

[Getting Started](#)
[Getting Started with Innovate Hardware](#)
[Edge Analysis License Agreement](#)
[Contact Us](#)
[Main Window](#)
[DTC / Vehicle Tests and Reports Screen](#)
[DTC / Vehicle Tests and Reports Screen](#)
[DTC / Vehicle Tests and Reports Screen](#)
[DTC / Vehicle Tests and Reports Screen](#)
[Vehicle PIDs / OBD-II Channel Setup](#)
[Calculated PIDs Screen](#)
[Channel Calibration Screen](#)
[Graph and Math Parameters Screen](#)
[Vehicle / Owner Screen](#)
[Bar Graph Screen](#)
[Multiple Scroll Graphs Screen](#)
[Individual Scroll Graph Screen](#)
[Combined Scroll Graph Screen](#)
[Digital Readout Screen](#)
[Analysis Graph](#)
[Channel vs Channel Graph](#)
[Histogram](#)
[Graph Attributes](#)
[Graph Channel Selection](#)
[Overlays](#)
[Report](#)
[Report Picture](#)
[Report Notes](#)
[Dashboard](#)
[Dashboard Configuration](#)
[Diagnostic Trouble Code Table](#)
[PID Validation / Load Configuration](#)
[Quick Pick Setup](#)
[Stored Diagnostic Trouble Code \(DTC\) Report](#)
[Pending Diagnostic Trouble Code \(DTC\) Report](#)
[Freeze Frame Report](#)
[Vehicle Status Report](#)
[Oxygen Sensor Test Results](#)
[Clear DTC Confirmation](#)
[File Menu](#)
[Edit Menu](#)
[OBD-II Menu](#)
[Help Menu](#)
[Software Based Security](#)
[Hardware Based Security](#)
[Software License Transfer](#)

Getting Started

The following is a quick start guide which is a walk through of the basics. It will step through monitoring and, if desired, recording the Engine RPM from the OBD-II port of the vehicle.

1. Connect the data acquisition unit to the OBD-II connector of the vehicle and to the computer being used for acquisition.
2. Start the Edge Analysis DataPro program.
3. Press the Parameters Button.
4. In the Select device box, select the type of OBD-II hardware that is connected.
5. Double Click on Engine RPM in the Vehicle Parameters (PIDs) list.
6. If a J2534 device is being used, then press the Green Connect button and a Device selection window will be shown. After selecting device, a connection to that device will be established.
7. If desired, select the Graph and Math Parameters tab and change the color of any of the channels.
8. The Parameter file can be saved for future use by either Selecting File->Save Par File from the menu or pressing Ctrl+s.
9. Press the Realtime Button. The Bargraph screen will now be shown.
10. Press the Start Realtime button to begin the realtime monitoring. If a J2534 device is being used and is not connected, then a Device Selection window will be shown. After selecting device, a connection to the device will be established.
11. To begin data collection, press the Start Collecting Data button. Enter a name for the data file. The program is now collecting data.
12. To stop data collection press the Stop Collecting Data button.
13. Press the Analysis button to enter the analysis screen.
14. Open the saved parameter file and data files by either Selecting File->Open->Open Par/Data from the menu or pressing Ctrl+o.
15. To view the Report press the Report button.

The following is a quick start guide which is a walk through of the basics. It will step through monitoring and, if desired, recording the Engine RPM from the OBD-II port of the vehicle using Innovate Motorsports OT-1 and optionally with LMA-3 and LC-1.

1. Connect the OT-1 to the OBD-II port of the vehicle. After the OT-1 initializes, the MTS led should begin blinking and the Vehicle led should be lit.
2. Connect the OT-1 "Serial Out" to the computer.
3. Start the DataPro Program.
4. Click on the Parameters Button to display the Parameters Screen
5. If the device type is not set to OT-1 then change it to OT-1.
6. Set the COM port selection box to the COM port that the OT-1 is using.
7. Press the Configure OT-1 to bring up the LM Programmer and configure the OT-1 for the parameters to be monitored. The OT-1 is now configured.
8. Disconnect the OT-1 from the vehicle.
9. Connect the LC-1, if present, to one of the LMA-3 external sensor inputs, and configure that input as an external 0-5 volt input (Check the LC-1 and LMA-3 manuals for the correct procedure) .
10. When the LMA-3 led display begins cycling in a circular pattern, the unit was finished its configuration and initialization.
11. Connect the "Serial Out" of the LMA-3 to the "Serial In" of the OT-1 and connect the OT-1 to the vehicles OBD-II port. After the OT-1 initializes the MTS led should begin blinking and the Vehicle led should be lit.
12. Click on the Parameters Button to display the Parameters Screen.
13. Click on the Read Configuration button.
14. The Vehicle Parameters (PIDs) list should now be populated with the available sensors and OBD-II parameters.
15. Double click on the parameter or Sensor to monitor, or highlight the sensor or Parameter and click on the "+" button next to the channel to assigned the parameter or sensor.
16. If desired, select the Graph and Math Parameters tab and change the color of any of the channels.
17. The Parameter file can be saved for future use by either Selecting File->Save Par File from the menu or pressing Ctrl+s.
18. Press the Realtime Button. The Bargraph screen will now be shown.
19. Press the Start Realtime button to begin the realtime monitoring.
20. To begin data collection, press the Start Collecting Data button. Enter a name for the data file. The program is now collecting data.
21. To stop data collection press the Stop Collecting Data button.
22. Press the Analysis button to enter the analysis screen.
23. Open the saved parameter file and data files by either Selecting File->Open->Open Par/Data from the menu or pressing Ctrl+o.
24. To view the Report press the Report button.

Edge Analysis License Agreement

EDGE ANALYSIS Software License Agreement

WARNING - THIS SOFTWARE IS COPYRIGHTED AND THE OWNER OF THE COPYRIGHT CLAIMS ALL EXCLUSIVE RIGHTS TO SUCH SOFTWARE, EXCEPT AS LICENSED TO USERS HEREUNDER AND SUBJECT TO STRICT COMPLIANCE WITH THE TERMS OF THIS LICENSE.

BY OPENING THE PACKAGING OR BREAKING THE SEAL TO THIS SOFTWARE, YOU SIGNIFY YOUR ACCEPTANCE OF EACH AND EVERY TERM AND CONDITION SET FORTH IN THIS LICENSE AGREEMENT. THE LICENSE GRANTED UNDER THIS LICENSE AGREEMENT IS EXPRESSLY CONDITIONED UPON YOUR ACCEPTANCE OF AND COMPLIANCE WITH ALL TERMS AND CONDITIONS SET FORTH IN THIS LICENSE AGREEMENT. IF YOU DO NOT ACCEPT THE TERMS OF THIS LICENSE AGREEMENT OR DO NOT WISH TO COMPLY WITH ANY TERM OR CONDITION SET FORTH HEREIN, YOU SHOULD REFRAIN FROM BREAKING THE SEAL ON THIS PRODUCT AND IMMEDIATELY RETURN THE SAME TO THE VENDOR. ONCE THE SEAL IS BROKEN, THE TERMS HEREOF WILL BE DEEMED TO HAVE BEEN ACCEPTED BY YOU AND YOU WILL BE BOUND BY ALL OF THE TERMS, CONDITIONS, AND RESTRICTIONS CONTAINED HEREIN.

We do not make any warranties relative to the software licensed hereunder, including but not limited warranties of merchantability or fitness for a particular purpose. You are responsible for selecting the software that will best achieve your objectives and needs. See our full warranty disclaimers below for additional information.

Additional terms and conditions of this License are as follows:

1. **Limitation On Use and Copying.** You are hereby notified that the Software is the copyrighted work of the vendor. The vendor of the Software asserts all copyrights and other proprietary rights in and to such items. Use of the Software is governed by and subject to the terms of this License Agreement. Except as specifically provided in this License, you may not in any way copy, modify, transfer, convey, reproduce, merge into other programs, or transmit, in whole or part, the Software or any portion thereof. The Software is licensed only for the use of the user and only in compliance with all terms, conditions, and limitations contained in this License. Any, use, adaptation, modification, publication, reproduction, redistribution or any other action that is in violation of the copyright owner's exclusive rights under the United States Copyright Act and which is beyond the scope of the rights granted in this License Agreement will constitute an infringement upon the rights of the vendor's copyright and is punishable under the United States Copyright Act.

2. **Single CPU.** You are licensed to use the Software only on a single microcomputer installation. In the event you intend to use the Software or any part thereof on more than one microcomputer, the license fee for each such multiple use must be purchased. In the event of simultaneous use, a license must be obtained for each instance of possible simultaneous execution. You may make archival copies of those portions of Software that are provided on a machine readable media, provided such copies are for your personal use on one microcomputer and that no more than one such copy is used at any time.

3. **License Transfer.** You may transfer the rights granted hereunder provided that you give up all rights hereunder and discontinue all use of the Software and remove such Software from all readable devices, hard drives, discs, and other media. Your right and ability to transfer the Software to another party is conditioned upon (i) the other party agreeing in writing to accept all of the terms and conditions of this License, (ii) you either transferring all copies in printed or machine-readable form to the acquiring party or destroying any copies not transferred; this includes all modifications and portions of PROGRAM contained or merged into other programs, and (iii) notifying us in writing of the transfer and the identity, name and full address of the party that acquired the rights hereunder.

4. **Term and Termination.** The term of this License shall be perpetual unless sooner terminated pursuant to the terms hereof. This License shall automatically terminate upon your failure to comply with any term, restriction or condition set forth herein. You may terminate this License by discarding and destroying the Software including but not limited to the installed copy on your CPU and any backup copies. Upon termination of this License for any reason, you shall have no further right or license to use the Software, shall immediately discontinue your use of the Software and destroy any and all copies of the Software, including any installed and backup copies.

5. Warranty Disclaimers.

The Software is provided and accepted by you on an "AS IS" basis and without warranty of any nature or type, express or implied. Vendor makes no express or implied warranty that the Software will operate without interruption or error. The sole and exclusive warranty made by the Vendor is that the medium (disk or CD) upon which the Software is transported to the Licensee shall be free of defects in workmanship so that it will permit the Licensee to install the Software on a single CPU for a period of sixty (60) days from the date of purchase. Upon the expiration of 60 days from the date of purchase, such warranty shall expire. In order to invoke this warranty, Licensee shall notify the Vendor in writing of the defect, which writing shall be received by the Vendor within such 60 day warranty period, time being of the essence of this requirement. The sole remedy for this warranty is that the Vendor shall provide a new replacement diskette or other medium which is free of workmanship errors. If a replacement disc cannot be provided within 60 days after written request is received by the Vendor, the Licensee may terminate this license as its sole and exclusive remedy, and receive reimbursement of any License fee paid, up to the normal retail list price for the Software.

THE VENDORS HEREBY DISCLAIM ANY AND ALL WARRANTIES WITH RESPECT TO SOFTWARE EXCEPT FOR SPECIFIC WARRANTIES THAT ARE EXPRESSLY PROVIDED IN THE TERMS OF THE APPLICABLE LICENSE AGREEMENT. THE VENDOR HEREBY DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND OWNERSHIP OF THE SOFTWARE AND NON-INFRINGEMENT UPON THE RIGHTS OF ANY OTHER PARTY. THE ENTIRE RISK OF AS TO FUNCTIONALITY, OPERATION AND FUNCTIONALITY OF THE SOFTWARE IS WITH THE LICENSEE AND THE VENDOR ASSUMES NO RISK OR OBLIGATION IN CONNECTION THEREWITH.

IN NO EVENT SHALL THE VENDOR BE LIABLE FOR OR RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OR INJURIES. THE MAXIMUM POSSIBLE LIABILITY OF THE VENDOR SHALL NOT EXCEED THE LESSOR OF THE FULL RETAIL COST OF THE SOFTWARE OR THE AMOUNT THAT THE LICENSEE PAID FOR SUCH LICENSE, EXCLUDING SALES TAX.

RESTRICTED RIGHTS LEGEND FOR GOVERNMENTAL USE. Any Software that is downloaded through accessing this web site for or on behalf of the United States of America, its agencies and/or instrumentalities ("U.S. Government"), is provided with Restricted Rights. Use, duplication, or disclosure by the U.S. Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 or subparagraphs (c)(1) and (2) of the Commercial Computer Software--Restricted Rights at 48 CFR 52.227-19, as applicable.

The terms of this License supercede any and all prior understandings, representations, warranties, sales claims, advertised offers, or other understandings with respect to the Software or the terms of this License.

6. By opening this Software, breaking the seal on the wrapper, and installing the Software on your CPU, you acknowledge that you have read and understand the terms and conditions of this License and agree to abide by all of the terms and conditions set forth herein.

Contact Us

At Edge Analysis, customer service and technical support are important. If you have any questions or comments, please contact us.

Visit us on the Internet:

www.edgeanalysis.com

Sales:

sales@edgeanalysis.com

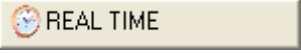
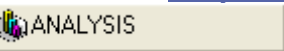
Customer Support:

support@edgeanalysis.com


Main Window

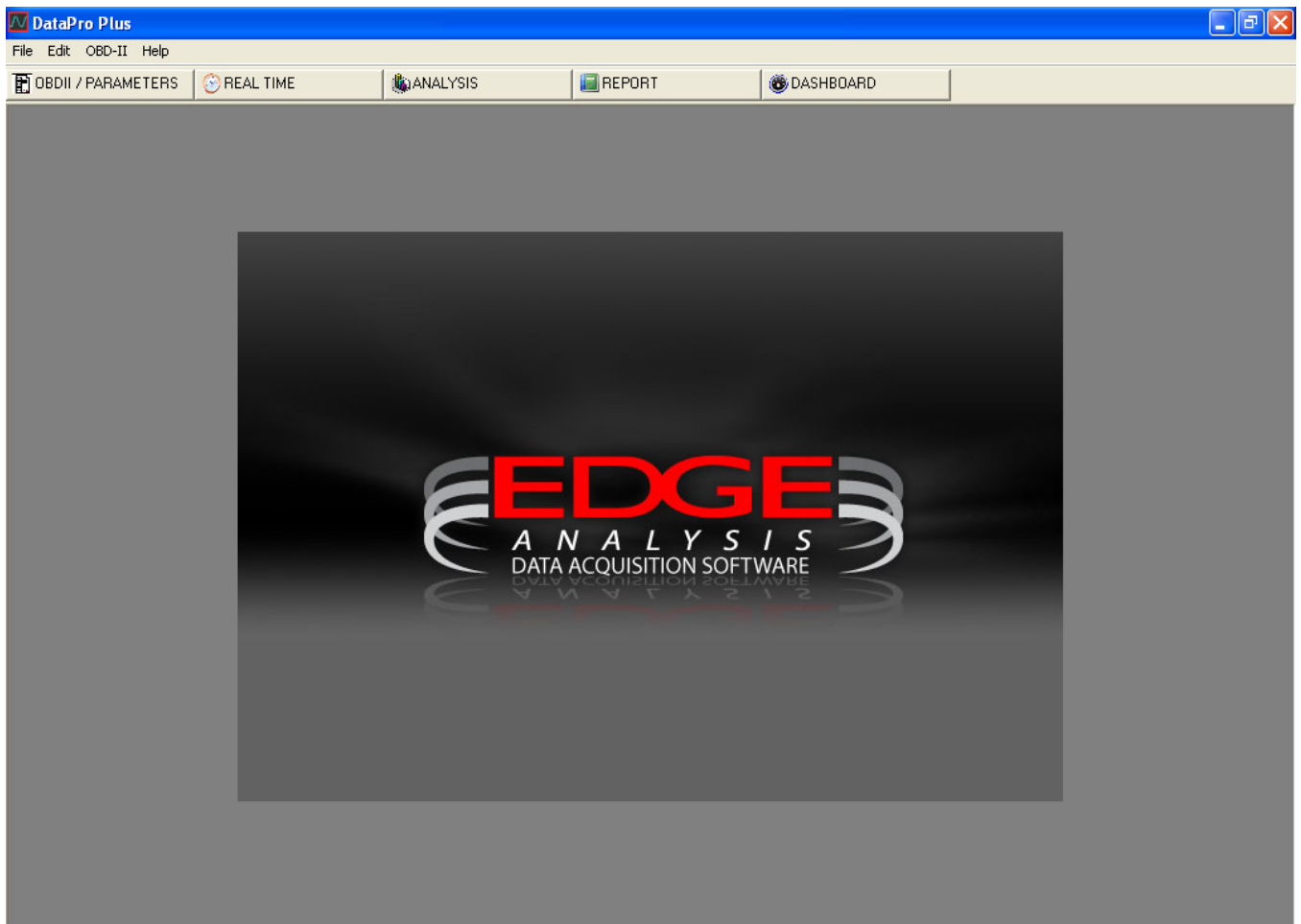
The Main Window gives access to the different screens through the toolbar buttons: the Parameters Screen with the [DTC / Vehicle Tests and OBD-II Setup Screen](#), [Vehicle PID / OBDII Channel Setup Screen](#), [Graph and Math Parameters Screen](#), [Vehicle/Owner Information screen](#) and possibly the [Calibration Screen](#) is accessed by

pressing the OBDII / Parameters button  , the Real Time Screen with the [Bar Graph](#), [Scroll Graph](#), [Individual Scroll Graph](#) and [Combined Scroll Graph](#) is accessed by pressing the Real Time button

 , the Analysis Screen with the [Analysis Graph](#), [Channel vs Channel](#), and [Histogram](#) is accessed by pressing the Analysis button 

, the Report Screen with the [Report](#), [Report Picture](#) and [Report Notes](#) is accessed by pressing the Report button 

and the [Dashboard](#) is accessed by pressing Dashboard button 

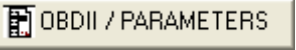


Main Window Background

The Background image can be customized to display any jpeg image. Just copy the image into the program directory and rename it "logo.jpg"

DTC / Vehicle Tests and OBDII Setup

The DTC / Vehicle Tests and OBDII Setup screen is accessed by pressing the Parameters

button  then selecting the DTC / Vehicle Tests and ReportsDTC / Vehicle Tests and OBDII Setup tab. This tab is used to run [Oxygen Sensor](#) tests, [Vehicle Status](#) tests, read Stored DTC, [Report Stored DTC](#), [Freeze Frame Report](#), read Pending DTC, [Report Pending DTC](#), clearing Diagnostic Trouble Codes. It is also used to setup the connection method. The supported devices, and any communication setting the devices require are selected from his tab.

To view the DTC /Vehicle Tests and OBDII Setup screen, follow the link below for the desired OBDII device.

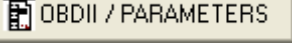
[ELM](#)

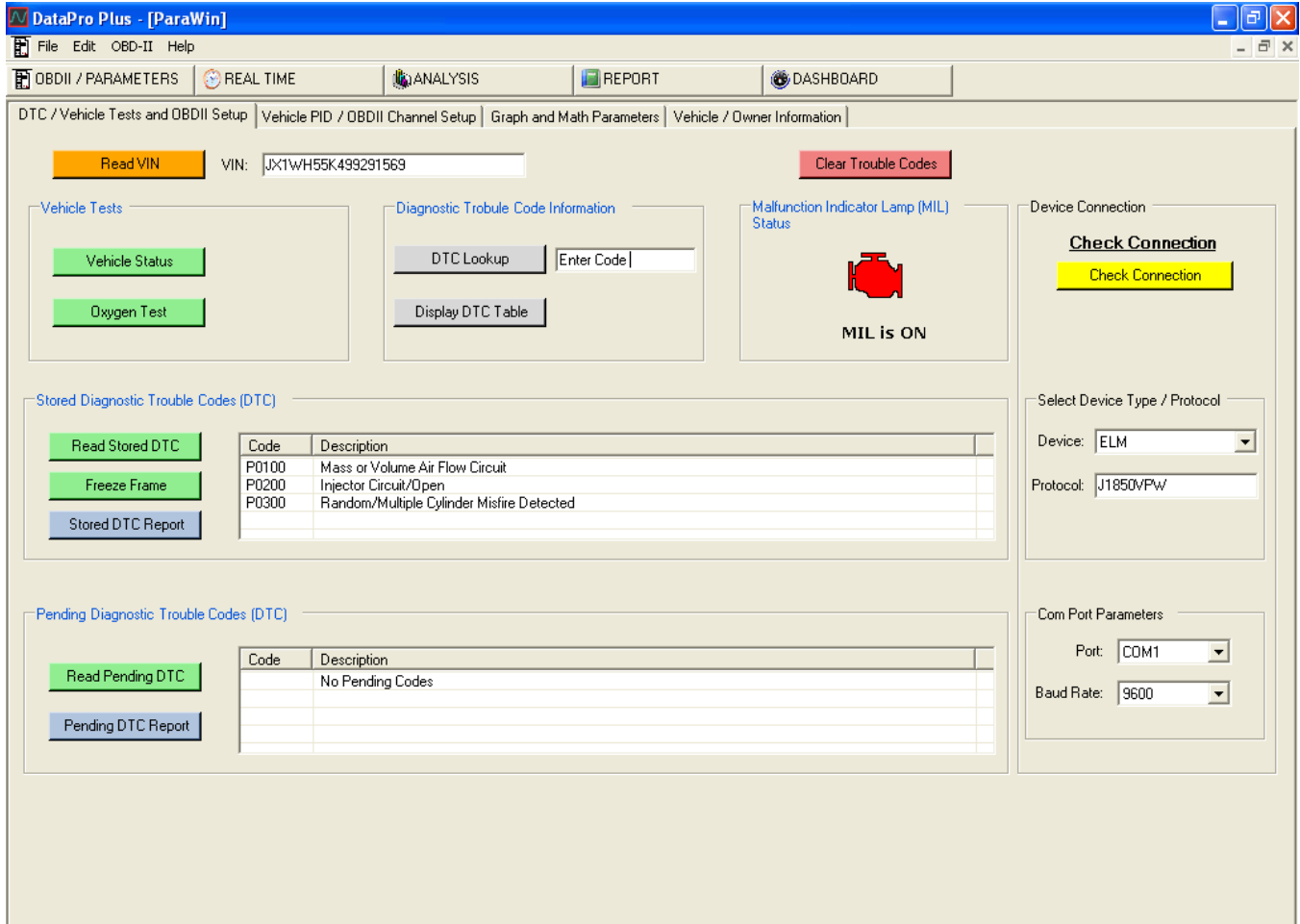
[J2534](#)

[Innovate Motorsports OT-1](#)

DTC / Vehicle Tests and OBDII Setup using ELM device

The DTC / Vehicle Tests and OBDII Setup screen is accessed by pressing the Parameters

button  then selecting the DTC / Vehicle Tests and Reports DTC / Vehicle Tests and OBDII Setup tab. This tab is used to run [Oxygen Sensor](#) tests, [Vehicle Status](#) tests, read Stored DTC, [Report Stored DTC](#), [Freeze Frame Report](#), read Pending DTC, [Report Pending DTC](#), clearing Diagnostic Trouble Codes. It is also used to setup the connection method. The supported devices, and any communication settings the devices require are selected from his tab. The screen varies based on type of OBDII device [ELM](#), [J2534](#), or [Innovate Motorsports OT-1](#).



The screenshot shows the 'DataPro Plus - [ParaWin]' application window. The main menu includes 'File', 'Edit', 'OBD-II', and 'Help'. The toolbar contains icons for 'OBDII / PARAMETERS', 'REAL TIME', 'ANALYSIS', 'REPORT', and 'DASHBOARD'. The current view is 'DTC / Vehicle Tests and OBDII Setup', with other tabs for 'Vehicle PID / OBDII Channel Setup', 'Graph and Math Parameters', and 'Vehicle / Owner Information'.


Key features and data shown in the interface:

- Read VIN:** A yellow button labeled 'Read VIN' is positioned above a text box containing the VIN 'JX1WH55K499291569'. A red 'Clear Trouble Codes' button is also present.
- Vehicle Tests:** A panel with 'Vehicle Status' and 'Oxygen Test' buttons.
- Diagnostic Trouble Code Information:** A panel with 'DTC Lookup' and 'Display DTC Table' buttons, and an 'Enter Code' input field.
- MIL Status:** A red engine icon with the text 'MIL is ON' below it.
- Device Connection:** A panel with a 'Check Connection' button and a 'Check Connection' label.
- Select Device Type / Protocol:** A panel with 'Device:' set to 'ELM' and 'Protocol:' set to 'J1850VPW'.
- Com Port Parameters:** A panel with 'Port:' set to 'COM1' and 'Baud Rate:' set to '9600'.
- Stored Diagnostic Trouble Codes (DTC):** A table with columns 'Code' and 'Description'.


Code	Description
P0100	Mass or Volume Air Flow Circuit
P0200	Injector Circuit/Open
P0300	Random/Multiple Cylinder Misfire Detected
- Pending Diagnostic Trouble Codes (DTC):** A table with columns 'Code' and 'Description'.


Code	Description
	No Pending Codes

Reading Vehicle Identification Number (VIN)

To read the VIN, press the Read VIN Button . Not all vehicles respond to the Read VIN request. If no VIN appears in the box, then the vehicle did not respond. The VIN can be manually entered into the box, which allows it to be added to test reports. If the configuration is saved, (select File-> Save Configuration), then the VIN will be saved in the configuration file.

DTC table and DTC Code Lookup

To display a [table of DTCs](#) for a manual lookup, press the Display DTC Table Button . This function does not require connection to a vehicle.

To perform a DTC lookup, enter the code, including the beginning letter, in the box and press the DTC Lookup Button . This function does not require connection to the vehicle.


Stored Diagnostic Trouble Code (DTC) Information

To read the stored trouble codes, press the Read Stored DTC Button .


To display a [Stored DTC Report](#), press the Stored DTC Report Button .

Pending Diagnostic Trouble Code (DTC) Information


To read the trouble codes, press the Read Pending DTC Button .

To display a [Pending DTC Report](#), press the Pending DTC Report Button .


Freeze Frame Information

To view stored Freeze Frame information, press the Freeze Frame Button . The [Freeze Frame Report](#) window will be displayed.


Clear Diagnostic Trouble Code (DTC) Information

To Clear DTC and Freeze Frame information and turn off Malfunction Indicator Lamp (MIL), press the Clear Trouble Codes Button . A Confirmation screen will be displayed allowing the user to proceed or cancel the clearing of trouble code information.


Vehicle Status

Pressing the Vehicle Status Button  will cause the vehicle status to be tested, and the [Vehicle Status Report](#) to be displayed.

Oxygen Test

Pressing the Vehicle Status Button  will cause the vehicle status to be tested, and the [Oxygen Sensor Test Results](#) to be displayed.

Check Connection

Pressing the Check Connection Button  will perform a test to make sure that the COM Port and Baud Rate are set properly.

Device Type / Protocol Selection

Select the device type (either [J2534](#)

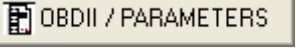
, [ELM](#) or Innovate Motorsports [OT-1](#)). If J2534 is selected then below the device selection box will be a protocol selection box . If the protocol is known, it can be selected otherwise select Auto Detect and the software will determine the protocol. If the wrong protocol is selected, the software will automatically change to the correct protocol. Auto Detection can take a few moments, and this time can be reduced by selecting the correct protocol. If the configuration information is saved, then the protocol information will be saved with it.

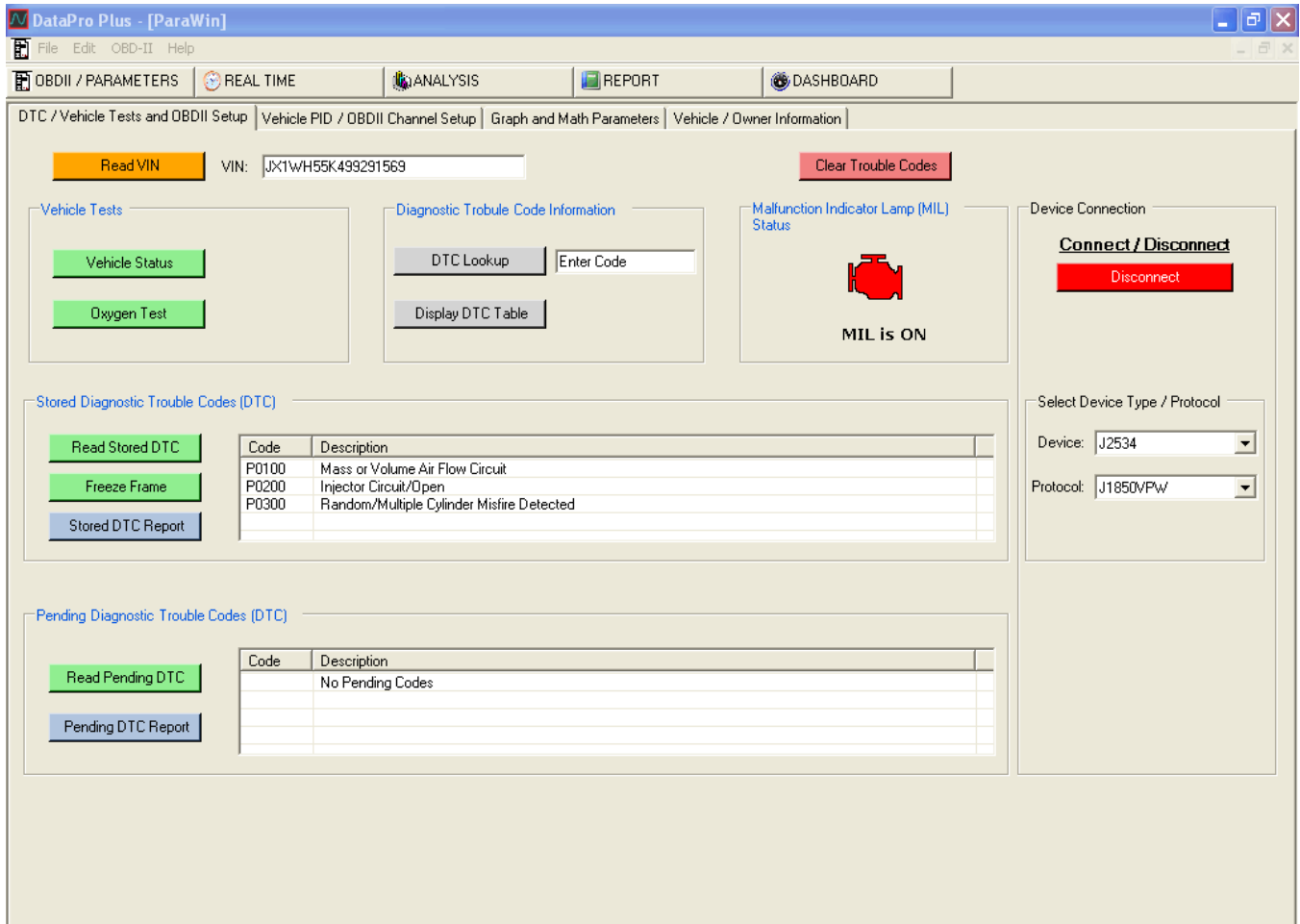
If ELM is the selected device type then below the device selection box will be a COM port selection box will be shown, and a Baud Rate selection box will be shown beneath the COM port selection box.

If Innovate Motorsports [OT-1](#) is the selected device type then below the device selection box will be a COM port selection box will be shown, and a Baud Rate selection box will be shown beneath the COM port selection box. Above the device selection box will be shown a Read Configuration button and a Configure OT-1 button. These buttons are explained on the OT-1 page.

DTC / Vehicle Tests and OBDII Setup using J2534 device

The DTC / Vehicle Tests and OBDII Setup screen is accessed by pressing the Parameters

button  then selecting the DTC / Vehicle Tests and OBDII Setup tab. This tab is used to run [Oxygen Sensor](#) tests, [Vehicle Status](#) tests, read Stored DTC, [Report Stored DTC](#), [Freeze Frame Report](#), read Pending DTC, [Report Pending DTC](#), clearing Diagnostic Trouble Codes. It is also used to setup the connection method. The supported devices, and any communication settings the devices require are selected from his tab. The screen varies based on type of OBDII device [ELM](#), [J2534](#), or [Innovate Motorsports OT-1](#).




The screenshot shows the 'DataPro Plus - [ParaWin]' application window. The main workspace is titled 'DTC / Vehicle Tests and OBDII Setup'. It features several functional areas:

- Read VIN:** A button labeled 'Read VIN' and a text box containing the VIN 'JX1WH55K499291569'.
- Clear Trouble Codes:** A red button labeled 'Clear Trouble Codes'.
- Vehicle Tests:** A section with two green buttons: 'Vehicle Status' and 'Oxygen Test'.
- Diagnostic Trouble Code Information:** A section with a 'DTC Lookup' button, an 'Enter Code' text box, and a 'Display DTC Table' button.
- Malfunction Indicator Lamp (MIL) Status:** A section with a red engine icon and the text 'MIL is ON'.
- Device Connection:** A section with a 'Connect / Disconnect' button and a red 'Disconnect' button.
- Stored Diagnostic Trouble Codes (DTC):** A section with buttons for 'Read Stored DTC', 'Freeze Frame', and 'Stored DTC Report'. Below these is a table with columns 'Code' and 'Description':


Code	Description
P0100	Mass or Volume Air Flow Circuit
P0200	Injector Circuit/Open
P0300	Random/Multiple Cylinder Misfire Detected
- Pending Diagnostic Trouble Codes (DTC):** A section with buttons for 'Read Pending DTC' and 'Pending DTC Report'. Below these is a table with columns 'Code' and 'Description':


Code	Description
	No Pending Codes
- Select Device Type / Protocol:** A section with dropdown menus for 'Device' (set to 'J2534') and 'Protocol' (set to 'J1850VPW').

Reading Vehicle Identification Number (VIN)

To read the VIN, press the Read VIN Button . Not all vehicles respond to the Read VIN request. If no VIN appears in the box, then the vehicle did not respond. The VIN can be manually entered into the box, which allows it to be added to test reports. If the configuration is saved, (select File-> Save Configuration), then the VIN will be saved in the configuration file.

DTC table and DTC Code Lookup

To display a [table of DTCs](#) for a manual lookup, press the Display DTC Table Button . This function does not require connection to a vehicle.

To perform a DTC lookup, enter the code, including the beginning letter, in the box and press the DTC Lookup Button . This function does not require connection to the vehicle.

Stored Diagnostic Trouble Code (DTC) Information

To read the stored trouble codes, press the Read Stored DTC Button .


To display a [Stored DTC Report](#), press the Stored DTC Report Button .

Pending Diagnostic Trouble Code (DTC) Information


To read the trouble codes, press the Read Pending DTC Button .

To display a [Pending DTC Report](#), press the Pending DTC Report Button .


Freeze Frame Information

To view stored Freeze Frame information, press the Freeze Frame Button . The [Freeze Frame Report](#) window will be displayed.


Clear Diagnostic Trouble Code (DTC) Information

To Clear DTC and Freeze Frame information and turn off Malfunction Indicator Lamp (MIL), press the Clear Trouble Codes Button . A Confirmation screen will be displayed allowing the user to proceed or cancel the clearing of trouble code information.

Vehicle Status

Pressing the Vehicle Status Button  will cause the vehicle status to be tested, and the [Vehicle Status Report](#) to be displayed.


Oxygen Test

Pressing the Vehicle Status Button  will cause the vehicle status to be tested, and the [Oxygen Sensor Test Results](#) to be displayed.

Connect

To connect to the J2534 device, press the Connect Button . After connecting, the button will change to the Disconnect button.

Disconnect

To disconnect from the J2534 device, press the Disconnect Button . After disconnecting, the button will change to the Connect button.

Device Type / Protocol Selection

Select the device type (either [J2534](#)


, [ELM](#) or Innovate Motorsports [OT-1](#)). If J2534 is selected then below the device selection box will be a protocol selection box. If the protocol is known, it can be selected otherwise select Auto Detect and the software will determine the protocol. If the wrong protocol is selected, the software will automatically change to the correct protocol. Auto Detection can take a few moments, and this time can be reduced by selecting the correct protocol. If the configuration information is saved, then the protocol information will be saved with it.

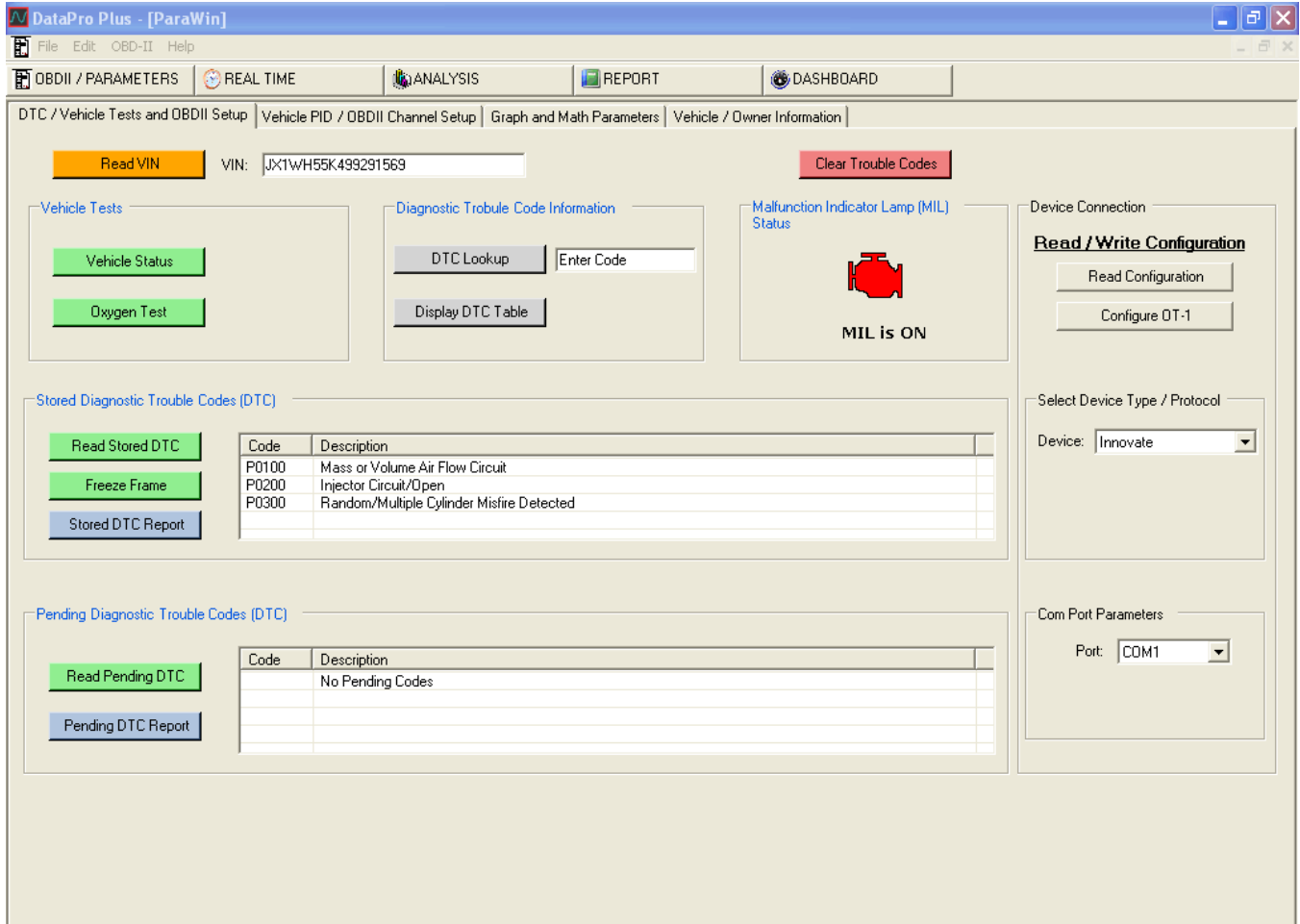
If ELM is the selected device type then below the device selection box will be a COM port selection box will be shown, and a Baud Rate selection box will be shown beneath the COM port selection box.

