

RideCONTROL
by AIR LIFT®

Kit 59565, 59567

***Chevrolet Silverado
1500 and GMC Sierra
1500***



Installation Instructions

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 RideControl air spring kit. The air springs used in RideControl kits are designed and manufactured like a tire. The air springs have layers of rubber and cords that control the bag's growth and funnel it into one direction. The bags do not require a coil spring for control. RideControl kits utilize a sleeve style air bag that provides up to 2,000 pounds of load-leveling support. Each sleeve is rated at a maximum of 100 PSI.

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, 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.



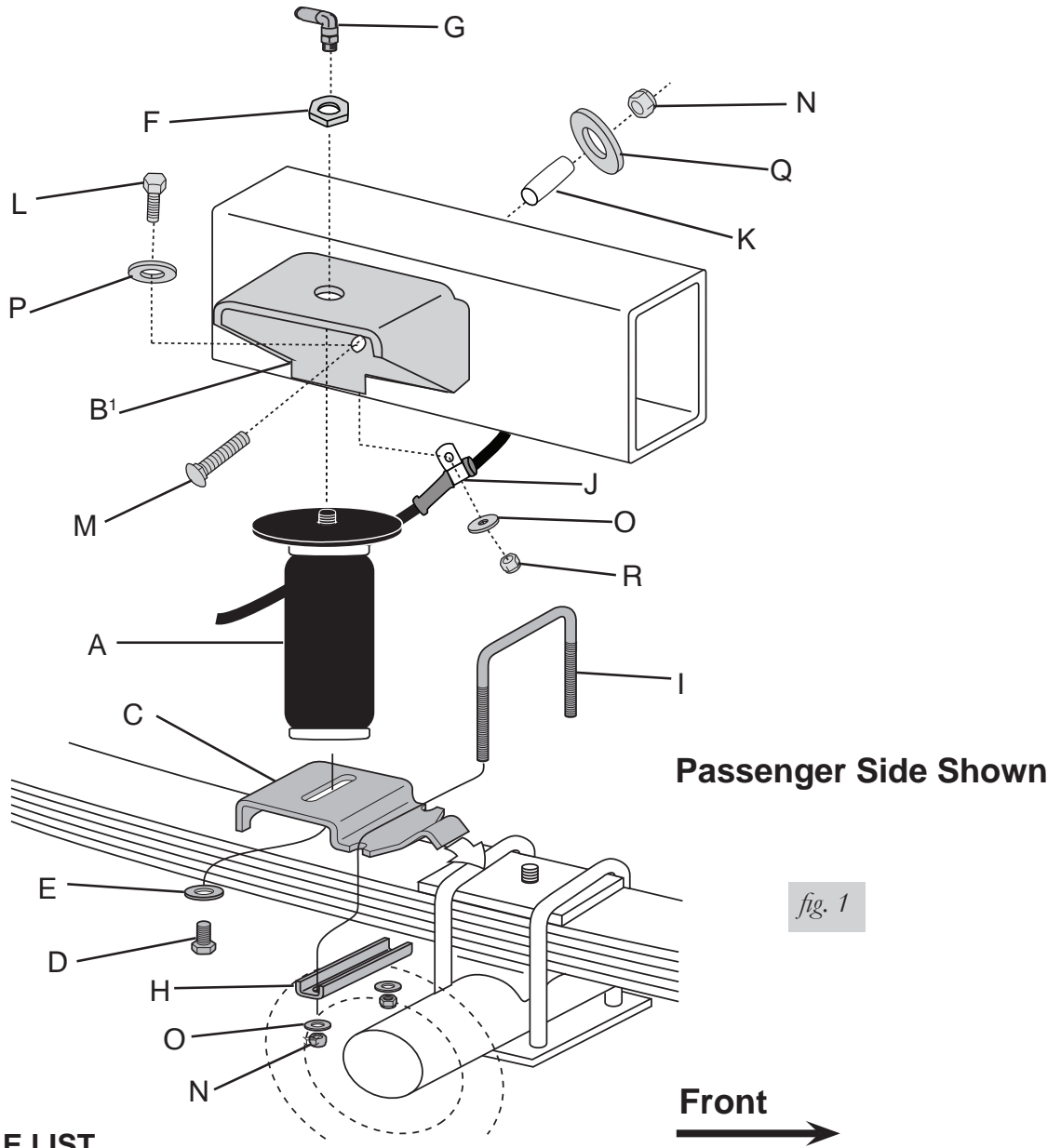
CAUTION

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	58571	Air sleeve 2	N	18435	3/8"-16 Nyloc nut..... 6
B¹	07234	Passenger side upper bracket (59565)..... 1	O	18444	3/8" Flat washer 6
*B²	07375	Driver side upper bracket(59565) 1	P	18447	Medium OD washer 2
B³	07262	Passenger side upper bracket (59567)..... 2	Q	10956	Large OD washer..... 2
B⁴	07335	Driver side upper bracket (59567) 2	R	18437	3/8" Nyloc nut G8 (gold)..... 2
C	03616	Lower bracket 2	*AA	20086	Air line assembly..... 1
D	17124	½"-13 x 7/8 Bolt..... 2	*BB	10466	Tie strap 6
