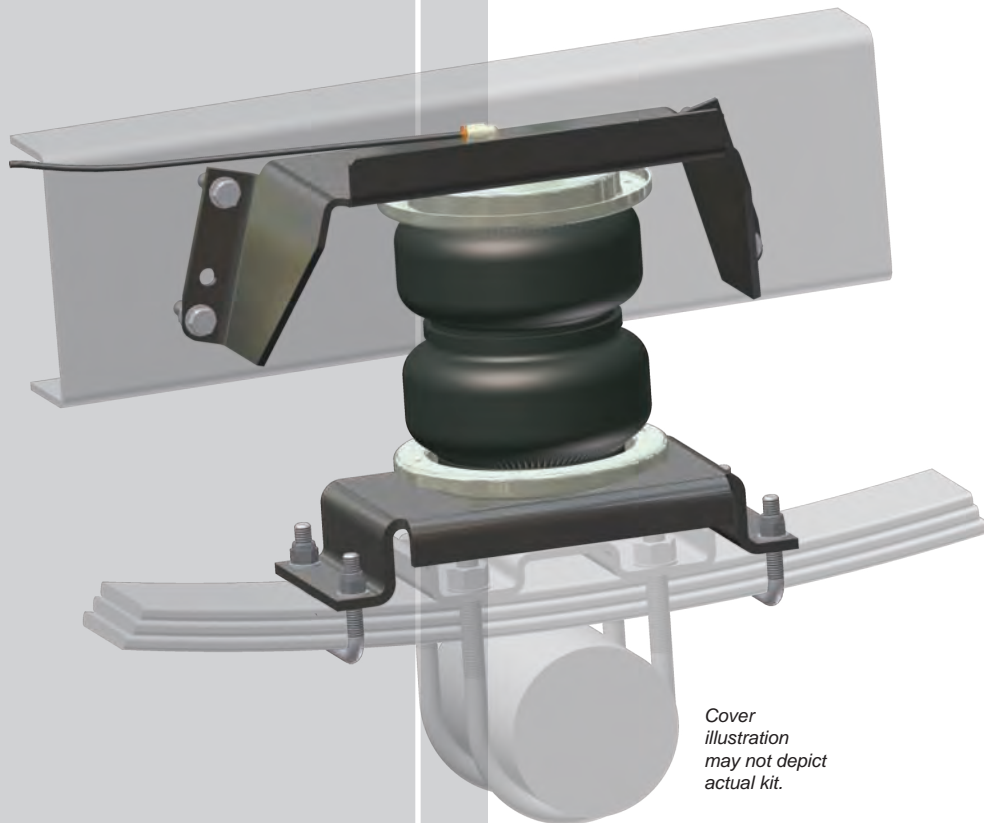


LoadLIFTER 5000

by AIR LIFT®

Kit No. 57298



*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 PSI. The kits are also used in motorhome rear kits and some motorhome fronts where leaf springs are used.

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

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.