If Innovate Motorsports [OT-1](#) is the selected device type then below the device selection box will be a COM port selection box will be shown, and a Baud Rate selection box will be shown beneath the COM port selection box. Above the device selection box will be shown a Read Configuration button and a Configure OT-1 button. These buttons are explained on the OT-1 page.


DTC / Vehicle Tests and OBDII Setup using Innovate Motorsports OT-1 device

The DTC / Vehicle Tests and OBDII Setup screen is accessed by pressing the Parameters


button  then selecting the DTC / Vehicle Tests and Reports DTC / Vehicle Tests and OBDII Setup tab. This tab is used to run [Oxygen Sensor](#) tests, [Vehicle Status](#) tests, read Stored DTC, [Report Stored DTC](#), [Freeze Frame Report](#), read Pending DTC, [Report Pending DTC](#), clearing Diagnostic Trouble Codes. It is also used to setup the connection method. The supported devices, and any communication settings the devices require are selected from this tab. The screen varies based on type of OBDII device [ELM](#), [J2534](#), or [Innovate Motorsports OT-1](#).




Reading Vehicle Identification Number (VIN)

To read the VIN, press the Read VIN Button . Not all vehicles respond to the Read VIN request. If no VIN appears in the box, then the vehicle did not respond. The VIN can be manually entered into the box, which allows it to be added to test reports. If the configuration is saved, (select File-> Save Configuration), then the VIN will be saved in the configuration file.

DTC table and DTC Code Lookup

To display a [table of DTCs](#) for a manual lookup, press the Display DTC Table Button . This function does not require connection to a vehicle.

To perform a DTC lookup, enter the code, including the beginning letter, in the box and press the DTC Lookup Button . This function does not require connection to the vehicle.

Stored Diagnostic Trouble Code (DTC) Information

To read the stored trouble codes, press the Read Stored DTC Button .


To display a [Stored DTC Report](#), press the Stored DTC Report Button .

Pending Diagnostic Trouble Code (DTC) Information


To read the trouble codes, press the Read Pending DTC Button .

To display a [Pending DTC Report](#), press the Pending DTC Report Button .


Freeze Frame Information

To view stored Freeze Frame information, press the Freeze Frame Button . The [Freeze Frame Report](#) window will be displayed.


Clear Diagnostic Trouble Code (DTC) Information

To Clear DTC and Freeze Frame information and turn off Malfunction Indicator Lamp (MIL), press the Clear Trouble Codes Button . A Confirmation screen will be displayed allowing the user to proceed or cancel the clearing of trouble code information.


Vehicle Status

Pressing the Vehicle Status Button  will cause the vehicle status to be tested, and the [Vehicle Status Report](#) to be displayed.


Oxygen Test

Pressing the Vehicle Status Button  will cause the vehicle status to be tested, and the [Oxygen Sensor Test Results](#) to be displayed.

Read Configuration

To read the OT-1 Configuration, press the Read Configuration Button . The will read in the configuration and assign the channels accordingly. It is important that the COM port is set correctly.

Configure OT-1

To configure the OT-1 Configuration, press the Configure OT-1 Button . The will Open the LM Programmer. The LM Programmer is Innovate Motorsports program for use with their hardware. For support and help using this program please contact Innovate Motorsports and the LM programmer documentation which is supplied by Innovate Motorsports with the hardware.

Selecting COM Port

To select which COM port the OT-1 is on use the Port box of the Com Port Parameters. If the correct COM port is not selected, then the Configuration will not be able to be read, the OT-1 will not be able to be configured and the Real Time reading and logging of Data will not work as the Device connect will give an error.

Device Type / Protocol Selection

Select the device type (either [J2534](#)


, [ELM](#) or Innovate Motorsports [OT-1](#)). If J2534 is selected then below the device selection box will be a protocol selection box . If the protocol is known, it can be selected otherwise select Auto Detect and the software will determine the protocol. If the wrong protocol is selected, the software will automatically change to the correct

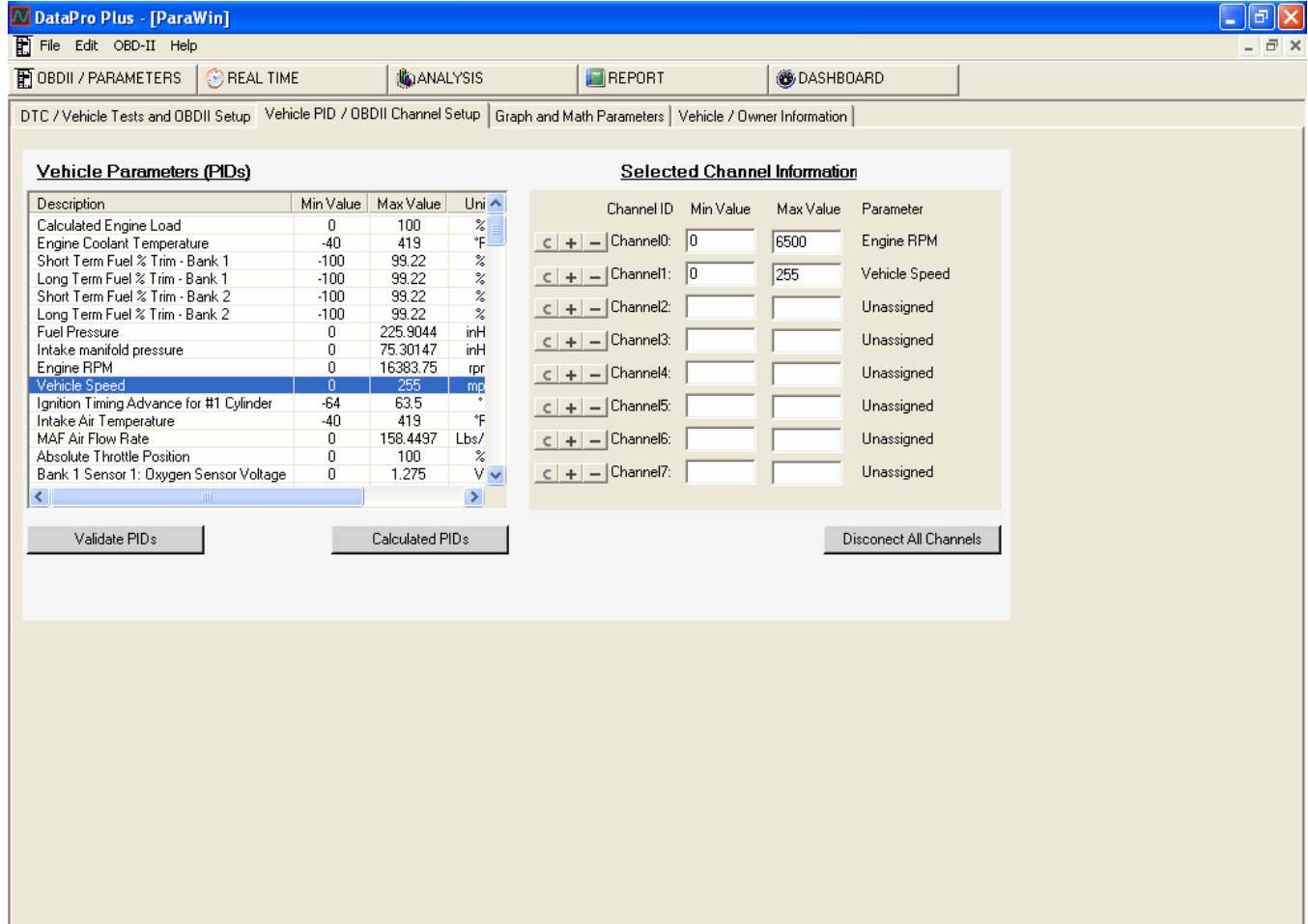
protocol. Auto Detection can take a few moments, and this time can be reduced by selecting the correct protocol. If the configuration information is saved, then the protocol information will be saved with it.

If ELM is the selected device type then below the device selection box will be a COM port selection box will be shown, and a Baud Rate selection box will be shown beneath the COM port selection box.

If Innovate Motorsports [OT-1](#) is the selected device type then below the device selection box will be a COM port selection box will be shown, and a Baud Rate selection box will be shown beneath the COM port selection box. Above the device selection box will be shown a Read Configuration button and a Configure OT-1 button. These buttons are explained on the OT-1 page.

Vehicle PIDs / OBD-II Channel Setup

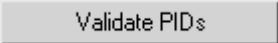
The OBD-II screen is accessed by pressing the Parameters button  OBDII / PARAMETERS, then selecting the OBD-II tab. The OBD-II tab controls the functions used in capturing data from the OBD-II connection. It also controls device connection information.



Description	Min Value	Max Value	Uni
Calculated Engine Load	0	100	%
Engine Coolant Temperature	-40	419	*F
Short Term Fuel % Trim - Bank 1	-100	99.22	%
Long Term Fuel % Trim - Bank 1	-100	99.22	%
Short Term Fuel % Trim - Bank 2	-100	99.22	%
Long Term Fuel % Trim - Bank 2	-100	99.22	%
Fuel Pressure	0	225.9044	inH
Intake manifold pressure	0	75.30147	inH
Engine RPM	0	16383.75	rpr
Vehicle Speed	0	255	mp
Ignition Timing Advance for #1 Cylinder	-64	63.5	*
Intake Air Temperature	-40	419	*F
MAF Air Flow Rate	0	158.4497	Lbs/
Absolute Throttle Position	0	100	%
Bank 1 Sensor 1: Oxygen Sensor Voltage	0	1.275	V


Channel ID	Min Value	Max Value	Parameter
Channel0	0	6500	Engine RPM
Channel1	0	255	Vehicle Speed
Channel2			Unassigned
Channel3			Unassigned
Channel4			Unassigned
Channel5			Unassigned
Channel6			Unassigned
Channel7			Unassigned


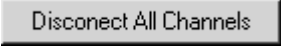
Validate PIDs

To Validate the PIDs, press the Validate PIDs Button . After validation, the Vehicle PIDs list will only contain supported PIDs for the connected vehicle. Saving the configuration will save this list for future use. While it is not necessary to validate PIDs, attempting to read data from an unsupported PID will slow the data collection down and may cause the program to stop responding.

Selected Channel Information

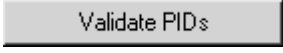
This is where the channels are assigned the PID selected from the Parameters list.

To assign a PID to a channels, press the Add Button  of the desired channel. Double clicking a PID in the list will assign that PID to the next available channel.


To remove a PID press, the Remove Button  of the desired channel. To remove all, press the Disconnect all Channels Button 

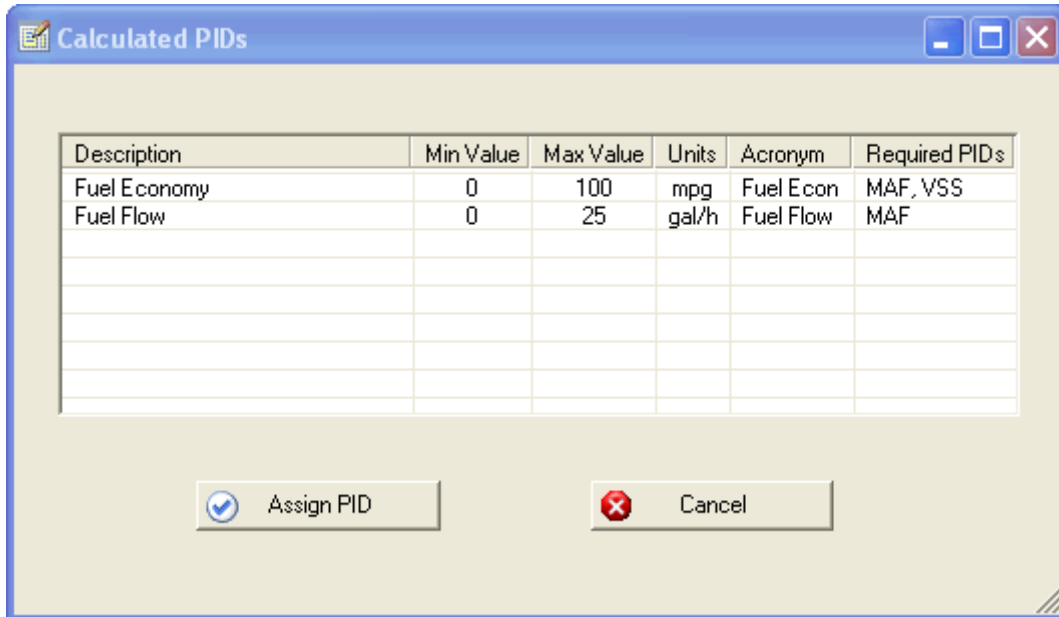
If the default Minimum and Maximum values are not suitable, then they may be changed by entering the desired Minimum and Maximum in the boxes which follow the add and remove buttons.

PID Validation / Load Configuration

Upon entering the OBD-II screen for the first time, the [PID Validation / Load Configuration Window](#) is displayed unless it has been disabled through the [Edit Menu](#). This will allow the program to automatically determine which PIDs are valid, or to allow loading of a saved configuration of PIDs. The PIDs may be validated at any time by pressing the Validate PIDs button  as described above.

Calculated PIDs Screen

The Calculated PIDs Screen is displayed when the Calculated PIDs button  is pressed on the Vehicle PID / OBDII Channel Setup tab of the Parameter Screen.



Assigning a Calculated Parameter to the Channel

To assign a Calculated Parameter to a channel either double click on the Parameter in the Parameter listview, or click once on the Parameter in the Parameter listview to highlight the PID and then press the AssignPID

button .

Required PIDs

The Required PIDS column shows the sensors which must be supported by the vehicle to monitor the Calculated PID. If the sensor is not present on the vehicle, then the Calculated PID cannot be monitored.

Channel Calibration Screen

The Channel Calibration Screen is displayed when an Analog channel is selected from the Vehicle Parameters PID list in the [Vehicle Hardware, Channels and PID Setup using Innovate Motorsports OT-1](#) . It allows calibration of the minimum and maximum scale of the graph, and the minimum and maximum A/D counts.

Channel 0 Calibration

Enter the Minimum and Maximum values to be displayed on the graph scale in the boxes below.

Channel Min Value: 7.35

Channel Max Value: 22.39

Enter the A/D Counts from the Calibration sheet in the boxes below, or if no Calibration Sheet exists, put the sensor at its minimum value and press the Set Min button, then put the sensor at its maximum value and press the Set Max button.

Min A/D Count: 0 Set Min

Max A/D Count: 1023 Set Max

Save Calibration Cancel



Set Graph Scale Min and Max

To select the min and max of the graph scale, use the Channel Min Value and Channel Max Value boxes. These define what value is assigned to the min and max A/D counts. Since the OT-1 devices output A/D counts, this will allow for a conversion to the desired scale.


Enter Manufacturer Min and Max A/D Counts

If a calibration sheet is available which gives the Min and Max A/d Count, then these numbers can be add into the Min A/D Count and Max A/D Count boxes.

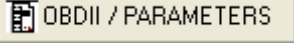
Set Min and Max A/D Counts

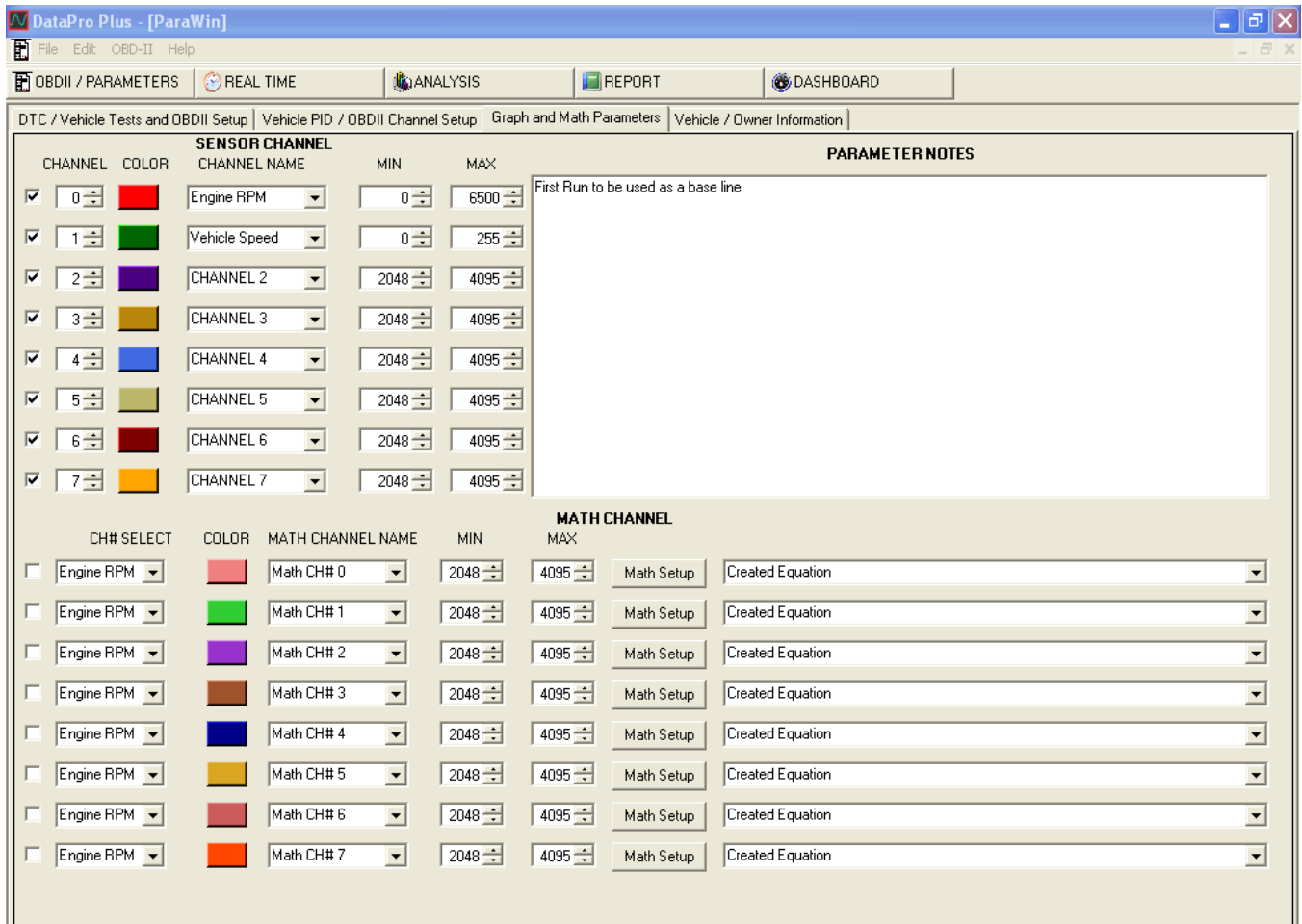
To set the Min A/D count put the sensor at the minimum and press the Set Min button . To set the Max A/D count put the sensor at the maximum and press the Set Max button .

Saving the Calibrations

To save the calibration information and exit the screen, press the Save Calibration button .

Graph and Math Parameters Screen

The Graph and Math Parameters screen is accessed by pressing the Parameters button  then selecting the Graph and Math Parameter tab. This tab is used to specify the various values used throughout the DataPro program. The Parameter file allows the real time and analysis graphs to be customized, and these values can be saved in a par file for future use.



Sensor Channel

This is where the information about the channels is modified.

The checkbox columns specify whether the channel is shown on the Realtime Graphs and the Analysis Graphs and the Report Screens.

The color boxes are for changing the colors of the graphs lines for each channel.

The Channel Name Box allows the changing of the name of the channel. If a channel was connected through the OBD-II screen, then the name is automatically carried over from that screen.

Channel Min / Max this allows the minimum and maximum of the graphs to be specified. If a channel was connected through the OBD-II screen, then the name is automatically carried over from that screen.

Parameter notes

This area is used to store any notes about the parameter file. The notes area is a multiline, virtually unlimited area which allows the user to make notes about the parameter file.

Math Channel

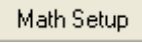
This is where the information about the math channels is modified.

The checkbox columns specify whether the channel is shown on the Realtime Graphs and the Analysis Graphs and the Report Screens.

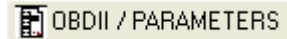
The Ch# Select Box specifies which channel the math function will

The color boxes are for changing the colors of the graphs lines for each channel.

Channel Min / Max this allows the minimum and maximum of the graphs to be specified.

The Math Setup Button  brings up the Math Function Entry window. This window is laid out like a calculator. Simply type in the math function using the "A" button to represent the channel data, and the program will automatically enter the equation into the text box next to the Math Setup Button. The math channel is now available for use in the Analysis Graphs and Reports.

Vehicle / Owner Screen



The Vehicle / Owner Screen is accessed by pressing the OBDII / Parameters button then selecting the Vehicle / Owner Information tab. This tab is used to enter the vehicle and owner information or customer for repair shops. Any information entered in this screen will be used for DTC , Freeze Frame and Vehicle Testing Reports.

Note: Every field does not need to be filled in.

Owner Information

First Name: Emmett
Last Name: Brown
Address 1: 1646 Riverside Drive
Address 2:
City: Hill Valley
State / Province: CA
Postal Code: 95420
Phone: (916)555-4385
Other:

Vehicle Information

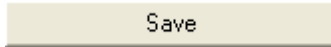
Make: DeLorean
Model: DMC-12
Year: 1981
VIN: 12314
Engine: 2849cc PRV V6
Weight: 2712
Tire Codes*: P 235 / 60 R 15

"Light Trucks may have an "LT" instead of a "P"

Notes:
Flux Capacitor not charging
Unable to accelerate beyond 87 MPH

Save
Reset Information
Save as New Owner / Vehicle
Load Information from a File

Save

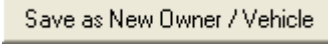


The Save Button save the owner information for use when there is only one owner with one vehicle. If multiple vehicles and/or multiple owners exist, then use the Save as New Owner / Vehicle (see below) to save the information in a separate file


Reset Information

The Reset Information Button  clears all the fields and the Notes.


Save as New Owner / Vehicle

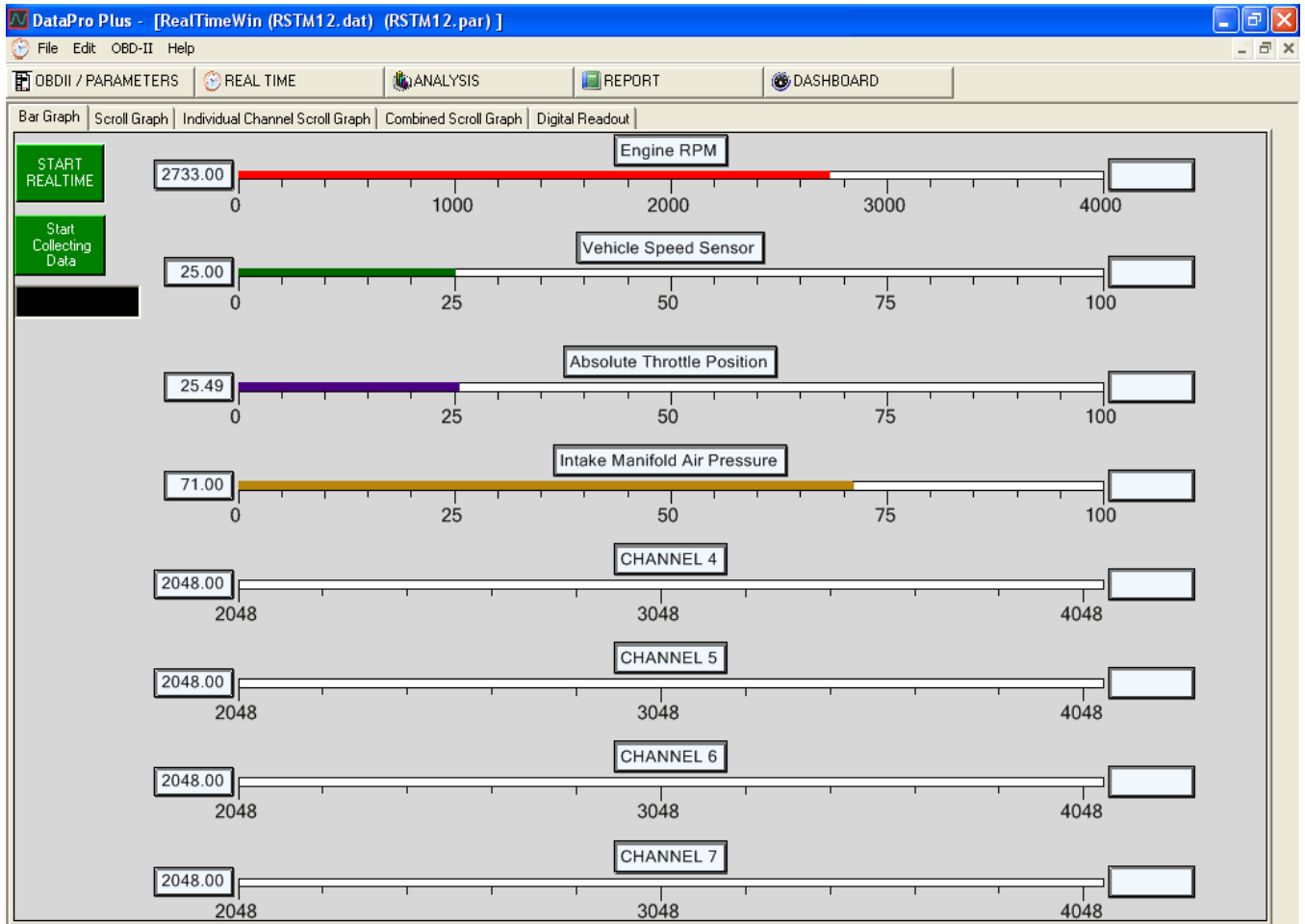
The Save as New Owner / Vehicle Button  saves the owner and vehicle information into a separate file as chosen by the users. This allows for owners with multiple vehicles or repair shops which have many customers to save the information for each vehicle.

Load Information from a File

The Load Information from a File Button  allows the user to load owner and vehicle information from a saved file.

Bar Graph Screen

The Bar Graph screen is accessed by pressing the Realtime Button  then selecting the Bar Graph tab. The Bar Graph tab displays the data, either realtime data or replayed data, as a series of stacked bar graphs.



Bar Graph Screen - Real Time Monitoring and Data Collection

From the bar graph screen, data can be viewed in a Realtime mode and/or collected and saved in a file for future use. If data is being gathered from the OBD-II interface, then the channels need to be connected from the [Vehicle PID / OBD-II Channel Setup screen](#).

To begin real time monitoring, press the Realtime Button



To stop realtime monitoring, press the Stop Realtime Button



To begin data collection, press the Start Collecting Data Button. The data will be shown on the graphs, and the elapsed time will be displayed as HH:MM:SS:XX where XX is 60ths of a second in the data time clock



00:00:10:20

To stop data collection, press the Stop Collecting Data Button



Note: When collecting data, it is not uncommon for the realtime display to experience some lagging. This is a function of the computer being used to collect the data, and does not effect the data collection.

Bar Graph Screen Replaying Data

To replay a saved data file perform the following steps:

1. Open a data file (dat File) and a parameter file (par file).
2. right click to bring up the context menu and select Setup and Replay Data.
3. Press the Start Realtime Button

The dat file will now be replayed from the beginning. If the data set to be play is data collected from a different program and saved as a CSV file, then an import must first be done to write the data to an Edge Data File (dat File). After selecting **Replay Data** on the context menu, the program will be in Replay Mode which will be indicated in the clock **Replay Mode**.





Setting up Alarm

To setup an Alarm, right click in the graph to bring up the context menu and select Setup-> Alarms / Attribute.

ALARM / ATTRIBUTE


CHANNEL

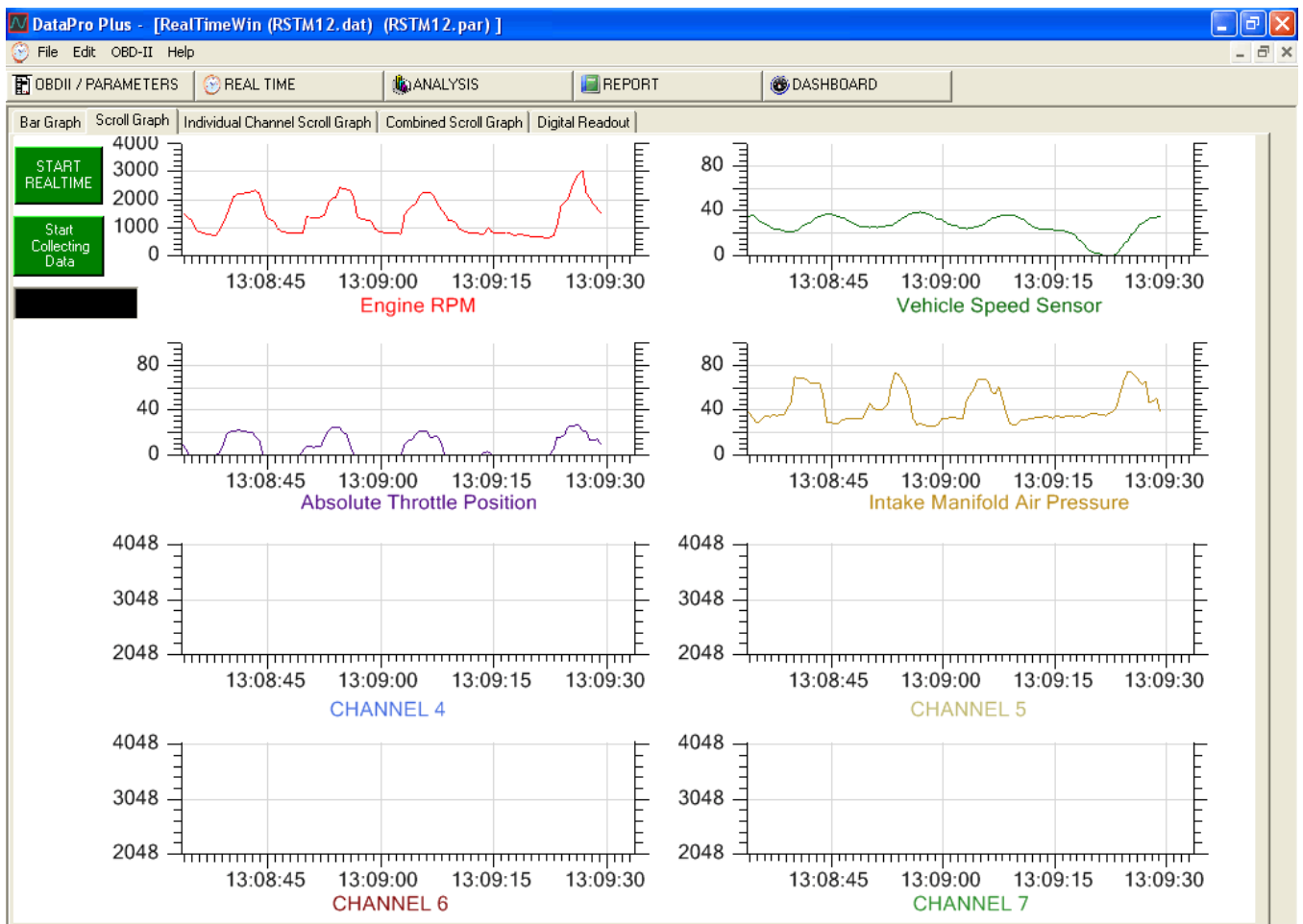
CHANNEL 0

	SYMBOL COLOR	BAR COLOR	WARNING NAME	ALARM VALUE	THRESHOLD
LOW			LOW	NONE	2048
MEDIUM			MEDIUM	NONE	3071
HIGH			HIGH	NONE	4095

1. Select the Channel on which to add the alarm from the drop down box.
2. Select the Color for the Low, Medium and High Values. Double Clicking on the colored box will bring up the Color Selection Dialog Box.
3. If desired, change the color of the bar in the bar graph.
4. Select the Warning Name which will be displayed whenever the value is in the Alarm Value Condition is met.
5. Set the Alarm Value condition using the drop down box.
6. Set the threshold value for the Alarm Condition.

Multiple Scroll Graphs Screen

The Scroll Graph screen is accessed by pressing the Realtime Button  then selecting the Scroll Graph tab. The Scroll Graph tab displays the data, either realtime data or replayed data, as a series of scroll graphs.



Scroll Graph Screen - Realtime Monitoring and Data Collection

From the scroll graph screen, data can be view in a realtime mode and/or collected and saved in a file for future use. If data is being gathered from the OBD-II interface, then the channels need to be connected from the [Vehicle PID / OBD-II Channel Setup screen](#).

To begin realtime monitoring, press the Start Realtime Button



To stop realtime monitoring, press the Stop Realtime Button



To begin data collection, press the Start Collecting Data Button. The data will be shown on the graphs, and the elapsed time will be displayed as HH:MM:SS:XX where XX is 60ths of a second in the data time clock



00:00:10:20

To stop data collection, press the Stop Collecting Data Button



Note: When collecting data, it is not uncommon for the realtime display to experience some lagging. This is a function of the computer being used to collect the data, and does not effect the data collection.

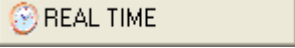
Scroll Graph Screen Replaying Data

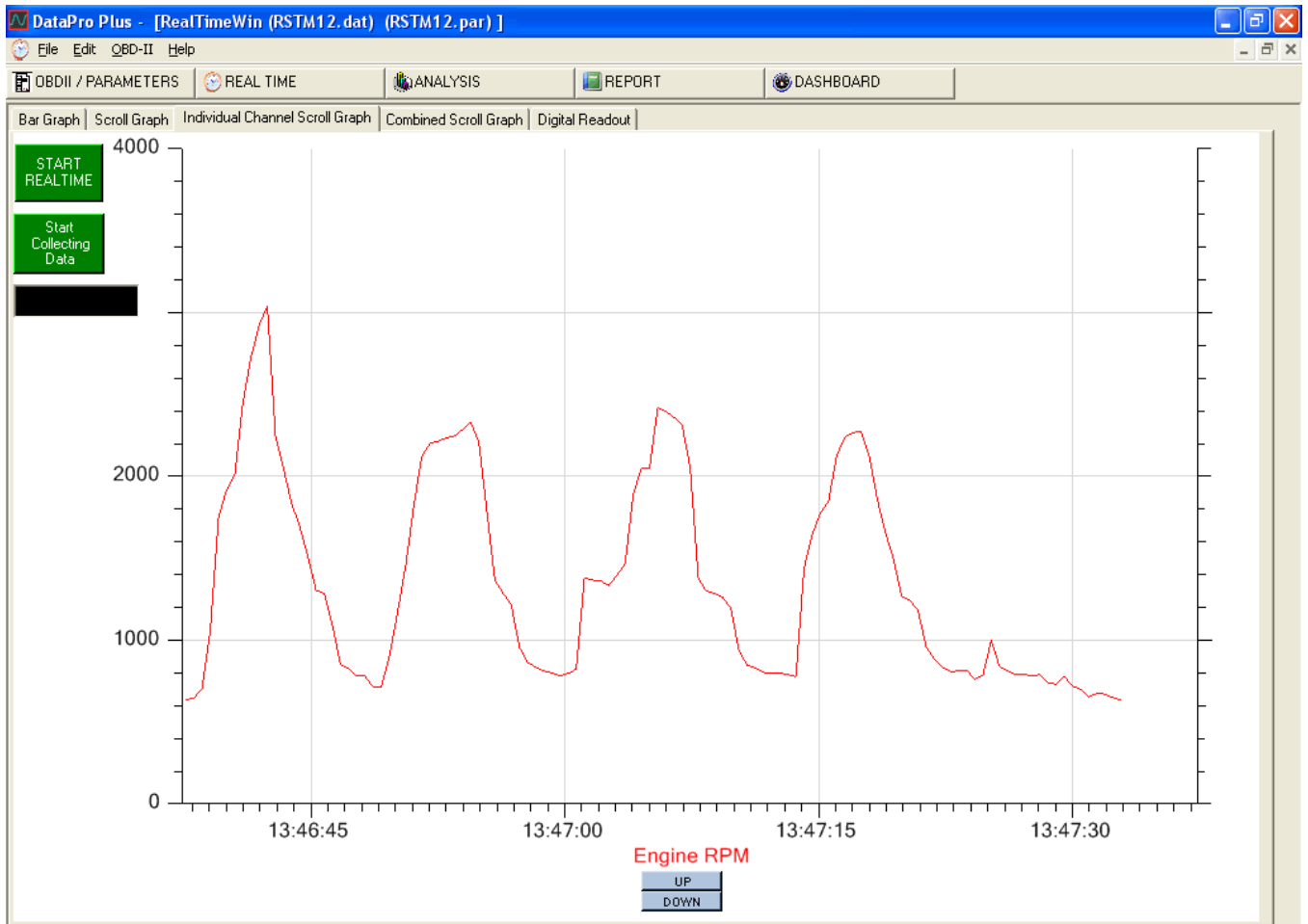
To replay a saved data file perform the following steps:

1. Open a data file (dat File) and a parameter file (par file).
2. Right click to bring up the context menu and select Setup and Replay Data.
3. Press the Start Realtime Button

The dat file will now be replayed from the beginning. If the data set to be play is data collected from a different program and saved as a CSV file, then an import must first be done to write the data to an Edge Data File (dat File). After selecting Replay Data on the context menu, the program will be in Replay Mode which will be indicated in the clock **Replay Mode**

Individual Scroll Graph Screen

The Individual Scroll Graph screen is accessed by pressing the Realtime Button  then selecting the Individual Scroll Graph tab. The Individual Scroll Graph tab displays the data, either realtime data or replayed data, as a single scroll graph for each channel.



Individual Scroll Graph Screen - Realtime Monitoring and Data Collection

From the Individual scroll graph screen, data can be view in a realtime mode and/or collected and saved in a file for future use. If data is being gathered from the OBD-II interface, then the channels need to be connected from the [Vehicle PID / OBD-II Channel Setup screen](#).

To begin realtime monitoring, press the Start Realtime Button



To stop realtime monitoring, press the Stop Realtime Button



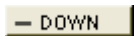
To begin data collection, press the Start Collecting Data Button. The data will be shown on the graphs, and the elapsed time will be displayed as HH:MM:SS:XX where XX is 60ths of a second in the data time clock



00:00:10:20

To stop data collection, press the Stop Collecting Data Button




To change which channel is shown, press either the Up Button  or the Down Button  to cycle through the channels to the desired channel.

Note: When collecting data, it is not uncommon for the realtime display to experience some lagging. This is a function of the computer being used to collect the data, and does not effect the data collection.


