

LoadLifter 5000™ SERIES



Installation Guide



GM 2500-3500HD



Watch the video

Info on Table of Contents page

Kits 57341 | 88341 | 89341

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.

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Hardware and Tools Lists

Common Parts Included in All 3 Kits

| Item | Part# | Description | Qty |
|------|-------|----------------------------------|-----|
| A | 01851 | Clamp bar | 2 |
| B | 03702 | Lower bracket | 2 |
| C | 07808 | R.H. Upper bracket | 1 |
| D | 07902 | L.H. Upper bracket | 1 |
| I | 11323 | 3/8"-16 L-bolt | 2 |
| J* | 11315 | L.H. ABS loom bracket | 1 |
| K* | 11320 | R.H. ABS loom bracket | 1 |
| L | 11771 | 3/8"-16 U-bolt (round) | 2 |
| M | 17142 | 3/8"-16 X 3 1/2" Carriage bolt | 4 |
| N* | 17449 | M8-1.25 X 10 Hex cap screw | 2 |
| O | 18422 | 3/8"-16 Serrated flange lock nut | 14 |
| P* | 18501 | M8 Flat washers | 4 |
| W | 17586 | 3/8"-16 X 6 1/2" Hex cap screw | 2 |
| X | 18444 | 3/8" Flat washer | 2 |
| BB* | 10466 | Zip ties | 12 |
| DD* | 18411 | Star washer | 2 |

* These parts are not shown in the Installation Diagram (Fig.1).

TOOLS LIST

| Description | Qty |
|--|------|
| Standard and metric open-end or box wrenches | Set |
| Ratchet | 1 |
| Standard and metric, regular and deep-well sockets | Set |
| 7/32" Hex-key wrench | 1 |
| 5/16" Drill bits (very sharp) | 1 |
| Heavy duty drill | 1 |
| Torque wrench | 1 |
| Large screwdriver or small pry bar | 1 |
| Hose cutter, razor blade or sharp knife | 1 |
| Hoist or floor jack | 1 |
| Safety stands | 1 |
| Safety glasses | Pair |
| Air compressor or compressed air source | 1 |
| Spray bottle with dish soap/water solution | 1 |

INSTALLATION IMAGES IN THIS GUIDE

The images in this installation guide show the installation of a LoadLifter 7500 XL kit. The air springs in your kit may appear smaller and your roll plates may have a different finish (see page 4), but the installation process is the same.

Unique Parts in Each Kit

LoadLifter 5000™ KIT 57341

| Item | Part# | Description | Qty |
|------|-------|--|-----|
| E | 11951 | Roll plate | 4 |
| F | 58437 | Air spring | 2 |
| G | 21848 | 90 degree Swivel push to connect fitting | 2 |
| H | 17215 | 3/8"-24 X 3/4" Flat head screw | 8 |
| AA* | 20086 | Air line | 1 |
| CC* | 21230 | Valve cap | 2 |
| EE* | 21233 | 5/16" Hex nut | 4 |

LoadLifter 5000™ ULTIMATE KIT 88341

| Item | Part# | Description | Qty |
|------|-------|--|-----|
| E | 11967 | Roll plate | 4 |
| F | 58496 | Air spring with jounce bumper | 2 |
| G | 21848 | 90 degree Swivel push to connect fitting | 2 |
| H | 17215 | 3/8"-24 X 3/4" Flat head screw | 8 |
| AA* | 20086 | Air line | 1 |
| CC* | 21230 | Valve cap | 2 |
| EE* | 21233 | 5/16" Hex nut | 4 |

LoadLifter 5000™ ULTIMATE PLUS+ KIT 89341

| Item | Part# | Description | Qty |
|------|-------|--|-----|
| E | 11880 | Roll plate (stainless steel) | 4 |
| F | 58496 | Air spring with jounce bumper | 2 |
| G | 21815 | AN-type fitting | 2 |
| H | 17363 | 3/8"-24 X 3/4" Stainless steel flat head screw | 8 |
| AA* | 20987 | Stainless steel braided air line | 2 |
| FF* | 21709 | Schrader valve with cap & nut | 2 |
| GG* | 21813 | AN to PTC fitting | 2 |
| HH* | 20084 | Air line assembly | 1 |

Introduction

The purpose of this publication is to assist with the installation and maintenance of the LoadLifter 5000 series air spring kits. All LoadLifter 5000 series kits utilize sturdy, reinforced, commercial-grade single or double, depending on the kit, convolute bellows.

The air springs are manufactured like a tire with layers of rubber and cords that control growth. LoadLifter 5000 kits 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.

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.

