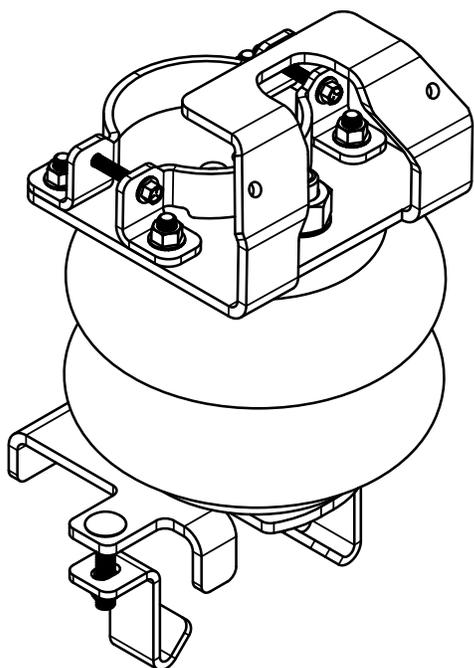


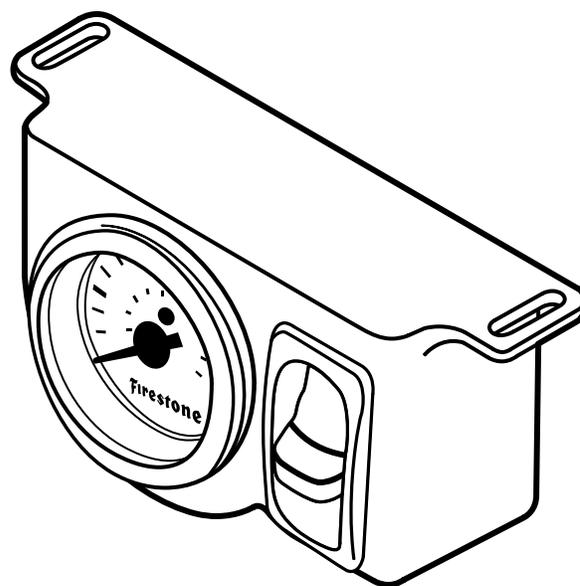


[riderite.com](http://riderite.com)

# 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 **pickup truck only**, 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.

## **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.

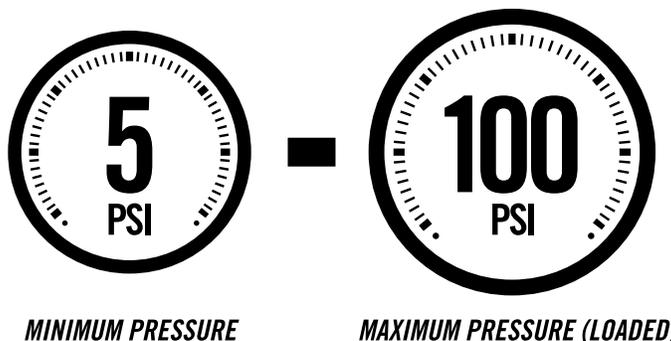
## **APPROPRIATE AIR PRESSURE**

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).

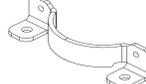
**ONCE INSTALLED SUCCESSFULLY, FOLLOW THESE PRESSURE REQUIREMENTS FOR THE AIR SPRINGS:**



# PARTS

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

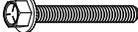
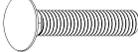
## MAIN KIT CONTENTS

PT # 6401	 x2 AIR SPRING	PT # 5897	 x4 CLAMP SPRING MOUNT	PT # 5898	 x2 UPPER BRACKET
PT # 5899	 x2 LOWER BRACKET	PT # 5900	 x4 HOOK SPRING MOUNT	PT # 9414	 x1 RED AIR LINE TUBE (18 FEET)
PT # 1004	 x1 HEAT SHIELD				

## 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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## A21-760-2613 HARDWARE PACK

PT # 3046	 x2 AIR FITTING	PT # 3064	 x2 INTERNAL TOOTH LOCK WASHER	PT # 3513	 x4 1/4" - 20 x 2" HEX SCREW
PT # 3295	 x2 3/4" - 16 HEX NUT	PT # 3510	 x4 1/4" - 20 FLANGE NUT	PT # 3401	 x4 3/8" - 16 x 1.5" CARRIAGE BOLT
PT # 3033	 x4 5/16" FLAT WASHER	PT # 3514	 x8 3/8" - 16 x 1" FLAT HEAD SCREW	PT # 9036	 x6 RED NYLON TIE
PT # 3022	 x12 3/8" - 16 FLANGE LOCK NUT	PT # 3032	 x2 INFLATION VALVE AND VALVE CAP ASSEMBLY	PT # 0899	 x2 THERMAL SLEEVE
PT # 3142	 x2 3/8" - 16 x .625" FLAT HEAD BOLT				

# CONTENTS AND OVERVIEW

PAGE 4 BUILD UPPER MOUNT ASSEMBLY & REMOVE EXISTING JOUNCE BUMPER

PAGE 5 INSTALL UPPER SPRING MOUNT ASSEMBLY

PAGE 6 DRY FIT AIR SPRING AND LOWER BRACKET

PAGE 7 SECURE LOWER BRACKET TO AIR SPRING

PAGE 8 INSTALL HOOK SPRING MOUNTS & SECURE AIR SPRING

PAGE 9 INSTALL THE HEAT SHIELD

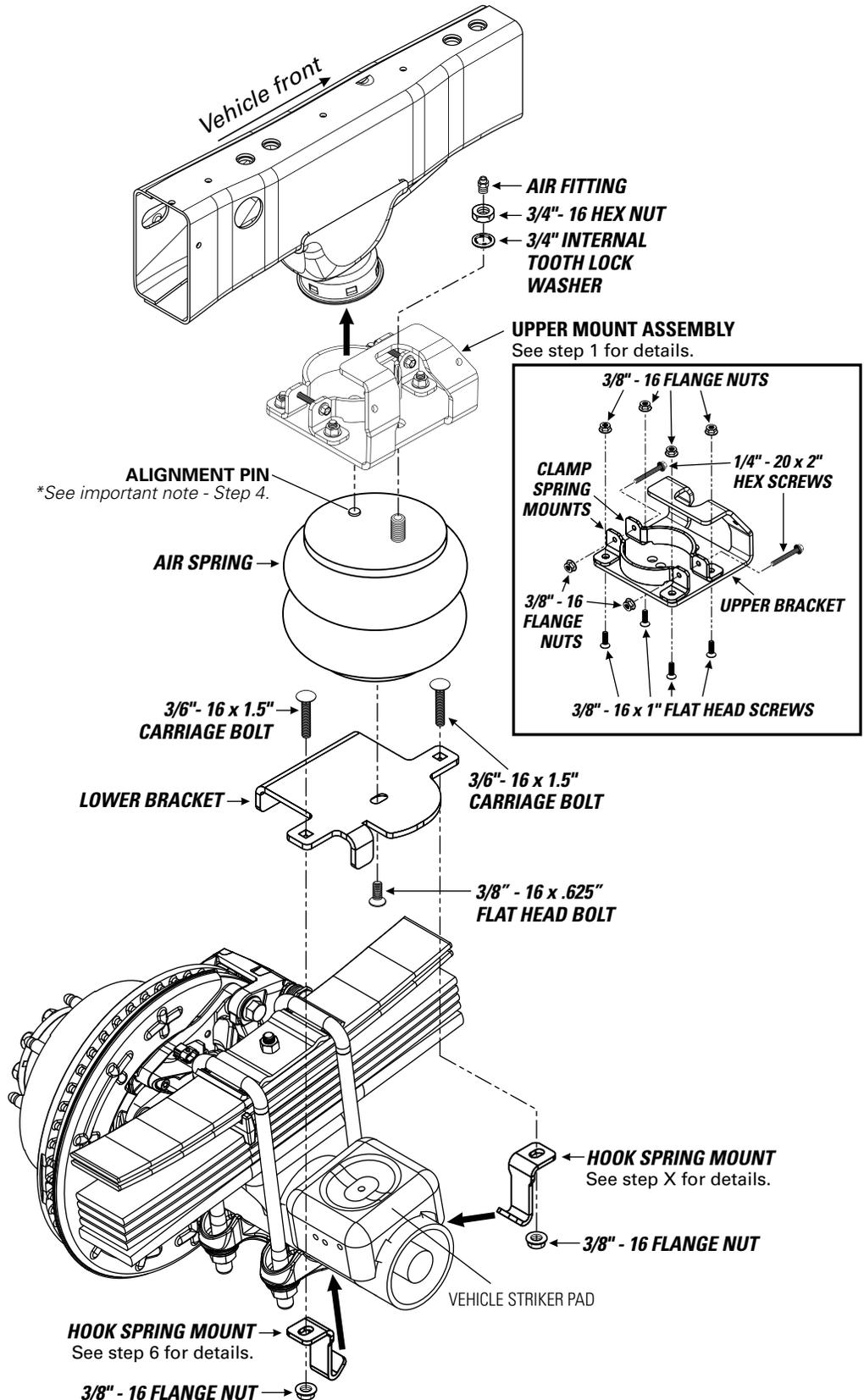
PAGE 10 AIR LINE TUBE & INFLATION VALVE INSTALLATION

