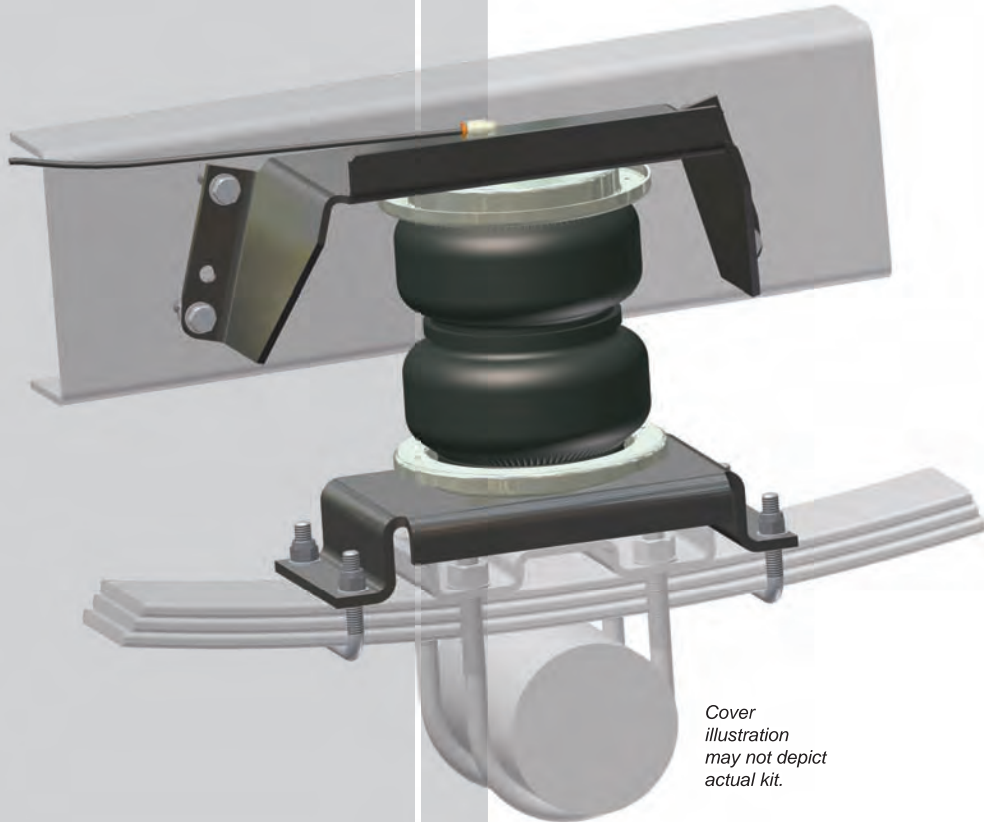


LoadLIFTER 5000

by AIR LIFT®

Kit 57345

Ford F-450, F-550



Cover
illustration
may not depict
actual kit.



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.

Introduction

The purpose of this publication is to assist with the installation, maintenance and troubleshooting of the LoadLifter 5000 air spring kit. LoadLifter 5000 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. LoadLifter 5000 kits are recommended for most $\frac{3}{4}$ 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 p.s.i. 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.

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 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.

