



APOGEE USER GUIDE



IMPORTANT NOTICES

SAFETY

For your safety, follow all Danger, Warning and Important notes. These safety messages are in the following formats:



DANGER:

Means you risk possible loss of life.



WARNING:

Means you risk possible bodily harm.

IMPORTANT: Means that the information demands special attention or that you risk damage to the vehicle or the tool.

Note: Added to provide clarity and helpful tips.

These safety messages cover situations SPX is aware of. SPX cannot know, evaluate and advise you as to all of the possible hazards. You must be certain that any conditions or service procedures encountered do not jeopardize your personal safety.

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APOGEE
USER GUIDE

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Safety Precautions

Danger:

- When an engine is operating, keep the service area **WELL VENTILATED** or attach a building exhaust removal system to the engine exhaust system. Engines produce carbon monoxide, an odorless, poisonous gas that causes slower reaction time and can lead to serious injury or death.



Warning:

- When working with hydraulic or fuel lines, liquids under pressure may escape and create a dangerous condition. Never open a bleeder valve or loosen a hydraulic line while the ABS is pressurized. Use adequate ventilation and make sure there are no sparks or possibility of sparks present that may ignite any vapor.
- Wear an American National Standards Institute (ANSI) approved eye shield when testing or repairing vehicles. Objects propelled by whirling engine components or pressurized liquids escaping may cause personal injury.
- Set the parking brake and block the wheels before testing or repairing a vehicle. It is especially important to block the wheels on front-wheel drive vehicles because the parking brake does not hold the drive wheels.
- Do not drive the vehicle and operate the *APOGEE* tool at the same time. Any distractions may cause an accident. Have one person operate the *APOGEE* tool as another person drives the vehicle.
- Maintain adequate clearance around moving components or belts during testing. Moving components and belts can catch loose clothing, body parts, or test equipment and cause serious damage or personal injury.
- Automotive batteries contain sulfuric acid and produce explosive gases that can result in serious injury. To prevent ignition of gases, keep lighted cigarettes, sparks, flames, and other ignition sources away from the battery at all times. If you are using the battery as a power source, connect the RED (+) battery clip to the positive vehicle battery terminal and connect the BLACK (-) battery clip to a good ground away from the battery.
- Refer to the service manual for the vehicle being serviced and adhere to all diagnostic procedures and precautions. Failure to do so could result in air bag deployment, personal injury, or otherwise unneeded air bag system repairs.
- Only use specially designed replacement parts (brake hoses and lines) for ABS-equipped vehicles.
- After bleeding the brake system, check the brake pedal for excessive travel or a “spongy” feel. Bleed again if either condition is present.
- When installing transmitting devices (Citizen Band radio, telephone, etc.) on ABS-equipped vehicles, do not locate the antenna near the ABS control unit or any other control unit.



Important:

- To avoid damaging the *APOGEE* tool or generating false data, make sure the vehicle battery is fully charged and the connection to the vehicle DLC is clean and secure.
- Never disconnect or reconnect any electrical connector while the ignition is on. Damage to the ABS control unit may result.
- Do not hammer speed rings into the hub or tap on speed sensor components (sensor, sensor rings, etc.). Speed rings must be pressed, not hammered, into the hub and striking or tapping speed sensor components can cause demagnetization or a loss of polarization, affecting the accuracy of the speed signal returning to the ABS control unit.
- Use the recommended anti-corrosion coating on speed sensor components: Do not contaminate with grease.
- When speed sensor components have been removed, be sure to check the sensor-to-ring gap, when applicable.
- Do not mix tire sizes. Increasing the width slightly is acceptable but rolling diameter must be identical for all tires. Some manufacturers recommend tires of the same brand, style, and type. Failure to follow this precaution may cause inaccurate wheel speed readings.
- Do not expose the ABS control unit to prolonged periods of high heat: 185 degrees F/85 degrees C for 2 hours is considered a maximum limit.
- Use a recommended brake fluid, do not use silicone brake fluids in an ABS-equipped vehicle.
- Before bleeding the brake system, make sure no diagnostic codes are present.
- Do not let the master cylinder run dry during the brake bleeding procedure.
- Do not allow brake fluid to contact the motor pack or the electrical connectors.

VW Problems:

- For model years 2000 and 2001 VW Golf, GTI, Jetta/Bora, and Beetle air bag controllers there are reports of air bag warning lights staying on permanently after scanning with a scan tool. The air bag controller shows DTC number 65535, indicating an internal error which cannot be cleared. This problem seems to be limited to air bag controllers with the part number 6Q0-909-605-A. There are a number of different index or color-code variations of this controller and not all of them are affected. If you have a 2000 or 2001 Golf, Jetta/Bora, Beetle, or a similar SEAT or Skoda model, physically inspect the air bag controller and look at the part number. If it is not 6Q0-909-605-A, then it should be safe to test. If it is Q0-909-605-A, then it is at risk of this problem — avoid testing the air bag controller.

1: General Information

Introduction

This automotive scan tool reads diagnostic trouble codes (DTCs), views “live” data readings from the vehicle’s Electronic Control Units (ECUs), and saves recordings of the data readings.

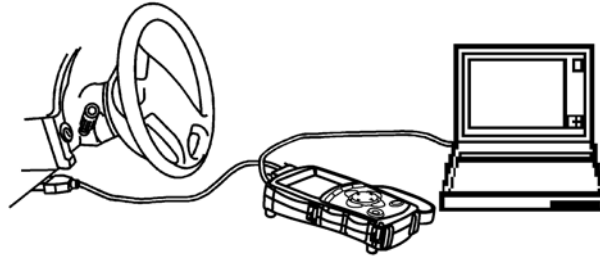


Figure 1.1: APOGEE Connection to Vehicle and to PC

When you turn on the scan tool, the Application Manager screen appears for you to select a test option:



Figure 1.2: Application Manager Screen

- **USA 2005 ABS/Airbag** — This is a software program for the tool. With the tool properly connected to a vehicle's electronic control unit (ECU), you can use the software to read the vehicle's anti-lock brake system (ABS) and air bag information and to perform device control tests.
 - After you enter the vehicle information into the **APOGEE** tool, the software displays an illustration of the cables required for connecting the **APOGEE** tool to the vehicle's ECU. After you connect the correct cables, the software automatically determines the tests available for that vehicle.
 - The software automatically saves the most recently used vehicle setup for you to reuse quickly. You can also save vehicle setups for reuse.
 - You can view "live" sensor and switch datastream information while it is being communicated from the vehicle's ECU.
 - The tests let you read DTCs for air bags and anti-lock brake systems. (In addition, you can manually enter diagnostic codes for vehicles without readable ECUs.)
 - Record (Save) and Playback functions let you record and replay datastream DTC information similar to a video recorder function.
 - An automatic DTC triggered record function automatically creates a recording for playback and alerts you whenever a DTC occurs during testing.
 - A Post Collision test provides instructions for testing air bags after repair(s).
 - Pathfinder Troubleshooting and Vehicle Info functions let you view vehicle-specific information, such as technical service bulletin (TSB) references, vehicle specifications, repair instructions, ECU component location(s), and brake bleed procedures.
 - The tests include programmed diagnostic procedures (special tests) you can use for bi-directional control tests on anti-lock brake systems.
- **Global OBD II** — for diagnostic testing of On Board Diagnostics II (OBD II) compliant USA domestic, Asian, and European vehicles for the years 1996 to 2005. Refer to chapter 11 for details.
- **Playback** — for viewing saved recordings.
- **System Setup** — for adjusting default settings for the scan tool. Some of the functions provided by the **APOGEE** software include the following:

APOGEE Tool Features

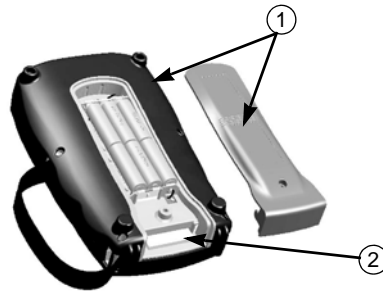


Figure 1.3: APOGEE Back View

- 1 **Battery Compartment and Cover** — holds six (6) 1.5 volt batteries.
- 2 **Flash Card Port** — holds a flash card (for future scan tool updates).

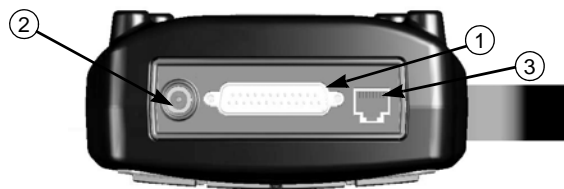


Figure 1.4: APOGEE Top View

- 1 **RS 232 Port** — (25-Pin) connects to the vehicle Data Link Connector (DLC) cable.
- 2 **External Power Port** — connects the power adapter.
- 3 **RJ45 Serial Port** — connects the PC serial cable.

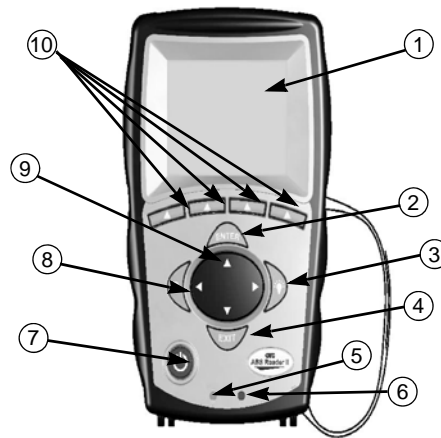


Figure 1.5: APOGEE Front View

- 1 LCD Screen** — displays the menus and data screens.
- 2 ENTER Key** — executes a selected menu option and/or displays the next screen.
- 3 LIGHT Key** — turns the LCD backlight on when using internal battery power. (When using external power, the backlight is always on when the tool is on.)
- 4 EXIT Key** — exits a screen. Cancels a selected menu option.
- 5 Communication Indicator** — indicates when the scan tool is properly connected and communicating with the vehicle's ECU.
- 6 External Power Indicator** — indicates when the scan tool is drawing power from a source other than the internal batteries, such as from an OBD II vehicle cable connection, the cigarette lighter power adapter, or an accessory AC / DC power adapter.
- 7 On/Off Button** — turns the scan tool on and off. When using external power, the scan tool stays on until you turn it off. When using internal battery power, the scan tool turns off automatically after a set time (see Unit Defaults in Step 2: Adjust Default Settings, on page 24).
- 8 HELP Key** — displays helpful information.
- 9 Arrow Keys (Up, Down, Left, and Right)** — select a menu option or scroll through a screen of data or text.
- 10 Variable Function Keys** — four keys that correspond with “buttons” on some screens; execute special commands.

Cables

The cable used to connect the **APOGEE** tool to the data link connector (DLC) of a vehicle's electronic control unit (ECU) depends on the type of vehicle being tested. The two most common cables are shown below. They are the System Smart 25-pin cable (3305-73) and the DB25 power cable (3305-72). An optional extension cable may also be used.

Note: The **APOGEE** software tells you which cable must be used for the vehicle you are testing. For details, refer to Step 4: Enter the Vehicle Information, on page 26.

System Smart 25-Pin Cable (3305-73)

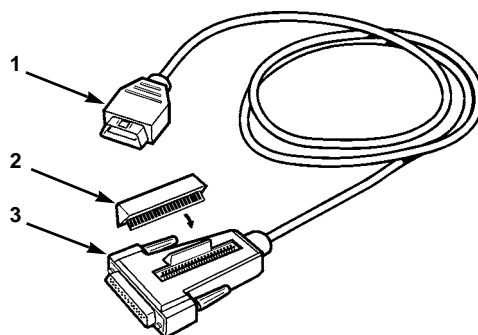


Figure 1.6: System Smart 25-Pin Cable

The System Smart 25-pin cable is for OBD II vehicles. The cable has the following components:

- 1 **J-1962 Connector** - connects to the DLC of the vehicle's electronic control unit.
- 2 **System Smart Insert (SSI)** - inserts into the port on the top of the 25-pin connector. The SSI used depends on the vehicle being tested.
- 3 **25-pin Male Connector** - connects to the DB25 port on the top of the **APOGEE** tool. The 25-pin connector has a port on the top of it for inserting SSI.

DB25 Power Cable (3305-72)

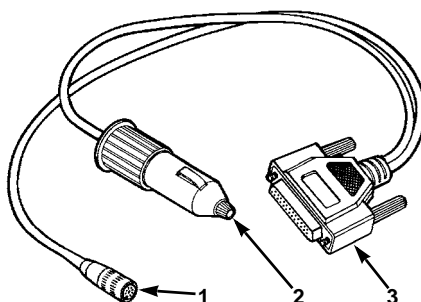


Figure 1.7: DB25 Power Cable

The DB25 power cable is for non-OBD II vehicles and some OBD II vehicles. The cable has the following components:

- 1 **8-Pin Adapter Connector** - connects to the correct adapter for the vehicle being tested. The adapter then connects to the DLC of the vehicle's electronic control unit.
- 2 **Power Plug** - inserts into the vehicle's cigarette lighter receptacle.
- 3 **25-pin Male Connector** - connects to the DB25 port on the top of the **APOGEE** tool.

Software Installation Description

ScanMate PC Software

The ScanMate software application lets you print data and upload playback files to a personal computer (PC) from a connected scan tool. It also lets you view and print data from uploaded playback files without having a scan tool or vehicle connected. In addition, future functionality will let you update the scan tool's software through the ScanMate application.

A special feature of the ScanMate application is the variety of methods for viewing playback data. You can view data as gauges, block graphs, or bar graphs; you can add cursors and markers; and you can export files as text files or bitmaps (and even send them by email to Vehicle Diagnostic Help Services).

Scan Tool/PC Connection

To use the ScanMate application for printing data directly from the scan tool or for uploading playback event files from the scan tool, connect the scan tool and the PC with the RS232 serial cable, as shown below.

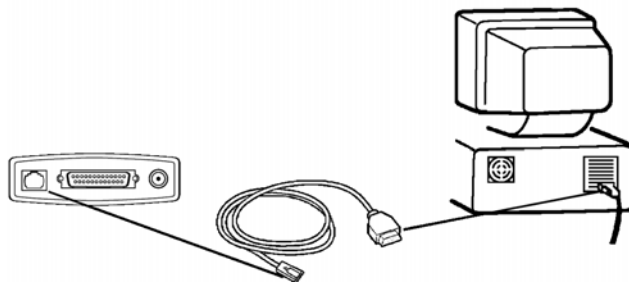


Figure 1.8: Scan Tool Connection to PC

ScanMate Application Overview

To start the ScanMate application, click the Windows desktop icon or select ScanMate from the Windows Start menu. The first window that appears is the ScanMate main window. This window has function buttons at the top for accessing the software functions. They include the following:

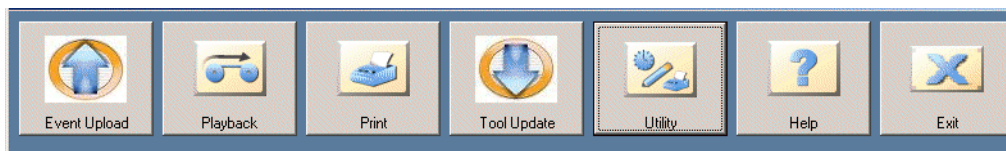










Figure 1.9: ScanMate Main Window

	<p>Event Upload — checks for a scan tool connection, looks for saved playback files on the scan tool, uploads the playback files to the PC, and then displays a dialog box for you to open a playback file for viewing.</p> <p>Note: To upload playback files, disconnect the scan tool from the vehicle.</p>
	<p>Playback — displays a dialog box for you to select a playback file to open. After you select a file, it opens in a separate Playback window. You can review, save, or delete the playback file.</p> <p>Note: To view playback files on the PC, you must first upload the files with the Event Upload function. Then, to playback and print the uploaded files, the scan tool and PC do not have to be connected.</p>
	<p>Scan Tool Print — displays a dialog box for you to print data directly from the scan tool. This can be live data you are viewing or it can be playback data saved in the scan tool. (See the procedure on page 9.)</p>
	<p>Tool Update — for future use for updating the scan tool.</p>
	<p>Utility — displays a window for you to enter shop information, change the software language, and view software information.</p>
	<p>Help — displays the ScanMate Help System window.</p>
	<p>Exit — closes the application.</p>

For step-by-step instructions, start the ScanMate application and click the **Help**  button.

Install the PC Software

The ScanMate CD installs the software and User Guide on your personal computer (PC).

PC Requirements

The PC should have the following minimum requirements:

- Microprocessor: 233 MHz Pentium, minimum
- RAM: 128 MB, minimum (256 MB recommended)
- Hard Disk (C drive): 60 MB free space, minimum
- PC Communication Port: 9-pin serial COM port
- Display (Monitor): Color, set at 800 × 600 pixel, minimum
- Operating System: Microsoft[®] Windows[®] 2000, Windows XP[®] (updated with current service packs)
- Internet Browser: Microsoft Internet Explorer 5.0 or newer

Software Installation

Use the following steps to install the software.


- 1 Insert the ScanMate CD in your PCs CD drive and follow the on-screen instructions. Be aware of the following:
 - The install software uses Windows auto-play technology. This means the installation instructions appear on your PC screen automatically.
If the instructions do not appear automatically, click the Windows Start button and click Run. This displays a Run dialog box. Click the Browse button and then find and select your CD drive. After this, select the Setup.exe file and click the Open button (or OK). Then click the OK button in the Run box.
 - The installation places a ScanMate icon on the Windows desktop and places the ScanMate option on the Windows Start, Programs menu. You can use either one of these to start the software application. Refer to Scanmate Software, on page 6.
- 2 When the installation is finished, remove the CD from the PCs CD drive

New Scan Tool Application Updates

To obtain new application updates, contact your local distributor.

Scan Tool Printing Procedure

To print data directly from the scan tool, the scan tool must be connected to a PC that has the ScanMate software installed and prepared for printing. Use the following steps as a reference for printing. For detailed instructions use the ScanMate application's Help System.

- 1 Make sure the scan tool is connected to the PC. For details, refer to Scan Tool/PC Connection, on page 6.
- 2 Start the ScanMate application on the PC.
- 3 On the ScanMate main window, click the **Print**  button. This displays the ScanMate Print dialog box.

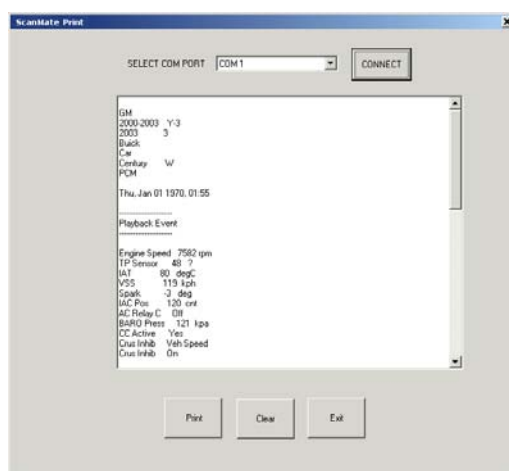


Figure 1.10: ScanMate Print Dialog Box

- 4 In the ScanMate Print dialog box, do the following:
 - a Select the COM port for the scan tool connection and click the **CONNECT** button.
 - b Check the display area. If it contains data you do not want to print, click the **Clear** button.
- 5 On the scan tool, display the data to print and press the **Print** key. This uploads the data to the display area in the ScanMate Print dialog box on the PC.
- 6 In the ScanMate Print dialog box, view the data and click the **Print** button to print the data to the PC's default printer.

Note: The scan tool header prints on all reports. For details, refer to Step 2: Adjust Default Settings, on page 24.

Software Screens

This section contains an overview of the main screens in the **APOGEE** software. Some of the screens contain menus and others contain test instructions or results.

Application Manager Screen

When you turn on the **APOGEE** tool, the Application Manager screen appears. The Application Manager screen contains a menu of the groups of software installed in the **APOGEE** tool.



Figure 1.11: Application Manager Screen

From the Application Manager screen, select USA 2005 ABS / Airbag and then press the ENTER key. This displays the first Vehicle Identification screen.

Vehicle Identification Screen

When you select **USA 2005 ABS/Airbag** from the Scan Diagnostics menu, the first Vehicle Identification screen appears.

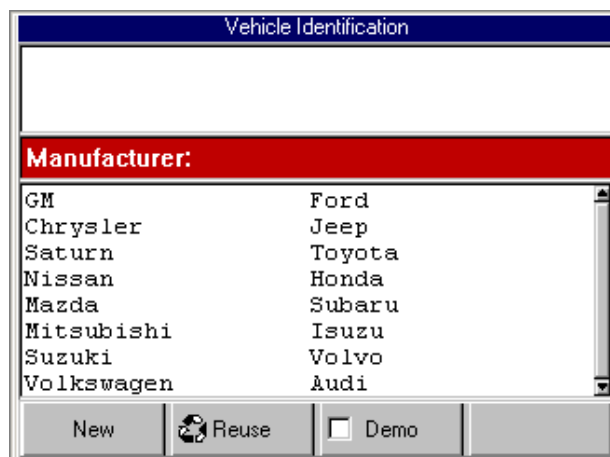


Figure 1.12: Vehicle Identification Screen

The Vehicle Identification screen has the following sections:

- **top section** - displays vehicle identification information as you select options from the middle section.
- **middle section** - contains the options you select in order to enter identification information for a vehicle. When you select an option and press the ENTER key, the selected option appears in the top section and the middle section changes to the next group of selection options. For example, the middle section shown above is for selecting the manufacturer. After you select a manufacturer, the middle section changes to options for selecting the vehicle's year range. After you have entered all the information for a vehicle, the middle section displays the cable connections required for the vehicle.
- **bottom section** - contains the function keys for:
 - 1 entering new information for a vehicle,
 - 2 selecting and reusing information for a vehicle previously tested, and
 - 3 viewing demonstration data.

For detailed information about using this screen, refer to Chapter 2: Start-up Steps, on page 23.

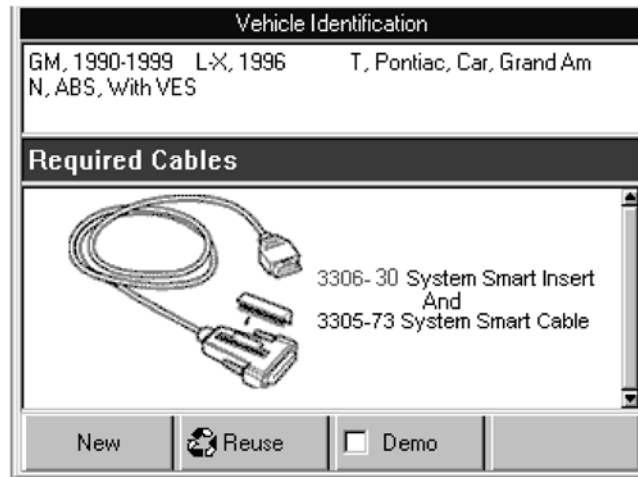
Vehicle Identification - Required Cables Screen

Figure 1.13: Vehicle Identification - Required Cables Screen

After you have entered all the information for a vehicle, the top section displays the vehicle information and the middle section displays the cable connections required for the vehicle (refer to Cables, on page 5).

With this screen displayed, you make the cable connections to the **APOGEE** tool and the vehicle and then press the ENTER key. This displays the Diagnostic Menu screen for the vehicle being tested as shown in Figure 1.19.

Diagnostic Menu Screen

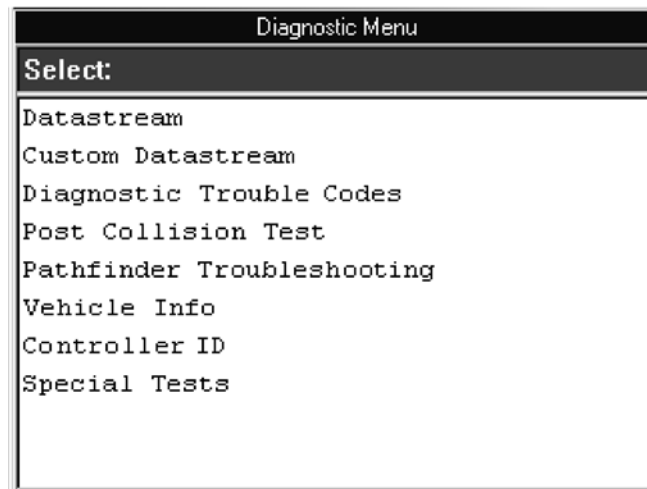


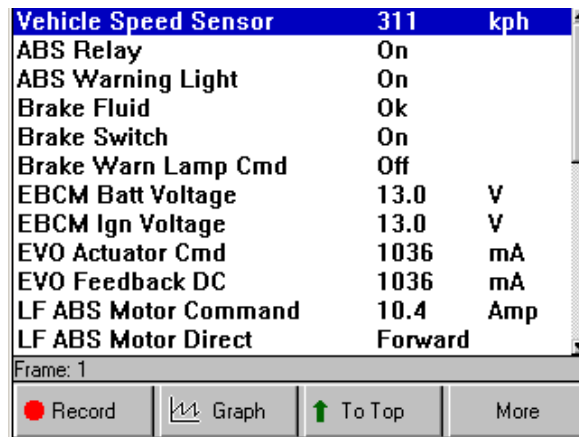
Figure 1.14: Diagnostic Menu Screen

The Diagnostic Menu screen contains a menu of the test options available for the vehicle being tested. The next few pages show and briefly describe each of the options on the Diagnostic menu.

Note: The screen shown above is only an example. It shows all possible options that can appear on the Diagnostic menu. Only the options available for the vehicle being tested will appear on this menu.

Datastream

When you select **Datastream** from the Diagnostic menu, the following screen appears.



The screenshot shows a software interface for viewing vehicle data. At the top, a blue header bar displays 'Vehicle Speed Sensor' in white, followed by the value '311' and the unit 'kph'. Below this, a list of vehicle components and their status is shown in a table format. The components include ABS Relay, ABS Warning Light, Brake Fluid, Brake Switch, Brake Warn Lamp Cmd, EBCM Batt Voltage, EBCM Ign Voltage, EVO Actuator Cmd, EVO Feedback DC, LF ABS Motor Command, and LF ABS Motor Direct. The status values are On, On, Ok, On, Off, 13.0, 13.0, 1036, 1036, 10.4, and Forward respectively. Units like V, mA, and Amp are shown for some values. At the bottom of the table, it says 'Frame: 1'. Below the table is a control bar with four buttons: 'Record' (with a red dot icon), 'Graph' (with a line graph icon), 'To Top' (with a green up arrow icon), and 'More'.

Vehicle Speed Sensor	311	kph
ABS Relay	On	
ABS Warning Light	On	
Brake Fluid	Ok	
Brake Switch	On	
Brake Warn Lamp Cmd	Off	
EBCM Batt Voltage	13.0	V
EBCM Ign Voltage	13.0	V
EVO Actuator Cmd	1036	mA
EVO Feedback DC	1036	mA
LF ABS Motor Command	10.4	Amp
LF ABS Motor Direct	Forward	

Frame: 1

Record Graph To Top More

Figure 1.15: Datastream Screen

This screen displays live data from the vehicle's electronic control unit (ECU). The data displays in either a digital or a graphical format. You can also change the units of measure from English to Metric units. From this screen, you can record, print, and sort the data.

For detailed information about using this screen, refer to Chapter 3: Datastream, on page 36.

Custom Datastream

When you select **Custom Datastream** from the Diagnostic menu, the following screen appears.

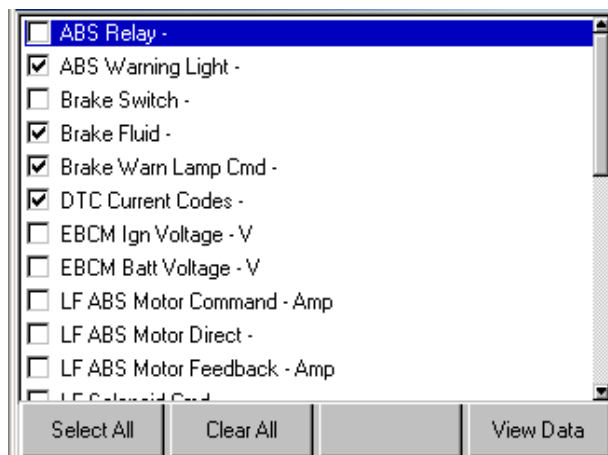


Figure 1.16: Custom Datastream Selection Screen - before selections

Use this screen to select specific (customized) data items you want to display on the standard Datastream screen.

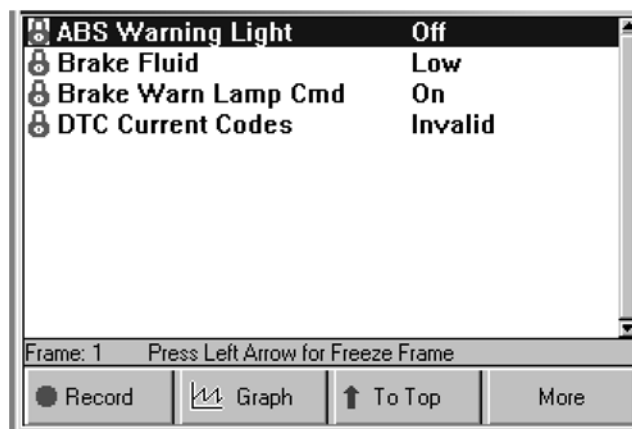


Figure 1.17: Custom Datastream Selection Screen - after selections

For detailed information about using the Custom Datastream menu option, refer to Chapter 4: Custom Datastream, on page 50.

Diagnostic Trouble Codes

The diagnostic trouble code (DTC) option(s) that appear on the Diagnostic Menu screen vary depending on the vehicle being tested. For some vehicles, the menu option is Diagnostic Trouble Codes; for other vehicles, there are two menu options: Read Codes and Clear Codes.

The **Diagnostic Trouble Codes** option appears on the Diagnostic Menu screen for vehicles that allow reading of DTCs with a scan tool.

The **Read Codes** and **Clear Codes** options appear on the Diagnostic Menu screen (instead of the Diagnostic Codes option) for vehicles that require reading of DTCs by visually viewing them as flash codes. For this type of vehicle, you identify the vehicle's flash code numbers and manually enter the numbers into the **APOGEE** tool to see their descriptions.

When you use the DTC options, a screen similar to the following screen appears. The screen displays diagnostic test code DTC numbers and descriptions.

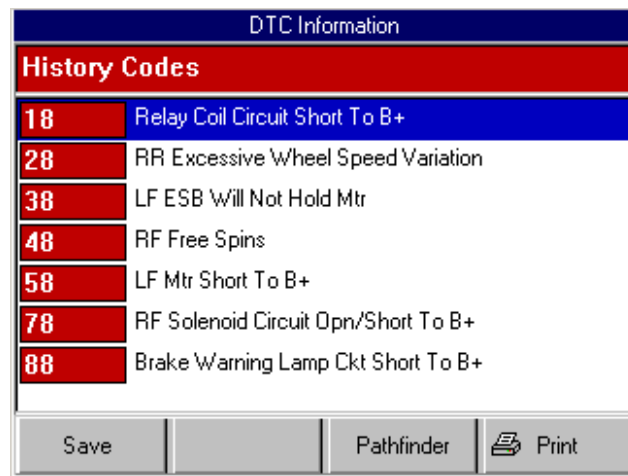


Figure 1.18: DTC Information Screen

For detailed information about using the DTC options, refer to Chapter 5: Diagnostic Trouble Codes, on page 52.

Post Collision Test

When you select **Post Collision Test** from the Diagnostic menu several step-by-step instruction screens, similar to the following screen, appear.

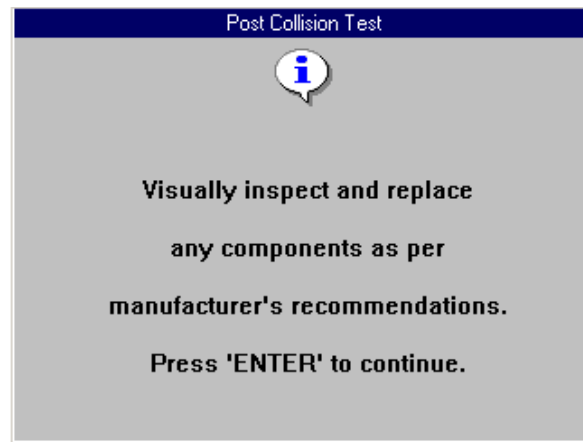


Figure 1.19: Post Collision Test Screen

The screens provide instructions for testing air bags after repair(s).

For detailed information about using the screens, refer to Chapter 6: Post Collision Test on page 72.

Pathfinder Troubleshooting

When you select **Pathfinder Troubleshooting** from the Diagnostic menu, the following screen appears.

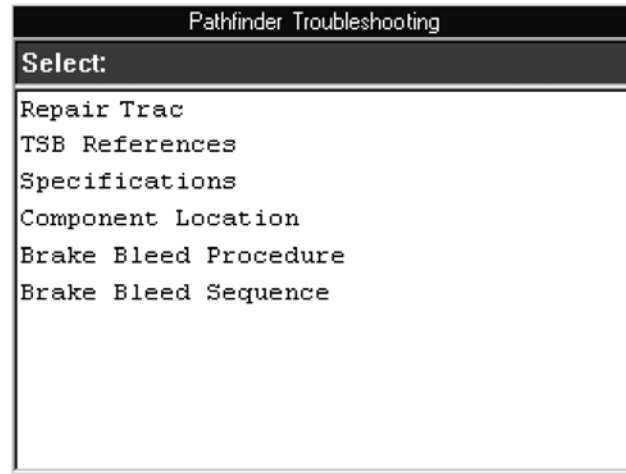


Figure 1.20: Pathfinder Screen

The Pathfinder screen contains menu options for viewing vehicle-specific information, such as TSB references, vehicle specifications, ECU component location(s), and brake bleed procedures. You can also use this function to access the Repair Trac software from within the USA 2005 ABS/Airbag software.

For detailed information about using this screen, refer to Chapter 7: Pathfinder Troubleshooting on page 74.

Vehicle Info

When you select **Vehicle Info** from the Diagnostic menu, the following screen appears.

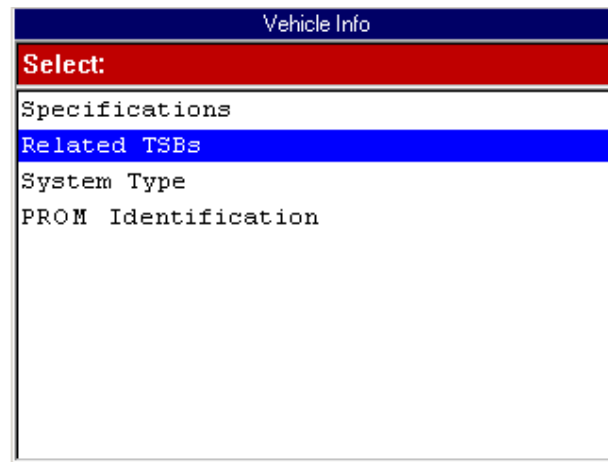


Figure 1.21: Vehicle Info Screen

The Vehicle Info screen contains menu options for viewing vehicle-specific information, such as vehicle specifications, TSB references, and the vehicle description (system type).

For detailed information about using this screen, refer to Chapter 8: Vehicle Info, on page 84.

Controller ID

When you select **Controller ID** from the Diagnostic menu, the following screen appears.

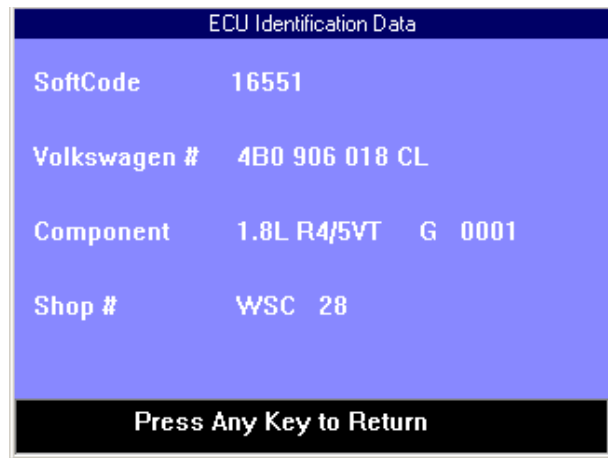


Figure 1.22: ECU Identification Data Screen

The ECU Identification screen contains information about the selected ECU (Audi and Volkswagen).

For detailed information about using this screen, refer to Chapter 9: Controller ID on page 90.

Special Tests

When you select **Special Tests** from the Diagnostic menu, the following screen appears.

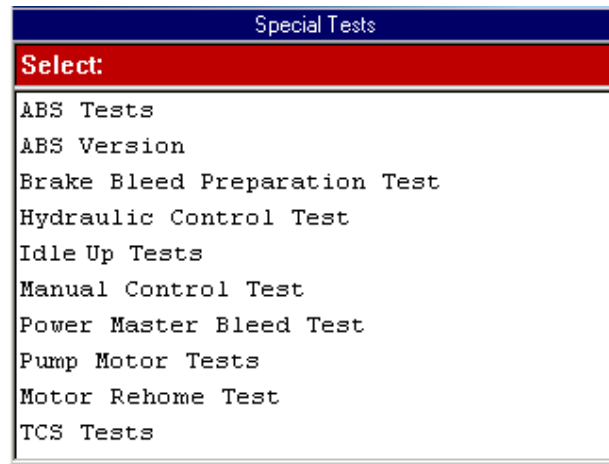


Figure 1.23: Special Tests Screen

The Special Tests screen contains menu options for performing special diagnostic tests. After you select a menu option, pre-programmed screens appear for the diagnostic test.

Note: The screen shown above is only an example. It shows only a few of the possible options that can appear on the screen.

For detailed information about using this screen, refer to Chapter 10: Special Tests, on page 92.

Vehicle Applications

The **APOGEE** Vehicle Applications Reference Guide is available in the appendix of this manual. The Reference Guide contains a listing of the vehicles and ECUs that the **APOGEE** software works with.

2: Start-up Steps

Introduction

Step 1: APOGEE Power

Setup includes providing power to the **APOGEE** tool, adjusting default settings, and installing the ScanMate PC software.



Figure 2.1: Batteries and Power Cord

Before using the **APOGEE** tool, provide power from either six (6) internal 1.5 volt batteries or from an external power adapter. (After you start vehicle diagnosis, On Board Diagnostics (OBD II) vehicle cable connections provide external power to the **APOGEE** tool.)

- The 1.5 volt batteries can be either alkaline or rechargeable nickel metal hydride (NiMH) batteries. Insert the batteries into the battery compartment on the back side of the **APOGEE** tool.
IMPORTANT: Use only high-quality batteries. During long periods of storage, remove the batteries to prevent damage from battery leakage.
- The cigarette lighter power adapter provides power from the vehicle's battery. For some **APOGEE** tool functions (System Setup, Playback), use of the adapter is optional but preserves the life of the internal batteries. For other functions (OBD I testing), use of the adapter is required. To use the adapter, insert the pin into the port on the top of the **APOGEE** tool and insert the plug into the vehicle's cigarette lighter. Turn the vehicle's ignition key to the On (Run) position.
- Accessory components are available for connecting the **APOGEE** tool directly to the vehicle's battery or to an electrical outlet. For details, refer to the *User Guide*.

IMPORTANT: To conserve internal battery life, use either an OBD II vehicle cable connection or a power adapter as the APOGEE tool's primary power source; do not use the internal batteries as the primary power source. Use the internal batteries only when adjusting default APOGEE tool settings, during test startup (for vehicle identification), or when uploading files to the ScanMate software on a PC. In addition, use the backlight in poorly-lit conditions only.

Step 2: Adjust Default Settings

The System Setup functions let you view information about the **APOGEE** tool and adjust default settings as follows:

- 1 Press the **On / Off** button to turn the **APOGEE** tool on and wait for the Application Manager screen to appear.

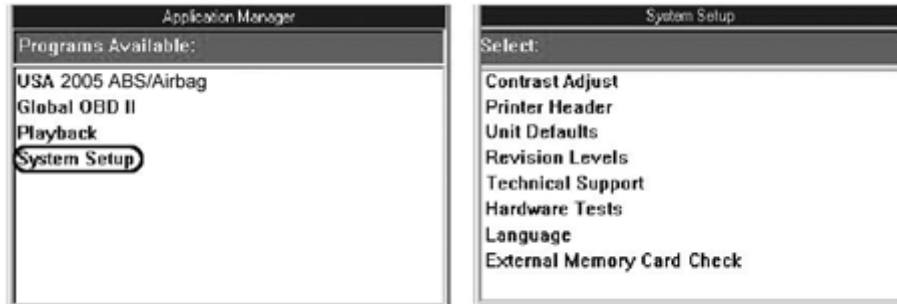


Figure 2.2: Application Manager Screen and System Setup Screen

- 2 Use the **Down Arrow** key to select **System Setup** and then press the **ENTER** key. This displays the System Setup screen, shown in figure 2.2.
- 3 Use the **Down Arrow** key to select an item to adjust (described below) and then press the **ENTER** key.
 - **Contrast Adjust** — adjust the contrast of the LCD screen.
 - **Print Header** — set up a heading for reports that you print from the **APOGEE** tool.
 - **Unit Defaults** — set the date, time, units-of-measure, and automatic shut down time. It also lets you turn the audible beep and print header functions on or off.
 - **Revision Levels** — display software version numbers.
 - **Technical Support** — display technical support information.
 - **Hardware Tests** — test the LCD screen, keypad keys, and beeper and view the time clock and serial number for the **APOGEE** tool.
 - **Language** — set the default language for the **APOGEE** tool software.
 - **External Memory Card Check** — check the system files on a compact flash card in the compact flash port.
- 4 Follow any on-screen instructions; use the **Arrow** keys as needed to adjust settings; use the **EXIT** key to exit the screens. For detailed instructions, refer to the *User Guide*.

Step 3: Test Startup and Vehicle Connection

All vehicle setups require a specific cable connection to the vehicle DLC. To determine the specific cable required for a vehicle, you must first enter the vehicle information. After you have done this, the screen displays the specific cable information for the vehicle. You then use this information to connect the correct cable to the DLC and proceed with the vehicle diagnostics.

This chapter includes the following general steps to get you started:

- 1 Enter the vehicle information to determine the correct cable required.
- 2 Connect the required cable.
- 3 Select the diagnostic function you want to perform.



WARNING:

Before performing any diagnostic functions, refer to the Safety Precautions, instructions, and the warnings provided by the vehicle manufacturer. In addition, follow any warnings and descriptions provided on the APOGEE tool screens.

Step 4: Enter the Vehicle Information

Use the following steps to enter vehicle information and to determine which cable to use for the communication connection between the **APOGEE** tool and the vehicle's ECU.

To enter the vehicle information, follow these steps:

Note: Before doing these steps, make sure the battery for the **APOGEE** tool is charged.

- 1 Press the power button on the **APOGEE** tool to turn the tool on. This displays the Application Manager screen.

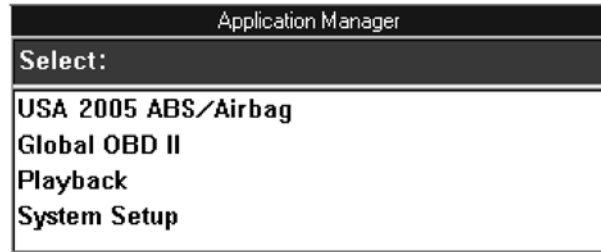


Figure 2.3: Application Manager Screen

- 2 Select **Vehicle Information** and press the **ENTER** key. This displays the **Vehicle Information** screen.
- 3 Select **USA 2005 ABS/Airbag** and press the **ENTER** key. This displays the first Vehicle Information screen (Refer to figure 2.4 on page 27).

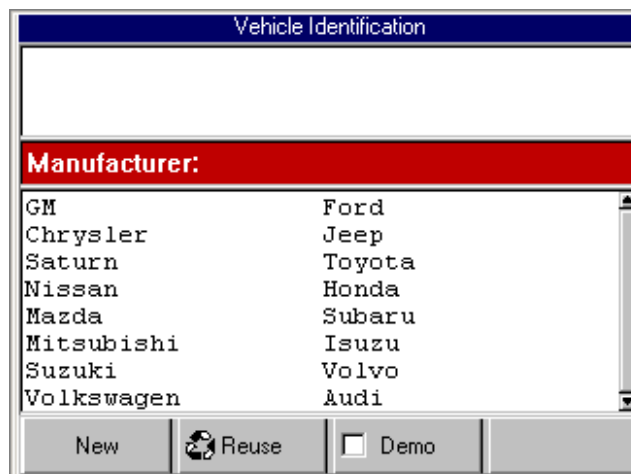


Figure 2.4: Vehicle Information - Manufacturer Screen

- 4 With the Vehicle Information screen displayed, you can enter new information for a vehicle or you can select and reuse saved information for a vehicle already tested. Do one of the following:
- To enter new information for a vehicle, go to step 5 and then step 7.
 - To reuse saved information for a vehicle already tested go to step 6 and then step 7.

IMPORTANT: For model years 2000 and 2001 VW Golf, GTI, Jetta/Bora, and Beetle air bag controllers there are reports of air bag warning lights staying on permanently after scanning with a *APOGEE* tool. The air bag controller shows DTC number 65535, indicating an internal error which cannot be cleared. This problem seems to be limited to air bag controllers with the part number 6Q0-909-605-A. There are a number of different index or color-code variations of this controller and not all of them are affected. If you have a 2000 or 2001 Golf, Jetta/Bora, Beetle, or a similar SEAT or Skoda model, physically inspect the air bag controller and look at the part number. If it is not 6Q0-909-605-A, then it should be safe to test. If it is Q0-909-605-A, then it is at risk of this problem — avoid testing the air bag controller.

- 5 To enter new information for a vehicle, do the following:
- a **Select the vehicle manufacturer** and press the **ENTER** key. This displays the selected vehicle description in the top part of the screen and changes the middle part of the screen to the next screen of a series of screens.

Note: The screens shown in figure 2.5 are only examples. The screens that actually appear are different for each vehicle.

APOGEE User Guide

Step 4: Enter the Vehicle Information

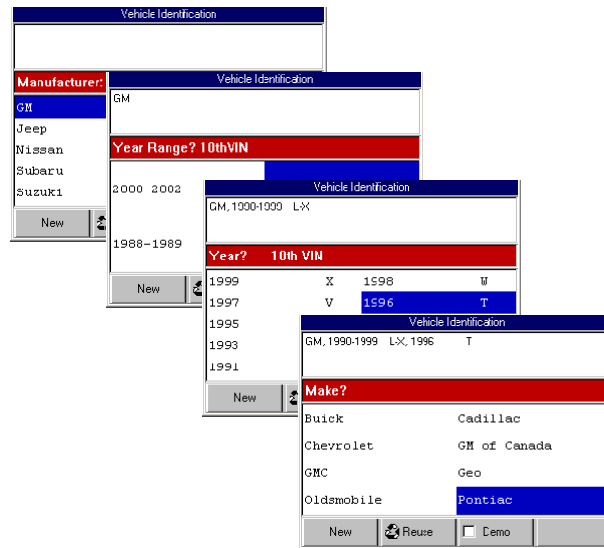


Figure 2.5: Vehicle Information - Series of Screens

- b** On each screen that appears, select the correct option and then press the **ENTER** key. Do this until the complete vehicle information is entered and the illustration of the required cables appears, as shown in Step 7.

Note: On the Vehicle Information screens, you can press the Demo function key to display demonstration data in the software. The Demo function stays on until you press the function key again to turn it off. When the Demo function is on, a checkmark appears in the box on the function key.

- 6** To reuse saved information for a vehicle already tested, do the following:
- Press the **Reuse** function key. This displays the Reuse Vehicles screen, which contains a list of saved vehicle descriptions.

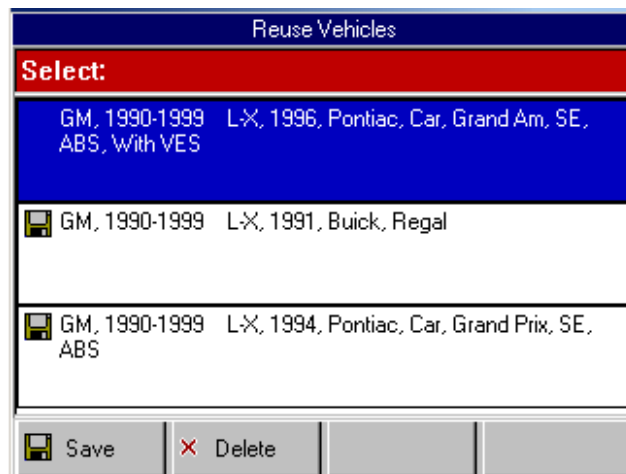


Figure 2.6: Reuse Vehicles Screen

- b** Select the vehicle description to use and press the **ENTER** key. This displays the illustration of the required cables, as shown in figure 2.7.

Note: The Reuse Vehicles list holds 25 vehicle descriptions. When the list is full, old descriptions automatically delete as you enter new descriptions. To prevent a description from being automatically deleted, highlight the description and press the **Save** function key. This places a disk icon to the left of the file name and saves the description until you delete it. (Use the **Delete** function key to delete a selected description.)

- 7 After you have entered new vehicle information or selected a vehicle description to reuse, the Required Cables illustration displays on the Vehicle Identification screen. With this screen displayed, make the required cable connections. Refer to the next section, step 5 Connect the Cable, on page 30 for specific steps.