DANGER

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

WARNING

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

CAUTION

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

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, LoadLifter 5000 Ultimate or LoadLifter 5000 Ultimate Plus. The kits are easily identifiable by looking at the roll plates and air lines.

- Standard **LoadLifter 5000** — Zinc-plated steel roll plates and black nylon air lines.
- LoadLifter 5000 Ultimate** — Black powder-coated roll plates and black nylon air lines.
- LoadLifter 5000 Ultimate Plus** — Stainless steel roll plates, braided stainless steel air lines, stainless steel air spring mounting hardware.



LoadLifter 5000
silver zinc-plated steel
roll plate



LoadLifter 5000
nylon air line



LoadLifter 5000 Ultimate
black powder-coated roll plate



LoadLifter 5000 Ultimate
nylon air line



LoadLifter 5000 Ultimate Plus
stainless steel roll plate



LoadLifter 5000 Ultimate PLUS
braided stainless steel air line

Air Lift offers two Ultimate Plus upgrade kits:

52300 - Braided stainless steel air line and fittings.

52301 - Stainless steel roll plates, air spring mounting hardware, braided stainless steel air lines and fittings.

Installing the System

PREPARING THE VEHICLE

1. Raise the frame and support the frame with safety stands. Lower the axle as far as it can go (Fig. 2).

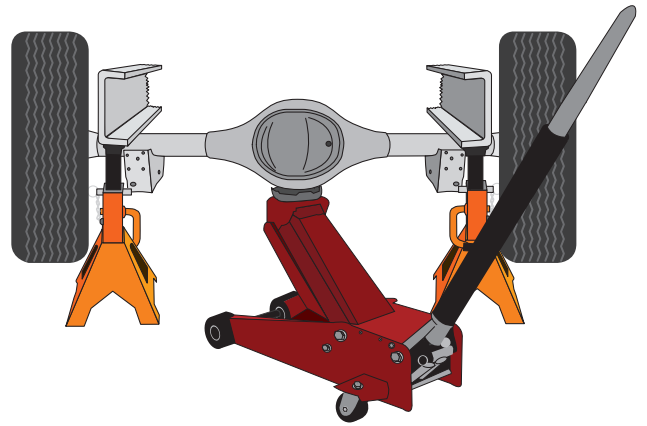
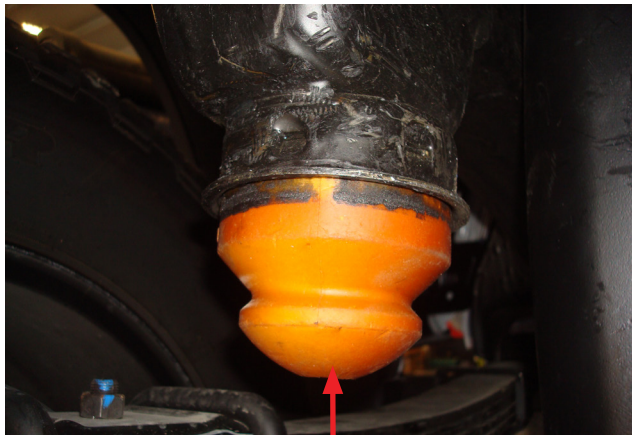


Fig. 2

2. Remove the jounce bumpers from the jounce bumper brackets on both sides by prying them out with a pry bar or large screwdriver (Fig. 3 & Fig. 4).



Jounce bumper in
mounting cup

Fig. 3



Jounce bumper
removed

Fig. 4

- Remove the two bolts that hold the brake/ABS line bracket onto the back side of the jounce bumper strike plate (Fig. 5 & Fig. 6). Pull the bracket away from the jounce bumper strike plate to make room for the lower bracket to be installed later.



