

Firestone

World's Number 1
Air Spring.



FIRESTONE INDUSTRIAL PRODUCTS COMPANY

Air Spring Maintenance

G U I D E



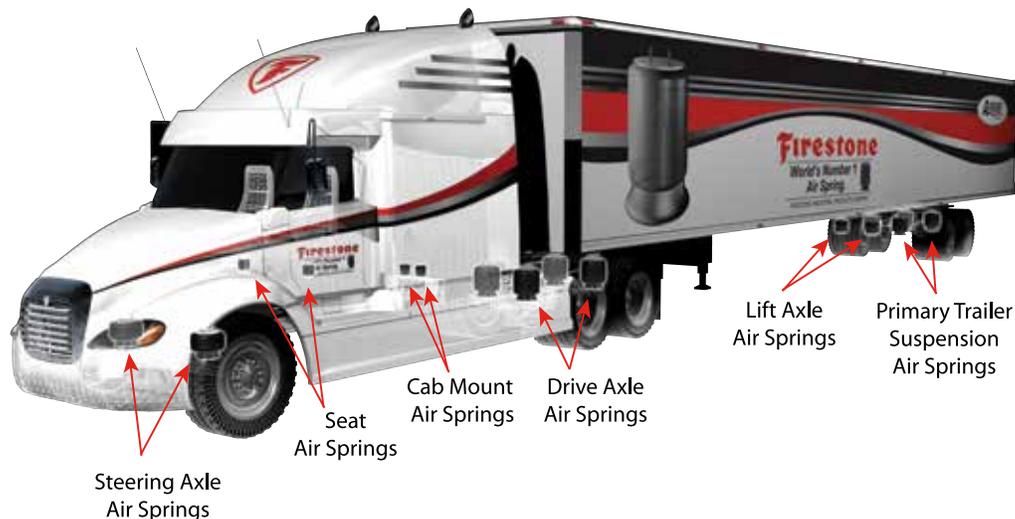
Firestone air springs are designed to provide years and thousands of miles of trouble free service. Firestone air springs are so durable that they will often outlast other maintenance items on your suspension, such as bushings, shocks, leveling valves or regulators. Firestone Airide™ springs are warranted to be free of material defects and/or workmanship for various periods of time, depending upon the application.

Firestone offers a complete line of Airide springs, with replacement springs available for virtually every vehicular air suspension system. Since each individual air spring is closely examined and pressure tested at the factory, the vast majority of premature failures and consequent warranty returns are found not to be defective, but fail because of abuse caused by other problems associated with the suspension. Before you install a new air spring, you should carefully examine the old one to determine what caused it to fail. If it was due to an issue in the suspension system, then the new air spring may also fail unless you correct the problem.

Air Spring Maintenance FAQs

1 Where are the possible locations for Firestone air springs?

Firestone air springs can be found at a number of locations on the truck and trailer, including the primary suspension springs for the truck and trailer, auxiliary axles (such as a lift axle), as well as the cab suspension and often a front (steering axle) suspension. It is important to take note of all your air spring locations so that all of the locations receive proper maintenance.



2 How often should I inspect my Firestone air springs?

This depends somewhat on usage of the vehicle or trailer. The inspection could be based on frequency (such as quarterly or bi-annually), mileage (such as 50,000 miles) or in conjunction with other suspension maintenance activities.

3 What should I look for when I inspect my Firestone air springs?

During your routine inspection of Firestone air springs take special note of any debris, cuts, deformities, or rubs that may lead to an imminent failure. If the air spring is damaged, replace it during this visual inspection process. If the air spring is damaged there is also a high probability that there may be other problems with the suspension, or other damaged components.

4 Do my Firestone air springs ever need to be cleaned?

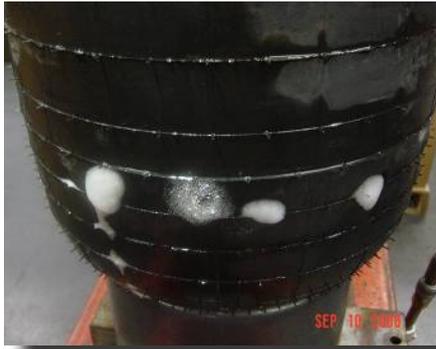
Once per year, when performing a thorough inspection it is advised to clean the air spring with a soapy water or alcohol solution. This will help expose problems hidden from normal visual inspection. Soap bubbles may also help identify slow leaks that could be occurring, indicating a failing air spring. Do not expose air springs to open flames, solvents or abrasives or else you may unintentionally damage the air spring, particularly the rubber.

- APPROVED: soap and water, methyl alcohol, ethyl alcohol and isopropyl alcohol
- NON-APPROVED: all organic solvents, open flames, abrasives and direct pressurized steam cleaning.

5 Can I use an impact wrench to install my Firestone air bags?

It is advised that an impact wrench is not used to install Firestone air bags. An impact wrench increases the danger of stripping the fittings off the bead plate. A torque table showing the installation force on various sizes of fasteners is available via a sticker on top of every new part and in our catalogs. It is important to follow these guidelines and use torque wrenches to achieve these recommended tightness values. It is important to check the tightness of all mounting hardware (nuts and bolts), if loose re-torque to manufacturer's specifications-do not over tighten.

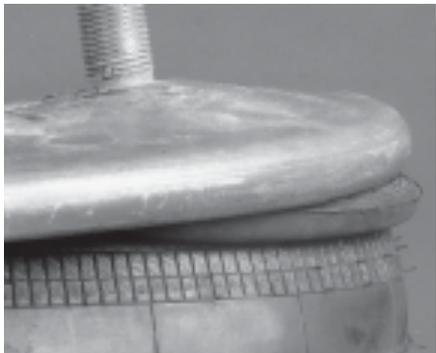
When properly maintained, Firestone Airide air springs are designed to last millions of cycles. The complete inspection process will take just a matter of minutes to perform and could save you both time and money. For complete air spring maintenance please go to <http://www.firestoneip.com/preventativeMaintenance.aspx> or reference page 4 in our Heavy Duty catalog.



Annual Inspection



Age Cracking



Over Extension



Trapped Debris

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Listed below are items that can be checked when the vehicle is in for periodic maintenance. Never attempt to service the air suspension on a truck or trailer with the air springs inflated.

- 1** Inspect the OD (Outside Diameter) of the air spring. Check for signs of irregular wear or heat cracking.
- 2** Inspect air lines to make sure contact doesn't exist between the air line and the O.D. of the air spring. Air lines can rub a hole in an air spring very quickly.
- 3** Check to see that there is sufficient clearance around the complete circumference of the air spring while at its maximum diameter.
- 4** Inspect the O.D. of the piston for buildup of foreign materials. (On a reversible sleeve style air spring, the piston is the bottom component of the air spring).
- 5** Correct ride height should be maintained. All vehicles with air springs have a specified ride height established by the O.E.M. manufacturer. This height, which is found in your service manual, should be maintained within 1/4". This dimension can be checked with the vehicle loaded or empty.
- 6** Leveling valves (or height control valves) play a large part in ensuring that the total air spring system works as required. Clean, inspect and replace, if necessary.
- 7** Make sure you have the proper shock absorbers and check for leaking hydraulic oil and worn or broken end connectors. If a broken shock is found, replace it immediately. The shock absorber will normally limit the rebound of an air spring and keep it from overextending.
- 8** Check the tightness of all mounting hardware (nuts and bolts). If loose, re-torque to the manufacturer's specifications. Do not over-tighten.
- 9** Clean the air spring with approved cleaning materials

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