

*Brake-Link™  
Meritor WABCO  
ABS Application*



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Brake-Link™ Meritor WABCO ABS Application

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# Chapter 1

## Getting Started



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- ▼ *Safety Warnings & Cautions, page 3*
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- ▼ *Connecting Brake-Link™ Components, page 6*
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Brake-Link™ is a hand-held diagnostic tool primarily designed to troubleshoot heavy-duty vehicle braking systems. 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 Meritor WABCO Easy-Stop™ and Enhanced Easy-Stop™ Trailer ABS Controller Diagnostic Application.

## Getting Started

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 *Meritor WABCO ABS Application*, the connection and navigation sections are specific to the Meritor WABCO 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* Brake-Link™ 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 the user manual for your iPAQ Pocket PC, as well as this manual before operating your Brake-Link™.
- ✓ NEXIQ Technologies recommends having an assistant drive the vehicle while you use the 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 Brake-Link™. Disconnect the 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 Meritor WABCO 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 the 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 ***J1708/J1587 BUS***."
- **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 **Protocol Selection** menu, select ***PLC/ENHANCED MODE***."
- **Field/Line:** The manual presents a field or line of text from a display with this formatting. For instance, "The **Request Lamp** line updates to reflect the current request."
- **Emphasis:** This format draws your attention to particularly important information.

## Navigation Icons

Brake-Link™ offers two methods of navigation: **menu** and **direct access buttons**. See "Navigating Brake-Link™", on page 9. If a task can be performed with both, the manual provides separate instructions for each method. Topic introductions indicate when there are two sets of instructions and the following icons help you easily locate the desired set.

  Exhaust modulators ***via menu navigation***:



Exhaust modulators ***via buttons navigation:***

## General Icons

This manual also presents icons that denote specific types of peripheral information.



*Troubleshooting Tips help you diagnose or anticipate potential issues.*



*Caution Tips help you avoid injury or prevent damage to the Brake-Link™.*

## Connecting Brake-Link™ 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.

Determining which connector (and adapter) to use with this application depends on:

- Whether the tractor is connected to the trailer.
- Whether the trailer ECU supports *Enhanced Power Line Carrier (PLC) Mode*.



### ***Do you know what Enhanced PLC Mode is?***

Older brake ECUs transmit diagnostic information over the J1708 Bus *only*—accessing both tractor and trailer brake ECUs requires independent connections. Newer ECUs offer ***Enhanced PLC Mode***—they can send diagnostic information over the power line. If the tractor and trailer are connected, access both ECUs via a single connection. See “Selecting a Protocol”, on page 16, for a bus diagram and more information.

Use the following table to help you decide which connector (and adapter) to use with the Meritor WABCO ABS Application. Then look at the connection diagram and complete the instructions that follow the table.

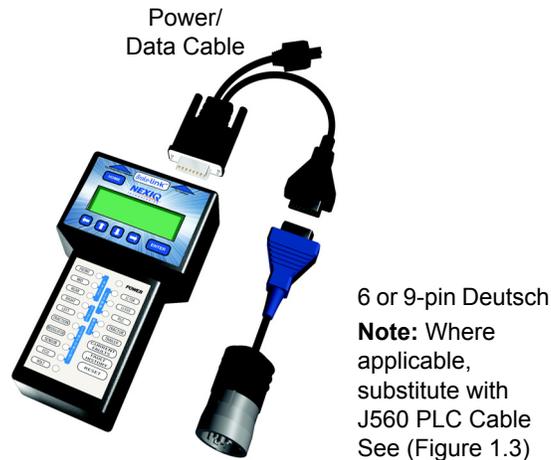
<i>MERITOR WABCO ABS</i>	
<b>Are you testing the...</b>	<b>Connect to the...</b>
Trailer Only	If the ECU supports Enhanced PLC Mode, connect to the J560 Power Line; otherwise, connect to the Deutsch.
Tractor/ Trailer Together	If the trailer ECU supports Enhanced PLC Mode, connect to either tractor or trailer Deutsch.  If it doesn't, connect to the trailer Deutsch.

**NOTE:**



Meritor WABCO **Enhanced Easy-Stop™** (TCS II) supports Enhanced PLC Mode; **Easy-Stop™** (TCS I) does not.

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



**Figure 1.2** Connectivity diagram for standard ABS diagnostics.

Use the J560 PLC Cable Set in place of the Deutsch adapter if you plan to attach to the tractor or trailer's Power Line Connector.

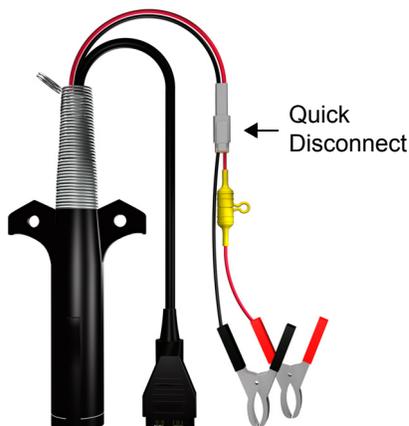


Figure 1.3 J560 PLC Cable Set

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 cable you attach to the vehicle, 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 or near the brake ECU on the trailer.

**NOTE:**



---

The trailer ECU must support Enhanced PLC Mode to use trailer power line or tractor Deutsch connectors.

---

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

## Navigating Brake-Link™

Brake-Link™ offers the following navigation options:

- Menu navigation: use the arrow buttons to scroll through the menu screens and select the menu options.
- Buttons navigation: use the direct access buttons to access specific Brake-Link™ options directly.

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/KB/EATON ABS
MERITOR WABCO ABS
```

#### NOTE:



---

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

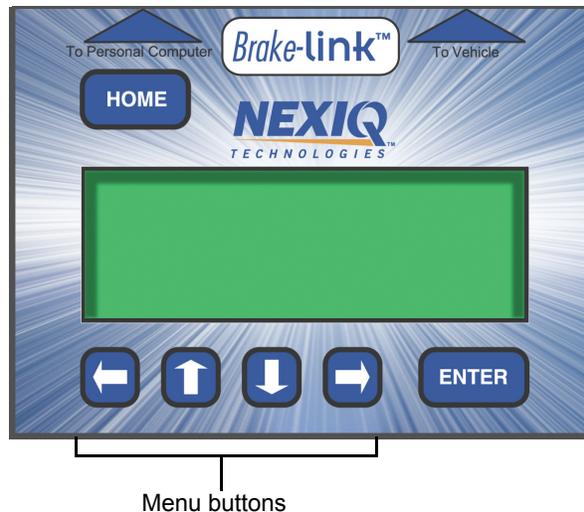
---

### 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 options,

- Press the  or  keys to scroll through the available options;

**NOTE:**



A dashed line displays after the last option indicating the end of the menu or list.

- Press  to select the option the blinking cursor is on;
- 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 the 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 *Meritor WABCO ABS Application*. Refer to the manufacturer-specific Brake-Link™ manual to find out how they operate within the application you need to use or *Introducing Brake-Link™ Operator's Manual* for general information.

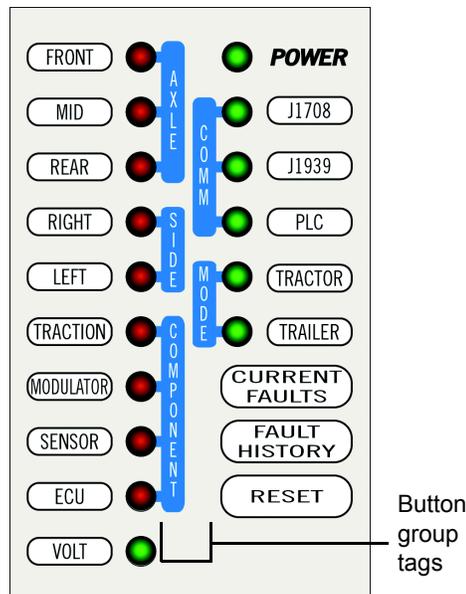


Figure 1.5 Direct Access Buttons

## COMM Buttons

Use the **COMM** buttons to select the hardware/communication protocol. See “Selecting a Protocol”, on page 20..

### J1708

Press  to select the *J1708/J1587 BUS* hardware/communication protocol.

### **J1939**

J1939 is not currently implemented.

### **PLC**

Press  PLC to select the *PLC/ENHANCED MODE* hardware/communication protocol.

## **MODE, AXLE & SIDE Buttons**

The Meritor WABCO ABS Application does not utilize these buttons.

## **COMPONENT Buttons**

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

### **TRACTION & MODULATOR**

The Meritor WABCO ABS Application does not utilize these buttons

### **SENSOR**

In the Meritor WABCO ABS Application,  SENSOR presents the data list which contains wheel speeds (see pg. 53).

### **ECU**

In the Meritor WABCO ABS Application,  ECU displays ECU Information (see pg. 27).

## **Other Buttons**

Use the following buttons, or “hot keys” to select other Brake-Link™ options (available in Button Navigation only):

### **CURRENT FAULTS**

In the Meritor WABCO ABS Application, use it to view all existing faults (see pg. 25).

### **FAULT HISTORY**

In the Meritor WABCO ABS Application, use it to view stored faults (see pg. 29).

### **RESET**

In the Meritor WABCO ABS Application, use it to clear stored faults (see pg. 33).

### VOLT

In the Meritor WABCO ABS Application, use it to view voltages in the data list (see pg. 37).

### ECU

In the Meritor WABCO ABS Application, use it to view ECU information (see pg. 21).

## Light Emitting Diodes (LEDs)

The **POWER** LED indicates whether Brake-Link™ is receiving power. The **COMM** and **MODE** LEDs light up, according to the Brake-Link™ operation(s) you select.

The Meritor WABCO ABS Application does not utilize the rest of the LEDs.

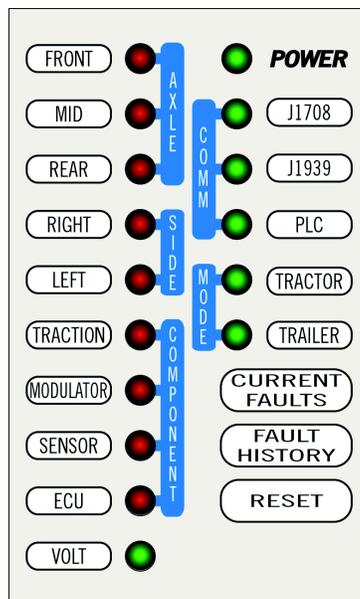


Figure 1.6 Light Emitting Diodes



# Chapter 2

## Using the Meritor WABCO ABS Application (Tractor)



- ▼ *Selecting a Protocol, page 16*
- ▼ *Using the Meritor WABCO ABS Application, page 21*
- ▼ *ECU Information, page 21*
- ▼ *Faults, page 25*
- ▼ *Data List, page 37*
- ▼ *Tests, page 41*

**B**rake-Link™ features the **Meritor WABCO ABS Application** for diagnosing Meritor WABCO Tractor/Trailer Anti-lock Brake System issues. This chapter explains how to use the Meritor WABCO ABS Application Tractor option.

This application supports both methods of navigation (see pg. 9). Most discussions in this chapter provide a separate set of instructions for each method. Instructions for completing the task via:

- **Menu navigation** are marked with this icon ;
- **Button navigation** are marked with this icon .

## Selecting a Protocol

The **Meritor WABCO ABS Application** uses the SAE J1587 *communication* protocol to interact with the tractor's brake controller. As such, it requires you to select one of the following hardware protocols in order to establish a connection to the ECU:

- **J1708/J1587 BUS**, which sends J1587 messages (i.e., Information) over the J1708 bus through the tractor Deutsch connector.
- **PLC/ENHANCED MODE**, which sends J1587 messages over the Power Line Carrier (PLC). (Only available for ECUs that support Enhanced PLC Mode.) Receive information through the Deutsch or Power Line connectors on the trailer. If the tractor and trailer are connected, receive information from the trailer ECU through either Deutsch connector.

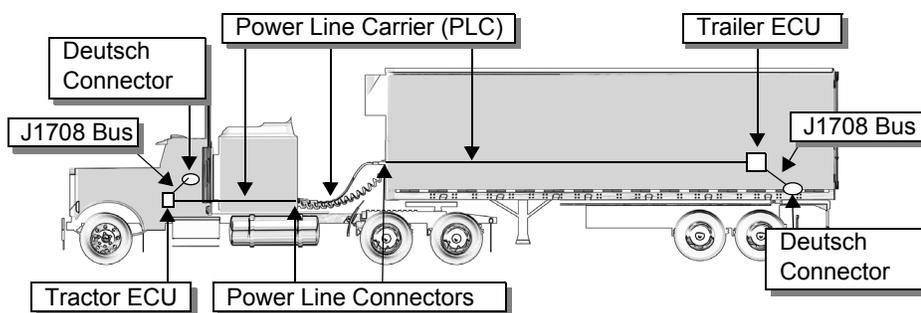


Figure 2.1 Power Line Carrier and J1708 Bus Illustration

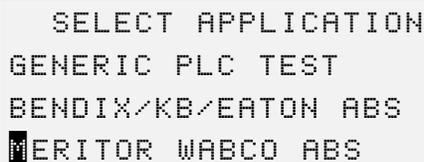
Use the following table to help you decide which protocol best suits your needs.

<b>J1708/ J1587</b>	<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Provides ECU access via a standard Deutsch connection.</li> <li>• Supported by all Meritor WABCO brake ECUs.</li> </ul>
	<p><b>Considerations:</b></p> <ul style="list-style-type: none"> <li>• If you're testing a trailer that's <i>not</i> connected to a tractor, an external power supply and adapter is required in <i>addition</i> to the Deutsch adapter.</li> </ul>
	<p><b>Use if:</b></p> <ul style="list-style-type: none"> <li>• The ECU(s) you're testing doesn't support Enhanced PLC Mode, i.e., Meritor WABCO Easy-Stop™.</li> </ul>
<b>PLC/ Enhanced Mode</b>	<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Provides ECU access via a Deutsch or J560 Power Line Connection.</li> <li>• If the tractor is attached to the trailer, it provides access to both ECUs via a single connection.</li> </ul>
	<p><b>Considerations:</b></p> <ul style="list-style-type: none"> <li>• Applicable ECU must support Enhanced PLC Mode to utilize this protocol, i.e., Meritor WABCO Enhanced Easy-Stop™.</li> </ul>
	<p><b>Use if:</b></p> <ul style="list-style-type: none"> <li>• The tractor is attached to the trailer and you wish to connect the Brake-Link™ to the tractor for convenience</li> <li>• You're testing a trailer that is not connected to a tractor—the J560 PLC Cable Set that's compatible with this option eliminates the need for an additional adapter to supply power.</li> </ul>

The rest of this section explains how to select a hardware protocol using each navigation method.

  Select hardware/communication protocol *via menu navigation*:

- 1 Connect Brake-Link™ to the tractor and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ starts and presents the **Select Application** screen.



