

LoadLifter 5000™

Kit 57345

Ford F-450, F-550



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.



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Installation Diagram

Passenger's side view

NOTE: Some late model frames do not have existing holes and will need to be drilled.

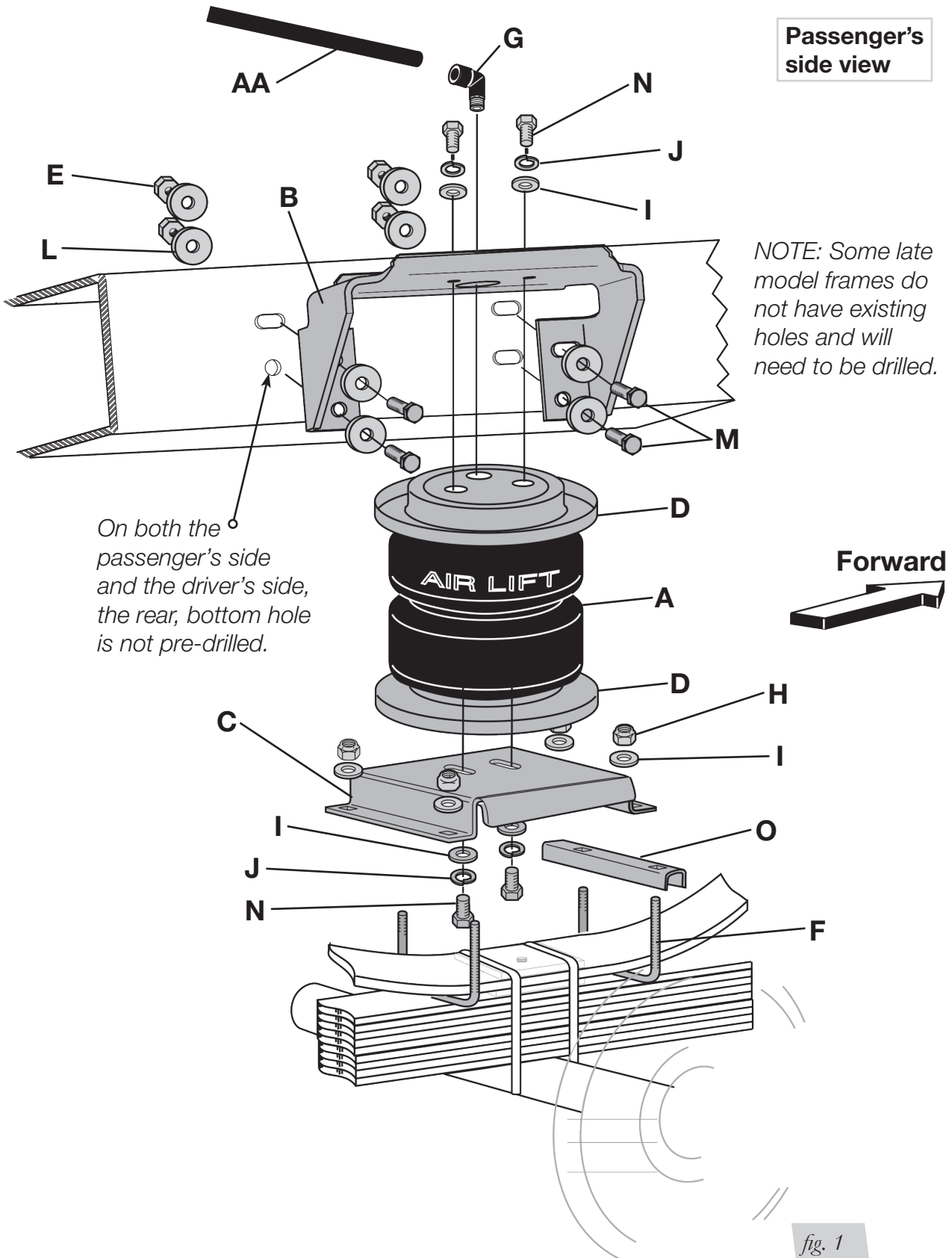


fig. 1

Hardware List and Tools List

HARDWARE LIST

Item	Part #	Description.....Qty	Item	Part #	Description.....Qty
A	58116	Air spring.....2	N	17203	3/8"-24 x 7/8" Hex-head bolt8
B	07460	Upper bracket.....2	O	01426	3" Lower clamp bar2
C	03260	Lower bracket.....2	P	34629	Heat shield kit1
D	11897	Roll plate.....4			
E	18467	7/16"-14 Nylon lock nut8	AA	20086	Air line assembly.....1
F	10594	3/8"-16 x 2" U-bolt4	BB	10466	Zip tie.....6
G	21837	1/4" x 1/4" 90-degree Swivel elbow ...2	CC	21230	Valve cap.....2
H	18435	3/8"-16 Nylon insert nut.....8	DD	18501	M8 Flat washer2
I	18444	3/8" Flat washer.....22	EE	21234	Rubber washer.....2
J	18427	3/8" Lock washer.....8	FF	18411	Star washer.....2
L	18466	7/16" Flat washer.....16	GG	21233	5/16" Hex nut.....4
M	17255	7/16"-14 x 1 1/2" Hex-head bolt8			

TOOLS LIST

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

Introduction

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

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.

Installing the LoadLifter 5000 System

IMPORTANT: The air springs will last much longer if they are not limiting the suspension in either compression or extension. The air spring compresses to 3 5/16" (84mm) and extends to 9 1/8" (231mm). Regardless of load, the air pressure should always be adjusted so that the normal ride height is maintained at all times. The shock absorber is usually the limiter on extension. If this is not the case, the use of limiting straps should be considered, especially for those vehicles that are used off-road.