Note: Some vehicles do not have an ECU and do not require a cable connection. For these vehicles, the screen states that no cable connection is required. If this happens, skip the next section and go to step 7, Select the Diagnostic Function, on page 35.

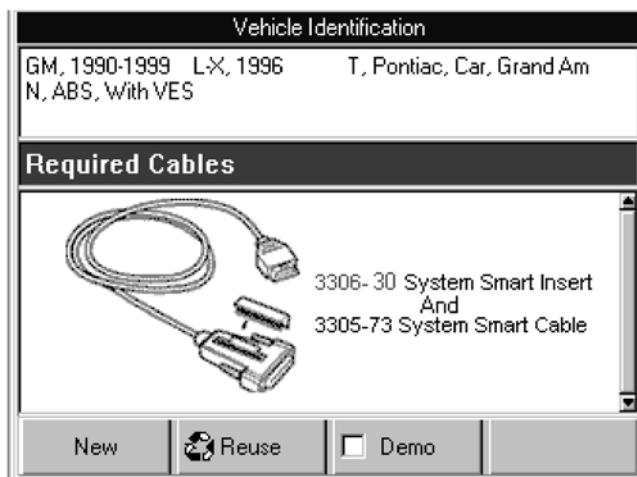


Figure 2.7: Vehicle Information - Required Cables Screen

Note: For some vehicles, this screen illustrates the vehicle's DLC test terminals rather than the required cables.

To display demonstration data in the software, press the function key that corresponds to the **Demo** button. A checkmark in the box indicates the Demo function is on (press the key again to turn the function off).

Step 5: Connect the Cable

The method used to connect the **APOGEE** tool to a vehicle's ECU depends on the vehicle's configuration as follows:

- A vehicle equipped with an OBD II vehicle management system supplies both communication and 12-volt power through a standardized J-1962 DLC.
- A vehicle not equipped with an OBD II system supplies communication through a DLC connection and supplies 12-volt power through the cigarette lighter receptacle or a connection to the battery.

OBD II Vehicle Cable Connection

This type of connection generally requires the System Smart 25-pin cable (3305-73) and a System Smart Insert (SSI).

Note: For a description of the cables, refer to *Cables*, on page 5.

To connect the System Smart 25-pin cable, follow these steps:

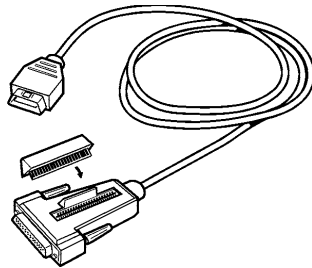


Figure 2.8: SSI and System Smart 25-pin Cable

- 1 Locate the required SSI and insert it into the port on the top of the cable's 25-pin connector.

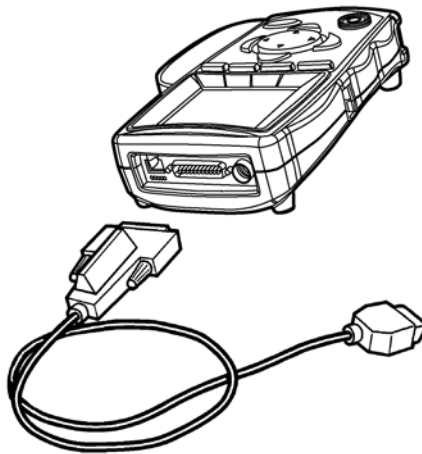


Figure 2.9: System Smart 25-pin Cable Connection to APOGEE Tool

- 2 Connect the 25-pin connector to the DB25 port on the top of the **APOGEE** tool. Finger tighten the connecting screws.

IMPORTANT: Make sure you have correctly entered the vehicle information in the **APOGEE** tool; incorrect vehicle identification can produce unexpected test results (see step 4: Enter the Vehicle Information, on page 26).

Note: Leave the Required Cables screen displayed on the **APOGEE** tool. Do not turn the **APOGEE** tool off.

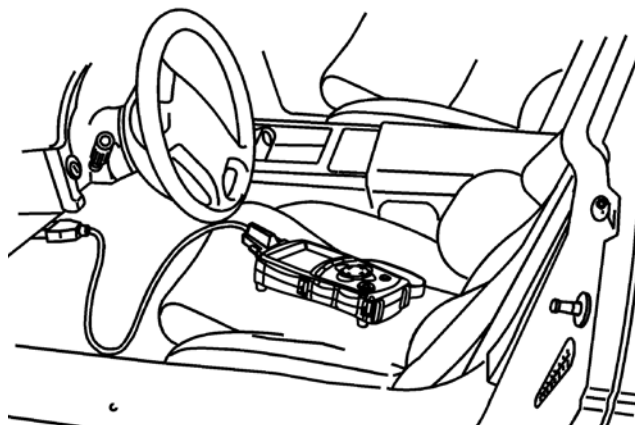


Figure 2.10: System Smart 25-pin Cable Connection to Vehicle's DLC

- 3 Connect the cables's J-1962 (16 pin) connector into the vehicle's J-1962 DLC (16 pin), located under the vehicle dash.
- 4 Continue with the next section, Step 7: Select the Diagnostic Function, on page 35.

Non-OBD II Vehicle Cable Connection

This type of connection generally requires the DB25 power cable (3305-72) or another vehicle-specific cable.

Note: Some non-OBD II vehicles may require the System Smart 25-pin cable.

Note: For a description of the cables, refer to Cables, on page 5.

To connect the DB25 power cable or another similar cable, follow these steps:

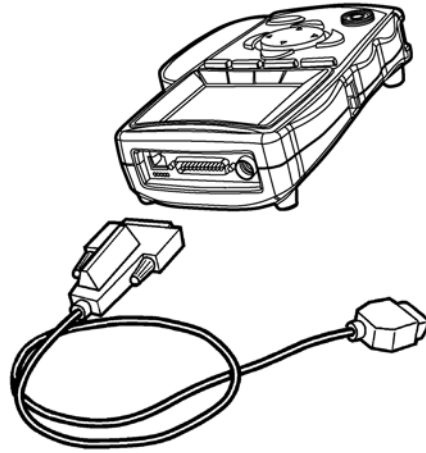


Figure 2.11: DB25 Power Cable Connection to *APOGEE* Tool

- 1 Connect the cable's 25-pin connector to the DB25 port on the top of the **APOGEE** tool. Finger tighten the connecting screws (see figure 2.11).

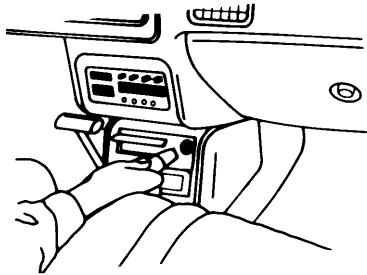


Figure 2.12: DB25 Power Cable Connection to Cigarette Lighter Receptacle

- 2 Connect the cable's power plug into the vehicle's cigarette lighter receptacle.

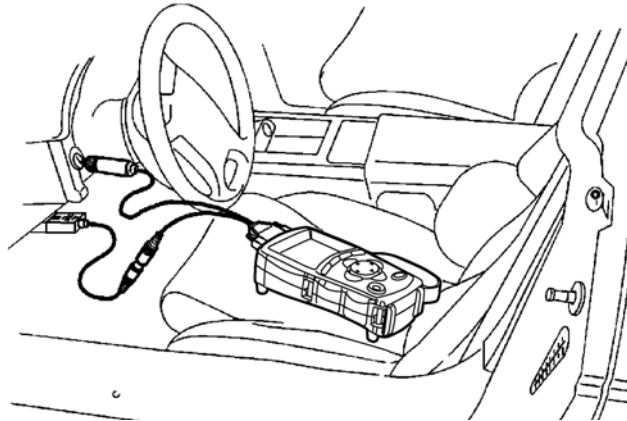


Figure 2.13: DB25 Power Cable Connection to Vehicle's DLC

- 3 Connect the cable to the vehicle's DLC.

Note: The vehicle's DLC is not always located under the dash as shown above.

Note: Some adapters may have more than one connector or may have test leads instead of a connector. Whatever the case, make the required connections to the vehicle's DLC.

- 4 With the Required Cables illustration still displayed on the **APOGEE** tool, press the **ENTER** key. This initiates communication with the vehicle's computer and displays the next screen.

Note: If the communication indicator on the **APOGEE** tool is not lit, check the cable and power connections.

Step 6: Select the Diagnostic Function

After connecting the cable, the **APOGEE** tool should still display the Vehicle Identification - Required Cables screen.

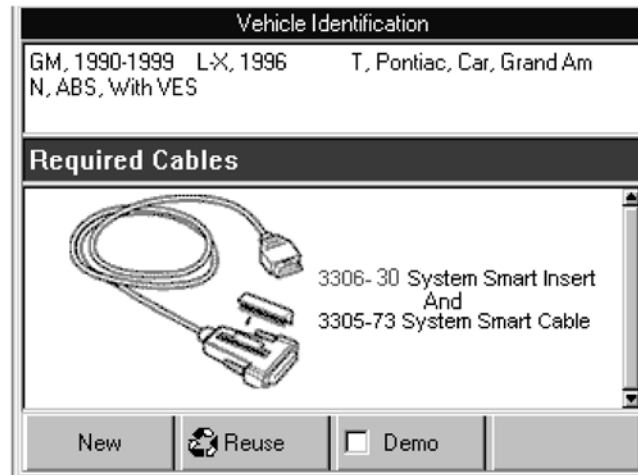


Figure 2.14: Vehicle Information - Required Cables Screen

To select the diagnostic function, follow these steps:

- 1 With the Required Cables (or Connectors) illustration still displayed, press the **ENTER** key.
- 2 One or more instruction screens may appear. If so, read each screen, follow the instructions, and press the **OK** function key to display the next screen. Do this until the Diagnostic Menu screen appears.

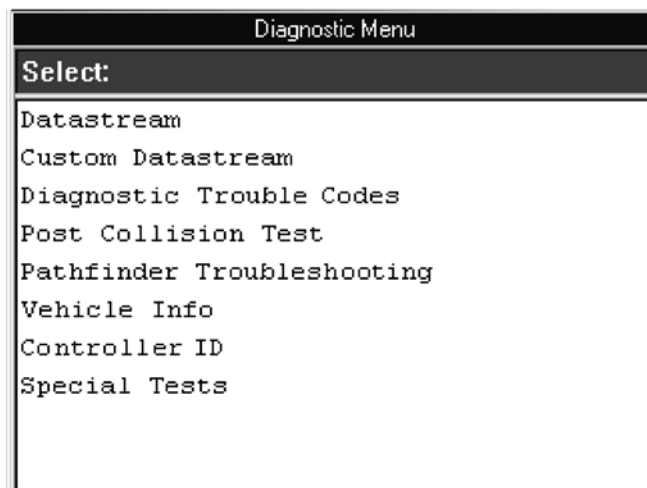


Figure 2.15: Diagnostic Menu Screen

Note: The screen shown above is only an example. It shows all possible options for the Diagnostic menu. During actual testing, only the options available for the vehicle being tested will appear on this screen.

- 3 Select the option for the diagnostic function you want to perform and press the **ENTER** key.
- 4 For specific steps for each function, refer to the following chapters:
 - **Datastream** - Chapter 3: Datastream on page 36.
 - **Custom Datastream** - Chapter 4: Custom Datastream on page 50.
 - **Diagnostic Trouble Codes** - Chapter 5: Diagnostic Trouble Codes on page 52.
 - **Post Collision Test** - Chapter 6: Post Collision Test on page 72.
 - **Pathfinder Troubleshooting** - Chapter 7: Pathfinder Troubleshooting on page 74.
 - **Vehicle Info** - Chapter 8: Vehicle Info on page 84.
 - **Controller ID** - Chapter 9: Controller ID on page 90.
 - **Special Tests** - Chapter 10: Special Tests on page 92.



WARNING:

Before performing any diagnostic functions, refer to the Safety Precautions and instructions provided in this User Guide and the warnings provided by the vehicle manufacturer. In addition, follow any warnings and descriptions provided on the APOGEE tool screens.

3: Datastream

The Datastream function lets you view live ABS and air bag data from a vehicle's electronic control unit (ECU). This chapter describes how to use the Data-stream function.

About Datastream

Datastream is the communication of information between the sensors, computer, and actuators (switches) on a vehicle. The sensors monitor the vehicle systems and send data to the vehicle computer, the computer uses the data from the sensors to determine if any vehicle systems need adjusting. If so, the computer converts the data into commands and sends the commands to the actuators. The actuators then convert the commands to mechanical actions that adjust the vehicle systems.

As this stream of data is being communicated in the vehicle, the software can read the vehicle computer and display the data information in a readable format, called datastream. This lets you view live sensor and switch readings.

Automatic Diagnostic Code Triggered Record

The **APOGEE** software has an automatic Diagnostic Code Triggered Record function. This function works automatically and does not appear as an option on any menu. If a diagnostic fault occurs while you are testing a vehicle, the software automatically creates a recording for playback and alerts you with a screen message. To replay these recordings, refer to Playback a Data File on page 39.

Basic Datastream Procedure

Use the following steps to obtain a basic understanding of how the Datastream function works.

Note: Before performing this procedure, follow the instructions in Chapter 2: Start-up Steps, on page 23.

To use the datastream function, follow these steps:

Note: Optionally, you can use Custom Datastream and select specific datastream items for viewing. For details, refer to Chapter 4: Custom Datastream on page 50.

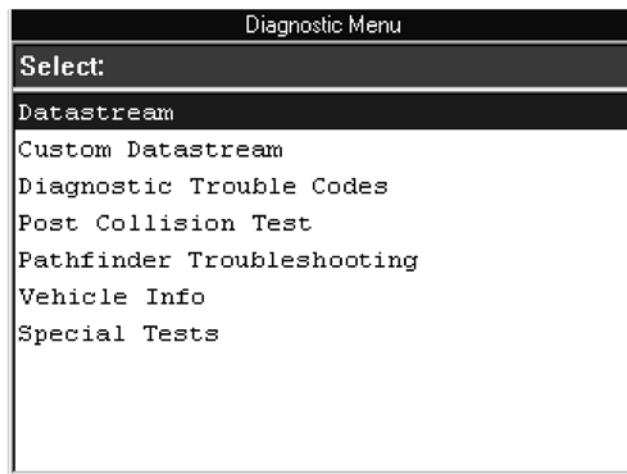


Figure 3.1: Diagnostic Menu Screen

- 1 From the Diagnostic Menu screen, select **Datastream** and press the **ENTER** key. This displays the Datastream screen.

Note: If a group selection screen appears, select a group and press the **ENTER** key to display the Datastream screen.

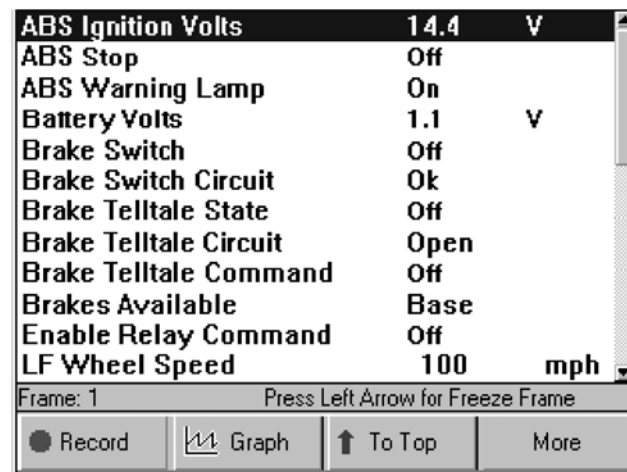


Figure 3.2: Datastream Screen

2 Notice the following about the Datastream screen:

- Each line displays a data item. Use the Up and Down Direction keys to scroll through the data and to select lines.
- The screen's data updates as the software reads from the vehicle's ECU. Each update is called a frame of data.
- The function keys at the bottom of the screen let you perform several other functions on the screen. For details, refer to the next section, Datastream Functions on page 38.
- The status line above the function keys displays current software status information.
- You can stop and start the live readings at any time. When you stop the readings, the data "freezes" on the screen. For details, refer to Freeze Frame on page 43.

3 When you are finished using the screen, press the **EXIT** key to return to the Diagnostic Menu screen.

Datastream Functions

There are several functions you can use on the Datastream screen. Most of the functions are activated with the function keys at the bottom of the screen. These functions, described in detail on the next few pages, include the following:

- **Record and Playback** – records the data for viewing again at a later time. (See page 39.)
- **Graph / Digital** – depending on the type of data on a line, changes the view of a selected line from digital to graphical. (See page 40.)
- **To Top** – moves a selected data item to the top of the screen. (See page 43.)
- **Lock** – locks selected data lines so they are always included when recording and printing, even if they are below the viewable area of the screen. (See page 42.)
- **Freeze Frame** – freezes the data acquisition and displays past data. (See page 43.)

Note: The following functions are on the menu that appears when you press the More function key.

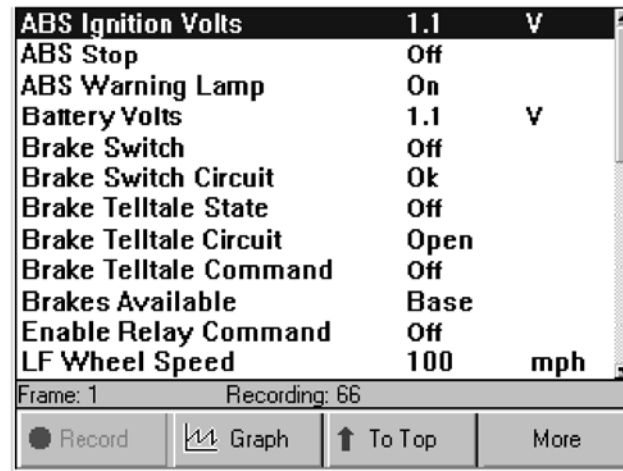
- **Pathfinder** – provides quick access to the Pathfinder 2004 software's Pathfinder Troubleshooter functions from within the **APOGEE** software. (See page 44.)
- **Print** – prints the data in the viewable area of the current data display. (See page 45.)
- **Zoom** – enlarges the view of a data line. (See page 46.)
- **Sort** – rearranges the data alphabetically or with the graphed lines at the top. (See page 47.)
- **English / Metric Units** – changes the units of measure for the data from English to Metric, or vice versa. (See page 48.)

Record and Playback

The Record function lets you record up to 150 one-second frames of data (75 frames that occur before pressing the Record function key and 75 frames that occur after pressing the key). The Playback function lets you replay recorded data. You can also save and delete recordings.

Record a Data File

To record a data file, follow these steps:



ABS Ignition Volts	1.1	V
ABS Stop	Off	
ABS Warning Lamp	On	
Battery Volts	1.1	V
Brake Switch	Off	
Brake Switch Circuit	Ok	
Brake Telltale State	Off	
Brake Telltale Circuit	Open	
Brake Telltale Command	Off	
Brakes Available	Base	
Enable Relay Command	Off	
LF Wheel Speed	100	mph

Frame: 1 Recording: 66

Record Graph To Top More

Figure 3.3: Datastream Screen - Record Function

- With the Datastream screen displayed, press the **Record** function key. This does the following:
 - Temporarily shades the Record function key.
 - Automatically records the past 75 frames of data that occurred before pressing the key and continues recording the next 75 frames of data as they occur.
 - Displays a countdown on the status line of the number of frames left to be recorded (from Recording: 75 to Recording:1). When the countdown reaches 1, the recorded data is saved as an Event file and placed in a Playback folder.

Note: To record less than 150 frames of data, press the EXIT key at any time. This stops the recording and saves only the frames already captured.
- When the recording completes, continue viewing live data or press the **EXIT** key to return to the Diagnostic Menu screen.
- Refer to the next section for playback steps.

Playback a Data File

To replay a recorded (saved) data file, follow these steps:

- Press the **EXIT** key until Playback option appears on the Application Manager screen.
- From the Application Manager screen, select **Playback**. This displays the Events to Playback screen.

Note: The Events to Playback list holds the recordings. When the list is full, old recordings automatically delete as you make new recordings. To prevent a recording from being automatically deleted, highlight the recording and press the **Save** function key. This places a disk icon to the left of the file name and saves the recording until you delete it. (Use the **Delete** function key to delete a selected recording.)



Figure 3.4: Events to Playback Screen

- 3 **Select the recorded event to replay** and press the **ENTER** key. (The events are identified by the vehicle description, date, and time of the recording.) The recorded event displays on either the DTC display screen or the Datastream screen, depending on the type of recording (Fault Codes or Live Data).
- 4 If the Datastream screen displays, use the **Left** and **Right Direction** keys to view the data. The Frame number in the status line changes as you move through the recording.
***Note:** There may be a **DTC** function key you can use to view a list of any DTCs that existed at the time of the recording. You can use the **To Top** function key to move a selected line to the top of the screen. You can also use other functions of the Datastream screen, such as **Graph**, **Print**, **Zoom**, and **Sort**. Refer to the steps for these on the next few pages.*
- 5 When you are finished viewing the recording, press the **EXIT** key to return to the Application Manager screen.

Graph/Digital

The Graph/Digital function lets you change the display type for each line on the Datastream screen. Depending on the type of data on a line, you can change a selected line from digital to a graphical display.

To change the display for each line, follow these steps:

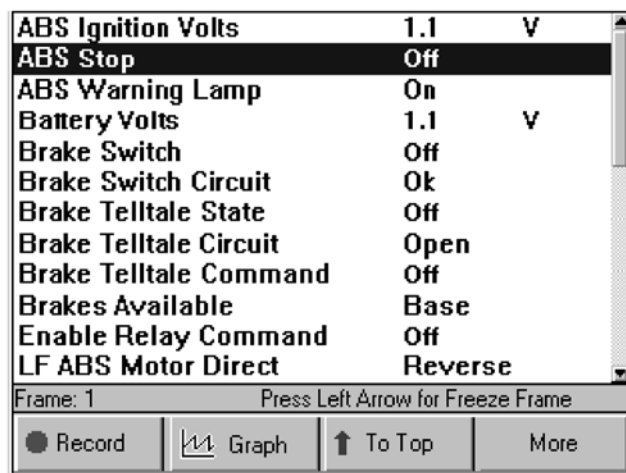


Figure 3.5: Datastream Screen - Digital Display

1 With the Datastream screen displayed, use the **Up** or **Down Direction** key to select the line to change.

2 Press the **Graph/Digital** function key.

Note: This name of this function key changes each time you press the key. The name of the key represents the next display type that will appear when you press the key.

3 Repeat steps 1 and 2 for each line to change.

About Digital Display

When a line is displayed as Digital, its reading is a word or a number as shown for all the lines in figure 3.5.

You can change the display of the lines as follows:

- If the selected line's data reading is a word, such as On, Off, Open, Closed, etc., then you can change the line's display back and forth between Digital.
- If the selected line's data reading is a number, such as 1.1 V, 23.3 Amps, etc., then you can change the line to also display as a graph.

About Graph Display

If a selected line's data reading is a number (such as 14.4 V, 1.1 V, or 23 Amps), you can use the Graph function key to display the line's data as a graph.

Note: The function key toggles from Graph to Digital and back to Graph.

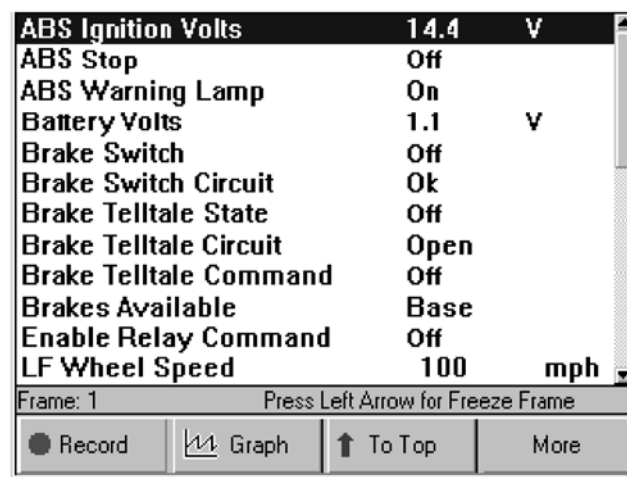


Figure 3.6: Datastream Screen - Digital Display

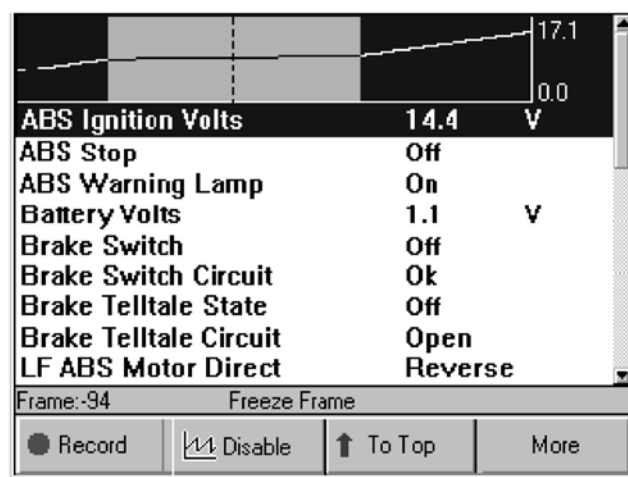


Figure 3.7: Datastream Screen - Graph Display

The graph has a past activity section and a magnified live activity window. The minimum and maximum measurements appear to the right of the graph and the digital reading is below the graph. You can use the Left and Right Direction keys to move the magnified window through the data. See Freeze Frame on page 43.

Lock

The Lock function lets you lock selected data lines so they are always included when recording and printing, even if they are below the viewable area of the screen.

Note: Generally, printing and recording include only the data items within the viewable area of the data display.

To lock data lines, follow these steps:

- 1 With the Datastream screen displayed, use the **Up** or **Down Direction** key to select the line to lock.
- 2 Press the **ENTER** key. A padlock icon appears on the left side of the line.

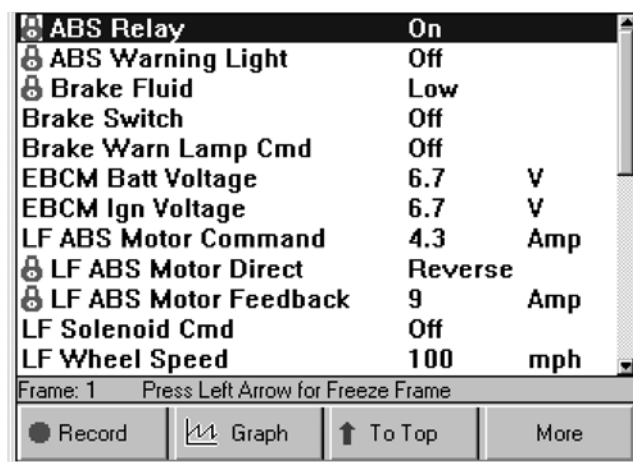


Figure 3.8: Datastream Screen - Sensor Lock Function

- 3 Repeat steps 1 and 2 for each line to lock.

Note: The lines remain locked for the selected vehicle until you unlock them, even if you exit the software.

- 4 To unlock a locked line, **select the locked line** and then press the **ENTER** key (see steps 1 and 2).

To Top

The To Top function lets you move a selected data line to the top of the Datastream screen.

Note: You can also use the Sort function to rearrange the data lines. For details, refer to Sort on page 47.

To move a data line to the top of the screen, follow these steps:

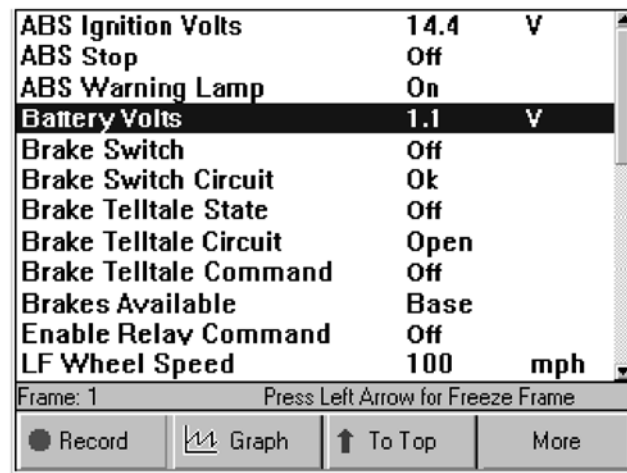


Figure 3.9: Datastream Screen - To Top Function

- 1 With the Datastream screen displayed, use the **Up** or **Down Direction** key to select the line to move.
- 2 Press the **To Top** function key. The selected line moves to the top of the screen.
- 3 Repeat steps 1 and 2 for each line to move.

Freeze Frame

The Freeze Frame function lets you freeze the data display on the Datastream screen and lets you view past data frame-by-frame.

To freeze data, follow these steps:

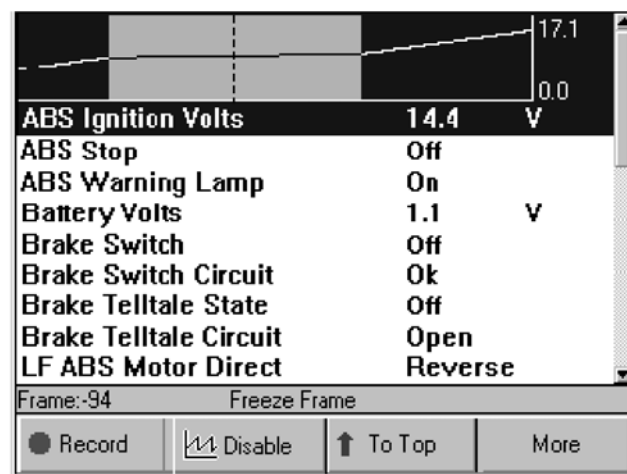


Figure 3.10: Datastream Screen - Freeze Frame Function

- 1 With the Datastream screen displayed, press the **Left Direction** key to begin the freeze function.
- 2 Repeatedly press the **Left Direction** key or press and hold the key to move backward through the data. As you do this, notice the following:
 - The Frame number (above the Record key) changes to show the frame number of the currently-displayed data.
 - The message next to the frame number flashes as Freeze Frame and Exit to resume.
 - On any displayed graphs, the vertical, dashed-line moves to display the past data for each frame.
 - On any displayed digital lines, the data changes to display the past data for each frame.
- 3 Use the **Left** or **Right Direction** keys to move backward or forward through the data, frame-by-frame.
- 4 When finished, press the **EXIT** key to return to the normal screen display and to resume reading data.

Pathfinder

The Pathfinder function on the Datastream screen's More menu provides quick access to the Pathfinder software's menu options. With these menu options, you can view vehicle-specific information, such as DTC descriptions, TSB references, vehicle specifications, ECU component location(s), and brake bleed procedures. You can also use this function to access the Repair Trac or Fast Fixes software from within the **APOGEE** software.

To access the Pathfinder menu options from the Datastream screen, follow these steps:

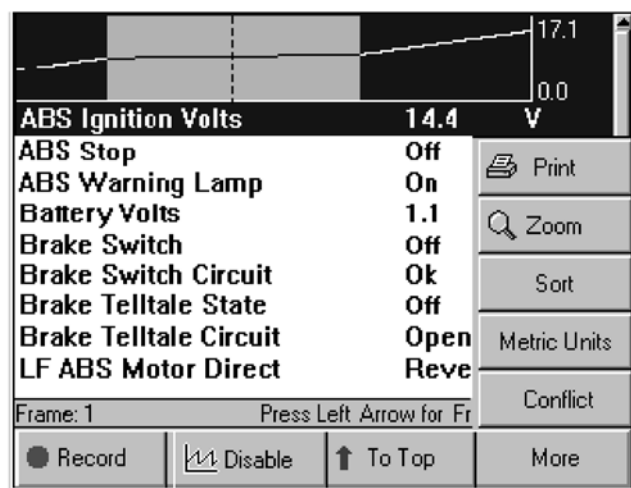


Figure 3.11: Datastream Screen - Pathfinder Function

- 1 With the Datastream screen displayed, press the **More** function key.
- 2 If necessary, use the **Up** or **Down Direction** key to select the **Pathfinder** function.
- 3 Press the **ENTER** key. This displays the Pathfinder screen.

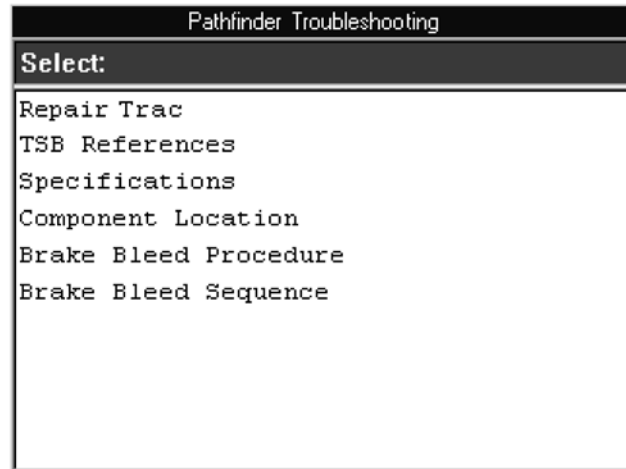


Figure 3.12: Pathfinder Screen

- 4 To use this screen, refer to Chapter 7 Pathfinder on page 74.

Print

The Print function on the Datastream screen's More menu lets you print the data currently displayed on the screen.

To print the data, follow these steps:

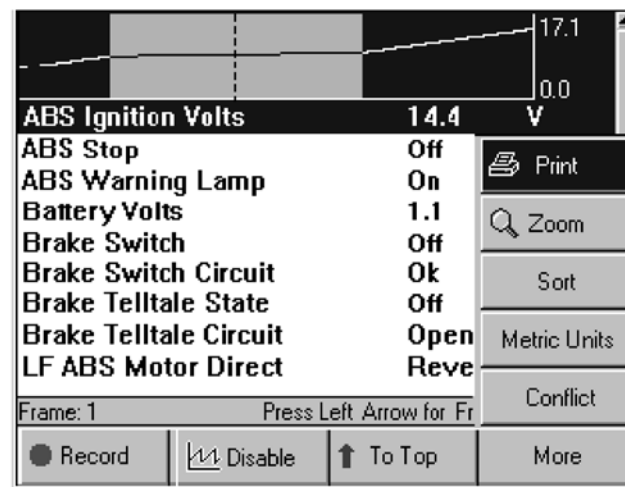


Figure 3.13: Datastream Screen - Print Function

- 1 With the Display Live Data screen displayed, press the **More** function key.
- 2 Use the **Down Direction** key to select the **Print** function.
- 3 The message Print the current frame of data? appears on a Print screen. Press the **OK** function key.

Zoom

The Zoom function on the Datastream screen's More menu lets you magnify the view of each data line on the Datastream screen.

Note: This function applies to digital and graph display lines. The function can be used for the normal display or for a frozen display.

To zoom the view of the data lines, follow these steps:

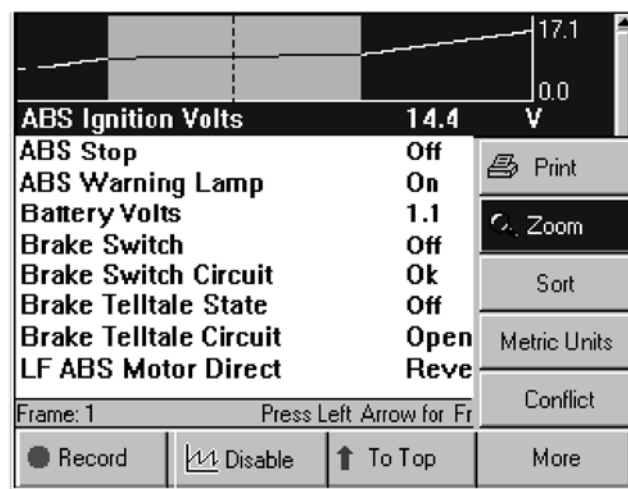


Figure 3.14: Datastream Screen - Zoom Function

- 1 With the Datastream screen displayed, use the **Up** or **Down Direction** key to **select the digital or graph line** to change.
- 2 Press the **More** function key.
- 3 Use the **Down Direction** key to select the **Zoom** function.
- 4 Press the **ENTER** key. This magnifies the selected line, as shown in figure 3.15.

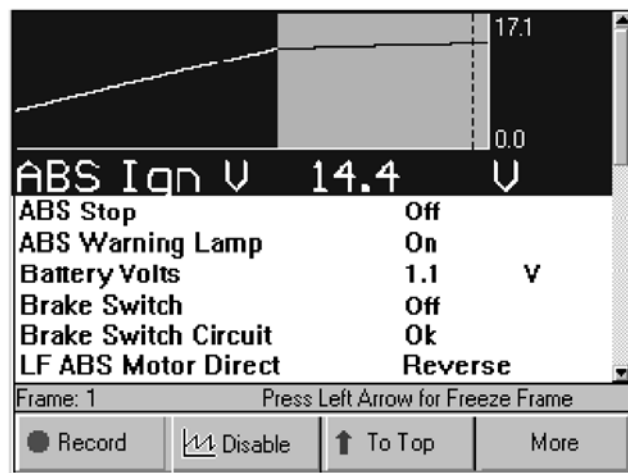


Figure 3.15: Datastream Screen - Zoom Function

- 5 Repeat steps 1 through 4 for each line to change.
- 6 To remove the Zoom view from a line, select the line with the zoomed view and then select the More, Zoom function again (see steps 2, 3, and 4).

Sort

The Sort function on the Datastream screen's More menu lets you rearrange the data on the Datastream screen alphabetically or with either locked or graphed lines at the top of the screen.

Note: You can also use the To Top function to rearrange the data lines. For details, refer to To Top on page 43.

To sort the data lines, follow these steps:

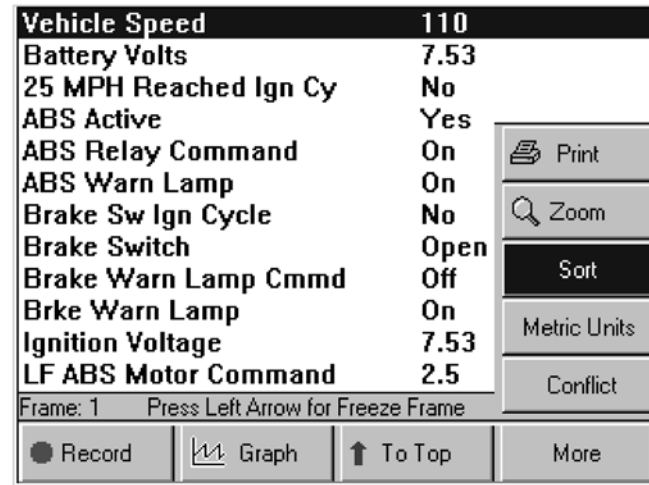


Figure 3.16: Datastream Screen - Sort Function

Note: Figure 3.16 shows all graphs disabled. To use the Sort by Graphed function, one or more graphs must be displayed. To use the Sort by Locked function, one or more lines must be locked.

- 1 With the Datastream screen displayed, press the **More** function key.
- 2 Use the **Down Direction** key to select the **Sort** function.
- 3 Press the **ENTER** key. This displays the Sort Options screen.

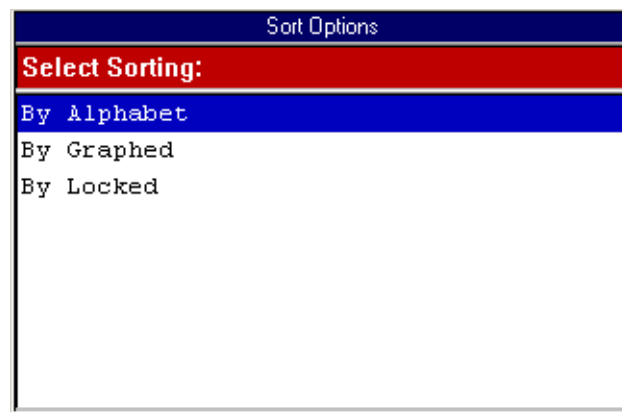


Figure 3.17: Sort Options Screen

- 4 From the Sort Options screen (Figure 3.18), select one of the following:
 - Select **By Alphabet** to sort the data alphabetically, or
 - Select **By Graphed** to sort the data with the graphs at the top of the screen.
 - Select **By Locked** to sort the data with the locked lines at the top of the screen.
- 5 After making the selection, the Datastream screen displays the rearranged lines (or graphs).

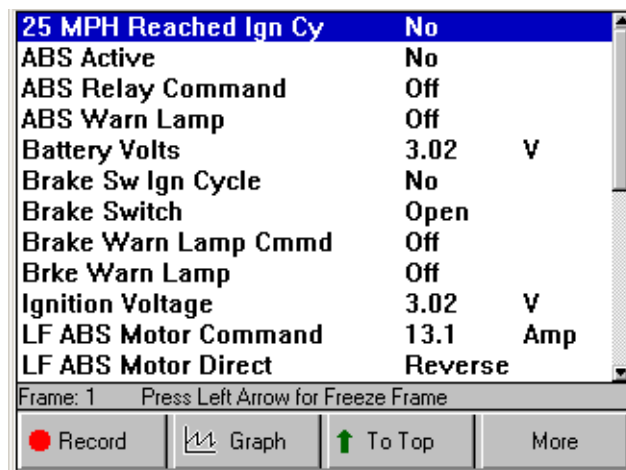


Figure 3.18: Datastream Screen - Sort by Alphabet Function

English/Metric Units

The English/Metric Units function on the Datastream screen's More menu lets you change the units of measure for the data from English to Metric, or vice versa.

To change the units of measure, follow these steps:

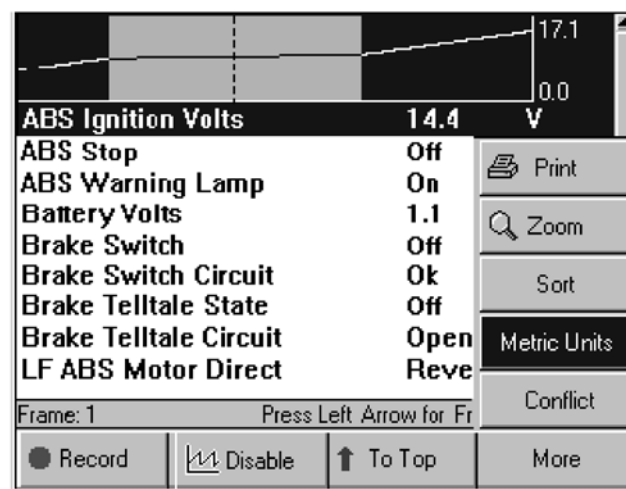


Figure 3.19: Datastream Screen - English / Metric Units Function

- 1 With the Datastream screen displayed, press the **More** function key.
- 2 Use the **Down Direction** key to select the **English Units** or **Metric Units** function.

Note: This name of this menu option changes each time you select it. It changes back and forth between *English Units* and *Metric Units*. The name of the option represents the units of measure that will appear after you select the option.

- 3 Press the **ENTER** key. This displays the data in the selected units of measure.

4: Custom Datastream

The Custom Datastream function lets you select specific data items to display on the standard Datastream screen.

To use the custom datastream function, follow these steps:

- 1 Follow the instructions in Chapter 2: Start-up Steps, on page 23, to display the Diagnostic Menu screen.

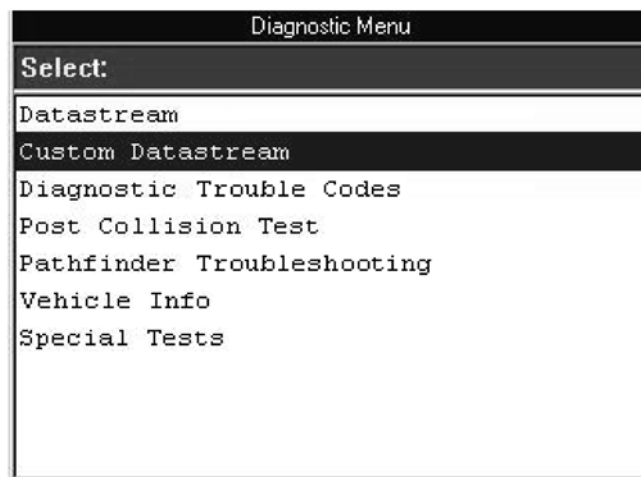


Figure 4.1: Diagnostic Menu Screen

- 2 From the Diagnostic Menu screen, select **Custom Datastream** and press the **ENTER** key. This displays the Custom Datastream selection screen.

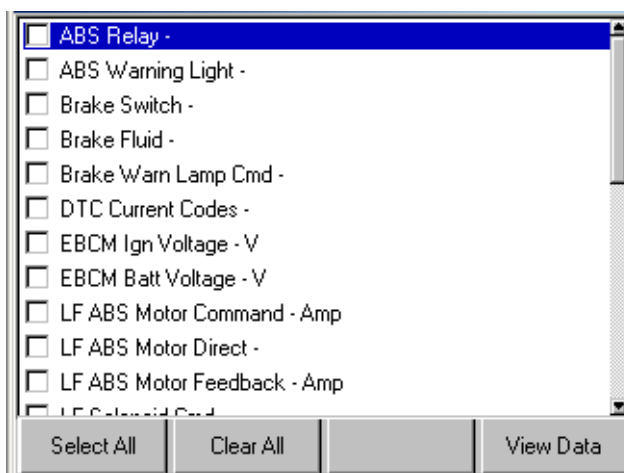


Figure 4.2: Custom Datastream Selection Screen - before selections

- 3 Select the data items to include in the Datastream display as follows:
 - a Use the **Up** and **Down Direction** key to select an item to include in the display.
 - b Press the **ENTER** key. A check mark appears in the box on the left side of the item.

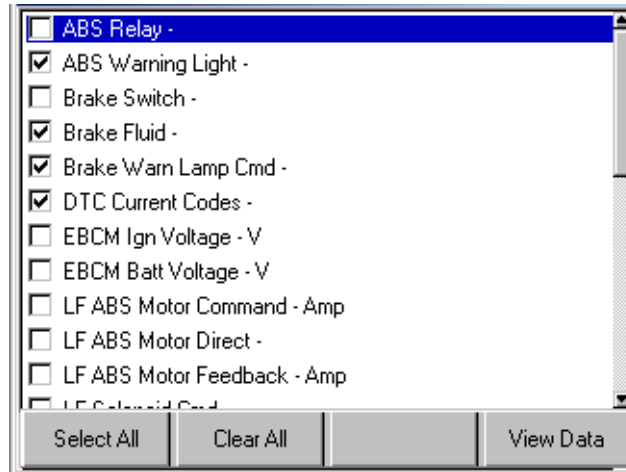


Figure 4.3: Custom Datastream Selection Screen - after selections

- c Repeat **a** and **b** for each item to include in the display.

Note: To deselect an item, select the item again and press the **ENTER** key. Optionally, use the **Select All** and **Clear All** function keys to select or deselect all of the items at once.

- 4 When finished selecting data items, press the **View Data** function key to display the selected items on the Datastream screen.

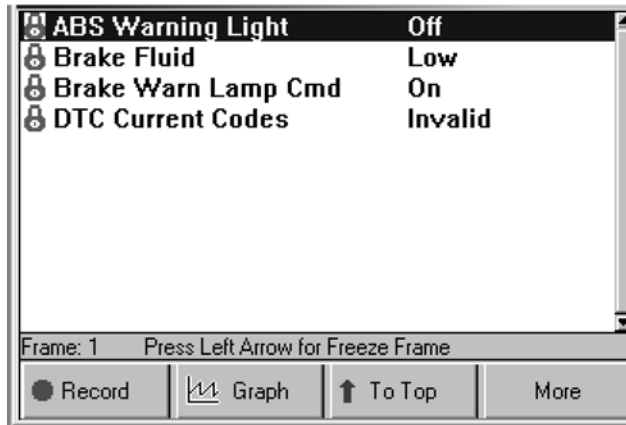


Figure 4.4: Datastream Screen

- 5 For details about the Datastream screen, refer to Chapter 3 Datastream on page 36.

5: Diagnostic Trouble Codes

The Diagnostic Trouble Codes functions let you read, review, and clear diagnostic trouble codes (DTCs) for a vehicle.

The DTC option(s) that appear on the Diagnostic Menu screen vary depending on the vehicle being tested. For some vehicles, the menu option is Diagnostic Codes (see figure 5.1); for other vehicles, there are two menu options: Read Codes and Clear Codes (see figure 5.2).

The **Diagnostic Trouble Codes** option appears on the Diagnostic Menu screen for vehicles that allow reading of DTCs with a scan tool. This chapter includes the following procedures for using the Diagnostic Trouble Codes functions:

- **Read Codes** on page 53.
- **Review Codes** on page 59.
- **Clear Codes** on page 61.
- **Self Diagnostics** on page 63.
- **Wiggle Test** on page 66.

The **Read Codes** and **Clear Codes** options appear on the Diagnostic Menu screen (instead of the Diagnostic Codes option) for vehicles that require reading of DTCs by visually viewing them as flash codes. For this type of vehicle, you identify the vehicle's flash code numbers and manually enter the numbers into the **APOGEE** tool to see their descriptions. This chapter includes the following procedures for using the Read Codes and Clear Codes options when they appear directly on the Diagnostic Menu screen:

- **Read Codes (Flash Codes)** on page 68.
- **Clear Codes (Flash Codes)** on page 71.

Note: Before performing the procedures in this chapter, follow the instructions in Chapter 2 Start-up Steps on page 23.

