

Air Lift1000™
by AIR LIFT®

Kit 60743

2011 Toyota Sequoia 4WD



Photo 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.



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Introduction

The purpose of this publication is to assist with the installation, maintenance and troubleshooting of the Air Lift 1000 air spring kit.

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 guidelines and operating tips.

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 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.

Installing the Air Lift1000 System

PREPARING THE VEHICLE

1. Jack up rear of vehicle or raise on hoist. Support frame with safety stands (fig. 1).

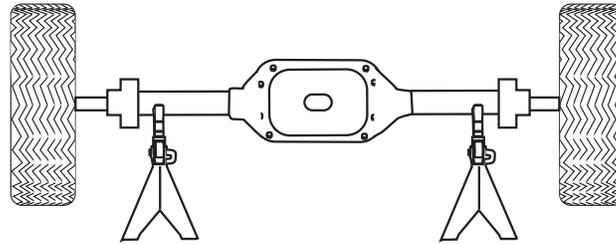


fig. 1

2. The coil springs must be removed for installation:
 - a. Detach the shock absorbers at the lower shock mount (fig. 2).

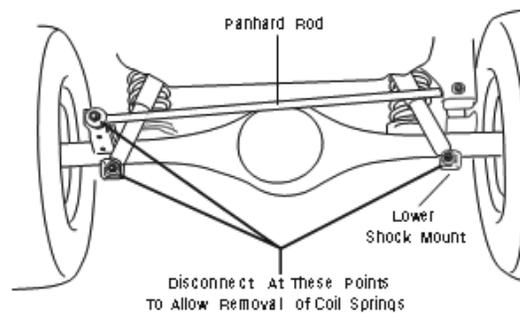


fig. 2

- b. Detach the panhard rod at the lower axle mount (fig. 2).
 - c. If there is a rear anti-sway bar, you may have to disconnect the links.
 - d. Mark the position of the coil spring on the upper spring seat so that the spring can be reinstalled in the same position.
 - e. Carefully lower the axle until the coil springs are free. **CAUTION: Do not strain brake lines.** Disconnect brake line brackets if necessary. Remove coil springs.
3. There are three different combinations of jounce bumpers for this vehicle. Installation depends on what style the vehicle has.

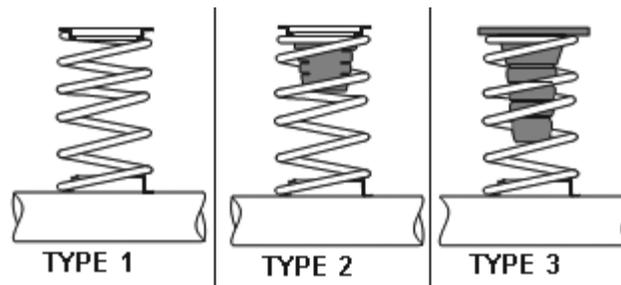
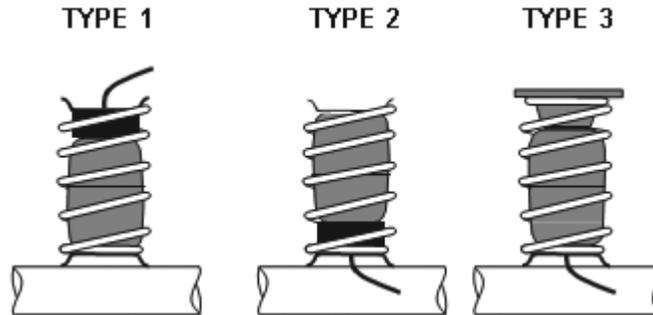
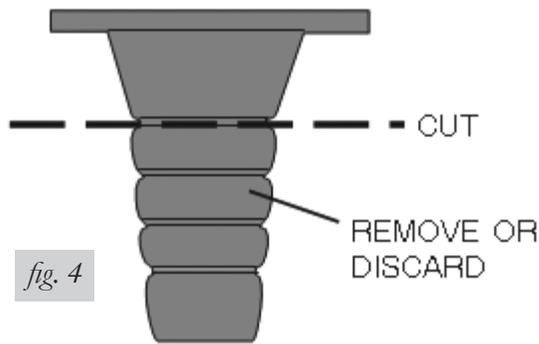


fig. 3

Type 1: If there is no jounce bumper at top spring seat (see fig. 3), and there is a large hole, insert the protector and cylinder so stem is up. See Figure 5.

