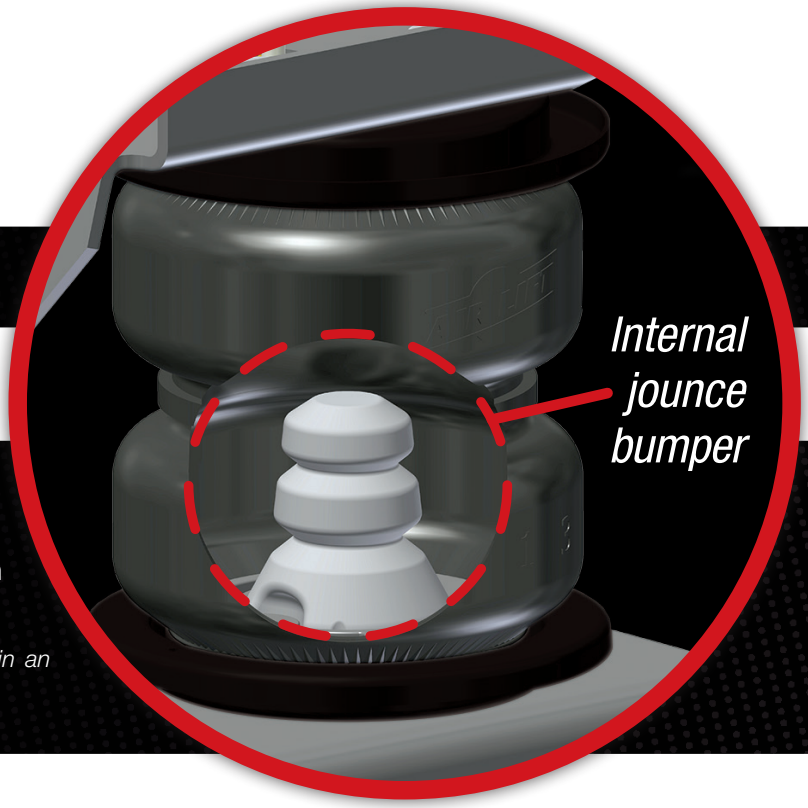
LoadLIFTER 5000™ ULTIMATE

ADJUSTABLE AIR HELPER SPRINGS

TOW AND HAUL WITH SAFETY AND COMFORT™

AIR LIFT®
Since 1949

Kit Number
88393



INSTALLATION GUIDE

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.

MN-844 • (032207) • ECR 9821

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Thank you for purchasing an Air Lift load support product!

Take a photo of your sales receipt and then scan the QR code to complete your online warranty registration.

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Introduction

The purpose of this publication is to assist with the installation, maintenance and troubleshooting of the LoadLifter 5000 Ultimate air spring kit. LoadLifter 5000 Ultimate utilizes sturdy, reinforced, commercial grade single or double, depending on the kit, convolute bellows. The bellows are manufactured like a tire with layers of rubber and cords that control growth. An internal jounce bumper inside the spring absorbs shock and eliminates harsh jarring on rough roads. The internal jounce bumper replaces the factory bumper and allows the air springs to safely be run at zero air pressure. LoadLifter 5000 Ultimate kits are recommended for most ¾ and 1 ton pickups and SUVs with leaf springs and provide up to 5,000 lbs. of load leveling support with air adjustability from 5-100 PSI. The kits are also used in motorhome rear kits and some motorhome fronts where leaf springs are used.

It is important to read and understand the entire installation guide before beginning installation or performing any maintenance, service or repair. The information here includes a hardware list, tool list, step-by-step installation information, maintenance tips, safety information and a troubleshooting guide.

Air Lift Company reserves the right to make changes and improvements to its products and publications at any time. For the latest version of this manual, contact Air Lift Company at (800) 248-0892 or visit our website at www.airliftcompany.com.

IMPORTANT SAFETY NOTICE

The installation of this kit does not alter the Gross Vehicle Weight Rating (GVWR) or payload of the vehicle. Check your vehicle's owner's manual and do not exceed the maximum load listed for your 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 vehicle 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.