 **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**

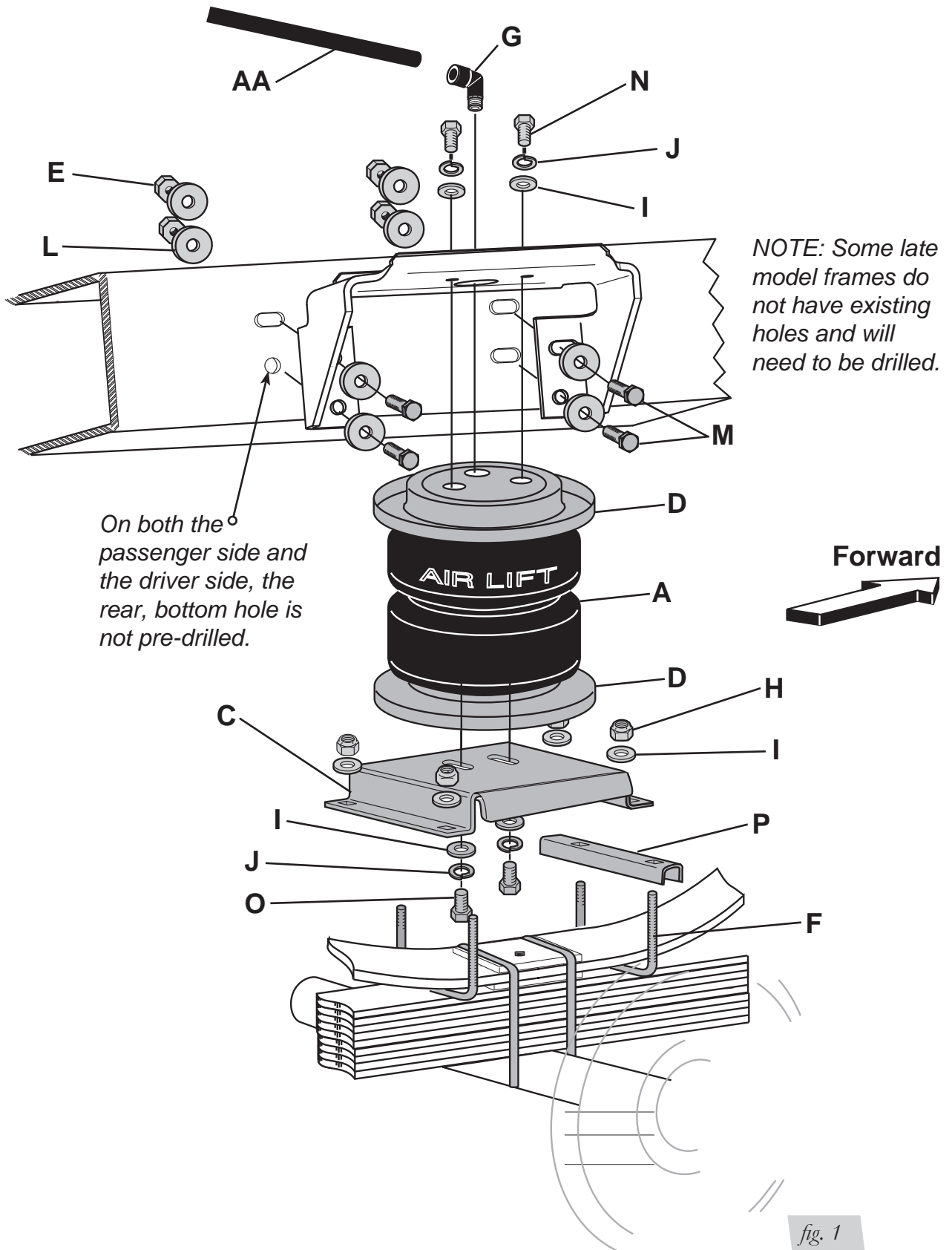
INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN DAMAGE TO THE MACHINE OR MINOR PERSONAL INJURY.