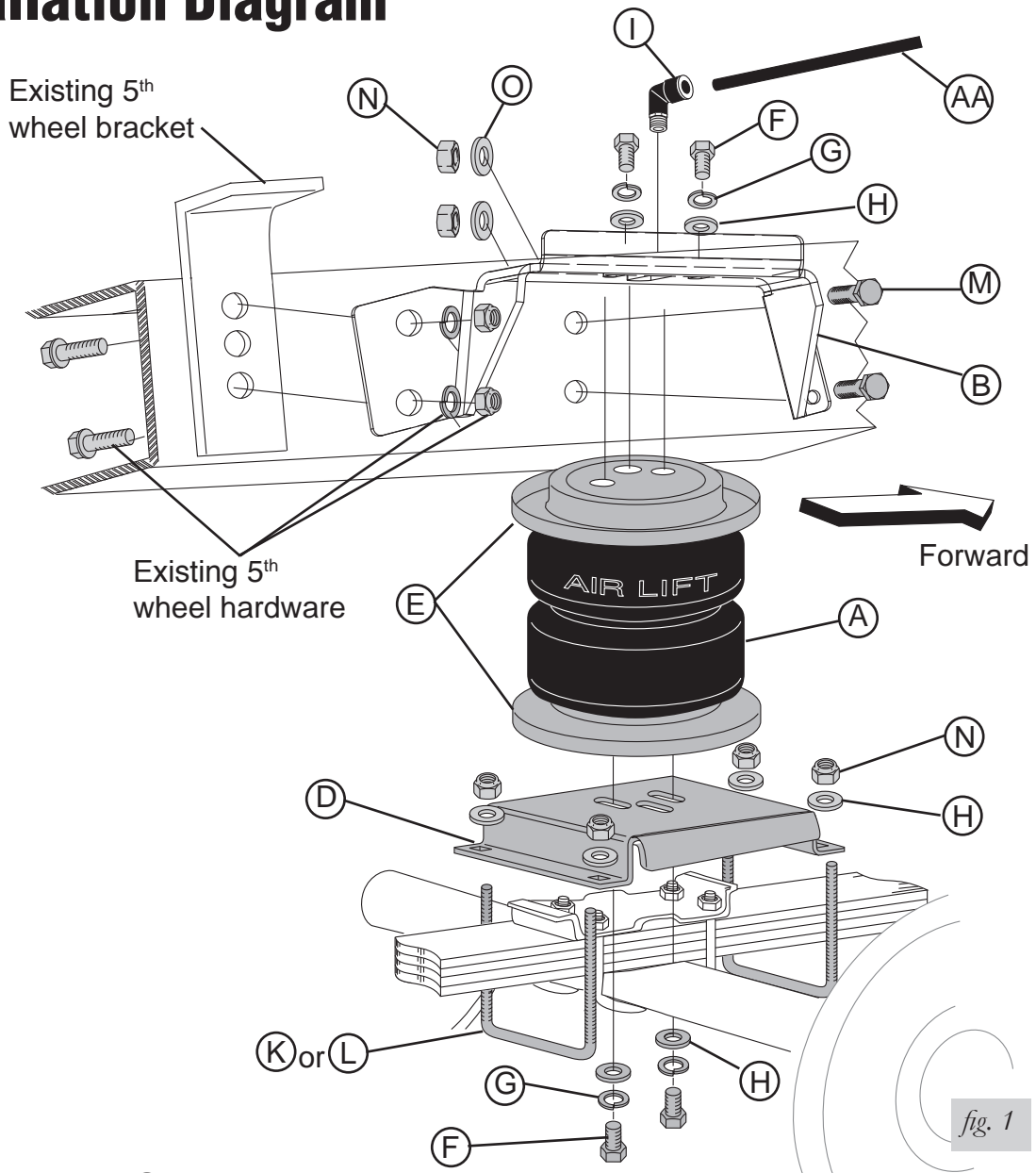
CAUTION

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



HARDWARE LIST

Item	Part #	Description.....Qty	Item	Part #	Description.....Qty
A	58437	Air spring.....2	L	10594	2" U-bolt4
B	07478	Upper bracket right1	M	17159	3/8"-16 x 1.5 Bolt.....4
C	07479	Upper bracket left.....1	N	18435	3/8" Nyloc nut.....12
D	03102	Lower bracket2	O	18447	3/8" Large flat washer4
E	11951	Roll plate.....4	AA	20086	Air line assembly.....1
F	17203	3/8"-24 x 7/8" Bolt8	BB	10466	Tie strap6
G	18427	3/8" Lock washer.....8	CC	21230	Valve cap2
H	18444	3/8" Flat washer16	DD	18405	5/16" Flat washer2
I	21837	Elbow fitting.....2	EE	21234	Rubber washer.....2
J	01525	Optional spacer (not shown).....4	FF	18411	Star washer.....2
K	10583	4 1/2" U-bolt4	GG	21233	5/16" Hex nut4

TOOLS LIST

Description.....	Qty	Description.....	Qty
Hoist or floor jacks.....	1	Ratchet with deep well sockets.....	1
Safety stands.....	2	1/2", 3/8" and 5/16" drill bits (very sharp).....	2
Safety glasses.....	1	Heavy duty drill.....	1
Torque wrench.....	1	Hose cutter, razor blade, or sharp knife.....	1
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 2.8" 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.