E	18414	½" Flat washer 2	*CC	21230	Valve caps 2
F	18454	¾"-16 Nylon nut 2	*DD	18405	5/16" Flat washer 2
G	21837	90° Swivel elbow fitting 2	*EE	21234	Rubber washer..... 2
H	01426	Clamp bar 2	*FF	18411	Small star washer 2
I	10583	U-bolt 2	*GG	21233	5/16" Hex nut 4
J	10778	ABS sensor harness clip..... 2			
K	13967	Frame spacer..... 2			
L	17106	3/8"-16 x 1.5 Bolt..... 2			
M	17362	3/8"-16 x 5 Carriage bolt 2			

*Not shown in fig. 1.

Installing the RideControl System

CAUTION

DO NOT INFLATE ASSEMBLY WHEN IT IS UNRESTRICTED. ASSEMBLY MUST BE RESTRICTED BY SUSPENSION OR OTHER ADEQUATE STRUCTURE. DO NOT INFLATE BEYOND 100 PSI. IMPROPER USE OR OVER-INFLATION MAY CAUSE ASSEMBLY TO BURST CAUSING PROPERTY DAMAGE OR SEVERE PERSONAL INJURY.

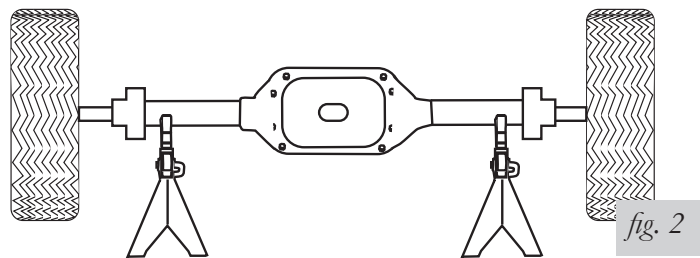
IMPORTANT: Your vehicle may be equipped with a rear brake proportioning valve. Any type of load assist product could affect brake performance. If equipped with a brake proportioning valve, we recommend that you check with your dealer before installing this type of product. If your vehicle does not have 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.

GETTING STARTED

1. Raise the vehicle and support the axle with jack stands, setting the jack stands as wide as possible on the axle (fig. 2).
2. Remove the tires.

