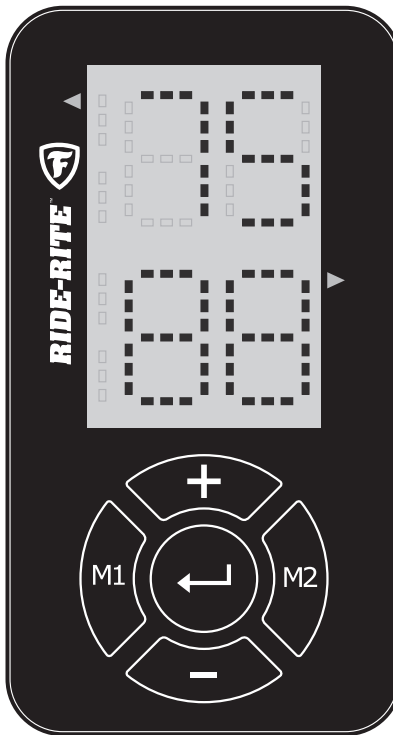




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# INSTALLATION INSTRUCTIONS



**Firestone**

*World's Number 1  
Air Spring.*



FIRESTONE INDUSTRIAL PRODUCTS COMPANY

# **IMPORTANT**

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

## **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.

## **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.

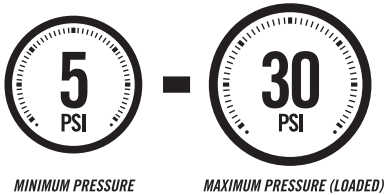
## **PRESSURE TO LOAD**

Be sure to review the load limits noted in the Air Spring Kit Installation Instructions (sold separately).

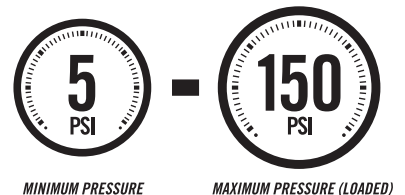
## **APPROPRIATE AIR PRESSURE**

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.

**ONCE INSTALLED SUCCESSFULLY, FOLLOW THE PRESSURE REQUIREMENTS FOR THE AIR SPRINGS.  
FOR FIRESTONE, GENERALLY:**




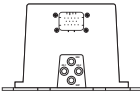
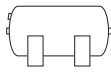


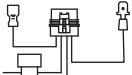

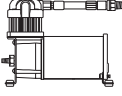

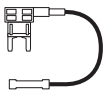

**RED LABEL AIR SPRING REQUIREMENTS:**
















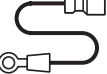


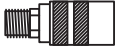

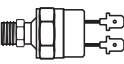
# PARTS

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

## MAIN KIT CONTENTS

PART # 9490		x1 WIRELESS CONTROLLER	PART # 9489		x1 ECU	PART # 9420		x1 2 GALLON AIR TANK
PART # 9491		x1 WIRE HARNESS	PART # 9194		x1 INFLATION HOSE	PART # 9419		x1 IGNITION ACTIVE WIRE HARNESS
PART # 9415		x1 AIR LINE TUBE (22 FEET)	PART # 9287		x1 AIR COMPRESSOR	PART # 9195		x1 INFLATOR AND GAUGE KIT
PART # 7543		x1 IGNITION FUSE TAP (Use Part # 2526 for replacement)	PART # 9301		x1 STORAGE BAG			

## A21-760-2592 HARDWARE PACK

PT # 0070		x4 3/8" - 16 x 1" HEX HEAD BOLT	PT # 3093		x4 10-32 x 3/4" MACHINE SCREW	PT # 3025		x1 PUSH-TO-CONNECT T-FITTING
PT # 0071		x8 3/8" FLAT WASHER	PT # 3067		x4 3/8" - 16 FLANGE LOCK NUT	PT # 3146		x1 BULKHEAD ASSEMBLY
PT # 3083		x1 1/4" NPT FEMALE FITTING	PT # 3088		x11 10-32 NYLOCK NUT	PT # 3046		x3 AIR FITTING
PT # 3086		x14 3/16" FLAT WASHER	PT # 9361		x2 SEALED RELAY	PT # 9275		x4 VELCRO TAB
PT # 3421		x3 10-16 x 3/4" SELF-TAPPING SCREW	PT # 9439		x1 FEMALE SPADE TO RING CONNECTOR	PT # 9036		x20 RED NYLON TIE
PT # 3087		x4 10-32 x 1" MACHINE SCREW	PT # 9196		x1 DRY COUPLER FITTING	PT # 0899		x4 THERMAL SLEEVE
PT # 9402		x1 SEALED PRESSURE SWITCH						

# CONTENTS AND OVERVIEW

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PAGE 5 PREPARE THE AIR COMPRESSOR AND TANK