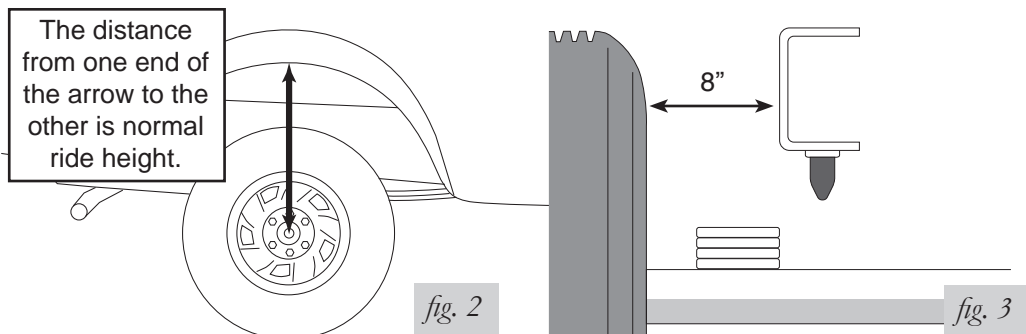
IMPORTANT: Your vehicle may be equipped with a rear brake proportioning valve. Any type of load assist product could affect brake performance. We recommend that you check with your dealer before installing this type of product. If your vehicle DOES NOT have a rear brake proportioning valve or is equipped 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.
 - 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.
- 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.
- Measure the distance between the frame and the tire. This kit requires a minimum of 8" of clearance for a fully inflated air spring (fig. 3).



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 on both ends of the air spring.

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 finger tight plus 1 1/2 turns. Use a 7/16" 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 onto the top of the bellows and hat with the legs facing down. Guide the swivel fitting through the large slotted hole in the center (fig. 4).
4. Place the lower bracket 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. Loosely attach the upper bracket to the assembly using flat washers, lock washers, and hex head bolts (fig. 4).

NOTE

Remember that the legs face down.

6. Loosely attach the lower bracket to the assembly using flat washers, lock washers, and hex head bolts (fig. 4).

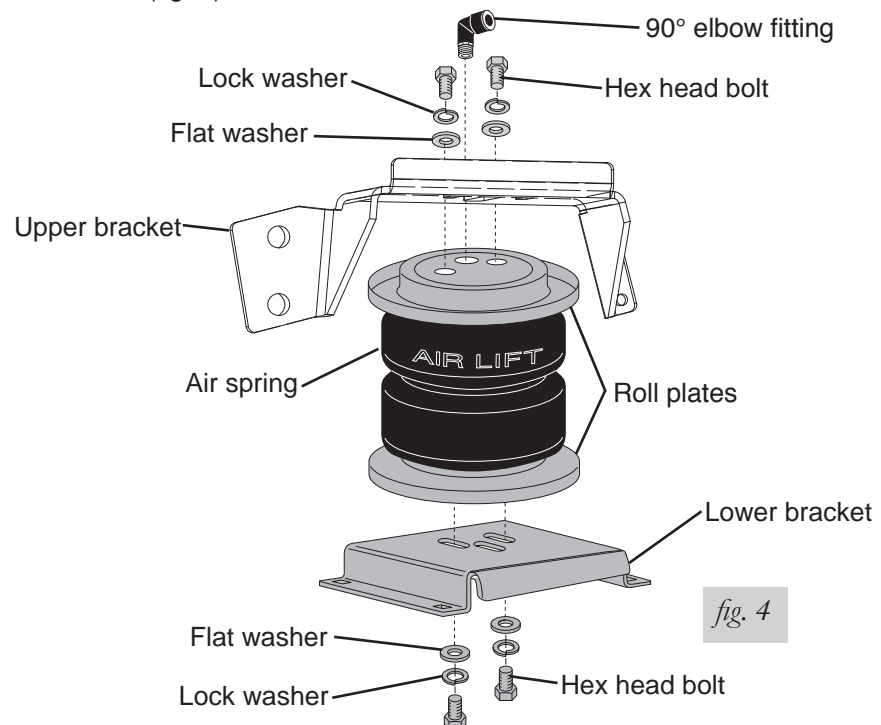
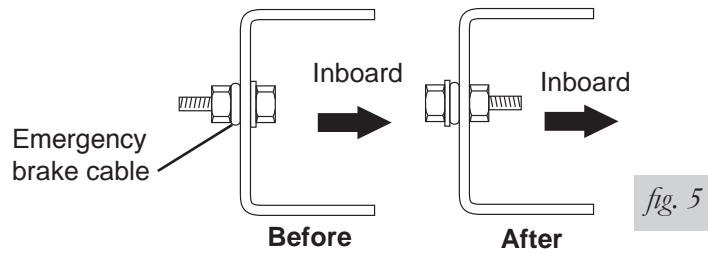


