



News Release

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FOR IMMEDIATE RELEASE

**WORKING TOGETHER, BENDIX AND NORTH AMERICA'S SCHOOL BUS
MANUFACTURERS ENHANCE STUDENT TRANSPORTATION SAFETY**

National School Bus Safety Week Emphasizes Awareness of Safer Bus Travel

ELYRIA, Ohio – Oct. 16, 2018 – The good news is that over the last four decades, the average number of annual school bus occupant fatalities in the U.S. has dropped by nearly half – and the better news is that the future holds promise for even further improvement.

As National School Bus Safety Week brings student transportation into the spotlight, Bendix (Bendix Commercial Vehicle Systems LLC and Bendix Spicer Foundation Brake LLC) emphasizes the efforts that vehicle manufacturers and school districts are making together in pursuit of safer school bus transportation for all students.

“From 1975 to 1984, there was an average of 16 school bus occupant fatalities per year in the United States, according to the Federal Motor Carrier Safety Administration (FMCSA) *Large Truck and Bus Crash Facts 2016* report,” said Fred Andersky, Bendix director of customer solutions – Controls Group. “From 2005 to 2016, the average was nine per year. Even with that improvement, though, a single school bus accident is still one too many. Parents and children across North America deserve to feel safe when it comes to riding the bus, and we’ll continue to work to help put drivers and passengers in safer buses every day.”

Taking place this year Oct. 22-26 and sponsored by the National Association for Pupil Transportation (NAPT), National School Bus Safety Week is a public education program promoting school bus safety.

Making Safe Even Safer

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School buses are already the safest form of school transportation – students are about 70 times more likely to arrive to school safely by school bus versus traveling by car, according to the American School Bus Council – and from the wheels up, both current and emerging technologies can help make them even more so.

At the most foundational level, the increasing adoption of air disc brakes means more school buses on the road are benefiting from significantly shorter stopping distances compared to foundation drum brakes, and the passenger car-like feel that provides consistently straight, stable stops and little to no brake fade. (Brake fade is the decrease in performance that occurs when a drum brake heats up, particularly during downhill applications or stop-and-go usage – a common scenario for a school bus route.)

The industry-leading Bendix® ADB22X™ air disc brake has generated positive feedback from school districts equipping it on their buses, and is available from all major school bus manufacturers, including Blue Bird Corporation, IC Bus, and Thomas Built Buses.

School bus builders have also incorporated higher-level driver assistance technologies like full stability, also known as electronic stability control (ESC). The Bendix® ESP® Electronic Stability Program full-stability system utilizes a system of sensors to recognize and 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. Blue Bird was the first North American school bus manufacturer to offer stability technology, making Bendix ESP available as a factory-installed option in 2014; and this year, Navistar's IC Bus made history by naming ESP as a standard feature on its CE Series and RE Series school buses with air brakes.

Andersky noted that the IC Bus action is especially significant because, unlike with tractors and motorcoaches, stability technology is not yet mandated to be standard on school buses. While rare, school buses can lose control and roll over, resulting in potentially devastating consequences.

Full-stability systems like Bendix ESP provide the necessary platform for still more advanced driver assistance systems (ADAS), including collision mitigation technologies such as Bendix® Wingman® Advanced™, along with the company's flagship Bendix® Wingman® Fusion™ technology.

Using a radar sensor mounted to the front of the vehicle, Wingman Advanced delivers active cruise control with braking features, along with collision mitigation technology. The system delivers both warnings and active interventions to help drivers potentially avoid rear-end collisions, or at least help reduce their severity. Wingman® Fusion™ integrates a forward-facing

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camera with the radar and the vehicle's brake system, creating a comprehensive driver assistance program. With a suite of sensors working together, and not just in parallel, Wingman Fusion uses deep, multisystem integration to create a highly detailed and accurate data picture, setting it apart from radar-only systems. The system's camera is powered by the Mobileye System-on-Chip EyeQ processor with state-of-the-art vision algorithms.

This summer, IC Bus made history, becoming the first North American school bus manufacturer to offer collision mitigation technology as a standard feature, spec'ing Bendix® Wingman® Advanced™ on its CE Series and RE Series and offering Wingman Fusion as an option on the CE Series.

"Earlier this year, the National Transportation Safety Board (NTSB) issued a report on two tragic bus crashes in 2016, noting in one case that full-stability technology could have assisted the driver in maintaining vehicle control and mitigated the severity of the crash by reducing the speed of the vehicle," Andersky said. "The report also went on to recommend that the National Highway Traffic Safety Administration require collision avoidance systems and automatic emergency braking technologies on all new school buses, which points to the effectiveness of these systems and the real difference they can make on the roads."

Next Steps

With an expected launch in 2019, the Bendix® Intellipark™ electronic parking brake control continues to build on today's integrated safety systems, helping to prevent rollaway and runaway crashes by automatically setting the brakes if the driver exits the vehicle while it is not parked.

Enhancing driver ergonomics and engineered for use with any air-braked vehicle, including school buses, Intellipark uses interlocks installed in critical areas – the driver's seat, seat belt, or cab door, for instance – to allow the park brake to be released only when an authorized driver is in full control of the vehicle. 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.

Intellipark features an ergonomically improved, driver-friendly interface that replaces the red and yellow push/pull knobs with switches that can be flipped on and off with even a single finger, easing the effort of setting the parking brake. While the switches display the familiar red and yellow symbols, gone is that popping "sting" that air switches deliver when they're pulled. This enhanced design may also help decrease driver fatigue and prevent repetitive motion

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injuries. And the easy-to-read interface, which includes LED lights, helps the driver understand the status of the parking brakes prior to leaving the vehicle or heading out on the road.

“None of these safety technologies will replace or diminish the importance of a safe school bus driver practicing safe driving habits, supported by ongoing, proactive training,” Andersky said. “The goal is not to enable or encourage aggressive driving, but to provide bus drivers – who are responsible for safe vehicle operation at all times – with the best equipment available to help keep their passengers safe on the road. We’re committed to shaping tomorrow’s transportation, and we’re proud to work side-by-side with bus manufacturers to help make that happen.”

The ever-growing portfolio of Bendix commercial vehicle technologies delivers on areas critical to the success of school bus fleets, including safety, vehicle performance and efficiency, and lower total cost of operation. Combined with unparalleled post-sales support, these efforts strengthen return on investment in equipment and technologies that help school districts improve transportation and enhance the safety of school bus drivers, passengers, and those alongside them on North America’s roadways.

About Bendix Commercial Vehicle Systems LLC

Bendix Commercial Vehicle Systems, a member of the Knorr-Bremse Group, 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 3,200 people, Bendix is driven to deliver solutions for improved vehicle safety, performance, and overall operating cost. Contact us at 1-800-AIR-BRAKE (1-800-247-2725) 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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