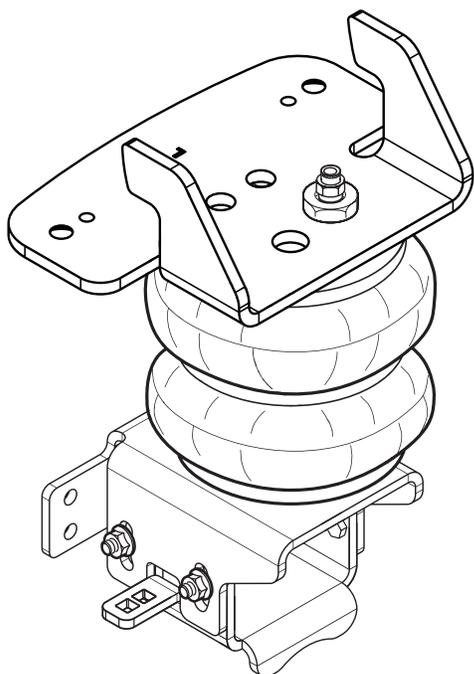


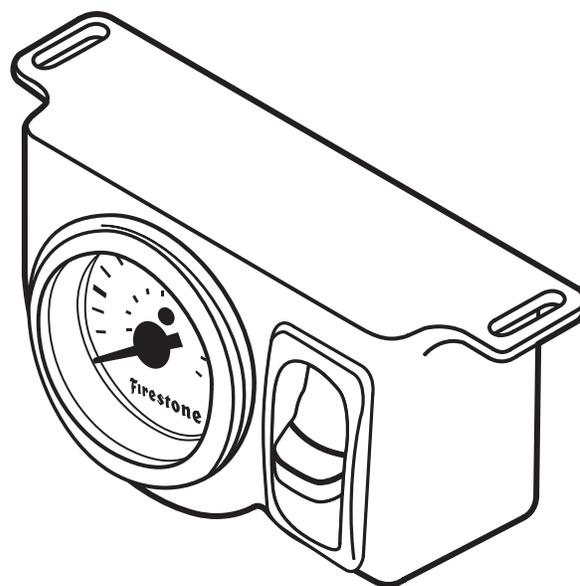


riderite.com

INSTALLATION INSTRUCTIONS



SECTION 1 - AIR SPRING



SECTION 2 - AIR ACCESSORY

Firestone

Firestone Industrial Products

! IMPORTANT

PLEASE DON'T HURT YOURSELF, YOUR KIT, OR YOUR VEHICLE. TAKE A MINUTE TO READ THIS IMPORTANT INFORMATION.

DO NOT INSTALL IF THE TRUCK HAS BEEN LIFTED AND THE STOCK JOUNCE BUMPER SPACERS ARE NOT ON THE VEHICLE. *This kit is to be used on a **F250, F350 4WD pickup truck only (will not fit F450), and DOES NOT INCREASE YOUR VEHICLE'S MAXIMUM LOAD.***

SAFE INSTALLATION

Please take all safety precautions during installation. A hydraulic jack can fail, and if that happens, you can be seriously hurt, or worse, if you are relying on it to hold up the vehicle. If you use a hydraulic jack, secure jack stands in the appropriate locations and chock any tires still touching the ground.

Wear safety glasses or goggles. Your eyes may be lower than some parts and pieces, and you don't want to lose an eye.

Remove the possibility of any electrical issues by disconnecting the negative battery cable.

KIT CLEARANCE

There must be a minimum of 1/2" clearance around all installed components when the air springs are inflated and under a load. The air springs must flex and expand during operation, so the clearance keeps the kit from rubbing against parts of the vehicle.

VEHICLE GVWR

NEVER exceed the maximum load recommended by the vehicle manufacturer (GVWR). The GVWR can be found in your vehicle's owner's manual or on the data plate on the driver's side door. Consult your local dealership for additional GVWR specifications.

INFLATING THE AIR SPRINGS

When inflating air springs, add air pressure in small quantities, checking air pressure frequently. The air springs have much less air volume than a tire, so they inflate much more quickly.

PRESSURE TO LOAD

The air springs will support approximately 50 lbs. of load for each PSI of inflation pressure (per pair). For example, 50 PSI of inflation pressure will support a load of 2500 lbs. per pair of air springs.

APPROPRIATE AIR PRESSURE

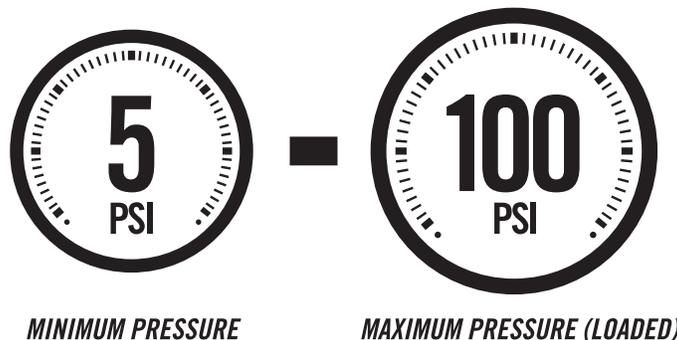
For best ride, use only enough air pressure in the air springs to level the vehicle when viewed from the side (front to rear). This will vary, depending on the load, location of the load, condition of the existing suspension, and personal preference.

OPTIONAL T-FITTING



This kit includes inflation valves and air line tube for each air spring, allowing you to compensate for unbalanced loads. If you prefer a single inflation valve system to provide equal pressure to both air springs, your dealer can supply the optional "T" fitting (Part # 3025 or WRI-760-3461 retail pack).

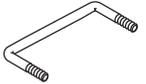
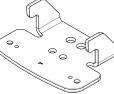
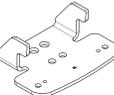
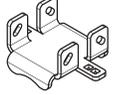
ONCE INSTALLED SUCCESSFULLY, FOLLOW THESE PRESSURE REQUIREMENTS FOR THE AIR SPRINGS:



SECTION 1 PARTS

Compare the parts below to your kit. Assure you have all pieces, and organize them for an easier installation.

MAIN KIT CONTENTS

PT # 6397	 x2 AIR SPRING	PT # 5878	 x2 LOWER AIR SPRING BRACKET	PT # 3077	 x2 BAIL CLAMP
PT # 5872	 x1 UPPER LEFT BRACKET	PT # 5876	 x2 AXLE STRAP BRACKET (Dual-Rear-Wheel)	PT # 1004	 x1 HEAT SHIELD
PT # 5873	 x1 UPPER RIGHT BRACKET	PT # 0530	 x2 AXLE STRAP BRACKET (Single-Rear-Wheel)	PT # 9415	 x1 AIR LINE TUBE (22 FEET)
PT # 5874	 x2 AXLE SADDLE BRACKET				

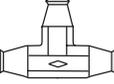
A24-760-7560 INFLATION VALVE BRACKET KIT

PT # 9483	 x1 NO-DRILL INFLATION VALVE BRACKET	PT # 9488	 x2 LARGE NYLON TIE
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AIR SPRING HARDWARE PACK

PT # 3370	 x4 3/8" - 16 x 3/4" FLAT HEAD SCREW	PT # 3067	 x12 3/8" - 16 FLANGE LOCK NUT	PT # 3032	 x2 INFLATION VALVE AND VALVE CAP ASSEMBLY
PT # 3033	 x4 5/16" FLAT WASHER	PT # 3493	 x12 3/8" FLAT WASHER	PT # 3055	 x3 AIR FITTING
PT # 3069	 x2 3/8" - 16 x 3/4" FLANGE BOLT	PT # 3332	 x2 5/8" - 18 NYLON JAM NUT	PT # 3482	 x4 3/8" - 16 x 3.5" CARRIAGE BOLT
PT # 3505	 x2 10 - 24 x 2" THREADED ROD	PT # 3504	 x4 3/8" - 16 FRAME NUT	PT # 9036	 x21 RED NYLON TIE
PT # 3338	 x8 3/8" - 16 x 1" HEX HEAD BOLT	PT # 3488	 x4 3/8" - 16 NYLOCK NUTS	PT # 0899	 x2 THERMAL SLEEVE
				PT # 3481	 x4 3/8" - 16 x 3" CARRIAGE BOLT

OPTIONAL ITEMS

PT # 3025	 x1 T-FITTING
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Visit riderite.com to find the perfect air accessories for your kit.

CONTENTS AND OVERVIEW

SECTION 1

PAGE 4 REMOVE JOUNCE BUMPER & INSTALL FRAME NUTS

PAGE 5 INSTALL UPPER BRACKET

PAGE 6 FASTEN AIR SPRING TO UPPER BRACKET

PAGE 7 INSTALL LOWER BRACKET ASSEMBLY

PAGE 8 SECURE LOWER BRACKET ASSEMBLY

PAGE 9 HEAT SHIELD & PASSENGER SIDE

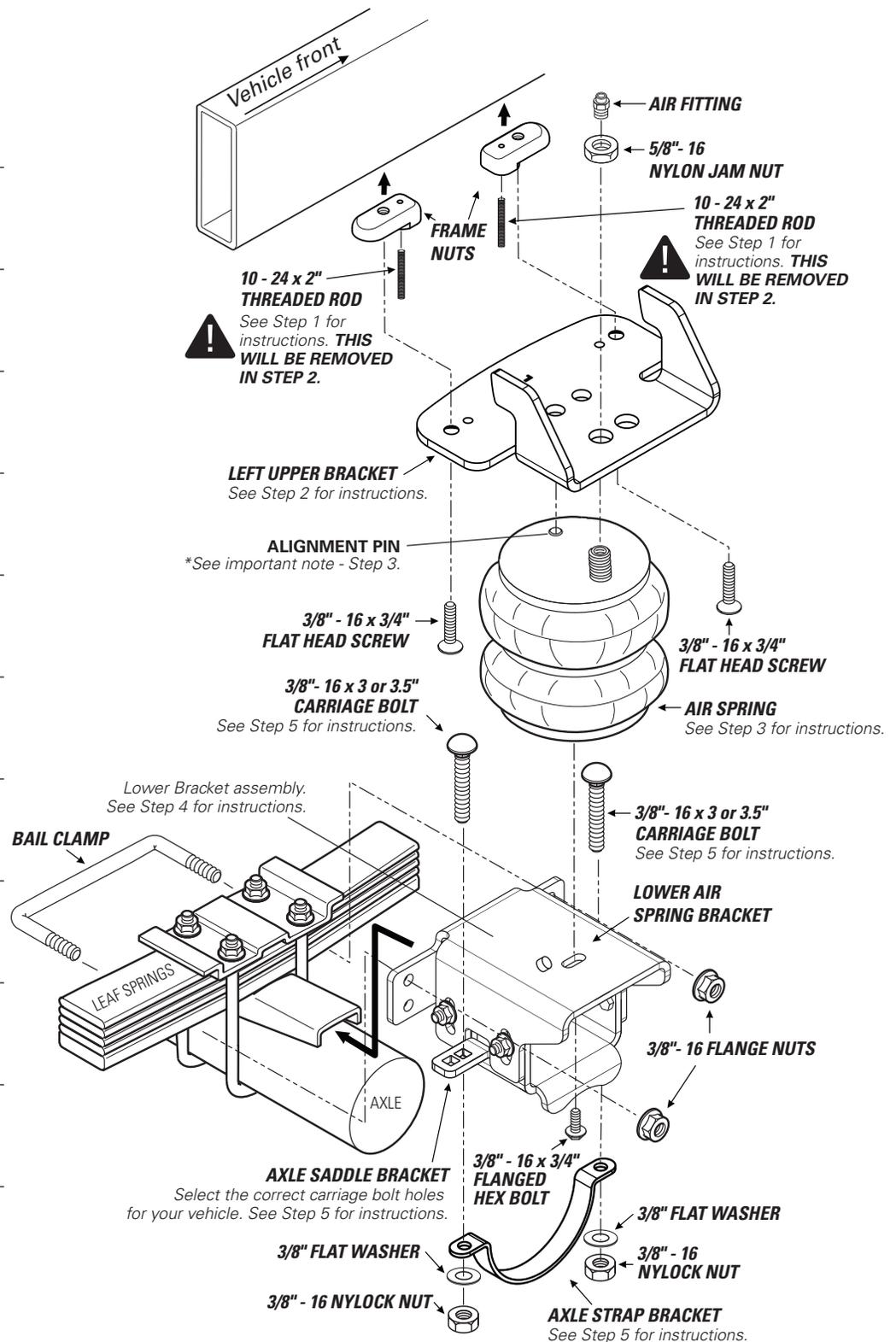
PAGE 10 AIR LINE TUBE & INFLATION VALVE INSTALLATION

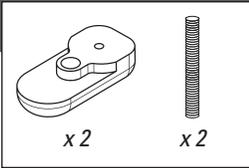
PAGE 11 INSTALL & ROUTE AIR LINE TUBE

PAGE 12 CHECKING THE SYSTEM

PAGE 13 FIXING AN AIR LEAK

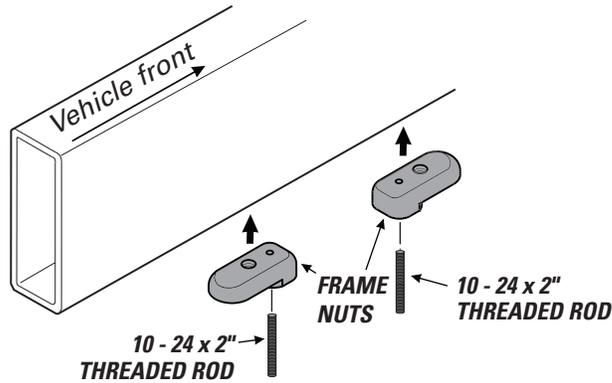
PAGE 14 FINISHING THE INSTALLATION



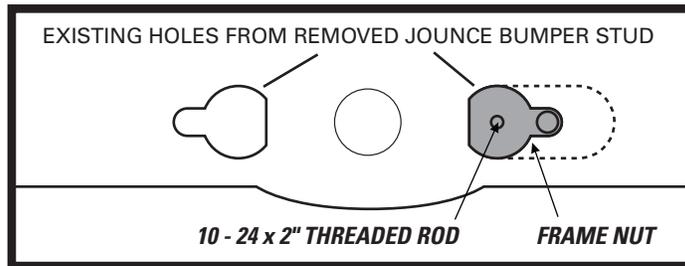


START THE INSTALLATION ON THE LEFT SIDE OF THE VEHICLE WHEN FACING FORWARD.

