

*NEXIQ Brake-Link™
Wabash National®
ABS Application
Operator's Manual*



NEXIQ Brake-Link™ Wabash National® ABS Application

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Chapter 1

Getting Started



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- ▼ *Safety Warnings & Cautions, page 3*
- ▼ *Using this Manual, page 4*
- ▼ *Connecting Components, page 5*
- ▼ *Navigating Wabash National® ABS Application, page 8*

Brake-Link™ is a hand-held diagnostic tool primarily designed to troubleshoot heavy-duty vehicle anti-lock braking systems (ABS). It also provides a variety of utilities and configuration options. As such, the documentation includes a set of task-oriented operator's manuals; *this manual* details the **Wabash National® ABS Application** used to diagnose MBS-1®P and MBS-2® Trailer brake systems.

Getting Started

NEXIQ Brake-Link™ is a multi-faceted, hand-held, brake system diagnostic tool that offers a variety of utilities, diagnostic applications and configuration options.



Figure 1.1 NEXIQ Brake-Link™

Component connection procedures and navigation vary depending on the utility or application you're using. Since this manual details the **NEXIQ Brake-Link™ Wabash National®** ABS Application, the connection and navigation sections are specific to the Wabash National® ABS Application.

Refer to the:



Introducing Brake-Link™ Operator's Manual for:

- a list of safety warnings and cautions
- an overview of the documentation
- a formal introduction to Brake-Link™
- *general* connection instructions
- *general* navigation information
- **GENERIC PLC TEST** and **RP1210A PC LINK** option details
- warranty and service information



The manufacturer-specific application **Brake-Link™** manual for the controller you're testing.



Safety Warnings & Cautions

To protect yourself from injury and the test vehicle from damage:

- ✓ Always wear approved eye protection.
- ✓ Always refer to and follow the vehicle manufacturer's WARNINGS, CAUTIONS and service procedures.
- ✓ Exhaust gas contains deadly poison. Always test outdoors *or* use properly vented exhaust hose.
- ✓ Keep yourself and your test equipment clear of all moving or hot engine parts.
- ✓ Unless otherwise noted, set the parking brake and place the gear selector in the NEUTRAL or PARK position. If the vehicle has an automatic parking brake release, temporarily disconnect the release mechanism. Also, block the drive wheels before performing a test with the engine running.
- ✓ Unless otherwise directed, turn the ignition switch OFF before disconnecting or connecting any electrical components.
- ✓ Read and understand this manual before operating your NEXIQ Brake-Link™.
- ✓ NEXIQ Technologies recommends having an assistant drive the vehicle while you use the NEXIQ Brake-Link™ to perform vehicle road testing.
- ✓ Never leave the vehicle unattended while testing.



Certain Electro-Static Discharge (ESD) and/or Electrical Fast Transient (EFT) events may lock up the NEXIQ Brake-Link™. Disconnect the NEXIQ Brake-Link™ from the power source and re-connect to regain full operation.

Using this Manual

This manual contains comprehensive information to teach you how to use the Wabash National® ABS Application. It also provides the following features to support quick reference once you're familiar with the application.

- A detailed *Table of Contents* to help you find exactly what you're looking for quickly and easily
- *All-inclusive discussions* to minimize referencing other sections
- *Comprehensive illustrations* to help you visualize concepts
- *Troubleshooting Tips* to help you solve or avoid common issues

Additionally, each chapter begins with an “at-a-glance” list of the chapter’s contents, along with corresponding page numbers.

Specialized Text

This manual features the following specially formatted text to help you differentiate software elements presented by Brake-Link™.

- **Menu items:** Whenever the manual instructs you to select from a list of menu items, it presents the desired choice with the formatting you see here, e.g., “From the main menu, select **WABASH NATIONAL ABS**.” If a task requires multiple menu selections, a “▶” appears between each menu selection, e.g., “Select **TESTS ▶ ABS WARNING LAMP...**”
- **Screen titles:** Once you select a menu item, Brake-Link™ presents the selected item’s screen. A screen may display information or present another list of menu items. The screen title appears in bolded type, e.g., “From the **Tests** menu, select **ABS WARNING LAMP**.”
- **Field/Line:** The manual presents a field or line of text from the display with this formatting. For instance, “The **ABS WARN LAMP** line updates to reflect the lamp’s current status.”
- **Emphasis:** This format draws your attention to particularly important information.