Remove bolt holding bracket

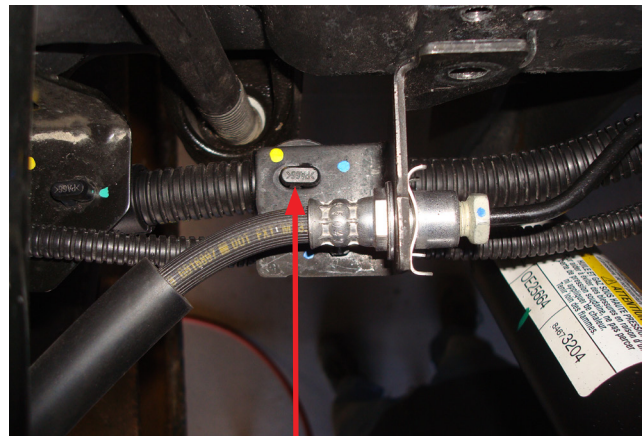
Fig. 5



Pull bracket away from jounce bumper strike plate

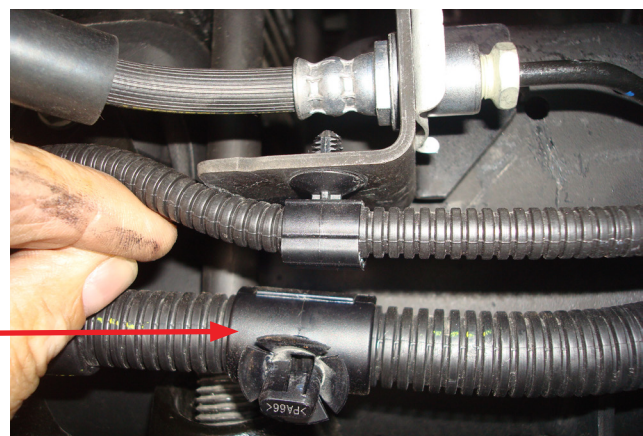
Fig. 6

- Squeeze the two locking tabs on the large ABS wiring harness loom holder that is attached to the stock brake/ABS line bracket and pull out, disconnecting it from the bracket (Fig. 7 & Fig. 8). Detach the opposite side and leave loose for now.



Carefully remove from bracket

Fig. 7



Loom holder shown removed

Fig. 8

ASSEMBLING THE AIR SPRINGS

1. Place the roll plates (E) on the air springs (F). Install the 90 degree swivel elbow fitting (G) onto the air springs (Fig. 9). Tighten the air fittings finger-tight plus 1 1/2 turns.

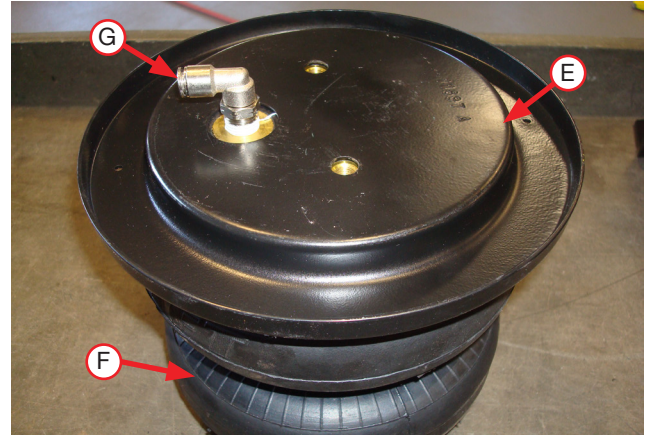


Fig. 9

2. Install both upper brackets (C & D) onto the air spring assemblies using the 3/8" flat head screws (H) (Fig. 10). Torque hardware to no more than 20 lb.-ft. (27Nm).
3. To determine which holes in the lower bracket (B) to use for installing on the air spring assemblies, set them next to each other with the angled sections pointing toward each other (Fig. 1, Fig. 11 & Fig. 12). Use the first and the third holes on each bracket to attach to the air springs. Set a roll plate (E) onto the air spring assembly and attach the lower bracket onto the air spring with two 3/8" flat head screws (H) and torque to no more than 20 lb.-ft (27Nm).

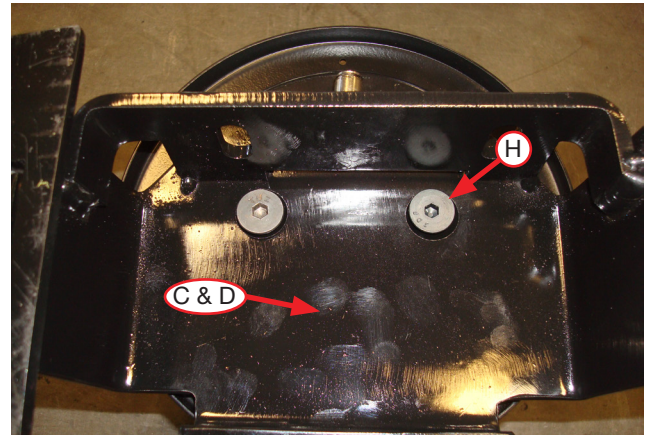


Fig. 10

NOTE

THE ANGLED SIDE OF THE LOWER BRACKET WILL BE ON THE FITTING SIDE OF THE AIR SPRING (FIGS. 1, 11 & 12).

