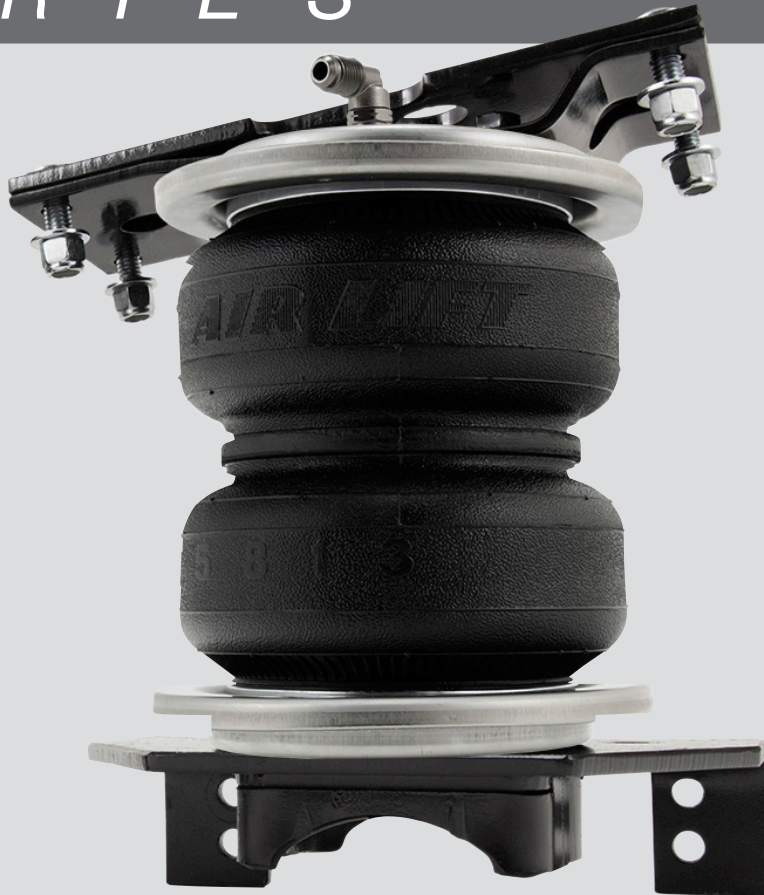




LoadLIFTER 5000™

S E R I E S

Installation
Guide



2017-current Ford Super Duty

Kits 57391 | 88391

2WD (Single and dual rear wheel)

For maximum effectiveness and safety, please read these instructions completely before proceeding with installation.

Failure to read these instructions can result in an incorrect installation.

IDENTIFYING THE DIFFERENCES BETWEEN KITS

Should you need to contact Air Lift customer service, you will need to know which kit you are inquiring about: standard LoadLifter 5000 or LoadLifter 5000 Ultimate. The kits are easily identifiable by looking at the roll plates.

- Standard **LoadLifter 5000** — Zinc-plated steel roll plates.
- LoadLifter 5000 Ultimate** — Black powder-coated roll plates.



LoadLifter 5000
silver zinc-plated steel
roll plate



LoadLifter 5000 Ultimate
black powder-coated
roll plate

TABLE OF CONTENTS

A. Installation Diagram	2
B. Hardware and Tools Lists	3
C. Introduction	4
Important Safety Notice	4
Notation Explanation	4
D. Installing the LoadLifter 5000 Series System	5
Getting Started	5
Assembling the Air Springs	7
Installing the Assemblies	8
E. Installing the Air Lines	11
Installing Nylon Air Lines	11
Installing the Heat Shield	11
F. Finished Installation Photos	12
G. Before Operating	13
Checking for Leaks	13
Fixing Leaks	13
Installation Checklist	14
Post-Installation Checklist	14
H. Product Use, Maintenance and Servicing	15
Minimum and Maximum Pressure	15
Maintenance Guidelines	15
Tuning the Air Pressure	16
Guidelines for Adding Air	16
I. Troubleshooting Guide	17
Frequently Asked Questions	17