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.

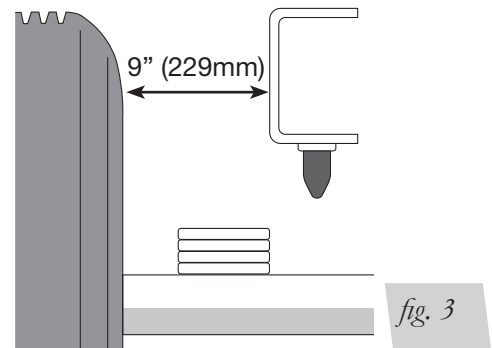
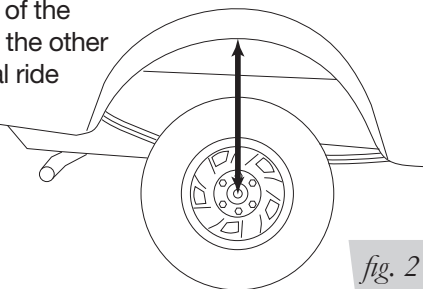


COMPRESSED AIR CAN CAUSE INJURY AND DAMAGE TO THE VEHICLE AND PARTS IF IT IS NOT HANDLED PROPERLY. FOR YOUR SAFETY, DO NOT TRY TO INFLATE THE AIR SPRINGS UNTIL THEY HAVE BEEN PROPERLY SECURED TO THE VEHICLE.

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 the vehicle from the side to ensure it is on a level surface.
 - b. If necessary (in cases where the 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 (Fig. 2). This is the normal ride height.

The distance from one end of the arrow to the other is normal ride height.



3. Measure the distance between the frame and the tire. This kit requires a minimum of 9" (229mm) of clearance for a fully inflated air spring (Fig. 3).
4. If this is a late model truck with a V-10 Triton engine, it will be necessary to remove the heat shield from the shock. The strap that holds the heat shield in place, on the outside of the frame will also need to be removed. Discard both. See instructions in the "Installing the Air Lines" section (page 10) for the replacement shock heat shield (P).

- For 2017 and later models only: It will be necessary to space the line holder that is inside of the driver's side frame rail, above the axle (Fig. 4), inward so that the end of the stud is flush to the nut.

