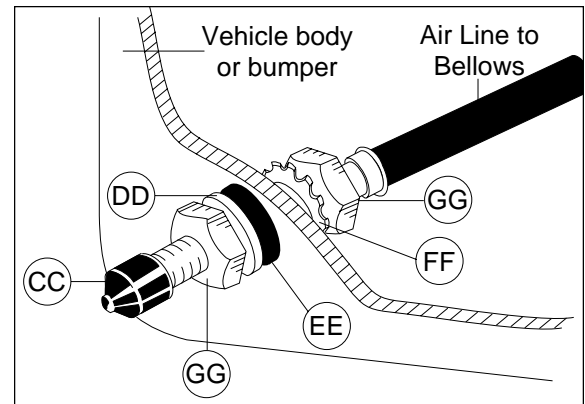


Figure 10

## VI. INSTALLING THE AIR LINES

1. Choose a convenient location for mounting the inflation valves. Popular locations for the inflation valve are: wheel well flanges, license plate recess in bumper., under the gas cap access door, 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, 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 to 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 10).
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 10).
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 90° swivel fitting until it bottoms out ( $\frac{9}{16}$ " of air line should be in the fitting).

## VII. 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.

## 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.

## 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 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.
4. Inspect air line for holes and cracks. Replace as needed.
5. A kink or fold in the air line. Reroute as needed.