A. Installation Diagram

Driver's (left) side shown

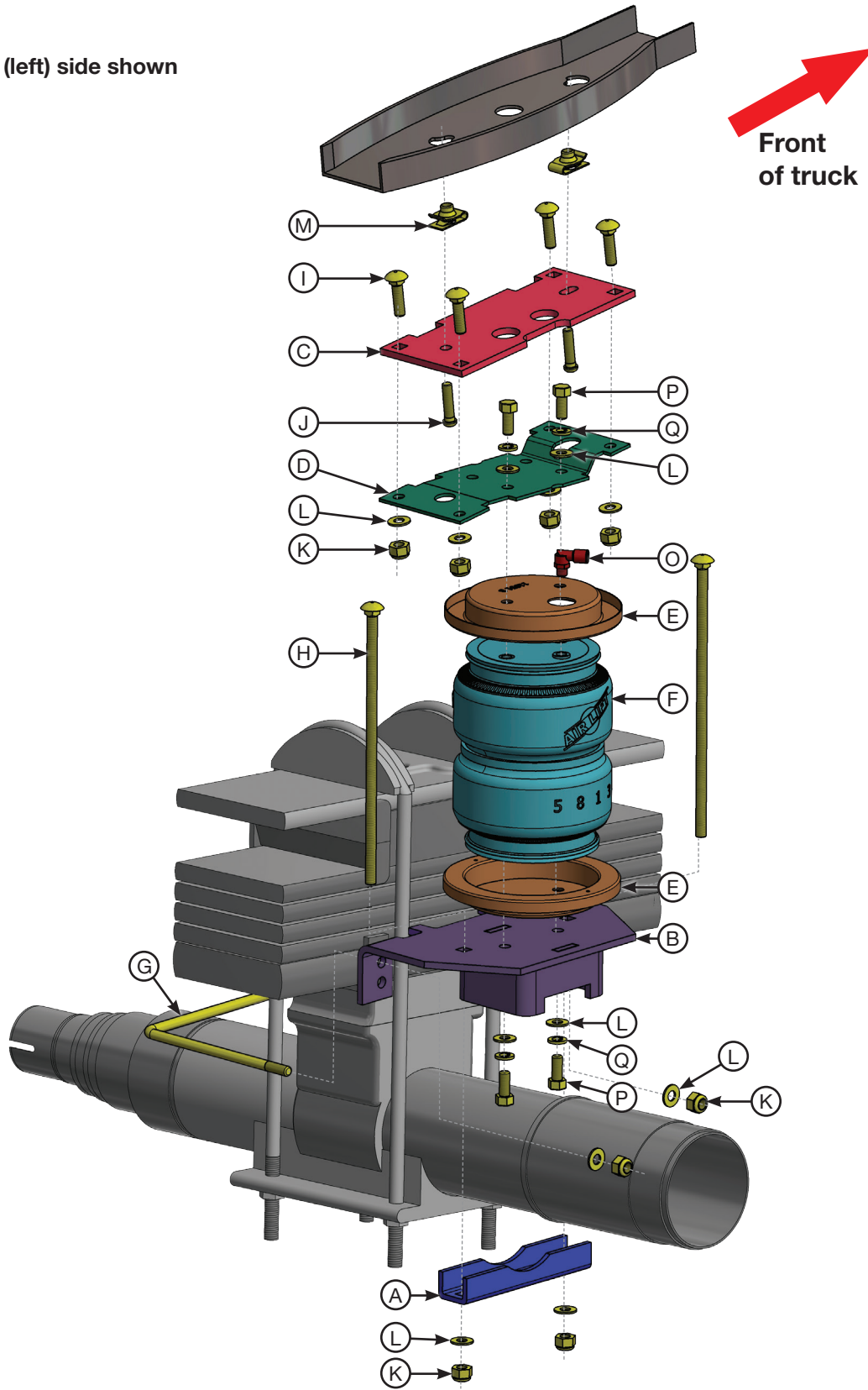


fig. A.1



B. Hardware and Tools Lists

Common Parts Included in Both Kits

Item	Part#	Description	Qty
A	01531	Clamp bar	2
B	03027	Lower bracket	2
C	07045	Upper frame bracket.....	2
D	07220	Upper air spring bracket	2
G	11770	U-bolt	2
H	17152	3/8"-16 x 8" Carriage bolt.....	4
I	17361	3/8"-16 x 1 1/4" Carriage bolt.....	8
J	17366	M10-1.50 x 35mm Button-head cap screw	4
K	18435	3/8"-16 Nylon lock nut.....	16
L	18444	3/8" Flat washer.....	24
M	18622	M10 X 1.5mm Universal nut.....	4
N*	11409	Tree mount	1
O	21837	90-degree Push-to-connect (PTC) fitting.....	2
P	17203	3/8"-24 x 7/8" Hex-head cap screw	8
Q	18427	3/8" Split-lock washer.....	8
AA*	20086	Air line	1
BB*	10466	Zip ties	6
CC*	18501	M8 Flat washer.....	2
DD*	18411	5/16" External-tooth lock washer	2
EE*	21230	Poly cap	2
FF*	21233	5/16"-32 Hex nut.....	4
GG*	21234	5/16" x 11/16" Flat washer	2

* Not shown in installation diagram

Unique Parts in Each Kit

LoadLIFTER 5000™ KIT 57391

Item	Part#	Description	Qty
E	11951	Silver zinc-plated roll plate.....	4
F	58437	Air spring.....	2

LoadLIFTER 5000™ ULTIMATE KIT 88391

Item	Part#	Description	Qty
E	11967	Black powder-coated roll plate.....	4
F	58496	Air spring with internal jounce bumper	2

TOOLS LIST

Description.....	Qty
Standard and metric open-end or box wrenches	SET
Ratchet	1
Standard and metric sockets.....	SET
Flathead screwdriver	1
Adjustable wrench	1
5/16" (8mm) drill bit (very sharp)	1
Heavy-duty drill	1
Torque wrench	1
Standard and metric hex-key wrenches	1
Hose cutter, razor blade, or sharp knife	1
Hoist or floor jacks	1
Safety stands.....	1
Safety glasses	1
Air compressor or compressed air source	1
Spray bottle with dish soap/water solution.....	1

C. Introduction

The purpose of this publication is to assist with the installation, maintenance and troubleshooting of the standard LoadLifter 5000 or LoadLifter 5000 Ultimate air spring kits. All LoadLifter 5000 series kits utilize sturdy, reinforced, commercial-grade single or double, depending on the kit, convolute bellows. LoadLifter 5000 Ultimate kits add an internal jounce bumper and black powder-coated roll plates.

The air springs are manufactured like a tire with layers of rubber and cords that control growth. LoadLifter 5000 series kits are recommended for most 3/4- and 1-ton pickups and SUVs with leaf springs and provide up to 5,000 pounds (2,268kg) of load-leveling support with air adjustability from 5-100 PSI (.34-7BAR).

It is important to read and understand the entire installation guide before beginning installation or performing any maintenance, service or repair.

Air Lift Company reserves the right to make changes and improvements to its products and publications at any time.

IMPORTANT SAFETY NOTICE

The installation of this kit does not alter the gross vehicle weight rating (GVWR) or payload of the vehicle. Check the vehicle's owner's manual and do not exceed the maximum load listed for this vehicle.

Gross vehicle weight rating: The maximum allowable weight of the fully loaded vehicle (including passengers and cargo). This number — along with other weight limits, as well as tire, rim size and inflation pressure data — is shown on the vehicle's Safety Compliance Certification Label.

Payload: The combined, maximum allowable weight of cargo and passengers that the truck is designed to carry. Payload is GVWR minus the base curb weight.