PAGE 11 INSTALL & ROUTE AIR LINE TUBE

PAGE 12 CHECKING THE SYSTEM

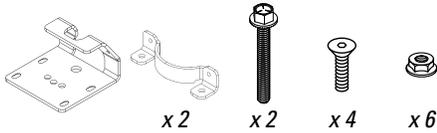
PAGE 13 FIXING AN AIR LEAK

PAGE 14 FINISHING THE INSTALLATION



## BUILD UPPER MOUNT ASSEMBLY

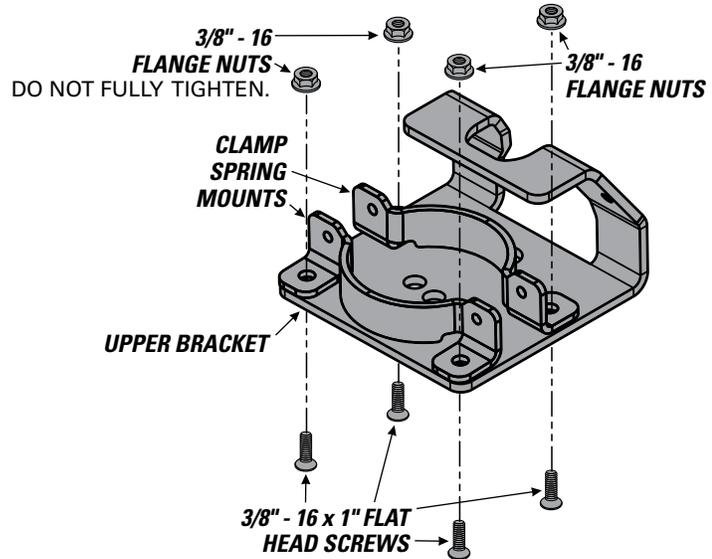
# 1



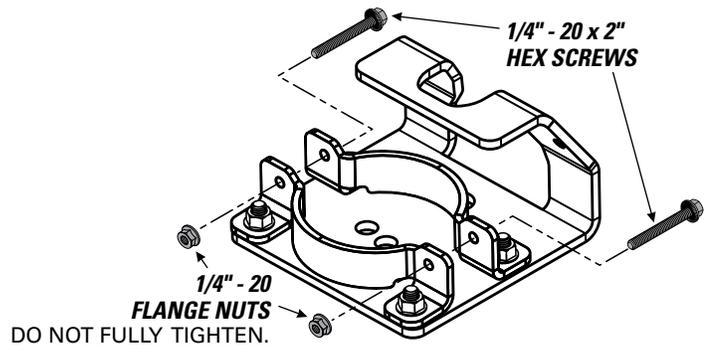
- Using the flat head screws and flange nuts, loosely bolt clamp spring mounts to the upper bracket, as shown. **DO NOT TIGHTEN AT THIS POINT.**



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



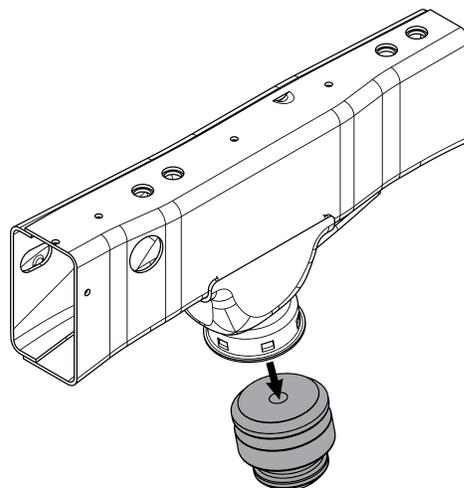
- Install the hex screws and flange nuts, as shown. **DO NOT TIGHTEN AT THIS POINT.**



## REMOVE THE EXISTING JOUNCE BUMPER

# 2

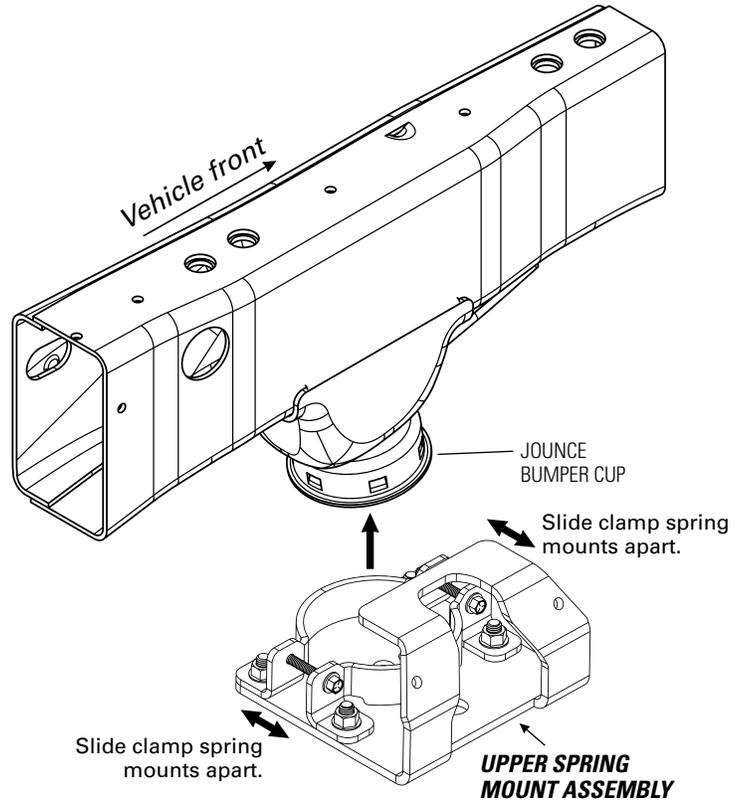
- Use a pry bar or flat head screwdriver to pry out the existing jounce bumper.



# 3

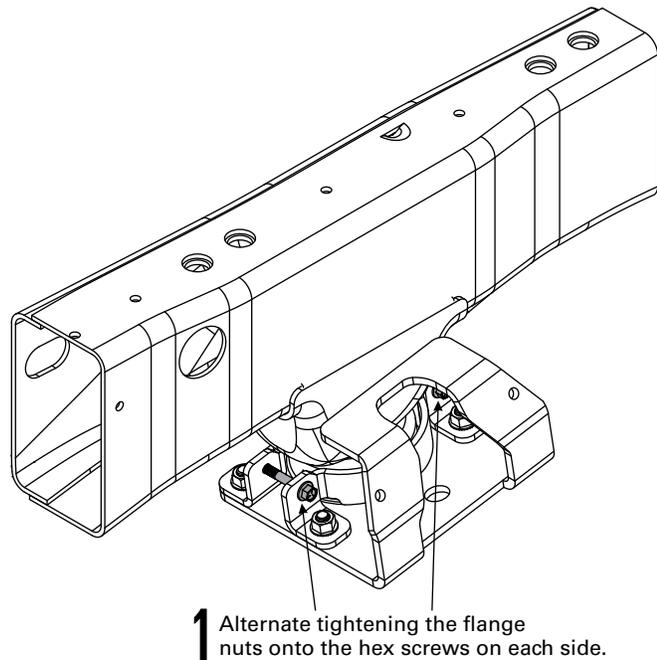
## INSTALL UPPER SPRING MOUNT ASSEMBLY TO JOUNCE BUMPER CUP

- 1 Using the upper mount assembly from step 1, slide clamps so that they are farthest apart and place over the jounce bumper cup.

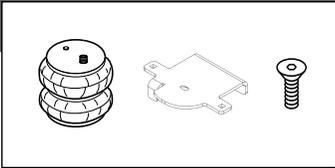


- 2 Press the upper mount assembly tight against the bottom of the jounce bumper cup, **assuring there is no gap.**

- 3 Slowly and evenly tighten hex screws and flange nuts on each side of clamp until the upper mount assembly is securely attached to jounce bumper cup.