Manual Icons

This manual uses icons to denote specific types of peripheral information.



Troubleshooting Tips to help you diagnose or anticipate potential issues.



Caution Tips to help you avoid injury or prevent damage.



Frequently asked questions, industry definitions and other relevant background information.

Connecting Components

Brake-Link™ interfaces with the vehicle's ECU(s) via:

- the 6-pin or 9-pin Deutsch connector, *typically* located under the dash, beside the driver's seat or near the trailer's brake ECU;
- or*
- the J560 power line connector on the outside of the tractor or trailer.

The brake controllers *supported by this application* transmit information over the vehicle's power lines. If the trailer is connected to the tractor, attach Brake-Link™ to the tractor's Deutsch connector; otherwise, attach to the trailer's power line with the J560 PLC Cable Set.

Figure 1.2 shows how to connect NEXIQ Brake-Link™ components for ABS diagnostics.



Figure 1.2 Connectivity diagram for ABS diagnostics.

Use the J560 PLC Cable Set in place of the Deutsch adapter if you're connecting to the trailer's Power Line.

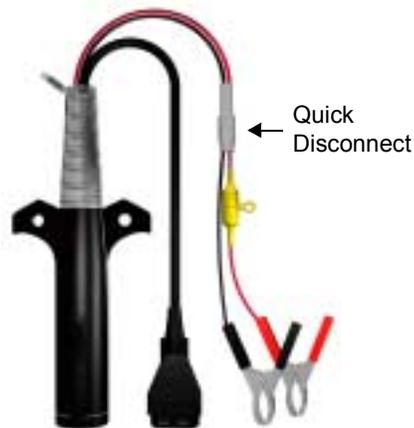


Figure 1.3 J560 PLC Cable Set

To connect Brake-Link™ components and power-up:

- 1 Attach the Power/Data Cable DB15 Connector to the data port (labelled **To Vehicle**) on the Brake-Link™; tighten the thumbscrews.

2 Plug the Data Cable Atari End into the Atari End on the vehicle interface cable (i.e. Deutsch adapter or J560 PLC Cable Set).

3 Attach the vehicle interface cable to the vehicle.

— If you're using the J560 PLC Cable Set, plug into the power line connector on the outside of the trailer.

— If you're using the Deutsch Adapter, plug into the Deutsch connector typically located under the dash on the driver's side, beside the driver's seat.

Note: If the trailer is connected to the tractor, you can attach Brake-Link™ to the tractor or trailer Deutsch connectors.

4 If you're using the J560 PLC Cable Set, connect the alligator clips to an external power supply; otherwise, turn the tractor's key to the "on" position.

Navigating Wabash National[®] ABS Application

Brake-Link[™] offers the following navigation options:

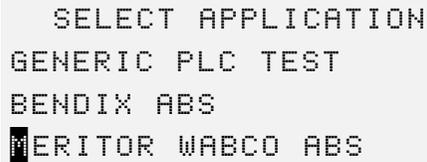
- Menu navigation: use arrow buttons to traverse the application menus.
- Buttons navigation: use direct access buttons to access specific Brake-Link[™] options directly.

Note: Both methods utilize **HOME** and **ENTER**.

This section provides an *overview* of button functionality. The procedure discussions specify which buttons to push and when.

Home Button

Use the **HOME** button to return to the **Select Application** screen.



```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX ABS
MERITOR WABCO ABS
```

Note: This button does not function if the screen displays “[ENTER] TO CONTINUE”.

Enter Button

Use the **ENTER** button to select a menu item, confirm a response, or instruct Brake-Link[™] to proceed to the next step.

Menu Buttons

If you choose *MENU NAVIGATION*, use the menu buttons (located below the tool's LCD) to navigate through the menu screens.



Figure 1.4 Menu buttons

When the LCD displays a list of information or an options menu,

- press the  or  keys to scroll through the list or menu;

Note: A dashed line displays after the last data item/option indicating the end of the list/menu.

- press  to select the option marked with a blinking cursor;
- press  to exit your selection and return to the previous menu or screen.

Direct Access Buttons

The *direct access buttons* reside on the lower portion of Brake-Link™. Notice they are grouped by functionality. The section provides a button overview for each button group.