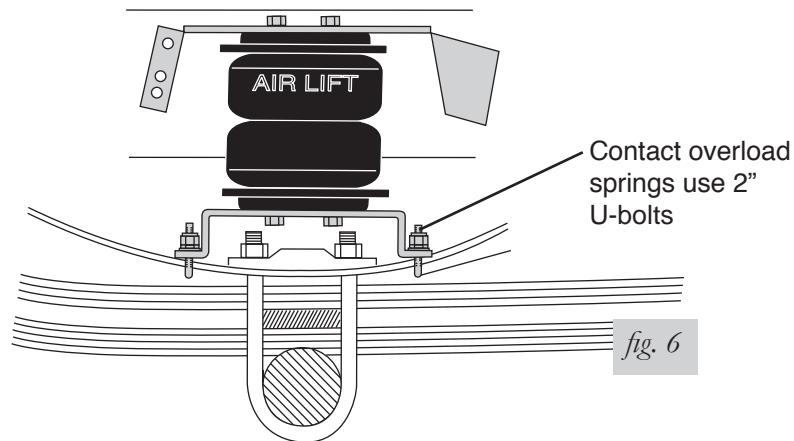
fig. 4

SPECIAL APPLICATION INSTRUCTIONS

1. For 1999 and later Super Duty F-250 and F-350 trucks, remove the bolt holding the emergency brake cable to the outside of the frame rail. Reinstall the bolt in the reverse order, with the nut on the inside of the frame rail to prevent rubbing against the air spring (fig. 5).

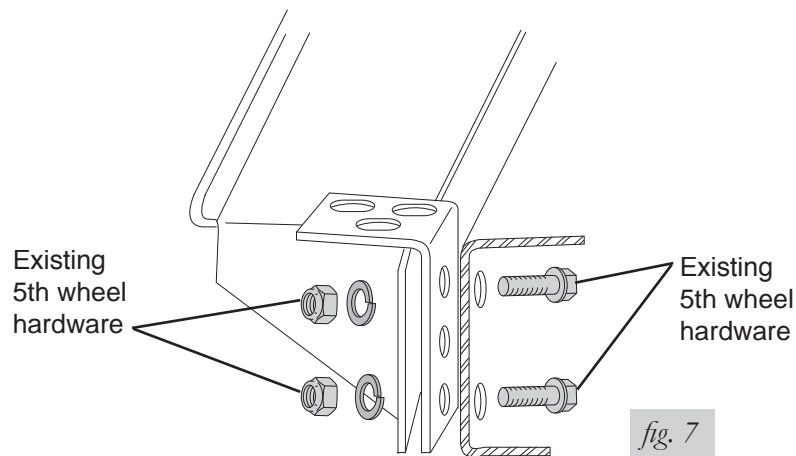


2. Frame contact overload springs:
 - a. If the vehicle is equipped with factory frame contact overload springs, the lower bracket should be attached using the short U-bolts provided in this kit (fig. 6).
 - b. If an unusually harsh ride is experienced, even at the minimum required pressure (5 PSI), then it may be helpful to remove the overload springs. This will not reduce carrying capacity. The difference will be made up by running the air spring at a higher pressure. It may be necessary to purchase different U-bolts or reuse the block spacer to hold the main leaf spring stack tight to the axle housing.