NOTATION EXPLANATION

Hazard notations appear in various locations in this publication. Information which is highlighted by one of these notations must be observed to help minimize risk of personal injury or possible improper installation which may render the vehicle unsafe. Notes are used to help emphasize areas of procedural importance and provide helpful suggestions. The following definitions explain the use of these notations as they appear throughout this guide.



INDICATES IMMEDIATE HAZARDS WHICH WILL RESULT IN SEVERE PERSONAL INJURY OR DEATH.



INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN SEVERE PERSONAL INJURY OR DEATH.



INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN DAMAGE TO THE MACHINE OR MINOR PERSONAL INJURY.

NOTE

Indicates a procedure, practice or hint which is important to highlight.

D. Installing the LoadLifter 5000 Series System

GETTING STARTED

NOTE

This installation guide shows how to install the air spring on the driver's (left) side of the vehicle. Unless otherwise noted, repeat each step for the passenger's (right) side.

1. Raise the vehicle and support it in a way, using jack stands or equivalent, so that the axle can be safely dropped away from the frame. This needs to be done in order for the air spring assembly to be put into position between the axle and frame (Fig. D.1).

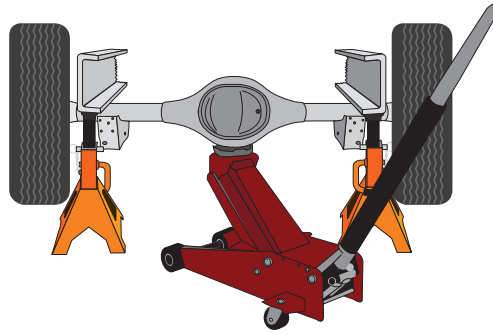


fig. D.1

2. For single-rear-wheel (SRW) models, pull the ABS tree mount out of the bracket behind the axle, on the passenger's (right) side (Fig. D.2). Leave loose at this time.

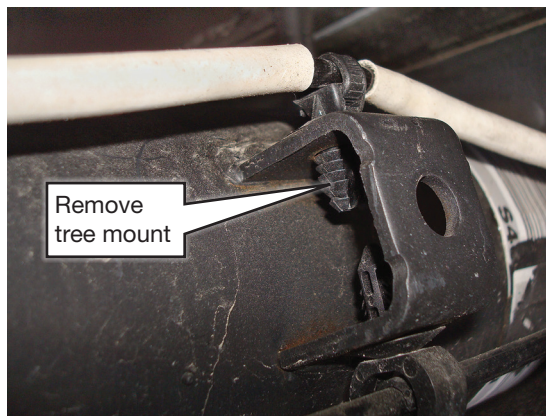


fig. D.2

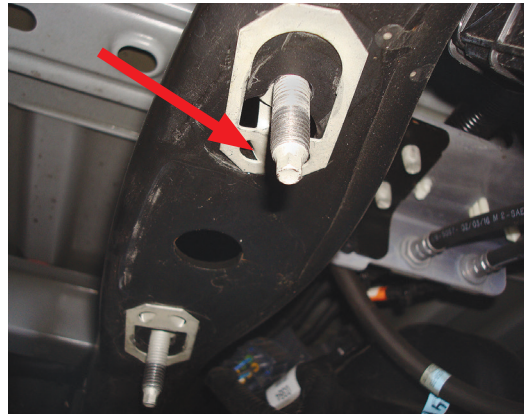
3. Also for SRW models, it will be necessary to slightly bend the driver's (left) side brake line/axle vent tube bracket to make room to install the driver's side assembly. To do this, pull the ABS tree mount out of the hole in the bracket. Using an adjustable wrench under where the brake hard line junction is, bend the bracket back 1/8" (3mm) and reinstall the ABS tree mount (Fig. D.3).



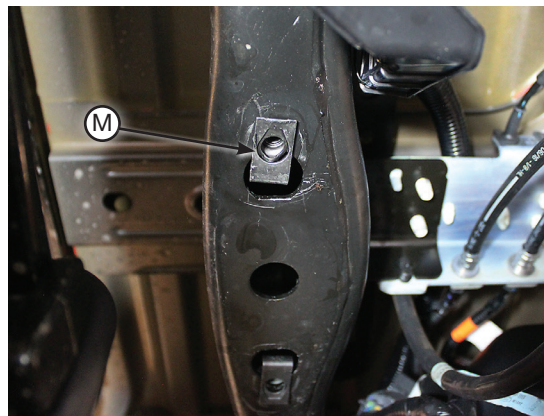
Bend bracket 1/8" (3mm) to gain clearance for the ABS line once the air spring assembly is installed.

fig. D.3

- Remove the jounce bumper assemblies from under the frame (Fig. D.4). Remove the clip-in studs by prying on the hinged end with a flathead screwdriver. Pull all four – two from each side – out of the frame (Fig. D.5).

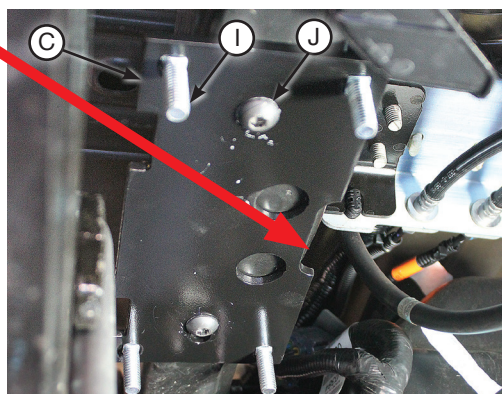
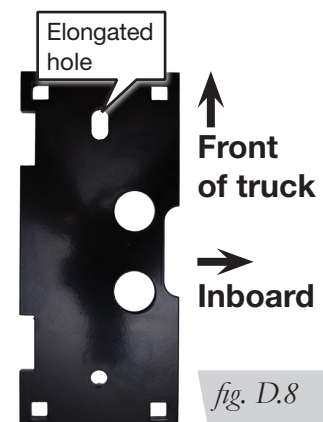

fig. D.4

fig. D.5

- Install the universal nuts (M) into the frame rail, lining up the holes in the frame and the threads in the nuts so that a bolt can be installed (Fig. D.6). A flathead screwdriver works well to pry the universal nut into position.


fig. D.6

- Insert the 3/8"-16 x 1 1/4" carriage bolts (I) into the upper frame bracket (C) and install the upper bracket onto the frame using the M10-1.5 x 35mm button-head cap screws (J). The side of the bracket with the single slot should be inboard of the frame rail (Figs. D.7 & D.8). The elongated hole should be toward the front of the truck (Fig. D.8). Torque hardware to 38 lb.-ft. (52Nm).

