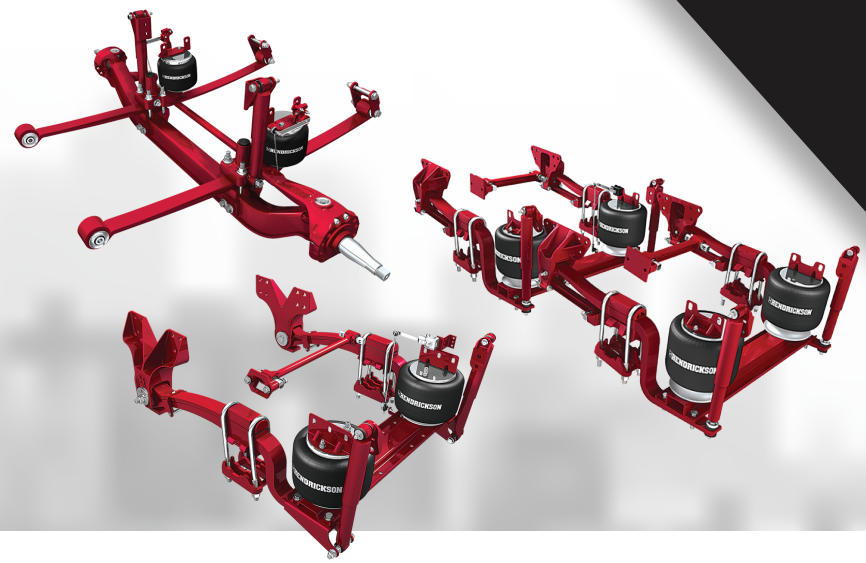
TRUCK COMMERCIAL VEHICLE SYSTEMS

TECHTIPS

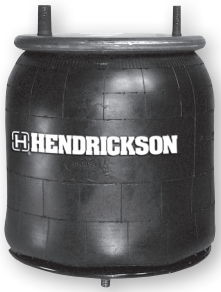


www.hendrickson-intl.com

BACK TO BASICS... Truck Air Suspension 101

What are Air Springs?

Air springs are the pliable bags in an air suspension that help support the weight of the vehicle. They can adjust to different weights and road conditions more efficiently than metal leaf springs. Every air spring has an expandable and retractable rubber chamber or bellows.



Air Spring Wicking vs. Leaking Conditions

To accurately differentiate between potential wicking and leaking conditions in Hendrickson Genuine air springs, perform a pressure decay test as follows:

1. Inflate the air springs to ≤ 20 psi
2. Isolate the air lines
3. Monitor the pressure drop over a 24 hour period. A minimal drop of less than 4 psi suggests a wicking condition (Figure 1), while a significant pressure drop of 4 psi or more indicates a leaking condition (Figure 2).

FIGURE 1

WICKING AIR SPRING

*Wicking in air spring is a common occurrence and generally considered normal

FIGURE 2

LEAKING AIR SPRING

*Replacing a leaking air spring is recommended to ensure proper suspension system function

*Based on Firestone's guidelines. Refer to Air Spring Manufacturer's information.

What is a Height Control Valve?

Height Control Valves (HCV) offer consistent operation for precise ride control, maintaining proper driveline angles to help prevent any potential air suspension-related driveline vibration conditions. Hendrickson's HCVs have been designed into the suspension system from the ground up.

NOTE: Hendrickson recommends a single HCV for most tandem and single axle suspensions, but some applications require dual HCVs.

Inspection

To check for potential leaks in HCVs, use a soapy water solution to spot any leaks through the formation of bubbles, see Figures 3 and 4. Replacement of the HCV is necessary if it exhibits excessive leakage, see Figure 4.

Since all HCVs have an allowable leakage rate, it's essential to refer to the HCV manufacturer's guidelines for the proper way to inspect the HCV.

FIGURE 3

ACCEPTABLE LEAKAGE

FIGURE 4

EXCESSIVE LEAKAGE

There is only one way to ensure the system's original performance... ask for Hendrickson genuine parts by name.

