News Release

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FOR IMMEDIATE RELEASE

THE ROAD TO SAFER SCHOOL BUSES

Celebrating National School Bus Safety Week, Bendix Shares Efforts to Help Make the Safest Form of School Transportation Safer Yet

AVON, Ohio – Oct. 20, 2022 – The classic yellow school bus is a symbol of safety in America, and for good reason: It is well documented as the safest form of student transportation. In support of 2022 National School Bus Safety Week, which happens Oct. 17-21, Bendix Commercial Vehicle Systems LLC (Bendix) offers a glimpse at technologies and training developed to make school bus transportation across North America even safer.

School buses are the focus of National School Bus Safety Week, a public education program from the National Association for Pupil Transportation (NAPT) that is designed to promote school bus safety. This celebration of the mighty school bus – which carries more than 25 million children every day – happens the third full week of October every year.

Students are 70 times more likely to get to school safely when traveling by school bus than when riding in a car, according to the National Highway Traffic Safety Administration, referencing American School Bus Council data. NAPT wants to do even better: The group is aiming for an entire school year free of fatalities no later than the school year ending June 30, 2025, as part of its “Zip. Zero. Nada. None.” campaign.

“We partner with school districts and vehicle manufacturers across North America in an effort to deploy the latest technologies and training,” said TJ Thomas, director of marketing and customer solutions – Controls at Bendix, the North American leader in the development and manufacture of active safety, air management, and braking system technologies for commercial

vehicles. “Bendix does this by providing technologies to school bus OEMs, which then supply them to school bus fleets with each new vehicle order. Ensuring bus OEMs and fleets are knowledgeable and eager to incorporate our suite of safety technologies is just one way we can support NAPT’s mission: helping keep student passengers safe, and supporting the drivers piloting the buses every day.”

ADAS Advantage

NAPT’s strategy in its zero-fatality campaign includes encouraging the utilization of the latest vehicle safety equipment and technology, such as electronic stability control, forward collision warning, collision mitigation, air disc brakes, and electronic parking brakes.

“Driver-assistance technologies are proven, and school bus manufacturers continue to see value in them, as evidenced by the number of technology demonstrations that Bendix conducts for the OEMs,” Thomas said. “The manufacturers are making them available in growing numbers, with school bus fleets increasingly adopting them.”

The Bendix® ESP® Electronic Stability Program full-stability system has been standard equipment on air-braked buses at both Blue Bird and IC Bus since 2018. This despite full-stability technology – while already mandatory on most motorcoaches and commercial vehicles – not being required for school buses.

Bendix ESP utilizes a system of sensors and advanced algorithms to recognize and potentially mitigate conditions that could lead to rollover and loss of control. It functions in a wide range of driving and road conditions, including snowy, ice-covered, and slippery surfaces, and can activate the brakes in ways the driver cannot replicate.

Full-stability systems like Bendix ESP also provide the technological foundation for more advanced driver assistance systems (ADAS), including collision mitigation technologies such as Bendix® Wingman® Advanced™ – A Collision Mitigation Technology and Bendix® Wingman® Fusion™, the company’s flagship system.

Bendix Wingman Advanced uses a single radar sensor mounted to the front of the vehicle to deliver active cruise control with braking features, providing both warnings and active interventions to help drivers potentially mitigate or potentially lessen the severity of rear-end collisions.

Bendix Wingman Fusion integrates a forward-facing camera with the radar and the vehicle’s brake system, creating a comprehensive driver assistance system. With a suite of sensors working together, and not just in parallel, Fusion uses multisystem integration to create a detailed and accurate data picture, setting it apart from radar-only systems.

Bendix collision mitigation technologies are on the road helping protect school bus occupants: IC Bus became the first North American school bus manufacturer to offer collision mitigation as a standard feature in 2018, spec'ing Wingman® Advanced™ on its CE Series and RE Series, and offering the Wingman® Fusion™ system as an option on the CE Series.

"Adoption of full-stability and collision mitigation on school buses has earned the support of the National Transportation Safety Board and NAPT," Thomas said. "We're proud to work with our industry partners to help these effective, road-proven systems make a difference on the roads today."

Bendix safety technologies complement safe driving practices, Thomas noted. No commercial vehicle safety technology 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.

Air Disc Brake Difference

As with driver-assistance technologies, more districts are equipping vehicles with air disc brakes, which provide shorter stopping distances than drum brakes and perform with little to no brake fade. During stop-and-go usage – like a school bus route – or downhill applications, drum brakes can heat up and experience decreased performance. The design of air disc brakes all but eliminates fade. Air disc brakes also provide shorter, smoother, and more stable stops than drum brakes.

"There's no substitute for witnessing the striking safety difference that air disc brakes bring," said Mark Holley, Bendix director of marketing and customer solutions – Wheel-End. "We introduced the Bendix® ADB22X® air disc brake to the school bus market in 2008, and adoption continues to gain ground rapidly. Approximately a couple thousand new school buses are equipped with air disc brakes each year. Though it's been two years since our virtual school bus demo in 2020, the impact of brake fade on stopping distance hasn't changed, and the demo still helps put the growing disc brake adoption into perspective."

Air disc brakes at the wheel-ends offer another advantage as well: They help optimize performance of the higher-level safety systems that are also becoming more common in school bus fleets.