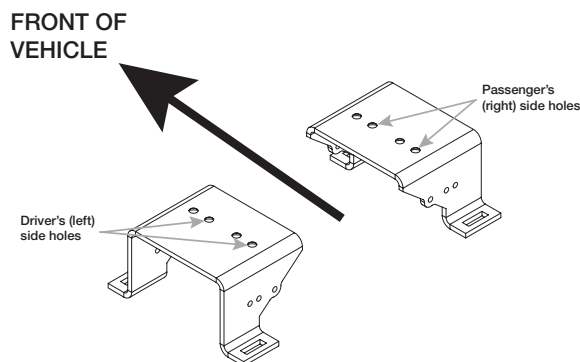
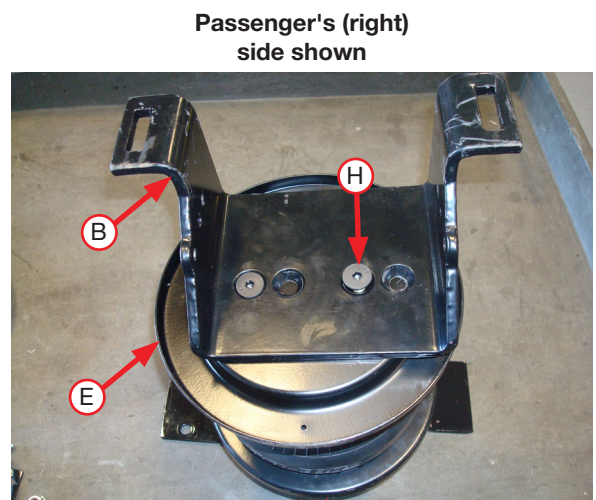


Fig. 11



Passenger's (right) side shown

Fitting side of air spring assembly

Fig. 12

4. Fig. 13 shows driver's (left) and passenger's (right) side assemblies.

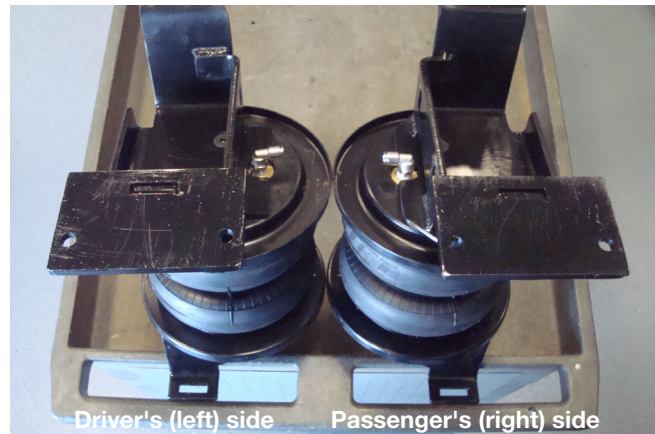
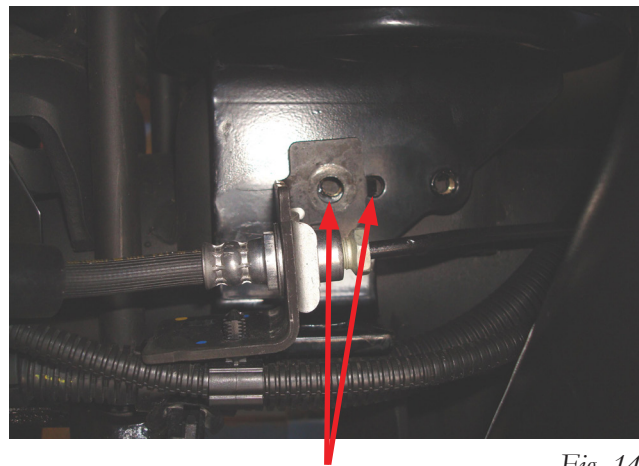


Fig. 13

INSTALLING THE AIR SPRING ASSEMBLIES

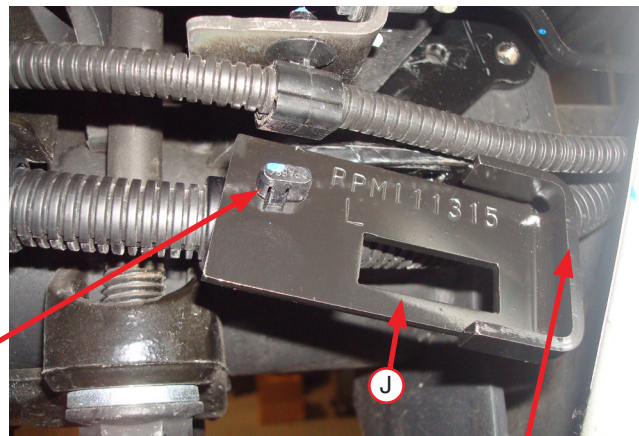
1. With the suspension at full extension, set the driver's (left-hand) and passenger's (right-hand) side assemblies over the axle jounce bumper strike plates making sure the fitting is pointing to the inside of the frame. Push the lower bracket down flush to the strike plate and by moving the air spring assembly in and out, align the lower bracket until the tab and the hole on the brake line/ABS bracket aligns with the holes in the lower bracket (Fig. 14).