NOTE

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

Installation Diagram

Passenger side view



HARDWARE LIST

Item	Part #	Description.....Qty	Item	Part #	Description.....Qty
A	58115	2B7 Bellows2	N	17187	3/8" -16 x 7/8" HHCS GD24
B	07460	Upper bracket2	O	17203	3/8" -24 x 7/8" HHCS GD24
C	03260	Lower bracket2	P	01426	3" Lower clamp bar2
D	11897	Roll plate 2B7.....4	Q	34629	Heat Shield Kit1
E	18467	7/16" -14 Nyloc nut8	AA	20086 _{sub}	Air line assembly1
F	10594	3/8"-16 x 2" U-bolt.....4	BB	10466	Tie strap6
G	21830	1/4" x 1/4" 90° Swivel elbow2	CC	21230	Valve cap2
H	18435	3/8"-16 Nylon insert nut.....8	DD	18405	5/16" Flat washer2
I	18444	3/8" Flat washer16	EE	21234	Rubber washer.....2
J	18427	3/8" Lock Washer.....8	FF	18411	Star washer.....2
L	18466	7/16" USS flat washer.....16	GG	21233	5/16" Hex nut4
M	17255	7/16" -14 x 1.5" HWHCS GD8.....8			

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
Crescent wrench..... 1	Spray bottle with dish soap/water solution 1

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 3.3" and extends to 9.1". 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.

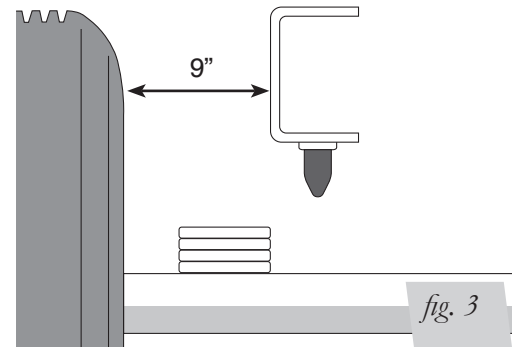
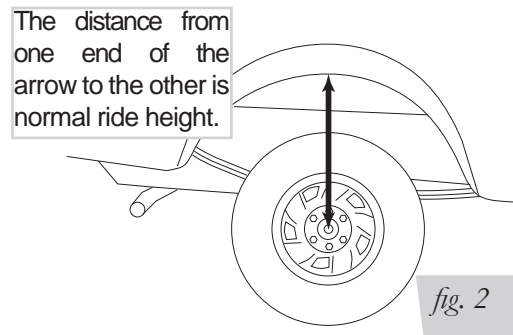


COMPRESSED AIR CAN CAUSE INJURY AND DAMAGE TO THE VEHICLE AND PARTS IF IT IS NOT HANDLED PROPERLY. FOR YOUR SAFETY, DO NOT TRY TO INFLATE THE AIR SPRINGS UNTIL THEY HAVE BEEN PROPERLY SECURED TO THE VEHICLE.

GETTING STARTED

- 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.
 - Remove unusual loads and examine your vehicle from the side to ensure it is on a level surface.

- b. If necessary (in cases where your leaf springs are sagging badly), use a jack to raise the rear end so that the vehicle achieves the original “as delivered” ride height.
2. Measure the distance between the center of the hub and the bottom edge of the wheel well (fig. 2). This is the normal ride height.
3. Measure the distance between the frame and the tire. This kit requires a minimum of 9” of clearance for a fully inflated air spring (fig. 3).



4. If you have a late model with a V10 Triton engine, it will be necessary to remove the heat shield off 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 (p. 9 & 10) for the replacement shock heat shield (Q).

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

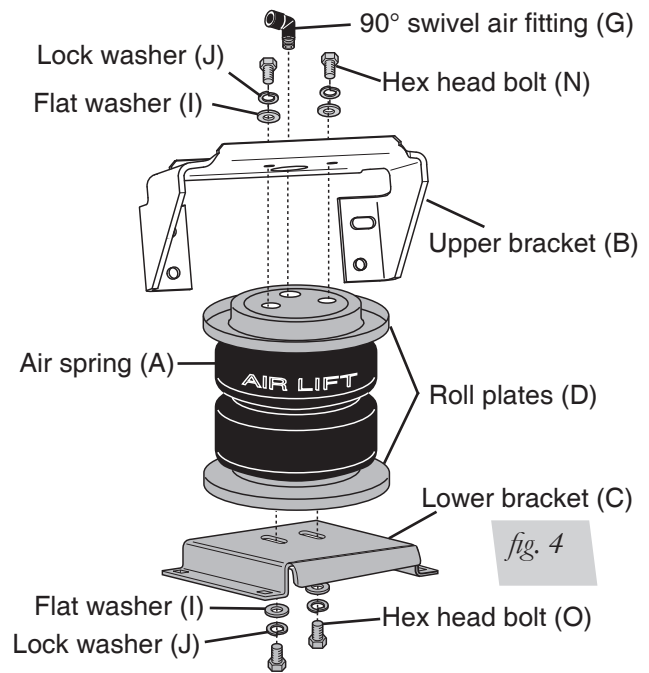
The radiused (rounded) edge of the roll plate will be towards the air spring, so that the air spring is seated in both roll plates (fig. 4)