PAGE 6 DRILL HOLES FOR AIR COMPRESSOR, ECU AND TANK

PAGE 7 INSTALL MAIN COMPONENTS

PAGE 8 INSTALL THE WIRING

PAGE 9 INSTALL THE AIR LINE TUBES AND FITTINGS

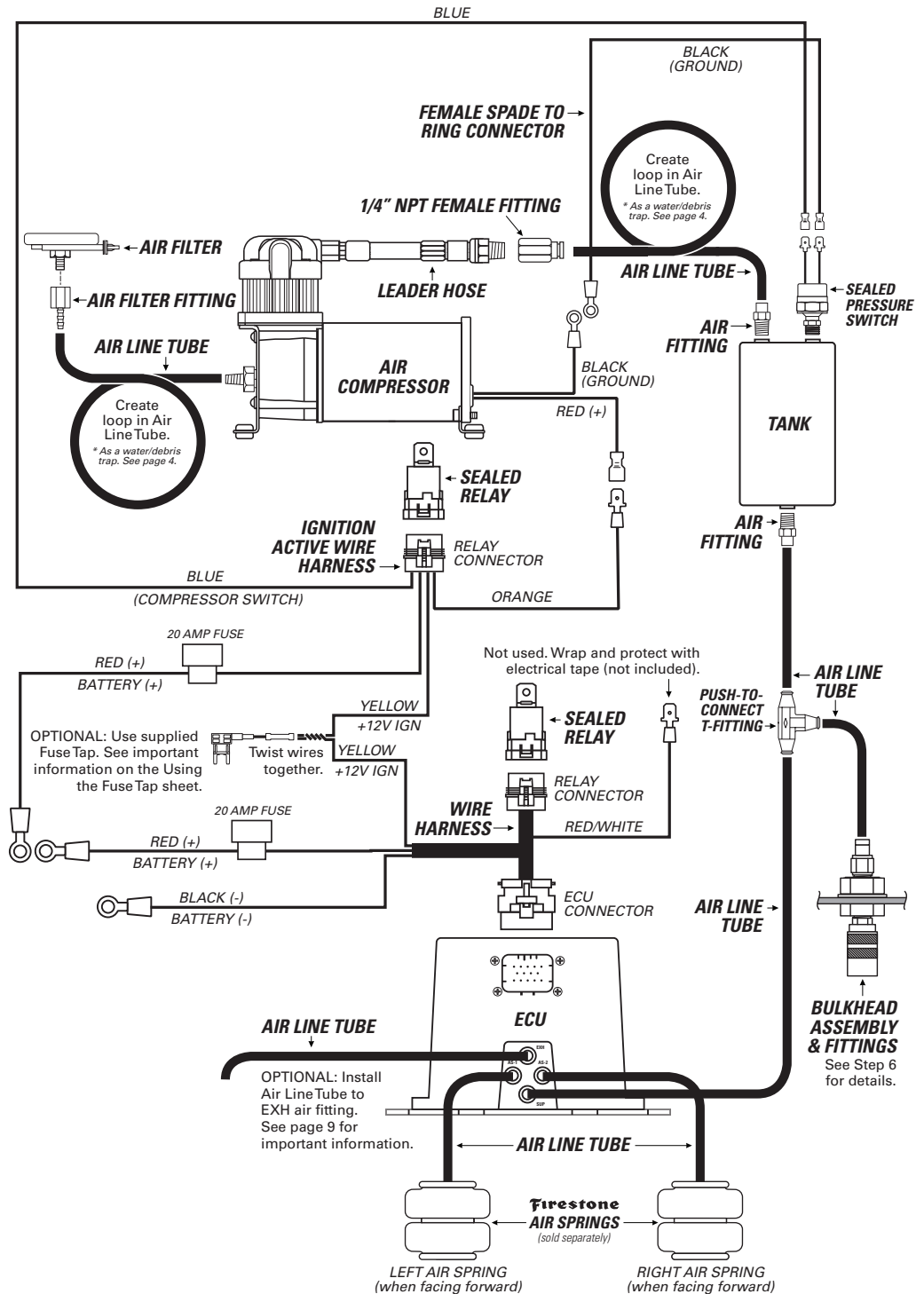
PAGE 10 INSTALL THE BULKHEAD ASSEMBLY AND USING THE INFLATOR

PAGE 11 ADJUSTING AIR PRESSURE AND UNITS

PAGE 12 WIRELESS CONTROLLER MEMORY SETTINGS AND ERROR CODES

PAGE 13 TEST THE SYSTEM

PAGE 14 FIX AN AIR LEAK

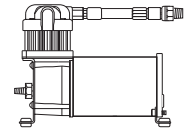


# PLANNING THE INSTALL

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

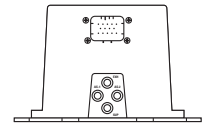
## **DETERMINE THE MOUNTING LOCATION FOR THE AIR COMPRESSOR**

- Provides ample air flow and is protected from airborne debris and moisture.
- Mount close enough to the ECU to allow Wire Harness connections to reach.
- If using the optional Firestone Air Accessory Mounting Kit, consider the guidelines above, and follow the kit's instructions.



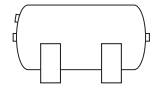
## **DETERMINE THE MOUNTING LOCATION FOR THE ECU**

- Mount close enough to the Air Compressor to allow Wire Harness connections to reach.
- Allow room for Air Line Tubes to connect to the air fittings on the ECU.
- Allow room for the 14-pin ECU connector to connect to the ECU.
- Allow room for the Air Line Tube to run without sharp curves or bends.
- Using supplied fasteners shown in Step 3 is recommended. If no other mounting option is available, see the sidebar on Step 2 for using the Large Nylon Ties.
- Select a location that is solid and secure on the body or frame of the vehicle, away from any moving parts, electrical or any other lines.



## **DETERMINE THE MOUNTING LOCATION FOR THE TANK**

- Mount close to the ECU, in an area protected from airborne debris and moisture.
- Allow room for Air Line Tubes to connect to the air fittings on the tank. See diagram to left.



## **PLAN INSTALLATION ROUTES FOR WIRING AND AIR LINES**

- Make sure the Wire Harness and Air Line Tubes are not exposed to sharp metal edges that can damage them.
- Use supplied Thermal Sleeves on Air Line Tubes when routing near heat sources.
- Use supplied Nylon Ties to secure Air Line Tubes and Wire Harness to the vehicle.
- Make a loop in the Air Line Tube where shown. This creates a water/debris trap that protects the Air Compressor.
- Measure twice, cut once!

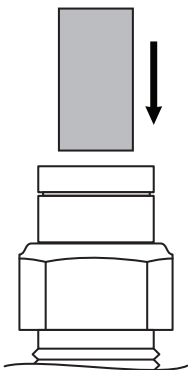
## **TAPE ALL ELECTRICAL CONNECTIONS**

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

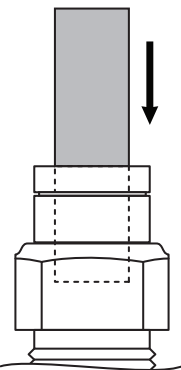
## **USING PUSH-TO-CONNECT FITTINGS FOR AIR LINES**

Your kit includes Push-to-Connect fittings to connect the Air Line Tubes to hardware. Use the instructions below when using the Air Line Tubes.

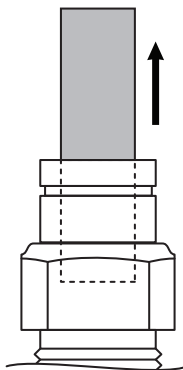
- 1** Insert end of Air Line Tube into air fitting.



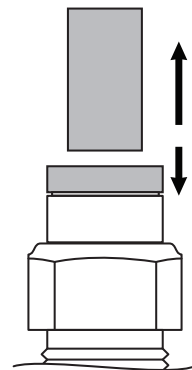
- 2** Push Air Line Tube into air fitting as far as possible.



- 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.

