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## BENDIX SHARES TIPS ON HOW TO PREPARE FOR BRAKE SAFETY WEEK 2020

or

Annual CVSA Inspection Blitz Set for August Will Again Focus on Brake System Hoses and Tubing

**ELYRIA**, **Ohio – Aug. 17**, **2020 –** There can be no compromise when it comes to the safety of commercial vehicle braking systems. But statistics show there is a need for support: Last September, during the Commercial Vehicle Safety Alliance's (CVSA's) 2019 Brake Safety Week event, it was reported that 13.5% of the commercial vehicles inspected were removed from roadways because of brake maintenance-related violations.

And, during CVSA's three-day International Roadcheck inspection event in June 2019, braking system and adjustment issues accounted for 45% of the more than 16,000 out-of-service violations – more than any other category inspected.

So, as the industry plans for Brake Safety Week 2020, set for Aug. 23-29, Bendix (Bendix Commercial Vehicle Systems LLC and Bendix Spicer Foundation Brake LLC) is committed to helping fleets and owner-operators get prepared for this annual commercial vehicle safety initiative with tips, guidance, and recommendations.

The annual event, part of the CVSA's Operation Airbrake initiative, is an outreach and enforcement campaign. According to CVSA, the program aims to reduce the number of highway crashes caused by faulty brake systems on commercial motor vehicles. A major part of this event involves inspection and enforcement efforts, whereby local, state, provincial, territorial, and federal motor carrier safety officials in the United States and Canada inspect large trucks and buses, focusing on brake system violations. Bendix, the North American leader in the

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development and manufacture of active safety, air management, and braking system technologies for commercial vehicles, supports the CVSA's goals to improve vehicle safety throughout the United States, Canada, and Mexico.

"Preparing for inspection periods like Brake Safety Week is critically important for drivers, fleets, and owner-operators, for several reasons," said Fred Andersky, Bendix director – demos, sales & service training. "These preparations certainly help drivers and fleets avoid non-compliance penalties and out-of-service time. But even more important is that they also help ensure dependable brake system performance every moment that commercial vehicles are on the road. And, not to be overlooked, that performance is also essential to advanced safety technologies like full stability and collision mitigation, which require brakes working optimally to function at their best."

## **How to Prepare for Brake Safety Week**

Inspection and enforcement programs like Brake Safety Week repeatedly demonstrate the significant value of regular brake system maintenance for all fleets.

For example, the 34,320 inspections conducted during last year's Brake Safety Week led to 4,626 vehicles – or 13.5% of the commercial motor vehicles inspected – being removed from service because of brake-related vehicle inspection system violations.

For this year's Brake Safety Week, inspectors will again pay special attention to brake hoses and tubing, as they did in 2019, highlighting the importance of those components to overall vehicle mechanical fitness and safety. Data collected during last year's event showed that 2,704 violations of the federal regulation governing brake tubing and hose adequacy included chafed rubber hoses, while 1,683 violations included kinked thermoplastic hoses. And according to the Federal Motor Carrier Safety Administration's (FMCSA) data for the 2020 fiscal year, brake hose or tubing chafing and/or kinking accounted for more than 34,000 inspection violations.

"Brake hoses and tubing are critically important to the performance of the entire braking system, so it's important that these components be in good shape and free of kinks," said Brian Screeton, Bendix supervisor – technical service training. "Visual inspections should also include regular checks of tubing and hose condition, positioning, and connections, both during pre-trip walkarounds and in the shop. Additionally, we recommend that before drivers get on the road, they routinely perform 90- to 100-psi brake applications – with the wheels chocked and the parking brakes released – listening for leaks that might be attributed to hoses and/or tubing."

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Other pre-trip and preventive maintenance items directly related to Brake Safety Week inspections include:

- Daily visual checks for damaged or loose-hanging air chambers, pushrods, or slack adjusters. (Note that slack adjusters on each axle should be extended out to the same angle: If not, it could indicate an out-of-adjustment brake or a broken spring brake power spring.)
- Weekly checks of air disc brake rotors for cracks, as well as inspecting drum brakes for wear and/or cracked linings.
- Monthly checks for moisture in the air system. (Contamination can lead to deterioration of air seals, brake-modulating valves, and brake chamber diaphragms – leading to system leaks.)
- Regular greasing of S-cam brake tubes and automatic slack adjusters to prevent rust and corrosion. (It's important to keep in mind that air disc brakes do not require greasing, offering another added benefit to having your vehicles equipped with air disc brakes.)

# The Importance of Brake Adjustments

Proper brake adjustment, also part of CVSA roadside inspections, should be addressed in the shop in advance of the event. Unlike air disc brakes, which include an internal adjustment mechanism, drum braked wheel-ends will need to have their brake stroke measured.

According to Keith McComsey, Bendix Spicer Foundation Brake director of marketing and customer solutions – Wheel-End, measuring the chamber stroke involves checking the distance from the air chamber to the clevis pin with the brakes released, and again after a fully charged brake application. "Drivers can incur fines if the difference between those two measurements – the chamber stroke – is outside allowable limits on 25% of a truck's wheelends," he said. "In addition to violation potential, improperly adjusted stroke that results in brake drag can lead to reduced fuel efficiency and premature pad wear."