This slot in the bracket goes inboard away from leaf spring and tire.

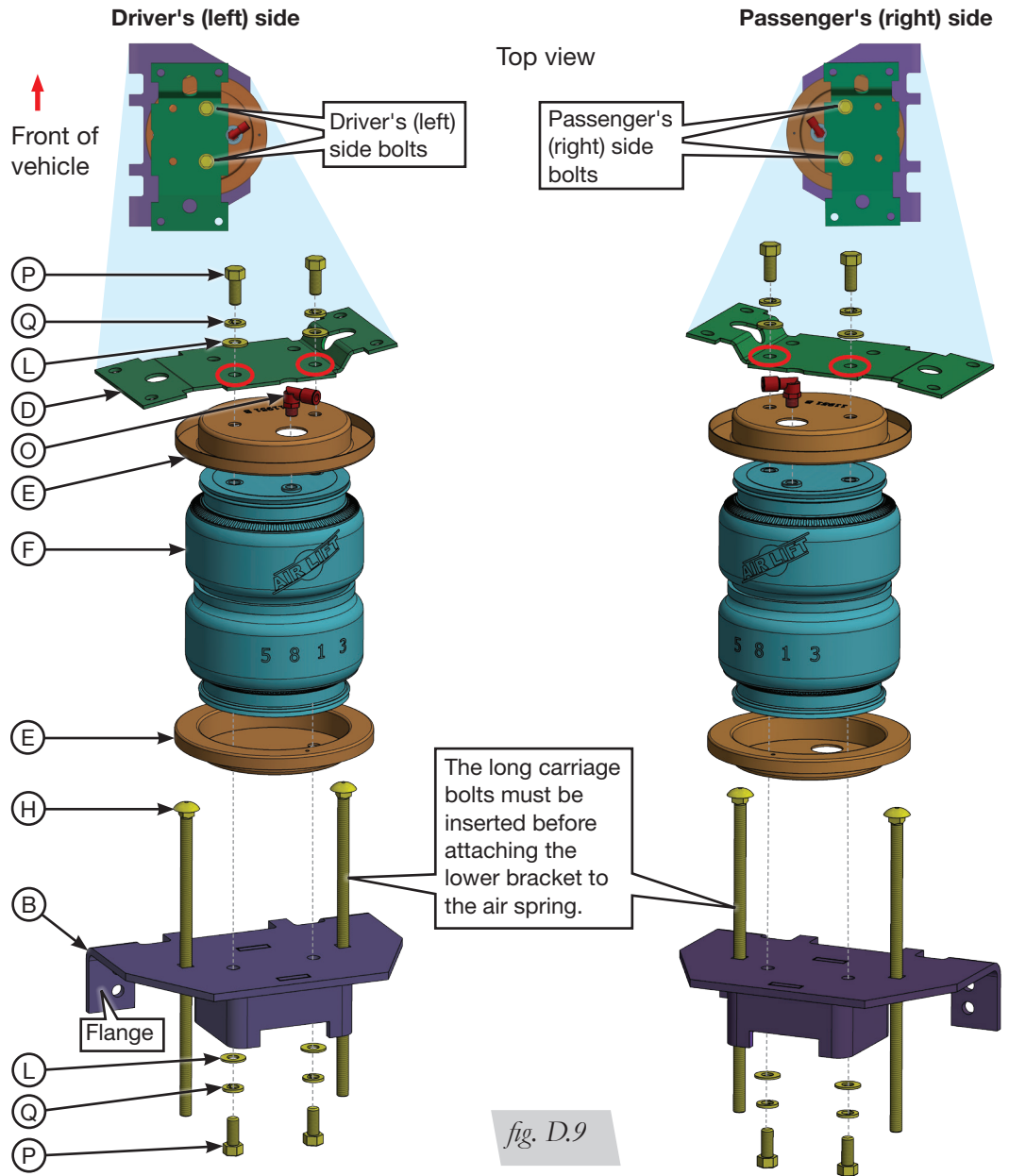

fig. D.7

fig. D.8

ASSEMBLING THE AIR SPRINGS

1. Position roll plates (E) and install the swivel air fittings (O) on top of the air springs (F) (Fig. D.9). Tighten the air fittings finger tight plus 1 1/2 turns.
2. Use two 3/8"-24 x 7/8" hex-head cap screws (P), 3/8" lock washers (Q) and 3/8" flat washers (L) to attach the upper air spring bracket (D) to each of the air springs. Torque the hardware to no more than 20 lb.-ft. (27Nm).

NOTE

Once the upper brackets are installed, the assemblies will be left- and right-hand specific.



