

Kit Number 88212

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.

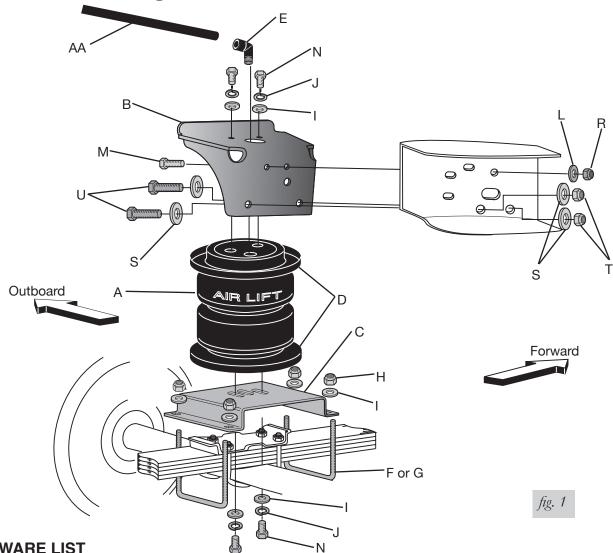
Internal jounce bumper

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Installation Diagram



HARDWARE LIST

Item	Part #	DescriptionQty	Item	Part #	DescriptionQty
А	58496	Air spring2	Р	17202	3/8"-16 x 1 1/4" Hex-head cap screw2
В	07178	Upper bracket2	Q	18468	3/8" Flat washer4
С	03102	Lower bracket2	R	18435	3/8" Nylon lock washer4
D	11967	Roll plate4	S	18207	1/2" Large flat washer8
E	21837	Elbow fitting2	Т	18460	1/2" Nylon lock nut4
F	10594	2" U-bolt4	U	17247	1/2"-13 x 1 3/4" Hex-head cap screw4
G	10561	4 1/2" U-bolt4	V	10465	P-clamp1
Н	18435	Nylon lock nut10			
1	18444	3/8" Flat washer8	Air Lin	e Assemb	ly Parts
J	18427	3/8" Lock washer8	AA	20086	Air line assembly1
K	10014	Jounce bumper spacer2	BB	10466	Zip tie6
L	18447	3/8" Large flat washer2	CC	21230	Valve caps2
М	17159	3/8" x 1 1/2" Washer-head flange bolt 2	DD	18501	M8 Flat washer2
N	17203	3/8" x 7/8" Hex-head cap screw8	EE	21234	Rubber washer2
0	01525	Spacer bar4	FF	18411	Small star washer2
		-	GG	21233	5/16" Hex nut4



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



Introduction

The purpose of this publication is to assist with the installation, maintenance and troubleshooting of the standard LoadLifter 5000, LoadLifter 5000 Ultimate or LoadLifter 5000 Ultimate Plus 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. LoadLifter 5000 Ultimate Plus kits also have an internal jounce bumper, but add stainless steel roll plates, air lines and air spring mounting hardware.

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. For the latest version of this manual, contact Air Lift Company at **(800) 248-0892** or visit **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 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.

NOTE	Indicates a procedure, practice or hint which is important to highlight.
	INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN DAMAGE TO THE MACHINE OR MINOR PERSONAL INJURY.
/IN WARNING	INDICATES HAZARDS OR UNSAFE PRACTICES WHICH COULD RESULT IN SEVERE PERSONAL INJURY OR DEATH.
AN DANGER	INDICATES IMMEDIATE HAZARDS WHICH WILL RESULT IN SEVERE PERSONAL INJURY OR DEATH.