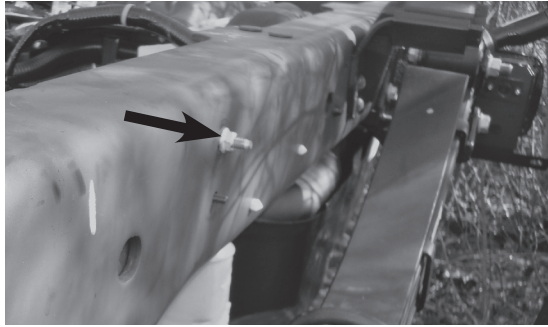
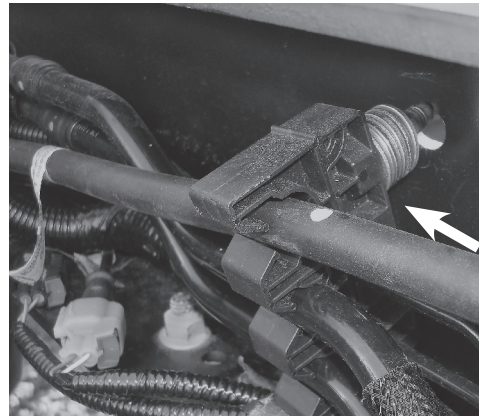

fig. 4

fig. 5

- To do this, remove the nut from this line holder and the one that is forward of it (Fig. 5).
- Pull the lines inward enough so that the line holder over the axle, will be away from the inside of the frame far enough to put washers over it. Install six 3/8" flat washers (l) over the stud. Re-insert it, along with the line holder that is forward of the axle, back into the frame rail (Fig. 6). It is not necessary to add washers to the forward line holder.


fig. 6

- Reinstall the nuts on both line holders and tighten securely. Figure 7 shows the stud flush to the end of the nut, on the line holder above the axle.


fig. 7

RAISING THE VEHICLE

1. Raise the vehicle and remove the wheels.
2. Check the distance between the center of the hub and the bottom edge of the wheel to ensure that it is at the normal ride height previously recorded. If not, raise the frame or lower the axle as necessary to restore the original distance.
 - a. If the vehicle is raised with an axle contact hoist, then place axle stands under the frame and lower the axle as needed.
 - b. If the vehicle is raised with a frame contact hoist, then place axle stands under the axle and raise or lower the frame as needed.
 - c. If the vehicle is raised with a jack and supported with axle stands on the frame, then use a floor jack to lower the axle.

ASSEMBLING THE AIR SPRING

1. Set a roll plate (D) on both ends of the air spring (A).

NOTE

The radiused (rounded) edge of the roll plate will be toward the air spring, so that the air spring is seated in both roll plates (Fig. 8).

