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BENDIX® ADB22X® AIR DISC BRAKE MARKS 20 YEARS OF SAFETY, PERFORMANCE, AND TRUST

or

The Most Widely Adopted Air Disc Brake Across North America Continues to Set the Standard for Fleet Value and Reliability

AVON, Ohio – Sept. 24, 2025 – Bendix Commercial Vehicle Systems LLC (Bendix) is celebrating 20 years of the Bendix® ADB22X® air disc brake (ADB) – a technology that has helped redefine commercial vehicle braking across North America. Since its 2005 debut, the ADB22X brake has delivered measurable gains in safety, performance, and maintenance efficiency, becoming the most widely equipped air disc brake in its class on the continent. With more than 7 million units produced for North America, the ADB22X continues to set the standard for fleet value and reliability.

Bendix, the North American leader in the development and manufacture of active safety, air management, and braking system technologies for commercial vehicles, is a part of Munich, Germany-based Knorr-Bremse, the global leader in air disc brake production at more than 60 million and counting.

"The ADB22X air disc brake changed the way fleets and drivers thought about braking," said Keith McComsey, technical sales lead for NA Wheel-End at Bendix. "With clear advantages in stopping power, reliability, and serviceability, it quickly became the go-to ADB for a wide range of vehicles. Two decades later, it continues to deliver daily value – and its legacy is still unfolding."

Used on everything from line-haul tractors and refuse vehicles to school buses and construction trucks, the ADB22X has become a foundation of the Bendix wheel-end portfolio

and a core enabler of the company's broader mission to improve transportation safety and system efficiency.

As safety and life-cycle value rose to the forefront of fleet priorities, the Bendix® ADB22X® played a key role in accelerating the shift toward air disc brake spec'ing across North America – moving the technology from early adoption into widespread industry standard.

Proven Performance Across Fleets

When the Bendix ADB22X air disc brake was first introduced, many fleets were still relying on drum brake systems characterized by shorter maintenance intervals and greater performance variability – especially in high-temperature or high-demand conditions. The ADB22X answered those challenges with a design focused on consistency, responsiveness, and durability.

Its shorter stopping distances and reduced brake fade made it an immediate safety upgrade for vehicles of all types, while its lightweight construction contributed to fuel economy and helped increase available payload. The brake also brought smoother, straighter, and more stable stops, as well as a car-like feel, additional performance advantages that increase driver satisfaction and retention.

Safety was only part of the equation; for maintenance professionals and fleet operators, the ADB22X meant faster pad replacements – often taking one-quarter of the time compared to drum systems – and longer intervals between service, thanks to extended friction life and reduced component wear. Over time, the brake's long-term impact on uptime, service, and total cost of ownership became just as central to its appeal as its performance on the road – offering a compelling value proposition year after year.

"We built the ADB22X to solve problems that fleets were facing day in and day out," McComsey said. "Its success is rooted in that philosophy: deliver measurable improvements, keep trucks moving, and never compromise on safety."

Another key differentiator is Bendix's ability to provide a complete ADB system – including the caliper, chamber, actuator, rotor, friction, and wear-sensing electronics – all engineered to work together for maximum performance and reliability. This vertically integrated approach eliminates piecemealing and ensures a fully optimized brake package.

The brake system has also evolved over time, incorporating new friction formulations and design adjustments to serve a broader array of vehicle types – from on-highway tractors to vocational and medium-duty applications. Bendix ADB22X air disc brakes are available through all the major truck manufacturers, where they are offered standard on a range of models.

At the Core of Safety Technology

As advanced driver assistance systems (ADAS) have become more common in commercial vehicles, the Bendix® ADB22X® air disc brake has emerged as a key enabling technology behind them. Systems like collision mitigation and lane-keeping assistance depend on precise, consistent braking output at the wheel-end in order to respond effectively in dynamic driving conditions. And for that, fleets and OEMs have increasingly turned to air disc brakes.

