

LoadLIFTER5000

Kit No. 57154



MN-505
(01201)
NPR 3733

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	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



BB



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:

II. Assembling the Air Spring

1. Loosely attach the driver side upper bracket (B) to the air spring with two $\frac{3}{8}$ "-24 x $\frac{7}{8}$ " 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 opposite the lower bracket attaching holes. (Figure 4)
4. Secure the lower bracket (D) to the air spring with two $\frac{3}{8}$ "-24 x $\frac{7}{8}$ " hex head bolts (K), lockwashers (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), $\frac{3}{8}$ " flat washers (J), oversized flat washers (I) and $\frac{3}{8}$ " lock nuts (H) through existing holes in the frame. Be sure the oversized flat washers are on the inside of the frame rail. Tighten all mounting hardware securely.

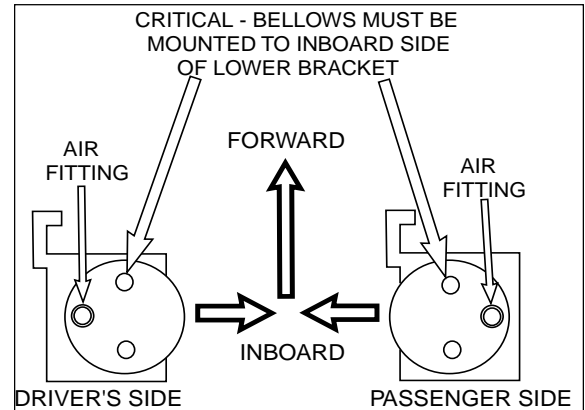


Figure 3



Figure 4



Figure 5



Figure 7

6. Insert u-bolt (E) down through the holes in the bracket. Slide the clamp bar (F) over u-bolt. Install two $\frac{3}{8}$ " nylocks nuts (H). Torque to 16ft.lbs. (Figure 7)
7. Install air fitting (M) into bellows. Finger tight plus $1\frac{1}{2}$ " 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.



Figure 8

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).

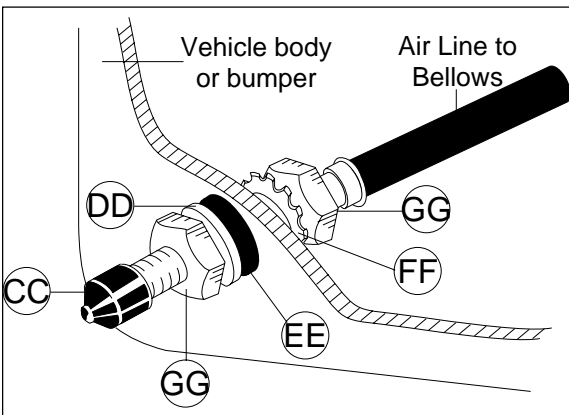


Figure 9

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. Leave at least 2" of slack to allow for any movement that might pull on 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 straight fitting until it bottoms out ($\frac{9}{16}$ " 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 $\frac{1}{5}$ 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. (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

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 $\frac{1}{2}$ 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.



Figure 12



Figure 13

IX. 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 (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.*



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

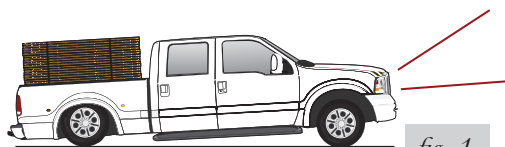
If the vehicle's headlights are shining into the trees or the vehicle is leaning to one side, then it is not level (fig. 1). Raise the air pressure to correct either of these problems and level the vehicle.

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.



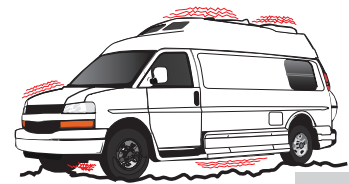
Bad headlight aim

fig. 1



Sway and body roll

fig. 2

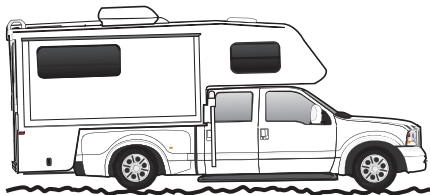


Rough ride

fig. 3

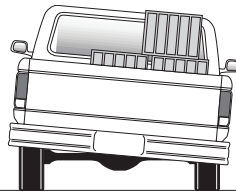
Guidelines for adding air:

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.

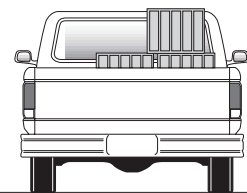


Bottoming out

fig. 4



Unlevel



Level

fig. 5