Align brake/ABS bracket hole and tab with holes in the lower bracket

Fig. 14

2. Attach the ABS loom holder (previously removed) to the underside of each ABS loom bracket (J & K) supplied (Fig. 15). The left-hand side is for the driver's (left) side, the right-hand side is for the passenger's (right) side. Once installed, the brackets will nest around the bottom of the lower bracket (Fig. 16).

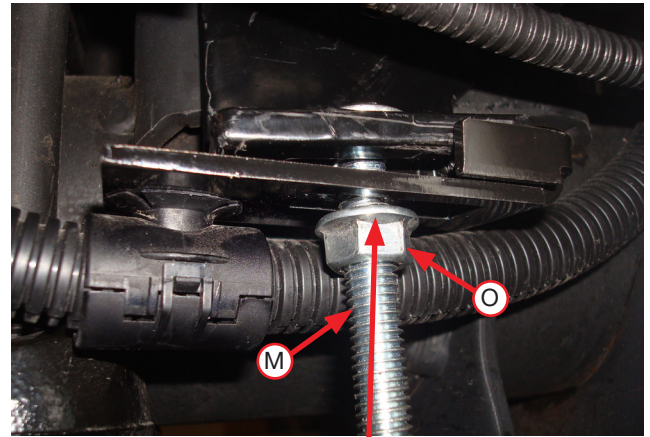


Insert tab on ABS wire loom here

Tab on ABS bracket must be facing up and will nest around the lower bracket when installed

Fig. 15

3. Insert a 3/8" carriage bolt (M) through the lower bracket and ABS loom holder previously installed (Fig. 16). Install a 3/8" serrated flange lock nut (O) onto the carriage bolt with the flat portion of the nut facing up. Tighten nut up enough to nest the ABS bracket around the lower bracket, but do not tighten yet. Repeat for both sides.



Install nut with
flange facing up

Fig. 16

NOTE

IF WIRE LOOM DOES NOT ALIGN CORRECTLY, UNCLIP LINE HOLDER, ADJUST, THEN RE-CLIP LINE HOLDER BACK ONTO LOOM.

4. Install the remaining 3/8" carriage bolts on the front side of the lower brackets and install the clamp bars (A) over the carriage bolts. Secure the clamp bar with the 3/8" serrated lock nuts (O) (Fig. 17). Align the clamp bar so that it is somewhat centered between the shock bracket and leaf spring retainer. Torque clamp bar hardware evenly to 16 lb.-ft. (22Nm). Repeat for both sides.

