



EEHD974008

*PRO-LINK® Ultra
Heavy Duty Standard Suite
Application User's Guide
(Includes HDS J1708, J1939,
and OBD II/EOBD)*

Powered by NEXIQ Technologies™



PRO-LINK® Ultra Heavy Duty Standard Suite Application User's Guide

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Chapter 1

Using this Guide



▼ *Guide Overview, page 2*

▼ *Conventions, page 3*

This chapter provides an overview of this guide's organization and the conventions used throughout.

NOTE:



For detailed information on the PRO-LINK® Ultra user interface, please refer to the *PRO-LINK® Ultra Hardware and Software User's Manual*. The *Hardware and Software User's Manual* also provides detailed instructions on connecting to the PRO-LINK® Ultra to a vehicle and scanning the vehicle for diagnostic information.

Guide Overview

This guide provides detailed information to support you in using the following Heavy Duty Standard (HDS) Suite applications on the PRO-LINK[®] Ultra:

- **HDS J1708/J1587**—with this application you can diagnose most heavy-duty engine systems that comply with the SAE J1708/J1587 protocol.
- **HDS J1939**—with this application you can diagnose most heavy-duty engine systems that comply with the J1939 protocol.
- **OBD II and EOBD**—with this application you can diagnose engine systems that comply with the SAE J1850, ISO 9141-2, ISO 14230 (a.k.a. Keyword), and ISO 15765 CAN protocols. You can also diagnose engine systems that comply with European OBD (i.e., EOBD).

The following PRO-LINK[®] Ultra features are *not* available with the Heavy Duty Standard Suite:

- Run Tests
- View/Change Parameters

This guide is composed of the following sections:

- *Table of Contents*—helps you to find the information you are looking for quickly and easily.
- *Chapter 1: Using this Guide*—provides an overview of this user's guide.
- *Chapter 2: Using the Diagnostics Menu*—provides detailed instructions on using the features of the Main diagnostics menu.

Each chapter and appendix begins with an “at-a-glance” list of the chapter contents, along with corresponding page numbers.

Conventions

This section provides descriptions of the conventions used throughout this guide.

Special Messages

Notes

NOTE provides explanations, comments, or tips related to the subject matter that is being discussed.

Example:

NOTE:



Refer to the page number provided for each described component for further details.

Important

IMPORTANT indicates a situation which, if not avoided, may result in damage to the test equipment or vehicle.

Example:

IMPORTANT:



Keep all cables clear of moving or hot engine parts.

Cautions

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in moderate or minor injury to the operator or to bystanders.

Example:

CAUTION:



Do not use the unit to perform tests on household or industrial sources.

Warnings

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator or bystanders.

Example:

WARNING:



Use appropriate hand protection when handling hot engine components.

Troubleshooting

Information intended to help you to address or anticipate potential issues are presented in the following manner:



If the “No ECMs found...” message appears, check to make sure that your PRO-LINK Ultra is connected to the vehicle, and that the key is in the on position.

Specialized Text

The following specially formatted text is used to help you to differentiate certain elements discussed within this manual:

- *Emphasis:* Used to draw your attention to particularly important information.
- **FEATURE:** Used to highlight the name of a specific feature.
Example: “Use **CREATE** to specify the items you want to include on the report.”
- **Field/Line:** Used to highlight the name of a field or a line of text from a display.
Example: “On the Manage Reports screen, place a check mark in the **All** check box.”
- **Menu Items:** Used to highlight a series of menu selections.
Example: “From the Main Menu, select **Manual Scan ▶ Heavy Duty Standard - J1708 ▶ Engine #1 ▶ Load.**”
- **Screen titles:** Used to highlight the title of a screen displayed.
Example: “The **Manage Reports** screen is displayed”

Chapter 2

Using the Diagnostics Menu



- ▼ *The Diagnostics Menu, page 6*
- ▼ *The FAULTS Tab, page 7*
- ▼ *The PARAMETERS Tab, page 12*
- ▼ *Ending Your Diagnostics Session, page 27*

This chapter provides detailed instructions on using the diagnostic features of the Heavy Duty Standard Suite.

NOTE:



Screen shots used throughout this manual are for illustrative purposes only. All data shown is fictitious in nature.

The remainder of this chapter uses sample screens from the HDS J1939 application. If you are connected to a vehicle using the J1708 protocol, or you are connected to OBD II/EOBD, screens may vary slightly.

The Diagnostics Menu

Once the PRO-LINK® Ultra has successfully scanned the vehicle for faults, the Diagnostics Menu is displayed.

NOTE:



For detailed information on connecting to a vehicle and the scanning process, refer to “Connecting to a Vehicle” and “Scanning a Vehicle” in Chapter 3 of the *PRO-LINK® Ultra Hardware and Software User’s Manual*.

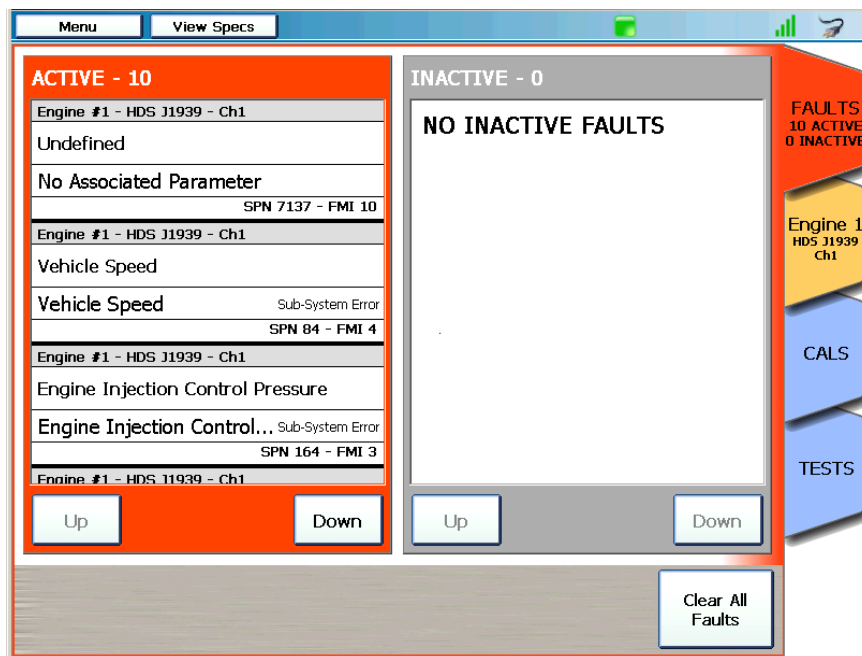


Figure 2.1 Diagnostics Menu

At this point, you are ready to start using the features available from the Diagnostics Menu. A number of menu-selection tabs are displayed on the right side of the screen.