Installing the LoadLifter 5000 Ultimate System

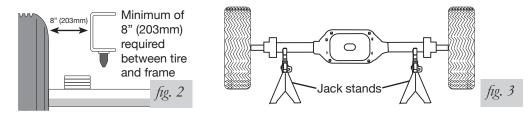
DANGER

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

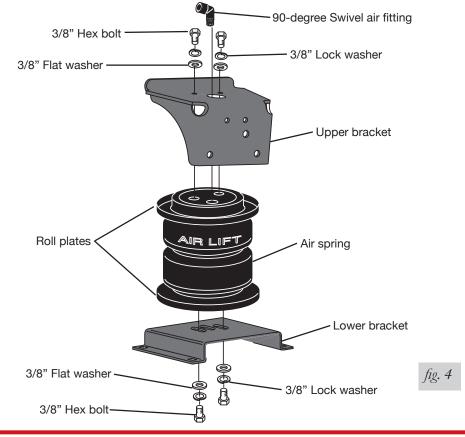
IMPORTANT: There must be at LEAST 8" (203mm) between the tire and the frame to install this LoadLifter 5000 Ultimate kit (Fig. 2).

- 1. Raise the vehicle, remove the wheels, and obtain normal ride height (Fig. 3).
- 2. Remove the emergency brake cable bracket from the driver side spring retainer. Save the bolt for later use.
- 3. Remove both jounce bumpers from under the frame above the axle. Save for later use.



ASSEMBLING THE AIR SPRING UNIT

- 1. Set roll plates (D) on both ends of the air spring (A). 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-degree swivel air fitting (E) finger tight plus 1 1/2 turns (Fig. 4). Do not overtighten.
- 3. Place the upper bracket (B) onto the top of the bellow and roll plate with the legs facing down.





- 4. Set the air spring on the lower bracket (C) aligning the two holes in the base of the air spring with the two outer slots in the top of the lower bracket (Fig. 4).
- 5. Attach the upper bracket to the assembly using flat washers (I), lock washers (J), and hex head bolts (N). Tighten securely.
- 6. Loosely attach the lower bracket to the assembly using flat washers (I), lock washers (J), and hex head bolts (N) (Fig. 4).

NOTE

NOTE

The flange on the bracket must face the outside (tire-side) of the vehicle.

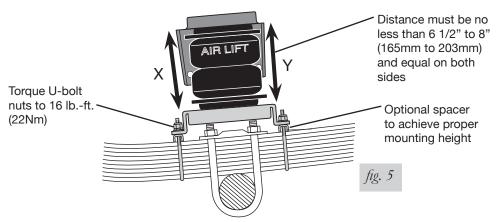
POSITIONING THE BRACKETS

1. There must be 6 1/2" to 8" (165mm to 203mm) between the upper bracket and the lower bracket (distances X and Y) to install the air spring (Fig. 5). It is best to use the highest envelope available between the upper and lower bracket.

Failure to mount the air spring at or higher than 6 1/2" (165mm) can result in the air spring bottoming out.

- 2. If you are installing this kit on a 2008 or later model it will be necessary to drill the 3/8" locating hole for locating the upper bracket to the frame rail. Use the template provided at the end of this manual to properly locate the 3/8" hole, center punch and drill a 3/8" hole through the frame.
- A CAUTION

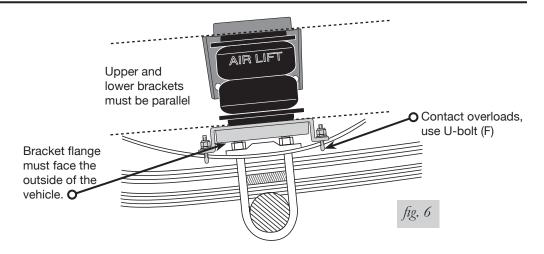
BEFORE DRILLING, CHECK THE BACK SIDE OF THE FRAME FOR CLEARANCE ISSUES WITH THE BRAKE LINES, GAS LINES AND ELECTRICAL LINES. ANY OBSTACLES WILL NEED TO BE TEMPORARILY RELOCATED TO CLEAR THE AREA.