Note: The ABS Reader II software has an automatic Diagnostic Code Triggered Record function. For vehicles with datastream access, if a diagnostic fault occurs while you are testing a vehicle, the software automatically alerts you with a screen message and creates a recording for playback. To replay these recordings, refer to Playback a Data File on page 39.

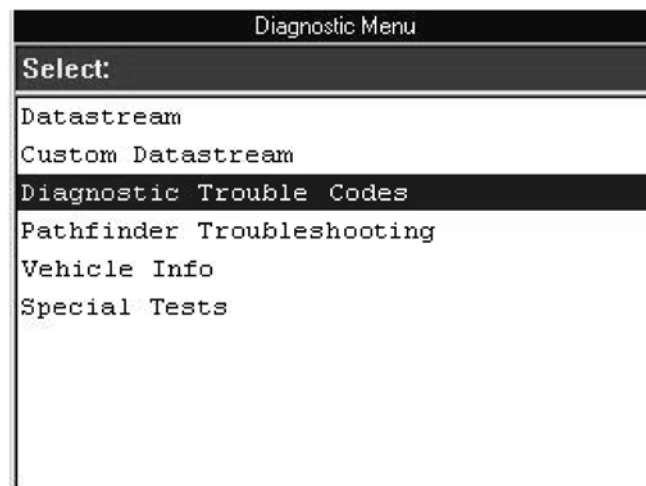


Figure 5.1: Diagnostic Menu Screen with Diagnostic Codes Option

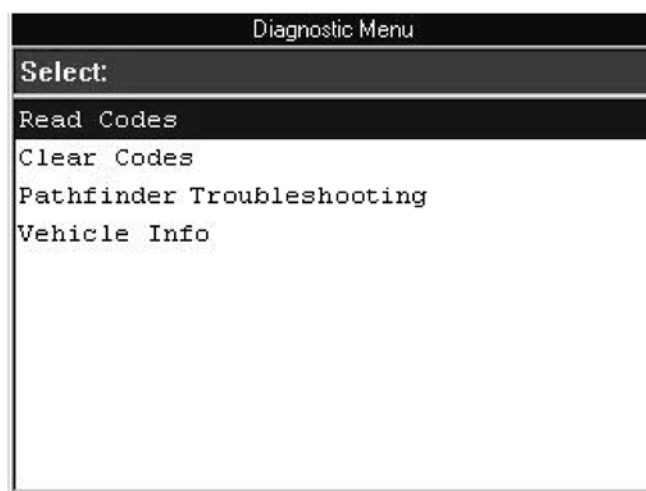


Figure 5.2: Diagnostic Menu Screen with Read Codes and Clear Codes Options

Read Codes

The Diagnostic Codes, Read Codes option lets you use the **APOGEE** tool to read DTCs from a vehicle that allows access to the vehicle's electronic control unit (ECU) through a data link connector (DLC).

Depending on the vehicle being tested, the Read Codes procedure varies. This section includes two separate Read Codes procedures, as follows:

- **Read and Display Codes** (below) - this procedure reads and displays the DTCs in one procedure.
- **Read Codes Only** (page 56)- this procedure only reads the DTCs. You have to use the Review Codes procedure (page 59) to view codes after reading them with this procedure.

Read and Display Codes

Use these steps to read and display DTCs for vehicles that allow reading and displaying of codes in one procedure.

Note: For vehicles that require reading of DTCs by visually viewing them as flash codes, refer to *Read Codes/Clear Codes (Flash Codes)* on page 68.

To read and display DTCs, follow these steps:

Note: Before performing this procedure, make sure the vehicle's ignition key is in the On (Run) position with the engine off.

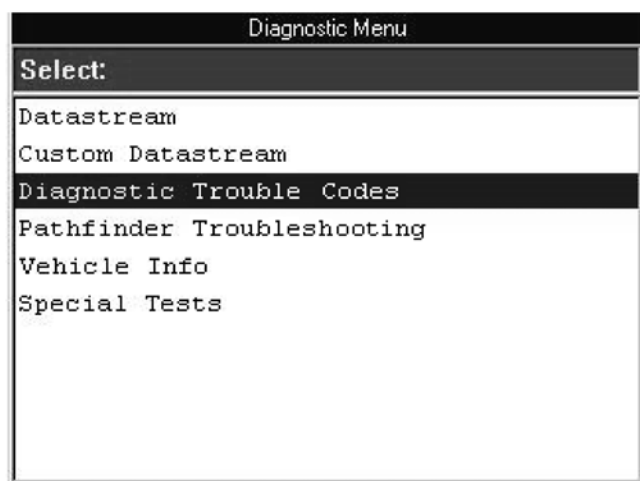


Figure 5.3: Diagnostic Menu Screen

- 1 From the Diagnostic Menu screen, select **Diagnostic Codes** and press the **ENTER** key. This displays the Diagnostic Trouble Codes menu screen.

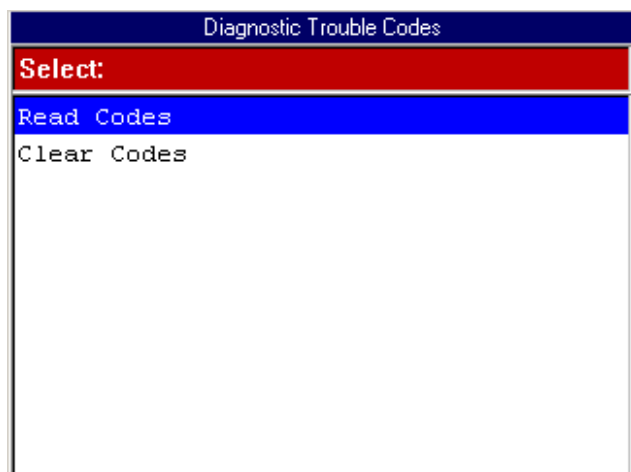


Figure 5.4: Diagnostic Trouble Codes Menu Screen

- 2 Select **Read Codes** and press the **ENTER** key. One of the following happens:

- If the vehicle's ECU stores current and history codes, the Read Codes menu screen appears (see figure 5.5). Continue with the next step.
- If the vehicle's ECU stores only current codes, the DTC Information screen appears (see figure 5.6). Go to Step 4.

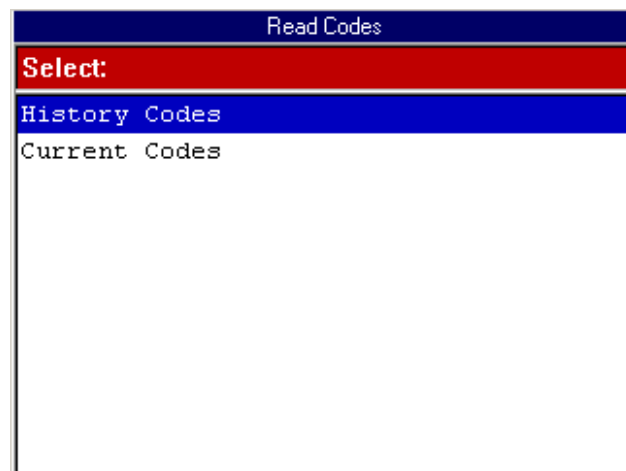


Figure 5.5: Read Codes Menu Screen

- 3 Select either History Codes or Current Code as follows:

Note: For some vehicles, the menu options may be *Past and Present* instead of *History and Current*.

- Select **History Codes** and press the **ENTER** key to display history (or past) codes for the vehicle. History Codes are diagnostic trouble codes that have occurred intermittently.
- Select **Current Codes** and press the **ENTER** key to display current (or present) codes for the vehicle. Current Codes are diagnostic trouble codes that have occurred a specified number of times.

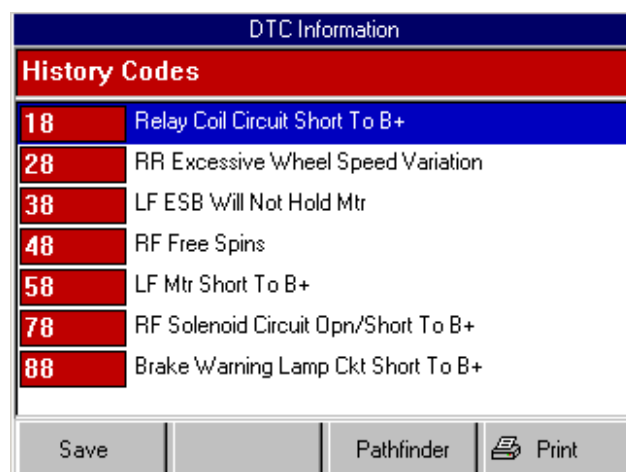


Figure 5.6: DTC Information Screen

Note: General Motors codes are generally listed as A, B, C, or D in order of importance for repair.

- 4 View the list and save or print it, if necessary. To view a saved file, refer to Playback a Datafile on page 39. For printing information, refer to Print on page 45.
- Note:** For some vehicles, the DTC Information screen has a Pathfinder function key. This function key lets you access the Pathfinder software's Quick Path function from within the **APOGEE** software. For details, refer to Chapter 7 Pathfinder Troubleshooting on page 74.
- 5 Use the **EXIT** key to return to previous screens.
- Note:** Use the Clear Codes function to erase the codes from a vehicle's ECU. For details, refer to Clear Codes on page 61.

Read Codes Only

Use these steps to read DTCs for vehicles that allow reading of codes as one procedure and viewing of codes as a separate procedure (review).

Note: These steps only read the DTCs. You have to use the Review Codes procedure (page 59) to view codes after reading them with this procedure.

Note: For vehicles that require reading of DTCs by visually viewing them as "flash codes," refer to Read Codes/Clear Codes (Flash Codes) on page 68.

To read codes, follow these steps:

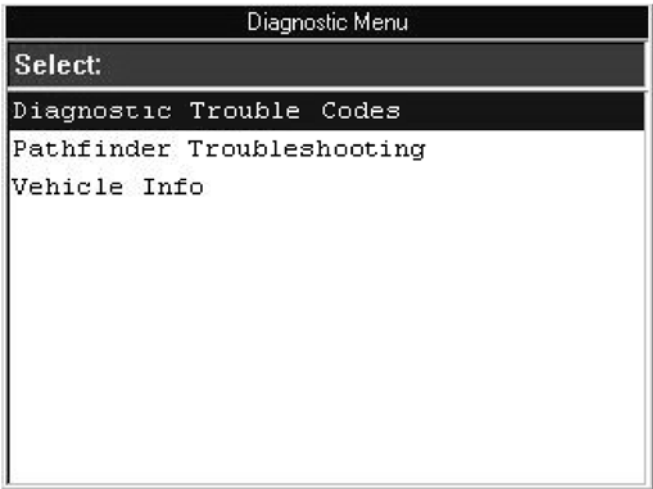


Figure 5.7: Diagnostic Menu Screen

- 1 From the Diagnostic Menu screen, select **Diagnostic Codes** and press the **ENTER** key. This displays the Diagnostic Trouble Codes menu screen (see figure 5.8 on page 57).

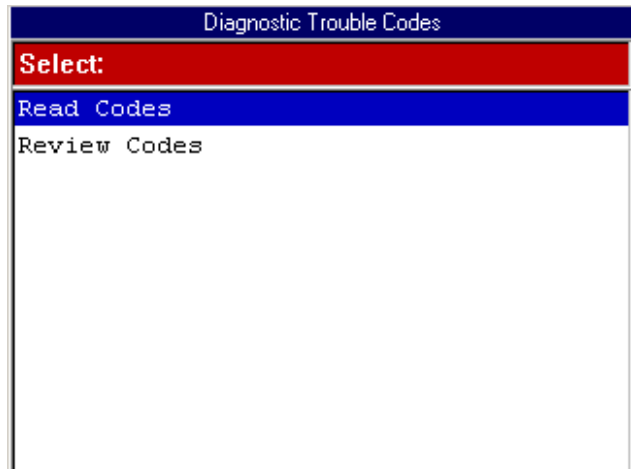


Figure 5.8: Diagnostic Trouble Codes Menu Screen

- 2 Select **Read Codes** and press the **ENTER** key. This displays an instruction or information screen, similar to the following screen.

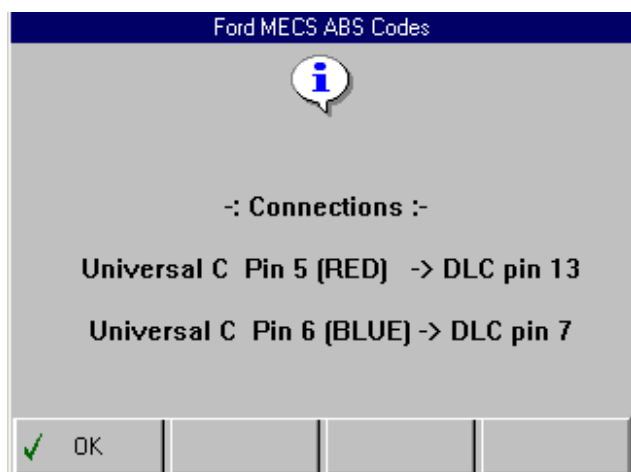


Figure 5.9: Information or Instruction Screen

Note: If connection information is provided (see figure 5.9), use the information to connect the **APOGEE** tool to the vehicle's DLC.

- 3 One or more information or instruction screens appear. Read the screens and follow all instructions. If necessary, use the **function keys** to answer any questions. Do this until the test screen appears (see figure 5.10).

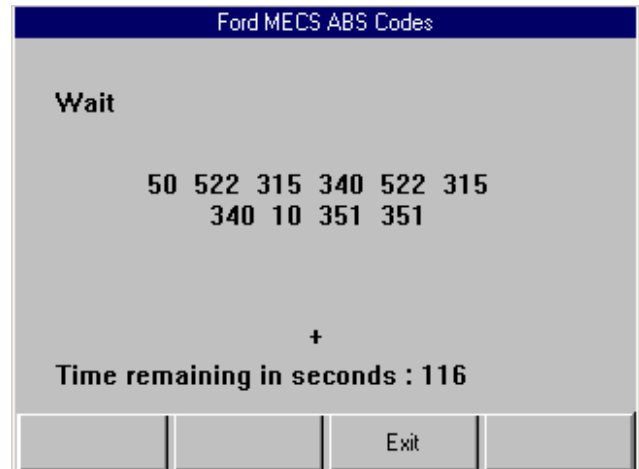


Figure 5.10: Read Codes Test Screen

- 4 The test screen displays the codes being read and the time remaining for the test. When the test is finished, the word **Wait** changes to **Test completed**. When this happens, press the **EXIT function key** to continue. This displays the following screen.

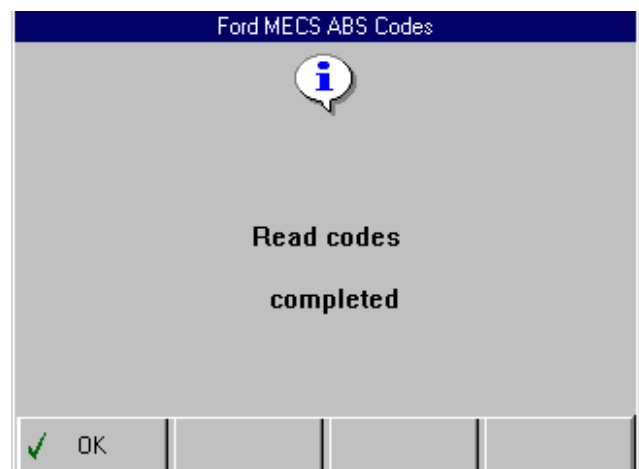


Figure 5.11: Read Codes Completed Screen

- 5 Press the **OK** function key.
- 6 One or more instruction screens may appear telling you how to clear the codes from the vehicle. Read each screen and use the **function keys** to answer any questions.
- 7 When finished, use the **EXIT** key to return to previous screens.

Note: Use the **Review Codes** function to view a list of any codes that were read. For details, refer to **Review Codes** on page 59.

Review Codes

For some vehicles, the Review Codes option appears on the Diagnostic Trouble Codes menu screen. This option lets you review trouble codes after initially reading them.

To review diagnostic trouble codes, follow these steps:

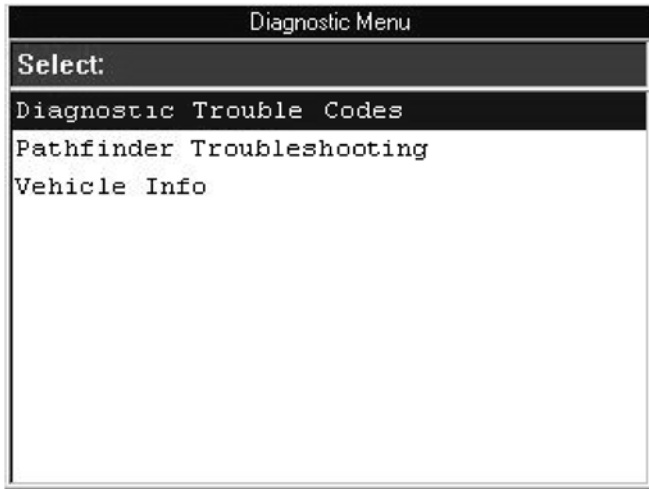


Figure 5.12: Diagnostic Menu Screen

- 1 Select **Diagnostic Codes** from the Diagnostic Menu screen. This displays the Diagnostic Trouble Codes menu screen.

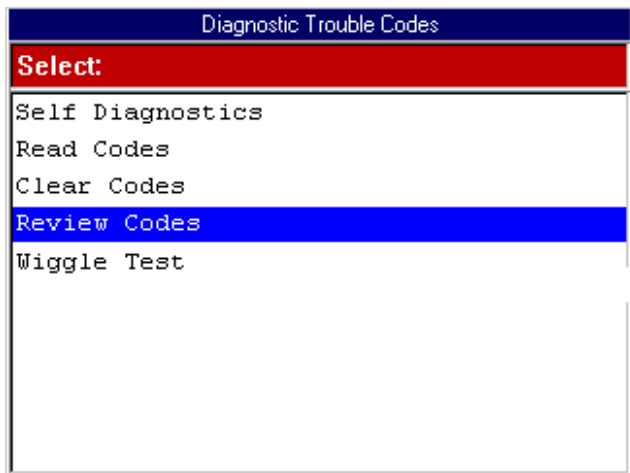


Figure 5.13: Diagnostic Trouble Codes Menu Screen

- 2 From the Diagnostic Trouble Codes screen, select **Review Codes** and press the **ENTER** key.

- 3 If another menu appears, select **KOEO on Demand** and press the **ENTER** key. This displays the list of codes on the Review Codes screen.

Note: If there are no codes to display, a message screen states that the code library is empty. If necessary, read the codes. Refer to Read Codes on Page 53.

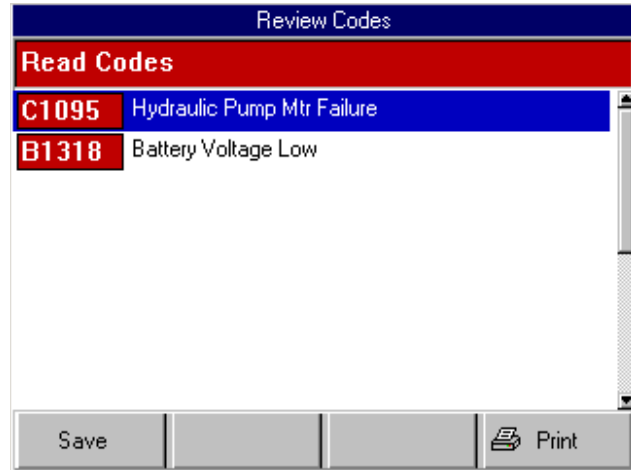


Figure 5.14: Review Codes Screen

- 4 View the list and save or print it, if necessary. To view a saved file, refer to Playback a Datafile on page 39. For printing information, refer to Print on page 45.
- 5 Use the **EXIT** key to return to previous screens.

Note: After reviewing the codes, if necessary, clear the codes from the vehicle and the **APOGEE** software. Use any instructions that were provided when reading the codes. For some vehicles the Diagnostic Trouble Codes menu screen may have a Clear Codes option. If so, refer to Clear Codes on page 61. If necessary, consult the manufacturer's service manual for the correct "clear code" method.

Clear Codes

For some vehicles, the Clear Codes option appears on the Diagnostic Trouble Codes menu screen. This option lets you clear codes from a vehicle. For some vehicles, this procedure also clears codes stored in the USA 2005 ABS/Airbag software.

After reading and/or reviewing the diagnostic trouble codes, use the following steps to clear the codes from the vehicle. If Clear Codes is not an available menu option, consult the manufacturer's service manual for the correct clear code method.

To clear the DTCs, follow these steps:

Note: Before performing this procedure, make sure the vehicle's ignition key is in the On (Run) position with the engine off.

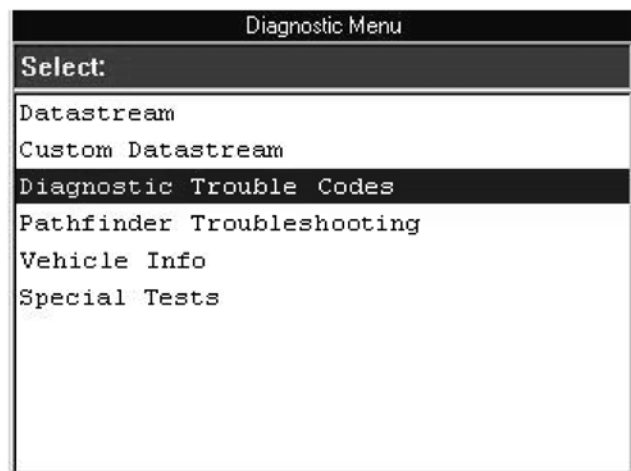


Figure 5.15: Diagnostic Menu Screen

- 1 Select **Diagnostic Codes** from the Diagnostic Menu screen. This displays the Diagnostic Trouble Codes menu screen.

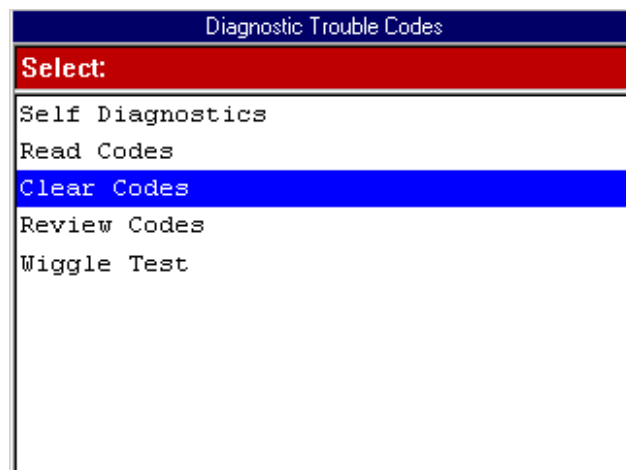


Figure 5.16: Diagnostic Trouble Codes Menu Screen

- 2 From the Diagnostic Trouble Codes menu screen, select **Clear Codes** and press the **ENTER** key. This displays a clear codes instruction screen similar to either figure 5.17 or figure 5.18.

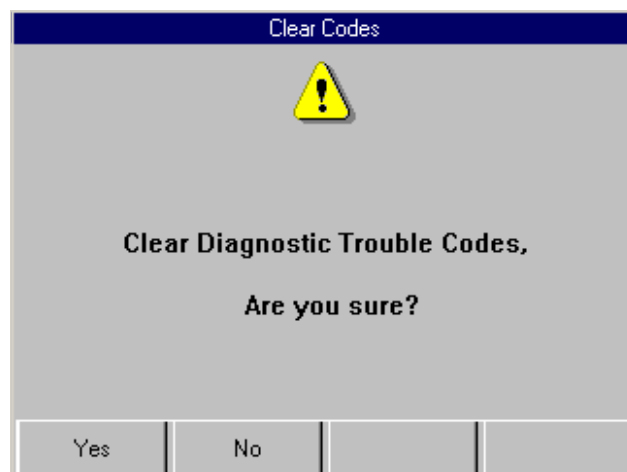


Figure 5.17: Clear Codes Instruction Screen

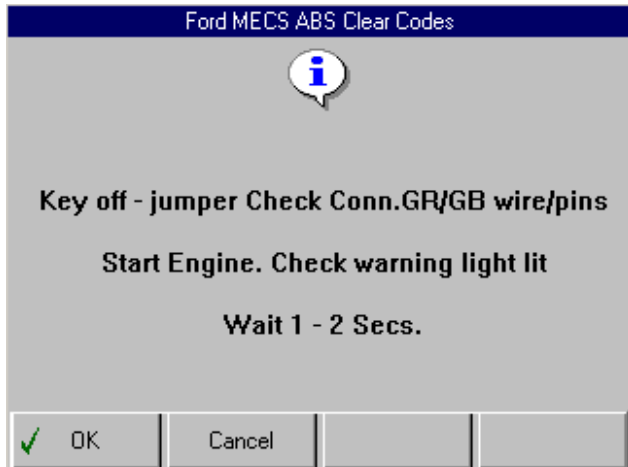


Figure 5.18: Clear Codes Instruction Screen

- 3 Read the screen and follow all instructions, if necessary. **Press the appropriate function key.**
- 4 After this, one or more information or instruction screens may appear. Read the screens and follow all instructions. If necessary, use the **function keys** to answer any questions. Do this until the Diagnostic Trouble Codes menu screen appears.
- 5 Use the **EXIT** key to return to previous screens.

Note: Check the codes again. If any codes remain, repeat the Clear Codes steps. Make sure the vehicle's ignition key is in the On (Run) position and the engine is off. (If codes remain, the problem may still exist in the vehicle.)

Note: GM supplemental inflatable restraint (SIR) code 52, which indicates the air bag has been deployed, cannot be cleared. All other codes clear and the SIR dash warning light turns off.

Self-Diagnostics

For some vehicles (Ford), the Self-Diagnostics option appears on the DTC Menu screen. This function is a diagnostic test that is activated and managed by the vehicle. At the completion of the test, a list of diagnostic trouble codes displays on the screen.

Note: Before performing this procedure, make sure the vehicle's ignition key is in the On (Run) position with the engine off.

To perform a self diagnostic test, follow these steps:

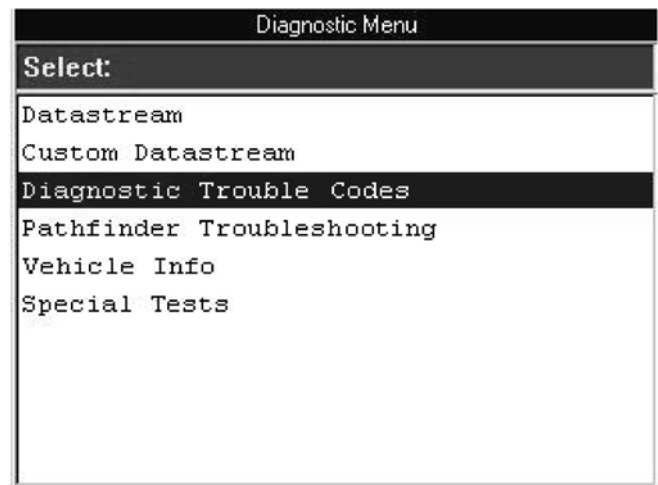


Figure 5.19: Diagnostic Menu Screen

- 1 From the Diagnostic Menu screen, select **Diagnostic Codes** and press the **ENTER** key. This displays the Diagnostic Trouble Codes menu screen.

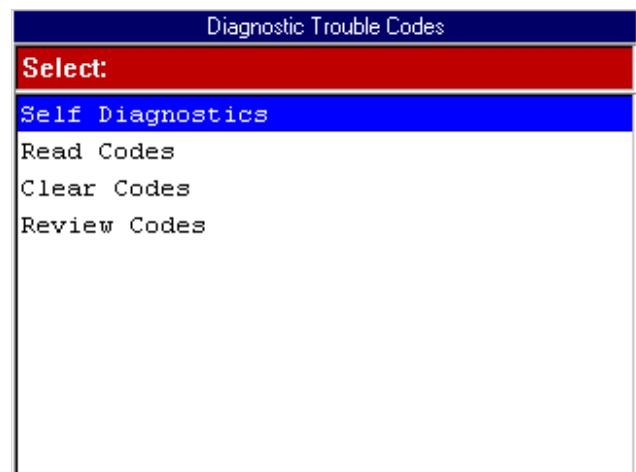


Figure 5.20: Diagnostic Trouble Codes Menu Screen

- 2 Select **Self Diagnostics** and press the **ENTER** key. This displays the Self Diagnostics menu screen.

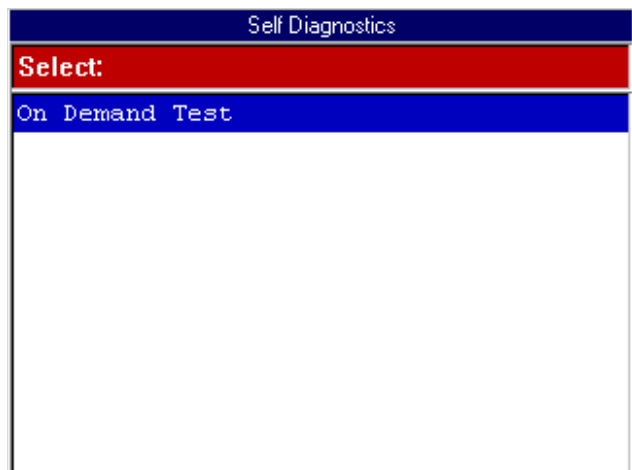


Figure 5.21: Self Diagnostics Menu Screen

- 3 Select **On Demand Test** and press the **ENTER** key. This displays the On Demand Test screen.

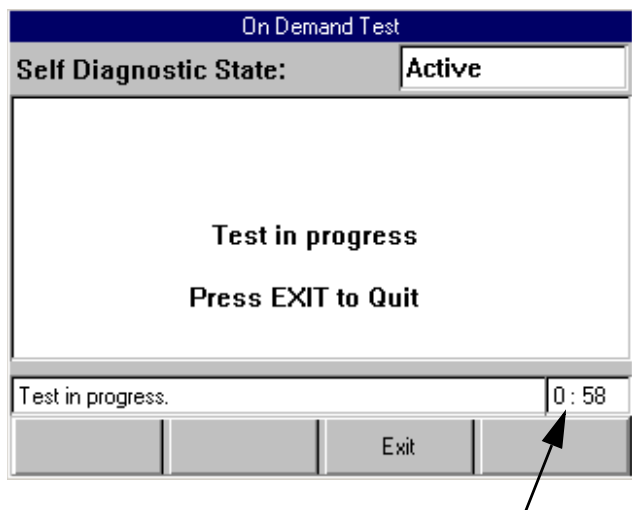


Figure 5.22: Self Diagnostic On Demand Test Screen

- 4 Wait for the test to start. While the test runs, a timer counts down the time remaining for the test. When the test is complete, an instruction screen (similar to figure 5.23) may appear.

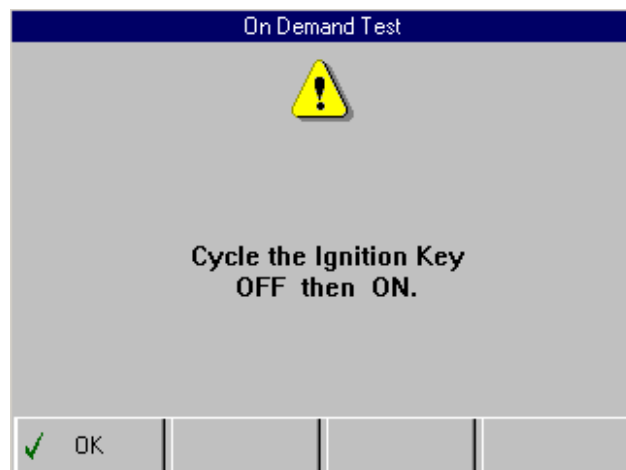


Figure 5.23: Self Diagnostic Test Instruction Screen

- 5 Read and follow the instructions on the screen and press the **OK** function key.
- 6 One or more instruction screens may appear. If so, read each screen and use the **function keys** to answer any questions. Do this until the list of codes appears on the DTC Info screen.

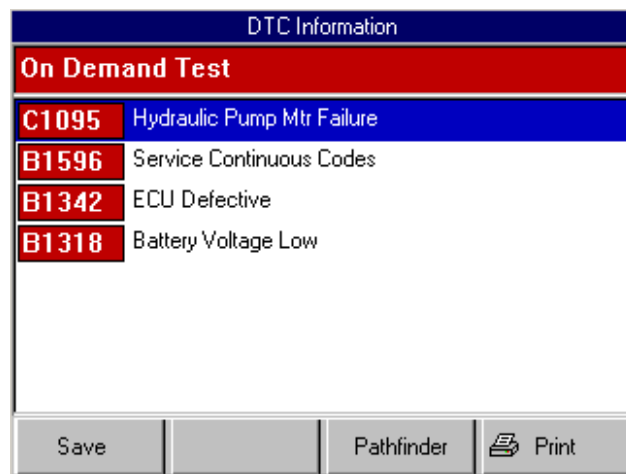


Figure 5.24: DTC Information Screen

- 7 View the list and save or print it, if necessary. To view a saved file, refer to Playback a Datafile on page 39. For printing information, refer to Print on page 45.

Note: For some vehicles, the DTC Information screen has a Pathfinder function key. This function key lets you access the Pathfinder software's Quick Path function from within the **APOGEE** software. For details, refer to Chapter 7: Pathfinder Troubleshooting on page 74.

- 8 Use the **EXIT** key to return to previous screens.

Note: After viewing the codes, clear the codes. Refer to Clear Codes on page 61.

Wiggle Test

For some vehicles (Ford), the Wiggle Test option appears on the DTCs Menu screen. This function checks for intermittent breaks in connections and for resulting DTCs. When a circuit break is detected, the **APOGEE** tool beeps and places the code in memory.

To perform a wiggle test, follow these steps:

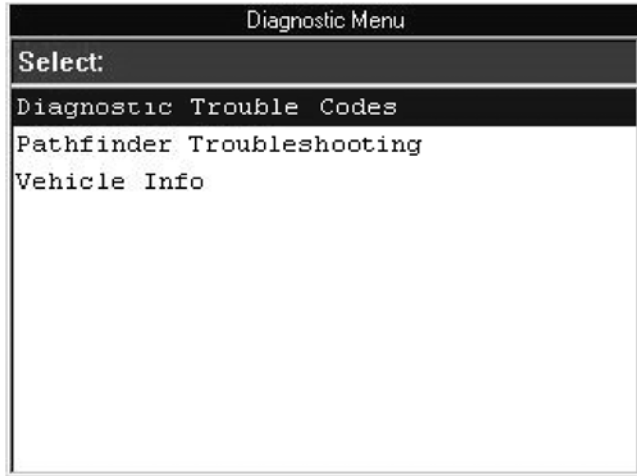


Figure 5.25: Diagnostic Menu Screen

- 1 From the Diagnostic Menu screen, select **Diagnostic Codes** and press the **ENTER** key. This displays the Diagnostic Trouble Codes menu screen.

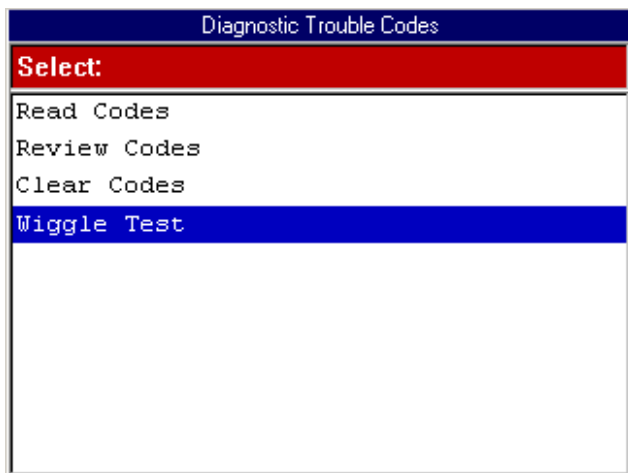


Figure 5.26: Diagnostic Trouble Codes Menu Screen

- 2 Select **Wiggle Test** and press the **ENTER** key.
- 3 One or more information or instruction screens may appear. Read the screens and follow all instructions. If necessary, use the **function keys** to answer any questions. Do this until the Wiggle Test screen appears.

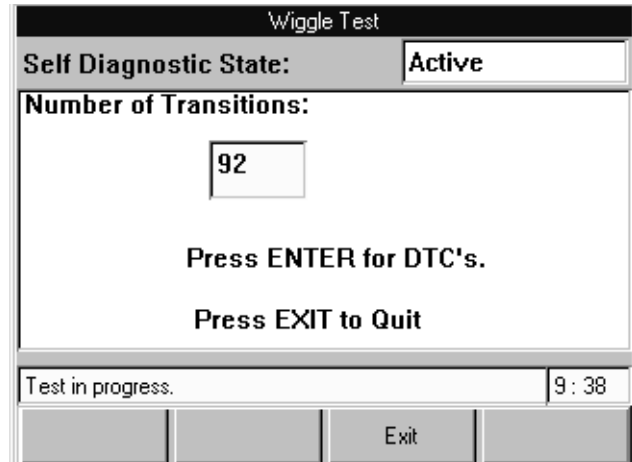


Figure 5.27: Wiggle Test Screen

- 4 The test screen displays the state of the test, the number of transitions (circuit breaks that occur), and the time remaining for the test. While the test is running, wiggle the wiring and wiring connections or drive the vehicle to recreate the intermittent failure condition suspected.

Note: To stop the test before the test time expires, press the **EXIT** function key.

- 5 To finish the test, press the **ENTER** key. This displays a list of any DTCs that occurred.

Note: One or more instruction screens may appear. If so, read each screen and use the **function keys** to answer any questions. Do this until the list of codes appears on the DTC Info screen.

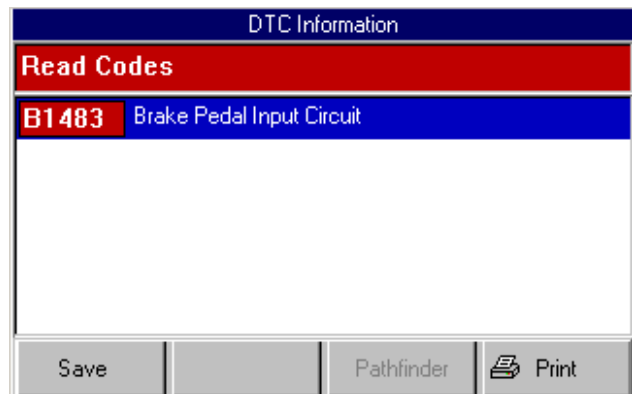


Figure 5.28: DTC Information Screen

- 6 View the list and save or print it, if necessary. To view a saved file, refer to Playback a Datafile on page 39. For printing information, refer to Print on page 45.
- 7 Use the **EXIT** key to return to previous screens.

Note: After viewing the codes, clear the codes. Refer to Clear Codes on page 61.

Read Codes / Clear Codes (Flash Codes)

If a vehicle requires that you read diagnostic trouble codes by visually viewing them as “flash codes,” the Read Codes and Clear Codes menu options appear directly on the Diagnostic Menu screen (instead of the Diagnostic Codes option).

For this type of vehicle, you identify the vehicle’s flash code numbers and manually enter the numbers into the **APOGEE** tool to see their descriptions. The Read Codes function provides instructions for how to physically view the flash codes and lets you enter the code numbers to see their descriptions. The Clear Codes function provides instructions for how to manually clear flash codes from the vehicle.

Note: Flash codes are DTCs that you identify by: 1) grounding a pin on the vehicle’s check connector to trigger a specific indicator light to blink, and 2) viewing and counting the number of times the indicator light blinks.

This section includes the following procedures:

- Read Codes (Flash Codes) (below)
- Clear Codes (Flash Codes) on page 71

Read Codes (Flash Codes)

When the Read Codes option appears on the Diagnostic Menu screen, use the option to: 1) view instructions for how to physically view flash codes from the vehicle, and 2) to enter the flash code numbers into the **APOGEE** tool to see their descriptions.

To read flash codes, follow these steps:

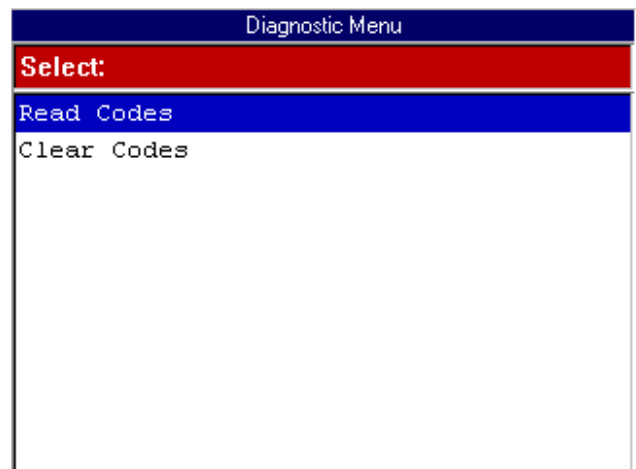


Figure 5.29: Diagnostic Menu Screen

- 1 From the Diagnostic Menu screen, select **Read Codes** and press the **ENTER** key. This displays the Connector Location screen.

Note: The Connector Location screen is not available for all vehicles. If this screen does not appear, go to Step 4.

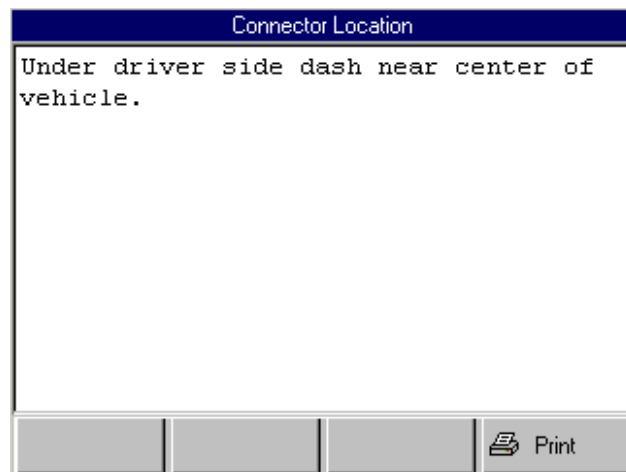


Figure 5.30: Connector Location Screen

- 2 View the information and print it, if necessary. For printing information, refer to Print on page 45.
- 3 Press the **ENTER** key. This displays the DTC Retrieval Procedure screen.

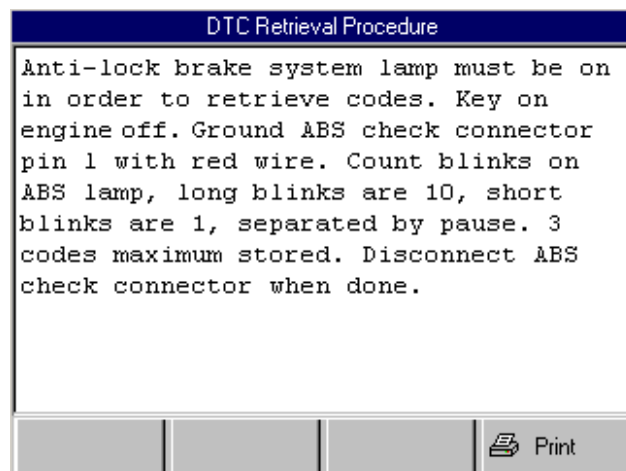


Figure 5.31: DTC Retrieval Procedure Screen

- 4 View the DTC retrieval procedure and print it, if necessary. For printing information, refer to Print on page 45.
- 5 Use the connector location and DTC retrieval procedure to read the flash codes from the vehicle. When you know the codes, press the **ENTER** key. This displays the Possible Codes screen.

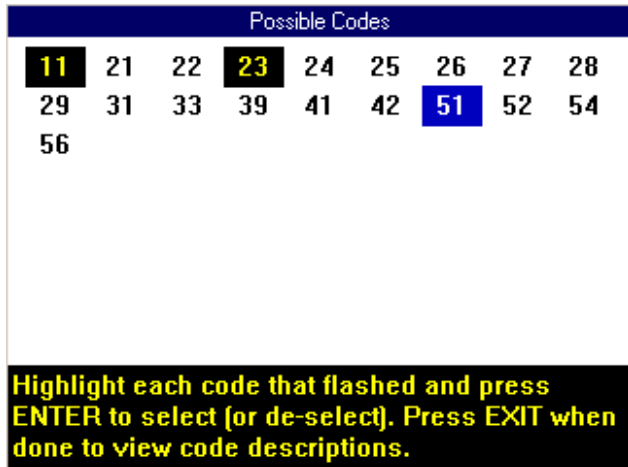


Figure 5.32: Possible Codes Screen

- 6 Use the Possible Codes screen to enter the flash codes as follows:
 - a Use the **Direction** keys to select (highlight) a code number. With the number selected, press the **ENTER** key.
 - b **Repeat step a** until all the flash codes are highlighted.
 - c Press the **EXIT** key to display the code descriptions. This displays the Review Codes screen.

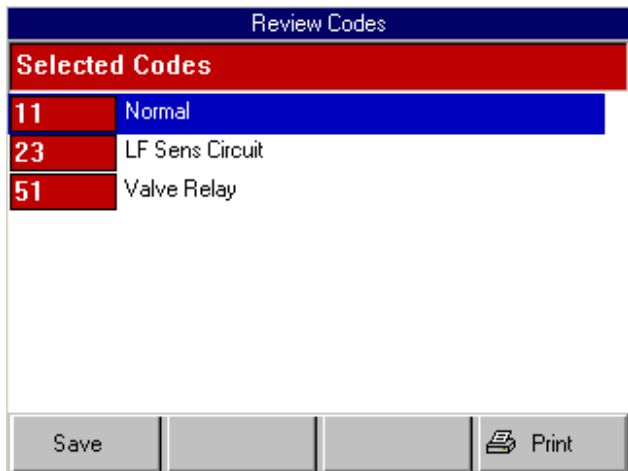


Figure 5.33: Review Codes Screen

- 7 View the list and save or print it, if necessary. To view a saved file, refer to Playback a Datafile on page 39. For printing information, refer to Print on page 45.
- 8 Press the **EXIT** key to return to the Diagnostic Menu screen.
- 9 Clear the codes. Refer to Clear Codes (Flash Codes) on page 71.

Clear Codes (Flash Codes)

After retrieving flash codes from a vehicle (refer to Read Codes (Flash Codes) on page 68), use the following steps to clear the codes from the vehicle.

Note: If necessary, consult the manufacturer's service manual for the correct "clear code" method.

To clear flash codes, follow these steps:

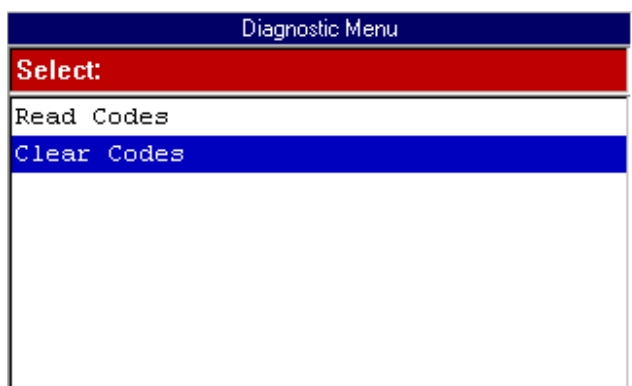


Figure 5.34: Diagnostic Menu Screen

- 1 From the Diagnostic Menu screen, select **Clear Codes** and press the **ENTER** key. This displays the Erase Procedure screen.

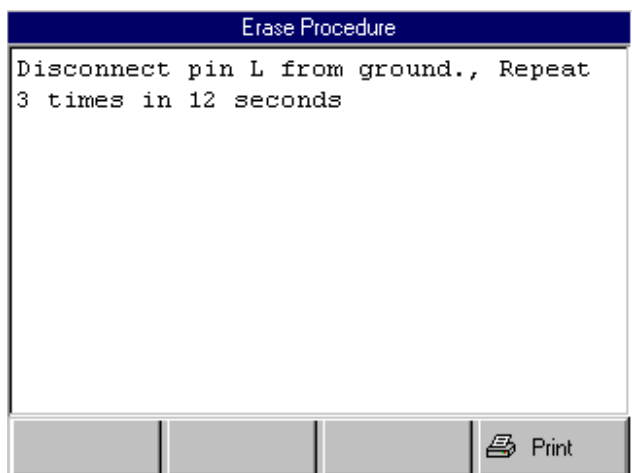


Figure 5.35: Erase Procedure Screen

- 2 View the information and print it, if necessary. For printing information, refer to Print on page 45.
- 3 Press the **EXIT** key to return to the Diagnostic Menu screen.
- 4 Use the erase procedure to clear the flash codes from the vehicle.

6: Post Collision Test

The Post Collision Test function is a preset test for testing air bags after repair.

Note: Before performing the test steps, follow the instructions in Chapter 2: Start-up Steps on page 23.