Individual Scroll Graph Screen Replaying Data

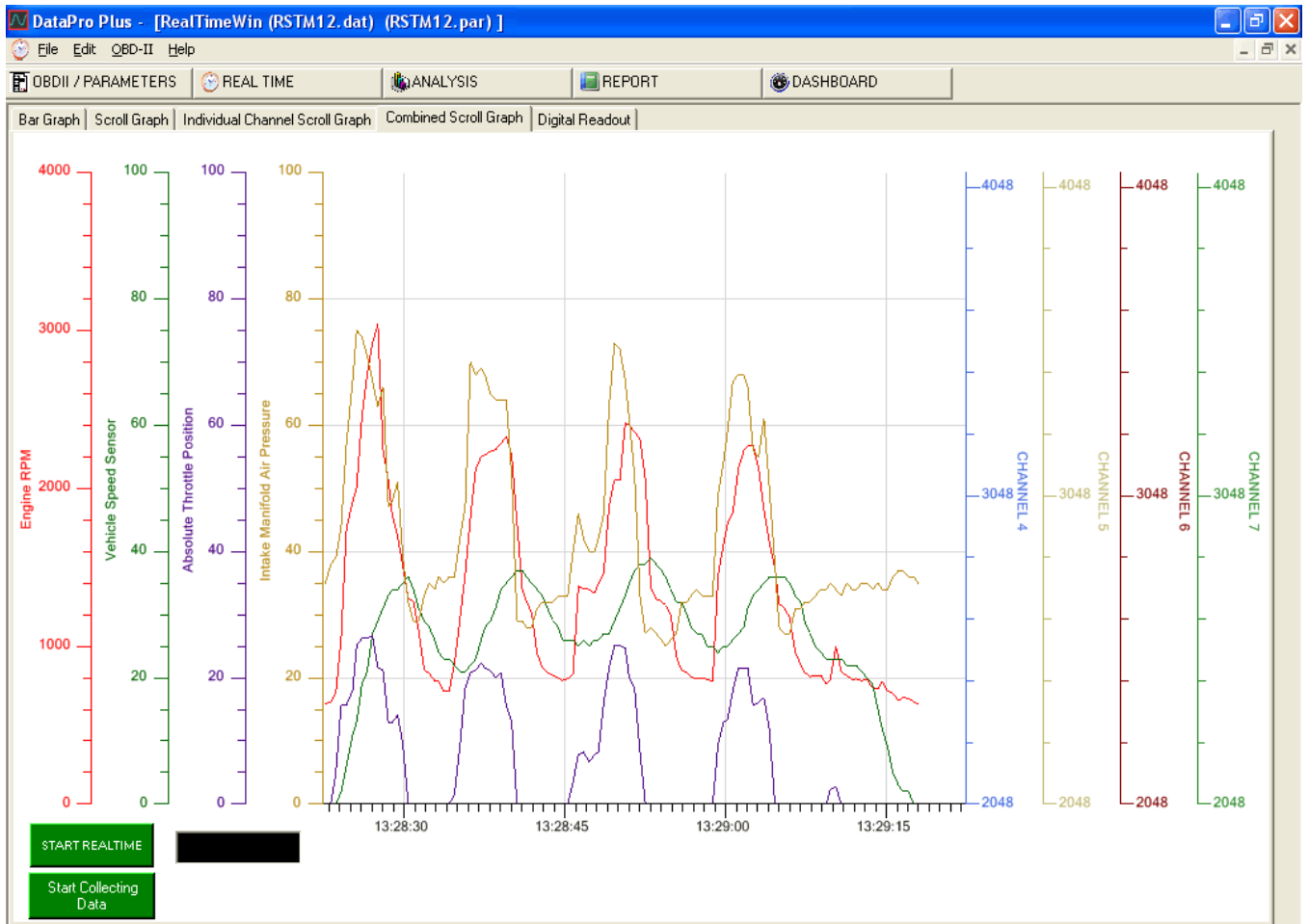
To replay a saved data file perform the following steps:

1. Open a data file (dat File) and a parameter file (par file).
2. Right click to bring up the context menu and select Setup and Replay Data.
3. Press the Start Realtime Button

The dat file will now be replayed from the beginning. If the data set to be play is data collected from a different program and saved as a CSV file, then an import must first be done to write the data to an Edge Data File (dat File). After selecting Replay Data on the context menu, the program will be in Replay Mode which will be indicated in the clock .

Combined Scroll Graph Screen

The Combined Scroll Graph screen is accessed by pressing the Realtime Button , then selecting the Combine Scroll Graph tab. The Combined Scroll Graph tab displays the data, either realtime data or replayed data, as a single scrolling graph.



Combined Scroll Graph Screen - Realtime Monitoring and Data Collection

From the Combined scroll graph screen, data can be view in a realtime mode and/or collected and saved in a file for future use. If data is being gathered from the OBD-II interface, then the channels need to be connected from the [Vehicle PID / OBD-II Channel Setup screen](#).


To begin realtime monitoring, press the Start Realtime Button

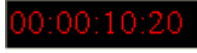
A green rectangular button with the text "START REALTIME" in white capital letters.

To stop realtime monitoring, press the Stop Realtime Button

A red rectangular button with the text "STOP REALTIME" in white capital letters.

To begin data collection, press the Start Collecting Data Button

A green rectangular button with the text "Start Collecting Data" in white.

The data will be shown on the graphs, and the elapsed time will be displayed as HH:MM:SS:XX where XX is 60ths of a second in the data time clock . The elapsed time display shows "00:00:10:20" in red text on a black background.

To stop data collection, press the Stop Collecting Data Button


A red rectangular button with the text "Stop Collecting Data" in white.

Note: When collecting data, it is not uncommon for the realtime display to experience some lagging. This is a function of the computer being used to collect the data, and does not effect the data collection.


Combined Scroll Graph Screen Replaying Data

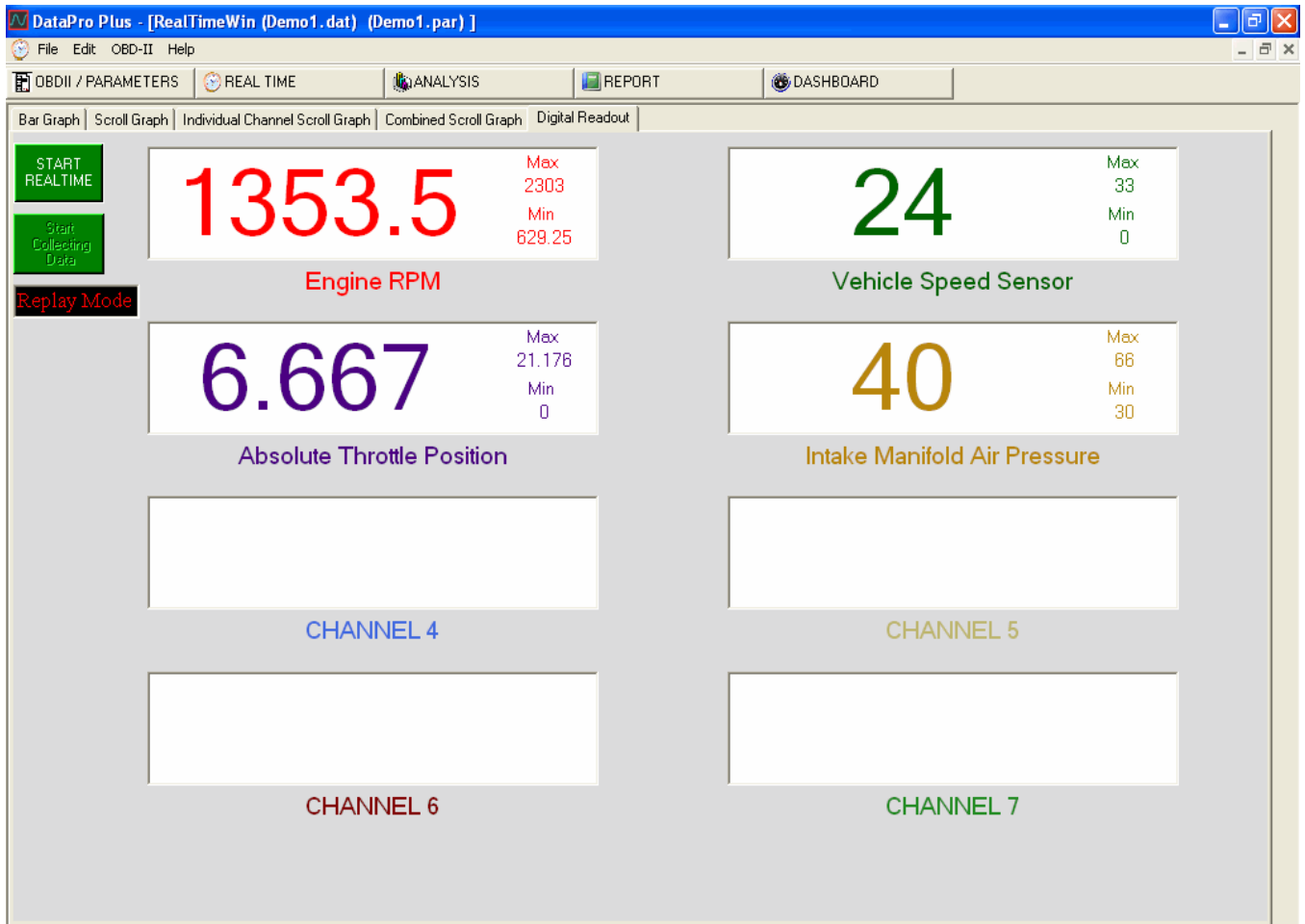
To replay a saved data file perform the following steps:

1. Open a data file (dat File) and a parameter file (par file).
2. Right click to bring up the context menu and select Setup and Replay Data.
3. Press the Start Realtime Button

The dat file will now be replayed from the beginning. If the data set to be play is data collected from a different program and saved as a CSV file, then an import must first be done to write the data to an Edge Data File (dat File). After selecting Replay Data on the context menu, the program will be in Replay Mode which will be indicated in the clock . The "Replay Mode" text is in red on a black background.

Digital Readout Screen

The Digital Readout screen is accessed by pressing the Realtime Button  then selecting the Digital Readout tab. The Digital Readout tab displays the data, either realtime data or replayed data, as a series of numerice displays with session minimums and maximums.



Digital Readout Screen - Real Time Monitoring and Data Collection

From the Digital Readout screen, data can be viewed in a Realtime mode and/or collected and saved in a file for future use. If data is being gathered from the OBD-II interface, then the channels need to be connected from the [Vehicle PID / OBD-II Channel Setup screen](#).

To begin real time monitoring, press the Realtime Button



To stop realtime monitoring, press the Stop Realtime Button



To begin data collection, press the Start Collecting Data Button. The data will be shown on the graphs, and the elapsed time will be displayed as HH:MM:SS:XX where XX is 60ths of a second in the data time clock



00:00:10:20

To stop data collection, press the Stop Collecting Data Button



Note: When collecting data, it is not uncommon for the realtime display to experience some lagging. This is a function of the computer being used to collect the data, and does not effect the data collection.


Digital Readout Screen Replaying Data

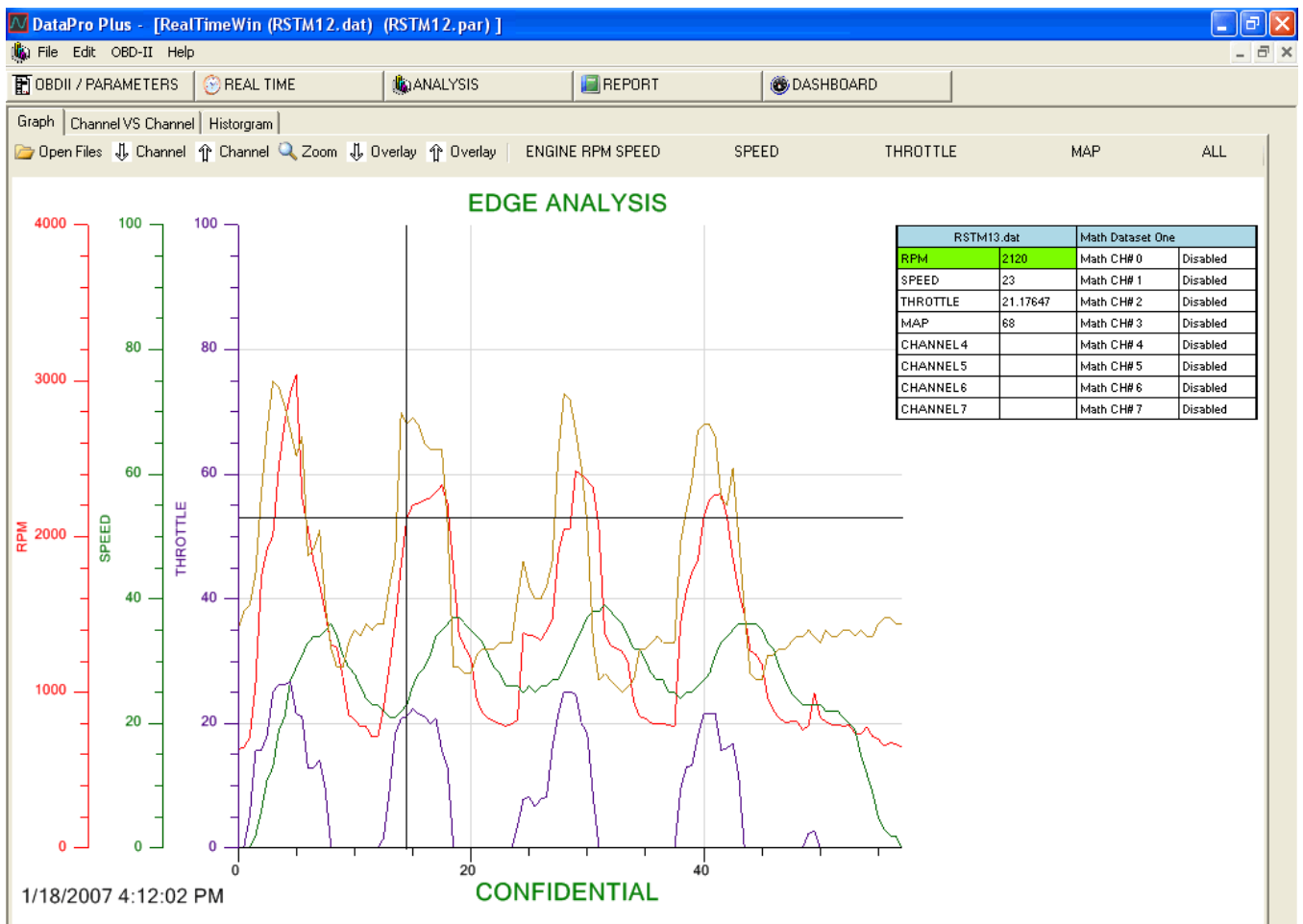
To replay a saved data file perform the following steps:

1. Open a data file (dat File) and a parameter file (par file).
2. right click to bring up the context menu and select Setup and Replay Data.
3. Press the Start Realtime Button

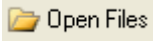
The dat file will now be replayed from the beginning. If the data set to be play is data collected from a different program and saved as a CSV file, then an import must first be done to write the data to an Edge Data File (dat File). After selecting Replay Data on the context menu, the program will be in Replay Mode which will be indicated in the clock **Replay Mode**.

Analysis Graph

The Analysis Graph screen is accessed by pressing the Analysis Button  then selecting the Graph tab. The Graph allows tracking through the data set following any of the channels or math channels, zoom and unzoom capabilities, and multiple dataset comparison through the use of [overlays](#).



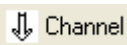
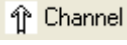
Loading Data

To load data into the graph Press the Open Files button  , [Select File->Open->Open Par/Data](#), or press Ctrl+o.

Exploring the Data

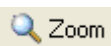
Pressing and holding the left mouse button while moving, will cause the cursor to move along the graph. The cursor callout window in the upper right will track the cursor movement and update the channel values. The green highlighted box is the current channel.

Changing the tracked channel

To have the cursors follow a different channel, use the Next Channel Button  or the Previous Channel Button  to cycle through the channels to the desired channel. The cursor will now track on the selected channel. The selected channel will have its cursor callout box highlighted in green if the channel is active, and in red if the channel is disabled.

If there are more than 3 channels active, then the innermost axis will track the selected channel beginning with channel 4. The outer 2 axis will always display the first 2 channels.

Zooming in on the Data

To enter Zoom Mode, press the Zoom Button  . When in Zoom Mode selecting an area will cause the graph to zoom to that area. Right clicking the mouse button will undo the zooms one at a time. To leave the zoom Mode, press the zoom button again.

Changing the Graphs Attributes

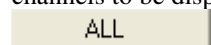
To change the [graph attributes](#), right click in the graph to bring up the context menu and select Setup->Attribute. The following attributes may be changed:

- Cursor Color
- Cursor Type
- Cursor Size
- Cursor Weight
- Grid Color
- Grid Type
- Grid Style

Changing Displayed Channels

To change which channels are displayed, right click in the graph to bring up the context menu and select Setup->Channel Select. Using the [graph channel selection window](#), any combination of Channels and Math Channels may be displayed.

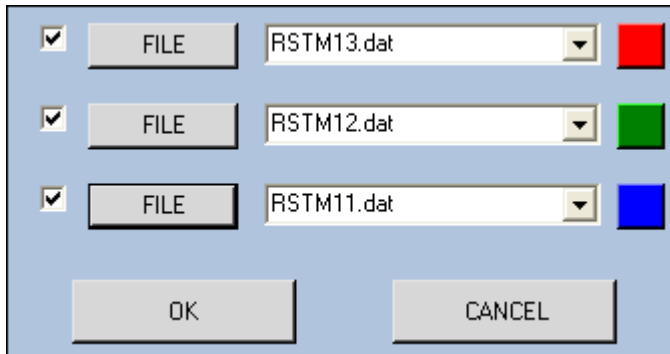
Alternatively, if a [Quick Pick](#) has been setup, pressing the corresponding Quick Pick Button will cause that group of channels to be displayed. To quickly display all of the channels, select the preconfigured ALL Quick Pick button



Note: The Channel Select window will automatically expand to include all selected overlay datasets in addition to the primary dataset



Adding Overlay Data

To add an overlay of a second or third dataset to the original, right click in the graph to bring up the context menu and select Overlay->Select Overlay Files, or press Ctrl+y. This will bring up the overlay selection window which allows up to 3 datasets to be opened and the colors of the displayed sets to be picked.



Note: The Cursor callout box will automatically expand to display the channels of all the overlays.

Changing the tracked Overlay

To change which overlay the mouse cursor tracks press either the Next Overlay Button  Overlay or the Previous Overlay Button  Overlay to cycle through the overlays to the desired one.

Toggling the Overlays

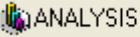
To hide the overlays and display the primary dataset, right click in the graph to bring up the context menu and select Overlay->Hide Overlay.

To show hidden the overlays and display the primary dataset, right click in the graph to bring up the context menu and select Overlay->Show Overlay.

Adding Notes, Header, and or Footer to the graph


To add Notes, Header, and/or Footer to the graph, right click in the graph to bring up the context menu and select Notes. Enter any Notes, Header and or Footer.

Channel vs Channel Graph


The Channel vs Channel screen is accessed by pressing the Analysis Button  then selecting the Channel vs Channel tab. The Channel vs Channel tab allows the graphing of one channel on the Y axis and a second channel on the X axis instead of the normal, which is time on the X axis.



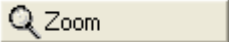
Loading Data

To load data into the graph, Press the Open Par/Dat File button , [Select File->Open->Open Par/Data](#), or press Ctrl+o.

Changing the graphed channels

To change the channels graphed, press the Channel Select Button  to bring up the [graph channel selection window](#). Select the X axis channel and the Y axis Channel.

Zooming in on the Data

To enter Zoom Mode, press the Zoom Button . When in Zoom Mode, selecting an area will cause the graph to zoom to that area. Right clicking the mouse button will undo the zooms one at a time. To leave the zoom Mode, press the zoom button again.

Changing the Graphs Attributes

To change the [graph attributes](#), right click in the graph to bring up the context menu and select Setup->Attribute. The following attributes may be changed:

- Cursor Color
- Cursor Type
- Cursor Size
- Cursor Weight
- Grid Color
- Grid Type
- Grid Style


Adding Notes, Header, and or Footer to the graph

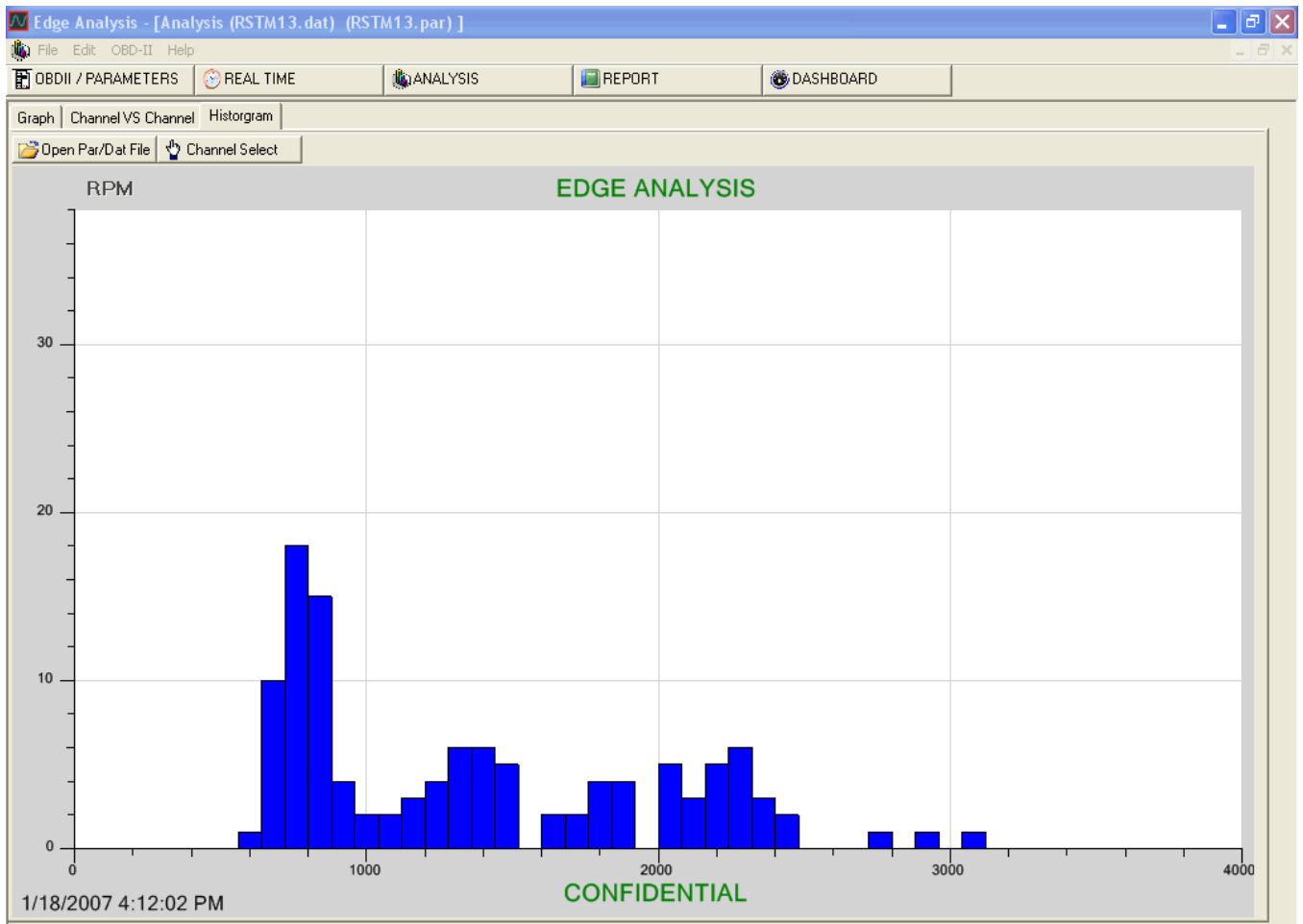
To add Notes, Header, and/or Footer to the graph, right click in the graph to bring up the context menu and select Notes. Enter in any Notes, Header and or Footer.

Rotating the graph


To rotate the graph, right click in the graph to bring up the context menu and select Rotate Graph. This will swap the X and Y Axes.

Histogram

The Histogram screen is accessed by pressing the Analysis Button  then selecting the Histogram tab.



Loading Data

To load data into the graph, Press the Open Par/Dat File button  , [Select File->Open->Open Par/Data](#), or press Ctrl+o.

Changing the graphed channels

To change the channels graphed, press the Channel Select Button  to bring up the [graph channel selection window](#). Select the Channel.

Changing the Graphs Attributes

To change the attributes of the graph, right click in the graph to bring up the context menu and select Setup->Attribute. The following attributes may be changed:

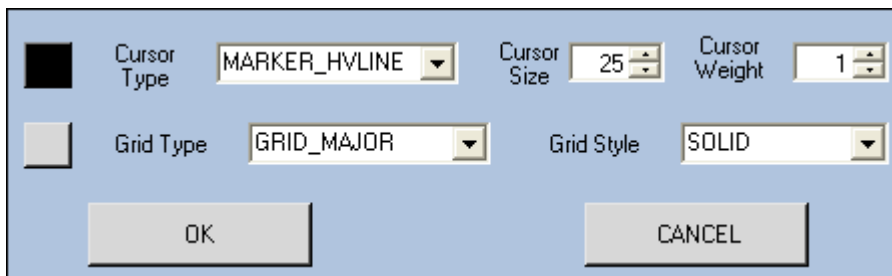
- Cursor Color
- Cursor Type
- Cursor Size
- Cursor Weight
- Grid Color
- Grid Type
- Grid Style

Adding Notes, Header, and or Footer to the graph

To add Notes, Header, and/or Footer to the graph, right click in the graph to bring up the context menu and select Notes. Enter in any Notes, Header and or Footer.

Graph Attributes

To display the Graph Attributes screen, right click in the graph to bring up the context menu and select Setup->Attribute. This will allow customization of the graph display. The Histogram and Channel vs Channel Graph do not have a cursor so the cursor options are not available.

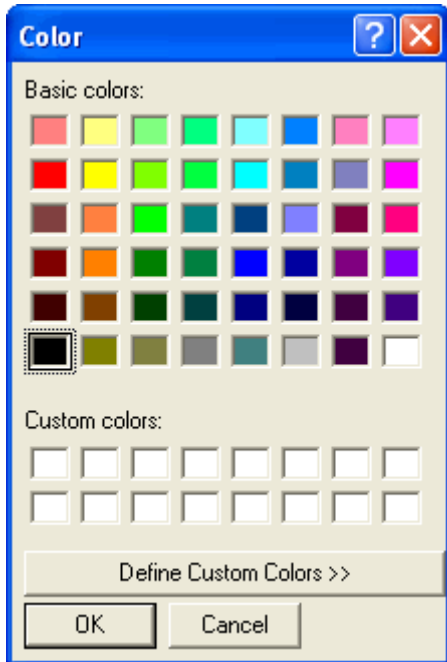


The image shows a dialog box titled "Graph Attributes" with a light blue background. It contains several controls for customizing the graph display:

- Cursor Type:** A dropdown menu currently set to "MARKER_HVLINE". To its left is a small black square color box.
- Cursor Size:** A numeric spinner box set to "25".
- Cursor Weight:** A numeric spinner box set to "1".
- Grid Type:** A dropdown menu currently set to "GRID_MAJOR". To its left is a small light gray square color box.
- Grid Style:** A dropdown menu currently set to "SOLID".
- Buttons:** "OK" and "CANCEL" buttons are located at the bottom of the dialog.

Selecting Cursor Color

By Left Clicking on the color box in front of the cursor type, the color selection dialog will be displayed. This allows the cursor color to be changed.



Selecting Cursor Type

Use the Cursor type drop down box to select the type of cursor to be displayed on the graph. The following cursor types are available:

- MARKER_HCLINE - The cursor is a pair of perpendicular lines
- MARKER_NONE - No cursor is displayed
- MARKER_VLINE - The cursor is a single vertical line
- MARKER_HLINE - The cursor is a single vertical line
- MARKER_CROSS - The cursor is a cross or plus sign
- MARKER_BOX - The cursor is a box

Selecting Cursor Size

Adjust the cursor size by either typing a number in the Cursor Size box, or using the up down arrows to adjust the cursor size.

Selecting Cursor Weight

Adjust the cursor size by either typing a number in the Cursor Weight box, or using the up down arrows to adjust the cursor weight.

Selecting Grid Color

By Left Clicking on the color box in front of the Grid Type , the color selection dialog will be displayed. This allows the grid color to be changed.

Selecting Grid Type

Use the Grid type drop down box to select the type of grid to be displayed on the graph. The following grid types are available:

- GRID_MAJOR - Grid lines are shown only for major axis values
- GRID_MINOR - Grid lines are shown only for minor axis values
- GRID_ALL - Grid lines are shown both for major and minor axis values
- GRID_NONE - No Grid lines are shown

Selecting Grid Size

Adjust the grid size by either typing a number in the Grid Size box, or using the up down arrows to adjust the grid size.

Selecting Grid Style

Use the Grid style drop down box to select the style of the grid to be displayed on the graph. The following grid styles are available:

- SOLID - Grid lines are solid lines
- DASH - Grid lines are dashes
- DASHDOT - Grid lines are alternating dashes and dots
- DASHDOTDOT - Grid lines are a dash followed by 2 dots
- DOT - Grid lines are dots

Selecting Histogram Color (Histogram only)

By Left Clicking on the histogram color box, the color selection dialog will be displayed. This allows the color of the Histogram bars to be changed.

Selecting Line Color (Channel vs Channel only)

By Left Clicking on the line color box, the color selection dialog will be displayed. This allows the color of the graph line to be changed.

Graph Channel Selection

To display the Graph Channel Selection screen, right click in the graph to bring up the context menu and select Setup->Channel Select. This will allow enabling or disabling any of the channels or math channels for the primary graph or any of the [overlays](#). The screen layout will depend on which type of graph is being used, [Line graph](#), [Channel vs Channel](#), or [Histogram](#)

Selecting Line Graph Channels

The dialog box is titled "DATASET CHANNELS" and "MATH CHANNELS". It is divided into three columns: DATASET 1, DATASET 2, and DATASET 3. Each column contains a list of channels with checkboxes: RPM, SPEED, THROTTLE, MAP, CHANNEL 4, CHANNEL 5, CHANNEL 6, and CHANNEL 7. Below each list are "Check All" and "Uncheck All" buttons. At the bottom are "OK" and "CANCEL" buttons.

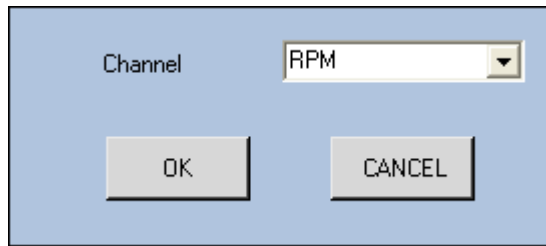
The line graph channel selection window, will expand depending on how many [overlays](#) (data sets) are open. To enable / disable math channels, select the Math Channels tab.

Selecting Channel vs Channel Channels

The dialog box has two dropdown menus: "X CHANNEL" with "RPM" selected and "Y CHANNEL" with "SPEED" selected. Below the dropdowns are "OK" and "CANCEL" buttons.

The channel vs channel selection window allows the X channel and Y channel to be selected by picking the channels from the drop down boxes.

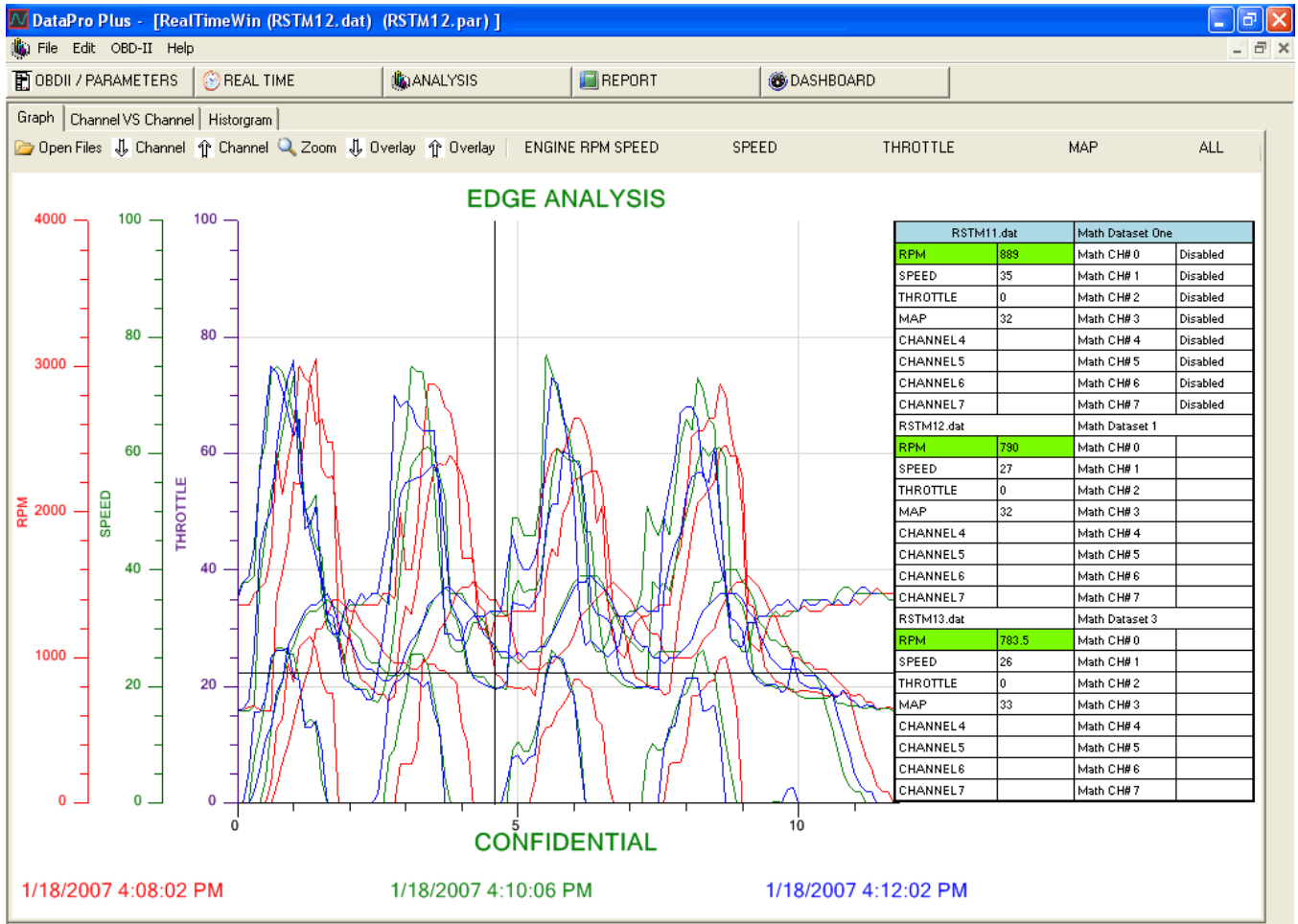
Selecting Histogram Channels



The Histogram selection window allows selection of the channel to be displayed by picking the channel from the drop down box.

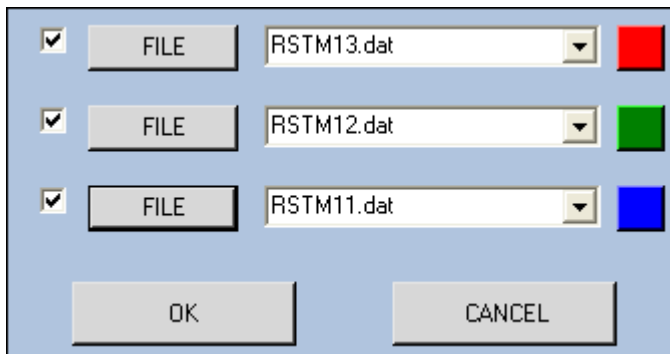
Overlays

Overlays allow the analysis of up to 3 data sets to be performed simultaneously. This allows a comparison between different data collection runs to evaluate the effectiveness of changes. Overlays are available on the [Graph Tab](#) of the Analysis Screen.



Adding Overlay Data

To add an overlay of a second or third data set to the original, right click in the graph to bring up the context menu and select Overlay->Select Overlay Files, or press Ctrl+y. This will bring up the overlay selection window which allows up to 3 data sets to be opened and the colors of the displayed sets to be picked. The Cursor callout box will automatically expand to display the channels of all the overlays.




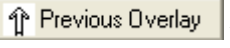
Left Clicking the mouse on one of the colored boxes brings up the color selection dialog which allows the user to change the color of the overlay. Left Clicking on the File Button brings up the open File Dialog, allowing the user to select a file to open as an Overlay.

Toggling the Overlay Data

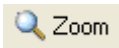
To hide the overlays and display the primary data set, right click in the graph to bring up the context menu and select Overlay->Hide Overlay.

To show hidden the overlays and display the primary data set, right click in the graph to bring up the context menu and select Overlay->Show Overlay.

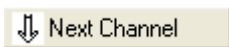
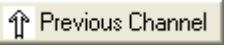
Changing the tracked Overlay

To change which overlay the mouse cursor tracks press either the Next Overlay Button  or the Previous Overlay Button  to cycle through the overlay to the desired one.

Zooming in on the Data

To enter Zoom Mode, press the Zoom Button . When in Zoom Mode selecting an area will cause the graph to zoom to that area. Right clicking the mouse button will undo the zooms one at a time. To leave the zoom Mode, press the zoom button again.

Changing the tracked channel

To have the cursors follow a different channel, use the Next Channel Button  or the Previous Channel Button  to cycle through the channels to the desired channel. The cursor will now track on the selected channel. The selected channel will have its cursor callout box highlighted in green if the channel is active, and in red if the channel is not active.

If there are more than 3 channels active, then the innermost axis will track the selected channel beginning with channel 4. The outer 2 axis will always display the first 2 channels.



The Report screen is accessed by pressing the Report Button  then selecting the Report tab.

The screenshot shows the 'Edge Analysis' software interface. The title bar reads 'Edge Analysis - [Report Window (RSTM13.dat) (RSTM13.par)]'. The menu bar includes 'File', 'Edit', 'OBD-II', and 'Help'. The main toolbar has buttons for 'OBDII / PARAMETERS', 'REAL TIME', 'ANALYSIS', 'REPORT', and 'DASHBOARD'. Below the toolbar, there are tabs for 'Report', 'Report Picture', and 'NOTES'. The 'Report' tab is active, displaying the date and time '1/18/2007 4:12:02 PM'. The main content area is titled 'EDGE ANALYSIS' and contains a table with the following data:

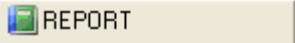
CHANNEL	MIN VALUE	MAX VALUE	AVERAGE	STAN DEV	USER DATA	USER DATA
RPM	634.2	3040.2	1365.9	621.49	USER DATA	USER DATA
SPEED	0	39	26.0	9.60	USER DATA	USER DATA
THROTTLE	0	26.6	7.3	9.19	USER DATA	USER DATA
MAP	25	75	43.0	14.58	USER DATA	USER DATA
CHANNEL 4	0	0	0	0	USER DATA	USER DATA
CHANNEL 5	0	0	0	0	USER DATA	USER DATA
CHANNEL 6	0	0	0	0	USER DATA	USER DATA
CHANNEL 7	0	0	0	0	USER DATA	USER DATA
MATH CHAN	MIN VALUE	MAX VALUE	AVERAGE	STAN DEV	USER DATA	USER DATA
Math CH# 0			0	0	USER DATA	USER DATA
Math CH# 1			0	0	USER DATA	USER DATA
Math CH# 2			0	0	USER DATA	USER DATA
Math CH# 3			0	0	USER DATA	USER DATA
Math CH# 4			0	0	USER DATA	USER DATA
Math CH# 5			0	0	USER DATA	USER DATA
Math CH# 6			0	0	USER DATA	USER DATA
Math CH# 7			0	0	USER DATA	USER DATA

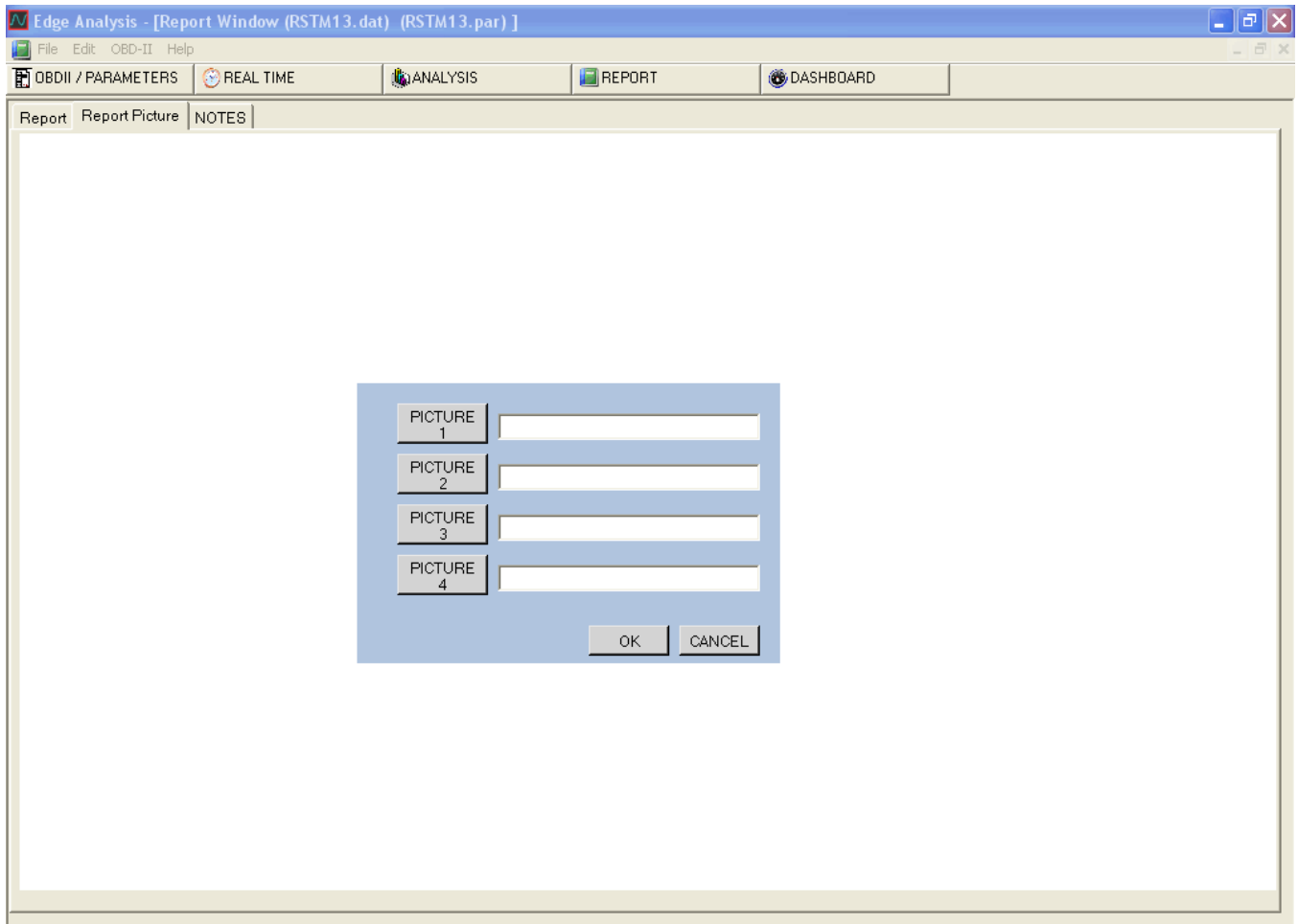
Below the table, the word 'CONFIDENTIAL' is displayed in large, bold, black letters.

