SECTION 1 - AIR SPRING

SECTION 2 - AIR ACCESSORY
IMPORTANT

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

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. 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.

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

![Pressure Chart](image)
SECTION 1 PARTS

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

### AIR SPRING CONTENTS

| PART # 6410 | x 2 | AIR SPRING |
| PART # 5543 | x 2 | LOWER BRACKET |
| PART # 5542 | x 2 | UPPER BRACKET |
| PART # 5584 | x 2 | FUEL PUMP EXTENSION BRACKET |
| PART # 5542 | x 2 | LEAF STACK STRAP BRACKET |
| PART # 9414 | x 1 | AIR LINE TUBE (18 FEET) |
| PART # 5086 | x 4 | LEAF STACK STRAP BRACKET |

### A24-760-7560 INFLATION VALVE BRACKET KIT

| PART # 9483 | x 1 | NO-DRILL INFLATION VALVE BRACKET |
| PART # 9488 | x 2 | LARGE NYLON TIE |

### AIR SPRING HARDWARE PACK

| PT # 1057 | x 2 | 1/4” - 20 x 1” HEX BOLT |
| PT # 3067 | x 8 | 3/8” - 16 FLANGE LOCK NUT |
| PT # 3069 | x 2 | 1/4” LOCK WASHER |
| PT # 3071 | x 2 | 5/8” - 18 HEX LOCK NUT |
| PT # 0057 | x 15 | RED NYLON TIE |
| PT # 0075 | x 4 | THERMAL SLEEVE |
| PT # 0303 | x 4 | 1/4” FLAT WASHER |
| PT # 0306 | x 8 | 3/8” - 16 x 3 1/2” CARRIAGE BOLT |
| PT # 0304 | x 4 | INFLATION VALVE AND VALVE CAP ASSEMBLY |
| PT # 0357 | x 1 | SWIVEL AIR FITTING |
| PT # 0322 | x 4 | 1/4” FLAT WASHER |
| PT # 0325 | x 4 | 1/4” FLAT WASHER |
| PT # 0060 | x 2 | 5/8” FLAT WASHER |
| PT # 0333 | x 2 | INFLATION VALVE AND VALVE CAP ASSEMBLY |
| PT # 0864 | x 4 | THERMAL SLEEVE |
| PT # 0357 | x 2 | 1/4” HEX NUT |
SECTION 1

PAGE 4  REMOVE JOUNCE BUMPER & UNFASTEN FUEL PUMP CONTROL

PAGE 5  FASTEN AIR SPRING TO LOWER BRACKET

PAGE 6  PREPARE THE UPPER BRACKET

PAGE 7  AIR SPRING ASSEMBLY INSTALLATION

PAGE 8  LEAF STACK STRAP BRACKET INSTALLATION

PAGE 9  REINSTALL THE FUEL PUMP CONTROL
1

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

Cut off existing jounce bumper as low as possible.

2

UNFASTEN FUEL PUMP CONTROL & PREPARE EXTENSION BRACKET

LEFT SIDE ONLY

Unfasten fuel pump control from frame.

Use existing flange nut to fasten the fuel pump control to the Extension Bracket. Do not yet fasten the Extension Bracket to the vehicle frame.

START THE INSTALLATION ON THE LEFT SIDE OF THE VEHICLE WHEN FACING FORWARD.
Install the Air Spring to the Lower Bracket.

3/8" - 16 x 3/4" FLANGED HEX BOLT

DO NOT FULLY TIGHTEN THE BOLT AT THIS STAGE. TORQUE TO SPEC IN STEP 6.
Place the Upper Bracket on top of the Air Spring, as shown.

Make sure the Alignment Pin is fully seated in the alignment pin hole in the Upper Bracket.
5 INSTALL AIR SPRING ASSEMBLY

1. Follow guidelines below to dry fit assembly. Make alignment marks as shown.

2. Remove assembly and match alignment marks you made.


4. Insert the combo stud on top of the Air Spring into the hole in the vehicle frame.

5. Make sure two holes in the Upper Bracket align with the frame rivets on the vehicle.

6. Securely fasten the top of the Air Spring and install the Swivel Air Fitting, as shown.

THE EMERGENCY BRAKE BRACKET MAY NEED TO BE SLIGHTLY BENT TO ALLOW PROPER CLEARANCE.