To perform a Post Collision Test, follow these steps:

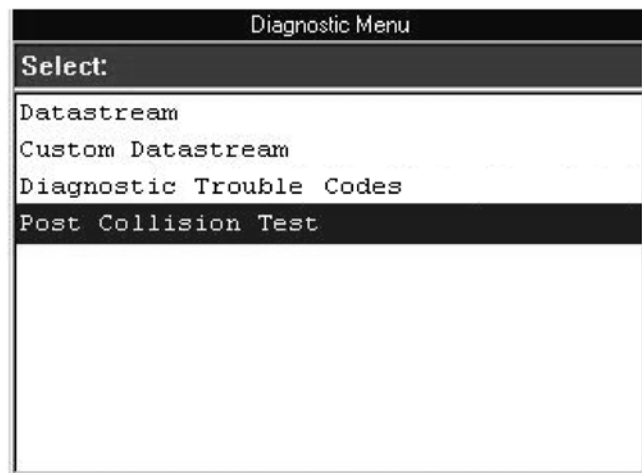


Figure 6.1: Diagnostic Menu Screen

Note: For some vehicles, the Post Collision Test option may be available only after first selecting Diagnostic Trouble Codes. The option then appears on the Diagnostic Trouble Codes menu screen.

- 1 Select **Post Collision Test** and press the **ENTER** key. This displays an instruction screen.



Figure 6.2: Post Collision Test Screen

- 2 Read the screen, follow the instructions, and press the **ENTER** key.
- 3 After this, several instruction screens appear. Read the screens and follow all instructions. Do this until the Diagnostic Trouble Codes menu screen appears.

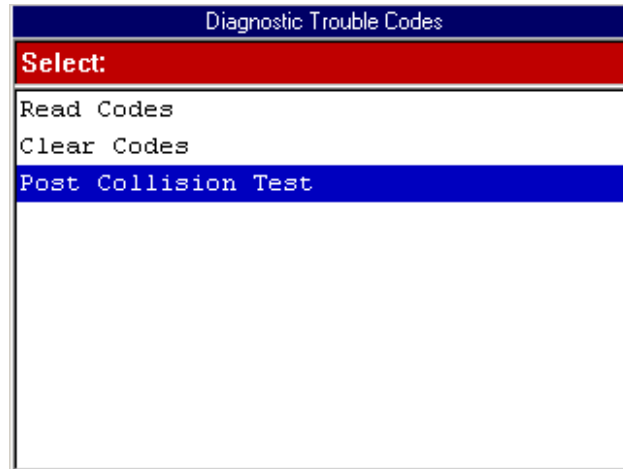


Figure 6.3: Diagnostic Trouble Codes Menu Screen

Note: The Post Collision Test option may not appear on the menu at this time.

4 Do one of the following:

- If the SIR warning lamp is off, the procedure is complete. Use the **EXIT** key to return to previous screens.
- If the SIR warning lamp is on, continue with the next step.

5 Select **Read Codes** from the Diagnostic Trouble Codes menu screen and press the **ENTER** key.

Note: If the Read Codes menu screen appears, select **Current Codes** from the menu and press the **ENTER** key.

This displays the DTC Information screen.

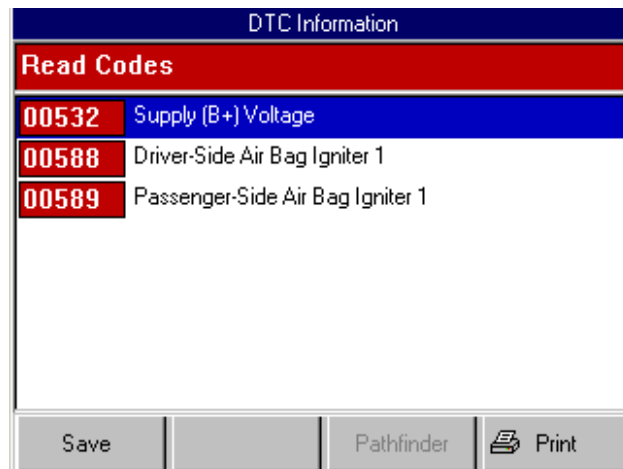


Figure 6.4: DTC Information Screen

6 View the list and save or print it, if necessary. To view a saved file, refer to Playback a Datafile on page 39. For printing information, refer to Print on page 45.

Note: For more information about DTCs and the DTC Information screen, refer to Chapter 5: Diagnostic Trouble Codes: on page 52.

7 Use the **EXIT** key to return to previous screens.

8 If necessary, use the Clear Codes function to erase the codes from the vehicle's ECU. For details, refer to Clear Codes: on page 61.

9 Do any further air bag repairs and repeat the test.

7: Pathfinder Troubleshooting

The Pathfinder Troubleshooting function lets you access the Pathfinder software's functions from within the **APOGEE** software. This option lets you view vehicle-specific information for some 1988-2003 GM, Saturn, Ford, Chrysler, and Jeep vehicles.

Note: You can also access the Pathfinder Troubleshooting functions from within the **APOGEE** software by doing one of the following:

- From the Datastream screen, press the More function key and select the Pathfinder option. For details, refer to Pathfinder on page 44.
- From the DTC Information screen, press the Pathfinder function key. For details, refer to Read and Display Codes on page 53.

This chapter includes procedures for using the following Pathfinder Troubleshooting functions:

- **Repair Trac** - used to access the Repair Trac software from within the **APOGEE** software. (See the steps on the following page.)
- **TSB References** - used to view numbers and titles of technical service bulletins that apply to a vehicle. (See page 77.)
- **Specifications** - used to view brake and ABS specifications for a vehicle. (See page 78.)
- **Component Location** - used to view a description of the computer and connector locations for a vehicle. (See page 79.)
- **Brake Bleed Procedure** - used to view instructions for bleeding a vehicle's brakes. (See page 81.)
- **Brake Bleed Sequence** - used to view a description of the correct sequence for bleeding a vehicle's brakes. (See page 82.)

Note: Before performing the procedures in this chapter, follow the instructions in Chapter 2: Start-up steps on page 23.

Repair Trac

The Repair Trac option lets you access the Repair Trac software from within the **APOGEE** software. The Repair Trac software contains repair instructions for hard-to-diagnose “pattern failures” on vehicles with 50,000 or more miles.

Note: You can also access the Repair Trac software from the **APOGEE** tool’s Repair Information menu, depending on the system version in the tool. If you do this, you will need to enter the vehicle information again.

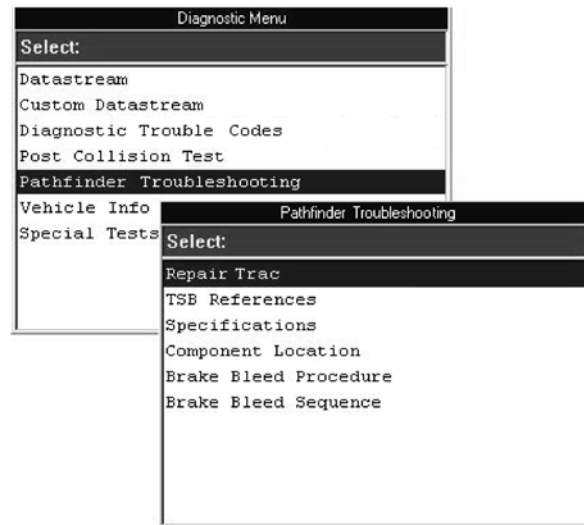


Figure 7.1: Diagnostic Menu Screen and Pathfinder Screen

- 1 From the Diagnostic Menu screen, select **Pathfinder Troubleshooting** and press the **ENTER** key. This displays the Pathfinder screen.
- 2 From the Pathfinder screen, select **Repair Trac** and press the **ENTER** key. This displays the Repair Trac screen for the vehicle (see figure 7.2).

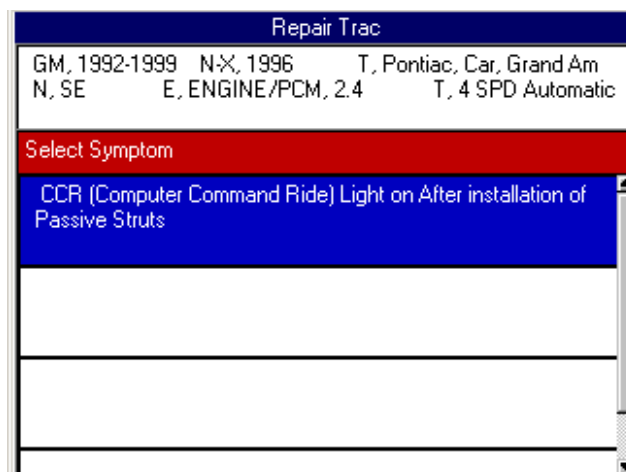


Figure 7.2: Repair Trac Symptoms Screen

- 3 From the list of symptoms, select a symptom to view and press the **ENTER** key. This displays the Repair Trac Problems and Fixes screen.

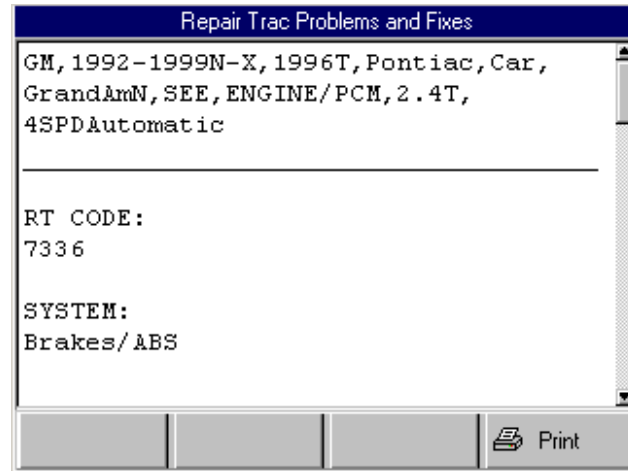


Figure 7.3: Repair Trac Problems and Fixes Screen

Note: The RT (Repair Trac) Code on this screen is a software code only. It is not a part of any diagnostic trouble code (DTC).

- 4 View the description and print it, if necessary. For printing information, refer to Print on page 45.
- 5 When finished, use the **EXIT** key to return to previous screens.

TSB References

The TSB References option lets you look up the numbers and titles of technical service bulletins for a vehicle.

To view the TSB references, follow these steps:

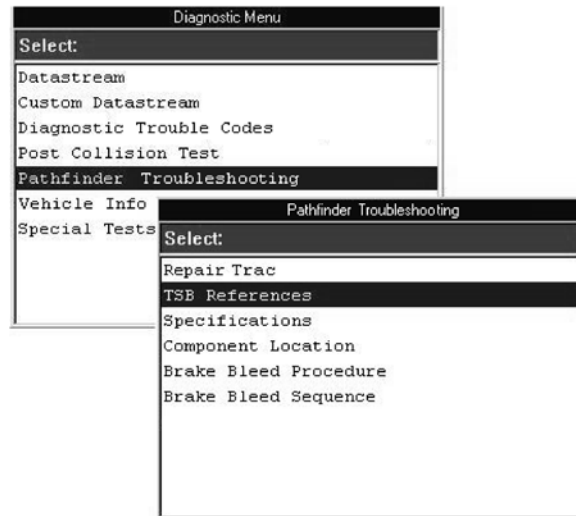


Figure 7.4: Diagnostic Menu Screen and Pathfinder Screen

- 1 From the Diagnostic Menu screen, select **Pathfinder Troubleshooting** and press the **ENTER** key. This displays the Pathfinder screen.
- 2 From the Pathfinder screen, select **TSB References** and press the **ENTER** key. This displays the TSB References screen.

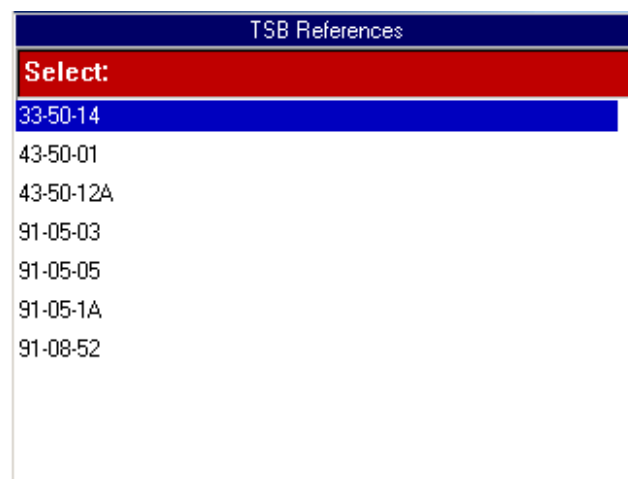


Figure 7.5: TSB References Screen

- 3 From the list of TSBs, select a TSB to view and press the **ENTER** key. This displays a brief description of the TSB.

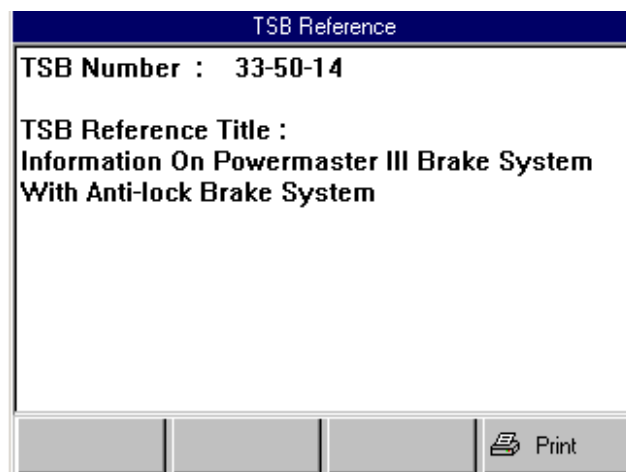


Figure 7.6: TSB Reference Screen

- 4 View the description and print it, if necessary. For printing information, refer to Print on page 45.
- 5 When finished, use the **EXIT** key to return to previous screens.

Specifications

The Specifications option lets you view tune-up, engine, and system specifications for a vehicle.

To view the vehicle specifications, follow these steps:

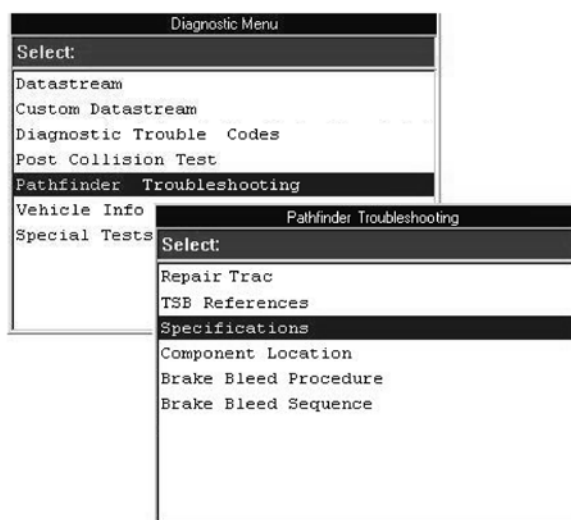


Figure 7.7: Diagnostic Menu Screen and Pathfinder Screen

- 1 From the Diagnostic Menu screen, select **Pathfinder Troubleshooting** and press the **ENTER** key. This displays the Pathfinder screen.
- 2 Select **Specifications** and press the **ENTER** key. This displays the Specifications screen.

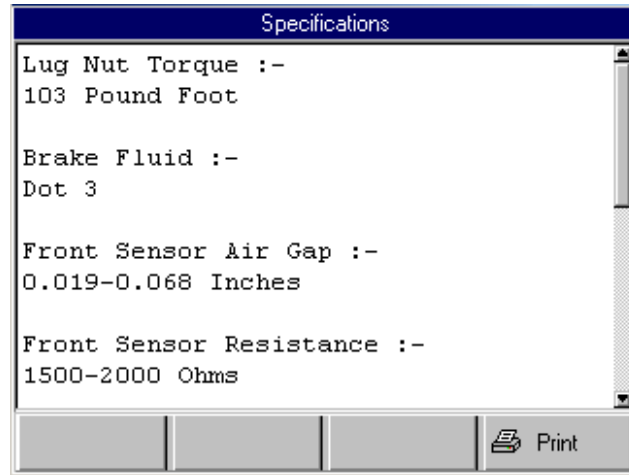


Figure 7.8: Specifications Screen

- 3 View the specifications and print them, if necessary. For printing information, refer to Print on page 45.
- 4 When finished, use the **EXIT** key to return to previous screens.

Component Location

The Component Location option lets you view a description of the computer and connector locations for a vehicle.

To view the component locations, follow these steps:

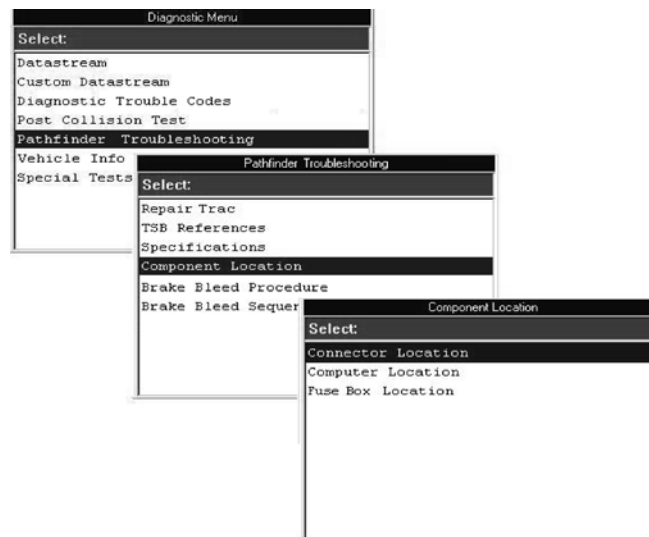


Figure 7.9: Diagnostic Menu Screen, Pathfinder Screen, and Component Location Screen

- 1 From the Diagnostic Menu screen, select **Pathfinder Troubleshooting** and press the **ENTER** key. This displays the Pathfinder screen.
- 2 Select **Component Location** and press the **ENTER** key. This displays the Component Location screen. Do one of the following:
 - Select **Connector Location** and press the **ENTER** key to view a description of where the vehicle's data link connector (DLC) is located. This displays the Connector Location screen (see figure 7.10).

- Select **Computer Location** and press the **ENTER** key to view a description of where the vehicle's electronic control unit (ECU) is located. This displays the Connector Location screen (see figure 7.11).
- Select **Fuse Box Location** and press the **ENTER** key to view a description of where the vehicle's fuse box(es) are located. This displays the Connector Location screen (not shown).

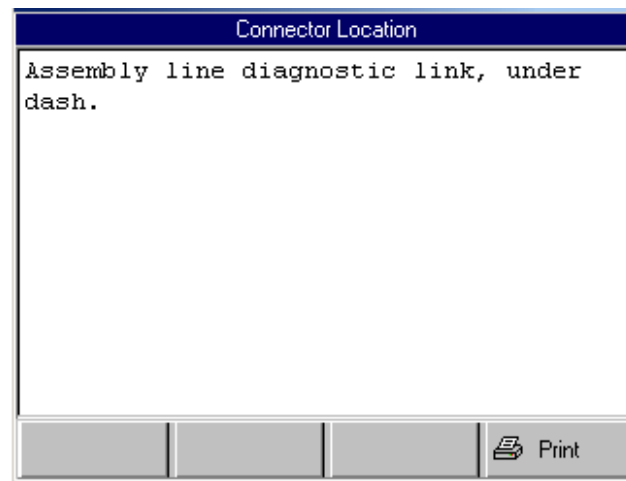


Figure 7.10: Connector Location Screen

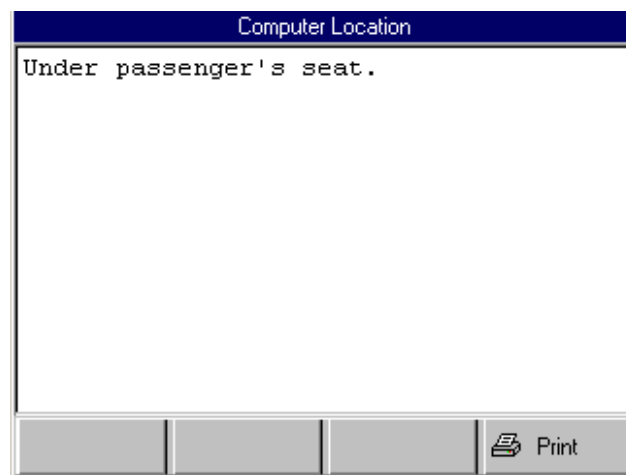


Figure 7.11: Computer Location Screen

- 3 View the description and print it, if necessary. For printing information, refer to Print on page 45.
- 4 When finished, use the **EXIT** key to return to previous screens.

Brake Bleed Procedure

The Brake Bleed Procedure option lets you view instructions for bleeding a vehicle's brakes.

To view the brake bleed procedure, follow these steps:

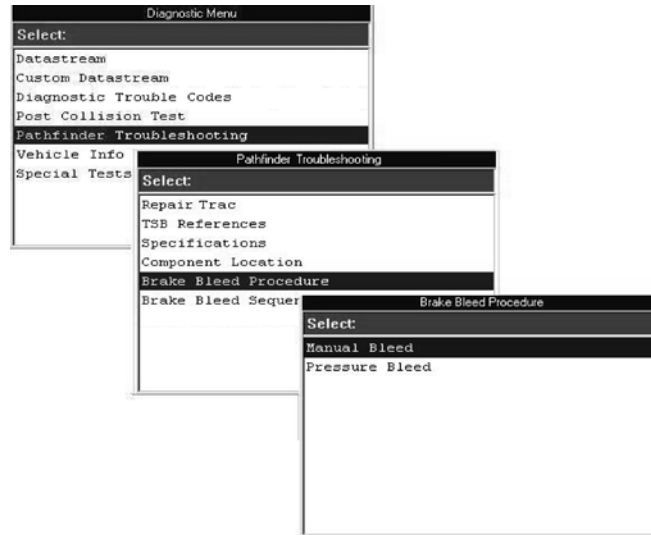


Figure 7.12: Diagnostic Menu Screen, Pathfinder Screen, and Brake Bleed Procedure Screen

- 1 From the Diagnostic Menu screen, select **Pathfinder Troubleshooting** and press the **ENTER** key. This displays the Pathfinder screen.
- 2 Select **Brake Bleed Procedure** and press the **ENTER** key. This displays the Brake Bleed Procedure screen.
- 3 Select either **Manual Bleed** or **Pressure Bleed** and press the **ENTER** key. This displays either the Manual Bleed Procedure screen (see figure 7.13) or the Pressure Bleed Procedure screen (see figure 7.14).

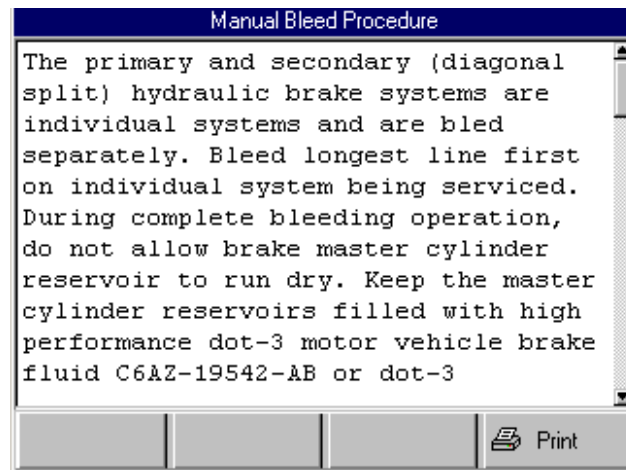


Figure 7.13: Manual Bleed Procedure Screen

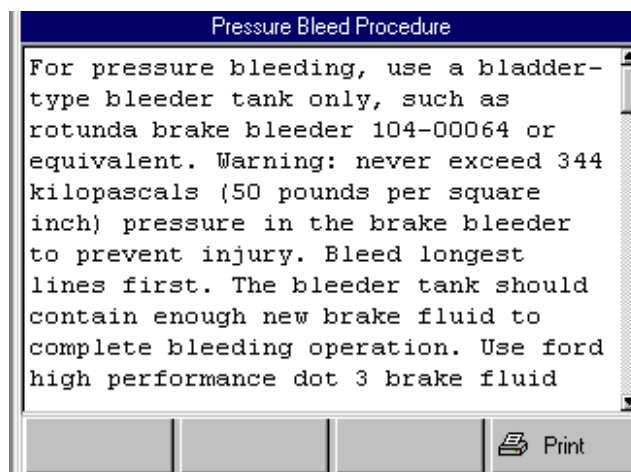


Figure 7.14: Pressure Bleed Procedure Screen

- 4 View the procedure and print it, if necessary. For printing information, refer to Print on page 45.
- 5 When finished, use the **EXIT** key to return to previous screens.

Brake Bleed Sequence

The Brake Bleed Sequence option lets you view a description of the correct sequence for bleeding a vehicle's brakes.

To view the brake bleed sequence, follow these steps:

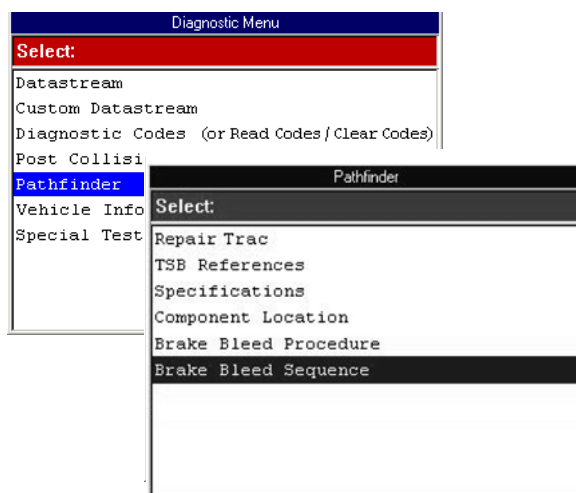


Figure 7.15: Diagnostic Menu Screen and Pathfinder Screen

- 1 From the Diagnostic Menu screen, select **Pathfinder Troubleshooting** and press the **ENTER** key. This displays the Pathfinder screen.
- 2 Select **Brake Bleed Sequence** and press the **ENTER** key. This displays the Brake Bleed Sequence screen.

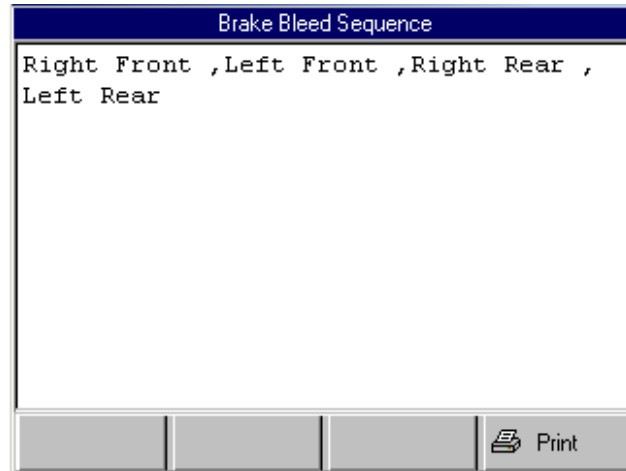


Figure 7.16: Brake Bleed Sequence Screen

- 3 View the description and print it, if necessary. For printing information, refer to Print on page 45.
- 4 When finished, use the **EXIT** key to return to previous screens.

8: Vehicle Info

The Vehicle Info function lets you view vehicle-specific information. This chapter includes procedures for using the following Vehicle Info functions:

- **Specifications** - used to view brake and ABS specifications for a vehicle. (See the steps below.)
- **Related TSBs** - used to view numbers and titles of technical service bulletins that apply to a vehicle. (See page 85.)
- **System Type** - used to view the description of the vehicle being tested. (See page 87.)
- **PROM Identification** - for some GM vehicles, used to view PROM information. (See page 88.)

Note: Before performing the procedures in this chapter, follow the instructions in Chapter 2: Start-up Steps on page 23.

Specifications

The Specifications option lets you view brake and ABS specifications.

To view the vehicle specifications, follow these steps:

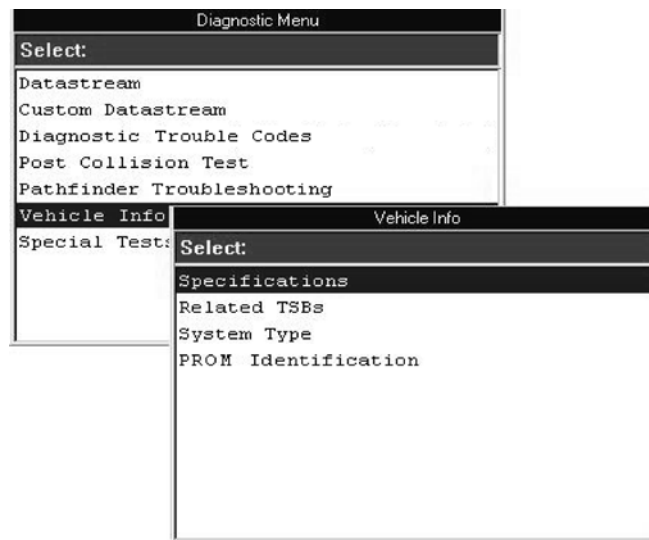


Figure 8.1: Diagnostic Menu Screen and Vehicle Info Screen

- 1 From the Diagnostic Menu screen, select **Vehicle Info** and press the **ENTER** key. This displays the Vehicle Info screen.
- 2 Select **Specifications** and press the **ENTER** key. This displays the Specifications screen.

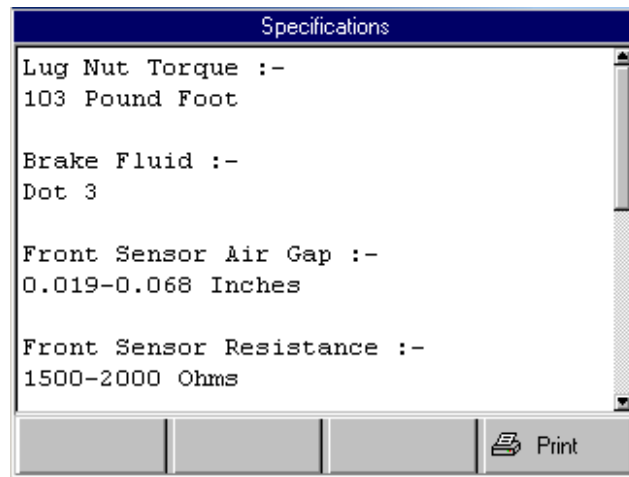


Figure 8.2: Specifications Screen

- 3 View the specifications and print them, if necessary. For printing information, refer to Print on page 45.
- 4 When finished, use the **EXIT** key to return to previous screens.

Related TSBs

The Related TSBs option lets you look up the numbers and titles of technical service bulletins.

To view the related TSBs, follow these steps:

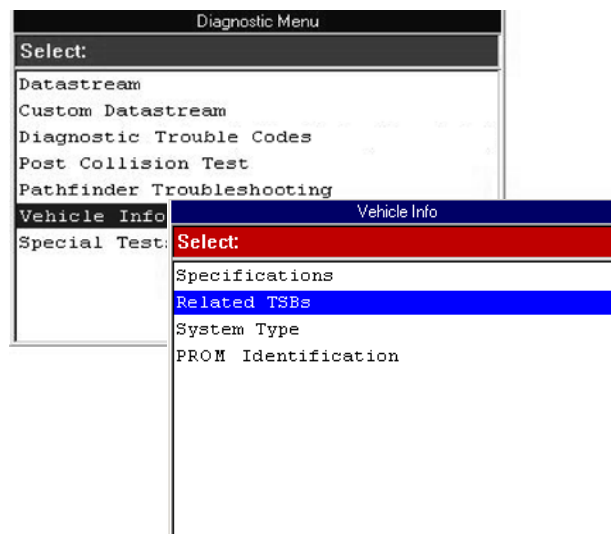


Figure 8.3: Diagnostic Menu Screen and Vehicle Info Screen

- 1 From the Diagnostic Menu screen, select **Vehicle Info** and press the **ENTER** key. This displays the Vehicle Info screen.
- 2 Select **Related TSBs** and press the **ENTER** key. This displays the TSB References screen.

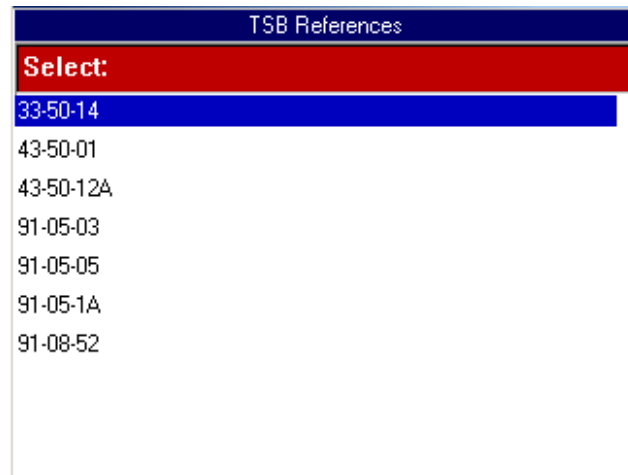


Figure 8.4: TSB References Screen

- 3 Select a TSB to view and press the **ENTER** key. This displays a brief description of the TSB.

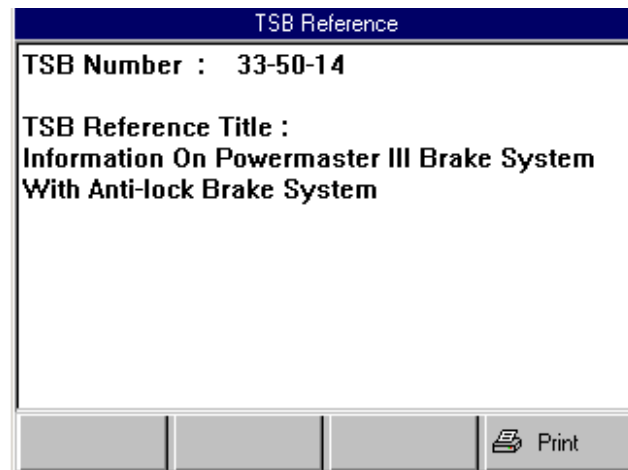


Figure 8.5: TSB Reference Screen

- 4 View the description and print it, if necessary. For printing information, refer to Print on page 45.
- 5 When finished, use the **EXIT** key to return to previous screens.

System Type

The System Type option lets you view the vehicle description.

To view the system type, follow these steps:

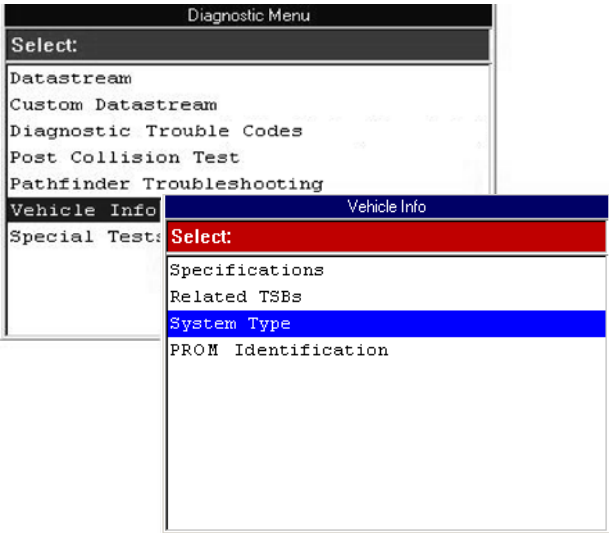


Figure 8.6: Diagnostic Menu Screen and Vehicle Info Screen

- 1 From the Diagnostic Menu screen, select **Vehicle Info** and press the **ENTER** key. This displays the Vehicle Info screen.
- 2 Select **System Type** and press the **ENTER** key. This displays the System Information screen.

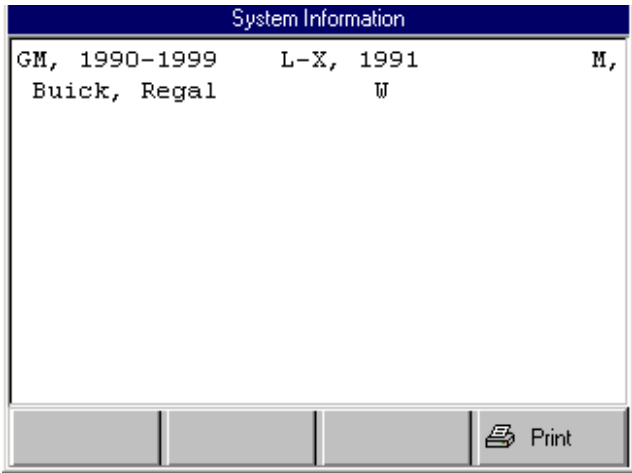


Figure 8.7: System Information Screen

- 3 View the information and print it, if necessary. For printing information, refer to Print on page 45.
- 4 When finished, use the **EXIT** key to return to previous screens.

PROM Identification

The PROM Identification option, which is available for some GM vehicles, lets you view the Programmable Read Only Memory (PROM) 4-digit identification number and additional PROM related information.

To view PROM information, follow these steps:

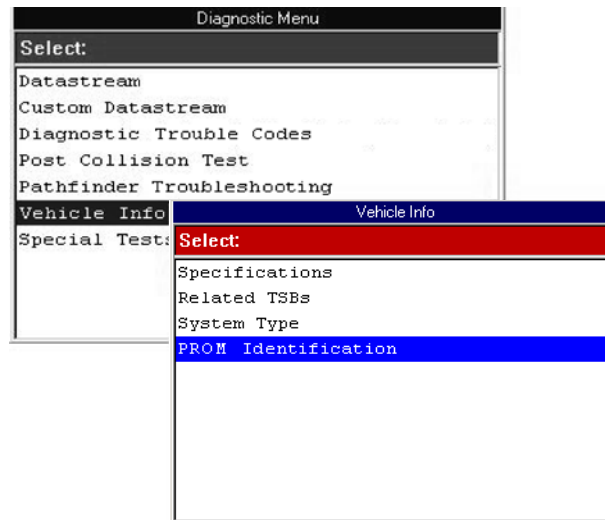


Figure 8.8: Diagnostic Menu Screen and Vehicle Info Screen

- 1 From the Diagnostic Menu screen, select **Vehicle Info** and press the **ENTER** key. This displays the Vehicle Info screen.
- 2 Select **PROM Identification** and press the **ENTER** key. This displays the PROM Identification screen.
- 3 View the information and print it, if necessary. For printing information, refer to Print on page 45.
- 4 When finished, use the **EXIT** key to return to previous screens.

9: Controller ID

The Controller ID function displays identification information about the selected ECU (Audi and Volkswagen).

Note: Before performing the test steps, follow the instructions in Chapter 2: Start-up on 23.

To display the Controller ID information, follow these steps:

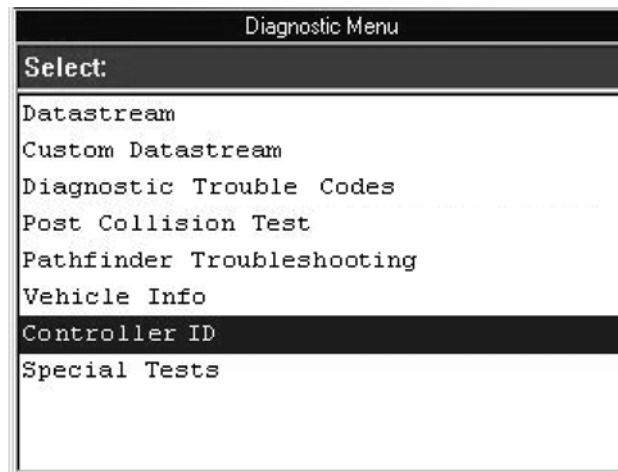


Figure 9.1: Diagnostic Menu Screen

- 1 Select **Controller ID** and press the **ENTER** key. This displays the ECU Identification Data screen.

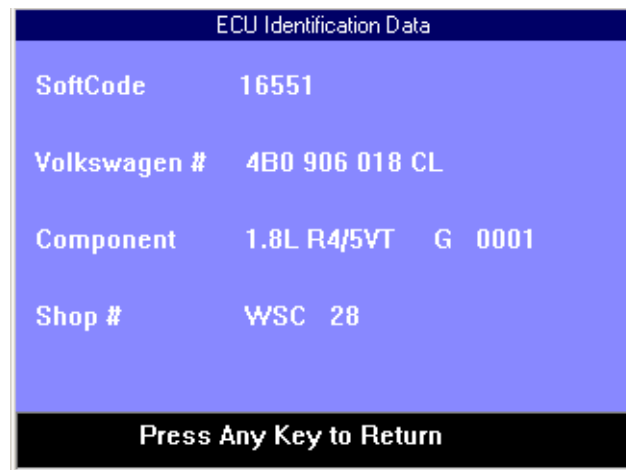


Figure 9.2: ECU Identification Screen

- 2 View the data.
- 3 When finished, use the **EXIT** key to return to previous screens.

10: Special Tests

The Special Tests function lets you perform special bi-directional diagnostic tests on anti-lock brake systems (ABS) and air bags. The tests let you use the **APOGEE** tool to activate or control the system components.

Note: During a test, you use the tool to temporarily control a selected component. When you exit the test, the component returns to the normal setting.

This chapter includes a basic procedure for doing the special tests, brief descriptions of the special tests, and examples of common special test screens.

Note: While performing a special test, a Fault Code Detected screen may appear indicating a fault exists. Repair the problem and clear the diagnostic test code(s) before continuing the special test. For details about clearing codes, refer to Chapter 5: Diagnostic Trouble Codes.

Note: The **APOGEE** software has an automatic Diagnostic Code Triggered Record function. If a diagnostic fault occurs while you are testing a vehicle, the software automatically alerts you with a screen message and creates a recording for playback. To replay these recordings, refer to Playback a Datafile on page 39.

**WARNING:**

Before performing any tests, refer to the Safety Precautions and instructions provided in this User Guide and the warnings provided by the vehicle manufacturer. In addition, follow any warnings and descriptions provided on the **APOGEE** tool screens.

**WARNING:**

During active testing, bi-directional component activation is automatically “inhibited” when required to allow brake components adequate time to cool down. Do not bypass this cool-down period by restarting the test or by using any other means of bypassing the cool-down period.

Basic Special Test Procedure

The special tests vary for each vehicle, year, and component (ABS, Air Bag, etc.). This section provides basic steps for the special tests.

To perform special tests on a vehicle, follow these steps:

- 1 Perform the steps in Chapter 2 Start-up Steps to enter the vehicle information and display the Diagnostic Menu screen.

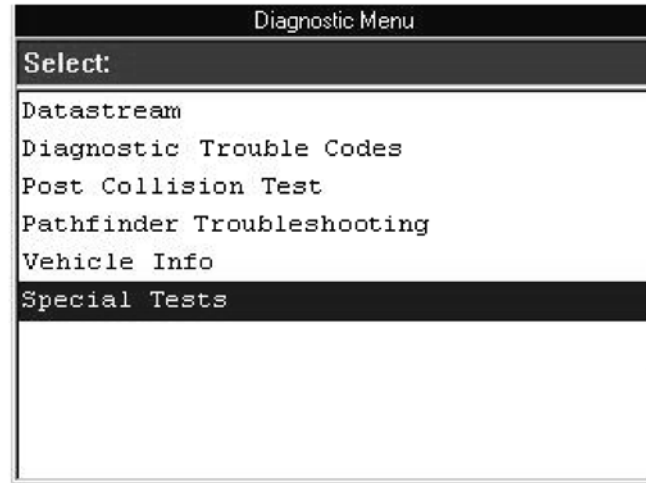


Figure 10.1: Diagnostic Menu Screen

- 2 From the Diagnostic Menu screen, select **Special Tests**. This displays the Special Tests menu screen (figure 10.2).

Note: If an identification screen appears, review the screen and press the **ENTER** key to display the Special Tests menu screen.

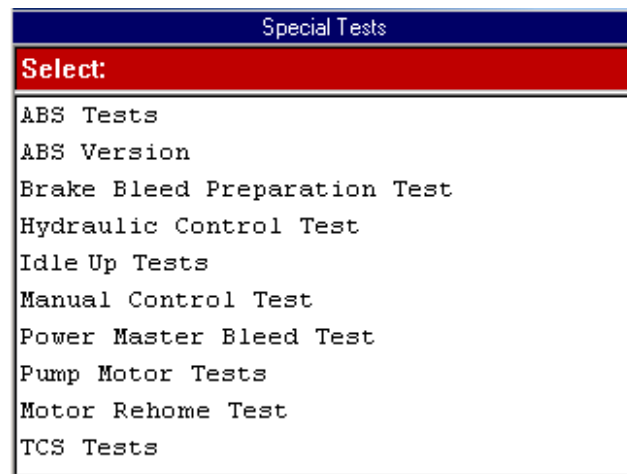


Figure 10.2: Special Tests Menu Screen

Note: The screen shown above is only an example. Actual screens vary by vehicle and component.

- 3 From the Special Tests menu screen, **select the test you want to perform** and press the **ENTER** key.
- 4 A group selection screen, test selection screen, several step-by-step instruction screens, or bi-directional control screen may appear. **Read the screens and follow all instructions.** If necessary, use the **function keys** to perform commands or answer any questions. Use the **ENTER** key as instructed. (See Special Test Screen Examples on page 97.)
- 5 When finished, use the **EXIT** key to return to previous screens.

Special Test Descriptions

This section includes brief descriptions of many of the special tests. Actual tests vary by vehicle manufacturer, year, make, component, etc. For complete test instructions and specifications, refer to the vehicle service manual for the vehicle being tested.

ABS Manual Control Tests

Manual Control Tests let you use the **APOGEE** tool to manually control the actuators in order to test the following: ABS motors, solenoids, solenoid enable relays, EMBs, and more.

You can confirm proper operation by comparing what you command with the **APOGEE** tool to what the ECU sees as a response and to what the actual output is at the component.

ABS Motor Test

The Motor Test lets you use the **APOGEE** tool to manually control the ABS pump motor. For some vehicles, the **APOGEE** tool runs the test automatically; for other vehicles, the tool displays instructional screens for you to perform the test manually.

ABS Version Test

The ABS Version test displays the name of the brake system and the ABS controller version number, software ID, and sequence value.

Actuator Tests

The Actuator Tests let you use the **APOGEE** tool to manually control the actuators in order to test the following: AYC valves, inlet valves, outlet valves, pump motors, TRACS valves.

You can confirm proper operation by comparing what you command with the **APOGEE** tool to what the ECU sees as a response and to what the actual output is at the component.

Autobled Test, Automated Bleed, or Service Bleed

The bleed tests remove air from the internal brake fluid chambers after servicing the brakes. For some vehicles, the **APOGEE** tool runs the test automatically; for other vehicles, the tool displays instructional screens for you to perform the test manually.

The test usually cycles the valve solenoids so you can use brake pedal feel to diagnose solenoid problems, pump output problems, and pedal feel complaints. The final phase of the test releases brake pressure from each hydraulic channel in sequence, allowing you to identify pedal travel problems, solenoid leakage, or internal problems.

IMPORTANT:

- Before bleeding the brake system, make sure no diagnostic codes are present.
- Do not let the master cylinder run dry during the brake bleeding procedure.
- Do not allow brake fluid to contact the motor pack or the electrical connectors.

IMPORTANT: Use a recommended brake fluid. Do not use silicone brake fluids in an ABS-equipped vehicle.



WARNING:

After bleeding the brake system, check the brake pedal for excessive travel or a “spongy” feel. Bleed again if either condition is present.

Automated Test

The Automated Test automatically commands each solenoid valve and the pump motor on and off to test for proper operation. If there is a malfunction, a diagnostic trouble code (DTC) is set in the vehicle.

Brake Bleed Preparation Test

The Brake Bleed Preparation Test prepares the brake lines for bleeding by clearing air from the modulator. The test rehomes all the ABS and TCS motors, cycles the TCS motors, and then returns all motors to the “home” position at the bottom of the bore.

Usually, the tool displays instructional screens for you to perform the test manually

Function Test

The Function Test automatically commands the ABS relay, valve solenoids, and pump motor on and off to test for proper operation. If there is a malfunction, a diagnostic trouble code (DTC) is set in the vehicle.

Gear Tension Relief Test

The Gear Tension Relief Test relieves tension from the ABS motor gears so you can separate the ABS motor pack from the ABS hydraulic modulator.

For some vehicles, the **APOGEE** tool runs the test automatically; for other vehicles, the tool displays instructional screens for you to perform the test manually.

Hydraulic Control Tests

The Hydraulic Control Tests let you use the **APOGEE** tool to manually engage and disengage the ABS solenoids for troubleshooting the hydraulic functions.

Idle Up Manual Control Test

The Idle Up Tests let you use the **APOGEE** tool to manually control the idle up actuators.

Lamp Tests

The Lamp Tests lets you use the **APOGEE** tool to manually control the ABS or TCS warning or indicator lamps.

Manual Control Test

See ABS Manual Control Tests on page 94.

Motor Rehome Test

The Motor Rehome Test prepares the brake lines for bleeding by clearing air from the modulator. The test returns all ABS motors to their “home” positions.

For some vehicles, the **APOGEE** tool runs the test automatically; for other vehicles, the tool displays instructional screens for you to perform the test manually.

IMPORTANT:

- Before rehomeing the brake system, make sure no diagnostic codes are present.
- Do not let the master cylinder run dry during the rehomeing or brake bleeding procedures.
- Do not allow brake fluid to contact the motor pack or the electrical connectors.

IMPORTANT: Use a recommended brake fluid, do not use silicone brake fluids in an ABS-equipped vehicle.

**WARNING:**

After bleeding the brake system, check the brake pedal for excessive travel or a “spongy” feel. Bleed again if either condition is present.

Pump Motor Tests

The Pump Motor Tests lets you use the **APOGEE** tool to manually control the pump motor. For some vehicles, the **APOGEE** tool runs the test automatically; for other vehicles, the tool displays instructional screens for you to perform the test manually.