Type 2: If there is a small jounce bumper (approximately 3" long) at the top of the coil spring, unbolt and discard (see fig. 3). Drill a 9/16" hole in lower spring seat using center template circles. Insert cylinder and protector in coil spring with stem down. See figure 5.

Type 3: If there is a large jounce bumper at the top of the coil spring (fig. 3) it will be necessary to trim the jounce bumper as specified in figure 4. Center template, mark and drill a 9/16" hole in lower spring seat for hose access to cylinder. Insert cylinder stem down. See figure 5.



4. Select either Dual Air Line or Tee Air line option depending on use of vehicle. The tee airline installation is best for vehicles that are loaded evenly from side to side. The dual air line installation should only be used if vehicle will have an unbalanced side to side loading; i.e. considerably more load on left side than right, or vice versa. Depending on your chosen installation, proceed with I (tee) or II (dual).

TEE AIR LINE ROUTING

CAUTION

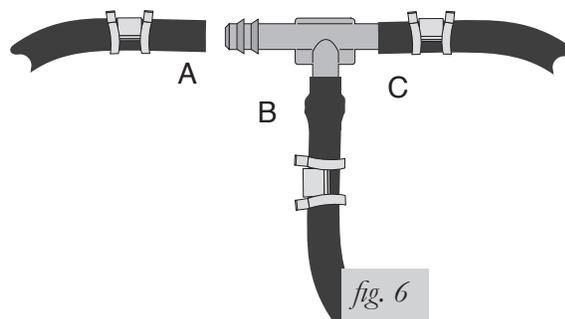
TO PREVENT AIR LINE FROM MELTING, KEEP IT AT LEAST EIGHT INCHES FROM EXHAUST SYSTEM.

1. Locate desired tee location on the frame rail or cross member.
2. Determine and cut adequate length of air line to reach from tee to left and right side on air cylinders.

CAUTION

LEAVE SUFFICIENT AIR LINE SLACK TO PREVENT ANY STRAIN ON FITTING DURING AXLE MOTIONS.

3. Slide air line clamp onto the air line.
4. Push the air line over one side of the tee until all the barbs are covered. With pliers slide the air line clamp forward until it fully covers the barbed section. Repeat procedure for other leg of tee (fig. 6).



Use this procedure for all air line connections:

- a. Slide the air line clamp onto the air line.
- b. Push the air line over the barbed stem.
- c. Compress the ears on the air line clamp with pliers and slide it forward to fully cover the barbed section.

- Route air line along cross member and upper spring seat to air cylinder (fig. 7).

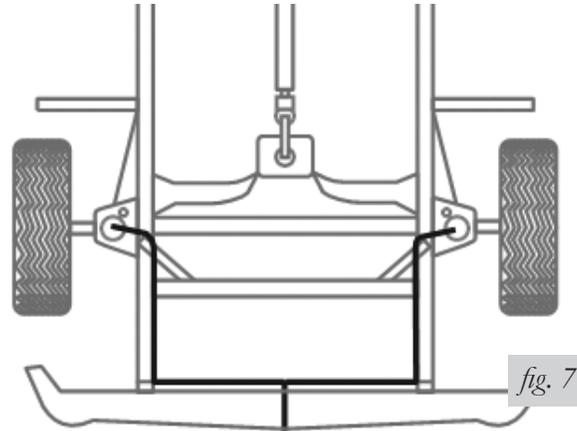


fig. 7

- Insert air line through spring seat and protector (fig. 5).
- Slide air line clamp onto the air line. Push the air line onto the stem, covering all the barbs (fig. 8). With pliers slide the air line clamp upward until it fully covers the barbed section. Repeat for the other side.

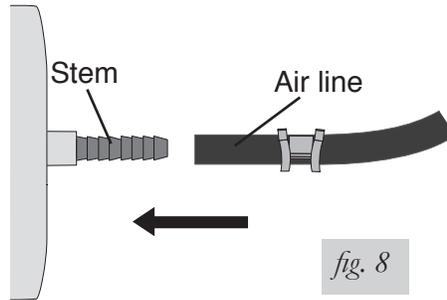


fig. 8

- Push the remaining air line over the last fitting on tee and route along frame to desired inflation valve location (fig. 7). Attach with plastic straps.
- Select a location for inflation valve in the gas cap well, the trunk, rear bumper, fender flange or behind the license plate, ensuring that the valve will be protected and accessible with an air hose.
- Drill a 5/16" hole for inflation valve and mount as in illustration (fig. 9). The rubber washer is for outside weather seal.