```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the  and  keys to select *MERITOR WABCO ABS*; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select *MENU NAVIGATION* and press .
- 3 The **Protocol Selection** screen displays.



```
1708/J1587 BUS
PLC/ENHANCED MODE
```

Press  to select the default, **1708/J1587 BUS**.

—*J1708/J1587 BUS* configures Brake-Link™ to communicate with the ECU via the J1708 Bus (accessed through the standard Deutsch connection).

—*PLC/ENHANCED MODE* is available only with trailer ECUs. Refer to Chapter 3 of this manual.

- 4 Press .

Brake-Link™ auto-detects the Meritor WABCO ABS ECUs present for the protocol you selected.

- 5 If *both* are detected, Brake-Link™ prompts you to select TRACTOR or TRAILER; use the  and  keys to select *TRACTOR*.

- 6 The ECU sensor/modulator configuration is displayed, indicating whether there are existing and/or stored faults.

```
TRACTOR 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
```



If the following message is displayed:

**CAN NOT IDENTIFY ECU**

- The detected ECU is not a WABCO Tractor Air ABS controller.

If the following message is displayed:

**ECU NOT RESPONDING,**

- The ECU or Data Bus is not working properly.

Press **[ENTER]** to access the **Meritor WABCO ABS Application** main menu.

Direct  
Access

Select hardware/communication protocol **via button navigation**:

- 1 Connect Brake-Link™ to the tractor and power-up (see “Connecting Brake-Link™ Components, on page 8). Brake-Link™ starts and presents the **Select Application** screen.

```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the **[▲]** and **[▼]** keys to select **MERITOR WABCO ABS**; press **[ENTER]**.

- 2 Brake-Link™ displays navigation options; use the **[▲]** and **[▼]** keys to select **BUTTON NAVIGATION** and press **[ENTER]**.

- 3 Brake-Link™ prompts you to press the appropriate **COMM** button; press **J1708** to configure Brake-Link™ to communicate with the ECU via the J1708 Bus (accessed through the standard Deutsch connectors).

Brake-Link™ auto-detects the Meritor WABCO ABS ECUs present for the protocol you selected.

- 4 If *both* are detected, Brake-Link™ prompts you to select **TRACTOR** or **TRAILER**; use the **▲** and **▼** keys to select **TRACTOR**.
- 5 The ECU sensor/modulator configuration is displayed, indicating whether there are existing and/or stored faults.

```
TRACTOR 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
```



*If the following message is displayed:*

**CAN NOT IDENTIFY ECU**

- *The detected ECU is not a WABCO Tractor Air ABS controller.*

*If the following message is displayed:*

**ECU NOT RESPONDING**

- *The ECU or Data Bus is not working properly.*

Press **ENTER** to continue.

- 6 Brake-Link™ instructs you to **CONTINUE BY PRESSING BUTTONS**.

**NOTE:**



Refer to the “Table of Contents” of this manual to find information for a specific test.

---

## Using the Meritor WABCO ABS Application

The following table shows the **Meritor WABCO ABS Application** main menu options and indicates the number of items offered by each option (e.g., the **TESTS** menu offers six tests).

<b>MERITOR WABCO ABS Options</b>	<b># of Items</b>
<b>ECU INFORMATION</b> (see pg. 21)	One
<b>FAULTS</b> (see pg. 25)	Three: <ul style="list-style-type: none"> <li>• View Existing Faults</li> <li>• View Stored Faults</li> <li>• Clear Faults</li> </ul>
<b>DATA LIST</b> (see pg. 37)	One
<b>TESTS</b> (see pg. 41)	Six: <ul style="list-style-type: none"> <li>• Test Lamps</li> <li>• Test Valves</li> <li>• Test Sensors</li> <li>• Retarder Delay</li> <li>• Retarder Datalink</li> <li>• Engine Datalink</li> </ul>
<b>SYSTEM INFO</b>	One

This rest of this section details each **Meritor WABCO ABS Application** option.

### ECU Information

Use this option to retrieve the following ECU information:

- ECU Type
- Configuration
- Part Number
- Manufacture Date
- Serial Number
- Software Revision

**NOTE:**



ECU type is established as either 'D' or 'E' version ECU.

**NOTE:**



The style of ECU (Basic, Cab, Frame) is determined by Proprietary PPID 0x08.

DB2 indicates the following ECU styles:

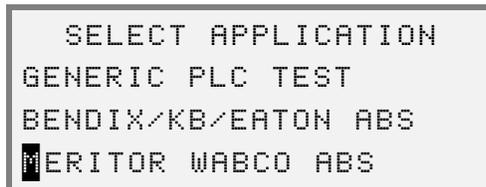
- DBD2 Value1 = ECU Style Basic 12V
- DBD2 Value2 = ECU Style Cab 12V
- DBD2 Value3 = ECU Style Frame 12V
- DBD2 Value4 = ECU Style Basic 24V
- DBD2 Value5 = ECU Style Cab 24V
- DBD2 Value6 = ECU Style Frame 24V

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



View ECU Information *via menu navigation:*

- 1 Connect Brake-Link™ to the tractor and power-up (see “Connecting Brake-Link™ Components, on page 8). Brake-Link™ starts and presents the **Select Application** screen.



Use the and keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the and keys to select **MENU NAVIGATION**, and press .

Brake-Link™ presents the **Protocol Selection** screen.

- 3 Use the and keys to select **J1708/J1587 BUS**, and press .

**NOTE:**



See “Selecting a Protocol”, on page 16.

Brake-Link™ auto-detects the Meritor WABCO ABS ECUs present for the protocol you selected.

- 4 If *both* are detected, Brake-Link™ prompts you to select TRACTOR or TRAILER; use the  and  keys to select **TRACTOR**.
- 5 The ECU sensor/modulator configuration is displayed, indicating whether there are existing and/or stored faults.

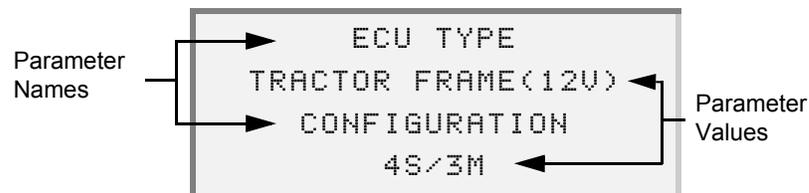
```
TRACTOR 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
```

Press  to access the **Meritor WABCO ABS Application** main menu.

- 6 Next, Brake-Link™ presents the **Meritor WABCO ABS Application** main menu; use the  and  keys to scroll to **ECU INFORMATION**, and press .

```
ECU INFORMATION
FAULTS
DATA LIST
TESTS
```

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



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

Direct  
Access

View ECU Information *via button navigation*:

- 1 Connect Brake-Link™ to the tractor and power-up (see “Connecting Brake-Link™ Components, on page 8). Brake-Link™ starts and presents the **Select Application** screen.

```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **BUTTON NAVIGATION**; press .
- 3 Brake-Link™ prompts you to select a protocol. Press .

**NOTE:**

 See “Selecting a Protocol”, on page 16.

Brake-Link™ auto-detects the Meritor WABCO ABS ECUs present for the protocol you selected.

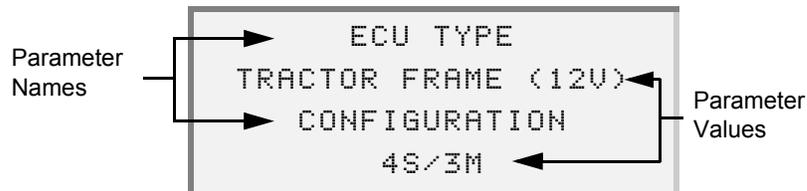
- 4 If *both* are detected, Brake-Link™ prompts you to select TRACTOR or TRAILER; use the  and  keys to select **TRACTOR**.
- 5 The ECU sensor/modulator configuration is displayed, indicating whether there are existing and/or stored faults.

```
TRACTOR 4S/3M
EXISTING FAULTS    YES
STORED FAULTS     YES
[ENTER]          TO CONTINUE
```

Press  to continue.

- 6 Brake-Link™ instructs you to **CONTINUE BY PRESSING BUTTONS**; press .

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



- 8 Press  to return to the main menu, or press  to return to the **Select Application** screen.

## Faults

Brake-Link™ offers the following fault code options:

- **VIEW EXISTING FAULT** (pg. 25)
- **VIEW STORED FAULTS** (pg. 29)
- **CLEAR FAULTS** (pg. 33)

Active fault codes appear in the existing 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 (one that isn't in the active list) after cycling power or road testing the vehicle, indicates an intermittent problem.

This section explains how to use each option.

### Viewing Existing Faults

This subsection explains how to view existing fault codes for each navigation method.

#### NOTE:



Some ECUs only transmit one existing code at a time. If there is more than one fault, you may have to repair the problem causing the fault to see the next code.

The rest of this section explains how to view existing faults with each method of navigation.

  View existing fault codes *via menu navigation*:

- 1 Connect Brake-Link™ to the tractor and power-up (see “Connecting Brake-Link™ Components”, on page 8).

Brake-Link™ starts and presents the **Select Application** screen.

```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **MENU NAVIGATION**, and press .

Brake-Link™ presents the **Protocol Selection** screen.

- 3 Use the  and  keys to select the desired option and press .

**NOTE:**

 See “Selecting a Protocol”, on page 16.

Brake-Link™ auto-detects the Meritor WABCO ABS ECUs present for the protocol you selected.

- 4 If *both* are detected, Brake-Link™ prompts you to select TRACTOR or TRAILER; use the  and  keys to select **TRACTOR**.
- 5 The ECU sensor/modulator configuration is displayed, indicating whether there are existing and/or stored faults.

```
TRACTOR 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]         TO CONTINUE
```

Press  to access the **Meritor WABCO ABS Application** main menu.

- 6 Next, Brake-Link™ presents the **Meritor WABCO ABS Application** main menu; use the  and  keys to scroll to *FAULTS* and press .

```
ECU INFORMATION
█ FAULTS
DATA LIST
TESTS
```

- 7 Brake-Link™ displays the **Faults Menu**; select *VIEW EXISTING FAULT*, and press .
- 8 Existing fault code(s) are displayed.