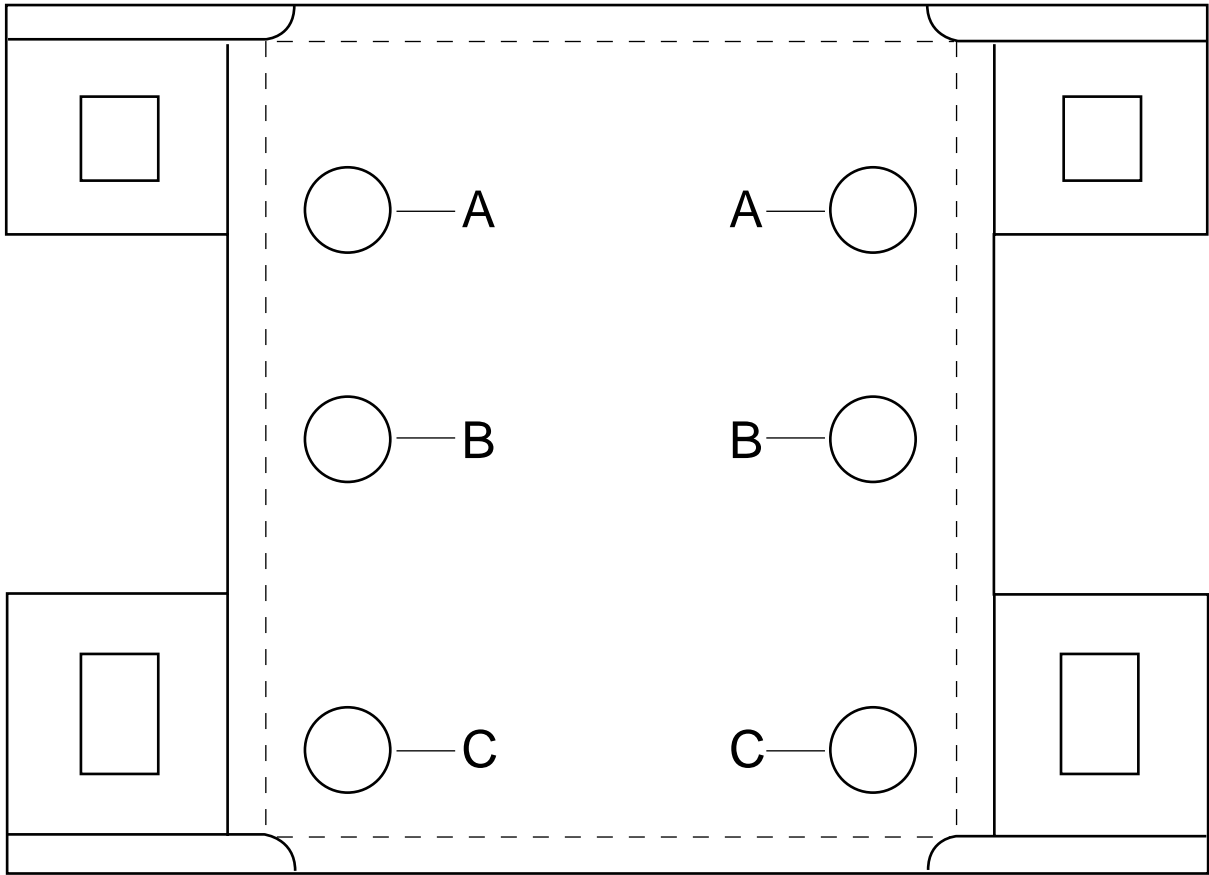
## XI. MAINTENANCE AND OPERATIONS

<b>Minimum Air Pressure</b>	<b>Maximum Air Pressure</b>
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 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.*

LOWER BRACKET TEMPLATE







# Product Use Information

## Frequently asked questions

**Q. Will installing air springs increase the weight ratings of a vehicle?**

No. Adding air springs will not change the weight ratings (GAWR, GCWR and/or GVWR) of a vehicle. Exceeding the GVWR is dangerous and voids the Air Lift warranty.

**Q. Is it necessary to keep air in the air springs at all time and how much pressure will they need?**

The minimum air pressure should be maintained at all times. The minimum air pressure keeps the air spring in shape, ensuring that it will move throughout its travel without rubbing or wearing on itself.

**Q. Is it necessary to add a compressor system to the air springs?**

No. Air pressure can be adjusted with any type of compressor as long as it can produce sufficient pressure to service the springs. Even a bicycle tire pump can be used, but it's a lot of work.

**Q. How long should air springs last?**

If the air springs are properly installed and maintained they can last indefinitely.

**Q. Will raising the vehicle on a hoist for service work damage the air springs?**

No. The vehicle can be lifted on a hoist for short-term service work such as tire rotation or oil changes. However, if the vehicle will be on the hoist for a prolonged period of time, support the axle with jack stands in order to take the tension off of the air springs.

## Tuning the air pressure

Pressure determination comes down to three things — level vehicle, ride comfort, and stability.

**1. Level vehicle**

If the vehicle's headlights are shining into the trees or the vehicle is leaning to one side, then it is not level (fig. 1). Raise the air pressure to correct either of these problems and level the vehicle.

**2. Ride comfort**

If the vehicle has a rough and harsh ride it may be due to either too much pressure or not enough (fig. 2). Try different pressures to determine the best ride comfort.

**3. Stability**

Stability translates into safety and should be the priority, meaning the driver may need to sacrifice a perfectly level and comfortable ride. Stability issues include roll control, bounce, dive during braking and sponginess (fig. 3). Tuning out these problems usually requires an increase in pressure.



Bad headlight aim



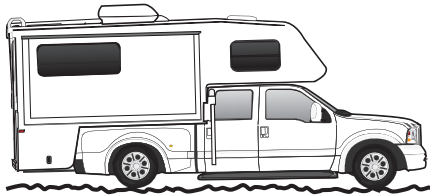
Sway and body roll



Rough ride

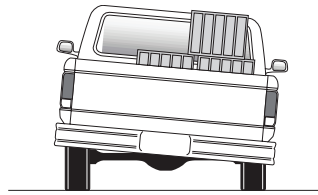
### Guidelines for adding air:

1. Start with the vehicle level or slightly above.
2. When in doubt, always add air.
3. For motorhomes, start with 50-100 PSI in the rear because it can be safely assumed that it is heavily loaded.
4. If the front of the vehicle dives while braking, increase the pressure in the front air bags, if equipped.
5. If it is ever suspected that the air bags have bottomed out, increase the pressure (fig. 4).
6. Adjust the pressure up and down to find the best ride.
7. If the vehicle rocks and rolls, adjust the air pressure to reduce movement.
8. It may be necessary to maintain different pressures on each side of the vehicle. Loads such as water, fuel, and appliances will cause the vehicle to be heavier on one side (fig. 5). As much as a 50 PSI difference is not uncommon.

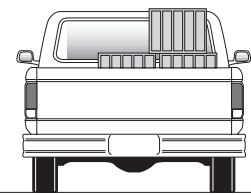


Bottoming out

*fig. 4*



Unlevel



Level

*fig. 5*