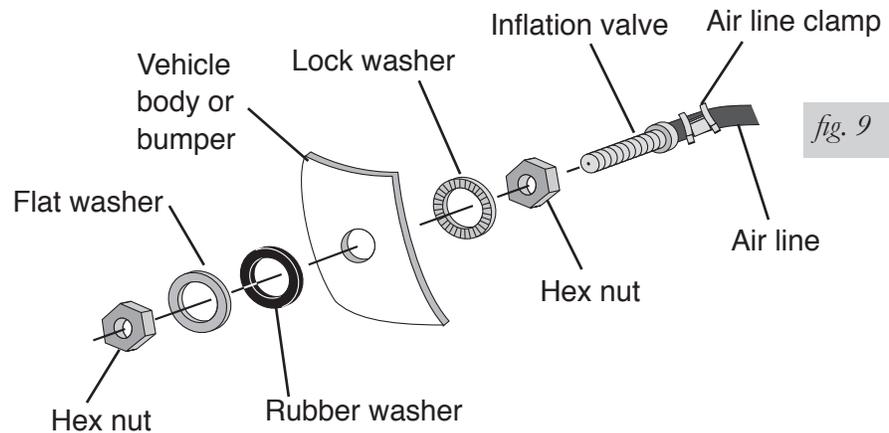
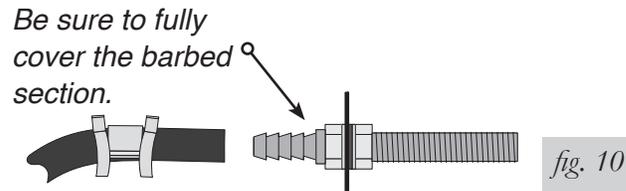


fig. 9

- Slide air line clamp over the air line. Push air line onto fitting covering all barbs, with pliers slide the air line clamp forward until it fully covers the barbed section (fig. 10).



- Proceed to “Finishing the Installation” on page 7.

CAUTION

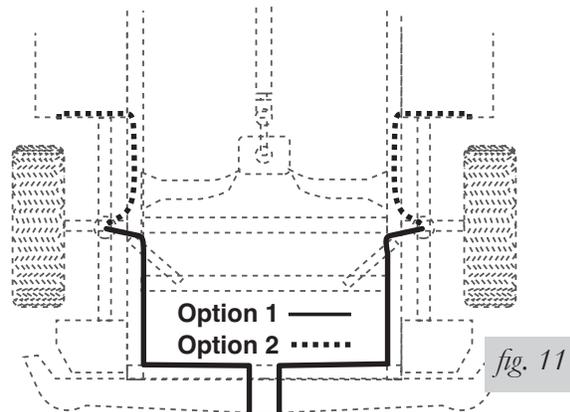
DO NOT INFLATE AIR CYLINDERS BEFORE READING “PRODUCT USE, MAINTENANCE & SERVICING”.

DUAL AIR LINE ROUTING

CAUTION

TO PREVENT AIR LINE FROM MELTING, KEEP IT AT LEAST EIGHT INCHES FROM EXHAUST SYSTEM.

- Select a location for the inflation valves in the rocker panel flange, or rear bumper, assuring that each valve will be protected and accessible with an air hose (fig. 11).



- Determine and cut adequate length of air line to reach from valve location to left side air cylinder.

CAUTION

LEAVE SUFFICIENT AIR LINE SLACK TO PREVENT ANY STRAIN ON VALVE STEM DURING NORMAL AXLE MOTIONS.

- Insert the air line through the spring seat and protector (fig. 5).
- Slide air line clamp onto the cut air line.
- Push the air line onto the stem, covering all the barbed section (fig. 8). With pliers slide the air line clamp forward until it fully covers barbed section.
- Repeat process for right side.
- Drill 5/16” hole for inflating valves and mount as illustrated. Rubber washer is for outside weather seal (fig. 9).
- Route air line along control arm and frame to inflation valve location and cut off excess.
- Slide a clamp onto the air line and push the air line over the fitting, covering all the barbs. With pliers slide the air line clamp forward until it fully covers the barbed section (fig. 10).
- Proceed to “Finishing the Installation” on page 7.