```
POWER SUPPLY
LOW VOLTAGE
SID:014(0Eh)
FMI:004(04h) x:002
```

—Line 1 shows the System ID (SID) description.

—Line 2 shows the 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, and an occurrence count (e.g., x:002 indicates the fault occurred twice).

Brake-Link™ truncates some of the SID and FMI descriptions to fit the 20-character line display. Refer to Appendix A for full SID and FMI descriptions.

**NOTE:**



---

If there is more than one code *and* the ECU supports displaying multiple codes, a down arrow appears next to the occurrence count; scroll the display with the  and  keys. At the end of the list, an up arrow appears on the left side of the screen. If ECU only transmits one existing code at a time, you have to repair the problem causing the fault before you'll see the next code.

---

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

Direct Access

View existing fault codes *via button navigation*:

- 1 Connect Brake-Link™ to the tractor and power-up (see “Connecting Brake-Link™ Components, on page 8). Brake-Link™ starts and presents the **Select Application** screen.

```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **BUTTON NAVIGATION**; press .
- 3 Brake-Link™ prompts you to select a protocol. Press .

**NOTE:**



See “Selecting a Protocol”, on page 16.

Brake-Link™ auto-detects the Meritor WABCO ABS ECUs present for the protocol you selected.

- 4 If *both* are detected, Brake-Link™ prompts you to select **TRACTOR** or **TRAILER**; use the  and  keys to select **TRACTOR**.
- 5 The ECU sensor/modulator configuration is displayed, indicating whether there are existing and/or stored faults.

```
TRACTOR 4S/3M
EXISTING FAULTS    YES
STORED FAULTS     YES
[ENTER]          TO CONTINUE
```

Press  to continue.

- 6 Brake-Link™ instructs you to **CONTINUE BY PRESSING BUTTONS**; press .

7 Existing fault code(s) are displayed.

```
POWER SUPPLY  
LOW VOLTAGE  
SID:014(0Eh)  
FMI:004(04h) x:002
```

—Line 1 shows the System ID (SID) description.

—Line 2 shows the 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, and an occurrence count (e.g., x:002 indicates the fault occurred twice).

Brake-Link™ truncates some of the SID and FMI descriptions to fit the 20 character line display. Refer to Appendix A for full SID and FMI descriptions.

**NOTE:**



If there is more than one code *and* the ECU supports displaying multiple codes, a down arrow appears next to the occurrence count; scroll the display with the and keys. At the end of the list, an up arrow appears on the left side of the screen. If ECU only transmits one existing code at a time, you have to repair the problem causing the fault before you'll see the next code.

8 Press to return to the **CONTINUE BY PRESSING BUTTONS** prompt or to return to the **Select Application** screen.

## Viewing Stored Faults

Once you repair a problem, the ECU moves 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 (one 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 with each method of navigation.

  View stored fault codes *via menu navigation*:

- 1 Connect Brake-Link™ to the tractor and power-up (see “Connecting Brake-Link™ Components, on page 8). Brake-Link™ starts and presents the **Select Application** screen.

```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **MENU NAVIGATION** and press .

Brake-Link™ presents the **Protocol Selection** screen.

- 3 Use the  and  keys to select the desired option, and press .

**NOTE:**

 See “Selecting a Protocol”, on page 16.

Brake-Link™ auto-detects the Meritor WABCO ABS ECUs present for the protocol you selected.

- 4 If *both* are detected, Brake-Link™ prompts you to select TRACTOR or TRAILER; use the  and  keys to select **TRACTOR**.
- 5 The ECU sensor/modulator configuration is displayed, indicating whether there are existing and/or stored faults.

```
TRACTOR 4S/3M
EXISTING FAULTS      YES
STORED FAULTS       YES
[ENTER]            TO CONTINUE
```

Press  to access the **Meritor WABCO ABS Application** main menu.

- 6 Next, Brake-Link™ presents the **Meritor WABCO ABS Application** main menu; use the  and  keys to scroll to **FAULTS**, and press .

```
ECU INFORMATION
█ FAULTS
DATA LIST
TESTS
```

- 7 Brake-Link™ displays the **Faults Menu**; select **VIEW STORED FAULTS**, and press .
- 8 Stored fault codes are displayed. If there is more than one fault code, a down arrow appears to the right of the occurrence count and on the last stored fault, an up arrow appears left of the FMI (Line 4). Scroll the display with the  and  keys.

```
POWER SUPPLY
LOW VOLTAGE
SID:014(0Eh)
FMI:004(04h) x:002 ↓
```

—Line 1 shows the System ID (SID) description.

—Line 2 shows the 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, and an occurrence count (e.g., x:002 indicates the fault occurred twice).

Brake-Link™ truncates some of the SID and FMI descriptions to fit the 20 character line display. Refer to Appendix A for full SID and FMI descriptions.

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

Direct  
Access

View stored fault codes ***via button navigation:***

- 1 Connect Brake-Link™ to the tractor and power-up (see “Connecting Brake-Link™ Components, on page 8). Brake-Link™ starts and presents the **Select Application** screen.

```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **BUTTON NAVIGATION**; press .
- 3 Brake-Link™ prompts you to select a protocol. Press .

**NOTE:**



See “Selecting a Protocol”, on page 16.

Brake-Link™ auto-detects the Meritor WABCO ABS ECUs present for the protocol you selected.

- 4 If *both* are detected, Brake-Link™ prompts you to select TRACTOR or TRAILER; use the  and  keys to select **TRACTOR**.
- 5 The ECU sensor/modulator configuration is displayed, indicating whether there are existing and/or stored faults.

```
TRACTOR 4S/3M
EXISTING FAULTS    YES
STORED FAULTS     YES
[ENTER]          TO CONTINUE
```

Press  to continue.

- 6 Brake-Link™ instructs you to **CONTINUE BY PRESSING BUTTONS**; press .

- 7 Stored fault codes are displayed. If there is more than one fault code, a down arrow appears to right of the occurrence count and on the last stored fault, an up arrow appears left of the FMI (Line 4). Scroll the display with the  and  keys.

```
POWER SUPPLY
LOW VOLTAGE
SID:014(0Eh)
FMI:004(04h) x:002 ↓
```

- Line 1 shows the System ID (SID) description.
- Line 2 shows the 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, and an occurrence count (e.g., x:002 indicates the fault occurred twice).

Brake-Link™ truncates some of the SID and FMI descriptions to fit the 20 character line display. Refer to Appendix A for full SID and FMI descriptions.

- 8 Press  to return to the **CONTINUE BY PRESSING BUTTONS** prompt or  to return to the **Select Application** screen.

## Clearing Stored Faults

**CLEAR FAULTS** clears stored fault codes from the ECU.

### NOTE:



The CLEAR FAULTS option is called Reset in Button Navigation.

Once you repair a problem, the ECU 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 (one 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.

  Clear stored fault codes *via menu navigation*:

- 1 Connect Brake-Link™ to the tractor and power-up (see “Connecting Brake-Link™ Components, on page 8). Brake-Link™ starts and presents the **Select Application** screen.

```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **MENU NAVIGATION**, and press .

Brake-Link™ presents the **Protocol Selection** screen.

- 3 Use the  and  keys to select the desired option and press .

**NOTE:**

 See “Selecting a Protocol”, on page 16.

Brake-Link™ auto-detects the Meritor WABCO ABS ECUs present for the protocol you selected.

- 4 If *both* are detected, Brake-Link™ prompts you to select TRACTOR or TRAILER; use the  and  keys to select **TRACTOR**.
- 5 The ECU sensor/modulator configuration is displayed, indicating whether there are existing and/or stored faults.

```
TRACTOR 4S/3M
EXISTING FAULTS    YES
STORED FAULTS     YES
[ENTER]          TO CONTINUE
```

Press  to access the **Meritor WABCO ABS Application** main menu.

- Next, Brake-Link™ presents the **Meritor WABCO ABS Application** main menu; use the  and  keys to scroll to **FAULTS**, and press .

```
ECU INFORMATION
█ FAULTS
DATA LIST
TESTS
```

- Brake-Link™ displays the **Faults Menu**; select **CLEAR FAULT**, and press .
- Brake-Link™ requests confirmation; use the  and  keys to select **YES**, and press .
- Next, Brake-Link™ displays a **Faults Cleared** message. Press  to return to the **Faults Menu**.
- Press  to return to the main menu or  to return to the **Select Application** screen.

Direct  
Access

Clear stored fault codes **via button navigation**:

- Connect Brake-Link™ to the tractor and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ starts and presents the **Select Application** screen.

```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
█ MERITOR WABCO ABS
```

- Use the  and  keys to select **MERITOR WABCO ABS**; press .
- Brake-Link™ displays navigation options; use the  and  keys to select **BUTTON NAVIGATION**; press .
  - Brake-Link™ prompts you to select a protocol. Press .

**NOTE:**



See “Selecting a Protocol”, on page 16.

Brake-Link™ auto-detects the Meritor WABCO ABS ECUs present for the protocol you selected.

- 4 If *both* are detected, Brake-Link™ prompts you to select TRACTOR or TRAILER; use the  and  keys to select **TRACTOR**.
- 5 The ECU sensor/modulator configuration is displayed, indicating whether there are existing and/or stored faults.

```
TRACTOR 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
```

Press  to continue.

- 6 Brake-Link™ instructs you to **CONTINUE BY PRESSING BUTTONS**; press .
- 7 Brake-Link™ requests confirmation; use the  and  keys to select **YES** and press .
- 8 Next, Brake-Link™ displays a **Faults Cleared** message. Press  to return to the **CONTINUE BY PRESSING BUTTONS** prompt.
- 9 Press  to return to the **Navigation Selection** screen or  to return to the **Select Application** screen.

## Data List

The *DATA LIST* option displays information gathered by the ECU.

### Tractor Data List Parameters

The following table provides the tractor data list parameters and their descriptions.

Data Item	Description
DIAGONAL 1	Diagonal 1 Voltage
DIAGONAL 2	Diagonal 2 Voltage
BATTERY	Battery Voltage
L FRONT	Left Front Sensor Speed
R FRONT	Right Front Sensor Speed
L AXLE 2	Left Axel Sensor Speed
R AXLE 2	Right Axel 2 Sensor Speed
L AXEL 3	Left Axel 3 Sensor Speed
R AXLE 3	Right Axel 3 Sensor Speed
ABS BRAKE	ABS Brake Control
ABS RETARDER	ABS Retarder Control
ABS SWITCH	ABS Switch
ABS LAMP	ABS Status Lamp
ATC BRAKE	ATC Brake Control
ATC ENGINE	ATC Engine Control
ATC SWITCH	ATC Switch
ATC LAMP	ATC Lamp Status
TRAILER LAMP	Trailer Lamp Status

The rest of this section explains how to view the data list with each method of navigation.

  Access the Data List *via menu navigation*:

- 1 Connect Brake-Link™ to the tractor and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ starts and presents the **Select Application** screen.

```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **MENU NAVIGATION** and press .

Brake-Link™ presents the **Protocol Selection** screen.

- 3 Use the  and  keys to select the desired option and press .

**NOTE:**

 See “Selecting a Protocol”, on page 16.

Brake-Link™ auto-detects the Meritor WABCO ABS ECUs present for the protocol you selected.

- 4 If *both* are detected, Brake-Link™ prompts you to select TRACTOR or TRAILER; use the  and  keys to select **TRACTOR**.
- 5 The ECU sensor/modulator configuration is displayed, indicating whether there are existing and/or stored faults.

```
TRACTOR 4S/3M
EXISTING FAULTS      YES
STORED FAULTS       YES
[ENTER]             TO CONTINUE
```

Press  to access the **Meritor WABCO ABS Application** main menu.

- 6 Next, Brake-Link™ presents the **Meritor WABCO ABS Application** main menu; use the  and  keys to scroll to **DATA LIST** and press .

```
ECU INFORMATION
FAULTS
DATA LIST
TESTS
```

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

```
ATC LAMP          N/A
TRAILER LAMP      ON
-----
DIAGONAL 1       0.0v
```

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

Direct  
Access

Access the Data List ***via button navigation:***

- 1 Connect Brake-Link™ to the tractor and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ starts and presents the **Select Application** screen.

```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **BUTTON NAVIGATION**; press .
- 3 Brake-Link™ prompts you to select a protocol. Press .

**NOTE:**

 See “Selecting a Protocol”, on page 16.

Brake-Link™ auto-detects the Meritor WABCO ABS ECUs present for the protocol you selected.

- 4 If *both* are detected, Brake-Link™ prompts you to select TRACTOR or TRAILER; use the  and  keys to select **TRACTOR**.
- 5 The ECU sensor/modulator configuration is displayed, indicating whether there are existing and/or stored faults.

```
TRACTOR 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
```

Press  to continue.

- 6 Brake-Link™ instructs you to **CONTINUE BY PRESSING BUTTONS**; press  or .
- 7 Brake-Link™ displays the data list; use the  and  keys to scroll the list. A dashed line appears at the end of the list.