2. Install a 90° swivel air fitting (G) finger tight plus 1 1/2 turns. Use a 9/16” open end wrench being careful 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 bellow and roll plate with the legs facing down. Guide the swivel fitting through the large slotted hole in the center (fig. 4).
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. 4).
5. Attach the upper bracket to the assembly using 3/8” flat washers (I), lock washers (J), and hex head bolts (N) (fig. 4). Tighten securely.

NOTE

Remember that the legs face down.

- Loosely attach the lower bracket to the assembly using 3/8" flat washers (I), lock washers (J), and hex head bolts (O) (fig. 4).


POSITIONING THE BRACKETS

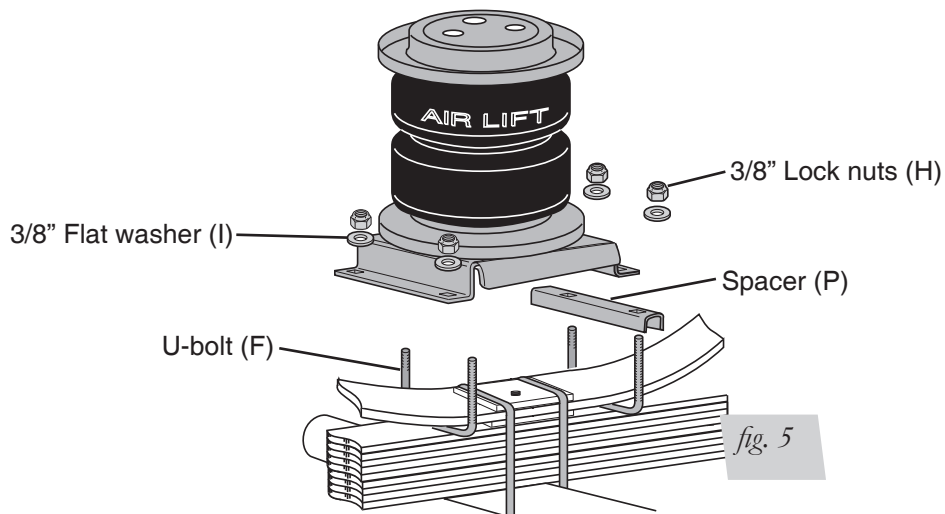
- Set the air spring assembly on the leaf spring over the axle (fig. 1)

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

- Place the short u-bolts (F) under the frame contact overload springs with the threads facing up (fig. 5).
- Place the spacer (P), legs down, on the front side of the lower bracket between the frame contact overload and the lower bracket (fig. 5).
- Attach the lower bracket to the frame contact overload using 3/8" flat washers (I) and 3/8" lock nuts (H) (fig. 5).
- Tighten securely.



INSTALLING THE UPPER BRACKET

NOTE

FOR DRIVER SIDE ONLY: It will be necessary to remove the bolt holding the emergency brake cable bracket.