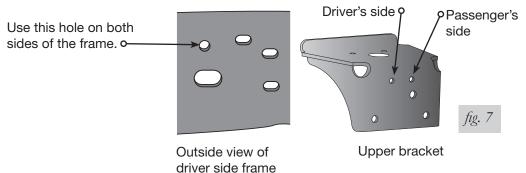
3. Set the air spring assembly on the leaf spring over the axle (Fig. 6).

NOTE

On some models it may be necessary to relocate a line bracket on the inside of the frame on the driver's side. Move the bracket back far enough to clear the upper bracket and remount.



4. Loosely attach the upper bracket to the frame using the bracket holes and existing frame holes as specified in Fig. 7. Use a 3/8" bolt (M), flat washer (L), and nylon lock nut (H) to attach the upper bracket. Leave loose.



- 5. If the lower bracket hits the tops of the stock U-bolts and does not fit flush to the leaf spring, or, the mounting distance is over 8" (203mm), use a spacer (O) to space the lower bracket so it will clear the stock U-bolts (Fig. 6).
- 6. Measure the X and Y distance (mounting envelope) (Fig. 6). If this distance is less than 6 1/2" (165mm), you will have to cut the tops of the U-bolts off and remove the spacers previously installed. The lower bracket must sit flush on the leaf spring.
- 7. Adjust the brackets so they are parallel to each other and the X and Y distances are equal. Do this by rotating the upper bracket and/or pushing the lower bracket forward and backward.
- 8. Mark the frame using the two 1/2" holes in the lower bracket as a template.

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.

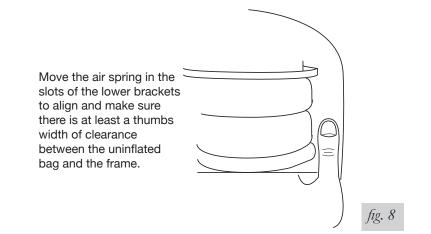
9. Remove the assembly and drill two 1/2" holes in the frame where marked.

ATTACHING THE UPPER BRACKETS

1. Set the assembly back on the spring and attach the upper bracket using one 3/8" bolt (M), flat washer (L) and nylon lock nut (H). Also, attach using two 1/2" bolts (U), four flat washers (S) and two nylon lock nuts (T). Torque the 3/8" bolt to 44 lb.-ft. (60Nm). Torque the 1/2" bolts to 95 lb.-ft. (129Nm).

ATTACHING THE LOWER BRACKETS

1. Position the lower bracket so that it is parallel with the upper bracket, and so that the air spring is perpendicular to both. Do this by using the same method as before, but also move the air spring in and out using the slots in the lower bracket (Fig. 8).





CAUTION

AIRLIE

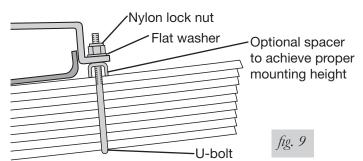
MN-827



2. If the spacer is not used, attach the lower bracket securely using the provided U-bolts (F or G), flat washers (I), and nylon lock nuts (H) (Fig. 9). Torque to 16 lb.-ft (22Nm).

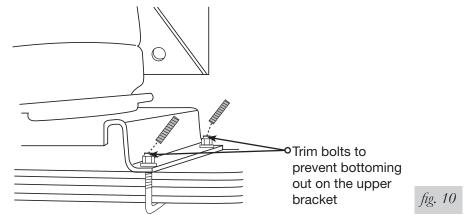
You can use the shorter U-bolts (F) when attaching to frame contact overloads.

3. If the spacer is used, place the spacer (O) on the leaf spring and attach the lower bracket securely using the provided lock nuts (H) (Fig. 9). Torque to 16 lb.-ft (22Nm).