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

Carriage Bolt holes in Lower Bracket fall on either side of the leaf spring stack.
1. Insert Carriage Bolts into holes in Lower Bracket.

2. Install the Leaf Stack Strap Bracket onto the Carriage Bolts, under the leaf spring stack.

3. Fasten the Leaf Stack Strap Brackets to the Carriage Bolts, as shown.

4. Check for Air Spring clearance and adjust, if necessary.

Alternate tightening of Flange Nuts to draw Leaf Stack Strap Brackets evenly to the leaf spring stack.

Aftermarket modifications may keep the lower bracket from touching the axle, and you may need an extension. Contact Firestone at 1-800-888-0650 (Option 1 for Ride-Rite, Option 1 for Tech Support).

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!
Use fasteners shown to fasten the Fuel Pump Extension Bracket to the hole in the vehicle's frame.

**AWESOME!** You’re done with the left side. The right side installation is the same, with the exception of the Fuel Pump Bracket. Go complete Steps 1-6 for the right side, then continue to Section 2.
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

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<th>Description</th>
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<td>SINGLE AIR CONTROL PANEL</td>
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<tr>
<td>9284</td>
<td>AIR COMPRESSOR</td>
</tr>
<tr>
<td>9307</td>
<td>RELAY HARNESS</td>
</tr>
<tr>
<td>9416</td>
<td>AIR LINE TUBE (30 FEET)</td>
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<tr>
<td>9350</td>
<td>AIR FILTER AND FITTING</td>
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</table>

## AIR ACCESSORY HARDWARE PACK

<table>
<thead>
<tr>
<th>Part #</th>
<th>Description</th>
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</thead>
<tbody>
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<td>10-32 x 1” MACHINE SCREW</td>
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<tr>
<td>9078</td>
<td>SMALL RING TERMINAL</td>
</tr>
<tr>
<td>3086</td>
<td>1/8 NPT PUSH-TO-CONNECT STRAIGHT FITTING</td>
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<tr>
<td>3088</td>
<td>10-32 LOCK NUT</td>
</tr>
<tr>
<td>9078</td>
<td>WIRE CONNECTOR</td>
</tr>
<tr>
<td>3086</td>
<td>LARGE RING TERMINAL</td>
</tr>
<tr>
<td>3088</td>
<td>#10 FLAT WASHER</td>
</tr>
<tr>
<td>3086</td>
<td>PUSH-TO-CONNECT T-FITTING</td>
</tr>
<tr>
<td>3086</td>
<td>NYLON TIE</td>
</tr>
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</table>
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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

THERESE 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.

Use Control Panel as template to mark drill locations.

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.

Use Control Panel as template to mark drill locations.

3/16"
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

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.)

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

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.

2 Install the Air Line Tube end onto the barbed fitting on the back of the Control Panel switch as shown.

3 Install the Air Line Tube end into the 1/8 NPT Push-to-Connect Straight Fitting on the top of the Air Compressor.

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

Square cut

Fold or kink the Air Line Tube. Cut the Air Line Tube at an angle. Use pliers, scissors, snips, saws, or side cutters.
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.

Pass through existing grommet or drilled hole to enter cab.
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.
**INSTALL THE AIR FILTER**

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.

---

**CLEAN UP INSTALLATION**

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

---

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

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

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.
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.

**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.
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 Tube Line, 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.
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?
☐ 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. If emailing, please include photos to help us better diagnose and understand any problems you may be experiencing.
COMBO STUD NOTICE:
THE ALIGNMENT PIN ON THE AIR SPRING **MUST** BE INSTALLED INTO THE HOLE IN THE UPPER BRACKET.

