

# SERVICE BULLETIN

UTILITY TRAILER MANUFACTURING CO.



## SB-08-162

Issue date: July 18, 2012

### Bendix TABS-6 TroubleShooting Guide

Bendix has developed the attached TroubleShooting Guide to provide an easy to follow method of isolating and correcting problems on the TABS-6 ABS Controller.

**Please explore Bendix's [website](#) for more information & other tools.**

Any other questions regarding this service bulletin should be directed to Utility's Field Service Department at 800-423-6591.

Field Service Department  
UTILITY TRAILER MANUFACTURING COMPANY

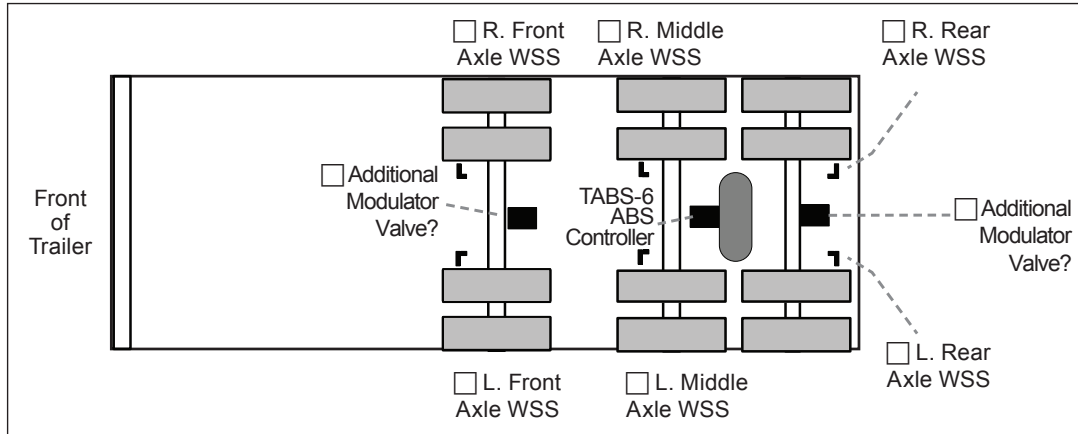
Attachment: 4 pages

Utility hasn't independently evaluated the information contained in the attached technical bulletin; it is making the bulletin available as a convenience and for information purposes. You are encouraged to contact Bendix (800) AIR BRAKE if you have any questions concerning the content of the document, or how these issues affect trailers you are servicing.



# Bendix® TABS-6™ Standard and Premium Trailer ABS Controller Checklist

• This checklist only takes a few minutes.  
Follow all General Safety Guidelines (see back page.)



## Step 1 What equipment does the trailer have?

Record the total of checked boxes: \_\_\_\_\_ Wheel Speed Sensors (WSSs), \_\_\_\_\_ Modulator Valves (MVs).

## Step 2 What Blink Code (BC) numbers are shown as active or intermittent?

We recommend that you use a PC/laptop with associated RP1210 harnesses, etc. to connect to the trailer. The computer will need the Bendix® ACom® Diagnostics software (version 6.5 and above). (For a free software download of Bendix ACom Diagnostics, visit [www.bendix.com](http://www.bendix.com).) Look up active and recurring/intermittent Diagnostic Trouble Codes (DTCs) and their equivalent BCs.

Record the active and recurring/intermittent BCs found using ACom Diagnostics here: \_\_\_\_\_

If a PC with ACom Diagnostics is not available, read the box below.

### How to retrieve active DTCs, when ACom Diagnostics is not available:

1. Wait at least two seconds after switching the ignition ON.
  2. Depress and release the stop lamp switch (or the brake pedal) three (3) times within 15 seconds after switching the ignition ON.
  3. After a pause of five (5) seconds, the ECU will begin responding with active Blink Codes (BCs).
- For example, seven blinks... pause... two blinks = 7-2. There is a long pause before any further BCs.

To Obtain Inactive DTCs — Switch off and re-apply the ignition power. Then depress and release the stop lamp switch (or the brake pedal) four (4) times within 15 seconds to display the BCs of all of the inactive diagnostic trouble codes.

Record the active and recurring/intermittent BCs found here: \_\_\_\_\_

## Step 3 For each BC, use the table to the right and find the recommended action code to use.

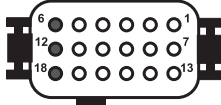
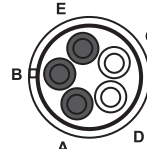
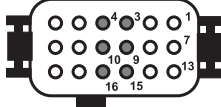
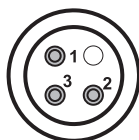
Open this document and follow the troubleshooting checks for that code. The actions shown will typically resolve the issue.