CAUTION

DO NOT INFLATE AIR CYLINDERS BEFORE READING “PRODUCT USE, MAINTENANCE & SERVICING”.

FINISHING THE INSTALLATION

1. Reattach all components disconnected in step 2 of the “Preparing the Vehicle” section:
 - a. Reconnect brake lines to mounting brackets on rear axle and swaybar link if removed.
 - b. Reconnect panhard rod.
 - c. Reconnect shock absorbers.

CHECKING FOR LEAKS

1. Inflate the air spring to 35 PSI.
2. Spray all connections and the inflation valves with a solution of 1/5 liquid dish soap and 4/5 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.
4. Check the air pressure again after 24 hours. A 2 - 4 PSI 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 (fig. 12). Reinsert the air line into the push-to-connect fitting.

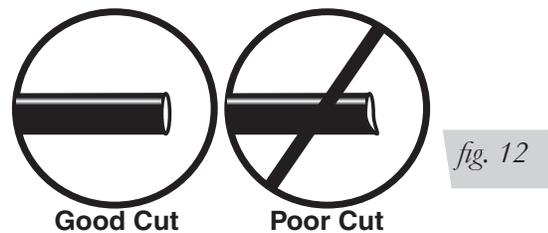


fig. 12

- b. Check the threaded connection by tightening the swivel fitting another 1/2 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 type 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.

CAUTION

DO NOT CUT OFF THE AIR LINE COMPLETELY AS THIS WILL USUALLY 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.

Before Operating

INSTALLATION CHECKLIST (To be completed by installer)

- Clearance test — Inflate the air springs to 35 PSI and ensure there is at least 1/2" clearance around each bellow, away from anything that might rub against them. Be sure to check the tire, brake drum, frame, shock absorbers and brake cables.
- Leak test before road test — Inflate the air springs to 30 PSI, check all connections for leaks with a soapy water solution. See *Checking for Leaks* on how to spot leaks. All leaks must be eliminated before the vehicle is road tested.
- Heat test — Be sure there is sufficient clearance from any 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 (800) 248-0892.
- Fastener test — Recheck all bolts for proper torque. Re-torque after 100 miles.
- Road test — The vehicle should be road tested after the preceding tests. Inflate the air springs to 25 PSI (30 PSI if the vehicle is loaded). Drive the vehicle 10 miles and recheck for clearance, loose fasteners and air leaks.
- Operating instructions — If professionally installed, the installer should review the *Product Use, Maintenance and Servicing* section with the owner. Be sure to provide the owner with all of the paperwork which 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, then there is a leak that must be fixed. Either fix the leak yourself or return to the installer for service.
- Air pressure requirements — Regardless of load, the air pressure should always be adjusted to maintain ride height at all times.
- Thirty day or 500 mile test — Recheck the air spring system after 30 days or 500 miles, 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.

Product Use, Maintenance and Servicing

Minimum Air Pressure	Maximum Air Pressure
5 PSI	35 PSI
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 35 PSI.
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 35 PSI, 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. Cylinders 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 PSI) to reduce tension on the suspension/brake components. Use of on-board leveling systems do not require deflation or disconnection.

OPERATING TIPS

1. Inflate your air springs to 30 PSI before adding the payload. This will allow the air cylinder to properly mesh with the coil spring. After the vehicle is loaded, adjust your air pressure down to level the vehicle and for ride comfort.
2. When carrying a payload it will be helpful to increase the tire inflation pressure in proportion to any overload condition. We recommend a 2 PSI increase above normal for each 100 lbs additional load on the axle.

TROUBLESHOOTING GUIDE

1. Leak test the air line connections.
2. 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.
3. Inspect the air line for holes and cracks. Replace as needed.
4. Look for a kink or fold in the air line. Reroute as needed.

If the preceding steps do not solve the problem, it is possibly caused by a failed air spring — either a factory defect or an operating problem. Please call Air Lift at (800) 248-0892 for assistance.

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 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 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. 13). 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. 14). Try different pressures to determine the best ride comfort.