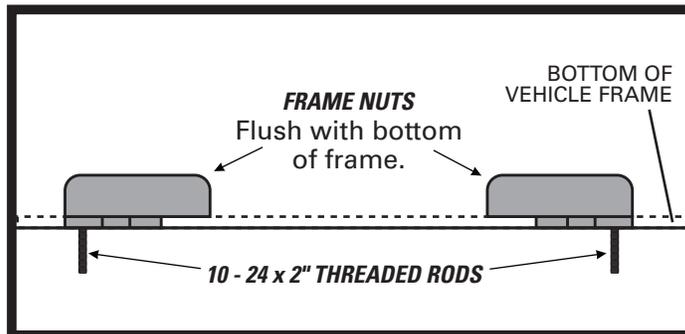
- 1** Remove the jounce bumper and the two studs holding it on. The two studs can be pried out with a flat head screw driver.
- 2** Thread the 10 - 24 x 2" threaded rods onto the frame nuts. These act as a grip to assist in installation.
- 3** Insert the frame nuts into the hole in the frame where you removed the jounce bumper studs, seating the frame nuts so they are flush with the vehicle frame.



VIEW FROM BELOW

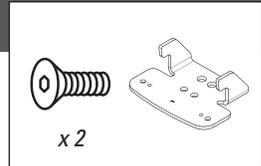


VIEW FROM SIDE



2

INSTALL UPPER BRACKET



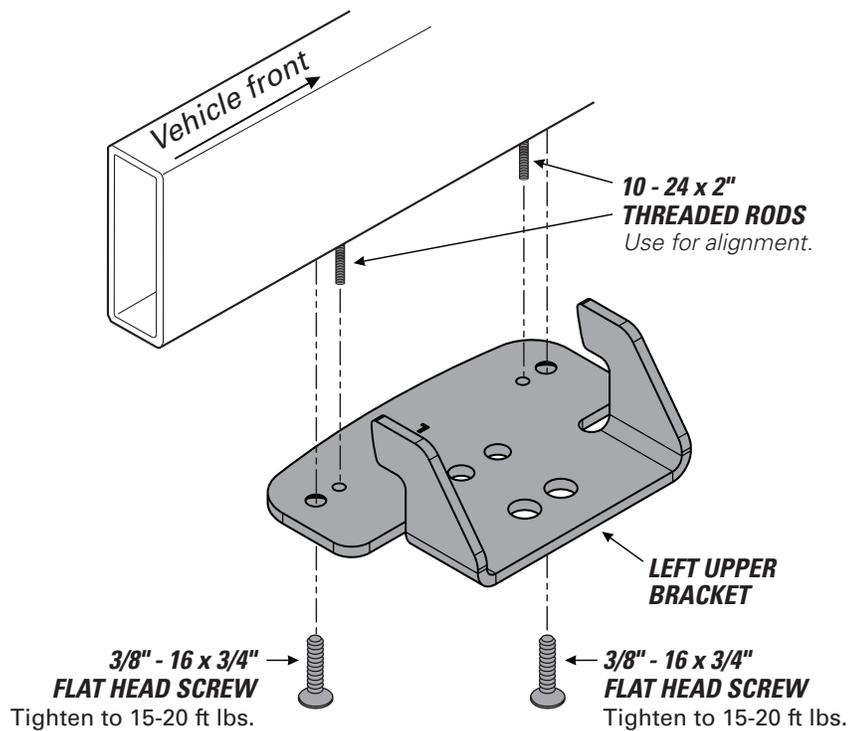
1 Using the threaded rods as guides, slide the upper bracket into place and secure against the bottom of the vehicle frame.

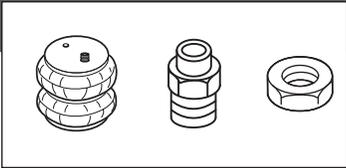
2 Fasten upper bracket to the frame using the flat head screws, as shown.

3 Remove the threaded rods and save them for installation on the other side of the vehicle.

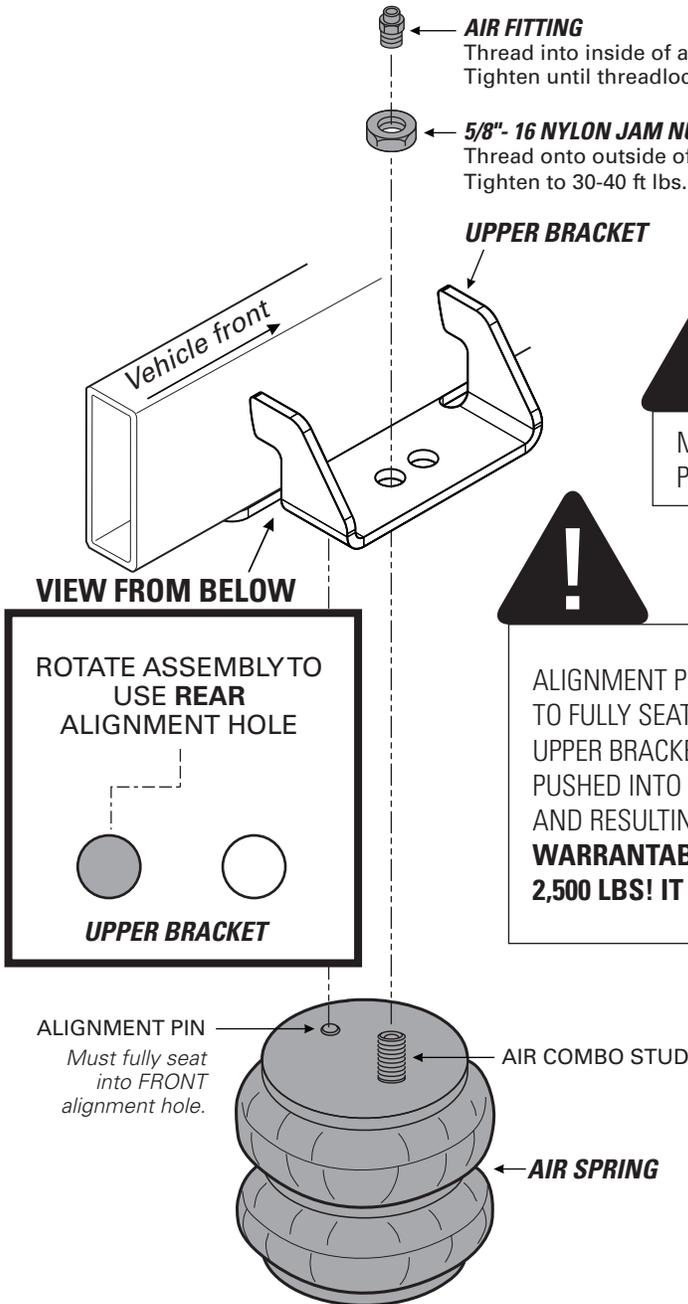


REMOVE THREADED RODS AFTER SECURING THE UPPER BRACKET. FAILURE TO DO SO COULD CAUSE THEM TO PUNCTURE THE AIR SPRING, RESULTING IN AN AIR SPRING FAILURE THAT IS **NOT WARRANTABLE.**





INSTALLING THE RIGHT SIDE? REMEMBER TO INSTALL THE HEAT SHIELD IN STEP 6 FIRST!



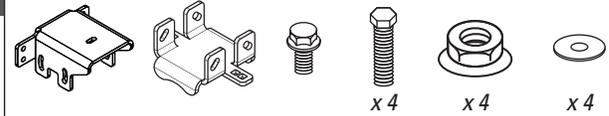
MAKE SURE THREADED RODS ARE REMOVED PRIOR TO AIR SPRING INSTALLATION.



ALIGNMENT PIN ON AIR SPRINGS MUST BE INSTALLED TO FULLY SEAT INTO THE FRONT ALIGNMENT HOLE IN THE UPPER BRACKET. FAILURE TO DO SO WILL CAUSE IT TO BE PUSHED INTO THE BEAD PLATE, CREATING AN AIR LEAK, AND RESULTING IN AN AIR SPRING FAILURE THAT IS **NOT WARRANTABLE. THE ALIGNMENT PIN CANNOT HOLD 2,500 LBS! IT IS USED FOR ALIGNMENT ONLY!**

4

INSTALL LOWER BRACKET ASSEMBLY

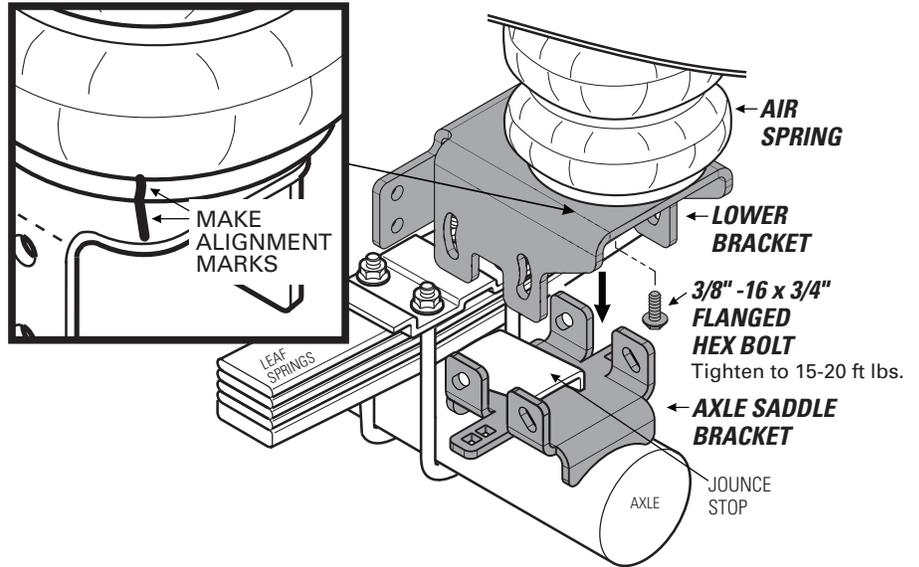


1 Follow steps in diagram to dry fit assembly. Make alignment marks as shown.

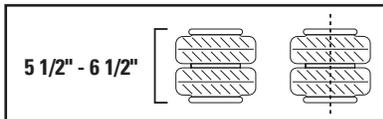
2 Place bottom of axle saddle bracket on the axle of the vehicle.

3 Place the upper bracket above the axle saddle bracket as shown. Assure both are tight against the leaf spring stack.

4 Match the alignment marks and secure the air spring to the upper bracket, as shown.



5 Position the lower bracket as low as possible, while still clearing the jounce stop on the vehicle. See figure below for design height.