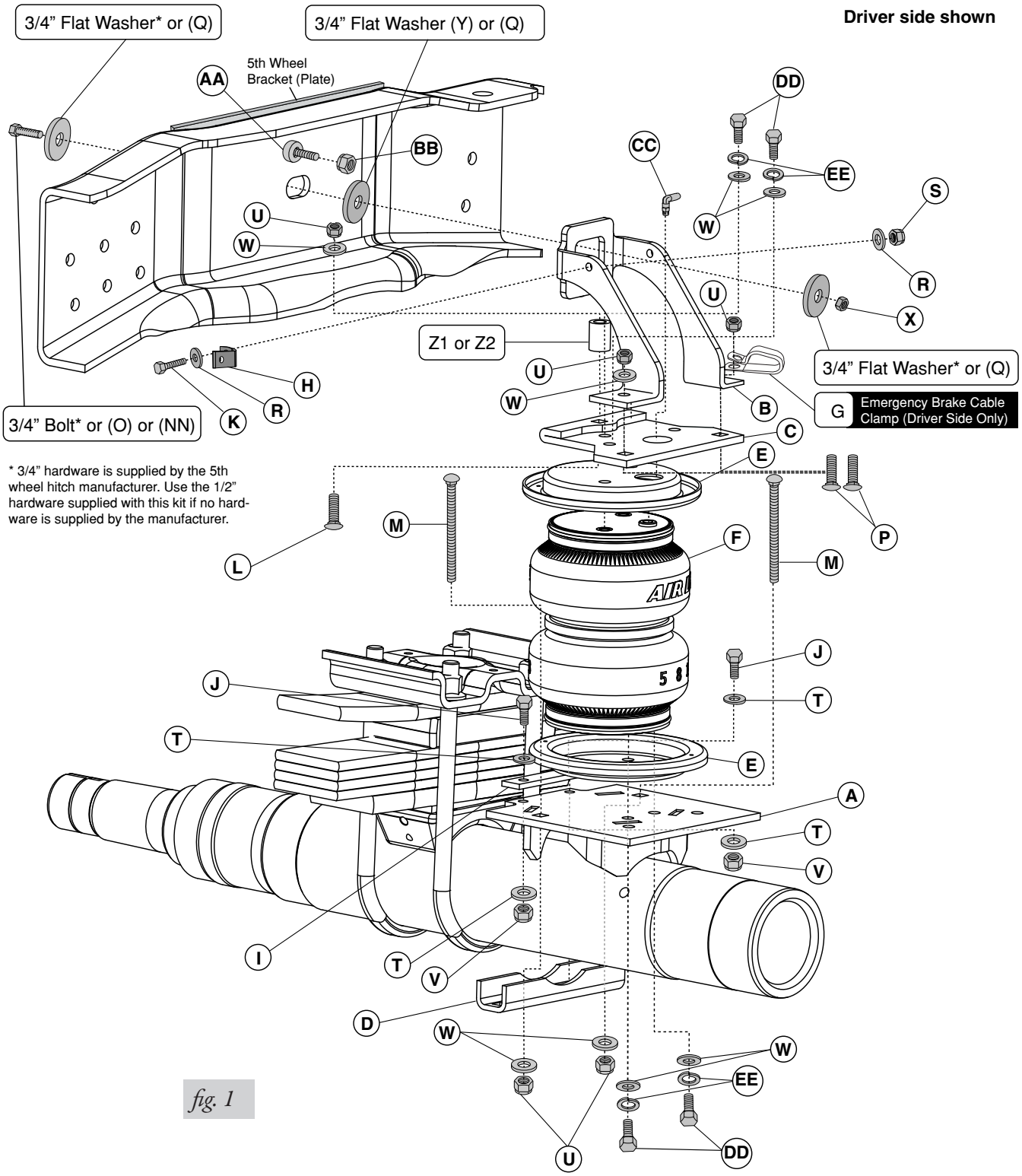
⚠ DANGER INDICATES IMMEDIATE HAZARDS WHICH WILL RESULT IN SEVERE PERSONAL INJURY OR DEATH.

⚠ 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.

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

Installation Diagram



* 3/4” hardware is supplied by the 5th wheel hitch manufacturer. Use the 1/2” hardware supplied with this kit if no hardware is supplied by the manufacturer.

fig. 1

Hardware and Tools Lists

HARDWARE LIST

Item	Part #	Description	Qty
A	03115	Lower Bracket	2
B	07996	Upper Brace	2
C	07997	Upper Bracket	2
D	01531	Axle Clamp Bar	2
E	11967	Roll Plate	4
F	58496	Air Spring	2
G	10181	Emergency Brake Cable Clamp	2
H	10886	“L” Bracket	1
I	11400	Adapter Bracket	2
J	17103	5/16"-18 x 1" Hex Head Cap Screw	4
K	17135	1/4"-20 x 1" Hex Head Cap Screw	1
L	17141	3/8"-16 x 2.5" Carriage Bolt	2
M	17163	3/8"-16 x 7" Carriage Bolt	4
N	17268	M10-1.5 x 35 Hex Flange Bolt	1
O	17271	1/2"-13 x 3" Hex Head Cap Screw	2
P	17361	3/8"-16 x 1.25" Carriage Bolt	4
Q	18207	1/2" Large Flat Thick Washer	6
R	18419	Flat Washer, #12	2
S	18425	1/4"-20 Nylon Lock Nut	1
T	18433	5/16" Flat Washer	8
U	18435	3/8"-16 Nylon Lock Nut	10