All of North America's major school bus manufacturers – including Blue Bird Corporation, Navistar's IC Bus, and Thomas Built Buses – offer the industry-leading ADB22X as a factory-installed option.

Parking Smart

Another technology to enhance safety and driver convenience is found in the Bendix® Intellipark® Electronic Parking Brake. The system helps to potentially mitigate or lessen the severity of rollaway and runaway crashes by automatically setting the brakes when the system interlocks are met, indicating the driver has forgotten to do so.

The system monitors inputs in critical areas – for example, status of the foot brake, the accelerator pedal, and wheel speed may be monitored – to help determine when the driver inadvertently forgot to set the parking brakes and the vehicle should be parked. And since Intellipark is electronic, it is also positioned for integration with Wingman® Fusion™, enabling the use of the parking brakes to further enhance driver assistance functions.

“In addition, the Intellipark system replaces the familiar yellow push-pull dash valve with an easy-to-engage electronic switch, making it more ergonomically friendly and eliminating the ‘stinging’ feel of engaging a 120-psi hand-controlled park brake valve,” Thomas said. “The switch maintains the recognizable yellow symbols and text and includes built-in LED indicator lights that show the status of the brake immediately, offering another advantage over the traditional valves. Intellipark also offers increased durability and additional cycles over the current pneumatic system.”

In 2021, Thomas Built Buses was the first school bus manufacturer to make Intellipark available, on two models. Intellipark is available as an option on the Saf-T-Liner® C2 equipped with a Cummins diesel or Detroit Diesel powertrain and an air brake package, and comes standard on the Saf-T-Liner C2 Jouley® electric bus.

Other school bus manufacturers are in the process of making Intellipark available.

Importance of Training for Drivers and Technicians

As school bus technologies rapidly evolve and advance, up-to-date proper training on their use and maintenance has become even more important to keeping drivers and their young charges safe.

Bendix offers a combination of hands-on experiences, continuous education, and ongoing communications to help school bus fleets and drivers understand new technologies, learn what these technologies do in traffic situations to help, and, overall, keep their skills sharp.

In-person demonstrations, for example, guide drivers through the actual experience of how these systems work and feel. Other resources include the Bendix YouTube channel; a training portal at brake-school.com that provides no-charge access to a wide array of technical

courses; and the Knowledge Dock™ at knowledge-dock.com, which has archived resources like the Bendix Tech Tips series, podcasts, blogs, and white papers.

"Students and parents across the country depend on safe school buses," Thomas said. "To help keep school bus passengers safe, we remain committed to working with our valued manufacturer safety partners in our mission to provide school districts and drivers with the best safety and driver convenience technologies, tools, and training."

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 4,400 people, Bendix – and its wholly owned subsidiary, R.H. Sheppard Co., Inc. – 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 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.

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TOWARD A SAFER FUTURE FOR SCHOOL BUSES

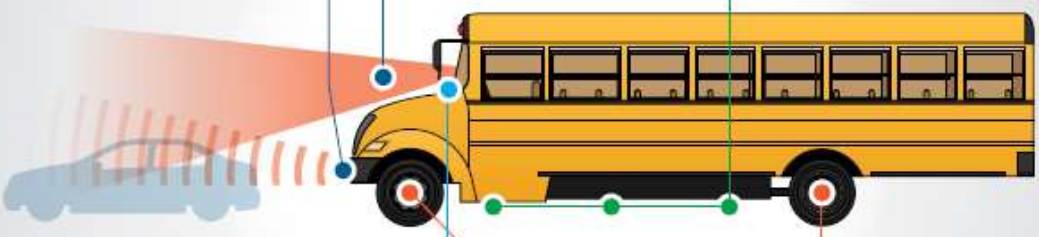
National data supports that school buses are the safest way to transport students to and from school.[1] But crashes do happen, and even a single school bus accident is one too many. Advanced safety technologies – increasingly available on school buses – can help make school buses even safer. Here are four:

Autonomous Emergency Braking

- Helps potentially mitigate rear-end collisions or potentially lessen their severity
- Built on the full-stability brake system
- Can use a radar sensor alone or be "fused" with a camera and full-stability system for additional functionality
- Warnings and active brake interventions

Full-Stability Brake System

- Helps potentially mitigate rollover or loss-of-control situations
- Also known by its generic term, Electronic Stability Control (ESC)
- Adds additional sensors and capabilities to ABS to deliver automatic brake interventions
- Works in a range of conditions, including rain, ice, and snow



Electronic Parking Brake

- Automatically sets parking brake when interlocks are met to help potentially mitigate unintended rollaways
- Offers safety and driver convenience features like easy-to-operate electronic switches that take the "sting" out of releasing the parking brake

Air Disc Brakes

- Significantly shorter stopping distances
- Passenger car-like feel
- Consistently straight, stable stops
- Virtually eliminates brake fade

Bendix is a leading supplier of safety technologies for school buses. Technologies include the Bendix® ADB22X® air disc brake, Bendix® ESP® Electronic Stability Program full-stability system, Bendix® Wingman® Advanced™ – A Collision Mitigation Technology, Bendix® Wingman® Fusion™, and the Bendix® Intellipark® Electronic Parking Brake.

[1]http://schoolbusfacts.com/benefits/

Bendix® safety technologies complement safe driving practices and are not intended to enable or encourage aggressive driving. No commercial vehicle safety technology 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.

Bendix®