Loading Data

To load data into the Report, right click in the graph to bring up the context menu and select Setup->Open Par/Data, [Select File->Open->Open Par/Data](#), or press Ctrl+o.

Report Picture

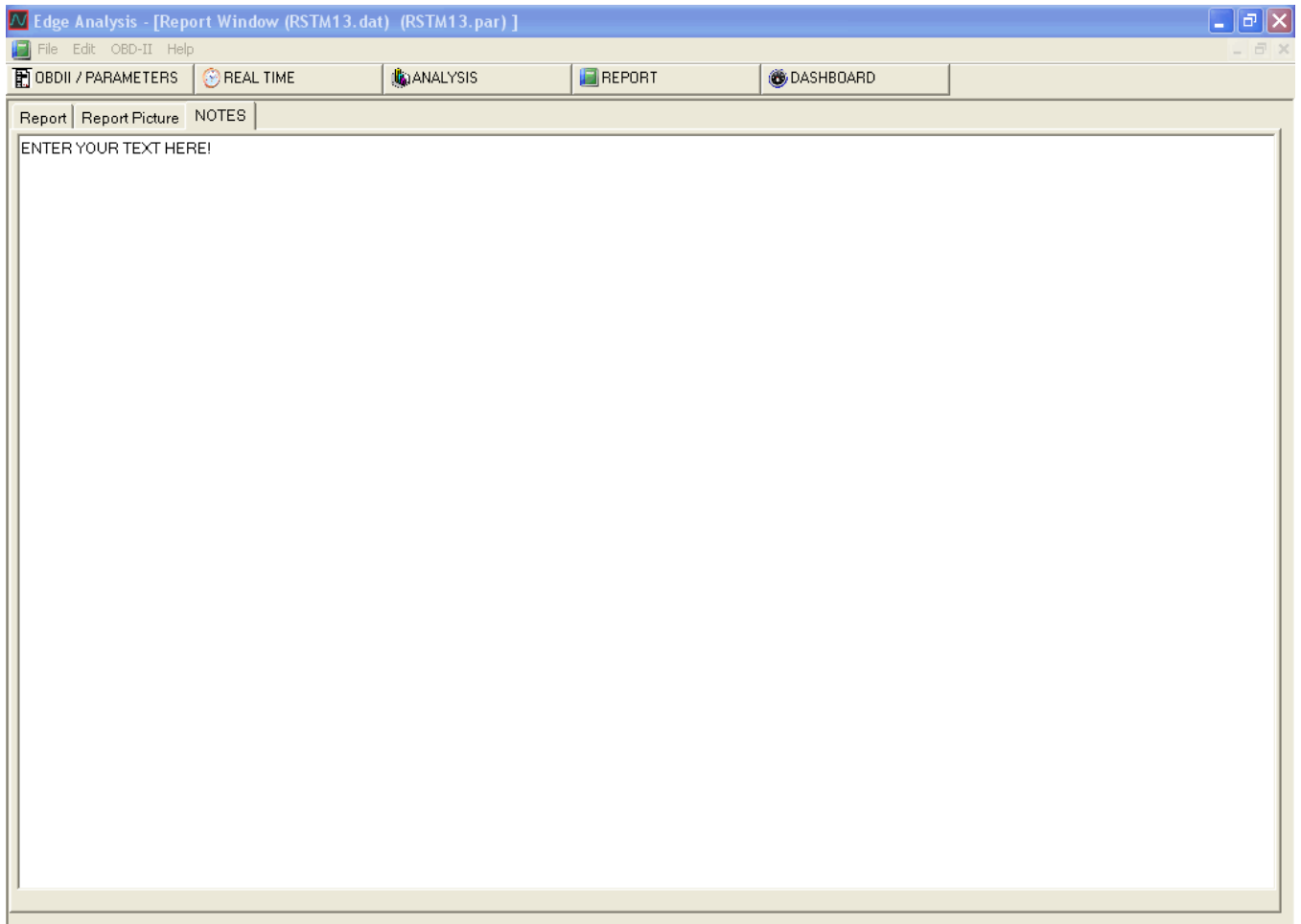
The Report Picture screen is accessed by pressing the Report Button  then selecting the Report Picture tab. The Report Picture tab is used to add jpeg pictures to the report.



Adding Pictures

To add a picture press one of number pictured buttons. In the open file dialog which is shown, navigate to the desired picture and add it. When all of desired pictures are added, press the OK button.

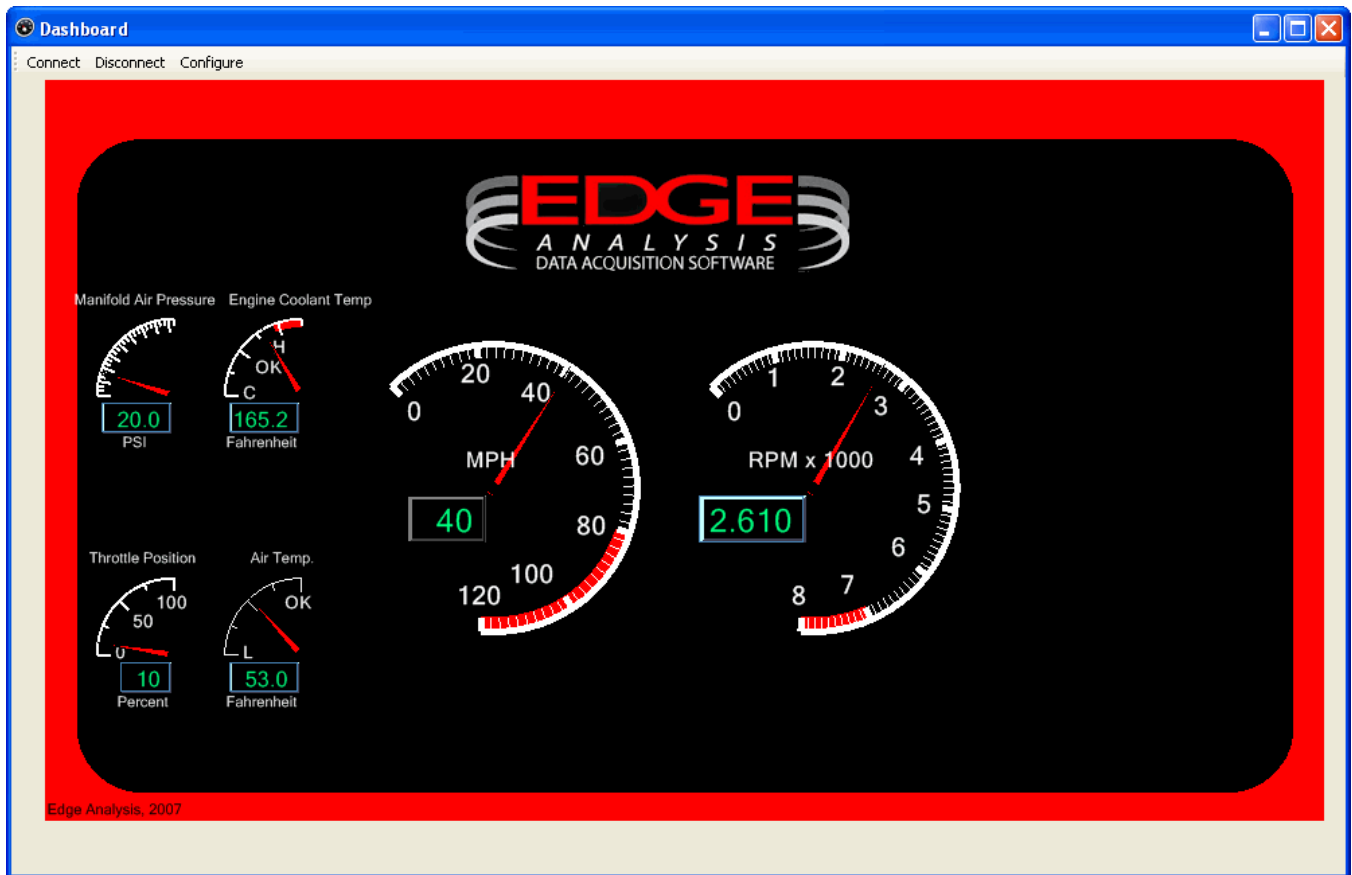
The Report Notes screen is accessed by pressing the Report Button  then selecting the NOTES tab.



Adding Notes

To add notes simply type the desired notes into the notes box.

The Dashboard screen is accessed by pressing the Dashboard Button .



To Connect

To connect, press the connect button

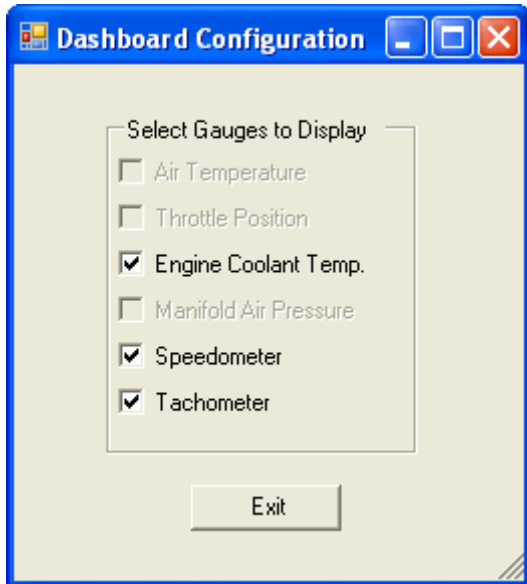
To Disconnect

To disconnect press the disconnect button

Configuration the Dashboard

Any of the supported gauges may be enabled or disabled. To change the gauges, click the configure button. This will bring up the [Dashboard Configuration](#) screen

The Dashboard Test Configuration screen is accessed by pressing Configure from the menu on the [Dashboard](#) screen. From this screen, the gauges to be active on the dashboard are configured.



Note: Only the supported gauges will be selectable. If no configuration file has been loaded and no validation has been performed, then none of the gauges will be active or selectable. To enable the supported gauges, exit out of the dashboard and perform a PID validation from the [Vehicle PID / OBDII Channel Setup Screen](#) by selecting the

Validate PIDs Button 

Follow the links below to jump to a specific section of table:

[Chassis Codes \(CXXXX\)](#) [Body Codes \(BXXXX\)](#) [Network Codes \(UXXXX\)](#)

Generic Powertrain Trouble Codes (P0xxx, P2xxx, P34xx - P39xx)

P0001	Fuel Volume Regulator Control Circuit/Open
P0002	Fuel Volume Regulator Control Circuit Range/Performance
P0003	Fuel Volume Regulator Control Circuit Low
P0004	Fuel Volume Regulator Control Circuit High
P0005	Fuel Shutoff Valve "A" Control Circuit/Open
P0006	Fuel Shutoff Valve "A" Control Circuit Low
P0007	Fuel Shutoff Valve "A" Control Circuit High
P0008	Engine Position System Performance
P0009	Engine Position System Performance
P0010	"A" Camshaft Position Actuator Circuit
P0011	"A" Camshaft Position - Timing Over-Advanced or System Performance
P0012	"A" Camshaft Position - Timing Over-Retarded
P0013	"B" Camshaft Position - Actuator Circuit
P0014	"B" Camshaft Position - Timing Over-Advanced or System Performance
P0015	"B" Camshaft Position - Timing Over-Retarded
P0016	Crankshaft Position - Camshaft Position Correlation
P0017	Crankshaft Position - Camshaft Position Correlation
P0018	Crankshaft Position - Camshaft Position Correlation
P0019	Crankshaft Position - Camshaft Position Correlation
P0020	"A" Camshaft Position Actuator Circuit
P0021	"A" Camshaft Position - Timing Over-Advanced or System Performance
P0022	"A" Camshaft Position - Timing Over-Retarded
P0023	"B" Camshaft Position - Actuator Circuit
P0024	"B" Camshaft Position - Timing Over-Advanced or System Performance
P0025	"B" Camshaft Position - Timing Over-Retarded
P0026	Intake Valve Control Solenoid Circuit Range/Performance
P0027	Exhaust Valve Control Solenoid Circuit Range/Performance
P0028	Intake Valve Control Solenoid Circuit Range/Performance
P0029	Exhaust Valve Control Solenoid Circuit Range/Performance
P0030	HO2S Heater Control Circuit
P0031	HO2S Heater Control Circuit Low

P0032	HO2S Heater Control Circuit High
P0033	Turbo Charger Bypass Valve Control Circuit
P0034	Turbo Charger Bypass Valve Control Circuit Low
P0035	Turbo Charger Bypass Valve Control Circuit High
P0036	HO2S Heater Control Circuit
P0037	HO2S Heater Control Circuit Low
P0038	HO2S Heater Control Circuit High
P0039	Turbo/Super Charger Bypass Valve Control Circuit Range/Performance
P0040	O2 Sensor Signals Swapped Bank 1 Sensor 1/ Bank 2 Sensor 1
P0041	O2 Sensor Signals Swapped Bank 1 Sensor 2/ Bank 2 Sensor 2
P0042	HO2S Heater Control Circuit
P0043	HO2S Heater Control Circuit Low
P0044	HO2S Heater Control Circuit High
P0045	Turbo/Super Charger Boost Control Solenoid Circuit/Open
P0046	Turbo/Super Charger Boost Control Solenoid Circuit Range/Performance
P0047	Turbo/Super Charger Boost Control Solenoid Circuit Low
P0048	Turbo/Super Charger Boost Control Solenoid Circuit High
P0049	Turbo/Super Charger Turbine Overspeed
P0050	HO2S Heater Control Circuit
P0051	HO2S Heater Control Circuit Low
P0052	HO2S Heater Control Circuit High
P0053	HO2S Heater Resistance
P0054	HO2S Heater Resistance
P0055	HO2S Heater Resistance
P0056	HO2S Heater Control Circuit
P0057	HO2S Heater Control Circuit Low
P0058	HO2S Heater Control Circuit High
P0059	HO2S Heater Resistance
P0060	HO2S Heater Resistance
P0061	HO2S Heater Resistance
P0062	HO2S Heater Control Circuit
P0063	HO2S Heater Control Circuit Low
P0064	HO2S Heater Control Circuit High
P0065	Air Assisted Injector Control Range/Performance
P0066	Air Assisted Injector Control Circuit or Circuit Low
P0067	Air Assisted Injector Control Circuit High
P0068	MAP/MAF - Throttle Position Correlation

P0069	Manifold Absolute Pressure - Barometric Pressure Correlation
P0070	Ambient Air Temperature Sensor Circuit
P0071	Ambient Air Temperature Sensor Range/Performance
P0072	Ambient Air Temperature Sensor Circuit Low
P0073	Ambient Air Temperature Sensor Circuit High
P0074	Ambient Air Temperature Sensor Circuit Intermittent
P0075	Intake Valve Control Solenoid Circuit
P0076	Intake Valve Control Solenoid Circuit Low
P0077	Intake Valve Control Solenoid Circuit High
P0078	Exhaust Valve Control Solenoid Circuit
P0079	Exhaust Valve Control Solenoid Circuit Low
P0080	Exhaust Valve Control Solenoid Circuit High
P0081	Intake Valve Control Solenoid Circuit
P0082	Intake Valve Control Solenoid Circuit Low
P0083	Intake Valve Control Solenoid Circuit High
P0084	Exhaust Valve Control Solenoid Circuit
P0085	Exhaust Valve Control Solenoid Circuit Low
P0086	Exhaust Valve Control Solenoid Circuit High
P0087	Fuel Rail/System Pressure - Too Low
P0088	Fuel Rail/System Pressure - Too High
P0089	Fuel Pressure Regulator 1 Performance
P0090	Fuel Pressure Regulator 1 Control Circuit
P0091	Fuel Pressure Regulator 1 Control Circuit Low
P0092	Fuel Pressure Regulator 1 Control Circuit High
P0093	Fuel System Leak Detected - Large Leak
P0094	Fuel System Leak Detected - Small Leak
P0095	Intake Air Temperature Sensor 2 Circuit
P0096	Intake Air Temperature Sensor 2 Circuit Range/Performance
P0097	Intake Air Temperature Sensor 2 Circuit Low
P0098	Intake Air Temperature Sensor 2 Circuit High
P0099	Intake Air Temperature Sensor 2 Circuit Intermittent/Erratic
P0100	Mass or Volume Air Flow Circuit
P0101	Mass or Volume Air Flow Circuit Range/Performance
P0102	Mass or Volume Air Flow Circuit Low Input
P0103	Mass or Volume Air Flow Circuit High Input
P0104	Mass or Volume Air Flow Circuit Intermittent
P0105	Manifold Absolute Pressure/Barometric Pressure Circuit

P0106	Manifold Absolute Pressure/Barometric Pressure Circuit Range/Performance
P0107	Manifold Absolute Pressure/Barometric Pressure Circuit Low Input
P0108	Manifold Absolute Pressure/Barometric Pressure Circuit High Input
P0109	Manifold Absolute Pressure/Barometric Pressure Circuit Intermittent
P0110	Intake Air Temperature Sensor 1 Circuit
P0111	Intake Air Temperature Sensor 1 Circuit Range/Performance
P0112	Intake Air Temperature Sensor 1 Circuit Low
P0113	Intake Air Temperature Sensor 1 Circuit High
P0114	Intake Air Temperature Sensor 1 Circuit Intermittent
P0115	Engine Coolant Temperature Circuit
P0116	Engine Coolant Temperature Circuit Range/Performance
P0117	Engine Coolant Temperature Circuit Low
P0118	Engine Coolant Temperature Circuit High
P0119	Engine Coolant Temperature Circuit Intermittent
P0120	Throttle/Pedal Position Sensor/Switch "A" Circuit
P0121	Throttle/Pedal Position Sensor/Switch "A" Circuit Range/Performance
P0122	Throttle/Pedal Position Sensor/Switch "A" Circuit Low
P0123	Throttle/Pedal Position Sensor/Switch "A" Circuit High
P0124	Throttle/Pedal Position Sensor/Switch "A" Circuit Intermittent
P0125	Insufficient Coolant Temperature for Closed Loop Fuel Control
P0126	Insufficient Coolant Temperature for Stable Operation
P0127	Intake Air Temperature Too High
P0128	Coolant Thermostat (Coolant Temperature Below Thermostat Regulating Temperature)
P0129	Barometric Pressure Too Low
P0130	O2 Sensor Circuit
P0131	O2 Sensor Circuit Low Voltage
P0132	O2 Sensor Circuit High Voltage
P0133	O2 Sensor Circuit Slow Response
P0134	O2 Sensor Circuit No Activity Detected
P0135	O2 Sensor Heater Circuit
P0136	O2 Sensor Circuit
P0137	O2 Sensor Circuit Low Voltage
P0138	O2 Sensor Circuit High Voltage
P0139	O2 Sensor Circuit Slow Response
P0140	O2 Sensor Circuit No Activity Detected
P0141	O2 Sensor Heater Circuit

P0142	O2 Sensor Circuit
P0143	O2 Sensor Circuit Low Voltage
P0144	O2 Sensor Circuit High Voltage
P0145	O2 Sensor Circuit Slow Response
P0146	O2 Sensor Circuit No Activity Detected
P0147	O2 Sensor Heater Circuit
P0148	Fuel Delivery Error
P0149	Fuel Timing Error
P0150	O2 Sensor Circuit
P0151	O2 Sensor Circuit Low Voltage
P0152	O2 Sensor Circuit High Voltage
P0153	O2 Sensor Circuit Slow Response
P0154	O2 Sensor Circuit No Activity Detected
P0155	O2 Sensor Heater Circuit
P0156	O2 Sensor Circuit
P0157	O2 Sensor Circuit Low Voltage
P0158	O2 Sensor Circuit High Voltage
P0159	O2 Sensor Circuit Slow Response
P0160	O2 Sensor Circuit No Activity Detected
P0161	O2 Sensor Heater Circuit
P0162	O2 Sensor Circuit
P0163	O2 Sensor Circuit Low Voltage
P0164	O2 Sensor Circuit High Voltage
P0165	O2 Sensor Circuit Slow Response
P0166	O2 Sensor Circuit No Activity Detected
P0167	O2 Sensor Heater Circuit
P0168	Fuel Temperature Too High
P0169	Incorrect Fuel Composition
P0170	Fuel Trim
P0171	System Too Lean
P0172	System Too Rich
P0173	Fuel Trim
P0174	System Too Lean
P0175	System Too Rich
P0176	Fuel Composition Sensor Circuit
P0177	Fuel Composition Sensor Circuit Range/Performance
P0178	Fuel Composition Sensor Circuit Low

P0179	Fuel Composition Sensor Circuit High
P0180	Fuel Temperature Sensor A Circuit
P0181	Fuel Temperature Sensor A Circuit Range/Performance
P0182	Fuel Temperature Sensor A Circuit Low
P0183	Fuel Temperature Sensor A Circuit High
P0184	Fuel Temperature Sensor A Circuit Intermittent
P0185	Fuel Temperature Sensor B Circuit
P0186	Fuel Temperature Sensor B Circuit Range/Performance
P0187	Fuel Temperature Sensor B Circuit Low
P0188	Fuel Temperature Sensor B Circuit High
P0189	Fuel Temperature Sensor B Circuit Intermittent
P0190	Fuel Rail Pressure Sensor Circuit
P0191	Fuel Rail Pressure Sensor Circuit Range/Performance
P0192	Fuel Rail Pressure Sensor Circuit Low
P0193	Fuel Rail Pressure Sensor Circuit High
P0194	Fuel Rail Pressure Sensor Circuit Intermittent
P0195	Engine Oil Temperature Sensor
P0196	Engine Oil Temperature Sensor Range/Performance
P0197	Engine Oil Temperature Sensor Low
P0198	Engine Oil Temperature Sensor High
P0199	Engine Oil Temperature Sensor Intermittent
P0200	Injector Circuit/Open
P0201	Injector Circuit/Open - Cylinder 1
P0202	Injector Circuit/Open - Cylinder 2
P0203	Injector Circuit/Open - Cylinder 3
P0204	Injector Circuit/Open - Cylinder 4
P0205	Injector Circuit/Open - Cylinder 5
P0206	Injector Circuit/Open - Cylinder 6
P0207	Injector Circuit/Open - Cylinder 7
P0208	Injector Circuit/Open - Cylinder 8
P0209	Injector Circuit/Open - Cylinder 9
P0210	Injector Circuit/Open - Cylinder 10
P0211	Injector Circuit/Open - Cylinder 11
P0212	Injector Circuit/Open - Cylinder 12
P0213	Cold Start Injector 1
P0214	Cold Start Injector 2
P0215	Engine Shutoff Solenoid

P0216	Injector/Injection Timing Control Circuit
P0217	Engine Coolant Over Temperature Condition
P0218	Transmission Fluid Over Temperature Condition
P0219	Engine Overspeed Condition
P0220	Throttle/Pedal Position Sensor/Switch "B" Circuit
P0221	Throttle/Pedal Position Sensor/Switch "B" Circuit Range/Performance
P0222	Throttle/Pedal Position Sensor/Switch "B" Circuit Low
P0223	Throttle/Pedal Position Sensor/Switch "B" Circuit High
P0224	Throttle/Pedal Position Sensor/Switch "B" Circuit Intermittent
P0225	Throttle/Pedal Position Sensor/Switch "C" Circuit
P0226	Throttle/Pedal Position Sensor/Switch "C" Circuit Range/Performance
P0227	Throttle/Pedal Position Sensor/Switch "C" Circuit Low
P0228	Throttle/Pedal Position Sensor/Switch "C" Circuit High
P0229	Throttle/Pedal Position Sensor/Switch "C" Circuit Intermittent
P0230	Fuel Pump Primary Circuit
P0231	Fuel Pump Secondary Circuit Low
P0232	Fuel Pump Secondary Circuit High
P0233	Fuel Pump Secondary Circuit Intermittent
P0234	Turbo/Super Charger Overboost Condition
P0235	Turbo/Super Charger Boost Sensor "A" Circuit
P0236	Turbo/Super Charger Boost Sensor "A" Circuit Range/Performance
P0237	Turbo/Super Charger Boost Sensor "A" Circuit Low
P0238	Turbo/Super Charger Boost Sensor "A" Circuit High
P0239	Turbo/Super Charger Boost Sensor "B" Circuit
P0240	Turbo/Super Charger Boost Sensor "B" Circuit Range/Performance
P0241	Turbo/Super Charger Boost Sensor "B" Circuit Low
P0242	Turbo/Super Charger Boost Sensor "B" Circuit High
P0243	Turbo/Super Charger Wastegate Solenoid "A"
P0244	Turbo/Super Charger Wastegate Solenoid "A" Range/Performance
P0245	Turbo/Super Charger Wastegate Solenoid "A" Low
P0246	Turbo/Super Charger Wastegate Solenoid "A" High
P0247	Turbo/Super Charger Wastegate Solenoid "B"
P0248	Turbo/Super Charger Wastegate Solenoid "B" Range/Performance
P0249	Turbo/Super Charger Wastegate Solenoid "B" Low
P0250	Turbo/Super Charger Wastegate Solenoid "B" High
P0251	Injection Pump Fuel Metering Control "A" (Cam/Rotor/Injector)
P0252	Injection Pump Fuel Metering Control "A" Range/Performance

	(Cam/Rotor/Injector)
P0253	Injection Pump Fuel Metering Control "A" Low (Cam/Rotor/Injector)
P0254	Injection Pump Fuel Metering Control "A" High (Cam/Rotor/Injector)
P0255	Injection Pump Fuel Metering Control "A" Intermittent (Cam/Rotor/Injector)
P0256	Injection Pump Fuel Metering Control "B" (Cam/Rotor/Injector)
P0257	Injection Pump Fuel Metering Control "B" Range/Performance (Cam/Rotor/Injector)
P0258	Injection Pump Fuel Metering Control "B" Low (Cam/Rotor/Injector)
P0259	Injection Pump Fuel Metering Control "B" High (Cam/Rotor/Injector)
P0260	Injection Pump Fuel Metering Control "B" Intermittent (Cam/Rotor/Injector)
P0261	Cylinder 1 Injector Circuit Low
P0262	Cylinder 1 Injector Circuit High
P0263	Cylinder 1 Contribution/Balance
P0264	Cylinder 2 Injector Circuit Low
P0265	Cylinder 2 Injector Circuit High
P0266	Cylinder 2 Contribution/Balance
P0267	Cylinder 3 Injector Circuit Low
P0268	Cylinder 3 Injector Circuit High
P0269	Cylinder 3 Contribution/Balance
P0270	Cylinder 4 Injector Circuit Low
P0271	Cylinder 4 Injector Circuit High
P0272	Cylinder 4 Contribution/Balance
P0273	Cylinder 5 Injector Circuit Low
P0274	Cylinder 5 Injector Circuit High
P0275	Cylinder 5 Contribution/Balance
P0276	Cylinder 6 Injector Circuit Low
P0277	Cylinder 6 Injector Circuit High
P0278	Cylinder 6 Contribution/Balance
P0279	Cylinder 7 Injector Circuit Low
P0280	Cylinder 7 Injector Circuit High
P0281	Cylinder 7 Contribution/Balance
P0282	Cylinder 8 Injector Circuit Low
P0283	Cylinder 8 Injector Circuit High
P0284	Cylinder 8 Contribution/Balance
P0285	Cylinder 9 Injector Circuit Low
P0286	Cylinder 9 Injector Circuit High
P0287	Cylinder 9 Contribution/Balance

P0288	Cylinder 10 Injector Circuit Low
P0289	Cylinder 10 Injector Circuit High
P0290	Cylinder 10 Contribution/Balance
P0291	Cylinder 11 Injector Circuit Low
P0292	Cylinder 11 Injector Circuit High
P0293	Cylinder 11 Contribution/Balance
P0294	Cylinder 12 Injector Circuit Low
P0295	Cylinder 12 Injector Circuit High
P0296	Cylinder 12 Contribution/Balance
P0297	Vehicle Overspeed Condition
P0298	Engine Oil Over Temperature
P0299	Turbo/Super Charger Underboost
P0300	Random/Multiple Cylinder Misfire Detected
P0301	Cylinder 1 Misfire Detected
P0302	Cylinder 2 Misfire Detected
P0303	Cylinder 3 Misfire Detected
P0304	Cylinder 4 Misfire Detected
P0305	Cylinder 5 Misfire Detected
P0306	Cylinder 6 Misfire Detected
P0307	Cylinder 7 Misfire Detected
P0308	Cylinder 8 Misfire Detected
P0309	Cylinder 9 Misfire Detected
P0310	Cylinder 10 Misfire Detected
P0311	Cylinder 11 Misfire Detected
P0312	Cylinder 12 Misfire Detected
P0313	Misfire Detected with Low Fuel
P0314	Single Cylinder Misfire (Cylinder not Specified)
P0315	Crankshaft Position System Variation Not Learned
P0316	Engine Misfire Detected on Startup (First 1000 Revolutions)
P0317	Rough Road Hardware Not Present
P0318	Rough Road Sensor "A" Signal Circuit
P0319	Rough Road Sensor "B"
P0320	Ignition/Distributor Engine Speed Input Circuit
P0321	Ignition/Distributor Engine Speed Input Circuit Range/Performance
P0322	Ignition/Distributor Engine Speed Input Circuit No Signal
P0323	Ignition/Distributor Engine Speed Input Circuit Intermittent
P0324	Knock Control System Error

P0325	Knock Sensor 1 Circuit
P0326	Knock Sensor 1 Circuit Range/Performance
P0327	Knock Sensor 1 Circuit Low
P0328	Knock Sensor 1 Circuit High
P0329	Knock Sensor 1 Circuit Input Intermittent
P0330	Knock Sensor 2 Circuit
P0331	Knock Sensor 2 Circuit Range/Performance
P0332	Knock Sensor 2 Circuit Low
P0333	Knock Sensor 2 Circuit High
P0334	Knock Sensor 2 Circuit Input Intermittent
P0335	Crankshaft Position Sensor "A" Circuit
P0336	Crankshaft Position Sensor "A" Circuit Range/Performance
P0337	Crankshaft Position Sensor "A" Circuit Low
P0338	Crankshaft Position Sensor "A" Circuit High
P0339	Crankshaft Position Sensor "A" Circuit Intermittent
P0340	Camshaft Position Sensor "A" Circuit
P0341	Camshaft Position Sensor "A" Circuit Range/Performance
P0342	Camshaft Position Sensor "A" Circuit Low
P0343	Camshaft Position Sensor "A" Circuit High
P0344	Camshaft Position Sensor "A" Circuit Intermittent
P0345	Camshaft Position Sensor "A" Circuit
P0346	Camshaft Position Sensor "A" Circuit Range/Performance
P0347	Camshaft Position Sensor "A" Circuit Low
P0348	Camshaft Position Sensor "A" Circuit High
P0349	Camshaft Position Sensor "A" Circuit Intermittent
P0350	Ignition Coil Primary/Secondary Circuit
P0351	Ignition Coil "A" Primary/Secondary Circuit
P0352	Ignition Coil "B" Primary/Secondary Circuit
P0353	Ignition Coil "C" Primary/Secondary Circuit
P0354	Ignition Coil "D" Primary/Secondary Circuit
P0355	Ignition Coil "E" Primary/Secondary Circuit
P0356	Ignition Coil "F" Primary/Secondary Circuit
P0357	Ignition Coil "G" Primary/Secondary Circuit
P0358	Ignition Coil "H" Primary/Secondary Circuit
P0359	Ignition Coil "I" Primary/Secondary Circuit
P0360	Ignition Coil "J" Primary/Secondary Circuit
P0361	Ignition Coil "K" Primary/Secondary Circuit

P0362	Ignition Coil "L" Primary/Secondary Circuit
P0363	Misfire Detected - Fueling Disabled
P0364	Reserved
P0365	Camshaft Position Sensor "B" Circuit
P0366	Camshaft Position Sensor "B" Circuit Range/Performance
P0367	Camshaft Position Sensor "B" Circuit Low
P0368	Camshaft Position Sensor "B" Circuit High
P0369	Camshaft Position Sensor "B" Circuit Intermittent
P0370	Timing Reference High Resolution Signal "A"
P0371	Timing Reference High Resolution Signal "A" Too Many Pulses
P0372	Timing Reference High Resolution Signal "A" Too Few Pulses
P0373	Timing Reference High Resolution Signal "A" Intermittent/Erratic Pulses
P0374	Timing Reference High Resolution Signal "A" No Pulse
P0375	Timing Reference High Resolution Signal "B"
P0376	Timing Reference High Resolution Signal "B" Too Many Pulses
P0377	Timing Reference High Resolution Signal "B" Too Few Pulses
P0378	Timing Reference High Resolution Signal "B" Intermittent/Erratic Pulses
P0379	Timing Reference High Resolution Signal "B" No Pulses
P0380	Glow Plug/Heater Circuit "A"
P0381	Glow Plug/Heater Indicator Circuit
P0382	Glow Plug/Heater Circuit "B"
P0383	Reserved by SAE J2012
P0384	Reserved by SAE J2012
P0385	Crankshaft Position Sensor "B" Circuit
P0386	Crankshaft Position Sensor "B" Circuit Range/Performance
P0387	Crankshaft Position Sensor "B" Circuit Low
P0388	Crankshaft Position Sensor "B" Circuit High
P0389	Crankshaft Position Sensor "B" Circuit Intermittent
P0390	Camshaft Position Sensor "B" Circuit
P0391	Camshaft Position Sensor "B" Circuit Range/Performance
P0392	Camshaft Position Sensor "B" Circuit Low
P0393	Camshaft Position Sensor "B" Circuit High
P0394	Camshaft Position Sensor "B" Circuit Intermittent
P0400	Exhaust Gas Recirculation Flow
P0401	Exhaust Gas Recirculation Flow Insufficient Detected
P0402	Exhaust Gas Recirculation Flow Excessive Detected
P0403	Exhaust Gas Recirculation Control Circuit

P0404	Exhaust Gas Recirculation Control Circuit Range/Performance
P0405	Exhaust Gas Recirculation Sensor "A" Circuit Low
P0406	Exhaust Gas Recirculation Sensor "A" Circuit High
P0407	Exhaust Gas Recirculation Sensor "B" Circuit Low
P0408	Exhaust Gas Recirculation Sensor "B" Circuit High
P0409	Exhaust Gas Recirculation Sensor "A" Circuit
P0410	Secondary Air Injection System
P0411	Secondary Air Injection System Incorrect Flow Detected
P0412	Secondary Air Injection System Switching Valve "A" Circuit
P0413	Secondary Air Injection System Switching Valve "A" Circuit Open
P0414	Secondary Air Injection System Switching Valve "A" Circuit Shorted
P0415	Secondary Air Injection System Switching Valve "B" Circuit
P0416	Secondary Air Injection System Switching Valve "B" Circuit Open
P0417	Secondary Air Injection System Switching Valve "B" Circuit Shorted
P0418	Secondary Air Injection System Control "A" Circuit
P0419	Secondary Air Injection System Control "B" Circuit
P0420	Catalyst System Efficiency Below Threshold
P0421	Warm Up Catalyst Efficiency Below Threshold
P0422	Main Catalyst Efficiency Below Threshold
P0423	Heated Catalyst Efficiency Below Threshold
P0424	Heated Catalyst Temperature Below Threshold
P0425	Catalyst Temperature Sensor
P0426	Catalyst Temperature Sensor Range/Performance
P0427	Catalyst Temperature Sensor Low
P0428	Catalyst Temperature Sensor High
P0429	Catalyst Heater Control Circuit
P0430	Catalyst System Efficiency Below Threshold
P0431	Warm Up Catalyst Efficiency Below Threshold
P0432	Main Catalyst Efficiency Below Threshold
P0433	Heated Catalyst Efficiency Below Threshold
P0434	Heated Catalyst Temperature Below Threshold
P0435	Catalyst Temperature Sensor
P0436	Catalyst Temperature Sensor Range/Performance
P0437	Catalyst Temperature Sensor Low
P0438	Catalyst Temperature Sensor High
P0439	Catalyst Heater Control Circuit
P0440	Evaporative Emission System

P0441	Evaporative Emission System Incorrect Purge Flow
P0442	Evaporative Emission System Leak Detected (small leak)
P0443	Evaporative Emission System Purge Control Valve Circuit
P0444	Evaporative Emission System Purge Control Valve Circuit Open
P0445	Evaporative Emission System Purge Control Valve Circuit Shorted
P0446	Evaporative Emission System Vent Control Circuit
P0447	Evaporative Emission System Vent Control Circuit Open
P0448	Evaporative Emission System Vent Control Circuit Shorted
P0449	Evaporative Emission System Vent Valve/Solenoid Circuit
P0450	Evaporative Emission System Pressure Sensor/Switch
P0451	Evaporative Emission System Pressure Sensor/Switch Range/Performance
P0452	Evaporative Emission System Pressure Sensor/Switch Low
P0453	Evaporative Emission System Pressure Sensor/Switch High
P0454	Evaporative Emission System Pressure Sensor/Switch Intermittent
P0455	Evaporative Emission System Leak Detected (large leak)
P0456	Evaporative Emission System Leak Detected (very small leak)
P0457	Evaporative Emission System Leak Detected (fuel cap loose/off)
P0458	Evaporative Emission System Purge Control Valve Circuit Low
P0459	Evaporative Emission System Purge Control Valve Circuit High
P0460	Fuel Level Sensor "A" Circuit
P0461	Fuel Level Sensor "A" Circuit Range/Performance
P0462	Fuel Level Sensor "A" Circuit Low
P0463	Fuel Level Sensor "A" Circuit High
P0464	Fuel Level Sensor "A" Circuit Intermittent
P0465	EVAP Purge Flow Sensor Circuit
P0466	EVAP Purge Flow Sensor Circuit Range/Performance
P0467	EVAP Purge Flow Sensor Circuit Low
P0468	EVAP Purge Flow Sensor Circuit High
P0469	EVAP Purge Flow Sensor Circuit Intermittent
P0470	Exhaust Pressure Sensor
P0471	Exhaust Pressure Sensor Range/Performance
P0472	Exhaust Pressure Sensor Low
P0473	Exhaust Pressure Sensor High
P0474	Exhaust Pressure Sensor Intermittent
P0475	Exhaust Pressure Control Valve
P0476	Exhaust Pressure Control Valve Range/Performance
P0477	Exhaust Pressure Control Valve Low