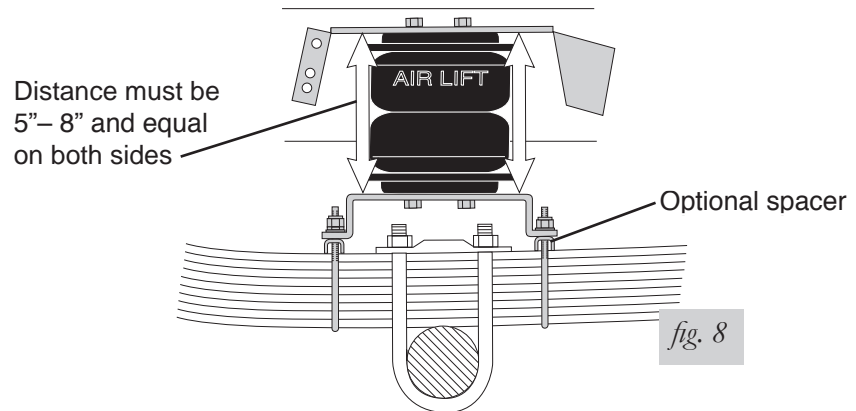


POSITIONING THE BRACKETS

1. Remove the rear 5th wheel hitch bolts that go through the web of the frame (fig. 7). Keep for later use.



2. The air spring must be installed between 5" and 8" from the upper bracket to the lower bracket (fig. 8). It is best to position the upper bracket as high as possible, the taller the better.
3. Set the air spring assembly on the leaf spring over the axle (fig. 8).



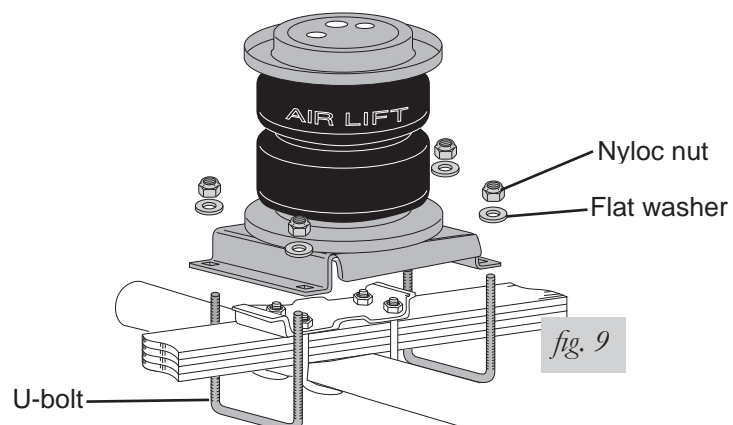
4. Position the upper bracket so that the two forward bolt holes will be on the flat section of the frame rail. Keep the edge of drilled holes no closer than $\frac{3}{4}$ " from the top or bottom radius of the frame rail.
5. In some cases it may be necessary to use the optional spacers to achieve the 5"– 8" space (fig. 8). For example, if only the top hole makes contact above the lower radius edge of the frame rail, it may be necessary to use the optional spacers under the lower bracket to achieve mounting height.
6. Push the upper bracket against the frame and 5th wheel bracket. Mark the existing holes, (used to hold the 5th wheel brackets to the frame), on the flat flange of the upper air spring bracket.
7. Remove the assembly and drill two $\frac{1}{2}$ " holes through the upper bracket where the holes were marked.
8. Set the assembly back on the leaf spring.

ATTACHING THE LOWER BRACKET

1. If the spacer is not used, then attach the lower bracket securely using the provided U-bolts, flat washers, and lock nuts (fig. 9).