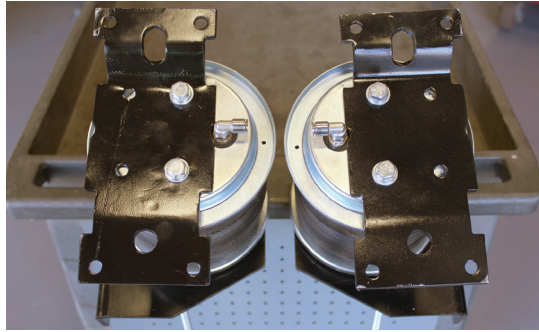
3. Insert two 3/8"-16 x 8" carriage bolts (H) into the square holes on the lower bracket (B). The bolts will protrude in the same direction as the lower bracket flanges.
4. Use two 3/8"-24 x 7/8" hex-head cap screws (P), 3/8" lock washers (Q) and 3/8" flat washers (L) to attach the lower bracket and roll plate to the bottom of the air spring. Torque the hardware to no more than 20 lb.-ft. (27Nm).

NOTE

Flanges on the lower bracket (B) must be on the opposite side from the swivel air fitting (O).

5. Figure D.10 shows the finished air spring assemblies.

**Driver's
(left) side**

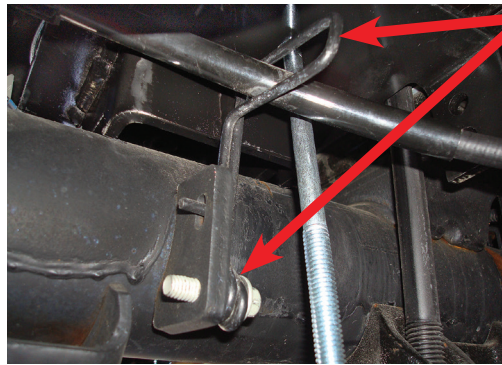


**Passenger's
(right) side**

fig. D.10

INSTALLING THE ASSEMBLIES

1. With the vehicle supported by jack stands, drop the axle or raise the body so that the assemblies can be put into position in between the axle and frame.
2. Before setting the driver's (left) side assembly into position, it may be necessary to move the emergency brake cable wire retainer that is on the front side of the driver's side axle to make room for the lower bracket to fit onto the axle properly. Do this by loosening the bolt holding the wire hanger onto the axle bracket, then pulling the wire hanger forward until it stops. Tighten the bolt and if needed, bend the wire hanger slightly if it still contacts the lower bracket (Fig. D.11).



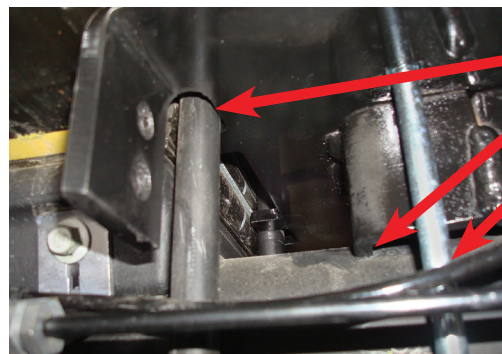
The wire emergency brake cable hanger may need to be moved forward slightly to clear the lower bracket.

fig. D.11

CAUTION

WHEN ATTACHING THE LOWER BRACKET ASSEMBLY, PLACE THE CARRIAGE BOLT IN BETWEEN OR BEHIND THE HARD BRAKE LINE, BEHIND THE AXLE, WHICHEVER PROVIDES THE MOST CLEARANCE. IT MAY BE NECESSARY TO ADJUST THE BRAKE LINE SLIGHTLY TO PROVIDE PROPER CLEARANCE. THE BRAKE LINE MUST NOT TOUCH THE CARRIAGE BOLT.

3. Set the air spring assembly into position so that the lower bracket is resting on the axle. Push the lower bracket so that it is flush against the leaf spring stack/stock U-bolts. The flanges on the lower bracket should lock on the sides of the U-bolt (Fig. D.12).



Driver's (left) side

Bracket tight against stock U-bolt

Lower bracket mount on top of axle

Back side carriage bolt between hard brake line/ABS line and axle

fig. D.12

4. Install the U-bolts (G) around the stock spring perch/U-bolts (Fig. D.13). Insert the U-bolts through the holes in the lower bracket flange that are closest to the stock leaf springs. Cap with 3/8" flat washers (L) and 3/8"-16 nylon lock nuts (K) (Fig. D.14). Snug the bolts evenly, just enough to hold the lower bracket flush against the stock U-bolts.

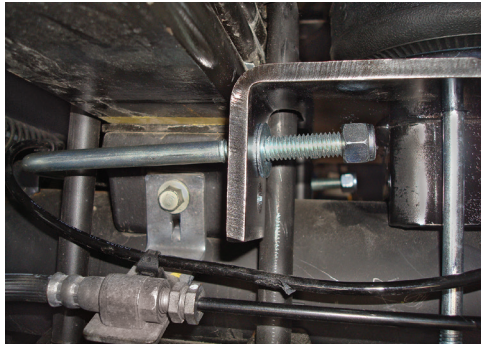


fig. D.13

5. Set the clamp bar (A) over the carriage bolts located under the axle (Fig. D.14). Attach with 3/8" flat washers (L) and 3/8"-16 nylon lock nuts (K). Evenly torque the lower clamp bar hardware to 16 lb.-ft. (22Nm). Finish tightening the U-bolt hardware previously snugged by torquing to 10 lb.-ft. (14Nm). Do this for both sides.

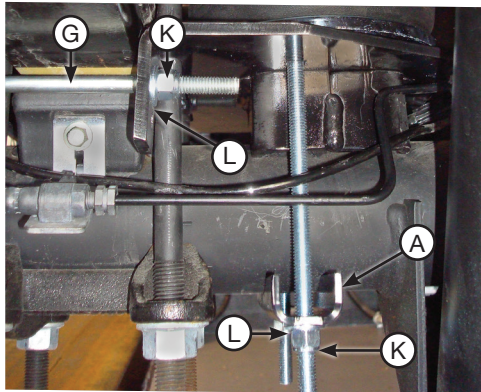


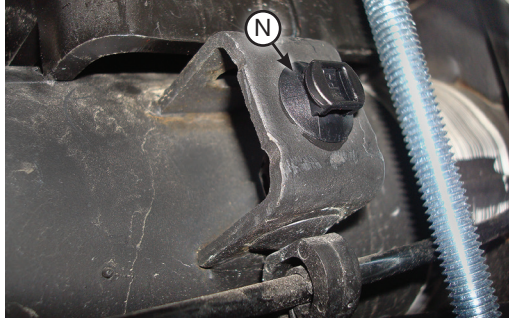
fig. D.14

6. On vehicles with a sway bar, it might be necessary to cut the rear carriage bolt so it does not contact the sway bar (Fig. D.15).