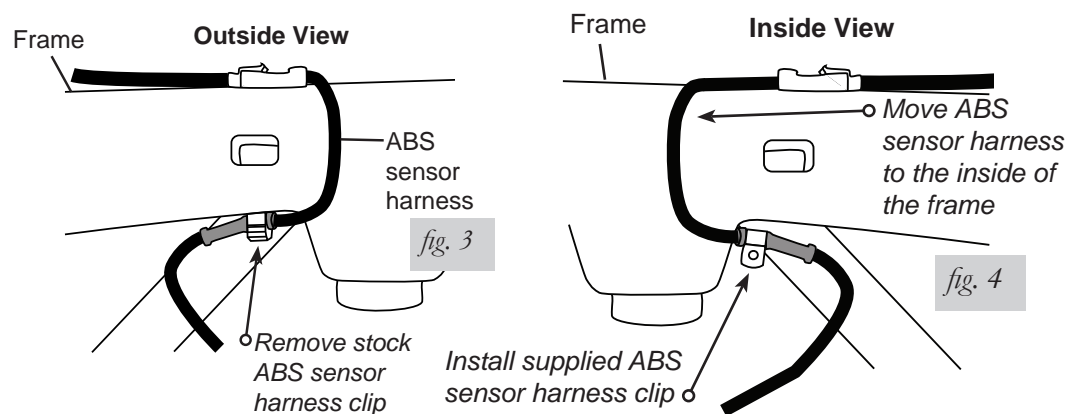
NOTE

Some late models are equipped with inner fender wells. It will be necessary to remove or trim the area out, where the air spring assembly mounts, in order to obtain clearance between the air spring assembly and inner liner.



ATTACHING THE UPPER BRACKET TO THE FRAME

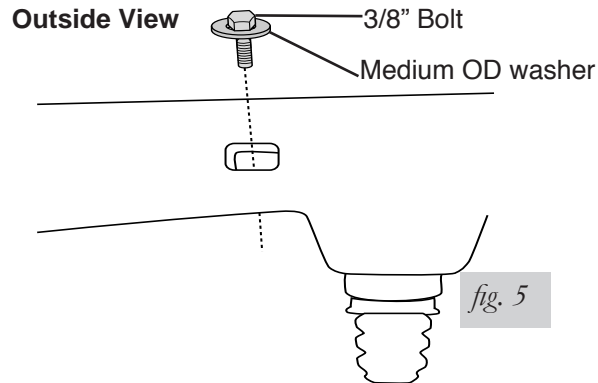
1. If equipped, pry the stock Anti lock Brake System (ABS) sensor harness clamp out from the bottom of the frame and remove the stock sensor harness clip from the ABS sensor harness (fig. 3).
2. Attach the supplied sensor harness clip to the sensor harness (fig. 4).
3. Disconnect the ABS sensor at the connector on top of the frame. Move the ABS sensor harness from the outside of the frame to the inside of the frame and reconnect the ABS sensor back into the wiring harness. (fig. 3 and fig. 4).



4. Insert a 3/8" bolt and medium OD washer into the frame, using the large slot behind the axle, so that the bolt extends through the bottom frame hole (fig. 5).

NOTE

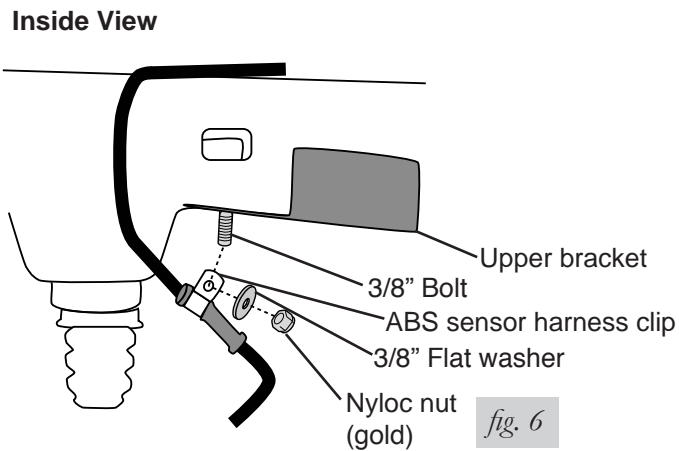
This is the ABS sensor harness hole from which the stock ABS sensor harness clip was previously removed.