NOTE

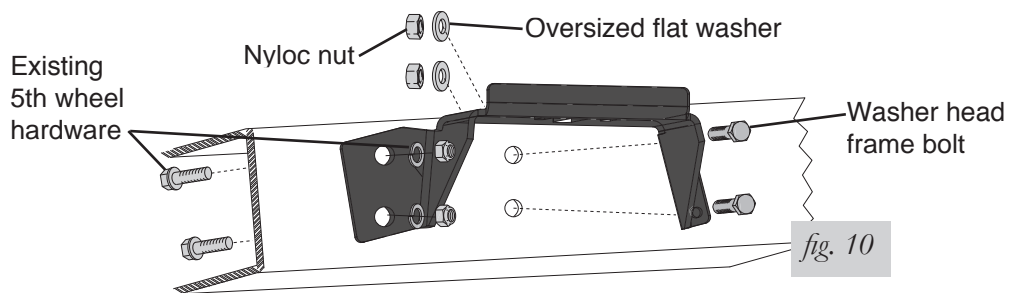
Use shorter U-bolts when attaching to frame contact overload springs.



2. If the spacer is used, then place the spacers legs down on the leaf spring and attach the lower bracket securely using the provided U-bolts, flat washers, and lock nuts (see fig. 8).
3. Be sure to align holes in upper bracket that were drilled to existing holes in the 5th wheel bracket. Torque U-bolt to 16 ft/lbs.

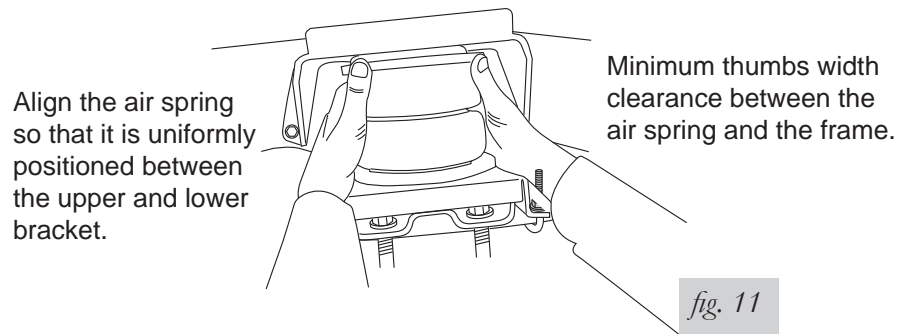
ATTACHING THE UPPER BRACKET

1. 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 7.0".
2. Insert the 5th wheel hitch bolts (previously removed) and attach the upper bracket with the existing hardware (see fig. 1 and fig. 10). Torque to 85 ft/lbs.
3. Using the upper bracket as a template, center punch and drill both $\frac{3}{8}$ " holes through the frame. Use the widest bolt hole pattern possible.
4. Install a washer head frame bolt, oversized flat washer, and lock nut (fig. 10). Torque $\frac{3}{8}$ " frame bolts to 44 ft/lbs.



CHECKING THE AIR SPRING ALIGNMENT

1. With the air spring still loose in the upper and lower brackets, align the air spring, both inboard and outboard using the slotted holes in the bracket so that it is uniformly positioned between the brackets (fig. 11).
2. Maintain at least a thumbs width of clearance between the air spring and the frame (uninflated).



SECURING THE AIR SPRING TO THE BRACKETS

1. Secure the air spring to the upper and lower brackets using an open ended $\frac{9}{16}$ " wrench by tightening the two bolts on the top and the two bolts on the bottom of the spring assembly.
2. Depending on the thickness of the leaf spring stack, it may be necessary to trim the tops of the U-bolts to prevent them from contacting the upper bracket in full jounce.
3. Repeat the entire installation procedure for remaining side.

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. 12).

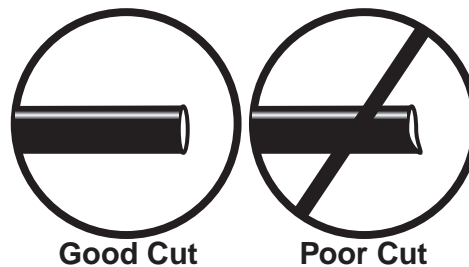


fig. 12

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. 13).