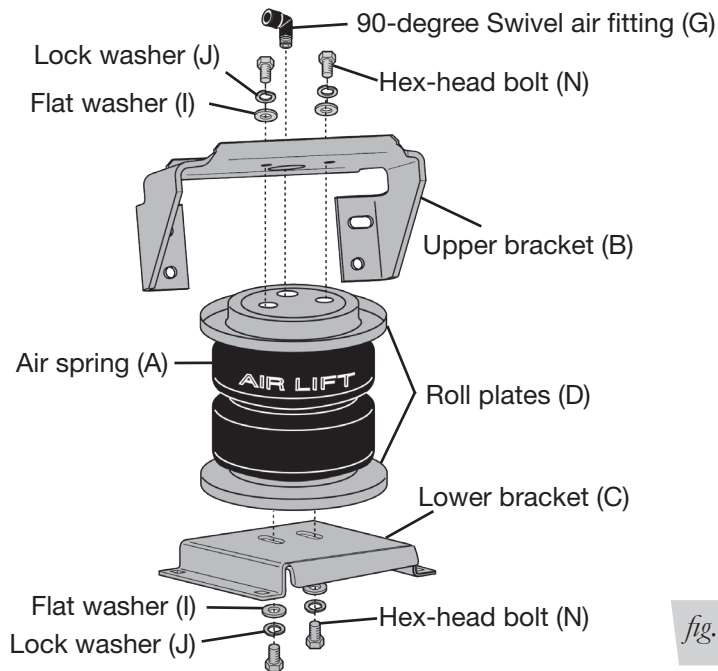


fig. 8

2. Install a 90-degree swivel air fitting (G) finger tight plus 1 1/2 turns. Use a wrench to tighten on the metal hex nut only. **DO NOT OVERTIGHTEN.** This fitting is precoated with sealant.
3. Place the upper bracket (B) onto the top of the air spring and roll plate with the legs facing down. Guide the swivel fitting through the large slotted hole in the center (Fig. 8).
4. Place the lower bracket (C) on the air spring so that the flat edge of the lower bracket mounts toward the legs of the upper bracket (inboard) (Fig. 8).
5. Attach the upper bracket to the assembly using 3/8" flat washers (I), lock washers (J), and hex head bolts (N) (Fig. 8). Torque to 20 lb.-ft. (27Nm).
6. Loosely attach the lower bracket to the assembly using 3/8" flat washers (I), lock washers (J), and hex-head bolts (N) (Fig. 8).

POSITIONING THE BRACKETS

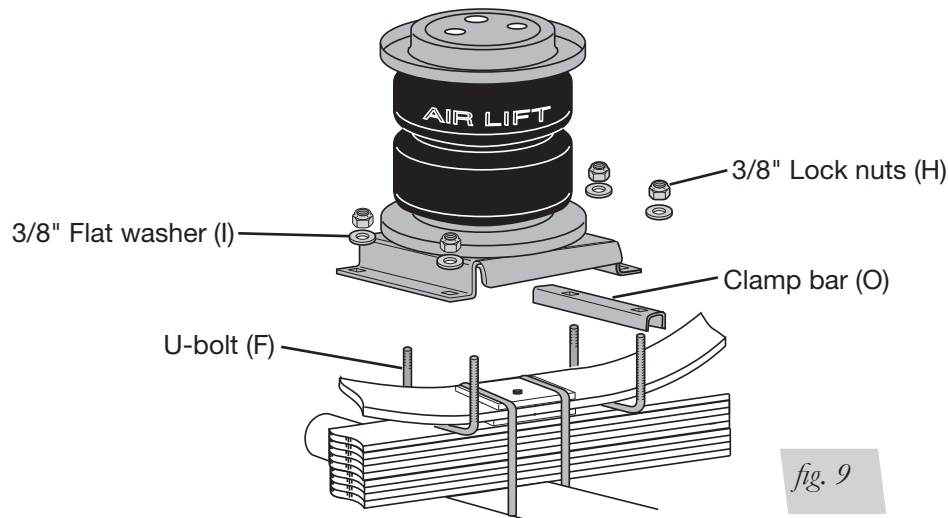
1. Set the air spring assembly on the leaf spring over the axle (Fig. 9)

NOTE

This kit can only be mounted with the upper bracket in a legs down position and with the upper bracket reinforcement lip up.

ATTACHING THE LOWER BRACKET

1. Place the short U-bolts (F) under the frame contact overload springs with the threads facing up (Fig. 9).



2. Place the clamp bar (O), legs down, on the front side of the lower bracket between the frame contact overload and the lower bracket (Fig. 9).
3. Attach the lower bracket to the frame contact overload using 3/8" flat washers (I) and 3/8" lock nuts (H) (Fig. 9).
4. Torque to 16 lb.-ft. (22Nm).

INSTALLING THE UPPER BRACKET

NOTE

On 2005-16 models on the driver's side only, remove the line holder that is just forward of the axle and position it out of the way on the inside of the frame from the mounting hole. This hole needs to be accessible to use in mounting the upper bracket to the frame.

CAUTION

BEFORE DRILLING, CHECK THE BACK SIDE OF THE FRAME FOR CLEARANCE ISSUES WITH THE BRAKE LINES, GAS LINES, AND ELECTRICAL LINES. ANY OBSTACLES WILL NEED TO BE TEMPORARILY RELOCATED TO CLEAR THE AREA.

NOTE

Most or all of the existing holes and slots in the frame do not exist on 2008 or later models. They must be drilled on these vehicles. It may be necessary to set the assembly on the spring to properly mark the holes to be drilled on the frame using the upper bracket as a template.

1. Align the upper bracket holes with the three slots in the frame. There must be sufficient clearance between the air spring, the frame, the tire, and the brake drum when the air spring is at the maximum inflated diameter of 8" (203mm).
2. Once the upper bracket holes are aligned, use the bottom rear hole of the upper bracket as a template, center punch and drill one 7/16" hole through the frame (Fig. 10).
3. Drill out the remaining three slots to 7/16" on both the driver's (left) side and passenger's (right) side.