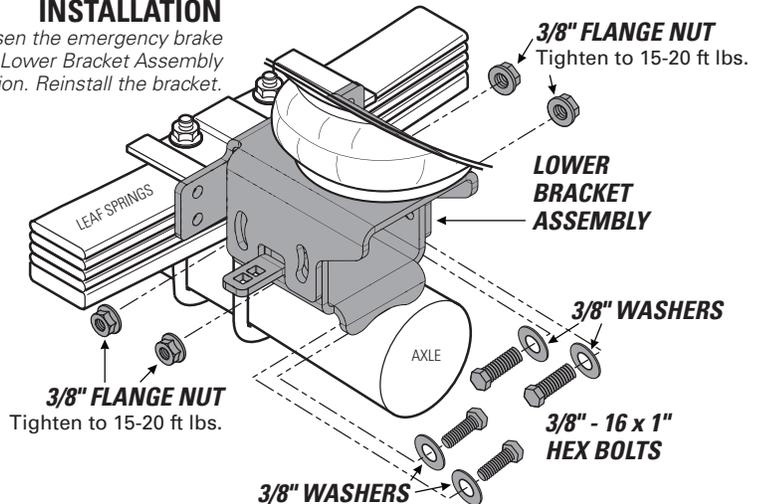


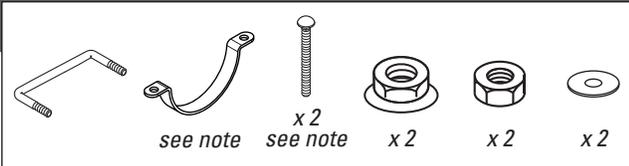
6 Making sure the lower bracket is parallel to the ground, insert the bolts from the inside of the lower bracket assembly.

7 Use supplied fasteners to secure the lower bracket to the axle saddle bracket for form the lower bracket assembly.

SINGLE-REAR-WHEEL INSTALLATION

On left-side, loosen the emergency brake line bracket for Lower Bracket Assembly installation. Reinstall the bracket.



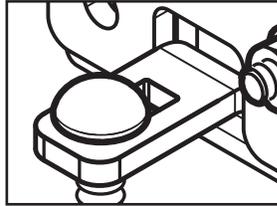


USE YOUR HAND TO CHECK FOR THE PROPER CLEARANCE AROUND THE AIR SPRING. IF YOUR HAND DOES NOT FIT BETWEEN THE AIR SPRING AND OTHER COMPONENTS, IT WILL RUB!

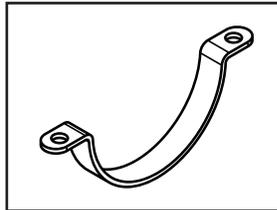


DO NOT USE THE 3.5" CARRIAGE BOLTS ON SINGLE-REAR-WHEEL INSTALLATIONS. THEY COULD PUNCTURE THE AIR SPRING, RESULTING IN A FAILURE THAT IS **NOT WARRANTABLE**.

DUAL-REAR-WHEEL INSTALLATION

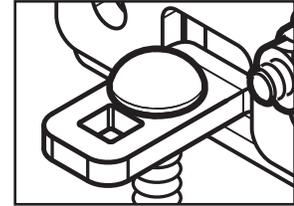


Requires 3/8" - 16 x 3.5" carriage bolt. Use outer bolt holes.

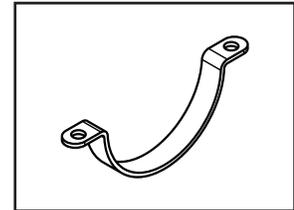


Requires Part #5874: 4.5" axle strap bracket.

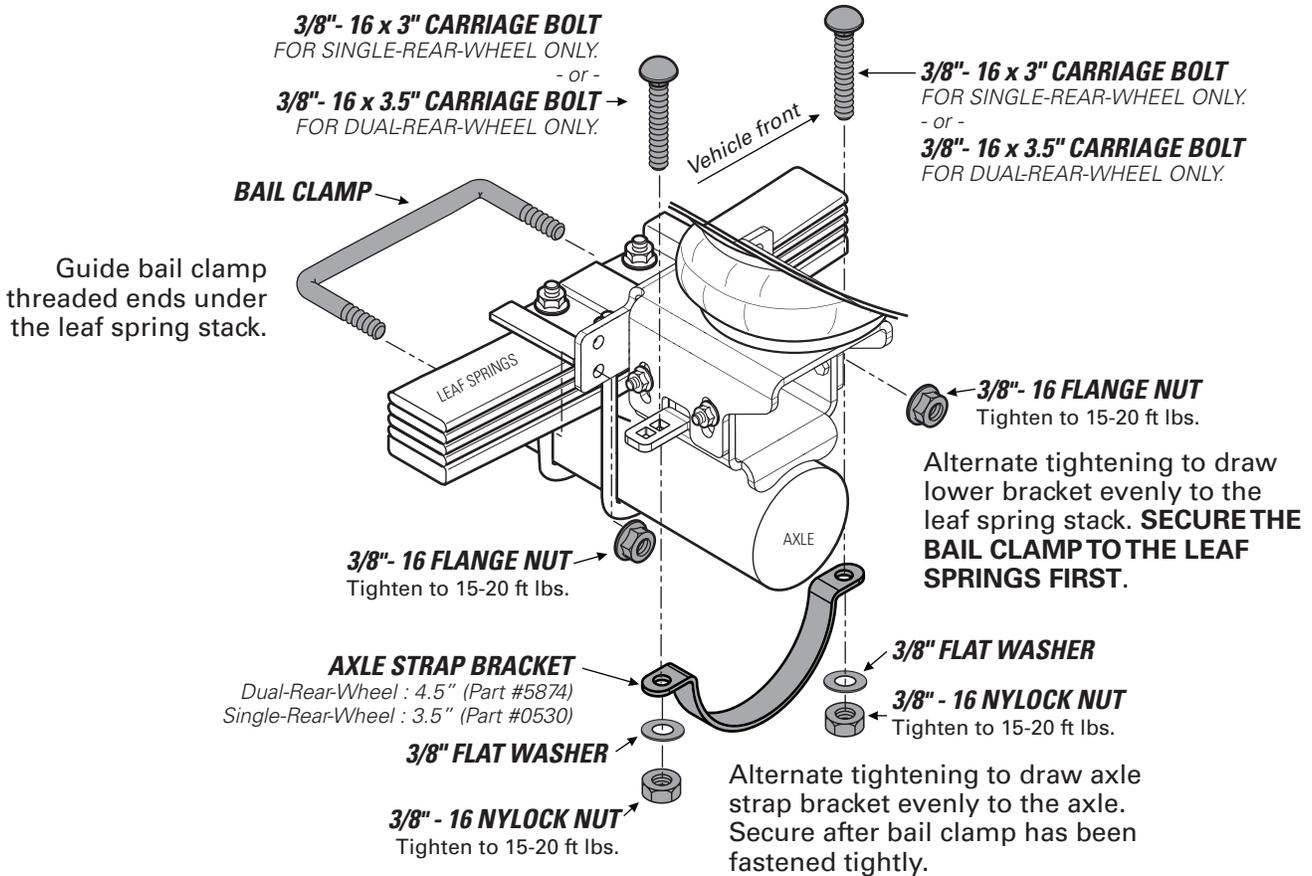
SINGLE-REAR-WHEEL INSTALLATION



Requires 3/8" - 16 x 3" carriage bolt. Use inner bolt holes.



Requires Part #0530: 3.5" axle strap bracket.



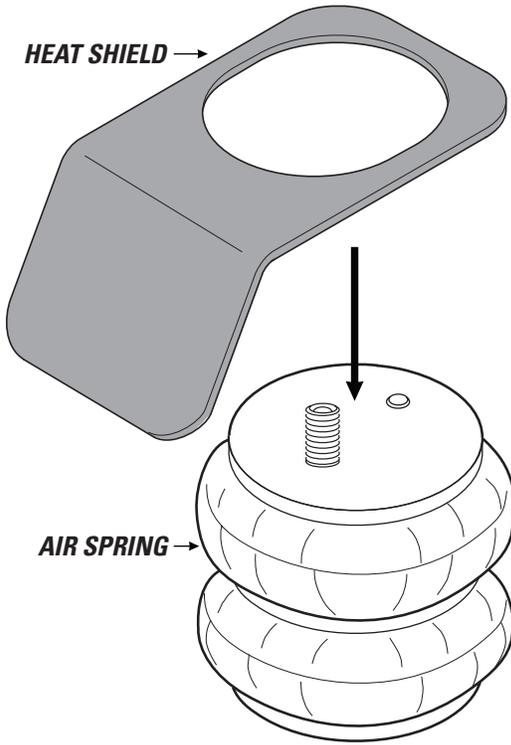
AWESOME! You're done with the left side. The right side is the same, with the addition of the Heat Shield. See Step 7, then complete the steps for the right side installation.

6

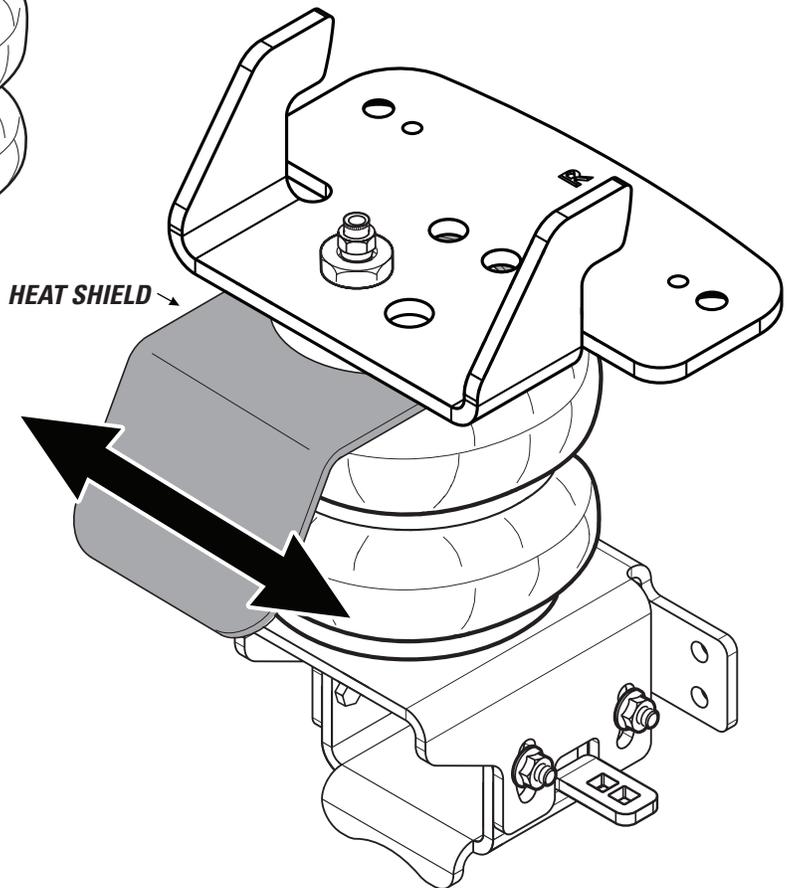
INSTALL RIGHT SIDE WITH HEAT SHIELD



RIGHT SIDE INSTALLATION MUST INCLUDE HEAT SHIELD!



MAKE SURE THREADED RODS ARE REMOVED, SHOWN IN STEP 2.

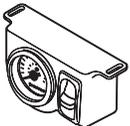
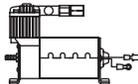
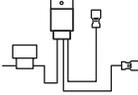
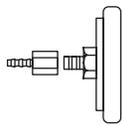


Position heat shield to closest point of exhaust. DO NOT PLACE DIRECTLY ABOVE AXLE.

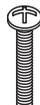
SECTION 2 PARTS

Compare the parts below to your kit. Assure you have all pieces, and organize them for an easier installation.