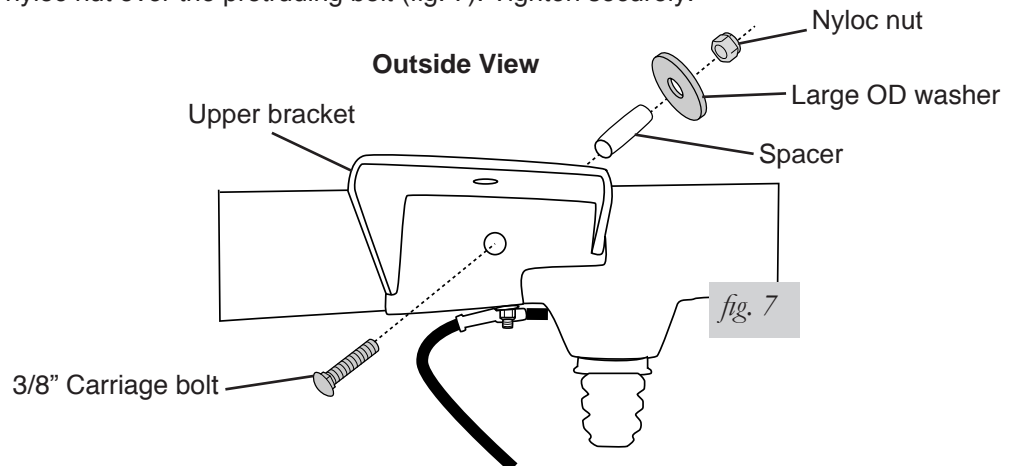
5. Attach the upper bracket to the frame behind the axle, making sure the previously inserted bolt goes through the hole on the bottom of the bracket (fig. 6).
6. Attach the brake line clip, 3/8" flat washer and nyloc nut to the bottom of the bolt. While holding the bolt and washer through the frame hole with a wrench. Torque to 44 ft/lbs (fig. 6).

CAUTION

TIGHTEN NUT WHILE KEEPING THE ABS LINE PARALLEL TO THE FRAME SO THE LINE DOES NOT RUB ON THE AIR SPRING.

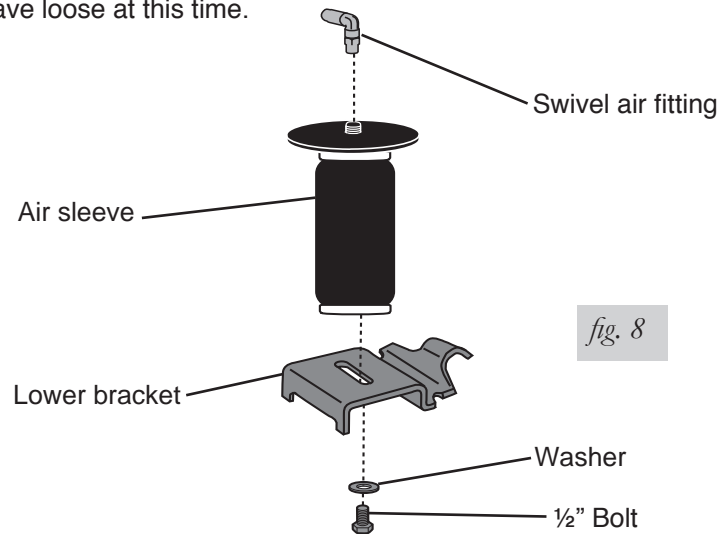


7. Insert the long 3/8" carriage bolt through the center of the upper bracket, into the frame, through a spacer, and out the back side of the frame. Attach a large OD washer and nyloc nut over the protruding bolt (fig. 7). Tighten securely.