- FAULTS tab (pg. 7)
- PARAMETERS tab (pg. 12)
- CALS tab – calibrations are not supported by the HDS Suite (pg. 25)
- TESTS tab – tests are not supported by the HDS Suite (pg. 26)

The FAULTS Tab

The FAULTS tab is the red tab located at the top of the stack of menu-selection tabs. From the FAULTS tab, you can:

- View active and inactive faults (pg. 7)
- View more information on a particular fault (pg. 8)
- Clear all inactive faults (pg. 10)

Viewing Active and Inactive Faults

When the scanning process is complete, the Diagnostics Menu (Figure 2.2) is displayed with the FAULTS tab in the top position.

NOTE:



The scanning process is covered in detail in Chapter 3 of the *PRO-LINK® Ultra Heavy Duty and Software User's Manual*.

Faults are displayed in two categories with ACTIVE faults on the left side and INACTIVE faults on the right side

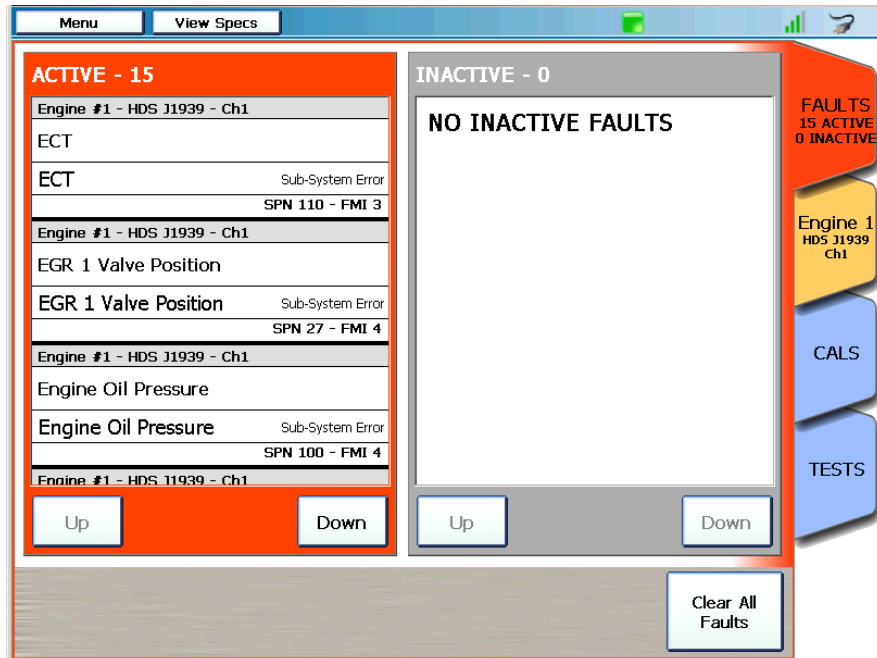


Figure 2.2 FAULTS Tab

Use the **Up** and **Down** buttons to navigate up and down within the two lists.

Each fault listed contains the following information for that fault:

Line Number	Contents
1 (top, gray line)	The name of the module where the fault was found (e.g., Engine 1# - HDS J1939 - Ch1)
2	Either the name of the parameter experiencing the fault, or a combination of the name and a description of the fault (e.g., EGR 1 Valve Position).
3 (not displayed for INACTIVE faults)	Parameter value associated with the fault (e.g., Vehicle Speed - Sub-System Error).
4 (bottom line)	SAE/DTC information about the fault (e.g., SPN 27 - FMI 4).

Viewing More Info

You can view more information on a particular fault (e.g., Freeze Frame Data and PRO-LINK® Repair-Connect troubleshooting information) by touching the fault to display the More Info screen.

To view more information on a particular fault:

- 1 Touch the screen to select the fault for which you want to view more information (e.g., **EGR 1 Valve Position**).

The **More Info** screen is displayed with the DESCRIPTION pane activated.

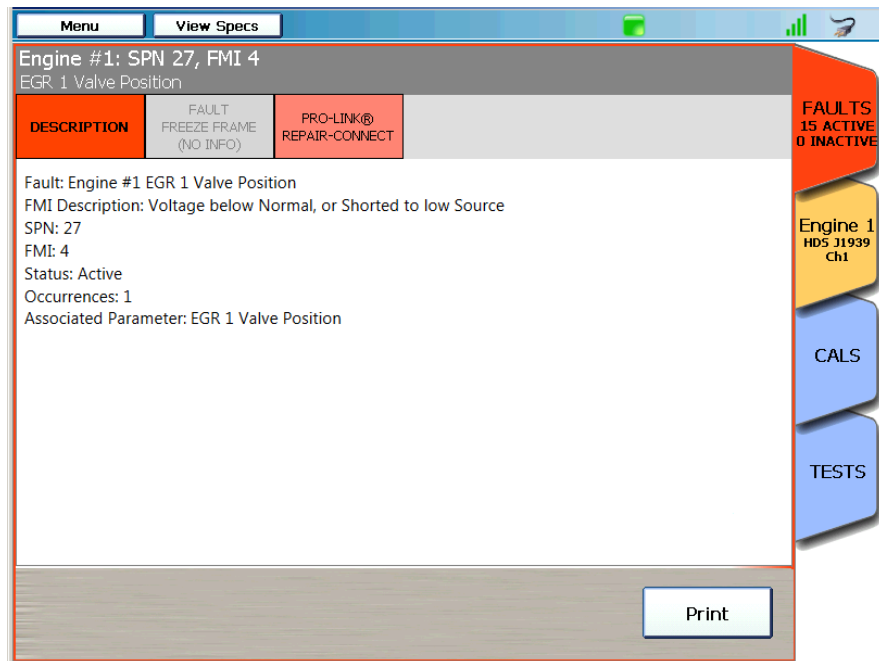


Figure 2.3 More Info Screen

- 2 Touch the **FAULT FREEZE FRAME** button at the top of the display to view freeze frame information (if available).
- 3 Touch the **DESCRIPTION** button to go back to the description pane.

NOTE:



If you have purchased a subscription to Repair-Connect, touch the **PRO-LINK® REPAIR-CONNECT** button at the top of the screen to display the Repair-Connect login screen. For detailed information on using Repair-Connect, refer to Chapter 6 of the *PRO-LINK® Ultra Hardware and Software User's Manual*, available in PDF format on the CD shipped with your device.