Relay Test

The Relay Test lets you use the **APOGEE** tool to manually engage and disengage either the ABS or TCS relays in order to test relay operation.

Requested Torque Test

The Requested Torque Test lets you use the **APOGEE** tool to manually control the engine torque to test for proper operation of the traction control system (TCS).

Setup SDM Serial Number (Air Bag Sensing and Diagnostic Module)

The Setup SDM Serial Number in DIM test lets you program a new air bag serial number into the dash integration module (DIM). You use this test after installing a new air bag; otherwise a diagnostic trouble code will be set when you turn on the ignition.

The tool displays instructional screens for you to perform the test manually.

Solenoid Tests

The Solenoid Tests let you use the **APOGEE** tool to manually control the inlet and output valve solenoids.

You can confirm proper operation by comparing what you command with the **APOGEE** tool to what the ECU sees as a response and to what the actual output is at the solenoid.

System Identification

The System Identification test displays information about the brake system, the vehicle, and the ABS controller.

TCS Test

The TCS test lets you use the **APOGEE** tool to control the pump motor in order to apply fluid pressure to the front wheel circuits.

Traction Control System (TCS) Manual Control Tests

The TCS Manual Control Tests let you use the **APOGEE** tool to perform motor tests and an adjuster assembly control test. You can confirm proper operation by comparing what you command with the **APOGEE** tool to what the ECU sees as a response and to what the actual output is at the component.

Voltage Load Test

The Voltage Load Test “loads” the ABS battery supply circuit to test for adequate battery capacity.

Special Test Screen Examples

There are two basic types of special test screens: instructional and bi-directional control.

Instructional Screen Example

Instructional screens contain step-by-step instructions for performing a special test. You simply follow the instructions provided on each screen.

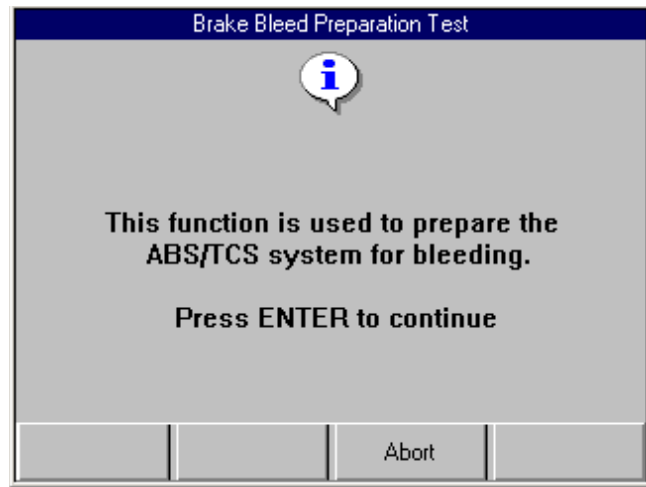


Figure 10.3: Instructional Screen Example

Bi-Directional Control Screen Examples

The bi-directional control screens vary in appearance, but they all allow you to manually control the vehicle's relays, solenoids, lamps, and other components.

Basic Single Component Control Screen

The following screen is the basic manual control screen for a single component. You press the Start function key to begin and then use the On and Off function keys to control the component.

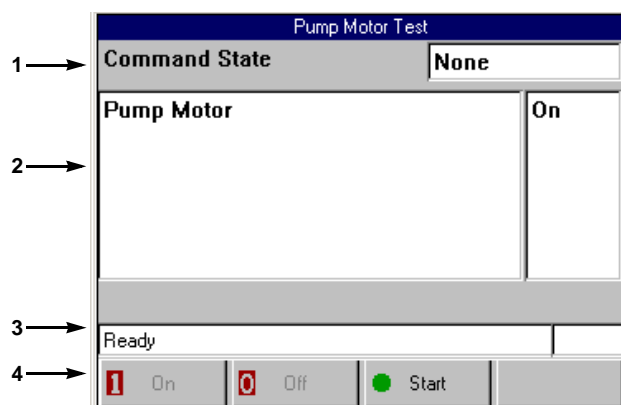


Figure 10.4: Single Component Control Screen Example

- Item 1** This area displays the command you have issued through the scan tool (On, Off).
- Item 2** This area displays the state of the component being read by the ECU. The bottom of this area may also contain special test instructions.
- Item 3** The status line displays the current status of the test.
- Item 4** The function keys let you manually control the component as necessary. Compare what is commanded by the **APOGEE** tool to the state of the component being read by the ECU to the actual physical state of the component.

Basic Multiple Component Control Screen

The following screen is the basic manual control screen for multiple components. This screen allows control of more than one component and has a More function key menu for performing additional functions. You select a component and then press the Start function key to begin. You then use the On and Off function keys to control the selected component.

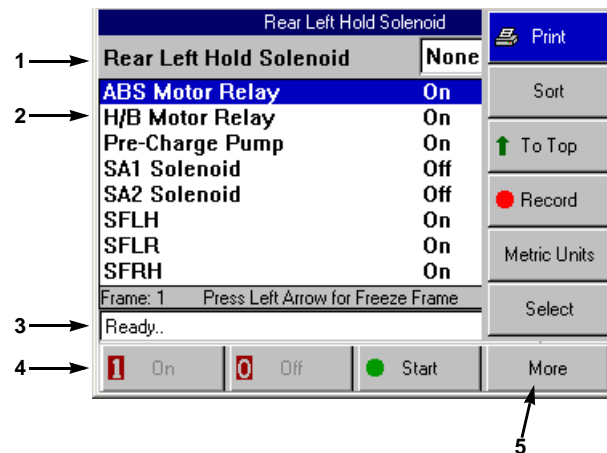


Figure 10.5: Multiple Component Control Screen Example

- Item 1** This area displays the command you have issued through the scan tool (On, Off).
- Item 2** This area displays the list of components you can control along with the state of each component being read by the ECU.
- Item 3** The status line displays the current status of the test.
- Item 4** The function keys let you manually control the component as necessary. Compare what is commanded by the **APOGEE** tool to the state of the component being read by the ECU to the actual physical state of the component.
- Item 5** The More menu contains basic Datastream functions. For details, refer to Datastream Functions on page 38.

Solenoid, Relay Controls Screen

The following screen is the basic manual control screen for a solenoid and enable relay. You press the Start function key to begin (when you press Start, the key name changes to Exit). You then use the Solenoid and Relay function keys to control the components.

The screenshot shows a software interface titled "Manual control: LF Hold". It contains several fields and buttons. Callout 1 points to the "LF Hold solenoid state:" field, which displays "On". Callout 2 points to the "Enable relay state:" field, which displays "On". Callout 3 points to the status line, which displays "Test in progress.." and "4.9". Callout 4 points to the function keys at the bottom, which include "Solenoid", "Relay", and "Exit".

Manual control: LF Hold	
LF Hold solenoid state:	On
Enable relay state:	On
LF Hold solenoid command:	On
LF Hold solenoid feedback:	Low
Enable relay state:	On
Test in progress.. 4.9	
<div><div><div>1</div><div>0</div>Solenoid</div><div><div>1</div><div>0</div>Relay</div><div>Exit</div></div>	

Figure 10.6: Solenoid, Relay Controls Screen Example

- Item 1** This area displays the commands you have issued through the scan tool (On, Off).
- Item 2** This area displays the states of the components being read by the ECU. The bottom of this area may also contain special test instructions.
- Item 3** The status line displays the current status of the test.
- Item 4** The function keys let you manually control the component as necessary. Compare what is commanded by the **APOGEE** tool to the state of the component being read by the ECU to the actual physical state of the component.

Automatic Test Screen

The following screen is an example of an automatic test screen. You press the Start function key to begin the automatic test.

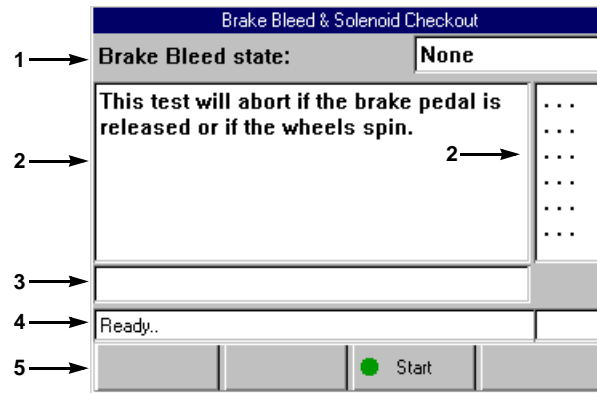


Figure 10.7: Automatic Test Screen Example

Item 1 This area displays the state of the test commands being issued by the scan tool (On, Off).

Item 2 This area displays each component. As the test runs, the brackets around the dots indicate the component(s) currently being tested.

Note: The bracket on the left side of the dot represents the command and the bracket on the right side represents the feedback. If one of the brackets is missing during the test, it indicates a problem.

Item 3 This area may display special test instructions.

Item 4 The status line displays the current status of the test.

Item 5 The Start function key starts the test.

Activate/Deactivate Screen

The following screen is an example of a manual control screen with a toggle Activate/Deactivate function key. You use this function key to begin the test.

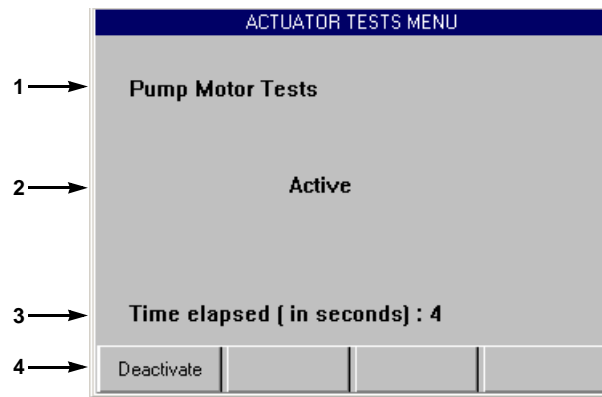


Figure 10.8: Activate/Deactivate Screen Example

Item 1 This area displays the name of the component being tested.

Item 2 This area displays the state of the component.

Item 3 This area shows the time clock for the test.

Item 4 The function keys let you manually control the component as necessary. Compare what is commanded by the **APOGEE** tool to the state of the component being read by the ECU to the actual physical state of the component.

Note: Press the **Activate** function key to turn on the component. This changes the component state to "On" and changes the function key to "Deactivate". Press the **Deactivate** function key to turn off the component.

11: Global OBD II

Select the Global OBD II option from the Application Manager screen. Refer to page 2 for the illustration. The Cable Select screen appears next.

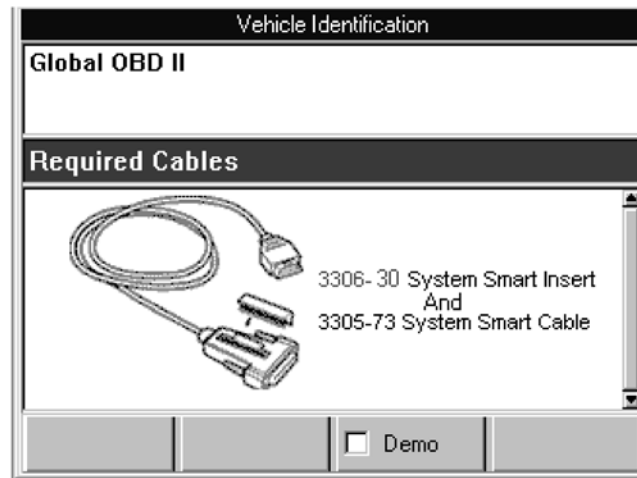


Figure 11.1: Vehicle Identification - Required Cables

View the Quick Test Results

After you connect the cable and press the ENTER key on the scan tool, use the following steps if either the System Readiness Test message screen or the Quick Test Results screen appears.

Note: The Quick Tests provide a quick link to the vehicle's Powertrain Control Module (PCM) for viewing OBD II emissions readiness tests and DTCs. If the system tests are not complete, press the **EXIT** key twice to return to the Required Cable illustration screen. Then start the vehicle, drive it for a few minutes, leave the engine running, and press the scan tool's **ENTER** key to run the tests again.

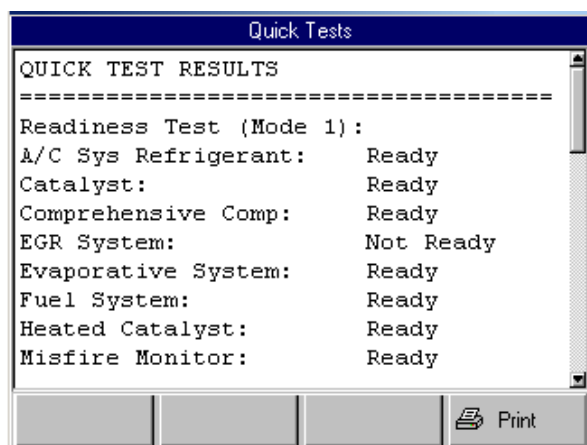


Figure 11.2: System Readiness Test Message and Quick Test Results Screen

- 1 Use the **UP** and **DOWN** arrow keys to scroll through the test results.
- 2 Optionally, to print the test results, refer to the Scan Tool Printing Procedure on page 11.
- 3 After viewing the Quick Test results, press the **ENTER** key.

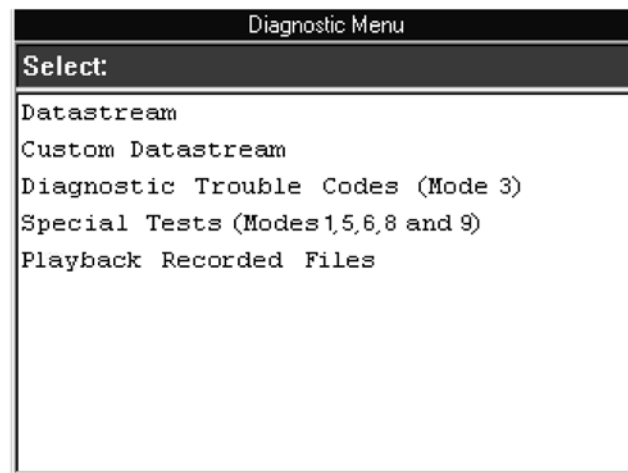


Figure 11.3: Diagnostic Trouble Codes Screen

Note: The screen shown in figure 11.3 is only an example. During testing, only the options available for the vehicle and engine control module (ECM) being tested will appear on this screen.

- 1 **Select an option** and press the **ENTER** key to continue.
- 2 Refer to the following section matching the option you choose for details.
 - Datastream (Mode 1) See Chapter 3, Datastream.
 - Custom Datastream - See Chapter 4, Custom Datastream.
 - Diagnostic Trouble Codes (Mode 3) See Chapter 5, Diagnostic Trouble Codes.
 - Special Tests (Mode 1, 5, 6, 8 and 9) See Chapter 10, Special Tests.
 - Playback Recorded Files - See Chapter 3, Datastream.

Diagnostic OBD II Trouble Codes

For OBD II vehicles, the Diagnostic Trouble Codes screen usually has the following menu options. Refer to the page numbers given for the specific procedures.

- Read Codes/Pending Codes - See below.
- Clear Codes - See page 109.
- Freeze Frame - See page 110

Read Codes/Pending Codes

The Read Codes function allows you to view a list of active DTCs along with their descriptions. The Pending Codes function allows you to view a list of codes previously set but not currently active.

- 1 Follow the steps on page 105 to display the Diagnostic Trouble Codes screen.

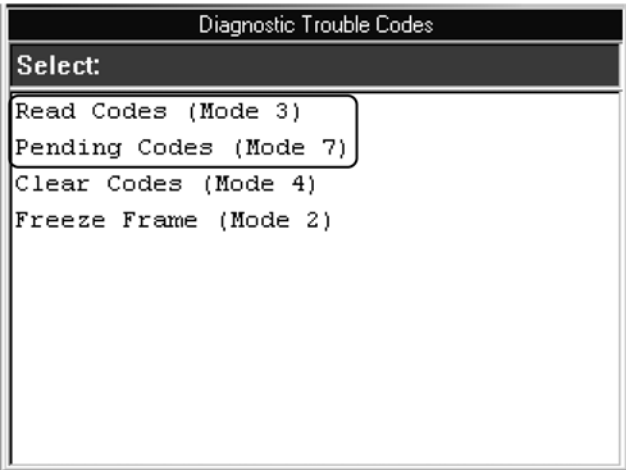


Figure 11.4: OBD II Diagnostic Trouble Codes Screen

Note: Modes are an older method of naming the function. Refer to the vehicle’s service manual for more information.

- 2 **Select one** of the following and then press the **ENTER** key to display the DTCs:
- **Read Codes** - displays DTCs that have occurred a specified number of times and indicate a problem that requires repair.
 - **Pending Codes** - displays DTCs that have occurred at least once, but have not occurred enough times to be considered current. Use this option to check recent repairs because it shows DTCs after only one drive cycle.

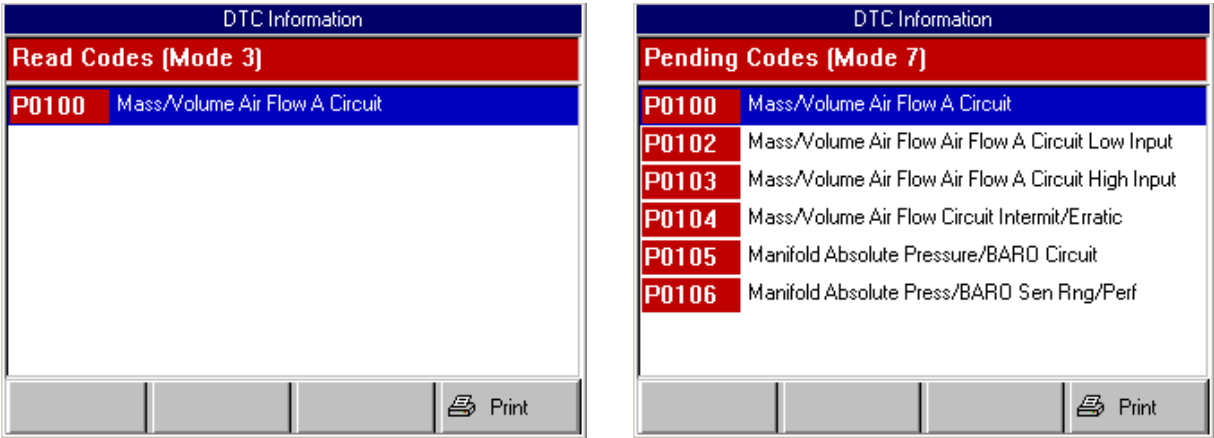


Figure 11.5: OBD II DTC Information Screens: Read Codes and Pending Codes

- 3 View the DTC list and optionally print it.
- 4 When finished, use the **EXIT** key to return to the previous screens.

Note: Use the Clear Codes function to erase the codes from the vehicle's ECM. For details, refer to Clear Codes on page 109.

Clear Codes

The Clear Codes function allows you to clear the DTCs from the vehicle's ECM.

- 1 Follow the steps on page 105 to display the Diagnostic Trouble Codes screen.

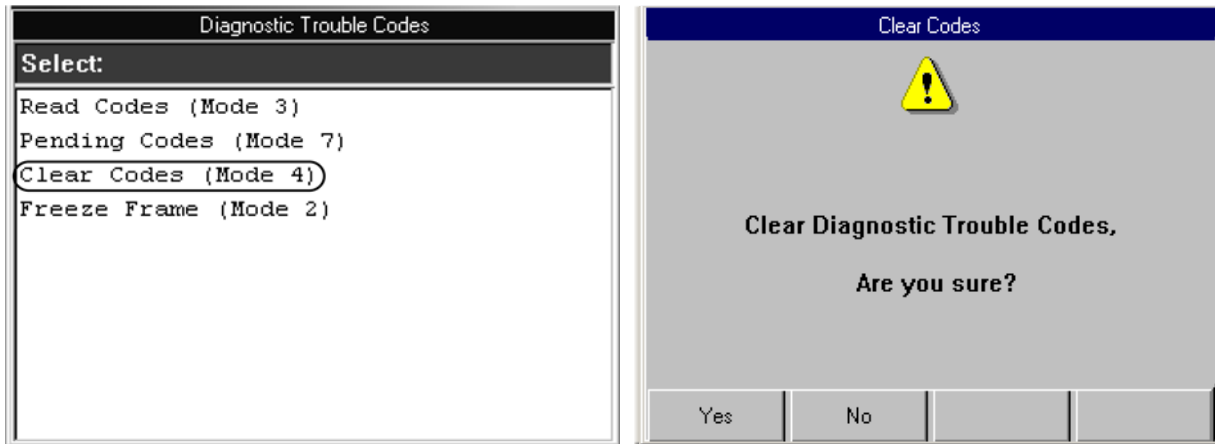


Figure 11.6: OBD II Diagnostic Trouble Codes Screen and Clear Codes Warning Screen

- 2 Select **Clear Codes** and press the **ENTER** key. This displays a warning screen, as shown in figure 11.6.
- 3 Press the **Yes** function key and follow the instructions on each screen that appears. Press the function keys as necessary until the DTCs Have Been Cleared Information screen appears.

Note: If a screen has no function keys, press the **ENTER** key to continue.

- 4 On the information screen (not shown), press the **OK** function key.
- 5 Use the **EXIT** key to return to the previous screen.

Freeze Frame

The Freeze Frame function allows you to view datastream snapshots that were automatically recorded by the ECM when one or more DTC occurred. By viewing the actual data values from the time of a fault, you may be able to determine what caused the fault.

- 1 Follow the steps on page 105 to display the Diagnostic Trouble Codes screen.

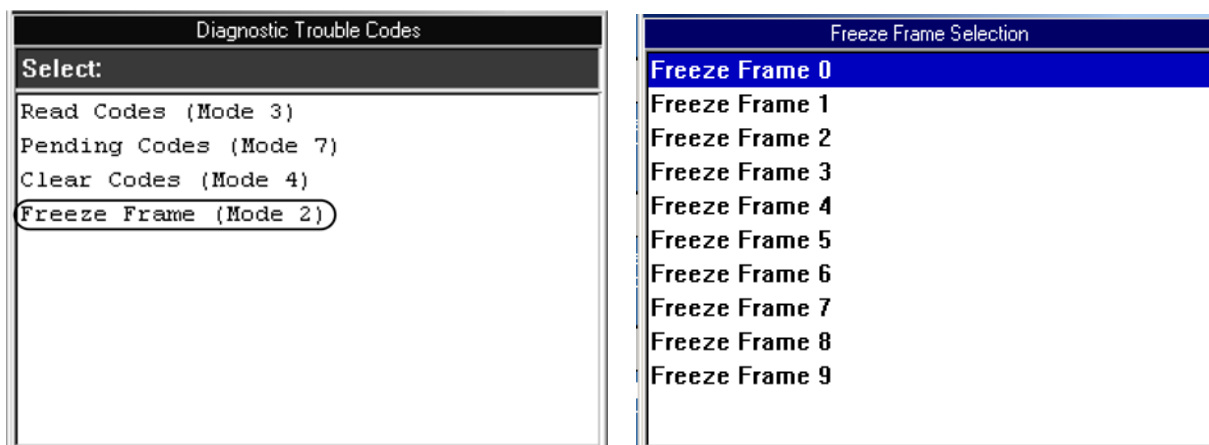


Figure 11.7: OBD II Diagnostic Trouble Codes Screen and Freeze Frame Selection Screen

- 2 Select **Freeze Frame** and press the **ENTER** key. This displays the Freeze Frame Selection screen as shown in figure 11.7. Each frame contains a snapshot from when a DTC occurred.
- 3 Select a frame and press the **ENTER** key. This displays the snapshot data as shown in figure 11.8.

P0103A - MAF/VAF Circuit High Input		
		5461
		5461
Engine RPM	5461	rpm
Throttle Position	33	%
Engine Coolant Temp	45	DegC
O2 Sensor 1/1 Volts	0	V
Vehicle Speed	85	kph
Spark Advance	22	Deg
Calc Engine Load	33.3	%
DTC's Set	85	
Fuel Sys Status Bnk1	Error	
Fuel Sys Status Bnk2	Error	
Frame: 1 Press Left Arrow for Freeze Frame		

Figure 11.8: OBD II DTC Freeze Frame Screen

- 4 Use the **EXIT** key to return to the previous screen.

Special Tests (OBD II)

For OBD II compliant vehicles, the Special Tests functions allow you to view detailed system component information, oxygen (O2) sensor readings, Readiness Test results, and the vehicle identification number (VIN).

Note: The scan tool has an automatic DTC-triggered recording function. If a DTC occurs while you are testing a vehicle, the scan tool automatically creates a recording for playback and alerts you with a screen message. To replay these recordings refer to Playback on page 39.

Basic Procedure

- 1 Follow the instructions in Test Startup and Vehicle Connection in the Quick Start Guide to display the Diagnostic Menu screen.

Note: You must select *Global OBD II* for testing.

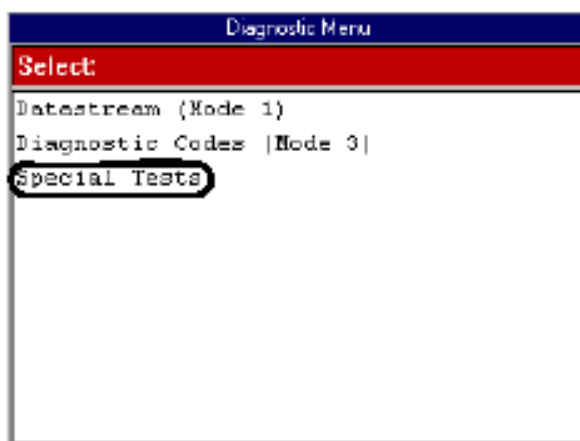


Figure 11.9: Diagnostic Menu Screen

- 2 Select **Special Tests** and press the **ENTER** key. This displays the Special Tests Menu screen.

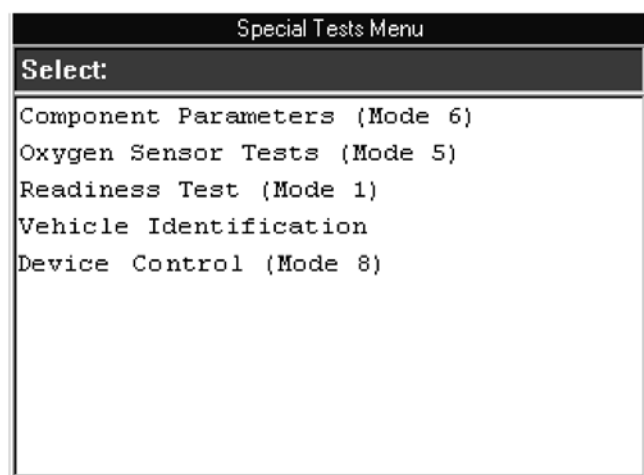


Figure 11.10: Special Tests Menu Screen

3 **Select an option** and press the **ENTER** key to continue.

4 Refer to the following sections:

- Component Parameters on page 113.
- Oxygen Sensor Tests on page 115
- Readiness Test on page 117
- Vehicle Identification on page 118
- Device control on page 119

Component Parameters

The Component Parameters function allows you to view detailed information about components that are not continuously monitored, such as a catalyst or evaporative system.

- 1 Follow the steps in **Basic Procedure** on page 111 to display the Special Tests Menu screen.

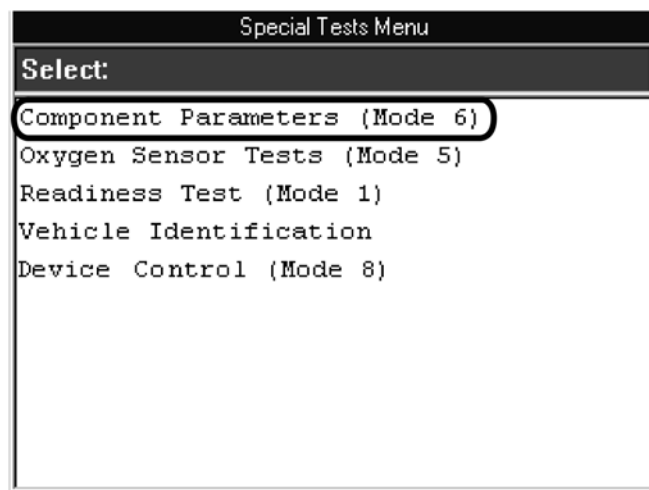


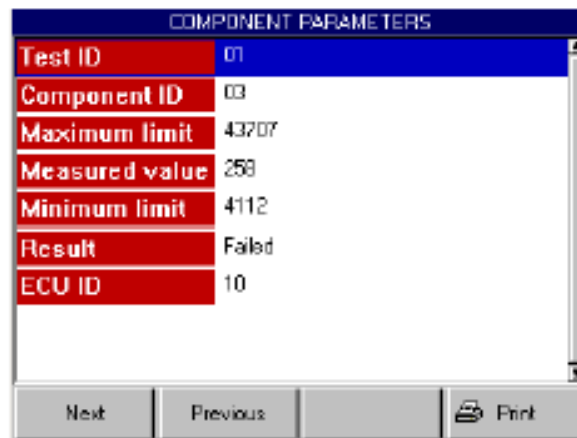
Figure 11.11: Special Tests Menu Screen

- 2 Select **Component Parameters** and press the **ENTER** key.



Figure 11.12: Component Parameters Instruction Screen

- 3 Press the **OK** function key.



COMPONENT PARAMETERS	
Test ID	01
Component ID	03
Maximum limit	43707
Measured value	258
Minimum limit	4112
Result	Failed
ECU ID	10

Next Previous Print

Figure 11.13: Component Parameters Screen

- 4 View the information for the component. Use the function keys as follows.
 - Press the **Next** function key to display information for the next component.
 - Press the **Previous** function key to display information for the previous component.
 - Use the **Print** function key to optionally print the information.
- 5 When finished, use the **EXIT** key to return to the previous screens.

Oxygen Sensor Tests

The Oxygen Sensor Tests function allows you to view data readings for the O2 sensor.

IMPORTANT: Warm the engine to operating temperature before doing this test.

- 1 Follow the steps in **Basic Procedure** on page 111 to display the Special Tests Menu screen.

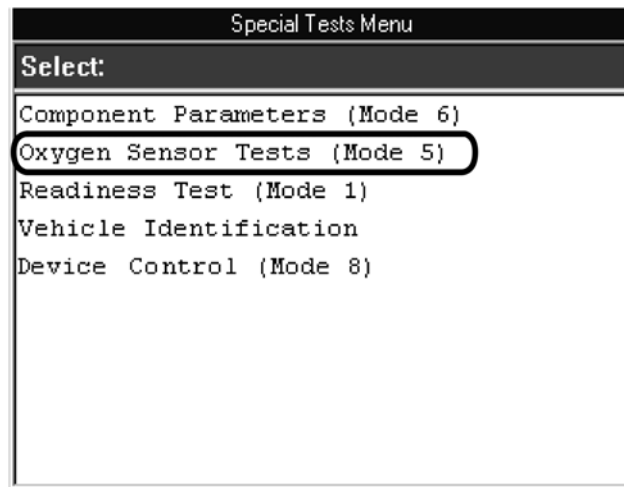


Figure 11.14: Special Tests Menu Screen

- 2 Select **Oxygen Sensor Tests** and press the **ENTER** key.

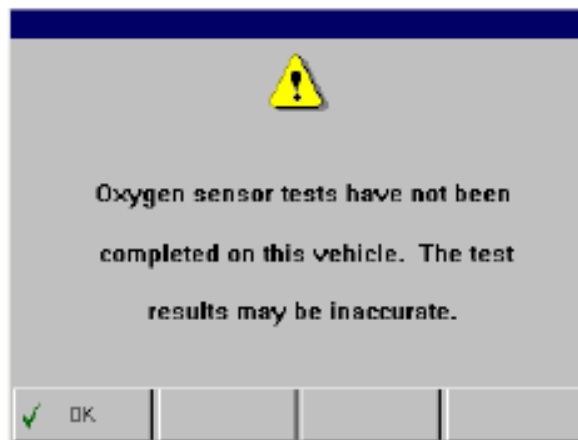


Figure 11.15: Oxygen Sensor Tests Warning Screen

- 3 If the Oxygen sensor tests not completed warning message appears, press the **OK** function key to continue. Otherwise, continue to step 4.

Note: If the system tests are not complete, use the **EXIT** key to return to the Required Cables illustration screen. Then, drive the vehicle for a few minutes and then start this test again. For more information, refer to **Readiness Test** on page 117.

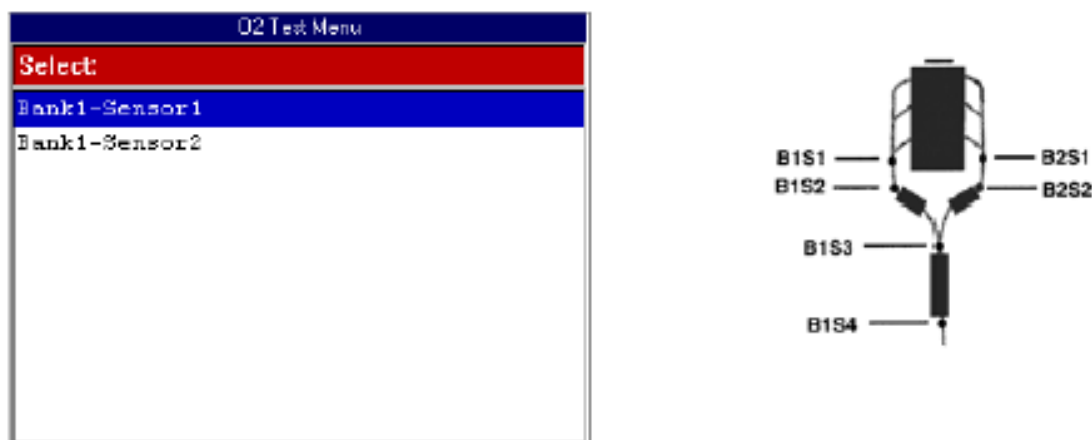


Figure 11.16: O2 Test Menu Screen and O2 Sensor Locations

Note: The O2 Test Menu screen lists all the bank and sensor combinations available for the vehicle.

- 4 Select a **Bank and Sensor** and press the **ENTER** key. This displays the data readings for the selected sensor.

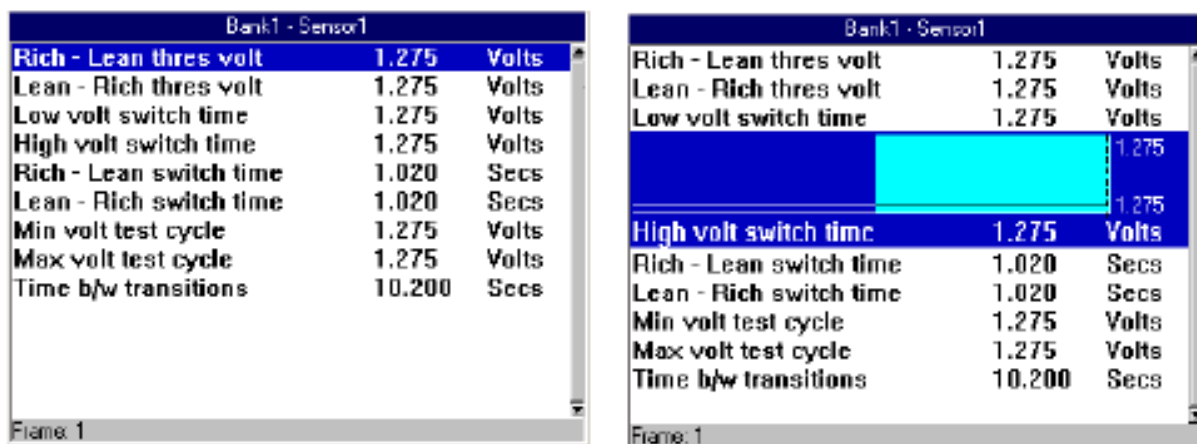


Figure 11.17: Sensor Data Display - Original Display and With One Graphed Line

- 5 View the sensor data. Optionally, view each line as a graph as follows:
 - a **Select a line** and press the **ENTER** key.
 - b Use the **Left Arrow** key and then the **Right Arrow** key to view past data.
 - c To remove the graph, **select the graphed line** and press the **ENTER** key.
- 6 When finished viewing the data, use the **EXIT** key to return to the previous screen.

Readiness Test

The Readiness Test function allows you to view Readiness Test results for all non-continuous and continuous vehicle system monitors as described below.

- Non-continuous vehicle system monitors run a test routine once per drive cycle.
- Continuous vehicle system monitors run a test routine continuously during a drive cycle.

IMPORTANT: Warm the engine to operating temperature before performing this test.

- 1 Follow the steps in **Basic Procedure** on page 111 to display the Special Tests Menu screen.

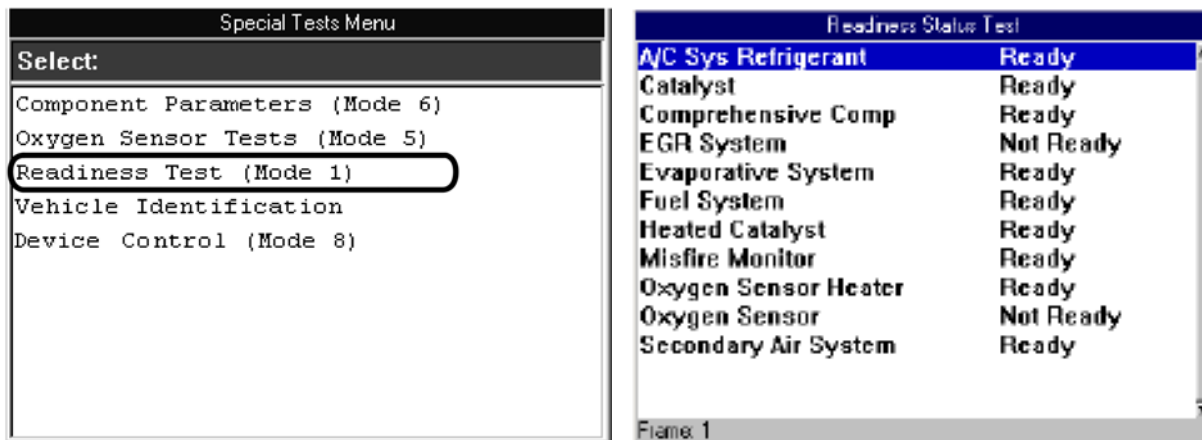


Figure 11.18: Special Tests Menu Screen and Readiness Status Test Screen

- 2 Select **Readiness Test** and press the **ENTER** key. This displays the Readiness Status Test screen as shown in figure 11.18.
- 3 Test results display as Ready (complete), Not Ready (not complete), or Failed. View the test results.

Note: If any tests are not ready, use the **EXIT** key to return to the Required Cables illustration screen. Then drive the vehicle for a few minutes and start the test again.

- 4 Use the **EXIT** key to return to previous screens.

Vehicle Identification

The Vehicle Identification function allows you to view the VIN for the vehicle.

- 1 Follow the steps in **Basic Procedure** on page 111 to display the Special Tests Menu screen.

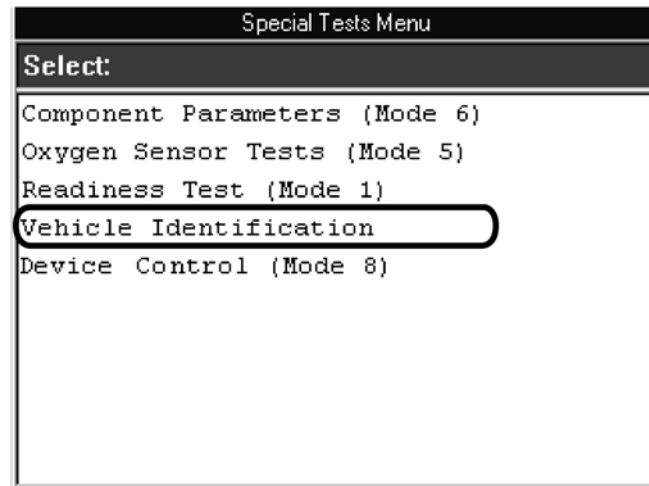


Figure 11.19: Special Tests Menu Screen

- 2 Select **Vehicle Identification** and press the **ENTER** key. This displays the Vehicle Identification screen.

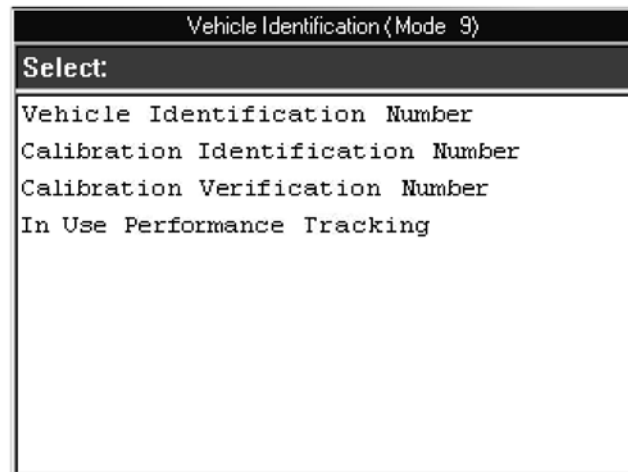


Figure 11.20: Vehicle Identification Screen

- 3 View the VIN and press the **OK** function key when finished.
- 4 Use the **EXIT** key to return to the previous screen.

Device Control

The Device Control menu option allows you to manually control the vehicle's system components. Some examples are relays, solenoids and lights.

- 1 Follow the steps in **Basic Procedure** on page 111 to display the Special Tests Menu screen.

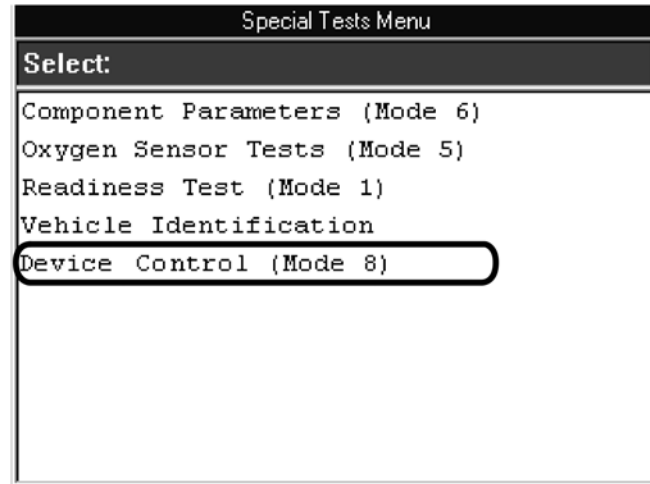


Figure 11.21: Special Tests Menu Screen

- 2 Select **Device Control** and press the **ENTER** key.
- 3 As necessary follow the on screen instruction to control the available device you are seeking.
- 4 Use the **EXIT** key to return to the previous screen.