P0478	Exhaust Pressure Control Valve High
P0479	Exhaust Pressure Control Valve Intermittent
P0480	Fan 1 Control Circuit
P0481	Fan 2 Control Circuit
P0482	Fan 3 Control Circuit
P0483	Fan Rationality Check
P0484	Fan Circuit Over Current
P0485	Fan Power/Ground Circuit
P0486	Exhaust Gas Recirculation Sensor "B" Circuit
P0487	Exhaust Gas Recirculation Throttle Position Control Circuit
P0488	Exhaust Gas Recirculation Throttle Position Control Range/Performance
P0489	Exhaust Gas Recirculation Control Circuit Low
P0490	Exhaust Gas Recirculation Control Circuit High
P0491	Secondary Air Injection System Insufficient Flow
P0492	Secondary Air Injection System Insufficient Flow
P0493	Fan Overspeed
P0494	Fan Speed Low
P0495	Fan Speed High
P0496	Evaporative Emission System High Purge Flow
P0497	Evaporative Emission System Low Purge Flow
P0498	Evaporative Emission System Vent Valve Control Circuit Low
P0499	Evaporative Emission System Vent Valve Control Circuit High
P0500	Vehicle Speed Sensor "A"
P0501	Vehicle Speed Sensor "A" Range/Performance
P0502	Vehicle Speed Sensor "A" Circuit Low Input
P0503	Vehicle Speed Sensor "A" Intermittent/Erratic/High
P0504	Brake Switch "A"/"B" Correlation
P0505	Idle Air Control System
P0506	Idle Air Control System RPM Lower Than Expected
P0507	Idle Air Control System RPM Higher Than Expected
P0508	Idle Air Control System Circuit Low
P0509	Idle Air Control System Circuit High
P0510	Closed Throttle Position Switch
P0511	Idle Air Control Circuit
P0512	Starter Request Circuit
P0513	Incorrect Immobilizer Key
P0514	Battery Temperature Sensor Circuit Range/Performance

P0515	Battery Temperature Sensor Circuit
P0516	Battery Temperature Sensor Circuit Low
P0517	Battery Temperature Sensor Circuit High
P0518	Idle Air Control Circuit Intermittent
P0519	Idle Air Control System Performance
P0520	Engine Oil Pressure Sensor/Switch Circuit
P0521	Engine Oil Pressure Sensor/Switch Range/Performance
P0522	Engine Oil Pressure Sensor/Switch Low Voltage
P0523	Engine Oil Pressure Sensor/Switch High Voltage
P0524	Engine Oil Pressure Too Low
P0525	Cruise Control Servo Control Circuit Range/Performance
P0526	Fan Speed Sensor Circuit
P0527	Fan Speed Sensor Circuit Range/Performance
P0528	Fan Speed Sensor Circuit No Signal
P0529	Fan Speed Sensor Circuit Intermittent
P0530	A/C Refrigerant Pressure Sensor "A" Circuit
P0531	A/C Refrigerant Pressure Sensor "A" Circuit Range/Performance
P0532	A/C Refrigerant Pressure Sensor "A" Circuit Low
P0533	A/C Refrigerant Pressure Sensor "A" Circuit High
P0534	Air Conditioner Refrigerant Charge Loss
P0535	A/C Evaporator Temperature Sensor Circuit
P0536	A/C Evaporator Temperature Sensor Circuit Range/Performance
P0537	A/C Evaporator Temperature Sensor Circuit Low
P0538	A/C Evaporator Temperature Sensor Circuit High
P0539	A/C Evaporator Temperature Sensor Circuit Intermittent
P0540	Intake Air Heater "A" Circuit
P0541	Intake Air Heater "A" Circuit Low
P0542	Intake Air Heater "A" Circuit High
P0543	Intake Air Heater "A" Circuit Open
P0544	Exhaust Gas Temperature Sensor Circuit
P0545	Exhaust Gas Temperature Sensor Circuit Low
P0546	Exhaust Gas Temperature Sensor Circuit High
P0547	Exhaust Gas Temperature Sensor Circuit
P0548	Exhaust Gas Temperature Sensor Circuit Low
P0549	Exhaust Gas Temperature Sensor Circuit High
P0550	Power Steering Pressure Sensor/Switch Circuit
P0551	Power Steering Pressure Sensor/Switch Circuit Range/Performance

P0552	Power Steering Pressure Sensor/Switch Circuit Low Input
P0553	Power Steering Pressure Sensor/Switch Circuit High Input
P0554	Power Steering Pressure Sensor/Switch Circuit Intermittent
P0555	Brake Booster Pressure Sensor Circuit
P0556	Brake Booster Pressure Sensor Circuit Range/Performance
P0557	Brake Booster Pressure Sensor Circuit Low Input
P0558	Brake Booster Pressure Sensor Circuit High Input
P0559	Brake Booster Pressure Sensor Circuit Intermittent
P0560	System Voltage
P0561	System Voltage Unstable
P0562	System Voltage Low
P0563	System Voltage High
P0564	Cruise Control Multi-Function Input "A" Circuit
P0565	Cruise Control On Signal
P0566	Cruise Control Off Signal
P0567	Cruise Control Resume Signal
P0568	Cruise Control Set Signal
P0569	Cruise Control Coast Signal
P0570	Cruise Control Accelerate Signal
P0571	Brake Switch "A" Circuit
P0572	Brake Switch "A" Circuit Low
P0573	Brake Switch "A" Circuit High
P0574	Cruise Control System - Vehicle Speed Too High
P0575	Cruise Control Input Circuit
P0576	Cruise Control Input Circuit Low
P0577	Cruise Control Input Circuit High
P0578	Cruise Control Multi-Function Input "A" Circuit Stuck
P0579	Cruise Control Multi-Function Input "A" Circuit Range/Performance
P0580	Cruise Control Multi-Function Input "A" Circuit Low
P0581	Cruise Control Multi-Function Input "A" Circuit High
P0582	Cruise Control Vacuum Control Circuit/Open
P0583	Cruise Control Vacuum Control Circuit Low
P0584	Cruise Control Vacuum Control Circuit High
P0585	Cruise Control Multi-Function Input "A"/"B" Correlation
P0586	Cruise Control Vent Control Circuit/Open
P0587	Cruise Control Vent Control Circuit Low
P0588	Cruise Control Vent Control Circuit High

P0589	Cruise Control Multi-Function Input "B" Circuit
P0590	Cruise Control Multi-Function Input "B" Circuit Stuck
P0591	Cruise Control Multi-Function Input "B" Circuit Range/Performance
P0592	Cruise Control Multi-Function Input "B" Circuit Low
P0593	Cruise Control Multi-Function Input "B" Circuit High
P0594	Cruise Control Servo Control Circuit/Open
P0595	Cruise Control Servo Control Circuit Low
P0596	Cruise Control Servo Control Circuit High
P0597	Thermostat Heater Control Circuit/Open
P0598	Thermostat Heater Control Circuit Low
P0599	Thermostat Heater Control Circuit High
P0600	Serial Communication Link
P0601	Internal Control Module Memory Check Sum Error
P0602	Control Module Programming Error
P0603	Internal Control Module Keep Alive Memory (KAM) Error
P0604	Internal Control Module Random Access Memory (RAM) Error
P0605	Internal Control Module Read Only Memory (ROM) Error
P0606	ECM/PCM Processor
P0607	Control Module Performance
P0608	Control Module VSS Output "A"
P0609	Control Module VSS Output "B"
P0610	Control Module Vehicle Options Error
P0611	Fuel Injector Control Module Performance
P0612	Fuel Injector Control Module Relay Control
P0613	TCM Processor
P0614	ECM / TCM Incompatible
P0615	Starter Relay Circuit
P0616	Starter Relay Circuit Low
P0617	Starter Relay Circuit High
P0618	Alternative Fuel Control Module KAM Error
P0619	Alternative Fuel Control Module RAM/ROM Error
P0620	Generator Control Circuit
P0621	Generator Lamp/L Terminal Circuit
P0622	Generator Field/F Terminal Circuit
P0623	Generator Lamp Control Circuit
P0624	Fuel Cap Lamp Control Circuit
P0625	Generator Field/F Terminal Circuit Low

P0626	Generator Field/F Terminal Circuit High
P0627	Fuel Pump "A" Control Circuit /Open
P0628	Fuel Pump "A" Control Circuit Low
P0629	Fuel Pump "A" Control Circuit High
P0630	VIN Not Programmed or Incompatible - ECM/PCM
P0631	VIN Not Programmed or Incompatible - TCM
P0632	Odometer Not Programmed - ECM/PCM
P0633	Immobilizer Key Not Programmed - ECM/PCM
P0634	PCM/ECM/TCM Internal Temperature Too High
P0635	Power Steering Control Circuit
P0636	Power Steering Control Circuit Low
P0637	Power Steering Control Circuit High
P0638	Throttle Actuator Control Range/Performance
P0639	Throttle Actuator Control Range/Performance
P0640	Intake Air Heater Control Circuit
P0641	Sensor Reference Voltage "A" Circuit/Open
P0642	Sensor Reference Voltage "A" Circuit Low
P0643	Sensor Reference Voltage "A" Circuit High
P0644	Driver Display Serial Communication Circuit
P0645	A/C Clutch Relay Control Circuit
P0646	A/C Clutch Relay Control Circuit Low
P0647	A/C Clutch Relay Control Circuit High
P0648	Immobilizer Lamp Control Circuit
P0649	Speed Control Lamp Control Circuit
P0650	Malfunction Indicator Lamp (MIL) Control Circuit
P0651	Sensor Reference Voltage "B" Circuit/Open
P0652	Sensor Reference Voltage "B" Circuit Low
P0653	Sensor Reference Voltage "B" Circuit High
P0654	Engine RPM Output Circuit
P0655	Engine Hot Lamp Output Control Circuit
P0656	Fuel Level Output Circuit
P0657	Actuator Supply Voltage "A" Circuit/Open
P0658	Actuator Supply Voltage "A" Circuit Low
P0659	Actuator Supply Voltage "A" Circuit High
P0660	Intake Manifold Tuning Valve Control Circuit/Open
P0661	Intake Manifold Tuning Valve Control Circuit Low
P0662	Intake Manifold Tuning Valve Control Circuit High

P0663	Intake Manifold Tuning Valve Control Circuit/Open
P0664	Intake Manifold Tuning Valve Control Circuit Low
P0665	Intake Manifold Tuning Valve Control Circuit High
P0666	PCM/ECM/TCM Internal Temperature Sensor Circuit
P0667	PCM/ECM/TCM Internal Temperature Sensor Range/Performance
P0668	PCM/ECM/TCM Internal Temperature Sensor Circuit Low
P0669	PCM/ECM/TCM Internal Temperature Sensor Circuit High
P0670	Glow Plug Module Control Circuit
P0671	Cylinder 1 Glow Plug Circuit
P0672	Cylinder 2 Glow Plug Circuit
P0673	Cylinder 3 Glow Plug Circuit
P0674	Cylinder 4 Glow Plug Circuit
P0675	Cylinder 5 Glow Plug Circuit
P0676	Cylinder 6 Glow Plug Circuit
P0677	Cylinder 7 Glow Plug Circuit
P0678	Cylinder 8 Glow Plug Circuit
P0679	Cylinder 9 Glow Plug Circuit
P0680	Cylinder 10 Glow Plug Circuit
P0681	Cylinder 11 Glow Plug Circuit
P0682	Cylinder 12 Glow Plug Circuit
P0683	Glow Plug Control Module to PCM Communication Circuit
P0684	Glow Plug Control Module to PCM Communication Circuit Range/Performance
P0685	ECM/PCM Power Relay Control Circuit /Open
P0686	ECM/PCM Power Relay Control Circuit Low
P0687	ECM/PCM Power Relay Control Circuit High
P0688	ECM/PCM Power Relay Sense Circuit /Open
P0689	ECM/PCM Power Relay Sense Circuit Low
P0690	ECM/PCM Power Relay Sense Circuit High
P0691	Fan 1 Control Circuit Low
P0692	Fan 1 Control Circuit High
P0693	Fan 2 Control Circuit Low
P0694	Fan 2 Control Circuit High
P0695	Fan 3 Control Circuit Low
P0696	Fan 3 Control Circuit High
P0697	Sensor Reference Voltage "C" Circuit/Open
P0698	Sensor Reference Voltage "C" Circuit Low
P0699	Sensor Reference Voltage "C" Circuit High

P0700	Transmission Control System (MIL Request)
P0701	Transmission Control System Range/Performance
P0702	Transmission Control System Electrical
P0703	Brake Switch "B" Circuit
P0704	Clutch Switch Input Circuit Malfunction
P0705	Transmission Range Sensor Circuit Malfunction (PRNDL Input)
P0706	Transmission Range Sensor Circuit Range/Performance
P0707	Transmission Range Sensor Circuit Low
P0708	Transmission Range Sensor Circuit High
P0709	Transmission Range Sensor Circuit Intermittent
P0710	Transmission Fluid Temperature Sensor "A" Circuit
P0711	Transmission Fluid Temperature Sensor "A" Circuit Range/Performance
P0712	Transmission Fluid Temperature Sensor "A" Circuit Low
P0713	Transmission Fluid Temperature Sensor "A" Circuit High
P0714	Transmission Fluid Temperature Sensor "A" Circuit Intermittent
P0715	Input/Turbine Speed Sensor "A" Circuit
P0716	Input/Turbine Speed Sensor "A" Circuit Range/Performance
P0717	Input/Turbine Speed Sensor "A" Circuit No Signal
P0718	Input/Turbine Speed Sensor "A" Circuit Intermittent
P0719	Brake Switch "B" Circuit Low
P0720	Output Speed Sensor Circuit
P0721	Output Speed Sensor Circuit Range/Performance
P0722	Output Speed Sensor Circuit No Signal
P0723	Output Speed Sensor Circuit Intermittent
P0724	Brake Switch "B" Circuit High
P0725	Engine Speed Input Circuit
P0726	Engine Speed Input Circuit Range/Performance
P0727	Engine Speed Input Circuit No Signal
P0728	Engine Speed Input Circuit Intermittent
P0729	Gear 6 Incorrect Ratio
P0730	Incorrect Gear Ratio
P0731	Gear 1 Incorrect Ratio
P0732	Gear 2 Incorrect Ratio
P0733	Gear 3 Incorrect Ratio
P0734	Gear 4 Incorrect Ratio
P0735	Gear 5 Incorrect Ratio
P0736	Reverse Incorrect Ratio

P0737	TCM Engine Speed Output Circuit
P0738	TCM Engine Speed Output Circuit Low
P0739	TCM Engine Speed Output Circuit High
P0740	Torque Converter Clutch Circuit/Open
P0741	Torque Converter Clutch Circuit Performance or Stuck Off
P0742	Torque Converter Clutch Circuit Stuck On
P0743	Torque Converter Clutch Circuit Electrical
P0744	Torque Converter Clutch Circuit Intermittent
P0745	Pressure Control Solenoid "A"
P0746	Pressure Control Solenoid "A" Performance or Stuck Off
P0747	Pressure Control Solenoid "A" Stuck On
P0748	Pressure Control Solenoid "A" Electrical
P0749	Pressure Control Solenoid "A" Intermittent
P0750	Shift Solenoid "A"
P0751	Shift Solenoid "A" Performance or Stuck Off
P0752	Shift Solenoid "A" Stuck On
P0753	Shift Solenoid "A" Electrical
P0754	Shift Solenoid "A" Intermittent
P0755	Shift Solenoid "B"
P0756	Shift Solenoid "B" Performance or Stuck Off
P0757	Shift Solenoid "B" Stuck On
P0758	Shift Solenoid "B" Electrical
P0759	Shift Solenoid "B" Intermittent
P0760	Shift Solenoid "C"
P0761	Shift Solenoid "C" Performance or Stuck Off
P0762	Shift Solenoid "C" Stuck On
P0763	Shift Solenoid "C" Electrical
P0764	Shift Solenoid "C" Intermittent
P0765	Shift Solenoid "D"
P0766	Shift Solenoid "D" Performance or Stuck Off
P0767	Shift Solenoid "D" Stuck On
P0768	Shift Solenoid "D" Electrical
P0769	Shift Solenoid "D" Intermittent
P0770	Shift Solenoid "E"
P0771	Shift Solenoid "E" Performance or Stuck Off
P0772	Shift Solenoid "E" Stuck On
P0773	Shift Solenoid "E" Electrical

P0774	Shift Solenoid "E" Intermittent
P0775	Pressure Control Solenoid "B"
P0776	Pressure Control Solenoid "B" Performance or Stuck off
P0777	Pressure Control Solenoid "B" Stuck On
P0778	Pressure Control Solenoid "B" Electrical
P0779	Pressure Control Solenoid "B" Intermittent
P0780	Shift Error
P0781	1-2 Shift
P0782	2-3 Shift
P0783	3-4 Shift
P0784	4-5 Shift
P0785	Shift/Timing Solenoid
P0786	Shift/Timing Solenoid Range/Performance
P0787	Shift/Timing Solenoid Low
P0788	Shift/Timing Solenoid High
P0789	Shift/Timing Solenoid Intermittent
P0790	Normal/Performance Switch Circuit
P0791	Intermediate Shaft Speed Sensor "A" Circuit
P0792	Intermediate Shaft Speed Sensor "A" Circuit Range/Performance
P0793	Intermediate Shaft Speed Sensor "A" Circuit No Signal
P0794	Intermediate Shaft Speed Sensor "A" Circuit Intermittent
P0795	Pressure Control Solenoid "C"
P0796	Pressure Control Solenoid "C" Performance or Stuck off
P0797	Pressure Control Solenoid "C" Stuck On
P0798	Pressure Control Solenoid "C" Electrical
P0799	Pressure Control Solenoid "C" Intermittent
P0800	Transfer Case Control System (MIL Request)
P0801	Reverse Inhibit Control Circuit
P0802	Transmission Control System MIL Request Circuit/Open
P0803	1-4 Upshift (Skip Shift) Solenoid Control Circuit
P0804	1-4 Upshift (Skip Shift) Lamp Control Circuit
P0805	Clutch Position Sensor Circuit
P0806	Clutch Position Sensor Circuit Range/Performance
P0807	Clutch Position Sensor Circuit Low
P0808	Clutch Position Sensor Circuit High
P0809	Clutch Position Sensor Circuit Intermittent
P0810	Clutch Position Control Error

P0811	Excessive Clutch Slippage
P0812	Reverse Input Circuit
P0813	Reverse Output Circuit
P0814	Transmission Range Display Circuit
P0815	Upshift Switch Circuit
P0816	Downshift Switch Circuit
P0817	Starter Disable Circuit
P0818	Driveline Disconnect Switch Input Circuit
P0819	Up and Down Shift Switch to Transmission Range Correlation
P0820	Gear Lever X-Y Position Sensor Circuit
P0821	Gear Lever X Position Circuit
P0822	Gear Lever Y Position Circuit
P0823	Gear Lever X Position Circuit Intermittent
P0824	Gear Lever Y Position Circuit Intermittent
P0825	Gear Lever Push-Pull Switch (Shift Anticipate)
P0826	Up and Down Shift Switch Circuit
P0827	Up and Down Shift Switch Circuit Low
P0828	Up and Down Shift Switch Circuit High
P0829	5-6 Shift
P0830	Clutch Pedal Switch "A" Circuit
P0831	Clutch Pedal Switch "A" Circuit Low
P0832	Clutch Pedal Switch "A" Circuit High
P0833	Clutch Pedal Switch "B" Circuit
P0834	Clutch Pedal Switch "B" Circuit Low
P0835	Clutch Pedal Switch "B" Circuit High
P0836	Four Wheel Drive (4WD) Switch Circuit
P0837	Four Wheel Drive (4WD) Switch Circuit Range/Performance
P0838	Four Wheel Drive (4WD) Switch Circuit Low
P0839	Four Wheel Drive (4WD) Switch Circuit High
P0840	Transmission Fluid Pressure Sensor/Switch "A" Circuit
P0841	Transmission Fluid Pressure Sensor/Switch "A" Circuit Range/Performance
P0842	Transmission Fluid Pressure Sensor/Switch "A" Circuit Low
P0843	Transmission Fluid Pressure Sensor/Switch "A" Circuit High
P0844	Transmission Fluid Pressure Sensor/Switch "A" Circuit Intermittent
P0845	Transmission Fluid Pressure Sensor/Switch "B" Circuit
P0846	Transmission Fluid Pressure Sensor/Switch "B" Circuit Range/Performance
P0847	Transmission Fluid Pressure Sensor/Switch "B" Circuit Low

P0848	Transmission Fluid Pressure Sensor/Switch "B" Circuit High
P0849	Transmission Fluid Pressure Sensor/Switch "B" Circuit Intermittent
P0850	Park/Neutral Switch Input Circuit
P0851	Park/Neutral Switch Input Circuit Low
P0852	Park/Neutral Switch Input Circuit High
P0853	Drive Switch Input Circuit
P0854	Drive Switch Input Circuit Low
P0855	Drive Switch Input Circuit High
P0856	Traction Control Input Signal
P0857	Traction Control Input Signal Range/Performance
P0858	Traction Control Input Signal Low
P0859	Traction Control Input Signal High
P0860	Gear Shift Module Communication Circuit
P0861	Gear Shift Module Communication Circuit Low
P0862	Gear Shift Module Communication Circuit High
P0863	TCM Communication Circuit
P0864	TCM Communication Circuit Range/Performance
P0865	TCM Communication Circuit Low
P0866	TCM Communication Circuit High
P0867	Transmission Fluid Pressure
P0868	Transmission Fluid Pressure Low
P0869	Transmission Fluid Pressure High
P0870	Transmission Fluid Pressure Sensor/Switch "C" Circuit
P0871	Transmission Fluid Pressure Sensor/Switch "C" Circuit Range/Performance
P0872	Transmission Fluid Pressure Sensor/Switch "C" Circuit Low
P0873	Transmission Fluid Pressure Sensor/Switch "C" Circuit High
P0874	Transmission Fluid Pressure Sensor/Switch "C" Circuit Intermittent
P0875	Transmission Fluid Pressure Sensor/Switch "D" Circuit
P0876	Transmission Fluid Pressure Sensor/Switch "D" Circuit Range/Performance
P0877	Transmission Fluid Pressure Sensor/Switch "D" Circuit Low
P0878	Transmission Fluid Pressure Sensor/Switch "D" Circuit High
P0879	Transmission Fluid Pressure Sensor/Switch "D" Circuit Intermittent
P0880	TCM Power Input Signal
P0881	TCM Power Input Signal Range/Performance
P0882	TCM Power Input Signal Low
P0883	TCM Power Input Signal High
P0884	TCM Power Input Signal Intermittent

P0885	TCM Power Relay Control Circuit/Open
P0886	TCM Power Relay Control Circuit Low
P0887	TCM Power Relay Control Circuit High
P0888	TCM Power Relay Sense Circuit
P0889	TCM Power Relay Sense Circuit Range/Performance
P0890	TCM Power Relay Sense Circuit Low
P0891	TCM Power Relay Sense Circuit High
P0892	TCM Power Relay Sense Circuit Intermittent
P0893	Multiple Gears Engaged
P0894	Transmission Component Slipping
P0895	Shift Time Too Short
P0896	Shift Time Too Long
P0897	Transmission Fluid Deteriorated
P0898	Transmission Control System MIL Request Circuit Low
P0899	Transmission Control System MIL Request Circuit High
P0900	Clutch Actuator Circuit/Open
P0901	Clutch Actuator Circuit Range/Performance
P0902	Clutch Actuator Circuit Low
P0903	Clutch Actuator Circuit High
P0904	Gate Select Position Circuit
P0905	Gate Select Position Circuit Range/Performance
P0906	Gate Select Position Circuit Low
P0907	Gate Select Position Circuit High
P0908	Gate Select Position Circuit Intermittent
P0909	Gate Select Control Error
P0910	Gate Select Actuator Circuit/Open
P0911	Gate Select Actuator Circuit Range/Performance
P0912	Gate Select Actuator Circuit Low
P0913	Gate Select Actuator Circuit High
P0914	Gear Shift Position Circuit
P0915	Gear Shift Position Circuit Range/Performance
P0916	Gear Shift Position Circuit Low
P0917	Gear Shift Position Circuit High
P0918	Gear Shift Position Circuit Intermittent
P0919	Gear Shift Position Control Error
P0920	Gear Shift Forward Actuator Circuit/Open
P0921	Gear Shift Forward Actuator Circuit Range/Performance

P0922	Gear Shift Forward Actuator Circuit Low
P0923	Gear Shift Forward Actuator Circuit High
P0924	Gear Shift Reverse Actuator Circuit/Open
P0925	Gear Shift Reverse Actuator Circuit Range/Performance
P0926	Gear Shift Reverse Actuator Circuit Low
P0927	Gear Shift Reverse Actuator Circuit High
P0928	Gear Shift Lock Solenoid Control Circuit/Open
P0929	Gear Shift Lock Solenoid Control Circuit Range/Performance
P0930	Gear Shift Lock Solenoid Control Circuit Low
P0931	Gear Shift Lock Solenoid Control Circuit High
P0932	Hydraulic Pressure Sensor Circuit
P0933	Hydraulic Pressure Sensor Range/Performance
P0934	Hydraulic Pressure Sensor Circuit Low
P0935	Hydraulic Pressure Sensor Circuit High
P0936	Hydraulic Pressure Sensor Circuit Intermittent
P0937	Hydraulic Oil Temperature Sensor Circuit
P0938	Hydraulic Oil Temperature Sensor Range/Performance
P0939	Hydraulic Oil Temperature Sensor Circuit Low
P0940	Hydraulic Oil Temperature Sensor Circuit High
P0941	Hydraulic Oil Temperature Sensor Circuit Intermittent
P0942	Hydraulic Pressure Unit
P0943	Hydraulic Pressure Unit Cycling Period Too Short
P0944	Hydraulic Pressure Unit Loss of Pressure
P0945	Hydraulic Pump Relay Circuit/Open
P0946	Hydraulic Pump Relay Circuit Range/Performance
P0947	Hydraulic Pump Relay Circuit Low
P0948	Hydraulic Pump Relay Circuit High
P0949	Auto Shift Manual Adaptive Learning Not Complete
P0950	Auto Shift Manual Control Circuit
P0951	Auto Shift Manual Control Circuit Range/Performance
P0952	Auto Shift Manual Control Circuit Low
P0953	Auto Shift Manual Control Circuit High
P0954	Auto Shift Manual Control Circuit Intermittent
P0955	Auto Shift Manual Mode Circuit
P0956	Auto Shift Manual Mode Circuit Range/Performance
P0957	Auto Shift Manual Mode Circuit Low
P0958	Auto Shift Manual Mode Circuit High

P0959	Auto Shift Manual Mode Circuit Intermittent
P0960	Pressure Control Solenoid "A" Control Circuit/Open
P0961	Pressure Control Solenoid "A" Control Circuit Range/Performance
P0962	Pressure Control Solenoid "A" Control Circuit Low
P0963	Pressure Control Solenoid "A" Control Circuit High
P0964	Pressure Control Solenoid "B" Control Circuit/Open
P0965	Pressure Control Solenoid "B" Control Circuit Range/Performance
P0966	Pressure Control Solenoid "B" Control Circuit Low
P0967	Pressure Control Solenoid "B" Control Circuit High
P0968	Pressure Control Solenoid "C" Control Circuit/Open
P0969	Pressure Control Solenoid "C" Control Circuit Range/Performance
P0970	Pressure Control Solenoid "C" Control Circuit Low
P0971	Pressure Control Solenoid "C" Control Circuit High
P0972	Shift Solenoid "A" Control Circuit Range/Performance
P0973	Shift Solenoid "A" Control Circuit Low
P0974	Shift Solenoid "A" Control Circuit High
P0975	Shift Solenoid "B" Control Circuit Range/Performance
P0976	Shift Solenoid "B" Control Circuit Low
P0977	Shift Solenoid "B" Control Circuit High
P0978	Shift Solenoid "C" Control Circuit Range/Performance
P0979	Shift Solenoid "C" Control Circuit Low
P0980	Shift Solenoid "C" Control Circuit High
P0981	Shift Solenoid "D" Control Circuit Range/Performance
P0982	Shift Solenoid "D" Control Circuit Low
P0983	Shift Solenoid "D" Control Circuit High
P0984	Shift Solenoid "E" Control Circuit Range/Performance
P0985	Shift Solenoid "E" Control Circuit Low
P0986	Shift Solenoid "E" Control Circuit High
P0987	Transmission Fluid Pressure Sensor/Switch "E" Circuit
P0988	Transmission Fluid Pressure Sensor/Switch "E" Circuit Range/Performance
P0989	Transmission Fluid Pressure Sensor/Switch "E" Circuit Low
P0990	Transmission Fluid Pressure Sensor/Switch "E" Circuit High
P0991	Transmission Fluid Pressure Sensor/Switch "E" Circuit Intermittent
P0992	Transmission Fluid Pressure Sensor/Switch "F" Circuit
P0993	Transmission Fluid Pressure Sensor/Switch "F" Circuit Range/Performance
P0994	Transmission Fluid Pressure Sensor/Switch "F" Circuit Low
P0995	Transmission Fluid Pressure Sensor/Switch "F" Circuit High

P0996	Transmission Fluid Pressure Sensor/Switch "F" Circuit Intermittent
P0997	Shift Solenoid "F" Control Circuit Range/Performance
P0998	Shift Solenoid "F" Control Circuit Low
P0999	Shift Solenoid "F" Control Circuit High
P0A00	Motor Electronics Coolant Temperature Sensor Circuit
P0A01	Motor Electronics Coolant Temperature Sensor Circuit Range/Performance
P0A02	Motor Electronics Coolant Temperature Sensor Circuit Low
P0A03	Motor Electronics Coolant Temperature Sensor Circuit High
P0A04	Motor Electronics Coolant Temperature Sensor Circuit Intermittent
P0A05	Motor Electronics Coolant Pump Control Circuit/Open
P0A06	Motor Electronics Coolant Pump Control Circuit Low
P0A07	Motor Electronics Coolant Pump Control Circuit High
P0A08	DC/DC Converter Status Circuit
P0A09	DC/DC Converter Status Circuit Low Input
P0A10	DC/DC Converter Status Circuit High Input
P0A11	DC/DC Converter Enable Circuit/Open
P0A12	DC/DC Converter Enable Circuit Low
P0A13	DC/DC Converter Enable Circuit High
P0A14	Engine Mount Control Circuit/Open
P0A15	Engine Mount Control Circuit Low
P0A16	Engine Mount Control Circuit High
P0A17	Motor Torque Sensor Circuit
P0A18	Motor Torque Sensor Circuit Range/Performance
P0A19	Motor Torque Sensor Circuit Low
P0A20	Motor Torque Sensor Circuit High
P0A21	Motor Torque Sensor Circuit Intermittent
P0A22	Generator Torque Sensor Circuit
P0A23	Generator Torque Sensor Circuit Range/Performance
P0A24	Generator Torque Sensor Circuit Low
P0A25	Generator Torque Sensor Circuit High
P0A26	Generator Torque Sensor Circuit Intermittent
P0A27	Battery Power Off Circuit
P0A28	Battery Power Off Circuit Low
P0A29	Battery Power Off Circuit High
P2000	NOx Trap Efficiency Below Threshold
P2001	NOx Trap Efficiency Below Threshold
P2002	Particulate Trap Efficiency Below Threshold

P2003	Particulate Trap Efficiency Below Threshold
P2004	Intake Manifold Runner Control Stuck Open
P2005	Intake Manifold Runner Control Stuck Open
P2006	Intake Manifold Runner Control Stuck Closed
P2007	Intake Manifold Runner Control Stuck Closed
P2008	Intake Manifold Runner Control Circuit/Open
P2009	Intake Manifold Runner Control Circuit Low
P2010	Intake Manifold Runner Control Circuit High
P2011	Intake Manifold Runner Control Circuit/Open
P2012	Intake Manifold Runner Control Circuit Low
P2013	Intake Manifold Runner Control Circuit High
P2014	Intake Manifold Runner Position Sensor/Switch Circuit
P2015	Intake Manifold Runner Position Sensor/Switch Circuit Range/Performance
P2016	Intake Manifold Runner Position Sensor/Switch Circuit Low
P2017	Intake Manifold Runner Position Sensor/Switch Circuit High
P2018	Intake Manifold Runner Position Sensor/Switch Circuit Intermittent
P2019	Intake Manifold Runner Position Sensor/Switch Circuit
P2020	Intake Manifold Runner Position Sensor/Switch Circuit Range/Performance
P2021	Intake Manifold Runner Position Sensor/Switch Circuit Low
P2022	Intake Manifold Runner Position Sensor/Switch Circuit High
P2023	Intake Manifold Runner Position Sensor/Switch Circuit Intermittent
P2024	Evaporative Emissions (EVAP) Fuel Vapor Temperature Sensor Circuit
P2025	Evaporative Emissions (EVAP) Fuel Vapor Temperature Sensor Performance
P2026	Evaporative Emissions (EVAP) Fuel Vapor Temperature Sensor Circuit Low Voltage
P2027	Evaporative Emissions (EVAP) Fuel Vapor Temperature Sensor Circuit High Voltage
P2028	Evaporative Emissions (EVAP) Fuel Vapor Temperature Sensor Circuit Intermittent
P2029	Fuel Fired Heater Disabled
P2030	Fuel Fired Heater Performance
P2031	Exhaust Gas Temperature Sensor Circuit
P2032	Exhaust Gas Temperature Sensor Circuit Low
P2033	Exhaust Gas Temperature Sensor Circuit High
P2034	Exhaust Gas Temperature Sensor Circuit
P2035	Exhaust Gas Temperature Sensor Circuit Low
P2036	Exhaust Gas Temperature Sensor Circuit High
P2037	Reductant Injection Air Pressure Sensor Circuit
P2038	Reductant Injection Air Pressure Sensor Circuit Range/Performance
P2039	Reductant Injection Air Pressure Sensor Circuit Low Input

P2040	Reductant Injection Air Pressure Sensor Circuit High Input
P2041	Reductant Injection Air Pressure Sensor Circuit Intermittent
P2042	Reductant Temperature Sensor Circuit
P2043	Reductant Temperature Sensor Circuit Range/Performance
P2044	Reductant Temperature Sensor Circuit Low Input
P2045	Reductant Temperature Sensor Circuit High Input
P2046	Reductant Temperature Sensor Circuit Intermittent
P2047	Reductant Injector Circuit/Open
P2048	Reductant Injector Circuit Low
P2049	Reductant Injector Circuit High
P2050	Reductant Injector Circuit/Open
P2051	Reductant Injector Circuit Low
P2052	Reductant Injector Circuit High
P2053	Reductant Injector Circuit/Open
P2054	Reductant Injector Circuit Low
P2055	Reductant Injector Circuit High
P2056	Reductant Injector Circuit/Open
P2057	Reductant Injector Circuit Low
P2058	Reductant Injector Circuit High
P2059	Reductant Injection Air Pump Control Circuit/Open
P2060	Reductant Injection Air Pump Control Circuit Low
P2061	Reductant Injection Air Pump Control Circuit High
P2062	Reductant Supply Control Circuit/Open
P2063	Reductant Supply Control Circuit Low
P2064	Reductant Supply Control Circuit High
P2065	Fuel Level Sensor "B" Circuit
P2066	Fuel Level Sensor "B" Performance
P2067	Fuel Level Sensor "B" Circuit Low
P2068	Fuel Level Sensor "B" Circuit High
P2069	Fuel Level Sensor "B" Circuit Intermittent
P2070	Intake Manifold Tuning (IMT) Valve Stuck Open
P2071	Intake Manifold Tuning (IMT) Valve Stuck Closed
P2075	Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit
P2076	Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit Range/Performance
P2077	Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit Low
P2078	Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit High

P2079	Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit Intermittent
P2080	Exhaust Gas Temperature Sensor Circuit Range/Performance
P2081	Exhaust Gas Temperature Sensor Circuit Intermittent
P2082	Exhaust Gas Temperature Sensor Circuit Range/Performance
P2083	Exhaust Gas Temperature Sensor Circuit Intermittent
P2084	Exhaust Gas Temperature Sensor Circuit Range/Performance
P2085	Exhaust Gas Temperature Sensor Circuit Intermittent
P2086	Exhaust Gas Temperature Sensor Circuit Range/Performance
P2087	Exhaust Gas Temperature Sensor Circuit Intermittent
P2088	"A" Camshaft Position Actuator Control Circuit Low
P2089	"A" Camshaft Position Actuator Control Circuit High
P2090	"B" Camshaft Position Actuator Control Circuit Low
P2091	"B" Camshaft Position Actuator Control Circuit High
P2092	"A" Camshaft Position Actuator Control Circuit Low
P2093	"A" Camshaft Position Actuator Control Circuit High
P2094	"B" Camshaft Position Actuator Control Circuit Low
P2095	"B" Camshaft Position Actuator Control Circuit High
P2096	Post Catalyst Fuel Trim System Too Lean
P2097	Post Catalyst Fuel Trim System Too Rich
P2098	Post Catalyst Fuel Trim System Too Lean
P2099	Post Catalyst Fuel Trim System Too Rich
P2100	Throttle Actuator Control Motor Circuit/Open
P2101	Throttle Actuator Control Motor Circuit Range/Performance
P2102	Throttle Actuator Control Motor Circuit Low
P2103	Throttle Actuator Control Motor Circuit High
P2104	Throttle Actuator Control System - Forced Idle
P2105	Throttle Actuator Control System - Forced Engine Shutdown
P2106	Throttle Actuator Control System - Forced Limited Power
P2107	Throttle Actuator Control Module Processor
P2108	Throttle Actuator Control Module Performance
P2109	Throttle/Pedal Position Sensor "A" Minimum Stop Performance
P2110	Throttle Actuator Control System - Forced Limited RPM
P2111	Throttle Actuator Control System - Stuck Open
P2112	Throttle Actuator Control System - Stuck Closed
P2113	Throttle/Pedal Position Sensor "B" Minimum Stop Performance
P2114	Throttle/Pedal Position Sensor "C" Minimum Stop Performance
P2115	Throttle/Pedal Position Sensor "D" Minimum Stop Performance