- 4 Touch the **Print** button to send the page to the printer.
- 5 Touch the red **FAULTS** tab to go back to the list of faults (Figure 2.2).

Clearing Inactive Faults

Inactive faults can be cleared by touching the Clear All Faults button at the bottom of the screen. Faults may not be cleared individually.

NOTE:



When you clear all faults, both ACTIVE and INACTIVE faults are cleared. Then the PRO-LINK® Ultra re-scans the vehicle and re-lists the ACTIVE faults found during the re-scan.

To clear all inactive faults:

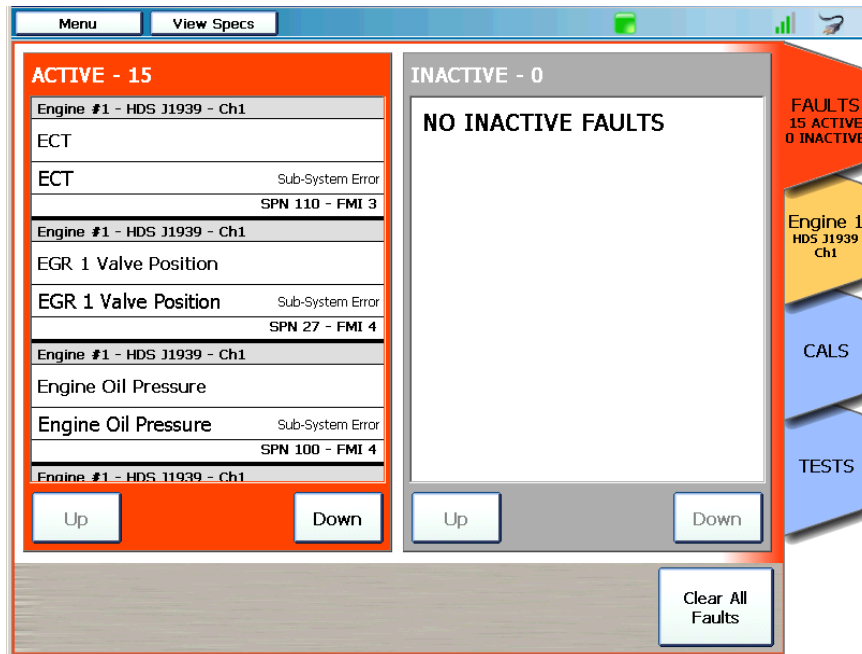


Figure 2.4 Sample FAULTS Tab

- 1 Touch **Clear All Faults**.

An “Are you sure you want to clear all faults?” question box is displayed.

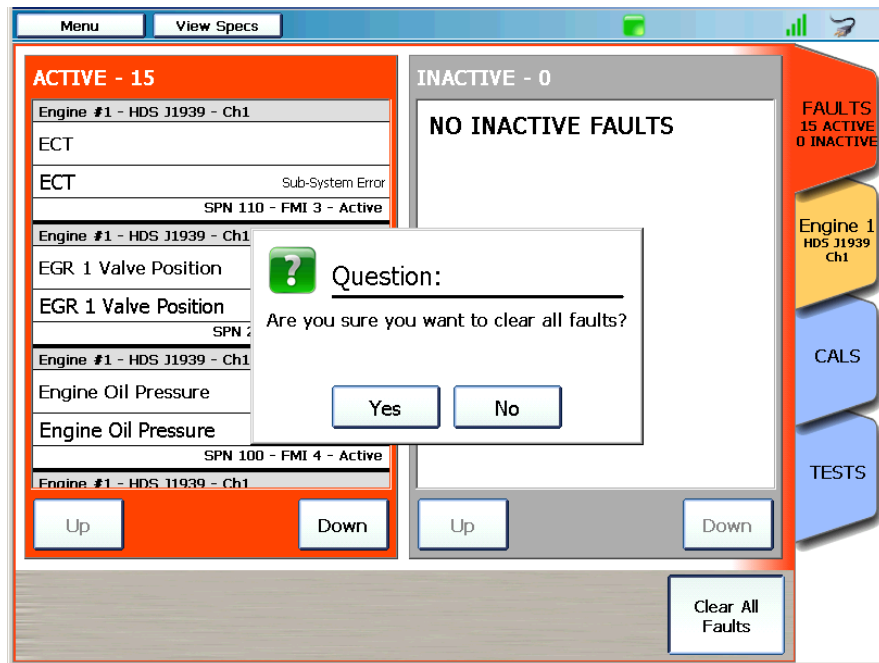


Figure 2.5 Are You Sure Message

- 2 To confirm your decision to clear all faults, touch **Yes**.

All faults are cleared, the vehicle is re-scanned, and any faults that are still active will be re-displayed.

The PARAMETERS Tab

The PARAMETERS tab is the yellow tab in the stack of menu-selection tabs.

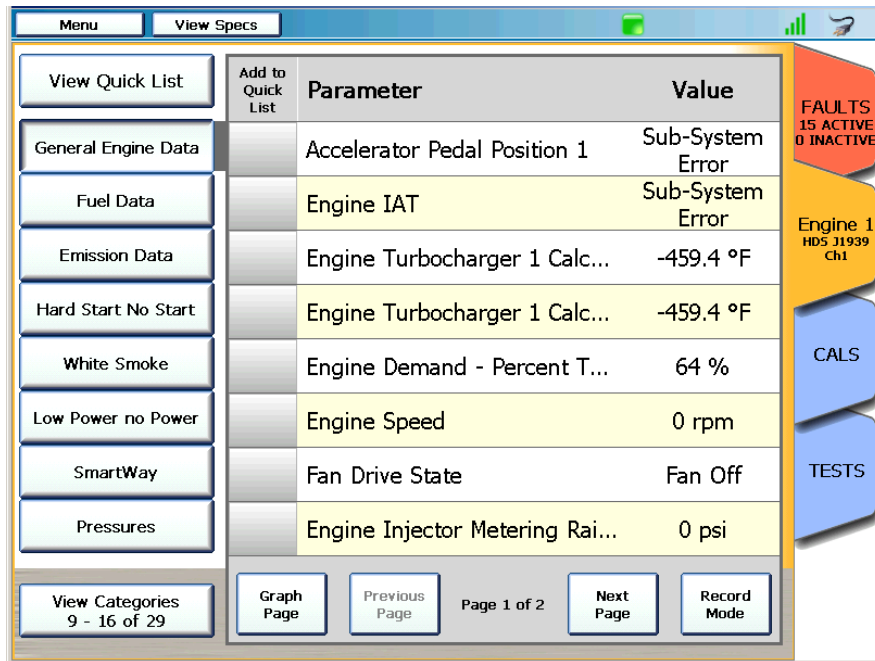


Figure 2.6 Sample PARAMETERS Tab

NOTE:



The PRO-LINK® Ultra creates a PARAMETERS tab for each module (e.g., **Engine 1 - HDS - Ch1**) loaded during the scanning process.