Item	Part #	Description	Qty
V	18438	5/16"-18 Nylon Lock Nut	4
W	18444	3/8" Flat Washer	9
X	18460	1/2"-13 Nylon Lock Nut	2
Y	18556	3/4" Flat Washer	2
Z1	13964	Spacer	2
Z2	13978	Spacer	2
AA	18443	7/16" Spacer	1
BB	18495	M10-1.5 Nylon Lock Nut	1
CC	21837	90˚ Swivel Elbow Fitting	2
DD	17203	3/8"-24 x 7/8" Hex Head Cap Screw	8
EE	18427	3/8" Split Lock Washer	8
FF*	20086	Air Line Assembly	1
GG*	10466	Zip Ties	6
HH*	18411	5/16" Flat Washer	2
II*	21230	Valve Caps	2
JJ*	21233	5/16" Hex Nut	2
KK*	21234	Rubber Washer	2
LL*	18411	Star Washer	2
MM*	34924	Heat Shield Kit	1
NN	17208	1/2"-13 x 2.00" Hex Head Cap Screw	2

*Not shown

TOOLS LIST

Description	Qty
7/16" and 9/16" Open-end or box wrenches	2
Adjustable wrench	1
Ratchet with 3/8", 9/16", & 1/2" deep well sockets	1
5/16" drill bits (very sharp)	1
DIE grinder	1
Hacksaw	1
Heavy duty drill	1
Torque wrench	1
Standard, metric and SAE sockets and wrenches	1
Hose cutter, razor blade, or sharp knife	1
Hoist or floor jacks	1
Safety stands	2
Safety glasses	1
Air compressor or compressed air source	1
Spray bottle with dish soap/water solution	1

STOP! Missing or damaged parts? Call Air Lift customer service at (800) 248-0892 for a replacement part.

Installing the LoadLifter 5000 Ultimate System

GETTING STARTED

1. Raise the vehicle and support the axle with safety stands, setting the safety stands as wide as possible on the axle (fig. 2).

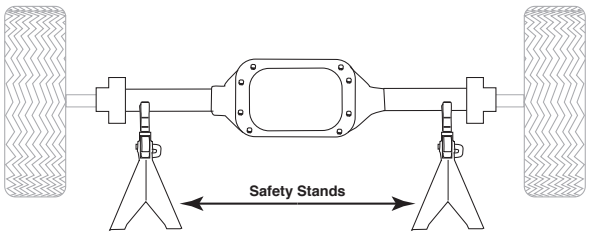


fig. 2

2. Remove the jounce bumpers from under the frame, over the axle.
3. If necessary, disconnect the wiring harness from the driver side frame rail to gain clearance for the upper bracket.
4. If you have a fifth wheel hitch already installed, it will be necessary to remove the ¾" hardware that bolts the side bracket to the outside of the frame above the axle (fig. 1).

NOTE

Some hitch models have a spacer between the bracket and the frame rail. Be sure to reinstall the spacer when attaching the upper bracket.

5. In order to obtain clearance between the upper bracket and the emergency brake cable bolt, on the inside of the frame, it will be necessary to remove the bolt and re-insert through the emergency brake cable bracket, from the outside of the frame in. Install the 7/16" spacer (AA) on the bolt and cap with the new M10-1.5 nylon lock nut nut (BB) (fig. 1). Tighten hardware securely.

NOTE

If your model truck has emission lines running along the inside of the frame rail (fig. 3), it will be necessary to relocate those lines as follows. Follow the directions in the section, "Attaching the Assemblies to the Frame" for reattaching these lines.

- *Carefully push the line holder out of the frame above the axle. Try to minimize damage because it will be reused later. It may also be helpful to remove any holders forward or rearward of the axle to aid in positioning the lines once the upper bracket has been installed (fig. 3) .*

- *Attach the L-bracket (H) to the back or front leg of the frame brace using the 1/4"-20 x 1" hex head bolt (K), flat washers (R) and 1/4"-20 nylon lock nut nut (S) supplied (fig. 1). This L-bracket will eventually be used to attach the previously removed emissions line. Do not attach the line holder to it at this time.*