See the Service Data Sheet for complete troubleshooting information, and for any other BCs not listed. Only go to Step 4 in cases where the troubleshooting suggested, and any actions the technical help line(s) recommend, do not resolve the issue.

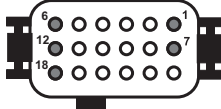
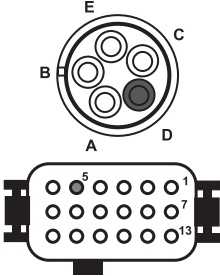
Blink Codes (BC)		Equivalent Diagnostic Trouble Codes (DTCs)		Description	Open This Document and Take the Action Code Shown Below
1st code	2nd code	SID code	FMI code		
2	1-4	1	0-5	SL WSS Signal	A
3	1-4	2	0-5	SR WSS Signal	
4	1-4, 6	3	0-5, 13	SAL WSS Signal	
5	1-4, 6	4	0-5, 13	SAR WSS Signal	
2	5	1	13	SL Tire Configuration	B
3	5	2	13	SR Tire Configuration	
4	5	3	13	SAL Tire Configuration	
5	5	4	13	SAR Tire Configuration	
6	Any	251	3, 4, 13	Power	C
7	Any	42	3, 4, 5, 6, 12	Modulator 1 DTC	D
8	1-3	43	3, 4, 5, 6, 12	Modulator 2 DTC	
9	1-3	44	3, 4, 5, 6, 12	Modulator 3 DTC	
8	4	8	13	Modulator 2 Configuration Error	E
9	4	9	13	Modulator 3 Configuration Error	
10	Any	1-7, 7-4, 7-7, 9-4		Modulator Common	F
11	Any	254	12, 13	Electronic Control Unit (ECU)	G
12	Any	250	3, 4, 5, 12	J1587 Diagnostic	H
13	Any	81	3, 4, 5, 12	Trailer-Mounted ABS Indicator Lamp	J

**Bendix Technical Help Line:** 1-800-AIR-BRAKE (1-800-247-2725), option 2-1, Mon. - Fri., 8 a.m. - 6 p.m. ET.

## Take Action Recommended in Step 3

Action Code	Troubleshooting Checks To Make First		Then Do This
<b>A</b>	<div><input type="checkbox"/> Verify that the number of WSSs found in Step 1 match the stored configuration</div> <div><input type="checkbox"/> Verify that the sensor wiring has no visible damage or has no shorts to ground or battery</div> <div><input type="checkbox"/> Verify proper tire inflation</div> <div><input type="checkbox"/> Check that the WSS's face is touching the exciter ring/tone ring face</div> <div><input type="checkbox"/> Verify 950-1950 ohms across sensor leads. Reading: ..... ohms*,</div> <div><input type="checkbox"/> While turning the wheel at 0.5 revs/sec, verify a minimum of 0.25 AC volts across the sensor leads. Reading: ..... volts*</div> <div>* Out of range? – go to the Bendix BW2453 WSS inspection guide</div>		<div><div>• Clear the Blink Codes (BCs)</div><div>• Is the same BC back?</div></div> <div><input type="checkbox"/> Yes – see the Service Data sheet Troubleshooting section and/or contact the Bendix Tech Team</div> <div><input type="checkbox"/> No – follow the actions above for any other remaining BCs</div>
<b>B</b>	<div><input type="checkbox"/> Verify correct tire size as desired</div> <div><input type="checkbox"/> Verify proper tire inflation</div> <div><input type="checkbox"/> Verify correct number of exciter ring teeth, on both sides of the axle</div> <div><input type="checkbox"/> Verify that the ECU has the proper tire size settings</div>		
<b>C</b>	<div><input type="checkbox"/> Verify that the wiring and connections are free from damage</div> <div><input type="checkbox"/> With ignition power to the trailer, measure voltage between the Ignition Power pin and the Ground pin of the ECU harness connector. Repeat voltage measurement with Brake Lamp Power pin and Ground pin of the ECU harness connector. The operating range of the module is 8.0-16.0 VDC. Verify that voltage measurements are equal to vehicle voltage at both ends of the harness.</div> <div>Readings:</div> <div>Ignition pin _____ Vdc</div> <div>Brake Lamp Power pin _____ Vdc</div> <div>(Incorrect? Then investigate the harnesses and connectors)</div> <div><input type="checkbox"/> If the proper voltage is measured at the ECU harness connector, and no corrosion or damage is found on the wiring connectors or ECU, then replace the module. <b>Go to Step 4.</b></div>	<div>Looking into the system's main ECU wire harness 18-Pin connector (Bendix® TABS-6 Premium)</div> <div></div> <div>Pin 6 (Ignition Power), Pin 12 (Brake Lamp Power), Pin 18 (Ground)</div>	
		<div>Looking into the system's main ECU wire harness 5-Pin Connector (TABS-6 Standard)</div> <div></div> <div>Pin B (Ignition Power) Pin A (Brake Lamp Power) Pin E (Ground)</div>	
<b>D</b>	<div><input type="checkbox"/> If the BC is 7-1 or 7-2, clear the active BC and cycle the power. Check the BC again, and if the same code is returned, replace the module. <b>Go to Step 4.</b></div> <div><input type="checkbox"/> Check the following pins if the system is equipped with more than one modulator (Bendix TABS-6 Premium ECU only):</div> <div><div>• 3.0 to 8.0 Ohms across the Hold/Common connector pins</div><div>• 3.0 to 8.0 Ohms across the Exhaust/Common pins</div><div>• 6.0 to 16.0 Ohms across the Hold/Exhaust pins</div><div>• No continuity should be measured from any modulator pin to ground</div><div>• Vbat is not measured from any modulator connector pin</div><div>• Modulator/connector wiring and pins should not be damaged or corroded</div></div>	<div>(Looking into the wire harness connector) 18-Pin Connector (TABS-6 Premium)</div> <div></div> <div>Pin 3 is MOD2 Common, Pin 4 is MOD3 Common Pin 9 is MOD2 exhaust, Pin 10 is MOD3 exhaust Pin 15 is MOD2 Hold, Pin 16 is MOD3 Hold</div>	
		<div>Looking into Modulator Connector Pins:</div> <div></div> <div>Pin 1 (Release), Pin 2 (Common) Pin 3 (Hold)</div>	
<b>E</b>	<div><input type="checkbox"/> Verify the correct ABS configuration using blink codes or other diagnostic tool(s).</div> <div>If needed, reset to the default ABS configuration and power-up to initiate an auto-configuration.</div>		