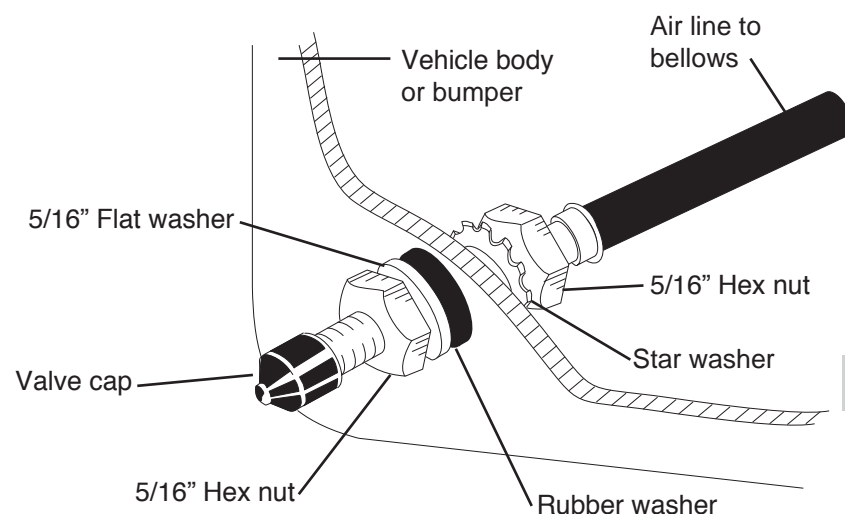
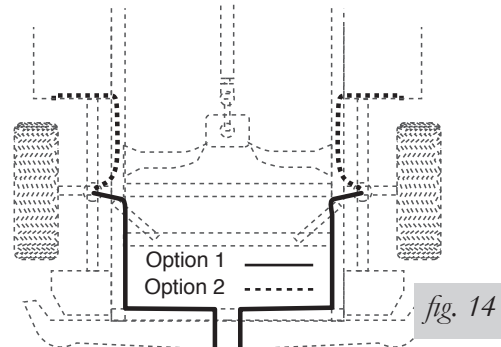


fig. 13

6. Route the air line along the frame to the air fitting on the air spring (fig. 14). Keep AT LEAST 6" of clearance between the air line and heat sources, such as the exhaust pipes, muffler, or catalytic converter. Avoid sharp bends and edges. Use the plastic 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. 12). 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).

CHECKING FOR LEAKS

1. Inflate the air spring to 30 PSI 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 PSI.
3. 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 (see fig. 12). Reinsert the air line into the push-to-connect fitting.
 - 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, 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.



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

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 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 100 PSI, THE AIR PRESSURE ACTUALLY NEEDED IS DEPENDENT ON YOUR LOAD AND GVWR.

5. Loaded vehicles require at least 25 PSI more. A loaded vehicle refers to a vehicle with a heavy bead load, a trailer, or both. The air springs in this kit will support approximately 40 pounds of load (combined for both springs) for each 1 PSI of air pressure. The following chart can be used as a guideline:

Load	Air Pressure
1000 lbs	25-35 PSI
2000 lbs	45-55 PSI
3000 lbs	70-80 PSI
4000 lbs	90-100 PSI

Use enough pressure to level the vehicle to the normal ride height. 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 warranty.

6. Always add air to the springs in small quantities, checking the pressure frequently. Sleeves require less air volume than a tire and inflate quickly.
7. 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.
8. Periodically check all of the air spring system fasteners for tightness. Also, check the air springs for any signs of rubbing. Realign if necessary.

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 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

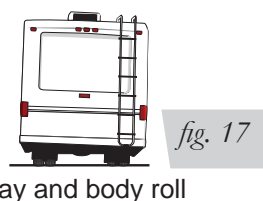
If the vehicle's headlights are shining into the trees or the vehicle is leaning to one side, then it is not level (fig. 15). Raise the air pressure to correct either of these problems and level the vehicle.

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. 16). 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. 17). Tuning out these problems usually requires an increase in pressure.



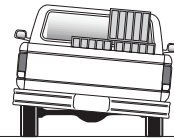
GUIDELINES FOR ADDING AIR

1. Start with the vehicle level or slightly above.
2. When in doubt, always add air.
3. For motorhomes, start with 50-100 PSI 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. 18).
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 movement.
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. 19). As much as a 50 PSI difference is not uncommon.

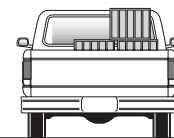


Bottoming out

fig. 18



Unlevel



Level

fig. 19