From the PARAMETERS tab you can:

- View parameters (pg. 13)
- Manage Quick Lists (pg. 15)
- Create and view a Quick List (pg. 16)
- Remove parameters from a Quick List (pg. 21)

Viewing Parameters

To view parameters:

- 1 From the Diagnostics Menu (Figure 2.1), select the **PARAMETERS** tab.

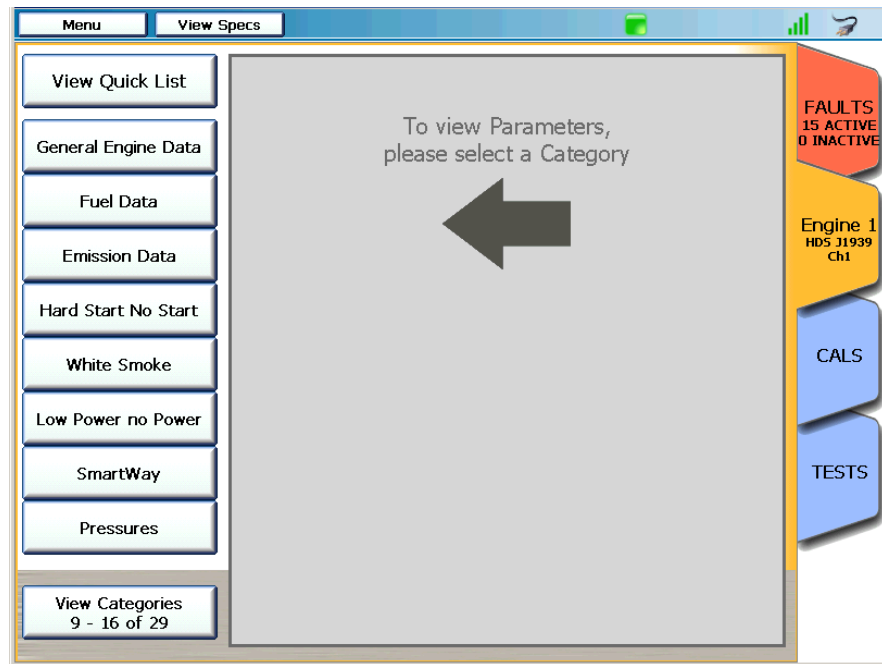


Figure 2.7 Select a Category Screen

NOTE:



In most cases there will be more categories that will display on one screen. Touch the **View Categories** button at the bottom of the list to display more categories. The button indicates the number of categories available (e.g., **9 - 16 of 29**).

- 2 Touch the name of the parameter category you want to view (e.g., **General Engine Data**).

A list of parameters for the selected category is displayed.

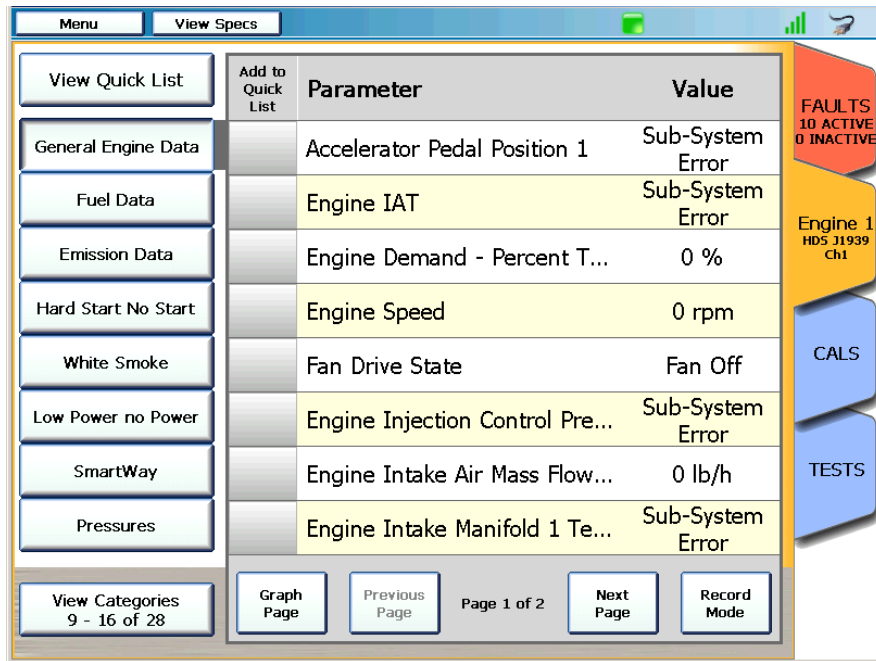



Figure 2.8 List of Parameters

All parameters available for the category you selected (e.g., General Engine) are displayed in the list to the right of the categories. Values, if available, are also displayed.

- Use the **Next Page** and **Previous Page** buttons to move up and down the list of parameters.

NOTE:

 For detailed information on the **Graph Page** and **Record Mode** features, refer to the *PRO-LINK® Ultra Heavy Duty Standard Suite Application User's Manual*, available in PDF format on the CD shipped with your device. The Graph Page feature is covered in Chapter 4 and the Record Mode feature is covered in Chapter 7.

Managing Quick Lists

You can create a Quick List to store parameters and display them side by side from either one or both of the following:

- Different categories (i.e., the categories on the left side of the display)
- Different modules (if present.)

The Quick List is limited to eight (8) parameters.