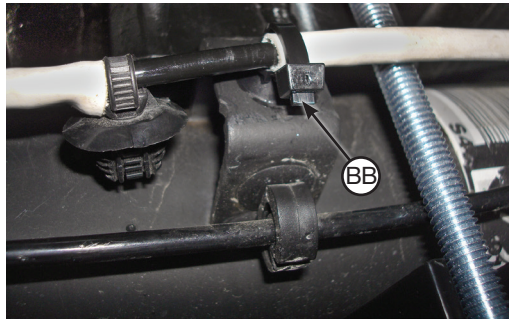


fig. D.15

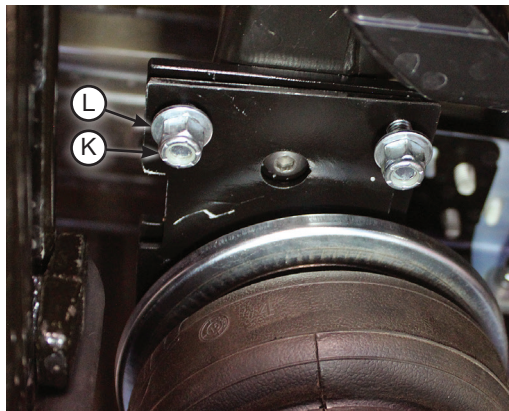
7. In the "Getting Started" section, step one, it was necessary on the SRW models to remove the tree mount that held the ABS cable to the backside bracket on the axle. Reattach by installing the new tree mount (N) into the original installation hole on the back side of the axle bracket (Fig. D.16) making sure the slot for the zip tie is up and down when inserting it into the bracket.


fig. D.16

8. Insert a zip tie (BB) in through the tree mount previously installed, around the ABS line and tie line off tight. The stock tree mount on the ABS line can stay in place. Trim the tie close to the tree mount (Fig. D.17).


fig. D.17

9. Before proceeding, make sure that the 90-degree fittings are pointing inboard toward the center of the vehicle. While raising or lowering the axle or body of the vehicle, align the previously installed upper frame bracket carriage bolts with the air spring bracket so the carriage bolts protrude through the bracket. Cap the carriage bolts with the 3/8" flat washers (L) and 3/8"-16 nylon lock nuts (K) (Fig. D.18). Snug the nuts evenly first then torque to 31 lb.-ft. (42Nm).


fig. D.18

E. Installing the Air Lines

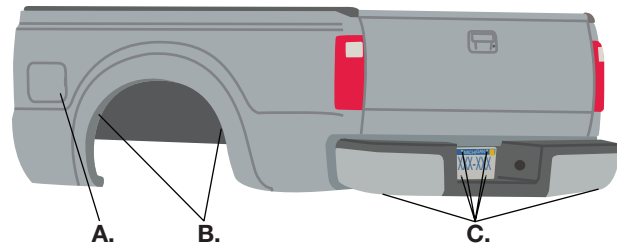
Choose the locations for the Schrader valves and drill a 5/16" (8mm) hole, if necessary (Fig. E.1).

1. Cut the air line in half. Make clean, square cuts with a razor blade or hose cutter (Fig. E.2). Do not use scissors or wire cutters.

CAUTION

KEEP AT LEAST 6" (150MM) OF CLEARANCE BETWEEN ALL AIR LINES AND THE EXHAUST SYSTEM. AVOID SHARP BENDS AND EDGES.

2. Use zip ties to secure the air line to fixed points along the chassis. Do not pinch or kink the air line. Leave at least 2" (50mm) of slack in the air line to allow for any movement that might pull on the air line. The minimum bend radius for the air line is 1" (25mm).
3. Install the Schrader valve in the chosen location (Fig. E.3).



A. Inside fuel tank filler door
B. Inside rear wheel wells
C. License plate or rear bumper area*

fig. E.1

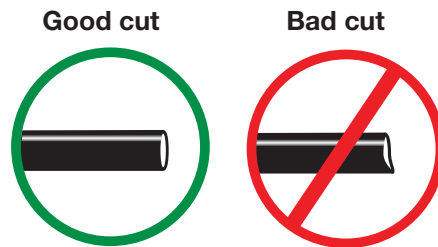


fig. E.2

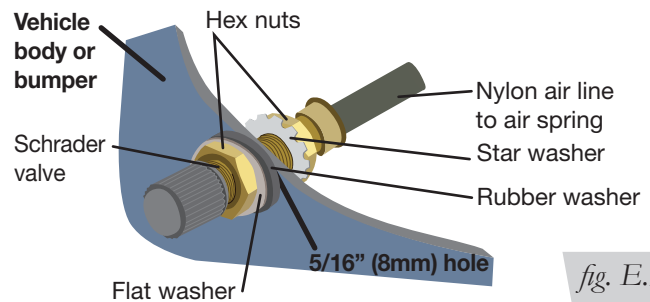


fig. E.3

INSTALLING THE HEAT SHIELD

1. Attach the metal heat shield to the exhaust where it is closest to the passenger's (right) side air spring. Slide the air line thermal sleeve over the air line and position it where the air line is closest to the exhaust. (Fig. E.4).