P2116	Throttle/Pedal Position Sensor "E" Minimum Stop Performance
P2117	Throttle/Pedal Position Sensor "F" Minimum Stop Performance
P2118	Throttle Actuator Control Motor Current Range/Performance
P2119	Throttle Actuator Control Throttle Body Range/Performance
P2120	Throttle/Pedal Position Sensor/Switch "D" Circuit
P2121	Throttle/Pedal Position Sensor/Switch "D" Circuit Range/Performance
P2122	Throttle/Pedal Position Sensor/Switch "D" Circuit Low Input
P2123	Throttle/Pedal Position Sensor/Switch "D" Circuit High Input
P2124	Throttle/Pedal Position Sensor/Switch "D" Circuit Intermittent
P2125	Throttle/Pedal Position Sensor/Switch "E" Circuit
P2126	Throttle/Pedal Position Sensor/Switch "E" Circuit Range/Performance
P2127	Throttle/Pedal Position Sensor/Switch "E" Circuit Low Input
P2128	Throttle/Pedal Position Sensor/Switch "E" Circuit High Input
P2129	Throttle/Pedal Position Sensor/Switch "E" Circuit Intermittent
P2130	Throttle/Pedal Position Sensor/Switch "F" Circuit
P2131	Throttle/Pedal Position Sensor/Switch "F" Circuit Range Performance
P2132	Throttle/Pedal Position Sensor/Switch "F" Circuit Low Input
P2133	Throttle/Pedal Position Sensor/Switch "F" Circuit High Input
P2134	Throttle/Pedal Position Sensor/Switch "F" Circuit Intermittent
P2135	Throttle/Pedal Position Sensor/Switch "A" / "B" Voltage Correlation
P2136	Throttle/Pedal Position Sensor/Switch "A" / "C" Voltage Correlation
P2137	Throttle/Pedal Position Sensor/Switch "B" / "C" Voltage Correlation
P2138	Throttle/Pedal Position Sensor/Switch "D" / "E" Voltage Correlation
P2139	Throttle/Pedal Position Sensor/Switch "D" / "F" Voltage Correlation
P2140	Throttle/Pedal Position Sensor/Switch "E" / "F" Voltage Correlation
P2141	Exhaust Gas Recirculation Throttle Control Circuit Low
P2142	Exhaust Gas Recirculation Throttle Control Circuit High
P2143	Exhaust Gas Recirculation Vent Control Circuit/Open
P2144	Exhaust Gas Recirculation Vent Control Circuit Low
P2145	Exhaust Gas Recirculation Vent Control Circuit High
P2146	Fuel Injector Group "A" Supply Voltage Circuit/Open
P2147	Fuel Injector Group "A" Supply Voltage Circuit Low
P2148	Fuel Injector Group "A" Supply Voltage Circuit High
P2149	Fuel Injector Group "B" Supply Voltage Circuit/Open
P2150	Fuel Injector Group "B" Supply Voltage Circuit Low
P2151	Fuel Injector Group "B" Supply Voltage Circuit High
P2152	Fuel Injector Group "C" Supply Voltage Circuit/Open

P2153	Fuel Injector Group "C" Supply Voltage Circuit Low
P2154	Fuel Injector Group "C" Supply Voltage Circuit High
P2155	Fuel Injector Group "D" Supply Voltage Circuit/Open
P2156	Fuel Injector Group "D" Supply Voltage Circuit Low
P2157	Fuel Injector Group "D" Supply Voltage Circuit High
P2158	Vehicle Speed Sensor "B"
P2159	Vehicle Speed Sensor "B" Range/Performance
P2160	Vehicle Speed Sensor "B" Circuit Low
P2161	Vehicle Speed Sensor "B" Intermittent/Erratic
P2162	Vehicle Speed Sensor "A" / "B" Correlation
P2163	Throttle/Pedal Position Sensor "A" Maximum Stop Performance
P2164	Throttle/Pedal Position Sensor "B" Maximum Stop Performance
P2165	Throttle/Pedal Position Sensor "C" Maximum Stop Performance
P2166	Throttle/Pedal Position Sensor "D" Maximum Stop Performance
P2167	Throttle/Pedal Position Sensor "E" Maximum Stop Performance
P2168	Throttle/Pedal Position Sensor "F" Maximum Stop Performance
P2169	Exhaust Pressure Regulator Vent Solenoid Control Circuit/Open
P2170	Exhaust Pressure Regulator Vent Solenoid Control Circuit Low
P2171	Exhaust Pressure Regulator Vent Solenoid Control Circuit High
P2172	Throttle Actuator Control System - Sudden High Airflow Detected
P2173	Throttle Actuator Control System - High Airflow Detected
P2174	Throttle Actuator Control System - Sudden Low Airflow Detected
P2175	Throttle Actuator Control System - Low Airflow Detected
P2176	Throttle Actuator Control System - Idle Position Not Learned
P2177	System Too Lean Off Idle
P2178	System Too Rich Off Idle
P2179	System Too Lean Off Idle
P2180	System Too Rich Off Idle
P2181	Cooling System Performance
P2182	Engine Coolant Temperature Sensor 2 Circuit
P2183	Engine Coolant Temperature Sensor 2 Circuit Range/Performance
P2184	Engine Coolant Temperature Sensor 2 Circuit Low
P2185	Engine Coolant Temperature Sensor 2 Circuit High
P2186	Engine Coolant Temperature Sensor 2 Circuit Intermittent/Erratic
P2187	System Too Lean at Idle
P2188	System Too Rich at Idle
P2189	System Too Lean at Idle

P2190	System Too Rich at Idle
P2191	System Too Lean at Higher Load
P2192	System Too Rich at Higher Load
P2193	System Too Lean at Higher Load
P2194	System Too Rich at Higher Load
P2195	O2 Sensor Signal Stuck Lean
P2196	O2 Sensor Signal Stuck Rich
P2197	O2 Sensor Signal Stuck Lean
P2198	O2 Sensor Signal Stuck Rich
P2199	Intake Air Temperature Sensor 1 / 2 Correlation
P2200	NOx Sensor Circuit
P2201	NOx Sensor Circuit Range/Performance
P2202	NOx Sensor Circuit Low Input
P2203	NOx Sensor Circuit High Input
P2204	NOx Sensor Circuit Intermittent Input
P2205	NOx Sensor Heater Control Circuit/Open
P2206	NOx Sensor Heater Control Circuit Low
P2207	NOx Sensor Heater Control Circuit High
P2208	NOx Sensor Heater Sense Circuit
P2209	NOx Sensor Heater Sense Circuit Range/Performance
P2210	NOx Sensor Heater Sense Circuit Low Input
P2211	NOx Sensor Heater Sense Circuit High Input
P2212	NOx Sensor Heater Sense Circuit Intermittent
P2213	NOx Sensor Circuit
P2214	NOx Sensor Circuit Range/Performance
P2215	NOx Sensor Circuit Low Input
P2216	NOx Sensor Circuit High Input
P2217	NOx Sensor Circuit Intermittent Input
P2218	NOx Sensor Heater Control Circuit/Open
P2219	NOx Sensor Heater Control Circuit Low
P2220	NOx Sensor Heater Control Circuit High
P2221	NOx Sensor Heater Sense Circuit
P2222	NOx Sensor Heater Sense Circuit Range/Performance
P2223	NOx Sensor Heater Sense Circuit Low
P2224	NOx Sensor Heater Sense Circuit High
P2225	NOx Sensor Heater Sense Circuit Intermittent
P2226	Barometric Pressure Circuit

P2227	Barometric Pressure Circuit Range/Performance
P2228	Barometric Pressure Circuit Low
P2229	Barometric Pressure Circuit High
P2230	Barometric Pressure Circuit Intermittent
P2231	O2 Sensor Signal Circuit Shorted to Heater Circuit
P2232	O2 Sensor Signal Circuit Shorted to Heater Circuit
P2233	O2 Sensor Signal Circuit Shorted to Heater Circuit
P2234	O2 Sensor Signal Circuit Shorted to Heater Circuit
P2235	O2 Sensor Signal Circuit Shorted to Heater Circuit
P2236	O2 Sensor Signal Circuit Shorted to Heater Circuit
P2237	O2 Sensor Positive Current Control Circuit/Open
P2238	O2 Sensor Positive Current Control Circuit Low
P2239	O2 Sensor Positive Current Control Circuit High
P2240	O2 Sensor Positive Current Control Circuit/Open
P2241	O2 Sensor Positive Current Control Circuit Low
P2242	O2 Sensor Positive Current Control Circuit High
P2243	O2 Sensor Reference Voltage Circuit/Open
P2244	O2 Sensor Reference Voltage Performance
P2245	O2 Sensor Reference Voltage Circuit Low
P2246	O2 Sensor Reference Voltage Circuit High
P2247	O2 Sensor Reference Voltage Circuit/Open
P2248	O2 Sensor Reference Voltage Performance
P2249	O2 Sensor Reference Voltage Circuit Low
P2250	O2 Sensor Reference Voltage Circuit High
P2251	O2 Sensor Negative Current Control Circuit/Open
P2252	O2 Sensor Negative Current Control Circuit Low
P2253	O2 Sensor Negative Current Control Circuit High
P2254	O2 Sensor Negative Current Control Circuit/Open
P2255	O2 Sensor Negative Current Control Circuit Low
P2256	O2 Sensor Negative Current Control Circuit High
P2257	Secondary Air Injection System Control "A" Circuit Low
P2258	Secondary Air Injection System Control "A" Circuit High
P2259	Secondary Air Injection System Control "B" Circuit Low
P2260	Secondary Air Injection System Control "B" Circuit High
P2261	Turbo/Super Charger Bypass Valve - Mechanical
P2262	Turbo Boost Pressure Not Detected - Mechanical
P2263	Turbo/Super Charger Boost System Performance

P2264	Water in Fuel Sensor Circuit
P2265	Water in Fuel Sensor Circuit Range/Performance
P2266	Water in Fuel Sensor Circuit Low
P2267	Water in Fuel Sensor Circuit High
P2268	Water in Fuel Sensor Circuit Intermittent
P2269	Water in Fuel Condition
P2270	O2 Sensor Signal Stuck Lean
P2271	O2 Sensor Signal Stuck Rich
P2272	O2 Sensor Signal Stuck Lean
P2273	O2 Sensor Signal Stuck Rich
P2274	O2 Sensor Signal Stuck Lean
P2275	O2 Sensor Signal Stuck Rich
P2276	O2 Sensor Signal Stuck Lean
P2277	O2 Sensor Signal Stuck Rich
P2278	O2 Sensor Signals Swapped Bank 1 Sensor 3 / Bank 2 Sensor 3
P2279	Intake Air System Leak
P2280	Air Flow Restriction / Air Leak Between Air Filter and MAF
P2281	Air Leak Between MAF and Throttle Body
P2282	Air Leak Between Throttle Body and Intake Valves
P2283	Injector Control Pressure Sensor Circuit
P2284	Injector Control Pressure Sensor Circuit Range/Performance
P2285	Injector Control Pressure Sensor Circuit Low
P2286	Injector Control Pressure Sensor Circuit High
P2287	Injector Control Pressure Sensor Circuit Intermittent
P2288	Injector Control Pressure Too High
P2289	Injector Control Pressure Too High - Engine Off
P2290	Injector Control Pressure Too Low
P2291	Injector Control Pressure Too Low - Engine Cranking
P2292	Injector Control Pressure Erratic
P2293	Fuel Pressure Regulator 2 Performance
P2294	Fuel Pressure Regulator 2 Control Circuit
P2295	Fuel Pressure Regulator 2 Control Circuit Low
P2296	Fuel Pressure Regulator 2 Control Circuit High
P2297	O2 Sensor Out of Range During Deceleration
P2298	O2 Sensor Out of Range During Deceleration
P2299	Brake Pedal Position / Accelerator Pedal Position Incompatible
P2300	Ignition Coil "A" Primary Control Circuit Low

P2301	Ignition Coil "A" Primary Control Circuit High
P2302	Ignition Coil "A" Secondary Circuit
P2303	Ignition Coil "B" Primary Control Circuit Low
P2304	Ignition Coil "B" Primary Control Circuit High
P2305	Ignition Coil "B" Secondary Circuit
P2306	Ignition Coil "C" Primary Control Circuit Low
P2307	Ignition Coil "C" Primary Control Circuit High
P2308	Ignition Coil "C" Secondary Circuit
P2309	Ignition Coil "D" Primary Control Circuit Low
P2310	Ignition Coil "D" Primary Control Circuit High
P2311	Ignition Coil "D" Secondary Circuit
P2312	Ignition Coil "E" Primary Control Circuit Low
P2313	Ignition Coil "E" Primary Control Circuit High
P2314	Ignition Coil "E" Secondary Circuit
P2315	Ignition Coil "F" Primary Control Circuit Low
P2316	Ignition Coil "F" Primary Control Circuit High
P2317	Ignition Coil "F" Secondary Circuit
P2318	Ignition Coil "G" Primary Control Circuit Low
P2319	Ignition Coil "G" Primary Control Circuit High
P2320	Ignition Coil "G" Secondary Circuit
P2321	Ignition Coil "H" Primary Control Circuit Low
P2322	Ignition Coil "H" Primary Control Circuit High
P2323	Ignition Coil "H" Secondary Circuit
P2324	Ignition Coil "I" Primary Control Circuit Low
P2325	Ignition Coil "I" Primary Control Circuit High
P2326	Ignition Coil "I" Secondary Circuit
P2327	Ignition Coil "J" Primary Control Circuit Low
P2328	Ignition Coil "J" Primary Control Circuit High
P2329	Ignition Coil "J" Secondary Circuit
P2330	Ignition Coil "K" Primary Control Circuit Low
P2331	Ignition Coil "K" Primary Control Circuit High
P2332	Ignition Coil "K" Secondary Circuit
P2333	Ignition Coil "L" Primary Control Circuit Low
P2334	Ignition Coil "L" Primary Control Circuit High
P2335	Ignition Coil "L" Secondary Circuit
P2336	Cylinder #1 Above Knock Threshold
P2337	Cylinder #2 Above Knock Threshold

P2338	Cylinder #3 Above Knock Threshold
P2339	Cylinder #4 Above Knock Threshold
P2340	Cylinder #5 Above Knock Threshold
P2341	Cylinder #6 Above Knock Threshold
P2342	Cylinder #7 Above Knock Threshold
P2343	Cylinder #8 Above Knock Threshold
P2344	Cylinder #9 Above Knock Threshold
P2345	Cylinder #10 Above Knock Threshold
P2346	Cylinder #11 Above Knock Threshold
P2347	Cylinder #12 Above Knock Threshold
P2400	Evaporative Emission System Leak Detection Pump Control Circuit/Open
P2401	Evaporative Emission System Leak Detection Pump Control Circuit Low
P2402	Evaporative Emission System Leak Detection Pump Control Circuit High
P2403	Evaporative Emission System Leak Detection Pump Sense Circuit/Open
P2404	Evaporative Emission System Leak Detection Pump Sense Circuit Range/Performance
P2405	Evaporative Emission System Leak Detection Pump Sense Circuit Low
P2406	Evaporative Emission System Leak Detection Pump Sense Circuit High
P2407	Evaporative Emission System Leak Detection Pump Sense Circuit Intermittent/Erratic
P2408	Fuel Cap Sensor/Switch Circuit
P2409	Fuel Cap Sensor/Switch Circuit Range/Performance
P2410	Fuel Cap Sensor/Switch Circuit Low
P2411	Fuel Cap Sensor/Switch Circuit High
P2412	Fuel Cap Sensor/Switch Circuit Intermittent/Erratic
P2413	Exhaust Gas Recirculation System Performance
P2414	O2 Sensor Exhaust Sample Error
P2415	O2 Sensor Exhaust Sample Error
P2416	O2 Sensor Signals Swapped Bank 1 Sensor 2 / Bank 1 Sensor 3
P2417	O2 Sensor Signals Swapped Bank 2 Sensor 2 / Bank 2 Sensor 3
P2418	Evaporative Emission System Switching Valve Control Circuit / Open
P2419	Evaporative Emission System Switching Valve Control Circuit Low
P2420	Evaporative Emission System Switching Valve Control Circuit High
P2421	Evaporative Emission System Vent Valve Stuck Open
P2422	Evaporative Emission System Vent Valve Stuck Closed
P2423	HC Adsorption Catalyst Efficiency Below Threshold
P2424	HC Adsorption Catalyst Efficiency Below Threshold

P2425	Exhaust Gas Recirculation Cooling Valve Control Circuit/Open
P2426	Exhaust Gas Recirculation Cooling Valve Control Circuit Low
P2427	Exhaust Gas Recirculation Cooling Valve Control Circuit High
P2428	Exhaust Gas Temperature Too High
P2429	Exhaust Gas Temperature Too High
P2430	Secondary Air Injection System Air Flow/Pressure Sensor Circuit
P2431	Secondary Air Injection System Air Flow/Pressure Sensor Circuit Range/Performance
P2432	Secondary Air Injection System Air Flow/Pressure Sensor Circuit Low
P2433	Secondary Air Injection System Air Flow/Pressure Sensor Circuit High
P2434	Secondary Air Injection System Air Flow/Pressure Sensor Circuit Intermittent/Erratic
P2435	Secondary Air Injection System Air Flow/Pressure Sensor Circuit
P2436	Secondary Air Injection System Air Flow/Pressure Sensor Circuit Range/Performance
P2437	Secondary Air Injection System Air Flow/Pressure Sensor Circuit Low
P2438	Secondary Air Injection System Air Flow/Pressure Sensor Circuit High
P2439	Secondary Air Injection System Air Flow/Pressure Sensor Circuit Intermittent/Erratic
P2440	Secondary Air Injection System Switching Valve Stuck Open
P2441	Secondary Air Injection System Switching Valve Stuck Closed
P2442	Secondary Air Injection System Switching Valve Stuck Open
P2443	Secondary Air Injection System Switching Valve Stuck Closed
P2444	Secondary Air Injection System Pump Stuck On
P2445	Secondary Air Injection System Pump Stuck Off
P2446	Secondary Air Injection System Pump Stuck On
P2447	Secondary Air Injection System Pump Stuck Off
P2500	Generator Lamp/L-Terminal Circuit Low
P2501	Generator Lamp/L-Terminal Circuit High
P2502	Charging System Voltage
P2503	Charging System Voltage Low
P2504	Charging System Voltage High
P2505	ECM/PCM Power Input Signal
P2506	ECM/PCM Power Input Signal Range/Performance
P2507	ECM/PCM Power Input Signal Low
P2508	ECM/PCM Power Input Signal High
P2509	ECM/PCM Power Input Signal Intermittent
P2510	ECM/PCM Power Relay Sense Circuit Range/Performance

P2511	ECM/PCM Power Relay Sense Circuit Intermittent
P2512	Event Data Recorder Request Circuit/ Open
P2513	Event Data Recorder Request Circuit Low
P2514	Event Data Recorder Request Circuit High
P2515	A/C Refrigerant Pressure Sensor "B" Circuit
P2516	A/C Refrigerant Pressure Sensor "B" Circuit Range/Performance
P2517	A/C Refrigerant Pressure Sensor "B" Circuit Low
P2518	A/C Refrigerant Pressure Sensor "B" Circuit High
P2519	A/C Request "A" Circuit
P2520	A/C Request "A" Circuit Low
P2521	A/C Request "A" Circuit High
P2522	A/C Request "B" Circuit
P2523	A/C Request "B" Circuit Low
P2524	A/C Request "B" Circuit High
P2525	Vacuum Reservoir Pressure Sensor Circuit
P2526	Vacuum Reservoir Pressure Sensor Circuit Range/Performance
P2527	Vacuum Reservoir Pressure Sensor Circuit Low
P2528	Vacuum Reservoir Pressure Sensor Circuit High
P2529	Vacuum Reservoir Pressure Sensor Circuit Intermittent
P2530	Ignition Switch Run Position Circuit
P2531	Ignition Switch Run Position Circuit Low
P2532	Ignition Switch Run Position Circuit High
P2533	Ignition Switch Run/Start Position Circuit
P2534	Ignition Switch Run/Start Position Circuit Low
P2535	Ignition Switch Run/Start Position Circuit High
P2536	Ignition Switch Accessory Position Circuit
P2537	Ignition Switch Accessory Position Circuit Low
P2538	Ignition Switch Accessory Position Circuit High
P2539	Low Pressure Fuel System Sensor Circuit
P2540	Low Pressure Fuel System Sensor Circuit Range/Performance
P2541	Low Pressure Fuel System Sensor Circuit Low
P2542	Low Pressure Fuel System Sensor Circuit High
P2543	Low Pressure Fuel System Sensor Circuit Intermittent
P2544	Torque Management Request Input Signal "A"
P2545	Torque Management Request Input Signal "A" Range/Performance
P2546	Torque Management Request Input Signal "A" Low
P2547	Torque Management Request Input Signal "A" High

P2548	Torque Management Request Input Signal "B"
P2549	Torque Management Request Input Signal "B" Range/Performance
P2550	Torque Management Request Input Signal "B" Low
P2551	Torque Management Request Input Signal "B" High
P2552	Throttle/Fuel Inhibit Circuit
P2553	Throttle/Fuel Inhibit Circuit Range/Performance
P2554	Throttle/Fuel Inhibit Circuit Low
P2555	Throttle/Fuel Inhibit Circuit High
P2556	Engine Coolant Level Sensor/Switch Circuit
P2557	Engine Coolant Level Sensor/Switch Circuit Range/Performance
P2558	Engine Coolant Level Sensor/Switch Circuit Low
P2559	Engine Coolant Level Sensor/Switch Circuit High
P2560	Engine Coolant Level Low
P2561	A/C Control Module Requested MIL Illumination
P2562	Turbocharger Boost Control Position Sensor Circuit
P2563	Turbocharger Boost Control Position Sensor Circuit Range/Performance
P2564	Turbocharger Boost Control Position Sensor Circuit Low
P2565	Turbocharger Boost Control Position Sensor Circuit High
P2566	Turbocharger Boost Control Position Sensor Circuit Intermittent
P2567	Direct Ozone Reduction Catalyst Temperature Sensor Circuit
P2568	Direct Ozone Reduction Catalyst Temperature Sensor Circuit Range/Performance
P2569	Direct Ozone Reduction Catalyst Temperature Sensor Circuit Low
P2570	Direct Ozone Reduction Catalyst Temperature Sensor Circuit High
P2571	Direct Ozone Reduction Catalyst Temperature Sensor Circuit Intermittent/Erratic
P2572	Direct Ozone Reduction Catalyst Deterioration Sensor Circuit
P2573	Direct Ozone Reduction Catalyst Deterioration Sensor Circuit Range/Performance
P2574	Direct Ozone Reduction Catalyst Deterioration Sensor Circuit Low
P2575	Direct Ozone Reduction Catalyst Deterioration Sensor Circuit High
P2576	Direct Ozone Reduction Catalyst Deterioration Sensor Circuit Intermittent/Erratic
P2577	Direct Ozone Reduction Catalyst Efficiency Below Threshold
P2600	Coolant Pump Control Circuit/Open
P2601	Coolant Pump Control Circuit Range/Performance
P2602	Coolant Pump Control Circuit Low
P2603	Coolant Pump Control Circuit High
P2604	Intake Air Heater "A" Circuit Range/Performance
P2605	Intake Air Heater "A" Circuit/Open
P2606	Intake Air Heater "B" Circuit Range/Performance

P2607	Intake Air Heater "B" Circuit Low
P2608	Intake Air Heater "B" Circuit High
P2609	Intake Air Heater System Performance
P2610	ECM/PCM Internal Engine Off Timer Performance
P2611	A/C Refrigerant Distribution Valve Control Circuit/Open
P2612	A/C Refrigerant Distribution Valve Control Circuit Low
P2613	A/C Refrigerant Distribution Valve Control Circuit High
P2614	Camshaft Position Signal Output Circuit/Open
P2615	Camshaft Position Signal Output Circuit Low
P2616	Camshaft Position Signal Output Circuit High
P2617	Crankshaft Position Signal Output Circuit/Open
P2618	Crankshaft Position Signal Output Circuit Low
P2619	Crankshaft Position Signal Output Circuit High
P2620	Throttle Position Output Circuit/Open
P2621	Throttle Position Output Circuit Low
P2622	Throttle Position Output Circuit High
P2623	Injector Control Pressure Regulator Circuit/Open
P2624	Injector Control Pressure Regulator Circuit Low
P2625	Injector Control Pressure Regulator Circuit High
P2626	O2 Sensor Pumping Current Trim Circuit/Open
P2627	O2 Sensor Pumping Current Trim Circuit Low
P2628	O2 Sensor Pumping Current Trim Circuit High
P2629	O2 Sensor Pumping Current Trim Circuit/Open
P2630	O2 Sensor Pumping Current Trim Circuit Low
P2631	O2 Sensor Pumping Current Trim Circuit High
P2632	Fuel Pump "B" Control Circuit /Open
P2633	Fuel Pump "B" Control Circuit Low
P2634	Fuel Pump "B" Control Circuit High
P2635	Fuel Pump "A" Low Flow / Performance
P2636	Fuel Pump "B" Low Flow / Performance
P2637	Torque Management Feedback Signal "A"
P2638	Torque Management Feedback Signal "A" Range/Performance
P2639	Torque Management Feedback Signal "A" Low
P2640	Torque Management Feedback Signal "A" High
P2641	Torque Management Feedback Signal "B"
P2642	Torque Management Feedback Signal "B" Range/Performance
P2643	Torque Management Feedback Signal "B" Low

P2644	Torque Management Feedback Signal "B" High
P2645	"A" Rocker Arm Actuator Control Circuit/Open
P2646	"A" Rocker Arm Actuator System Performance or Stuck Off
P2647	"A" Rocker Arm Actuator System Stuck On
P2648	"A" Rocker Arm Actuator Control Circuit Low
P2649	"A" Rocker Arm Actuator Control Circuit High
P2650	"B" Rocker Arm Actuator Control Circuit/Open
P2651	"B" Rocker Arm Actuator System Performance or Stuck Off
P2652	"B" Rocker Arm Actuator System Stuck On
P2653	"B" Rocker Arm Actuator Control Circuit Low
P2654	"B" Rocker Arm Actuator Control Circuit High
P2655	"A" Rocker Arm Actuator Control Circuit/Open
P2656	"A" Rocker Arm Actuator System Performance or Stuck Off
P2657	"A" Rocker Arm Actuator System Stuck On
P2658	"A" Rocker Arm Actuator Control Circuit Low
P2659	"A" Rocker Arm Actuator Control Circuit High
P2660	"B" Rocker Arm Actuator Control Circuit/Open
P2661	"B" Rocker Arm Actuator System Performance or Stuck Off
P2662	"B" Rocker Arm Actuator System Stuck On
P2663	"B" Rocker Arm Actuator Control Circuit Low
P2664	"B" Rocker Arm Actuator Control Circuit High
P2665	Fuel Shutoff Valve "B" Control Circuit/Open
P2666	Fuel Shutoff Valve "B" Control Circuit Low
P2667	Fuel Shutoff Valve "B" Control Circuit High
P2668	Fuel Mode Indicator Lamp Control Circuit
P2669	Actuator Supply Voltage "B" Circuit /Open
P2670	Actuator Supply Voltage "B" Circuit Low
P2671	Actuator Supply Voltage "B" Circuit High
P2700	Transmission Friction Element "A" Apply Time Range/Performance
P2701	Transmission Friction Element "B" Apply Time Range/Performance
P2702	Transmission Friction Element "C" Apply Time Range/Performance
P2703	Transmission Friction Element "D" Apply Time Range/Performance
P2704	Transmission Friction Element "E" Apply Time Range/Performance
P2705	Transmission Friction Element "F" Apply Time Range/Performance
P2706	Shift Solenoid "F"
P2707	Shift Solenoid "F" Performance or Stuck Off
P2708	Shift Solenoid "F" Stuck On

P2709	Shift Solenoid "F" Electrical
P2710	Shift Solenoid "F" Intermittent
P2711	Unexpected Mechanical Gear Disengagement
P2712	Hydraulic Power Unit Leakage
P2713	Pressure Control Solenoid "D"
P2714	Pressure Control Solenoid "D" Performance or Stuck Off
P2715	Pressure Control Solenoid "D" Stuck On
P2716	Pressure Control Solenoid "D" Electrical
P2717	Pressure Control Solenoid "D" Intermittent
P2718	Pressure Control Solenoid "D" Control Circuit / Open
P2719	Pressure Control Solenoid "D" Control Circuit Range/Performance
P2720	Pressure Control Solenoid "D" Control Circuit Low
P2721	Pressure Control Solenoid "D" Control Circuit High
P2722	Pressure Control Solenoid "E"
P2723	Pressure Control Solenoid "E" Performance or Stuck Off
P2724	Pressure Control Solenoid "E" Stuck On
P2725	Pressure Control Solenoid "E" Electrical
P2726	Pressure Control Solenoid "E" Intermittent
P2727	Pressure Control Solenoid "E" Control Circuit / Open
P2728	Pressure Control Solenoid "E" Control Circuit Range/Performance
P2729	Pressure Control Solenoid "E" Control Circuit Low
P2730	Pressure Control Solenoid "E" Control Circuit High
P2731	Pressure Control Solenoid "F"
P2732	Pressure Control Solenoid "F" Performance or Stuck Off
P2733	Pressure Control Solenoid "F" Stuck On
P2734	Pressure Control Solenoid "F" Electrical
P2735	Pressure Control Solenoid "F" Intermittent
P2736	Pressure Control Solenoid "F" Control Circuit/Open
P2737	Pressure Control Solenoid "F" Control Circuit Range/Performance
P2738	Pressure Control Solenoid "F" Control Circuit Low
P2739	Pressure Control Solenoid "F" Control Circuit High
P2740	Transmission Fluid Temperature Sensor "B" Circuit"
P2741	Transmission Fluid Temperature Sensor "B" Circuit Range Performance
P2742	Transmission Fluid Temperature Sensor "B" Circuit Low
P2743	Transmission Fluid Temperature Sensor "B" Circuit High
P2744	Transmission Fluid Temperature Sensor "B" Circuit Intermittent
P2745	Intermediate Shaft Speed Sensor "B" Circuit

P2746	Intermediate Shaft Speed Sensor "B" Circuit Range/Performance
P2747	Intermediate Shaft Speed Sensor "B" Circuit No Signal
P2748	Intermediate Shaft Speed Sensor "B" Circuit Intermittent
P2749	Intermediate Shaft Speed Sensor "C" Circuit
P2750	Intermediate Shaft Speed Sensor "C" Circuit Range/Performance
P2751	Intermediate Shaft Speed Sensor "C" Circuit No Signal
P2752	Intermediate Shaft Speed Sensor "C" Circuit Intermittent
P2753	Transmission Fluid Cooler Control Circuit/Open
P2754	Transmission Fluid Cooler Control Circuit Low
P2755	Transmission Fluid Cooler Control Circuit High
P2756	Torque Converter Clutch Pressure Control Solenoid
P2757	Torque Converter Clutch Pressure Control Solenoid Control Circuit Performance or Stuck Off
P2758	Torque Converter Clutch Pressure Control Solenoid Control Circuit Stuck On
P2759	Torque Converter Clutch Pressure Control Solenoid Control Circuit Electrical
P2760	Torque Converter Clutch Pressure Control Solenoid Control Circuit Intermittent
P2761	Torque Converter Clutch Pressure Control Solenoid Control Circuit/Open
P2762	Torque Converter Clutch Pressure Control Solenoid Control Circuit Range/Performance
P2763	Torque Converter Clutch Pressure Control Solenoid Control Circuit High
P2764	Torque Converter Clutch Pressure Control Solenoid Control Circuit Low
P2765	Input/Turbine Speed Sensor "B" Circuit
P2766	Input/Turbine Speed Sensor "B" Circuit Range/Performance
P2767	Input/Turbine Speed Sensor "B" Circuit No Signal
P2768	Input/Turbine Speed Sensor "B" Circuit Intermittent
P2769	Torque Converter Clutch Circuit Low
P2770	Torque Converter Clutch Circuit High
P2771	Four Wheel Drive (4WD) Low Switch Circuit
P2772	Four Wheel Drive (4WD) Low Switch Circuit Range/Performance
P2773	Four Wheel Drive (4WD) Low Switch Circuit Low
P2774	Four Wheel Drive (4WD) Low Switch Circuit High
P2775	Upshift Switch Circuit Range/Performance
P2776	Upshift Switch Circuit Low
P2777	Upshift Switch Circuit High
P2778	Upshift Switch Circuit Intermittent/Erratic
P2779	Downshift Switch Circuit Range/Performance
P2780	Downshift Switch Circuit Low

P2781	Downshift Switch Circuit High
P2782	Downshift Switch Circuit Intermittent/Erratic
P2783	Torque Converter Temperature Too High
P2784	Input/Turbine Speed Sensor "A"/"B" Correlation
P2785	Clutch Actuator Temperature Too High
P2786	Gear Shift Actuator Temperature Too High
P2787	Clutch Temperature Too High
P2788	Auto Shift Manual Adaptive Learning at Limit
P2789	Clutch Adaptive Learning at Limit
P2790	Gate Select Direction Circuit
P2791	Gate Select Direction Circuit Low
P2792	Gate Select Direction Circuit High
P2793	Gear Shift Direction Circuit
P2794	Gear Shift Direction Circuit Low
P2795	Gear Shift Direction Circuit High
P2A00	O2 Sensor Circuit Range/Performance
P2A01	O2 Sensor Circuit Range/Performance
P2A02	O2 Sensor Circuit Range/Performance
P2A03	O2 Sensor Circuit Range/Performance
P2A04	O2 Sensor Circuit Range/Performance
P2A05	O2 Sensor Circuit Range/Performance
P3400	Cylinder Deactivation System
P3401	Cylinder 1 Deactivation/Intake Valve Control Circuit/Open
P3402	Cylinder 1 Deactivation/Intake Valve Control Performance
P3403	Cylinder 1 Deactivation/Intake Valve Control Circuit Low
P3404	Cylinder 1 Deactivation/Intake Valve Control Circuit High
P3405	Cylinder 1 Exhaust Valve Control Circuit/Open
P3406	Cylinder 1 Exhaust Valve Control Performance
P3407	Cylinder 1 Exhaust Valve Control Circuit Low
P3408	Cylinder 1 Exhaust Valve Control Circuit High
P3409	Cylinder 2 Deactivation/Intake Valve Control Circuit/Open
P3410	Cylinder 2 Deactivation/Intake Valve Control Performance
P3411	Cylinder 2 Deactivation/Intake Valve Control Circuit Low
P3412	Cylinder 2 Deactivation/Intake Valve Control Circuit High
P3413	Cylinder 2 Exhaust Valve Control Circuit/Open
P3414	Cylinder 2 Exhaust Valve Control Performance
P3415	Cylinder 2 Exhaust Valve Control Circuit Low

P3416	Cylinder 2 Exhaust Valve Control Circuit High
P3417	Cylinder 3 Deactivation/Intake Valve Control Circuit/Open
P3418	Cylinder 3 Deactivation/Intake Valve Control Performance
P3419	Cylinder 3 Deactivation/Intake Valve Control Circuit Low
P3420	Cylinder 3 Deactivation/Intake Valve Control Circuit High
P3421	Cylinder 3 Exhaust Valve Control Circuit/Open
P3422	Cylinder 3 Exhaust Valve Control Performance
P3423	Cylinder 3 Exhaust Valve Control Circuit Low
P3424	Cylinder 3 Exhaust Valve Control Circuit High
P3425	Cylinder 4 Deactivation/Intake Valve Control Circuit/Open
P3426	Cylinder 4 Deactivation/Intake Valve Control Performance
P3427	Cylinder 4 Deactivation/Intake Valve Control Circuit Low
P3428	Cylinder 4 Deactivation/Intake Valve Control Circuit High
P3429	Cylinder 4 Exhaust Valve Control Circuit/Open
P3430	Cylinder 4 Exhaust Valve Control Performance
P3431	Cylinder 4 Exhaust Valve Control Circuit Low
P3432	Cylinder 4 Exhaust Valve Control Circuit High
P3433	Cylinder 5 Deactivation/Intake Valve Control Circuit/Open
P3434	Cylinder 5 Deactivation/Intake Valve Control Performance
P3435	Cylinder 5 Deactivation/Intake Valve Control Circuit Low
P3436	Cylinder 5 Deactivation/Intake Valve Control Circuit High
P3437	Cylinder 5 Exhaust Valve Control Circuit/Open
P3438	Cylinder 5 Exhaust Valve Control Performance
P3439	Cylinder 5 Exhaust Valve Control Circuit Low
P3440	Cylinder 5 Exhaust Valve Control Circuit High
P3441	Cylinder 6 Deactivation/Intake Valve Control Circuit/Open
P3442	Cylinder 6 Deactivation/Intake Valve Control Performance
P3443	Cylinder 6 Deactivation/Intake Valve Control Circuit Low
P3444	Cylinder 6 Deactivation/Intake Valve Control Circuit High
P3445	Cylinder 6 Exhaust Valve Control Circuit/Open
P3446	Cylinder 6 Exhaust Valve Control Performance
P3447	Cylinder 6 Exhaust Valve Control Circuit Low
P3448	Cylinder 6 Exhaust Valve Control Circuit High
P3449	Cylinder 7 Deactivation/Intake Valve Control Circuit/Open
P3450	Cylinder 7 Deactivation/Intake Valve Control Performance
P3451	Cylinder 7 Deactivation/Intake Valve Control Circuit Low
P3452	Cylinder 7 Deactivation/Intake Valve Control Circuit High

P3453	Cylinder 7 Exhaust Valve Control Circuit/Open
P3454	Cylinder 7 Exhaust Valve Control Performance
P3455	Cylinder 7 Exhaust Valve Control Circuit Low
P3456	Cylinder 7 Exhaust Valve Control Circuit High
P3457	Cylinder 8 Deactivation/Intake Valve Control Circuit/Open
P3458	Cylinder 8 Deactivation/Intake Valve Control Performance
P3459	Cylinder 8 Deactivation/Intake Valve Control Circuit Low
P3460	Cylinder 8 Deactivation/Intake Valve Control Circuit High
P3461	Cylinder 8 Exhaust Valve Control Circuit/Open
P3462	Cylinder 8 Exhaust Valve Control Performance
P3463	Cylinder 8 Exhaust Valve Control Circuit Low
P3464	Cylinder 8 Exhaust Valve Control Circuit High
P3465	Cylinder 9 Deactivation/Intake Valve Control Circuit/Open
P3466	Cylinder 9 Deactivation/Intake Valve Control Performance
P3467	Cylinder 9 Deactivation/Intake Valve Control Circuit Low
P3468	Cylinder 9 Deactivation/Intake Valve Control Circuit High
P3469	Cylinder 9 Exhaust Valve Control Circuit/Open
P3470	Cylinder 9 Exhaust Valve Control Performance
P3471	Cylinder 9 Exhaust Valve Control Circuit Low
P3472	Cylinder 9 Exhaust Valve Control Circuit High
P3473	Cylinder 10 Deactivation/Intake Valve Control Circuit/Open
P3474	Cylinder 10 Deactivation/Intake Valve Control Performance
P3475	Cylinder 10 Deactivation/Intake Valve Control Circuit Low
P3476	Cylinder 10 Deactivation/Intake Valve Control Circuit High
P3477	Cylinder 10 Exhaust Valve Control Circuit/Open
P3478	Cylinder 10 Exhaust Valve Control Performance
P3479	Cylinder 10 Exhaust Valve Control Circuit Low
P3480	Cylinder 10 Exhaust Valve Control Circuit High
P3481	Cylinder 11 Deactivation/Intake Valve Control Circuit/Open
P3482	Cylinder 11 Deactivation/Intake Valve Control Performance
P3483	Cylinder 11 Deactivation/Intake Valve Control Circuit Low
P3484	Cylinder 11 Deactivation/Intake Valve Control Circuit High
P3485	Cylinder 11 Exhaust Valve Control Circuit/Open
P3486	Cylinder 11 Exhaust Valve Control Performance
P3487	Cylinder 11 Exhaust Valve Control Circuit Low
P3488	Cylinder 11 Exhaust Valve Control Circuit High
P3489	Cylinder 12 Deactivation/Intake Valve Control Circuit/Open

P3490	Cylinder 12 Deactivation/Intake Valve Control Performance
P3491	Cylinder 12 Deactivation/Intake Valve Control Circuit Low
P3492	Cylinder 12 Deactivation/Intake Valve Control Circuit High
P3493	Cylinder 12 Exhaust Valve Control Circuit/Open
P3494	Cylinder 12 Exhaust Valve Control Performance
P3495	Cylinder 12 Exhaust Valve Control Circuit Low
P3496	Cylinder 12 Exhaust Valve Control Circuit High
P3497	Cylinder Deactivation System

[Power Train Codes \(PXXXX\)](#) [Body Codes \(BXXXX\)](#) [Network Codes \(UXXXX\)](#)

Generic Chassis Codes (C0xxx, C3xxx)