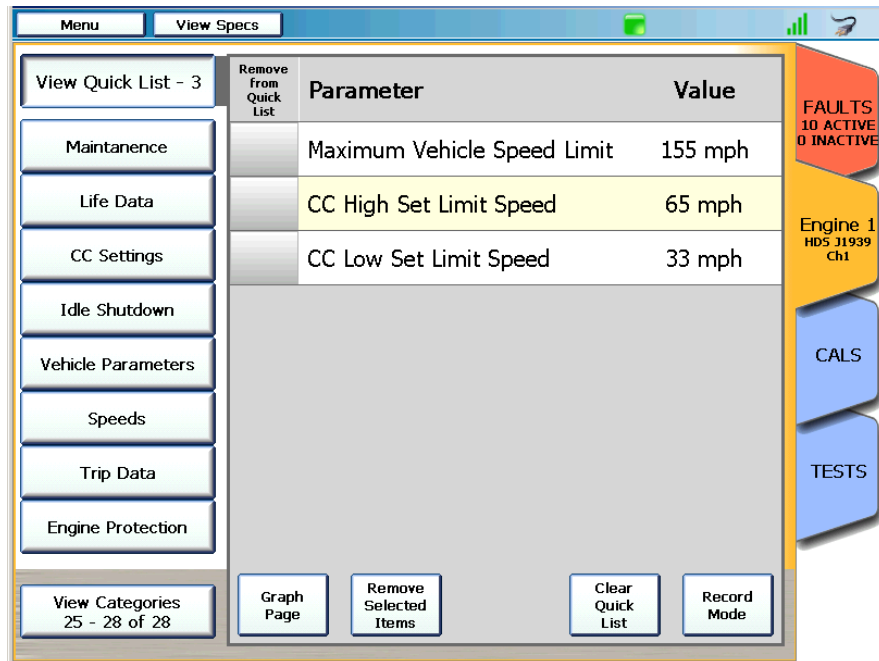


Figure 2.9 Sample Quick List

NOTE:



There can be only one Quick List. You may, however, clear the Quick List and create a new one when you need to compare other parameters.

Creating and Viewing a Quick List

A Quick List is created by checking individual parameters from one or more categories in the list of parameters. If no parameters are yet in the Quick List, the PRO-LINK® Ultra displays a screen explaining how to add parameters to the Quick List.

To create a Quick List:

- 1 Touch the **View Quick List** button at the top left of the screen.

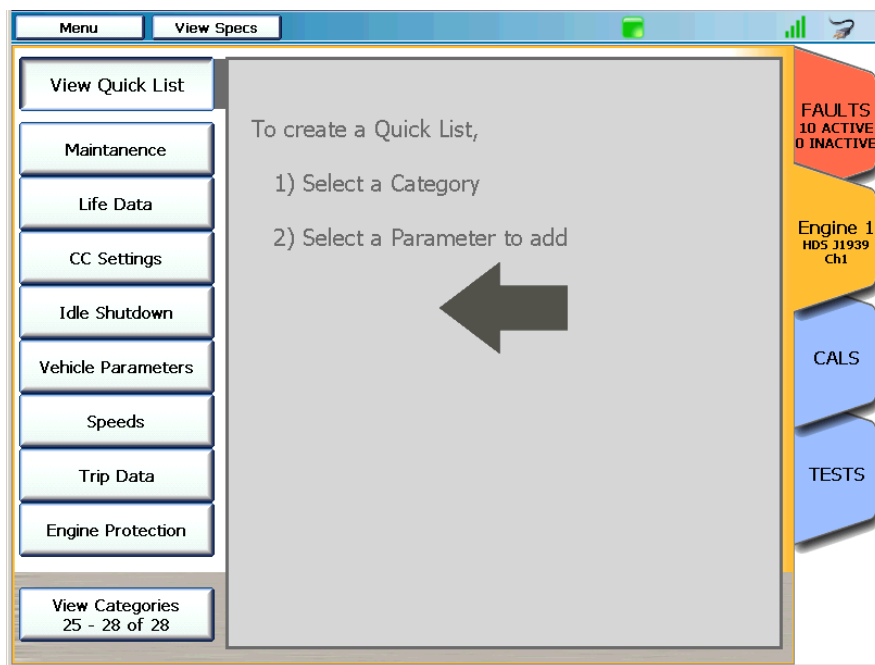


Figure 2.10 Create a Quick List Screen

- 2 Touch the screen to select a category (e.g., **Speeds**).

A list of parameters for the selected category is displayed.

Parameter	Value
CC High Set Limit Speed	65 mph
CC Low Set Limit Speed	33 mph
CC Set Speed	0 mph
Engine Speed	0 rpm
Engine Speed At Idle, Point 1	700 rpm
Maximum Vehicle Speed Limit	155 mph
Engine Percent Load At Curr...	Sub-System Error
Power Takeoff Set Speed	700 rpm

View Quick List
 Maintenance
 Life Data
 CC Settings
 Idle Shutdown
 Vehicle Parameters
Speeds
 Trip Data
 Engine Protection

Add to Quick List
 View Categories 25 - 28 of 28
 Graph Page
 Previous Page
 Page 1 of 2
 Next Page
 Record Mode

FAULTS
 10 ACTIVE
 0 INACTIVE
 Engine 1
 HD5 J1939
 Ch1
CALS
TESTS

Figure 2.11 Parameter List for Speeds Category

- 3 Touch the **Next Page** button to navigate down the list.

Page 2 of the list of parameters is displayed.

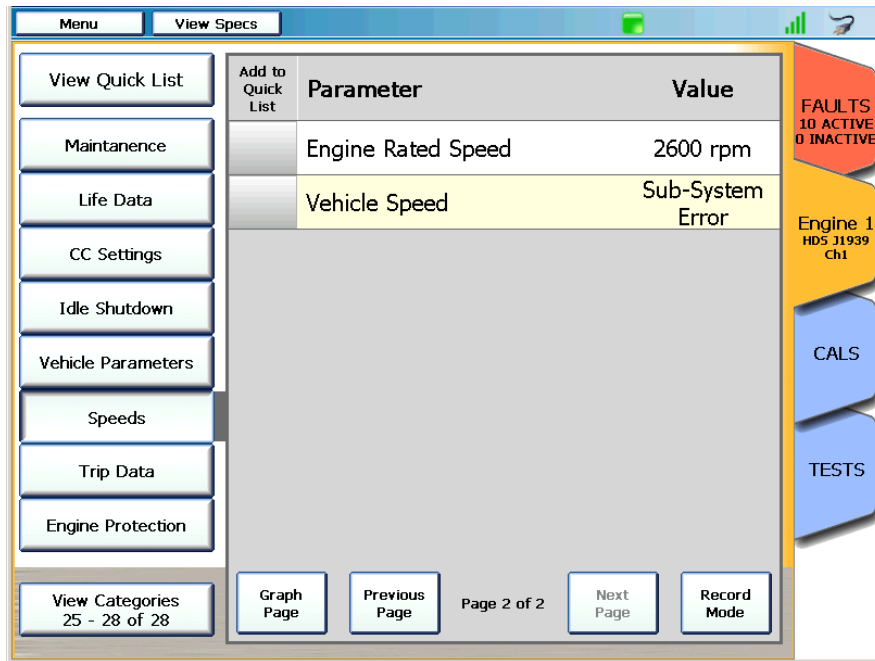


Figure 2.12 Page 2 of Parameter List

- 4 Select a parameter (e.g., **Engine Rated Speed**) by touching within the Add to Quick List column next to the parameter name you want to add.