Note: These buttons operate differently depending on the application you're using. This section provides a cursory explanation of their functionality within the **Wabash National**® ABS Application. Refer to the *Introducing Brake-Link™ Operator's Manual* for general information or the applicable manufacturer-specific Brake-Link™ manual.

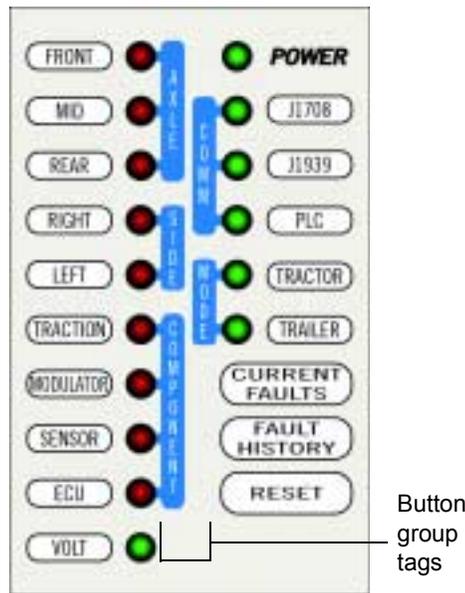


Figure 1.5 Direct Access Buttons

COMM Buttons

Wabash National® ABS Application does not utilize these buttons.

MODE, AXLE & SIDE Buttons

Wabash National® ABS Application does not utilize these buttons.

COMPONENT Buttons

Use the **COMPONENT** buttons to select the component that you wish to test or monitor. The available buttons are:

Traction & Modulator

Wabash National® ABS Application does not utilize these buttons

Sensor

Use **SENSOR** view wheel speeds in the data list (see pg. 22).

ECU

Use **ECU** to display ECU Information (see pg. 16).

Other Buttons

Use the following buttons to select other Brake-Link™ options:

Current Faults

Use **CURRENT FAULTS** to view all current faults (see pg. 18).

Fault History

Use **FAULT HISTORY** to view stored faults (see pg. 19).

Reset

Use **RESET** to clear stored faults (see pg. 20).

VOLT

Use **VOLT** to view voltages in the data list (see pg. 22).

Light Emitting Diodes (LEDs)

The **POWER** LED lights up to indicate Brake-Link™ is receiving power. The **PLC** and **TRAILER** LEDs light up once Brake-Link™ establishes communication with the ECU.

Wabash National® ABS Application does not utilize the rest of the LEDs.

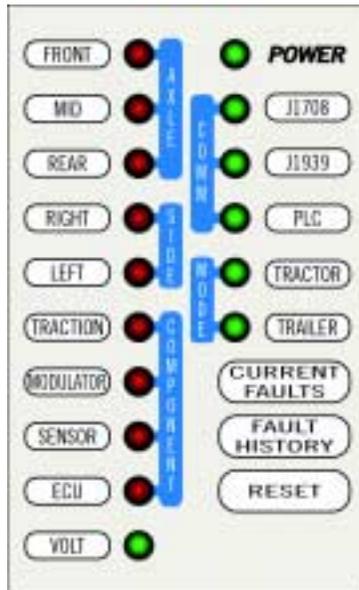


Figure 1.6 Light Emitting Diodes

Chapter 2

Using Wabash National[®] ABS Application



- ▼ *Registering ECU & Selecting Navigation Method, page 14*
- ▼ *Using the Wabash National[®] ABS Application, page 16*

Brake-Link™ features an application for diagnosing Wabash National[®] Trailer Anti-lock Brake Systems controlled by MBS-1[®]P or MBS-2[®] brake ECMs.

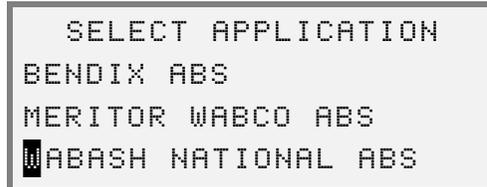
This chapter explains how to use the **WABASH NATIONAL ABS** Application.

Registering ECU & Selecting Navigation Method

After powering up Brake-Link™ and selecting a diagnostic application, Brake-Link™ attempts to establish communication with the applicable ECU. This process is called *registration*. Each procedure in this chapter assumes you've connected Brake-Link™ to the tractor/trailer, selected a navigation method and registered the ECU.