C0000	Vehicle Speed Information Circuit Malfunction
C0035	Left Front Wheel Speed Circuit Malfunction
C0040	Right Front Wheel Speed Circuit Malfunction
C0041	Right Front Wheel Speed Sensor Circuit Range/Performance (EBCM)
C0045	Left Rear Wheel Speed Circuit Malfunction
C0046	Left Rear Wheel Speed Sensor Circuit Range/Performance (EBCM)
C0050	Right Rear Wheel Speed Circuit Malfunction
C0051	LF Wheel Speed Sensor Circuit Range/Performance (EBCM)
C0060	Left Front ABS Solenoid #1 Circuit Malfunction
C0065	Left Front ABS Solenoid #2 Circuit Malfunction
C0070	Right Front ABS Solenoid #1 Circuit Malfunction
C0075	Right Front ABS Solenoid #2 Circuit Malfunction
C0080	Left Rear ABS Solenoid #1 Circuit Malfunction
C0085	Left Rear ABS Solenoid #2 Circuit Malfunction
C0090	Right Rear ABS Solenoid #1 Circuit Malfunction
C0095	Right Rear ABS Solenoid #2 Circuit Malfunction
C0110	Pump Motor Circuit Malfunction
C0121	Valve Relay Circuit Malfunction
C0128	Low Brake Fluid Circuit Low
C0141	Left TCS Solenoid #1 Circuit Malfunction
C0146	Left TCS Solenoid #2 Circuit Malfunction
C0151	Right TCS Solenoid #1 Circuit Malfunction
C0156	Right TCS Solenoid #2 Circuit Malfunction

C0161	ABS/TCS Brake Switch Circuit Malfunction
C0221	Right Front Wheel Speed Sensor Circuit Open
C0222	Right Front Wheel Speed Signal Missing
C0223	Right Front Wheel Speed Signal Erratic
C0225	Left Front Wheel Speed Sensor Circuit Open
C0226	Left Front Wheel Speed Signal Missing
C0227	Left Front Wheel Speed Signal Erratic
C0229	Drop Out of Front Wheel Speed Signals
C0235	Rear Wheel Speed Signal Circuit Open
C0236	Rear Wheel Speed Signal Circuit Missing
C0237	Rear Wheel Speed Signal Erratic
C0238	Wheel Speed Mismatch
C0241	EBCM Control Valve Circuit
C0245	Wheel Speed Sensor Frequency Error
C0254	EBCM Control Valve Circuit
C0265	EBCM Relay Circuit
C0266	EBCM Relay Circuit
C0267	Pump Motor Circuit Open/Shorted
C0268	Pump Motor Circuit Open/Shorted
C0269	Excessive Dump/Isolation Time
C0271	EBCM Malfunction
C0272	EBCM Malfunction
C0273	EBCM Malfunction
C0274	Excessive Dump/Isolation Time
C0279	Powertrain Configuration Not Valid
C0281	Brake Switch Circuit
C0283	Traction Switch Shorted to Ground
C0284	EBCM Malfunction
C0286	ABS Indicator Lamp Circuit Shorted to B+
C0287	Delivered Torque Circuit
C0288	Brake Warning Lamp Circuit Shorted to B+
C0290	Lost Communications With PCM
C0291	Lost Communications With BCM
C0292	Lost Communications With PCM
C0297	Powertrain Configuration Data Not Received
C0298	Powertrain Indicated Traction Control Malfunction
C0300	Rear Speed Sensor Malfunction

C0305	Front Speed Sensor Malfunction
C0306	Motor A or B Circuit
C0308	Motor A/B Circuit Low
C0309	Motor A/B Circuit High
C0310	Motor A/B Circuit Open
C0315	Motor Ground Circuit Open
C0321	Transfer Case Lock Circuit
C0323	T-Case Lock Circuit Low
C0324	T-Case Lock Circuit High
C0327	Encoder Circuit Malfunction
C0357	Park Switch Circuit High
C0359	Four Wheel Drive Low Range (4LO) Discrete Output Circuit
C0362	4LO Discrete Output Circuit High
C0367	Front Axle Control Circuit High
C0374	General System Malfunction
C0376	Front/Rear Shaft Speed Mismatch
C0379	Front Axle System
C0387	Unable to Perform Shift
C0472	Steering Handwheel Speed Sensor Signal V Low
C0473	Steering Handwheel Speed Sensor Signal V High
C0495	EVO Tracking Error
C0498	Steering Assist Control Actuator Feed Circuit Low
C0499	Steering Assist Control Solenoid Feed Circuit High
C0503	Steering Assist Control Solenoid Return Circuit Low
C0504	Steering Assist Control Solenoid Return Circuit High
C0550	ECU Malfunction internal write / checksum malfunction
C0559	EEPROM Checksum Error
C0563	Calibration ROM Checksum Error
C0577	Left Front Solenoid Circuit Low
C0578	Left Front Solenoid Circuit High
C0579	Left Front Solenoid Circuit Open
C0582	Right Front Solenoid Circuit Low
C0583	Right Front Solenoid Circuit High
C0584	Right Front Solenoid Circuit Open
C0587	Left Rear Solenoid Circuit Low
C0588	Left Rear Solenoid Circuit High
C0589	Left Rear Solenoid Circuit Open

C0592	Right Rear Solenoid Circuit Low
C0593	Right Rear Solenoid Circuit High
C0594	Right Rear Solenoid Circuit Open
C0611	VIN Information Error
C0615	Left Front Position Sensor Malfunction
C0620	Right Front Position Sensor Malfunction
C0625	Left Rear Position Sensor Malfunction
C0628	Level Control Position Sensor Circuit High
C0630	Right Rear Position Sensor Malfunction
C0635	Left Front Normal Force Circuit Malfunction
C0638	Left Front Normal Force Circuit High
C0640	Right Front Normal Force Circuit Malfunction
C0643	Right Front Normal Force Circuit High
C0655	Level Control Compressor Relay Malfunction
C0657	Level Control Compressor Circuit Low
C0658	Level Control Compressor Circuit High
C0660	Level Control Exhaust Valve Circuit Malfunction
C0662	Level Control Exhaust Valve Circuit Low
C0663	Level Control Exhaust Valve Circuit High
C0665	Chassis Pitch Signal Circuit
C0690	Damper Control Relay Circuit Malfunction
C0691	Damper Control Relay Circuit Range
C0693	Damper Control Relay Circuit High
C0695	Position Sensor Overcurrent (8 volt supply)
C0696	Position Sensor Overcurrent (5 volt supply)
C0710	Steering Position Signal Malfunction
C0750	Tire Pressure Monitor (TPM) system sensor not transmitting
C0755	Tire Pressure Monitor (TPM) system sensor not transmitting
C0760	Tire Pressure Monitor (TPM) system sensor not transmitting
C0765	Tire Pressure Monitor (TPM) system sensor not transmitting
C0800	Device Power #1 Circuit Malfunction
C0896	Electronic Suspension Control (ESC) voltage is outside the normal range of 9 to 15.5 volts

[Power Train Codes \(PXXXX\)](#) [Chassis Codes \(CXXXX\)](#) [Network Codes \(UXXXX\)](#)

Generic Body Trouble Codes (B0xxx, B3xxx)

B0001	PCM Discrete Input Speed Signal Error
B0004	PCM Discrete Input Speed Signal Not Present
B0005	In Park Switch Circuit Malfunction
B0016	RF/Passenger Frontal Deployment Loop (Single Stage or Stage 1) Resistance Low
B0017	RF/Passenger Frontal Deployment Loop (Single Stage or Stage 1) Open
B0018	RF/Passenger Frontal Deployment Loop (Single Stage or Stage 1) Short to Ground/Voltage Out of Range
B0022	LF/Driver Frontal Deployment Loop (Single Stage or Stage 1) Resistance Low
B0024	LF/Driver Frontal Deployment Loop (Single Stage or Stage 1) Short to Ground/Voltage Out of Range
B0026	LF/Driver Frontal Deployment Loop (Single Stage or Stage 1) Open
B0028	RF/Passenger Side Deployment Loop Resistance Low
B0029	RF/Passenger Side Deployment Loop Open
B0030	RF/Passenger Side Deployment Loop Short to Ground/Voltage Out of Range
B0035	ADS Closed/Shorted to Ground
B0036	ADS Open/Missing/Shorted to Battery
B0037	AUX switch closed/shorted to ground
B0038	AUX switch open/shorted to battery
B0040	LF/Driver Side Deployment Loop Resistance Low
B0041	LF/Driver Side Deployment Loop Open
B0045	LF Side Deploy Loop Short to Ground/Voltage Out of Range
B0051	Deployment Commanded
B0053	Deployment Commanded with Loop Malfunctions Present
B0057	RF/Passenger Pretensioner Deployment Loop Resistance Low
B0058	RF/Passenger Pretensioner Deployment Loop Open
B0059	RF/Passenger Pretensioner Deployment Loop Short to Ground/Voltage Out of Range
B0064	LF/Driver Pretensioner Deployment Loop Resistance Low
B0065	LF/Driver Pretensioner Deployment Loop Open
B0066	LF/Driver Pretensioner Deployment Loop Short to Ground/Voltage Out of Range
B0073	Supplemental Deployment Loop #1 Resistance Low
B0074	Supplemental Deployment Loop #1 Open
B0075	Supplemental Deployment Loop #1 Short to Ground/Voltage Out of Range
B0077	LF/Driver SIS Malfunction
B0078	RF/Passenger SIS Malfunction
B0079	Incorrect LF/Driver SIS Installed

B0080	Discard LF/Driver SIS
B0081	Incorrect RF/Passenger SIS Installed
B0082	Discard RF/Passenger SIS
B0086	Supplemental Deployment Loop #2 Resistance Low
B0087	Supplemental Deployment Loop #2 Open
B0088	Supplemental Deployment Loop #2 Short to Ground/Voltage Out of Range
B0090	Active switch voltage out of range
B0091	Active switch: wrong state
B0092	PPS passenger detection error
B0093	PPS/CPS self-test malfunction
B0094	CPS childseat detection error
B0095	SDM-PPS/CPS mismatch malfunction
B0126	Right Panel Discharge Temperature Fault
B0131	Right Heater Discharge Temperature Fault
B0159	Outside Air Temperature Sensor Circuit Range/Performance
B0164	Passenger Compartment Temperature Sensor #1 (Single Sensor or LH) Circuit Range/Performance
B0169	In-car Temp Sensor Failure (passenger -not used)
B0174	Output Air Temperature Sensor #1 (Upper; Single or LH) Circuit Range/Performance
B0179	Output Air Temperature Sensor #2 (Lower; Single or LH) Circuit Range/Performance
B0184	Solar Load Sensor #1 CKT Range
B0189	Solar Load Sensor #2 CKT Range
B0248	Mode Door Inoperative Error
B0249	Heater/Defrost/AC Door Range Error
B0268	A/I Door Inoperative Error
B0269	Air Inlet Door Range Error
B0408	Temperature Control #1 (Main/Front) Circuit Malfunction
B0409	Air Mix Door #1 Range Error
B0419	Air Mix Door #2 Range Error
B0423	Air Mix Door #2 Inoperative Error
B0428	Air Mix Door #3 Inoperative Error
B0429	Temperature Control #3 Rear Circuit Range/Performance
B0510	RH Panel Discharge Temp Sensor Failure
B0515	RH Heater Discharge Temp Sensor Failure
B0520	Rear Discharge Temp Sensor Failure
B0530	Fuel Level Sensor Stuck

B0532	Fuel Sensor Shorted To Ground
B0533	Fuel Sensor Open/Shorted To B+
B0688	Security System Indicator Circuit High
B0768	Service Indicator Circuit High
B0846	+5 Volt Reference Out of Range
B0856	Battery 2 Out of Range

[Power Train Codes \(PXXXX\)](#) [Chassis Codes \(CXXXX\)](#) [Body Codes \(BXXXX\)](#)

Generic Network Trouble Codes (U0xxx, U3xxx)

U0001	High Speed CAN Communication Bus
U0002	High Speed CAN Communication Bus Performance
U0003	High Speed CAN Communication Bus (+) Open
U0004	High Speed CAN Communication Bus (+) Low
U0005	High Speed CAN Communication Bus (+) High
U0006	High Speed CAN Communication Bus (-) Open
U0007	High Speed CAN Communication Bus (-) Low
U0008	High Speed CAN Communication Bus (-) High
U0009	High Speed CAN Communication Bus (-) shorted to Bus (+)
U0010	Medium Speed CAN Communication Bus
U0011	Medium Speed CAN Communication Bus Performance
U0012	Medium Speed CAN Communication Bus (+) Open
U0013	Medium Speed CAN Communication Bus (+) Low
U0014	Medium Speed CAN Communication Bus (+) High
U0015	Medium Speed CAN Communication Bus (-) Open
U0016	Medium Speed CAN Communication Bus (-) Low
U0017	Medium Speed CAN Communication Bus (-) High
U0018	Medium Speed CAN Communication Bus (-) shorted to Bus (+)
U0019	Low Speed CAN Communication Bus
U0020	Low Speed CAN Communication Bus Performance
U0021	Low Speed CAN Communication Bus (+) Open
U0022	Low Speed CAN Communication Bus (+) Low
U0023	Low Speed CAN Communication Bus (+) High
U0024	Low Speed CAN Communication Bus (-) Open
U0025	Low Speed CAN Communication Bus (-) Low
U0026	Low Speed CAN Communication Bus (-) High

U0027	Low Speed CAN Communication Bus (-) shorted to Bus (+)
U0028	Vehicle Communication Bus A
U0029	Vehicle Communication Bus A Performance
U0030	Vehicle Communication Bus A (+) Open
U0031	Vehicle Communication Bus A (+) Low
U0032	Vehicle Communication Bus A (+) High
U0033	Vehicle Communication Bus A (-) Open
U0034	Vehicle Communication Bus A (-) Low
U0035	Vehicle Communication Bus A (-) High
U0036	Vehicle Communication Bus A (-) shorted to Bus A (+)
U0037	Vehicle Communication Bus B
U0038	Vehicle Communication Bus B Performance
U0039	Vehicle Communication Bus B (+) Open
U0040	Vehicle Communication Bus B (+) Low
U0041	Vehicle Communication Bus B (+) High
U0042	Vehicle Communication Bus B (-) Open
U0043	Vehicle Communication Bus B (-) Low
U0044	Vehicle Communication Bus B (-) High
U0045	Vehicle Communication Bus B (-) shorted to Bus B (+)
U0046	Vehicle Communication Bus C
U0047	Vehicle Communication Bus C Performance
U0048	Vehicle Communication Bus C (+) Open
U0049	Vehicle Communication Bus C (+) Low
U0050	Vehicle Communication Bus C (+) High
U0051	Vehicle Communication Bus C (-) Open
U0052	Vehicle Communication Bus C (-) Low
U0053	Vehicle Communication Bus C (-) High
U0054	Vehicle Communication Bus C (-) shorted to Bus C (+)
U0055	Vehicle Communication Bus D
U0056	Vehicle Communication Bus D Performance
U0057	Vehicle Communication Bus D (+) Open
U0058	Vehicle Communication Bus D (+) Low
U0059	Vehicle Communication Bus D (+) High
U0060	Vehicle Communication Bus D (-) Open
U0061	Vehicle Communication Bus D (-) Low
U0062	Vehicle Communication Bus D (-) High
U0063	Vehicle Communication Bus D (-) shorted to Bus D (+)

U0064	Vehicle Communication Bus E
U0065	Vehicle Communication Bus E Performance
U0066	Vehicle Communication Bus E (+) Open
U0067	Vehicle Communication Bus E (+) Low
U0068	Vehicle Communication Bus E (+) High
U0069	Vehicle Communication Bus E (-) Open
U0070	Vehicle Communication Bus E (-) Low
U0071	Vehicle Communication Bus E (-) High
U0072	Vehicle Communication Bus E (-) shorted to Bus E (+)
U0073	Control Module Communication Bus Off
U0074	Reserved by Document
U0075	Reserved by Document
U0076	Reserved by Document
U0077	Reserved by Document
U0078	Reserved by Document
U0079	Reserved by Document
U0080	Reserved by Document
U0081	Reserved by Document
U0082	Reserved by Document
U0083	Reserved by Document
U0084	Reserved by Document
U0085	Reserved by Document
U0086	Reserved by Document
U0087	Reserved by Document
U0088	Reserved by Document
U0089	Reserved by Document
U0090	Reserved by Document
U0091	Reserved by Document
U0092	Reserved by Document
U0093	Reserved by Document
U0094	Reserved by Document
U0095	Reserved by Document
U0096	Reserved by Document
U0097	Reserved by Document
U0098	Reserved by Document
U0099	Reserved by Document
U0100	Lost Communication With ECM/PCM "A"

U0101	Lost Communication with TCM
U0102	Lost Communication with Transfer Case Control Module
U0103	Lost Communication With Gear Shift Module
U0104	Lost Communication With Cruise Control Module
U0105	Lost Communication With Fuel Injector Control Module
U0106	Lost Communication With Glow Plug Control Module
U0107	Lost Communication With Throttle Actuator Control Module
U0108	Lost Communication With Alternative Fuel Control Module
U0109	Lost Communication With Fuel Pump Control Module
U0110	Lost Communication With Drive Motor Control Module
U0111	Lost Communication With Battery Energy Control Module "A"
U0112	Lost Communication With Battery Energy Control Module "B"
U0113	Lost Communication With Emissions Critical Control Information
U0114	Lost Communication With Four-Wheel Drive Clutch Control Module
U0115	Lost Communication With ECM/PCM "B"
U0116	Reserved by Document
U0117	Reserved by Document
U0118	Reserved by Document
U0119	Reserved by Document
U0120	Reserved by Document
U0121	Lost Communication With Anti-Lock Brake System (ABS) Control Module
U0122	Lost Communication With Vehicle Dynamics Control Module
U0123	Lost Communication With Yaw Rate Sensor Module
U0124	Lost Communication With Lateral Acceleration Sensor Module
U0125	Lost Communication With Multi-axis Acceleration Sensor Module
U0126	Lost Communication With Steering Angle Sensor Module
U0127	Lost Communication With Tire Pressure Monitor Module
U0128	Lost Communication With Park Brake Control Module
U0129	Lost Communication With Brake System Control Module
U0130	Lost Communication With Steering Effort Control Module
U0131	Lost Communication With Power Steering Control Module
U0132	Lost Communication With Ride Level Control Module
U0133	Reserved by Document
U0134	Reserved by Document
U0135	Reserved by Document
U0136	Reserved by Document
U0137	Reserved by Document

U0138	Reserved by Document
U0139	Reserved by Document
U0140	Lost Communication With Body Control Module
U0141	Lost Communication With Body Control Module "A"
U0142	Lost Communication With Body Control Module "B"
U0143	Lost Communication With Body Control Module "C"
U0144	Lost Communication With Body Control Module "D"
U0145	Lost Communication With Body Control Module "E"
U0146	Lost Communication With Gateway "A"
U0147	Lost Communication With Gateway "B"
U0148	Lost Communication With Gateway "C"
U0149	Lost Communication With Gateway "D"
U0150	Lost Communication With Gateway "E"
U0151	Lost Communication With Restraints Control Module
U0152	Lost Communication With Side Restraints Control Module
U0153	Lost Communication With Side Restraints Control Module
U0154	Lost Communication With Restraints Occupant Sensing Control Module
U0155	Lost Communication With Instrument Panel Cluster (IPC) Control Module
U0156	Lost Communication With Information Center "A"
U0157	Lost Communication With Information Center "B"
U0158	Lost Communication With Head Up Display
U0159	Lost Communication With Parking Assist Control Module
U0160	Lost Communication With Audible Alert Control Module
U0161	Lost Communication With Compass Module
U0162	Lost Communication With Navigation Display Module
U0163	Lost Communication With Navigation Control Module
U0164	Lost Communication With HVAC Control Module
U0165	Lost Communication With HVAC Control Module
U0166	Lost Communication With Auxiliary Heater Control Module
U0167	Lost Communication With Vehicle Immobilizer Control Module
U0168	Lost Communication With Vehicle Security Control Module
U0169	Lost Communication With Sunroof Control Module
U0170	Lost Communication With "Restraints System Sensor A"
U0171	Lost Communication With "Restraints System Sensor B"
U0172	Lost Communication With "Restraints System Sensor C"
U0173	Lost Communication With "Restraints System Sensor D"
U0174	Lost Communication With "Restraints System Sensor E"

U0175	Lost Communication With "Restraints System Sensor F"
U0176	Lost Communication With "Restraints System Sensor G"
U0177	Lost Communication With "Restraints System Sensor H"
U0178	Lost Communication With "Restraints System Sensor I"
U0179	Lost Communication With "Restraints System Sensor J"
U0180	Lost Communication With Automatic Lighting Control Module
U0181	Lost Communication With Headlamp Leveling Control Module
U0182	Lost Communication With Lighting Control Module
U0183	Lost Communication With Lighting Control Module
U0184	Lost Communication With Radio
U0185	Lost Communication With Antenna Control Module
U0186	Lost Communication With Audio Amplifier
U0187	Lost Communication With Digital Disc Player/Changer Module "A"
U0188	Lost Communication With Digital Disc Player/Changer Module "B"
U0189	Lost Communication With Digital Disc Player/Changer Module "C"
U0190	Lost Communication With Digital Disc Player/Changer Module "D"
U0191	Lost Communication With Television
U0192	Lost Communication With Personal Computer
U0193	Lost Communication With "Digital Audio Control Module A"
U0194	Lost Communication With "Digital Audio Control Module B"
U0195	Lost Communication With Subscription Entertainment Receiver Module
U0196	Lost Communication With Rear Seat Entertainment Control Module
U0197	Lost Communication With Telephone Control Module
U0198	Lost Communication With Telematic Control Module
U0199	Lost Communication With "Door Control Module A"
U0200	Lost Communication With "Door Control Module B"
U0201	Lost Communication With "Door Control Module C"
U0202	Lost Communication With "Door Control Module D"
U0203	Lost Communication With "Door Control Module E"
U0204	Lost Communication With "Door Control Module F"
U0205	Lost Communication With "Door Control Module G"
U0206	Lost Communication With Folding Top Control Module
U0207	Lost Communication With Movable Roof Control Module
U0208	Lost Communication With "Seat Control Module A"
U0209	Lost Communication With "Seat Control Module B"
U0210	Lost Communication With "Seat Control Module C"
U0211	Lost Communication With "Seat Control Module D"

U0212	Lost Communication With Steering Column Control Module
U0213	Lost Communication With Mirror Control Module
U0214	Lost Communication With Remote Function Actuation
U0215	Lost Communication With "Door Switch A"
U0216	Lost Communication With "Door Switch B"
U0217	Lost Communication With "Door Switch C"
U0218	Lost Communication With "Door Switch D"
U0219	Lost Communication With "Door Switch E"
U0220	Lost Communication With "Door Switch F"
U0221	Lost Communication With "Door Switch G"
U0222	Lost Communication With "Door Window Motor A"
U0223	Lost Communication With "Door Window Motor B"
U0224	Lost Communication With "Door Window Motor C"
U0225	Lost Communication With "Door Window Motor D"
U0226	Lost Communication With "Door Window Motor E"
U0227	Lost Communication With "Door Window Motor F"
U0228	Lost Communication With "Door Window Motor G"
U0229	Lost Communication With Heated Steering Wheel Module
U0230	Lost Communication With Rear Gate Module
U0231	Lost Communication With Rain Sensing Module
U0232	Lost Communication With Side Obstacle Detection Control Module
U0233	Lost Communication With Side Obstacle Detection Control Module
U0234	Lost Communication With Convenience Recall Module
U0235	Lost Communication With Cruise Control Front Distance Range Sensor
U0300	Internal Control Module Software Incompatibility
U0301	Software Incompatibility with ECM/PCM
U0302	Software Incompatibility with Transmission Control Module
U0303	Software Incompatibility with Transfer Case Control Module
U0304	Software Incompatibility with Gear Shift Control Module
U0305	Software Incompatibility with Cruise Control Module
U0306	Software Incompatibility with Fuel Injector Control Module
U0307	Software Incompatibility with Glow Plug Control Module
U0308	Software Incompatibility with Throttle Actuator Control Module
U0309	Software Incompatibility with Alternative Fuel Control Module
U0310	Software Incompatibility with Fuel Pump Control Module
U0311	Software Incompatibility with Drive Motor Control Module
U0312	Software Incompatibility with Battery Energy Control Module A

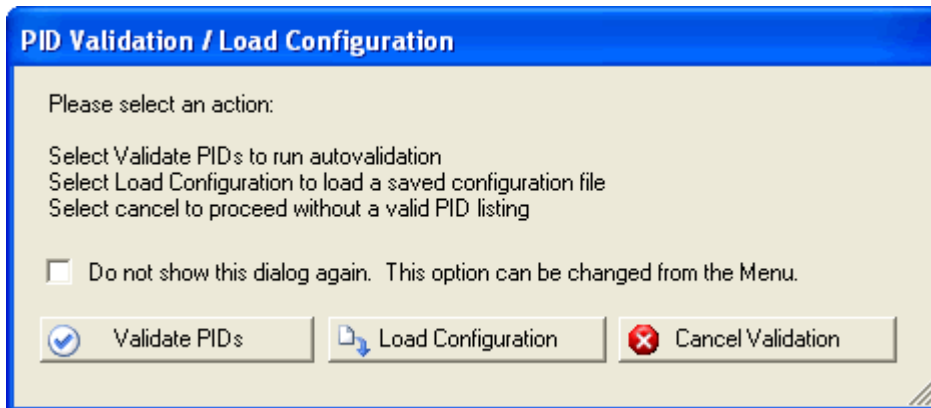
U0313	Software Incompatibility with Battery Energy Control Module B
U0314	Software Incompatibility with Four-Wheel Drive Clutch Control Module
U0315	Software Incompatibility with Anti-Lock Brake System Control Module
U0316	Software Incompatibility with Vehicle Dynamics Control Module
U0317	Software Incompatibility with Park Brake Control Module
U0318	Software Incompatibility with Brake System Control Module
U0319	Software Incompatibility with Steering Effort Control Module
U0320	Software Incompatibility with Power Steering Control Module
U0321	Software Incompatibility with Ride Level Control Module
U0322	Software Incompatibility with Body Control Module
U0323	Software Incompatibility with Instrument Panel Control Module
U0324	Software Incompatibility with HVAC Control Module
U0325	Software Incompatibility with Auxiliary Heater Control Module
U0326	Software Incompatibility with Vehicle Immobilizer Control Module
U0327	Software Incompatibility with Vehicle Security Control Module
U0328	Software Incompatibility with Steering Angle Sensor Module
U0329	Software Incompatibility with Steering Column Control Module
U0330	Software Incompatibility with Tire Pressure Monitor Module
U0331	Software Incompatibility with Body Control Module "A"
U0400	Invalid Data Received
U0401	Invalid Data Received From ECM/PCM
U0402	Invalid Data Received From Transmission Control Module
U0403	Invalid Data Received From Transfer Case Control Module
U0404	Invalid Data Received From Gear Shift Control Module
U0405	Invalid Data Received From Cruise Control Module
U0406	Invalid Data Received From Fuel Injector Control Module
U0407	Invalid Data Received From Glow Plug Control Module
U0408	Invalid Data Received From Throttle Actuator Control Module
U0409	Invalid Data Received From Alternative Fuel Control Module
U0410	Invalid Data Received From Fuel Pump Control Module
U0411	Invalid Data Received From Drive Motor Control Module
U0412	Invalid Data Received From Battery Energy Control Module A
U0413	Invalid Data Received From Battery Energy Control Module B
U0414	Invalid Data Received From Four-Wheel Drive Clutch Control Module
U0415	Invalid Data Received From Anti-Lock Brake System Control Module
U0416	Invalid Data Received From Vehicle Dynamics Control Module
U0417	Invalid Data Received From Park Brake Control Module

U0418	Invalid Data Received From Brake System Control Module
U0419	Invalid Data Received From Steering Effort Control Module
U0420	Invalid Data Received From Power Steering Control Module
U0421	Invalid Data Received From Ride Level Control Module
U0422	Invalid Data Received From Body Control Module
U0423	Invalid Data Received From Instrument Panel Control Module
U0424	Invalid Data Received From HVAC Control Module
U0425	Invalid Data Received From Auxiliary Heater Control Module
U0426	Invalid Data Received From Vehicle Immobilizer Control Module
U0427	Invalid Data Received From Vehicle Security Control Module
U0428	Invalid Data Received From Steering Angle Sensor Module
U0429	Invalid Data Received From Steering Column Control Module
U0430	Invalid Data Received From Tire Pressure Monitor Module
U0431	Invalid Data Received From Body Control Module "A"


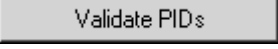
NOTICE: The information contained on this page is presented for informational use only. We are not responsible for any actions you take on any vehicles. If you have any doubt as to repairs on your vehicle, please contact a qualified technician.

Copyright 2007 Edge Analysis. All rights reserved.


The PID Validation / Load Configuration window is automatically displayed when the [Vehicle PID / OBD-II Channel Setup screen](#). is entered.



Selecting Validate PID's

By pressing the Validate PID's button , the program performs an auto validation on PID's. The program will go through the list of PID's and confirm which PID's are available on the connected Electronic Control Unit (ECU). Depending on the speed of the ECU and the speed of the computer, this process may take a few minutes. After the validation is complete, the program will prompt for saving the configuration file for future use. To manually begin the validation process, press the Validate PID's button  on the [Vehicle PID / OBDII Channel Setup Screen](#).

Selecting Load Configuration File

By pressing the Load Configuration button , pressing, Selecting [File->Load Configuration](#) when on the [Vehicle Hardware. Channel and PID Setup Screen](#), or press Ctrl+I. After selecting the desired configuration file, the PID list box will be populated with the saved valid PID list.

Disabling or Enabling the PID Validation / Load Configuration Window

The PID Validation / Load Configuration can be disabled/Enabled by unchecking/checking the menu option [Edit->Preferences -> Enable PID / Load Configuration Option](#). Disabling this option will keep the window from popping up until the option is enabled.

To setup a Quick Pick select Edit->Set Quick Pick-> Quick Pick x where x is the number of the Quick Pick to be setup. This will bring up the Quick Pick Channel Selection Window

QUICK PICK 1 SETUP

Quick Pick Name
ENGINE RPM SPEED

Channel Select | Math Channel Select

- Engine RPM
- Vehicle Speed Sensor
- Absolute Throttle Position
- Intake Manifold Air Pressure
- CHANNEL 4
- CHANNEL 5
- CHANNEL 6
- CHANNEL 7

Check All Uncheck All

OK CANCEL

Selecting Channels

Click the check box next to the channels that should be displayed when the Quick Pick is Selected.

Setting Quick Pick Name


To set the name displayed on the Quick Pick button, simply type it in the Quick Pick Name text box.

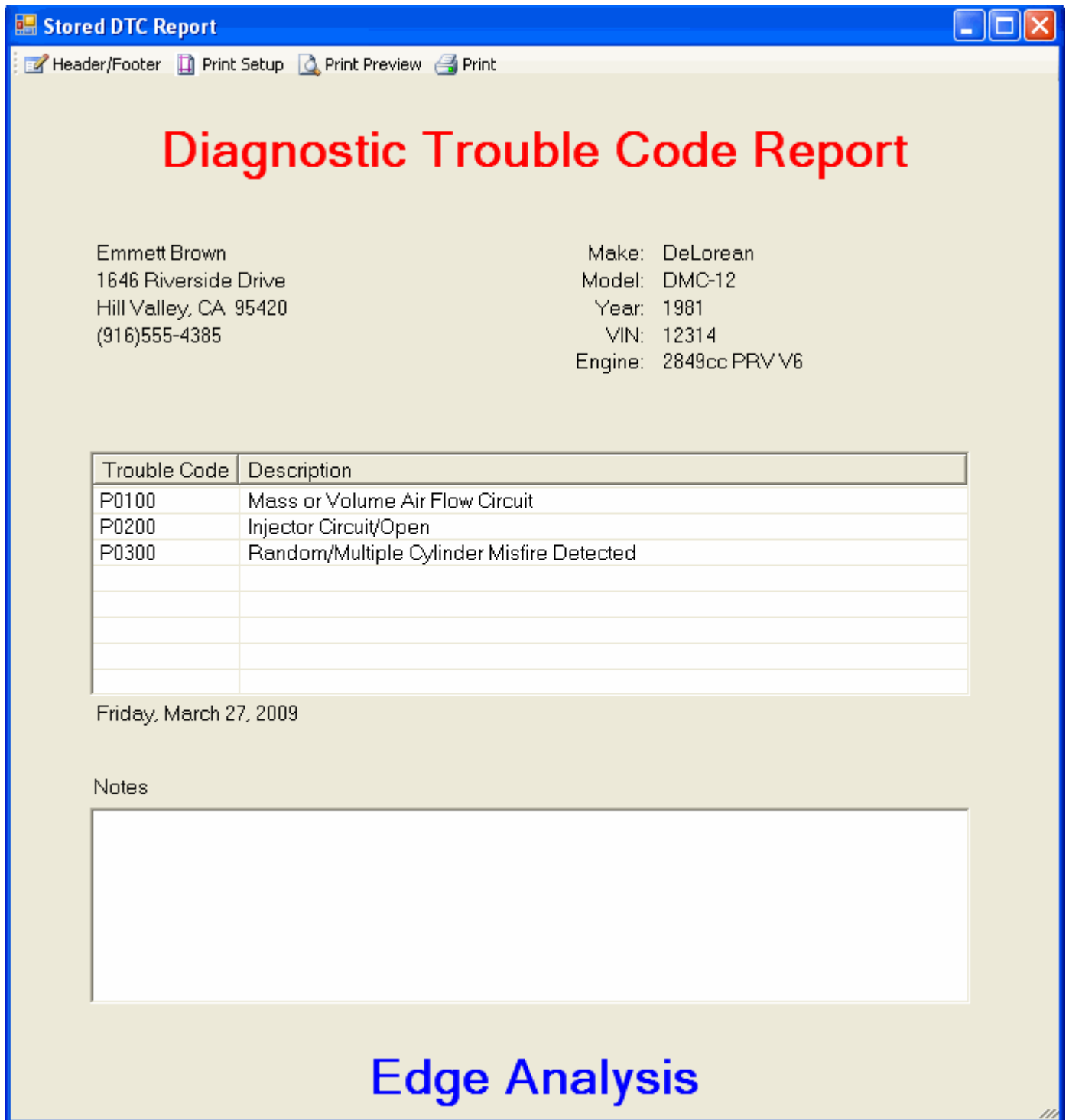
Selecting All Channels

Click Check All Button  to quickly select all the channels.

Selecting No Channels

Click Uncheck All Button  to quickly select all the channels.

The Stored Diagnostic Trouble Code Report screen is displayed when the Stored DTC Report button  on the [DTC / Vehicle Test and OBDII Setup Screen](#), is pressed.



Diagnostic Trouble Code Report

Emmett Brown
1646 Riverside Drive
Hill Valley, CA 95420
(916)555-4385

Make: DeLorean
Model: DMC-12
Year: 1981
VIN: 12314
Engine: 2849cc PRV V6


Trouble Code	Description
P0100	Mass or Volume Air Flow Circuit
P0200	Injector Circuit/Open
P0300	Random/Multiple Cylinder Misfire Detected

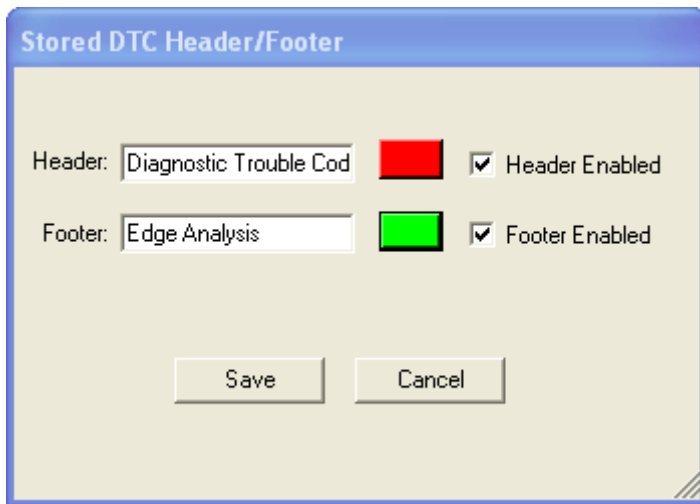
Friday, March 27, 2009

Notes

Edge Analysis

[Changing the Header / Footer](#)

By pressing the Header / Footer button  Header/Footer , button, the configuration screen for the Stored DTC Report Header / Footer.




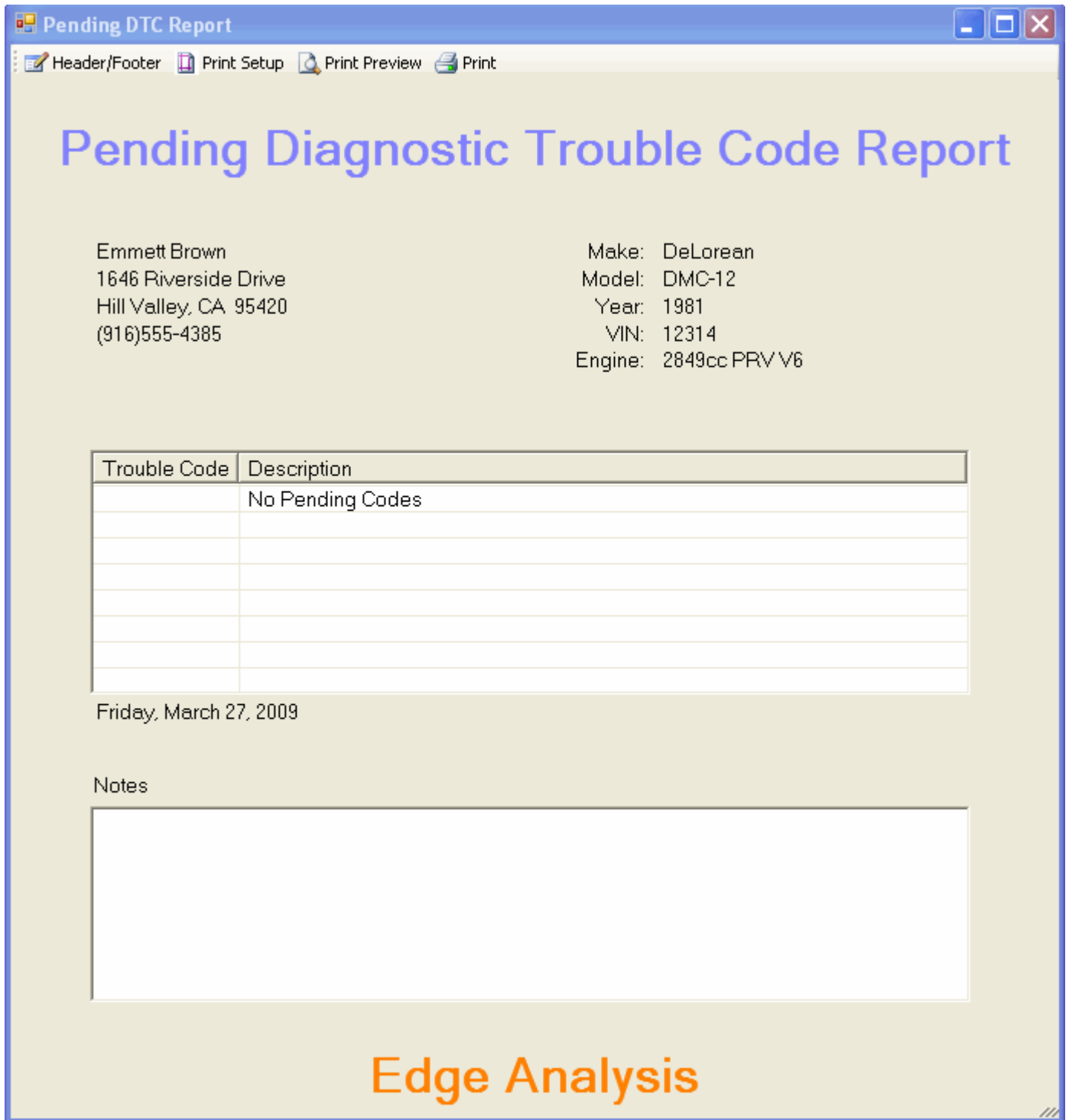
The screenshot shows a dialog box titled "Stored DTC Header/Footer". It contains two rows of configuration options. The first row is for the "Header", with a text input field containing "Diagnostic Trouble Cod", a red color selection box, and a checked checkbox labeled "Header Enabled". The second row is for the "Footer", with a text input field containing "Edge Analysis", a green color selection box, and a checked checkbox labeled "Footer Enabled". At the bottom of the dialog are two buttons: "Save" and "Cancel".

