



News Release

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FOR IMMEDIATE RELEASE
From the Bendix Tech Tips Series

BENDIX TECH TIPS: PREVENTIVE MAINTENANCE AS SPRING ARRIVES

Helping Commercial Vehicles Roll Safely and Efficiently After Winter's Toll

AVON, Ohio – March 17, 2025 – Temperatures are rising, potholes are being patched, and winter's grip is finally loosening. As the seasons shift, spring maintenance is an opportunity to optimize vehicle performance, improve safety, and promote smooth operation for the miles ahead. In this Bendix Tech Tips installment, we focus on preventive maintenance practices that can help fleets and owner-operators address winter's toll on wheel-ends, air management systems, and the advanced safety systems that help keep you rolling.

Wheel-End Checkup – Supporting Reliable Braking Performance

Commercial vehicle brakes work hard all winter – encountering road debris, moisture, road salts, and temperature extremes that can lead to wear and shortened service life. A post-winter inspection helps maintain optimal performance and consistent braking power, keeping vehicles compliant and road-ready. Similar to any standard inspection, examine for corrosion, damage, and missing or loose components.

"Look for cracks or missing material in the friction, along with signs of contamination from oil or grease – as well as minimum thickness," said Richard Conklin, director of engineering, Wheel End. "A well-maintained braking system is key to safety and reliability. Taking a close look at components like friction, chambers, and automatic slack adjusters in the spring keeps stopping power consistent and extends component life."

When it comes to drum brakes, confirm the dust plugs on brake chambers are properly seated to help keep contaminants out, and make sure slack adjusters are lubricated to ward off corrosion.

Technicians should also measure chamber stroke at each wheel-end to verify proper brake adjustment. Check that air lines are securely fastened and free of chafing – and for signs of wear in the mounting mechanism, too.

Proper post-winter lubrication is essential for protecting brake components and preserving long-term performance. Moisture and contaminants left over from winter exposure can lead to corrosion in slack adjusters, cam tubes, shafts, and bushings. Fresh grease helps displace residual moisture and keep brake operation smooth.

If brake friction needs replacing, use linings that meet OEM specifications and Reduced Stopping Distance (RSD) and copper-content requirements. Keep in mind that not all friction marketed as “acceptable” under current RSD regulations actually meets the required performance standards. For balanced braking and vehicle stability, replace friction material on both sides of the axle at the same time.

“Air disc brakes require their own inspection steps, including checking the rotor cooling fins for clogs, which can prevent the rotor from cooling properly,” Conklin said. “Inspect the chamber for damage or corrosion. And look at the air hoses and clamping mechanism to confirm they’re intact.”

Technicians should also verify that caliper boots remain undamaged. Even small tears or punctures can let in moisture – leading to internal corrosion and reduced brake performance. The condition of the guide pins is critical, as well. Where necessary, replace parts, and check that the shear adaptor cover is properly seated. If needed, remove the pads and clean the carrier surface with a wire brush so everything moves freely. It’s also important to verify that the brake slides smoothly on its guidance system.

Air System Readiness – Reliable Compressed Air for Every Function

Corrosion, grit, and moisture accumulate during winter, and when they attack air system components, the effects can linger.

“A dependable supply of clean, dry compressed air isn’t just for braking anymore – it’s critical to Automated Manual Transmissions (AMTs), full stability, and emissions controls,” said Tony Fischbach, air treatment product group director at Bendix. “Proactively maintaining the air system keeps trucks running at their best.”

Spring is the perfect time to assess how winter's freeze-thaw cycles have affected air system components. Exposure to moisture, road chemicals, and temperature swings can accelerate corrosion and material fatigue in components like air dryers, air tanks, and valve seals. Steel air tanks, in particular, are vulnerable to pinhole corrosion – checking them now helps prevent unexpected air pressure issues down the line. Inspecting purge and pressure protection valves for residue buildup from road salts is also key to maintaining a steady, dry air supply throughout the year.

Begin with a detailed inspection of the air dryer, focusing on the seats around the purge and pressure protection valves, along with the governor connection.

“Water can mix with dirt, sand, and road chemicals and form residue that can clog purge and pressure protection valves and other air dryer parts – interfering with proper operation,” said Fischbach.

If you didn't replace your air dryer cartridge or the purge valve in the fall, do it now. Are your pressure protection valves serviceable? Service those too. Follow fleet guidelines for oil-coalescing air dryer cartridge models if required by your application and always replace oil-coalescing cartridges like-for-like.

Some air leaks may not be immediately visible or audible. A sign to watch for is slower system pressurization or more frequent cycling. For example, your system may be losing air if charging the tank takes significantly longer, such as three or four minutes as opposed to one or two. Increased charging cycles also affect the life of the dryer cartridge since more air is going through it. Because air-powered brake components depend on well-functioning valves to regulate pressure, keeping them in good shape is essential for smooth, reliable braking.

Keeping Brake Valves in Check – Avoiding Corrosion and Sticking Issues

Brake valves play a key role in regulating air flow for smooth, responsive braking, but winter conditions can take a toll. Corrosion, de-icing chemicals, and moisture exposure may degrade lubrication within valve seals – leading to internal sticking, delayed brake response, or uneven braking. A careful post-winter inspection helps verify proper function and prevents mid-season failures.

“Brake valve issues don't always show up immediately after winter,” said Brian Screeton, Bendix manager – technical training and service. “Corrosion-related sticking can develop over time, especially if de-icing solutions or moisture have worn away lubrication inside the seals. That's why a careful spring inspection – including manually checking for valve movement and

confirming proper air flow – can help to prevent unexpected brake performance issues later in the year.”