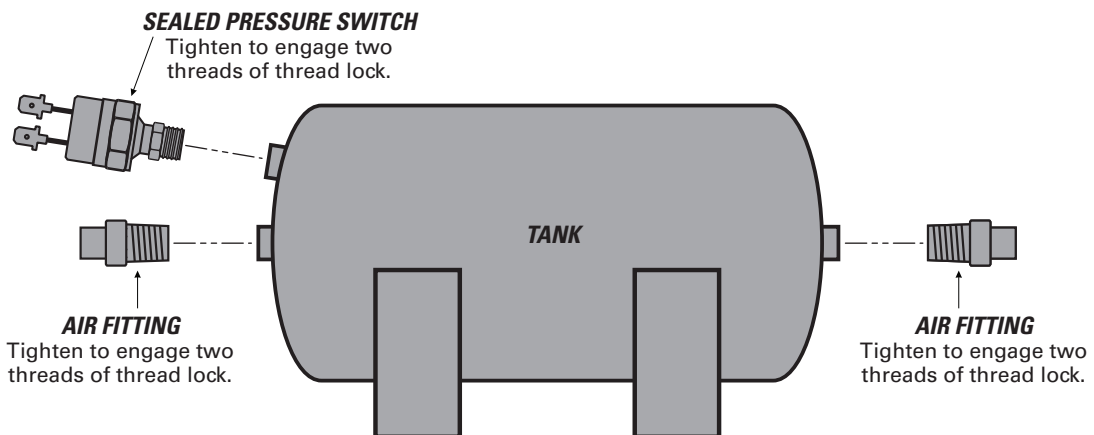
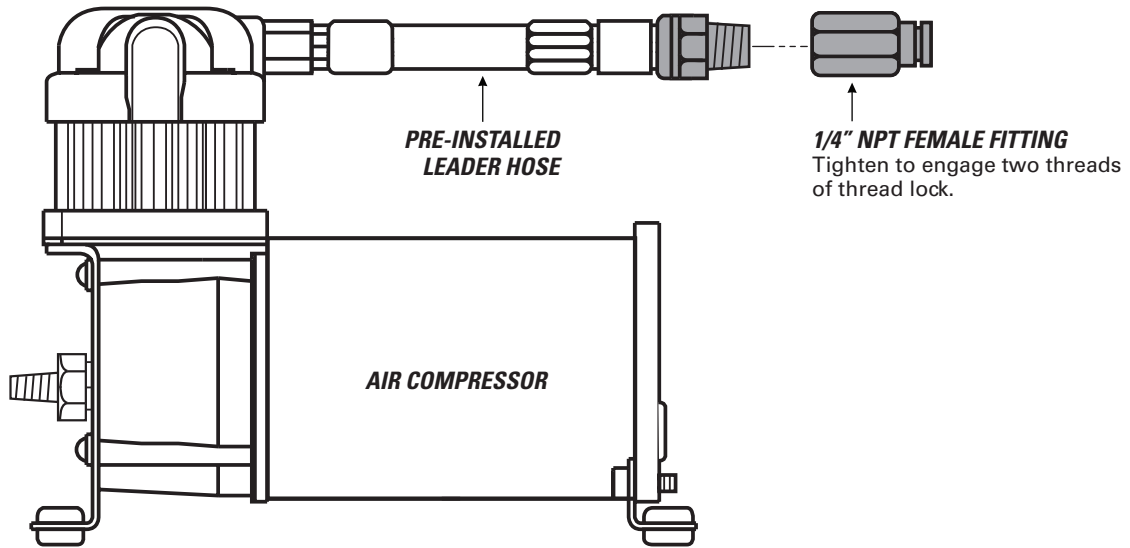
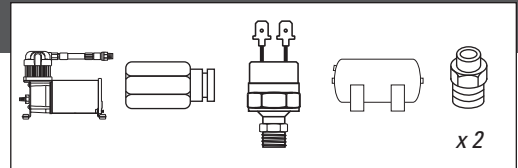


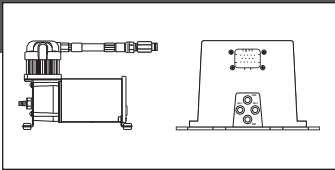
**Removal Tip:** Use a 1/4", 5/16", or 6mm open-ended wrench to push the collar down.

# 1

## PREPARE THE AIR COMPRESSOR AND TANK

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



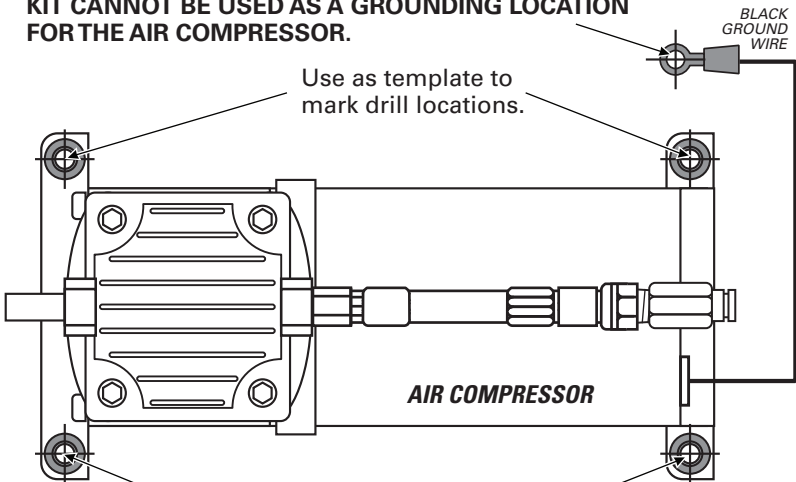


CHECK SURROUNDING AREA AND BACK SIDE OF MOUNTING LOCATION TO AVOID DRILLING INTO EXISTING LINES OR WIRING.

Drill within reach of the ground wire ring terminal on body or frame of vehicle. **AIR ACCESSORY MOUNTING KIT CANNOT BE USED AS A GROUNDING LOCATION FOR THE AIR COMPRESSOR.**



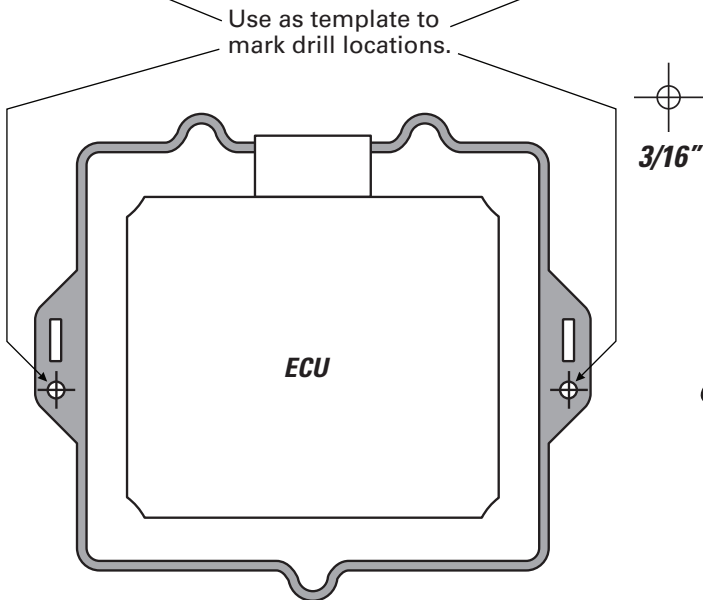
IF YOU ARE USING THE OPTIONAL FIRESTONE AIR ACCESSORY OR TANK MOUNTING KITS, SKIP THIS STEP AND REFER TO THE MOUNTING KIT'S INSTRUCTIONS.