- Attach the upper bracket using the 7/16" hex-head bolts (M), the 7/16" large flat washers (L), and the 7/16" lock nuts (E) (Fig. 10).

NOTE

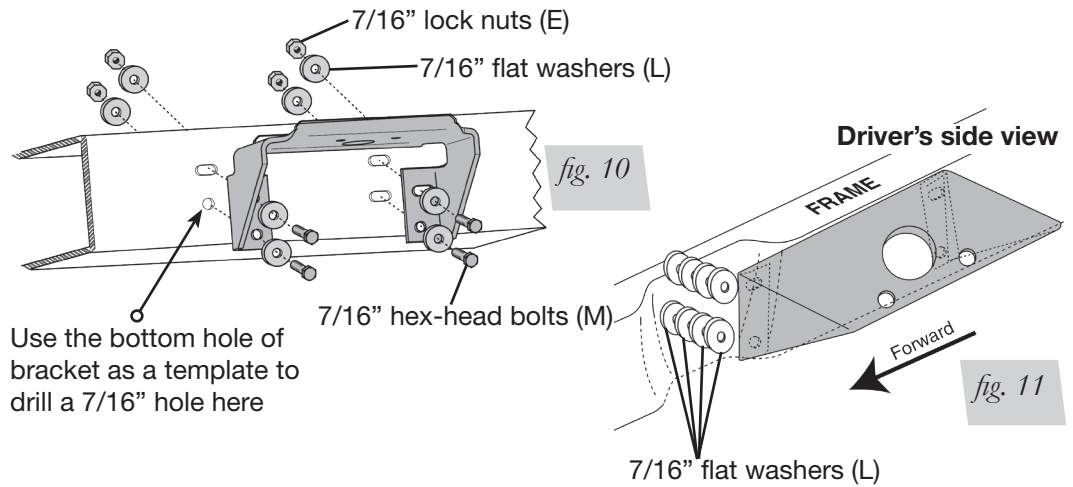
ON 2005-16 MODELS FOR THE DRIVER'S SIDE ONLY: There is an indent in the frame for the shock bracket. When installing the upper bracket, it will be necessary to add four 7/16" flat washers (L) on the top and bottom bolts between the frame and the bracket to properly mount the upper bracket. Fastening hardware is the same as listed in the previous step with the addition of the flat washers (L) (Fig. 11).

- Tighten the installed nuts to 44 lb.-ft. (60Nm).

CHECKING THE AIR SPRING ALIGNMENT

- With the air spring still loose in the lower brackets, align the air spring, inboard and outboard, using the slotted holes in the bracket so that it is uniformly positioned between the brackets (Fig. 12).
- Maintain at least a thumbs width of clearance between the air spring (uninflated) and the frame (Fig. 12).

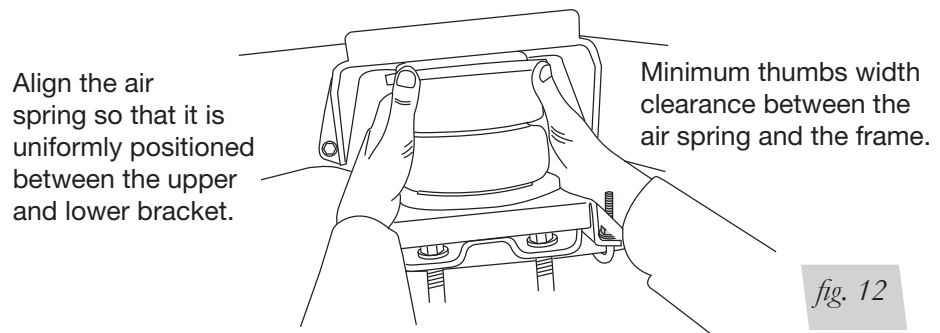
SECURING THE AIR SPRING TO THE BRACKETS



NOTE

Push the roll plate outboard before tightening the lower bracket.

- Secure the air spring to the lower brackets using an open-ended 9/16" wrench by tightening the two bolts on the bottom of the spring assembly.
- When both sides are installed, check all hardware to ensure that all is secure.