AIR ACCESSORY CONTENTS

PT # 2572	 x1 SINGLE AIR CONTROL PANEL	PT # 9284	 x1 AIR COMPRESSOR	PT # 9307	 x1 RELAY HARNESS
PT # 9008	 x1 AIR LINE TUBE (30 FEET)	PT # 9350	 x1 AIR FILTER AND FITTING		

AIR ACCESSORY HARDWARE PACK

PT # 3087	 x7 10-32 x 1" MACHINE SCREW	PT # 9078	 x1 SMALL RING TERMINAL, RED	PT # 9041	 x1 SMALL RING TERMINAL, BLUE
PT # 3008	 x7 10-32 LOCK NUT	PT # 9083	 x2 WIRE CONNECTOR		
PT # 3086	 x14 #10 FLAT WASHER	PT # 3025	 x1 PUSH-TO-CONNECT T-FITTING		

CONTENTS AND OVERVIEW

SECTION 2

PAGE **12** PLANNING THE INSTALL

PAGE **13** PREPARE AIR COMPRESSOR & CONTROL PANEL

PAGE **14** DRILL HOLES FOR AIR COMPRESSOR INSTALLATION

PAGE **15** INSTALL THE AIR COMPRESSOR

PAGE **16** AIR COMPRESSOR TO CONTROL PANEL AIR LINE TUBE

PAGE **17** AIR SPRINGS TO CONTROL PANEL AIR LINE TUBE

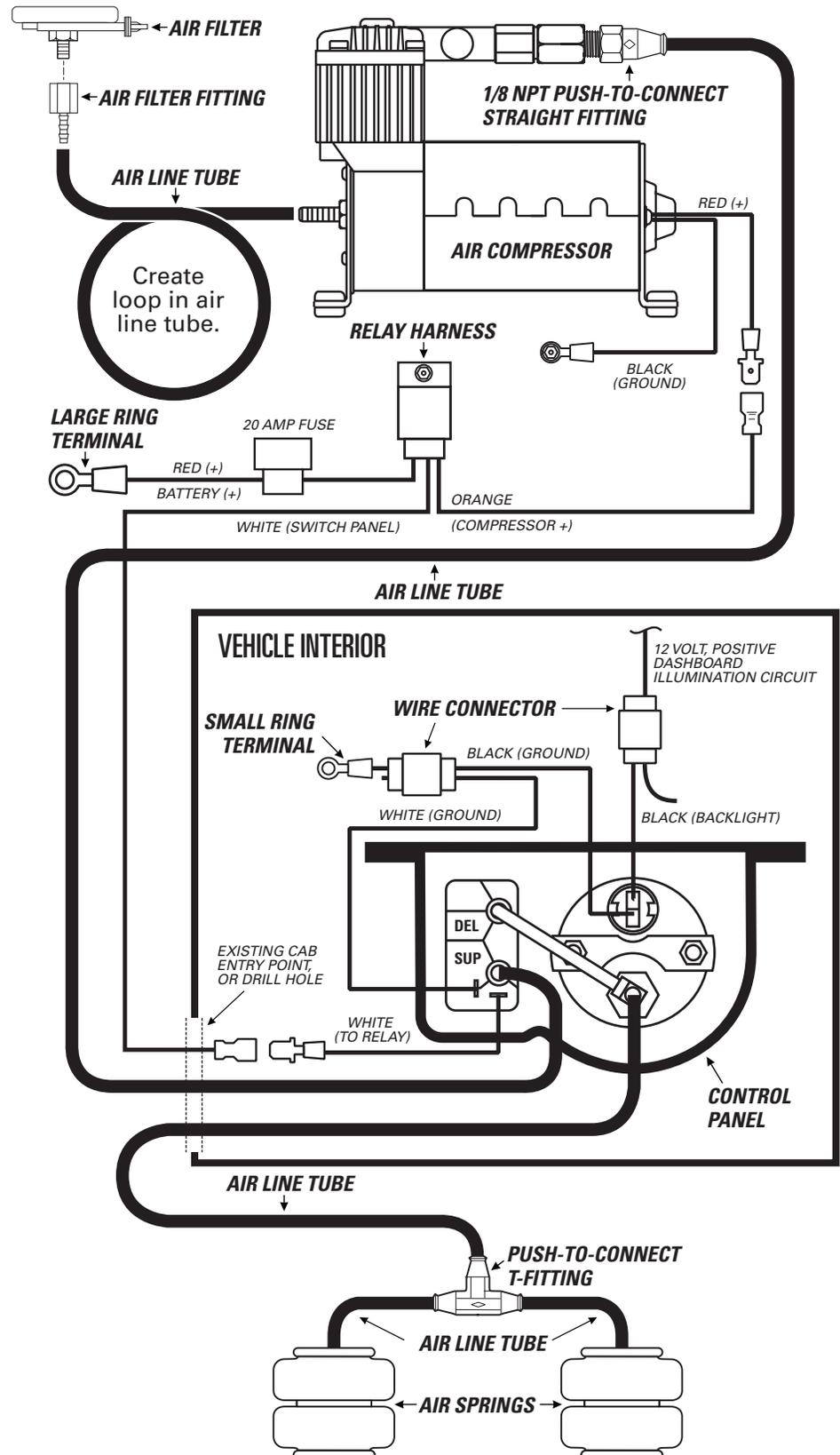
PAGE **18** INSTALL RELAY HARNESS

PAGE **19** FINISH CONTROL PANEL WIRING & INSTALLATION

PAGE **20** INSTALL THE AIR FILTER & CLEAN UP INSTALLATION

PAGE **21** TEST THE SYSTEM

PAGE **22** FIX AN AIR LEAK

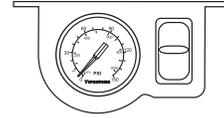


PLANNING THE INSTALL

THESE PLANNING STEPS WILL HELP YOU SAVE TIME AND WILL MAKE THE INSTALLATION EASIER.

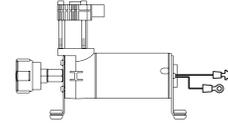
DETERMINE THE MOUNTING LOCATION FOR THE CONTROL PANEL

- Mount inside the vehicle cab, in a place where you will not hit or kick it.
- Allow room for the air line tube to run without sharp curves or bends.
- Do not obstruct your view or ability to safely operate the vehicle.



DETERMINE THE MOUNTING LOCATION FOR THE AIR COMPRESSOR

- Provide ample air flow.
- Protect from airborne debris and moisture.
- If using the optional frame installation kit (Part # 2497), consider the guidelines above, and follow kit's instructions.



PLAN INSTALLATION ROUTES FOR WIRING AND AIR LINES INTO CAB

- If possible, use existing factory grommet, such as where a wiring harness enters the cab.
- If not possible, drill a hole large enough for two air line tubes and a ground wire. Make sure the wiring and air line tubes are not exposed to sharp metal edges that can damage them.

SOAK AIR LINE TUBE ENDS IN HOT WATER BEFORE INSTALLING ONTO BARBED FITTINGS

- The hot water makes the air line tube easier to work with and enables it to shrink onto the barbed fitting for a better seal.



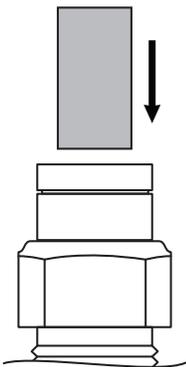
TAPE ALL ELECTRICAL CONNECTIONS

- Use electrical tape to appropriately secure and protect all electrical connections.

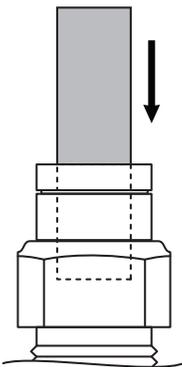
USING PUSH-TO-CONNECT FITTINGS FOR AIR LINES

Your kit includes push-to-connect fittings to connect the air line tubes to hardware. Use the instructions below when using the air line.

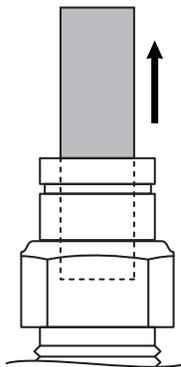
- 1** Insert end of air line tube into air fitting.



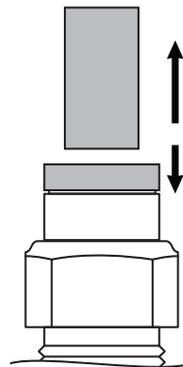
- 2** Push air line tube into air fitting as far as possible.



- 3** Gently pull on the air line tube to check for a secure fit.



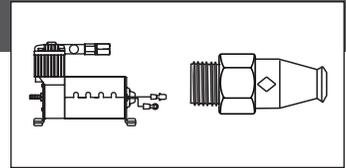
- 4** To remove, push down collar and gently pull air line tube away.



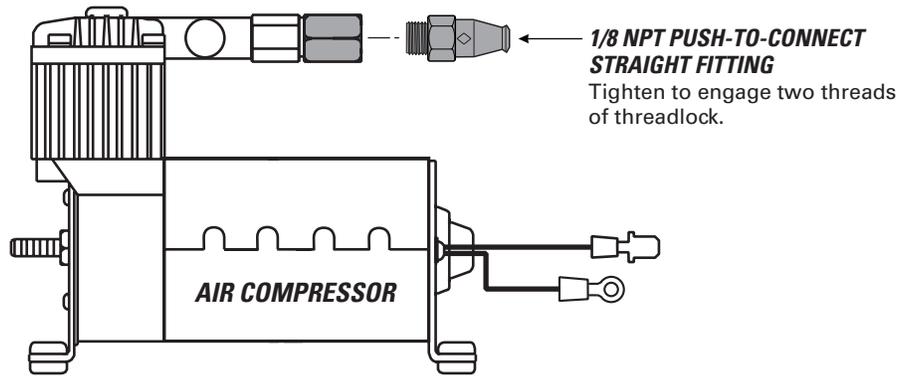
Removal Tip: Use a 1/4", 5/16", or 6mm open-ended wrench to push the collar down.

1

PREPARE THE AIR COMPRESSOR



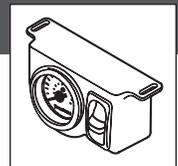
- 1 Install 1/8 NPT push-to-connect straight fitting to the head of the air compressor.



2

DRILL HOLES FOR CONTROL PANEL INSTALLATION

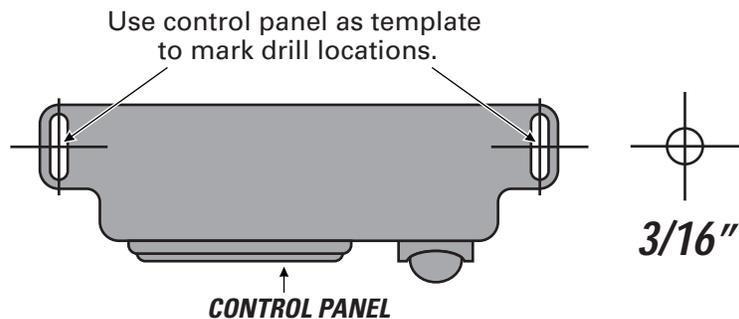
Use the location you selected during the planning the installation step on Page 12.

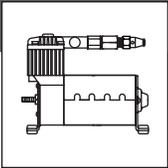


- 1 Using the control panel slots as a template, mark two drill locations with a punch or marking tool.

- 2 Drill a 3/16" diameter hole on each center mark.

- 3 Do not mount the control panel until Step 8.





IF YOU ARE USING THE OPTIONAL FIRESTONE AIR COMPRESSOR MOUNTING KIT (PART # 2497), SKIP THIS STEP AND REFER TO THE MOUNTING KIT'S INSTRUCTIONS.

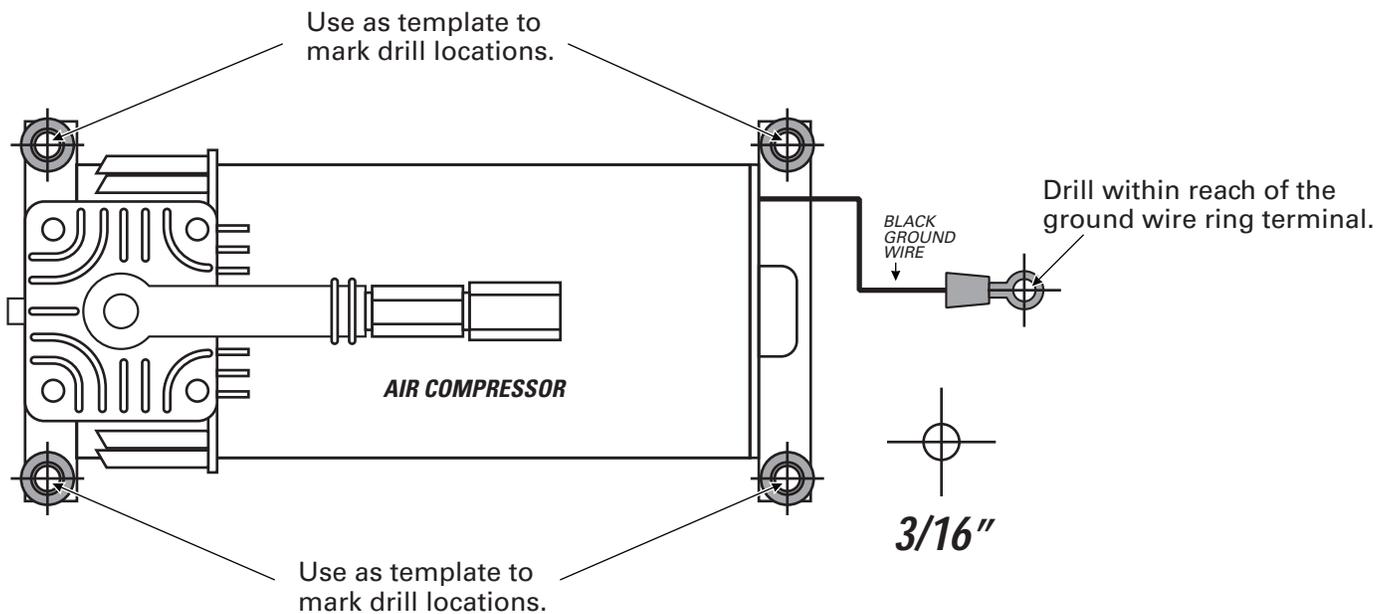


CHECK SURROUNDING AREA AND BACK SIDE OF MOUNTING LOCATION TO AVOID DRILLING INTO EXISTING LINES OR WIRING.