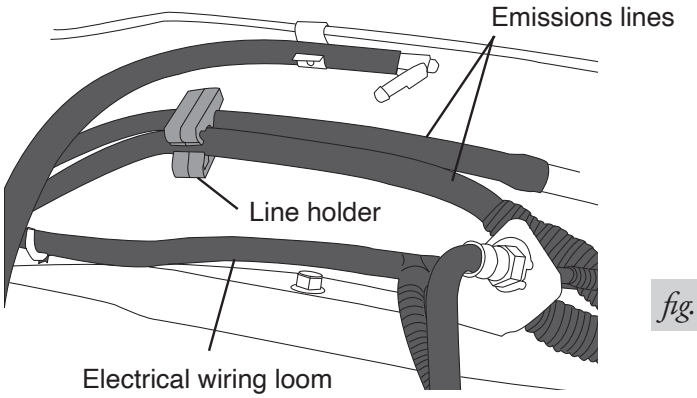


fig. 3

SIDE BRACE INSTALLATION

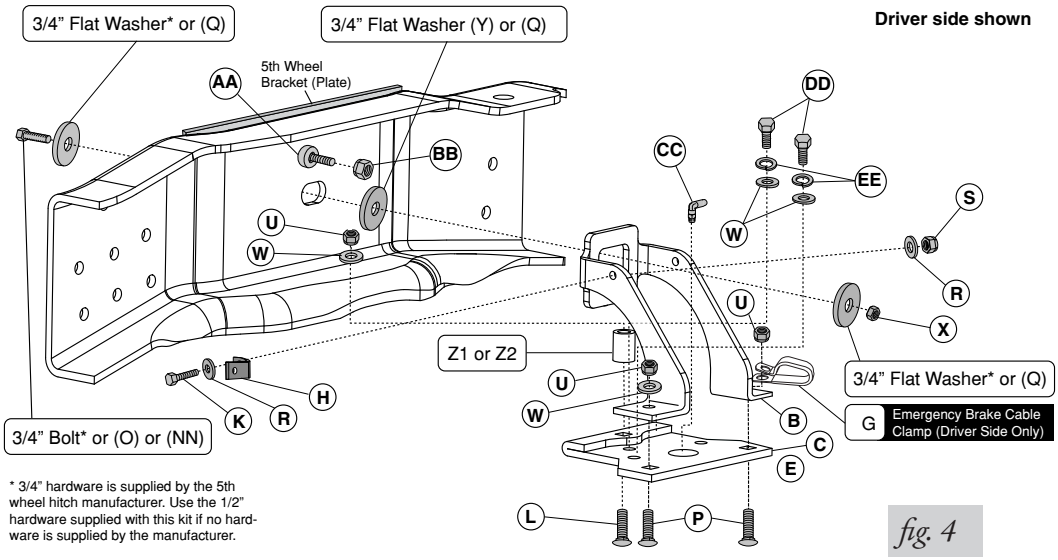


fig. 4

1. Set the upper brace (B) into the driver and passenger side frame (fig. 4).

   If you have a fifth wheel hitch that does not have a plate running alongside the full length of the frame (these will have an "L" bracket forward and behind the axle leaving the middle frame open) use the 1/2"-13 x 2.00" Hex Cap Screw (NN) with a flat washer (Q) through the slot in the side of the frame, then through another flat washer (Q) and finally through the upper brace. Cap with a flat washer (Q) and a 1/2"-13 nylon lock nut (X) (fig. 4). Leave loose at this time.

   OR

   If you have an aftermarket fifth wheel hitch that has a bracket (plate) running along side of the frame and it used this slot to secure the bracket to the frame with existing hardware, install the existing hardware previously removed in the "getting started section" from the fifth wheel installation for securing the brace (fig. 4). Make sure to install the large 3/4" flat washer (Y) between the brace and frame (figs. 1 and 4). Do not tighten at this time.

   OR

   If you have an aftermarket fifth wheel hitch that has a bracket (plate) running along side of the frame and it does not have any attaching hardware on the side where the slot in the frame is, it will be necessary to drill a 1/2" hole through the plate using the slot in the frame as a template.

NOTE *It may be necessary to mark and remove the bracket (plate) from the side of the frame in order to drill the hole correctly. Re-attach once the hole is drilled.*

   Insert a 1/2"-13 x 3" hex head cap screw (O) with a 1/2" thick flat washer (Q) through the fifth wheel plate previously drilled, the frame, then through another 1/2" thick flat washer (Q)and finally the upper frame brace. Cap with a 1/2" thick flat washer (Q) and a 1/2"-13 Nylon lock nut (X) (fig. 4). Leave loose at this time.

AIR SPRING AND BRACKET ASSEMBLY

1. Set a roll plate (E) over the top and bottom of the air spring (F) (fig. 1).

NOTE *The radiused (rounded) edge of the roll plate (E) will be towards the air spring so that the air spring is seated inside both roll plates.*

2. Install the swivel elbow fitting (CC) into the top of the air spring finger-tight. Tighten the swivel fitting one and a half turns.

3. The lower bracket (A) has two sets of air spring mounting holes. Using the corresponding holes in the lower bracket designated (fig. 5), attach the air spring to the brackets using the 3/8" flat washers (W), lock washers (EE), and 3/8"-24 x 7/8" hex head cap screws (DD). Tighten both mounting screws securely.

NOTE

The fitting on top of the air spring points inward (fig. 7).