```
ATC LAMP          N/A
TRAILER LAMP      ON
-----
DIAGONAL 1        0.0v
```

- 8 Press  to return to the **CONTINUE BY PRESSING BUTTONS** prompt or  to return to the **Select Application** screen.

## Tests

Brake-Link™ offers the following tests:

- **TEST WARNING LAMP** to ensure the ABS Warning Lamp on the outside of the tractor is working properly (pg. 42).
- **TEST VALVES** to ensure the modulator valves are working properly (pg. 44).
- **TEST SENSORS** to ensure that the wheel sensors are connected to the correct wheels and to detect the greatest wheel speed for each wheel (pg. 47).
- **TEST RETARDER RELAY** to momentarily open the retarder relay contacts. (pg. 50).
- **TEST RETARDER DATALINK** to temporarily disable an electronic retarder that uses a J-1922 or J-1939 data link (pg. 52).
- **TEST ENGINE DATALINK** to monitor the change in engine torque and revolutions per minute (rpm) (pg. 54).

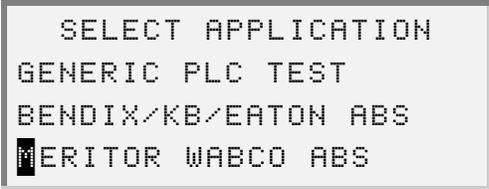
Access all tests by way of menu navigation.

## Test Warning Lamp

Use this option to ensure the ABS Warning Lamp on the dashboard of the tractor is functioning properly. This test blinks the lamp eight times.

  **Test Exterior ABS Warning Lamp *via menu navigation*:**

- 1 Connect Brake-Link™ to the tractor and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ starts and presents the **Select Application** screen.



```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **MENU NAVIGATION** and press .

Brake-Link™ presents the **Protocol Selection** screen.

- 3 Use the  and  keys to select the desired option and press .

**NOTE:**

 See “Selecting a Protocol”, on page 16.

Brake-Link™ auto-detects the Meritor WABCO ABS ECUs present for the protocol you selected.

- 4 If *both* are detected, Brake-Link™ prompts you to select TRACTOR or TRAILER; use the  and  keys to select **TRACTOR**.

- 5 The ECU sensor/modulator configuration is displayed, indicating whether there are existing and/or stored faults.

```
TRACTOR 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]         TO CONTINUE
```

Press **[ENTER]** to access the **Meritor WABCO ABS Application** main menu.

- 6 Brake-Link™ presents the **Meritor WABCO ABS Application** main menu; use the **[▲]** and **[▼]** keys to scroll to **TESTS** and press **[ENTER]**.

```
ECU INFORMATION
FAULTS
DATA LIST
TESTS
```

- 7 Brake-Link™ displays the **Tests Menu**; use the **[▲]** and **[▼]** keys to position the cursor on **TEST WARNING LAMP**, and press **[ENTER]**.
- 8 Brake-Link™ blinks the lamp eight times; it displays eight Xs across the bottom of the screen to indicate the progress of the test.

```
ACTIVATING
WARNING LAMP
ON AND OFF...
XXXX X
```

Once it finishes the test, it displays **TEST IS COMPLETE**. Press **[ENTER]** to return to the **Tests Menu**.

- 9 Press **[◀]** to return to the main menu, or **[HOME]** to return to the **Select Application** screen.

## Test Valves

This test cycles the selected modulator valve.

  Test selected modulator valve **via menu navigation**:

- 1 Connect Brake-Link™ to the tractor and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ starts and presents the **Select Application** screen.

```

SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
    
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **MENU NAVIGATION** and press .

Brake-Link™ presents the **Protocol Selection** screen.

- 3 Next, Brake-Link™ presents the **Protocol Selection** screen. Use the  and  keys to select the desired option and press .

### NOTE:

 See “Selecting a Protocol”, on page 16.

Brake-Link™ auto-detects the Meritor WABCO ABS ECUs present for the protocol you selected.

- 4 If *both* are detected, Brake-Link™ prompts you to select TRACTOR or TRAILER; use the  and  keys to select **TRACTOR**.
- 5 The ECU sensor/modulator configuration is displayed, indicating whether there are existing and/or stored faults.

```

TRACTOR 4S/3M
EXISTING FAULTS      YES
STORED FAULTS       YES
[ENTER]             TO CONTINUE
    
```

Press **ENTER** to access the **Meritor WABCO ABS Application** main menu.

- 6 Next, Brake-Link™ presents the **Meritor WABCO ABS Application** main menu; use the **▲** and **▼** keys to scroll to **TESTS** and press **ENTER**.

```
ECU INFORMATION
FAULTS
DATA LIST
TESTS
```

- 7 Brake-Link™ displays the **Tests Menu**; use the **▲** and **▼** keys to position the cursor on **TEST VALVES**, and press **ENTER**.
- 8 The **Valve Selection** screen displays next.

```
L FRONTVALVE
R FRONT VALVE
L 2NF AXLE VALVE
R 2ND AXLE VALVE
```

Use the **▲** and **▼** keys to position the cursor on the desired valve and press **ENTER**.

The appropriate test begins after selecting the corresponding valve.

**NOTE:**



---

The list of available valves differs depending on the ECU type and configuration.

---

- 9 Brake-Link™ performs two tests on the valve. It shows a valve activation and test status screen for each test. Eight Xs appear across the bottom of each screen to indicate the progress of the test

Each valve test procedure executes in the same manner. The uninterrupted test sequence begins by activating the valve for decreasing pressure, followed by activating hold pressure. Progress status is displayed throughout the text. For example, the L FRONT VALVE test displays the following sequence.

```
DECREASING PRESSURE  
ACTIVATING  
L FRONT VALVE  
XXXXX
```

```
HOLD PRESSURE  
ACTIVATING  
L FRONT VALVE  
XXXXX XXXX
```

Once Brake-Link™ finishes the test, the **TEST IS COMPLETE** message is displayed. Press **ENTER** to return to the **Tests Menu**.

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

## Test Sensors

Use this test to monitor the inputs from the wheel sensors, one at a time. Rotate each sensed wheel and verify a speed reading on the appropriate sensor. This feature may be used to verify each sensor is assigned to the appropriate wheel. The test begins by displaying all of the available wheel sensors with speed values of >7rpm.

### NOTE:



---

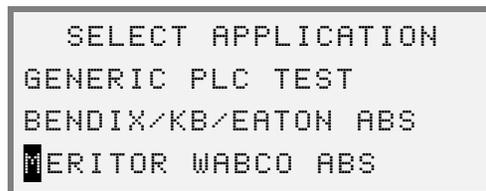
The wheel must achieve seven revolutions per minute before Brake-Link™ displays a wheel speed or spin sequence number.

---



Test sensor valve *via menu navigation*:

- 1 Connect Brake-Link™ to the tractor and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ starts and presents the **Select Application** screen.



Use the and keys to select *MERITOR WABCO ABS*; press .

- 2 Brake-Link™ displays navigation options; use the and keys to select *MENU NAVIGATION* and press .

Brake-Link™ presents the **Protocol Selection** screen.

- 3 Use the and keys to select the desired option and press .

### NOTE:



---

See “Selecting a Protocol”, on page 16.

---

Brake-Link™ auto-detects the Meritor WABCO ABS ECUs present for the protocol you selected.

- 4 If *both* are detected, Brake-Link™ prompts you to select TRACTOR or TRAILER; use the and keys to select *TRACTOR*.

- 5 The ECU sensor/modulator configuration is displayed, indicating whether there are existing and/or stored faults.

```

TRACTOR 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]         TO CONTINUE
    
```

Press **[ENTER]** to access the **Meritor WABCO ABS Application** main menu.

- 6 Next, Brake-Link™ presents the **Meritor WABCO ABS Application** main menu; use the **[▲]** and **[▼]** keys to scroll to **TESTS** and press **[ENTER]**.

```

ECU INFORMATION
FAULTS
DATA LIST
TESTS
    
```

- 7 Brake-Link™ displays the **Tests Menu**; use the **[▲]** and **[▼]** keys to position the cursor on **TEST SENSORS**, and press **[ENTER]**.
- 8 Brake-Link™ displays all available wheel sensors with default values of >7.

```

L FRONT    >7rpm
R FRONT    >7rpm
L AXEL     >7rpm
R AXEL     >7rpm
    
```

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,

```

R FRONT    10.2 rpm1
R AXEL 2   8.8 rpm2
L AXEL 2   9.6 rpm4
L FRONT    9.0 rpm 3
    
```

**NOTE:**



---

Wheel sensor configurations vary depending on the ECU type. Check the Meritor WABCO specification for the configuration that applies to the ECU you're testing.

---

- 9 Press  to return to the **Tests Menu**, or  to return to the **Select Application** screen.

## Test Retarder Relay

Use the **RETARDER RELAY** option to momentarily open the retarder relay contacts.

### NOTE:

 This is an ABS/STC function. This function may not be available if it is not detected by the ECU.

  Test retarder relay *via menu navigation*:

- 1 Connect Brake-Link™ to the tractor and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ starts and presents the **Select Application** screen.

```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **MENU NAVIGATION** and press .

Brake-Link™ presents the **Protocol Selection** screen.

- 3 Use the  and  keys to select the desired option and press .

### NOTE:

 See “Selecting a Protocol”, on page 16.

Brake-Link™ auto-detects the Meritor WABCO ABS ECUs present for the protocol you selected.

- 4 If *both* are detected, Brake-Link™ prompts you to select TRACTOR or TRAILER; use the  and  keys to select **TRACTOR**.

- 5 The ECU sensor/modulator configuration is displayed, indicating whether there are existing and/or stored faults.

```
TRACTOR 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
```

Press **[ENTER]** to access the **Meritor WABCO ABS Application** main menu.

- 6 Next, Brake-Link™ presents the **Meritor WABCO ABS Application** main menu; use the **[▲]** and **[▼]** keys to scroll to **TESTS** and press **[ENTER]**.

```
ECU INFORMATION
FAULTS
DATA LIST
TESTS
```

- 7 Brake-Link™ displays the **Tests Menu**; use the **[▲]** and **[▼]** keys to position the cursor on **RETARDER RELAY**, and press **[ENTER]**.

The ACTIVATING screen is displayed.

```
ACTIVATING
RETARDER RELAY
```

After the retarder relay is momentarily activated, Brake-Link™ displays the **Tests Menu**.

- 8 Press **[HOME]** to return to the **Select Application** screen.

## Test Retarder Datalink

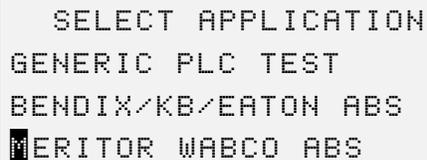
Use the **RETARDER DATALINK** option to momentarily disable an electronic retarder that uses a J-1922 or J-1939 data link.

### NOTE:

 This is an ABS/STC function. This function may not be available if it is not detected by the ECU.

  Test retarder relay *via menu navigation*:

- 1 Connect Brake-Link™ to the tractor and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ starts and presents the **Select Application** screen.



```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **MENU NAVIGATION** and press .

Brake-Link™ presents the **Protocol Selection** screen.

- 3 Use the  and  keys to select the desired option and press .

### NOTE:

 See “Selecting a Protocol”, on page 16.

Brake-Link™ auto-detects the Meritor WABCO ABS ECUs present for the protocol you selected.

- 4 If *both* are detected, Brake-Link™ prompts you to select TRACTOR or TRAILER; use the  and  keys to select **TRACTOR**.

- 5 The ECU sensor/modulator configuration is displayed, indicating whether there are existing and/or stored faults.

```
TRACTOR 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
```

Press **[ENTER]** to access the **Meritor WABCO ABS Application** main menu.

- 6 Next, Brake-Link™ presents the **Meritor WABCO ABS Application** main menu; use the **[▲]** and **[▼]** keys to scroll to **TESTS** and press **[ENTER]**.

```
ECU INFORMATION
FAULTS
DATA LIST
TESTS
```

- 7 Brake-Link™ displays the **Tests Menu**; use the **[▲]** and **[▼]** keys to position the cursor on **RETARDER DATALINK**, and press **[ENTER]**.

The ACTIVATING screen is displayed.

```
ACTIVATING
RETARDER DATALINK
```

After the Retarder Datalink is momentarily activated, Brake-Link™ displays the **Tests Menu**.

- 8 Press **[HOME]** to return to the **Select Application** screen.

## Test Engine Datalink

With the engine running at approximately 1000 rpm, and the J-1922 data link properly installed between the ECU and ABS/ATC ECU, you can use the ENGINE DATALINK function to monitor the change in engine torque and rpm.

### NOTE:

 This function can only be used if Automatic Traction Control (ATC) is installed on the vehicle.

### Test engine datalink *via menu navigation*:

- 1 Connect Brake-Link™ to the tractor and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ starts and presents the **Select Application** screen.