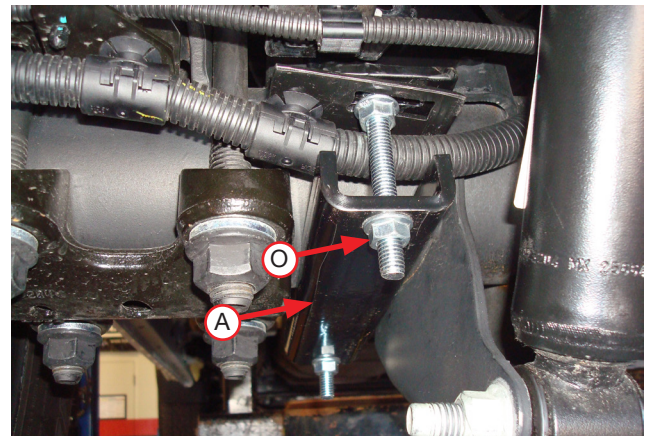


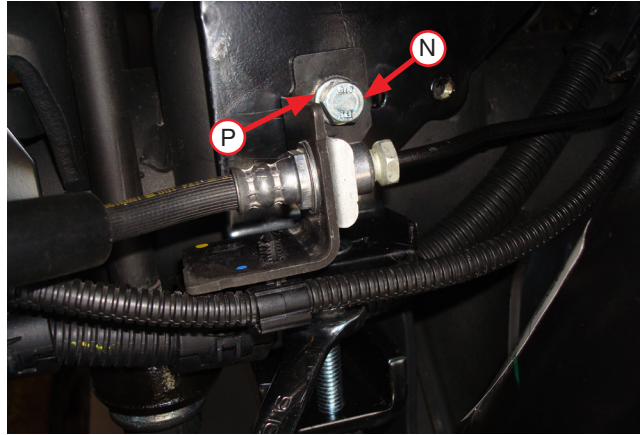
Fig. 17

5. Securely tighten the ABS bracket nut on both sides (Fig. 18).

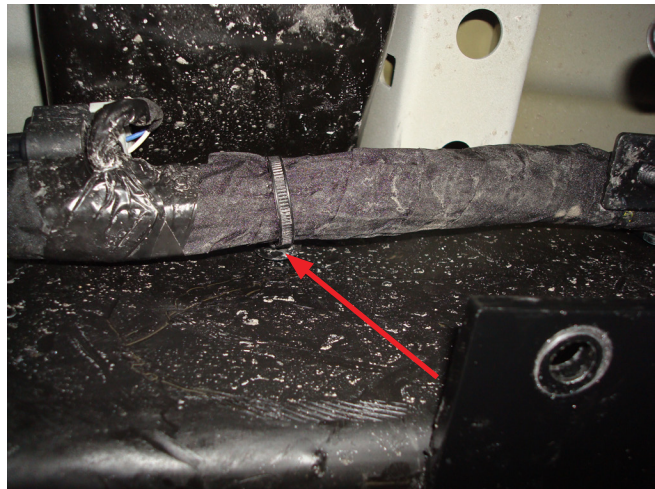


Fig. 18

6. Reattach the stock brake line/ABS brackets removed in the *Preparing the Vehicle* section using the M8 hex cap screws (N) and M8 flat washers (P) (Fig. 19). Tighten both sides securely.


Fig. 19

7. For the driver side only, pull the tree holder holding the wiring harness onto the frame, out of the frame (Fig. 20).


Fig. 20

8. Hold the L-bolt (I) parallel to the frame, insert the eye through the top of the frame from the inside out between the 5th wheel bracket and bed crossmember (Fig. 21).


Fig. 21

9. When the eye is completely through the frame, rotate the L-bolt forward and under the wiring harness inside the frame (Fig. 22).



Fig. 22

10. Insert the 3/8" Hex cap screw (W) through a 3/8" flat washer (X), then all the way through the eye of the L-bolt (Fig. 23).

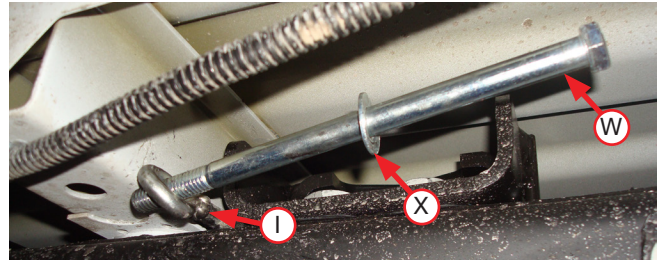


Fig. 23

11. Rotate the new "U-bolt" down and through the upper bracket holes, behind the axle. Install the 3/8" serrated flange lock nuts (O) onto the U-bolt (Fig. 24). Install the passenger's side U-bolt assembly and leave both sides loose at this time.



Fig. 24

12. Install the U-bolt (L) from the outside of the frame, over the jounce bumper mounting cup and through the upper bracket on the inside of the frame. Attach the U-bolt with the 3/8" serrated flange nuts (O) and leave loose at this time (Fig. 24 & Fig. 25).

NOTE

IT MAY BE NECESSARY TO TAP THE U-BOLT INTO POSITION BECAUSE OF THE WELDS AROUND THE JOUNCE BUMPER CUP.

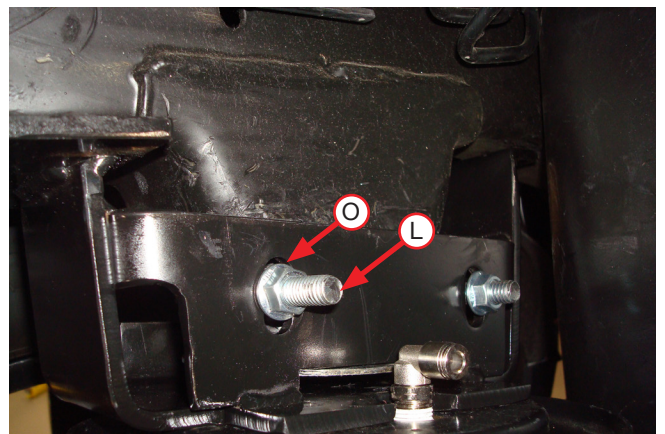


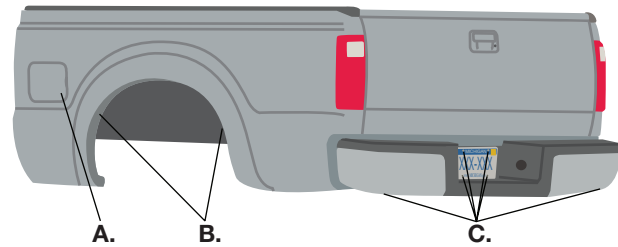
Fig. 25

Installing the Air Lines

Air lines are routed from the air springs to Schrader valves. LoadLifter 5000 series air lines come in two styles: nylon and braided stainless steel. Begin by choosing locations for the Schrader valves and drill a 5/16" (8mm) hole, if necessary (Fig. 26).