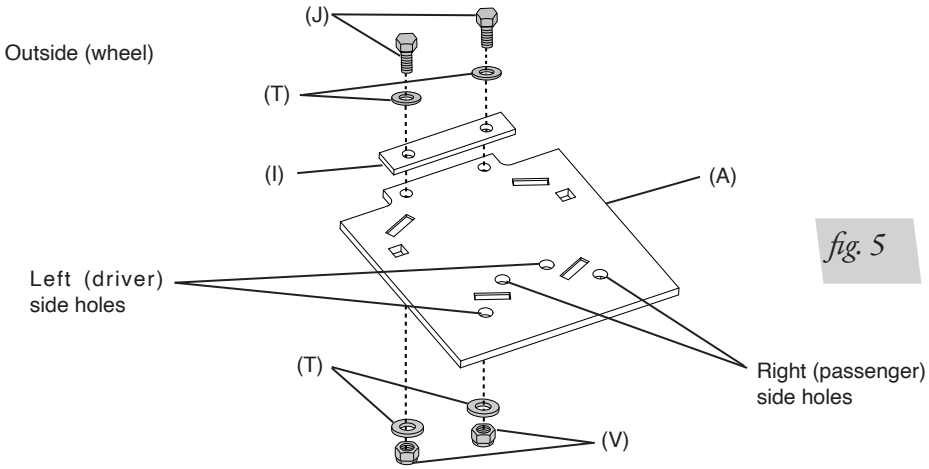


fig. 5

4. Insert two 3/8"-16 x 1.25" carriage bolts (P) up through the bottom of the upper brackets (fig. 6), through the two square holes that are on the corresponding side. Also, insert one 3/8"-16 x 2.5" carriage bolt (L) through the remaining hole. The head of this carriage bolt will be hidden once mounted to the air spring.
5. Set the driver side (left) upper bracket onto the driver side air spring assembly previously assembled, using the holes in the upper bracket designated (fig. 6), and attach to the air spring with two 3/8" flat washers (W), lock washers (EE), and 3/8"-24 x 7/8" hex head cap screws (DD). Tighten both mounting screws securely.
6. Repeat the above process for the opposite side assembly (fig. 7).
7. Depending on the model of the truck, there are two spacer (Z1 or Z2) lengths that are supplied to properly fit between the frame jounce bumper bracket and frame. Use the spacer that can be inserted where the stock jounce bumper was removed, which when butted against the frame, will be flush (or close to) the bottom of the jounce bumper bracket that is riveted to the frame.

NOTE

The upper bracket, when in position, should rest on the spacer and the stock jounce bumper bracket.

fig. 6

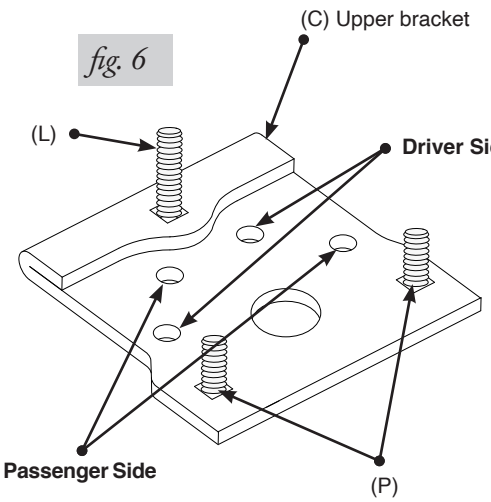
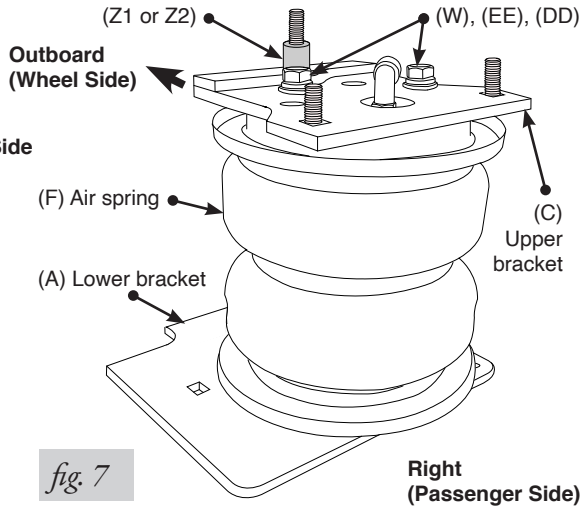


fig. 7



SECURING EMERGENCY BRAKE CABLE ON THE AXLE

NOTE

The emergency brake cable that goes to the right side of the vehicle will have to be modified in order for the lower bracket to sit on the axle properly.

- If you have an F-250, or your cable is secured like what is in fig. 8, just bend the wire bracket forward and down at the same time. This will move the cable forward and down, clearing the bottom of the lower bracket.
- If you have an F-350, or your cable is secured like what is in fig. 9, remove the wire cable holder off the side of the sway bar bracket that is attached to the axle and remove the top bolt (if so equipped) that holds the sway bar strap on (discard the holder and both bolts). Attach the emergency brake cable clamp (G) to the brake cable and attach the frame clamp to the top sway bar hole that the bolt was previously removed from using the M10 flange bolt supplied (N) (fig. 9). Tighten securely.

Wire bracket on emergency brake cable (F-250)

Bend wire bracket forward and down to clear bracket

fig. 8

Wire bracket on emergency brake cable (F-350)

Attach frame clamp using new flange bolt, bend slightly

fig. 9

ATTACHING THE ASSEMBLIES TO THE FRAME

The F-250 models usually have a 3.50" diameter axle tube. In order for the lower bracket to fit correctly, no adapter will be needed for these vehicles.

The F-350 models usually have a 4.00" diameter axle tube and require the use of an adapter (I) that mounts to the lower bracket in order for it to “nest” into position between the stock u-bolts (fig. 1).