```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **MENU NAVIGATION**, and press .

Brake-Link™ presents the **Protocol Selection** screen.

- 3 Use the  and  keys to select the desired option and press .

### NOTE:

 See “Selecting a Protocol”, on page 16.

Brake-Link™ auto-detects the Meritor WABCO ABS ECUs present for the protocol you selected.

- 4 If *both* are detected, Brake-Link™ prompts you to select TRACTOR or TRAILER; use the  and  keys to select **TRACTOR**.

- 5 The ECU sensor/modulator configuration is displayed, indicating whether there are existing and/or stored faults.

```
TRACTOR 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
```

Press **[ENTER]** to access the **Meritor WABCO ABS Application** main menu.

- 6 Next, Brake-Link™ presents the **Meritor WABCO ABS Application** main menu; use the **[▲]** and **[▼]** keys to scroll to **TESTS** and press **[ENTER]**.

```
ECU INFORMATION
FAULTS
DATA LIST
TESTS
```

- 7 Brake-Link™ displays the **Tests Menu**; use the **[▲]** and **[▼]** keys to position the cursor on **ENGINE DATALINK**, and press **[ENTER]**.

Brake-Link™ displays the following screen:

```
RUN ENGINE → 1000 RPM
ENGINE TORQUE WILL
CHANGE DURING TEST
[ENTER] TO CONTINUE
```

- 8 Apply the accelerator pedal until engine reaches 1000 rpm.  
9 Press **[ENTER]** to continue.

Once the Engine Datalink is momentarily activated, Brake-Link™ displays the **Tests Menu**.

- 10 Press **[HOME]** to return to the **Select Application** screen.



# Chapter 3

## Using Meritor WABCO ABS Application (Trailer)



- ▼ *Selecting a Protocol, page 59*
- ▼ *Using the Meritor WABCO ABS Application, page 64*
- ▼ *ECU Information, page 64*
- ▼ *Faults, page 69*
- ▼ *Data List, page 85*
- ▼ *Tests, page 89*
- ▼ *Modify, page 97*

**B**rake-Link™ features the **Meritor WABCO ABS Application** for diagnosing Meritor WABCO Trailer Anti-lock Brake System issues and configuring Easy-Stop™ (TCS I) and Enhanced Easy-Stop™ (TCS II) brake controllers.

This chapter explains how to use the **Meritor WABCO ABS Application** for trailer.

This application supports both methods of navigation (see pg. 9). Most discussions in this chapter provide a separate set of instructions for each method. Instructions for completing the task via:

- **Menu navigation** are marked with this icon ;
- **Button navigation** are marked with this icon .

## Selecting a Protocol

The **Meritor WABCO ABS Application** uses the SAE J1587 *communication* protocol to interact with the trailer's brake controller. As such, it requires you to select one of the following hardware protocols in order to establish a connection to the ECU:

- **J1708/J1587 BUS**, which sends J1587 messages (i.e., information) over the J1708 bus through the trailer Deutsch connector.
- **PLC/ENHANCED MODE**, which sends J1587 messages over the Power Line Carrier (PLC). (Only available for ECUs that support Enhanced PLC Mode.) Receive information through the Deutsch or Power Line connectors on the trailer. If the tractor and trailer are connected, receive information from the trailer ECU through either Deutsch connector.

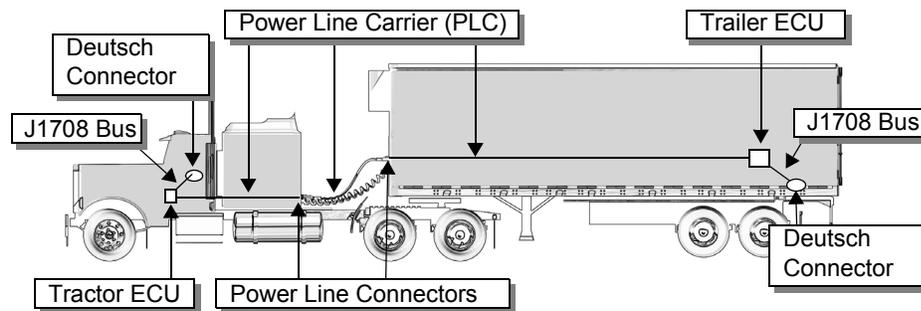


Figure 3.1 Power Line Carrier and J1708 Bus Illustration

Use the following table to help you decide which protocol best suits your needs.

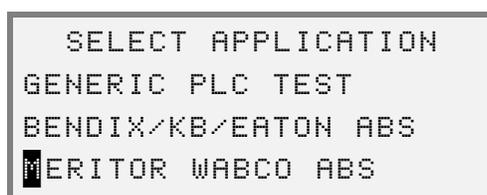
<b>J1708/ J1587</b>	<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Provides ECU access via a standard Deutsch connection.</li> <li>• Supported by all Meritor WABCO brake ECUs.</li> </ul>
	<p><b>Considerations:</b></p> <ul style="list-style-type: none"> <li>• If you're testing a trailer that's <i>not</i> connected to a tractor, an external power supply and adapter is required in <i>addition</i> to the Deutsch adapter.</li> </ul>
	<p><b>Use if:</b></p> <ul style="list-style-type: none"> <li>• The ECU(s) you're testing doesn't support Enhanced PLC Mode, i.e., Meritor WABCO Easy-Stop™.</li> </ul>

<b>PLC/ Enhanced Mode</b>	<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Provides ECU access via a Deutsch or J560 Power Line Connection.</li> <li>• If the tractor is attached to the trailer, it provides access to both ECUs via a single connection.</li> </ul>
	<p><b>Considerations:</b></p> <ul style="list-style-type: none"> <li>• Applicable ECU must support Enhanced PLC Mode to utilize this protocol, i.e., Meritor WABCO Enhanced Easy-Stop™.</li> </ul>
	<p><b>Use if:</b></p> <ul style="list-style-type: none"> <li>• The tractor is attached to the trailer and you wish to connect the Brake-Link™ to the tractor for convenience.</li> <li>• You're testing a trailer that is not connected to a tractor—the J560 PLC Cable Set that's compatible with this option eliminates the need for an additional adapter to supply power.</li> </ul>

The rest of this section explains how to select a hardware protocol using each navigation method.

  Select hardware/communication protocol *via menu navigation*:

- 1 Connect Brake-Link™ to the tractor or trailer and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ boots up and presents the **Select Application** screen.



Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **MENU NAVIGATION** and press .

3 The **Protocol Selection** screen displays.

```
J1708/J1587 BUS
PLC/ENHANCED MODE
```

Use the  and  keys to select the desired protocol:

—**J1708/J1587 BUS** configures Brake-Link™ to communicate with the ECU via the J1708 Bus (accessed through the standard Deutsch connection).

—**PLC/ENHANCED MODE** configures Brake-Link™ to communicate with the ECU via the Power Line Carrier (accessed through the Deutsch or J560 trailer power line connectors). This options is only available for ECUs that support this mode, i.e., Meritor WABCO Enhanced Easy-Stop™ controllers.

Press .

4 Brake-Link™ auto-detects the Meritor WABCO Trailer ABS ECU. It presents the ECU sensor/modulator configuration and indicates whether there are existing and/or stored faults.

```
TRAILER 4S/3M
EXISTING FAULTS      YES
STORED FAULTS       YES
[ENTER]             TO CONTINUE
```



*If you receive **CAN NOT IDENTIFY ECU:***

- *the detected ECU is not an Easy-Stop™ (TCS I) or Enhanced Easy-Stop™ (TCS II) controller.*

*If you selected **J1708/J1587 BUS** protocol and it displays **ECU NOT RESPONDING**,*

- *the ECU or Data Bus is not working properly.*

*If you selected **PLC/ENHANCED MODE** protocol and it displays **ECU NOT RESPONDING**,*

- *the brake ECU is not equipped with Enhanced PLC Mode.*
- *the ECU or Data Bus is not working properly.*

Press  to access the **Meritor WABCO ABS Application** main menu.

Direct  
Access

Select hardware/communication protocol **via button navigation**:

- 1 Connect Brake-Link™ to the tractor or trailer and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ boots up and presents the **Select Application** screen.

```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **BUTTON NAVIGATION** and press .
- 3 Brake-Link™ prompts you to press the appropriate **COMM** button; press:
  - to configure Brake-Link™ to communicate with the ECU via the J1708 Bus (accessed through the standard Deutsch connectors).
  - to configure Brake-Link™ to communicate with the ECU via the Power Line Carrier (accessed through the Deutsch or J560 trailer power line connectors). This options is only available for controllers that support Enhanced PLC Mode, i.e., Meritor WABCO Enhanced Easy-Stop™ controllers.

- 4 Brake-Link™ auto-detects the Meritor WABCO Trailer ABS ECU. It presents the ECU sensor/modulator configuration and indicates whether there are existing and/or stored faults.

```
TRAILER 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]         TO CONTINUE
```



*If you receive **CAN NOT IDENTIFY ECU:***

- *the detected ECU is not an Easy-Stop™ (TCS I) or Enhanced Easy-Stop™ (TCS II) controller.*

*If you selected **J1708/J1587 BUS** protocol and it displays **ECU NOT RESPONDING,***

- *the ECU or Data Bus is not working properly.*

*If you selected **PLC/ENHANCED MODE** protocol and it displays **ECU NOT RESPONDING,***

- *the brake ECU is not equipped with Enhanced PLC Mode.*
- *the ECU or Data Bus is not working properly.*

Press **ENTER**.

- 5 Brake-Link™ instructs you to **CONTINUE BY PRESSING BUTTONS**. Refer to the “Table of Contents” to find help with a specific test.

## Using the Meritor WABCO ABS Application

The following table shows the **Meritor WABCO ABS Application** main menu options and indicates the number of items offered by each option, e.g., the *TESTS* menu offers 3 tests.

<i>MERITOR WABCO ABS Options</i>	<b># of Items</b>
<i>ECU INFORMATION</i> (see pg. 64)	1
<i>FAULTS</i> (see pg. 69)	3
<i>DATA LIST</i> (see pg. 85)	1
<i>TESTS</i> (see pg. 89)	3
<i>MODIFY</i> (see pg. 97)	1

This rest of this section details each **Meritor WABCO ABS Application** option.

### ECU Information

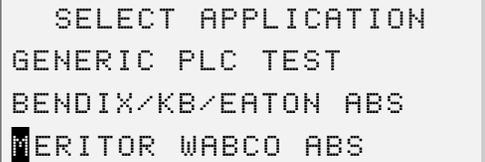
Use this option to retrieve the following ECU information:

- ECU Type
- Configuration
- Part Number
- Manufacture Date
- Serial Number
- Software Revision

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

  View ECU Information *via menu navigation*:

- 1 Connect Brake-Link™ to the tractor or trailer and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ boots up and presents the **Select Application** screen.



```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **MENU NAVIGATION** and press .
- 3 Next, it presents the **Protocol Selection** screen. Use the  and  keys to select the desired option and press . See “Selecting a Protocol”, on page 59.

- 4 Brake-Link™ auto-detects the Meritor WABCO Trailer ABS ECU. It presents the ECU sensor/modulator configuration and indicates whether there are existing and/or stored faults.

```
TRAILER 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
```



*If you receive CAN NOT IDENTIFY ECU:*

- *the detected ECU is not an Easy-Stop™ (TCS I) or Enhanced Easy-Stop™ (TCS II) controller.*

*If you selected J1708/J1587 BUS protocol and it displays ECU NOT RESPONDING,*

- *the ECU or Data Bus is not working properly.*

*If you selected PLC/ENHANCED MODE protocol and it displays ECU NOT RESPONDING,*

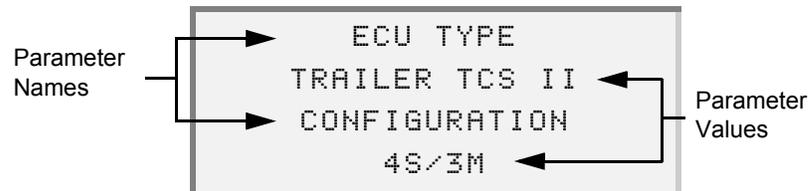
- *the brake ECU is not equipped with Enhanced PLC Mode.*
- *the ECU or Data Bus is not working properly.*

Press **[ENTER]** to access the **Meritor WABCO ABS Application** main menu.