To register the ECU & select a navigation method:

- 1 Connect Brake-Link™ to the tractor or trailer and power-up (see “Connecting Components”, on page 5). Brake-Link™ boots up and presents the **Select Application** screen.



Use the  and  keys to select **WABASH NATIONAL ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select the desired navigation method and press . See “Navigating Wabash National® ABS Application”, on page 8.

Note: If you're going to perform a **TEST**, select **MENU NAVIGATION**. All other options support both methods of navigation.

- 3 Brake-Link™ auto-detects the Wabash National® Trailer ABS ECU. It presents the ECU ID and indicates whether there are current and/or stored faults; press **ENTER**.

```

TRAILER MBS1P
CURRENT FAULTS      YES
STORED FAULTS      YES
[ENTER]           TO CONTINUE
    
```



*If Brake-Link™ displays **CAN NOT IDENTIFY ECU**, the detected ECU is not a Wabash National® MBS-1®P or MBS-2® controller.*

*If it displays **ECU NOT RESPONDING**, it's not detecting an ECU; the ECU may not be working properly.*

Note: MBS-1®P and MBS-2® brake controllers with software version 2.5 or older do not support *FAULTS* and *TESTS* options. If you're testing one of these controllers, Brake-Link™ displays a limited support message upon ECU registration.

```

*TRAILER MBS1P
*LIMITED SUPPORT IN
ECU VER 2.5 OR LESS
[ENTER]           TO CONTINUE
    
```

- 4 If you selected:

— menu navigation, the **Wabash National®** ABS Application main menu displays next.

```

ECU INFORMATION
FAULTS
DATA LIST
TESTS
    
```

— button navigation, the **CONTINUE BY PRESSING BUTTONS** prompt displays next.

You've successfully registered the ECU and selected a navigation method. If you need more help, refer to the instruction set that applies to the task you need to perform.

Using the Wabash National® ABS Application

The following table shows the **Wabash National®** ABS Application main menu options and indicates the number of items offered by each option, e.g., the **TESTS** menu offers 4 tests.

WABASH NATIONAL ABS Options	# of Items
ECU INFORMATION (see pg. 16)	1
FAULTS (see pg. 17)	3
DATA LIST (see pg. 22)	1
TESTS (see pg. 23)	4

The rest of this section details each **Wabash National®** ABS Application option.

ECU Information

Use this option to retrieve the following ECU information:

- ECU Type
- Configuration
- Make
- Serial Number
- Part Number
- Unit Number
- Manufacture Date
- SW Identification (Software ID)
- Hardware Version
- VIN (Vehicle Identification Number)

The rest of this section describes retrieving ECU information with each navigation method.

To view ECU Information:

- 1 Connect Brake-Link™ to the tractor/trailer and power-up; select **WABASH NATIONAL ABS**; and select a navigation method. See “Registering ECU & Selecting Navigation Method”, on page 14.

2 If you selected:

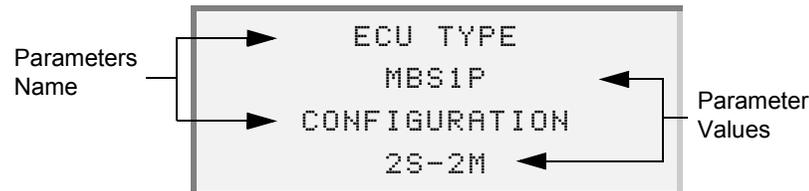
— menu navigation, the **Wabash National®** ABS Application main menu displays next; use the  and  keys to scroll to **ECU INFORMATION** and press .

```

ECU INFORMATION
FAULTS
DATA LIST
TESTS
  
```

— button navigation, the **CONTINUE BY PRESSING BUTTONS** prompt displays next; press .

3 Brake-Link™ displays the ECU's Information. Scroll the display with the and keys. A dashed line appears at the end of the list.



4 Press to return to the main menu or to return to the **Select Application** screen.

Faults

Brake-Link™ offers the following fault code options:

- **VIEW CURRENT FAULTS** (pg. 18)
- **VIEW STORED FAULTS** (pg. 19)
- **CLEAR FAULTS** (pg. 20)

Active fault codes appear in the current fault code list. Once you repair a problem, the ECU moves the associated fault code to the stored list for future reference. Repair the vehicle; then, clear the stored fault codes before cycling power or performing a road test. A code that appears in the stored list, that isn't in the active list, *after* cycling power or road testing the vehicle, indicates an intermittent problem.