1. Attach the adapter (I) to the lower bracket (A) using two 5/16" bolts (J) four flat washers (T) and two nylon lock nuts (V) (fig. 5 or 11). Tighten securely.
2. If not done so yet, drop the axle or raise the frame up to make room for the assemblies to be put into position.

3. Set the left (driver side) assembly onto the axle (fig. 1). Raise the axle just enough to insert the 3/8"-16 x 2.5" long carriage bolt (L) (that is installed in the upper bracket) through the existing jounce bumper hole in the bottom of the frame. At the same time, line up the upper brace previously installed onto the remaining two 3/8"-16 x 1.25" carriage bolts (P) in the upper bracket. Do this just enough for the carriage bolt to hold the assembly into position on the axle (fig. 1 or 4).
4. Set the right (passenger side) assembly into position on the axle the same way the left side was positioned (fig. 1 or 4).
5. Raise the axle or lower the frame down so that the round spacer (Z1 or Z2) on the upper bracket inserts into the stock jounce bumper bracket hole (on both sides).
6. Install the 3/8" Flat Washer (W) and a 3/8"-16 Nylon lock nut (U) on the 3/8"-16 x 2.5" carriage bolt (L) that went through the existing jounce bumper hole and tighten securely on both sides (fig. 1 or 4).

⚠ CAUTION

BE SURE NOT TO PINCH THE PREVIOUSLY MOVED WIRING OR LINES INSIDE THE LEFT FRAME RAIL.

7. Install the emergency brake cable clamp (G) over the emergency brake cable and attach to the forward brace/upper bracket bolt (P) (fig. 1 or 4). Cap with a 3/8" nylon lock nut (U).

   Both sides: Cap the remaining brace/upper bracket carriage bolts (P) with a 3/8" flat washer (W) and 3/8"-16 nylon lock nut (U) and tighten all hardware securely.
8. With the spacers (Z1 or Z2) on the upper brackets tight in the frame and the braces tight to the upper bracket, tighten the 1/2 or 3/4" hardware previously installed, that hold the braces to the frame. Tighten both sides securely.
9. If so equipped with the emissions line previously loosened from the frame, insert the line holder post into the L-bracket (H) attached to the back or front leg of the upper left brace (B) (fig. 10). It may be necessary to move the line holder post forward or back on the lines to line up correctly with the L-bracket hole. Reattach any line holders removed forward or behind the axle, if possible, that were removed to aid in positioning the upper bracket.

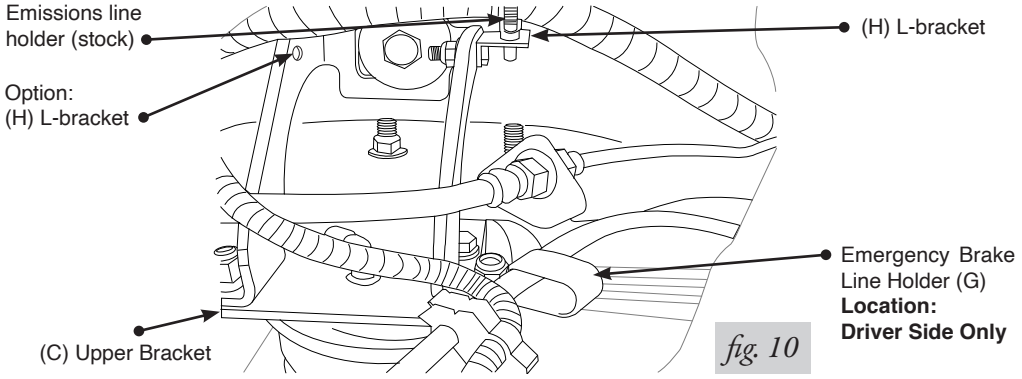


fig. 10

10. Repeat for the other side of the vehicle.
11. Raise the axle, or lower the body all the way now and push the lower bracket against the leaf spring (fig. 1 or 11).
12. Insert two 3/8" carriage bolts (M) into the square holes in the lower bracket and install the clamp bar (D) onto the carriage bolts (fig. 1 or 11).
13. Cap with a 3/8" flat washer (W) and nylon lock nuts (U). Torque both nuts evenly to 16 lb.-ft..

NOTE

Once tight, the upper and lower bracket will not be parallel and may look like they are out of alignment. This condition will be OK because of the way the lower bracket and upper bracket mounts, also there may be some variance in models and this is considered a normal condition.