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

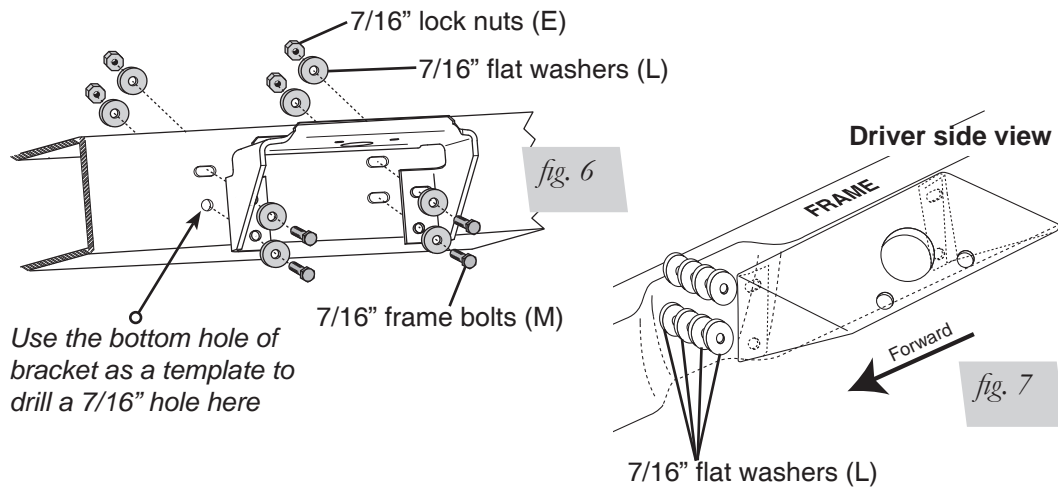
08 and later models may be missing most or all of the existing holes/slots in the frame intended to use for installing the upper bracket. It may be necessary to set the assembly on the spring to properly mark the holes to be drilled on the frame using the upper bracket as a template.

1. Align the assembly 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 8.0".
2. Using the bottom rear hole of the upper bracket as a template, center punch and drill one 7/16" hole through the frame (fig. 6).
3. Drill out the remaining three slots to 7/16" on both the driver side and passenger side.
4. Attach the upper bracket using the 7/16" frame bolts (M), the 7/16" large flat washers (L), and the 7/16" lock nuts (E) (fig. 6).

NOTE

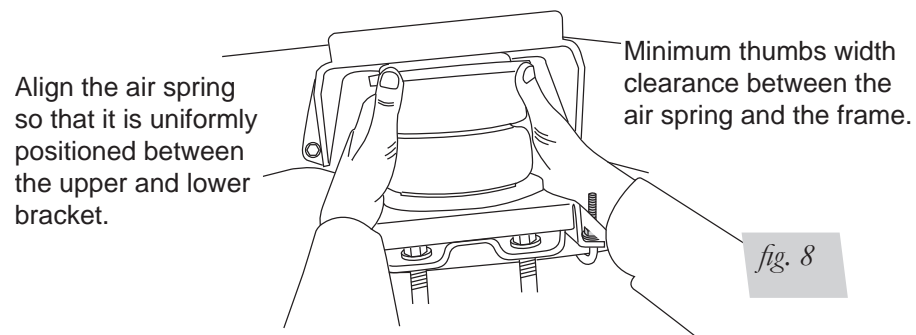
FOR DRIVER SIDE ONLY: There is an indent in the frame for the shock bracket. when installing the upper bracket, it will be necessary to add four 7/16" flat washers (L) on the top and bottom bolts between the frame and the bracket to properly mount the upper bracket. Fastening hardware is the same as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

5. Tighten the installed nuts to 44 ft/lbs.



CHECKING THE AIR SPRING ALIGNMENT

1. 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. 8).
2. Maintain at least a thumbs width of clearance between the air spring (uninflated) and the frame (fig. 8).



SECURING THE AIR SPRING TO THE BRACKETS

NOTE

Push the roll plate outboard before tightening the lower bracket.

1. 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.
2. When both sides are installed, check all hardware to ensure that all is secure.