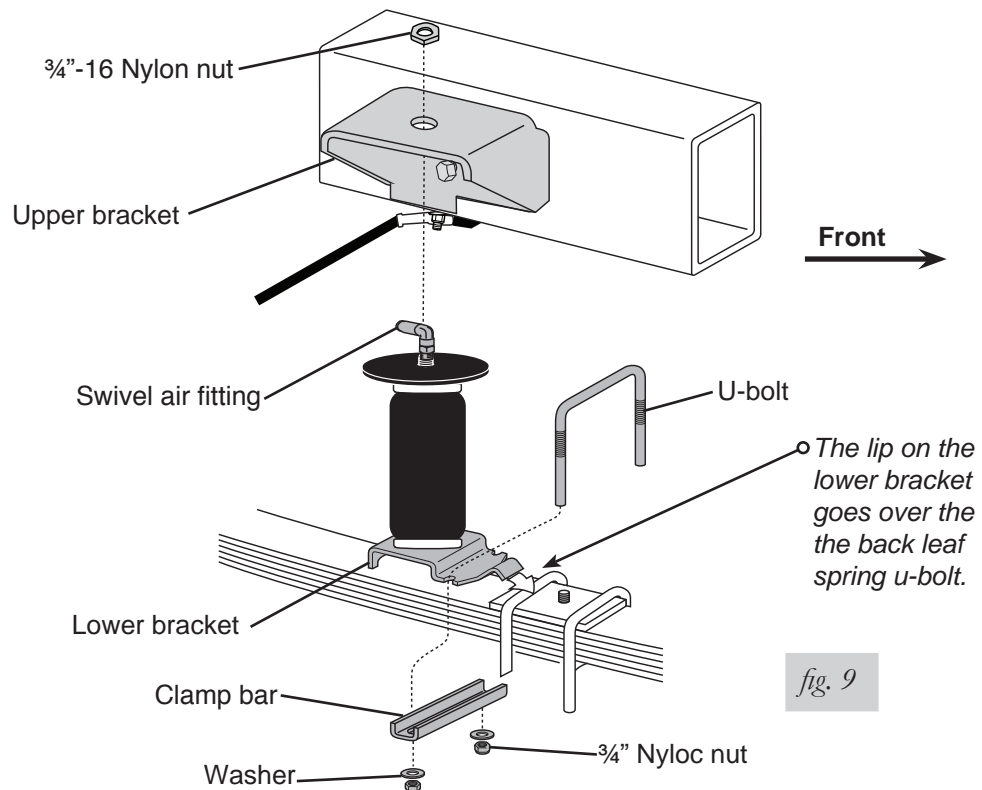
ASSEMBLING THE AIR SLEEVE

1. Install the swivel air fitting onto the air sleeve finger tight plus one and a half turns (fig. 8). Do not overtighten.
2. Attach the lower bracket to the bottom of the air sleeve with a flat washer and ½" bolt (fig. 8). leave loose at this time.



INSTALLING THE AIR ASSEMBLY

1. Attach the assembly to the upper bracket, allowing the swivel air fitting to go through the top of the bracket (fig. 9). Attach the air sleeve to the top bracket using a ¾" nyloc nut. Tighten nut. DO NOT torque over 4 ft/lbs.
2. Set assembly onto the leaf springs so that the lip on the front side of the lower bracket hooks over the rear stock u-bolt (fig. 9).
3. Attach the supplied u-bolt over the lower bracket and leaf springs and into the clamp bar. Cap with flat washers and nyloc nuts (fig. 9). Torque to 16 ft/lbs.



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

NOTE

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

2. Drill two 5/16" holes 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. 10).

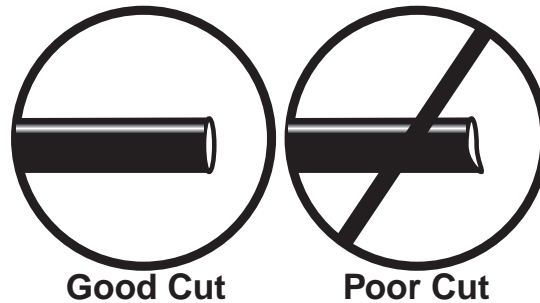


fig. 10

4. Place a 5/16" nut and 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 (fig. 11).
5. Push the inflation valve through the hole and use the rubber washer, flat washer, and another 5/16" nut to secure it in place. Tighten the nuts to secure the assembly (fig. 11).