Driver side shown

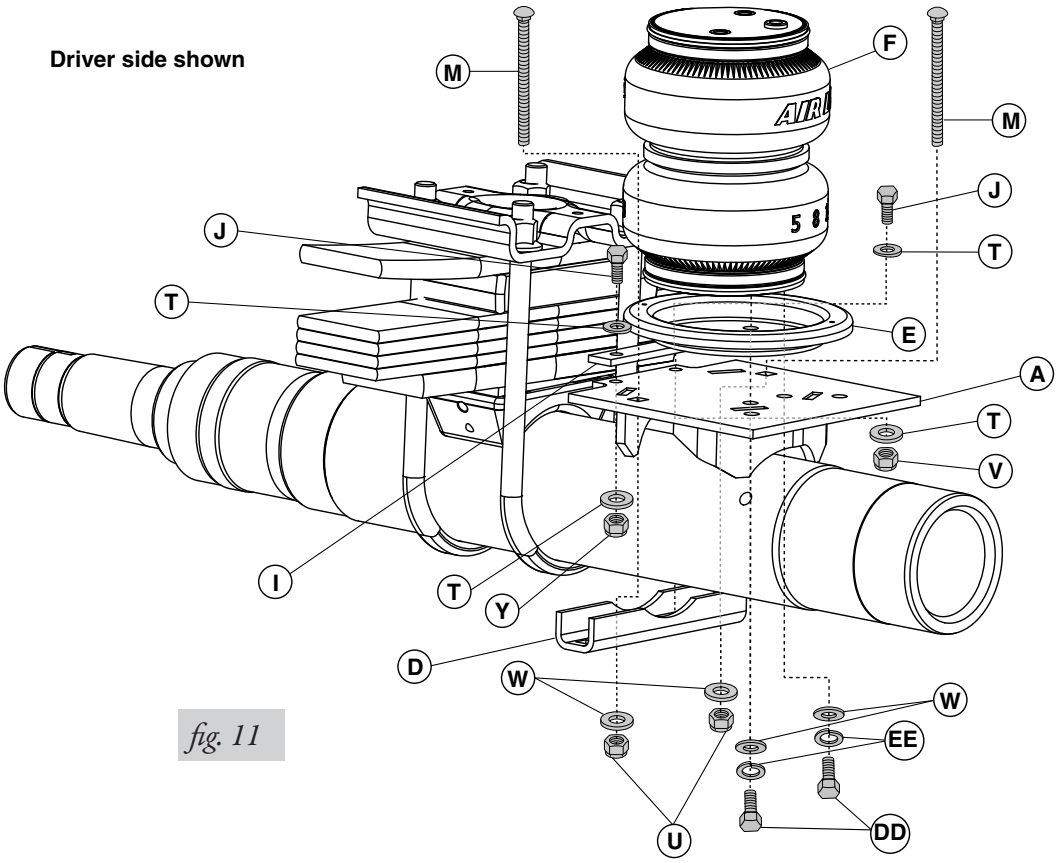


fig. 11

INSTALLING THE AIR LINES

1. Choose a convenient location for mounting the inflation valves. Popular locations for the inflation valve are:
   a. The wheel well flanges
   b. The license plate recess in bumper
   c. Under the gas cap access door
   d. Through the license plate

NOTE

Whatever the chosen location, make sure there is enough clearance around the inflation valves for an air chuck.

2. Drill two 5/16" holes to install the inflation valves.
3. Cut the air line assembly in two equal lengths.

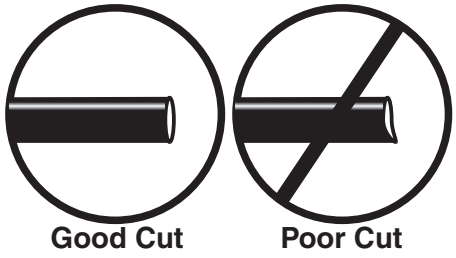


fig. 12

⚠ 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 (FIG. 12).

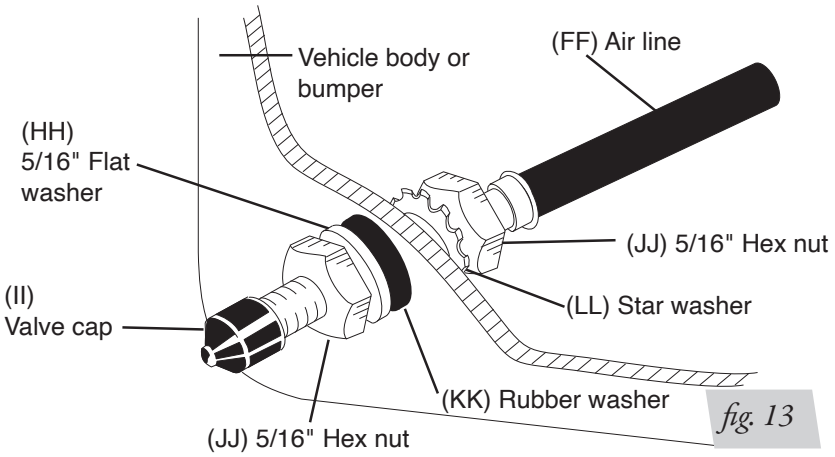


fig. 13

4. Place a 5/16" nut and star washer 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, flat washer, and 5/16" nut and cap. There should be enough valve exposed after installation—approximately 1/2"— to easily apply a pressure gauge or an air chuck (fig. 13).
5. Push the inflation valve through the hole and use the rubber washer, flat washer, and another 5/16" nut to secure it in place. Tighten the nuts to secure the assembly.
6. Route the air line along the frame to the air fitting on the air spring (fig. 14). 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 zip ties to secure the air line to fixed, non-moving points along the chassis. Be sure that the zip ties 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.