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. License plate recess in bumper.
 - c. Under the gas cap access door.
 - d. Through license plate itself.

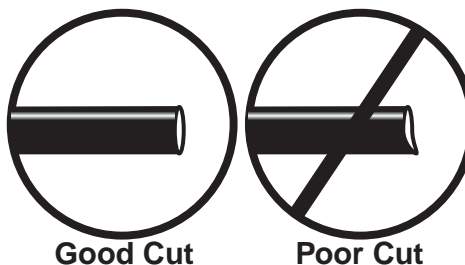
NOTE

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

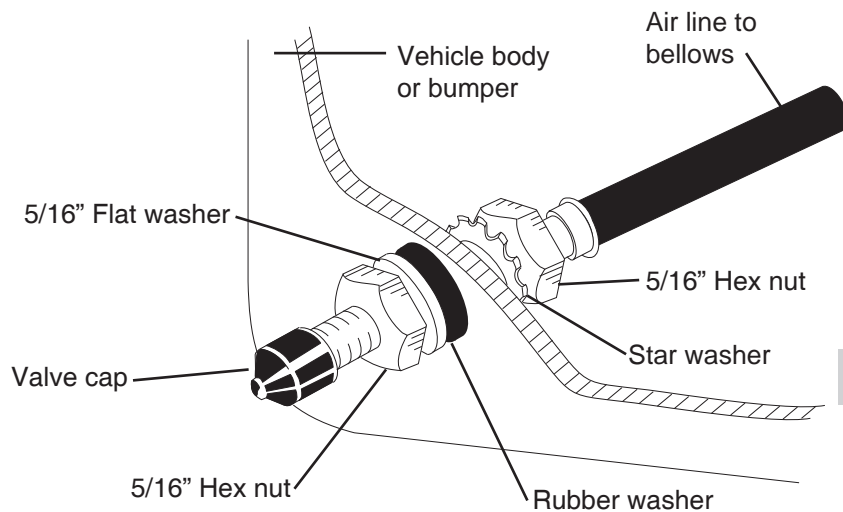
2. Drill a 5/16" hole to install the inflation valves.
3. Cut the air line assembly in two equal lengths.

CAUTION

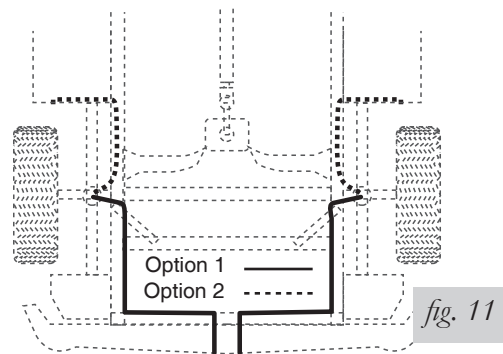
WHEN CUTTING OR TRIMMING THE AIR LINE, USE A HOSE CUTTER, A RAZOR BLADE OR A SHARP KNIFE. A CLEAN, SQUARE CUT WILL ENSURE AGAINST LEAKS. DO NOT USE WIRE CUTTERS OR SCISSORS TO CUT THE AIR LINE. THESE TOOLS MAY FLATTEN OR CRIMP THE AIR LINE, CAUSING IT TO LEAK AROUND THE O-RING SEAL INSIDE THE ELBOW FITTING (FIG. 9).



4. Place a 5/16" nut and a 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.
5. Push the inflation valve through the hole and use the rubber washer, flat washer, and another 5/16" nut. Tighten the nuts to secure the assembly in place (fig. 10).



6. Route the air line along the frame to the air fitting on the air spring (fig. 11). Keep AT LEAST 6" of clearance between the air line and heat sources, such as the exhaust pipes, muffler, or catalytic converter. Avoid sharp bends and edges. Use the plastic tie straps to secure the air line to fixed, non-moving points along the chassis. Be sure that the tie straps are tight, but do not pinch the air line. Leave at least 2" of slack to allow for any movement that might pull on the air line.