**1** Using the Air Compressor and ECU as templates, mark drill locations as shown with a punch or marking tool. Follow guidelines below for tank mounting holes.

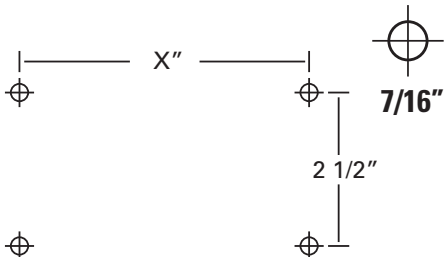
**2** Mark Air Compressor ground wire fastening location within reach of the ground wire ring terminal.

**3** Drill 3/16" diameter holes for the ECU and Air Compressor and 7/16" holes for the Tank. Remove any burrs and debris from drill holes.

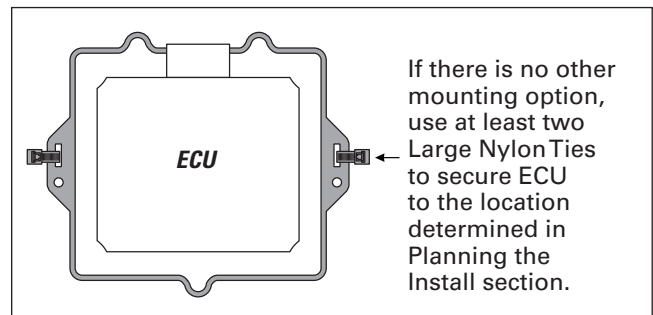


ASSURE THAT YOU INSTALL THE AIR COMPRESSOR AND ECU CLOSE ENOUGH SO THE CONNECTORS ON THE WIRE HARNESS WILL REACH THEM BOTH.

For tank mounts, make marks as shown below. The tank feet will mount at these locations.

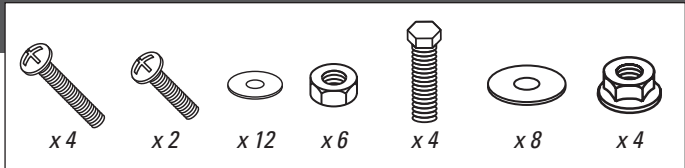


**OPTIONAL ECU MOUNTING**



# 3

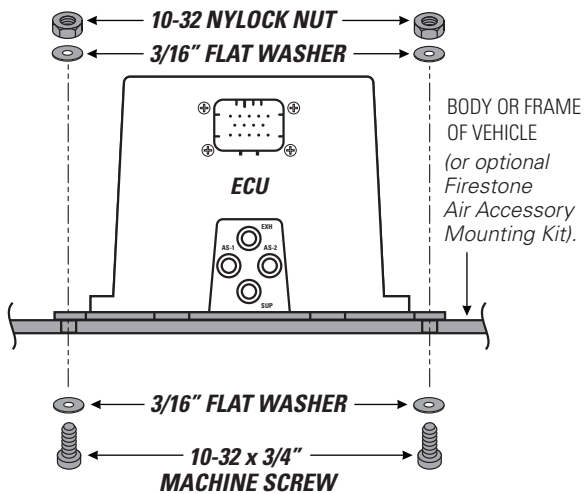
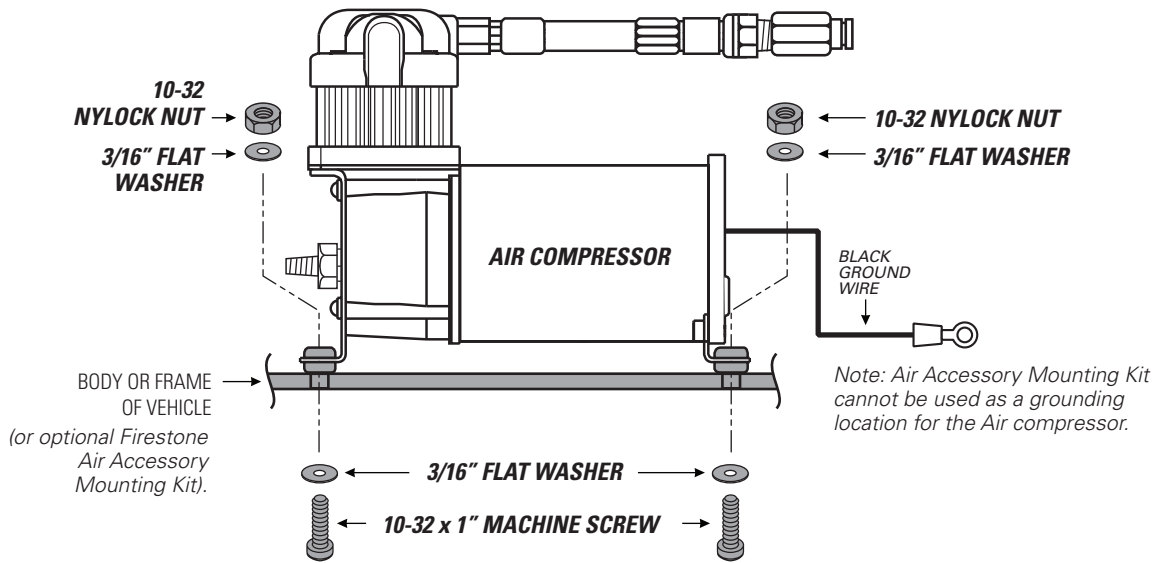
## INSTALL MAIN COMPONENTS



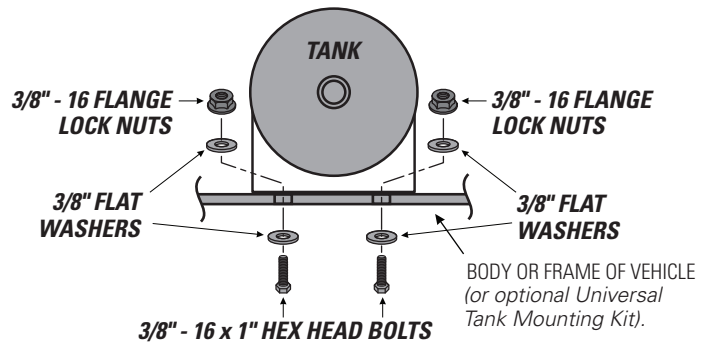
DO NOT OVER TIGHTEN MOUNTING BOLTS AND NUTS ON THE AIR COMPRESSOR. TOO MUCH TORQUE CAN CRUSH THE BRASS INSERTS AND RUBBER ISOLATORS.