Appendix: Vehicle Applications

manufacturer	make	carline	compute	Year	Last Year
Audi	Audi	100CS	ABS	1993	1994
Audi	Audi	100CS	AIRBAG	1993	1994
Audi	Audi	100S	ABS	1993	1994
Audi	Audi	100S	AIRBAG	1993	1994
Audi	Audi	90	AIRBAG II	1995	1995
Audi	Audi	90	AIRBAG III / V	1995	1995
Audi	Audi	90CS	ABS	1993	1994
Audi	Audi	90CS	AIRBAG II	1993	1995
Audi	Audi	90CS	AIRBAG III / V	1993	1995
Audi	Audi	90S	ABS	1993	1994
Audi	Audi	90S	AIRBAG II	1993	1995
Audi	Audi	90S	AIRBAG III / V	1993	1995
Audi	Audi	A4	ABS (Bosch 5.0)	1996	2001
Audi	Audi	A4	ABS (Bosch 5.3)	1996	2001
Audi	Audi	A4	AIRBAG	1996	2001
Audi	Audi	A6	ABS	1996	2003
Audi	Audi	A6	AIRBAG	1995	2003
Audi	Audi	A6	SUSPENSION	1998	2003
Audi	Audi	A8	ABS	1997	2003
Audi	Audi	A8	AIRBAG	1997	2003
Audi	Audi	A8L	ABS	2000	2002
Audi	Audi	A8L	AIRBAG	2000	2002
Audi	Audi	Allroad	ABS	2001	2003
Audi	Audi	Allroad	AIRBAG	2001	2003
Audi	Audi	Allroad	SUSPENSION	2001	2003
Audi	Audi	Cabriolet	ABS	1994	1998
Audi	Audi	Cabriolet	AIRBAG	1994	1998
Audi	Audi	Cabriolet	AIRBAG III / V	1995	1995
Audi	Audi	S4	ABS	1993	1994
Audi	Audi	S4	ABS (Bosch 5.0)	2000	2001
Audi	Audi	S4	ABS (Bosch 5.3)	2000	2001
Audi	Audi	S4	AIRBAG	1993	2001
Audi	Audi	S6	ABS	2002	2003
Audi	Audi	S6	AIRBAG	1995	2003
Audi	Audi	S6	SUSPENSION	2002	2003
Audi	Audi	S8	ABS	2001	2003
Audi	Audi	S8	AIRBAG	2001	2003
Audi	Audi	TT	ABS	2000	2003
Audi	Audi	TT	AIRBAG	2000	2003

Audi	Audi	V8	AIRBAG	1992	1994
Chrysler	Chrysler	300 Tour. AWD	ABS	2005	2005
Chrysler	Chrysler	300 Tour. AWD	OCCUPANT CLASS MODULE	2005	2005
Chrysler	Chrysler	300 Tour. AWD	OCCUPANT RESTRAIN T CONTRO	2005	2005
Chrysler	Chrysler	300 Tour. AWD	WIRELESS CTRL MODULE	2005	2005
Chrysler	Chrysler	300 Touring	ABS	2005	2005
Chrysler	Chrysler	300 Touring	OCCUPANT CLASS MODULE	2005	2005
Chrysler	Chrysler	300 Touring	OCCUPANT RESTRAIN T CONTRO	2005	2005
Chrysler	Chrysler	300 Touring	WIRELESS CTRL MODULE	2005	2005
Chrysler	Chrysler	300M	ABS	1999	2004
Chrysler	Chrysler	300M	AIRBAG	1999	2004
Chrysler	Chrysler	Cirrus	ABS	1998	2000
Chrysler	Chrysler	Cirrus	AIRBAG	1999	2000
Chrysler	Chrysler	Concorde	ABS	1993	2004
Chrysler	Chrysler	Concorde	AIRBAG	1999	2004
Chrysler	Chrysler	Dynasty	ABS	1989	1990
Chrysler	Chrysler	Intrepid	ABS	1995	1997
Chrysler	Chrysler	LHS	ABS	1994	2001
Chrysler	Chrysler	LHS	AIRBAG	1999	2001
Chrysler	Chrysler	New Yorker	ABS	1989	1997
Chrysler	Chrysler	Pacifica	ABS	2005	2005
Chrysler	Chrysler	Pacifica	AIRBAG	2004	2004
Chrysler	Chrysler	Pacifica AWD	ABS	2005	2005
Chrysler	Chrysler	Prowler	AIRBAG	2002	2002
Chrysler	Chrysler	PT Cruiser	ABS	2001	2005
Chrysler	Chrysler	PT Cruiser	AIRBAG	2001	2005
Chrysler	Chrysler	Sebring Conv.	ABS	1998	2004
Chrysler	Chrysler	Sebring Conv.	AIRBAG	1999	2005
Chrysler	Chrysler	Sebring Coupe	ABS	1998	2000
Chrysler	Chrysler	Sebring Coupe	AIRBAG	2001	2001
Chrysler	Chrysler	Sebring Coupe	AIRBAG W/O SIDE AIRBAG	2002	2005
Chrysler	Chrysler	Sebring Coupe	AIRBAG W/SIDE AIRBAG	2002	2005

Chrysler	Chrysler	Sebring Sedan	ABS	2001	2005
Chrysler	Chrysler	Sebring Sedan	AIRBAG	2001	2005
Chrysler	Chrysler	Town & Country	ABS	1997	2005
Chrysler	Chrysler	Town & Country	AIRBAG	1998	2005
Chrysler	Chrysler	Voyager	ABS	2001	2003
Chrysler	Chrysler	Voyager	AIRBAG	2001	2003
Chrysler	Dodge	Avenger	ABS	1998	2000
Chrysler	Dodge	B-150	ABS (RWAL)	1989	1994
Chrysler	Dodge	B-250	ABS (RWAL)	1989	1994
Chrysler	Dodge	B-350	ABS (RWAL)	1989	1994
Chrysler	Dodge	Caravan	ABS	1997	2005
Chrysler	Dodge	Caravan	AIRBAG	1998	2005
Chrysler	Dodge	D-50	ABS (RWAL)	1993	1993
Chrysler	Dodge	Dakota 4X2	ABS	2005	2005
Chrysler	Dodge	Dakota 4X2	ABS (4WAL)	1997	2004
Chrysler	Dodge	Dakota 4X2	ABS (RWAL)	1987	2004
Chrysler	Dodge	Dakota 4X2	AIRBAG	1999	2002
Chrysler	Dodge	Dakota 4X2	OCCUPANT CLASS MODULE	2005	2005
Chrysler	Dodge	Dakota 4X2	OCCUPANT RESTRAINT CONTROL	2005	2005
Chrysler	Dodge	Dakota 4X2	WIRELESS CTRL MODULE	2005	2005
Chrysler	Dodge	Dakota 4X4	ABS	2005	2005
Chrysler	Dodge	Dakota 4X4	ABS (4WAL)	1997	2004
Chrysler	Dodge	Dakota 4X4	ABS (RWAL)	1987	2004
Chrysler	Dodge	Dakota 4X4	AIRBAG	1999	2002
Chrysler	Dodge	Dakota 4X4	OCCUPANT CLASS MODULE	2005	2005
Chrysler	Dodge	Dakota 4X4	OCCUPANT RESTRAINT CONTROL	2005	2005
Chrysler	Dodge	Dakota 4X4	WIRELESS CTRL MODULE	2005	2005
Chrysler	Dodge	Durango 4X2	ABS (4WAL)	1998	2003
Chrysler	Dodge	Durango 4X2	ABS (RWAL)	1998	2003
Chrysler	Dodge	Durango 4X2	ABS 3 CHANNEL	2004	2005

Chrysler	Dodge	Durango 4X2	ABS 3 CHANNEL 4WD	2005	2005
Chrysler	Dodge	Durango 4X2	ABS TCS 4 CHANNEL	2004	2005
Chrysler	Dodge	Durango 4X2	AIRBAG	1998	2003
Chrysler	Dodge	Durango 4X2	OCCUPANT CLASS MODULE	2004	2005
Chrysler	Dodge	Durango 4X2	OCCUPANT RESTRAINT CONTRO	2004	2005
Chrysler	Dodge	Durango 4X2	WIRELESS CTRL MODULE	2005	2005
Chrysler	Dodge	Durango 4X4	ABS (4WAL)	1998	2003
Chrysler	Dodge	Durango 4X4	ABS (RWAL)	1998	2003
Chrysler	Dodge	Durango 4X4	ABS 3 CHANNEL	2005	2005
Chrysler	Dodge	Durango 4X4	ABS 3 CHANNEL 4WD	2004	2004
Chrysler	Dodge	Durango 4X4	ABS TCS 4 CHANNEL	2005	2005
Chrysler	Dodge	Durango 4X4	ABS TCS 4 CHANNEL 4WD	2004	2005
Chrysler	Dodge	Durango 4X4	AIRBAG	1998	2003
Chrysler	Dodge	Durango 4X4	OCCUPANT CLASS MODULE	2004	2005
Chrysler	Dodge	Durango 4X4	OCCUPANT RESTRAINT CONTRO	2004	2005
Chrysler	Dodge	Durango 4X4	WIRELESS CTRL MODULE	2005	2005
Chrysler	Dodge	Dynasty	ABS	1989	1990
Chrysler	Dodge	Grand Caravan	ABS	1997	2005
Chrysler	Dodge	Grand Caravan	AIRBAG	1998	2005
Chrysler	Dodge	Intrepid	ABS	1993	2004
Chrysler	Dodge	Intrepid	AIRBAG	1999	2004
Chrysler	Dodge	Magnum	ABS	2005	2005
Chrysler	Dodge	Magnum	OCCUPANT CLASS MODULE	2005	2005
Chrysler	Dodge	Magnum	OCCUPANT RESTRAINT CONTRO	2005	2005
Chrysler	Dodge	Magnum AWD	ABS	2005	2005

Chrysler	Dodge	Magnum AWD	OCCUPANT CLASS MODULE	2005	2005
Chrysler	Dodge	Magnum AWD	OCCUPANT RESTRAINT CONTRO	2005	2005
Chrysler	Dodge	Neon	ABS	1999	2005
Chrysler	Dodge	Neon	AIRBAG	1999	2005
Chrysler	Dodge	Power Ram 100	ABS (RWAL)	1989	1989
Chrysler	Dodge	Power Ram 150	ABS (RWAL)	1989	1991
Chrysler	Dodge	Power Ram 250	ABS (RWAL)	1989	1991
Chrysler	Dodge	Power Ram 350	ABS (RWAL)	1989	1991
Chrysler	Dodge	Ram 100 4X2	ABS (RWAL)	1989	1989
Chrysler	Dodge	Ram 150 4X2	ABS (RWAL)	1989	1993
Chrysler	Dodge	Ram 1500 4X2	ABS (4WAL)	1998	2005
Chrysler	Dodge	Ram 1500 4X2	ABS (RWAL)	1994	2005
Chrysler	Dodge	Ram 1500 4X2	AIRBAG	1999	2005
Chrysler	Dodge	Ram 1500 4X4	ABS (4WAL)	1998	2005
Chrysler	Dodge	Ram 1500 4X4	ABS (RWAL)	1994	2005
Chrysler	Dodge	Ram 1500 4X4	AIRBAG	1999	2005
Chrysler	Dodge	Ram 250 4X2	ABS (RWAL)	1989	1993
Chrysler	Dodge	Ram 2500 4X2	ABS (4WAL)	1998	2005
Chrysler	Dodge	Ram 2500 4X2	ABS (RWAL)	1994	2005
Chrysler	Dodge	Ram 2500 4X2	AIRBAG	1999	2005
Chrysler	Dodge	Ram 2500 4X4	ABS (4WAL)	1998	2005
Chrysler	Dodge	Ram 2500 4X4	ABS (RWAL)	1994	2005
Chrysler	Dodge	Ram 2500 4X4	AIRBAG	1999	2005
Chrysler	Dodge	Ram 350 4X2	ABS (RWAL)	1989	1993
Chrysler	Dodge	Ram 3500 4X2	ABS (4WAL)	1998	2005
Chrysler	Dodge	Ram 3500 4X2	ABS (RWAL)	1994	2005
Chrysler	Dodge	Ram 3500 4X2	AIRBAG	1999	2005
Chrysler	Dodge	Ram 3500 4X4	ABS (4WAL)	1998	2005
Chrysler	Dodge	Ram 3500 4X4	ABS (RWAL)	1994	2005

Chrysler	Dodge	Ram 3500 4X4	AIRBAG	1999	2005
Chrysler	Dodge	Ram B-250	ABS (RWAL)	1995	1995
Chrysler	Dodge	Ram B-350	ABS (RWAL)	1995	1995
Chrysler	Dodge	Ram SRT-10	ABS (4WAL)	2004	2005
Chrysler	Dodge	Ram SRT-10	ABS (RWAL)	2004	2005
Chrysler	Dodge	Ram SRT-10	AIRBAG	2004	2005
Chrysler	Dodge	Ram Van 1500	ABS (4WAL)	1998	2003
Chrysler	Dodge	Ram Van 1500	ABS (RWAL)	1995	2003
Chrysler	Dodge	Ram Van 1500	AIRBAG	1999	2003
Chrysler	Dodge	Ram Van 2500	ABS (4WAL)	1998	2003
Chrysler	Dodge	Ram Van 2500	ABS (RWAL)	1995	2003
Chrysler	Dodge	Ram Van 2500	AIRBAG	1999	2003
Chrysler	Dodge	Ram Van 3500	ABS (4WAL)	1998	2003
Chrysler	Dodge	Ram Van 3500	ABS (RWAL)	1995	2003
Chrysler	Dodge	Ram Van 3500	AIRBAG	1999	2003
Chrysler	Dodge	Ram Wagon 1500	ABS (4WAL)	1998	2003
Chrysler	Dodge	Ram Wagon 1500	ABS (RWAL)	1995	2003
Chrysler	Dodge	Ram Wagon 1500	AIRBAG	1999	2003
Chrysler	Dodge	Ram Wagon 2500	ABS (4WAL)	1998	2003
Chrysler	Dodge	Ram Wagon 2500	ABS (RWAL)	1995	2003
Chrysler	Dodge	Ram Wagon 2500	AIRBAG	1999	2003
Chrysler	Dodge	Ram Wagon 3500	ABS (4WAL)	1998	2003
Chrysler	Dodge	Ram Wagon 3500	ABS (RWAL)	1995	2003
Chrysler	Dodge	Ram Wagon 3500	AIRBAG	1999	2003
Chrysler	Dodge	Ramcharger 4X2	ABS (RWAL)	1989	1993

Chrysler	Dodge	Ramcharger 4X4	ABS (RWAL)	1989	1993
Chrysler	Dodge	SRT-4	ABS	2003	2005
Chrysler	Dodge	SRT-4	AIRBAG	2003	2005
Chrysler	Dodge	Stealth	ABS	1996	1996
Chrysler	Dodge	Stratus	ABS	1998	2000
Chrysler	Dodge	Stratus	AIRBAG	1999	2000
Chrysler	Dodge	Stratus Coupe	AIRBAG	2001	2001
Chrysler	Dodge	Stratus Coupe	AIRBAG W/O SIDE AIRBAG	2002	2005
Chrysler	Dodge	Stratus Coupe	AIRBAG W/SIDE AIRBAG	2002	2005
Chrysler	Dodge	Stratus Sedan	ABS	2001	2005
Chrysler	Dodge	Stratus Sedan	AIRBAG	2001	2005
Chrysler	Dodge	Viper	ABS	2001	2005
Chrysler	Dodge	Viper	AIRBAG	1999	2005
Chrysler	Eagle	Vision	ABS	1993	1997
Chrysler	Plymouth	Breeze	ABS	1998	2000
Chrysler	Plymouth	Breeze	AIRBAG	1999	2000
Chrysler	Plymouth	Grand Voyager	ABS	1997	2000
Chrysler	Plymouth	Grand Voyager	AIRBAG	1998	2000
Chrysler	Plymouth	Neon	ABS	1999	2001
Chrysler	Plymouth	Neon	AIRBAG	1999	2001
Chrysler	Plymouth	Prowler	AIRBAG	1999	2001
Chrysler	Plymouth	Voyager	ABS	1997	2000
Chrysler	Plymouth	Voyager	AIRBAG	1998	2000
Ford	Ford	Aerostar	ABS (RABS)	1990	1997
Ford	Ford	Aerostar	AIRBAG	1992	1997
Ford	Ford	Aspire	ABS	1994	1997
Ford	Ford	Aspire	AIRBAG	1994	1997
Ford	Ford	Bronco	ABS	1993	1995
Ford	Ford	Bronco	ABS (RABS)	1988	1991
Ford	Ford	Bronco	AIRBAG	1992	1996
Ford	Ford	Bronco II	ABS (RABS)	1987	1990
Ford	Ford	Club Wagon	ABS	1997	1998
Ford	Ford	Club Wagon	ABS (RABS)	1999	1999
Ford	Ford	Club Wagon	AIRBAG	1997	1999
Ford	Ford	Contour	ABS	1995	2000
Ford	Ford	Contour	AIRBAG	1995	2000
Ford	Ford	Crown Victoria	ABS	1992	2005
Ford	Ford	Crown Victoria	AIRBAG	1992	2005

Ford	Ford	Crown Victoria	STEERING	2003	2005
Ford	Ford	Crown Victoria	SUSPENSION	1992	2005
Ford	Ford	E-Super Duty	ABS	1999	1999
Ford	Ford	E-Super Duty	ABS (RABS)	1999	1999
Ford	Ford	E-Super Duty	AIRBAG	1998	1999
Ford	Ford	Econoline	ABS	2001	2005
Ford	Ford	Econoline	ABS (RABS)	2001	2004
Ford	Ford	Econoline	AIRBAG	2001	2005
Ford	Ford	Econoline E150	ABS	1994	2000
Ford	Ford	Econoline E150	ABS (RABS)	1987	2000
Ford	Ford	Econoline E150	AIRBAG	1992	2000
Ford	Ford	Econoline E250	ABS	1994	2000
Ford	Ford	Econoline E250	ABS (RABS)	1987	2000
Ford	Ford	Econoline E250	AIRBAG	1993	2000
Ford	Ford	Econoline E350	ABS	1994	2000
Ford	Ford	Econoline E350	ABS (RABS)	1987	2000
Ford	Ford	Econoline E350	AIRBAG	1993	2000
Ford	Ford	Econoline E450	ABS	2000	2000
Ford	Ford	Econoline E450	ABS (RABS)	2000	2000
Ford	Ford	Econoline E450	AIRBAG	2000	2000
Ford	Ford	Escape	ABS	2001	2005
Ford	Ford	Escape	AIRBAG	2001	2005
Ford	Ford	Escape Hybrid	ABS	2005	2005
Ford	Ford	Escape Hybrid	AIRBAG	2005	2005
Ford	Ford	Escape Hybrid	STEERING	2005	2005
Ford	Ford	Escort	ABS	1994	2003
Ford	Ford	Escort	AIRBAG	1994	2003
Ford	Ford	Excursion	ABS	2000	2005
Ford	Ford	Excursion	AIRBAG	2000	2005
Ford	Ford	Exp Sport Trac	ABS	2001	2004
Ford	Ford	Exp Sport Trac	AIRBAG	2001	2004
Ford	Ford	Exp Sport Trac	SUSPENSION	2001	2002
Ford	Ford	Expedition	ABS	1997	2005

Ford	Ford	Expedition	AIRBAG	1997	2005
Ford	Ford	Expedition	SUSPENSION	1997	2005
Ford	Ford	Expedition	TIRE PRESSURE	2003	2004
Ford	Ford	Explorer	ABS	1993	2005
Ford	Ford	Explorer	ABS (RABS)	1990	1992
Ford	Ford	Explorer	AIRBAG	1992	2005
Ford	Ford	Explorer	SUSPENSION	1995	2001
Ford	Ford	Explorer	TIRE PRESSURE	2002	2005
Ford	Ford	Explorer Sport	ABS	2000	2005
Ford	Ford	Explorer Sport	AIRBAG	2000	2005
Ford	Ford	Explorer Sport	SUSPENSION	2000	2002
Ford	Ford	ExplorerPostal	ABS	2001	2002
Ford	Ford	ExplorerPostal	AIRBAG	2001	2001
Ford	Ford	F-150	ABS	1996	2005
Ford	Ford	F-150	ABS (RABS)	1987	2004
Ford	Ford	F-150	AIRBAG	1992	2005
Ford	Ford	F-150 Heritage	ABS	2004	2004
Ford	Ford	F-150 Heritage	ABS (RABS)	2004	2004
Ford	Ford	F-150 Heritage	AIRBAG	2004	2004
Ford	Ford	F-150 Reg Cab	ABS	1999	2000
Ford	Ford	F-150 Reg Cab	ABS (RABS)	1999	2000
Ford	Ford	F-150 Reg Cab	AIRBAG	1999	2000
Ford	Ford	F-150 Supr Cab	ABS	1999	2000
Ford	Ford	F-150 Supr Cab	ABS (RABS)	1999	2000
Ford	Ford	F-150 Supr Cab	AIRBAG	1999	2000
Ford	Ford	F-250	ABS	1997	1998
Ford	Ford	F-250	ABS (RABS)	1987	1998
Ford	Ford	F-250	AIRBAG	1992	1998
Ford	Ford	F-250 Reg Cab	ABS	1999	1999
Ford	Ford	F-250 Reg Cab	ABS (RABS)	1999	1999
Ford	Ford	F-250 Reg Cab	AIRBAG	1999	1999
Ford	Ford	F-250 Supr Cab	ABS	1999	1999

Ford	Ford	F-250 Supr Cab	ABS (RABS)	1999	1999
Ford	Ford	F-250 Supr Cab	AIRBAG	1999	1999
Ford	Ford	F-350	ABS (RABS)	1987	1997
Ford	Ford	F-350	AIRBAG	1992	1996
Ford	Ford	F-450	ABS (RABS)	1988	1993
Ford	Ford	F-450	AIRBAG	1992	1994
Ford	Ford	F-Super Duty	ABS (RABS)	1995	1997
Ford	Ford	F-Super Duty	AIRBAG	1995	1996
Ford	Ford	Five Hundred	ABS	2005	2005
Ford	Ford	Five Hundred	AIRBAG	2005	2005
Ford	Ford	Focus	ABS	2000	2005
Ford	Ford	Focus	AIRBAG	2000	2005
Ford	Ford	Ford GT	ABS	2005	2005
Ford	Ford	Ford GT	AIRBAG	2005	2005
Ford	Ford	Freestar	ABS	2004	2005
Ford	Ford	Freestar	AIRBAG	2004	2005
Ford	Ford	Freestar	TIRE PRESSURE	2005	2005
Ford	Ford	Freestyle	ABS	2005	2005
Ford	Ford	Freestyle	AIRBAG	2005	2005
Ford	Ford	Motorhome	ABS	2005	2005
Ford	Ford	Mustang	ABS	1994	2005
Ford	Ford	Mustang	AIRBAG	1992	2005
Ford	Ford	Probe	ABS	1992	1997
Ford	Ford	Probe	AIRBAG	1996	1997
Ford	Ford	Ranger	ABS	1995	2005
Ford	Ford	Ranger	ABS (4WABS)	1996	1997
Ford	Ford	Ranger	ABS (RABS)	1989	2004
Ford	Ford	Ranger	AIRBAG	1992	2005
Ford	Ford	Super Club	ABS	1999	1999
Ford	Ford	Super Club	ABS (RABS)	1999	1999
Ford	Ford	Super Club	AIRBAG	1999	1999
Ford	Ford	Super Van	ABS	1999	1999
Ford	Ford	Super Van	ABS (RABS)	1999	1999
Ford	Ford	Super Van	AIRBAG	1999	1999
Ford	Ford	SuperDuty	ABS	1999	2005
Ford	Ford	SuperDuty	AIRBAG	1999	2005
Ford	Ford	Taurus	ABS	1990	2005
Ford	Ford	Taurus	AIRBAG	1992	2005
Ford	Ford	Taurus	SUSPENSION	1997	1997
Ford	Ford	Tempo	ABS	1993	1994

Ford	Ford	Thunderbird	ABS	1987	2005
Ford	Ford	Thunderbird	AIRBAG	1996	2005
Ford	Ford	Thunderbird	SUSPENSION	1992	1995
Ford	Ford	Windstar	ABS	1995	2003
Ford	Ford	Windstar	AIRBAG	1995	2003
Ford	Ford	ZX2	ABS	2001	2003
Ford	Ford	ZX2	AIRBAG	2001	2003
Ford	Lincoln	Aviator	ABS	2003	2005
Ford	Lincoln	Aviator	AIRBAG	2003	2005
Ford	Lincoln	Aviator	STEERING	2003	2005
Ford	Lincoln	Aviator	SUSPENSION	2004	2004
Ford	Lincoln	Aviator	TIRE PRESSURE	2003	2005
Ford	Lincoln	Blackwood	ABS	2002	2003
Ford	Lincoln	Blackwood	AIRBAG	2002	2003
Ford	Lincoln	Blackwood	SUSPENSION	2002	2003
Ford	Lincoln	Continental	ABS	1986	2002
Ford	Lincoln	Continental	AIRBAG	1992	2002
Ford	Lincoln	Continental	SUSPENSION	1992	2002
Ford	Lincoln	LS	ABS	2000	2005
Ford	Lincoln	LS	AIRBAG	2000	2005
Ford	Lincoln	LS	ELECTRONIC PARK BRAKE	2004	2005
Ford	Lincoln	Mark VII	ABS	1987	1992
Ford	Lincoln	Mark VIII	ABS	1993	1998
Ford	Lincoln	Mark VIII	AIRBAG	1996	1998
Ford	Lincoln	Mark VIII	SUSPENSION	1993	1998
Ford	Lincoln	Navigator	ABS	1998	2005
Ford	Lincoln	Navigator	AIRBAG	1998	2005
Ford	Lincoln	Navigator	SUSPENSION	1998	2005
Ford	Lincoln	Town Car	ABS	1990	2005
Ford	Lincoln	Town Car	AIRBAG	1992	2005
Ford	Lincoln	Town Car	SUSPENSION	1992	2005
Ford	Mercury	Capri	AIRBAG	1992	1994
Ford	Mercury	Cougar	ABS	1988	2002
Ford	Mercury	Cougar	AIRBAG	1993	2002
Ford	Mercury	Cougar	SUSPENSION	1992	1995
Ford	Mercury	Grand Marquis	ABS	1992	2005
Ford	Mercury	Grand Marquis	AIRBAG	1992	2005
Ford	Mercury	Grand Marquis	STEERING	2003	2005
Ford	Mercury	Grand Marquis	SUSPENSION	1992	2005

Ford	Mercury	Marauder	ABS	2003	2004
Ford	Mercury	Marauder	AIRBAG	2003	2004
Ford	Mercury	Marauder	STEERING	2003	2004
Ford	Mercury	Marauder	SUSPENSION	2003	2004
Ford	Mercury	Mariner	ABS	2005	2005
Ford	Mercury	Mariner	AIRBAG	2005	2005
Ford	Mercury	Montego	ABS	2005	2005
Ford	Mercury	Montego	AIRBAG	2005	2005
Ford	Mercury	Monterey	ABS	2004	2005
Ford	Mercury	Monterey	AIRBAG	2004	2005
Ford	Mercury	Monterey	TIRE PRESSURE	2005	2005
Ford	Mercury	Mountaineer	ABS	1997	2005
Ford	Mercury	Mountaineer	AIRBAG	1997	2005
Ford	Mercury	Mountaineer	SUSPENSION	1998	2001
Ford	Mercury	Mountaineer	TIRE PRESSURE	2002	2005
Ford	Mercury	Mystique	ABS	1995	2000
Ford	Mercury	Mystique	AIRBAG	1995	2000
Ford	Mercury	Sable	ABS	1990	2005
Ford	Mercury	Sable	AIRBAG	1992	2005
Ford	Mercury	Sable	SUSPENSION	1997	1997
Ford	Mercury	Topaz	ABS	1993	1994
Ford	Mercury	Tracer	ABS	1994	1999
Ford	Mercury	Tracer	AIRBAG	1995	1999
Ford	Mercury	Villager	ABS	1993	2002
Ford	Mercury	Villager	AIRBAG	1994	2002
GM	Buick	Allure	ABS/ETS/TM/VES	2005	2005
GM	Buick	Allure	ABS/TCS/TM/VES	2005	2005
GM	Buick	Allure	ABS/TCS/TM/VES/VSES	2005	2005
GM	Buick	Allure	AIRBAG	2005	2005
GM	Buick	Century	ABS	1996	2005
GM	Buick	Century	ABS VI	1991	1995
GM	Buick	Century	ABS/ETS/TM	2000	2005
GM	Buick	Century	ABS/ETS/TM/VES	2000	2005
GM	Buick	Century	ABS/TCS	2000	2005
GM	Buick	Century	ABS/TCS/TM	2000	2005
GM	Buick	Century	ABS/TCS/TM/VES	2000	2005
GM	Buick	Century	AIRBAG	1993	2005
GM	Buick	Coach Wagon	ABS	1991	1995
GM	Buick	Coach Wagon	AIRBAG	1992	1995

GM	Buick	Electra	ABS TEVES II	1989	1990
GM	Buick	LaCrosse	ABS/ETS/TM/VES	2005	2005
GM	Buick	LaCrosse	ABS/TCS/TM/VES	2005	2005
GM	Buick	LaCrosse	ABS/TCS/TM/VES/VSES	2005	2005
GM	Buick	LaCrosse	AIRBAG	2005	2005
GM	Buick	LeSabre	ABS	1991	2005
GM	Buick	LeSabre	ABS #1	1994	1999
GM	Buick	LeSabre	ABS #2	1994	1999
GM	Buick	LeSabre	ABS TEVES II	1989	1990
GM	Buick	LeSabre	ABS/TCS	2000	2005
GM	Buick	LeSabre	ABS/TCS/TIM	2000	2005
GM	Buick	LeSabre	ABS/TCS/TIM/VSES	2000	2005
GM	Buick	LeSabre	ABS/TIM	2000	2005
GM	Buick	LeSabre	AIRBAG	1992	2005
GM	Buick	LeSabre	MAGNASTER	2000	2004
GM	Buick	Park Avenue	ABS	1991	2005
GM	Buick	Park Avenue	ABS #1	1994	1996
GM	Buick	Park Avenue	ABS #2	1994	1996
GM	Buick	Park Avenue	ABS TEVES II	1989	1990
GM	Buick	Park Avenue	ABS/TCS	2000	2005
GM	Buick	Park Avenue	ABS/TCS/TIM	2000	2005
GM	Buick	Park Avenue	ABS/TCS/TIM/VSES	2000	2005
GM	Buick	Park Avenue	ABS/TIM	2000	2005
GM	Buick	Park Avenue	AIRBAG	1991	2005
GM	Buick	Park Avenue	MAGNASTER	2000	2005
GM	Buick	Rainier	ABS	2004	2005
GM	Buick	Rainier	AIRBAG	2004	2005
GM	Buick	Rainier	TRACTION ASSIST	2004	2005
GM	Buick	Reatta	ABS	1991	1991
GM	Buick	Reatta	ABS TEVES II	1988	1990
GM	Buick	Reatta	AIRBAG	1990	1991
GM	Buick	Regal	ABS	1996	2004
GM	Buick	Regal	ABS III	1989	1991
GM	Buick	Regal	ABS VI	1992	1995
GM	Buick	Regal	ABS/ETS/TIM	2000	2004

GM	Buick	Regal	ABS/ETS/TI M/VES	2000	2004
GM	Buick	Regal	ABS/TCS	2000	2004
GM	Buick	Regal	ABS/TCS/TI M	2000	2004
GM	Buick	Regal	ABS/TCS/TI M/VES	2000	2004
GM	Buick	Regal	AIRBAG	1994	2004
GM	Buick	Regal (1997.5)	ABS	1997	1997
GM	Buick	Regal (1997.5)	AIRBAG	1997	1997
GM	Buick	Rendezvous	ABS	2002	2005
GM	Buick	Rendezvous	ABS/TCS	2002	2005
GM	Buick	Rendezvous	ABS/TCS/T PM	2002	2005
GM	Buick	Rendezvous	ABS/TPM	2002	2005
GM	Buick	Rendezvous	AIRBAG	2002	2005
GM	Buick	Rendezvous 3.4	ABS	2004	2004
GM	Buick	Rendezvous 3.4	ABS/TCS	2004	2004
GM	Buick	Rendezvous 3.4	ABS/TCS/T PM	2004	2004
GM	Buick	Rendezvous 3.4	ABS/TPM	2004	2004
GM	Buick	Rendezvous 3.4	AIRBAG	2004	2004
GM	Buick	Riviera	ABS	1991	1993
GM	Buick	Riviera	ABS #1	1995	1999
GM	Buick	Riviera	ABS #2	1995	1999
GM	Buick	Riviera	ABS TEVES II	1988	1990
GM	Buick	Riviera	AIRBAG	1990	1999
GM	Buick	Roadmaster	ABS	1991	1996
GM	Buick	Roadmaster	AIRBAG	1992	1996
GM	Buick	Skylark	ABS	1996	1998
GM	Buick	Skylark	ABS VI	1991	1995
GM	Buick	Skylark	AIRBAG	1992	1998
GM	Buick	Terraza	ABS	2005	2005
GM	Buick	Terraza	ABS/TCS	2005	2005
GM	Buick	Terraza	ABS/TCS/V SES	2005	2005
GM	Buick	Terraza	AIRBAG	2005	2005
GM	Cadillac	Allante	ABS/ASR	1993	1993
GM	Cadillac	Allante	AIRBAG	1990	1993
GM	Cadillac	Brougham	ABS	1990	1992
GM	Cadillac	Catera	ABS	2000	2001
GM	Cadillac	Comm Chas	ABS	1991	1995
GM	Cadillac	Comm Chas	AIRBAG	1991	1995

GM	Cadillac	Concours	ABS	1994	1998
GM	Cadillac	Concours	AIRBAG	1994	1998
GM	Cadillac	CTS	ABS/TCS	2003	2003
GM	Cadillac	CTS	ABS/TCS/V SES	2003	2003
GM	Cadillac	CTS	AIRBAG	2003	2005
GM	Cadillac	CTS	DRP/ABS/T CS/VSES	2004	2005
GM	Cadillac	CTS	TIRE PRESS MONITOR	2004	2004
GM	Cadillac	CTS	VARI EFFORT STEER	2003	2003
GM	Cadillac	CTS	VARIABLE EFFORT STEERING	2004	2005
GM	Cadillac	DeVille	ABS	1991	1999
GM	Cadillac	DeVille	ABS TEVES II	1989	1990
GM	Cadillac	DeVille	ABS/TCS	2000	2005
GM	Cadillac	DeVille	ABS/TCS/V SES 2	2000	2005
GM	Cadillac	DeVille	ABS/TCS/V SES 3	2000	2005
GM	Cadillac	DeVille	ABS/TCS/V SES2/BLW	2000	2005
GM	Cadillac	DeVille	ABS/TCS/V SES3/BLW	2000	2005
GM	Cadillac	DeVille	AIRBAG	1990	2005
GM	Cadillac	DeVille	CVRSS/AL C	2000	2001
GM	Cadillac	DeVille	ELECT SUSP CNTRL	2002	2005
GM	Cadillac	DeVille	MAGNASTE ER	2000	2005
GM	Cadillac	DeVille	SPEED SENS STEER	2000	2005
GM	Cadillac	DeVille	TIRE PRESSURE MONITOR	2001	2005
GM	Cadillac	DHS	ABS/TCS	2005	2005
GM	Cadillac	DHS	ABS/TCS/V SES 2	2005	2005
GM	Cadillac	DHS	ABS/TCS/V SES 3	2005	2005
GM	Cadillac	DHS	ABS/TCS/V SES2/BLW	2005	2005
GM	Cadillac	DHS	ABS/TCS/V SES3/BLW	2005	2005
GM	Cadillac	DHS	AIRBAG	2005	2005
GM	Cadillac	DHS	ELECT SUSP CNTRL	2005	2005

GM	Cadillac	DHS	MAGNASTE ER	2005	2005
GM	Cadillac	DHS	SPEED SENS STEER	2005	2005
GM	Cadillac	DHS	TIRE PRESSURE MONITOR	2005	2005
GM	Cadillac	DTS	ABS/TCS	2005	2005
GM	Cadillac	DTS	ABS/TCS/V SES 2	2005	2005
GM	Cadillac	DTS	ABS/TCS/V SES 3	2005	2005
GM	Cadillac	DTS	ABS/TCS/V SES2/BLW	2005	2005
GM	Cadillac	DTS	ABS/TCS/V SES3/BLW	2005	2005
GM	Cadillac	DTS	AIRBAG	2005	2005
GM	Cadillac	DTS	ELECT SUSP CNTRL	2005	2005
GM	Cadillac	DTS	MAGNASTE ER	2005	2005
GM	Cadillac	DTS	SPEED SENS STEER	2005	2005
GM	Cadillac	DTS	TIRE PRESSURE MONITOR	2005	2005
GM	Cadillac	Eldorado	ABS	1991	1999
GM	Cadillac	Eldorado	ABS TEVES II	1988	1990
GM	Cadillac	Eldorado	ABS/ASR	1993	1993
GM	Cadillac	Eldorado	ABS/TCS	2000	2002
GM	Cadillac	Eldorado	ABS/TCS ICCS2	2000	2002
GM	Cadillac	Eldorado	ABS/TCS ICCS3	2000	2002
GM	Cadillac	Eldorado	AIRBAG	1990	2002
GM	Cadillac	Eldorado	CVRSS/AL C	2000	2002
GM	Cadillac	Eldorado	DUAL AIRBAGS	1993	1993
GM	Cadillac	Escalade	ABS	2000	2005
GM	Cadillac	Escalade	AIRBAG	1999	2005
GM	Cadillac	Escalade	ELECT SUSP CNTRL	2003	2005
GM	Cadillac	Escalade	ELECT VARIORFIC	2000	2002
GM	Cadillac	Escalade	REAR WHEEL STEER	2002	2005
GM	Cadillac	Escalade	RTD / EVO	2000	2002

GM	Cadillac	Escalade	TIRE PRESSURE MONITOR	2004	2005
GM	Cadillac	Escalade	TRACTION ASSIST	2004	2005
GM	Cadillac	Escalade	VSES	2002	2005
GM	Cadillac	Escalade EXT	ABS	2002	2003
GM	Cadillac	Escalade EXT	AIRBAG	2002	2003
GM	Cadillac	Escalade EXT	ELECT SUSP CNTRL	2003	2003
GM	Cadillac	Escalade EXT	ELECT VARI ORFIC	2002	2002
GM	Cadillac	Escalade EXT	REAR WHEEL STEER	2002	2003
GM	Cadillac	Escalade EXT	RTD / EVO	2002	2002
GM	Cadillac	Escalade EXT	VSES	2002	2003
GM	Cadillac	Fleetwood	ABS	1991	1996
GM	Cadillac	Fleetwood	ABS TEVES II	1989	1990
GM	Cadillac	Fleetwood	ABS/ASR	1993	1993
GM	Cadillac	Fleetwood	AIRBAG	1990	1996
GM	Cadillac	Seville	ABS	1991	1999
GM	Cadillac	Seville	ABS TEVES II	1988	1990
GM	Cadillac	Seville	ABS/ASR	1993	1993
GM	Cadillac	Seville	ABS/TCS	2000	2004
GM	Cadillac	Seville	ABS/TCS/V SES 2	2000	2004
GM	Cadillac	Seville	ABS/TCS/V SES 3	2000	2004
GM	Cadillac	Seville	ABS/TCS/V SES2/BLW	2000	2004
GM	Cadillac	Seville	ABS/TCS/V SES3/BLW	2000	2004
GM	Cadillac	Seville	AIRBAG	1990	2004
GM	Cadillac	Seville	CVRSS/AL C	2000	2001
GM	Cadillac	Seville	DUAL AIRBAGS	1993	1993
GM	Cadillac	Seville	ELECT SUSP CNTRL	2002	2004
GM	Cadillac	Seville	MAGNASTE ER	2000	2004
GM	Cadillac	Seville	SPEED SENS STEER	2000	2004
GM	Cadillac	Seville	TIRE PRESSURE MONITOR	2001	2004

GM	Cadillac	SRX	AIRBAG	2004	2005
GM	Cadillac	SRX	DRP/ABS/TCS/VSES	2004	2005
GM	Cadillac	SRX	ELECT SUSP CNTRL	2004	2005
GM	Cadillac	SRX	TIRE PRESS MONITOR	2004	2005
GM	Cadillac	SRX	VARIABLE EFFORT STEERING	2004	2005
GM	Cadillac	STS	ABS	2005	2005
GM	Cadillac	STS	ABS/TCS/VSES	2005	2005
GM	Cadillac	STS	AIRBAG	2005	2005
GM	Cadillac	STS	ELECT SUSP CNTRL	2005	2005
GM	Cadillac	STS	VARIABLE EFFORT STEERING	2005	2005
GM	Cadillac	XLR	ABS	2004	2005
GM	Cadillac	XLR	ABS/TCS/VSES	2005	2005
GM	Cadillac	XLR	AIRBAG	2004	2005
GM	Cadillac	XLR	ELECT SUSP CNTRL	2005	2005
GM	Cadillac	XLR	PARK BRAKE	2004	2005
GM	Cadillac	XLR	TIRE PRESS MONITOR	2004	2005
GM	Cadillac	XLR	VARIABLE EFFORT STEERING	2004	2005
GM	Chevrolet	Astro	ABS	2004	2005
GM	Chevrolet	Astro	AIRBAG	2004	2005
GM	Chevrolet	Astro AWD	ABS	2000	2003
GM	Chevrolet	Astro AWD	ABS (4WAL)	1999	1999
GM	Chevrolet	Astro AWD	AIRBAG	1999	2003
GM	Chevrolet	Astro RWD	ABS	2000	2003
GM	Chevrolet	Astro RWD	ABS (4WAL)	1999	1999
GM	Chevrolet	Astro RWD	AIRBAG	1999	2003
GM	Chevrolet	Astro Van	ABS (4WAL)	1990	1998
GM	Chevrolet	Astro Van	ABS (RWAL)	1989	1994
GM	Chevrolet	Astro Van	AIRBAG	1994	1998
GM	Chevrolet	Avalanche	ABS	2002	2005
GM	Chevrolet	Avalanche	AIRBAG	2002	2005
GM	Chevrolet	Avalanche	ELECT SUSP CNTRL	2003	2005

GM	Chevrolet	Avalanche	ELECT VARI ORFIC	2002	2002
GM	Chevrolet	Avalanche	REAR WHEEL STEER	2002	2005
GM	Chevrolet	Avalanche	RTD / EVO	2002	2002
GM	Chevrolet	Avalanche	TIRE PRESSURE MONITOR	2004	2005
GM	Chevrolet	Avalanche	TRACTION ASSIST	2002	2005
GM	Chevrolet	Avalanche	VSES	2002	2005
GM	Chevrolet	Aveo	ABS (Delphi)	2004	2004
GM	Chevrolet	Aveo	ABS (MANDO)	2005	2005
GM	Chevrolet	Aveo	ABS/TCS (Delphi)	2004	2004
GM	Chevrolet	B7 Chassis	ABS HYDRAULI C 4WAL 4 SNSR	2002	2002
GM	Chevrolet	B7-Chassis	ABS HYDRAULI C 4WAL 4 SNSR	2000	2005
GM	Chevrolet	B7-Chassis	AIRBAG	2005	2005
GM	Chevrolet	Beretta	ABS	1996	1996
GM	Chevrolet	Beretta	ABS VI	1991	1995
GM	Chevrolet	Beretta	AIRBAG	1991	1996
GM	Chevrolet	Blazer	ABS	2004	2005
GM	Chevrolet	Blazer	AIRBAG	2004	2005
GM	Chevrolet	Blazer	TRACTION ASSIST	2004	2005
GM	Chevrolet	Blazer 2WD	ABS	2000	2003
GM	Chevrolet	Blazer 2WD	ABS (4WAL)	1996	1999
GM	Chevrolet	Blazer 2WD	AIRBAG	1996	2002
GM	Chevrolet	Blazer 2WD	TRACTION ASSIST	2002	2003
GM	Chevrolet	Blazer 4WD	ABS	2000	2003
GM	Chevrolet	Blazer 4WD	ABS (4WAL)	1996	1999
GM	Chevrolet	Blazer 4WD	AIRBAG	1996	2002
GM	Chevrolet	Bus Chassis	ABS (4WAL)	1991	1991
GM	Chevrolet	Bus Chassis	ABS (RWAL)	1991	1991
GM	Chevrolet	C Series	ABS HYDRAULI C 4WAL 4 SNSR	2002	2002
GM	Chevrolet	C-Series	ABS HYDRAULI C 4WAL 4 SNSR	2000	2005

GM	Chevrolet	C-Series	AIRBAG	2005	2005
GM	Chevrolet	C1500	ABS (4WAL)	1999	1999
GM	Chevrolet	C1500	AIRBAG	1999	1999
GM	Chevrolet	C1500 2WD	ABS (4WAL)	1996	1998
GM	Chevrolet	C1500 2WD	AIRBAG	1996	1998
GM	Chevrolet	C1500,2WD	ABS (4WAL)	1991	1995
GM	Chevrolet	C1500,2WD	ABS (RWAL)	1988	1994
GM	Chevrolet	C1500,2WD	AIRBAG	1994	1995
GM	Chevrolet	C2500 2WD	ABS (4WAL)	1996	1997
GM	Chevrolet	C2500 2WD	AIRBAG	1996	1997
GM	Chevrolet	C2500 ALT FUEL	ABS	2000	2000
GM	Chevrolet	C2500 ALT FUEL	ABS (4WAL)	1998	1998
GM	Chevrolet	C2500 ALT FUEL	AIRBAG	1998	2000
GM	Chevrolet	C2500 ALT FUEL	RTD / EVO	2000	2000
GM	Chevrolet	C2500 ALT FUEL	TRACTION ASSIST	2000	2000
GM	Chevrolet	C2500 O8600	ABS	2000	2000
GM	Chevrolet	C2500 O8600	ABS (4WAL)	1998	1999
GM	Chevrolet	C2500 O8600	AIRBAG	1998	2000
GM	Chevrolet	C2500 O8600	RTD / EVO	2000	2000
GM	Chevrolet	C2500 O8600	TRACTION ASSIST	2000	2000
GM	Chevrolet	C2500 U8600	ABS	2000	2000
GM	Chevrolet	C2500 U8600	ABS (4WAL)	1998	1999
GM	Chevrolet	C2500 U8600	AIRBAG	1998	2000
GM	Chevrolet	C2500 U8600	RTD / EVO	2000	2000
GM	Chevrolet	C2500 U8600	TRACTION ASSIST	2000	2000
GM	Chevrolet	C2500,2WD	ABS (4WAL)	1991	1995
GM	Chevrolet	C2500,2WD	ABS (RWAL)	1988	1994
GM	Chevrolet	C2500,2WD	AIRBAG	1994	1995
GM	Chevrolet	C3500	ABS	2000	2000
GM	Chevrolet	C3500	ABS (4WAL)	1999	1999
GM	Chevrolet	C3500	AIRBAG	1999	2000
GM	Chevrolet	C3500	RTD / EVO	2000	2000
GM	Chevrolet	C3500	TRACTION ASSIST	2000	2000

GM	Chevrolet	C3500 2WD	ABS (4WAL)	1996	1998
GM	Chevrolet	C3500 2WD	AIRBAG	1996	1998
GM	Chevrolet	C3500,2WD	ABS (4WAL)	1991	1995
GM	Chevrolet	C3500,2WD	ABS (RWAL)	1988	1994
GM	Chevrolet	C3500,2WD	AIRBAG	1994	1995
GM	Chevrolet	Camaro	ABS	1996	2002
GM	Chevrolet	Camaro	ABS VI	1993	1995
GM	Chevrolet	Camaro	ABS/ETS	2000	2002
GM	Chevrolet	Camaro	ABS/TCS	2000	2002
GM	Chevrolet	Camaro	AIRBAG	1990	2002
GM	Chevrolet	Caprice	ABS	1991	1996
GM	Chevrolet	Caprice	AIRBAG	1991	1996
GM	Chevrolet	Cavalier	ABS	1996	2005
GM	Chevrolet	Cavalier	ABS VI	1992	1995
GM	Chevrolet	Cavalier	ABS/ETS	2000	2005
GM	Chevrolet	Cavalier	AIRBAG	1993	2005
GM	Chevrolet	Cavalier Alt/F	ABS	2001	2002
GM	Chevrolet	Cavalier Alt/F	ABS/ETS	2001	2002
GM	Chevrolet	Cavalier Alt/F	AIRBAG	2001	2002
GM	Chevrolet	Chassis Only	ABS (4WAL)	1991	1991
GM	Chevrolet	Cobalt 2.0L	ABS	2005	2005
GM	Chevrolet	Cobalt 2.0L	AIRBAG	2005	2005
GM	Chevrolet	Cobalt 2.0L	POWER STEERING SYSTEM	2005	2005
GM	Chevrolet	Cobalt 2.2L	ABS	2005	2005
GM	Chevrolet	Cobalt 2.2L	AIRBAG	2005	2005
GM	Chevrolet	Cobalt 2.2L	POWER STEERING SYSTEM	2005	2005
GM	Chevrolet	Colorado	ABS	2004	2005
GM	Chevrolet	Colorado	ABS/TCS	2004	2004
GM	Chevrolet	Colorado	AIRBAG	2004	2005
GM	Chevrolet	Corsica	ABS	1996	1996
GM	Chevrolet	Corsica	ABS VI	1991	1995
GM	Chevrolet	Corsica	AIRBAG	1991	1996
GM	Chevrolet	Corvette	ABS	1990	2005
GM	Chevrolet	Corvette	ABS/ASR	1992	1993
GM	Chevrolet	Corvette	ABS/TCS	2000	2004
GM	Chevrolet	Corvette	ABS/TCS/M AGSTEER	2000	2000
GM	Chevrolet	Corvette	ABS/TCS/V SES	2000	2004
GM	Chevrolet	Corvette	AIRBAG	1993	2005
GM	Chevrolet	Corvette	RTD	2000	2004
GM	Chevrolet	Corvette	TIRE PRESS MONITOR	2005	2005

GM	Chevrolet	Corvette	VARIABLE EFFORT STEERING	2005	2005
GM	Chevrolet	Corvette/Co nv	ABS	1991	1991
GM	Chevrolet	Equinox	ABS	2005	2005
GM	Chevrolet	Equinox	ABS/TCS	2005	2005
GM	Chevrolet	Equinox	ELECT PWR STEERING	2005	2005
GM	Chevrolet	Express	ABS	2003	2005
GM	Chevrolet	Express	ABS (4WAL)	1999	2002
GM	Chevrolet	Express	AIRBAG	1999	2005
GM	Chevrolet	Express	VSES	2004	2005
GM	Chevrolet	Express Access	ABS	2004	2005
GM	Chevrolet	Express Access	AIRBAG	2004	2005
GM	Chevrolet	Express Access	VSES	2004	2005
GM	Chevrolet	Express BiFuel	ABS	2004	2004
GM	Chevrolet	Express BiFuel	AIRBAG	2004	2004
GM	Chevrolet	Express BiFuel	VSES	2004	2004
GM	Chevrolet	Express CNG	ABS	2004	2004
GM	Chevrolet	Express CNG	AIRBAG	2004	2004
GM	Chevrolet	Express CNG	VSES	2004	2004
GM	Chevrolet	G10 Van	ABS (4WAL)	1991	1996
GM	Chevrolet	G10 Van	ABS (RWAL)	1990	1995
GM	Chevrolet	G10 Van	AIRBAG	1994	1996
GM	Chevrolet	G1500 Van	ABS (4WAL)	1997	1998
GM	Chevrolet	G1500 Van	AIRBAG	1997	1998
GM	Chevrolet	G20 Van	ABS (4WAL)	1991	1996
GM	Chevrolet	G20 Van	ABS (RWAL)	1990	1995
GM	Chevrolet	G20 Van	AIRBAG	1994	1996
GM	Chevrolet	G2500 Van	ABS (4WAL)	1997	1998
GM	Chevrolet	G2500 Van	AIRBAG	1997	1998
GM	Chevrolet	G30 Van	ABS (4WAL)	1991	1996
GM	Chevrolet	G30 Van	ABS (RWAL)	1990	1995
GM	Chevrolet	G30 Van	AIRBAG	1994	1996
GM	Chevrolet	G3500 Van	ABS (4WAL)	1997	1998
GM	Chevrolet	G3500 Van	AIRBAG	1997	1998

GM	Chevrolet	Hearse/Limo	ABS	1991	1994
GM	Chevrolet	Hearse/Limo	AIRBAG	1991	1994
GM	Chevrolet	Impala	ABS	1995	1996
GM	Chevrolet	Impala	ABS/TCS/TIM	2000	2005
GM	Chevrolet	Impala	ABS/TCS/TIM/VES	2000	2003
GM	Chevrolet	Impala	ABS/TCS/VES/TIM	2004	2005
GM	Chevrolet	Impala	ABS/TIM	2000	2005
GM	Chevrolet	Impala	AIRBAG	1995	2005
GM	Chevrolet	K-Blazer, 2WD	ABS (RWAL)	1990	1991
GM	Chevrolet	K-Blazer, 4WD	ABS (RWAL)	1990	1991
GM	Chevrolet	K1500	ABS (4WAL)	1999	1999
GM	Chevrolet	K1500	AIRBAG	1999	1999
GM	Chevrolet	K1500 4WD	ABS (4WAL)	1996	1998
GM	Chevrolet	K1500 4WD	AIRBAG	1996	1998
GM	Chevrolet	K1500, 4WD	ABS (4WAL)	1991	1995
GM	Chevrolet	K1500, 4WD	ABS (RWAL)	1988	1994
GM	Chevrolet	K1500, 4WD	AIRBAG	1994	1995
GM	Chevrolet	K2500 4WD	ABS (4WAL)	1996	1997
GM	Chevrolet	K2500 4WD	AIRBAG	1996	1997
GM	Chevrolet	K2500 O8600	ABS	2000	2000
GM	Chevrolet	K2500 O8600	ABS (4WAL)	1998	1999
GM	Chevrolet	K2500 O8600	AIRBAG	1998	2000
GM	Chevrolet	K2500 O8600	ELECT VARI ORFIC	2000	2000
GM	Chevrolet	K2500 O8600	RTD / EVO	2000	2000
GM	Chevrolet	K2500 U8600	ABS	2000	2000
GM	Chevrolet	K2500 U8600	ABS (4WAL)	1998	1999
GM	Chevrolet	K2500 U8600	AIRBAG	1998	2000
GM	Chevrolet	K2500 U8600	ELECT VARI ORFIC	2000	2000
GM	Chevrolet	K2500 U8600	RTD / EVO	2000	2000
GM	Chevrolet	K2500, 4WD	ABS (4WAL)	1991	1995
GM	Chevrolet	K2500, 4WD	ABS (RWAL)	1988	1994