On this screen, enter the Header and Footer to be displayed on the Stored DTC Report. Entering a blank or unchecking the Enabled box will cause no Header and/or Footer to be displayed. When finished press the save button. The current report and all future reports will use the new Header/ Footer.

Printing the Stored DTC Report

The Stored DTC Report supports printing, print preview and print setup.

The Pending Diagnostic Trouble Code (DTC) Report screen is displayed when the Pending DTC Report button  on the [DTC / Vehicle Test and OBDII Setup Screen](#) is pressed.



Pending Diagnostic Trouble Code Report

Emmett Brown
1646 Riverside Drive
Hill Valley, CA 95420
(916)555-4385

Make: DeLorean
Model: DMC-12
Year: 1981
VIN: 12314
Engine: 2849cc PRV V6

Trouble Code	Description
	No Pending Codes

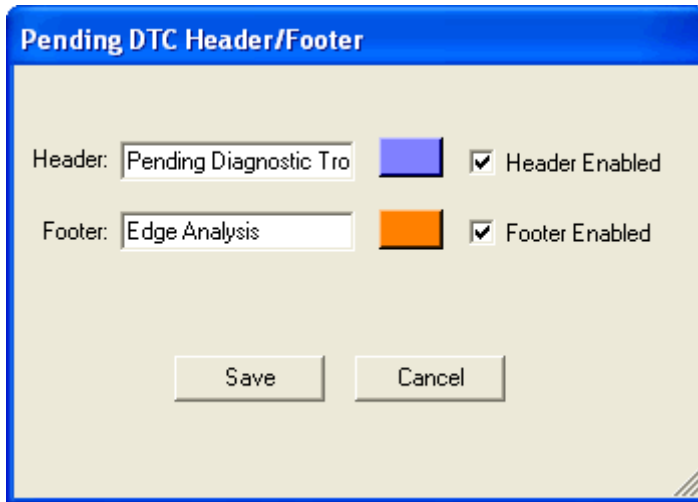
Friday, March 27, 2009

Notes

Edge Analysis

Changing the Header / Footer

Pressing the Header / Footer button  Header/Footer button opens the configuration screen for the Pending DTC Report Header / Footer.




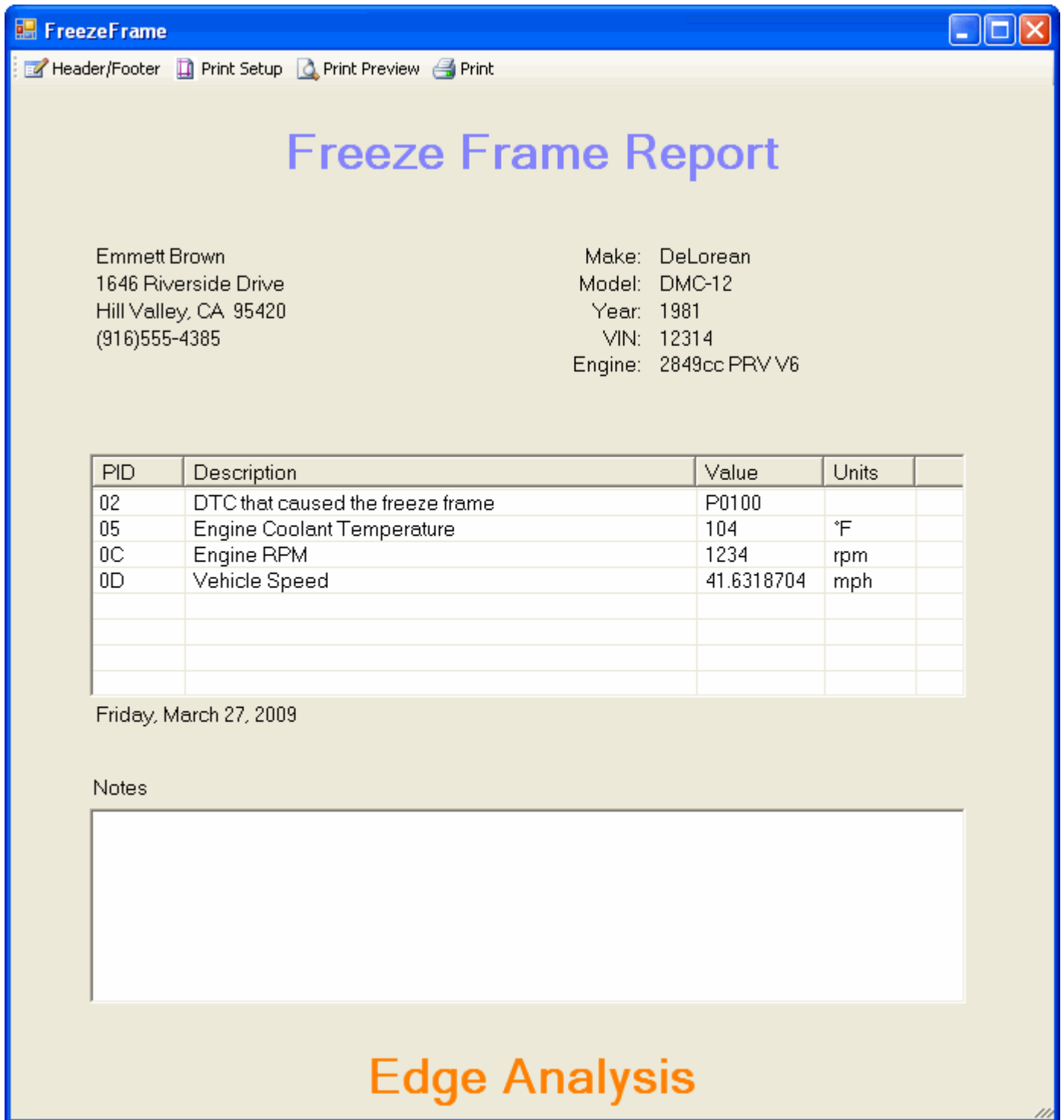
The screenshot shows a dialog box titled "Pending DTC Header/Footer". It contains two rows of configuration options. The first row is for the Header, with a text input field containing "Pending Diagnostic Tro", a color selection box (purple), and a checked checkbox labeled "Header Enabled". The second row is for the Footer, with a text input field containing "Edge Analysis", a color selection box (orange), and a checked checkbox labeled "Footer Enabled". At the bottom of the dialog are two buttons: "Save" and "Cancel".

On this screen, enter the Header and Footer to be displayed on the Pending DTC Report and choose the colors for each. Entering a blank or unchecking the Enabled box will cause no Header and/or Footer to be displayed. When finished press the save button. The current report and all future reports will use the new Header/ Footer.

Printing the Pending DTC Report

The Pending DTC Report supports printing, print preview and print setup.

The Freeze Frame Report screen is displayed when the Freeze Frame button  on the [DTC / Vehicle Test and OBDII Setup Screen](#), is pressed.



Freeze Frame Report

Emmett Brown
1646 Riverside Drive
Hill Valley, CA 95420
(916)555-4385

Make: DeLorean
Model: DMC-12
Year: 1981
VIN: 12314
Engine: 2849cc PRV V6


PID	Description	Value	Units
02	DTC that caused the freeze frame	P0100	
05	Engine Coolant Temperature	104	°F
0C	Engine RPM	1234	rpm
0D	Vehicle Speed	41.6318704	mph

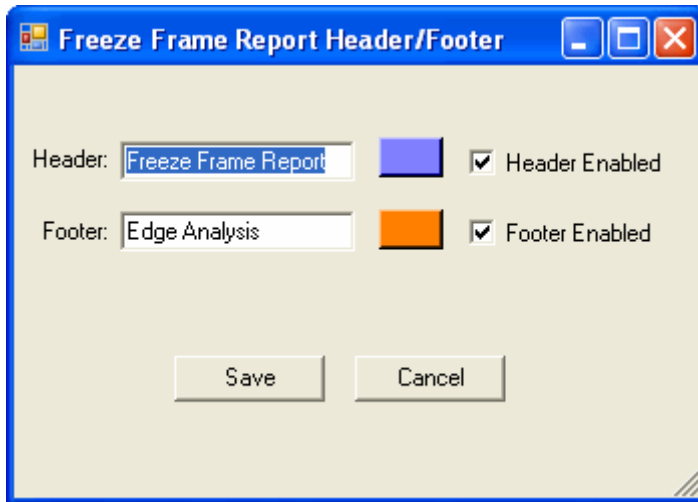
Friday, March 27, 2009

Notes

Edge Analysis

Changing the Header / Footer


By pressing the Header / Footer button  Header/Footer , button, the configuration screen for the Freeze Frame Report Header / Footer.

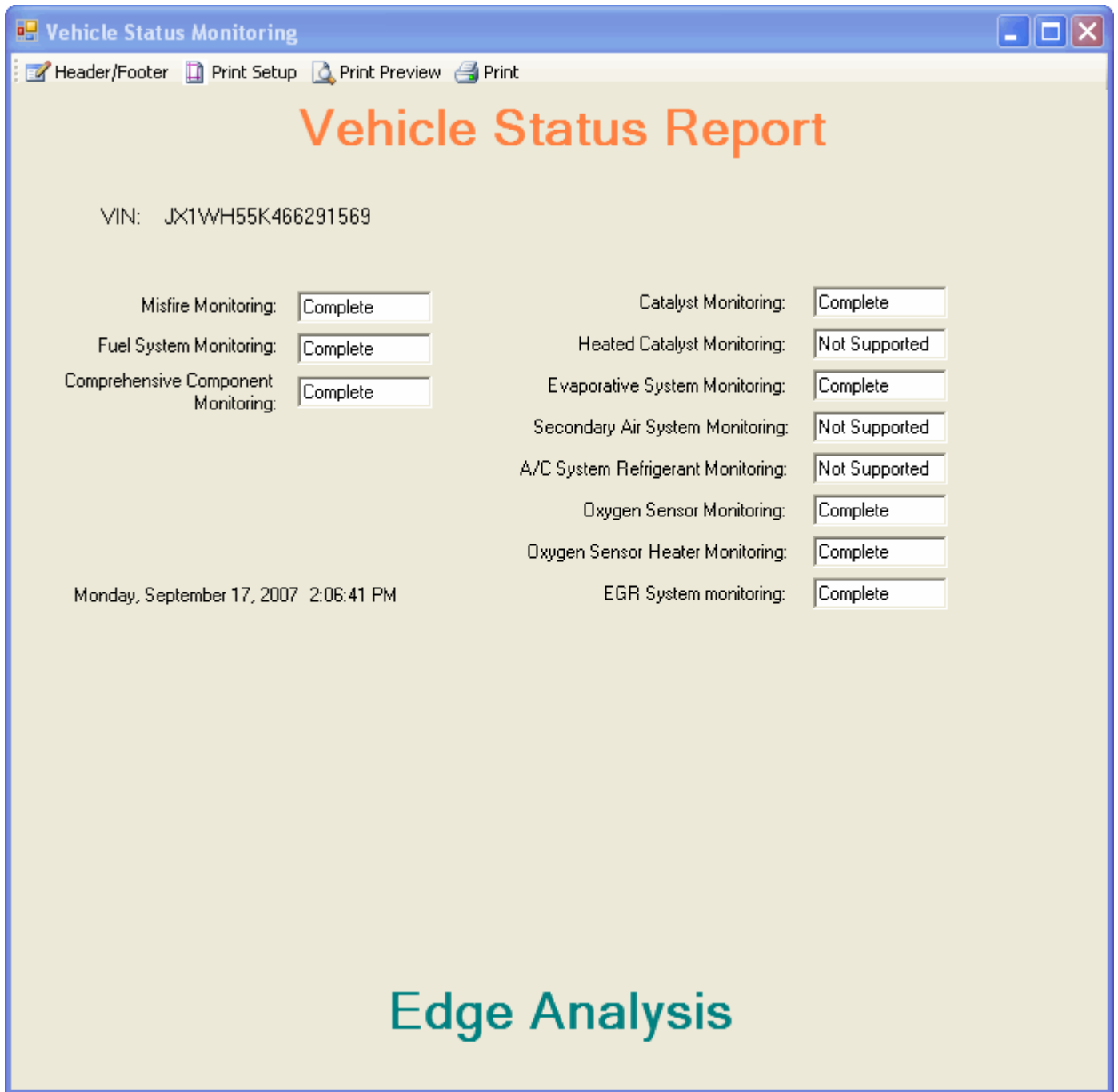


On this screen, enter the Header and Footer to be displayed on the Freeze Frame Report. Entering a blank or unchecking the Enabled box will cause no Header and/or Footer to be displayed. When finished press the save button. The current report and all future reports will use the new Header/ Footer.

Printing the Freeze Frame Report

The Freeze Frame Report supports printing, print preview and print setup.

The Vehicle Status Report screen is displayed when the Vehicle Status button  on the [DTC / Vehicle Test and OBDII Setup Screen](#), is pressed.




The screenshot shows a software window titled "Vehicle Status Monitoring". The window has a menu bar with "Header/Footer", "Print Setup", "Print Preview", and "Print". The main content area displays a "Vehicle Status Report" for VIN: JX1WH55K466291569. The report lists various monitoring systems and their status in a two-column layout. At the bottom of the report area, the date and time "Monday, September 17, 2007 2:06:41 PM" are shown. Below the report area, the text "Edge Analysis" is displayed in a large, teal font.

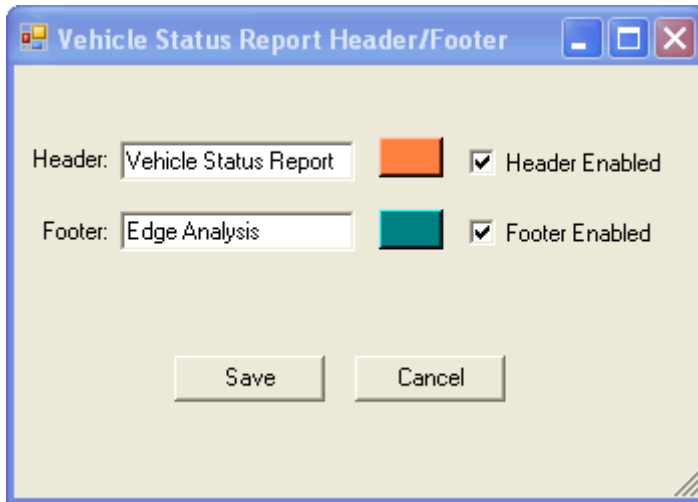
Monitoring System	Status
Misfire Monitoring:	Complete
Fuel System Monitoring:	Complete
Comprehensive Component Monitoring:	Complete
Catalyst Monitoring:	Complete
Heated Catalyst Monitoring:	Not Supported
Evaporative System Monitoring:	Complete
Secondary Air System Monitoring:	Not Supported
A/C System Refrigerant Monitoring:	Not Supported
Oxygen Sensor Monitoring:	Complete
Oxygen Sensor Heater Monitoring:	Complete
EGR System monitoring:	Complete

Monday, September 17, 2007 2:06:41 PM

Edge Analysis

[Changing the Header / Footer](#)

By pressing the Header / Footer button  Header/Footer , button, the configuration screen for the Vehicle Status Report Header / Footer.



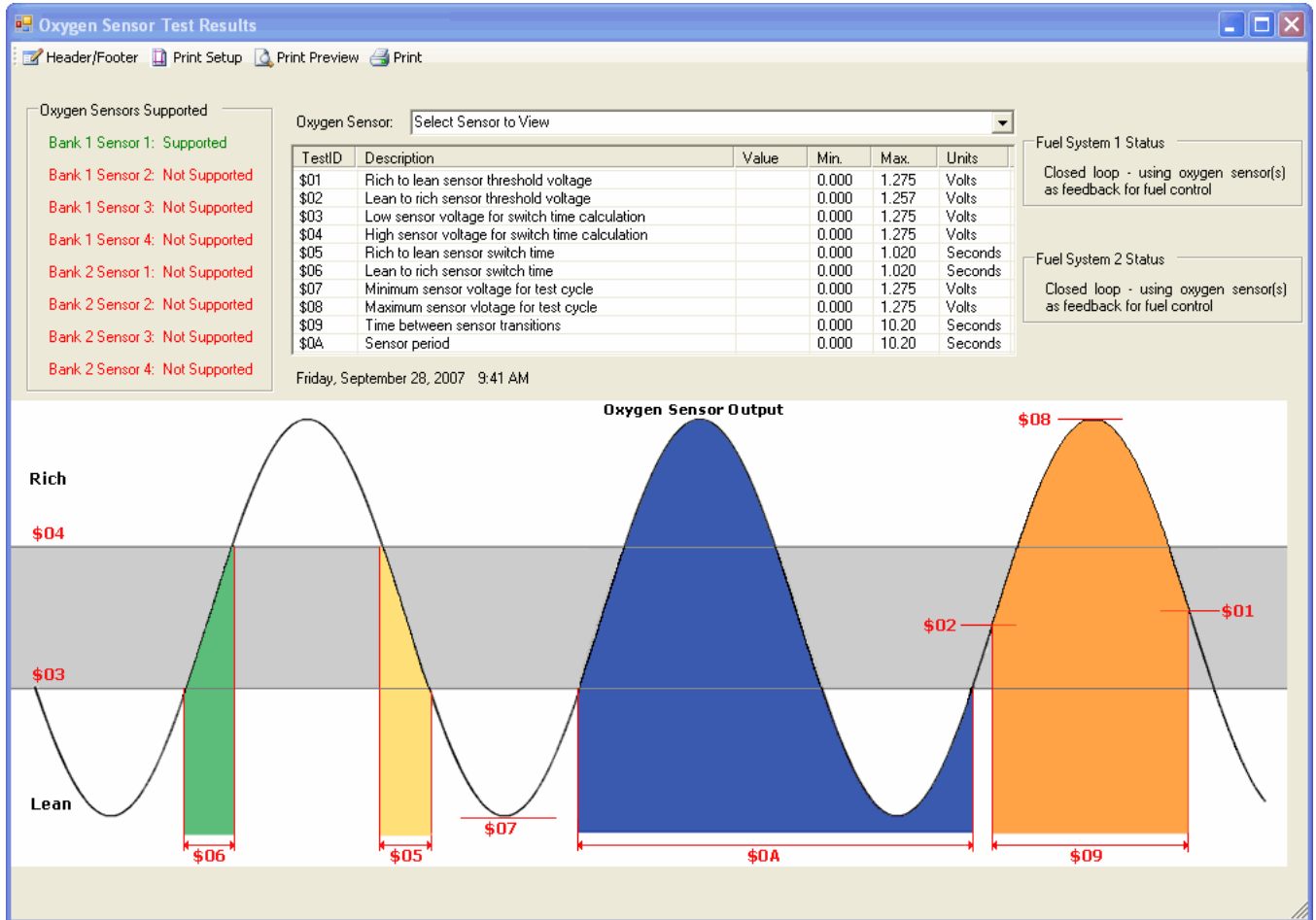
On this screen, enter the Header and Footer to be displayed on the Vehicle Status Report. Entering a blank or unchecking the Enabled box will cause no Header and/or Footer to be displayed. When finished press the save button. The current report and all future reports will use the new Header/ Footer.

Printing the Vehicle Status Report

The Vehicle Status Report supports printing, print preview and print setup.

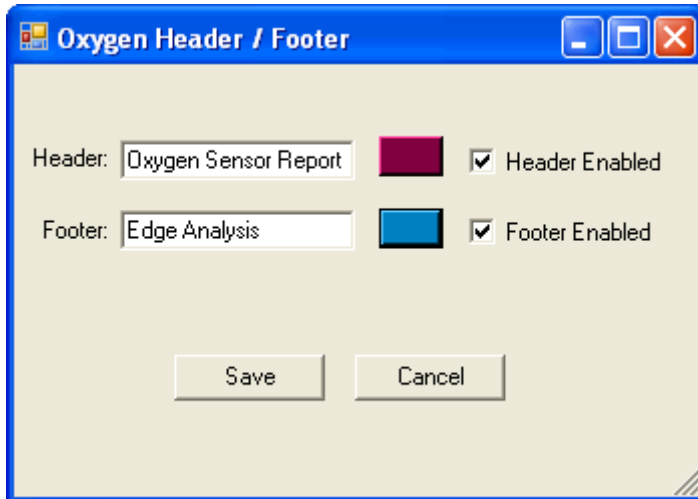
Oxygen Test

The Oxygen Sensor Test Results screen is accessed when the Oxygen Test button [Oxygen Test](#), on the [DTC / Vehicle Test and and OBDII Setup Screen](#), is pressed. The Oxygen Sensor Test Results displays a list of the supported Oxygen Sensors, The Fuel System Status, and the result of 10 tests on each Oxygen Sensor present.



Changing the Header / Footer

By pressing the Header / Footer button [Header/Footer](#), button, the configuration screen for the Oxygen Test Report.



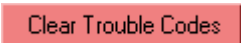
On this screen, enter the Header and Footer to be displayed on the Oxygen Test Report. Entering a blank or unchecking the Enabled box will cause no Header and/or Footer to be displayed. When finished press the save button. The current report and all future reports will use the new Header/ Footer.

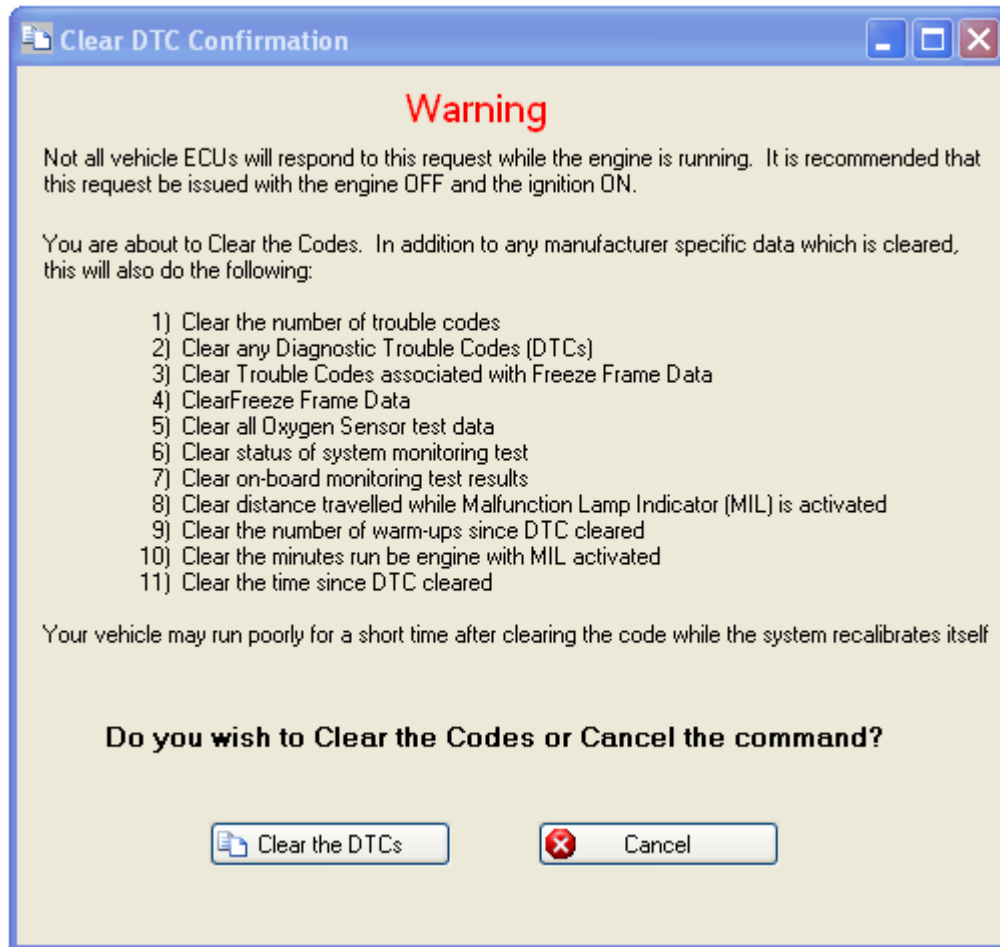
Note: The Oxygen Test Header and Footer will not show up on the screen, only on the printed reports.

Printing the Oxygen Test Report

The Oxygen Test Report supports printing, print preview and print setup

Clear DTC Confirmation

The Clear DTC Confirmation screen is displayed whenever the Clear Trouble Codes button  is pressed on the [DTC / Vehicle Tests and PBDII Setup](#) Screen. It shows the information which will be cleared, as well as, giving the option to cancel the clearing of the codes or to continue clearing the codes.



File Menu

Open Par/Data	Opens a Parameter File (par File) and/or a Data File (dat File)
Open Report	Opens a saved Report File (rpt File)
Save Report	Saves a Report File (rpt File)
Save Par File	Saves a Parameter File (par File)
Save Configuration	Saves the List of Validated PIDs obtained for a specific Vehicle
Page Setup	Makes changes to the page setup
Print Preview	Give a Print Preview of the page
Print Setup	Makes changes to the print setup
Print Notes	Prints the notes for the screen
Print Page	Prints the page
Import Data	Imports data from a Comma, Space or Tab Delimited File, with or without Channel Names
Export All Channels	Exports All channels to a Data File (dat File)
Export Select Channels	Exports User Selected channels to a Data File (dat File)
Exit	Exits the program

Note: Not all options will show up in every screen.

Edit Menu

Enable PID/Load Configuration Option	Change whether the prompt to Validate PIDs or Load a configuration is Displayed in the OBD-II Tab when it is first entered
Metric Units	Changes whether units are in Metric or English
Do Not Display OT1 Program Prompt	Changes whether to display the OT-1 configuration program when connecting in the Dashboard screen
Scan Rate	Allows the Data collection rate to be changed

Note: Not all options will show up in every screen.

OBD-II Menu

Acquire from OBD-II	Checking this option collects data from an OBD-II device. Unchecking this option collects data from a data acquisition card in the computer.
Calibrate Channel	Selecting this will allow the channel to be calibrated if it is an analog channel.

Note: Not all options will show up in every screen.

Help Menu

Open Help File	Opens the Help File
Edge Analysis Website	Visits the Edge Analysis Website in the default Internet Browser (Connection to the Internet is required)
About	Displays About Window which contains version and license information about the program
Activate DataPro	Starts the Activation Process for editions which use software security (Not present in editions using Hardware Security or editions which have already been activated)
Transfer License	Transfers the license information to a file. (The program will no longer be licensed on this computer)


Software Based Security

Software based security requires the DataPro program to obtain an Activation Code to take the program out of Trial Mode. While the program is in Trial Mode, each time the program is started the DataPro Trial Window will be displayed.

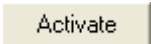


This window displays the number of runs remaining and the number of days remaining in the trial period. This DataPro Trial window is timed so that after 10 seconds the windows will disappear and the program will remain in Trial Mode.

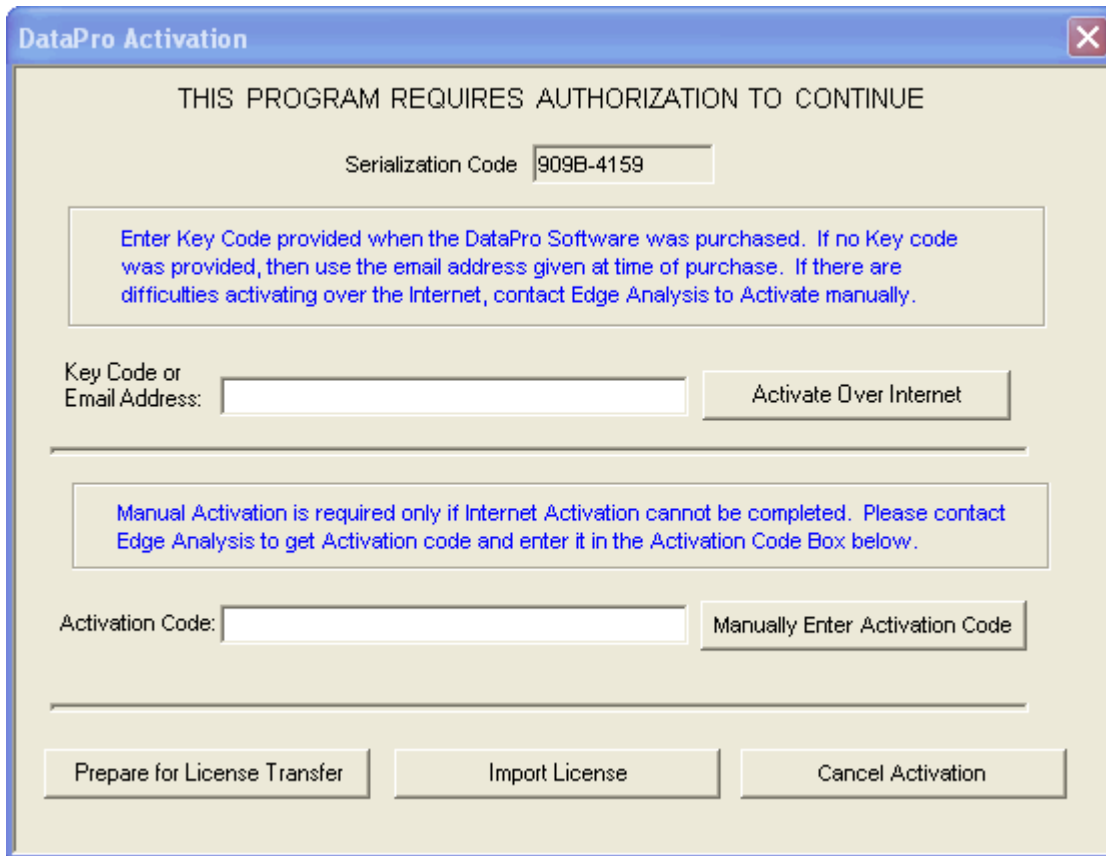
Run the software in trial mode

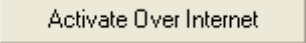
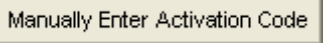
By pressing the continue button , the program will start in Trial Mode. The program is completely functional while in Trial Mode as long as the number of runs or the number of days is not equal to zero. This allows evaluation of the complete software for the duration of the trial period.

Activate the software

By pressing the activate button , the activation screen will be displayed allowing the software to be taken out of Trial Mode.

Note: If the DataPro software was obtained from a dealer, then the Dealers contact information will be displayed in the Instructions (The Blue text)



After purchasing the software, activation can be completed. Simply enter the Key Code provide at the time of purchase or if no Key Code was provided, use the email address provided when the software was purchased and press <enter> or press the Activate Over Internet Activation button . The DataPro program will automatically connect to the Edge Analysis Authorization server and activate the software. If this process cannot be completed, then Edge support should be contacted and once the Serialization Code is provided an activation code will be given. Simply enter this code in the Activation Code box and press the Manually Enter Activation Code button .

Prepare for Transfer

The Prepare for License Transfer button  is used to generate a transfer file needed to transfer a license from one computer to another.

Note: Transferring a license has a specific order in which the steps must be done. Please consult the [Software License Transfer](#) topic for the correct procedure.

Import License from a file

The Import License button  is used import the license from another computer.

Note: Transferring a license has a specific order in which the steps must be done. Please consult the [Software License Transfer](#) topic for the correct procedure.

Hardware Based Security

Hardware based security requires the Hardware Key be present in the USB port for DataPro program to run. During the setup of the DataPro software, the drivers for the hardware key will be installed automatically. If hardware security is used, then there is no software activation required.

Important Note:

The hardware key is required for the DataPro software to run, so it is important that the key be kept in a safe, secure place.

Software License Transfer

The software license is a single computer license which means that the DataPro editions protected with software based security are only allowed to be install on one computer at a time. This license is however transferrable to another computer. The step to transfer a license **MUST** be followed correctly or the result may be that neither computer has a functioning license.

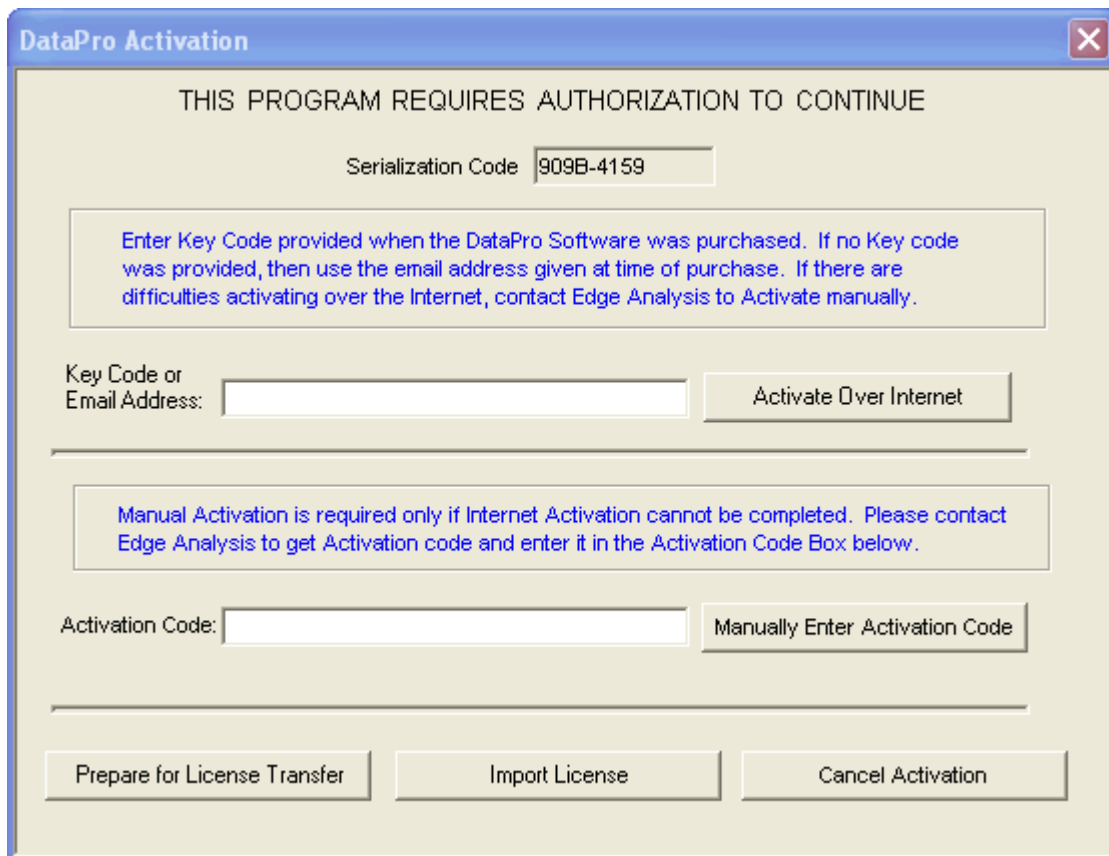
Terminology used in this topic

Target Computer - This it the computer that the license will be transferred TO



Source Computer - This is the computer that the license will be transferred FROM

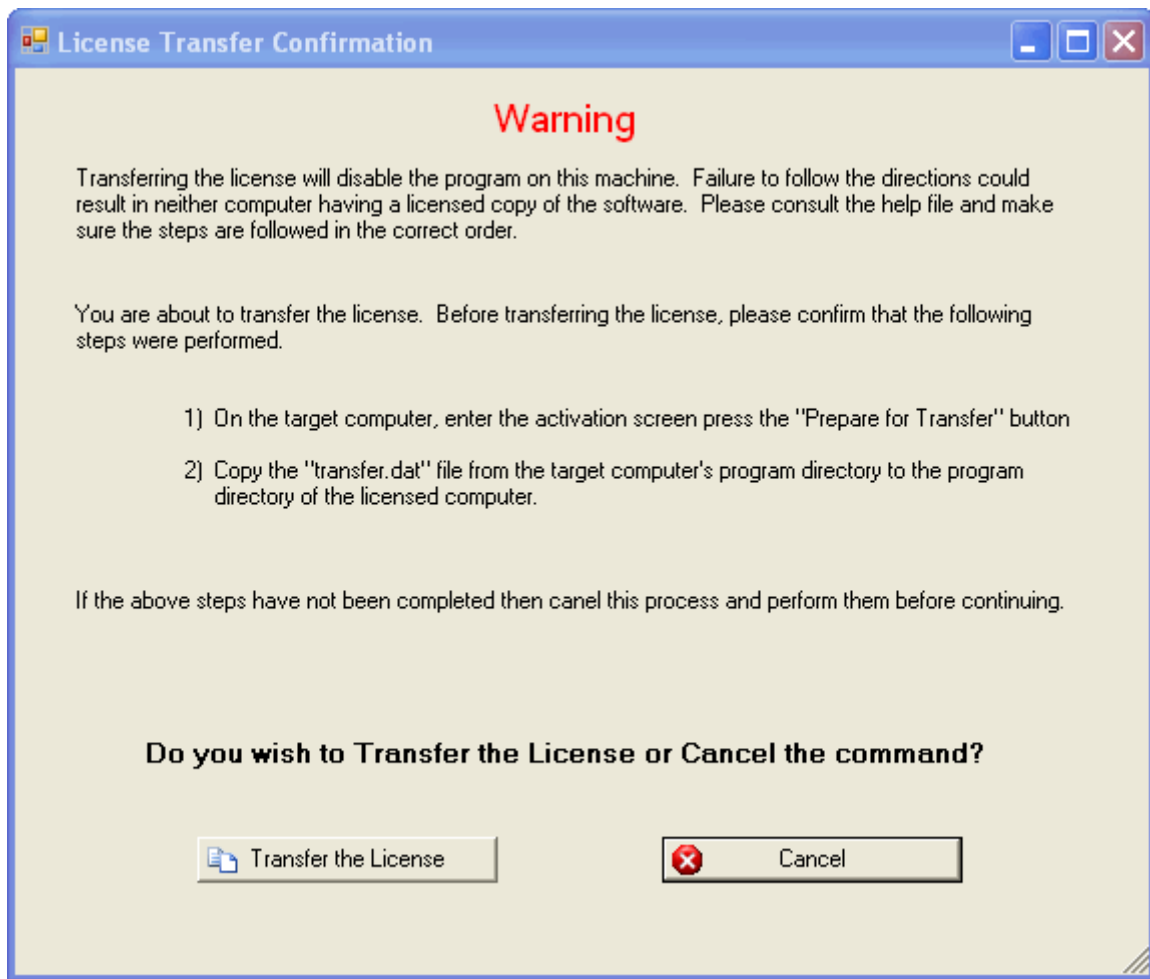
Steps to Transfer a License

1. Start the DataPro program on the Target Computer.
2. Enter the DataPro Activation screen. To bring up the screen, select Help-> Activate DataPro



DataPro Activation Screen

3. Press the Prepare for License Transfer button, . This will generate a transfer file named "transfer.dat" in the program directory (The default directory for the program is C:\Program Files\Edge Analysis\DataPro).
4. Copy the "transfer.dat" file generated in Step 2 to the Source Computer's program directory (The default directory for the program is C:\Program Files\Edge Analysis\DataPro).
5. Start the program on the Source Computer.
6. On the Source Computer, select Help-> Transfer License. The License Transfer Confirmation Screen will be displayed. Press the Transfer License button .



License Transfer Confirmation Screen

7. Copy the "transfer.dat" file from the Source Computer's program directory to the Target Computer's program directory.

8. On the Target Computer's Activation Screen press the Import License button

A rectangular button with a light beige background and a thin black border. The text "Import License" is centered on the button in a dark font.