1 Using the air compressor as a template, mark four drill locations with a punch or marking tool.

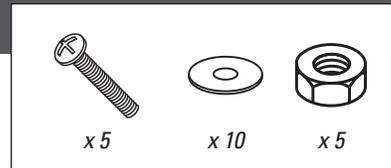
2 Mark ground wire fastening location within reach of the ground wire ring terminal.

3 Drill 3/16" diameter holes. Remove any burrs and debris from drill holes.



4

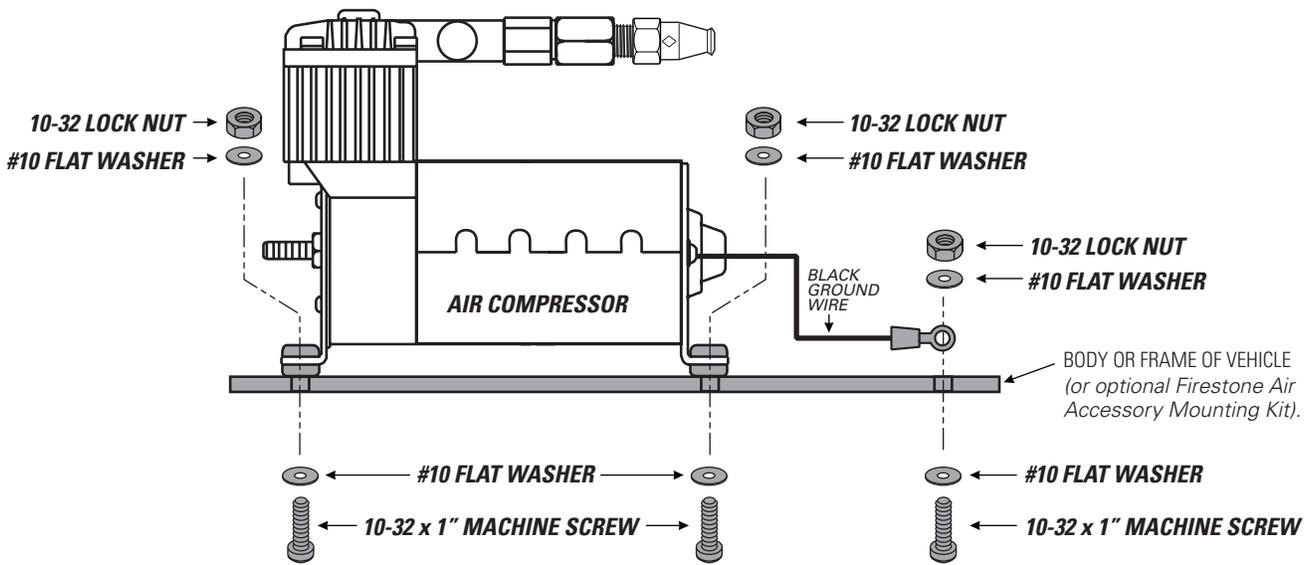
INSTALL AIR COMPRESSOR



DO NOT OVER TIGHTEN MOUNTING BOLTS AND NUTS. TOO MUCH TORQUE CAN CRUSH THE BRASS INSERTS AND RUBBER ISOLATORS.

1 Mount the air compressor to the drill hole location using the supplied fasteners. **DO NOT OVERTIGHTEN.**

2 Mount the black ground wire ring terminal using the supplied fasteners. Assure that the ring terminal makes a solid contact with bare metal for a proper ground. (Optionally, you can run the negative to the negative battery terminal.)



TO CREATE A PROPER GROUND, ASSURE THE GROUND RING TERMINAL CONTACTS BARE METAL AND IS FASTENED SECURELY. AFTER INSTALLATION, YOU MAY OPTIONALLY COAT THE RING TERMINAL IN SILICONE TO PROTECT IT FROM CORRODING.



Use the route you selected during the planning the installation step on Page 12.

1 Route the air line tube from the air compressor to the control panel, leaving room to secure line safely. Use guidelines below to cut.



EXHAUST ALL AIR FROM THE SYSTEM PRIOR TO RELEASING AIR TUBES FROM AIR FITTINGS.

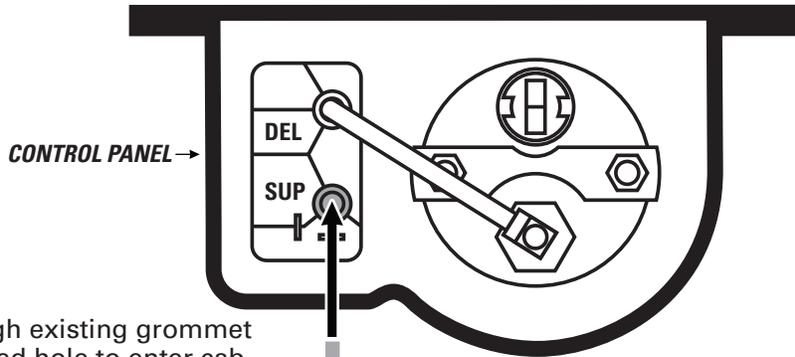


2 Install the air line tube end onto the barbed fitting on the back of the control panel switch as shown.

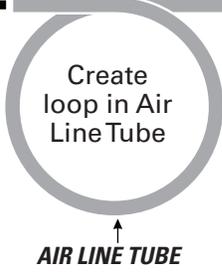
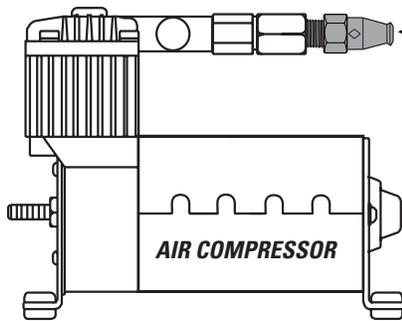


FOR PROPER INSTALLATION, SOAK AIR LINE TUBE ENDS IN HOT WATER BEFORE INSTALLING ONTO BARBED FITTINGS.

3 Install the air line tube end into the 1/8 NPT push-to-connect straight fitting on the top of the air compressor.



Pass through existing grommet or drilled hole to enter cab.



THE AIR LOOP CREATES A TRAP FOR CONDENSATION TO GATHER. WITHOUT THIS TRAP, THE AIR COMPRESSOR COULD BE DAMAGED BY WATER INTAKE.

DO

Make sure the cut is as square as possible. Use a tube cutter or sharp utility knife.

DON'T

Fold or kink the air line tube. Cut the air line tube at an angle. Use pliers, scissors, snips, saws, or side cutters.

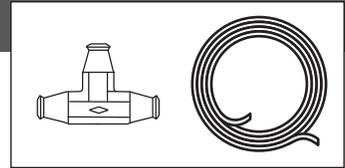
PROPER AND IMPROPER CUTS IN THE AIR LINE TUBE

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6

INSTALL T-FITTING AND ROUTE AIR LINE TUBE TO CONTROL PANEL

Use the route you selected during the planning the installation step on Page 12.



EXHAUST ALL AIR FROM THE SYSTEM PRIOR TO RELEASING AIR TUBES FROM AIR FITTINGS.



FOR PROPER INSTALLATION, SOAK AIR LINE TUBE ENDS IN HOT WATER BEFORE INSTALLING ONTO BARBED FITTINGS.

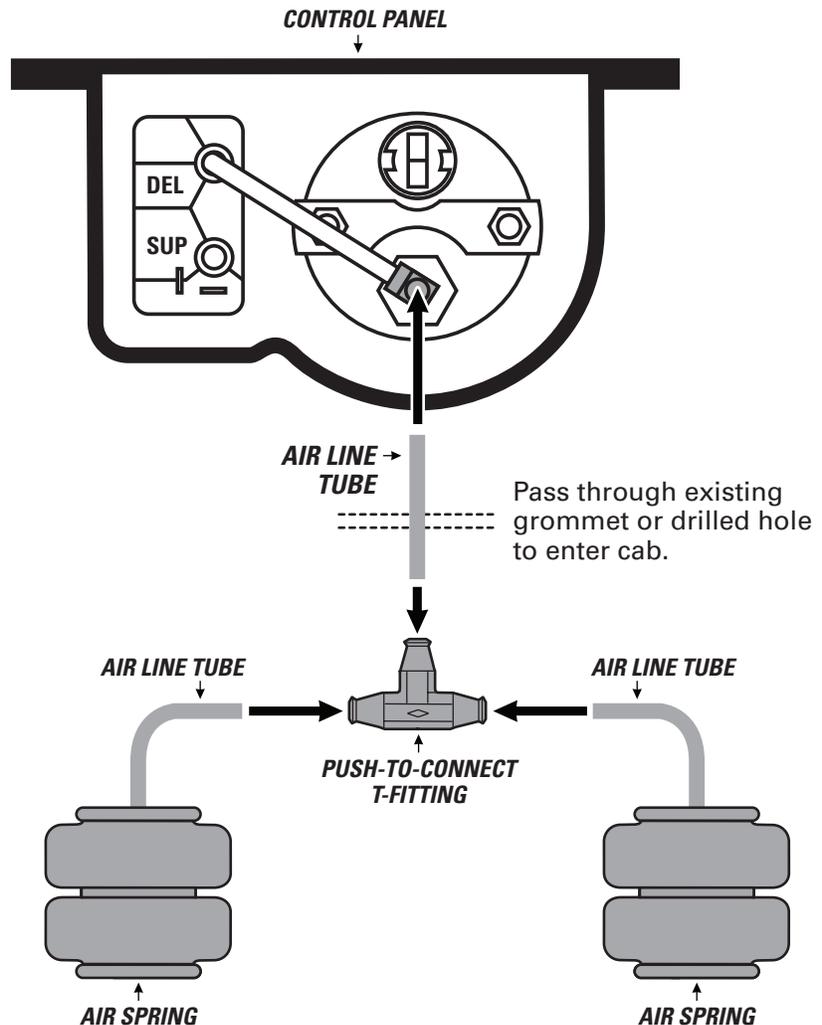
1 Route the air line tube from the control panel to the air springs.

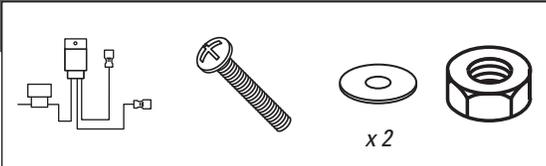
2 Install the air line tube end onto the barbed fitting on the back of the control panel pressure gauge as shown.

3 Determine a safe location for the push-to-connect T-fitting, where air line tubes from the air springs and the control panel can safely meet.

