Technical Bulletin

Bulletin No: TCH-013-024 Effective Date: October 25, 2013 Cancels: NA Page: 1 of 2

Subject: **Bendix® TABS-6™ Advanced Single-Channel Trailer ABS: Troubleshooting "Internal Lateral Acceleration Sensor - Mounting Error" Diagnostic Trouble Codes**

The purpose of this Bulletin is to assist technicians when troubleshooting Bendix® TABS-6™ Advanced single-channel trailer ABS modules, where an "Internal Lateral Acceleration Sensor - Mounting Error" (internal code 14D00, or SID-FMI 99-14, or blink code 8-1), is causing an illuminated trailer ABS lamp.

P/Ns K027233, K029053, K027235, K032041, K032042, K027241, K035805, K032108, K041383, and K065528.

This Bulletin covers the potential causes for this DTC.

A1. Check the orientation of the Electronic Control Unit (ECU) installation.

Each Bendix TABS-6 Advanced ECU comes preconfigured for a certain orientation. Use the Bendix® ACom® Diagnostics software [free software downloads are available at www.bendix.com] to view the current configured orientation of the ECU on the Controller Configuration screen. Then use Figure 1 below to verify if the TABS-6 Advanced ECU is installed as configured.

- ***If the configuration matches, go to B.***

A2. If the configured orientation does not match the physical orientation, use the Bendix ACom diagnostic software to:

- change the configured orientation to match the installation;
- verify that the speed sensors are installed correctly for this configured orientation *(see Figure 1)*; and
- perform an End-of-Line Test (EOL Test) using the software or a Bendix® Trailer Information Module™.

Recheck for any remaining DTCs and return the vehicle to service.

B. Check if the wheel speed sensors 'SC' and 'SD' are swapped

This DTC is caused by the ECU comparing the difference in wheel speed readings between the left and right wheel speed sensors to cross-check with the on-board lateral accelerometer. Reversed sensors can cause a DTC to falsely trigger. Wheel speed sensors 'SC' and 'SD' locations are ECU-orientation specific *(See Figure 1)*.

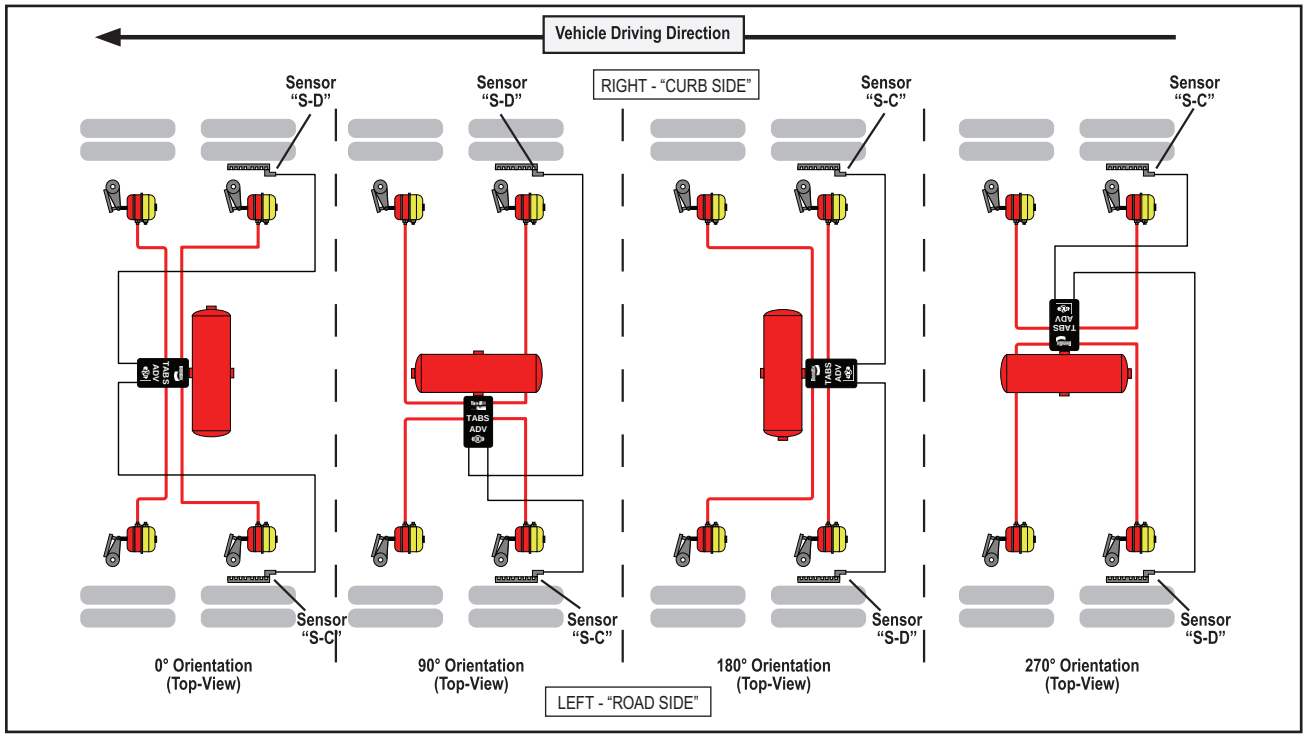

FIGURE 1 - *BENDIX® TABS-6™ ADV MODULE ORIENTATION & WHEEL SPEED SENSOR LOCATIONS*

Make any needed changes, and then use the Bendix® ACom® Diagnostics software to run the Bendix® TABS-6™ Advanced End-of-Line Test (EOL Test) and recheck for any other remaining DTCs before returning the vehicle to service.

C. If Sections A and/or B have not solved the problem, update the ECU firmware

New versions of ECU firmware with improved diagnostics may be available; contact your Bendix Tech Team representative for available "update packages" at 1-800-AIR-BRAKE (1-800-247-2725), option 2. Where one of the packages is available, the new firmware can be downloaded to the ECU using Bendix ACom Diagnostic software. Enable "update packages" in Bendix ACom Diagnostic software and install at least one update package on the PC.

Note: Bendix TABS-6 Advanced update packages are only able to be programmed into the ABS module using the SAE J1939 interface. Contact your Bendix representative to find out more about update packages.

FIGURE 2 - ***TABS-6 ADVANCED SINGLE-CHANNEL MODULE (TABS-6 ADV)***

Background

The Bendix TABS-6 Advanced module is an integrated single channel trailer ABS/TRSP controller and modulator for air-braked heavy-duty trailers and semi-trailers. The module acts as a relay valve during normal braking, but during ABS events, it will intervene to help improve lateral stability during braking. It can also autonomously apply brakes when it detects a potential roll over condition. All modules include an Electronic Control Unit (ECU) and Modulator Relay Valve which are integrated into a single self-contained 2S/1M (two sensor, one modulator) trailer ABS/TRSP unit.

The TABS-6 Advanced cross checks the on-board lateral acceleration sensor reading with a lateral acceleration calculated value based on vehicle track width, programmed orientation and wheel speed sensor differences (left to right). If the two values do not correspond to each other within predefined limits the lateral Diagnostic Trouble Code is set. Any of the items used to calculate lateral acceleration (speed sensor readings, programmed track width and programmed orientation) if incorrect can cause a false detection of this DTC.

Reference:

Service Data Sheet:

Bendix® TABS-6 Advanced Trailer ABS Module SD-13-47671

Software:

Free downloads of Bendix ACom Diagnostic Software are available on www.bendix.com. Alternatively, visit the Literature Center on www.bendix.com and order a CD (BW2329).