GM	Chevrolet	K2500,4WD	AIRBAG	1994	1995
GM	Chevrolet	K3500	ABS	2000	2000
GM	Chevrolet	K3500	ABS (4WAL)	1999	1999
GM	Chevrolet	K3500	AIRBAG	1999	2000
GM	Chevrolet	K3500	ELECT VARIORFIC	2000	2000
GM	Chevrolet	K3500	RTD / EVO	2000	2000
GM	Chevrolet	K3500 4WD	ABS (4WAL)	1996	1998
GM	Chevrolet	K3500 4WD	AIRBAG	1996	1998
GM	Chevrolet	K3500,4WD	ABS (4WAL)	1991	1995
GM	Chevrolet	K3500,4WD	ABS (RWAL)	1988	1994
GM	Chevrolet	K3500,4WD	AIRBAG	1994	1995
GM	Chevrolet	Kodiak	ABS (4WAL)	1991	1991
GM	Chevrolet	Kodiak	ABS (RWAL)	1991	1991
GM	Chevrolet	Lumina	ABS	1996	2002
GM	Chevrolet	Lumina	ABS VI	1992	1995
GM	Chevrolet	Lumina	AIRBAG	1994	2001
GM	Chevrolet	Lumina APV	ABS	1996	1996
GM	Chevrolet	Lumina APV	ABS VI	1992	1995
GM	Chevrolet	Lumina APV	AIRBAG	1994	1996
GM	Chevrolet	Malibu	ABS	1997	2005
GM	Chevrolet	Malibu	ABS/ETS	2000	2003
GM	Chevrolet	Malibu	ABS/ETS/TI M/VES	2000	2003
GM	Chevrolet	Malibu	ABS/ETS/V ES	2000	2003
GM	Chevrolet	Malibu	AIRBAG	1997	2005
GM	Chevrolet	Malibu	POWER STEERING SYSTEM	2004	2004
GM	Chevrolet	Malibu	PWR STEERING (GM LAN)	2005	2005
GM	Chevrolet	Malibu Classic	ABS	2004	2005
GM	Chevrolet	Malibu Classic	ABS/ETS	2004	2005
GM	Chevrolet	Malibu Classic	ABS/ETS/TI M/VES	2004	2005
GM	Chevrolet	Malibu Classic	ABS/ETS/V ES	2004	2005
GM	Chevrolet	Malibu Classic	AIRBAG	2004	2005
GM	Chevrolet	MD B7- Chassis	ABS HYDRAULI C 4WAL 4 SNSR	2004	2004

GM	Chevrolet	MD B7-Chassis	ELECT SUSP CNTRL	2003	2003
GM	Chevrolet	MD C-Series	ABS HYDRAULI C 4WAL 4 SNSR	2004	2004
GM	Chevrolet	MD C-Series	AIRBAG	2004	2004
GM	Chevrolet	MD C-Series	ELECT SUSP CNTRL	2003	2003
GM	Chevrolet	MD T-Series	ABS HYDRAULI C 4WAL 4 SNSR	2004	2004
GM	Chevrolet	MD T-Series	AIRBAG	2004	2004
GM	Chevrolet	MD T-Series	ELECT SUSP CNTRL	2003	2003
GM	Chevrolet	MD W22 Series	ELECT SUSP CNTRL	2003	2003
GM	Chevrolet	MD W4 Series	ABS	2004	2004
GM	Chevrolet	MD W4 Series	ELECT SUSP CNTRL	2003	2003
GM	Chevrolet	MD W52 Series	ELECT SUSP CNTRL	2003	2003
GM	Chevrolet	Metro	ABS	1998	2000
GM	Chevrolet	Metro	AIRBAG	1998	2000
GM	Chevrolet	Monte Carlo	ABS	1996	1999
GM	Chevrolet	Monte Carlo	ABS VI	1995	1995
GM	Chevrolet	Monte Carlo	ABS/TCS/TI M	2000	2005
GM	Chevrolet	Monte Carlo	ABS/TCS/TI M/VES	2000	2003
GM	Chevrolet	Monte Carlo	ABS/TCS/V ES/TIM	2004	2005
GM	Chevrolet	Monte Carlo	ABS/TIM	2000	2005
GM	Chevrolet	Monte Carlo	AIRBAG	1995	2005
GM	Chevrolet	P30 Comm.	ABS (4WAL)	1991	1991
GM	Chevrolet	P30 Comm.	ABS (RWAL)	1991	1991
GM	Chevrolet	Prizm	ABS	1998	2002
GM	Chevrolet	Prizm	AIRBAG	1998	2002
GM	Chevrolet	R1500,2WD	ABS (RWAL)	1990	1991
GM	Chevrolet	R2500,2WD	ABS (RWAL)	1990	1991
GM	Chevrolet	R3500,2WD	ABS (RWAL)	1990	1991
GM	Chevrolet	S-10 2WD	ABS	2000	2003

GM	Chevrolet	S-10 2WD	ABS (4WAL)	1996	1999
GM	Chevrolet	S-10 2WD	ABS (RWAL)	1989	1990
GM	Chevrolet	S-10 2WD	AIRBAG	1996	2003
GM	Chevrolet	S-10 2WD	TRACTION ASSIST	2002	2003
GM	Chevrolet	S-10 4WD	ABS	2000	2003
GM	Chevrolet	S-10 4WD	ABS (4WAL)	1996	1999
GM	Chevrolet	S-10 4WD	ABS (RWAL)	1989	1990
GM	Chevrolet	S-10 4WD	AIRBAG	1996	2003
GM	Chevrolet	S10	ABS	2004	2004
GM	Chevrolet	S10	AIRBAG	2004	2004
GM	Chevrolet	S10	TRACTION ASSIST	2004	2004
GM	Chevrolet	S10 Blazer,2WD	ABS (4WAL)	1995	1995
GM	Chevrolet	S10 Blazer,2WD	ABS (RWAL)	1995	1995
GM	Chevrolet	S10 Blazer,2WD	AIRBAG	1995	1995
GM	Chevrolet	S10 Blazer,4WD	ABS (4WAL)	1995	1995
GM	Chevrolet	S10 Blazer,4WD	ABS (RWAL)	1995	1995
GM	Chevrolet	S10 Blazer,4WD	AIRBAG	1995	1995
GM	Chevrolet	S10,2WD	ABS (4WAL)	1991	1995
GM	Chevrolet	S10,2WD	ABS (RWAL)	1991	1995
GM	Chevrolet	S10,2WD	AIRBAG	1994	1995
GM	Chevrolet	S10,4WD	ABS (4WAL)	1991	1995
GM	Chevrolet	S10,4WD	ABS (RWAL)	1991	1995
GM	Chevrolet	S10,4WD	AIRBAG	1994	1995
GM	Chevrolet	Silv O8600 GVW	ABS (4WAL)	1999	1999
GM	Chevrolet	Silv O8600 GVW	AIRBAG	1999	1999
GM	Chevrolet	Silv U8600 GVW	ABS (4WAL)	1999	1999
GM	Chevrolet	Silv U8600 GVW	AIRBAG	1999	1999
GM	Chevrolet	Silv. 2500 HD	ABS	2001	2003
GM	Chevrolet	Silv. 2500 HD	AIRBAG	2001	2003
GM	Chevrolet	Silv. 2500 HD	ELECT SUSP CNTRL	2003	2003
GM	Chevrolet	Silv. 2500 HD	ELECT VARIORFIC	2001	2002

GM	Chevrolet	Silv. 2500 HD	REAR WHEEL STEER	2002	2003
GM	Chevrolet	Silv. 2500 HD	RTD / EVO	2001	2002
GM	Chevrolet	Silv. 2500 HD	TRACTION ASSIST	2001	2003
GM	Chevrolet	Silv. 2500 HD	VSES	2002	2003
GM	Chevrolet	Silv. 3500 2WD	ABS	2001	2001
GM	Chevrolet	Silv. 3500 2WD	AIRBAG	2001	2001
GM	Chevrolet	Silv. 3500 2WD	RTD / EVO	2001	2001
GM	Chevrolet	Silv. 3500 2WD	TRACTION ASSIST	2001	2001
GM	Chevrolet	Silv. 3500 4WD	ABS	2001	2001
GM	Chevrolet	Silv. 3500 4WD	AIRBAG	2001	2001
GM	Chevrolet	Silv. 3500 4WD	ELECT VARI ORFIC	2001	2001
GM	Chevrolet	Silv. 3500 4WD	RTD / EVO	2001	2001
GM	Chevrolet	Silverado	ABS	2002	2005
GM	Chevrolet	Silverado	AIRBAG	2002	2005
GM	Chevrolet	Silverado	ELECT SUSP CNTRL	2003	2005
GM	Chevrolet	Silverado	ELECT VARI ORFIC	2002	2002
GM	Chevrolet	Silverado	REAR WHEEL STEER	2002	2005
GM	Chevrolet	Silverado	RTD / EVO	2002	2002
GM	Chevrolet	Silverado	TIRE PRESSURE MONITOR	2004	2005
GM	Chevrolet	Silverado	TRACTION ASSIST	2002	2005
GM	Chevrolet	Silverado	VSES	2002	2005
GM	Chevrolet	Silverado 2WD	ABS	2000	2001
GM	Chevrolet	Silverado 2WD	AIRBAG	2000	2001
GM	Chevrolet	Silverado 2WD	RTD / EVO	2000	2001
GM	Chevrolet	Silverado 2WD	TRACTION ASSIST	2000	2001
GM	Chevrolet	Silverado 4WD	ABS	2000	2001
GM	Chevrolet	Silverado 4WD	AIRBAG	2000	2001

GM	Chevrolet	Silverado 4WD	ELECT VARIORFIC	2000	2001
GM	Chevrolet	Silverado 4WD	RTD / EVO	2000	2001
GM	Chevrolet	Silverado PHT	ABS	2005	2005
GM	Chevrolet	Silverado PHT	AIRBAG	2005	2005
GM	Chevrolet	Silverado PHT	ELECT SUSP CNTRL	2005	2005
GM	Chevrolet	Silverado PHT	REAR WHEEL STEER	2005	2005
GM	Chevrolet	Silverado PHT	TIRE PRESSURE MONITOR	2005	2005
GM	Chevrolet	Silverado PHT	TRACTION ASSIST	2005	2005
GM	Chevrolet	Silverado PHT	VSES	2005	2005
GM	Chevrolet	Silverado SS	ABS	2003	2005
GM	Chevrolet	Silverado SS	AIRBAG	2003	2005
GM	Chevrolet	Silverado SS	ELECT SUSP CNTRL	2003	2005
GM	Chevrolet	Silverado SS	REAR WHEEL STEER	2003	2005
GM	Chevrolet	Silverado SS	TIRE PRESSURE MONITOR	2004	2005
GM	Chevrolet	Silverado SS	TRACTION ASSIST	2003	2003
GM	Chevrolet	Silverado SS	VSES	2003	2005
GM	Chevrolet	Sprint	AIRBAG	1990	1992
GM	Chevrolet	SSR	ABS	2004	2004
GM	Chevrolet	SSR	AIRBAG	2004	2005
GM	Chevrolet	SSR	TRACTION ASSIST	2004	2004
GM	Chevrolet	STL Tilt 67.2	ABS (4WAL)	1991	1991
GM	Chevrolet	STL Tilt 67.2	ABS (RWAL)	1991	1991
GM	Chevrolet	STL Tilt 76.2	ABS (4WAL)	1991	1991
GM	Chevrolet	STL Tilt 76.2	ABS (RWAL)	1991	1991
GM	Chevrolet	Suburban	ABS	2004	2005
GM	Chevrolet	Suburban	AIRBAG	2004	2005
GM	Chevrolet	Suburban	ELECT SUSP CNTRL	2004	2005

GM	Chevrolet	Suburban	REAR WHEEL STEER	2004	2005
GM	Chevrolet	Suburban	TIRE PRESSURE MONITOR	2004	2005
GM	Chevrolet	Suburban	TRACTION ASSIST	2004	2005
GM	Chevrolet	Suburban	VSES	2004	2005
GM	Chevrolet	Suburban 2WD	ABS	2001	2003
GM	Chevrolet	Suburban 2WD	ABS (4WAL)	1999	1999
GM	Chevrolet	Suburban 2WD	AIRBAG	1999	2003
GM	Chevrolet	Suburban 2WD	ELECT SUSP CNTRL	2003	2003
GM	Chevrolet	Suburban 2WD	REAR WHEEL STEER	2002	2003
GM	Chevrolet	Suburban 2WD	RTD / EVO	2001	2002
GM	Chevrolet	Suburban 2WD	TRACTION ASSIST	2001	2003
GM	Chevrolet	Suburban 2WD	VSES	2003	2003
GM	Chevrolet	Suburban 4WD	ABS	2001	2003
GM	Chevrolet	Suburban 4WD	ABS (4WAL)	1999	1999
GM	Chevrolet	Suburban 4WD	AIRBAG	1999	2003
GM	Chevrolet	Suburban 4WD	ELECT SUSP CNTRL	2003	2003
GM	Chevrolet	Suburban 4WD	ELECT VARI ORFIC	2001	2002
GM	Chevrolet	Suburban 4WD	REAR WHEEL STEER	2002	2003
GM	Chevrolet	Suburban 4WD	RTD / EVO	2001	2002
GM	Chevrolet	Suburban 4WD	VSES	2002	2003
GM	Chevrolet	Suburban O8600	ABS	2000	2000
GM	Chevrolet	Suburban O8600	AIRBAG	2000	2000
GM	Chevrolet	Suburban O8600	ELECT VARI ORFIC	2000	2000
GM	Chevrolet	Suburban O8600	RTD / EVO	2000	2000
GM	Chevrolet	Suburban O8600	TRACTION ASSIST	2000	2000

GM	Chevrolet	Suburban U8600	ABS	2000	2000
GM	Chevrolet	Suburban U8600	AIRBAG	2000	2000
GM	Chevrolet	Suburban U8600	ELECT VARI ORFIC	2000	2000
GM	Chevrolet	Suburban U8600	RTD / EVO	2000	2000
GM	Chevrolet	Suburban U8600	TRACTION ASSIST	2000	2000
GM	Chevrolet	Suburban,2 WD	ABS (RWAL)	1990	1990
GM	Chevrolet	Suburban,4 WD	ABS (RWAL)	1990	1991
GM	Chevrolet	T Series	ABS HYDRAULI C 4WAL 4 SNSR	2002	2002
GM	Chevrolet	T-Series	ABS HYDRAULI C 4WAL 4 SNSR	2000	2005
GM	Chevrolet	T-Series	AIRBAG	2005	2005
GM	Chevrolet	Tahoe	ABS	2004	2005
GM	Chevrolet	Tahoe	AIRBAG	2004	2005
GM	Chevrolet	Tahoe	ELECT SUSP CNTRL	2004	2005
GM	Chevrolet	Tahoe	REAR WHEEL STEER	2004	2005
GM	Chevrolet	Tahoe	TIRE PRESSURE MONITOR	2004	2005
GM	Chevrolet	Tahoe	TRACTION ASSIST	2004	2005
GM	Chevrolet	Tahoe	VSES	2004	2005
GM	Chevrolet	Tahoe 2WD	ABS	2000	2003
GM	Chevrolet	Tahoe 2WD	ABS (4WAL)	1999	1999
GM	Chevrolet	Tahoe 2WD	AIRBAG	1999	2003
GM	Chevrolet	Tahoe 2WD	ELECT SUSP CNTRL	2003	2003
GM	Chevrolet	Tahoe 2WD	REAR WHEEL STEER	2002	2003
GM	Chevrolet	Tahoe 2WD	RTD / EVO	2000	2002
GM	Chevrolet	Tahoe 2WD	TRACTION ASSIST	2000	2003
GM	Chevrolet	Tahoe 2WD	VSES	2003	2003
GM	Chevrolet	Tahoe 4WD	ABS	2000	2003
GM	Chevrolet	Tahoe 4WD	ABS (4WAL)	1999	1999
GM	Chevrolet	Tahoe 4WD	AIRBAG	1999	2003

GM	Chevrolet	Tahoe 4WD	ELECT SUSP CNTRL	2003	2003
GM	Chevrolet	Tahoe 4WD	ELECT VARI ORFIC	2000	2002
GM	Chevrolet	Tahoe 4WD	REAR WHEEL STEER	2002	2003
GM	Chevrolet	Tahoe 4WD	RTD / EVO	2000	2002
GM	Chevrolet	Tahoe 4WD	VSES	2002	2003
GM	Chevrolet	Tracker	ABS	1998	2004
GM	Chevrolet	Tracker	AIRBAG	1998	2002
GM	Chevrolet	Trailblazer	ABS	2002	2005
GM	Chevrolet	Trailblazer	AIRBAG	2002	2005
GM	Chevrolet	Trailblazer	TRACTION ASSIST	2002	2005
GM	Chevrolet	TrailblazerE XT	ABS	2003	2005
GM	Chevrolet	TrailblazerE XT	AIRBAG	2003	2005
GM	Chevrolet	TrailblazerE XT	TRACTION ASSIST	2003	2005
GM	Chevrolet	Uplander	ABS	2005	2005
GM	Chevrolet	Uplander	ABS/TCS	2005	2005
GM	Chevrolet	Uplander	ABS/TCS/V SES	2005	2005
GM	Chevrolet	Uplander	AIRBAG	2005	2005
GM	Chevrolet	V1500,4WD	ABS (RWAL)	1990	1991
GM	Chevrolet	V2500,4WD	ABS (RWAL)	1990	1991
GM	Chevrolet	V3500,4WD	ABS (RWAL)	1990	1991
GM	Chevrolet	Venture	ABS	1999	2005
GM	Chevrolet	Venture	ABS/TCS	2000	2005
GM	Chevrolet	Venture	AIRBAG	1997	2005
GM	Chevrolet	Venture	TCS	1997	1999
GM	Chevrolet	W22 Series	ABS HYDRAULI C 4WAL 4 SNSR	2001	2003
GM	Chevrolet	W4 Series	ABS	2000	2005
GM	Chevrolet	W4 Series	ABS HYDRAULI C 4WAL 4 SNSR	2000	2000
GM	Chevrolet	W52 Series	ABS HYDRAULI C 4WAL 4 SNSR	2002	2003
GM	Geo	Metro	ABS	1996	1997
GM	Geo	Metro	ABS VI	1995	1995
GM	Geo	Metro	AIRBAG	1990	1996
GM	Geo	Prizm	ABS	1996	1997
GM	Geo	Prizm	ABS VI	1993	1995

GM	Geo	Prizm	AIRBAG	1993	1997
GM	Geo	Tracker	ABS	1991	1997
GM	Geo	Tracker	AIRBAG	1996	1997
GM	GM of Canada	Firefly	ABS	1996	1998
GM	GM of Canada	Firefly	ABS VI	1995	1995
GM	GM of Canada	Firefly	AIRBAG	1990	1998
GM	GM of Canada	Sprint	AIRBAG	1991	1993
GM	GM of Canada	Tempest	ABS VI	1991	1994
GM	GM of Canada	Tempest	AIRBAG	1991	1994
GM	GMC	B7 Chassis	ABS HYDRAULI C 4WAL 4 SNSR	2002	2002
GM	GMC	B7-Chassis	ABS HYDRAULI C 4WAL 4 SNSR	2000	2005
GM	GMC	B7-Chassis	AIRBAG	2005	2005
GM	GMC	Bus Chassis	ABS (4WAL)	1991	1991
GM	GMC	Bus Chassis	ABS (RWAL)	1991	1991
GM	GMC	C Series	ABS HYDRAULI C 4WAL 4 SNSR	2002	2002
GM	GMC	C-Series	ABS HYDRAULI C 4WAL 4 SNSR	2000	2005
GM	GMC	C-Series	AIRBAG	2005	2005
GM	GMC	C1500	ABS (4WAL)	1999	1999
GM	GMC	C1500	AIRBAG	1999	1999
GM	GMC	C1500 2WD	ABS (4WAL)	1996	1998
GM	GMC	C1500 2WD	AIRBAG	1996	1998
GM	GMC	C1500,2WD	ABS (4WAL)	1991	1995
GM	GMC	C1500,2WD	ABS (RWAL)	1988	1994
GM	GMC	C1500,2WD	AIRBAG	1994	1995
GM	GMC	C2500 2WD	ABS (4WAL)	1996	1997
GM	GMC	C2500 2WD	AIRBAG	1996	1997
GM	GMC	C2500 ALT FUEL	ABS	2000	2000
GM	GMC	C2500 ALT FUEL	ABS (4WAL)	1998	1998
GM	GMC	C2500 ALT FUEL	AIRBAG	1998	2000

GM	GMC	C2500 ALT FUEL	RTD / EVO	2000	2000
GM	GMC	C2500 ALT FUEL	TRACTION ASSIST	2000	2000
GM	GMC	C2500 O8600	ABS	2000	2000
GM	GMC	C2500 O8600	ABS (4WAL)	1998	1999
GM	GMC	C2500 O8600	AIRBAG	1998	2000
GM	GMC	C2500 O8600	RTD / EVO	2000	2000
GM	GMC	C2500 O8600	TRACTION ASSIST	2000	2000
GM	GMC	C2500 U8600	ABS	2000	2000
GM	GMC	C2500 U8600	ABS (4WAL)	1998	1999
GM	GMC	C2500 U8600	AIRBAG	1998	2000
GM	GMC	C2500 U8600	RTD / EVO	2000	2000
GM	GMC	C2500 U8600	TRACTION ASSIST	2000	2000
GM	GMC	C2500,2WD	ABS (4WAL)	1991	1995
GM	GMC	C2500,2WD	ABS (RWAL)	1988	1994
GM	GMC	C2500,2WD	AIRBAG	1994	1995
GM	GMC	C3500	ABS	2000	2000
GM	GMC	C3500	ABS (4WAL)	1999	1999
GM	GMC	C3500	AIRBAG	1999	2000
GM	GMC	C3500	RTD / EVO	2000	2000
GM	GMC	C3500	TRACTION ASSIST	2000	2000
GM	GMC	C3500 2WD	ABS (4WAL)	1996	1998
GM	GMC	C3500 2WD	AIRBAG	1996	1998
GM	GMC	C3500,2WD	ABS (4WAL)	1991	1995
GM	GMC	C3500,2WD	ABS (RWAL)	1988	1994
GM	GMC	C3500,2WD	AIRBAG	1994	1995
GM	GMC	Canyon	ABS	2004	2005
GM	GMC	Canyon	ABS/TCS	2004	2004
GM	GMC	Canyon	AIRBAG	2004	2005
GM	GMC	Chassis Only	ABS (4WAL)	1991	1991
GM	GMC	Envoy	ABS	2000	2005
GM	GMC	Envoy	ABS (4WAL)	1999	1999
GM	GMC	Envoy	AIRBAG	1999	2005
GM	GMC	Envoy	TRACTION ASSIST	2002	2005
GM	GMC	Envoy XL	ABS	2003	2005
GM	GMC	Envoy XL	AIRBAG	2003	2005

GM	GMC	Envoy XL	TRACTION ASSIST	2003	2005
GM	GMC	Envoy XUV	ABS	2004	2005
GM	GMC	Envoy XUV	AIRBAG	2004	2005
GM	GMC	Envoy XUV	TRACTION ASSIST	2004	2005
GM	GMC	G10 Van	ABS (4WAL)	1996	1996
GM	GMC	G10 Van	AIRBAG	1996	1996
GM	GMC	G15 Van	ABS (4WAL)	1991	1995
GM	GMC	G15 Van	ABS (RWAL)	1990	1995
GM	GMC	G15 Van	AIRBAG	1994	1995
GM	GMC	G1500 Van	ABS (4WAL)	1997	1998
GM	GMC	G1500 Van	AIRBAG	1997	1998
GM	GMC	G20 Van	ABS (4WAL)	1996	1996
GM	GMC	G20 Van	AIRBAG	1996	1996
GM	GMC	G25 Van	ABS (4WAL)	1991	1995
GM	GMC	G25 Van	ABS (RWAL)	1990	1995
GM	GMC	G25 Van	AIRBAG	1994	1995
GM	GMC	G2500 Van	ABS (4WAL)	1997	1998
GM	GMC	G2500 Van	AIRBAG	1997	1998
GM	GMC	G30 Van	ABS (4WAL)	1996	1996
GM	GMC	G30 Van	AIRBAG	1996	1996
GM	GMC	G35 Van	ABS (4WAL)	1991	1995
GM	GMC	G35 Van	ABS (RWAL)	1990	1995
GM	GMC	G35 Van	AIRBAG	1994	1995
GM	GMC	G3500 Van	ABS (4WAL)	1997	1998
GM	GMC	G3500 Van	AIRBAG	1997	1998
GM	GMC	Jimmy	ABS	2004	2005
GM	GMC	Jimmy	AIRBAG	2004	2005
GM	GMC	Jimmy	TRACTION ASSIST	2004	2005
GM	GMC	Jimmy 2WD	ABS	2001	2003
GM	GMC	Jimmy 2WD	ABS (4WAL)	1999	1999
GM	GMC	Jimmy 2WD	AIRBAG	1999	2002
GM	GMC	Jimmy 2WD	TRACTION ASSIST	2002	2003
GM	GMC	Jimmy 4WD	ABS	2001	2003
GM	GMC	Jimmy 4WD	ABS (4WAL)	1999	1999
GM	GMC	Jimmy 4WD	AIRBAG	1999	2002
GM	GMC	Jimmy 4X2	ABS (4WAL)	1996	1998
GM	GMC	Jimmy 4X2	AIRBAG	1996	1998

GM	GMC	Jimmy 4X4	ABS (4WAL)	1996	1998
GM	GMC	Jimmy 4X4	AIRBAG	1996	1998
GM	GMC	Jimmy,2WD	ABS (4WAL)	1995	1995
GM	GMC	Jimmy,2WD	ABS (RWAL)	1995	1995
GM	GMC	Jimmy,2WD	AIRBAG	1995	1995
GM	GMC	Jimmy,4WD	ABS (4WAL)	1995	1995
GM	GMC	Jimmy,4WD	ABS (RWAL)	1995	1995
GM	GMC	Jimmy,4WD	AIRBAG	1995	1995
GM	GMC	K-Blazer,2WD	ABS (RWAL)	1990	1991
GM	GMC	K-Blazer,4WD	ABS (RWAL)	1990	1991
GM	GMC	K1500	ABS (4WAL)	1999	1999
GM	GMC	K1500	AIRBAG	1999	1999
GM	GMC	K1500 4WD	ABS (4WAL)	1996	1998
GM	GMC	K1500 4WD	AIRBAG	1996	1998
GM	GMC	K1500,4WD	ABS (4WAL)	1991	1995
GM	GMC	K1500,4WD	ABS (RWAL)	1988	1994
GM	GMC	K1500,4WD	AIRBAG	1994	1995
GM	GMC	K2500 4WD	ABS (4WAL)	1996	1997
GM	GMC	K2500 4WD	AIRBAG	1996	1997
GM	GMC	K2500 O8600	ABS	2000	2000
GM	GMC	K2500 O8600	ABS (4WAL)	1998	1999
GM	GMC	K2500 O8600	AIRBAG	1998	2000
GM	GMC	K2500 O8600	ELECT VARI ORFIC	2000	2000
GM	GMC	K2500 O8600	RTD / EVO	2000	2000
GM	GMC	K2500 U8600	ABS	2000	2000
GM	GMC	K2500 U8600	ABS (4WAL)	1998	1999
GM	GMC	K2500 U8600	AIRBAG	1998	2000
GM	GMC	K2500 U8600	ELECT VARI ORFIC	2000	2000
GM	GMC	K2500 U8600	RTD / EVO	2000	2000
GM	GMC	K2500,4WD	ABS (4WAL)	1991	1995
GM	GMC	K2500,4WD	ABS (RWAL)	1988	1994

GM	GMC	K2500,4WD	AIRBAG	1994	1995
GM	GMC	K3500	ABS	2000	2000
GM	GMC	K3500	ABS (4WAL)	1999	1999
GM	GMC	K3500	AIRBAG	1999	2000
GM	GMC	K3500	ELECT VARIORFIC	2000	2000
GM	GMC	K3500	RTD / EVO	2000	2000
GM	GMC	K3500 4WD	ABS (4WAL)	1996	1998
GM	GMC	K3500 4WD	AIRBAG	1996	1998
GM	GMC	K3500,4WD	ABS (4WAL)	1991	1995
GM	GMC	K3500,4WD	ABS (RWAL)	1988	1994
GM	GMC	K3500,4WD	AIRBAG	1994	1995
GM	GMC	MD B7- Chassis	ABS HYDRAULI C 4WAL 4 SNSR	2004	2004
GM	GMC	MD B7- Chassis	ELECT SUSP CNTRL	2003	2003
GM	GMC	MD C-Series	ABS HYDRAULI C 4WAL 4 SNSR	2004	2004
GM	GMC	MD C-Series	AIRBAG	2004	2004
GM	GMC	MD C-Series	ELECT SUSP CNTRL	2003	2003
GM	GMC	MD T-Series	ABS HYDRAULI C 4WAL 4 SNSR	2004	2004
GM	GMC	MD T-Series	AIRBAG	2004	2004
GM	GMC	MD T-Series	ELECT SUSP CNTRL	2003	2003
GM	GMC	MD W22 Series	ELECT SUSP CNTRL	2003	2003
GM	GMC	MD W4 Series	ABS	2004	2004
GM	GMC	MD W4 Series	ELECT SUSP CNTRL	2003	2003
GM	GMC	MD W52 Series	ELECT SUSP CNTRL	2003	2003
GM	GMC	P35 Comm.	ABS (4WAL)	1991	1991
GM	GMC	P35 Comm.	ABS (RWAL)	1991	1991

GM	GMC	R1500,2WD	ABS (RWAL)	1990	1991
GM	GMC	R2500,2WD	ABS (RWAL)	1990	1991
GM	GMC	R3500,2WD	ABS (RWAL)	1990	1991
GM	GMC	S15,2WD	ABS (4WAL)	1991	1994
GM	GMC	S15,2WD	ABS (RWAL)	1989	1994
GM	GMC	S15,2WD	AIRBAG	1994	1994
GM	GMC	S15,4WD	ABS (4WAL)	1991	1994
GM	GMC	S15,4WD	ABS (RWAL)	1989	1994
GM	GMC	S15,4WD	AIRBAG	1994	1994
GM	GMC	Safari	ABS	2004	2005
GM	GMC	Safari	AIRBAG	2004	2005
GM	GMC	Safari AWD	ABS	2000	2003
GM	GMC	Safari AWD	ABS (4WAL)	1999	1999
GM	GMC	Safari AWD	AIRBAG	1999	2003
GM	GMC	Safari RWD	ABS	2000	2003
GM	GMC	Safari RWD	ABS (4WAL)	1999	1999
GM	GMC	Safari RWD	AIRBAG	1999	2003
GM	GMC	Safari Van	ABS (4WAL)	1990	1998
GM	GMC	Safari Van	ABS (RWAL)	1989	1994
GM	GMC	Safari Van	AIRBAG	1994	1998
GM	GMC	Savana	ABS	2003	2005
GM	GMC	Savana	ABS (4WAL)	1999	2002
GM	GMC	Savana	AIRBAG	1999	2005
GM	GMC	Savana	VSES	2004	2005
GM	GMC	Savana CNG	ABS	2004	2004
GM	GMC	Savana CNG	AIRBAG	2004	2004
GM	GMC	Savana CNG	VSES	2004	2004
GM	GMC	Savana Pro	ABS	2004	2005
GM	GMC	Savana Pro	AIRBAG	2004	2005
GM	GMC	Savana Pro	VSES	2004	2005
GM	GMC	Sier. O8600GVW	ABS (4WAL)	1999	1999
GM	GMC	Sier. O8600GVW	AIRBAG	1999	1999
GM	GMC	Sier. U8600GVW	ABS (4WAL)	1999	1999
GM	GMC	Sier. U8600GVW	AIRBAG	1999	1999
GM	GMC	Sierra	ABS	2002	2005

GM	GMC	Sierra	AIRBAG	2002	2005
GM	GMC	Sierra	ELECT SUSP CNTRL	2003	2005
GM	GMC	Sierra	ELECT VARI ORFIC	2002	2002
GM	GMC	Sierra	REAR WHEEL STEER	2002	2005
GM	GMC	Sierra	RTD / EVO	2002	2002
GM	GMC	Sierra	TIRE PRESSURE MONITOR	2004	2005
GM	GMC	Sierra	TRACTION ASSIST	2002	2005
GM	GMC	Sierra	VSES	2002	2005
GM	GMC	Sierra 2500 HD	ABS	2001	2003
GM	GMC	Sierra 2500 HD	AIRBAG	2001	2003
GM	GMC	Sierra 2500 HD	ELECT SUSP CNTRL	2003	2003
GM	GMC	Sierra 2500 HD	ELECT VARI ORFIC	2001	2002
GM	GMC	Sierra 2500 HD	REAR WHEEL STEER	2002	2003
GM	GMC	Sierra 2500 HD	RTD / EVO	2001	2002
GM	GMC	Sierra 2500 HD	TRACTION ASSIST	2001	2003
GM	GMC	Sierra 2500 HD	VSES	2002	2003
GM	GMC	Sierra 2WD	ABS	2000	2001
GM	GMC	Sierra 2WD	AIRBAG	2000	2001
GM	GMC	Sierra 2WD	RTD / EVO	2000	2001
GM	GMC	Sierra 2WD	TRACTION ASSIST	2000	2001
GM	GMC	Sierra 3500 HD	ABS	2001	2003
GM	GMC	Sierra 3500 HD	AIRBAG	2001	2002
GM	GMC	Sierra 3500 HD	ELECT SUSP CNTRL	2003	2003
GM	GMC	Sierra 3500 HD	REAR WHEEL STEER	2002	2003
GM	GMC	Sierra 3500 HD	RTD / EVO	2001	2002
GM	GMC	Sierra 3500 HD	TRACTION ASSIST	2001	2003
GM	GMC	Sierra 3500 HD	VSES	2003	2003
GM	GMC	Sierra 4WD	ABS	2000	2001

GM	GMC	Sierra 4WD	AIRBAG	2000	2001
GM	GMC	Sierra 4WD	ELECT VARI ORFIC	2000	2001
GM	GMC	Sierra 4WD	RTD / EVO	2000	2001
GM	GMC	Sierra C3 AWD	ABS	2001	2001
GM	GMC	Sierra C3 AWD	AIRBAG	2001	2001
GM	GMC	Sierra C3 AWD	ELECT VARI ORFIC	2001	2001
GM	GMC	Sierra C3 AWD	RTD / EVO	2001	2001
GM	GMC	Sierra Denali	ABS	2002	2005
GM	GMC	Sierra Denali	AIRBAG	2002	2005
GM	GMC	Sierra Denali	ELECT SUSP CNTRL	2003	2005
GM	GMC	Sierra Denali	ELECT VARI ORFIC	2002	2002
GM	GMC	Sierra Denali	REAR WHEEL STEER	2002	2005
GM	GMC	Sierra Denali	RTD / EVO	2002	2002
GM	GMC	Sierra Denali	TIRE PRESSURE MONITOR	2004	2005
GM	GMC	Sierra Denali	TRACTION ASSIST	2004	2005
GM	GMC	Sierra Denali	VSES	2002	2005
GM	GMC	Sierra PHT	ABS	2005	2005
GM	GMC	Sierra PHT	AIRBAG	2005	2005
GM	GMC	Sierra PHT	ELECT SUSP CNTRL	2005	2005
GM	GMC	Sierra PHT	REAR WHEEL STEER	2005	2005
GM	GMC	Sierra PHT	TIRE PRESSURE MONITOR	2005	2005
GM	GMC	Sierra PHT	TRACTION ASSIST	2005	2005
GM	GMC	Sierra PHT	VSES	2005	2005
GM	GMC	Sonoma	ABS	2004	2005
GM	GMC	Sonoma	AIRBAG	2004	2004
GM	GMC	Sonoma	TRACTION ASSIST	2004	2005
GM	GMC	Sonoma 2WD	ABS	2000	2003
GM	GMC	Sonoma 2WD	ABS (4WAL)	1996	1999

GM	GMC	Sonoma 2WD	AIRBAG	1996	2003
GM	GMC	Sonoma 2WD	TRACTION ASSIST	2002	2003
GM	GMC	Sonoma 4WD	ABS	2000	2003
GM	GMC	Sonoma 4WD	ABS (4WAL)	1996	1999
GM	GMC	Sonoma 4WD	AIRBAG	1996	2003
GM	GMC	Sonoma, 2WD	ABS (4WAL)	1995	1995
GM	GMC	Sonoma, 2WD	ABS (RWAL)	1995	1995
GM	GMC	Sonoma, 2WD	AIRBAG	1995	1995
GM	GMC	Sonoma, 4WD	ABS (4WAL)	1995	1995
GM	GMC	Sonoma, 4WD	ABS (RWAL)	1995	1995
GM	GMC	Sonoma, 4WD	AIRBAG	1995	1995
GM	GMC	STL Tilt 67.2	ABS (4WAL)	1991	1991
GM	GMC	STL Tilt 67.2	ABS (RWAL)	1991	1991
GM	GMC	STL Tilt 76.2	ABS (4WAL)	1991	1991
GM	GMC	STL Tilt 76.2	ABS (RWAL)	1991	1991
GM	GMC	Suburban 2WD	ABS	2001	2002
GM	GMC	Suburban 2WD	ABS (4WAL)	1999	1999
GM	GMC	Suburban 2WD	AIRBAG	1999	2002
GM	GMC	Suburban 2WD	REAR WHEEL STEER	2002	2002
GM	GMC	Suburban 2WD	RTD / EVO	2001	2002
GM	GMC	Suburban 2WD	TRACTION ASSIST	2001	2002
GM	GMC	Suburban 4WD	ABS	2001	2002
GM	GMC	Suburban 4WD	ABS (4WAL)	1999	1999
GM	GMC	Suburban 4WD	AIRBAG	1999	2002
GM	GMC	Suburban 4WD	ELECT VARIORFIC	2001	2002
GM	GMC	Suburban 4WD	REAR WHEEL STEER	2002	2002
GM	GMC	Suburban 4WD	RTD / EVO	2001	2002

GM	GMC	Suburban 4WD	VSES	2002	2002
GM	GMC	Suburban O8600	ABS	2000	2000
GM	GMC	Suburban O8600	AIRBAG	2000	2000
GM	GMC	Suburban O8600	RTD / EVO	2000	2000
GM	GMC	Suburban O8600	TRACTION ASSIST	2000	2000
GM	GMC	Suburban U8600	ABS	2000	2000
GM	GMC	Suburban U8600	AIRBAG	2000	2000
GM	GMC	Suburban U8600	ELECT VARI ORFIC	2000	2000
GM	GMC	Suburban U8600	RTD / EVO	2000	2000
GM	GMC	Suburban U8600	TRACTION ASSIST	2000	2000
GM	GMC	Suburban,2 WD	ABS (RWAL)	1990	1990
GM	GMC	Suburban,4 WD	ABS (RWAL)	1990	1991
GM	GMC	Syclone	ABS (4WAL)	1991	1992
GM	GMC	Syclone	ABS (RWAL)	1991	1992
GM	GMC	T Series	ABS HYDRAULI C 4WAL 4 SNSR	2002	2002
GM	GMC	T-Series	ABS HYDRAULI C 4WAL 4 SNSR	2000	2005
GM	GMC	T-Series	AIRBAG	2005	2005
GM	GMC	Topkick	ABS (4WAL)	1991	1991
GM	GMC	Topkick	ABS (RWAL)	1991	1991
GM	GMC	Typhoon	ABS (4WAL)	1991	1994
GM	GMC	Typhoon	ABS (RWAL)	1992	1994
GM	GMC	V1500,4WD	ABS (RWAL)	1990	1991
GM	GMC	V2500,4WD	ABS (RWAL)	1990	1991
GM	GMC	V3500,4WD	ABS (RWAL)	1988	1991
GM	GMC	W22 Series	ABS HYDRAULI C 4WAL 4 SNSR	2001	2003
GM	GMC	W4 Series	ABS	2000	2005

GM	GMC	W4 Series	ABS HYDRAULI C 4WAL 4 SNSR	2000	2000
GM	GMC	W52 Series	ABS HYDRAULI C 4WAL 4 SNSR	2002	2003
GM	GMC	Yukon	ABS	2004	2005
GM	GMC	Yukon	AIRBAG	2004	2005
GM	GMC	Yukon	ELECT SUSP CNTRL	2004	2005
GM	GMC	Yukon	REAR WHEEL STEER	2004	2005
GM	GMC	Yukon	TIRE PRESSURE MONITOR	2004	2005
GM	GMC	Yukon	TRACTION ASSIST	2004	2005
GM	GMC	Yukon	VSES	2004	2005
GM	GMC	Yukon 2WD	ABS	2000	2003
GM	GMC	Yukon 2WD	ABS (4WAL)	1999	1999
GM	GMC	Yukon 2WD	AIRBAG	1999	2003
GM	GMC	Yukon 2WD	ELECT SUSP CNTRL	2003	2003
GM	GMC	Yukon 2WD	REAR WHEEL STEER	2002	2003
GM	GMC	Yukon 2WD	RTD / EVO	2000	2002
GM	GMC	Yukon 2WD	TRACTION ASSIST	2000	2003
GM	GMC	Yukon 2WD	VSES	2003	2003
GM	GMC	Yukon 4WD	ABS	2000	2003
GM	GMC	Yukon 4WD	ABS (4WAL)	1999	1999
GM	GMC	Yukon 4WD	AIRBAG	1999	2003
GM	GMC	Yukon 4WD	ELECT SUSP CNTRL	2003	2003
GM	GMC	Yukon 4WD	ELECT VARI ORFIC	2000	2002
GM	GMC	Yukon 4WD	REAR WHEEL STEER	2002	2003
GM	GMC	Yukon 4WD	RTD / EVO	2000	2002
GM	GMC	Yukon 4WD	VSES	2002	2003
GM	GMC	Yukon Denali	ABS	2000	2005
GM	GMC	Yukon Denali	ABS (4WAL)	1999	1999
GM	GMC	Yukon Denali	AIRBAG	1999	2005

GM	GMC	Yukon Denali	ELECT SUSP CNTRL	2003	2005
GM	GMC	Yukon Denali	ELECT VARI ORFIC	2000	2002
GM	GMC	Yukon Denali	REAR WHEEL STEER	2002	2005
GM	GMC	Yukon Denali	RTD / EVO	2000	2002
GM	GMC	Yukon Denali	TIRE PRESSURE MONITOR	2004	2005
GM	GMC	Yukon Denali	TRACTION ASSIST	2002	2005
GM	GMC	Yukon Denali	VSES	2002	2005
GM	GMC	Yukon XL	ABS	2004	2005
GM	GMC	Yukon XL	AIRBAG	2004	2005
GM	GMC	Yukon XL	ELECT SUSP CNTRL	2004	2005
GM	GMC	Yukon XL	REAR WHEEL STEER	2004	2005
GM	GMC	Yukon XL	TIRE PRESSURE MONITOR	2004	2005
GM	GMC	Yukon XL	TRACTION ASSIST	2004	2005
GM	GMC	Yukon XL	VSES	2004	2005
GM	GMC	Yukon XL 2WD	ABS	2000	2003
GM	GMC	Yukon XL 2WD	AIRBAG	2000	2003
GM	GMC	Yukon XL 2WD	ELECT SUSP CNTRL	2003	2003
GM	GMC	Yukon XL 2WD	REAR WHEEL STEER	2002	2003
GM	GMC	Yukon XL 2WD	RTD / EVO	2000	2002
GM	GMC	Yukon XL 2WD	TRACTION ASSIST	2000	2003
GM	GMC	Yukon XL 2WD	VSES	2003	2003
GM	GMC	Yukon XL 4WD	ABS	2000	2003
GM	GMC	Yukon XL 4WD	AIRBAG	2000	2003
GM	GMC	Yukon XL 4WD	ELECT SUSP CNTRL	2003	2003
GM	GMC	Yukon XL 4WD	ELECT VARI ORFIC	2000	2002

GM	GMC	Yukon XL 4WD	REAR WHEEL STEER	2002	2003
GM	GMC	Yukon XL 4WD	RTD / EVO	2000	2002
GM	GMC	Yukon XL 4WD	VSES	2002	2003
GM	GMC	Yukon XLDenali	ABS	2002	2003
GM	GMC	Yukon XLDenali	AIRBAG	2002	2003
GM	GMC	Yukon XLDenali	ELECT SUSP CNTRL	2003	2003
GM	GMC	Yukon XLDenali	ELECT VARIORFIC	2002	2002
GM	GMC	Yukon XLDenali	REAR WHEEL STEER	2002	2003
GM	GMC	Yukon XLDenali	RTD / EVO	2002	2002
GM	GMC	Yukon XLDenali	TRACTION ASSIST	2002	2003
GM	GMC	Yukon XLDenali	VSES	2002	2003
GM	Hummer	H2	ABS	2004	2005
GM	Hummer	H2	AIR SUSPENSION	2004	2005
GM	Hummer	H2	AIRBAG	2004	2005
GM	Oldsmobile	88	ABS #1	1996	1996
GM	Oldsmobile	88	ABS #2	1996	1996
GM	Oldsmobile	88	AIRBAG	1996	1996
GM	Oldsmobile	98	ABS	1991	1993
GM	Oldsmobile	98	ABS #1	1994	1996
GM	Oldsmobile	98	ABS #2	1994	1996
GM	Oldsmobile	98	ABS TEVES II	1989	1990
GM	Oldsmobile	98	AIRBAG	1991	1996
GM	Oldsmobile	Achieva	ABS	1996	1998
GM	Oldsmobile	Achieva	ABS VI	1992	1995
GM	Oldsmobile	Achieva	AIRBAG	1992	1998
GM	Oldsmobile	Alero	ABS	1999	2004
GM	Oldsmobile	Alero	ABS/ETS	2000	2004
GM	Oldsmobile	Alero	ABS/ETS/TIM	2000	2000
GM	Oldsmobile	Alero	ABS/ETS/TIM/VES	2000	2004
GM	Oldsmobile	Alero	ABS/ETS/VES	2000	2004
GM	Oldsmobile	Alero	AIRBAG	1999	2004
GM	Oldsmobile	Aurora	ABS	2001	2003
GM	Oldsmobile	Aurora	ABS #1	1995	1999
GM	Oldsmobile	Aurora	ABS #2	1995	1999
GM	Oldsmobile	Aurora	ABS/TCS	2001	2003

GM	Oldsmobile	Aurora	ABS/TCS/TIM	2001	2003
GM	Oldsmobile	Aurora	ABS/TCS/TIM/VSES	2001	2003
GM	Oldsmobile	Aurora	ABS/TIM	2001	2003
GM	Oldsmobile	Aurora	AIRBAG	1995	2003
GM	Oldsmobile	Aurora	MAGNASTER	2001	2003
GM	Oldsmobile	Bravada	ABS	2000	2004
GM	Oldsmobile	Bravada	ABS (4WAL)	1992	1999
GM	Oldsmobile	Bravada	ABS (RWAL)	1992	1994
GM	Oldsmobile	Bravada	AIRBAG	1994	2004
GM	Oldsmobile	Bravada	TRACTION ASSIST	2002	2004
GM	Oldsmobile	Ciera	ABS	1996	1996
GM	Oldsmobile	Ciera	AIRBAG	1996	1996
GM	Oldsmobile	Custom Cruiser	ABS	1991	1992
GM	Oldsmobile	Custom Cruiser	AIRBAG	1992	1992
GM	Oldsmobile	Cutlass	ABS	1997	1999
GM	Oldsmobile	Cutlass	AIRBAG	1997	1999
GM	Oldsmobile	Cutlass Calais	ABS VI	1991	1991
GM	Oldsmobile	Cutlass Ciera	ABS VI	1991	1995
GM	Oldsmobile	Cutlass Ciera	AIRBAG	1993	1995
GM	Oldsmobile	Cutlass Cruisr	ABS VI	1993	1995
GM	Oldsmobile	Cutlass Cruisr	AIRBAG	1993	1995
GM	Oldsmobile	Cutlass Supr	ABS	1996	1997
GM	Oldsmobile	Cutlass Supr	ABS III	1989	1992
GM	Oldsmobile	Cutlass Supr	ABS VI	1992	1995
GM	Oldsmobile	Cutlass Supr	AIRBAG	1993	1997
GM	Oldsmobile	Delta 88	ABS	1991	1993
GM	Oldsmobile	Delta 88	ABS #1	1994	1995
GM	Oldsmobile	Delta 88	ABS #2	1994	1995
GM	Oldsmobile	Delta 88	ABS TEVES II	1989	1990
GM	Oldsmobile	Delta 88	AIRBAG	1991	1995
GM	Oldsmobile	Eighty Eight	ABS #1	1997	1999
GM	Oldsmobile	Eighty Eight	ABS #2	1997	1999
GM	Oldsmobile	Eighty Eight	AIRBAG	1997	1999
GM	Oldsmobile	Intrigue	ABS	1998	1998
GM	Oldsmobile	Intrigue	ABS (BOSCH)	1999	1999
GM	Oldsmobile	Intrigue	ABS(DELCO VI)	1999	1999