3. Stability

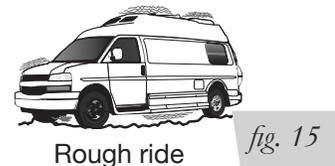
Stability translates into safety and should be the priority, meaning the driver may need to sacrifice a perfectly level and comfortable ride. Stability issues include roll control, bounce, dive during braking and sponginess (fig. 15). Tuning out these problems usually requires an increase in pressure.



Bad headlight aim



Sway and body roll



Rough ride

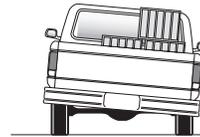
GUIDELINES FOR ADDING AIR

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. 16).
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.
7. 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. 17).

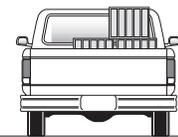


Bottoming out

fig. 16



Unlevel



Level

fig. 17

Notes

Template

DRILLING TEMPLATE VERIFICATION

 **CAUTION**

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 SCALE (FIG. 18) AND USE A MEASURING TOOL TO CONFIRM THAT THE PRINTED SCALE MEASURES 1" 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.

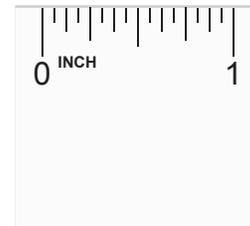
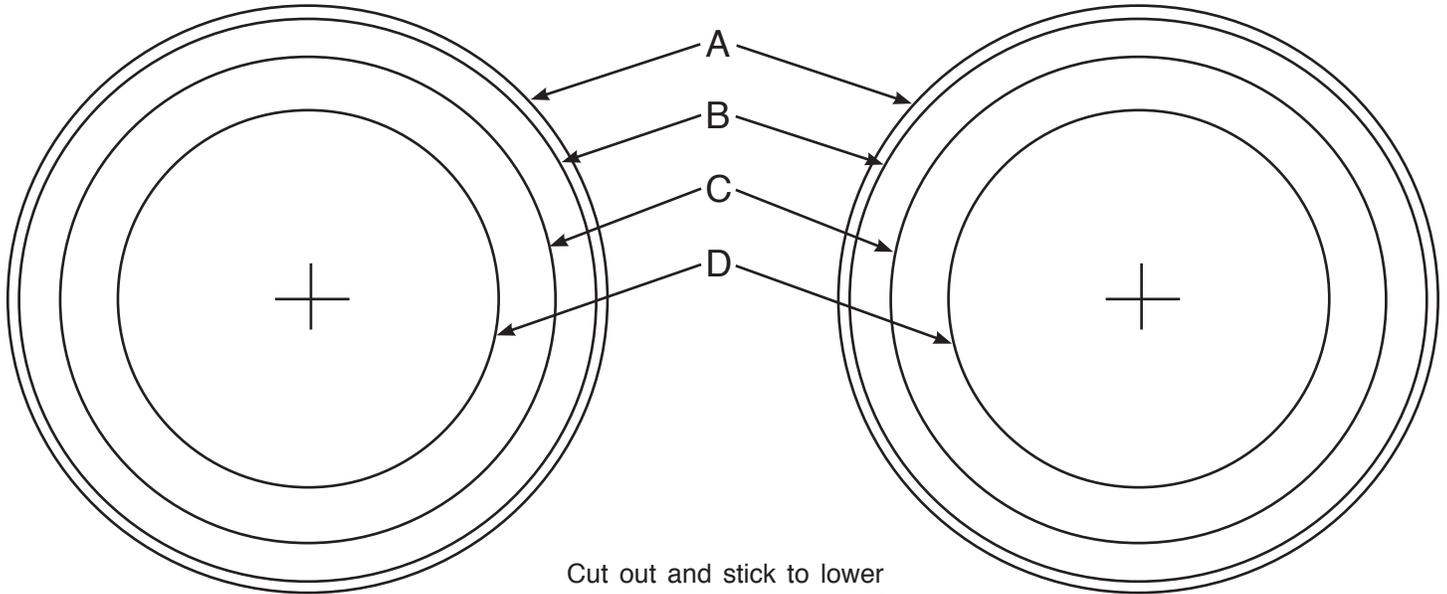


fig. 18



Cut out and stick to lower spring seat with a dab of grease.

fig. 19

Notes



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 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 our customer service department by calling (800) 248-0892, Monday through Friday. For calls from outside the USA or Canada, our local number is (517) 322-2144.

**Register your warranty online at
www.airliftcompany.com/warranty**



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

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