4 Install the air line tubes from the air springs into opposite ends on the push-to-connect T-fitting, as shown.

5 Install the air line tube from the control panel to the single end on the push-to-connect T-fitting.

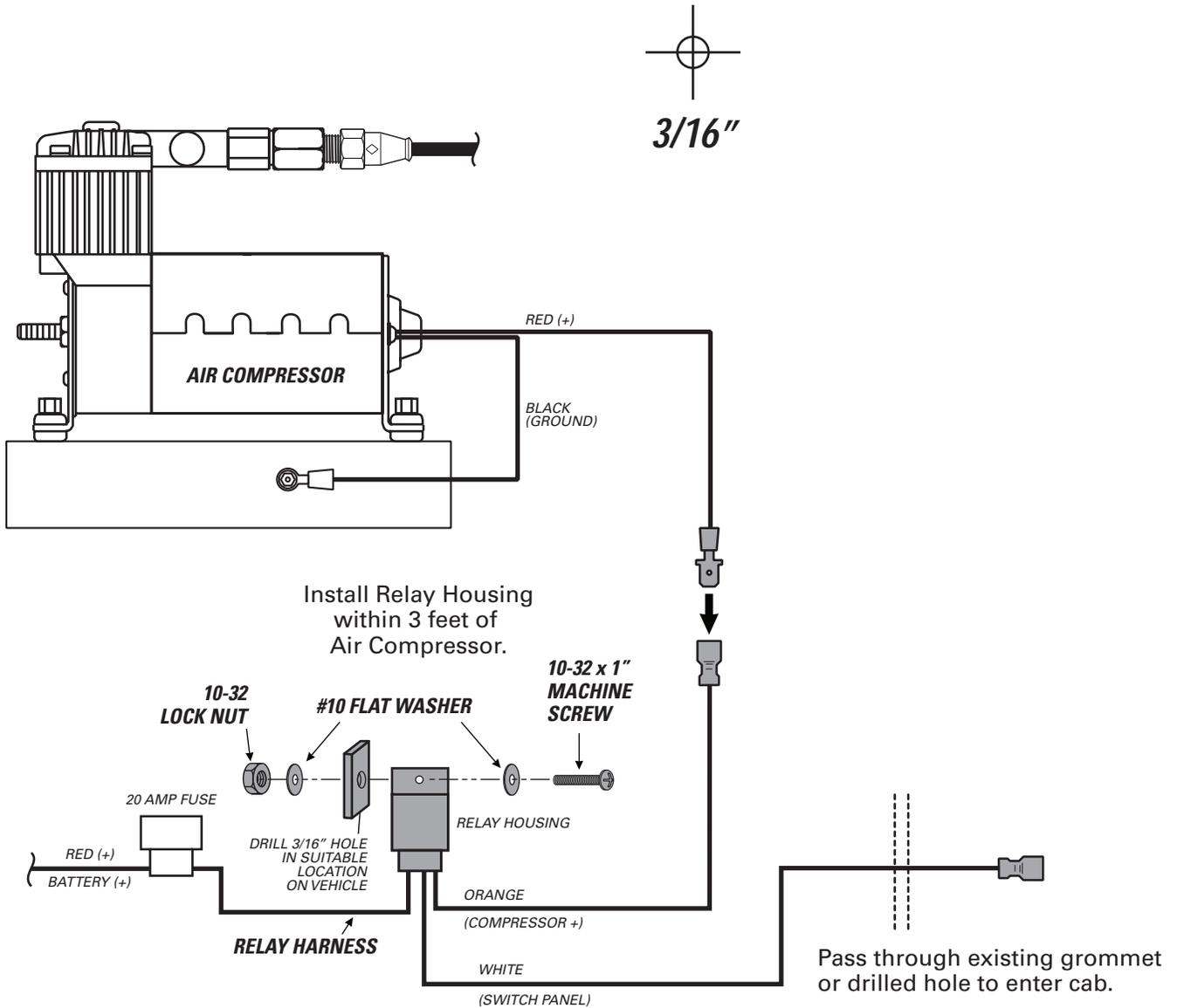




1 Select a safe location within 3 feet of the air compressor.

2 Mark and drill a 3/16" hole to mount the relay housing on the relay harness. Secure with fasteners shown.

3 Route the white wire with the female spade connector labeled "switch panel" to the control panel.



8

FINISH WIRING AND INSTALLATION



x 2



x 3



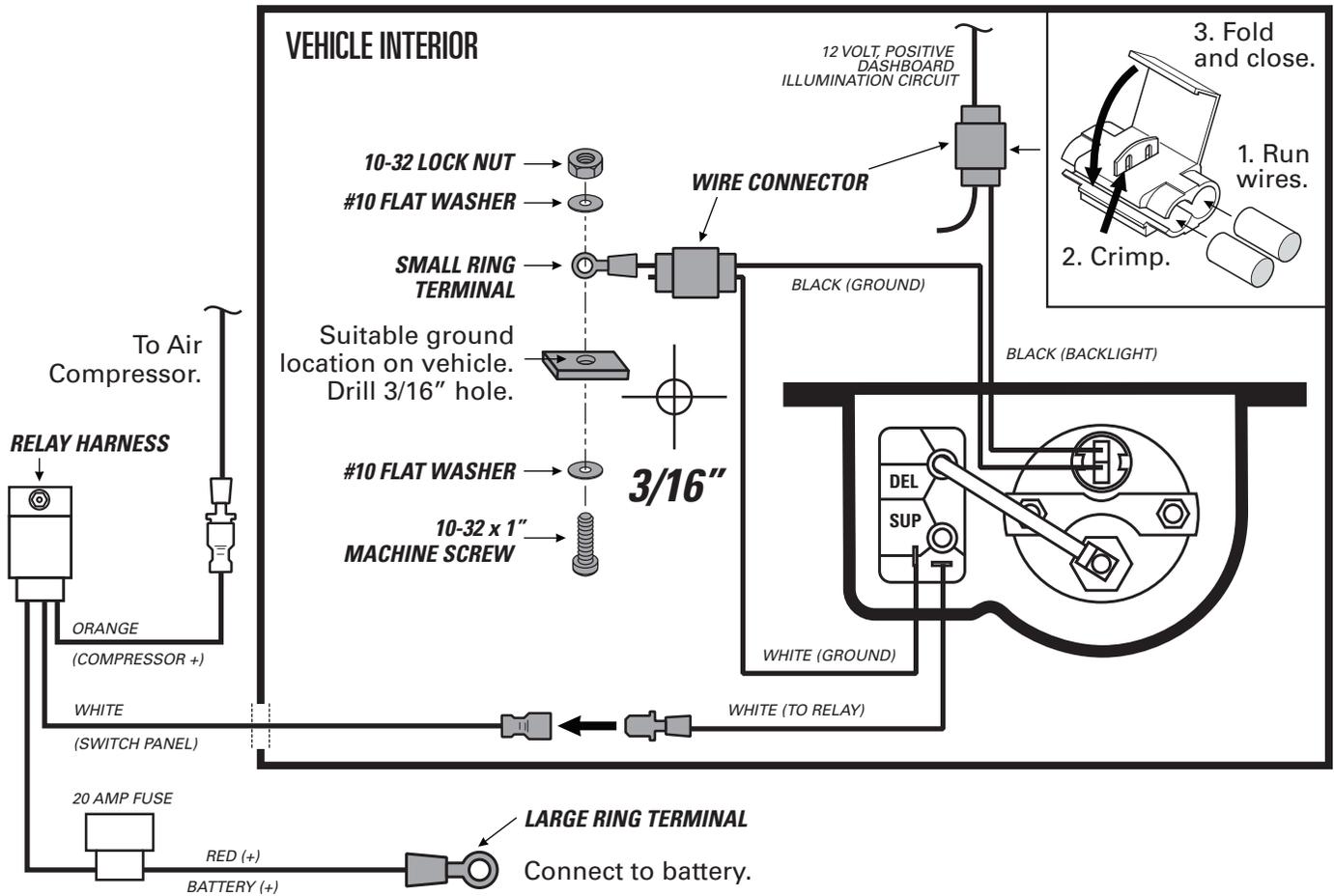
x 6



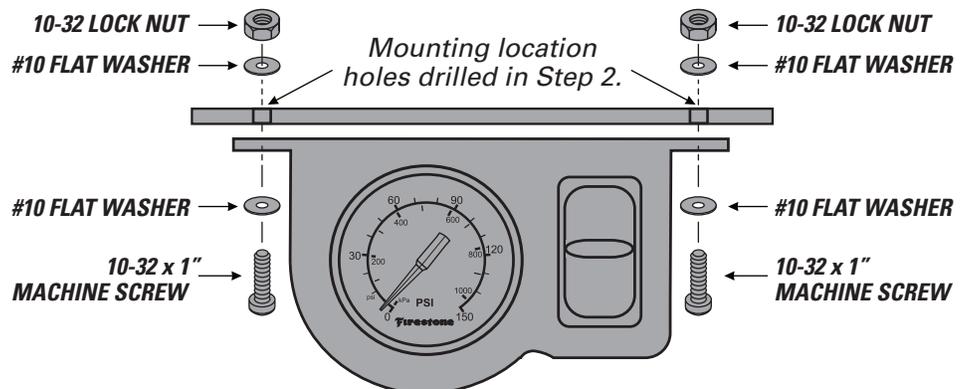
x 3

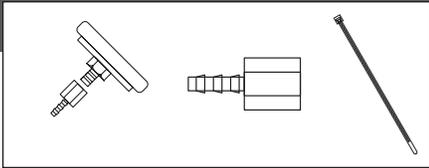
1 Connect wires, install ring terminals and wire connectors as shown below.

2 Fasten control panel ground wires to vehicle as shown.



3 Install the Control Panel using the supplied fasteners.



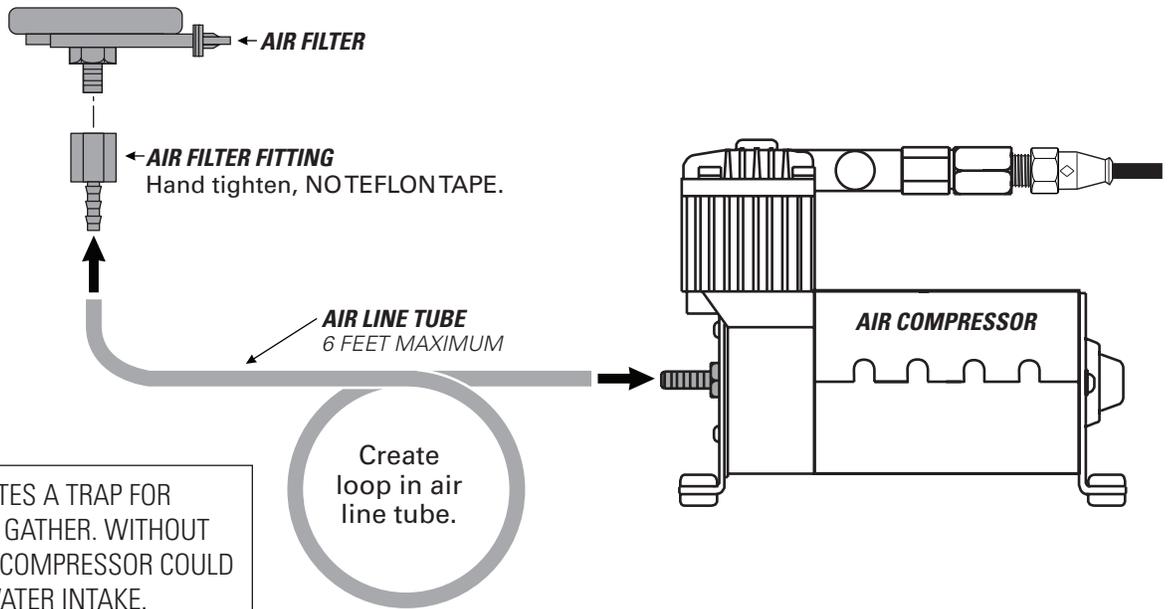


FOR PROPER INSTALLATION, SOAK AIR LINE TUBE ENDS IN HOT WATER BEFORE INSTALLING ONTO BARBED FITTINGS.

1 Install the 1/4 NPT x 1/4" tube fitting onto the air filter Inlet as shown, hand tighten.

2 Use supplied Nylon ties to secure the air filter to a dry, protected location no more than 6 feet from the air compressor.

3 Cut a length of air line tube to run from the air compressor to the air filter. Attach the air line tube to the barbed fittings as shown below.



1 Clean up the installation using supplied Nylon ties, and return all factory parts and materials to operative state.



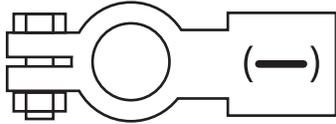
USING SUPPLIED NYLON TIES, SECURE ALL WIRING AND AIR LINE TUBE IN A MANNER THAT DOES NOT OBSTRUCT YOUR VIEW OR ABILITY TO SAFELY OPERATE THE VEHICLE.

10

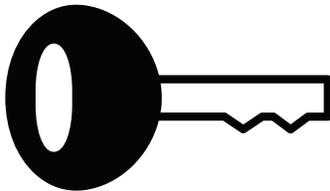
TEST THE SYSTEM

With the Air Command Kit and your air springs installed, you are ready to test the system.

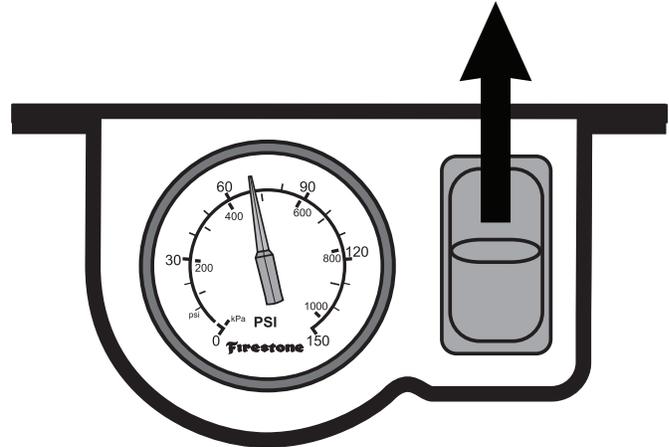
- 1** Re-attach the negative battery cable.