GM	Oldsmobile	Intrigue	ABS/TCS/VES	2000	2002
GM	Oldsmobile	Intrigue	ABS/TCS/VSES	2000	2002
GM	Oldsmobile	Intrigue	ABS/VES	2000	2002
GM	Oldsmobile	Intrigue	AIRBAG	1998	2002
GM	Oldsmobile	LSS	ABS	1997	1997
GM	Oldsmobile	LSS	ABS #1	1996	1999
GM	Oldsmobile	LSS	ABS #2	1996	1999
GM	Oldsmobile	LSS	AIRBAG	1996	1999
GM	Oldsmobile	Regency	ABS #1	1998	1998
GM	Oldsmobile	Regency	ABS #2	1997	1998
GM	Oldsmobile	Regency	AIRBAG	1997	1998
GM	Oldsmobile	Silhouette	ABS	1999	2004
GM	Oldsmobile	Silhouette	ABS/TCS	2000	2004
GM	Oldsmobile	Silhouette	AIRBAG	1999	2004
GM	Oldsmobile	Silhouette	TCS	1999	1999
GM	Oldsmobile	Silhouette APV	ABS	1996	1996
GM	Oldsmobile	Silhouette APV	ABS VI	1992	1995
GM	Oldsmobile	Silhouette APV	AIRBAG	1994	1997
GM	Oldsmobile	Silhouette APV	TCS	1997	1998
GM	Oldsmobile	Toronado	ABS	1991	1992
GM	Oldsmobile	Toronado	ABS TEVES II	1988	1990
GM	Oldsmobile	Toronado	AIRBAG	1990	1992
GM	Pontiac	Aztek	ABS	2001	2005
GM	Pontiac	Aztek	ABS/TCS	2001	2005
GM	Pontiac	Aztek	ABS/TCS/TPM	2001	2005
GM	Pontiac	Aztek	ABS/TPM	2001	2005
GM	Pontiac	Aztek	AIRBAG	2001	2005
GM	Pontiac	Bonneville	ABS	1991	2005
GM	Pontiac	Bonneville	ABS #1	1994	1999
GM	Pontiac	Bonneville	ABS #2	1994	1999
GM	Pontiac	Bonneville	ABS TEVES II	1989	1990
GM	Pontiac	Bonneville	ABS/TCS	2000	2005
GM	Pontiac	Bonneville	ABS/TCS/TIM	2000	2005
GM	Pontiac	Bonneville	ABS/TCS/TIM/VSES	2000	2005
GM	Pontiac	Bonneville	ABS/TIM	2000	2005
GM	Pontiac	Bonneville	AIRBAG	1992	2005
GM	Pontiac	Bonneville	MAGNASTER	2000	2005
GM	Pontiac	Firebird	ABS	1996	2002
GM	Pontiac	Firebird	ABS VI	1993	1994
GM	Pontiac	Firebird	ABS/ETS	2000	2002
GM	Pontiac	Firebird	ABS/TCS	2000	2002
GM	Pontiac	Firebird	AIRBAG	1990	2002

GM	Pontiac	Firebird/Conv	ABS VI	1995	1995
GM	Pontiac	Firebird/Conv	AIRBAG	1992	1995
GM	Pontiac	Firefly	AIRBAG	1990	1992
GM	Pontiac	Formula	ABS VI	1993	1994
GM	Pontiac	Formula	AIRBAG	1993	1994
GM	Pontiac	Formula/Conv	ABS VI	1995	1995
GM	Pontiac	Formula/Conv	AIRBAG	1995	1995
GM	Pontiac	G6	ABS	2005	2005
GM	Pontiac	G6	AIRBAG	2005	2005
GM	Pontiac	G6	PWR STEERING (GM LAN)	2005	2005
GM	Pontiac	Grand Am	ABS	1996	2005
GM	Pontiac	Grand Am	ABS VI	1991	1995
GM	Pontiac	Grand Am	ABS/ETS	2000	2005
GM	Pontiac	Grand Am	ABS/ETS/TIM	2000	2000
GM	Pontiac	Grand Am	ABS/ETS/TIM/VES	2000	2005
GM	Pontiac	Grand Am	ABS/ETS/VES	2000	2005
GM	Pontiac	Grand Am	AIRBAG	1992	2005
GM	Pontiac	Grand Prix	ABS	1996	2003
GM	Pontiac	Grand Prix	ABS III	1989	1992
GM	Pontiac	Grand Prix	ABS VI	1992	1995
GM	Pontiac	Grand Prix	ABS/ETS/TPM	2004	2005
GM	Pontiac	Grand Prix	ABS/ETS/TPM/VES	2004	2005
GM	Pontiac	Grand Prix	ABS/TCS/TPM/VES	2004	2005
GM	Pontiac	Grand Prix	ABS/TCS/TPM/VES/VSES	2004	2005
GM	Pontiac	Grand Prix	AIRBAG	1994	2005
GM	Pontiac	GTO	ABS/TCS	2004	2005
GM	Pontiac	GTO	AIRBAG	2004	2005
GM	Pontiac	Montana	ABS	1999	2005
GM	Pontiac	Montana	ABS/TCS	2000	2005
GM	Pontiac	Montana	AIRBAG	1999	2005
GM	Pontiac	Montana	TCS	1999	1999
GM	Pontiac	Montana SV6	ABS	2005	2005
GM	Pontiac	Montana SV6	ABS/TCS	2005	2005
GM	Pontiac	Montana SV6	ABS/TCS/VSES	2005	2005
GM	Pontiac	Montana SV6	AIRBAG	2005	2005
GM	Pontiac	Pursuit	ABS	2005	2005
GM	Pontiac	Pursuit	AIRBAG	2005	2005

GM	Pontiac	Pursuit	POWER STEERING SYSTEM	2005	2005
GM	Pontiac	Sunbird	ABS VI	1992	1994
GM	Pontiac	Sunfire	ABS	1996	2005
GM	Pontiac	Sunfire	ABS VI	1995	1995
GM	Pontiac	Sunfire	ABS/ETS	2000	2005
GM	Pontiac	Sunfire	AIRBAG	1995	2005
GM	Pontiac	Sunfire Alt/F	ABS	2001	2002
GM	Pontiac	Sunfire Alt/F	ABS/ETS	2001	2002
GM	Pontiac	Sunfire Alt/F	AIRBAG	2001	2002
GM	Pontiac	Trans Sprt APV	ABS	1996	1996
GM	Pontiac	Trans Sprt APV	ABS VI	1992	1995
GM	Pontiac	Trans Sprt APV	AIRBAG	1994	1997
GM	Pontiac	Trans Sprt APV	TCS	1997	1998
GM	Pontiac	Vibe	ABS	2003	2004
GM	Pontiac	Vibe	AIRBAG	2003	2004
GM	Pontiac	Vibe 1.8L LV6	ABS	2005	2005
Honda	Acura	2.2CL	ABS	1997	1997
Honda	Acura	2.2CL	AIRBAG	1997	1997
Honda	Acura	2.3CL	ABS	1998	1999
Honda	Acura	2.3CL	AIRBAG	1998	1999
Honda	Acura	2.3CL	OCCUPANT POSITION DETECT	1999	1999
Honda	Acura	2.5TL	ABS	1996	1999
Honda	Acura	2.5TL	ABS (HONDA)	1999	1999
Honda	Acura	2.5TL	AIRBAG	1996	1999
Honda	Acura	2.5TL	OCCUPANT POSITION DETECT	1999	1999
Honda	Acura	3.0CL	ABS	1997	1999
Honda	Acura	3.0CL	AIRBAG	1997	1999
Honda	Acura	3.0CL	OCCUPANT POSITION DETECT	1999	1999
Honda	Acura	3.2CL	ABS (HONDA)	2001	2003
Honda	Acura	3.2CL	AIRBAG	2001	2003
Honda	Acura	3.2CL	LEFT SB PRETENSIONER	2003	2003
Honda	Acura	3.2CL	OCCUPANT POSITION DETECT	2001	2003

Honda	Acura	3.2CL	RIGHT SB PRETENSIO NER	2003	2003
Honda	Acura	3.2CL	SEAT WEIGHT SENSOR	2003	2003
Honda	Acura	3.2TL	ABS	1996	1998
Honda	Acura	3.2TL	ABS (HONDA)	1999	2005
Honda	Acura	3.2TL	AIRBAG	1996	2005
Honda	Acura	3.2TL	LEFT SB PRETENSIO NER	2003	2005
Honda	Acura	3.2TL	OCCUPANT POSITION DETECT	1999	2005
Honda	Acura	3.2TL	RIGHT SB PRETENSIO NER	2003	2005
Honda	Acura	3.2TL	SEAT WEIGHT SENSOR	2003	2005
Honda	Acura	3.5RL	ABS	1996	1999
Honda	Acura	3.5RL	ABS (HONDA)	2005	2005
Honda	Acura	3.5RL	ABS/VSA	2001	2004
Honda	Acura	3.5RL	AIRBAG	1996	2005
Honda	Acura	3.5RL	LEFT SB PRETENSIO NER	2003	2005
Honda	Acura	3.5RL	OCCUPANT POSITION DETECT	1999	2005
Honda	Acura	3.5RL	RIGHT SB PRETENSIO NER	2003	2005
Honda	Acura	3.5RL	SEAT WEIGHT SENSOR	2003	2005
Honda	Acura	3.5RL	TIRE PRESSURE MONITOR	2005	2005
Honda	Acura	Integra	ABS	1994	1997
Honda	Acura	Integra	ABS (HONDA)	1998	2001
Honda	Acura	Integra	AIRBAG	1996	2001
Honda	Acura	Integra	OCCUPANT POSITION DETECT	1999	2001
Honda	Acura	MDX	ABS (BOSCH)	2002	2002
Honda	Acura	MDX	ABS (HONDA)	2003	2005
Honda	Acura	MDX	AIRBAG	2002	2005
Honda	Acura	MDX	LEFT SB PRETENSIO NER	2003	2005

Honda	Acura	MDX	OCCUPANT POSITION DETECT	2002	2005
Honda	Acura	MDX	RIGHT SB PRETENSIO NER	2003	2005
Honda	Acura	MDX	SEAT WEIGHT SENSOR	2003	2005
Honda	Acura	MDX	TIRE PRESSURE MONITOR	2004	2005
Honda	Acura	NSX	ABS	1997	1999
Honda	Acura	NSX	ABS (HONDA)	2000	2005
Honda	Acura	NSX	AIRBAG	1995	2005
Honda	Acura	NSX	LEFT SB PRETENSIO NER	2003	2005
Honda	Acura	NSX	OCCUPANT POSITION DETECT	1999	2005
Honda	Acura	NSX	RIGHT SB PRETENSIO NER	2003	2005
Honda	Acura	NSX	SEAT WEIGHT SENSOR	2003	2005
Honda	Acura	RSX	ABS (HONDA)	2002	2005
Honda	Acura	RSX	AIRBAG	2002	2005
Honda	Acura	RSX	LEFT SB PRETENSIO NER	2003	2005
Honda	Acura	RSX	OCCUPANT POSITION DETECT	2002	2005
Honda	Acura	RSX	RIGHT SB PRETENSIO NER	2003	2005
Honda	Acura	RSX	SEAT WEIGHT SENSOR	2003	2005
Honda	Acura	SLX	ABS (4WAL)	1996	1999
Honda	Acura	SLX	ABS (RABS)	1996	1996
Honda	Acura	TSX	ABS (HONDA)	2003	2005
Honda	Acura	TSX	AIRBAG	2003	2005
Honda	Acura	TSX	LEFT SB PRETENSIO NER	2003	2005
Honda	Acura	TSX	OCCUPANT POSITION DETECT	2003	2005

Honda	Acura	TSX	RIGHT SB PRETENSIONER	2003	2005
Honda	Acura	TSX	SEAT WEIGHT SENSOR	2003	2005
Honda	Honda	Accord	ABS	1994	1997
Honda	Honda	Accord	ABS (HONDA)	1998	2005
Honda	Honda	Accord	AIRBAG	1994	2005
Honda	Honda	Accord	LEFT SB PRETENSIONER	2003	2005
Honda	Honda	Accord	OCCUPANT POSITION DETECT	1999	2005
Honda	Honda	Accord	RIGHT SB PRETENSIONER	2003	2005
Honda	Honda	Accord	SEAT WEIGHT SENSOR	2003	2005
Honda	Honda	Accord Hybrid	ABS (HONDA)	2005	2005
Honda	Honda	Accord Hybrid	AIRBAG	2005	2005
Honda	Honda	Accord Hybrid	ELECT PWR STEERING	2005	2005
Honda	Honda	Accord Hybrid	LEFT SB PRETENSIONER	2005	2005
Honda	Honda	Accord Hybrid	OCCUPANT POSITION DETECT	2005	2005
Honda	Honda	Accord Hybrid	RIGHT SB PRETENSIONER	2005	2005
Honda	Honda	Accord Hybrid	SEAT WEIGHT SENSOR	2005	2005
Honda	Honda	Civic	ABS	1994	1995
Honda	Honda	Civic	ABS (BOSCH)	2001	2005
Honda	Honda	Civic	ABS (HONDA)	1996	2000
Honda	Honda	Civic	AIRBAG	1994	2005
Honda	Honda	Civic	ELECT PWR STEERING	2004	2005
Honda	Honda	Civic	LEFT SB PRETENSIONER	2003	2005
Honda	Honda	Civic	OCCUPANT POSITION DETECT	1999	2005

Honda	Honda	Civic	RIGHT SB PRETENSIONER	2003	2005
Honda	Honda	Civic	SEAT WEIGHT SENSOR	2003	2005
Honda	Honda	Civic Hybrid	ABS (HONDA)	2003	2005
Honda	Honda	Civic Hybrid	AIRBAG	2003	2005
Honda	Honda	Civic Hybrid	ELECT PWR STEERING	2003	2005
Honda	Honda	Civic Hybrid	LEFT SB PRETENSIONER	2003	2005
Honda	Honda	Civic Hybrid	OCCUPANT POSITION DETECT	2003	2005
Honda	Honda	Civic Hybrid	RIGHT SB PRETENSIONER	2003	2005
Honda	Honda	Civic Hybrid	SEAT WEIGHT SENSOR	2003	2005
Honda	Honda	CR-V	ABS (HONDA)	1997	2005
Honda	Honda	CR-V	AIRBAG	1997	2005
Honda	Honda	CR-V	LEFT SB PRETENSIONER	2003	2005
Honda	Honda	CR-V	OCCUPANT POSITION DETECT	1999	2005
Honda	Honda	CR-V	RIGHT SB PRETENSIONER	2003	2005
Honda	Honda	CR-V	SEAT WEIGHT SENSOR	2003	2005
Honda	Honda	Del Sol	ABS	1994	1995
Honda	Honda	Del Sol	AIRBAG	1994	1995
Honda	Honda	Element	ABS (HONDA)	2003	2005
Honda	Honda	Element	AIRBAG	2003	2005
Honda	Honda	Element	LEFT SB PRETENSIONER	2003	2005
Honda	Honda	Element	OCCUPANT POSITION DETECT	2003	2005
Honda	Honda	Element	RIGHT SB PRETENSIONER	2003	2005
Honda	Honda	Element	SEAT WEIGHT SENSOR	2003	2005
Honda	Honda	Insight	ABS (HONDA)	2000	2005

Honda	Honda	Insight	AIRBAG	2000	2005
			ELECT PWR STEERING		
Honda	Honda	Insight		2000	2005
			LEFT SB PRETENSIO NER		
Honda	Honda	Insight		2003	2005
			OCCUPANT POSITION DETECT		
Honda	Honda	Insight		2000	2005
			RIGHT SB PRETENSIO NER		
Honda	Honda	Insight		2003	2005
			SEAT WEIGHT SENSOR		
Honda	Honda	Insight		2003	2005
			ABS (HONDA)		
Honda	Honda	Odyssey		1996	2005
			AIRBAG		
Honda	Honda	Odyssey		1995	2005
			LEFT SB PRETENSIO NER		
Honda	Honda	Odyssey		2003	2005
			OCCUPANT POSITION DETECT		
Honda	Honda	Odyssey		1999	2005
			RIGHT SB PRETENSIO NER		
Honda	Honda	Odyssey		2003	2005
			SEAT WEIGHT SENSOR		
Honda	Honda	Odyssey		2003	2005
			TIRE PRESSURE MONITOR		
Honda	Honda	Odyssey		2005	2005
			ABS (4WAL)		
Honda	Honda	Passport		2001	2002
			Passport 2WD		
Honda	Honda	Passport	ABS (4WAL)	1998	2000
			Passport 2WD		
Honda	Honda	Passport	ABS (RABS)	1996	1997
			Passport 4WD		
Honda	Honda	Passport	ABS (4WAL)	1996	2000
			ABS (BOSCH)		
Honda	Honda	Pilot		2003	2004
			ABS (HONDA)		
Honda	Honda	Pilot		2005	2005
			AIRBAG		
Honda	Honda	Pilot		2003	2005
			LEFT SB PRETENSIO NER		
Honda	Honda	Pilot		2003	2005
			OCCUPANT POSITION DETECT		
Honda	Honda	Pilot		2003	2005
			RIGHT SB PRETENSIO NER		
Honda	Honda	Pilot		2003	2005

Honda	Honda	Pilot	SEAT WEIGHT SENSOR	2003	2005
Honda	Honda	Pilot	TIRE PRESSURE MONITOR	2005	2005
Honda	Honda	Prelude	ABS	1994	1995
Honda	Honda	Prelude	ABS (HONDA)	1996	2001
Honda	Honda	Prelude	AIRBAG	1994	2001
Honda	Honda	Prelude	FOUR WHEEL STEERING	1992	1996
Honda	Honda	Prelude	OCCUPANT POSITION DETECT	1999	2001
Honda	Honda	S2000	ABS (HONDA)	2000	2005
Honda	Honda	S2000	AIRBAG	2000	2005
Honda	Honda	S2000	ELECT PWR STEERING	2000	2005
Honda	Honda	S2000	LEFT SB PRETENSIONER	2003	2005
Honda	Honda	S2000	OCCUPANT POSITION DETECT	2000	2005
Honda	Honda	S2000	RIGHT SB PRETENSIONER	2003	2005
Honda	Honda	S2000	SEAT WEIGHT SENSOR	2003	2005
Isuzu	Isuzu	Amigo	ABS (RABS)	1994	1994
Isuzu	Isuzu	Hombre	ABS	2000	2000
Isuzu	Isuzu	Hombre	ABS (4WAL)	1998	1999
Isuzu	Isuzu	Hombre	AIRBAG	1996	1999
Isuzu	Isuzu	Impulse	ABS	1991	1992
Isuzu	Isuzu	Oasis	ABS	1996	1999
Isuzu	Isuzu	Oasis	AIRBAG	1996	1999
Isuzu	Isuzu	Pickup	ABS	1991	1993
Isuzu	Isuzu	Pickup 2WD	ABS (RABS)	1994	1995
Isuzu	Isuzu	Pickup 4WD	ABS (RABS)	1994	1995
Isuzu	Isuzu	Rodeo	ABS	1991	1993
Isuzu	Isuzu	Rodeo	ABS (4WAL)	1996	2000
Isuzu	Isuzu	Rodeo	ABS (RABS)	1996	1997
Isuzu	Isuzu	Rodeo 2WD	ABS (RABS)	1994	1995
Isuzu	Isuzu	Rodeo 4WD	ABS (RABS)	1994	1995

Isuzu	Isuzu	Trooper	ABS	1992	1994
Isuzu	Isuzu	Trooper	ABS (4WAL)	1996	2000
Isuzu	Isuzu	Trooper	ABS (RABS)	1994	1996
Isuzu	Isuzu	Trooper	ABS 4WAL	1995	1995
Jeep	Jeep	Cherokee	ABS	1992	2001
Jeep	Jeep	Cherokee	AIRBAG	1999	2001
Jeep	Jeep	Cherokee (RHD)	ABS	1995	1996
Jeep	Jeep	Grand Cherokee	ABS	1993	2005
Jeep	Jeep	Grand Cherokee	AIRBAG	1999	2004
Jeep	Jeep	Grand Cherokee	OCCUPANT CLASS MODULE	2005	2005
Jeep	Jeep	Grand Cherokee	OCCUPANT RESTRAINT CONTROL MODULE	2005	2005
Jeep	Jeep	Grand Cherokee	WIRELESS CTRL MODULE	2005	2005
Jeep	Jeep	Liberty	ABS	2002	2004
Jeep	Jeep	Liberty	AIRBAG	2002	2003
Jeep	Jeep	Liberty 4x2	ABS	2005	2005
Jeep	Jeep	Liberty 4x4	ABS	2005	2005
Jeep	Jeep	Wrangler	ABS	1993	2005
Jeep	Jeep	Wrangler	AIRBAG	1999	2005
Mazda	Mazda	323	ABS	1995	1995
Mazda	Mazda	626	ABS	1988	2002
Mazda	Mazda	626	AIRBAG	1996	2002
Mazda	Mazda	929	ABS	1995	1995
Mazda	Mazda	B-2300	ABS	1995	2005
Mazda	Mazda	B-2300	ABS (4WABS)	1996	1997
Mazda	Mazda	B-2300	ABS (RABS)	1994	2004
Mazda	Mazda	B-2300	AIRBAG	1994	2005
Mazda	Mazda	B-2500	ABS	1998	2001
Mazda	Mazda	B-2500	ABS (RABS)	1998	2001
Mazda	Mazda	B-2500	AIRBAG	1998	2001
Mazda	Mazda	B-3000	ABS	1995	2005
Mazda	Mazda	B-3000	ABS (4WABS)	1996	1997
Mazda	Mazda	B-3000	ABS (RABS)	1994	2004
Mazda	Mazda	B-3000	AIRBAG	1994	2005
Mazda	Mazda	B-4000	ABS	1995	2005
Mazda	Mazda	B-4000	ABS (4WABS)	1996	1997
Mazda	Mazda	B-4000	ABS (RABS)	1994	2004
Mazda	Mazda	B-4000	AIRBAG	1994	2005
Mazda	Mazda	B2200	ABS	1991	1992

Mazda	Mazda	B2200	ABS (RABS)	1993	1993
Mazda	Mazda	B2600i	ABS	1991	1992
Mazda	Mazda	B2600i	ABS (RABS)	1993	1993
Mazda	Mazda	Mazda3	ABS	2004	2005
Mazda	Mazda	Mazda3	AIRBAG	2004	2005
Mazda	Mazda	Mazda3	STEERING	2005	2005
Mazda	Mazda	Mazda3	TIRE PRESSURE	2005	2005
Mazda	Mazda	Mazda6	ABS	2004	2005
Mazda	Mazda	Mazda6	AIRBAG	2003	2005
Mazda	Mazda	Mazda6	TIRE PRESSURE	2005	2005
Mazda	Mazda	Miata	ABS	1995	2004
Mazda	Mazda	Miata	AIRBAG	1996	2004
Mazda	Mazda	Miata MazdaSpd	ABS	2005	2005
Mazda	Mazda	Miata MazdaSpd	AIRBAG	2005	2005
Mazda	Mazda	Miata MX-5	ABS	2005	2005
Mazda	Mazda	Miata MX-5	AIRBAG	2005	2005
Mazda	Mazda	Millenia	ABS	1995	2002
Mazda	Mazda	Millenia	AIRBAG	1996	2002
Mazda	Mazda	MPV	ABS	1990	2005
Mazda	Mazda	MPV	AIRBAG	1996	2005
Mazda	Mazda	MX-3	ABS	1992	1995
Mazda	Mazda	MX-6	ABS	1988	1997
Mazda	Mazda	MX-6	AIRBAG	1996	1997
Mazda	Mazda	Protege	ABS	1995	2003
Mazda	Mazda	Protege	AIRBAG	1996	2003
Mazda	Mazda	Tribute	ABS	2001	2005
Mazda	Mazda	Tribute	AIRBAG	2001	2005
Mitsubishi	Mitsubishi	Diamante	AIRBAG	2001	2004
Mitsubishi	Mitsubishi	Diamante	TRACTION CONTROL	1999	2004
Mitsubishi	Mitsubishi	Eclipse	AIRBAG	2001	2005
Mitsubishi	Mitsubishi	Eclipse	AIRBAG W/O SIDE AIRBAG	2004	2004
Mitsubishi	Mitsubishi	Eclipse Spyder	AIRBAG	2002	2005
Mitsubishi	Mitsubishi	Eclipse Spyder	AIRBAG W/O SIDE AIRBAG	2004	2004
Mitsubishi	Mitsubishi	Eclipse Spyder	AIRBAG	2001	2001
Mitsubishi	Mitsubishi	Endeavor	AIRBAG	2004	2004
Mitsubishi	Mitsubishi	Endeavor	TIRE PRESSURE	2004	2005
Mitsubishi	Mitsubishi	Galant	ABS	1999	2003
Mitsubishi	Mitsubishi	Galant	AIRBAG	2001	2003
Mitsubishi	Mitsubishi	Galant	TIRE PRESSURE	2004	2004
Mitsubishi	Mitsubishi	Lancer	ABS	2002	2005

Mitsubishi	Mitsubishi	Lancer	AIRBAG	2002	2005
Mitsubishi	Mitsubishi	Mirage	ABS	1997	2002
Mitsubishi	Mitsubishi	Mirage	AIRBAG	2000	2002
Mitsubishi	Mitsubishi	Montero	ABS	1996	2005
Mitsubishi	Mitsubishi	Montero	AIRBAG	2000	2005
Mitsubishi	Mitsubishi	Montero	TIRE PRESSURE	2004	2005
Mitsubishi	Mitsubishi	Montero Sport	ABS	1997	2004
Mitsubishi	Mitsubishi	Montero Sport	AIRBAG	2000	2004
Mitsubishi	Mitsubishi	Montero Sport	TIRE PRESSURE	2004	2004
Mitsubishi	Mitsubishi	Outlander	ABS	2003	2005
Mitsubishi	Mitsubishi	Outlander	AIRBAG	2004	2004
Nissan	Infiniti	FX35	ABS	2003	2005
Nissan	Infiniti	FX35	AIRBAG	2003	2005
Nissan	Infiniti	FX45	ABS	2003	2005
Nissan	Infiniti	FX45	AIRBAG	2003	2005
Nissan	Infiniti	G20	ABS	1991	2002
Nissan	Infiniti	G20	AIRBAG	1991	2002
Nissan	Infiniti	G20t	ABS	2001	2001
Nissan	Infiniti	G20t	AIRBAG	2001	2001
Nissan	Infiniti	G35	ABS	2003	2005
Nissan	Infiniti	G35	AIRBAG	2003	2005
Nissan	Infiniti	I30	ABS	1996	2001
Nissan	Infiniti	I30	AIRBAG	1996	2001
Nissan	Infiniti	I30t	ABS	1998	2001
Nissan	Infiniti	I30t	AIRBAG	1998	2001
Nissan	Infiniti	I35	ABS	2003	2004
Nissan	Infiniti	I35	AIRBAG	2003	2004
Nissan	Infiniti	J30	ABS	1993	1997
Nissan	Infiniti	J30	AIRBAG	1993	1997
Nissan	Infiniti	M30	ABS	1990	1992
Nissan	Infiniti	M30	AIRBAG	1990	1992
Nissan	Infiniti	M45	ABS	2003	2005
Nissan	Infiniti	M45	AIRBAG	2003	2005
Nissan	Infiniti	Q45	ABS	1990	2005
Nissan	Infiniti	Q45	ABS/TCS	1991	1991
Nissan	Infiniti	Q45	AIRBAG	1990	2005
Nissan	Infiniti	Q45t	ABS	1998	2001
Nissan	Infiniti	Q45t	AIRBAG	1998	2001
Nissan	Infiniti	QX4	ABS	1997	2003
Nissan	Infiniti	QX4	AIRBAG	1997	2003
Nissan	Infiniti	QX56	ABS	2004	2005
Nissan	Infiniti	QX56	AIRBAG	2004	2005
Nissan	Nissan	200SX	ABS	1995	1998
Nissan	Nissan	200SX	AIRBAG	1995	1998
Nissan	Nissan	240SX	ABS	1990	1998
Nissan	Nissan	240SX	AIRBAG	1990	1998
Nissan	Nissan	300ZX	ABS	1990	1996
Nissan	Nissan	300ZX	AIRBAG	1990	1996
Nissan	Nissan	350Z	ABS	2003	2005

Nissan	Nissan	350Z	AIRBAG	2003	2005
Nissan	Nissan	Altima	ABS	1993	2005
Nissan	Nissan	Altima	AIRBAG	1993	2005
Nissan	Nissan	Frontier	ABS	1998	2005
Nissan	Nissan	Frontier	AIRBAG	1998	2005
Nissan	Nissan	Maxima	ABS	1989	2005
Nissan	Nissan	Maxima	AIRBAG	1990	2005
Nissan	Nissan	Murano	ABS	2003	2005
Nissan	Nissan	Murano	AIRBAG	2003	2005
Nissan	Nissan	NX	ABS	1991	1993
Nissan	Nissan	NX	AIRBAG	1991	1993
Nissan	Nissan	PathfindArm ada	ABS	2004	2005
Nissan	Nissan	PathfindArm ada	AIRBAG	2004	2005
Nissan	Nissan	Pathfinder	ABS	1991	2005
Nissan	Nissan	Pathfinder	AIRBAG	1991	2005
Nissan	Nissan	Pathfinder 2WD	ABS	1996	1996
Nissan	Nissan	Pathfinder 2WD	AIRBAG	1996	1996
Nissan	Nissan	Pathfinder 4WD	ABS	1996	1996
Nissan	Nissan	Pathfinder 4WD	AIRBAG	1996	1996
Nissan	Nissan	Pickup	ABS	1991	1993
Nissan	Nissan	Pickup	AIRBAG	1991	1993
Nissan	Nissan	Quest	ABS	1993	2005
Nissan	Nissan	Quest	AIRBAG	1993	2005
Nissan	Nissan	Sentra	ABS	1991	2005
Nissan	Nissan	Sentra	AIRBAG	1991	2005
Nissan	Nissan	Stanza	ABS	1990	1992
Nissan	Nissan	Stanza	AIRBAG	1990	1992
Nissan	Nissan	Titan	ABS	2004	2005
Nissan	Nissan	Titan	AIRBAG	2004	2005
Nissan	Nissan	Truck	ABS	1996	1997
Nissan	Nissan	Truck	AIRBAG	1996	1997
Nissan	Nissan	Truck 2WD	ABS	1994	1995
Nissan	Nissan	Truck 2WD	AIRBAG	1994	1995
Nissan	Nissan	Truck 4WD	ABS	1994	1995
Nissan	Nissan	Truck 4WD	AIRBAG	1994	1995
Nissan	Nissan	Xterra	ABS	2000	2005
Nissan	Nissan	Xterra	AIRBAG	2000	2005
Saturn	Saturn	Ion	ABS	2003	2004
Saturn	Saturn	Ion	AIRBAG	2003	2004
Saturn	Saturn	Ion	EPS	2004	2004
Saturn	Saturn	Ion 2.0L	ABS	2005	2005
Saturn	Saturn	Ion 2.0L	AIRBAG	2005	2005
Saturn	Saturn	Ion 2.2L	ABS	2005	2005
Saturn	Saturn	Ion 2.2L	AIRBAG	2005	2005
Saturn	Saturn	LS, LW	ABS	2000	2005
Saturn	Saturn	LS, LW	AIRBAG	2000	2005
Saturn	Saturn	Relay	ABS	2005	2005

Saturn	Saturn	Relay	ABS/TCS	2005	2005
Saturn	Saturn	Relay	ABS/TCS/V SES	2005	2005
Saturn	Saturn	Relay	AIRBAG	2005	2005
Saturn	Saturn	SC	ABS	1992	1992
Saturn	Saturn	SC1	ABS	1996	1999
Saturn	Saturn	SC1	AIRBAG	1996	1999
Saturn	Saturn	SC2	ABS	1996	1999
Saturn	Saturn	SC2	AIRBAG	1996	1999
Saturn	Saturn	SL	ABS	1996	1999
Saturn	Saturn	SL	AIRBAG	1996	1999
Saturn	Saturn	SL, SC, SW	ABS	1993	2002
Saturn	Saturn	SL, SC, SW	ABS VI	1994	1994
Saturn	Saturn	SL, SC, SW	AIRBAG	1993	2002
Saturn	Saturn	SL,SC	ABS	1991	1992
Saturn	Saturn	SL,SC	AIRBAG	1992	1992
Saturn	Saturn	SL1	ABS	1992	1999
Saturn	Saturn	SL1	AIRBAG	1992	1999
Saturn	Saturn	SL1,SC	ABS	1992	1992
Saturn	Saturn	SL1,SC	AIRBAG	1992	1992
Saturn	Saturn	SL2	ABS	1992	1999
Saturn	Saturn	SL2	AIRBAG	1992	1999
Saturn	Saturn	SW1	ABS	1996	1999
Saturn	Saturn	SW1	AIRBAG	1996	1999
Saturn	Saturn	SW2	ABS	1996	1999
Saturn	Saturn	SW2	AIRBAG	1996	1999
Saturn	Saturn	VUE	ABS	2002	2005
Saturn	Saturn	VUE	AIRBAG	2002	2005
Saturn	Saturn	VUE	EPS	2004	2004
Subaru	Subaru	Impreza	ABS	1993	1996
Subaru	Subaru	Legacy	ABS	1990	1996
Subaru	Subaru	SVX	ABS	1992	1995
Suzuki	Suzuki	Esteem	ABS	1995	1996
Suzuki	Suzuki	Sidekick	ABS	1991	1994
Suzuki	Suzuki	Sidekick 2WD	ABS	1995	1995
Suzuki	Suzuki	Sidekick 4WD	ABS	1995	1995
Toyota	Lexus	ES 300	ABS	2001	2003
Toyota	Lexus	ES 300	AIRBAG	2001	2003
Toyota	Lexus	ES 330	ABS	2004	2005
Toyota	Lexus	ES 330	AIRBAG	2004	2005
Toyota	Lexus	ES 330	OCCUPANT CLASS	2004	2005
Toyota	Lexus	ES300	ABS	1994	2000
Toyota	Lexus	ES300	AIRBAG	1994	2000
Toyota	Lexus	ES300	ELEC MODULATE D SUSPENS ION	1997	1999
Toyota	Lexus	ES300	TRACTION CONTROL	1997	1999

Toyota	Lexus	GS 300	ABS	2001	2005
Toyota	Lexus	GS 300	AIRBAG	2001	2005
Toyota	Lexus	GS 430	ABS	2001	2005
Toyota	Lexus	GS 430	AIRBAG	2001	2005
Toyota	Lexus	GS300	ABS	1996	2000
Toyota	Lexus	GS300	AIRBAG	1996	2000
Toyota	Lexus	GS300	TRACTION CONTROL	1993	1997
Toyota	Lexus	GS400	ABS	1998	2000
Toyota	Lexus	GS400	AIRBAG	1998	2000
Toyota	Lexus	GX 470	ABS	2003	2005
Toyota	Lexus	GX 470	AIR SUSPENS ION	2003	2004
Toyota	Lexus	GX 470	AIRBAG	2003	2005
Toyota	Lexus	GX 470	OCCUPANT CLASS	2005	2005
Toyota	Lexus	GX 470	TIRE PRESSURE MONITOR	2004	2005
Toyota	Lexus	IS 300	ABS	2001	2005
Toyota	Lexus	IS 300	AIRBAG	2001	2005
Toyota	Lexus	LS 430	ABS	2001	2005
Toyota	Lexus	LS 430	AIR SUSPENS ION	2001	2005
Toyota	Lexus	LS 430	AIRBAG	2001	2005
Toyota	Lexus	LS400	ABS	1995	2000
Toyota	Lexus	LS400	AIR SUSPENS ION	1992	2000
Toyota	Lexus	LS400	AIRBAG	1995	2000
Toyota	Lexus	LS400	TRACTION CONTROL	1992	1997
Toyota	Lexus	LX 470	ABS	2001	2005
Toyota	Lexus	LX 470	AIRBAG	2001	2005
Toyota	Lexus	LX 470	AUTOMATI C HEIGHT CONTROL	2001	2005
Toyota	Lexus	LX 470	ELECT MOTOR POWER STEER	2004	2005
Toyota	Lexus	LX450	ABS	1996	1997
Toyota	Lexus	LX450	AIRBAG	1996	1997
Toyota	Lexus	LX470	ABS	1998	2000
Toyota	Lexus	LX470	AIRBAG	1998	2000
Toyota	Lexus	LX470	AUTOMATI C HEIGHT CONTROL	1998	2000
Toyota	Lexus	RX 300	ABS	2001	2003
Toyota	Lexus	RX 300	AIRBAG	2001	2003
Toyota	Lexus	RX 300	TRACTION CONTROL	2001	2001
Toyota	Lexus	RX300	ABS	1999	2000

Toyota	Lexus	RX300	AIRBAG	1999	2000
Toyota	Lexus	RX300	TRACTION CONTROL	1999	2000
Toyota	Lexus	RX330	ABS	2004	2005
Toyota	Lexus	RX330	AIR SUSPENSION	2004	2005
Toyota	Lexus	RX330	AIRBAG	2004	2005
Toyota	Lexus	RX330	OCCUPANT CLASS	2004	2005
Toyota	Lexus	SC 430	ABS	2002	2005
Toyota	Lexus	SC 430	AIRBAG	2002	2005
Toyota	Lexus	SC 430	TIRE PRESSURE MONITOR	2002	2005
Toyota	Lexus	SC300	ABS	1996	2000
Toyota	Lexus	SC300	AIRBAG	1996	2000
Toyota	Lexus	SC300	TRACTION CONTROL	1992	2000
Toyota	Lexus	SC400	ABS	1996	2000
Toyota	Lexus	SC400	AIRBAG	1996	2000
Toyota	Lexus	SC400	TRACTION CONTROL	1992	2000
Toyota	Scion	TC	ABS	2005	2005
Toyota	Scion	TC	AIRBAG	2005	2005
Toyota	Scion	xA	ABS	2004	2005
Toyota	Scion	xA	AIRBAG	2004	2005
Toyota	Scion	xB	ABS	2004	2005
Toyota	Scion	xB	AIRBAG	2004	2005
Toyota	Toyota	4-Runner	ABS	1992	2005
Toyota	Toyota	4-Runner	ABS (RABS)	1994	1995
Toyota	Toyota	4-Runner	AIR SUSPENSION	2003	2005
Toyota	Toyota	4-Runner	AIRBAG	1996	2005
Toyota	Toyota	4-Runner	OCCUPANT CLASS	2005	2005
Toyota	Toyota	4-Runner	TIRE PRESSURE MONITOR	2004	2005
Toyota	Toyota	Avalon	ABS	1995	2005
Toyota	Toyota	Avalon	ABS/TRAC	1997	1999
Toyota	Toyota	Avalon	ABS/TRAC/VSC	2000	2001
Toyota	Toyota	Avalon	AIRBAG	1995	2005
Toyota	Toyota	Avalon	OCCUPANT CLASS	2005	2005
Toyota	Toyota	Avalon	TRACTION CONTROL	1995	1999
Toyota	Toyota	Camry	ABS	1988	2005
Toyota	Toyota	Camry	ABS (BOSCH)	1994	2001
Toyota	Toyota	Camry	ABS (ND)	1994	2001
Toyota	Toyota	Camry	ABS/TRAC	1997	2001

Toyota	Toyota	Camry	AIRBAG	1993	2005
Toyota	Toyota	Camry	OCCUPANT CLASS	2004	2005
Toyota	Toyota	Camry	TRACTION CONTROL	1997	2001
Toyota	Toyota	Camry Solara	ABS	2002	2005
Toyota	Toyota	Camry Solara	ABS (BOSCH)	1999	2001
Toyota	Toyota	Camry Solara	ABS (ND)	2001	2001
Toyota	Toyota	Camry Solara	ABS/TRAC	1999	2001
Toyota	Toyota	Camry Solara	AIRBAG	1999	2005
Toyota	Toyota	Camry Solara	OCCUPANT CLASS	2004	2005
Toyota	Toyota	Camry Solara	TRACTION CONTROL	1999	2001
Toyota	Toyota	Celica	ABS	1988	2005
Toyota	Toyota	Celica	AIRBAG	1996	2005
Toyota	Toyota	Corolla	ABS	1993	2005
Toyota	Toyota	Corolla	ABS (NIPPON)	1996	1996
Toyota	Toyota	Corolla	AIRBAG	1996	2005
Toyota	Toyota	Corolla	OCCUPANT CLASS	2005	2005
Toyota	Toyota	Echo	ABS	2000	2005
Toyota	Toyota	Echo	AIRBAG	2000	2005
Toyota	Toyota	Highlander	ABS	2001	2005
Toyota	Toyota	Highlander	AIRBAG	2001	2005
Toyota	Toyota	Highlander	OCCUPANT CLASS	2004	2005
Toyota	Toyota	Land Cruiser	ABS	1995	2005
Toyota	Toyota	Land Cruiser	AIRBAG	1995	2005
Toyota	Toyota	Matrix	ABS	2003	2005
Toyota	Toyota	Matrix	AIRBAG	2003	2005
Toyota	Toyota	Matrix	OCCUPANT CLASS	2005	2005
Toyota	Toyota	MR2	ABS	1991	2000
Toyota	Toyota	MR2	AIRBAG	2000	2000
Toyota	Toyota	MR2	ELEC HYD POWER STEERING	2000	2000
Toyota	Toyota	MR2 Spyder	ABS	2001	2005
Toyota	Toyota	MR2 Spyder	AIRBAG	2001	2005
Toyota	Toyota	MR2 Spyder	ELEC HYD POWER STEERING	2001	2005
Toyota	Toyota	Paseo	ABS	1993	1997
Toyota	Toyota	Paseo	AIRBAG	1996	1997
Toyota	Toyota	Pickup	ABS	1990	1993

Toyota	Toyota	Pickup	ABS (RABS)	1994	1995
Toyota	Toyota	Pickup 4WD	ABS	1990	1991
Toyota	Toyota	Pickup AWD	ABS	1991	1991
Toyota	Toyota	Previa	ABS	1991	1997
Toyota	Toyota	Previa	AIRBAG	1995	1997
Toyota	Toyota	Prius	ABS	2001	2005
Toyota	Toyota	Prius	AIRBAG	2001	2005
Toyota	Toyota	Prius	ELEC POWER STEERING	2003	2004
Toyota	Toyota	Rav4	ABS	1996	2005
Toyota	Toyota	Rav4	AIRBAG	1996	2005
Toyota	Toyota	Sequoia	ABS	2001	2005
Toyota	Toyota	Sequoia	AIR SUSPENS ION	2005	2005
Toyota	Toyota	Sequoia	AIRBAG	2001	2005
Toyota	Toyota	Sequoia	OCCUPANT CLASS	2005	2005
Toyota	Toyota	Sienna	ABS	1998	2005
Toyota	Toyota	Sienna	AIRBAG	1998	2005
Toyota	Toyota	Sienna	OCCUPANT CLASS	2005	2005
Toyota	Toyota	Supra	ABS	1988	1998
Toyota	Toyota	Supra	AIRBAG	1993	1998
Toyota	Toyota	Supra Nonturbo	ABS	1996	1996
Toyota	Toyota	Supra Nonturbo	AIRBAG	1996	1996
Toyota	Toyota	T-100	ABS	1995	1998
Toyota	Toyota	T-100	ABS (RABS)	1993	1994
Toyota	Toyota	T-100	AIRBAG	1995	1998
Toyota	Toyota	Tacoma	ABS	1996	2005
Toyota	Toyota	Tacoma	AIRBAG	1996	2005
Toyota	Toyota	Tacoma	OCCUPANT CLASS	2005	2005
Toyota	Toyota	Tercel	ABS	1993	1998
Toyota	Toyota	Tercel	AIRBAG	1995	1998
Toyota	Toyota	Tundra	ABS	2000	2005
Toyota	Toyota	Tundra	AIRBAG	2000	2005
Toyota	Toyota	Tundra	OCCUPANT CLASS	2005	2005
Volkswagen	Volkswagen	Beetle	ABS (Mark 20)	1998	2000
Volkswagen	Volkswagen	Beetle	ABS (Mark 60)	1998	2000
Volkswagen	Volkswagen	Beetle	AIRBAG	1998	2000
Volkswagen	Volkswagen	Cabrio	ABS (Teves 04)	1999	2002
Volkswagen	Volkswagen	Cabrio	ABS (Teves 20)	1996	2003

Volkswagen	Volkswagen	Cabrio	AIRBAG	1996	2003
Volkswagen	Volkswagen	Cabriolet	ABS	1993	1993
Volkswagen	Volkswagen	Corrado	ABS	1990	1994
Volkswagen	Volkswagen	Eurovan	ABS	1992	1996
Volkswagen	Volkswagen	Eurovan	ABS (Bosch 5.0)	1997	2003
Volkswagen	Volkswagen	Eurovan	ABS (Bosch 5.3)	1997	2003
Volkswagen	Volkswagen	Eurovan	AIRBAG	1992	2003
Volkswagen	Volkswagen	Fox	ABS	1993	1993
Volkswagen	Volkswagen	Golf	ABS (Mark 20)	1999	2003
Volkswagen	Volkswagen	Golf	ABS (Mark 60)	1999	2003
Volkswagen	Volkswagen	Golf	ABS (Teves 04)	1996	1998
Volkswagen	Volkswagen	Golf	ABS (Teves 20)	1996	1998
Volkswagen	Volkswagen	Golf	AIRBAG	1996	2003
Volkswagen	Volkswagen	Golf GTI	ABS (Teves 04)	1997	1998
Volkswagen	Volkswagen	Golf GTI	ABS (Teves 20)	1997	1998
Volkswagen	Volkswagen	Golf GTI	AIRBAG	1997	1998
Volkswagen	Volkswagen	GTI	ABS (Mark 20)	1999	2003
Volkswagen	Volkswagen	GTI	ABS (Mark 60)	1999	2003
Volkswagen	Volkswagen	GTI	ABS (Teves 04)	1996	1996
Volkswagen	Volkswagen	GTI	ABS (Teves 20)	1996	1996
Volkswagen	Volkswagen	GTI	AIRBAG	1996	2003
Volkswagen	Volkswagen	Jetta	ABS	1991	1991
Volkswagen	Volkswagen	Jetta	ABS (Mark 20)	1999	2003
Volkswagen	Volkswagen	Jetta	ABS (Mark 60)	1993	2003
Volkswagen	Volkswagen	Jetta	ABS (Teves 04)	1996	1998
Volkswagen	Volkswagen	Jetta	ABS (Teves 20)	1996	1998
Volkswagen	Volkswagen	Jetta	AIRBAG	1993	2003
Volkswagen	Volkswagen	Jetta III	ABS (Mark 60)	1993	1995
Volkswagen	Volkswagen	Jetta III	AIRBAG	1993	1995

Volkswagen	Volkswagen	New Beetle	ABS (Mark 20)	2001	2003
Volkswagen	Volkswagen	New Beetle	ABS (Mark 60)	2001	2004
Volkswagen	Volkswagen	New Beetle	AIRBAG	2001	2003
Volkswagen	Volkswagen	Passat	ABS	1990	2004
Volkswagen	Volkswagen	Passat	ABS (Bosch 5.3)	1998	2002
Volkswagen	Volkswagen	Passat	ABS (Teves 04)	1995	1995
Volkswagen	Volkswagen	Passat	ABS (Teves 20)	1995	1995
Volkswagen	Volkswagen	Passat	AIRBAG	1995	2003
Volkswagen	Volkswagen	Touareg	ABS (Teves 20)	2003	2003
Volkswagen	Volkswagen	Touareg	AIRBAG	2003	2003
Volvo	Volvo	850	AIRBAG	1994	1997
Volvo	Volvo	850	ANTILOCK BRAKE SYSTEM	1993	1997
Volvo	Volvo	940	AIRBAG	1994	1995
Volvo	Volvo	940	ANTILOCK BRAKE SYSTEM	1993	1995
Volvo	Volvo	960	AIRBAG	1994	1997
Volvo	Volvo	960	ANTILOCK BRAKE SYSTEM	1993	1997
Volvo	Volvo	C70	AIRBAG	1998	2004
Volvo	Volvo	C70	ANTILOCK BRAKE SYSTEM	1998	2004
Volvo	Volvo	Cross Country	AIRBAG	2002	2002
Volvo	Volvo	Cross Country	ANTILOCK BRAKE SYSTEM	2002	2002
Volvo	Volvo	S40	AIRBAG	2000	2004
Volvo	Volvo	S40	ANTILOCK BRAKE SYSTEM	2000	2004
Volvo	Volvo	S60	AIRBAG	2001	2004
Volvo	Volvo	S60	ANTILOCK BRAKE SYSTEM	2001	2004
Volvo	Volvo	S70	AIRBAG	1998	2000
Volvo	Volvo	S70	ANTILOCK BRAKE SYSTEM	1998	2000
Volvo	Volvo	S80	AIRBAG	1999	2004
Volvo	Volvo	S80	ANTILOCK BRAKE SYSTEM	1999	2004

Volvo	Volvo	S90	AIRBAG	1998	1998
			ANTILOCK BRAKE SYSTEM		
Volvo	Volvo	S90		1998	1998
Volvo	Volvo	Select ECU	AIRBAG	1996	2004
			ANTILOCK BRAKE SYSTEM		
Volvo	Volvo	Select ECU		1996	2004
Volvo	Volvo	V40	AIRBAG	2000	2004
			ANTILOCK BRAKE SYSTEM		
Volvo	Volvo	V40		2000	2004
Volvo	Volvo	V70	AIRBAG	1998	2004
			ANTILOCK BRAKE SYSTEM		
Volvo	Volvo	V70		1998	2004
Volvo	Volvo	V90	AIRBAG	1998	1998
			ANTILOCK BRAKE SYSTEM		
Volvo	Volvo	V90		1998	1998
Volvo	Volvo	XC70	AIRBAG	2004	2004
			ANTILOCK BRAKE SYSTEM		
Volvo	Volvo	XC70		2004	2004
Volvo	Volvo	XC90	AIRBAG	2003	2004
			ANTILOCK BRAKE SYSTEM		
Volvo	Volvo	XC90		2003	2004

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- contact name
- telephone number
- description of the problem
- proof-of-purchase for warranty repairs
- preferred method of payment for non-warranty repairs

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Send the unit to:

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2300 Park Drive

PO Box 994

Owatonna, MN 55060-0994

RGA: Repair Dept.



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