Note: Older versions of the MBS-1®P and MBS-2® brake controllers do not support the **FAULTS** option; See “Registering ECU & Selecting Navigation Method”, on page 14.

This section explains how to use each **FAULTS** option.

Viewing Current Faults

When the ECU detects a problem in the ABS, it sends out a fault code that the Brake-Link™ displays in the **Current Faults** list. After you repair the system, cycle the vehicle’s key to clear current faults; view the current faults list again, to ensure the repair fixed the issue.

Note: For future reference, the ECU records all fault codes in the stored faults list as well (see pg. 19).

To view current fault codes:

- 1 Connect Brake-Link™ to the tractor/trailer and power-up; select **WABASH NATIONAL ABS**; and select navigation method. See “Registering ECU & Selecting Navigation Method”, on page 14.
- 2 If you selected:
 - menu navigation, the **Wabash National® ABS Application** main menu displays next; select **FAULTS ▶ VIEW CURRENT FAULTS**.
 - button navigation, the **CONTINUE BY PRESSING BUTTONS** prompt displays next; press .

- 3 Brake-Link™ shows current fault code(s).

```

CURBSIDE FRNT SENSOR
CONNECTION
SID:002(02h)
FMI:005(05h) x:N/A ↓

```

— Line 1 & 2 show the System ID (SID) and Failure Mode Indicator (FMI) description.

— Line 3 shows the SID value in decimal and hexadecimal.

— Line 4 shows the FMI value in decimal and hexadecimal. In *this* application, the occurrence count (bottom right corner) always shows **N/A** on this screen.

If there is more than one code, a down arrow appears in the bottom right corner of the screen; scroll the display with the  and  keys. The down arrow disappears on the last code, indicating the end of the list.

- 4 Press  to return to the main menu or  to return to the **Select Application** screen.

Viewing Stored Faults

When a problem occurs in the ABS, the ECU (a.k.a. ECM) records the associated fault code to the stored list for future reference. Use this list to detect intermittent problems. For example, repair the vehicle; then, clear the stored fault codes before cycling power or performing a road test. A code that appears in the stored list, that isn't in the active list, *after* cycling power or road testing, indicates an intermittent problem.

The rest of this section explains how to view stored faults.

To view stored fault codes:

- 1 Connect Brake-Link™ to the tractor/trailer and power-up; select **WABASH NATIONAL ABS**; and select navigation method. See “Registering ECU & Selecting Navigation Method”, on page 14.

2 If you selected:

- menu navigation, the **Wabash National®** ABS Application main menu displays next; select **FAULTS** ▶ **VIEW STORED FAULTS**.
- button navigation, the **CONTINUE BY PRESSING BUTTONS** prompt displays next; press .

3 Brake-Link™ displays stored fault code(s).

```
CURBSIDE FRNT SENSOR
CONNECTION
SID:002(02h)
FMI:005(05h) x:001 ↓
```

- Line 1 & 2 show the System ID (SID) and Failure Mode Indicator (FMI) description.
- Line 3 shows the SID value in decimal and hexadecimal.
- Line 4 shows the FMI value in decimal and hexadecimal. An occurrence count displays in the lower right corner.

If there is more than one code, a down arrow appears in the bottom right corner of the screen; scroll the display with the  and  keys. The down arrow disappears on the last code, indicating the end of the list.

4 Press  to return to the main menu or  to return to the **Select Application** screen.

Clearing Stored Faults

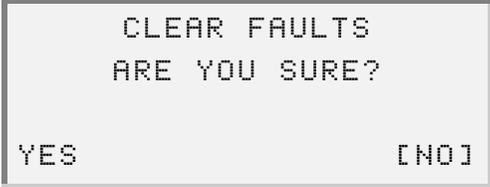
CLEAR FAULTS clears stored fault codes from the ECM.

Once you repair a problem, the ECM moves the associated fault code to the stored list for future reference. Use the stored faults list along with the **CLEAR FAULTS** option to detect intermittent problems. For example, repair the vehicle; then, clear the stored fault codes before cycling power or performing a road test. A code that appears in the stored list, that isn't in the active list, *after* cycling power or road testing, indicates an intermittent problem.

The rest of this section explains how to clear stored faults with each method of navigation.