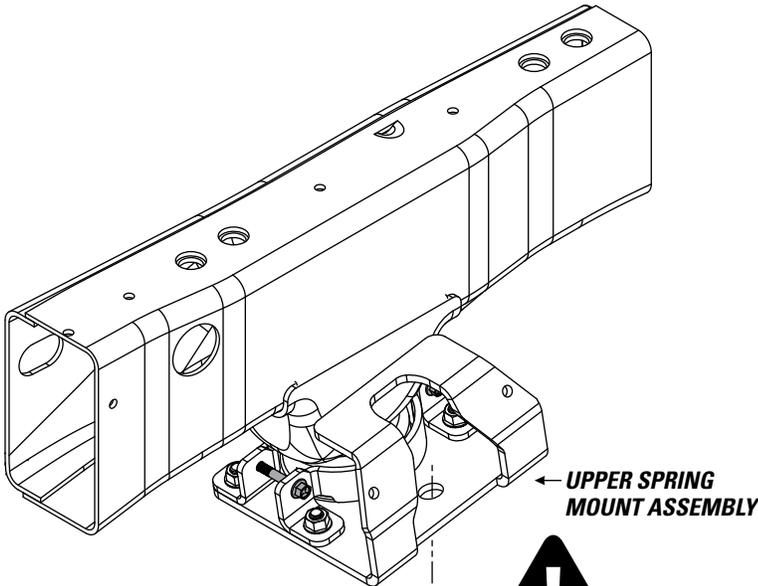
ASSURE THERE IS NO GAP BETWEEN THE TOP OF THE UPPER BRACKET AND THE BOTTOM OF THE JOUNCE BUMPER CUP.



INSTALLING THE RIGHT SIDE? REMEMBER TO INSTALL THE HEAT SHIELD IN STEP 7 FIRST!

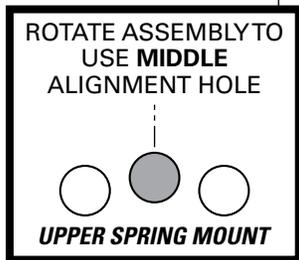
**1** Fasten the lower bracket to the air spring using the flat head bolt, as shown. **DO NOT FULLY TIGHTEN IN THIS STEP.**

**2** Dry fit into place, assuring the alignment pin is fully seated into the middle hole on the upper spring mount assembly.



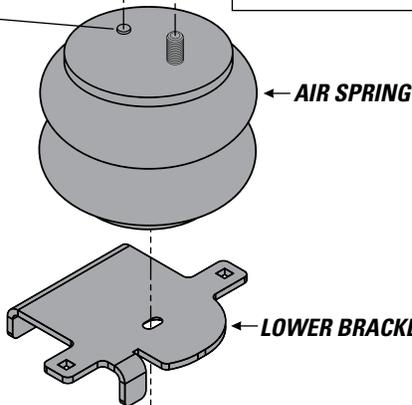
← UPPER SPRING MOUNT ASSEMBLY

**VIEW FROM BELOW**



ALIGNMENT PIN ON AIR SPRINGS MUST BE INSTALLED TO FULLY SEAT INTO THE MIDDLE 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!**

ALIGNMENT PIN

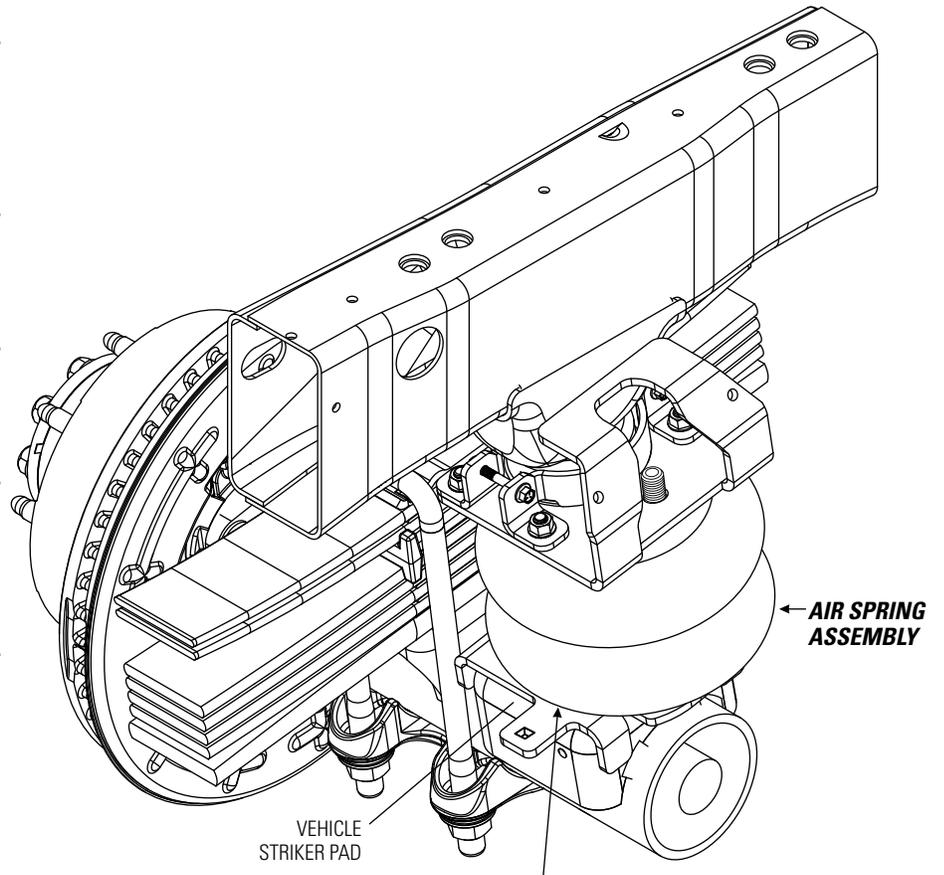


← AIR SPRING

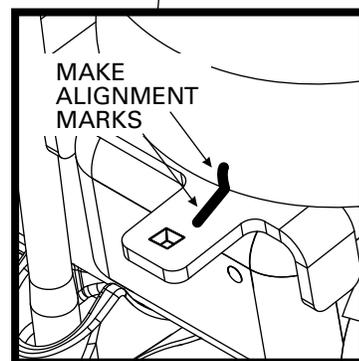
← LOWER BRACKET

← 3/8" - 16 x .625" FLAT HEAD BOLT  
DO NOT FULLY TIGHTEN IN THIS STEP.

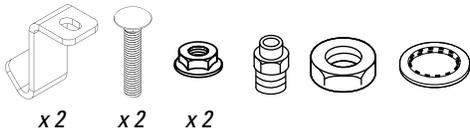
- 1 Position the lower bracket so that it sits squarely on the jounce bumper striker pad.
- 2 Assure that the alignment pin is fully seated in the middle hole, as noted in step 4.
- 3 Make alignment marks, as shown.
- 4 Remove air spring assembly.
- 5 Assuring your marks are aligned, fully tighten the flat head bolt to secure the lower bracket to the air spring.
- 6 Fit the air spring assembly back into position.



ALIGNMENT PIN ON AIR SPRINGS MUST BE INSTALLED TO FULLY SEAT INTO THE MIDDLE 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!