- 5 Next, it presents the **Meritor WABCO ABS Application** main menu; use the **[▲]** and **[▼]** keys to scroll to **ECU INFORMATION** and press **[ENTER]**.

```
ECU INFORMATION
FAULT
DATA LIST
TESTS
```

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



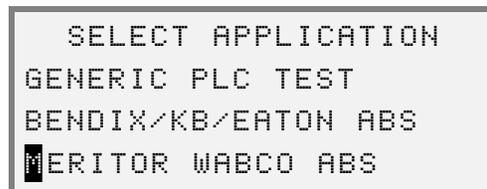
**NOTE:**

-  TCS I is the Easy-Stop™ controller; TCS II is the Enhanced Easy-Stop™ controller.

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

 **View ECU Information *via button navigation*:**

- 1 Connect Brake-Link™ to the tractor or trailer and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ boots up and presents the **Select Application** screen.



- Use the  and  keys to select **MERITOR WABCO ABS**; press .
- 2 Brake-Link™ displays navigation options; use the  and  keys to select **BUTTON NAVIGATION**; press .
- 3 Brake-Link™ prompts you to select a protocol. Press  or . See “Selecting a Protocol”, on page 59.

- 4 Brake-Link™ auto-detects the Meritor WABCO Trailer ABS ECU. It presents the ECU sensor/modulator configuration and indicates whether there are existing and/or stored faults.

```

TRAILER 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
    
```



If you receive **CAN NOT IDENTIFY ECU**:

- the detected ECU is not an Easy-Stop™ (TCS I) or Enhanced Easy-Stop™ (TCS II) controller.

If you selected **J1708/J1587 BUS** protocol and it displays **ECU NOT RESPONDING**,

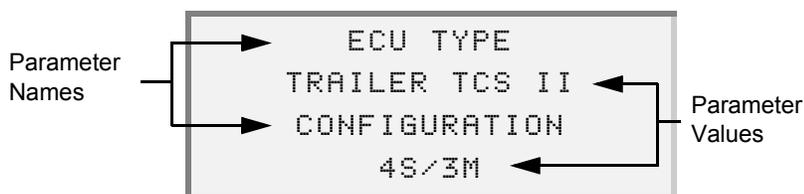
- the ECU or Data Bus is not working properly.

If you selected **PLC/ENHANCED MODE** protocol and it displays **ECU NOT RESPONDING**,

- the brake ECU is not equipped with Enhanced PLC Mode.
- the ECU or Data Bus is not working properly.

Press **ENTER**.

- 5 Brake-Link™ instructs you to **CONTINUE BY PRESSING BUTTONS**; press **ECU**.
- 6 Brake-Link™ displays the ECU's Information. Scroll the display with the **▲** and **▼** keys. A dashed line appears at the end of the list.



**NOTE:**



TCS I is the Easy-Stop™ controller; TCS II is the Enhanced Easy-Stop™ controller.

- 7 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 EXISTING FAULT* (pg. 69)
- *VIEW STORED FAULTS* (pg. 76)
- *CLEAR FAULTS* (pg. 80)

Active fault codes appear in the existing 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.

This section explains how to use each option.

### Viewing Existing Faults

This section explains how to view existing fault codes for each navigation method.

**NOTE:**



---

Some ECUs only transmit one existing code at a time. If there is more than one fault, you may have to repair the problem causing the fault in order to see the next code.

---

The rest of this section explains how to view existing faults with each method of navigation.

  View existing fault codes *via menu navigation*:

- 1 Connect Brake-Link™ to the tractor or trailer and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ boots up and presents the **Select Application** screen.

```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **MENU NAVIGATION** and press .
- 3 Next, it presents the **Protocol Selection** screen. Use the  and  keys to select the desired option and press . See “Selecting a Protocol”, on page 59.

- 4 Brake-Link™ auto-detects the Meritor WABCO Trailer ABS ECU. It presents the ECU sensor/modulator configuration and indicates whether there are existing and/or stored faults.

```
TRAILER 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
```



*If you receive CAN NOT IDENTIFY ECU:*

- *the detected ECU is not an Easy-Stop™ (TCS I) or Enhanced Easy-Stop™ (TCS II) controller.*

*If you selected J1708/J1587 BUS protocol and it displays ECU NOT RESPONDING,*

- *the ECU or Data Bus is not working properly.*

*If you selected PLC/ENHANCED MODE protocol and it displays ECU NOT RESPONDING,*

- *the brake ECU is not equipped with Enhanced PLC Mode.*
- *the ECU or Data Bus is not working properly.*

Press **[ENTER]** to access the **Meritor WABCO ABS Application** main menu.

- 5 Next, it presents the **Meritor WABCO ABS Application** main menu; use the **[▲]** and **[▼]** keys to scroll to **FAULTS** and press **[ENTER]**.

```
ECU INFORMATION
FFAULTS
DATA LIST
TESTS
```

- 6 Brake-Link™ displays the **Faults Menu**; select **VIEW EXISTING FAULT** and press **[ENTER]**.

- 7 It shows existing fault code(s).

```
POWER SUPPLY  
LOW VOLTAGE  
SID:014(0Eh)  
FMI:004(04h) x:002
```

- Line 1 shows the System ID (SID) description.
- Line 2 shows the 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, and an occurrence count (e.g., x:002 indicates the fault occurred twice).

Brake-Link™ truncates some of the SID and FMI descriptions to fit the 20 character line display. Refer to Appendix A for full SID and FMI descriptions.

**NOTE:**



---

If there is more than one code *and* the ECU supports displaying multiple codes, a down arrow appears next to the occurrence count; scroll the display with the  and  keys. At the end of the list, an up arrow appears on the left side of the screen. If ECU only transmits one existing code at a time, you have to repair the problem causing the fault before you'll see the next code.

---

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

Direct  
Access

View existing fault codes *via button navigation*:

- 1 Connect Brake-Link™ to the tractor or trailer and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ boots up and presents the **Select Application** screen.

```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the  and  keys to select *MERITOR WABCO ABS*; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select *BUTTON NAVIGATION*; press .
- 3 Brake-Link™ prompts you to select a protocol. Press  or . See “Selecting a Protocol”, on page 59.

- 4 Brake-Link™ auto-detects the Meritor WABCO Trailer ABS ECU. It presents the ECU sensor/modulator configuration and indicates whether there are existing and/or stored faults.

```
TRAILER 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
```



*If you receive **CAN NOT IDENTIFY ECU**:*

- *the detected ECU is not an Easy-Stop™ (TCS I) or Enhanced Easy-Stop™ (TCS II) controller.*

*If you selected **J1708/J1587 BUS** protocol and it displays **ECU NOT RESPONDING**,*

- *the ECU or Data Bus is not working properly.*

*If you selected **PLC/ENHANCED MODE** protocol and it displays **ECU NOT RESPONDING**,*

- *the brake ECU is not equipped with Enhanced PLC Mode.*
- *the ECU or Data Bus is not working properly.*

Press **ENTER**.

- 5 Brake-Link™ instructs you to **CONTINUE BY PRESSING BUTTONS**; press

**CURRENT  
FAULTS**.

- 6 It shows existing fault code(s).

```
POWER SUPPLY  
LOW VOLTAGE  
SID:014(0Eh)  
FMI:004(04h) x:002
```

- Line 1 shows the System ID (SID) description.
- Line 2 shows the 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, and an occurrence count (e.g., x:002 indicates the fault occurred twice).

Brake-Link™ truncates some of the SID and FMI descriptions to fit the 20 character line display. Refer to Appendix A for full SID and FMI descriptions.

**NOTE:**

- 
-  If there is more than one code *and* the ECU supports displaying multiple codes, a down arrow appears next to the occurrence count; scroll the display with the  and  keys. At the end of the list, an up arrow appears on the left side of the screen. If ECU only transmits one existing code at a time, you have to repair the problem causing the fault before you'll see the next code.
- 

- 7 Press  to return to the **CONTINUE BY PRESSING BUTTONS** prompt or  to return to the **Select Application** screen.

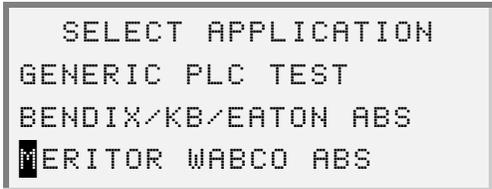
## Viewing Stored Faults

Once you repair a problem, the ECU moves 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 with each method of navigation.

### View stored fault codes *via menu navigation*:

- 1 Connect Brake-Link™ to the tractor or trailer and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ boots up and presents the **Select Application** screen.



```

SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
  
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **MENU NAVIGATION** and press .
- 3 Next, it presents the **Protocol Selection** screen. Use the  and  keys to select the desired option and press . See “Selecting a Protocol”, on page 59.

- 4 Brake-Link™ auto-detects the Meritor WABCO Trailer ABS ECU. It presents the ECU sensor/modulator configuration and indicates whether there are existing and/or stored faults.

```
TRAILER 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
```



*If you receive CAN NOT IDENTIFY ECU:*

- *the detected ECU is not an Easy-Stop™ (TCS I) or Enhanced Easy-Stop™ (TCS II) controller.*

*If you selected J1708/J1587 BUS protocol and it displays ECU NOT RESPONDING,*

- *the ECU or Data Bus is not working properly.*

*If you selected PLC/ENHANCED MODE protocol and it displays ECU NOT RESPONDING,*

- *the brake ECU is not equipped with Enhanced PLC Mode.*
- *the ECU or Data Bus is not working properly.*

Press **[ENTER]** to access the **Meritor WABCO ABS Application** main menu.

- 5 Next, it presents the **Meritor WABCO ABS Application** main menu; use the **[▲]** and **[▼]** keys to scroll to **FAULTS** and press **[ENTER]**.

```
ECU INFORMATION
FFAULTS
DATA LIST
TESTS
```

- 6 Brake-Link™ displays the **Faults Menu**; select **VIEW STORED FAULTS** and press **[ENTER]**.

- 7 It shows stored fault codes. If there is more than one, a down arrow appears to the right of the occurrence count and on the last stored fault, an up arrow appears left of the FMI (Line 4). Scroll the display with the  and  keys.

```

POWER SUPPLY
LOW VOLTAGE
SID:014(0Eh)
FMI:004(04h) x:002 ↓
    
```

- Line 1 shows the System ID (SID) description.
- Line 2 shows the 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, and an occurrence count (e.g., x:002 indicates the fault occurred twice).

Brake-Link™ truncates some of the SID and FMI descriptions to fit the 20 character line display. Refer to Appendix A for full SID and FMI descriptions.

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

Direct Access

View stored fault codes **via button navigation**:

- 1 Connect Brake-Link™ to the tractor or trailer and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ boots up and presents the **Select Application** screen.

```

SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
    
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **BUTTON NAVIGATION**; press .
- 3 Brake-Link™ prompts you to select a protocol. Press  or . See “Selecting a Protocol”, on page 59.

- 4 Brake-Link™ auto-detects the Meritor WABCO Trailer ABS ECU. It presents the ECU sensor/modulator configuration and indicates whether there are existing and/or stored faults.

```
TRAILER 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]         TO CONTINUE
```



*If you receive **CAN NOT IDENTIFY ECU:***

- *the detected ECU is not an Easy-Stop™ (TCS I) or Enhanced Easy-Stop™ (TCS II) controller.*

*If you selected **J1708/J1587 BUS** protocol and it displays **ECU NOT RESPONDING,***

- *the ECU or Data Bus is not working properly.*

*If you selected **PLC/ENHANCED MODE** protocol and it displays **ECU NOT RESPONDING,***

- *the brake ECU is not equipped with Enhanced PLC Mode.*
- *the ECU or Data Bus is not working properly.*

Press **ENTER**.

- 5 Brake-Link™ instructs you to **CONTINUE BY PRESSING BUTTONS;** press

**FAULT HISTORY**.

- 6 Stored fault codes are displayed. If there is more than one, a down arrow appears to right of the occurrence count and on the last stored fault, an up arrow appears left of the FMI (Line 4). Scroll the display with the  and  keys.

```

POWER SUPPLY
LOW VOLTAGE
SID:014(0Eh)
FMI:004(04h) x:002 ↓
    
```

- Line 1 shows the System ID (SID) description.
- Line 2 shows the 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, and an occurrence count (e.g., x:002 indicates the fault occurred twice).

Brake-Link™ truncates some of the SID and FMI descriptions to fit the 20 character line display. Refer to Appendix A for full SID and FMI descriptions.

- 7 Press  to return to the **CONTINUE BY PRESSING BUTTONS** prompt or  to return to the **Select Application** screen.

## Clearing Stored Faults

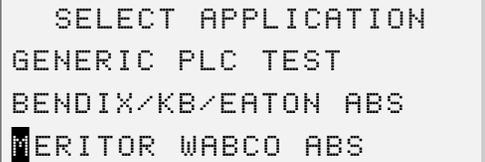
**CLEAR FAULTS** clears stored fault codes from the ECU.