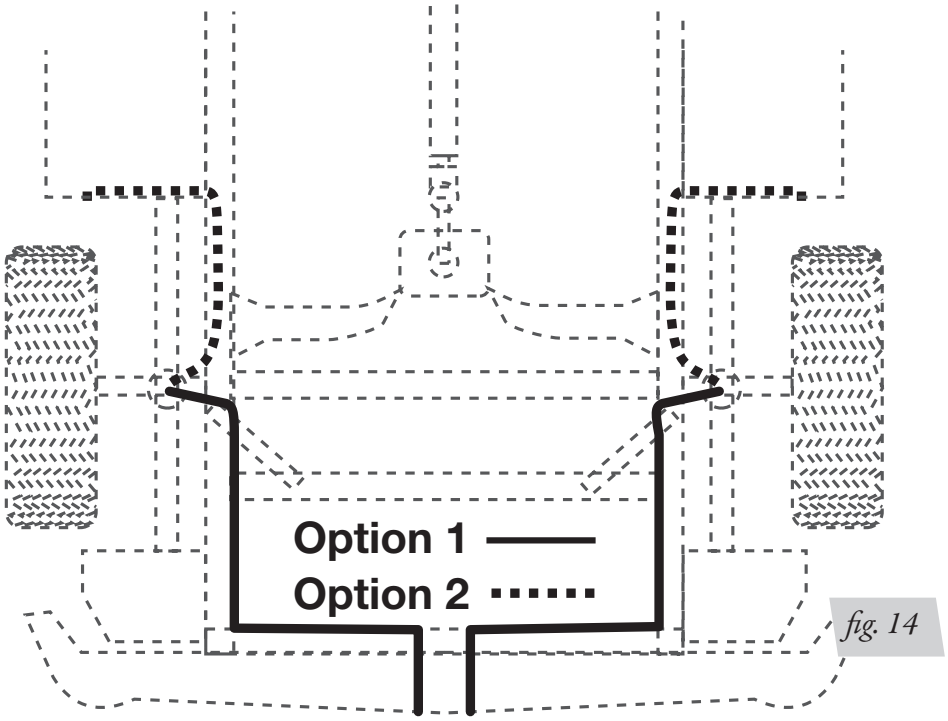


fig. 14

7. Cut off the 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 degree swivel fitting until it bottoms out (9/16" of air line should be in the fitting).

INSTALLING THE HEAT SHIELD

1. Bend tabs to provide a 1/2" dead air space between exhaust pipe and heat shield (fig. 15).
2. Attach the heat shield to the exhaust pipe using the clamps. Bend the heat shield for maximum clearance to the air spring (fig. 15).

NOTE

Some vehicles have large resonators in this area, it will be necessary to double up on the clamps to fit these models (fig. 16).

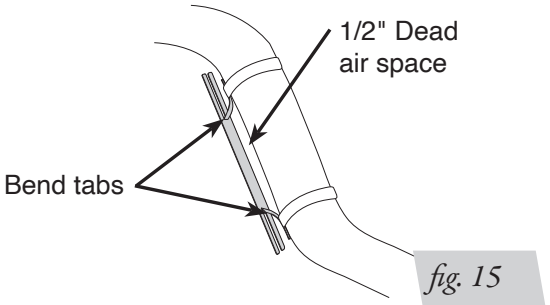


fig. 15

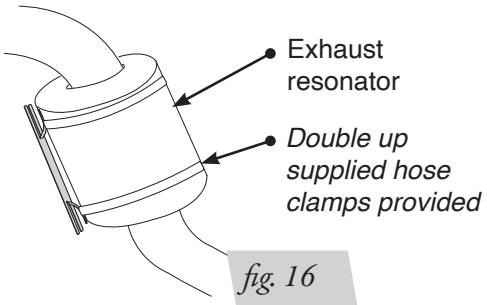


fig. 16

Before Operating

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 air 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.
4. Upon successful completion of the installation, follow these pressure requirements for the air springs.

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.

Notes

Notes

Limited Warranty and Return Policy

Air Lift Company provides a limited lifetime warranty to the original purchaser of its load support products, that the products will be free from defects in workmanship and materials when used on cars and trucks as specified by Air Lift Company and under normal operating conditions, subject to the requirements and exclusions set forth in the full Limited Warranty and Return Policy that is available at www.airliftcompany.com/warranty.

For additional warranty information contact Air Lift Company customer service.

Need Help?

Contact Air Lift Company Customer Service at (800) 248-0892 or email service@airliftcompany.com.

For calls outside the U.S. or Canada, dial (517) 322-2144.

Thank you for purchasing Air Lift products — the professional installer's choice!

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