## INSTALL HOOK SPRING MOUNTS &amp; SECURE AIR SPRING

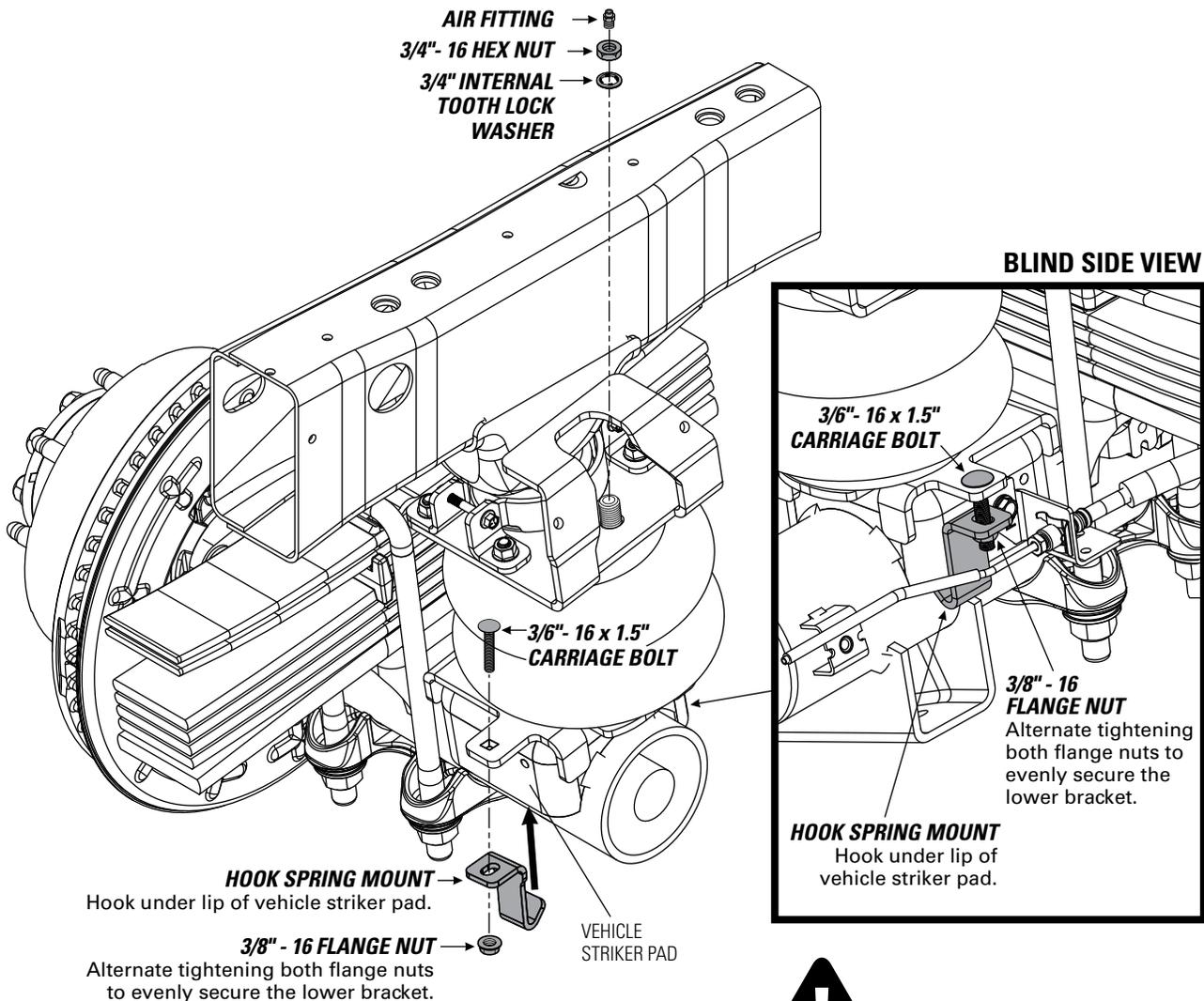


**1** Assure that the alignment pin is fully seated in the middle hole, as noted in step 4.

**2** Fasten the air spring to the upper spring mount assembly, as shown.

**3** Install the hook spring mounts, as shown. Assure that the mount hooks under the edge of the striker pad.

**4** Slowly and evenly tighten the nut on each carriage bolt until lower bracket is secure.



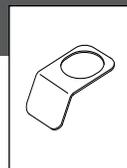
USE YOUR HAND TO CHECK FOR THE PROPER CLEARANCE AROUND THE AIR SPRING. IF YOUR HAND DOES NOT FIT BETWEEN THE AIR SPRING AND OTHER COMPONENTS, IT WILL RUB!



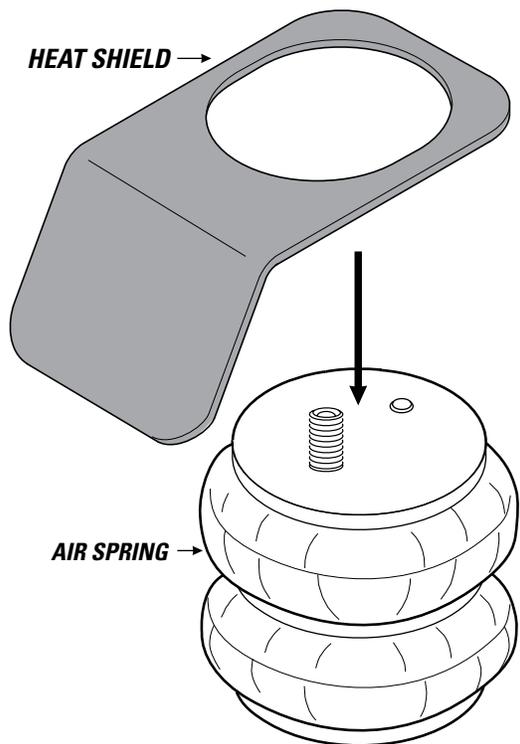
**AWESOME!** You're done with the left side. Go back to step 1 and repeat the steps for the right side installation, then continue to step 7.

# 7

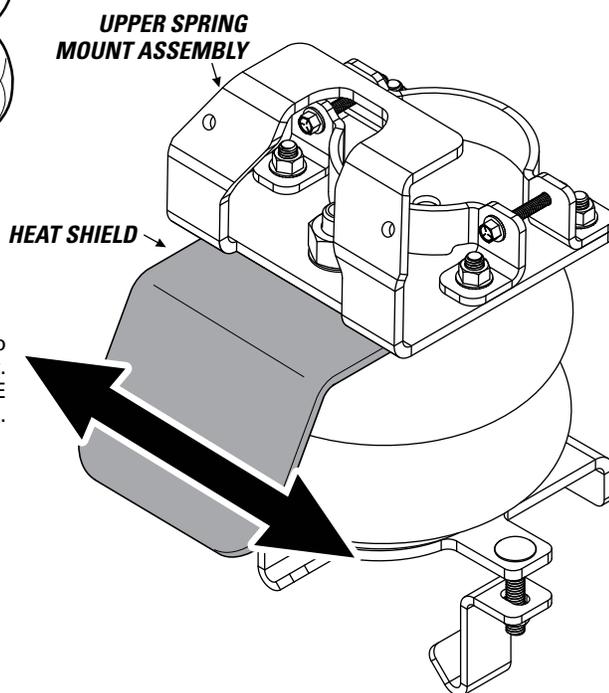
## INSTALL THE HEAT SHIELD



- 1 Secure the heat shield by clamping it between the air spring and upper spring mount assembly.



THE HEAT SHIELD IS INSTALLED ON THE RIGHT SIDE OF THE VEHICLE ONLY!

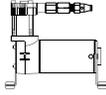
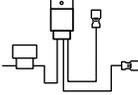
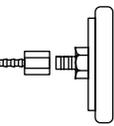
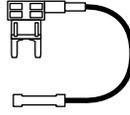


Position heat shield to closest point of exhaust. DO NOT PLACE DIRECTLY ABOVE AXLE.

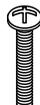
# SECTION 2 PARTS

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

## AIR ACCESSORY CONTENTS

PT # 7550	 x1 SINGLE AIR CONTROL PANEL	PT # 9523	 x1 AIR COMPRESSOR	PT # 9307	 x1 RELAY HARNESS
PT # 9416	 x1 AIR LINE TUBE (30 FEET)	PT # 9350	 x1 AIR FILTER AND FITTING	PT # 7543	 x1 IGNITION FUSE TAP

## 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 # 3088	 x7 10-32 LOCK NUT	PT # 9083	 x2 WIRE CONNECTOR	PT # 3055	 x1 1/8" NPT MALE 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