CAUTION

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



* For LoadLifter 5000 Ultimate Plus kits, the recommended location for the Schrader valves is the rear bumper area or license plate.

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

Fig. 26

INSTALLING NYLON AIR LINES

1. For nylon air line, it is recommended that the air line be routed along the top of the frame, forward of the axle, then down to the fitting (Fig. 27). After cutting the air line to length, install the air line thermal sleeve over the air line on the passenger's (right) side before inserting into the fitting. Secure the air lines to the upper coil spring mount with zip ties (BB) supplied.



Thermal sleeve

Fig. 27

2. Cut the air line in half. Make clean, square cuts with a razor blade or hose cutter (Fig. 28). Do not use scissors or wire cutters.

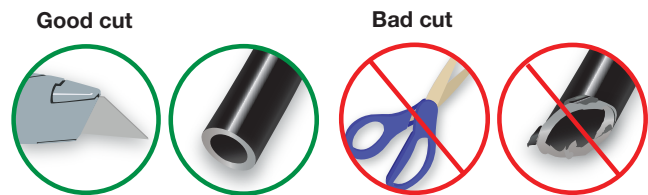


Fig. 28

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

4. Install the Schrader valve in the chosen location (Fig. 29).

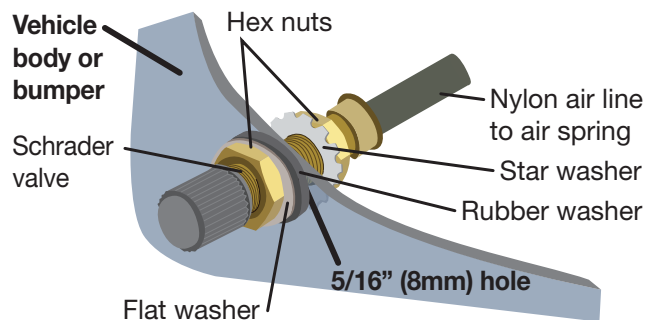


Fig. 29

INSTALLING BRAIDED STAINLESS STEEL AIR LINES

CAUTION

KEEP THE AIR LINE AWAY FROM THE FUEL LINE, BRAKE LINES AND ELECTRICAL WIRES.

NOTE

The braided stainless steel air line must be routed to the rear of the vehicle. Install the air line along the frame and then back to the rear where the inflation valves will be mounted (Fig. 30).

1. Use zip ties to secure the air line to fixed points along the chassis every 6" to 8" (150-200mm). Leave at least 2" (50mm) of slack to allow for any movement that might pull on the air line.
2. Tighten the air line hex nut finger tight, then use 2 wrenches to turn 1 additional flat (1/6 of one full turn). Do not overtighten (Fig. 30 or Fig. 31). The easiest way to tighten the fitting is off the vehicle. Install the Schrader valve in the chosen location.
3. Coil and secure any excess air line in an area where it will not be susceptible to damage. The braided stainless steel air line cannot be trimmed.

FINISHING THE INSTALLATION

1. Once the hose is installed, inflate the system to 10 PSI and torque both upper bracket U-bolts to 10 lb.-ft. (14Nm) starting with the square U-bolt first.
2. Bend tabs to provide a dead air space between exhaust pipe and heat shield. (Fig. 32) Attach the heat shield to the exhaust pipe using the clamps. Bend the heat shield for maximum clearance to the air spring.
3. Fig. 33 shows heat shield installed.