To clear stored fault codes:

- 1 Connect Brake-Link™ to the tractor/trailer and power-up; select **WABASH NATIONAL ABS**; and select navigation method. See “Registering ECU & Selecting Navigation Method”, on page 14.
- 2 If you selected:
 - menu navigation, the **Wabash National® ABS Application** main menu displays next; select **FAULTS ▶ CLEAR FAULTS**.
 - button navigation, the **CONTINUE BY PRESSING BUTTONS** prompt displays next; press .
- 3 Brake-Link™ requests confirmation; use the and keys to select **YES** or **NO** and press .



```

CLEAR FAULTS
ARE YOU SURE?

YES                               [NO]
  
```

- 4 If you selected:
 - **NO**, Brake-Link™ returns to the **Wabash National® ABS Application** main menu or **CONTINUE BY PRESSING BUTTONS** prompt, depending on the selected navigation method.
 - **YES**, Brake-Link™ presents a **Faults Cleared** message; press to return to the main menu or prompt.

Data List

The **DATA LIST** option displays information gathered by the ECM. The following table shows data list parameters and their descriptions.

Data List Parameter	Description
ODOMETER	Total Vehicle Distance
AUX LAMP VOLT	Aux Lamp Voltage
STOP LAMP VOLT	Stop Lamp Voltage
ABS WARN LAMP	ABS Warning Lamp
BACKUP LAMP	Backup Lamp
TRAILER LAMP	Trailer Warning Lamp
LF WHEEL*	Front Roadside Wheel Speed
RF WHEEL*	Front Curbside Wheel Speed
LR WHEEL*	Rear Roadside Wheel Speed
RR WHEEL*	Rear Curbside Wheel Speed
L WHEEL†	Roadside Wheel Speed
R WHEEL†	Curbside Wheel Speed
VEHICLE SPD	Vehicle Velocity

* These parameters display for 4 sensor configurations.

† These parameters display for 2 sensor configurations.

The rest of this section explains how to access the data list.

To access the data list:

- 1 Connect Brake-Link™ to the tractor/trailer and power-up; select **WABASH NATIONAL ABS**; and select navigation method. See “Registering ECU & Selecting Navigation Method”, on page 14.
- 2 From the:
 - **Wabash National®** ABS Application main menu; select **DATA LIST**.
 - **CONTINUE BY PRESSING BUTTONS** prompt, press **SENSOR** or **VOLT**.

- 3 Brake-Link™ displays the data list; use the  and  keys to scroll the list. A dashed line appears at the end of the list.

```

VEHICLE SPD      55.0 mph
-----
ODOMETER         77345 mi
AUX LAMP VOLT    13.9 v

```

Note: All parameters update continuously to show the most recent values.

- 4 Press  to return to the main menu or  to return to the **Select Application** screen.

Tests

Brake-Link™ offers the following tests:

- **ABS WARNING LAMP** to ensure the proper functioning of the ABS Warning Lamp mounted on the outside of the trailer (pg. 24).
- **BACKUP LAMP** to ensure the Backup Lamp is working properly (pg. 24).
- **TRAILER WARNING LAMP** to ensure the Trailer Warning Lamp is working properly (pg. 25).
- **SENSORS SEQUENCE TEST** to ensure that the wheel sensors are connected to the correct wheels and to detect the greatest wheel speed for each wheel (pg. 26).

Note: Older versions of the MBS-1®P and MBS-2® brake controllers may not support some or all of these tests.

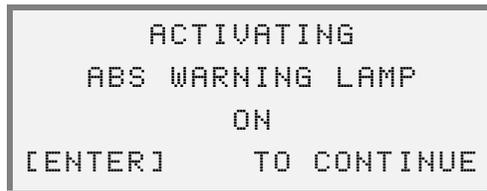
Access all tests *via menu navigation*.

Testing ABS Warning Lamp

The ABS Warning Lamp, on the outside of the trailer, indicates a fault in the trailer ABS. Use this option to ensure the lamp is functioning properly. This test illuminates the lamp continuously.

To test the ABS Warning Lamp:

- 1 Connect Brake-Link™ to the tractor/trailer and power-up; select **WABASH NATIONAL ABS**; then, **MENU NAVIGATION**. See “Registering ECU & Selecting Navigation Method”, on page 14.
- 2 From the **Wabash National® ABS Application** main menu, select **TESTS**
▶ **ABS WARNING LAMP**.
- 3 Brake-Link™ requests the ECU to illuminate the lamp. While this test is running, Brake-Link™ displays the following screen.



```
ACTIVATING
ABS WARNING LAMP
ON
[ENTER] TO CONTINUE
```

Press **ENTER** to exit the test and return to the **Tests** menu.