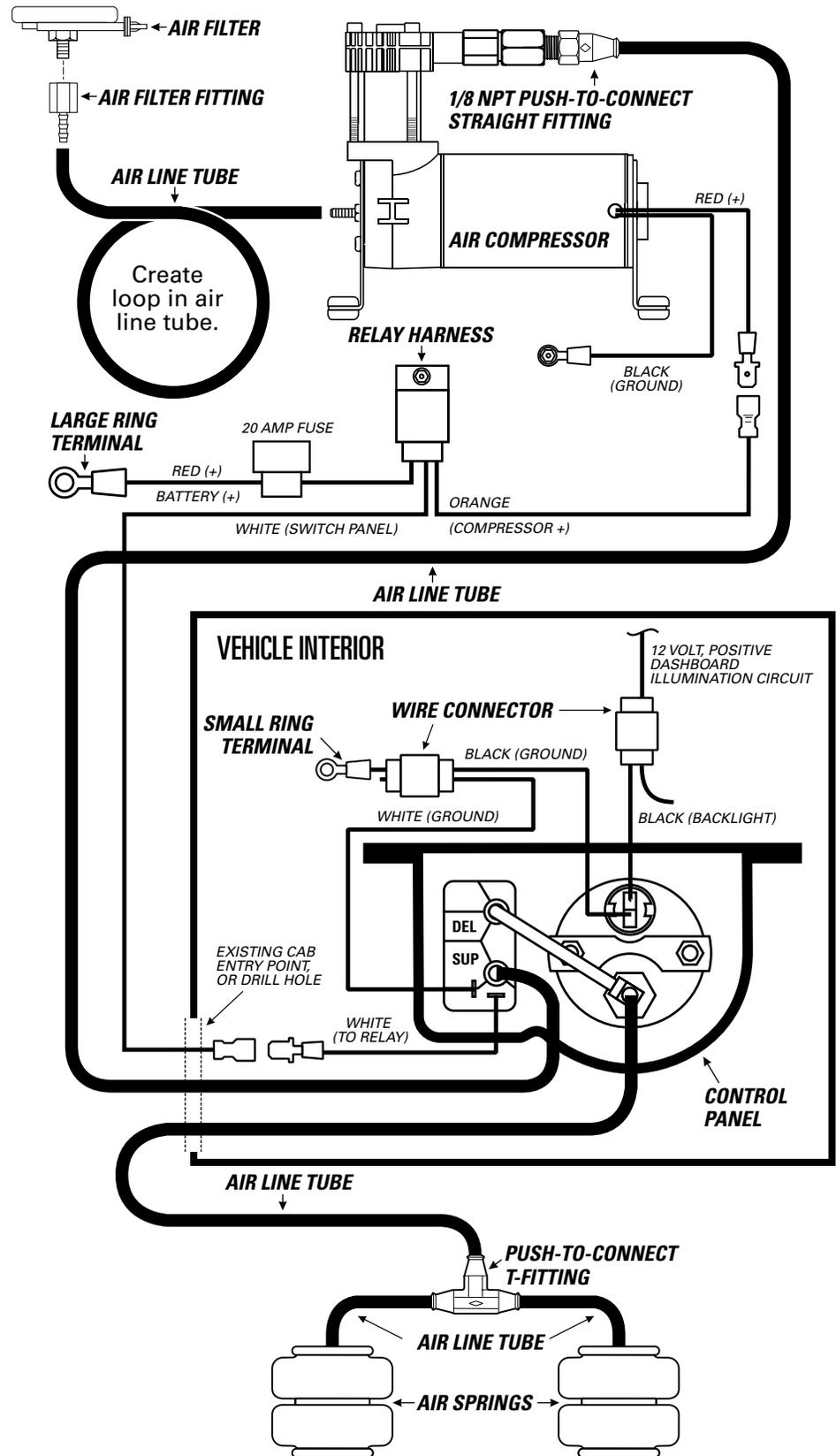
PAGE **18** INSTALL RELAY HARNESS

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

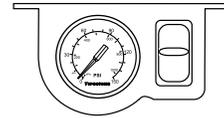


# PLANNING THE INSTALL

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

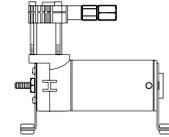
## **DETERMINE THE MOUNTING LOCATION FOR THE CONTROL PANEL**

- 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.



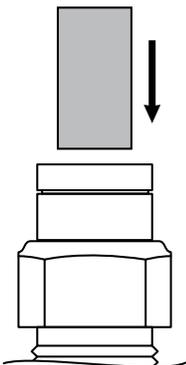
## **TAPE ALL ELECTRICAL CONNECTIONS**

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

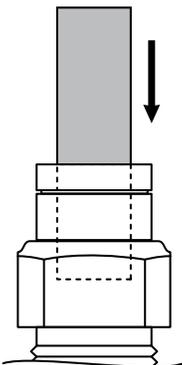
## **USING PUSH-TO-CONNECT FITTINGS FOR AIR LINES**

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

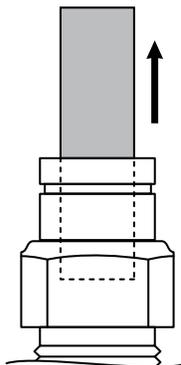
- 1** Insert end of air line tube into air fitting.



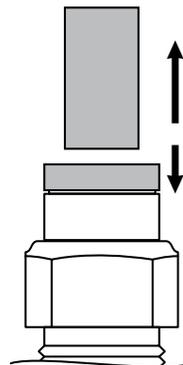
- 2** Push air line tube into air fitting as far as possible.



- 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.

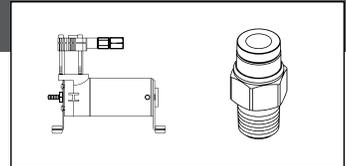


**Removal Tip:** Use a 1/4", 5/16", or 6mm open-ended wrench to push the collar down.

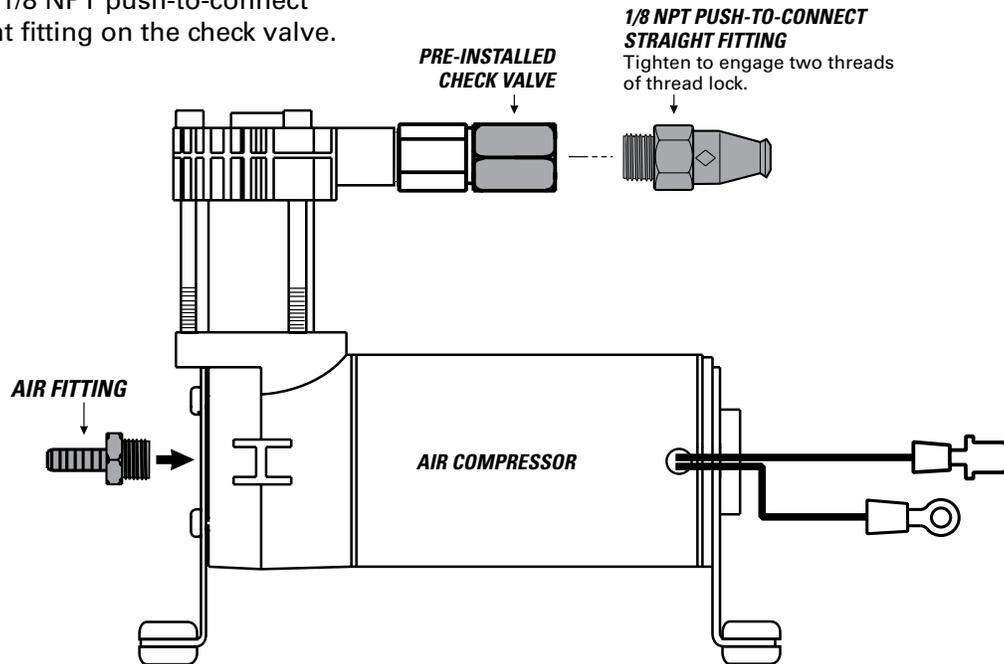
# 1

## PREPARE THE AIR COMPRESSOR

*NOTE: Air compressor can be mounted facing any direction.*



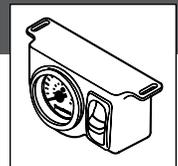
- 1 Install 1/8 NPT push-to-connect straight fitting on the check valve.



# 2

## DRILL HOLES FOR CONTROL PANEL INSTALLATION

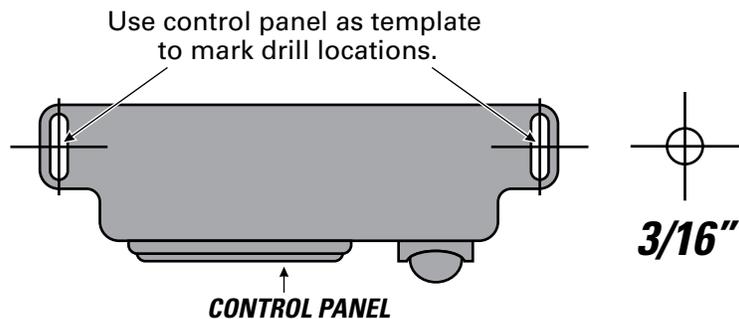
Use the location you selected during the planning the installation step on Page 12.

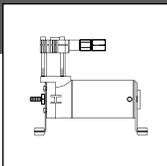


- 1 Using the control panel slots as a template, mark two drill locations with a punch or marking tool.

- 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.

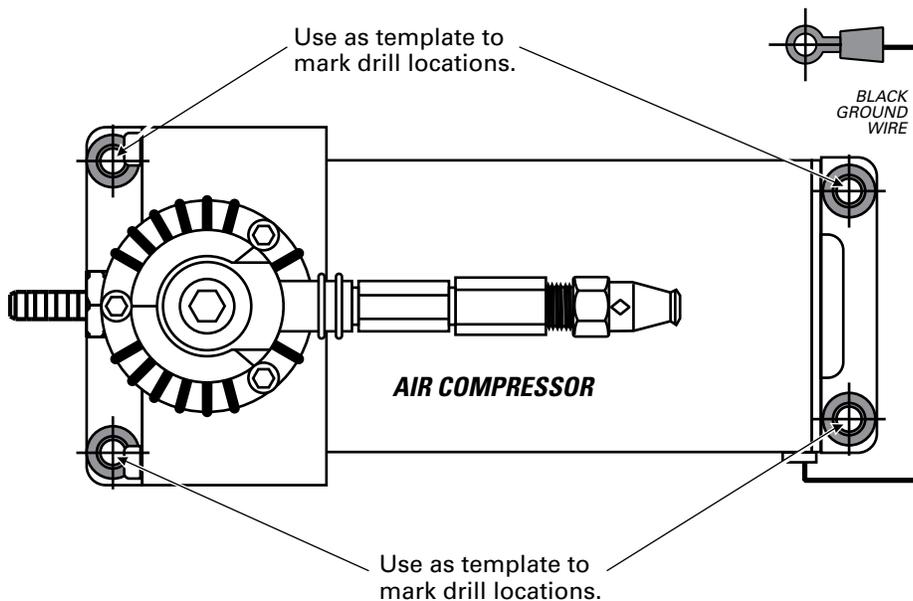


CHECK SURROUNDING AREA AND BACK SIDE OF MOUNTING LOCATION TO AVOID DRILLING INTO EXISTING LINES OR WIRING.

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

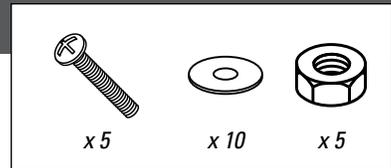
**2** Mark ground wire fastening location within reach of the ground wire ring terminal.