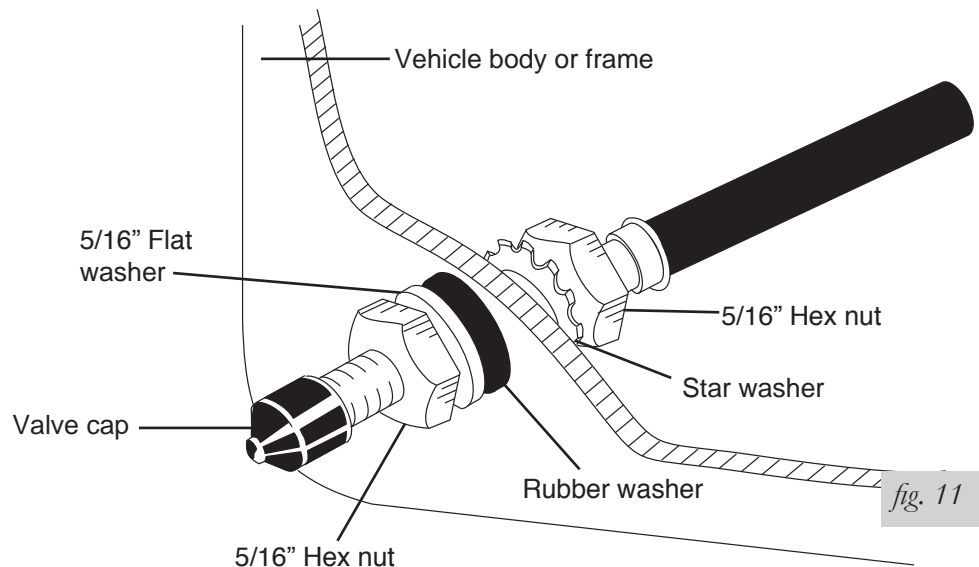
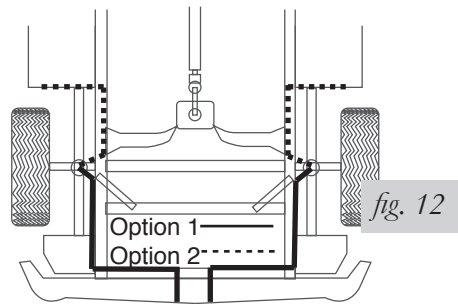


fig. 11

- Route the air line along the frame to the air fitting on the air spring (fig. 12). 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.



- Cut off the air line, leaving approximately 12" of extra air line. A clean square cut will ensure against leaks (see fig. 10). 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).
- Repeat the installation procedure for the remaining side of the vehicle. Inflate the sleeves to 10 psi and adjust the sleeve in the lower bracket slot so the sleeve is perpendicular to the mounting brackets. Tighten the 1/2" bottom bolt securely. Reinstall tires.

CHECKING FOR LEAKS

- Inflate the air spring to 30 PSI.
- 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.
- 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 10 PSI.
- 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

- If there is a problem with the swivel fitting:
 - 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. 10). Reinsert the air line into the push-to-connect fitting.
 - 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.
- If there is a problem with the inflation valve:
 - Check the valve core by tightening it with a valve core tool.
 - 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.

Maintenance and Servicing

Minimum Air Pressure	Maximum Air Pressure
10 PSI	100 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.	

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

1. Inflate your air springs to 60 PSI before adding the payload. After the vehicle is loaded, adjust your air pressure to level the vehicle and for ride comfort.
2. Check the air pressure weekly.
3. Always maintain normal ride height. Never inflate beyond 100 PSI.
4. If you develop an air leak in the system, use a soapy water solution of 1/5 liquid dish soap and 4/5 water. to check all air line connections and the inflation valve core before deflating and removing the air spring.
5. When increasing load, always adjust the air pressure to maintain the 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 POSSIBLE 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 DEPENDANT ON YOUR LOAD AND GVWR, WHICH MAY BE LESS THAN 100 PSI. CHECK YOUR VEHICLE OWNERS MANUAL AND DO NOT EXCEED THE MAXIMUM LOAD LISTED FOR YOUR VEHICLE.

6. Always add air to 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 minimum pressure (10 PSI) to reduce the tension on the suspension/brake components. Use of on board leveling systems do not require deflation or disconnection.

Troubleshooting Guide

Problems maintaining air pressure, without on-board compressor.

1. Leak test the air line connections and threaded connection of the elbow into the air spring. See "Fixing Leaks" to repair.
2. Leak test the inflation valve for leaks at the air line connection or dirt or debris in the valve core. See "Fixing Leaks" to repair.
3. Inspect the air line to be sure it is not pinched. Replace leaking components.
4. Inspect air line for holes and cracks. Replace as needed.
5. 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. 13). 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. 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.



fig. 13



fig. 14



fig. 15

Sway and body roll

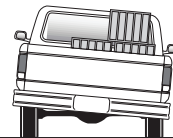
GUIDELINES FOR ADDING AIR

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. 16).
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. 17). As much as a 50 PSI difference is not uncommon.

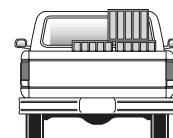


Bottoming out

fig. 16



Unlevel



Level

fig. 17