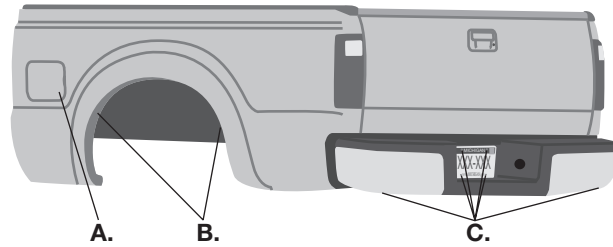


Installing the Air Lines

Choose the locations for the Schrader valves and drill a 5/16" (8mm) hole, if necessary (Fig. 13).

1. Cut the air line in half. Make clean, square cuts with a razor blade or hose cutter (Fig. 14). Do not use scissors or wire cutters.

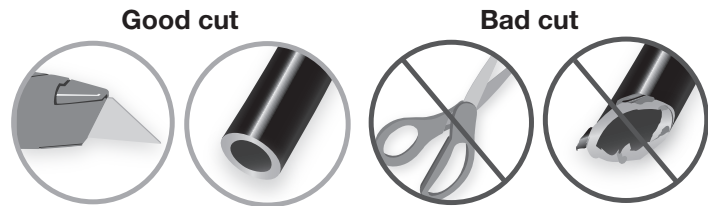
- A. Inside fuel tank filler door
 B. Inside rear wheel wells
 C. License plate or rear bumper area


fig. 13

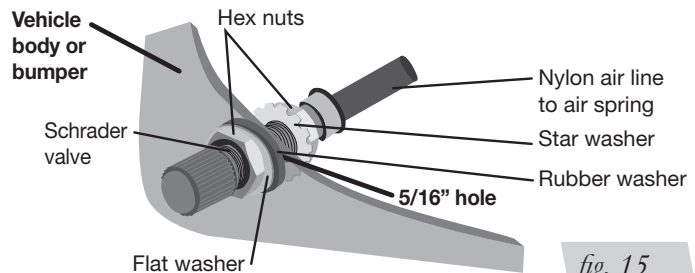
CAUTION

KEEP AT LEAST 6" (152MM) 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" (51mm) 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).


fig. 14

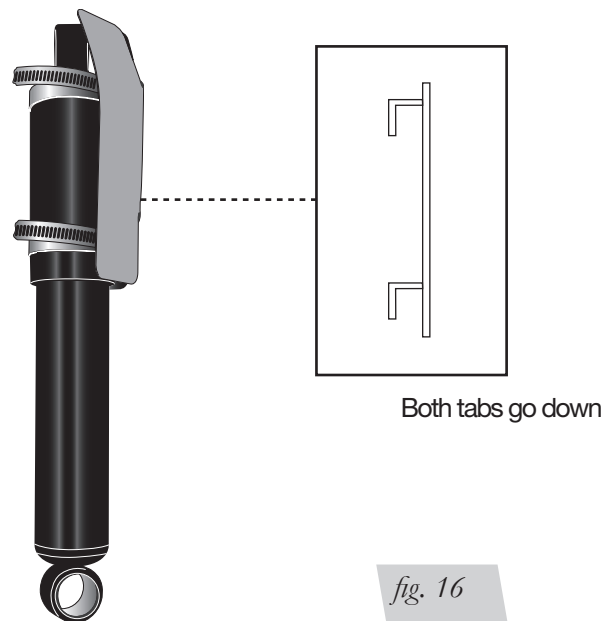
3. Install the Schrader valve in the chosen location (Fig. 15).


fig. 15

INSTALLING THE HEAT SHIELD (ON V-10 TRITON MODELS)

NOTE

V-10 Triton models with shock heat shield: *If the vehicle is a late model that has a V-10 Triton engine with a shock heat shield which was removed in the "Getting Started" section, bend the tabs on the replacement shock heat shield (P) and attach to the shock using the clamps provided. Fold the replacement shock heat shield (P) around the shock and bend the top tabs so they overlap (Fig. 16).*


fig. 16

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** — 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

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

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.

 **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.

 **CAUTION**

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.