Air Line Setup Without Compressor System

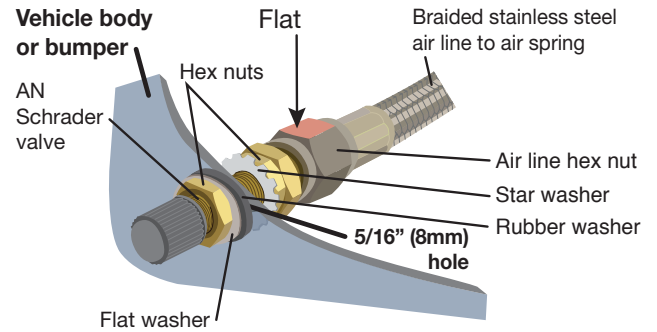


Fig. 30

Air Line Setup for Compressor Integration

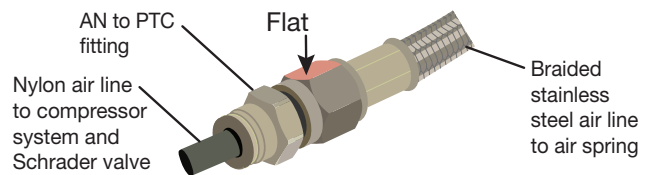


Fig. 31

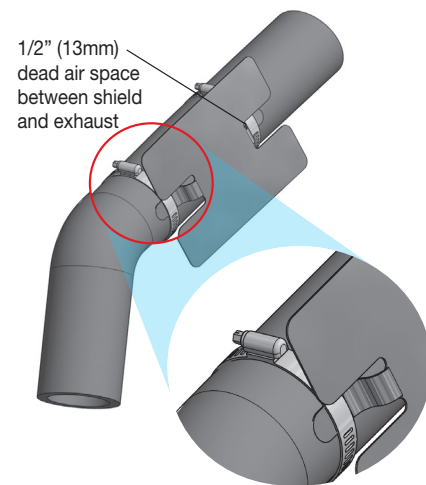


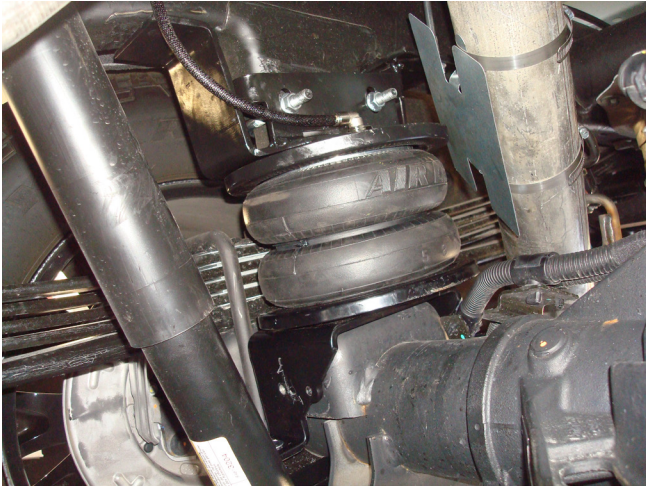
Fig. 32



Fig. 33

Finished Installation

The images show the finished installation of both sides (Fig. 34 - Fig. 37).



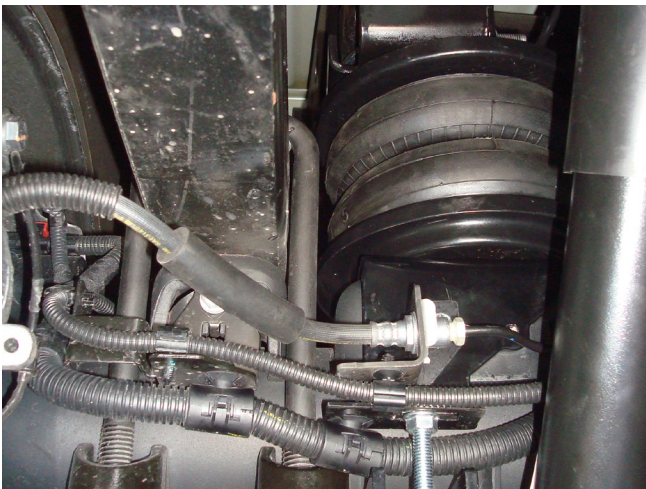
Inside, forward of axle view of driver's (left) side installation.

Fig. 34



Inside, forward of axle view of passenger's (right) side installation.

Fig. 35



Inside, rear of axle view of driver's (left) side installation.

Fig. 36



Inside, over axle view of passenger's (right) side installation.

Fig. 37

INSTALLATION CHECKLIST

- Clearance test** — Inflate the air springs to 40-60 PSI (2.8-4.1BAR) 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 40-60 PSI (2.8-4.1BAR) 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" (152mm) 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 Air Lift customer service at (800) 248-0892.
- Fastener test** — After 500 miles (800km), 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.

MAINTENANCE AND USE GUIDELINES

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.

| Minimum Recommended Pressure |
|------------------------------|
| 5 PSI (.34BAR) |

| Maximum Air Pressure |
|-----------------------|
| 100 PSI (7BAR) |

CAUTION

FOR SAFETY AND TO PREVENT POSSIBLE DAMAGE TO THE VEHICLE, DO NOT EXCEED MAXIMUM GROSS VEHICLE WEIGHT RATING (GVWR) OR PAYLOAD RATING, 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.