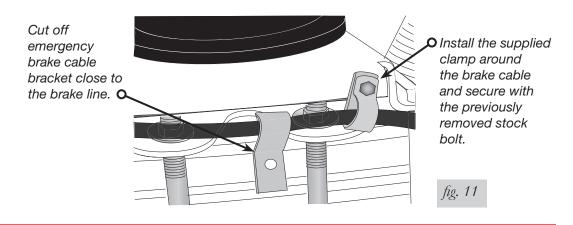
SECURING THE AIR SPRING TO BRACKETS

- 1. Secure the air spring to the lower bracket using a 9/16" open ended wrench.
- 2. Depending on the thickness of the leaf spring stack, it will be necessary to trim the U-bolts (Fig. 10).
- 3. Check to ensure that all hardware is secure and repeat the process for the remaining side of the vehicle.



SECURING THE EMERGENCY BRAKE CABLE

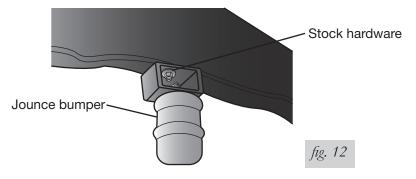
- 1. Attach the supplied P-clamp (V) around the emergency brake cable and secure it to the lower bracket using the previously removed stock bolt. Tighten securely. (Fig. 11).
- 2. Cut off the existing emergency brake cable bracket close to the cable (Fig. 11).



NOTE

ATTACHING THE JOUNCE BUMPER

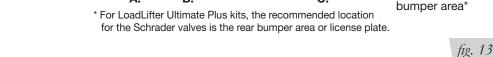
- 1. One end of the jounce bumper spacer (K) has two holes in it. Attach the previously removed jounce bumper to this end using the previously removed hardware. Tighten securely.
- 2. Attach the assembly to the vehicle using the supplied 3/8" bolt (P), two 3/8" flat washers (Q), and a 3/8" nylon lock nut (R) (Fig. 12).
- 3. Repeat steps 1-2 for the other side of the vehicle.



AIRLIET

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. 13).



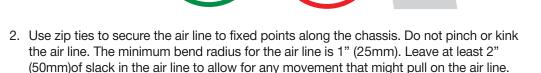
CAUTION

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

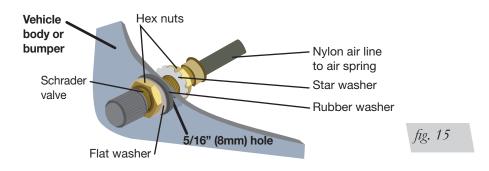
INSTALLING NYLON AIR LINES

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.

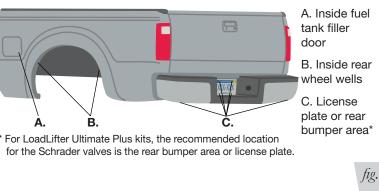
Good cut



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







Bad cut

fig. 14



Before Operating

CAUTION

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. 14). 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.

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, call Air Lift customer service at **(800) 248-0892**.



INSTALLATION CHECKLIST

- □ **Clearance test** Inflate the air springs to 75-90 PSI (5.2-6.2BAR) 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 75-90 PSI (5.2-6.2BAR) 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" 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.

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.



NOTE

CAUTION

Product Use, Maintenance and Servicing

Minimum Recommended Pressure

Maximum Air Pressure

5 PSI (.34BAR)

100 PSI (7BAR)

MAINTENANCE GUIDELINES

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

- 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.

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.

- 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.
- 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

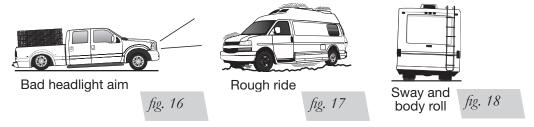
If the vehicle's headlights are shining into the trees or the vehicle is leaning to one side, then it is not level (Fig. 16). Raise the air pressure to correct either of these problems and level the vehicle.

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. 17). Try different pressures to determine the best ride comfort.