Once you repair a problem, the ECU 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.

  Clear stored fault codes *via menu navigation*:

- 1 Connect Brake-Link™ to the tractor or trailer and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ boots up and presents the **Select Application** screen.



```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **MENU NAVIGATION** and press .
- 3 Next, it presents the **Protocol Selection** screen. Use the  and  keys to select the desired option and press . See “Selecting a Protocol”, on page 59.

- 4 Brake-Link™ auto-detects the Meritor WABCO Trailer ABS ECU. It presents the ECU sensor/modulator configuration and indicates whether there are existing and/or stored faults.

```

TRAILER 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
    
```



*If you receive CAN NOT IDENTIFY ECU:*

- the detected ECU is not an Easy-Stop™ (TCS I) or Enhanced Easy-Stop™ (TCS II) controller.

*If you selected J1708/J1587 BUS protocol and it displays ECU NOT RESPONDING,*

- the ECU or Data Bus is not working properly.

*If you selected PLC/ENHANCED MODE protocol and it displays ECU NOT RESPONDING,*

- the brake ECU is not equipped with Enhanced PLC Mode.
- the ECU or Data Bus is not working properly.

Press **[ENTER]** to access the **Meritor WABCO ABS Application** main menu.

- 5 Next, it presents the **Meritor WABCO ABS Application** main menu; use the **[▲]** and **[▼]** keys to scroll to **FAULTS** and press **[ENTER]**.

```

ECU INFORMATION
FAULTS
DATA LIST
TESTS
    
```

- 6 Brake-Link™ displays the **Faults Menu**; select **CLEAR FAULT** and press **[ENTER]**.
- 7 Brake-Link™ requests confirmation; use the **[◀]** and **[▶]** keys to select **YES** and press **[ENTER]**.
- 8 Next, Brake-Link™ displays a **Faults Cleared** message. Press **[ENTER]** to return to the **Faults Menu**.

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

Direct  
Access

Clear stored fault codes *via button navigation*:

- 1 Connect Brake-Link™ to the tractor or trailer and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ boots up and presents the **Select Application** screen.

```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

- Use the  and  keys to select *MERITOR WABCO ABS*; press .
- 2 Brake-Link™ displays navigation options; use the  and  keys to select *BUTTON NAVIGATION*; press .
- 3 Brake-Link™ prompts you to select a protocol. Press  or . See “Selecting a Protocol”, on page 59.

- 4 Brake-Link™ auto-detects the Meritor WABCO Trailer ABS ECU. It presents the ECU sensor/modulator configuration and indicates whether there are existing and/or stored faults.

```
TRAILER 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
```



*If you receive CAN NOT IDENTIFY ECU:*

- *the detected ECU is not an Easy-Stop™ (TCS I) or Enhanced Easy-Stop™ (TCS II) controller.*

*If you selected J1708/J1587 BUS protocol and it displays ECU NOT RESPONDING,*

- *the ECU or Data Bus is not working properly.*

*If you selected PLC/ENHANCED MODE protocol and it displays ECU NOT RESPONDING,*

- *the brake ECU is not equipped with Enhanced PLC Mode.*
- *the ECU or Data Bus is not working properly.*

Press **ENTER**.

- 5 Brake-Link™ instructs you to **CONTINUE BY PRESSING BUTTONS**; press **RESET**.
- 6 Brake-Link™ requests confirmation; use the **◀** and **▶** keys to select **YES** and press **ENTER**.
- 7 Next, Brake-Link™ displays a **Faults Cleared** message. Press **ENTER** to return to the **CONTINUE BY PRESSING BUTTONS** prompt.
- 8 Press **◀** to return to the **Navigation Selection** screen or **HOME** to return to the **Select Application** screen.

## Data List

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

Data Item	Description
PRIMARY PWR	Primary Voltage
SECONDARY PWR	Secondary Voltage
INTERNAL PWR	Internal Voltage
YE1	Sensor YE1 Speed
YE2	Sensor YE2 Speed
BU1	Sensor BU1 Speed
BU2	Sensor BU2 Speed
CURRENT*	Current Miles
SERVICE*†	Service Miles
REVS PER MILE†	Revolutions Per Mile

\* There is a Miles and Kilometers listing for the Current and Service Miles parameters.

† All parameters, except these two, update continuously to show the most recent values. These parameters display the values at the time the data list was requested.

The rest of this section explains how to view the data list with each method of navigation.

### Access the Data List *via menu navigation*:

- 1 Connect Brake-Link™ to the tractor or trailer and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ boots up and presents the **Select Application** screen.

```

SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
    
```

Use the  and  keys to select **MERITOR WABCO ABS**; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select **MENU NAVIGATION** and press .
- 3 Next, it presents the **Protocol Selection** screen. Use the  and  keys to select the desired option and press . See “Selecting a Protocol”, on page 59.
- 4 Brake-Link™ auto-detects the Meritor WABCO Trailer ABS ECU. It presents the ECU sensor/modulator configuration and indicates whether there are existing and/or stored faults.

```
TRAILER 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
```



*If you receive CAN NOT IDENTIFY ECU:*

- *the detected ECU is not an Easy-Stop™ (TCS I) or Enhanced Easy-Stop™ (TCS II) controller.*

*If you selected J1708/J1587 BUS protocol and it displays ECU NOT RESPONDING,*

- *the ECU or Data Bus is not working properly.*

*If you selected PLC/ENHANCED MODE protocol and it displays ECU NOT RESPONDING,*

- *the brake ECU is not equipped with Enhanced PLC Mode.*
- *the ECU or Data Bus is not working properly.*

Press  to access the **Meritor WABCO ABS Application** main menu.

- 5 Next, it presents the **Meritor WABCO ABS Application** main menu; use the  and  keys to scroll to **DATA LIST** and press .

```
ECU INFORMATION
FAULTS
DATA LIST
TESTS
```

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

```
SERVICE          1400km
REVS PER MILE    495
-----
PRIMARY          0.0v
```

**NOTE:**



All parameters, except **SERVICE** and **REVS PER MILE**, update continuously to show the most recent values. These parameters display the values at the time the data list was requested. To get the most current values, press  to exit the data list; and  to view the list again.

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



Access the Data List *via button navigation*:

- 1 Connect Brake-Link™ to the tractor or trailer and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ boots up and presents the **Select Application** screen.

```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

- Use the  and  keys to select **MERITOR WABCO ABS**; press .
- 2 Brake-Link™ displays navigation options; use the  and  keys to select **BUTTON NAVIGATION**; press .
- 3 Brake-Link™ prompts you to select a protocol. Press  or . See “Selecting a Protocol”, on page 59.

- 4 Brake-Link™ auto-detects the Meritor WABCO Trailer ABS ECU. It presents the ECU sensor/modulator configuration and indicates whether there are existing and/or stored faults.

```

TRAILER 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
    
```



*If you receive CAN NOT IDENTIFY ECU:*

- the detected ECU is not an Easy-Stop™ (TCS I) or Enhanced Easy-Stop™ (TCS II) controller.

*If you selected J1708/J1587 BUS protocol and it displays ECU NOT RESPONDING,*

- the ECU or Data Bus is not working properly.

*If you selected PLC/ENHANCED MODE protocol and it displays ECU NOT RESPONDING,*

- the brake ECU is not equipped with Enhanced PLC Mode.
- the ECU or Data Bus is not working properly.

Press **[ENTER]**.

- 5 Brake-Link™ instructs you to **CONTINUE BY PRESSING BUTTONS;** press **[SENSOR]** or **[VOLT]**.

- 6 Brake-Link™ displays the data list; use the **[▲]** and **[▼]** keys to scroll the list. A dashed line appears at the end of the list.

```

SERVICE           1400km
REVS PER MILE      495
-----
PRIMARY            0.00
    
```

**NOTE:**



All parameters, except **SERVICE** and **REVS PER MILE**, update continuously to show the most recent values. These parameters display the values at the time the data list was requested. To get the most current values, press **[←]** to exit the data list; and **[ENTER]** to view the list again.

- 7 Press  to return to the **CONTINUE BY PRESSING BUTTONS** prompt or  to return to the **Select Application** screen.

## Tests

Brake-Link™ offers the following tests:

- **TEST WARNING LAMP** to ensure the ABS Warning Lamp on the outside of the trailer is working properly (pg. 89).
- **TEST VALVES** to ensure the modulator valves are working properly (pg. 91).
- **TEST SENSORS** to ensure that the wheel sensors are connected to the correct wheels and to detect the greatest wheel speed for each wheel (pg. 94).

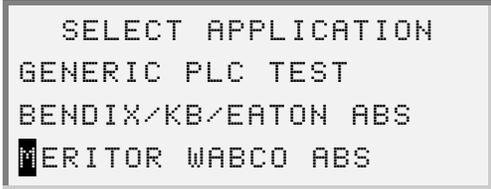
Access all tests via menu navigation.

## Test Warning Lamp

Use this option to ensure the ABS Warning Lamp on the outside of the trailer is functioning properly. This test blinks the lamp 8 times.

  Test Exterior ABS Warning Lamp *via menu navigation*:

- 1 Connect Brake-Link™ to the tractor or trailer and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ boots up and presents the **Select Application** screen.



```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

- Use the  and  keys to select **MERITOR WABCO ABS**; press .
- 2 Brake-Link™ displays navigation options; use the  and  keys to select **MENU NAVIGATION** and press .
  - 3 Next, it presents the **Protocol Selection** screen. Use the  and  keys to select the desired option and press . See “Selecting a Protocol”, on page 59.

- 4 Brake-Link™ auto-detects the Meritor WABCO Trailer ABS ECU. It presents the ECU sensor/modulator configuration and indicates whether there are existing and/or stored faults.

```
TRAILER 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
```



*If you receive CAN NOT IDENTIFY ECU:*

- *the detected ECU is not an Easy-Stop™ (TCS I) or Enhanced Easy-Stop™ (TCS II) controller.*

*If you selected J1708/J1587 BUS protocol and it displays ECU NOT RESPONDING,*

- *the ECU or Data Bus is not working properly.*

*If you selected PLC/ENHANCED MODE protocol and it displays ECU NOT RESPONDING,*

- *the brake ECU is not equipped with Enhanced PLC Mode.*
- *the ECU or Data Bus is not working properly.*

Press **[ENTER]** to access the **Meritor WABCO ABS Application** main menu.

- 5 Next, it presents the **Meritor WABCO ABS Application** main menu; use the **[▲]** and **[▼]** keys to scroll to **TESTS** and press **[ENTER]**.

```
ECU INFORMATION
FAULTS
DATA LIST
TESTS
```

- 6 Brake-Link™ displays the **Tests Menu**; use the **[▲]** and **[▼]** keys to position the cursor on **TEST WARNING LAMP** and press **[ENTER]**.

- 7 Brake-Link™ blinks the lamp eight times; it displays eight Xs across the bottom of the screen to indicate the progress of the test.

```
ACTIVATING  
WARNING LAMP  
ON AND OFF...  
XXXX X
```

Once the test is finished, Brake-Link™ displays **TEST IS COMPLETE**. Press **ENTER** to return to the **Tests Menu**.

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

## Test Valves

This test cycles the selected modulator valve.

**↑** **←** Test selected modulator valve *via menu navigation*:

- 1 Connect Brake-Link™ to the tractor or trailer and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ boots up and presents the **Select Application** screen.

```
SELECT APPLICATION  
GENERIC PLC TEST  
BENDIX/KB/EATON ABS  
MERITOR WABCO ABS
```

Use the **▲** and **▼** keys to select **MERITOR WABCO ABS**; press **ENTER**.

- 2 Brake-Link™ displays navigation options; use the **▲** and **▼** keys to select **MENU NAVIGATION** and press **ENTER**.
- 3 Next, Brake-Link™ presents the **Protocol Selection** screen. Use the **▲** and **▼** keys to select the desired option and press **ENTER**. See “Selecting a Protocol”, on page 59.

- 4 Brake-Link™ auto-detects the Meritor WABCO Trailer ABS ECU. It presents the ECU sensor/modulator configuration and indicates whether there are existing and/or stored faults.

```
TRAILER 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
```



*If you receive CAN NOT IDENTIFY ECU:*

- *the detected ECU is not an Easy-Stop™ (TCS I) or Enhanced Easy-Stop™ (TCS II) controller.*

*If you selected J1708/J1587 BUS protocol and it displays ECU NOT RESPONDING,*

- *the ECU or Data Bus is not working properly.*

*If you selected PLC/ENHANCED MODE protocol and it displays ECU NOT RESPONDING,*

- *the brake ECU is not equipped with Enhanced PLC Mode.*
- *the ECU or Data Bus is not working properly.*

Press **[ENTER]** to access the **Meritor WABCO ABS Application** main menu.