- 2** Turn on your vehicle's ignition.



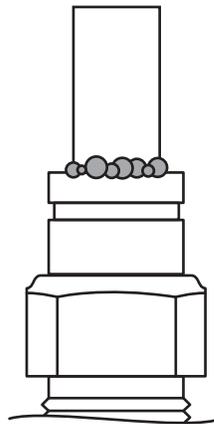
- 3** Push paddle switch up to inflate the air springs to 70 PSI.



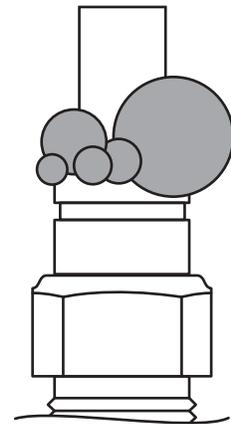
- 4** Spray fittings with soap and water mixture.



- 5** Observe bubbles.



**SMALL SOAP BUBBLES
THAT DO NOT EXPAND**



**SOAP BUBBLES
THAT EXPAND**



NO LEAKS?

Congratulations! You're riding right with the flip of a switch! Remember to review the Operating Instructions.

LEAK?

Bummer. Continue to Step 11 to fix the leak.

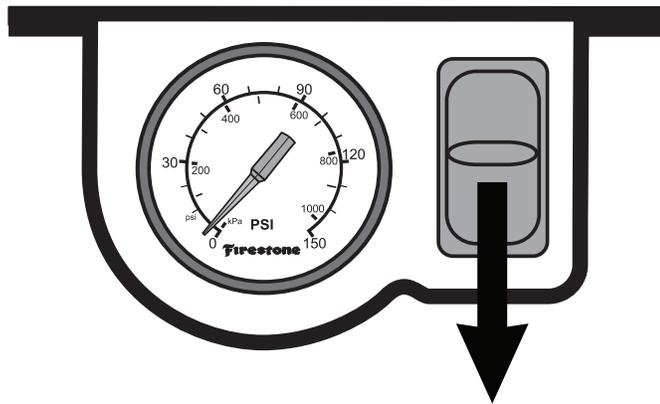


EXHAUST ALL AIR FROM THE SYSTEM PRIOR TO RELEASING AIR TUBES FROM AIR FITTINGS.

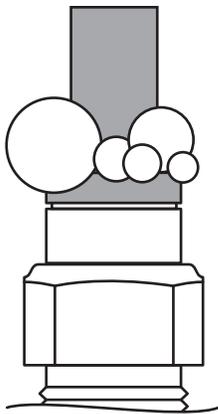


- 1** Push paddle switch down to release all air pressure from the air springs.

NOTE: While doing this, if you get a quick burst of air prior to the gauge dropping to 0 PSI, your lines are incorrectly swapped.

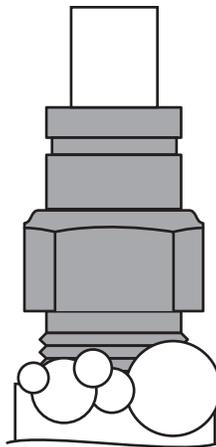


LEAK AT AIR LINE TUBE AND AIR FITTING



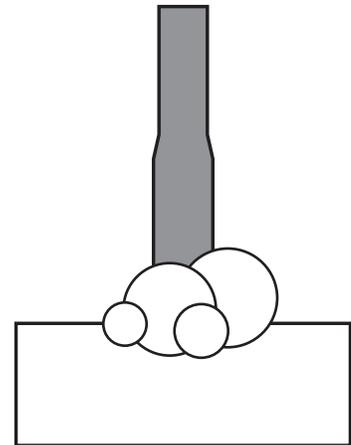
Release air line tube (see page 12). Review proper cuts and procedures in Step 5. Repeat installation steps.

LEAK AT BASE OF AIR FITTING ON AIR SPRING



Tighten air fitting one turn or until leak stops.

LEAK AT A BARBED FITTING



Being careful not to scar the metal barbs, cut away, check for debris. Trim air line tube, **soak for 5 minutes in hot water**. Reinstall.

STILL HAVE A LEAK?

Refer to the Troubleshooting section of the Instruction Manual. If the leak persists, or if there is an issue with a leaking part, call 1-800-888-0650; Option 1; Option 1 for Tech Support.



riderite.com

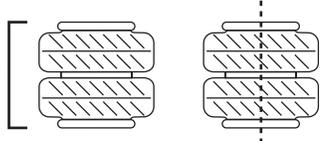
SAFELY RETURN VEHICLE TO OPERATIVE STATE

If you removed any wheels during installation, install the wheels and torque the lug nuts to the manufacturer's specifications. Safely remove any jack stands and wheel chocks used during installation. Re-attach the negative battery cable.

READ AND UNDERSTAND THE OPERATING INSTRUCTIONS

The Ride-Rite system can improve handling and comfort. Take the time to learn how to properly use and maintain your investment by reading the Operating Instructions.

BEFORE YOU DRIVE, CONFIRM THE FOLLOWING:

- Do you have a minimum of 5PSI in your air springs?
- Are your air springs standing 5 1/2" - 6 1/2" tall? 
- Are your air springs properly aligned, left-to-right and front-to-back?
- Are your nuts and bolts tight?
- Have you removed the threaded rods from Steps 1 and 2?
- Put your paper work back into the sleeve and keep it in your glove compartment for future reference.
- Secure all air line tubes and wiring inside the cab and on the outside of the truck.
- The system passes the leak test and holds air.
- The air compressor ground ring terminal is contacting bare metal, and coated with silicone if possible.
- Make sure no wiring, air line tubes, or hardware obstruct your vision or ability to safely operate the vehicle.
- There is a loop in the air line tubes as shown to prevent water or debris from getting into the air compressor head and damaging it.
- The air gauge backlight turns off when the ignition is off, or when dashboard lights do not illuminate.
- You've been bagged...and now your suspension is Airide equipped! Show it off with the supplied decal!

NEED INSTALLATION HELP? 1-800-888-0650

Select Option 1 for Ride-Rite; Select Option 1 for Technical Support.

Or, email us at rrtech@fsip.com. Please include photos to help us better diagnose and understand any problems you may be experiencing.

Firestone
Firestone Industrial Products

CONNECT WITH US



FirestoneIP



Firestone Ride-Rite

Firestone

**World's Number 1
Air Spring.**



FIRESTONE INDUSTRIAL PRODUCTS COMPANY



Operating Instructions and Trouble Shooting Guide

Thank you for purchasing Firestone air helper springs. You have purchased a quality product from the world's number one air spring manufacturer.

This guide will provide answers to some of your questions regarding the use and operation of your new air helper springs. Following the guidelines in this manual will help provide you with many years of trouble-free service from your Firestone air helper springs.

For vehicle applications, air pressure requirements, air compressor CFM, maintenance, or air spring technical data, contact us at:

www.ride-rite.com
1-800-888-0650

INSTALLER: Please leave this manual with the vehicle's owner.

WARRANTY QUESTIONS

Go to **www.riderite.com/installation-support**
Select "Warranty Info" tab

SAFETY TIPS

Never exceed the manufacturer's recommended Gross Vehicle Weight Rating (GVWR)

As with your vehicle's tires, an air helper spring is a pneumatic device that supports a portion of the vehicle's weight. The air helper spring may fail as a result of punctures, impact damage, improper inflation, improper installation, or improper usage. To reduce the risk of failure, we strongly recommend the following:

Never overload your vehicle. The manufacturer's gross vehicle weight rating (GVWR) is stated on the specification plate on the chassis. You should weigh your vehicle on a truck scale when it is fully loaded and in a level condition to determine if you are exceeding the manufacturer's recommended GVWR.

Inspect the inflated air springs to verify that they do not contact any component of the vehicle under normal suspension operation. The air helper spring must flex and expand during normal operation. There must be at least 1/2" of clearance between the inflated air spring and any other component of the vehicle under normal suspension operation.

The kit is designed to clear all chassis components. If there is **any** interference, please call Firestone at 1 (800) 888-0650.

Inspect the air line tubing and the air spring to verify that they have not been too close to the exhaust system. If the distance between any portion of the air spring or air line tubing and the exhaust system is less than 6", a heat shield should be used.

Never inflate the air helper springs beyond the maximum pressure indicated in the installation manual.

Never attempt to remove any component of the air spring assembly when the air springs are inflated.

If an air helper spring has failed while you are on the road, operate your vehicle at reduced speeds. High speed over rough roads will result in severe bottoming of the air spring and may damage other vehicle components.

Never attempt to drive the vehicle in an unlevelled condition. Failure to level a heavily loaded vehicle may result in excessive body roll and possible damage or injury.

If unidentifiable problems exist with your air helper spring kit, visit Firestone on the web at www.riderite.com or call 1 (800) 888-0650 for technical assistance.

Never cut, weld, or modify the air helper springs or brackets.

Do not use aerosol tire repair products in the air helper springs or a tire patch of any kind on the air helper spring. If there is a hole in the air spring it must be replaced.

GENERAL INFORMATION

Firestone air helper springs are heavy duty, quality air springs designed to supplement your vehicle's existing suspension system. These durable air springs allow you to maximize your vehicle's load carrying capacity through the use of air pressure. Proper installation, use, and operation will provide the maximum service life and performance your air spring kit is capable of delivering. These instructions will help you obtain the maximum benefits available from your air spring kit.

RIDE-RITE™ AIR HELPER SPRINGS

Ride-Rite™ air helper springs are installed between the frame and the suspension of trucks, vans, and motorhomes. Ride-Rite™ air helper springs are capable of supporting loads up to 5000 lbs per pair.*

SPORT-RITE™ AIR HELPER SPRINGS

Sport-Rite™ air helper springs are installed between the frame and suspension of light trucks, and utilize a sleeve-style air spring to enhance the ride when the vehicle is loaded or unloaded. Sport-Rite™ air helper springs are capable of supporting loads up to 3000 lbs per pair.*

LEVEL-RITE™ AIR HELPER SPRINGS

Level-Rite™ air helper springs replace the existing shock absorber with a fully-protected, reversible sleeve air spring paired it with a high-performance Bilstein monotube shock absorber for perfectly matched performance characteristics over the entire operation spectrum. Level-Rite™ air helper springs are capable of supporting loads up to 1000 lbs per pair.*

BASIC OPERATION

As your vehicle is loaded, the stock suspension is compressed under the weight of the load. Your vehicle's stock suspension system has been designed so that it will provide optimum performance and handling with a specific load on the vehicle. When your vehicle is loaded, its performance, handling characteristics, and ride quality may be compromised. As the stock suspension is compressed, the ride may become "mushy", and you may encounter sway and handling problems. As weight is added to the vehicle, the air helper springs become an active part of

*Do not exceed the vehicle's recommended gross vehicle weight rating (GVWR)

the suspension system. As more air pressure is added to the air springs, they will support more weight. You will be able to compensate for a heavy load by adding air pressure to the air springs, thereby reducing sway and handling problems associated with a heavily loaded vehicle.

TABLE "A"	
ALL TORQUE SPECIFICATIONS	
Using a torque wrench, torque the threaded fasteners to the following specifications:	
Fasteners used on studs and blind holes in air springs	15 – 20 ft lbs
Hex nuts installed on carriage bolts	10 – 15 ft lbs
Hex nuts installed on 3/8" hex bolts	28 – 32 ft lbs
Hex nuts and bolts used to secure brackets to frame	28 – 32 ft lbs
Hex nuts installed on U-bolts	15 – 20 ft lbs
Hex bolts securing tapered sleeve style air spring to lower bracket	10 – 12 ft lbs

PREVAILING-TORQUE LOCK NUTS

In order to assure trouble-free operation, your air spring kit includes a variety of self-locking threaded fasteners. Your kit may include prevailing-torque lock nuts. Prevailing-torque lock nuts may be more difficult to install, but will not come loose under normal suspension operation.

THREAD LOCKING COMPOUND

The hex bolts used to secure the air spring to the brackets may have a locking compound applied to the threads. Lock washers are not required when using a fastener with pre-applied thread locking compound. When installing fasteners with thread locking compound, follow the torque recommendations listed in table.