The Bendix technical support team has developed an infographic (included below) to note differing maintenance needs of air disc and drum brakes.

Brake Safety Week inspectors will primarily conduct the North American Standard Level IV Inspections on large trucks and buses throughout North America to identify out-of-adjustment brakes and brake-system violations. These examinations are normally made in support of a study, or to verify or refute a suspected trend.

## **Long-Term Measures for Brake System Performance**

Besides taking short-term preparation measures to ensure brake system performance, fleets and owner-operators also can implement a number of long-term actions to support properly maintaining braking systems and related technologies.

Selecting the right wheel-end friction is a prime example: Not all replacement linings marketed as acceptable for federal stopping distance requirements will actually perform to the standard. The wrong choice may lead to cracks, missing pieces, or degradation – all of which can earn violations during a roadside inspection.

In addition, when replacing drum brake shoes, it is important to choose remanufactured shoes that have been coined back to their original OEM-engineered shape over those that have simply been relined. Even normal brake usage affects the shape of a shoe, and relining it – rather than coining – can lead to reduced stopping power and premature wear.

And because oil aerosols entering an air brake system can be particularly corrosive, Bendix advises using an oil-coalescing air dryer cartridge like the Bendix<sup>®</sup> PuraGuard<sup>®</sup>. Oil-coalescing cartridges can be used to replace standard cartridges, but never vice versa.

"The Bendix team is committed to supporting the professional technicians and drivers who are dedicated to safer roads and keeping commercial vehicles running smoothly," Andersky said. "Today, those vehicles and their safety systems are more advanced, proven, and effective than ever – and as the requirements for understanding and maintaining them grow, we'll continue to share our expertise through in-person programs and online resources. When we all focus on safety, everyone benefits."

Bendix remains dedicated to safe vehicle performance and efficiency by focusing on industry technical leadership, unparalleled post-sales support, and an ever-growing portfolio of technology developments. Together, these efforts support the areas that are critical to fleets' success. And, in striving to lower the total cost of vehicle ownership, Bendix is helping to strengthen return on investment in equipment and technology that enhance safety for all drivers and passengers sharing North America's roads.

For more information about Bendix air brake systems and technologies, call 1-800-AIR-BRAKE (1-800-247-2725) or visit safertrucks.com/solutions.

# Maintenance tips from Bendix to help your fleet avoid CVSA inspection issues.

## **Air Disc Brakes**



## Inspect the

- Caliper & air chamber mounting hardware
- Pad for abnormal (tapered) wear and cracks
- Tappets & boots, for visible damage (wheels off)
- Rotor for cracks (verify against allowable limits)



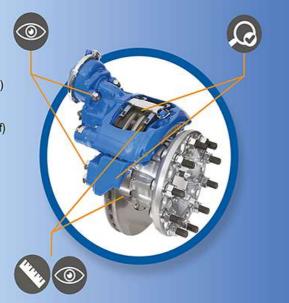
#### Measure the

- Rotor thickness (verify against allowable limits)
- Pad thickness (verify greater than 2mm)



## Verify the

- · Caliper slides freely
- Proper pad-to-rotor running clearances



# **Drum Brakes**



## Inspect the

· Friction for cracks & abnormal wear



#### Measure the

- Brake free play –
   (between 3/8" and 5/8")
   If outside this range, inspect for damage /out-of-spec conditions
- Wheel-end brake stroke (compare to chamber specification)



#### Lubricate the

- · Slack adjusters regularly
- S-cam



#### Avoid

 Manual adjustment of automatic slack adjuster to correct out-of-adjustment brakes

(A consistent out of adjustment condition indicates another problem and requires investigation)





A quick check of your brake system can save you time and money in the long run.

Although brakes shown are Bendix<sup>®</sup> brand, these inspection tips may be applied to any air disc or drum brake.

Refer to OE Manufacturer's recommended service practices.

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#### **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 more than 3,400 people, Bendix is driven to deliver solutions for improved vehicle safety, performance, and overall operating cost. Contact us at 1-800-AIR-BRAKE (1-800-247-275) 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 Twitter at twitter.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.

#### **About Bendix Spicer Foundation Brake LLC**

Bendix Spicer Foundation Brake LLC (BSFB) combines and expands the complementary wheel-end foundation brake technologies of two global leaders – Bendix Commercial Vehicle Systems LLC and Dana Commercial Vehicle Products, LLC. The joint venture, formed in July 2004, is a single, complete source for OEM brake system design, manufacturing, hardware, and support for all foundation brake components and actuation systems, as well as all-makes coverage of nearly 50,000 medium- and heavy-duty aftermarket parts. Contact us at 1-866-610-9709 or visit foundationbrakes.com. Stay connected and informed through Bendix expert podcasts, blog posts, videos, and other resources at knowledge-dock.com. Follow Bendix on Twitter at twitter.com/Bendix\_CVS. Log on and learn from the Bendix experts at brake-school.com. And to learn more about career opportunities at Bendix Spicer Foundation Brake, visit bendix.com/careers.