

24E086 Chronology

As a part of an ongoing review of its EC80 Electronic Control Unit (ECU), in mid-September 2024, Bendix learned that in the presence of high electrical noise and low Power Line Carrier (PLC) signal strength, the EC80 may incorrectly process certain signals sent between the truck tractor and the trailer or other towed vehicle. If this occurs, the EC80 may set an ABS ECU fault or may stop operating. Data indicated that the issue only impacts trucks that tow other vehicles and non-tow applications are not affected. The data also indicated that trucks towing multiple trailers (e.g. double and triple trailers) were more likely to exhibit the combination of high levels of electrical noise and low PLC signal strength and the use of optional third-party applications, such as trailer-based tracking systems, further reduced the strength of the signal. Up to this point, Bendix had been evaluating the EC80 performance with a view towards improving the system's response to high electrical noise and low signal strength via a software update. Bendix had been producing the systems for years without issue. While rare overall, beginning in 2023, Bendix began to receive a small but increasing number of reports of issues with the performance of the ABS system from vehicles in the field. These reports did not show a consistent set of effects on the vehicle, and while an impact on signal strength was suspected, it was not evident that there was a definitive connection to noise or signal strength on the PLC at that time. Bendix also reviewed a technical service bulletin from a competitor product that described what appeared to be the same situation involving excessive noise on the PLC and which the competitor addressed through a product update. Further complicating Bendix's investigation of the issue was that each version, configuration and part number of EC80 software can have a different memory map, so that there are differing effects (or no effects at all) on the vehicle in the event of high noise and low signal strength on the PLC.

In late September 2024, Bendix identified the possibility that for one particular system configuration (EC80 ROM 5.2), in extremely rare situations before the system faults or stops operating, if there is a stability event (ESC) or an automated braking request (ACC), the system may respond incorrectly to the event. Following this indication, Bendix reevaluated its warranty data and technical call center logs for further information. Bendix also reviewed stored fault codes for systems previously reporting an issue and did not find any stored EC80 fault that indicated that the ABS system had stopped functioning, even though other various stored faults were present some of which incorrectly suggested that vehicle maintenance was needed, or service was due.

Following this finding, on October 8, 2024, Bendix decided to conduct a safety recall for one EC80 configuration and on October 11, 2024, Bendix decided to conduct a safety recall for other EC80 configurations. Bendix is continuing to evaluate the effects of signal noise on the PLC with other EC80 configurations and will update its report as appropriate. Bendix is aware of 56 warranty cases involving the EC80 potentially related to this issue.