7. On the passenger side only, place the provided thermal sleeve on the air line near the exhaust.
8. Cut off air line leaving approximately 12" of extra air line. A clean square cut will ensure against leaks (see fig. 9). Insert the air line into the air fitting. This is a push to connect fitting. Simply push the air line into the 90° swivel fitting until it bottoms out (9/16" of air line should be in the fitting).

NOTE

V10 Triton models with shock HS:

If you have a late model that has a V10 Triton engine with a shock heat shield which was removed in the "Getting Started" section, bend the tabs on the replacement shock heat shield (Q) and attach to the shock using the clamps provided (fig. 12). Fold the replacement shock heat shield (Q) around the shock and bend the top tabs so they overlap (fig. 13)

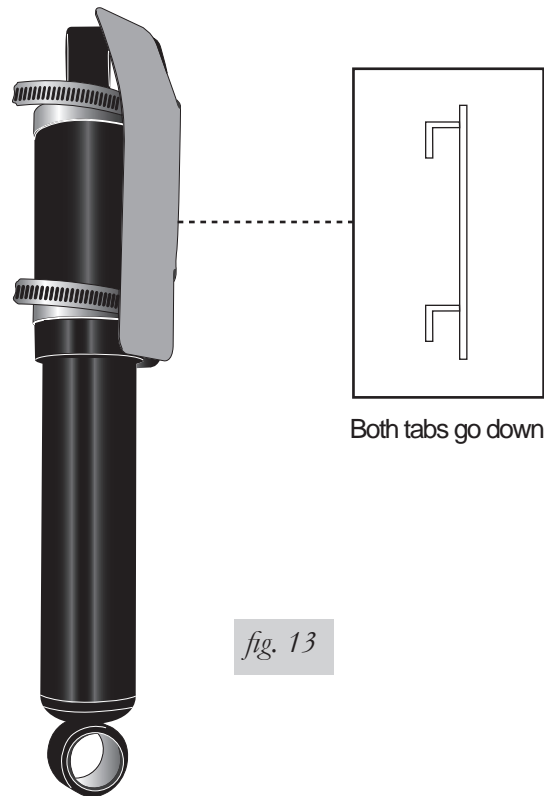


fig. 12

Both tabs go down

fig. 13

CHECKING FOR LEAKS

1. Inflate the air spring to 30 p.s.i. and spray all connections and the inflation valves with a solution of 1/5 liquid dish soap and 4/5 water to check for leaks. Spot leaks easily by looking for bubbles in the soapy water.
2. After the test, deflate the springs to the minimum pressure required to restore the normal ride height, no less than 5 p.s.i.
3. Check the air pressure again after 24 hours. A 2-4 p.s.i. loss after initial installation is normal. Retest for leaks if the loss is more than 5 lbs.

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" off the end of the air line. Be sure the cut is clean and square (see fig. 9). Reinsert the air line into the push-to-connect fitting.
 - b. Check the threaded connection by tightening the swivel fitting another ½ turn. If it still leaks, deflate the air spring, remove the fitting, and re-coat the threads with thread sealant. Reinstall by hand tightening as much as possible, then use a wrench for an additional two turns.
2. If there is a problem with the inflation valve, then:
 - a. Check the valve core by tightening it with a valve core tool.
 - b. Check the air line connection by removing the air line from the barbed type fitting.

 **CAUTION**

DO NOT CUT THE AIR LINE COMPLETELY OFF AS THIS WILL NICK THE BARB AND RENDER THE FITTING USELESS.

Maintenance and Servicing

Minimum Air Pressure	Maximum Air Pressure
5 p.s.i.	100 p.s.i.
FAILURE TO MAINTAIN CORRECT MINIMUM PRESSURE (OR PRESSURE PROPORTIONAL TO LOAD), BOTTOMING OUT, OVER-EXTENSION OR RUBBING AGAINST ANOTHER COMPONENT WILL VOID THE WARRANTY.	