**1** Mount the Air Compressor to the drill hole location using the supplied fasteners. DO NOT OVER TIGHTEN.

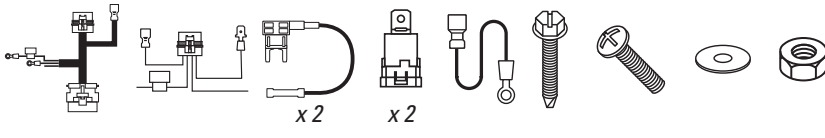
**2** Mount the ECU and Tank to the drill hole locations from Step 2 using the supplied fasteners.



Note: Self-tapping screws can be used instead of machine screws.





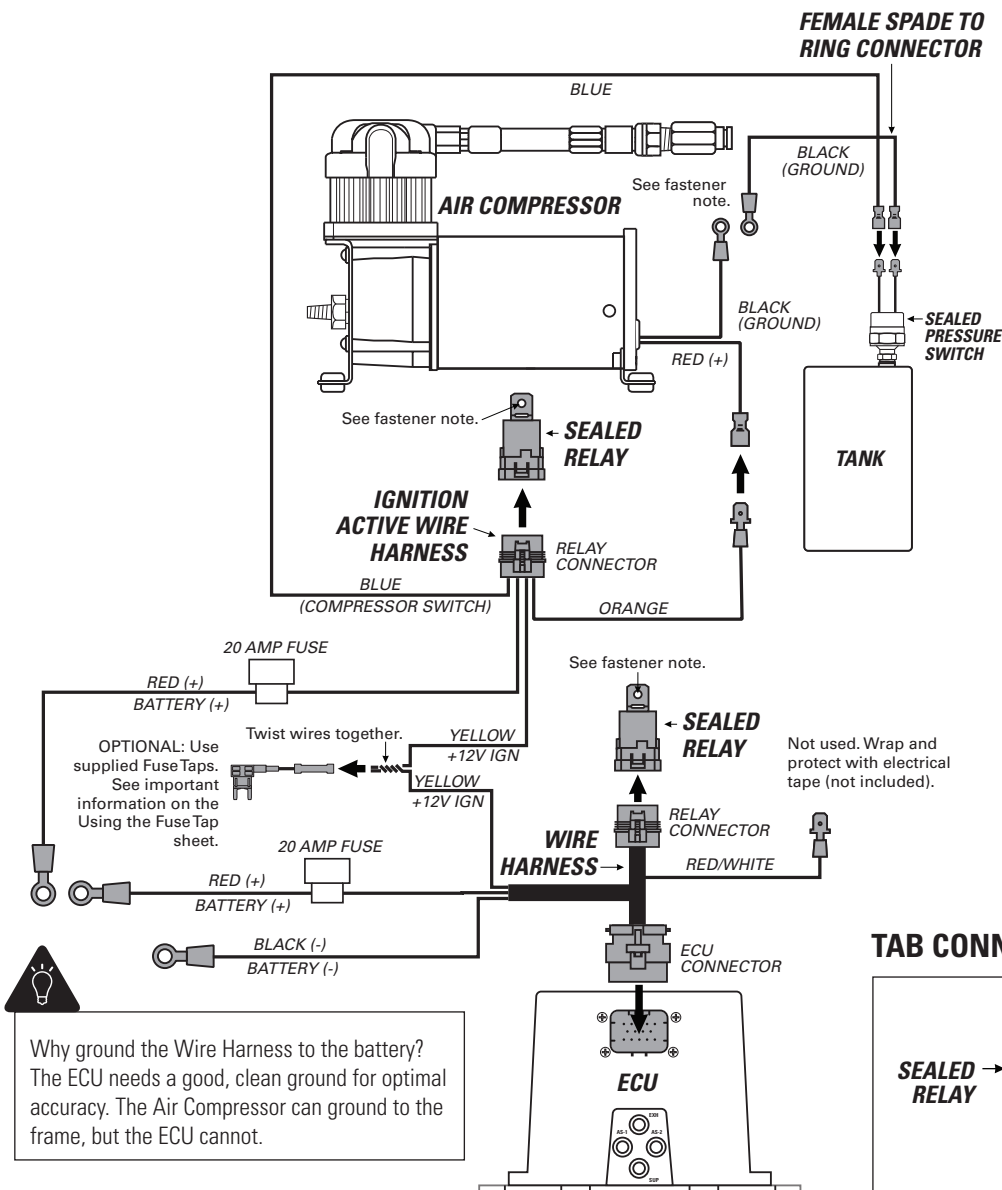
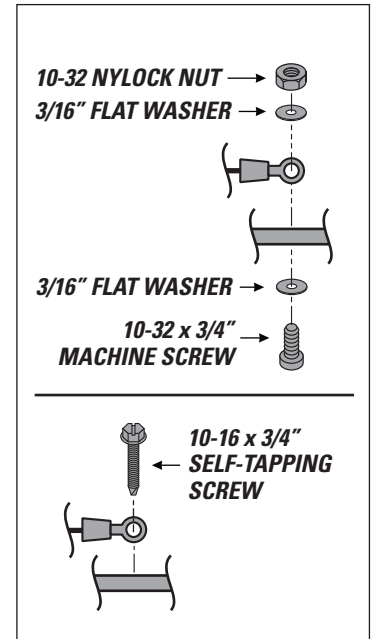


**1** Determine a suitable location to mount the Sealed Relays, assuring they will be within reach of the relay connectors on the Wire Harnesses.

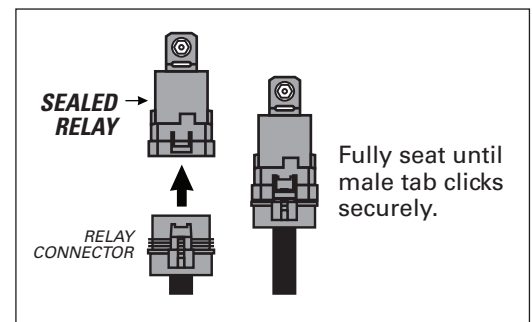
**2** Securely fasten the Sealed Relays. Relays can share common mounting location.

**3** Route the Wire Harness in the most protected manner possible, and securely make all connections as shown. Ground wires can share a common mounting location.