NOTE:



You may also select parameters from other categories (e.g., **Engine Protection**) or from other modules, if present.

A red check mark indicates that the parameter has been added to the Quick List.

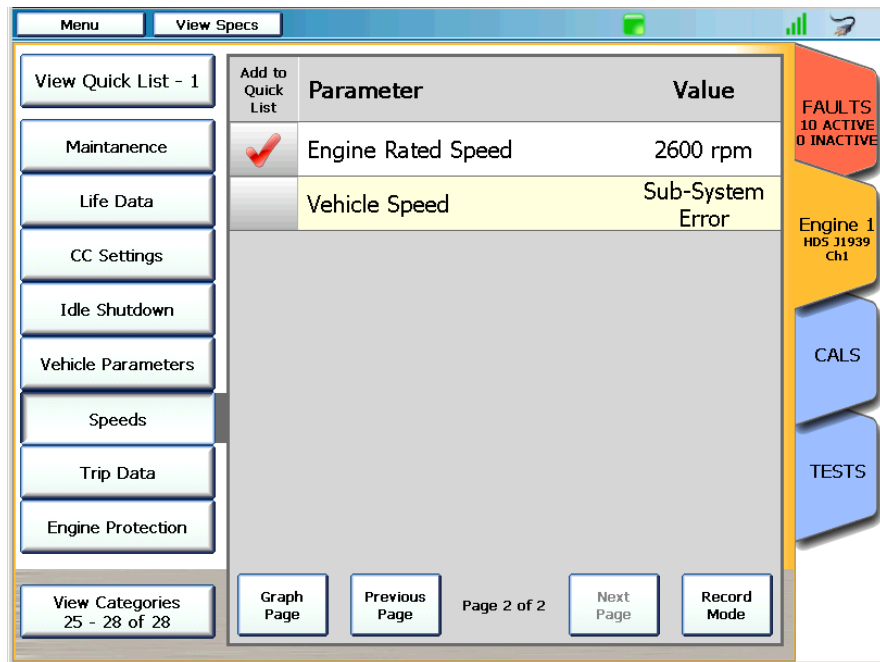


Figure 2.13 A Parameter Selected

The View Quick List button at the top left of the screen displays the number of parameters currently in the Quick List (e.g., **View Quick List - 1**).

- Continue adding parameters to the list.

NOTE:



The Quick List is limited to eight (8) parameters.

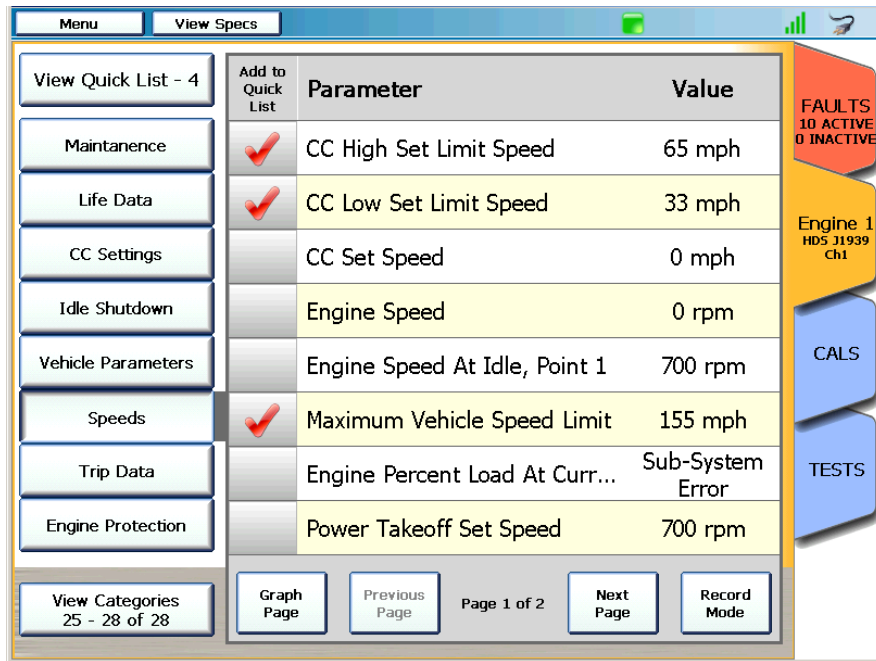


Figure 2.14 Additional Parameters Added

- To view the Quick List you just created, touch the **View Quick List** button at the top left of the screen.

The **Quick List** is displayed.

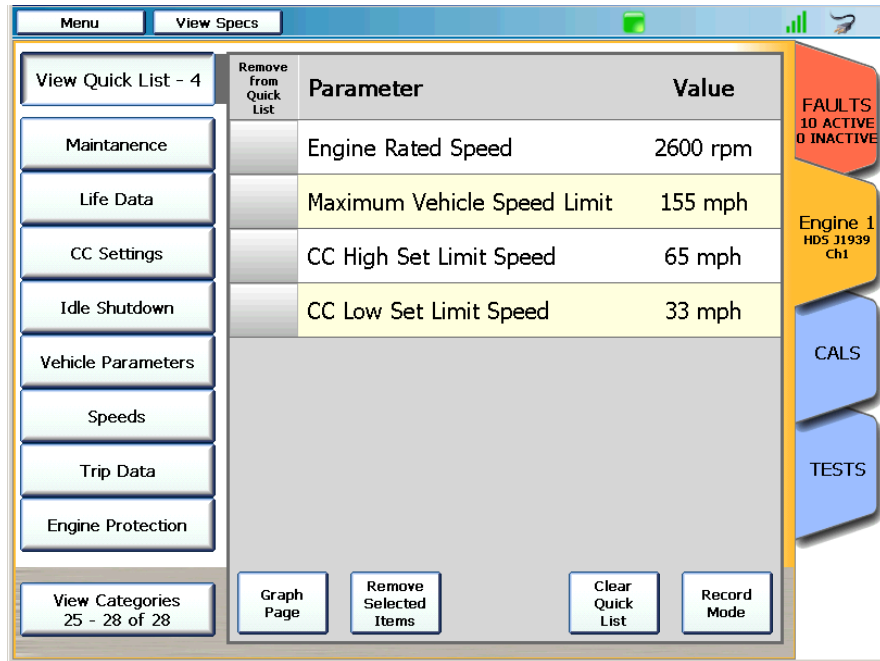


Figure 2.15 Quick List

Removing Parameters from the Quick List

You can remove parameters from the Quick List at any time.