- 4 Press **←** to return to the main menu or **HOME** to return to the **Select Application** screen.

Testing Backup Lamp

The Backup Lamp on the outside of the trailer indicates the vehicle is in “Reverse”. Use this option to ensure the Backup Lamp is functioning properly. This test illuminates the lamp continuously.

To test the Backup Lamp:

- 1 Connect Brake-Link™ to the tractor/trailer and power-up; select **WABASH NATIONAL ABS**; then, **MENU NAVIGATION**. See “Registering ECU & Selecting Navigation Method”, on page 14.
- 2 From the **Wabash National® ABS Application** main menu, select **TESTS**
▶ **BACKUP LAMP**.

- 3 Brake-Link™ requests the ECU to illuminate the lamp. While this test is running, Brake-Link™ displays the following screen.

```

ACTIVATING
BACKUP LAMP
      ON
[ENTER]   TO CONTINUE

```

Press **ENTER** to exit the test and return to the **Tests** menu.

- 4 Press **←** to return to the main menu or **HOME** to return to the **Select Application** screen.

Testing Trailer Warning Lamp

The Trailer Warning Lamp, on the outside of the trailer, indicates a fault with a trailer system other than the ABS. Use this option to ensure the lamp is functioning properly. This test illuminates the lamp continuously.

To test the Trailer Warning Lamp:

- 1 Connect Brake-Link™ to the tractor/trailer and power-up; select **WABASH NATIONAL ABS**; then, **MENU NAVIGATION**. See “Registering ECU & Selecting Navigation Method”, on page 14.
- 2 From the **Wabash National® ABS Application** main menu, select **TESTS** ► **TRAILER WARNING LAMP**.
- 3 Brake-Link™ requests the ECU to illuminate the lamp. While this test is running, Brake-Link™ displays the following screen.

```

ACTIVATING
TRAILER WARNING LAMP
      ON
[ENTER]   TO CONTINUE

```

Press **ENTER** to exit the test and return to the **Tests** menu.

- 4 Press **←** to return to the main menu or **HOME** to return to the **Select Application** screen.

Testing Sensor Sequence

Use this test to ensure the wheel sensors are functioning properly and attached to the correct wheels. For example, if you spin the curbside (right) front wheel on a trailer with a:

- 4 sensor configuration, Brake-Link™ displays the **RF Wheel** speed.
- 2 sensor configuration, it displays the **R WHEEL** speed.

If it doesn't, the sensor may be malfunctioning. If it shows a speed for a different wheel, the sensor is connected to the wrong wheel.

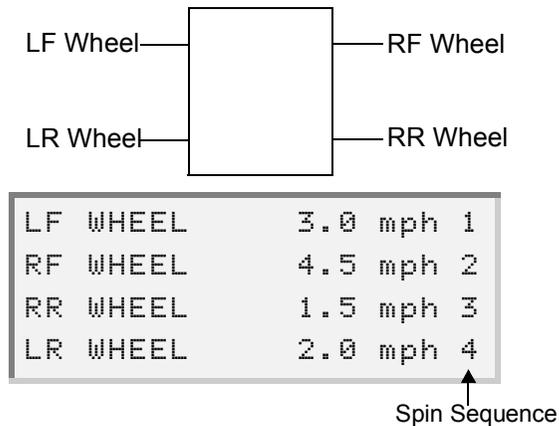
Note: Not all Wabash National® ABS controllers support this test.

To test the sensor sequence:

- 1 Connect Brake-Link™ to the tractor/trailer and power-up; select **WABASH NATIONAL ABS**; then, **MENU NAVIGATION**. See “Registering ECU & Selecting Navigation Method”, on page 14.
- 2 From the **Wabash National® ABS Application** main menu, select **TESTS**
▶ **SENSOR SEQUENCE TEST**.

- 3 Brake-Link™ displays all *available* wheel sensors with default values of <1 mph.

Spin the wheels corresponding to the sensors you're testing. The display updates to reflect the greatest wheel speed detected for each wheel and indicates the sequence that the wheels were spun. For example, the sample screen below shows the expected sequence if you spin the left front wheel first and move clockwise around a trailer with a 4 sensor configuration.