FAILURE TO DO SO WILL CAUSE THE ALIGNMENT PIN TO BE PUSHED INTO THE BEAD PLATE, CREATING AN AIR LEAK, AND RESULTING IN AN AIR SPRING FAILURE THAT IS **NOT WARRANTABLE**.
### No Drill Inflation Valve Bracket

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflation Valve Bracket</td>
<td>9483</td>
<td>1</td>
</tr>
<tr>
<td>Large Nylon Tie</td>
<td>9488</td>
<td>2</td>
</tr>
</tbody>
</table>

This bracket is designed to mount on receiver hitches round or square. Simple use the two provided large Nylon ties to affix the bracket to the receiver hitch tube. Install the air inflation valves on the bracket using two 5/16” flat washers per valve as supports. Then push the end of each air line tubing into the inflation valve as far as possible.
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 unleveled 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

<table>
<thead>
<tr>
<th>Description</th>
<th>Torque (ft lbs)</th>
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</thead>
<tbody>
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<td>Fasteners used on studs and blind holes in air springs</td>
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</tr>
<tr>
<td>Hex nuts installed on carriage bolts</td>
<td>10 – 15</td>
</tr>
<tr>
<td>Hex nuts installed on 3/8&quot; hex bolts</td>
<td>28 – 32</td>
</tr>
<tr>
<td>Hex nuts and bolts used to secure brackets to frame</td>
<td>28 – 32</td>
</tr>
<tr>
<td>Hex nuts installed on U-bolts</td>
<td>15 – 20</td>
</tr>
<tr>
<td>Hex bolts securing tapered sleeve style air spring to lower bracket</td>
<td>10 – 12</td>
</tr>
</tbody>
</table>

**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.

**HELIICAL 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 that 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 inflate 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

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

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 manufacturer'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.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Choose the application you need; Single or Dual Leveling.</td>
</tr>
<tr>
<td>2</td>
<td>Choose the style you want to control your air; Analog or Wireless.</td>
</tr>
<tr>
<td>3</td>
<td>Choose the Duty Cycle needed for your kit/vehicle. Recommended duty cycle is listed in the Application Guide.</td>
</tr>
</tbody>
</table>

**Light Duty**
- 1-Year Warranty
- Includes 9377 Compressor
- Best for passenger cars, SUVs, vans, small pickups for occasional use and light loads

**Standard Duty**
- 1-Year Warranty
- Includes 9284 Compressor
- Best for moderate usage, including towing boats, trailers 20’ or smaller and medium loads

**Heavy Duty**
- 2-Year Warranty
- Includes 9499 Compressor
- Best for 8-lug trucks, trailers larger than 20’, slide-in campers and heavy loads

**Xtra**
- 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**
- 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.

![Single Leveling System](image)

<table>
<thead>
<tr>
<th>Mounting Plate: 2497</th>
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<tbody>
<tr>
<td>Analog</td>
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</tr>
<tr>
<td>2158</td>
</tr>
<tr>
<td>2097</td>
</tr>
<tr>
<td>2266</td>
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<tr>
<td>2543</td>
</tr>
</tbody>
</table>

### 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.

![Dual Leveling System](image)

<table>
<thead>
<tr>
<th>Mounting Plate: 2588</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analog</td>
</tr>
<tr>
<td>Wireless</td>
</tr>
<tr>
<td>N/A</td>
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<tr>
<td>2581</td>
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<tr>
<td>2178</td>
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<tr>
<td>2219</td>
</tr>
<tr>
<td>2168</td>
</tr>
<tr>
<td>2549</td>
</tr>
</tbody>
</table>

**Mounting Plates:**

- Single Leveling System: 2588/2496
- Dual Leveling System: 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 of 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 cannot 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.

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**IMPORTANT**

**NYLON TUBE CUTTING:**

FOLLOW THESE INSTRUCTIONS TO AVOID LEAKS

- **SHARP BLADE**
- **CUT OFF SQUARE**
- **UTILITY KNIFE OR TUBE CUTTER**
- **NYLON TUBE**
- **SIDES CUTOFF**
- **WRONG**