

2017 Technology Initiatives – Highlights

The technical leadership of Bendix Spicer Foundation Brake LLC (BSFB) drives the commercial vehicle industry's latest advances in truck, tractor, and trailer foundation brake technology, and the company continues to engineer a comprehensive selection of high-performance foundation brake solutions for today and tomorrow. BSFB offers original equipment manufacturers (OEMs) leading-edge components and systems, and fully supports the aftermarket with its Bendix® and Formula Blue® branded foundation brake service parts. Following are highlights of several key technology initiatives.

AIR DISC BRAKES

With its benefits of increased stopping power, passenger car-like feel, and virtual elimination of brake fade, the Bendix® ADB22X™ air disc brake continues to gain strong and sustained acceptance across a range of commercial vehicle applications. Since its introduction in 2005, the ADB22X brake has exceeded the 1.5 million-unit production milestone and is available through all six major truck original equipment manufacturers. It also holds standard steer axle position on Kenworth® Class 8 tractors and trucks, and all Peterbilt® Class 8 models.

Fleets looking to lower total cost of ownership (TCO) continue to review the opportunities that air disc brakes bring in lowering fleet costs. Depending on the fleet, ADB could help eliminate that friction change before trade-in and/or reduce total brake maintenance if a friction change is needed.

BSFB launched its ADB22X™-LT in late 2016 with trailers in mind. Based on of the successful ADB22X, the LT provides fleets with a number of TCO benefits. The new air disc brake provides a 40-pound weight savings on a tandem axle set, providing fleets the opportunity to increase payloads or offset options that increase weight. The LT takes ADB pad life to a new level by increasing the amount of wearable volume and improving the wear rate. The ADB22X-LT also includes a new adjustment mechanism that reduces the risk of a dragging brake, further improving pad wear.

Bendix Spicer Foundation Brake continues to develop technologies the offer opportunities to address performance and lower total cost of ownership needs of fleet operators and combined electronic opportunities to sense brake maintenance needs.

FOUNDATION DRUM BRAKES

The Bendix Spicer Foundation Brake engineering team had customers well prepared with new drum brake solutions to meet the two-phase federal Reduced Stopping Distance (RSD) regulations, which were in full effect by 2014. BSFB also developed product enhancements to meet an even wider range of fleet vocations – including school buses and severe service trucks. One advancement is a new, lighter, heavy-duty stamped spider offering greater durability and weight savings for applications such as vocational and refuse trucks.

Bendix Spicer Foundation Brake offers brake solutions that combined air disc brakes on the front steer with drum brakes on the drive axles to improve safety by reducing stopping distances. With ADBs on the steer, the system provides even more stability by reducing the effect of brake steer, since air disc brakes provide additional side-to-side balance for more stable, straighter stops.

As the global foundation drum brake center of excellence for the Munich, Germany-based Knorr-Bremse Group, our Kalamazoo, Michigan-based engineering team serves as the technical lead for drum brake design, overseeing all development activity worldwide.

AUTOMATIC SLACK ADJUSTERS

The Versajust® LS™ Slack Adjuster with the WearMax™ clutch continues to experience growth as fleets recognize the merits of the automatic slack adjuster and spec it in increasing numbers. The Versajust slack's design enables gradual, continuous, and more precise adjustment of the running clearance between the brake shoe and drum in order to prevent "hot brake" overadjustment. The WearMax clutch has been shown to extend lining life by up to 16

percent, and brake drum life by up to 30 percent, while enhancing brake timing. With the tighter running clearance and reduced free-play, the brake system will have more available stroke making it less likely to lose braking. This helps reduce the risk of violations during a roadside inspection.

As the global slack adjuster center of excellence, our Elyria, Ohio-based engineers serve as the technical lead for automatic slack adjuster design for the Munich, Germany-based Knorr-Bremse Group. The team oversees all product development activity worldwide.

ACTUATION AND AIR CHAMBERS

With more than 2.1 million Bendix® EverSure® Spring Brakes with the No Touch™ Power Spring on the road, BSFB's double-diaphragm spring brake for both air disc and drum brakes has proven to be a game-changer. By eliminating contact between compressed power spring coils, thus allowing the protective coating to remain intact, EverSure provides significantly better corrosion resistance – and longer spring life – than competitive products, exceeding even competitive premium chambers. It delivers best-in-class durability and performance, while optimized diaphragm geometry results in industry-leading force output.

Bendix is the design lead center of excellence for Service Chambers and Double Diaphragm Spring Brakes for Knorr-Bremse.

AFTERMARKET

We continue to deliver and expand upon the most complete offering of wheel-end components and aftermarket solutions for light-, medium-, and heavy-duty applications. When considering drum shoe replacement, it is important for fleets to understand that like-for-like OE friction is the best choice. OE-level friction continues with RSD friction that will maintain safety, performance, stopping distance, and wear characteristics. OE-level friction is also the best way to ensure that a vehicle meets FMVSS-121 safety standards at the time of manufacture as outlined by FMCSA. We have added new aftermarket friction offerings to provide more options for severe-duty applications, and additional friction materials will expand the line of RSD-compliant replacements.

The Bendix Brake Shoe Remanufacturing Center handles the complete salvage, coining, advanced paint coating, and precision riveting processes that make up the start-to-finish remanufacturing of our high-quality brake shoes. Since production began in 2012, the center has produced more than 5 million brake shoes. Our new premium PermaGuard™ coating, paired with high flexural strength friction that resists cracking and our coining process that returns the shoe to its original geometry, provide complete protection against rust jacking. Bendix reman shoes deliver durability, reliability, and extended brake life while helping fleets maintain good Compliance, Safety, Accountability (CSA) scores.

Bendix also delivers air disc brake pad aftermarket solutions. Genuine Bendix® aftermarket replacement pads will provide original ADB performance in terms of stopping distance, park capability, extended life, rotor protection, and continued warranty support. In contrast, non-Bendix AM pads are likely to reduce stopping distance performance to that of a drum brake equipped vehicle and provide reduced service life and/or increased maintenance costs.

Bendix Spicer Foundation Brake is a one-stop source for nearly 50,000 OE-quality, all-makes foundation brake replacement parts, and we've continued to strengthen our extensive support and post-sales service.

In addition to the renowned Bendix Tech Team (1-800-AIR-BRAKE) – an expert technical support group providing service advice, brake system troubleshooting, and product training – the Bendix On-Line Brake School at brake-school.com provides current and in-depth training to drivers, technicians, distributors, fleets, and owner-operators. Support is available 24/7 online, by phone, or in person, and is just one part of the Bendix approach that delivers performance, safety, and lower total cost of ownership.

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