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



# 4

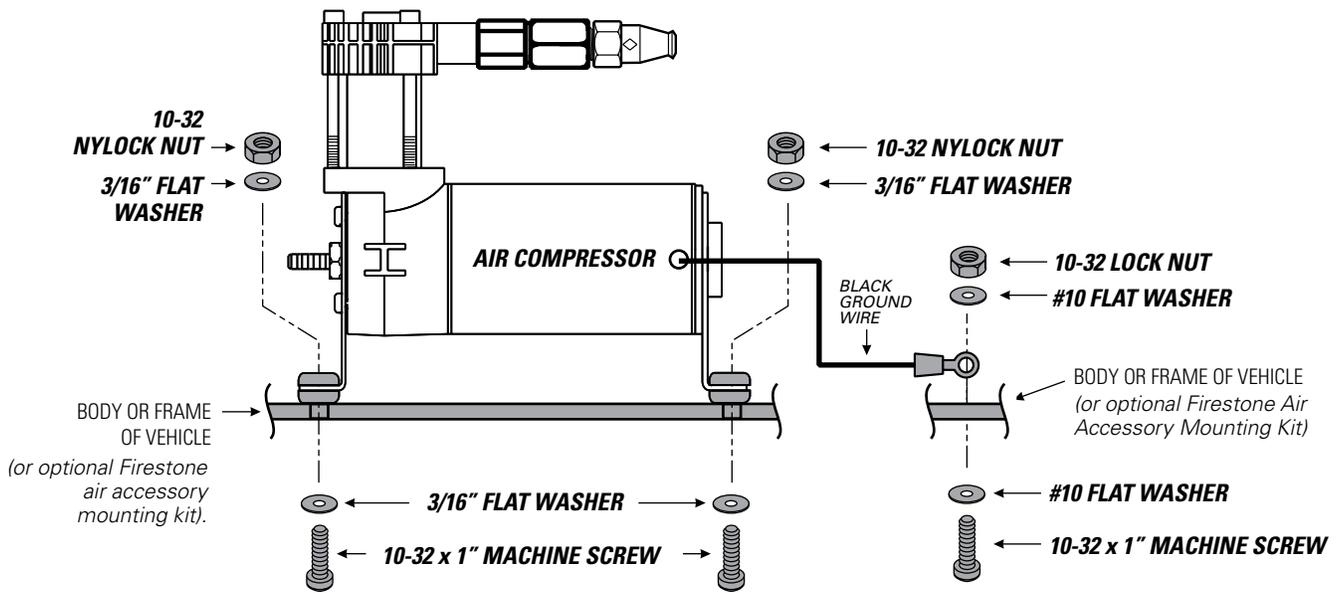
## INSTALL AIR COMPRESSOR



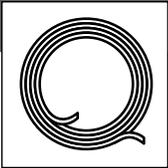
DO NOT OVER TIGHTEN MOUNTING BOLTS AND NUTS. TOO MUCH TORQUE CAN CRUSH THE BRASS INSERTS AND RUBBER ISOLATORS.

**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.

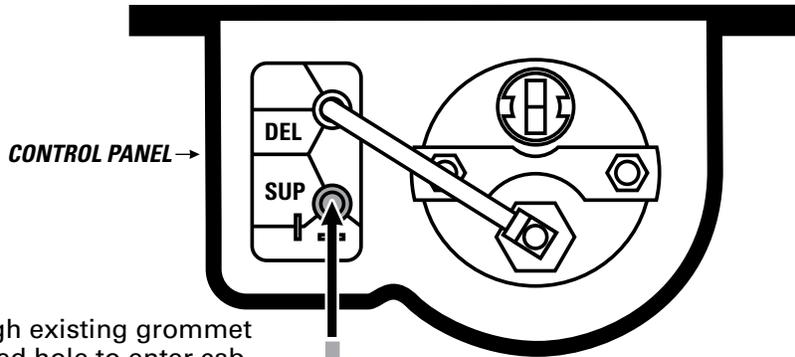


**2** Install the air line tube end onto the barbed fitting on the back of the control panel switch as shown.

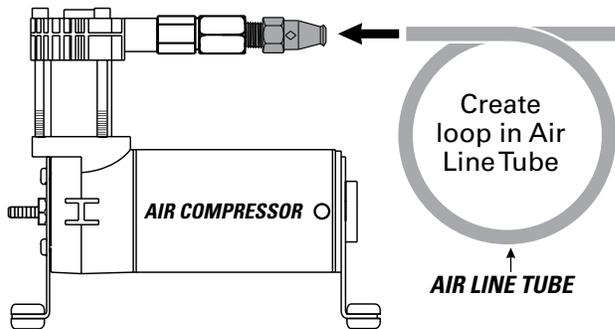


FOR PROPER INSTALLATION, SOAK AIR LINE TUBE ENDS IN HOT WATER BEFORE INSTALLING ONTO BARBED FITTINGS.

**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**

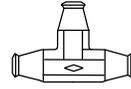
Fold or kink the air line tube. Cut the air line tube at an angle. Use pliers, scissors, snips, saws, or side cutters.

PROPER AND IMPROPER CUTS IN THE AIR LINE TUBE

<p>Square cut AIR LINE TUBE 90°</p>	<p>AIR LINE TUBE</p>	<p>AIR LINE TUBE</p>	<p>AIR LINE TUBE</p>
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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.

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



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

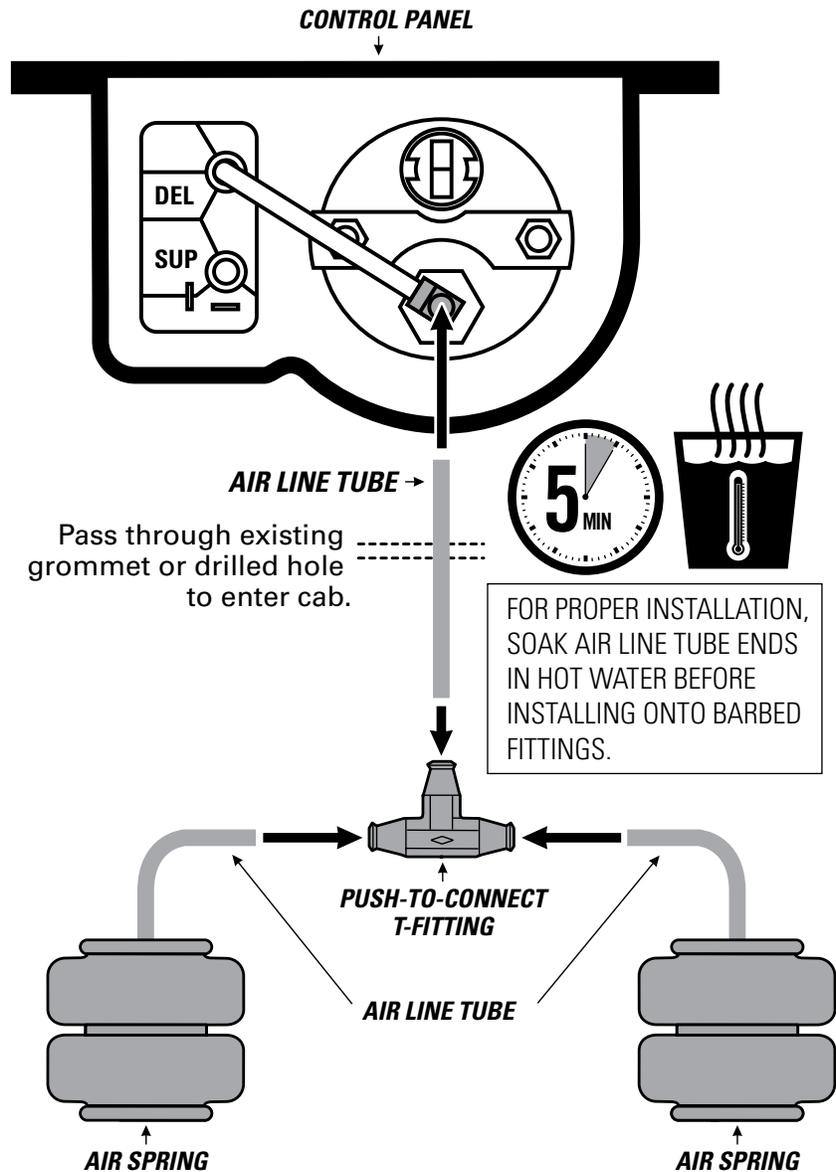


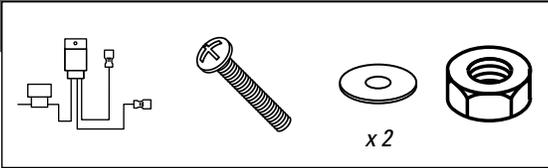
- 2 Install the air line tube end onto the barbed fitting on the back of the control panel pressure gauge as shown.

- 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.