HELICAL LOCK WASHERS

Your air helper spring kit may include helical lock washers. In order to properly use the lock washer, tighten the nut/bolt fastener just enough to flatten the lock washer. Overtightening the fastener may damage the nut or bolt. When using helical lock washers, follow the torque recommendations listed in Table "A".

AIR FITTINGS

Your kit will include one of two types of push-to-connect air fittings: fittings with a thread locking compound pre-applied to the threads or fittings with a Nylon collar in place of the thread locking compound.

The pre-applied thread sealant, thread the air fitting into the air spring and tighten the fitting securely to engage the pre-applied thread sealant.

The Nylon collar, thread the air fitting into the threaded hole on the air spring so that the Nylon collar makes contact with the top of the air spring and then tighten 1/2 turn. No thread sealant is required.

Both types of air fittings allow easy connection between the air fitting and the air line tubing. To install the air line in the fittings, cut the tubing as square as possible using a sharp utility knife or razor blade. Push the air line into the fitting as far as possible. If the tubing must be removed from the fitting, first release the air pressure from the air spring. Push the collar towards the body of the fitting and then pull the tubing out.

PRESSURE DIFFERENTIAL BETWEEN AIR SPRINGS

It is not uncommon to have different pressures between the air springs after the vehicle has been brought to a level condition. If the vehicle is within the manufacturer's recommended gross vehicle weight and you have not achieved a level condition after inflating the air springs to 100 psi, there may be a problem with your stock suspension. The leaf springs may have become fatigued over time or a leaf spring may be fractured. There may be an obstruction in the air system, not allowing the air pressure to reach the air helper springs.

AIR SPRING ALIGNMENT AND HEIGHT

Upon completion of the installation, the air springs should be inspected for proper alignment. Although the air helper springs can function with some misalignment, it is preferred that the air springs be mounted so that they are aligned with as little top to bottom offset as possible.

Check the distance between the upper bracket and lower bracket (design height). The dimensions shown on **Page 5** are a guide to assist in determining the ideal operating height for your air helper springs.

INFLATING THE AIR SPRINGS

With the air helper springs installed on your vehicle and the vehicle sitting on a level surface, visually verify that the vehicle is in a level state. If the vehicle is not level (front-to-back or from side-to-side) it can be brought to a level position by inflating the air springs. Each air spring has a separate inflation valve. To level the vehicle from front-to-back, add air pressure to both air springs in equal amounts. To level the vehicle from side-to-side, add more air pressure to the air spring on the lower side of the vehicle. When inflating the air springs, add air pressure in small quantities, checking the pressure frequently. The air spring requires much less air volume than a tire, and therefore, will inflate and deflate quickly.

WARNING: DO NOT EXCEED THE MAXIMUM PRESSURE AS INDICATED IN THE INSTALLATION MANUAL

LEVELING THE VEHICLE

Check the level of your vehicle visually. If it is not level, either from front to back or from side to side, level it by inflating your air springs. (If your vehicle is equipped with a cab control unit or automatic control system refer to the directions for that device.) There is one inflation valve for each air spring. To level from front to back, add air pressure to both air springs equally. For side to side, add air pressure to the air springs on the side of the vehicle that is low. When adding air pressure to the air springs, remember that they have a much smaller volume of air than a tire so they will inflate much quicker. Add air pressure in short bursts until the vehicle is level. (NEVER EXCEED 100psi IN EACH AIR SPRING.)

MAINTENANCE

It is considered normal for air helper springs to lose some air pressure over time. Normal pressure loss should not exceed 3 – 4 psi per week when the air springs are inflated to 50 psi. If the pressure loss is greater than 3 – 4 psi per week, there may be a leak in the system. Each time you check the pressure in the air springs, you will lose 1 – 3 psi. The air pressure should be checked at regular intervals.

It is recommended that the air pressure be checked according to the following guidelines:

At least monthly intervals during the continuous operation of the vehicle (see above)

When the vehicle is removed from long-term storage

If the air springs are used to assist in leveling an RV or camper on uneven ground, ensure that the vehicle is returned to a level ride height before departing.

The brackets used to secure the air helper spring to the vehicle should be inspected periodically for damage and for loose fasteners. Ensure that the air line tubing is clear of any sharp edges and routed away from the exhaust system. The brackets and air line tubing should be inspected every 6 months. Ensure that the threaded fasteners are torqued to the specifications listed on **Page 3**.

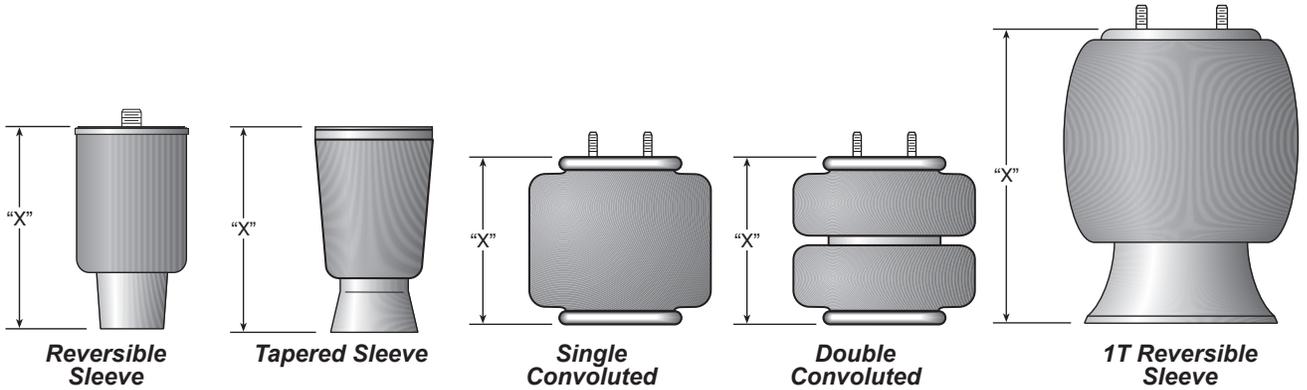
Accumulated sand, gravel, or other road debris on the air springs or brackets should be rinsed away with a garden hose each time the vehicle is washed.

If it is necessary to lift the vehicle by the frame, first release the air pressure from the air springs. This will allow the air springs to extend to their maximum length without being damaged. The uninflated air springs are capable of supporting the weight of the axle when the vehicle is lifted by the frame. After servicing of the vehicle is complete, lower the vehicle to the ground and reinflate the air helper springs to the desired pressure. **NOTE:** On Sport-Rite kits the air helper springs must be aired up to 50 psi and then release the air until the air helper springs are to the desired pressure.

ONLINE AUCTION PURCHASES

Firestone will not replace missing components from any kit purchased through an online auction.

AIR SPRING TECHNICAL DATA



Part Number	Description	Style	"X" Ride Height	Min/Max Air Pressure	Max Load @100 psi (per pair)
6868	Single Convoluted	160BY	5.0" - 6.0"	5 / 100 psi	3600 lbs
6762 6764 6766	Double Convoluted	268C	4.5" - 5.5"	5 / 100 psi	3200 lbs
6397 6410 6781	Double Convoluted	267C1.5	5.5" - 6.5"	5 / 100 psi	4800 lbs
6401 6873 6859	Double Convoluted	224C	5.5" - 7.0"	5 / 100 psi	5000 lbs
7689 7701	Double Convoluted	26C	7.0" - 8.0"	5 / 100 psi	5640 lbs
7076	Reversible Sleeve	70mm	6.0" x 8.0"	10 / 100 psi	2000 lbs
9000	Tapered Sleeve	110/70 mm	7.75" - 8.75"	10 / 100 psi	3000 lbs
9001	Tapered Sleeve	110/70 mm	5.88" - 6.88"	10 / 100 psi	3000 lbs
9002	Tapered Sleeve	110/70 mm	6.75" - 7.75"	10 / 100 psi	3000 lbs
5405	1T Reversible Sleeve	1T14C-3	8.0" - 12.0"	5 / 100 psi	6400 lbs

This information is provided for reference purposes only. The bracketry and air springs in the Ride-Rite™ and Sport-Rite™ kits are designed to work with the original suspension and within the manufacture's Gross Vehicle Weight Rating (GVWR) for the intended vehicle. Brackets and air springs should not be interchanged or modified.

Air Command™ Air Control Systems

Firestone has expanded the offering of Air-Rite™ Air Control Systems, which provides an instant air source for air suspension products. Adjust the ride for various load and road conditions with a flip of a switch or even a click on a remote. Individual air accessory components are also available, including compressors, air tanks and mounting solutions, providing a wide variety of air control assist solutions.

- Step 1** Choose the application you need; Single or Dual Leveling. »
- Step 2** Choose the style you want to control your air; Analog or Wireless. »
- Step 3** Choose the Duty Cycle needed for your kit/vehicle. Recommended duty cycle is listed in the Application Guide. »

Light Duty	<ul style="list-style-type: none"> • 1-Year Warranty • Includes 9377 Compressor • Best for passenger cars, SUVs, vans, small pickups for occasional use and light loads 			
Standard Duty	<ul style="list-style-type: none"> • 1-Year Warranty • Includes 9284 Compressor • Best for moderate usage, including towing boats, trailers 20' or smaller and medium loads 			
Heavy Duty	<ul style="list-style-type: none"> • 2-Year Warranty • Includes 9499 Compressor • Best for 8-lug trucks, trailers larger than 20', slide-in campers and heavy loads 			
Xtra	<ul style="list-style-type: none"> • 2-Year Warranty • Includes 9499 Compressor • Includes Half-Gallon Air Tank • Includes 9006 Air Hose • Best usage same as Heavy Duty, plus motorcycle tire, golf cart tire or trailer tire inflation 			
Xtreme	<ul style="list-style-type: none"> • 2-Year Warranty • Includes 9287 Compressor • Includes 2-Gallon Air Tank • Includes 2311 Air Hose • Best usage same as Heavy Duty, plus off-road tire or truck tire inflation 			

Single Leveling System

Equal pressure to the springs on both sides. This applies to most towables using a hitch.



Analog

2538

Mounting Plate: **2497**

2158

Mounting Plate: **2497**

2097

Mounting Plate: **2497**

2266

Mounting Plate: **2530**

2543

Mounting Plate: **2530**

Dual Leveling System

Allows for side-to-side or front-to-back leveling. This applies to work trucks, in-bed campers and off-center loads.



Analog



Wireless

N/A

2581

Mounting Plate: **2588**

2178

Mounting Plate: **2497**

2589

Mounting Plate: **2588**

2219

Mounting Plate: **2497**

2590

Mounting Plate: **2588**

2168

Mounting Plate: **2530**

2591

Mounting Plates: **2588/2496**

2549

Mounting Plate: **2530**

2592

Mounting Plates: **2588/2496**

TROUBLE SHOOTING GUIDE

Air spring will not inflate

Ensure that the air line tubing is inserted into the air fittings as far as possible. The tubing should go in the fitting 3/4 of an inch. You will feel some resistance when the tubing goes past the o-ring.

Clear any dirt or debris from inside the inflation valves.

Inspect the entire length of air line tubing to ensure that it is not kinked, damaged from exhaust heat, or cut due to contact with sharp edges

Air spring will not hold air

Normal pressure loss is no more than 3 - 4 psi per week when the air spring is inflated to 50 psi.

Using the inflation valve cap as a core tool, ensure that the valve stem core is installed securely.

Apply a solution of soap and water to the air fittings, air line, and air springs to check for leaks. Tighten the air fitting or re-install the tubing in the air fitting to stop the leak. Rinse the soap and water solution from the system when complete.

If a leak can not be detected with the soap and water solution, deflate the air springs and remove them from the vehicle. Re-install the tubing and inflation valve on the air spring and inflate the air spring to a maximum of 20 psi. Submerge the air spring in a bucket of water to check for leaks.

Locations of air leaks

Leaks occur most often at the threaded connection between the air fittings and the air springs. Tighten the fitting to engage the pre-applied orange thread sealant or until the nylon collar makes contact with the air spring, plus 1/2 turn, depending on which type of fitting is included in your kit. (See air fittings on page 3)

The end of the air line tubing must be cut square and clean to avoid burrs in the connection to the air fittings. The push-to-connect fittings require a square cut to properly seal. The tubing can be removed from the fitting by first releasing the air pressure from the air spring. Push the collar on the fitting toward the body of the fitting. While holding the collar in, pull out the tubing. Cut the tubing squarely and push the tubing into the fitting as far as possible.

The vehicle is not level

Check for proper inflation of the air springs on each side of the vehicle.

Check for obstructions in the air system or vehicle components that may be restricting suspension travel.

IMPORTANT

NYLON TUBE CUTTING:
FOLLOW THESE INSTRUCTIONS
TO AVOID LEAKS