"No matter how advanced the control algorithms or how many sensors you add to a system, everything comes down to whether the brakes can perform in the critical moment," said Rick Conklin, director of engineering, Wheel-End, at Bendix. "That's why the ADB22X is such a vital part of ADAS-equipped vehicles. It offers a level of responsiveness and thermal stability that drum brakes can't match."

Conklin also emphasized the role the ADB22X plays in supporting quiet, low-emission vehicle environments. The brake's consistent engagement and lower NVH (noise, vibration, and harshness) profile help reduce noise pollution and contribute to a smoother, more comfortable driving experience – goals that align with both regulatory pressures and fleet expectations.

Scaling to Meet Demand

As commercial vehicle adoption of air disc brakes has grown across North America – with rates on Class 6-8 vehicles topping 50%, up from approximately 25% in 2018 – Bendix has responded with continued investments in its manufacturing footprint. The company's Bowling Green, Kentucky, facility, which has supported ADB production since the system's earliest days and now houses the largest installed capacity for air disc brake production on the continent, has seen multiple expansions in support of increasing demand.

"Our ability to scale ADB production while maintaining quality and performance has been a critical part of our success," McComsey said. "The Bowling Green plant represents not just manufacturing capacity, but our long-term commitment to making these technologies available and accessible to customers across the industry."

Bendix also draws on Knorr-Bremse's global research and development capabilities — including engineering centers in Germany — to support product innovation tailored to North American needs. Testing labs feature advanced dynamometers, NVH evaluation tools, and lifecycle simulation environments that replicate the extreme conditions common on North American roads.

Alongside production scaling, Bendix has enhanced its testing and R&D capabilities. From advanced simulation and dynamometer testing to corrosion resistance and thermal cycling

evaluation, the company continues to develop the brake with both present-day performance and future-readiness in mind.

Trailer-Optimized

In 2016, recognizing the need for consistent braking performance across entire vehicle configurations, Bendix introduced the ADB22X®-LT – a trailer-specific version of the brake designed to bring the same benefits to the back of the rig. Developed with lighter-weight packaging, extended pad life, and optimized brake balance, the ADB22X-LT helped address the challenges of mixed fleet environments while maintaining the core features that made the original ADB22X® so widely trusted.

Today, the ADB22X-LT plays a growing role in helping fleets standardize their brake systems, streamline serviceability, and maximize performance across all axles. The model has been adopted by a wide range of trailer OEMs and is contributing to broader industry efforts to enhance braking uniformity and stability between tractors and trailers.

"The ADB22X-LT was developed to meet a clear need in the field," McComsey said. "It's helped make consistent, high-performing braking possible across the entire vehicle."

Ready for What's Next

Even as it celebrates two decades of field-proven performance, the ADB22X continues to evolve. As electrified and automated vehicles enter the commercial market, Bendix is adapting the brake to support emerging needs – from compatibility with regenerative braking strategies to tighter integration with electronic control systems and diagnostics.

According to Conklin, that evolution reflects the brake's engineering foundation and the collaborative design culture at Bendix.

"We've developed the ability to simulate years of life-cycle stress in condensed testing timelines. We've refined our friction formulations. And we've expanded our noise and vibration testing capabilities," he said. "What's kept the ADB22X ahead is our ability to anticipate what customers will need next – and make sure the product is already ready."

Conklin also noted that North American operating conditions – ranging from extreme temperature swings to the use of road chemicals and de-icing agents – place unique durability demands on braking systems. The ADB22X has been engineered and tested specifically for these challenges, differentiating it from solutions developed for other global markets.

"The ADB22X has proven its value over tens of millions of miles," said McComsey. "Now, we're focused on making sure it's ready for the next generation of commercial vehicles — whether that means automation, electrification, or technologies that haven't hit the road yet."

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He added, "Its legacy is more than longevity – it helped establish what fleets now expect from a braking system."

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 3,600 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 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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