**GROUND AND RELAY FASTENER OPTIONS**

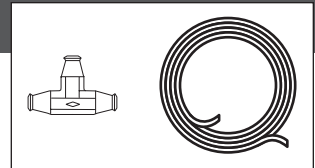


**TAB CONNECTOR EXAMPLE**



# 5

## INSTALL AIR LINE TUBES AND FITTINGS



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

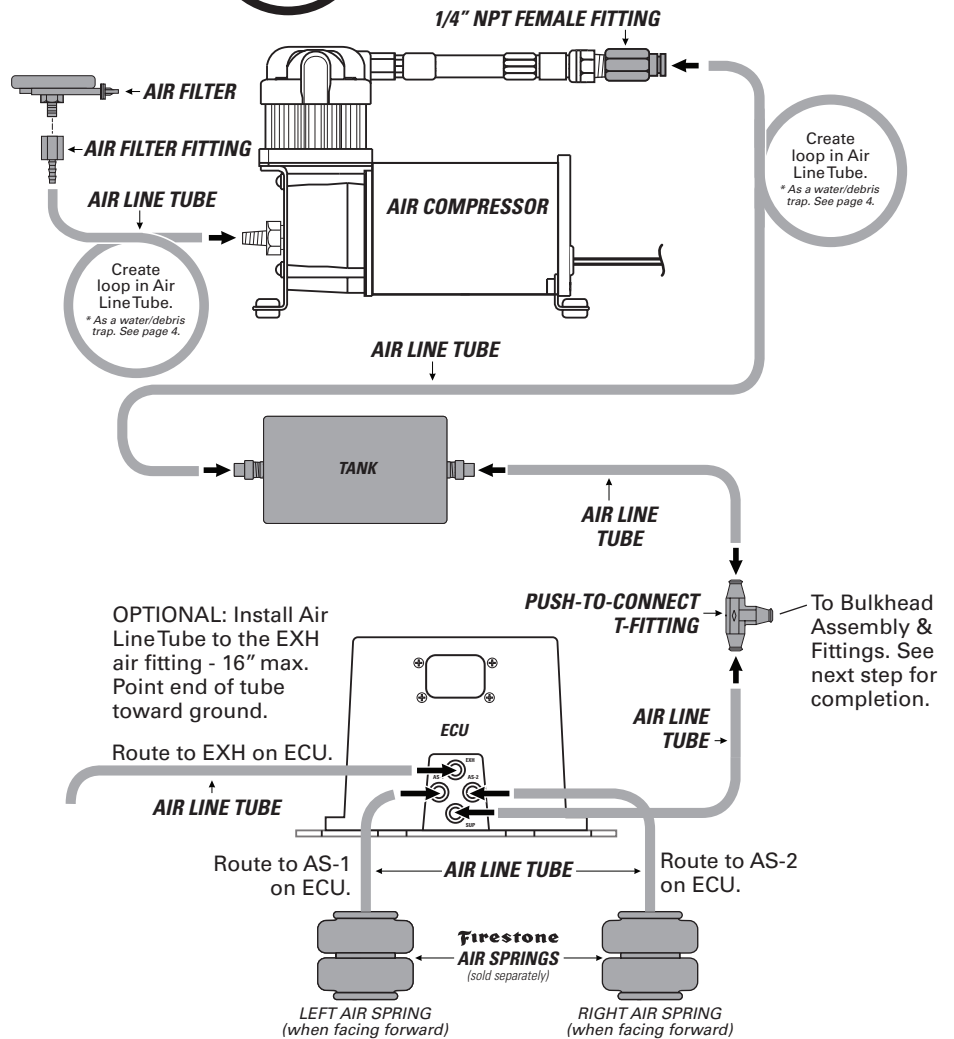


**1** Route the Air Line Tube from the 1/4" NPT Female Fitting to the Tank, leaving room to secure it safely. Use the guidelines on page 4 for proper Push-to-Connect Fitting install.

**2** Repeat Step 1 to route Air Line Tube from the ECU to the Air Springs. Use the AS-1 and AS-2 air fittings on the ECU.

**3** Route Air Line Tube to the remaining fittings as shown. See Step 7 to plan location of Bulkhead Assembly.

**4** Use supplied Nylon Ties to install the Air Filter in a dry, secure place, away from dirt and debris. Periodically check the Air Filter during operation, and replace it when it becomes dirty.



# DO

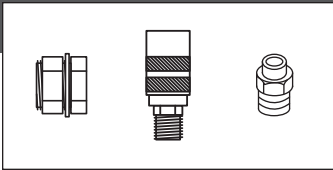
Make sure the cut is as square as possible. Use a tube cutter or very sharp utility knife.

# 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

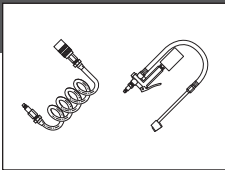
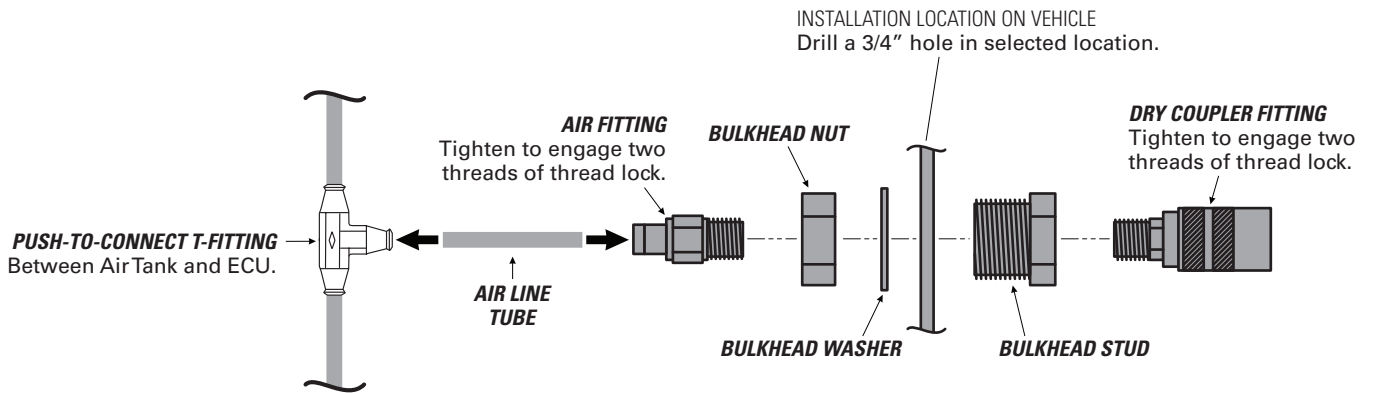
<p>Square cut</p> <p>AIR LINE TUBE</p> <p>90°</p>	<p>AIR LINE TUBE</p>	<p>AIR LINE TUBE</p>	<p>AIR LINE TUBE</p>
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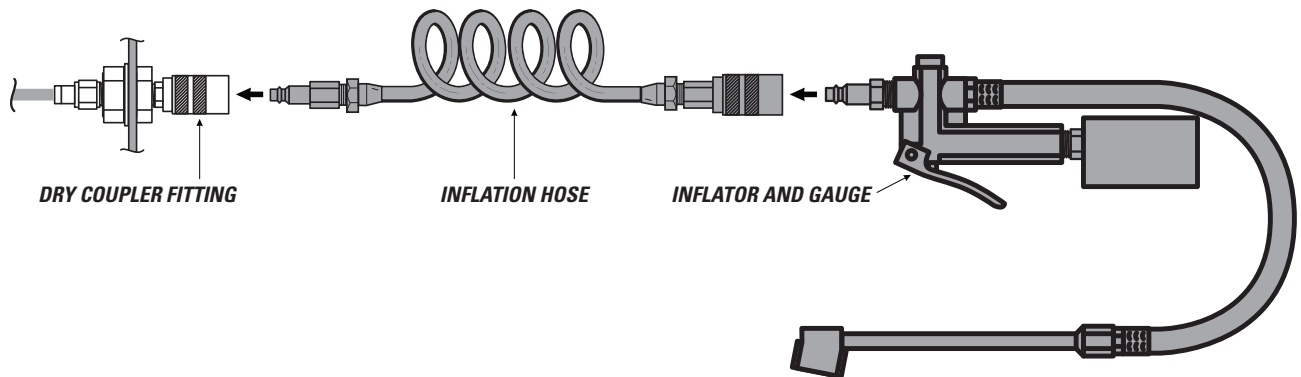
**1** Determine a suitable location to mount the Bulkhead Assembly and Fittings. This area should be convenient to access and safe from debris. Make sure you have room to attach the Inflation Hose.

