



News Release

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FOR IMMEDIATE RELEASE
From the Bendix Tech Tips Series

BENDIX TECH TIPS: MAINTAINING ADVANCED DRIVER ASSISTANCE SYSTEMS

*Use These Guidelines to Help Keep Collision Mitigation and Other
ADAS Technologies Operating at Their Best*

AVON, Ohio – Sept. 19, 2023 – Advanced driver assistance system (ADAS) technologies for big rigs are advancing rapidly – and fleets are adopting them in increasing numbers. Forward collision mitigation systems, for instance, assist safe truck drivers to potentially mitigate front-leading collisions, and truck manufacturers are making them standard. Systems like electronic stability control have already been mandated.

Like all other systems on a commercial vehicle, ADAS technologies must be properly maintained to operate most effectively. Improperly maintained systems run the major risk of being unavailable or not operating to their fullest capacity. A system not performing to expectations can also contribute to driver frustration when behind the wheel, hindering acceptance of the technology.

This installment of the Bendix Tech Tips series provides fleets and drivers with advice on maintaining advanced driver assistance technologies and components – including antilock braking and stability systems, cameras, radar, and electronic control modules – so that they provide maximum benefit.

ABS and Stability Matters

“Keep in mind that ADAS technologies are built on the foundation of antilock braking systems (ABS) and electronic stability control (ESC) technologies,” said Fred Andersky, director – demos, sales, and service training at Bendix. “A fault with the ABS system or ESC system – at

Bendix, ESC is known as Electronic Stability Program (ESP) – means that the ADAS system may not be available.”

One ABS concern centers on wheel-speed sensors, which can be susceptible to chassis harness issues such as rubs and chafing, as well as issues occurring when service is done at the wheel-end. The sensor may become nonfunctional, a wire may be severed, or a sensor is not close enough to the tone ring.

For stability control, an issue that may arise can be the steering angle sensor falling out of calibration. This can sometimes happen after a front-end alignment, so it’s important to calibrate the sensor after any work done on the front end.

Another stability control issue is rare but does occur: the incorrect placement of a lateral acceleration/yaw rate sensor after work on the frame rail or chassis modifications. If this sensor is moved or not returned to the correct orientation, then a fault may result with the stability control system.

“Sometimes systems can show a diagnostic trouble code (DTC), and a simple key cycle of the ignition key – done off road in a safe area – can clear it,” said Brian Screeton, manager – technical training and service at Bendix. “DTCs like this can be caused by road conditions or the terrain that the vehicle is operating in. It’s always important to first try and clear the DTC by restarting the vehicle. If it returns after restarting, the vehicle should be taken to a qualified repair facility immediately.”

Potential Camera Issues

Although other conditions can occur, camera issues, when or if they occur, may tie to camera placement, blindness, or the chassis wiring harness, Andersky said. First, ensure the camera is plugged in and connected. Then consider the following:

- If the windshield is replaced, then the camera needs to be installed using the correct bracket in the original OEM installation location to ensure proper function.
- Camera blindness is usually a temporary, self-correcting occurrence possibly due to sun and/or fog. However, if the camera is blocked by something – like a large bug or a piece of tape – then this will also cause a problem.
- As with other vehicle systems, chassis wires that are frayed, cut, or improperly repaired may create issues with the camera. Always check the chassis harness first for non-obvious issues.

For any repairs associated with potential camera issues, Screeton advises following the procedure in the corresponding Bendix service data sheet, searchable at [B2Bendix.com](https://www.B2Bendix.com).

Potential Radar Issues

“Some radar issues, if they occur, can be caused by sensor misalignment, vehicle wiring, or active DTCs in other components of the vehicle – like the engine, for example,” Screeton said. “Modern or next-generation radars are better at adjusting to minor sensor alignment issues than the radars on earlier advanced driver assistance systems.”

Screeton added, “All radar issues should be evaluated by a trained professional to ensure that the system is functioning properly.”

Radar misalignment means that the radar is not pointing in the right direction. This is due usually to improper installation after a repair or after a collision with something that strikes the radar or its mounting. For Bendix, realigning the radar involves following the procedure in the corresponding Bendix service data sheet, searchable at [B2Bendix.com](https://www.B2Bendix.com). Be sure to also check the bracket for damage and the mounting surface on the chassis. The appropriate repair or replacement of these components may assist in ensuring proper radar alignment is maintained.