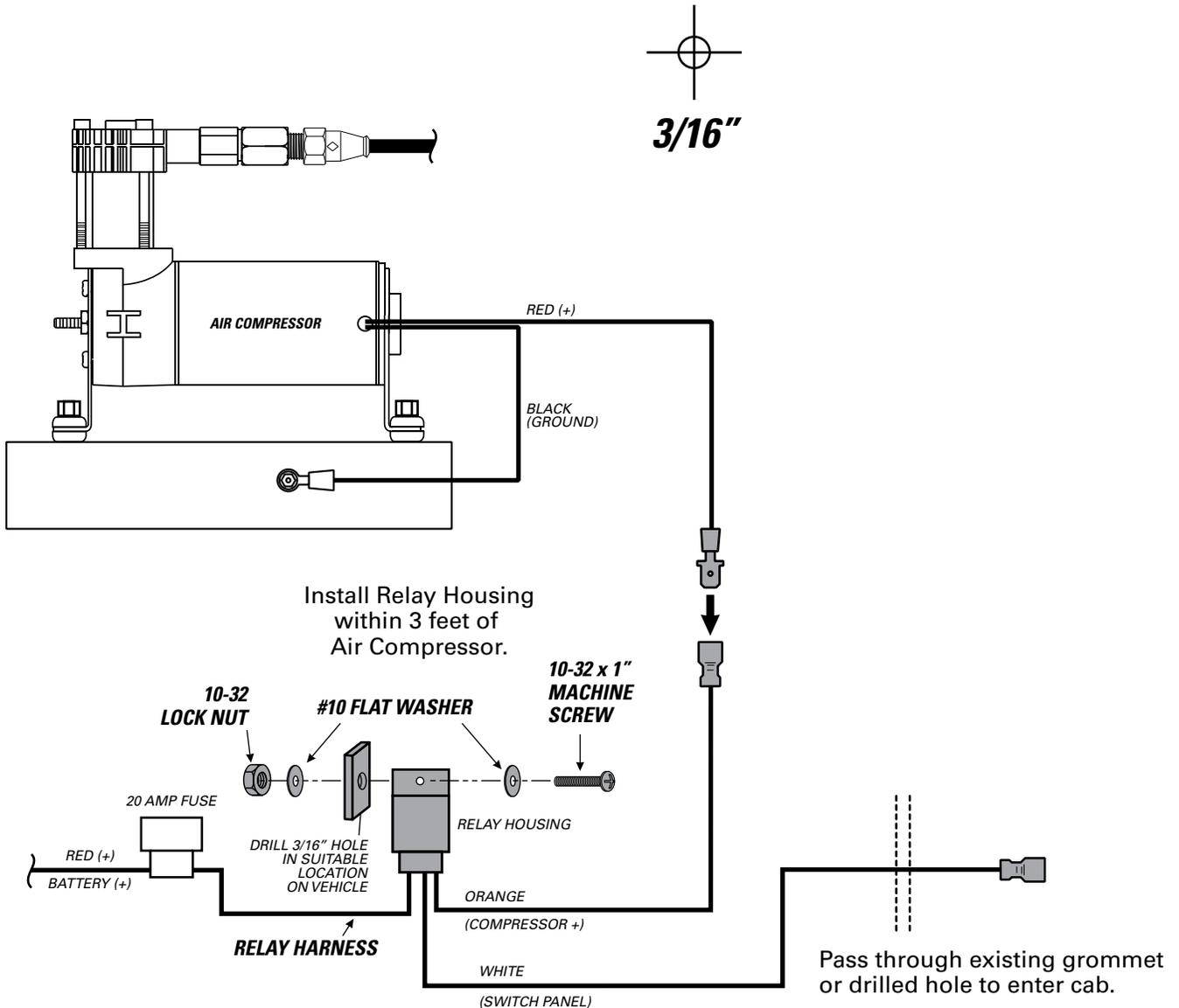




**1** Select a safe location within 3 feet of the air compressor.

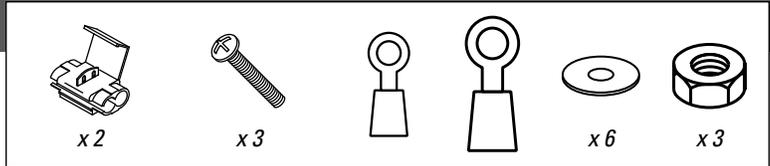
**2** Mark and drill a 3/16" hole to mount the relay housing on the relay harness. Secure with fasteners shown.

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



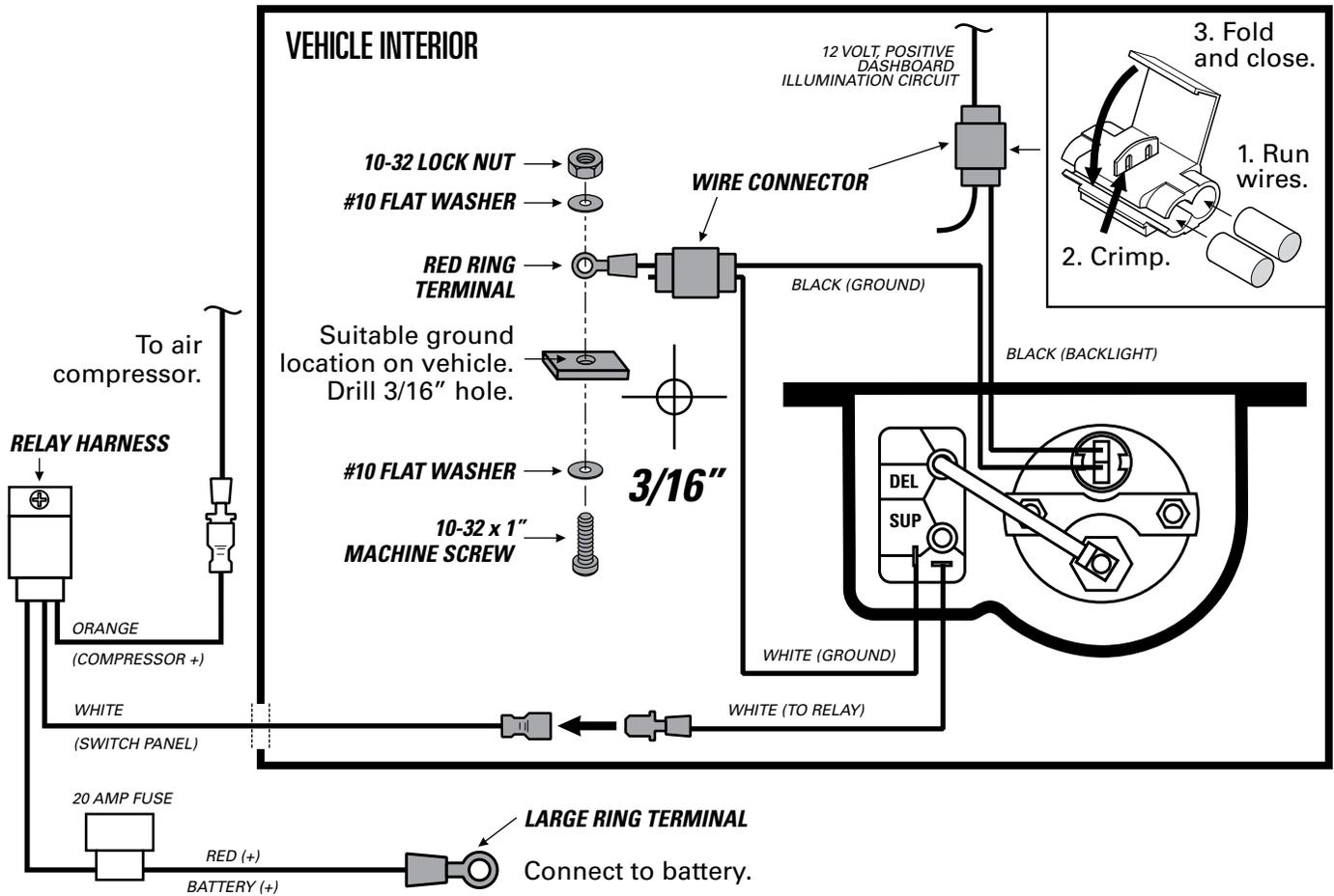
# 8

## FINISH WIRING AND INSTALLATION

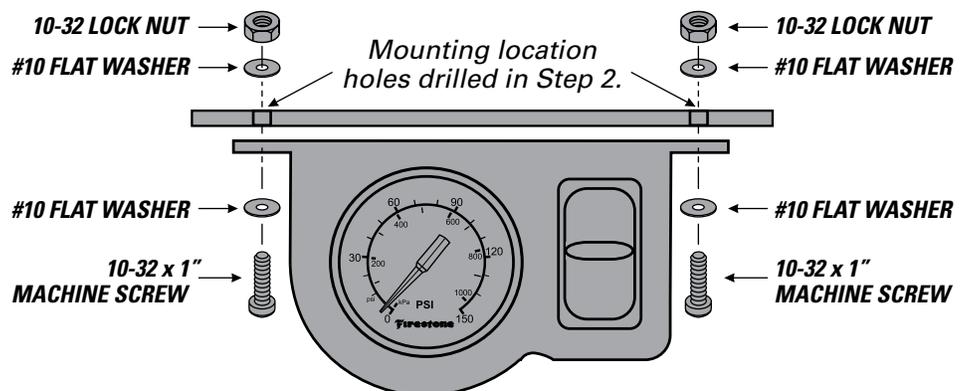


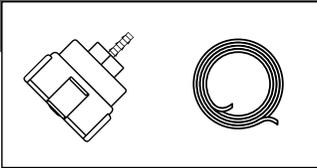
**1** Connect wires, install ring terminals and wire connectors as shown below.