**2** Drill a 3/4" hole in the selected mounting location and install the Bulkhead Assembly components, Air Fitting and Dry Coupler Fitting, as shown.

**3** Install Air Line Tube from the Push-to-Connect T-Fitting between the Air Tank and the ECU to the Air Fitting installed into the Bulkhead Assembly.



Connect the male air fittings to the dry couplers to use the Inflation Hose and Inflator. When finished, simply disconnect and store in the supplied Firestone Storage Bag.




# 8

## ADJUSTING AIR PRESSURE AND UNITS


Use the Wireless Controller to adjust the air pressure in your Air Springs. You can select the Air Springs individually, or both at the same time. Determine sides when in vehicle, facing forward. If desired, use the supplied Velcro Tabs to secure the remote to the vehicle.

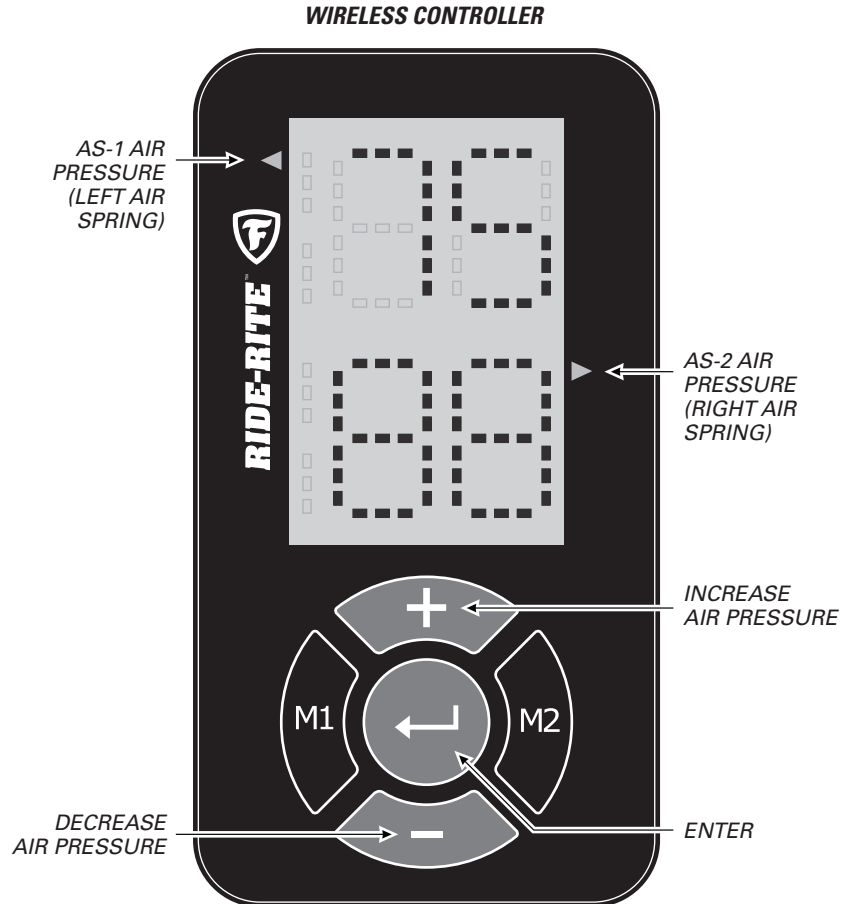


**1** Select Air Spring(s) for pressure adjustment by pressing the Enter  Button once for AS-1 (left side), twice for AS-2 (right side) or three times for both sides.

**2** Press the + Button to increase pressure in selected Air Spring(s).

**3** Press the - Button to decrease pressure in selected Air Spring(s).


**4** Press the Enter  Button to activate the system.




### WAIT, THERE'S BAR!

The Wireless Controller settings default to PSI units, but you can adjust the units by following the steps below.

