

Technical Bulletin



Bulletin No: TCH-013-032

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Subject: **Bendix® TABS-6™ Advanced Multi-Channel Trailer ABS: Troubleshooting “Battery Cable High Resistance Check” Diagnostic Trouble Codes (DTCs)**

This document will assist technicians when troubleshooting Bendix® TABS-6™ Advanced Multi-Channel Trailer Antilock Braking Systems (ABS) modules, with a “Battery Cable High Resistance Check” (internal code 0x0900) Diagnostic Trouble Code (DTC). The DTC causes a permanently illuminated trailer ABS lamp until the DTC is cleared.

This DTC may also appear when installing a new module and performing the End-of-Line (EOL) test, a circumstance in which the DTC will not allow you to complete the EOL test.

This DTC is triggered during the EOL test when the ABS module performs a chuff test during the power on sequence. During the chuff test the module fires (activates) the solenoids and monitors the power to calculate if there is enough power available to operate the module during an ABS or roll stability event. If the module detects a low voltage condition, an excessive voltage drop, or a calculated high resistance value, the Battery Cable High Resistance Check fault will activate.

The following Bendix part numbers are covered by this bulletin:

K152179, K152180, K152183, K152184, K152185, K152188, K152190, K152192, K152193, K152290, K152291, K152292, K152293, K152294, K152295, K171302, K171303, K151196, K151197, K190759, K191500, K201620

This document covers the potential causes for this DTC, and the troubleshooting steps to follow.

As a first step, cycle the power to the module to see if the DTC clears. Next, ensure all harness power connections are fully seated. If appropriate, ensure the power supply - or light checking machine - is plugged in to the AC supply. If these steps are not successful in clearing the DTC, proceed to the following steps.



BENDIX® TABS-6™ ADVANCED MULTI-CHANNEL MODULE (TABS-6.1 ADV MC)

To evaluate if the DTC was generated by a low voltage condition or excessive voltage drop, check the following:

- A. Tractor power supply** – If the DTC appears while the module is powered by the tractor’s power supply, verify that the tractor’s engine is running. **NOTE:** If the keys are in the ignition, but the tractor’s engine is not running, the tractor’s battery may not provide enough power to withstand the module’s power demands during the chuff test.
- B. Independent power supply** – If an independent power supply is used to power up the module, the power supply should be capable of providing at least 30 Amps to clear the DTC. If the power supply is not capable of providing 30 Amps, it may not be enough, and the DTC will remain active.
- C. Using a battery as an independent power supply** – If using a battery as an independent power supply, ensure that the battery is in a good state with a full charge. If the battery is not in a good state, it will not be capable to withstand the initial chuff test power demand without faulting. If the battery is not fully charged, or you are unsure as to the state of the battery, connect the battery to a battery charger. While the battery may be capable of powering up a module a couple of times without causing a DTC, connecting to a battery charger will help to avoid issues with low voltage or excessive voltage drops.

To evaluate if the Diagnostic Trouble Code (DTC) was generated by a high resistance, check the following:

D. Clean the connector pins – Clean both the Bendix® TABS-6™ Advanced module and the power harness connector pins to reduce the electrical resistance generated by any debris or corrosion on the pins. If the corrosion level is such that it can not be removed to provide a good connection, the component exhibiting the corrosion should be replaced.

E. Verify the power harness integrity –

- Verify that the power harness cable is in good shape—without any repairs or shorts to ground (trailer chassis) that may cause an increase in the power harness resistance. If such repairs or shorts are present, a power harness cable change is recommended.
- Verify the power harness, from the nose box to the trailer ABS module, does not exhibit a high resistance. Use a multimeter to measure

the resistance of the ignition (blue) and ground (white) lines, between the nose box and the power connector that plugs into the ABS module. Typical values of resistance for power lines on a single trailer is 0.3Ω (Ohms) or less. Investigate the cause of the high resistance (i.e. too many connections or under gauge cable) and correct. **NOTE:** Bypass the installed power harness to verify it is the cause of the DTC. Bypass the harness by connecting the ABS module to a new power harness not physically installed on the trailer then power up the module to see if the DTC clears. If the DTC clears, it is likely that the power harness on the trailer is causing the DTC; If the DTC does not clear, it is likely the ABS module causing the DTC.

If the DTC persists, please document the troubleshooting steps performed and contact the Bendix Tech Team by email at techteam@bendix.com or by phone at 1-800-AIR-BRAKE (1-800-247-2725), option 2. The Bendix Tech Team is available Monday through Thursday, 8:00 a.m. to 6:00 p.m., and Friday, 8:00 a.m. to 5:00 p.m. ET.

Background

The Bendix® TABS-6™ Advanced MC module is an integrated multi-channel (4S/2M) trailer service brake module controller for air-braked heavy-duty semi-trailers that features Bendix® Antilock Brake System (ABS) and Bendix® Trailer Roll Stability Program (TRSP®).

Installed on semi-trailers, the module acts as a relay valve during normal braking, but during ABS events it will intervene to help maintain vehicle stability and minimize stopping distance by preventing wheel lock-up. The Bendix TRSP system monitors the trailer's motion and reduces the risk of rollovers by automatically applying the brakes when a risk of rollover is detected.

Reference:

Service Data Sheet:

Bendix® TABS-6™ Advanced Trailer ABS Module SD-13-47672.

Software:

Downloads of Bendix® ACom® PRO™ Diagnostic Software are available on bendix.com.

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