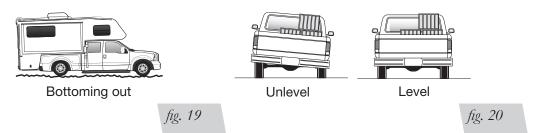
3. Stability

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. 18). 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. 19).
- 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.
- 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. 20). As much as a 50 PSI (3.5BAR) difference is not uncommon.





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 air line 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), Ultimate and Ultimate Plus can safely be run at zero 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.



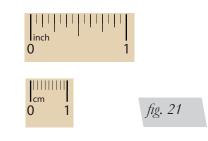
Template



DRILLING TEMPLATE VERIFICATION

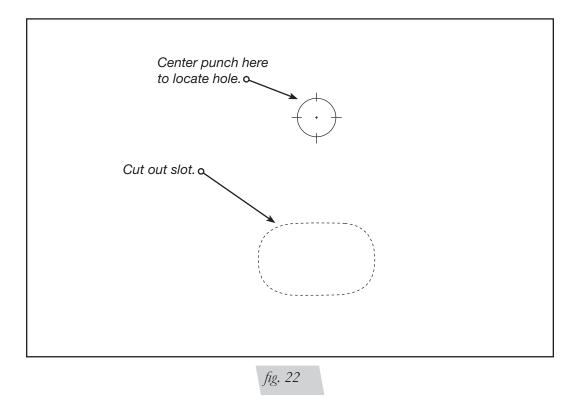
IMPORTANT: PRINT THIS MANUAL AT 100% SCALE. THIS MANUAL CONTAINS A DRILLING TEMPLATE, WHICH WOULD BE RENDERED INCORRECT IN DIMENSION IF PRINTED WITH ANY SCALING. USING AN INCORRECT TEMPLATE TO DRILL HOLES MAY CAUSE DAMAGE TO THE VEHICLE!

PLEASE REFER TO THE ONE-INCH OR ONE-CENTIMETER SCALE (FIG. G.2) AND USE A MEASURING TOOL TO CONFIRM THAT THE PRINTED SCALE MEASURES 1" OR 1CM TO VERIFY THAT THE TEMPLATE HAS BEEN PRINTED AT 100% SCALE. IF IT IS PRINTED AT ANY SCALE OTHER THAN 100%, YOU COULD END UP DRILLING IN THE WRONG LOCATIONS ON THE VEHICLE.



UPPER BRACKET POSITIONING FOR 2008 AND LATER FORD VEHICLES

- 1. Cut out slot.
- 2. Align slot from template with the slot on the frame that is located above the axle.
- 3. Center punch and drill a 3/8" hole that will be used to locate the upper bracket to the frame.
- 4. Repeat for opposite side.



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 online at www.airliftcompany.com/warranty.

For additional warranty information contact Air Lift Company customer service.

Replacement Part Information

If replacement parts are needed, contact the local dealer or call Air Lift customer service at **(800) 248-0892**. Most parts are immediately available and can be shipped the same day.

Contact Air Lift Company customer service at (800) 248-0892 first if:

- Parts are missing from the kit.
- Need technical assistance on installation or operation.
- Broken or defective parts in the kit.
- Wrong parts in the kit.
- Have a warranty claim or question.

Contact the retailer where the kit was purchased:

- If it is necessary to return or exchange the kit for any reason.
- If there is a problem with shipping if shipped from the retailer.
- If there is a problem with the price.

Contact Information

Mailing address	P.O. Box 80167 Lansing, MI 48908-0167
Shipping address for returns	2727 Snow Road Lansing, MI 48917
Phone	Toll free: (800) 248-0892 International: (517) 322-2144
Email	service@airliftcompany.com
Web address	www.airliftcompany.com



Need Help?

Contact Air Lift Company customer service department by calling (800) 248-0892. For calls from outside the USA or Canada, dial (517) 322-2144.



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

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