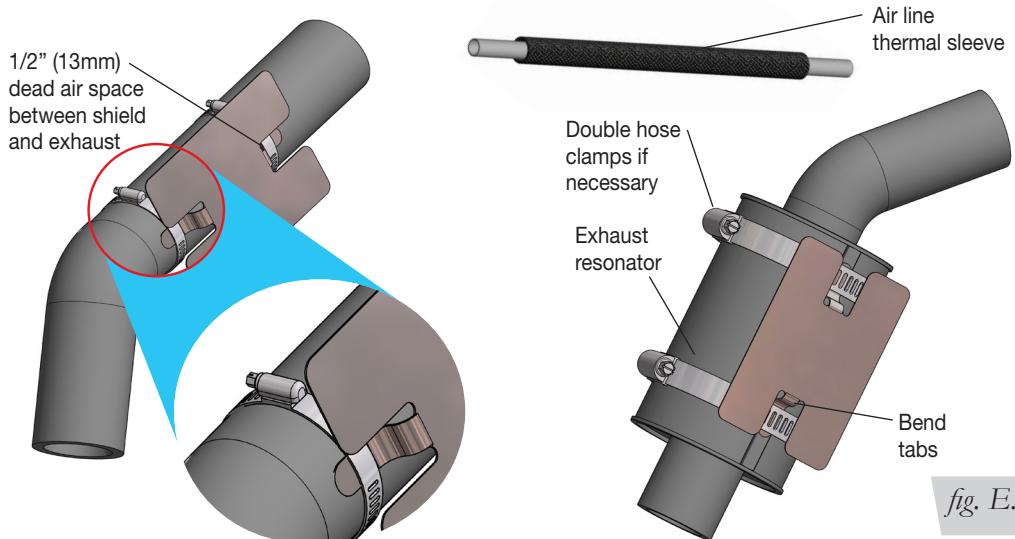
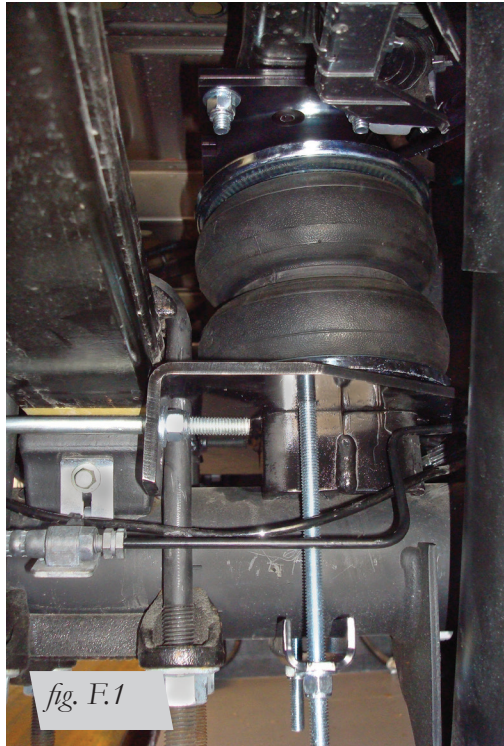


fig. E.4

F. Finished Installation Photos

These images show the finished installation of both sides (Figs. F.1, F.2, F.3 & F.4).



Driver's (left) side rear view of kit installed.



Driver's (left) side inside frame view of kit installed.



Passenger's (right) side rear view of kit installed.



Passenger's (right) side inside frame view of kit installed.

G. Before Operating

CHECKING FOR LEAKS

1. Inflate the air spring to 30 PSI (2BAR).
2. Spray all connections and the inflation valves with a solution of liquid dish soap and water. 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 system to normal ride height. Do not deflate to lower than 5 PSI (.34BAR).
4. Check the air pressure again after 24 hours. A 2-4 PSI (.14-.28BAR) loss after initial installation is normal. Retest for leaks if the loss is more than 5 PSI (.34BAR).

FIXING LEAKS

1. If there is a problem with the swivel fitting:
 - 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" (25mm) off the end of the air line. Be sure the cut is clean and square (see Fig. E.2). Reinsert the air line into the push-to-connect fitting.
 - b. Check the threaded connection by tightening the swivel fitting another half 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 and then use a wrench for an additional two turns.
2. If there is a problem with the inflation valve:
 - a. Check the valve core by tightening it with a valve core tool.
 - b. Check the air line by removing the air line from the barbed fitting. Cut the air line off a few inches in front of the fitting and use a pair of pliers or vice grips to pull/twist the air line off of the fitting.

**CAUTION**

DO NOT CUT OFF THE AIR LINE OFF AT THE FITTING BECAUSE THIS COULD NICK THE BARB AND RENDER THE FITTING USELESS.

3. If the preceding steps have not resolved the problem.

INSTALLATION CHECKLIST

- Clearance test** — Inflate the air springs to 40-50 PSI (2.8-3.5BAR) and make sure there is at least 1/2" (13mm) clearance from anything that might rub against each sleeve. Be sure to check the tire, brakes, frame, shock absorbers and brake cables.

- Leak test before road test** — Inflate the air springs to 40-50 PSI (2.8-3.5BAR) and check all connections for leaks. All leaks must be eliminated before the vehicle is road tested.

- Heat test** — Be sure there is sufficient clearance from heat sources, at least 6" (150mm) 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.

- Fastener test** — Recheck all bolts for proper torque.

- Road test** — The vehicle should be road tested after the preceding tests. Inflate the springs to recommended driving pressures. Drive the vehicle 10 miles (16km) and recheck for clearance, loose fasteners and air leaks.

- Operating instructions** — If professionally installed, the installer should review the operating instructions with the owner. Be sure to provide the owner with all of the paperwork that came with the kit.

POST-INSTALLATION CHECKLIST

- Overnight leak down test** — Recheck air pressure after the vehicle has been used for 24 hours. If the pressure has dropped more than 5 PSI (.34BAR), then there is a leak that must be fixed. Either fix the leak yourself or return to the installer for service.