Note: The wheel must achieve at least 1 mph before Brake-Link™ displays a wheel speed or spin sequence number.

- 4 Press  to return to the **Tests** menu or  to return to the **Select Application** screen.

Appendix A

Wabash National[®] SID/FMI Table



- ▼ *Wabash National[®] SID/FMI Descriptions, page 30*
- ▼ *Trailer Warning Faults (Proprietary Fault Codes), page 32*

This appendix provides a table containing the current Wabash National[®] Sub-system ID and Failure Mode Indicator (SID/FMI) descriptions for fault codes adhering to the SAE J1587 Standard (PID 194). It also contains a table of proprietary trailer warning fault codes.

Wabash National® SID/FMI Descriptions

The following table provides complete SID/FMI descriptions as defined by Wabash National®. The SID and FMI columns contain the value in decimal and hexadecimal.

SIDs	FMIs	Config.	Fault Description
1 (01h)	8 (08h)		Roadside front sensor signal*
2 (02h)	8 (08h)		Curbside front sensor signal*
3 (03h)	8 (08h)		Roadside rear sensor signal*
4 (04h)	8 (08h)		Curbside rear sensor signal*
1 (01h)	2 (02h)		Roadside front sensor signal trace*
2 (02h)	2 (02h)		Curbside front sensor signal trace*
3 (03h)	2 (02h)		Roadside rear sensor signal trace*
4 (04h)	2 (02h)		Curbside rear sensor signal trace*
1 (01h)	5 (05h)		Roadside front sensor connection*
2 (02h)	5 (05h)		Curbside front sensor connection*
3 (03h)	5 (05h)		Roadside rear sensor connection*
4 (04h)	5 (05h)		Curbside rear sensor connection*
1 (01h)	7 (07h)		Roadside front sensor connection*
2 (02h)	7(07h)		Curbside front sensor connection*
3 (03h)	7 (07h)		Roadside front sensor connection*
4 (04h)	7 (07h)		Curbside front sensor connection*
254 (FEh)	4 (04h)		Low Voltage Fault
254 (FEh)	12 (0Ch)		Electronic control module
7 (07h)†	5 (05h)	2S-1M	Primary PCM Fault
8 (08h)†		4S-1M	
9 (09h)†			
10 (0Ah)†			
7 (07h)†	5 (05h)	2S-2M	Primary PCM Fault
9 (09h)†			
8 (08h)†	5 (05h)	2S-2M	Secondary PCM Fault
10 (0Ah)†			

SIDs	FMI	Config.	Fault Description
7 (07h) [†] 9 (09h) [†]	5 (05h)	4S-2M Side Control	Primary PCM Fault
8 (08h) [†] 10 (0Ah) [†]	5 (05h)	4S-2M Side Control	Secondary PCM Fault

SIDs	FMI	Config.	Fault Description
7 (07h)†	5 (05h)	4S-2M	Primary PCM Fault
8 (08h)†		Axle Control	
9 (09h)†	5 (05h)	4S-2M	Secondary PCM Fault
10 (0Ah)†		Axle Control	

*. Fault code descriptions for 2-sensor configurations (i.e., 2S-1M or 2S-2M) do not show the words “Front” or “Rear”.

†. If the PCM produces a primary or secondary fault, the brake controller sends out an FMI for each associated SID. For example, a 4S-2M Axle Control configuration sends the same fault code description for SIDs 7 and 8. Rather than repeat the description, Brake-Link™ displays the lowest appropriate SID. Following the previous example, if Brake-Link™ detects a Primary PCM Fault, it displays FMI 5/SID 7.

Trailer Warning Faults (Proprietary Fault Codes)

Wabash National® ABS Application also displays proprietary trailer fault codes. Since these codes are proprietary, Brake-Link™ only displays the fault’s description. The **SID** and **FMI** show **N/A**.

Proprietary Trailer Fault Codes
Continuous Brake Apply
Roadside Front* Wheel End Temperature
Curbside Front* Wheel End Temperature
Roadside Rear* Wheel End Temperature
Curbside Rear* Wheel End Temperature

*. Fault code descriptions for 2 sensor configurations (i.e., 2S-1M or 2S-2M) do not show the words “Front” or “Rear”.