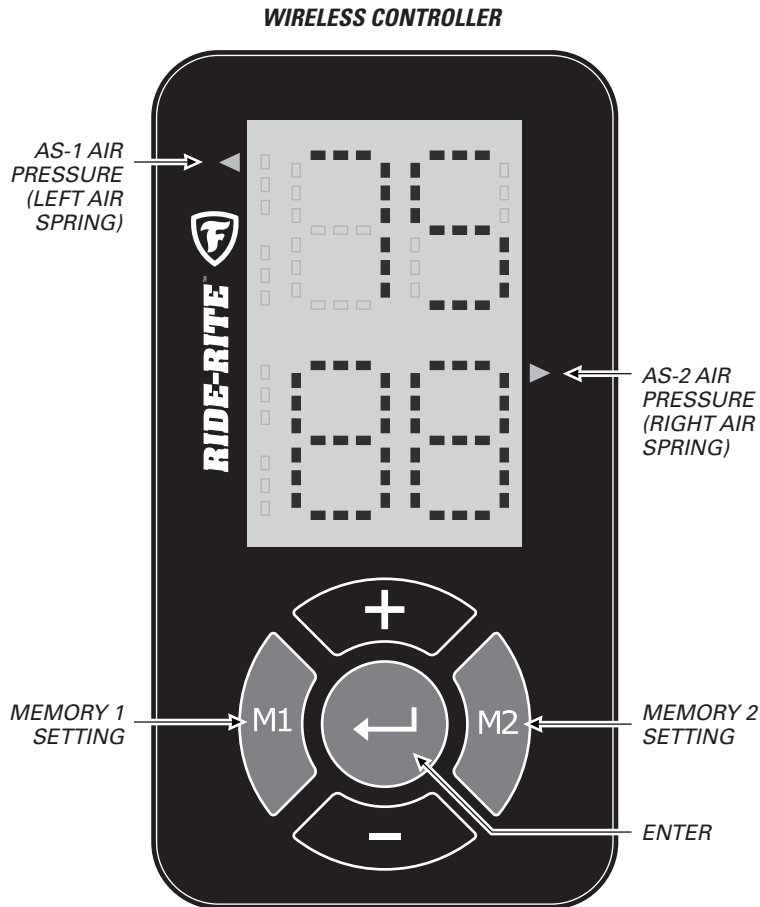
**1** Push any button to power on the Wireless Controller and make sure none of the units on the display are flashing.

**2** Hold down the Enter  Button for a few seconds.

**3** Use either the + or - Button to select PS for PSI or BR for BAR. Press Enter  Button to finalize selection.



You can set up to 2 memory settings for the system for quick adjustment to frequently used Air Spring settings. M1 is preset for 5 PSI and M2 is preset for 20 PSI.



- 1** Complete Step 8 to adjust the Air Spring air pressures to desired settings.
- 2** Press and hold the **M1** Button for 3 seconds to save the displayed Air Pressure settings to the M1 memory.
- 3** Repeat steps 1 and 2 with the **M2** Button to save an M2 memory setting.
- 4** To activate a memory setting, push the desired Memory Button, either **M1** or **M2**.
- 5** Within one second of pressing **M1** or **M2**, press the Enter Button.

## OOPS, SOMETHING WENT WRONG!

Reference the Error Codes below to troubleshoot the problem.

# EO

- Check power on the ECU (red and yellow wires need +12VDC).
- Check ground for the ECU (black wire should be attached to the negative battery terminal).
- Check your wires for any abrasion or heat damage between the ECU and the battery/fuse box.
- Make sure the Wireless Controller is in range of the ECU (25 ft.). Note that range will vary depending on line-of-sight restrictions.

# LO BR

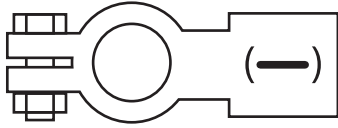
- The batteries in your Wireless Controller are low.
- Replace both CR2032 coin-cell batteries.

# 10

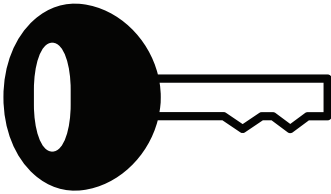
## TEST THE SYSTEM

With the Air Command™ F3 Kit and your Air Springs installed, you are ready to test the system.

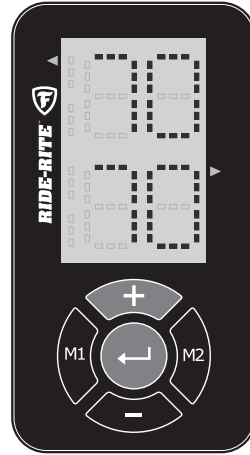
- 1 Reattach the negative battery cable.



- 2 Turn on your vehicle's ignition.



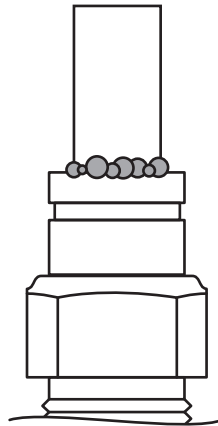
- 3 Use the Wireless Controller to inflate the Air Springs to 70 PSI. See Step 8 for details.



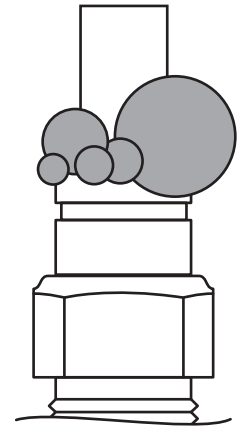
- 4 Spray fittings with soap and water mixture or glass cleaner.



- 5 Observe bubbles.



**SMALL SOAP BUBBLES  
THAT DO NOT EXPAND**



**SOAP BUBBLES  
THAT EXPAND**



# NO LEAKS?

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

# LEAK?

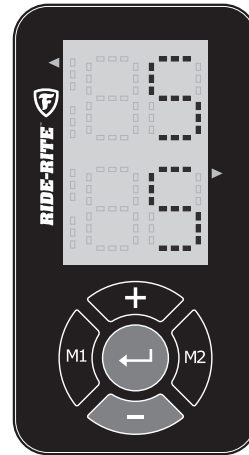
Bummer. Continue to Step 11 to fix the leak.



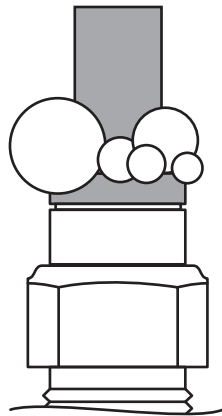
EXHAUST ALL AIR FROM THE SYSTEM PRIOR TO RELEASING AIR TUBES FROM AIR FITTINGS.



- 1 Use the Wireless Controller to deflate the Air Springs to 5 PSI. See Step 8 for details.

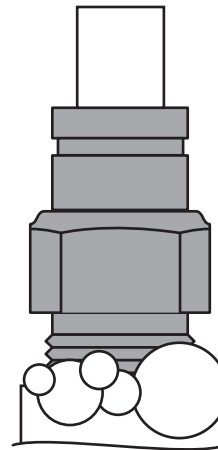


#### LEAK AT AIR LINE TUBE AND AIR FITTING



Release Air Line Tube (see page 4). Review proper cuts and procedures in Step 5. Repeat Step 5.

#### LEAK AT BASE OF AIR FITTING



Tighten Air Fitting one turn or until leak stops.

## 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:

- Secure all Air Line Tubes and wiring.
- 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.
- The Wire Harness is grounded to the negative (-) battery terminal. The ECU needs a good, clean, interference-free ground.
- 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.

## 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](mailto:rrtech@fsip.com). If emailing, please include photos to help us better diagnose and understand any problems you may be experiencing.



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