- 5 Next, Brake-Link™ presents the **Meritor WABCO ABS Application** main menu; use the **[▲]** and **[▼]** keys to scroll to **TESTS** and press **[ENTER]**.

```
ECU INFORMATION
FAULTS
DATA LIST
TESTS
```

- 6 Brake-Link™ displays the **Tests Menu**; use the **[▲]** and **[▼]** keys to position the cursor on **TEST VALVES** and press **[ENTER]**.

7 The **Valve Selection** screen displays next.

```
TEST YELLOW VALVE
TEST BLUE VALVE
TEST RED VALVE
```

Use the  and  keys to position the cursor on the desired valve and press .

**NOTE:**



The list of available valves differs depending on the ECU type and configuration.

8 Brake-Link™ performs two tests on the valve. It shows a valve activation and test status screen for each test. Eight Xs appear across the bottom of each screen to indicate the progress of the test.

```
T1
ACTIVATING
BLUE VALVE
XXXX XXXX
```

```
T2
ACTIVATING
BLUE VALVE
XXXX XX
```

Once it finishes the test, it displays **TEST IS COMPLETE**. Press  to return to the **Tests Menu**.

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

## Test Sensors

Use this test to ensure the wheel sensors are functioning properly and attached to the correct wheels. For example, if you spin the right front wheel, Brake-Link™ displays the YE1 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:

 The wheel must achieve seven revolutions per minute before Brake-Link™ displays a wheel speed or spin sequence number.

  Test sensor valve *via menu navigation*:

- 1 Connect Brake-Link™ to the tractor or trailer and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ boots up and presents the **Select Application** screen.

```

SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS

```

Use the  and  keys to select *MERITOR WABCO ABS*; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select *MENU NAVIGATION* and press .
- 3 Next, Brake-Link™ presents the **Protocol Selection** screen. Use the  and  keys to select the desired option and press . See “Selecting a Protocol”, on page 59.

- 4 Brake-Link™ auto-detects the Meritor WABCO Trailer ABS ECU. It presents the ECU sensor/modulator configuration and indicates whether there are existing and/or stored faults.

```
TRAILER 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
```



*If you receive CAN NOT IDENTIFY ECU:*

- *the detected ECU is not an Easy-Stop™ (TCS I) or Enhanced Easy-Stop™ (TCS II) controller.*

*If you selected J1708/J1587 BUS protocol and it displays ECU NOT RESPONDING,*

- *the ECU or Data Bus is not working properly.*

*If you selected PLC/ENHANCED MODE protocol and it displays ECU NOT RESPONDING,*

- *the brake ECU is not equipped with Enhanced PLC Mode.*
- *the ECU or Data Bus is not working properly.*

Press **[ENTER]** to access the **Meritor WABCO ABS Application** main menu.

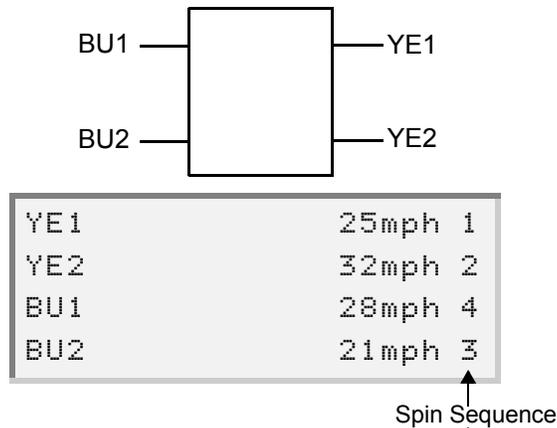
- 5 Next, it presents the **Meritor WABCO ABS Application** main menu; use the **[▲]** and **[▼]** keys to scroll to **TESTS** and press **[ENTER]**.

```
ECU INFORMATION
FAULTS
DATA LIST
TESTS
```

- 6 Brake-Link™ displays the **Tests Menu**; use the **[▲]** and **[▼]** keys to position the cursor on **TEST SENSORS** and press **[ENTER]**.

- 7 Brake-Link™ displays all available wheel sensors with default values of <7. If there are more than four sensors, use the  and  keys to scroll the display

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're testing a vehicle with the following configuration and you spin the right front wheel first working your way around the trailer clockwise.



**NOTE:**

 Wheel sensor configurations vary depending on the ECU type. Check the Meritor WABCO specification for the configuration that applies to the ECU you're testing. Also, the wheel must achieve 7 rpms before Brake-Link™ displays a wheel speed or spin sequence number.

- 8 Press  to return to the **Tests Menu** or  to return to the **Select Application** screen.

## Modify

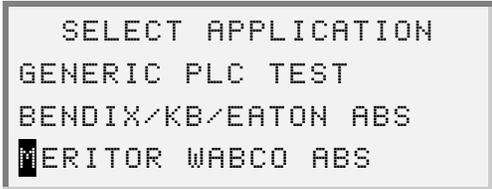
Use *MODIFY* to:

- View the **REVS PER MILE** (Revolutions Per Mile) and **CONFIGURATION** (Sensor/Modulator Configuration).
- Edit the **SERVICE MILES** parameter. Use this to establish the number of miles before recommended service.

View and Modify parameters via menu navigation.

  View and Modify ECU parameters *via menu navigation*:

- 1 Connect Brake-Link™ to the tractor or trailer and power-up (see “Connecting Brake-Link™ Components”, on page 8). Brake-Link™ boots up and presents the **Select Application** screen.



```
SELECT APPLICATION
GENERIC PLC TEST
BENDIX/KB/EATON ABS
MERITOR WABCO ABS
```

Use the  and  keys to select *MERITOR WABCO ABS*; press .

- 2 Brake-Link™ displays navigation options; use the  and  keys to select *MENU NAVIGATION* and press .
- 3 Next, the **Protocol Selection** screen is displayed. Use the  and  keys to select the desired option and press . See “Selecting a Protocol”, on page 59.

- 4 Brake-Link™ auto-detects the Meritor WABCO Trailer ABS ECU. It presents the ECU sensor/modulator configuration and indicates whether there are existing and/or stored faults.

```

TRAILER 4S/3M
EXISTING FAULTS   YES
STORED FAULTS    YES
[ENTER]          TO CONTINUE
    
```



If you receive **CAN NOT IDENTIFY ECU**:

- the detected ECU is not an Easy-Stop™ (TCS I) or Enhanced Easy-Stop™ (TCS II) controller.

If you selected **J1708/J1587 BUS** protocol and it displays **ECU NOT RESPONDING**,

- the ECU or Data Bus is not working properly.

If you selected **PLC/ENHANCED MODE** protocol and it displays **ECU NOT RESPONDING**,

- the brake ECU is not equipped with Enhanced PLC Mode.
- the ECU or Data Bus is not working properly.

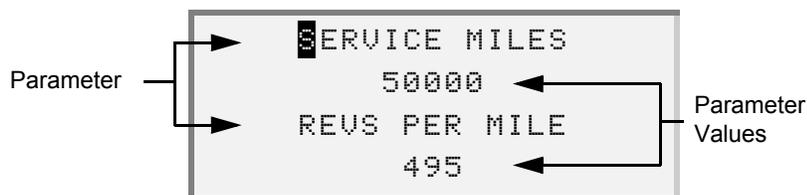
Press **[ENTER]** to access the **Meritor WABCO ABS Application** main menu.

- 5 Next, Brake-Link™ presents the **Meritor WABCO ABS Application** main menu; use the **[▲]** and **[▼]** keys to scroll to **MODIFY** and press **[ENTER]**.

```

FAULTS
DATA LIST
TESTS
MODIFY
    
```

- 6 Brake-Link™ displays the current configuration; use the **[▲]** and **[▼]** keys to scroll through the parameters.



When the cursor rests on the **SERVICE MILES** parameter, press **ENTER**.

- 7 Brake-Link™ presents **Service Miles Configuration** screen.



Use the **←** and **→** keys to position the cursor on the digit(s) you wish to edit; then, use the **▲** and **▼** keys to set the value of the digit(s).

- 8 Press **ENTER** to temporarily save your changes or **←** to return to the parameters list *without* saving your changes.
- 9 When you're done changing parameters, press **←** to exit to parameters list.
- 10 Brake-Link™ asks if you are sure you want to save the changes; use the **←** and **→** keys to select **YES** and press **ENTER**.
- 11 Brake-Link™ reports the success of the configuration; press **ENTER** to return to the main menu.
- 12 Press **HOME** to return to the **Select Application** screen.



# Appendix A

## Diagnostic Fault Codes



- ▼ *Message Identifiers (MIDs), page 103*
- ▼ *Subsystem Identifiers (SIDs), page 104*

This appendix provides listings of the diagnostic codes that appear when using the Meritor WABCO ABS Application.

The Society of Automotive Engineers (SAE) and The Truck Maintenance Council (TMC) of the American Trucking Association (ATA) have developed a standard data interchange format referred to as J1587. This format describes the messages that are sent from one electrical device to another on a vehicle's serial data link, and defines:

- Controller names and numbers
- Parameter names and numbers
- Diagnostic fault code formats and numbers.

The remainder of this appendix provides listings for the following categories of J1587 data:

- Message Identifiers (MIDs)—page 103
- Subsystem Identifiers (SIDs)—page 104

## Message Identifiers (MIDs)

Messages are transmitted between various devices in the vehicle using a pathway called the Serial Data Link (SDL). Because there are many devices in use in various applications, the Society of Automotive Engineers (SAE) and the American Trucking Association (ATA) have assigned a code number to help identify each device. These code numbers are called Message Identification numbers, or MIDs. When a device is sending a message on the SDL, part of the message is the device's MID.

The following table lists all the MIDs for brake systems.

MID	SAE Description
136	Brakes, Power Unit
137	Brakes, Trailer #1
138	Brakes, Trailer #2
139	Brakes, Trailer #3

**TABLE A.1** Brake System MIDs

## Subsystem Identifiers (SIDs)

SIDs are the numbers and names used to identify the part of the controller that has a fault (engine timing actuator, brake relay diagonal 1, etc.). The Society of Automotive Engineers (SAE) and the American Trucking Association (ATA) have developed a standardized list of SID descriptions, which are identified by a number and a SAE SID description.

### Brake (MIDs 136-139)

The following table shows the standardized list of SID codes and descriptions for **MIDs 136-139**.

SID Code		Tractor Description	Trailer Description
Decimal	Hexadecimal		
001	01	Wheel Sensor Axle 1 Left	
002	02	Wheel Sensor Axle 1 Right	
003	03	Wheel Sensor Axle 2 Left	Wheel Sensor BU1
004	04	Wheel Sensor Axle 2 Right	Wheel Sensor YE1
005	05	Wheel Sensor Axle 3 Left	Wheel Sensor BU2
006	06	Wheel Sensor Axle 3 Right	Wheel Sensor YE2
007	07	Modulator Axle 1 Left	
008	08	Modulator Axle 1 Right	
009	09	Modulator Axle 2 Left	Modulator Valve BU
010	0A	Modulator Axle 2 Right	Modulator Valve YE

**TABLE A.2** SIDs for Brake systems (MIDs 136-139)

SID Code		Tractor Description	Trailer Description
Decimal	Hexadecimal		
011	0B	Modulator Axle 3 Left	Modulator Valve RD
012	0C	Modulator Axle 3 Right	
013	0D	Retarder Control Relay	
014	0E	Relay Diagonal 1	Relay 24N
015	0F	Relay Diagonal 2	Relay 24S
016	10	Mode Switch ABS	
017	11	Mode Switch ASR	
018	12	DIFF 1 - ASR Valve	
019	13	DIFF 2 - ASR Valve	
020	14	Pneumatic Engine Control	
021	15	Electronic Engine Control (Servomotor)	
022	16	Speed Signal Input	
023	17	Warning Light Bulb	
024	18	ASR Light Bulb	
025	19	Wheel Sensor, Axle 1 Average	
026	1A	Wheel Sensor, Axle 2 Average	
027	1B	Wheel Sensor, Axle 3 Average	
028	1C	Pressure Modulator, Drive Axle Relay Valve	
029	1D	Pressure Transducer, Drive Axle Relay Valve	

**TABLE A.2** SIDs for Brake systems (MIDs 136-139)

SID Code		Tractor Description	Trailer Description
Decimal	Hexadecimal		
030	1E	Master Control Relay	
231	E7	SAE J 1939 Data Link	
248	F8	Proprietary Data Link	
249	F9	SAE J 1922 Data Link	
251	FB	Power Supply	
253	FD	Calibration Memory	
254	FE	Controller #1	

**TABLE A.2** SIDs for Brake systems (MIDs 136-139)