- Air pressure requirements** — It is important to understand the air pressure requirements of the air spring system. Regardless of load, the air pressure should always be adjusted to maintain adequate ride height at all times while driving.

- Thirty-day or 500-mile (800km) test** — Recheck the air spring system after 30 days or 500 miles (800km), 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.

H. Product Use, Maintenance and Servicing

Minimum Recommended Pressure	Maximum Air Pressure
5 PSI (.34BAR)	100 PSI (7BAR)

MAINTENANCE GUIDELINES

NOTE

By following the steps below, vehicle owners will obtain the longest life and best results from their air springs.



CAUTION

FOR SAFETY AND TO PREVENT POSSIBLE DAMAGE TO THE VEHICLE, DO NOT EXCEED MAXIMUM GROSS VEHICLE WEIGHT RATING (GVWR), AS INDICATED BY THE VEHICLE MANUFACTURER. ALTHOUGH THE AIR SPRINGS ARE RATED AT A MAXIMUM INFLATION PRESSURE OF 100 PSI (7BAR), THE AIR PRESSURE ACTUALLY NEEDED IS DEPENDENT ON LOAD AND GROSS VEHICLE WEIGHT RATING .

1. Check air pressure weekly.
2. Always maintain normal ride height. Never inflate beyond 100 PSI (7BAR).
3. If the system develops an air leak, use a soapy water solution to check all air line connections and the inflation valve core before deflating and removing the air spring.
4. Loaded vehicles require at least 25 PSI (1.7BAR). A “loaded vehicle” refers to a vehicle with a heavy bed load, a trailer or both. Never exceed GVWR, regardless of air spring, air pressure or other load assist. The springs in this kit will support approximately 40 pounds (18kg) of load (combined on both springs) for each 1 PSI (.07BAR) of pressure. The required air pressure will vary depending on the state of the original suspension. Operating the vehicle below the minimum air spring pressure will void the Air Lift warranty.
5. When increasing load, always adjust air pressure to maintain 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.
6. Always add air to springs in small quantities, checking the pressure frequently.
7. Should it be necessary to raise the vehicle by the frame, make sure the system is at minimum pressure (5 PSI [.34BAR]) to reduce the tension on the suspension/ brake components. Use of on-board leveling systems do not require deflation or disconnection.
8. Periodically check the air spring system fasteners for tightness. Also, check the air springs for any signs of rubbing. Realign if necessary.
9. On occasion, give the air springs a hard spray with a garden hose to remove mud, sand, gravel or other debris.

TUNING THE AIR PRESSURE

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

1. Level vehicle

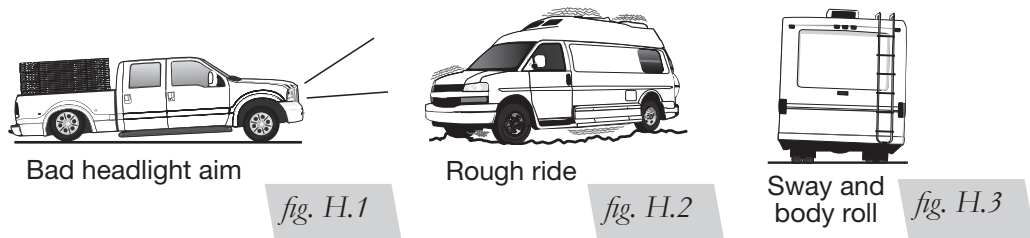
If the vehicle's headlights are shining into the trees or the vehicle is leaning to one side, then it is not level (Fig. H.1). Raise the air pressure to correct either of these problems and level the vehicle.

2. Ride comfort

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

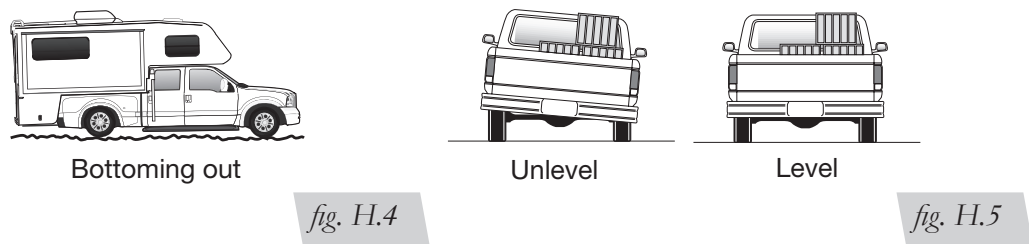
3. Stability

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. H.3). Tuning out these problems usually requires an increase in pressure.



GUIDELINES FOR ADDING AIR

1. Start with the vehicle level or slightly above.
2. When in doubt, always add air.
3. If the front of the vehicle dives while braking, increase the pressure in the front air bags, if equipped.
4. If it is ever suspected that the air bags have bottomed out, increase the pressure (Fig. H.4).
5. Adjust the pressure up and down to find the best ride.
6. If the vehicle rocks and rolls, adjust the air pressure to reduce movement.
7. 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. H.5). As much as a 50 PSI (3.5BAR) difference is not uncommon.



I. Troubleshooting Guide

PROBLEM	CAUSE	SOLUTION
System won't maintain pressure overnight.	Improperly installed air line, air line has holes or cracks.	Leak test the air line connections, the threaded connection into the air spring, and all fittings in the control system.
Air spring or hose leak.	Fitting seal or air line is compromised.	Check to make sure air lines are seated in connectors. Inspect fittings with soapy water. Trim hose or re-seal fitting. Ensure lines are cut straight.
Corner won't raise or air leak develops.	Look for a kink or fold in the air line.	Replace any air line that has been kinked.

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 times and how much pressure will they need?

The recommended minimum air pressure is 5 PSI (.34BAR), but Ultimate kits can safely be run with no air pressure unladen (no load).

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.