## Take Action Recommended in Step 3

Action Code	Troubleshooting Checks To Make First		Then Do This
F	<div><input type="checkbox"/> Check the modulator wiring and also look for corrosion of its connector pins</div> <div><input type="checkbox"/> At the modulator harness, no continuity should be measured from any modulator pin to ground.</div> <div><input type="checkbox"/> Vbat is not measured from any modulator connector pin</div> <div><input type="checkbox"/> Verify proper modulator-valve activation (during the system start-up Chuff Test) with brake pressure applied at power-up and/or using diagnostic tool. The wiring to the modulator may be reversed</div> <div><input type="checkbox"/> Refer to Action A and check for proper function and configuration of the WSS</div>		<div><div><input type="checkbox"/> Clear the Blink Codes (BCs)</div><div><input type="checkbox"/> Is the same BC back?</div><div><input type="checkbox"/> Yes – see the <i>Service Data sheet Troubleshooting section and/or contact the Bendix Tech Team</i></div><div><input type="checkbox"/> No – follow the actions above for any other remaining BCs</div></div>
G	<div><input type="checkbox"/> For a code of <b>11-1</b>, check for damaged or corroded connectors and wiring. Clear DTCs if no problems are found. If a DTC returns upon ignition ON, replace the module. <b>Go to Step 4.</b></div> <div><input type="checkbox"/> For a code of <b>11-2</b>, verify correct ABS configuration using blink codes or other diagnostic tool(s).</div> <div><input type="checkbox"/> If needed, reset the default ABS configuration and power-up to initiate auto-configuration. See <i>Action E</i>.</div>		
H	<div><input type="checkbox"/> Check for corroded/damaged wiring or connectors between the ECU and J1587 Diagnostic</div> <div><input type="checkbox"/> Verify the following at the 18-pin ECU harness connector:<div><div>+12V is not measured at the J1587 Diagnostic pins</div><div>No continuity of the J1587 diagnostic pins to ground</div><div>No continuity of the J1587 diagnostic pins to any other ECU pin(s)</div></div></div> <div><input type="checkbox"/> Verify the following at the J1587 4-pin Diagnostic connector:<div><div>+12V is not measured at J1587 Diagnostic pins.</div><div>No continuity of the J1587 diagnostic pins to ground</div><div>No continuity of the J1587 diagnostic pins to any other ECU pin(s)</div><div>Replace/repair J1587 Diagnostic wiring or components as required</div></div></div>	<div><div>Looking into Premium TABS-6 Module Wire Harness, ECU Connector Measure:</div><div>Pin 6 (Ignition Power), Pin 18 (ground) and Pin 12 (Brake Light Power) to Pin 1 (J1587+) and Pin 7 (J1587-)</div></div>	
J	<div><input type="checkbox"/> Check for corroded/damaged wiring or connectors between the ECU and the ABS indicator lamp.</div> <div>At the ECU harness connector [Pin D of the 5-pin, or Pin 5 of the 18-pin], verify the following:<div><div>Continuity of the ABS indicator lamp wiring to the lamp (auxiliary device)</div><div>+12V is not measured at ABS indicator lamp lead</div></div></div> <div>Verify the following at the ABS indicator lamp lead:<div><div>No continuity of the ABS indicator lamp lead to ground</div><div>No continuity from the ABS indicator lamp lead to any other ECU pin(s)</div><div>Replace/repair the ABS indicator lamp wiring or components as required</div></div></div>	<div></div>	