Bendix advises against using brake anti-freeze compounds in the air system whenever possible, as they can wash away critical lubrication inside valves. If these compounds were used, technicians should inspect valves for external air leaks around O-rings and valve body connections – as well as signs of internal sticking. Stiff valve movement or inconsistent air flow may indicate developing issues, while residue from de-icing chemicals can further restrict operation.

Testing valve function under operating pressure helps confirm smooth engagement, and addressing any issues early supports consistent braking and long-term vehicle reliability. By proactively maintaining brake valves now, fleets help keep their braking systems operating at peak performance.

Screepton added, “To check valve operation, refer to Bendix Technical Bulletin offering [*Air Pressure Balance and Threshold Pressure Tests \(BW1555\)*](#), available online in the [Document Library at B2Bendix.com](#). The bulletin provides the pneumatic balance test to check the relay valves.”

ADAS Technologies – Safeguarding Advanced Safety Features

Advanced driver assistance systems (ADAS), including antilock braking systems (ABS), electronic stability control (ESC), and collision mitigation, play a key role in supporting safer driving. However, winter exposure to moisture, salt, and road debris can degrade sensors, wiring harnesses, and key electrical connections associated with these systems – leading to possible malfunctions or system faults that can render the systems inoperable.

“Once water and salt seep into a damaged wiring harness, they can trigger ongoing trouble codes,” said TJ Thomas, director of marketing and customer solutions at Bendix. “A wiring and connector check – especially to the forward-looking radar – this spring can save you major headaches later and ensure that the system remains functional.”

Wiring harnesses – particularly those connected to wheel-speed sensors, radar units, and cameras – are especially vulnerable to damage from winter conditions. Chafing, corrosion, or loosened connectors can lead to intermittent electrical shorts, which may not immediately trigger a diagnostic trouble code but can result in the system becoming inoperable. Inspect all exposed harnesses for frayed insulation, cracked casings, or corroded pins in connectors. Running a diagnostic scan can help catch active or inactive trouble codes before they escalate into full system failures.

Front-mounted radar units should be checked for corrosion at their connectors, as these components take the brunt of winter's debris and chemical exposure. If the radar is obstructed with grime or road chemicals, a gentle cleaning with an approved solution helps clear the detection zone. Additionally, after any front-end alignment, recalibrating the steering angle sensor is essential to maintain proper ADAS function. ESC and collision mitigation rely on accurate steering input data, and an uncalibrated steering angle sensor can cause unexpected system responses, such as unintended interventions or incorrect driver alerts. It is important to note that a collision mitigation system cannot operate without a fully functional radar unit, so regular inspection of the radar unit is essential.

Tires also directly impact ADAS performance by influencing stopping distance, stability, and traction control engagement. A tire pressure monitoring system (TPMS) check can be part of post-winter maintenance, as large temperature fluctuations usually affect tire pressure.

Post-winter ADAS maintenance helps ensure that safety technologies operate as intended – reducing false warnings, preventing unexpected system deactivations, and maintaining optimal vehicle stability systems. By proactively addressing potential issues, fleets can improve uptime while helping drivers remain confident in their vehicle's advanced safety features.

Bendix notes that advanced driver assistance technologies complement safe driving practices. No commercial vehicle safety technology, including Bendix safety technologies, replaces a skilled, alert driver exercising safe driving techniques and proactive, comprehensive driver training. Responsibility for the safe operation of the vehicle remains with the driver at all times. Every driver should carefully review the Operator's Manual and be trained by the fleet or vehicle owner on the proper operation and limitations of the ADAS system during operation.

Rolling Into Warmer Weather – Supporting Safer, More Efficient Operations

Spring maintenance is a proactive step toward safer, more efficient operations. Keeping braking, air systems, and ADAS technologies in peak condition helps fleets stay road-ready and compliant while helping to reduce long-term wear on key components. That's why, no matter the product or technology, you should always check the Service Data Sheets and Operator's Manuals of the vehicle OEMs and suppliers for complete maintenance information. It's also an opportunity to optimize vehicle performance, promote safety, and protect critical components. By addressing winter's effects now, fleets can cruise into summer with confidence.

Information from the Bendix Tech Tips series can be found in the Bendix multimedia center at knowledge-dock.com. Support is also available by calling the Bendix Tech Team at 1-

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800-AIR-BRAKE. Complete maintenance and troubleshooting information can be found in the library of Service Data Sheets and Technical Bulletins located at B2Bendix.com and bendix.com.

About the Bendix Tech Tips Series

Bendix, the North American leader in the development and manufacture of leading-edge active safety, air management, and braking system technologies, is committed to helping keep commercial vehicles on the road and in good working condition. The Bendix Tech Tips series addresses common commercial vehicle maintenance questions and issues concerning the total range of components found within foundation and air brake systems, as well as advanced safety systems.

About Bendix Commercial Vehicle Systems LLC

Bendix Commercial Vehicle Systems, a member of Knorr-Bremse, develops and supplies leading-edge active safety technologies, energy management solutions, and air brake charging and control systems and components under the Bendix® brand name for medium- and heavy-duty trucks, tractors, trailers, buses, and other commercial vehicles throughout North America. An industry pioneer, employing nearly 4,000 people, Bendix is driven to deliver the best solutions for improved vehicle safety, performance, and overall operating cost. Contact us at 1-800-AIR-BRAKE (1-800-247-2725) or visit bendix.com. Stay connected and informed through Bendix expert podcasts, blog posts, videos, and other resources at knowledge-dock.com. Follow Bendix on X, formerly known as Twitter, at https://x.com/Bendix_CVS. Log on and learn from the Bendix experts at brake-school.com. And to learn more about career opportunities at Bendix, visit bendix.com/careers.

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