

For further information, please contact:

Barbara Gould

Bendix Commercial Vehicle Systems LLC
(440) 329-9609
barbara.gould@bendix.com

Ken Kesegich Marcus Thomas LLC (888) 482-4455 kkesegich@mtllc.com

FOR IMMEDIATE RELEASE Infographic Included

## THE ROUTE TO SAFER SCHOOL BUSES

or

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

**AVON, Ohio – Oct. 17, 2024 –** The classic yellow school bus is well documented as the safest form of student transportation in America, earning its distinction as a symbol of safety. In support of 2024 National School Bus Safety Week, which happens Oct. 21-25, Bendix Commercial Vehicle Systems LLC (Bendix) shares a glimpse at technologies and training developed to make school bus transportation even safer.

National School Bus Safety Week is a public education program from the National Association for Pupil Transportation (NAPT) that is designed to promote school bus safety. It occurs the third full week of October each year.

School buses carry more than 25 million passengers every day: more than planes, trains, and other mass transit systems combined. That statistic is from the American School Bus Council, which also reports that students are about 70 times more likely to get to school safely when traveling by school bus than when riding in a car.

NAPT is leading a charge for better numbers. Its "Zip. Zero. Nada. None." campaign is aiming for an entire school year free of fatalities no later than the school year ending June 30, 2025.

"We support NAPT's mission at Bendix by delivering a suite of the latest safety technologies to school bus manufacturers – all toward the goal of helping keep student passengers safe and support the drivers who oversee their travels day in and day out," said

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Nicole Oreskovic, vice president of sales and marketing at Bendix, the North American leader in the development and manufacture of active safety, air management, and braking system technologies for commercial vehicles. "Our commitment to safety extends as well to partnering with school districts across North America to deploy these technologies and offer support for driver and technician education."

## **Air Disc Brake Difference**

Part of NAPT's strategy in its zero-fatality campaign is to encourage the use of the latest vehicle safety equipment and technology, including air disc brakes, electronic stability control, forward collision warning, collision mitigation, and electronic parking brakes.

More school 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 on 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 smoother and more stable stops than drum brakes.

"School transportation safety managers are understanding the striking safety difference that air disc brakes bring," said Keith McComsey, product director of air disc brakes and systems at Bendix. "Since we introduced the Bendix® ADB22X® air disc brake to the school bus market in 2008, adoption continues to gain ground quickly. Each year, a couple thousand new school buses are equipped with air disc brakes."

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 makers – including Blue Bird Corporation, Navistar's IC Bus, and Thomas Built Buses – offer the industry-leading Bendix ADB22X as a factory-installed option.

#### **ADAS Advantage**

School bus manufacturers are also making driver-assistance technologies – proven in the industry – increasingly available, and school bus fleets are adopting them in growing numbers.

Since 2018, both Blue Bird and IC Bus have made the Bendix® ESP® Electronic Stability Program full-stability system standard equipment on air-braked buses, despite full-stability

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technology not being required for school buses. The technology is mandatory on most motorcoaches and commercial vehicles.

That absence of a requirement could change based on action taken by the National Highway Traffic Safety Administration (NHTSA) and the Federal Motor Carrier Safety Administration (FMCSA). Last year, the agencies published a Notice of Proposed Rulemaking (NPRM) that would require automatic emergency braking (AEB) systems on heavy vehicles – those with a gross vehicle weight rating greater than 4,536 kilograms (10,000 pounds), including school buses. Further, the notice proposes to amend FMVSS No. 136 to require nearly all heavy vehicles to have an electronic stability control (ESC) system. This amendment involving full stability would include school buses. A final rule is expected in 2025.

"According to published reports and their advocacy platforms, the National Transportation Safety Board (NTSB) and NAPT support the adoption of full-stability and collision mitigation on school buses," said TJ Thomas, director of marketing and customer solutions at Bendix. "These road-proven systems are effective and making a difference right now. We're proud to work with our industry partners to make that happen."

Bendix® ESP® uses 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 the family of Bendix<sup>®</sup> Wingman<sup>®</sup> and Bendix<sup>®</sup> Fusion<sup>™</sup> driver assistance systems.

Bendix<sup>®</sup> Wingman<sup>®</sup> Advanced<sup>™</sup> – A Collision Mitigation Technology uses a single radar sensor mounted to the front of the vehicle that works with the Bendix ESP braking system to deliver active cruise control with braking features, providing both warnings and active interventions to help drivers potentially avoid rear-end collisions, or at least help reduce their severity.

Bendix Fusion "fuses" forward-facing camera imaging and information with the radar and the ESP braking system, combining and cross-checking the data from sensors that are working together. The result is a comprehensive driver assistance system. With a suite of sensors working together, and not just in parallel, Fusion uses multisystem integration to create a more detailed data picture, distinguishing it from radar-only systems.

IC Bus became the first North American school bus manufacturer to offer collision mitigation as a standard feature in 2018, spec'ing Bendix<sup>®</sup> Wingman<sup>®</sup> Advanced<sup>™</sup> on its CE Series and RE Series and offering the Fusion system as an option on the CE Series.

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Thomas emphasized that Bendix safety technologies complement safe driving practices, and they 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," he said. "Responsibility for the safe operation of the vehicle remains with the driver at all times."

In addition, Thomas noted, limitations exist in any safety technology, and the driver should become familiar with such systems before getting behind the wheel by reading the operator's manual.

## **Parking Smart**

The Bendix<sup>®</sup> Intellipark<sup>®</sup> Electronic Parking Brake is another technology to help enhance safety and driver convenience. The system helps prevent rollaway crashes by automatically setting the parking brakes when the system interlocks indicate the driver has forgotten to do so.

The system monitors inputs in critical areas – for example, the status of the foot brake, the accelerator pedal, and the wheel speed might be monitored (each OEM application might be different) – to help determine when the driver inadvertently forgot to set the parking brakes and the vehicle should be parked.

"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 park brake 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<sup>®</sup> C2 equipped with a Cummins diesel or Detroit Diesel powertrain and an air brake package, and it comes standard on the Saf-T-Liner<sup>®</sup> C2 Jouley<sup>®</sup> electric bus. Intellipark is available on select IC Bus models, as well.

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 training on their use and maintenance has become even more important to keeping drivers and passengers safe.

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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.

"We will continue to work 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 to help keep their bus passengers safe," Thomas said. "Students and parents across the country are depending on it."

## **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 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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# **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:



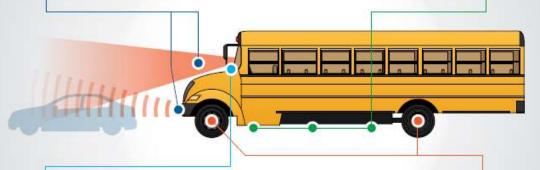
## Autonomous Emergency Braking

- 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.

http://schoolbusfacts.com/benefits/

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