To remove a parameter from the Quick List:

- 1 Touch the **View Quick List** button to display the current Quick List.

The **Quick List** is displayed.

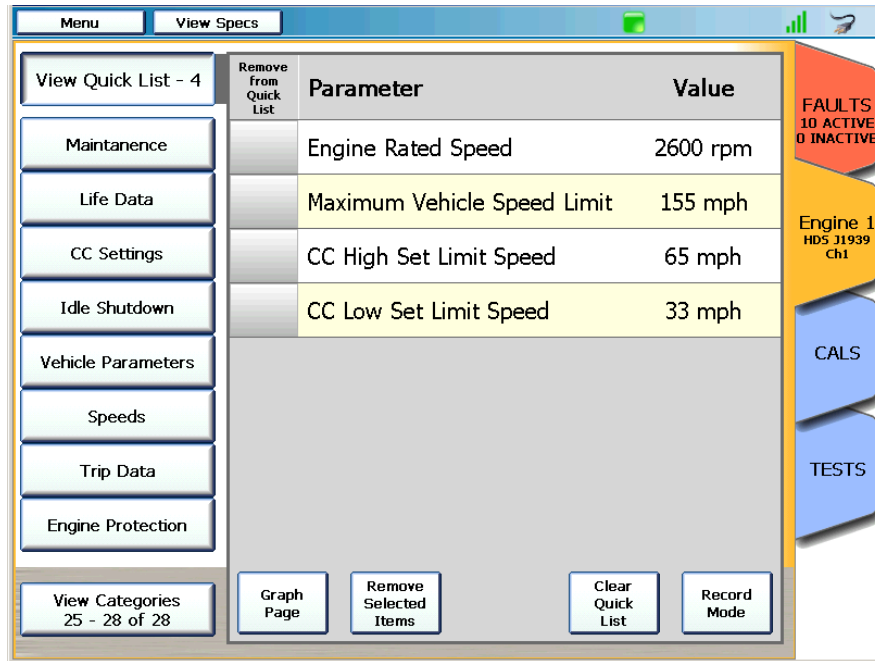


Figure 2.16 Quick List

- 2 Select one or more parameters to remove from the Quick List by touching within the **Remove from Quick List** column next to the parameter name you want to remove (e.g., Engine Rated Speed).

A red check mark is displayed to the left of the parameter to indicate your intention to remove it from the Quick List.

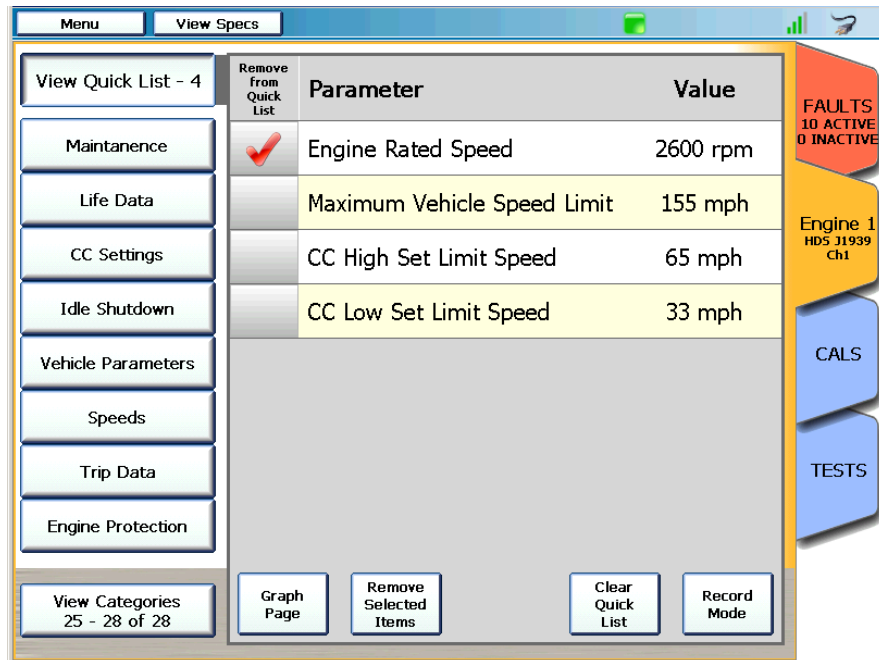


Figure 2.17 Removing Parameters from the Quick List

- 3 Touch the **Remove Selected Items** button.

The **Quick List** is updated.

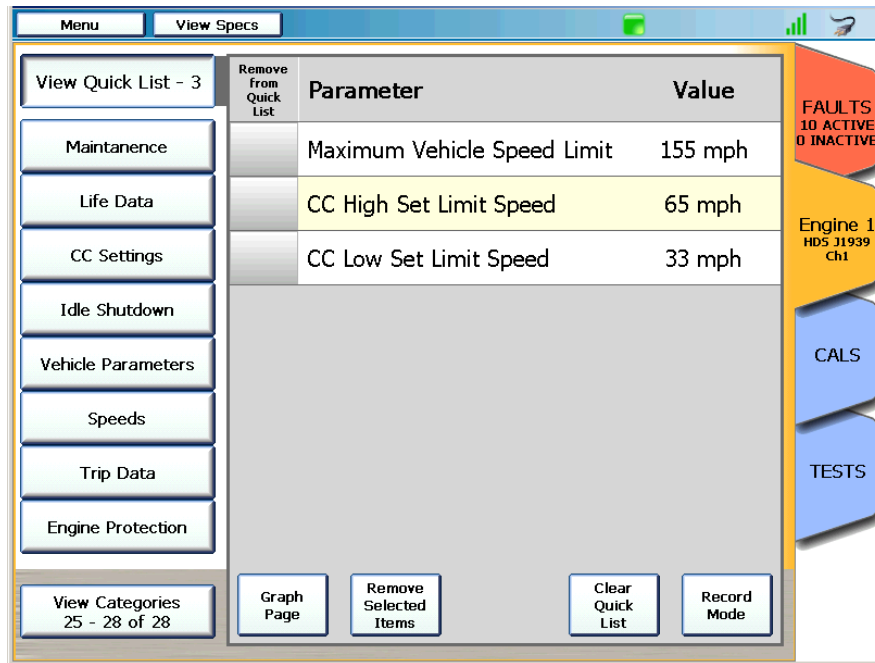


Figure 2.18 Updated Quick List

- 4 To remove all parameters from the Quick List, touch the **Clear Quick List** button.