MAINTENANCE GUIDELINES

NOTE

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

1. Check the air pressure weekly.
2. Always maintain normal ride height. Never inflate beyond 100 p.s.i.
3. If you develop an air leak in the system, use a soapy water solution to check all air line connections and the inflation valve core, before deflating and removing the spring.
4. When increasing load, always adjust the 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.

CAUTION

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

5. Always add air to the springs in small quantities, checking the pressure frequently. Sleeves require less air volume than a tire and inflate quickly.
6. Should it become necessary to raise the vehicle by the frame, make sure the system is at a minimum pressure (5 p.s.i.) to reduce tension on the suspension/brake components. Use of on-board leveling systems do not require deflation or disconnection.

Troubleshooting Guide

1. Leak test the air line connections, threaded connection of the elbow into the air spring, and the inflation valves. See "Fixing Leaks" on page 10 for repair.
2. Check for dirt debris in the valve core.
3. Inspect the air lines to be sure none are pinched. Tie straps may be too tight. Loosen or replace the strap and replace leaking components.
4. Inspect the air line for holes and cracks. Replace as needed.
5. Look for a kink or fold in the air line. Reroute as needed.

Product Use

FREQUENTLY ASKED QUESTIONS

Q. Will installing air springs increase the weight ratings of a vehicle?

No. Adding air springs will not change the weight ratings (GAWR, GCWR and/or GVWR) of a vehicle. Exceeding the GVWR is dangerous and voids the Air Lift warranty.

Q. Is it necessary to keep air in the air springs at all time and how much pressure will they need?

The minimum air pressure should be maintained at all times. The minimum air pressure keeps the air spring in shape, ensuring that it will move throughout its travel without rubbing or wearing on itself.

Q. Is it necessary to add a compressor system to the air springs?

No. Air pressure can be adjusted with any type of compressor as long as it can produce sufficient pressure to service the springs. Even a bicycle tire pump can be used, but it's a lot of work.

Q. How long should air springs last?

If the air springs are properly installed and maintained they can last indefinitely.

Q. Will raising the vehicle on a hoist for service work damage the air springs?

No. The vehicle can be lifted on a hoist for short-term service work such as tire rotation or an oil changes. However, if the vehicle will be on the hoist for a prolonged period of time, support the axle with jack stands in order to take the tension off of the air springs.

TUNING THE AIR PRESSURE

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

1. Level vehicle

If the vehicle's headlights are shining into the trees or the vehicle is leaning to one side, then it is not level (fig. 14). Raise the air pressure to correct either of these problems and level the vehicle.

2. Ride comfort

If the vehicle has a rough and harsh ride it may be due to either too much pressure or not enough (fig. 15). 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. 16). Tuning out these problems usually requires an increase in pressure.



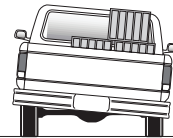
GUIDELINES FOR ADDING AIR

1. Start with the vehicle level or slightly above.
2. When in doubt, always add air.
3. For motorhomes, start with 50-100 p.s.i. in the rear because it can be safely assumed that it is heavily loaded.
4. If the front of the vehicle dives while braking, increase the pressure in the front air bags, if equipped.
5. If it is ever suspected that the air bags have bottomed out, increase the pressure (fig. 17).
6. Adjust the pressure up and down to find the best ride.
7. If the vehicle rocks and rolls, adjust the air pressure to reduce rocking and rolling.
8. It may be necessary to maintain different pressures on each side of the vehicle. Loads such as water, fuel, and appliances will cause the vehicle to be heavier on one side (fig. 18). As much as a 50 p.s.i. difference is not uncommon.

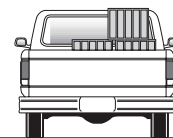


Bottoming out

fig. 17



Unlevel



Level

fig. 18