**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.

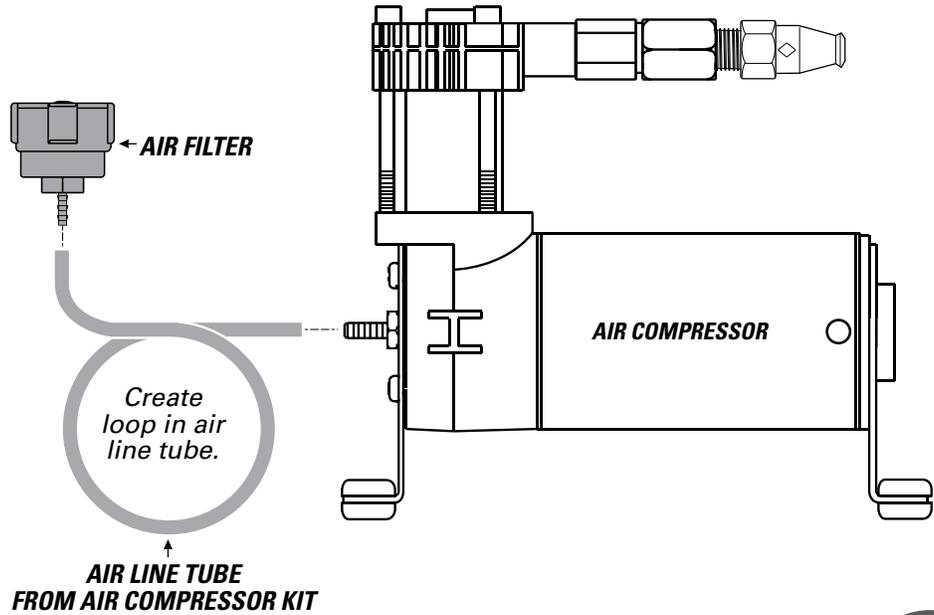
**1** Fully secure the air filter barb into the air line tube from the air compressor kit.

**2** Press air line tube onto the barb on the air compressor air fitting until fully seated. Assure you create a loop in the air line tube, as shown, when securing it to the vehicle.

**3** Periodically check the air filter during operation. When the air filter is dirty and needs to be replaced, contact an Authorized Firestone dealer to purchase a new one.



FILTER LIFE WILL VARY BASED ON ENVIRONMENTAL CONDITIONS. PROTECT THE AIR COMPRESSOR BY CHANGING THE AIR FILTER MORE FREQUENTLY IN DUSTY CONDITIONS.



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



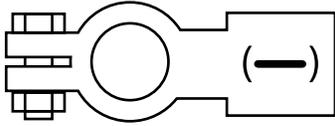
USING SUPPLIED NYLON TIES, SECURE ALL WIRING AND AIR LINE TUBE IN A MANNER THAT DOES NOT OBSTRUCT YOUR VIEW OR ABILITY TO SAFELY OPERATE THE VEHICLE.

# 10

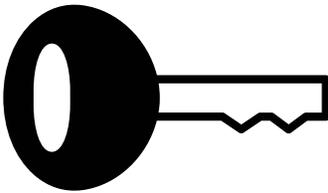
## TEST THE SYSTEM

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

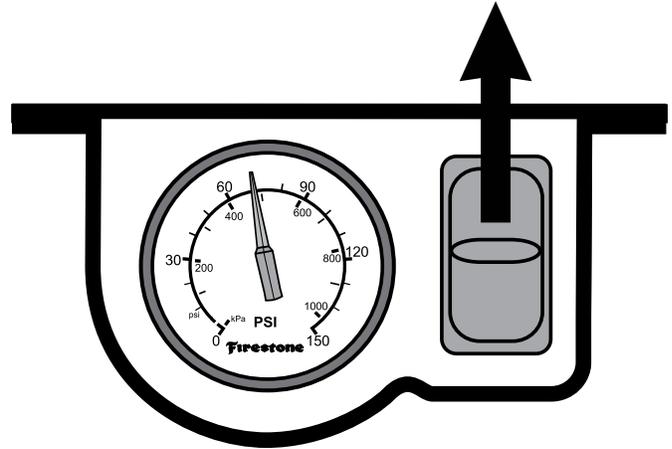
- 1** Re-attach the negative battery cable.



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



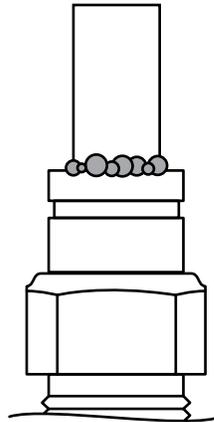
- 3** Push paddle switch up to inflate the air springs to 70 PSI.



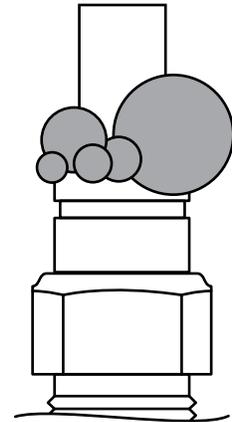
- 4** Spray fittings with soap and water mixture.



- 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.

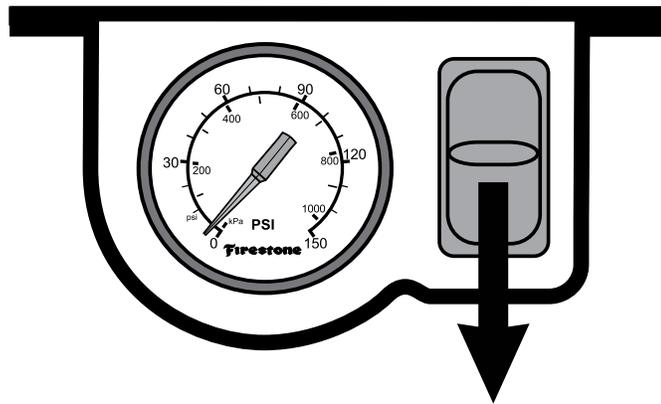


EXHAUST ALL AIR FROM THE SYSTEM PRIOR TO RELEASING AIR TUBES FROM AIR FITTINGS.

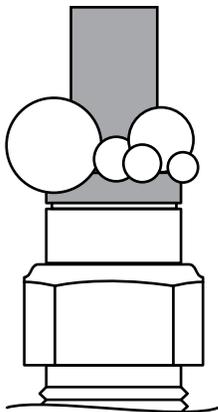


- 1** Push paddle switch down to release all air pressure from the air springs.

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.

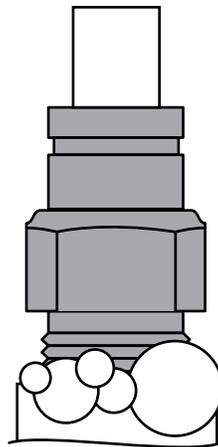


#### LEAK AT AIR LINE TUBE AND AIR FITTING



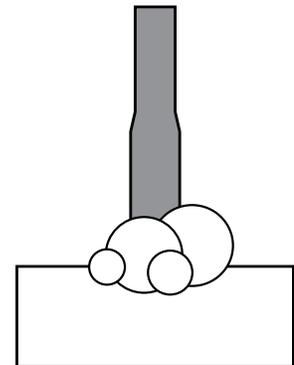
Release air line tube (see page 12). Review proper cuts and procedures in Step 5. Repeat installation steps.

#### 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 or you can also warm tube with a hair dryer or heat gun on LOW. DO NOT over heat tube.** 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.

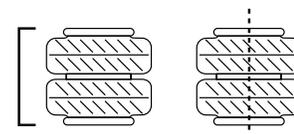


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## BEFORE YOU DRIVE, CONFIRM THE FOLLOWING:

- 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?
- Put your paper work back into the sleeve and keep it in your glove compartment for future reference.
- You've been bagged...and now your suspension is Airide™ equipped! Show it off with the supplied decal!

5 1/2" - 6 1/2"



## NEED INSTALLATION HELP?

Email us at [rrtech@fsip.com](mailto:rrtech@fsip.com). Please include photos to help us better diagnose and understand any problems you may be experiencing.

# Firestone

Firestone Industrial Products

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