The **Create a Quick List** screen is displayed again (Figure 2.10).

The CALS Tab

CALS are not supported by the Heavy Duty Standard Suite.

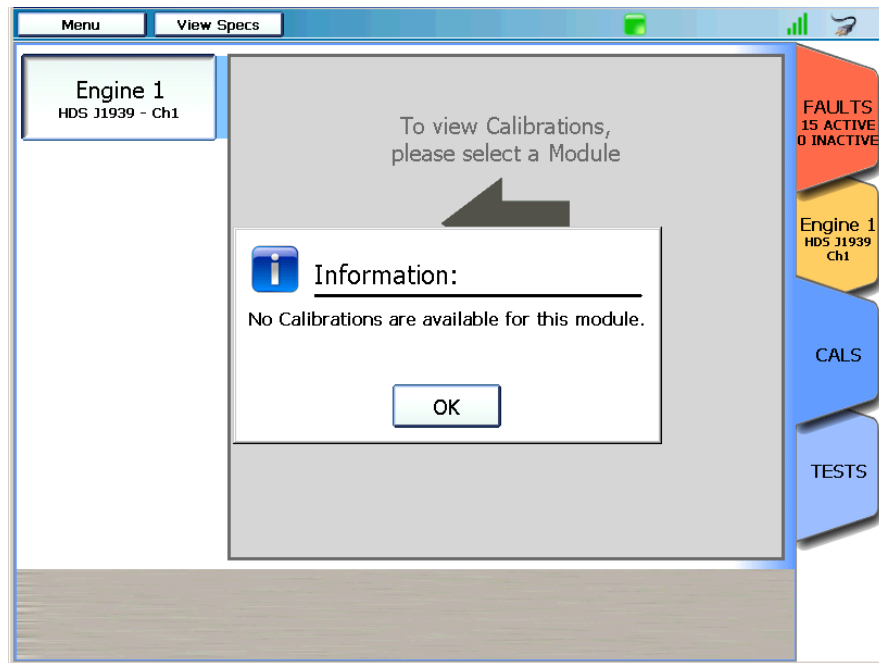


Figure 2.19 Calibrations Not Available Message

The TESTS Tab

Tests are not supported by the Heavy Duty Standard Suite.

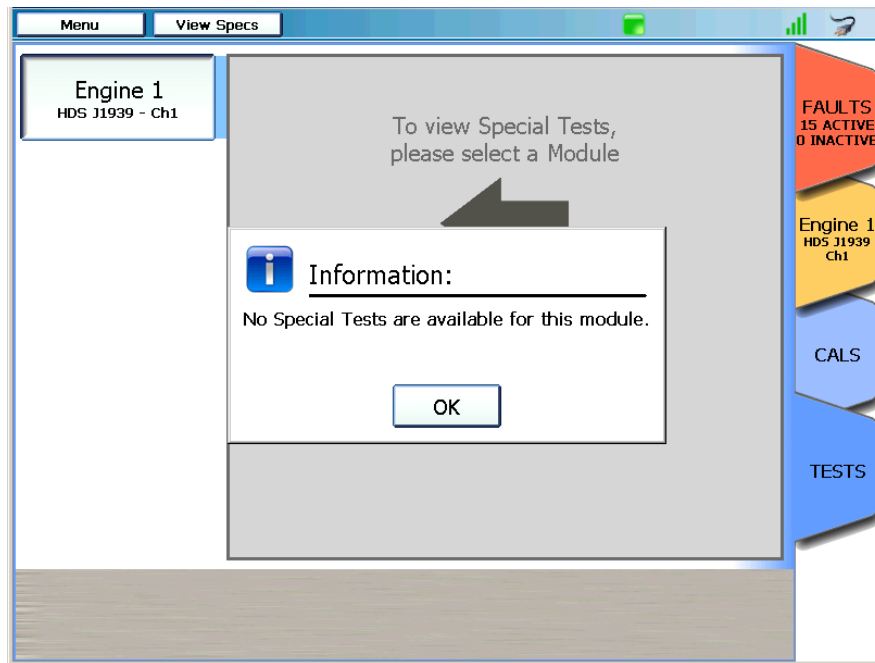


Figure 2.20 Tests Not Available Message

Ending Your Diagnostics Session

To end your diagnostics session and disconnect from the vehicle, you use the Menu button at the top of the screen.

To end your diagnostics session:

- 1 Touch the **Menu** button at the top of the screen.

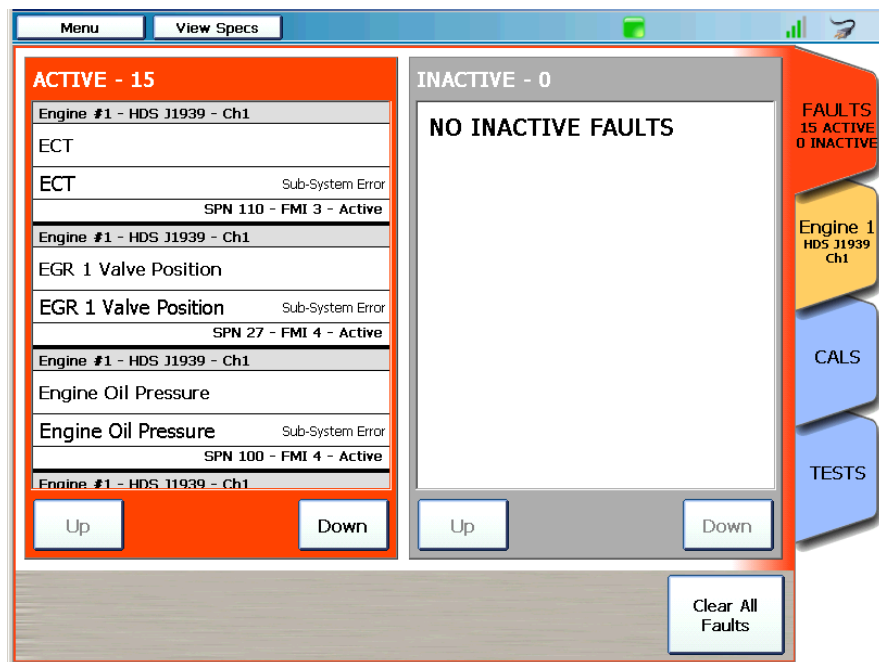


Figure 2.21 Diagnostics Menu


- 2 Select **End Session**.

The **Main Menu** is displayed.



Figure 2.22 Main Menu

NOTE:

 To power down the PRO-LINK® Ultra, press and hold the power button on the tool.