### Reference Documents - Bendix® Service Data sheets:

SD-13-4767 (Bendix® TABS-6™ Trailer ABS Module standard & premium controllers.)

Visit [www.bendix.com](http://www.bendix.com) for free downloads of Service Data Sheets, Warranty Policies, or to download/order copies of the SD sheets

## Step 4

(If necessary)

Replace the ECU. If it is still under warranty coverage, file a claim and include:

a) the returned part; b) a copy of this document; and c) a print-out of the Bendix® ACom® Diagnostics report.

VIN #: \_\_\_\_\_ Claim #: \_\_\_\_\_

Vehicle Make: \_\_\_\_\_ Model: \_\_\_\_\_ Mileage: \_\_\_\_\_

To Reset the DTCs Using a Bendix® TRDU™	To Reset the DTCs Using Bendix® ACom® Diagnostics	Alternate Method to Reset the DTCs
<ul style="list-style-type: none"> <li>• Reset Diagnostic Trouble Codes by holding a magnet over the reset of the Bendix® Trailer Remote Diagnostic Unit (TRDU™) tool for less than 6 seconds.</li> </ul>	<ul style="list-style-type: none"> <li>• Use the Reset Diagnostic Codes feature.</li> </ul>	<ul style="list-style-type: none"> <li>• Depress and release the stop lamp switch (or brake pedal) five (5) times within 15 seconds of switching the ignition ON to reset the diagnostic trouble codes. There will be a BC of 1-1 will be displayed if all trouble codes were cleared but if any trouble codes remain the ABS light will remain on.</li> </ul>

## GENERAL SAFETY GUIDELINES

### **⚠ WARNING! PLEASE READ AND FOLLOW THESE INSTRUCTIONS TO AVOID PERSONAL INJURY OR DEATH:**

When working on or around a vehicle, the following general precautions should be observed at all times:

1. Park the vehicle on a level surface, apply the parking brakes, and always block the wheels. Always wear safety glasses.
2. Stop the engine and remove ignition key when working under or around the vehicle. When working in the engine compartment, the engine should be shut off and the ignition key should be removed. Where circumstances require that the engine be in operation, **EXTREME CAUTION** should be used to prevent personal injury resulting from contact with moving, rotating, leaking, heated or electrically charged components.
3. Do not attempt to install, remove, disassemble or assemble a component until you have read and thoroughly understand the recommended procedures. Use only the proper tools and observe all precautions pertaining to use of those tools.
4. If the work is being performed on the vehicle's air brake system, or any auxiliary pressurized air systems, make certain to drain the air pressure from all reservoirs before beginning **ANY** work on the vehicle. If the vehicle is equipped with a Bendix® AD-IS® air dryer system or a dryer reservoir module, be sure to drain the purge reservoir.
5. Following the vehicle manufacturer's recommended procedures, deactivate the electrical system in a manner that safely removes all electrical power from the vehicle.
6. Never exceed manufacturer's recommended pressures.
7. Never connect or disconnect a hose or line containing pressure; it may whip. Never remove a component or plug unless you are certain all system pressure has been depleted.
8. Use only genuine Bendix® brand replacement parts, components and kits. Replacement hardware, tubing, hose, fittings, etc. must be of equivalent size, type and strength as original equipment and be designed specifically for such applications and systems.
9. Components with stripped threads or damaged parts should be replaced rather than repaired. Do not attempt repairs requiring machining or welding unless specifically stated and approved by the vehicle and component manufacturer.
10. Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.
11. For vehicles with Automatic Traction Control (ATC), the ATC function must be disabled (ATC indicator lamp should be ON) prior to performing any vehicle maintenance where one or more wheels on a drive axle are lifted off the ground and moving.

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