“Since the radar is on the front of the vehicle, the connector can be exposed to all sorts of chemicals, especially in climates where snow and ice require salt, sand, or other substances to help maintain traction,” Screeton said. “Checking to ensure the connector is properly covered, sealed, and secured will help minimize the corrosion that may occur from repeated exposure to road chemicals.”

Lastly, radars are designed to detect when they can’t see the environment properly. This functionality is typically referred to as radar blindness, which may occur if the radar doesn’t see a valid object for a certain amount of time. Inactivity can cause the radar to “sleep.” This might happen on long stretches of highway where other vehicles and radar targets are nonexistent. Typically, an ignition key cycle will reset the radar and the system will resume.

Software and ECM Issues

It is possible that when improperly installed or incompatible aftermarket components are added that use the vehicle’s J1939 datalink network, issues with Bendix systems can result.

Frequently, connectors and connection types are the reason. However, issues involving aftermarket component compatibility also create communication concerns. A chassis wire that has rubbed on a metal piece creating a shorted or an open circuit is not to be overlooked – it typically leads to the inability to connect to the component for diagnostics since diagnostics is performed using the same 1939 CAN communication lines.

Important: If the engine electronic control module (ECM) is replaced, then the replacement ECM must be correct for the truck. Bendix’s stability control ECUs require a match to the VIN to ensure the proper parameters are uploaded for the system.

Frequency and Tools

“Every driver should carefully review the operator’s manual to ensure they are aware of the ADAS system alerts and notifications expected during operation,” Andersky said. “This is especially important to make sure the driver knows how the system is supposed to operate so they can better understand if or when something isn’t working properly.”

Screeton points out the importance of having a diagnostic tool that shows the DTCs of the full vehicle. The diagnostic software for Bendix systems is Bendix® ACom® PRO™. When connected to a vehicle, the software automatically detects and gathers active and inactive DTCs from all Bendix electronic control units on the vehicle, as well as key vehicle ECUs, like the engine and transmission.

Training is available for technicians. Bendix offers three- and two-day Brake School sessions, along with virtual classes and the Bendix On-Line Brake School at brake-school.com to help technicians better understand, troubleshoot, and repair systems. The On-Line Brake School features more than 20 ACom PRO training videos and over 80 product and system training videos. These courses are accessible for no charge when users register with the site.

“Remember that these systems, like the vehicles they are on, can be unique, and one-size-fits-all training isn’t going to be as helpful as training focused on repairing the specific system of concern,” Andersky said.

Screeton noted also that the issues described in this installment of Tech Tips are not meant to exhaustively cover what can occur with ADAS technologies, nor applicable to all technologies on all vehicles. The content refers to Bendix® advanced driver assistance systems, not autonomous vehicle systems or systems offered by other companies. Information regarding system repairs for specific systems should be referenced to ensure proper repair, maintenance, and operation of the system.

Bendix safety technologies complement safe driving practices. 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.

Information from the Bendix Tech Tips series can be found in the Bendix multimedia center at knowledge-dock.com. Support is also available by calling the Bendix Tech Team at 1-800-AIR-BRAKE.

About the Bendix Tech Tips Series

Bendix, the North American leader in the development and manufacture of leading-edge active safety, air management, and braking system technologies, is committed to helping keep commercial vehicles on the road and in

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good working condition. The Bendix Tech Tips series addresses common commercial vehicle maintenance questions and issues concerning the total range of components found within foundation and air brake systems, as well as advanced safety systems.

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](https://www.bendix.com). Stay connected and informed through Bendix expert podcasts, blog posts, videos, and other resources at [knowledge-dock.com](https://www.knowledge-dock.com). Follow Bendix on X, formerly known as Twitter, at twitter.com/Bendix_CVS. Log on and learn from the Bendix experts at [brake-school.com](https://www.brake-school.com). And to learn more about career opportunities at Bendix, visit [bendix.com/careers](https://www.bendix.com/careers).

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