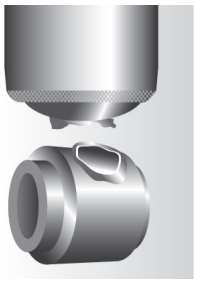
What are Shock Absorbers?

Shock absorbers help limit upward and downward travel of the suspension, protecting components such as air springs and height control valves by limiting compressed and extended strokes. Hendrickson selects shocks with specific strokes, seal designs, bore diameters, and damping characteristics to enhance the ride and handling performance and minimize the stress absorbed by the vehicle frame and other suspension components.

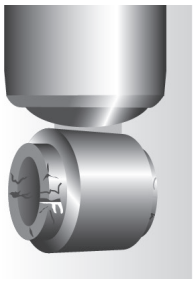
Visual Inspection: Look for these potential problems when doing a visual inspection, see Figure 5. Inspect the shock absorbers fully extended. Replace as necessary. It is not necessary to replace shock absorbers in pairs if one (1) shock absorber requires replacement.

FIGURE 5: SHOCK ABSORBER VISUAL INSPECTION (shows a general representation of an unacceptable shock absorber. Refer to your specific model's inspection guidelines for more details)

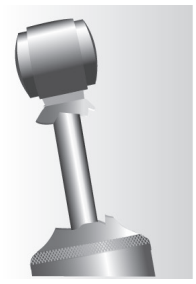
UNACCEPTABLE CONDITIONS



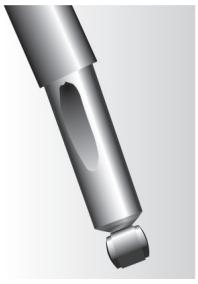
Damaged upper or lower mount



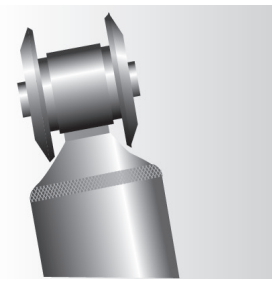
Damaged upper or lower bushing



Damaged dust cover and / or shock body



Bent or dented shock absorber



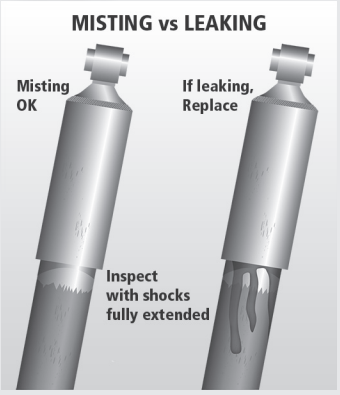
Improper installation
Example: washer (if equipped) installed backwards

Misting vs. Leaking

Inspections for potential shock absorber misting or leaking conditions must not be conducted after driving in wet weather or after a vehicle wash. During inspection, shock absorbers must be free from water, which can be misdiagnosed as a sign of component failure.

- **Misting:** Misting is not a leak, it is a perfectly normal and necessary function of the shock absorber. Misting is the process whereby small amounts of shock absorber fluid evaporate at a high operating temperature through the upper seal of the shock absorber, then condense and form a film on the outside of the shock absorber body. The fluid which evaporates through the seal area helps to lubricate and prolong the life of the seal.
- **Leaking:** A shock absorber that is truly leaking will show signs of fluid leaking in streams from the upper seal. These streams can easily be seen underneath the main body (dust cover) of the shock absorber, see Figure 6. It is necessary to replace the shock absorber if leaking.

FIGURE 6



For further information about Hendrickson Air Suspensions, go to www.hendrickson-intl.com

ORIGINAL PARTS | ORIGINAL FIT | ORIGINAL PERFORMANCE

*Call Hendrickson at **1.630.910.2800** or **855.RIDERED (855.743.3733)** for additional information.*

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TRUCK COMMERCIAL VEHICLE SYSTEMS
800 South Frontage Road
Woodridge, IL 60517-4904 USA
855.743.3733 (Toll-free U.S. and Canada)
630.910.2800 (Outside U.S. and Canada)
Fax 630.910.2899

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